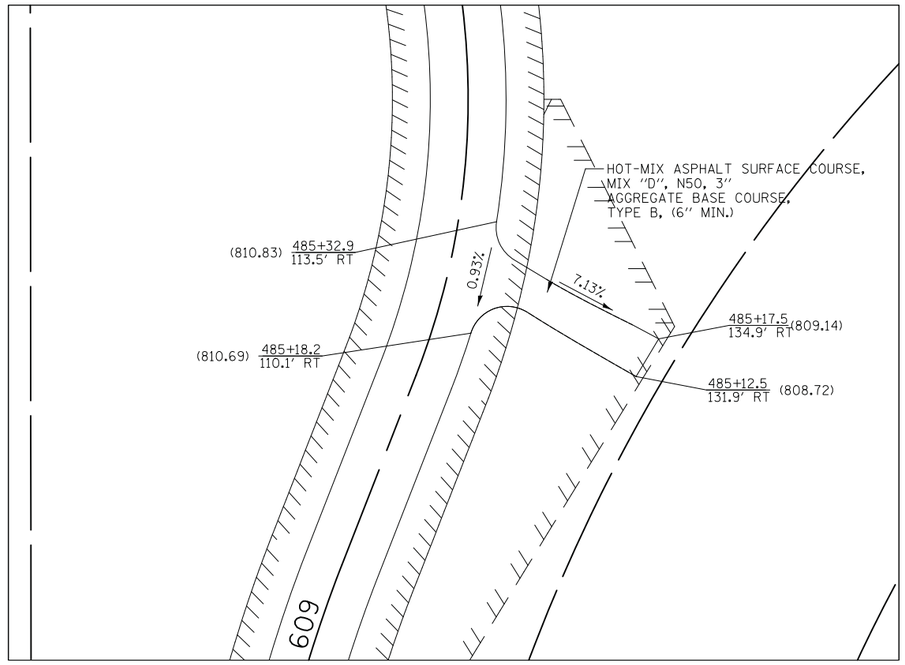
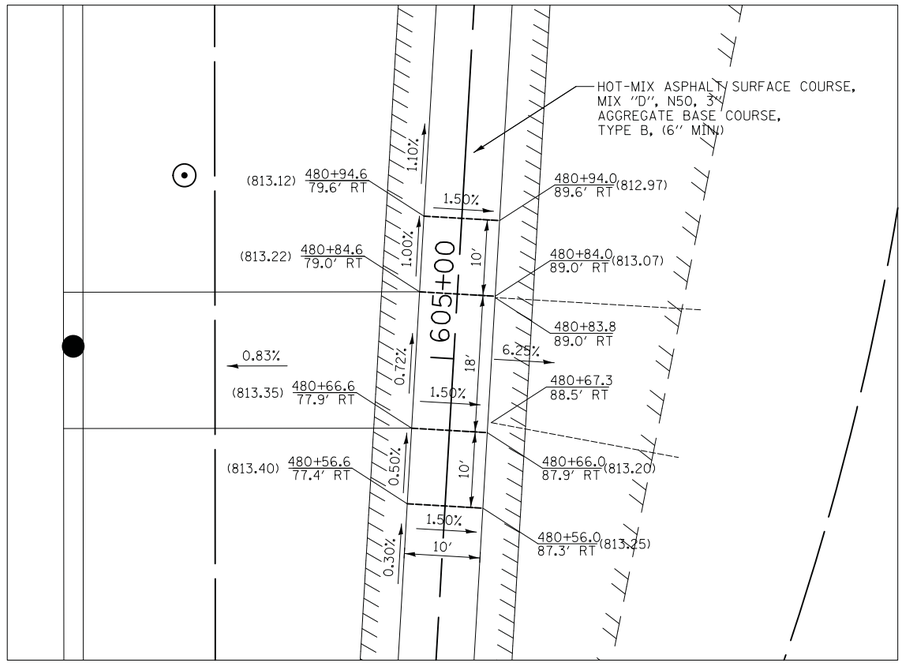
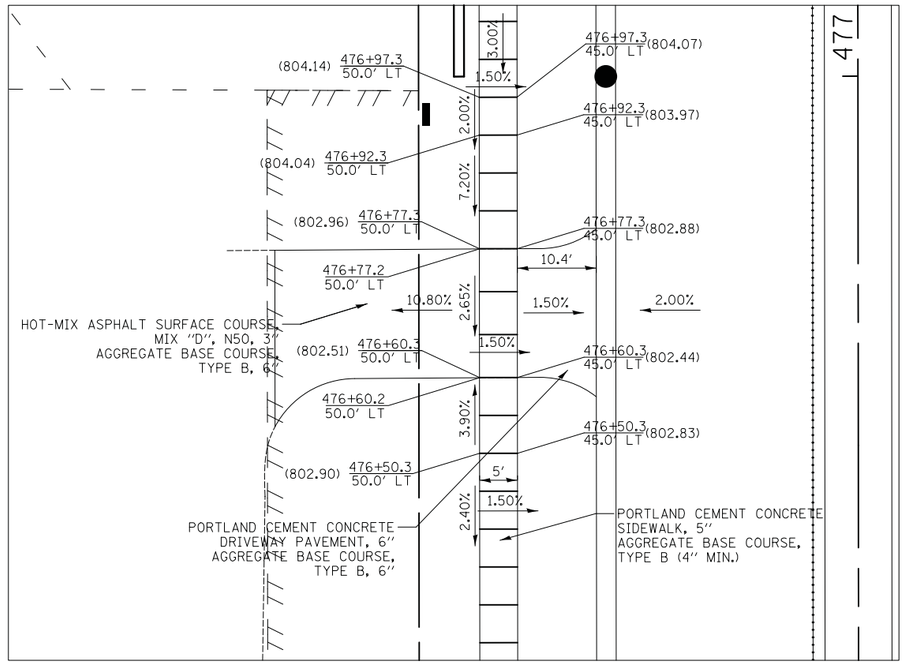


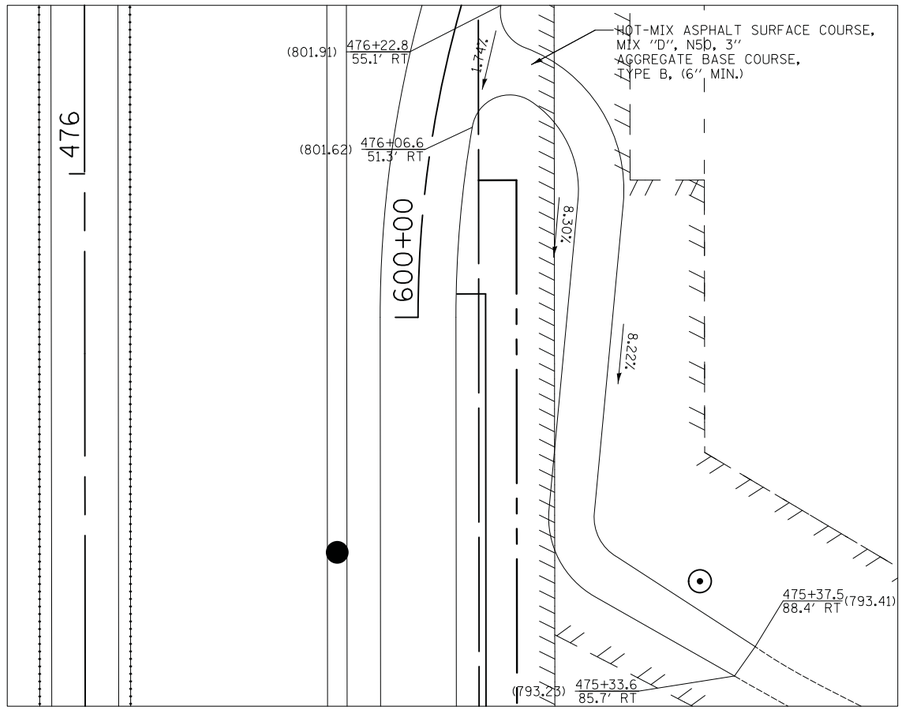
STATION 485+00 QUENTIN ROAD
BIKE PATH



STATION 481+00 QUENTIN ROAD
ACCESS DRIVEWAY



22291 QUENTIN ROAD
DRIVEWAY



STATION 476+00 QUENTIN ROAD
BIKE PATH

NOTE:

WHEN THE PCC SIDEWALK EXTENDS THROUGH THE DRIVEWAY, THE THICKNESS OF THE SIDEWALK IN THE DRIVEWAY AREA SHALL BE THE SAME AS THE DRIVEWAY THICKNESS (BUT NOT LESS THAN 5"). SIDEWALK WILL BE PAID FOR AS PCC SIDEWALK 5" REGARDLESS OF THICKNESS.

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

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DATE - 11/13/2017	REVISED -

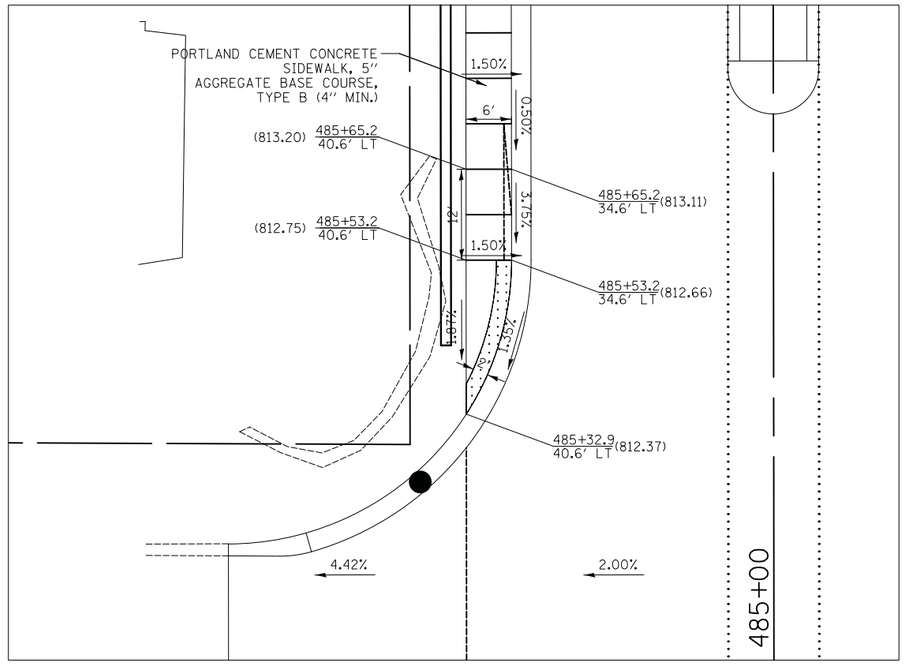
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALES
HORIZ. 0 10 20

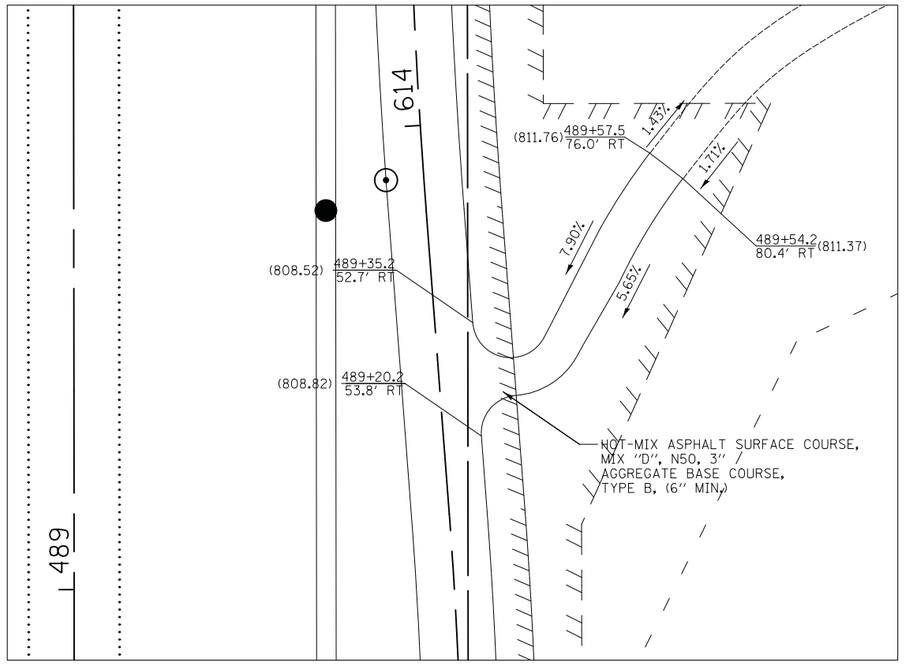
SIDEWALK/PATH RAMP DETAILS

SHEET NO. 6 OF 9 SHEETS | STA. | TO STA.

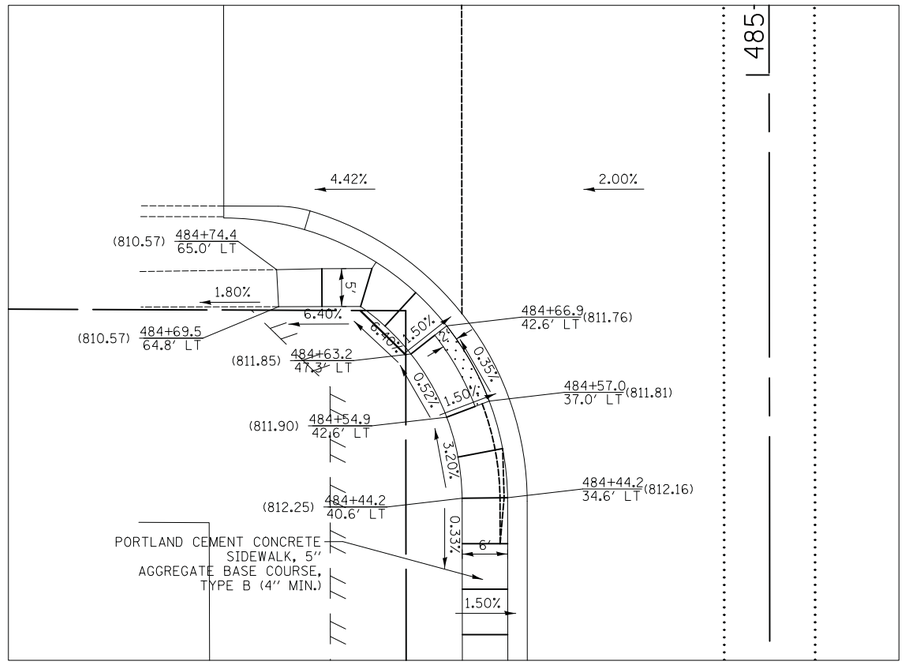
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	201
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



NW QUENTIN ROAD
& BRISTOL TRAIL ROAD



STATION 489+00 QUENTIN ROAD
BIKE PATH



SW QUENTIN ROAD
& BRISTOL TRAIL ROAD

NOTE:

WHEN THE PCC SIDEWALK EXTENDS THROUGH THE DRIVEWAY, THE THICKNESS OF THE SIDEWALK IN THE DRIVEWAY AREA SHALL BE THE SAME AS THE DRIVEWAY THICKNESS (BUT NOT LESS THAN 5"). SIDEWALK WILL BE PAID FOR AS PCC SIDEWALK 5" REGARDLESS OF THICKNESS.

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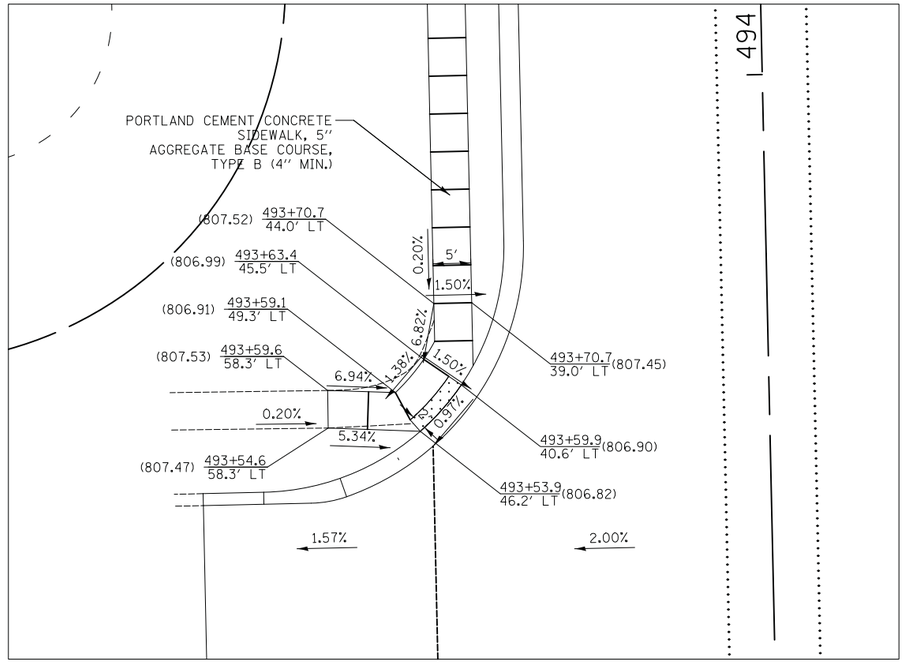
SCALES
HORIZ. 0 10 20

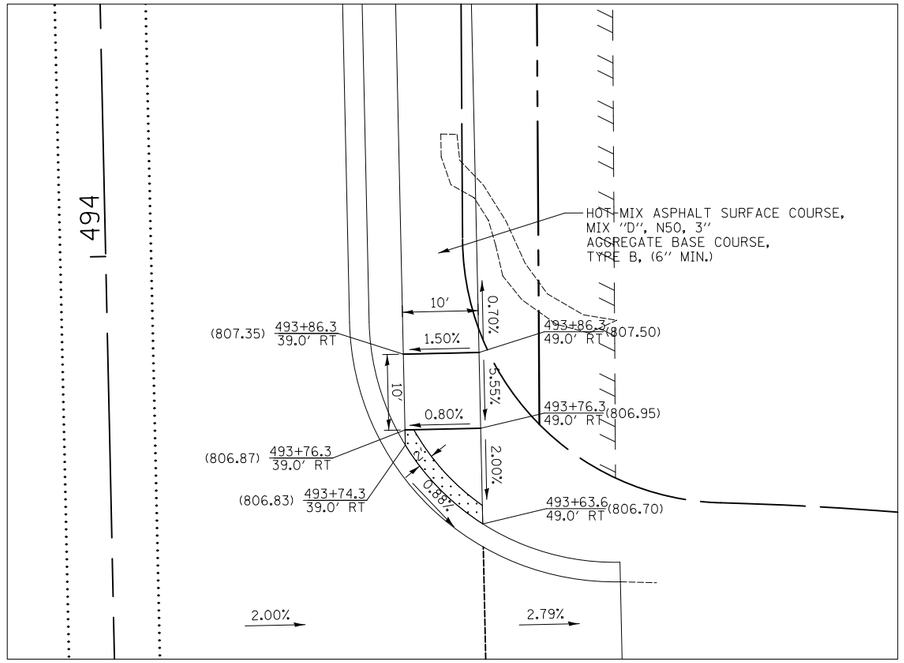
SIDEWALK/PATH RAMP DETAILS

SHEET NO. 7 OF 9 SHEETS STA. TO STA.

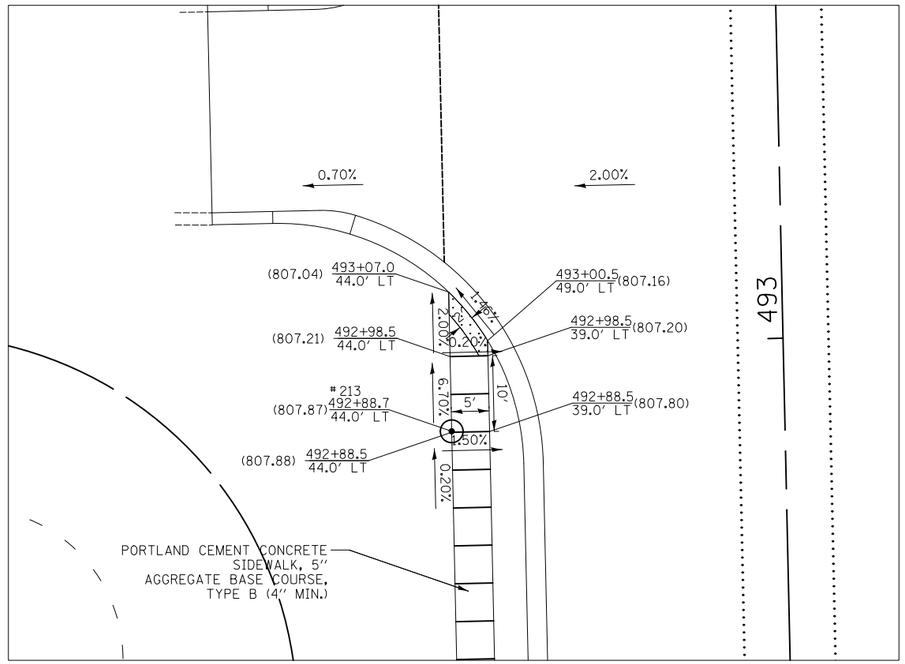
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	202
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



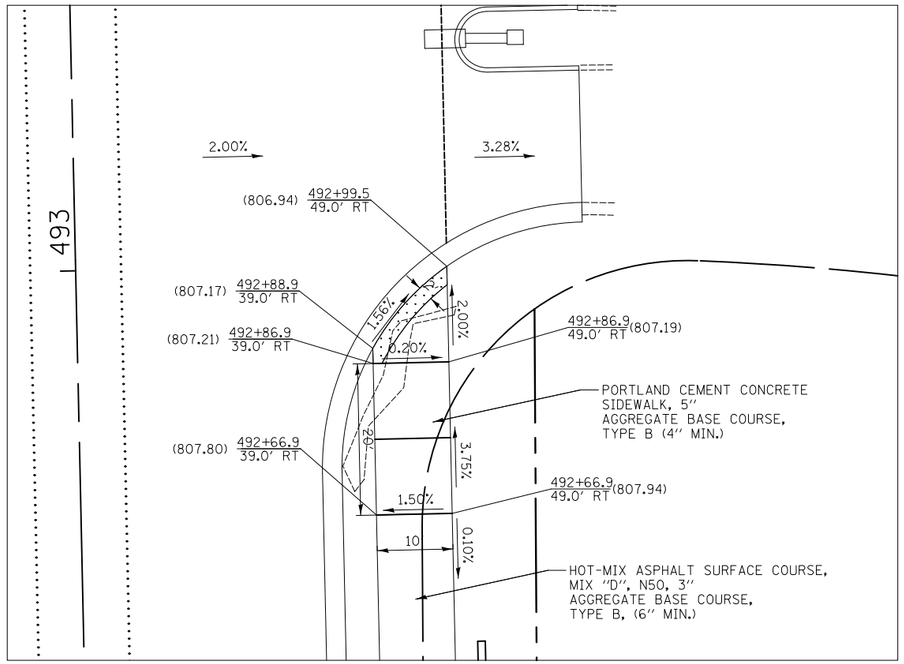
NW QUENTIN ROAD
& LEA LANE



NE QUENTIN ROAD
& GREENWOOD DRIVE



SW QUENTIN ROAD
& LEA LANE



SE QUENTIN ROAD
& GREENWOOD DRIVE

NOTE:

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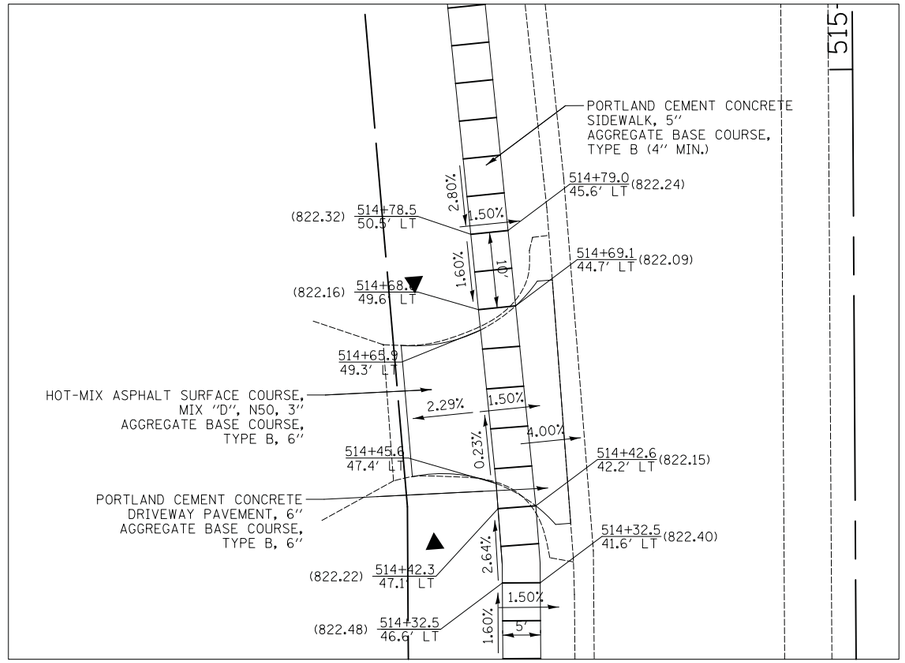
HORIZ. 0 10 20

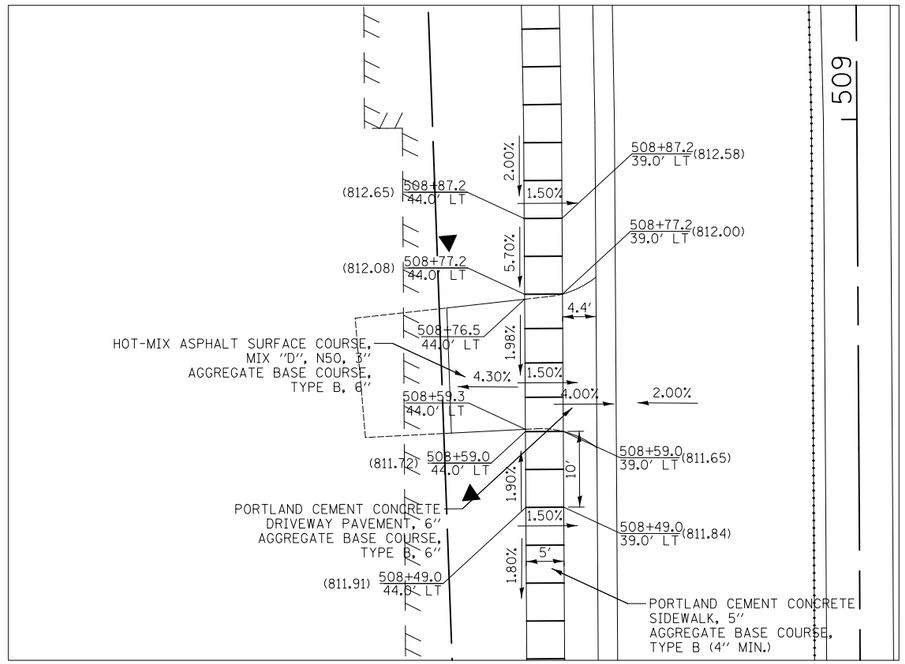
SIDEWALK/PATH RAMP DETAILS

SHEET NO. 8 OF 9 SHEETS STA. TO STA.

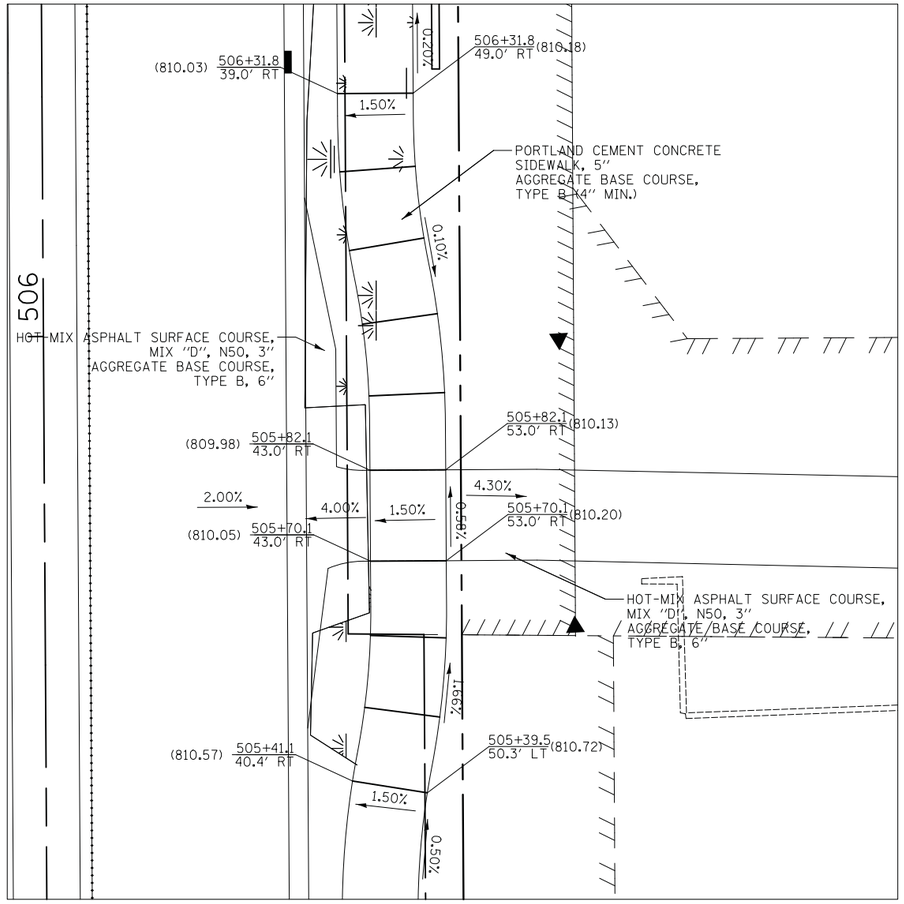
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	203
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



23030 QUENTIN ROAD
DRIVEWAY



STATION 515+00 QUENTIN ROAD
ACCESS DRIVEWAY



22811 QUENTIN ROAD
DRIVEWAY

NOTE:

WHEN THE PCC SIDEWALK EXTENDS THROUGH THE DRIVEWAY, THE THICKNESS OF THE SIDEWALK IN THE DRIVEWAY AREA SHALL BE THE SAME AS THE DRIVEWAY THICKNESS (BUT NOT LESS THAN 5"). SIDEWALK WILL BE PAID FOR AS PCC SIDEWALK 5" REGARDLESS OF THICKNESS.

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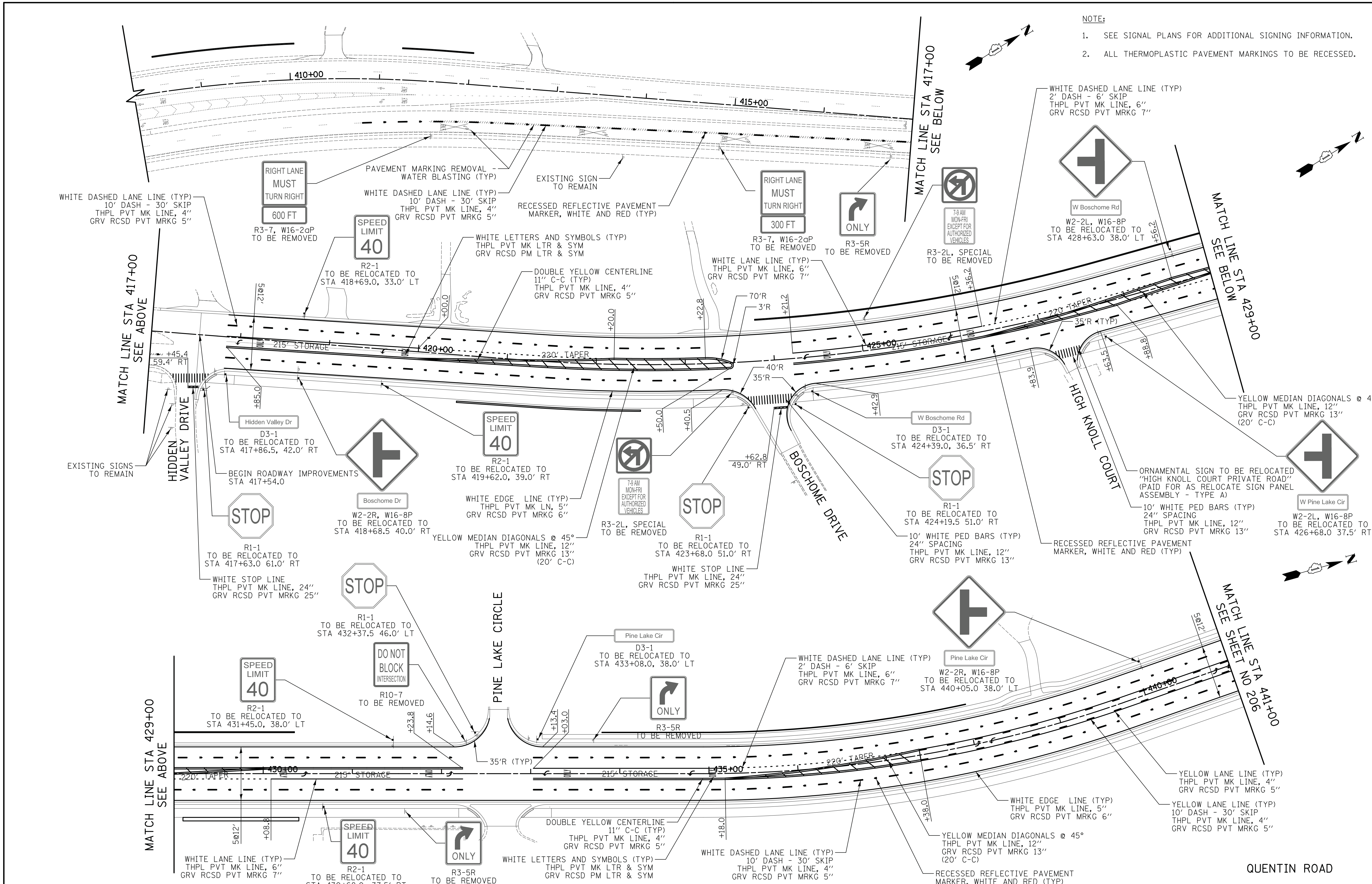
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALES
HORIZ. 0 10 20

SIDEWALK/PATH RAMP DETAILS

SHEET NO. 9 OF 9 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	204
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALES
HORIZ. 0 50 100

PAVEMENT MARKING AND SIGNING

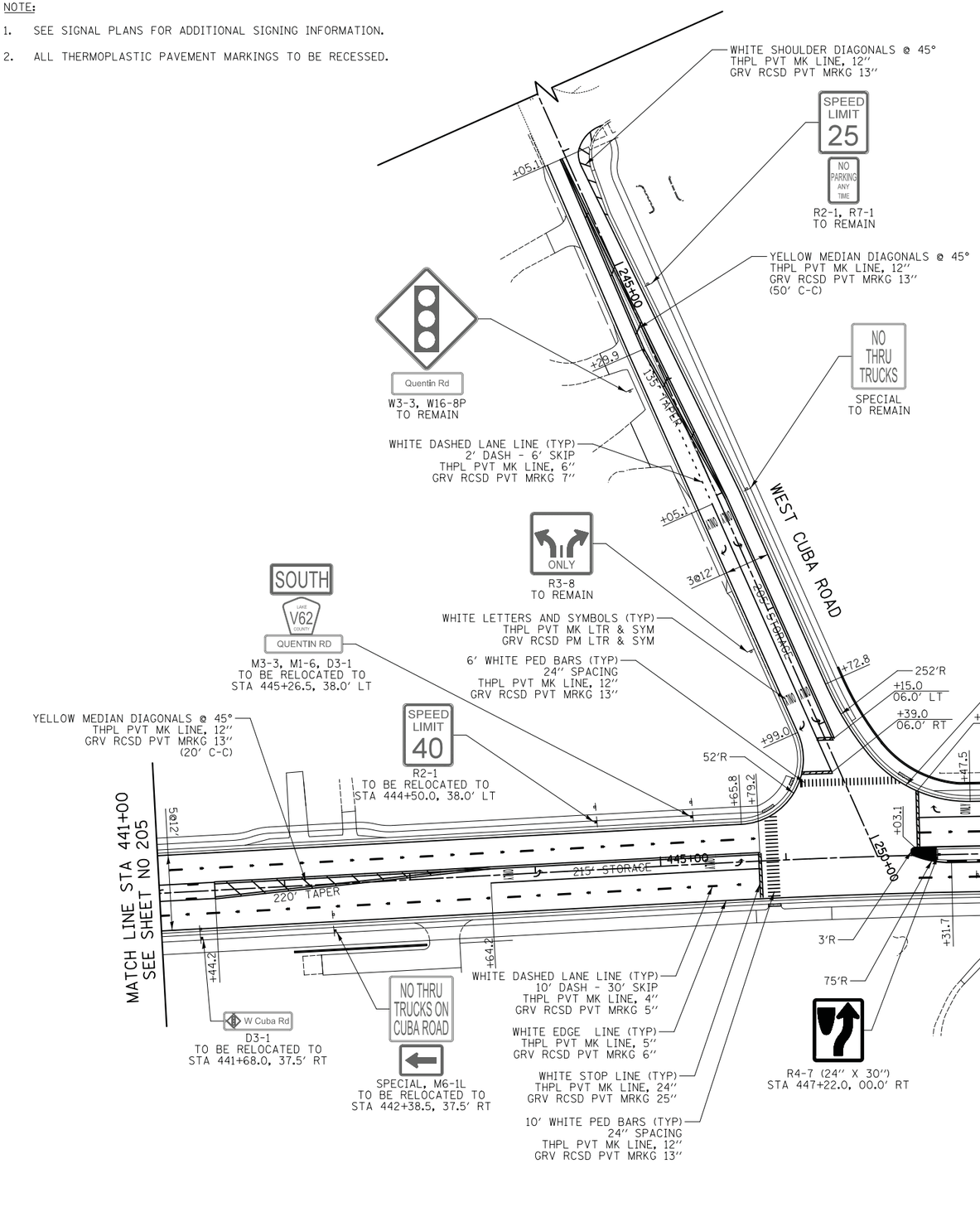
SHEET NO. 1 OF 5 SHEETS STA. 417+00 TO STA. 441+00

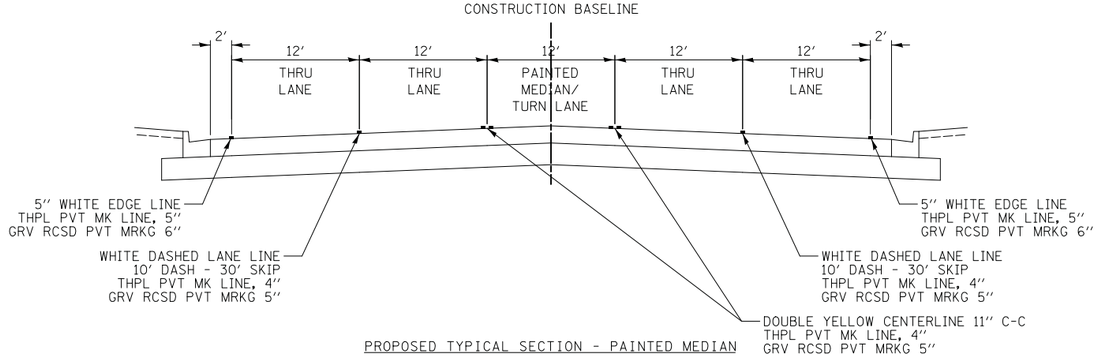
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	205
		CONTRACT NO. 61E22		

FED. ROAD DIST. NO. 1 | ILLINOIS | FED. AID PROJECT

NOTE:

1. SEE SIGNAL PLANS FOR ADDITIONAL SIGNING INFORMATION.
2. ALL THERMOPLASTIC PAVEMENT MARKINGS TO BE RECESSED.





PROPOSED TYPICAL SECTION - PAINTED MEDIAN

QUENTIN ROAD

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	CHECKED - RTM	REVISED -	
	DATE - 3/12/2018	REVISED -	

SCALES
HORIZ. 0 50 100

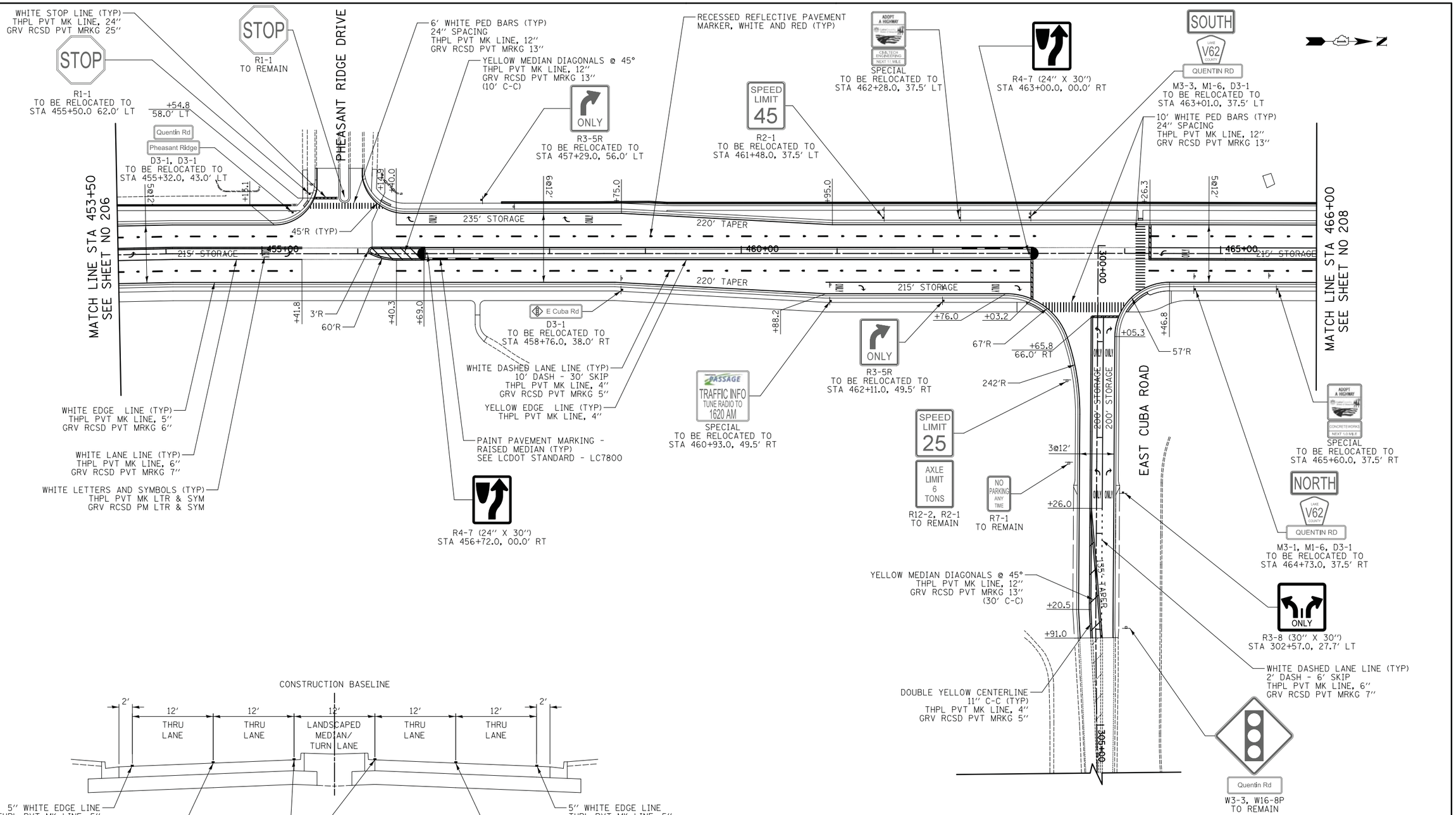
PAVEMENT MAKING AND SIGNING

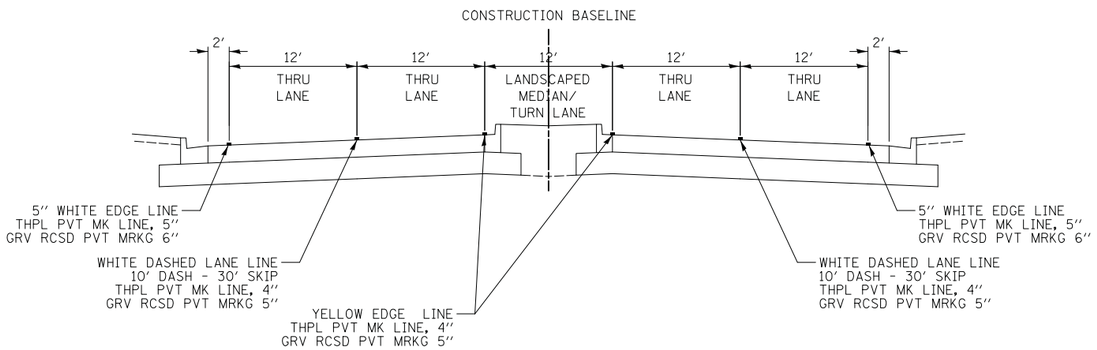
SHEET NO. 2 OF 5 SHEETS | STA. 441+00 | TO STA. 453+50

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	206
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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

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





PROPOSED TYPICAL SECTION - LANDSCAPED MEDIAN

NOTE:

1. SEE SIGNAL PLANS FOR ADDITIONAL SIGNING INFORMATION.
2. ALL THERMOPLASTIC PAVEMENT MARKINGS TO BE RECESSED.

QUENTIN ROAD

FINAL SURVEY / ORIGINAL SURVEY — NOTE BOOK — NO. — BY — DATE
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALES
HORIZ. 0 50 100

PAVEMENT MARKING AND SIGNING

SHEET NO. 3 OF 5 SHEETS STA. 453+50 TO STA. 466+00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	207
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

WHITE LETTERS AND SYMBOLS (TYP)
THPL PVT MK LTR & SYM
GRV RCSD PM LTR & SYM

WHITE LANE LINE (TYP)
THPL PVT MK LINE, 6"
GRV RCSD PVT MRKG 7"

WHITE DASHED LANE LINE (TYP)
2' DASH - 6' SKIP
THPL PVT MK LINE, 6"
GRV RCSD PVT MRKG 7"

DOUBLE YELLOW CENTERLINE
11" C-C (TYP)
THPL PVT MK LINE, 4"
GRV RCSD PVT MRKG 5"

YELLOW MEDIAN DIAGONALS @ 45°
THPL PVT MK LINE, 12"
GRV RCSD PVT MRKG 13"
(20' C-C)

RECESSED REFLECTIVE PAVEMENT
MARKER, WHITE AND RED (TYP)

YELLOW EDGE LINE (TYP)
THPL PVT MK LINE, 4"
GRV RCSD PVT MRKG 5"

WHITE EDGE LINE (TYP)
THPL PVT MK LINE, 5"
GRV RCSD PVT MRKG 6"

WHITE DASHED LANE LINE (TYP)
10' DASH - 30' SKIP
THPL PVT MK LINE, 4"
GRV RCSD PVT MRKG 5"

E Cuba Rd
D3-1
TO BE RELOCATED TO
STA 468+71.0, 37.5' LT

SPEED LIMIT 45
R2-1
TO BE RELOCATED TO
STA 475+46.0, 37.5' LT

MATCH LINE STA 466+00
SEE SHEET NO 207

+40.3

5@12'

+60.3

220' TAPER

470+00

475+00

MATCH LINE STA 478+00
SEE BELOW

Indian Creek Watershed
SPECIAL
TO BE RELOCATED TO
STA 468+71.0, 37.5' RT

R4-7 (24" X 30")
STA 468+63.0, 00.0' RT

SPEED LIMIT 45
R2-1
TO BE RELOCATED TO
STA 475+62.0, 37.5' RT

SPEED LIMIT 45
R2-1
TO BE RELOCATED TO
STA 466+38.0, 37.5' RT

PAINT PAVEMENT MARKING -
RAISED MEDIAN (TYP)
SEE LCDOT STANDARD - LC7800

NOTE:

1. SEE SIGNAL PLANS FOR ADDITIONAL SIGNING INFORMATION.
2. ALL THERMOPLASTIC PAVEMENT MARKINGS TO BE RECESSED.

RECESSED REFLECTIVE PAVEMENT
MARKER, WHITE AND RED (TYP)

WHITE LANE LINE (TYP)
THPL PVT MK LINE, 6"
GRV RCSD PVT MRKG 7"

WHITE LETTERS AND SYMBOLS (TYP)
THPL PVT MK LTR & SYM
GRV RCSD PM LTR & SYM

WHITE STOP LINE
THPL PVT MK LINE, 24"
GRV RCSD PVT MRKG 25"

STOP
R1-1
TO BE RELOCATED TO
STA 484+76.5 61.5' LT

+98.5
45.6' LT

6' WHITE PED BARS
24" SPACING
THPL PVT MK LINE, 12"
GRV RCSD PVT MRKG 13"

PAINT PAVEMENT MARKING -
RAISED MEDIAN (TYP)
SEE LCDOT STANDARD - LC7800

ENGINE BRAKING NOISE PROHIBITED
SPECIAL
TO BE RELOCATED TO
STA 480+67.0, 37.5' LT

WHITE DASHED LANE LINE (TYP)
10' DASH - 30' SKIP
THPL PVT MK LINE, 4"
GRV RCSD PVT MRKG 5"

WHITE EDGE LINE (TYP)
THPL PVT MK LINE, 5"
GRV RCSD PVT MRKG 6"

YELLOW EDGE LINE (TYP)
THPL PVT MK LINE, 4"
GRV RCSD PVT MRKG 5"

W11-10
TO BE RELOCATED TO
STA 482+04.0, 37.5' LT

40'R (TYP)

Bristol Trail Rd
D3-1
TO BE RELOCATED TO
STA 484+54.0, 46.0' LT

BRISTOL TRAIL ROAD

WEIGHT LIMIT 5 TONS
R12-1
TO REMAIN

ONLY
R3-5R
TO BE REMOVED

DOUBLE YELLOW CENTERLINE
11" C-C (TYP)
THPL PVT MK LINE, 4"
GRV RCSD PVT MRKG 5"

MATCH LINE STA 478+00
SEE ABOVE

5@12'

+23.5

+43.3

+25.4

+53.7

+61.3

480+00

220' TAPER

215' STORAGE

220' TAPER

485+00

3'R

60'R

+43.5

+58.5

+50.9

+78.5

MATCH LINE STA 490+00
SEE SHEET NO 209

Bristol Trail Rd
W2-2L, W16-8P
TO BE RELOCATED TO
STA 478+59.0 37.5' RT

R4-7 (24" X 30")
STA 480+20.0, 00.0' RT

EMERGENCY VEHICLES ONLY
R5-11
TO BE RELOCATED TO
STA 480+64.0, 36.0' RT
STA 480+87.0, 36.0' RT

YELLOW MEDIAN DIAGONALS @ 45°
THPL PVT MK LINE, 12"
GRV RCSD PVT MRKG 13"
(20' C-C)

YELLOW MEDIAN DIAGONALS @ 45°
THPL PVT MK LINE, 12"
GRV RCSD PVT MRKG 13"
(10' C-C)

R4-7 (24" X 30")
STA 488+58.0, 00.0' RT

R4-7 (24" X 30")
STA 485+82.0, 00.0' RT

WHITE DASHED LANE LINE (TYP)
2' DASH - 6' SKIP
THPL PVT MK LINE, 6"
GRV RCSD PVT MRKG 7"

YELLOW MEDIAN DIAGONALS @ 45°
THPL PVT MK LINE, 12"
GRV RCSD PVT MRKG 13"
(20' C-C)

7-9 AM
MON-FRI
EXCEPT FOR
AUTHORIZED
VEHICLES

R3-2R, SPECIAL
TO BE RELOCATED TO
STA 489+38.0, 37.5' RT

QUENTIN ROAD

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

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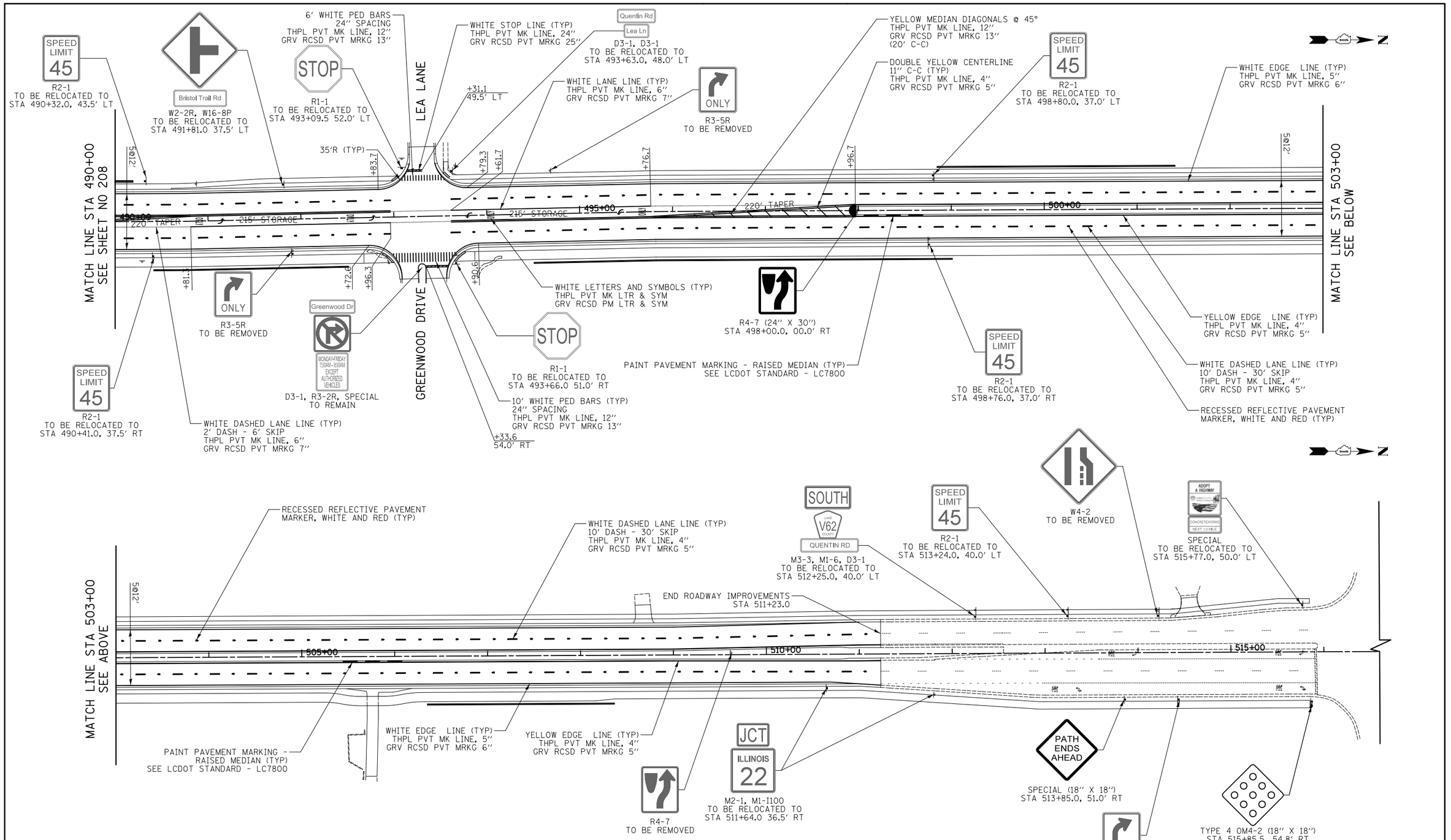
HORIZ. 0 50 100

PAVEMENT MARKING AND SIGNING

SHEET NO. 4 OF 5 SHEETS | STA. 466+00 | TO STA. 490+00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	208
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



NOTE:

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2. ALL THERMOPLASTIC PAVEMENT MARKINGS TO BE RECESSED.

QUENTIN ROAD

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DEPARTMENT OF TRANSPORTATION

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PAVEMENT MARKING AND SIGNING

SHEET NO. 5 OF 5 SHEETS | STA. 490+00 | TO STA. 516+60

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	209
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

TRAFFIC SIGNAL LEGEND

(NOT TO SCALE)

ITEM	EXISTING	PROPOSED
CONTROLLER CABINET		
COMMUNICATION CABINET	ECC	CC
MASTER CONTROLLER	EMC	MC
MASTER MASTER CONTROLLER	EMMC	MMC
UNINTERRUPTABLE POWER SUPPLY		
SERVICE INSTALLATION -(P) POLE MOUNTED	P	P
SERVICE INSTALLATION -(G) GROUND MOUNTED -(GM) GROUND MOUNTED METERED	G GM	G GM
TELEPHONE CONNECTION	ET	T
STEEL MAST ARM ASSEMBLY AND POLE		
ALUMINUM MAST ARM ASSEMBLY AND POLE		
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE		
SIGNAL POST -(BM) BARREL MOUNTED - TEMPORARY		BM
WOOD POLE		
GUY WIRE		
SIGNAL HEAD		
SIGNAL HEAD WITH BACKPLATE		
SIGNAL HEAD OPTICALLY PROGRAMMED	P P	P P
FLASHER INSTALLATION -(FS) SOLAR POWERED	F FS F FS	F FS F FS
PEDESTRIAN SIGNAL HEAD		
PEDESTRIAN PUSH BUTTON -(APS) ACCESSIBLE PEDESTRIAN PUSH BUTTON	APS	APS
RADAR DETECTION SENSOR	R	R
VIDEO DETECTION CAMERA	V	V
RADAR/VIDEO DETECTION ZONE		
PAN, TILT, ZOOM (PTZ) CAMERA	PTZ	PTZ
EMERGENCY VEHICLE LIGHT DETECTOR		
CONFIMATION BEACON		
WIRELESS INTERCONNECT		
WIRELESS INTERCONNECT RADIO REPEATER	ERR	RR

ITEM	EXISTING	PROPOSED
HANDHOLE -SQUARE -ROUND		
HEAVY DUTY HANDHOLE -SQUARE -ROUND	H H	H H
DOUBLE HANDHOLE		
JUNCTION BOX	J	J
RAILROAD CANTILEVER MAST ARM		
RAILROAD FLASHING SIGNAL		
RAILROAD CROSSING GATE		
RAILROAD CROSSBUCK		
RAILROAD CONTROLLER CABINET	RXR	RXR
UNDERGROUND CONDUIT (UC), GALVANIZED STEEL		
TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE		
SYSTEM ITEM	S	SP
INTERSECTION ITEM	I	IP
REMOVE ITEM		R
RELOCATE ITEM		RL
ABANDON ITEM		A
CONTROLLER CABINET AND FOUNDATION TO BE REMOVED		RCF
MAST ARM POLE AND FOUNDATION TO BE REMOVED		RMF
SIGNAL POST AND FOUNDATION TO BE REMOVED		RPF
DETECTOR LOOP, TYPE I		
PREFORMED DETECTOR LOOP	P P	P P
SAMPLING (SYSTEM) DETECTOR	S S	S S
INTERSECTION AND SAMPLING (SYSTEM) DETECTOR	IS IS	IS IS
QUEUE AND SAMPLING (SYSTEM) DETECTOR	QS QS	QS QS
WIRELESS DETECTOR SENSOR	W	W
WIRELESS ACCESS POINT		

ITEM	EXISTING	PROPOSED
SIGNAL HEAD -(P) PROGRAMMABLE SIGNAL HEAD	P	P
SIGNAL HEAD WITH BACKPLATE -(P) PROGRAMMABLE SIGNAL HEAD -(RB) RETROREFLECTIVE BACKPLATE	P RB	P RB
PEDESTRIAN SIGNAL HEAD AT RAILROAD INTERSECTIONS		
PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER	C D	C D
ILLUMINATED SIGN "NO LEFT TURN"/"NO RIGHT TURN"		
NUMBER OF CONDUCTORS, ELECTRIC CABLE NO. 14, UNLESS NOTED OTHERWISE. ALL DETECTOR LOOP CABLE TO BE SHIELDED	5	5
GROUND CABLE IN CONDUIT, NO. 6 SOLID COPPER (GREEN)	1#6	1#6
ELECTRIC CABLE IN CONDUIT, TRACER NO. 14 1/C	1	1
COAXIAL CABLE	C	C
VENDOR CABLE	V	V
COPPER INTERCONNECT CABLE, NO. 18, 3 PAIR TWISTED, SHIELDED	6#18	6#18
FIBER OPTIC CABLE -NO. 62.5/125, MM12F -NO. 62.5/125, MM12F SM12F -NO. 62.5/125, MM12F SM24F	12F 24F 36F	12F 24F 36F
GROUND ROD -(C) CONTROLLER -(M) MAST ARM -(P) POST -(S) SERVICE	C M P S	C M P S

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: NONE | SHEET 1 OF 7 SHEETS | STA. | TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	210
	TS-05	CONTRACT NO. 61E22		
	ILLINOIS FED. AID PROJECT			

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LOOP DETECTOR NOTES

1. EACH PAIR OF LOOP WIRES SHALL BE PLACED IN A SEPARATE EMPTY COILABLE NONMETALLIC CONDUIT FROM THE EDGE OF PAVEMENT TO THE HANDHOLE. SPACING BETWEEN THE HOLES DRILLED IN THE PAVEMENT SHALL NOT BE LESS THAN 6" (150 mm). EMPTY COILABLE NONMETALLIC CONDUIT 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.

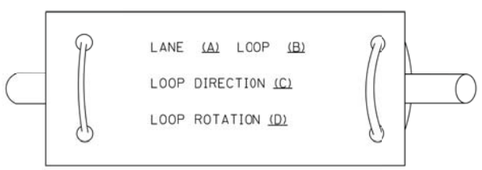
4. ALL LOOP CABLE SHALL BE FASTENED WITH PLASTIC TIE WRAP TO THE HANDHOLE HOOKS.

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

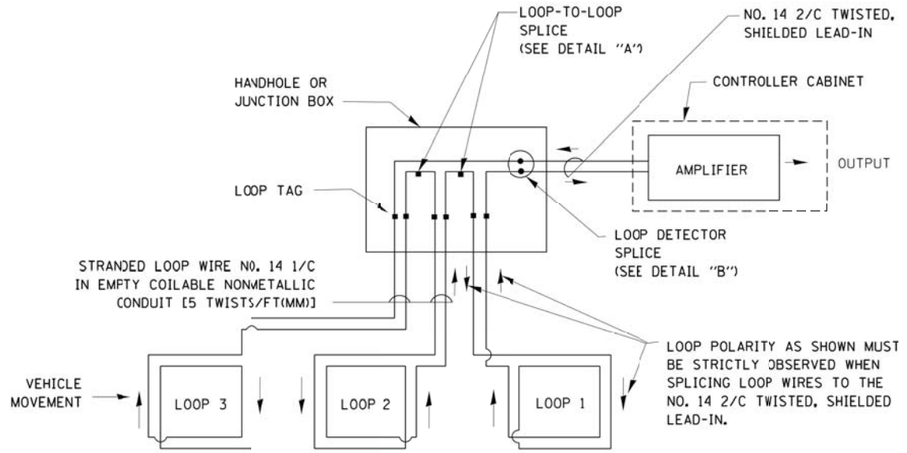


A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY

B. LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.

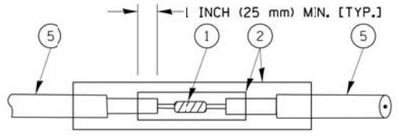
C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".

D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

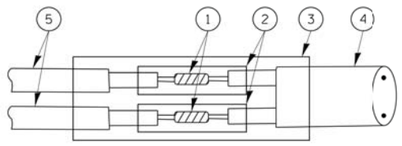


DETECTOR LOOP WIRING SCHEMATIC

- 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.

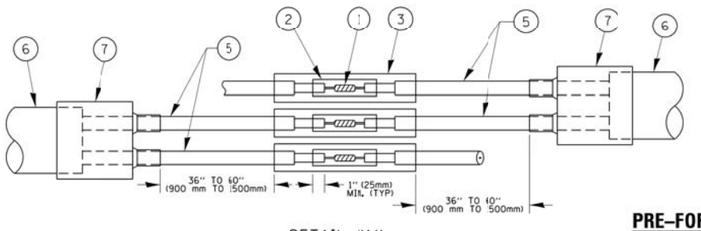


DETAIL "A"
LOOP-TO-LOOP SPLICE



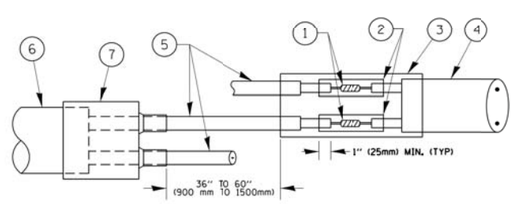
DETAIL "B"
LOOP-TO-CONTROLLER SPLICE

TYPE I LOOP



DETAIL "A"
LOOP-TO-LOOP SPLICE

PRE-FORMED LOOP



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. THE WESTERN UNION SPLICES SHALL BE STAGGERED.

(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.

(6) PRE-FORMED LOOP

(7) XL POLYOLEFIN 2 CONDUCTOR BREAKOUT SEALS. ~~TYCO CBR-2 OR APPROVED EQUAL~~

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: NONE | SHEET NO. 2 OF 7 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	211
	TS-05	CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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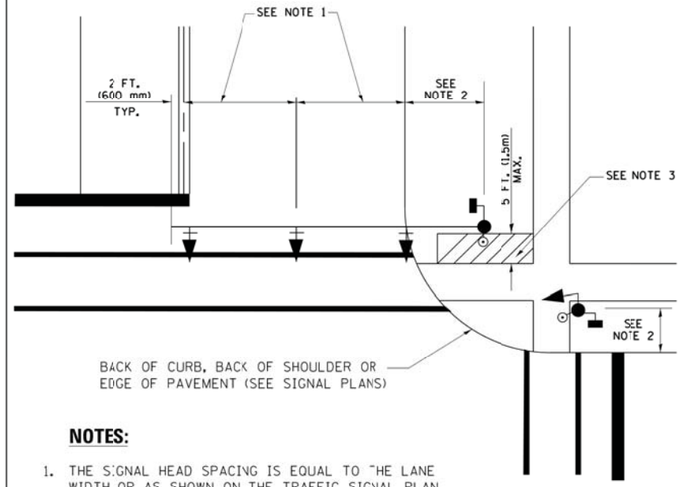
TRAFFIC SIGNAL MAST ARM AND SIGNAL POST

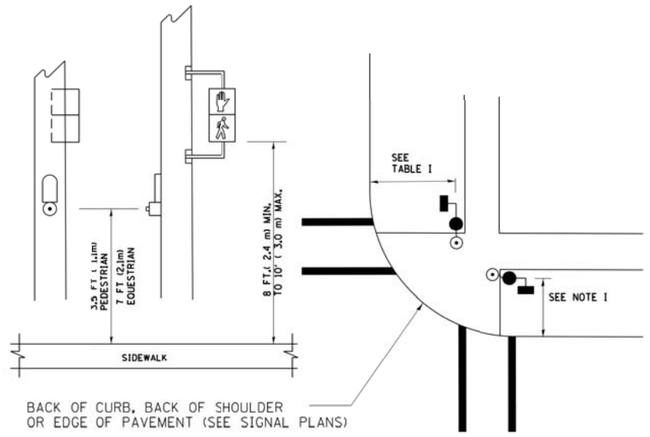
MAST ARM MOUNTED SIGNALS IN EXISTING, PROPOSED OR FUTURE SIDEWALK/BICYCLE PATH AREA. INTERSECTION SHOWN WITH PEDESTRIAN SIGNALS AND PEDESTRIAN PUSHBUTTON DETECTORS.



NOTES:

1. THE SIGNAL HEAD SPACING IS EQUAL TO THE LANE WIDTH OR AS SHOWN ON THE TRAFFIC SIGNAL PLAN.
2. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
3. PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE MAST ARM SHAFT OR THE SIGNAL POST.
4. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
5. THE LOCATIONS AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL MEET THE REQUIREMENTS OF THE MUTCD AND INFORMATION FOUND IN THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES."

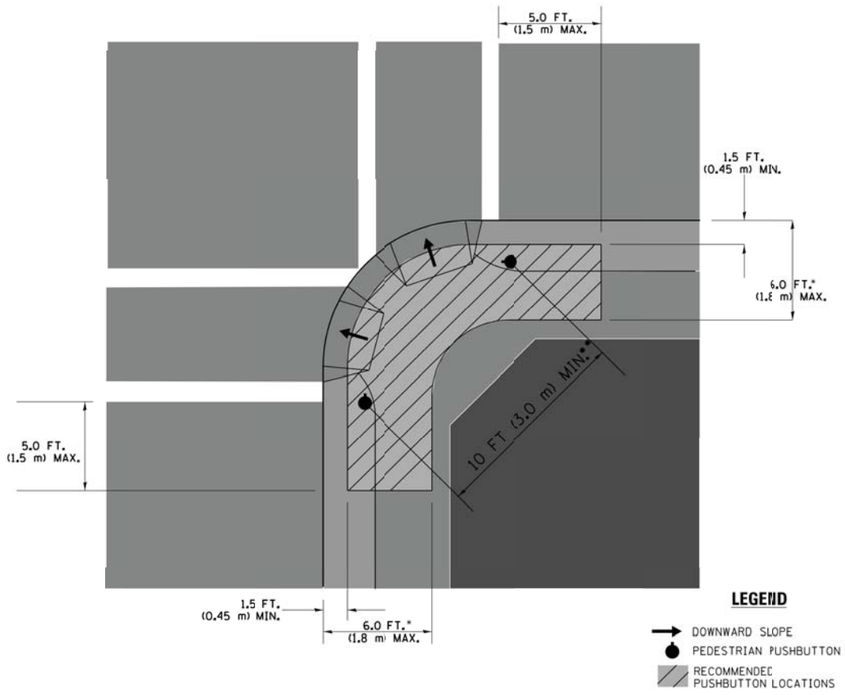
PEDESTRIAN SIGNAL POST AND PEDESTRIAN PUSH BUTTON POST



NOTES:

1. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
2. PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE PEDESTRIAN SIGNAL POST OR THE PEDESTRIAN PUSH BUTTON POST.
3. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
4. THE LOCATIONS AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL MEET THE REQUIREMENTS OF THE MUTCD AND INFORMATION FOUND IN THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES."

RECOMMENDED PUSHBUTTON LOCATIONS



- WHERE THERE ARE CONSTRAINTS THAT MAKE IT IMPRACTICAL TO PLACE THE PEDESTRIAN PUSHBUTTON BETWEEN 1.5 FT (0.45 m) AND 6 FT (1.8 m) FROM THE EDGE OF THE CURB, SHOULDER, OR PAVEMENT, IT SHOULD NOT BE FURTHER THAN 10 FT (3 m) FROM THE EDGE OF CURB, SHOULDER, OR PAVEMENT.

** WHERE THERE ARE CONSTRAINTS ON A PARTICULAR CORNER THAT MAKE IT IMPRACTICAL TO PROVIDE THE 10 FT (3 m) SEPERATION BETWEEN THE TWO PEDESTRIAN PUSHBUTTONS, THE PUSHBUTTONS MAY BE PLACED CLOSER TOGETHER OR ON THE SAME POLE.

NOTES:

1. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING INCLUDING BRACKETS NOT LESS THAN 8 FT (2.4 m) OR MORE THAN 10 FT (3 m) ABOVE SIDEWALK LEVEL, AND SHALL BE POSITIONED AND ADJUSTED TO PROVIDE MAXIMUM VISIBILITY AT THE BEGINNING OF THE CONTROLLED CROSSWALK.
2. THE BOTTOM OF THE SIGNAL HOUSING (INCLUDING BRACKETS) OF A VEHICULAR SIGNAL FACE THAT IS NOT LOCATED OVER A HIGHWAY SHALL BE AT LEAST 8 FT (2.4 m) BUT NOT MORE THAN 19 FT (5.8 m) ABOVE THE SIDEWALK OR, IF THERE IS NO SIDEWALK, ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY.
3. THE BOTTOM OF THE SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL BE ACCORDING TO CURRENT STATE STANDARDS 877001, 877002, 877006, 877011 AND 877012 WITH A MINIMUM OF 16 FT (5.0 m) AND A MAXIMUM OF 18 FT. (5.5 m) FROM THE HIGHEST POINT OF PAVEMENT.
4. THE BOTTOM OF THE TEMPORARY SPAN WIRE MOUNTED SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL BE ACCORDING TO CURRENT STATE STANDARD 880001 WITH A MINIMUM OF 17 FT (5.18 m) FROM THE HIGHEST POINT OF PAVEMENT.
5. THE TOP OF THE SIGNAL HOUSING OF A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL NOT BE MORE THAN 25.6 FT (7.8 m) ABOVE THE PAVEMENT.

TRAFFIC SIGNAL EQUIPMENT OFFSET

TRAFFIC SIGNAL EQUIPMENT	COMBINATION CONCRETE CURB AND GUTTER (MINIMUM DISTANCE FROM BACK OF CURB TO CENTERLINE OF FOUNDATION)	SHOULDER/NON-CURBED AREA (MINIMUM DISTANCE FROM EDGE OF PAVEMENT TO CENTERLINE OF FOUNDATION)
TRAFFIC SIGNAL MAST ARM POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
TRAFFIC SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
PEDESTRIAN SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
PEDESTRIAN PUSHBUTTON POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
TEMPORARY WOOD POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
CONTROLLER CABINET	6 FT (1.8m) MINIMUM DISTANCE SEE NOTE 2	SHOULDER WIDTH + 6 FT (1.8m), MINIMUM 16 FT (4.9m) SEE NOTE 3.
SERVICE INSTALLATION, GROUND MOUNT	6 FT (1.8m) MINIMUM DISTANCE SEE NOTE 2	SHOULDER WIDTH + 6 FT (1.8m), MINIMUM 16 FT (4.9m) SEE NOTE 3.

NOTES:

1. CONTACT THE "AREA TRAFFIC SIGNAL MAINTENANCE AND OPERATIONS ENGINEER" FOR ASSISTANCE IN LOCATING THE TRAFFIC SIGNAL EQUIPMENT WHEN THERE ARE CONFLICTS WITH DITCHES OR THE MINIMUM OFFSET DISTANCES CANNOT BE MET.
2. MINIMUM DISTANCE FROM THE BACK OF CURB TO THE ROADWAY SIDE OF THE FOUNDATION.
3. MINIMUM DISTANCE FROM THE EDGE OF PAVEMENT TOTHE ROADWAY SIDE OF THE FOUNDATION.
4. ANY CHANGES TO THE OFFSETS OF THE FOUNDATIONS, FROM THE MINIMUM DISTANCES LISTED IN THE "TRAFFIC SIGNAL EQUIPMENT OFFSET" CHART AND THE TRAFFIC SIGNAL INSTALLATION PLAN, COULD EFFECT THE PLACEMENT OF THE SIGNAL HEADS, PEDESTRIAN SIGNAL HEADS AND THE PEDESTRIAN PUSHBUTTONS. THE SIGNAL HEAD PLACEMENT ON THE MAST ARMS SHALL REMAIN AS PER THE TRAFFIC SIGNAL INSTALLATION PLAN AND THE "TRAFFIC SIGNAL MAST ARM AND SIGNAL POST" DETAIL ABOVE. THE PROPOSED MAST ARM LENGTHS MAY NEED TO BE REVISED TO MEET THE ABOVE REQUIREMENTS. THE PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS MUST MEET THE REQUIREMENTS UNDER THE DETAILS ON THIS SHEET.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: NONE | SHEET NO. 3 OF 7 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	212
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FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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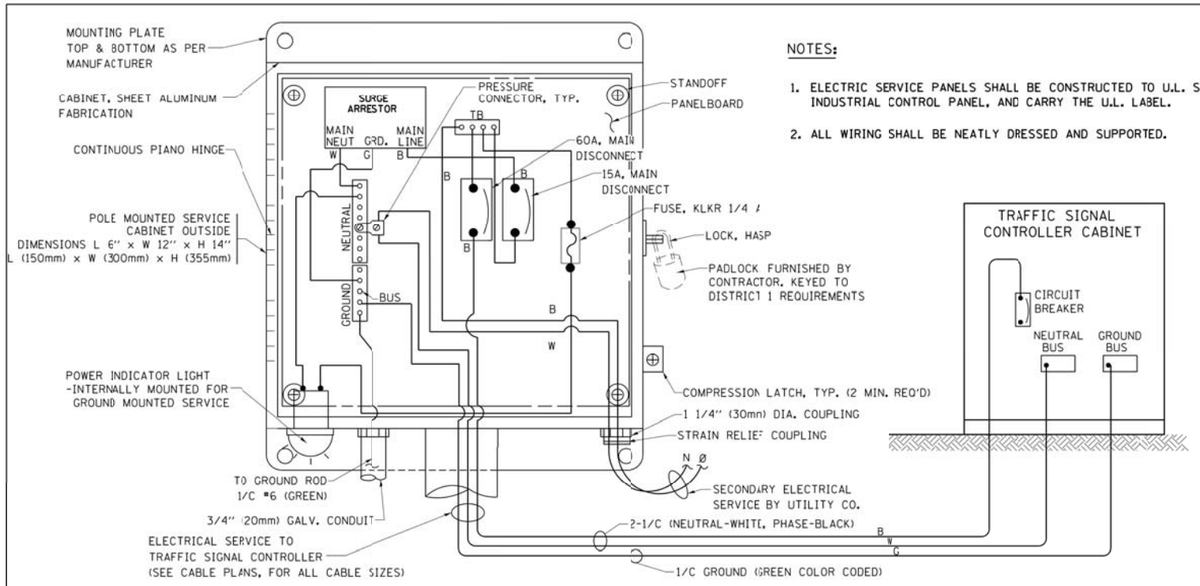


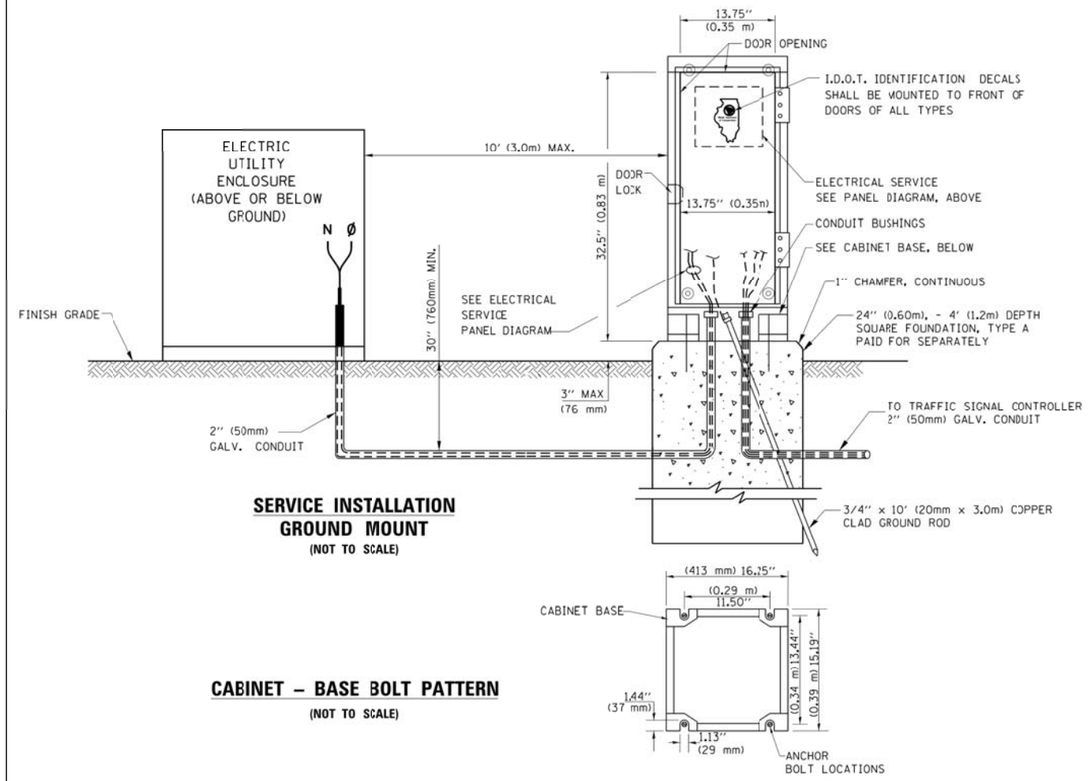
NOTES:

1. ELECTRIC SERVICE PANELS SHALL BE CONSTRUCTED TO U.L. STD 508, INDUSTRIAL CONTROL PANEL, AND CARRY THE U.L. LABEL.
2. ALL WIRING SHALL BE NEATLY DRESSED AND SUPPORTED.

ELECTRICAL SERVICE – PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)

SERVICE INSTALLATION POLE MOUNT (SHOWN)

(NOT TO SCALE)

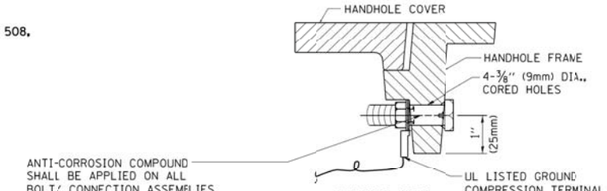


SERVICE INSTALLATION GROUND MOUNT

(NOT TO SCALE)

CABINET – BASE BOLT PATTERN

(NOT TO SCALE)



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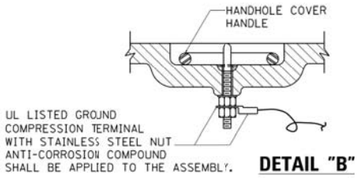
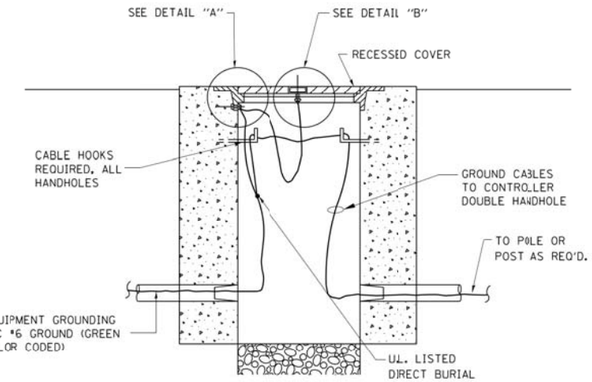
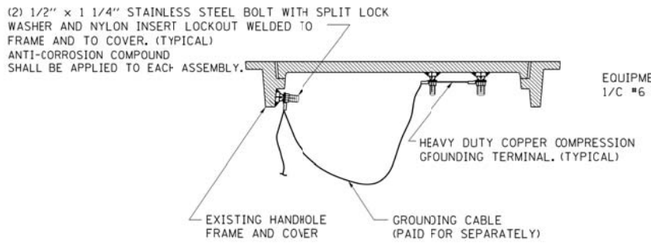


DETAIL "B"



HANDHOLE COVER & FRAME – GROUNDING DETAIL

(NOT TO SCALE)



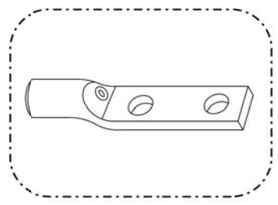
EXISTING HANDHOLE COVER & FRAME – GROUNDING DETAIL

(NOT TO SCALE)

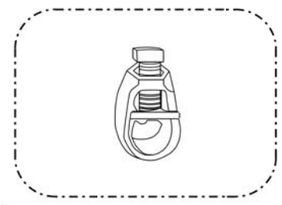
NOTES:

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.



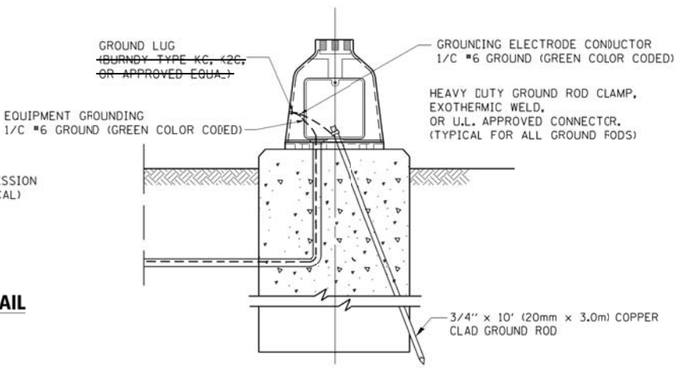
HEAVY-DUTY COMPRESSION TERMINAL ~~(BURNDY TYPE YGHA OR APPROVED EQUAL)~~



¾" (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)

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		DRAWN - BCK	REVISED -
	PLOT SCALE = 50.0000 ' / in.	CHECKED - DAD	REVISED -
	PLOT DATE = 1/13/2014	DATE - 10-28-09	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: NONE | SHEET NO. 4 OF 7 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	213
	TS-05	CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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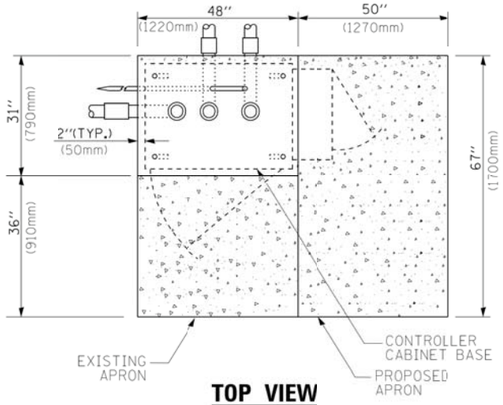
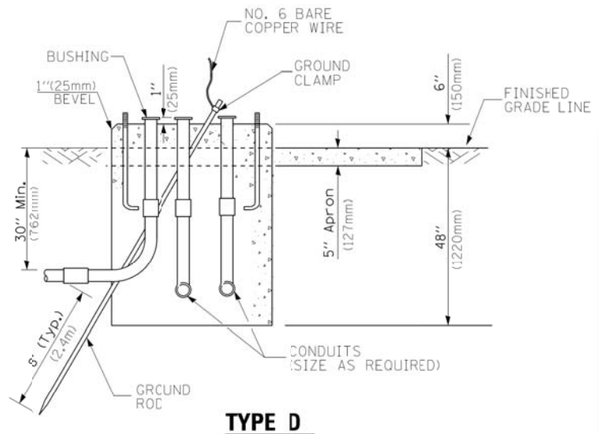
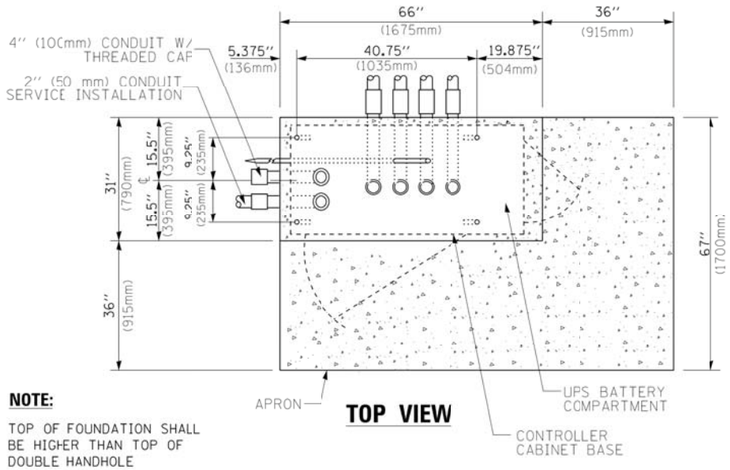


TOP VIEW



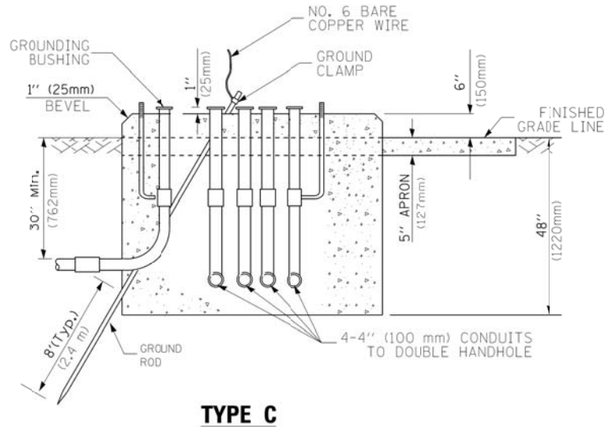
TYPE D
FOR GROUND MOUNTED
CONTROLLER CABINET
AND UPS BATTERY CABINET



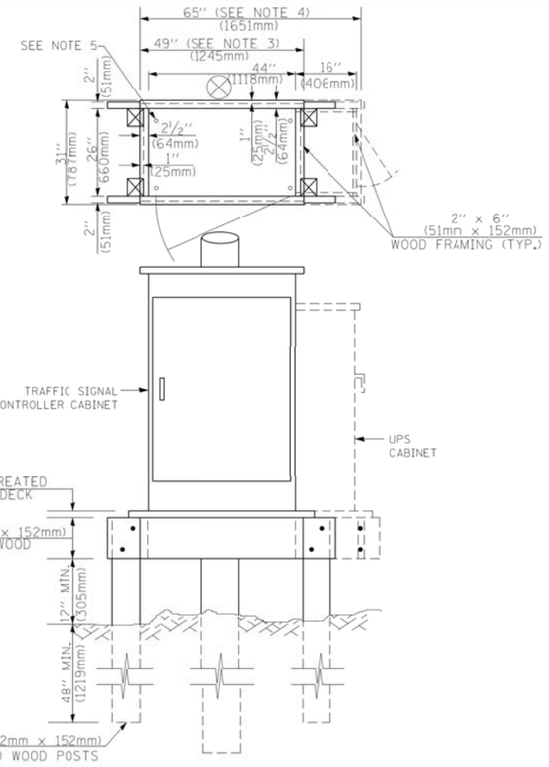
NOTE:

TOP OF FOUNDATION SHALL BE HIGHER THAN TOP OF DOUBLE HANDHOLE

TOP VIEW



TYPE C
FOR GROUND MOUNTED
SUPER P (TYPE IV) AND SUPER R (TYPE V)
CONTROLLER CABINETS



NOTES:

1. BASED ON CONTROLLER CABINET TYPE IV WITH BASE DIMENSIONS OF 26" x 44" (660mm x 1118mm). ADJUST PLATFORM SIZE TO FIT CABINET BASE DIMENSIONS BEING SUPPLIED
2. BASED ON UNINTERRUPTIBLE POWER SUPPLY CABINET WITH BASE DIMENSIONS OF 16" x 25" (406mm x 635mm). ADJUST PLATFORM SIZE TO FIT CABINET BASE DIMENSIONS BEING SUPPLIED.
3. PLATFORM SIZE FOR CONTROLLER CABINET TYPE IV.
4. PLATFORM SIZE FOR CONTROLLER CABINET TYPE IV AND UNINTERRUPTIBLE POWER SUPPLY CABINET.
5. DRILLED HOLES THROUGH THE PLATFORM BASE TO MATCH THE CONTROLLER CABINET BOLT TEMPLATE. FASTEN THE CONTROLLER CABINET TO THE PLATFORM WITH CARRIAGE BOLTS, WASHERS AND NUTS.
6. FASTEN ALL SUPPORT WOOD FRAMING TO THE WOOD POSTS WITH 2 LAG SCREWS FOR EACH CONNECTION..

TEMPORARY SIGNAL CONTROLLER
WOOD SUPPORT PLATFORM

CABLE SLACK LENGTH	FEET	METER
HANDHOLE	6.5	2.0
DOUBLE HANDHOLE	13.0	4.0
SIGNAL POST	2.0	0.6
MAST ARM	2.0	0.6
CONTROLLER CABINET	1.5	0.5
FIBER OPTIC AT CABINET	13.0	4.0
ELECTRIC SERVICE AT (CABINET OR SERVICE LOCATION)	1.5	0.5
GROUND CABLE (SIGNAL POST, MAST ARM, CABINET)	1.5	0.5
GROUND CABLE (BETWEEN FRAME AND COVER)	5.0	1.6

CABLE SLACK

VERTICAL CABLE LENGTH	FEET	METER
MAST ARM POLE (MAST ARM MOUNTED SIGNAL HEAD) (L = MAST ARM LENGTH - DISTANCE TO SIGNAL HEAD FROM END OF ARM)	20.0+L	6.0+L
BRACKET MOUNTED (MAST ARM POLE OR SIGNAL POLE)	13.0	4.0
PEDESTRIAN PUSH BUTTON	6.0	2.0
SERVICE INSTALLATION POLE MOUNT TO SERVICE DROP	13.5	4.1
SERVICE INSTALLATION POLE MOUNT TO GROUND	13.5	4.1
SERVICE INSTALLATION GROUND MOUNT	6.0	2.0
FOUNDATION (SIGNAL POST, MAST ARM POLE, CONTROLLER CABINET, SERVICE-GROUND MOUNT)	3.0	1.0

VERTICAL CABLE LENGTH

FOUNDATION	DEPTH
TYPE A - Signal Post	4'-0" (1.2m)
TYPE C - CONTROLLER W/ UPS	4'-0" (1.2m)
TYPE D - CONTROLLER	4'-0" (1.2m)
SERVICE INSTALLATION, GROUND MOUNT, TYPE A - SQUARE	4'-0" (1.2m)

DEPTH OF FOUNDATION

Mast Arm Length	① Foundation Depth	Foundation Diameter	Spiral Diameter	Quantity of Rebars	Size of Rebars
Less than 30' (9.1 m)	10'-0" (3.0 m)	30" (750mm)	24" (600mm)	8	6(19)
Greater than or equal to 30' (9.1 m) and less than 40' (12.2 m)	13'-6" (4.1 m)	30" (750mm)	24" (600mm)	8	6(19)
	11'-0" (3.4 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 40' (12.2 m) and less than 50' (15.2 m)	13'-0" (4.0 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 50 (15.2 m) and up to 55' (16.8 m)	15'-0" (4.6 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 56' (16.8 m) and less than 65' (19.8 m)	21'-0" (6.4 m)	42" (1060mm)	36" (900mm)	16	8(25)
Greater than or equal to 65 (19.8 m) and up to 75' (22.9 m)	25'-0" (7.6 m)	42" (1060mm)	36" (900mm)	16	8(25)

NOTES:

1. These foundation depths are for sites which have cohesive soils (clayey silt, sandy clay, etc.) along the length of the shaft, with an average Unconfined Compressive Strength (Qu) > 1.0 tsf (100 kpa). This strength shall be verified by boring data prior to construction or with testing by the Engineer during foundation drilling. The Bureau of Bridges & structures should be contacted for a revised design if other conditions are encountered.
2. Combination mast arm assemblies under 55 feet (16.8 m) shall use 36" (900 mm) diameter foundations.
3. Combination mast arm assemblies under 56 feet (16.8 m) through 75 feet (22.9 m) shall use 42" (1060 mm) diameter foundations
4. For mast arm assemblies with dual arms refer to state standard 878001..

DEPTH OF MAST ARM FOUNDATIONS, TYPE E

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	PLOT DATE = 1/13/2014	DATE - 10-28-09	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: NONE | SHEET NO. 5 OF 7 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	214
	TS-05	CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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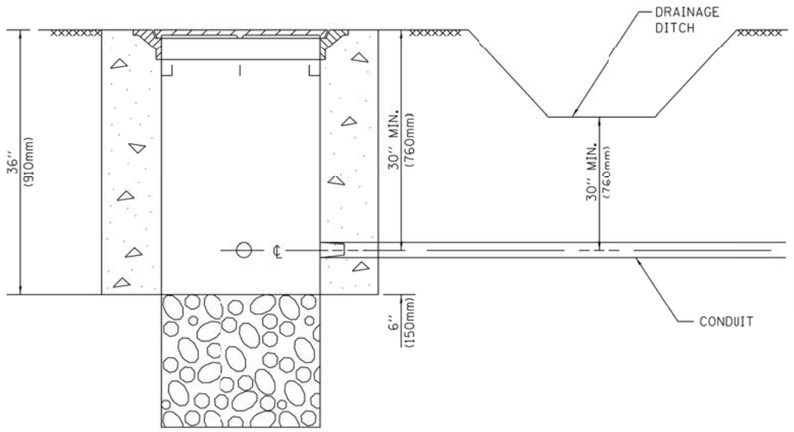
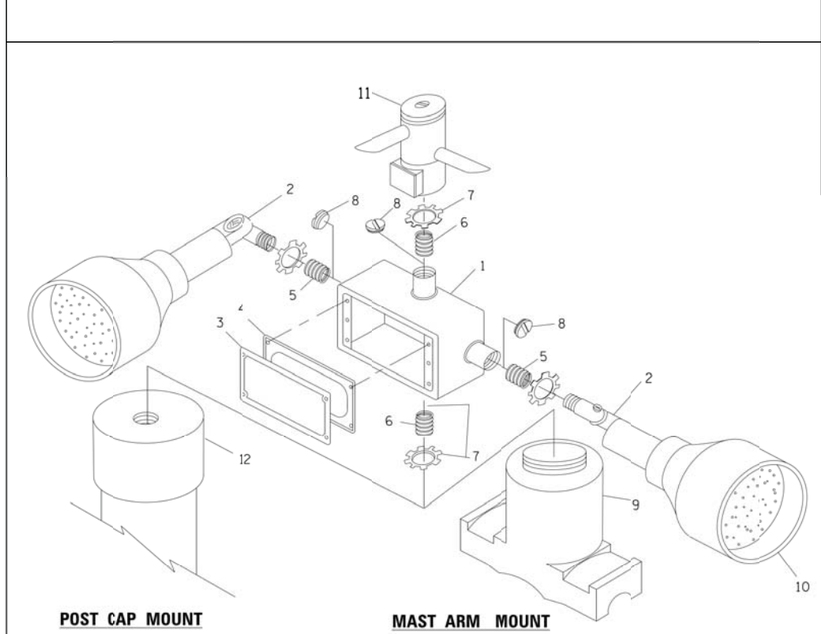


NOTES:

1. CONDUIT DEPTH SHALL BE A MINIMUM OF 30" (760mm) BELOW THE BOTTOM OF THE DRAINAGE DITCH OR ANY SLOPING GROUND
2. THE MINIMUM CONDUIT DEPTH APPLIES TO ALL CONDUIT PLACED UNDER ROADWAY PAVEMENT, MULTI-USE PATHS, SIDEWALKS AND SOIL SURFACES.
3. THE MINIMUM CONDUIT DEPTH APPLIES TO ALL HANDHOLES, HEAVY DUTY HANDHOLES AND DOUBLE HANDHOLES.

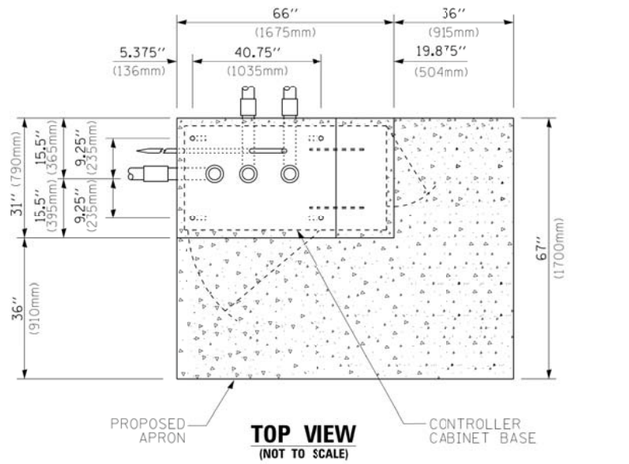
HANDHOLE WITH MINIMUM CONDUIT DEPTH

(NOT TO SCALE)



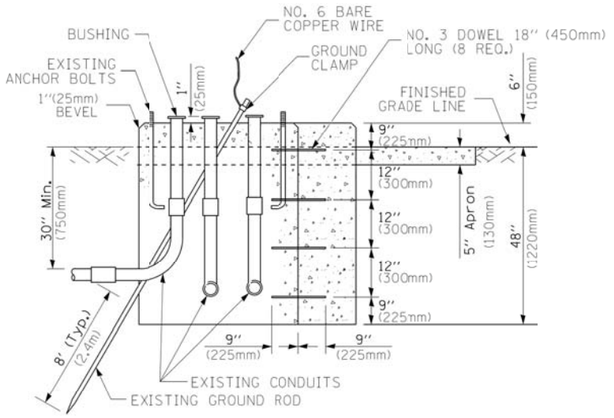
POST CAP MOUNT **MAST ARM MOUNT**

EMERGENCY VEHICLE DETECTOR WITH CONFIRMATION BEACON MOUNTING DETAIL



TOP VIEW

(NOT TO SCALE)



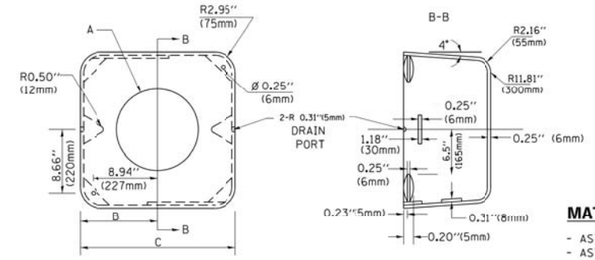
MODIFY EXISTING TYPE "D" FOUNDATION TO TYPE "C" FOUNDATION

(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	6 WATT PAR 38 LED FLOOD LAMP
11	DETECTOR UNIT
12	POST CAP [18 FT. (5.4 m) POST MIN.]

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 3/4 "(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.



MATERIAL:

- ASTM A36 STEEL
- ASTM A-123 HOT DIPPED GALVANIZED

A	B	C	HEIGHT	WEIGHT
VARIES	9.5"(241mm)	19"(483mm)	7" (178mm) - 12" (300mm)	53 lbs (24kg)
VARIES	10.75"(273mm)	21.5"(546mm)	7" (178mm) - 12" (300mm)	68 lbs (31 kg)
VARIES	13.0"(330mm)	26"(660mm)	7" (178mm) - 12" (300mm)	81 lbs (37 kg)
VARIES	18.5"(470mm)	37"(940mm)	7" (178mm) - 12" (300mm)	126 lbs (57 kg)

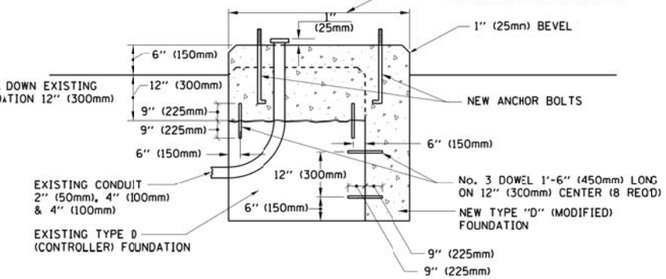
SHROUD

NOTES:

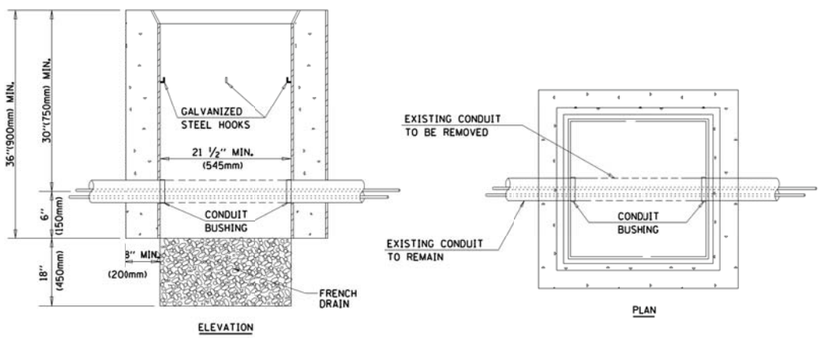
1. DIMENSION "A" IS EQUAL TO THE DIAMETER OF THE MAST ARM POLE AT THE TOP OF THE SHROUD. THE SHROUD SHALL BE TIGHT TO THE MAST ARM POLE.
2. THE SUPPLIER SHALL VERIFIED THE ABOVE DIMENSIONS BASED ON MAST ARM REQUIREMENTS.
3. THE HEIGHT OF THE SHROUD SHALL COVER THE ANCHOR BOLTS, NUTS AND MAST ARM FOLE BASE.

NOTE:

SUPPOFT EXISTING CABINET AND CONTROL EQUIPMENT ABOVE FOUNDATION TO KEEP TRAFFIC SIGNAL FUNCTIONING WHILE FOUNDATION MODIFICATION WORK IS PROCEEDING.



MODIFY EXISTING TYPE "D" FOUNDATION



NOTES:

1. HANDHOLE CONSTRUCTED PER STATE STANDARD 814001.
2. REMOVAL OF THE EXISTING CONDUIT FROM THE HANDHOLE AND THE INSTALLATION OF THE CONDUIT BUSHINGS SHALL BE INCLUDED WITH THE COST OF THE HANDHOLE.

HANDHOLE TO INTERCEPT EXISTING CONDUIT

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	PLOT DATE = 1/13/2014	DATE - 10-28-09	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: NONE | SHEET NO. 6 OF 7 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	215
	TS-05	CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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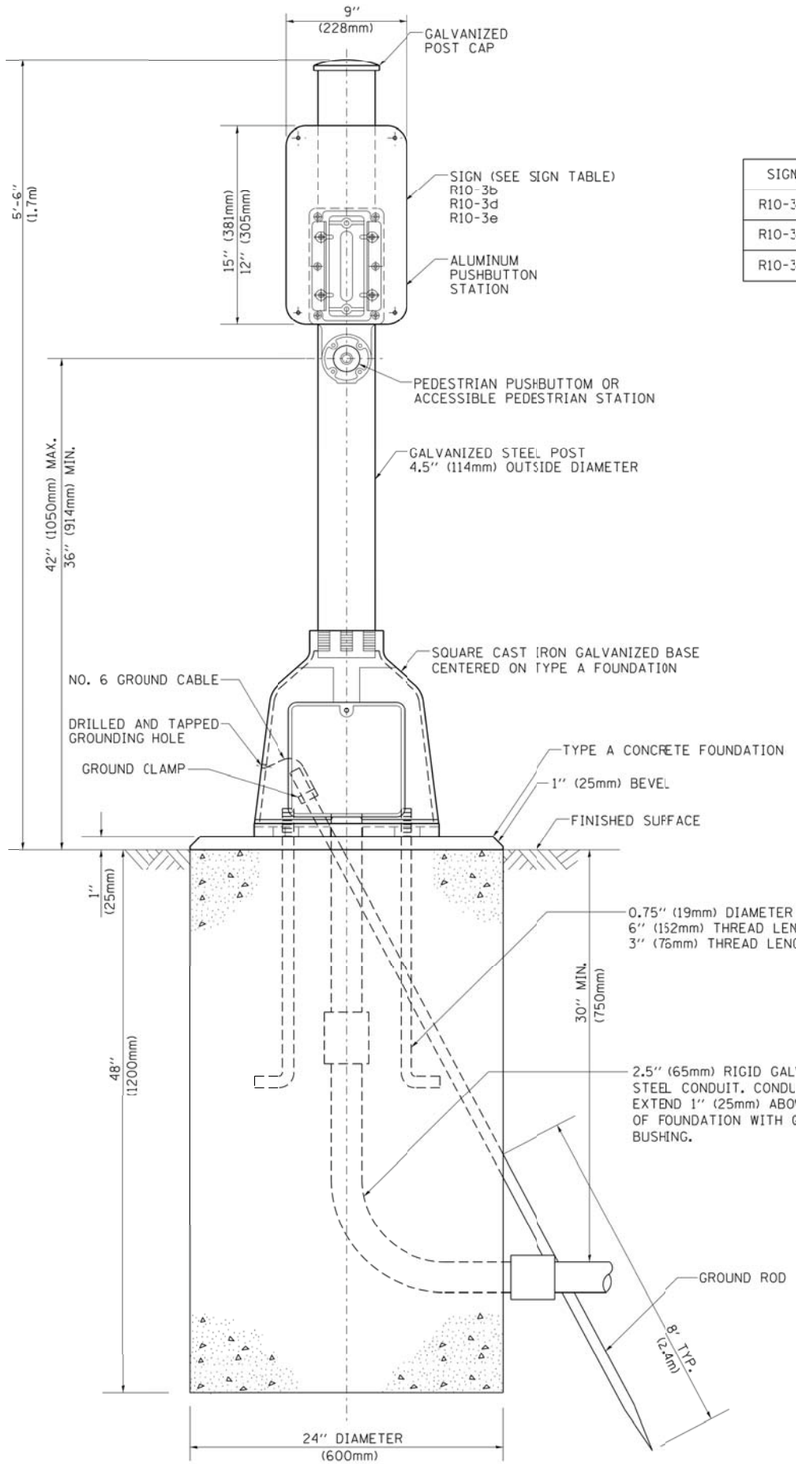
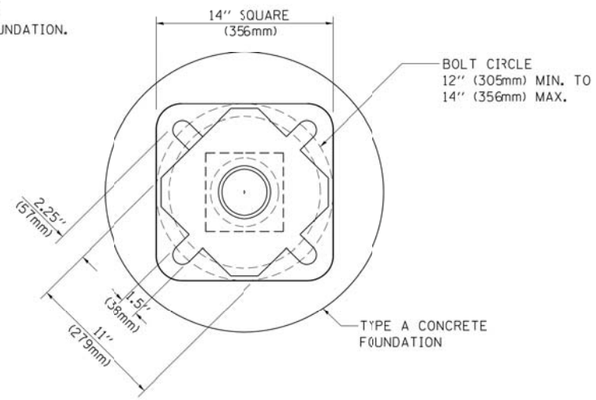


SIGN TABLE

SIGN	DIMENSIONS
R10-3b	9'' (228mm) X 12'' (305mm)
R10-3d	9'' (228mm) X 12'' (305mm)
R10-3e	9'' (228mm) X 15'' (381mm)



BOLT PATTERN

PEDESTRIAN PUSH BUTTON POST, TYPE A

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	PLOT DATE = 1/13/2014	DATE - 10/1/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: NONE | SHEET NO. 7 OF 7 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	216
	TS-05	CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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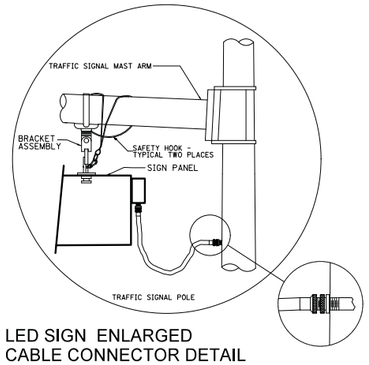
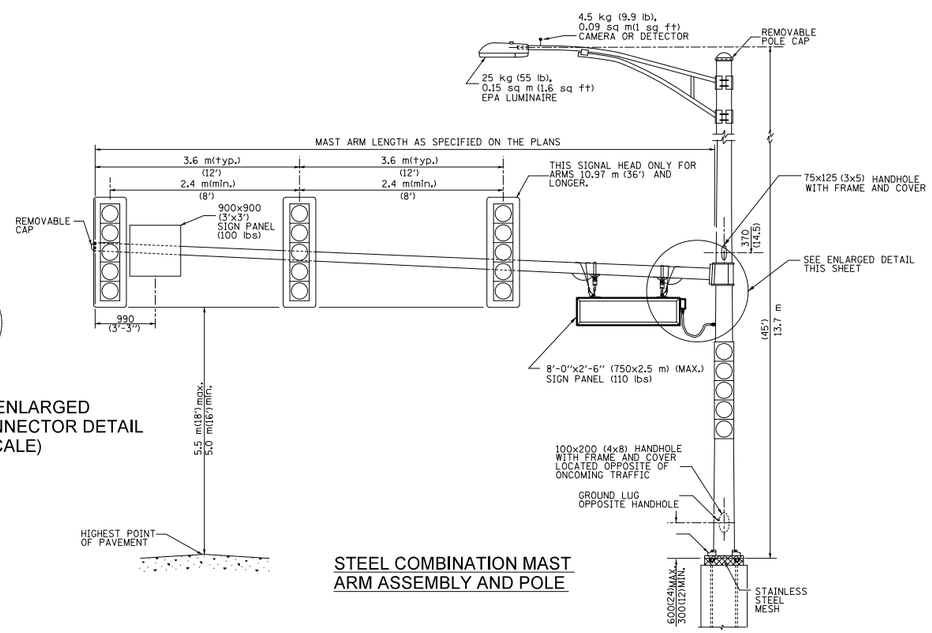
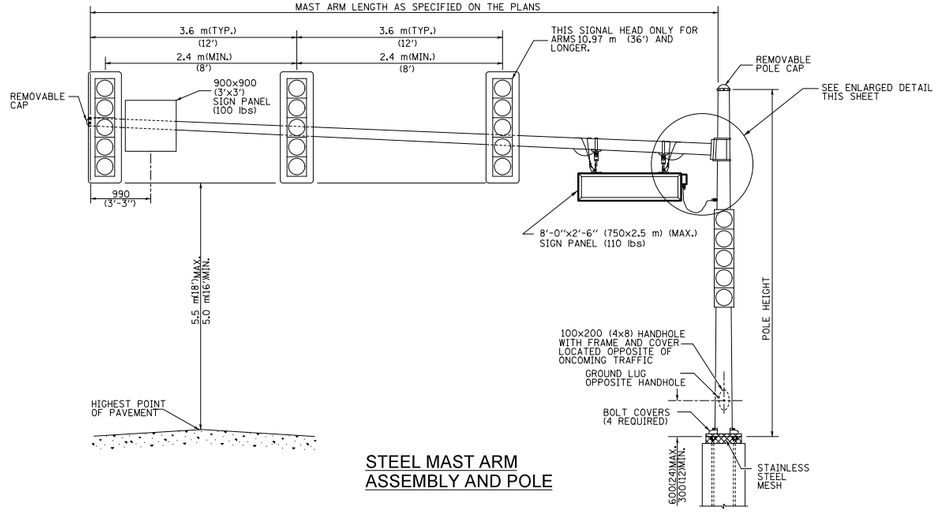


LED SIGN ENLARGED CABLE CONNECTOR DETAIL (NOT TO SCALE)

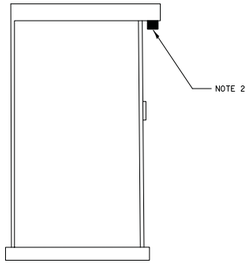
LED SIGN ENLARGED CABLE CONNECTOR DETAIL (NOT TO SCALE)



STEEL COMBINATION MAST ARM ASSEMBLY AND POLE



STEEL MAST ARM ASSEMBLY AND POLE



CONTROLLER CABINET
SIDE VIEW

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

GENERAL NOTE:

1. SIGNAL HEADS, SIGN PANELS, AND OTHER ATTACHMENT ARE SHOWN FOR MINIMUM DESIGN LOADING PURPOSES ONLY. EACH SIGNAL HEAD SHALL WEIGH 36 Kg (80 lb) AND HAVE A PROJECTED AREA OF 1.37 sq. m (14.7 sq ft.).
2. PHOTO ELECTRIC CELL IS TO BE MOUNTED ABOVE CABINET DOOR.
3. SEE STANDARD 720016 FOR LOCATION OF SIGN CLOSEST TO POLE.
4. SIGN IS TO BE MOUNTED A MINIMUM OF 16' ABOVE PAVEMENT.
5. CERTAIN ADDITIONAL INFORMATION MAY BE ALLOWED ON THE SIGN. VERIFY WITH ENGINEER.
6. SIGNS SHALL NOT BE ENERGIZED WHEN TRAFFIC SIGNALS ARE POWERED BY THE UPS THE SIGNS SHALL BE CONNECTED TO THE UPS BYPASS CIRCUITRY.
7. ALL 120 VOLT SYSTEM AND CONTROL WIRING SHALL BE #12 AWG STRANDED UNLESS OTHERWISE INDICATED.
8. ALL WIRING SHALL BE NEATLY DRESSED AND SUPPORTED.
9. ALL WIRING WITHIN THE CABINET SHALL BE COLOR CODED AS INDICATED:
   R = RED BL = BLUE W = WHITE
   B = BLACK Y = YELLOW G = GREEN

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

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

CIVILTECH
Two Pierce Place, Suite 1400
Itasca, Illinois 60143
Tel: 630.773.3900 Fax: 630.773.3975
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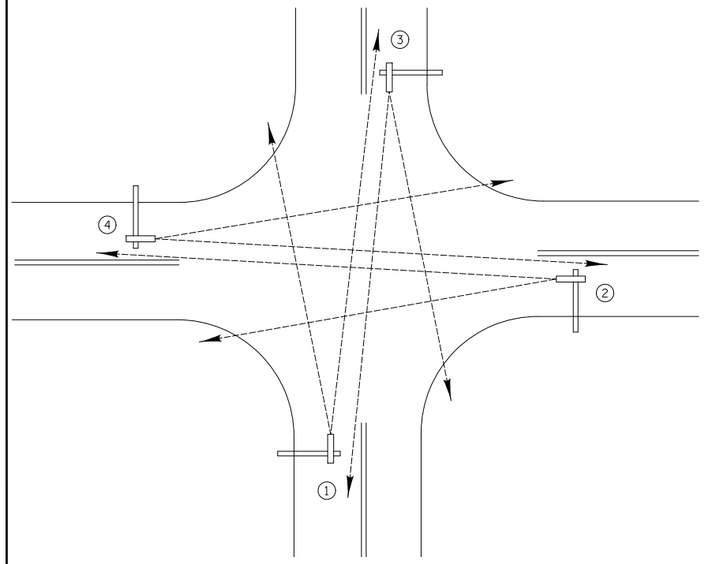
DRAWN - LEP	REVISED -	
CHECKED - JJE	REVISED -	
DATE - 11/13/2017	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INTERNALLY ILLUMINATED STREET NAME SIGN DETAIL

NOT TO SCALE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

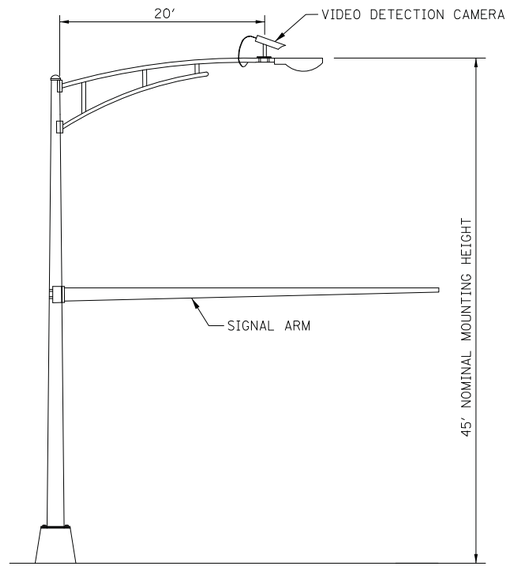
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	217
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



TYPICAL VIDEO VEHICLE DETECTION SYSTEM

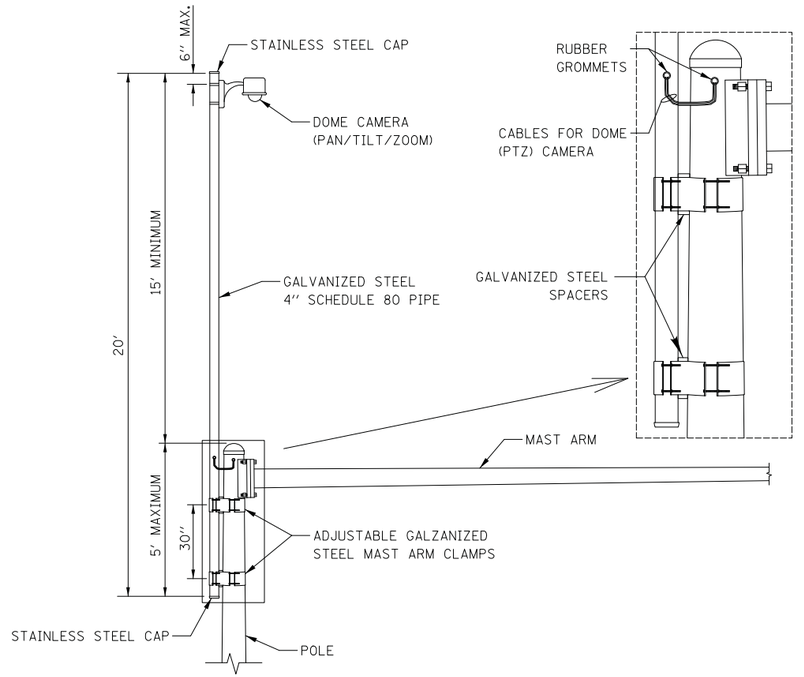
(NOT TO SCALE)

(4) VIDEO DETECTION CAMERA ASSEMBLIES AND BRACKETS ① ② ③ ④



COMBINATION MAST ARM ASSEMBLY AND POLE DIMENSIONS

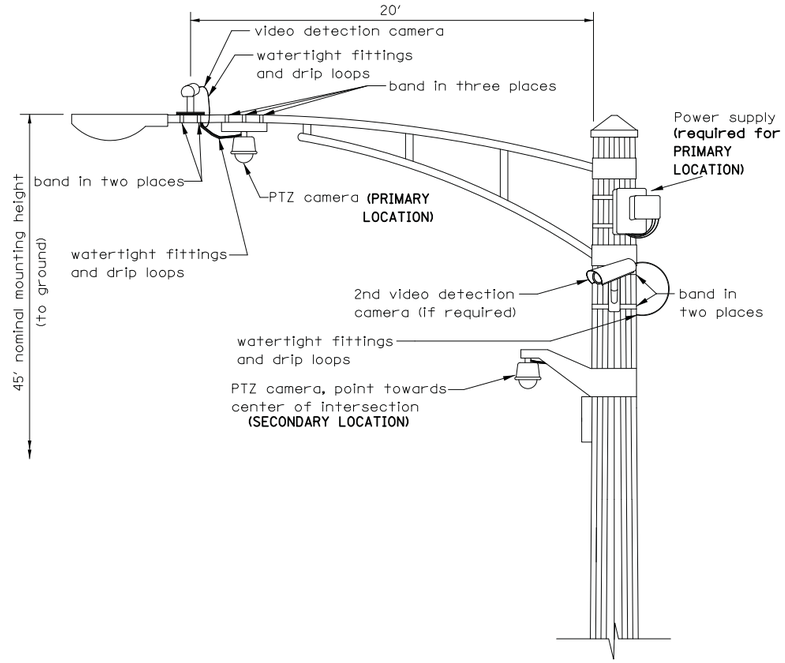
(NOT TO SCALE)



CAMERA MOUNTING ASSEMBLY DETAIL

(NOT TO SCALE)

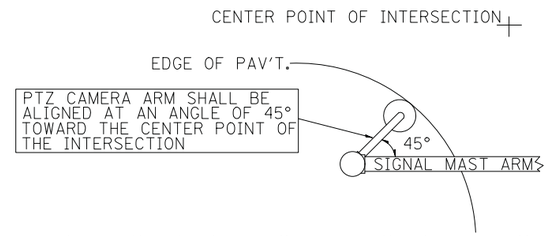
NOTES:
- THE MAST ARM IS TAPERED.
- INSTALL EXTENSION POLE VERTICAL AND PLUMB BY MODIFYING/INSTALLING BRACKETS AS NECESSARY. ADDITIONAL SPACERS REQUIRED ARE INCLUDED IN THE COST OF THE CAMERA MOUNTING ASSEMBLY OF THE TYPE SPECIFIED.
- SPACERS ARE TO BE INTEGRATED OR MANUFACTURED WITH THE MAST ARM BRACKETS



VIDEO DETECTION CAMERA(S) AND DOME (PTZ) CAMERA MOUNTING DETAIL

(NOT TO SCALE)

NOTES FOR SINGLE, DUAL AND MULTIPLE CAMERA MOUNTING:
- MOUNT LUMINAIRE MOUNTING BRACKET AS HIGH AS POSSIBLE.
- MOUNT VIDEO DETECTION CAMERA AIMING DOWN TOWARD THE DIRECTION OF TRAFFIC TO BE DETECTED.



PTZ CAMERA MOUNTING DETAILS (SECONDARY LOCATION)

(NO SCALE)

REVISIONS	DATE
Mounting Details Revised	05/01/08
2nd Camera Locat. added	01/14/09
Mast Arm Taper Detail	06/01/12
Mounting Details Revised	06/13/14

LakeCounty Division of Transportation

APPROVED BY: J. P. NELSON
DATE: JUNE 13, 2014

CAMERA MOUNTING DETAILS

LC8900

CIVILTECH
Two Pierce Place, Suite 1400
Itasca, Illinois 60143
Tel: 630.773.3900 Fax: 630.773.3975
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CHECKED - JJE	REVISED -
DATE - 11/13/2017	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LAKE COUNTY DIVISION OF TRANSPORTATION
CAMERA MOUNTING DETAILS

SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	218
			CONTRACT NO. 61E22	
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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

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

TEMPORARY TRAFFIC SIGNAL NOTES

1. THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT SHALL BE NTCIP COMPLIANT TO MATCH THE EXISTING ADJACENT SYSTEM.

2. ALL STATIONS AND OFFSETS ARE DIMENSIONED FROM THE CENTERLINE OF QUENTIN ROAD AND ARE APPROXIMATE.

3. THE TEMPORARY PEDESTRIAN SIGNALS SHALL REMAIN BAGGED AND DISCONNECTED UNTIL THE PROPOSED CROSSWALKS ARE OPEN TO PEDESTRIAN TRAFFIC.

4. ALL TEMPORARY DETECTION ZONES ARE APPROXIMATE. THE EXACT LOCATIONS SHALL BE DETERMINED AND LAID OUT BY LAKE COUNTY DIVISION OF TRANSPORTATION PERSONNEL.

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF LCDOT, AND SHALL BE DELIVERED TO LCDOT PER THE TRAFFIC SIGNAL SPECIFICATIONS.

1	EACH	CONTROLLER
1	EACH	LIGHT DETECTOR AMPLIFIER
1	EACH	VIDEO DETECTION SYSTEM (COMPLETE INTERSECTION)
1	EACH	TERMINAL SERVER

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

6	EACH	SIGNAL HEAD, 1-FACE, 3-SECTION
4	EACH	SIGNAL HEAD, 1-FACE, 5-SECTION
4	EACH	TRAFFIC SIGNAL BACKPLATE
2	EACH	STEEL MAST ARM ASSEMBLY AND POLE
1	EACH	CONTROLLER CABINET
2	EACH	LIGHT DETECTOR
4	EACH	SIGNAL POST
1	EACH	SERVICE INSTALLATION

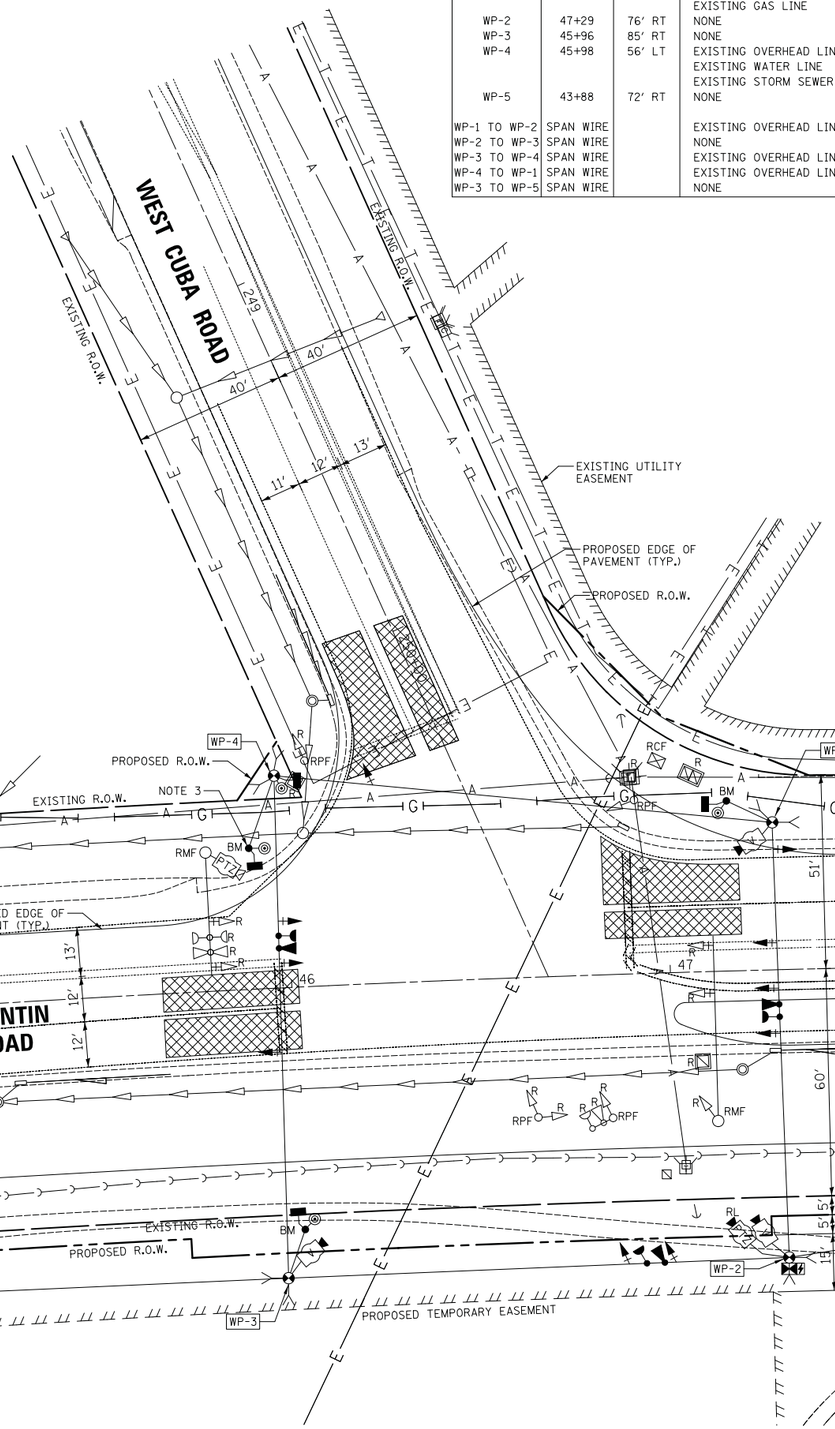
THE FOLLOWING ITEMS SHALL BE REMOVED FROM THE EXISTING TRAFFIC SIGNAL INSTALLATION AND REINSTALLED AS PART OF THE TEMPORARY TRAFFIC SIGNAL INSTALLATION. THESE ITEMS SHALL REMAIN THE PROPERTY OF LCDOT AND SHALL BE RETURNED TO LCDOT UPON REMOVAL OF THE TEMPORARY TRAFFIC SIGNAL INSTALLATION.

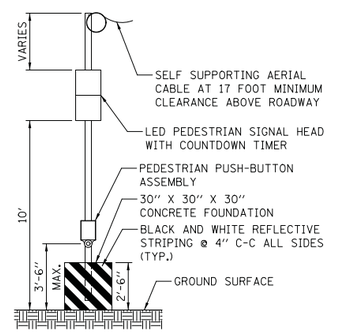
1	EACH	REMOTE-CONTROLLED VIDEO SYSTEM
2	EACH	VIDEO ENCODER
1	EACH	LAYER II SWITCH

THE FOLLOWING ITEMS SHALL BE REMOVED FROM THE EXISTING TRAFFIC SIGNAL INSTALLATION AND RELOCATED TO THE TEMPORARY TRAFFIC SIGNAL INSTALLATION AT EAST CUBA ROAD. THESE ITEMS SHALL REMAIN THE PROPERTY OF LCDOT AND SHALL BE RETURNED TO LCDOT UPON REMOVAL OF THE TEMPORARY TRAFFIC SIGNAL INSTALLATION AT EAST CUBA ROAD.

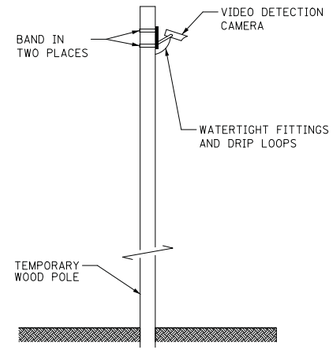
2	EACH	VIDEO ENCODER

STRUCTURE	STATION	OFFSET	POSSIBLE UTILITY CONFLICTS
WP-1	47+28	39' LT	EXISTING OVERHEAD LINE EXISTING GAS LINE
WP-2	47+29	76' RT	NONE
WP-3	45+96	85' RT	NONE
WP-4	45+98	56' LT	EXISTING OVERHEAD LINE EXISTING WATER LINE EXISTING STORM SEWER
WP-5	43+88	72' RT	NONE
WP-1 TO WP-2	SPAN WIRE		EXISTING OVERHEAD LINES
WP-2 TO WP-3	SPAN WIRE		NONE
WP-3 TO WP-4	SPAN WIRE		EXISTING OVERHEAD LINES
WP-4 TO WP-1	SPAN WIRE		EXISTING OVERHEAD LINES
WP-3 TO WP-5	SPAN WIRE		NONE





TEMPORARY POST-MOUNTED PEDESTRIAN SIGNAL DETAIL
(NOT TO SCALE)



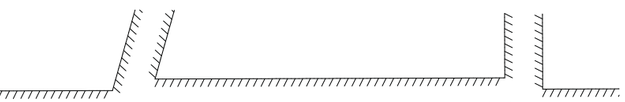
TEMPORARY VIDEO DETECTION DETAIL
(NOT TO SCALE)

DETAIL NOTES:

1. THE CONCRETE BLOCK SHALL BE FITTED WITH LIFTING EYES FOR EASE OF PLACEMENT OR RELOCATION.

2. ADEQUATE AERIAL CABLE SLACK SHALL BE PROVIDED TO ACCOMODATE MULTIPLE PEDESTRIAN SIGNAL PLACEMENTS.

3. A WEIGHTED BARREL MAY BE USED AS A FOUNDATION IN LIEU OF A CONCRETE BLOCK IF APPROVED BY THE ENGINEER.



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

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DATE - 11/13/2017		REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE
0 20 40

TEMPORARY TRAFFIC SIGNAL INSTALLATION AND REMOVAL PLAN
QUENTIN ROAD AT WEST CUBA ROAD

SCALE: 1" = 20' | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	219
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

TEMPORARY TRAFFIC SIGNAL NOTES

1. THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT SHALL BE NTCIP COMPLIANT TO MATCH THE EXISTING ADJACENT SYSTEM.
2. ALL STATIONS AND OFFSETS ARE DIMENSIONED FROM THE CENTERLINE OF QUENTIN ROAD AND ARE APPROXIMATE.
3. THE TEMPORARY PEDESTRIAN SIGNALS SHALL REMAIN BAGGED AND DISCONNECTED UNTIL THE PROPOSED CROSSWALKS ARE OPEN TO PEDESTRIAN TRAFFIC.
4. ALL TEMPORARY DETECTION ZONES ARE APPROXIMATE. THE EXACT LOCATIONS SHALL BE DETERMINED AND LAID OUT BY LAKE COUNTY DIVISION OF TRANSPORTATION PERSONNEL.

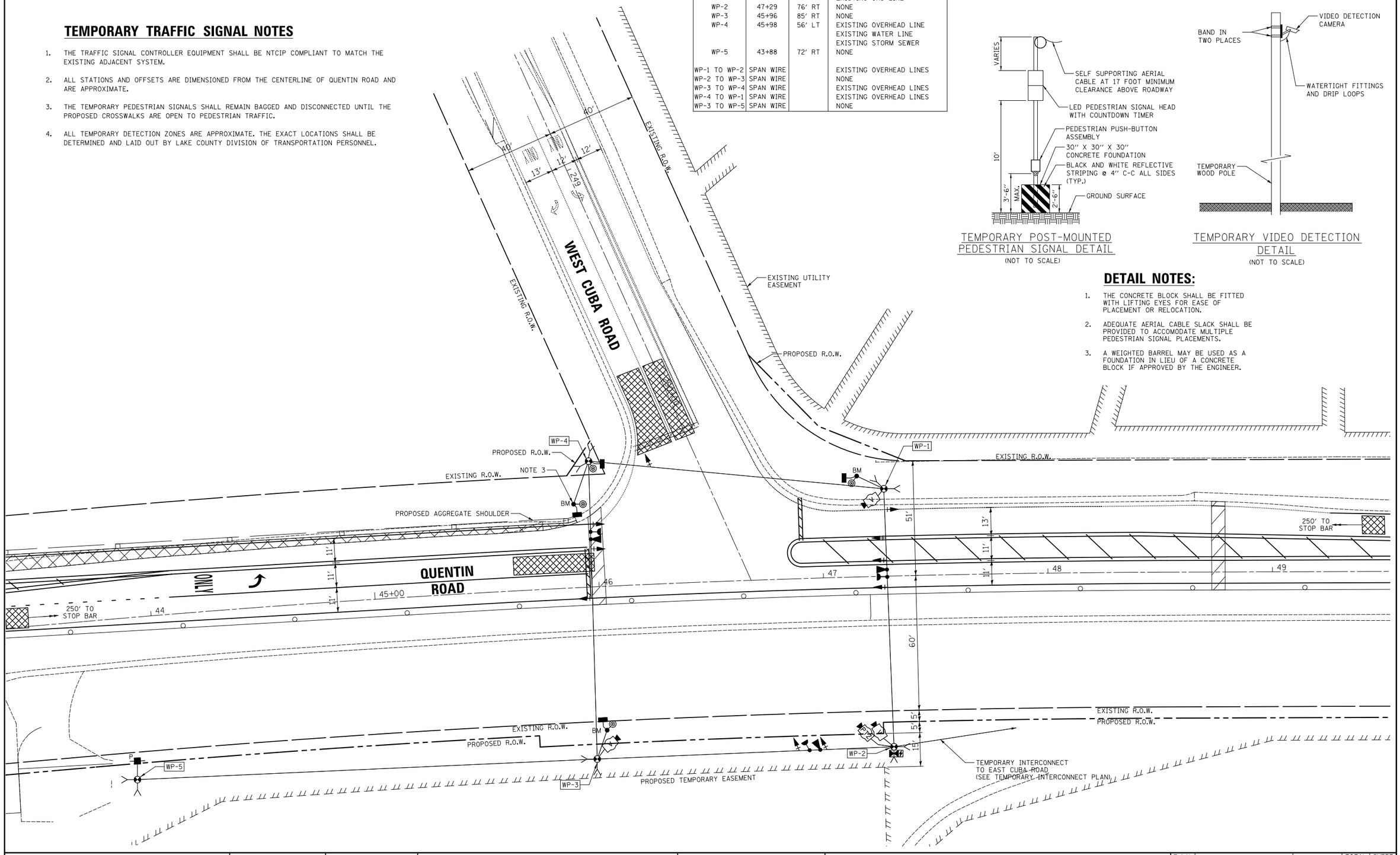
STRUCTURE	STATION	OFFSET	POSSIBLE UTILITY CONFLICTS
WP-1	47+28	39' LT	EXISTING OVERHEAD LINE
			EXISTING GAS LINE
WP-2	47+29	76' RT	NONE
WP-3	45+96	85' RT	NONE
WP-4	45+98	56' LT	EXISTING OVERHEAD LINE
			EXISTING WATER LINE
			EXISTING STORM SEWER
WP-5	43+88	72' RT	NONE
WP-1 TO WP-2	SPAN WIRE		EXISTING OVERHEAD LINES
WP-2 TO WP-3	SPAN WIRE		NONE
WP-3 TO WP-4	SPAN WIRE		EXISTING OVERHEAD LINES
WP-4 TO WP-1	SPAN WIRE		EXISTING OVERHEAD LINES
WP-3 TO WP-5	SPAN WIRE		NONE

TEMPORARY POST-MOUNTED PEDESTRIAN SIGNAL DETAIL
(NOT TO SCALE)

TEMPORARY VIDEO DETECTION DETAIL
(NOT TO SCALE)

DETAIL NOTES:

1. THE CONCRETE BLOCK SHALL BE FITTED WITH LIFTING EYES FOR EASE OF PLACEMENT OR RELOCATION.
2. ADEQUATE AERIAL CABLE SLACK SHALL BE PROVIDED TO ACCOMODATE MULTIPLE PEDESTRIAN SIGNAL PLACEMENTS.
3. A WEIGHTED BARREL MAY BE USED AS A FOUNDATION IN LIEU OF A CONCRETE BLOCK IF APPROVED BY THE ENGINEER.



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

ORIGINAL SURVEY	BY	DATE
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE
0 20 40

TEMPORARY TRAFFIC SIGNAL PLAN – STAGE 1-1B
QUENTIN ROAD AT WEST CUBA ROAD

SCALE: 1" = 20' | SHEET NO. 1 OF 6 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	220
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

TEMPORARY TRAFFIC SIGNAL NOTES

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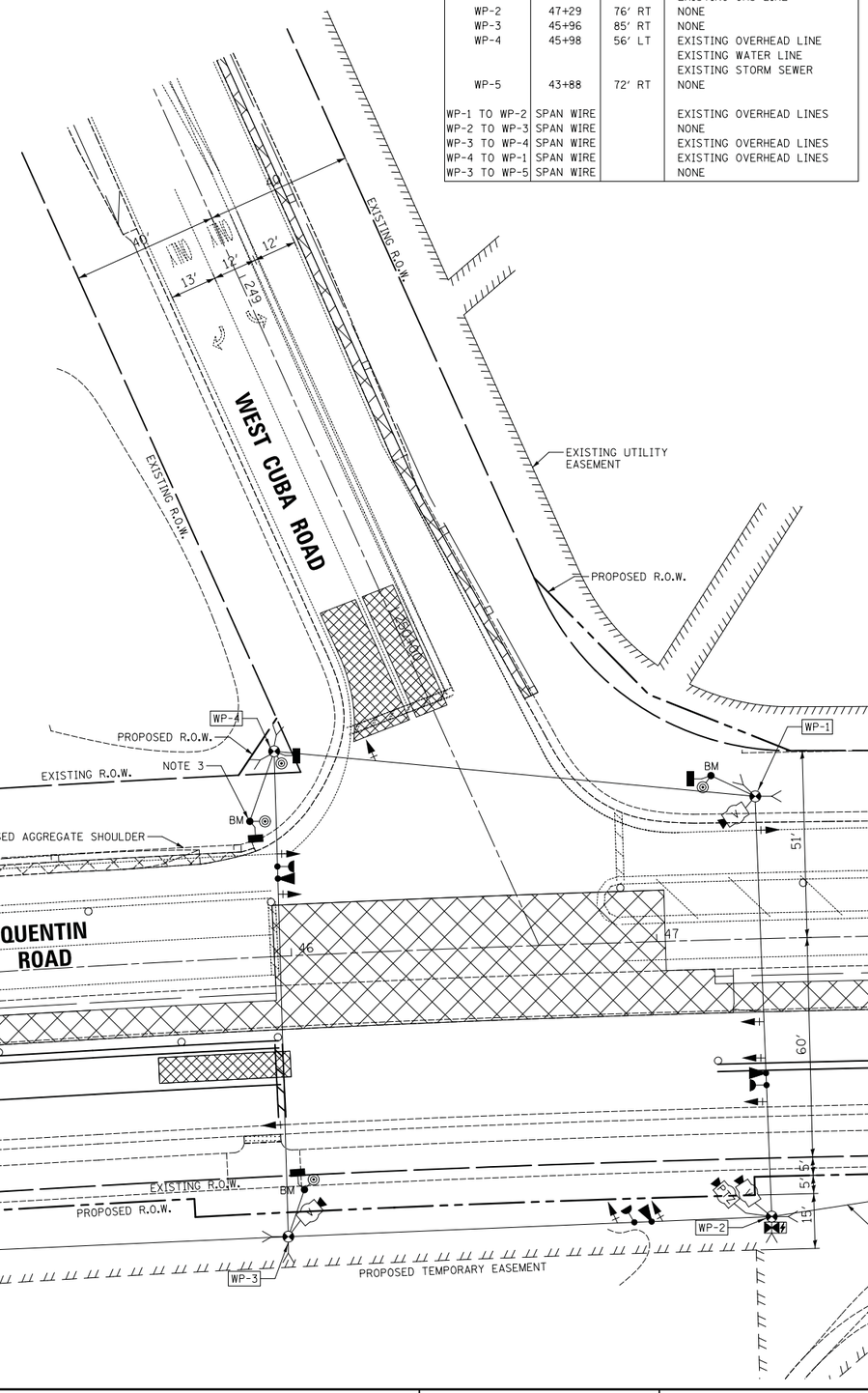
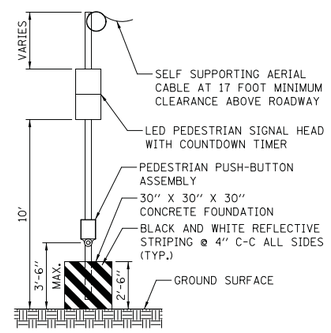
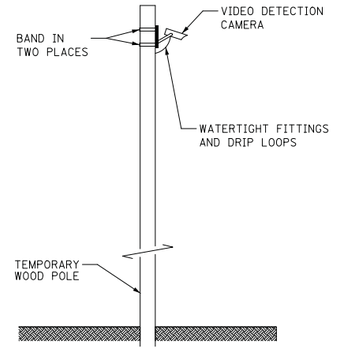
2. ALL STATIONS AND OFFSETS ARE DIMENSIONED FROM THE CENTERLINE OF QUENTIN ROAD AND ARE APPROXIMATE.
3. THE TEMPORARY PEDESTRIAN SIGNALS SHALL REMAIN BAGGED AND DISCONNECTED UNTIL THE PROPOSED CROSSWALKS ARE OPEN TO PEDESTRIAN TRAFFIC.
4. ALL TEMPORARY DETECTION ZONES ARE APPROXIMATE. THE EXACT LOCATIONS SHALL BE DETERMINED AND LAID OUT BY LAKE COUNTY DIVISION OF TRANSPORTATION PERSONNEL.

STRUCTURE	STATION	OFFSET	POSSIBLE UTILITY CONFLICTS
WP-1	47+28	39' LT	EXISTING OVERHEAD LINE
			EXISTING GAS LINE
WP-2	47+29	76' RT	NONE
WP-3	45+96	85' RT	NONE
WP-4	45+98	56' LT	EXISTING OVERHEAD LINE
			EXISTING WATER LINE
			EXISTING STORM SEWER
WP-5	43+88	72' RT	NONE
WP-1 TO WP-2	SPAN WIRE		EXISTING OVERHEAD LINES
WP-2 TO WP-3	SPAN WIRE		NONE
WP-3 TO WP-4	SPAN WIRE		EXISTING OVERHEAD LINES
WP-4 TO WP-1	SPAN WIRE		EXISTING OVERHEAD LINES
WP-3 TO WP-5	SPAN WIRE		NONE





TEMPORARY POST-MOUNTED PEDESTRIAN SIGNAL DETAIL
(NOT TO SCALE)



TEMPORARY VIDEO DETECTION DETAIL
(NOT TO SCALE)

DETAIL NOTES:

1. THE CONCRETE BLOCK SHALL BE FITTED WITH LIFTING EYES FOR EASE OF PLACEMENT OR RELOCATION.
2. ADEQUATE AERIAL CABLE SLACK SHALL BE PROVIDED TO ACCOMODATE MULTIPLE PEDESTRIAN SIGNAL PLACEMENTS.
3. A WEIGHTED BARREL MAY BE USED AS A FOUNDATION IN LIEU OF A CONCRETE BLOCK IF APPROVED BY THE ENGINEER.

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

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DATE - 11/13/2017	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE
0 20 40

TEMPORARY TRAFFIC SIGNAL PLAN – STAGE 1C
QUENTIN ROAD AT WEST CUBA ROAD

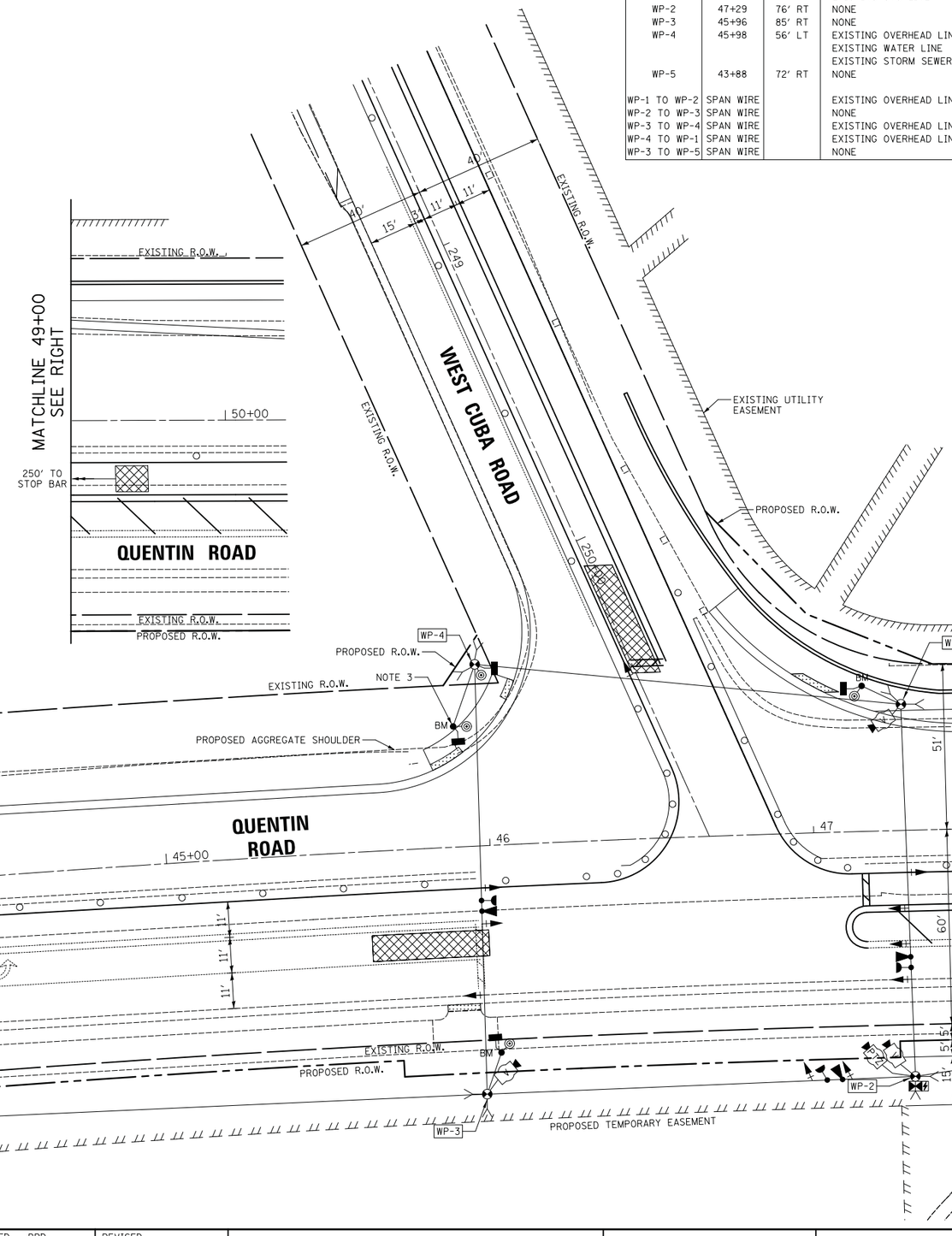
SCALE: 1" = 20' | SHEET NO. 2 OF 6 SHEETS | STA. | TO STA.

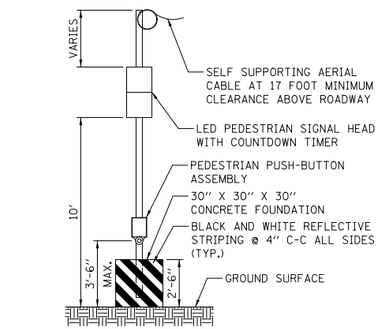
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	221
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

TEMPORARY TRAFFIC SIGNAL NOTES

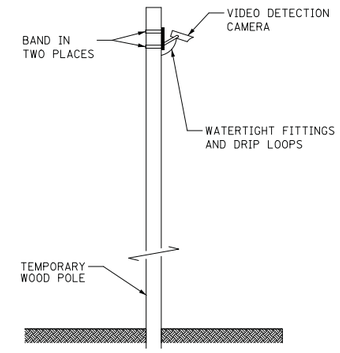
1. THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT SHALL BE NTCIP COMPLIANT TO MATCH THE EXISTING ADJACENT SYSTEM.
2. ALL STATIONS AND OFFSETS ARE DIMENSIONED FROM THE CENTERLINE OF QUENTIN ROAD AN ARE APPROXIMATE.
3. THE TEMPORARY PEDESTRIAN SIGNALS SHALL REMAIN BAGGED AND DISCONNECTED UNTIL THE PROPOSED CROSSWALKS ARE OPEN TO PEDESTRIAN TRAFFIC.
4. ALL TEMPORARY DETECTION ZONES ARE APPROXIMATE. THE EXACT LOCATIONS SHALL BE DETERMINED AND LAID OUT BY LAKE COUNTY DIVISION OF TRANSPORTATION PERSONNEL.

STRUCTURE	STATION	OFFSET	POSSIBLE UTILITY CONFLICTS
WP-1	47+28	39' LT	EXISTING OVERHEAD LINE
			EXISTING GAS LINE
WP-2	47+29	76' RT	NONE
WP-3	45+96	85' RT	NONE
WP-4	45+98	56' LT	EXISTING OVERHEAD LINE
			EXISTING WATER LINE
			EXISTING STORM SEWER
WP-5	43+88	72' RT	NONE
WP-1 TO WP-2	SPAN WIRE		EXISTING OVERHEAD LINES
WP-2 TO WP-3	SPAN WIRE		NONE
WP-3 TO WP-4	SPAN WIRE		EXISTING OVERHEAD LINES
WP-4 TO WP-1	SPAN WIRE		EXISTING OVERHEAD LINES
WP-3 TO WP-5	SPAN WIRE		NONE





TEMPORARY POST-MOUNTED PEDESTRIAN SIGNAL DETAIL
(NOT TO SCALE)



TEMPORARY VIDEO DETECTION DETAIL
(NOT TO SCALE)

DETAIL NOTES:

1. THE CONCRETE BLOCK SHALL BE FITTED WITH LIFTING EYES FOR EASE OF PLACEMENT OR RELOCATION.
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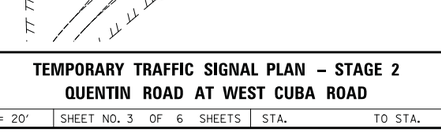

FINAL SURVEY / ORIGINAL SURVEY — NOTE BOOK — NO. — BY — DATE
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE
0 20 40

TEMPORARY TRAFFIC SIGNAL PLAN – STAGE 2
QUENTIN ROAD AT WEST CUBA ROAD

SCALE: 1" = 20' | SHEET NO. 3 OF 6 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	222
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

TEMPORARY TRAFFIC SIGNAL NOTES

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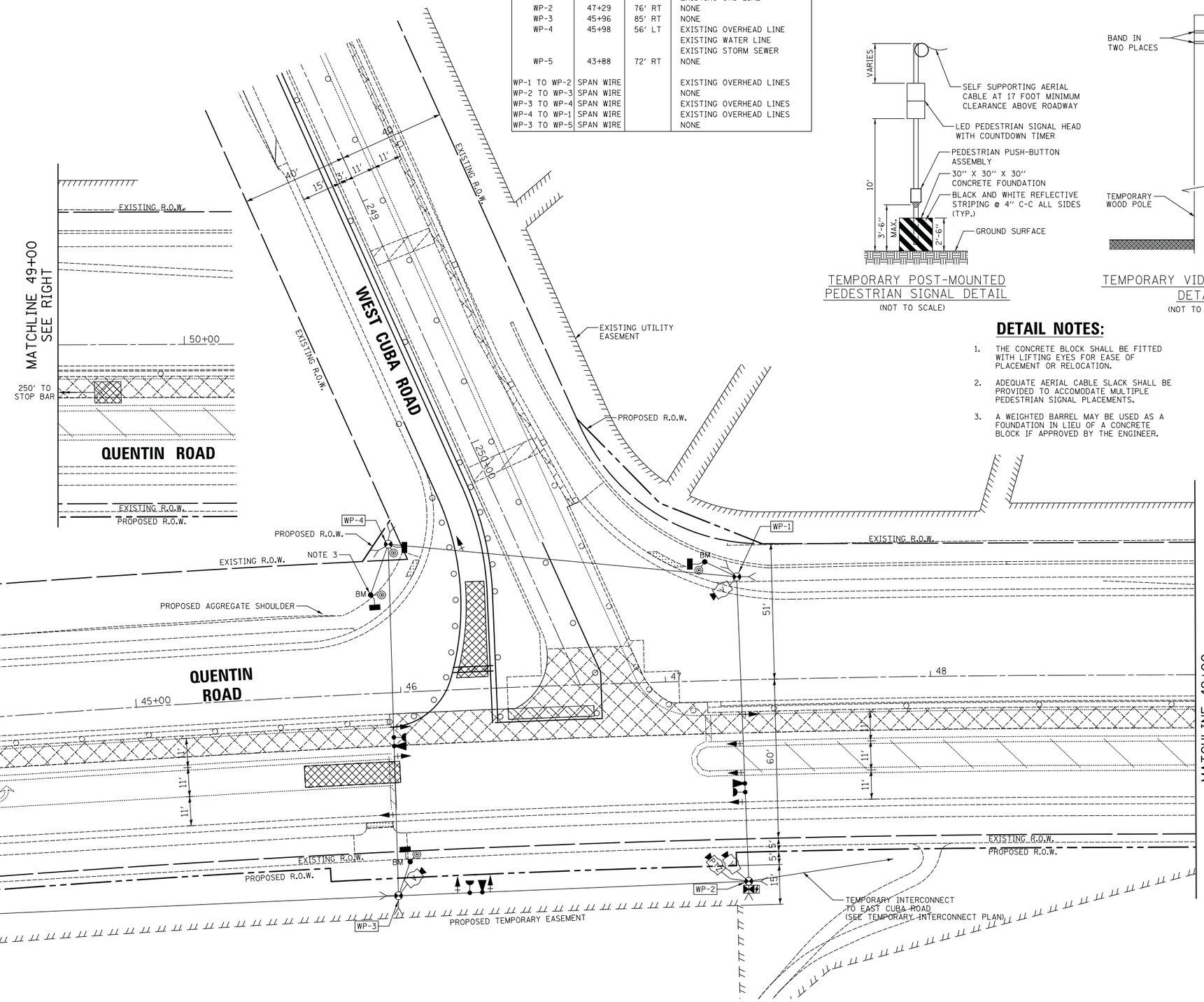
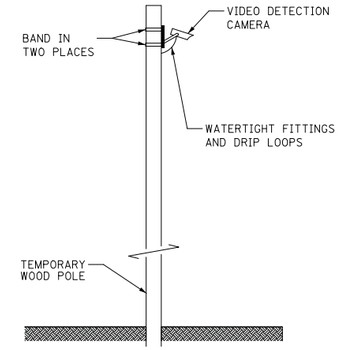
STRUCTURE	STATION	OFFSET	POSSIBLE UTILITY CONFLICTS
WP-1	47+28	39' LT	EXISTING OVERHEAD LINE
			EXISTING GAS LINE
WP-2	47+29	76' RT	NONE
WP-3	45+96	85' RT	NONE
WP-4	45+98	56' LT	EXISTING OVERHEAD LINE
			EXISTING WATER LINE
			EXISTING STORM SEWER
WP-5	43+88	72' RT	NONE
WP-1 TO WP-2	SPAN WIRE		EXISTING OVERHEAD LINES
WP-2 TO WP-3	SPAN WIRE		NONE
WP-3 TO WP-4	SPAN WIRE		EXISTING OVERHEAD LINES
WP-4 TO WP-1	SPAN WIRE		EXISTING OVERHEAD LINES
WP-3 TO WP-5	SPAN WIRE		NONE



TEMPORARY POST-MOUNTED PEDESTRIAN SIGNAL DETAIL
(NOT TO SCALE)



TEMPORARY VIDEO DETECTION DETAIL
(NOT TO SCALE)

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE
0 20 40

TEMPORARY TRAFFIC SIGNAL PLAN – STAGE 2A
QUENTIN ROAD AT WEST CUBA ROAD

SCALE: 1" = 20' | SHEET NO. 4 OF 6 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	223
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

TEMPORARY TRAFFIC SIGNAL NOTES

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WP-2	47+29	76' RT	NONE
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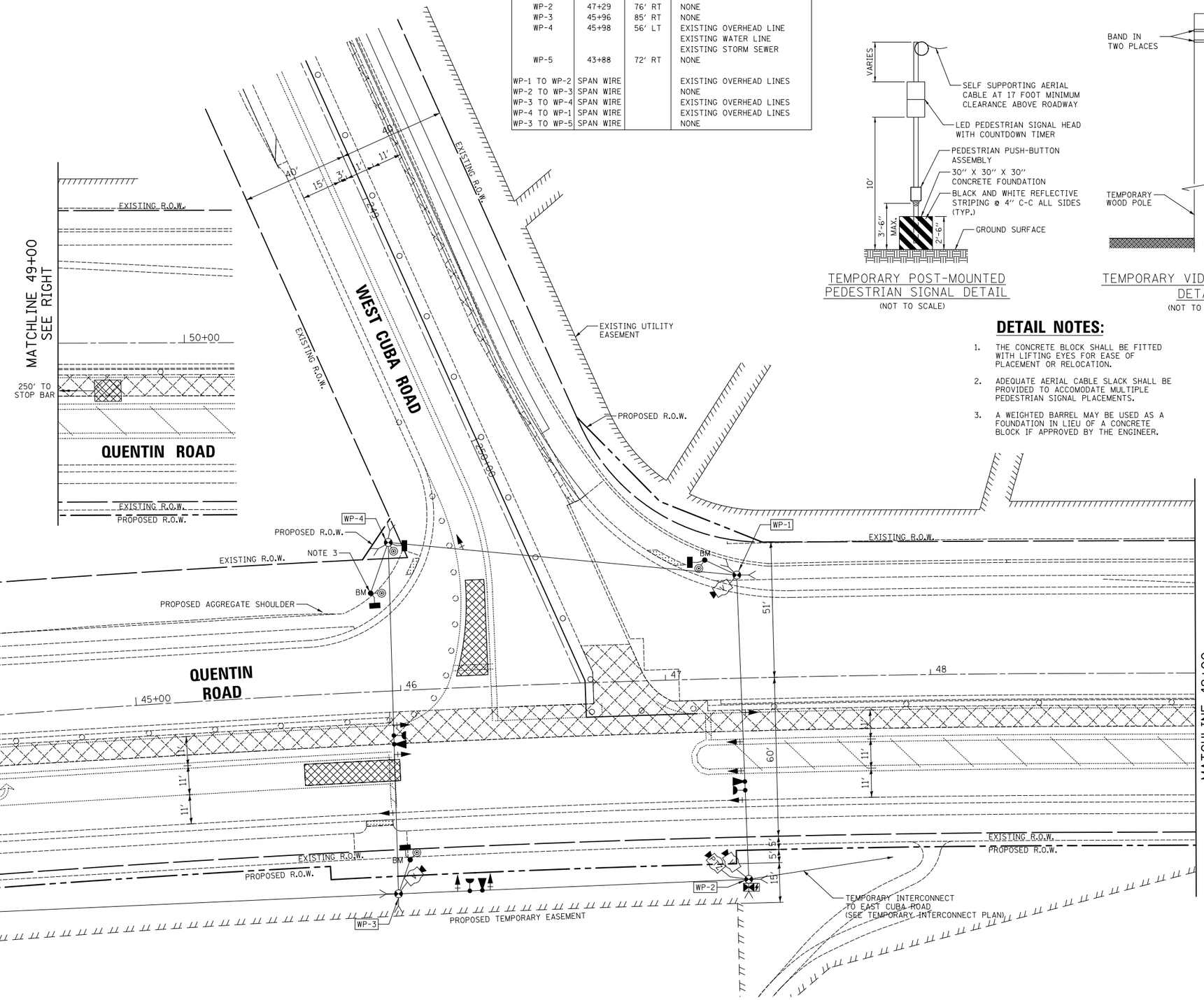
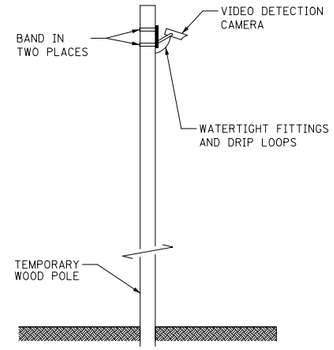
WP-4	45+98	56' LT	EXISTING OVERHEAD LINE
			EXISTING WATER LINE
			EXISTING STORM SEWER
WP-5	43+88	72' RT	NONE
WP-1 TO WP-2	SPAN WIRE		EXISTING OVERHEAD LINES
WP-2 TO WP-3	SPAN WIRE		NONE
WP-3 TO WP-4	SPAN WIRE		EXISTING OVERHEAD LINES
WP-4 TO WP-1	SPAN WIRE		EXISTING OVERHEAD LINES
WP-3 TO WP-5	SPAN WIRE		NONE



TEMPORARY POST-MOUNTED PEDESTRIAN SIGNAL DETAIL
(NOT TO SCALE)



TEMPORARY VIDEO DETECTION DETAIL
(NOT TO SCALE)

DETAIL NOTES:

1. THE CONCRETE BLOCK SHALL BE FITTED WITH LIFTING EYES FOR EASE OF PLACEMENT OR RELOCATION.
2. ADEQUATE AERIAL CABLE SLACK SHALL BE PROVIDED TO ACCOMODATE MULTIPLE PEDESTRIAN SIGNAL PLACEMENTS.
3. A WEIGHTED BARREL MAY BE USED AS A FOUNDATION IN LIEU OF A CONCRETE BLOCK IF APPROVED BY THE ENGINEER.

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

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

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DRAWN - LEP	REVISED -	
CHECKED - JJE	REVISED -	
DATE - 11/13/2017	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE
0 20 40

TEMPORARY TRAFFIC SIGNAL PLAN – STAGE 2B
QUENTIN ROAD AT WEST CUBA ROAD

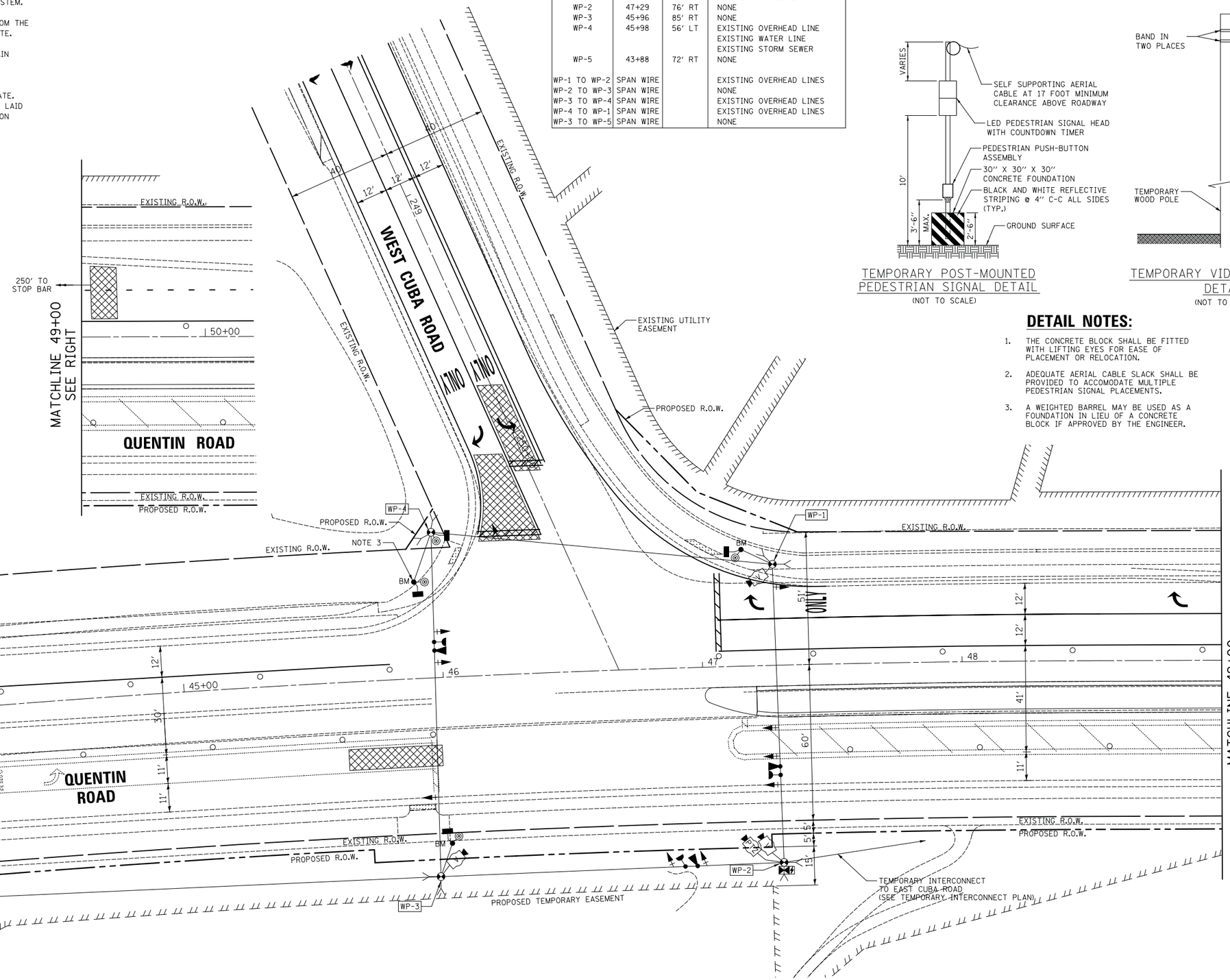
SCALE: 1" = 20' | SHEET NO. 5 OF 6 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	224
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

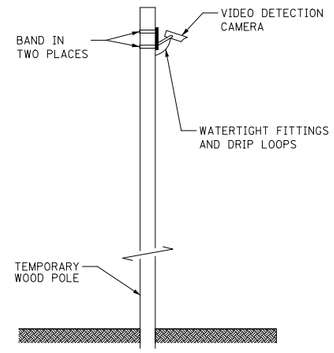
TEMPORARY TRAFFIC SIGNAL NOTES

1. THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT SHALL BE NTCIP COMPLIANT TO MATCH THE EXISTING ADJACENT SYSTEM.
2. ALL STATIONS AND OFFSETS ARE DIMENSIONED FROM THE CENTERLINE OF QUENTIN ROAD AN ARE APPROXIMATE.
3. THE TEMPORARY PEDESTRIAN SIGNALS SHALL REMAIN BAGGED AND DISCONNECTED UNTIL THE PROPOSED CROSSWALKS ARE OPEN TO PEDESTRIAN TRAFFIC.
4. ALL TEMPORARY DETECTION ZONES ARE APPROXIMATE. THE EXACT LOCATIONS SHALL BE DETERMINED AND LAID OUT BY LAKE COUNTY DIVISION OF TRANSPORTATION PERSONNEL.

STRUCTURE	STATION	OFFSET	POSSIBLE UTILITY CONFLICTS
WP-1	47+28	39' LT	EXISTING OVERHEAD LINE
			EXISTING GAS LINE
WP-2	47+29	76' RT	NONE
WP-3	45+96	85' RT	NONE
WP-4	45+98	56' LT	EXISTING OVERHEAD LINE
			EXISTING WATER LINE
			EXISTING STORM SEWER
WP-5	43+88	72' RT	NONE
WP-1 TO WP-2	SPAN WIRE		EXISTING OVERHEAD LINES
WP-2 TO WP-3	SPAN WIRE		NONE
WP-3 TO WP-4	SPAN WIRE		EXISTING OVERHEAD LINES
WP-4 TO WP-1	SPAN WIRE		EXISTING OVERHEAD LINES
WP-3 TO WP-5	SPAN WIRE		NONE



TEMPORARY POST-MOUNTED PEDESTRIAN SIGNAL DETAIL
(NOT TO SCALE)



TEMPORARY VIDEO DETECTION DETAIL
(NOT TO SCALE)

DETAIL NOTES:

1. THE CONCRETE BLOCK SHALL BE FITTED WITH LIFTING EYES FOR EASE OF PLACEMENT OR RELOCATION.
2. ADEQUATE AERIAL CABLE SLACK SHALL BE PROVIDED TO ACCOMODATE MULTIPLE PEDESTRIAN SIGNAL PLACEMENTS.
3. A WEIGHTED BARREL MAY BE USED AS A FOUNDATION IN LIEU OF A CONCRETE BLOCK IF APPROVED BY THE ENGINEER.

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

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

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CHECKED - JJE	REVISED -	
DATE - 11/13/2017	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

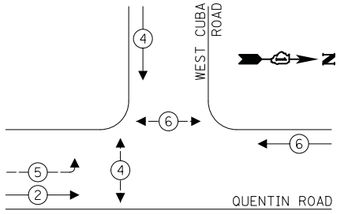
SCALE
0 20 40

TEMPORARY TRAFFIC SIGNAL PLAN – STAGE 3
QUENTIN ROAD AT WEST CUBA ROAD

SCALE: 1" = 20' | SHEET NO. 6 OF 6 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	225
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

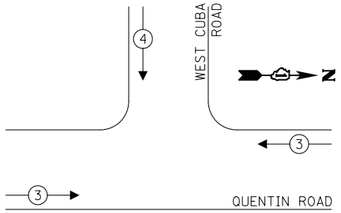
TEMPORARY CONTROLLER SEQUENCE



LEGEND:

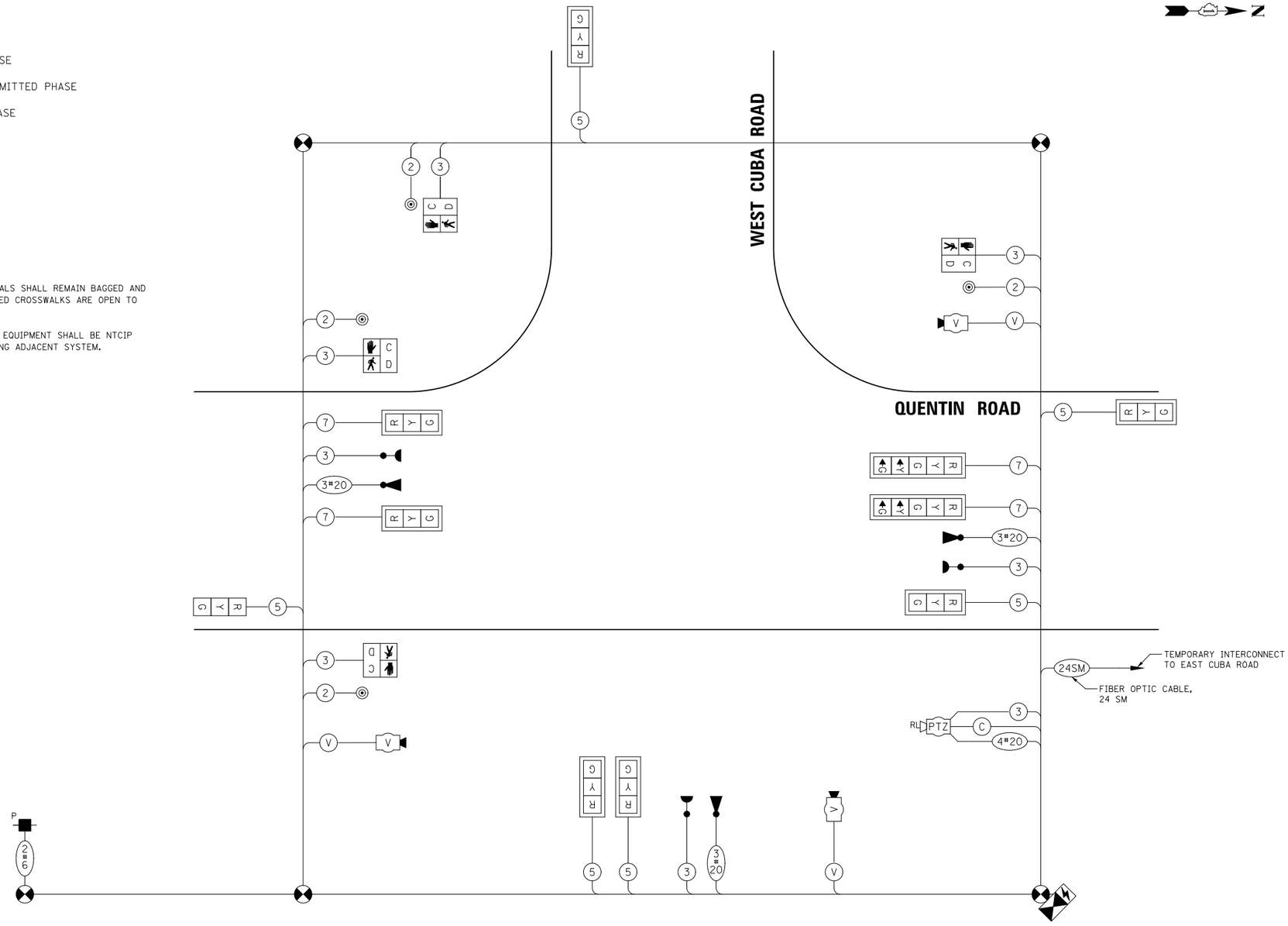
- PROTECTED PHASE
- PROTECTED/PERMITTED PHASE
- PEDESTRIAN PHASE
- OL OVERLAP

TEMPORARY EMERGENCY VEHICLE PREEMPTION SEQUENCE



NOTES:

1. THE TEMPORARY PEDESTRIAN SIGNALS SHALL REMAIN BAGGED AND DISCONNECTED UNTIL THE PROPOSED CROSSWALKS ARE OPEN TO PEDESTRIAN TRAFFIC.
2. THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT SHALL BE NTCIP COMPLIANT TO MATCH THE EXISTING ADJACENT SYSTEM.



TEMPORARY CABLE PLAN

(NOT TO SCALE)

TRAFFIC SIGNAL ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. OF LAMPS	LED WATTAGE	% OPERATION	TOTAL WATTAGE
SIGNAL (RED)	9	17	50	76.5
(YELLOW)	9	25	5	11.3
(GREEN)	9	15	45	60.7
ARROW	4	12	10	4.8
PED. SIGNAL	4	25	100	100.0
CONTROLLER	1	100	100	100.0
UPS	1	25	100	25.0
VIDEO SYSTEM	1	150	100	150.0
BLANK-OUT SIGN	-	25	5	-
FLASHER	-	-	50	-
STREET NAME SIGN	-	64	50	-
LUMINAIRE	-	250	50	-
			TOTAL =	528.3

ENERGY COSTS TO:

VILLAGE OF KILDEER
21911 QUENTIN ROAD
KILDEER, IL 60047

ENERGY SUPPLY: CONTACT: DONALD PESCE
PHONE: (847) 870-2057
COMPANY: COMED
ACCOUNT NUMBER: ---

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DATE - 11/13/2017	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY CABLE PLAN AND SEQUENCES
QUENTIN ROAD AT WEST CUBA ROAD

SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	226
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

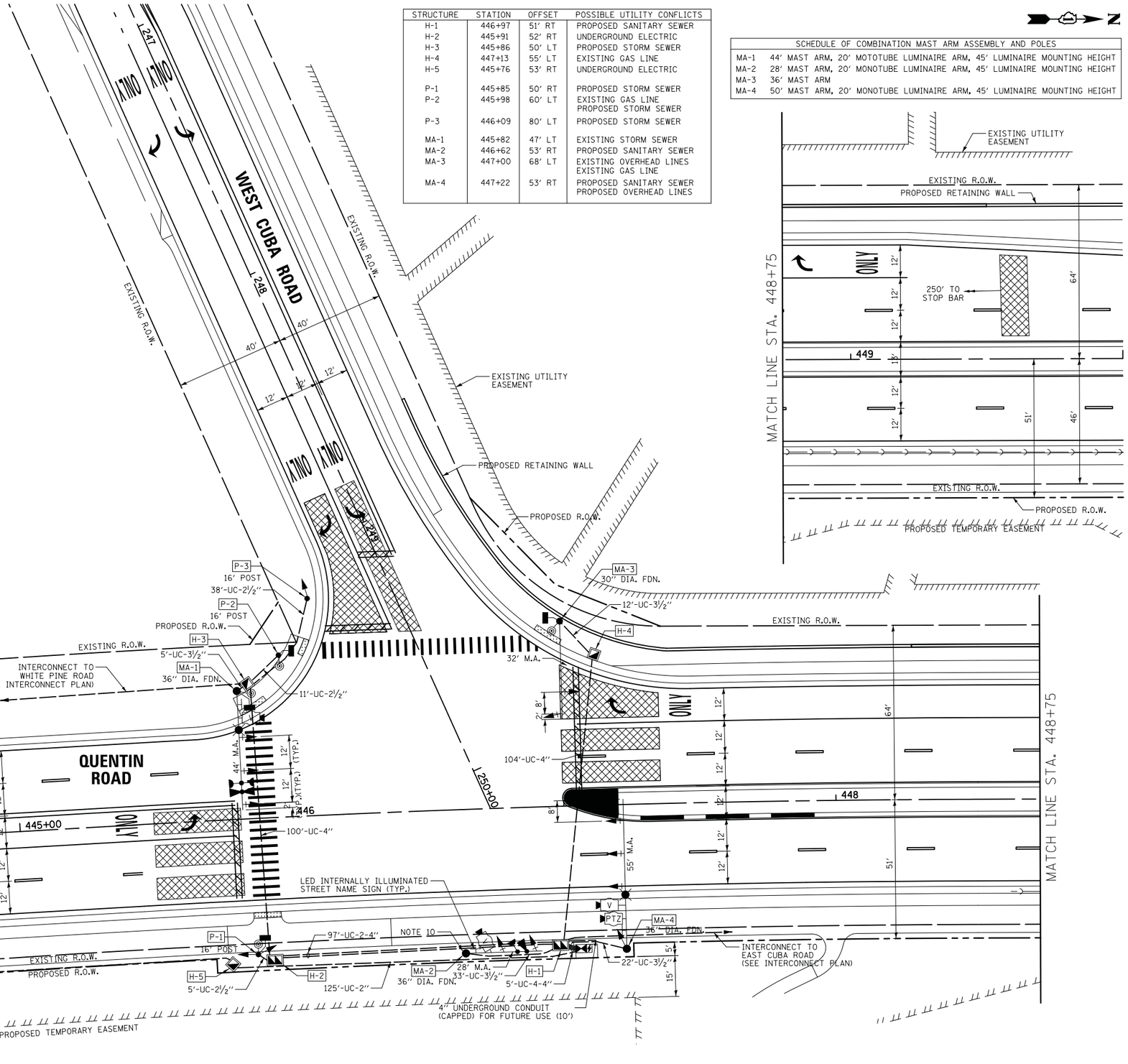
ORIGINAL SURVEY / FINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

NOTES:

1. THE CONTRACTOR SHALL CONTACT THE LAKE COUNTY DIVISION OF TRANSPORTATION AT (847) 377-7000 A MINIMUM OF 72 HOURS IN ADVANCE OF BEGINNING WORK.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS EXISTING IN THE FIELD PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION. THIS SHALL INCLUDE LOCATING THE MAST ARM FOUNDATIONS AND VERIFYING THE MAST ARM LENGTHS.
3. THE CONTRACTOR SHALL CHECK THE PROPOSED TRAFFIC SIGNAL EQUIPMENT LOCATIONS FOR OVERHEAD UTILITY CONFLICTS. THE CONTRACTOR SHALL COORDINATE ANY CONFLICTS WITH THE UTILITY COMPANIES AND THE RESIDENT ENGINEER BEFORE ORDERING MATERIALS.
4. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES, THE VILLAGE OF KILDEER, LCDOT, AND IDOT.
5. THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT FOR THIS PROJECT SHALL BE NTCIP COMPLIANT TO MATCH THE EXISTING ADJACENT SYSTEM.
6. ALL STATIONS AND OFFSETS ARE DIMENSIONED FROM THE CENTERLINE OF QUENTIN ROAD AND ARE APPROXIMATE.
7. ALL DETECTION ZONES ARE APPROXIMATE. THE EXACT LOCATIONS SHALL BE DETERMINED AND LAID OUT BY LAKE COUNTY DIVISION OF TRANSPORTATION PERSONNEL.
8. THE EXISTING LAYER II SWITCH THAT WAS RELOCATED TO THE TEMPORARY TRAFFIC SIGNAL SHALL BE RELOCATED TO THE PERMANENT TRAFFIC SIGNAL INSTALLATION PRIOR TO REMOVAL OF THE TEMPORARY TRAFFIC SIGNAL INSTALLATION.
9. THE EXISTING PAN-TILT-ZOOM CAMERA, LAYER II SWITCH AND VIDEO ENCODERS THAT WERE RELOCATED TO THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN THE PROPERTY OF LCDOT AND SHALL BE RETURNED TO THE COUNTY UPON REMOVAL OF THE TEMPORARY TRAFFIC SIGNAL INSTALLATION.
10. THE COMBINATION MAST ARM ASSEMBLY AT THIS LOCATION SHALL BE INSTALLED WITHOUT A LUMINAIRE.

STRUCTURE	STATION	OFFSET	POSSIBLE UTILITY CONFLICTS
H-1	446+97	51' RT	PROPOSED SANITARY SEWER
H-2	445+91	52' RT	UNDERGROUND ELECTRIC
H-3	445+86	50' LT	PROPOSED STORM SEWER
H-4	447+13	55' LT	EXISTING GAS LINE
H-5	445+76	53' RT	UNDERGROUND ELECTRIC
P-1	445+85	50' RT	PROPOSED STORM SEWER
P-2	445+98	60' LT	EXISTING GAS LINE PROPOSED STORM SEWER
P-3	446+09	80' LT	PROPOSED STORM SEWER
MA-1	445+82	47' LT	EXISTING STORM SEWER
MA-2	446+62	53' RT	PROPOSED SANITARY SEWER
MA-3	447+00	68' LT	EXISTING OVERHEAD LINES EXISTING GAS LINE
MA-4	447+22	53' RT	PROPOSED SANITARY SEWER PROPOSED OVERHEAD LINES

SCHEDULE OF COMBINATION MAST ARM ASSEMBLY AND POLES	
MA-1	44' MAST ARM, 20' MOTOTUBE LUMINAIRE ARM, 45' LUMINAIRE MOUNTING HEIGHT
MA-2	28' MAST ARM, 20' MONOTUBE LUMINAIRE ARM, 45' LUMINAIRE MOUNTING HEIGHT
MA-3	36' MAST ARM
MA-4	50' MAST ARM, 20' MONOTUBE LUMINAIRE ARM, 45' LUMINAIRE MOUNTING HEIGHT



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

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

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

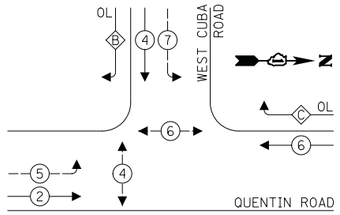
SCALE
0 20 40

TRAFFIC SIGNAL MODERNIZATION PLAN
QUENTIN ROAD AT WEST CUBA ROAD

SCALE: 1" = 20' | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	227
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

PROPOSED CONTROLLER SEQUENCE



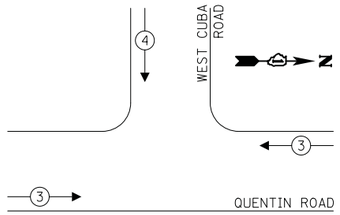
LEGEND:

- PROTECTED PHASE
- PROTECTED/PERMITTED PHASE
- PEDESTRIAN PHASE
- OL — OVERLAP

RIGHT TURN OVERLAP PHASE DESIGNATION:

OVERLAP LETTER		PERMISSIVE PHASE		PROTECTED PHASE
B	=	4	+	5
C	=	6	+	7

PROPOSED EMERGENCY VEHICLE PREEMPTION SEQUENCE



NOTES

1. LED INTERNALLY ILLUMINATED STREET NAME SIGNS AND LUMINAIRES SHALL NOT BE CONNECTED TO THE UNINTERRUPTIBLE POWER SUPPLY UNIT.
2. THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT SHALL BE NTCIP COMPLIANT TO MATCH THE EXISTING ADJACENT SYSTEM.

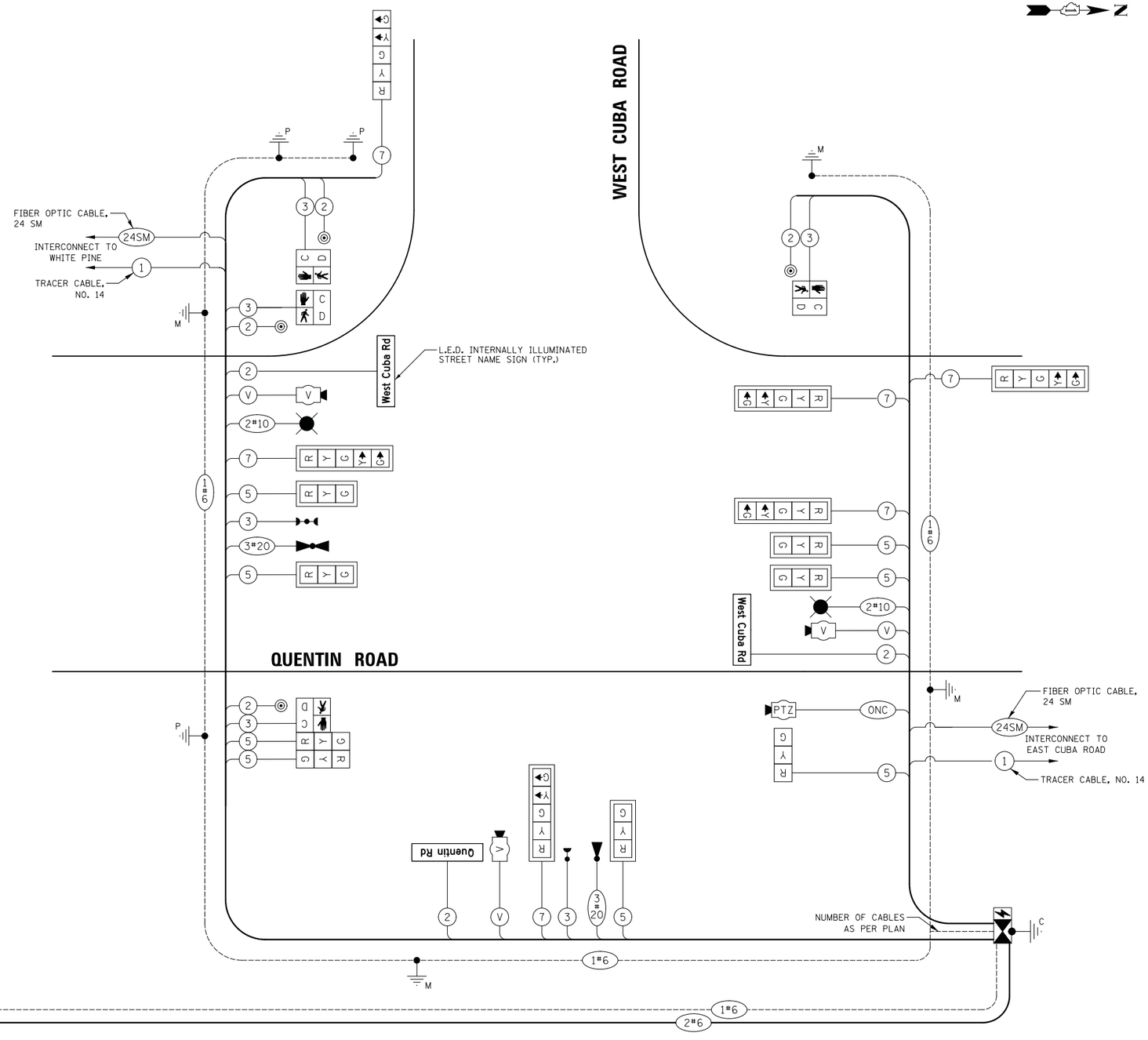
TRAFFIC SIGNAL ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. OF LAMPS	LED WATTAGE	% OPERATION	TOTAL WATTAGE
SIGNAL (RED)	14	11	50	77.0
(YELLOW)	14	20	5	14.0
(GREEN)	14	12	45	75.6
ARROW	12	10	10	2.4
PED. SIGNAL	4	20	100	80.0
CONTROLLER	1	100	100	100.0
UPS	1	25	100	25.0
VIDEO SYSTEM	1	150	100	150.0
BLANK-OUT SIGN	-	25	5	-
FLASHER	-	-	50	-
STREET NAME SIGN	3	64	50	96.0
LUMINAIRE	2	250	50	250.0
			TOTAL =	870.0

ENERGY COSTS TO:

VILLAGE OF KILDEER
21911 QUENTIN ROAD
KILDEER, IL 60047

ENERGY SUPPLY: CONTACT: DONALD PESCE
PHONE: (847) 870-2057
COMPANY: COMED
ACCOUNT NUMBER: ---



CABLE PLAN
(NOT TO SCALE)

LEGEND:

(ONC) OUTDOOR RATED NETWORK CABLE

THE END OF THE TRACER CABLE SHALL BE CONTINUOUS AND EXTEND INTO THE CONTROLLER CABINET.

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

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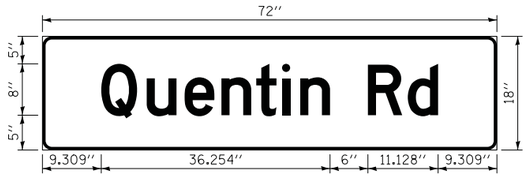
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

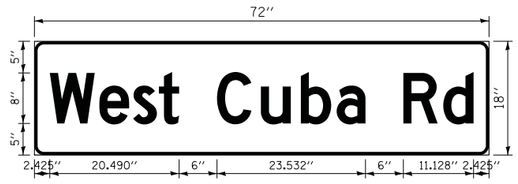
CABLE PLAN, PHASE DESIGNATION DIAGRAM AND EMERGENCY VEHICLE PREEMPTION SEQUENCE
QUENTIN ROAD AT WEST CUBA ROAD

SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	228
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



DESIGN SERIES	AREA (SQ FT)	SIGN PANEL TYPE	SHEETING TYPE	QTY. REQUIRED
D	9.00	LED SNS (SINGLE-SIDED)	N/A	1



DESIGN SERIES	AREA (SQ FT)	SIGN PANEL TYPE	SHEETING TYPE	QTY. REQUIRED
D	9.00	LED SNS (DOUBLE-SIDED)	N/A	2

SCHEDULE OF QUANTITIES

PAY ITEM	UNIT	QNTY.
SERVICE INSTALLATION - POLE MOUNTED	EACH	1
UNDERGROUND CONDUIT, GALVANIZED STEEL, 2″ DIA.	FOOT	309
UNDERGROUND CONDUIT, GALVANIZED STEEL, 2 1/2″ DIA.	FOOT	54
UNDERGROUND CONDUIT, GALVANIZED STEEL, 3 1/2″ DIA.	FOOT	77
UNDERGROUND CONDUIT, GALVANIZED STEEL, 4″ DIA.	FOOT	316
HANDHOLE	EACH	3
DOUBLE HANDHOLE	EACH	2
ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 10	FOOT	857
LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 250 WATT	EACH	2
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	1269
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	1267
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	1287
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	1183
ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C	FOOT	335
ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	1043
CONCRETE FOUNDATION, TYPE A	FOOT	12
CONCRETE FOUNDATION, TYPE C	FOOT	4
CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	15
CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	45
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	5
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	3
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	1
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	5
PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	4
TRAFFIC SIGNAL BACKPLATE, LOUVERED, FORMED PLASTIC	EACH	10
LIGHT DETECTOR	EACH	2
LIGHT DETECTOR AMPLIFIER	EACH	1
PEDESTRIAN PUSH-BUTTON	EACH	4
TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
REMOVE EXISTING HANDHOLE	EACH	3
REMOVE EXISTING CONCRETE FOUNDATION	EACH	7
EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C	FOOT	414
RELOCATE SWITCH	EACH	1
LED INTERNALLY ILLUMINATED STREET NAME SIGN	EACH	3
OUTDOOR RATED NETWORK CABLE	FOOT	115
FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	EACH	1
UNINTERRUPTABLE POWER SUPPLY, SPECIAL	EACH	1
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 28 FT. (SPECIAL)	EACH	1
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 44 FT. (SPECIAL)	EACH	1
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 55 FT. (SPECIAL)	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE 36 FT. (SPECIAL)	EACH	1
VIDEO DETECTION SYSTEM COMPLETE INTERSECTION	EACH	1
TRAFFIC SIGNAL POST, 16 FOOT, (SPECIAL)	EACH	3
REMOTE CONTROLLED VIDEO SYSTEM	EACH	1
LAYER II (DATALINK) SWITCH	EACH	1
RELOCATE EXISTING REMOTE-CONTROLLED VIDEO SYSTEM	EACH	1
RELOCATE EXISTING ENCODER	EACH	4
TEMPORARY TRAFFIC SIGNAL TIMING	EACH	1

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

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

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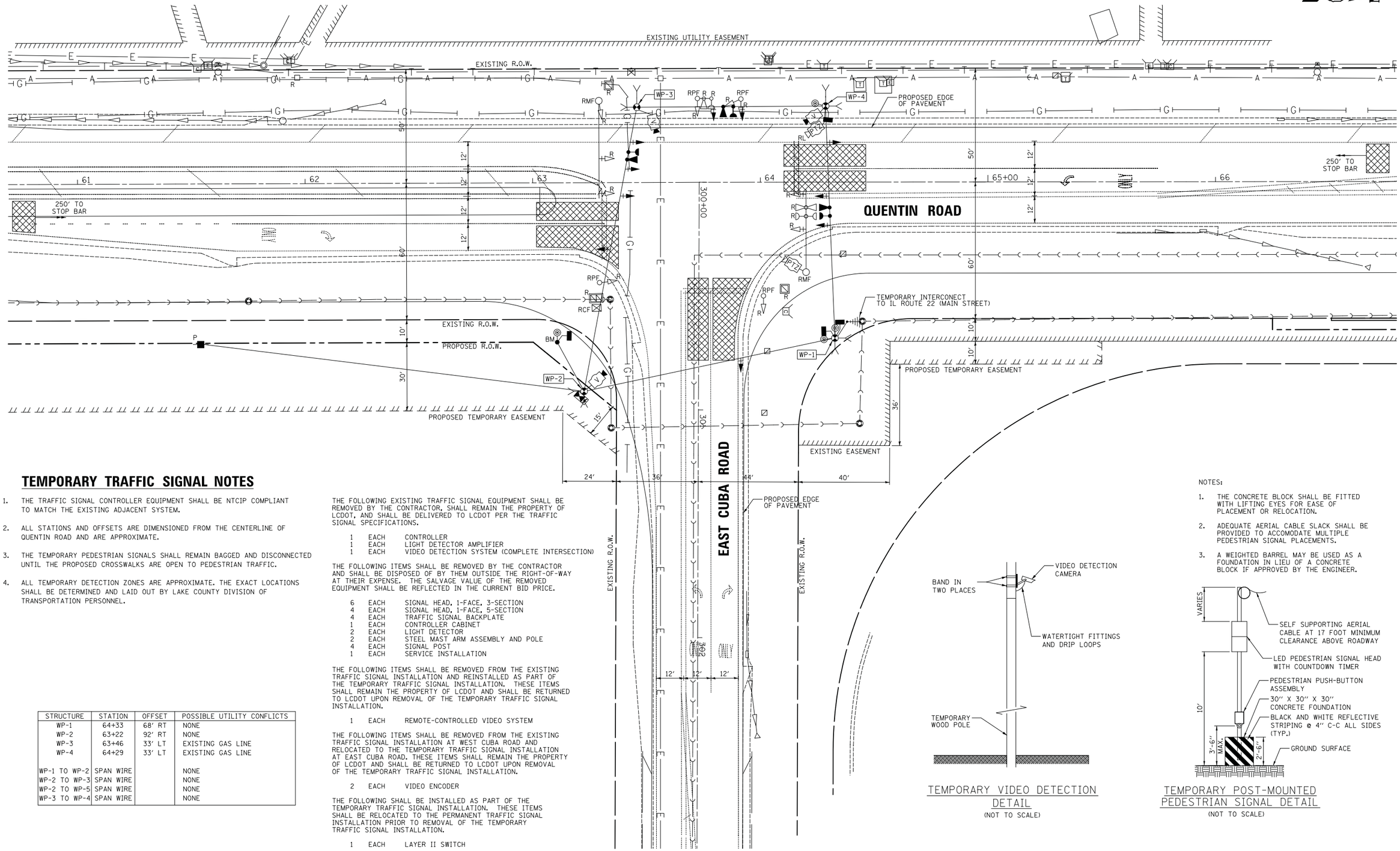
DATE - 11/13/2017	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ILLUMINATED STREET NAME SIGNS AND SCHEDULE OF QUANTITIES
QUENTIN ROAD AT WEST CUBA ROAD

SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	229
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



TEMPORARY TRAFFIC SIGNAL NOTES

1. THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT SHALL BE NTCIP COMPLIANT TO MATCH THE EXISTING ADJACENT SYSTEM.
2. ALL STATIONS AND OFFSETS ARE DIMENSIONED FROM THE CENTERLINE OF QUENTIN ROAD AND ARE APPROXIMATE.
3. THE TEMPORARY PEDESTRIAN SIGNALS SHALL REMAIN BAGGED AND DISCONNECTED UNTIL THE PROPOSED CROSSWALKS ARE OPEN TO PEDESTRIAN TRAFFIC.
4. ALL TEMPORARY DETECTION ZONES ARE APPROXIMATE. THE EXACT LOCATIONS SHALL BE DETERMINED AND LAID OUT BY LAKE COUNTY DIVISION OF TRANSPORTATION PERSONNEL.

STRUCTURE	STATION	OFFSET	POSSIBLE UTILITY CONFLICTS
WP-1	64+33	68' RT	NONE
WP-2	63+22	92' RT	NONE
WP-3	63+46	33' LT	EXISTING GAS LINE
WP-4	64+29	33' LT	EXISTING GAS LINE
WP-1 TO WP-2	SPAN WIRE		NONE
WP-2 TO WP-3	SPAN WIRE		NONE
WP-2 TO WP-5	SPAN WIRE		NONE
WP-3 TO WP-4	SPAN WIRE		NONE

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF LCDOT, AND SHALL BE DELIVERED TO LCDOT PER THE TRAFFIC SIGNAL SPECIFICATIONS.

1	EACH	CONTROLLER
1	EACH	LIGHT DETECTOR AMPLIFIER
1	EACH	VIDEO DETECTION SYSTEM (COMPLETE INTERSECTION)

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

6	EACH	SIGNAL HEAD, 1-FACE, 3-SECTION
4	EACH	SIGNAL HEAD, 1-FACE, 5-SECTION
4	EACH	TRAFFIC SIGNAL BACKPLATE
1	EACH	CONTROLLER CABINET
2	EACH	LIGHT DETECTOR
2	EACH	STEEL MAST ARM ASSEMBLY AND POLE
4	EACH	SIGNAL POST
1	EACH	SERVICE INSTALLATION

THE FOLLOWING ITEMS SHALL BE REMOVED FROM THE EXISTING TRAFFIC SIGNAL INSTALLATION AND REINSTALLED AS PART OF THE TEMPORARY TRAFFIC SIGNAL INSTALLATION. THESE ITEMS SHALL REMAIN THE PROPERTY OF LCDOT AND SHALL BE RETURNED TO LCDOT UPON REMOVAL OF THE TEMPORARY TRAFFIC SIGNAL INSTALLATION.

1	EACH	REMOTE-CONTROLLED VIDEO SYSTEM

THE FOLLOWING ITEMS SHALL BE REMOVED FROM THE EXISTING TRAFFIC SIGNAL INSTALLATION AT WEST CUBA ROAD AND RELOCATED TO THE TEMPORARY TRAFFIC SIGNAL INSTALLATION AT EAST CUBA ROAD. THESE ITEMS SHALL REMAIN THE PROPERTY OF LCDOT AND SHALL BE RETURNED TO LCDOT UPON REMOVAL OF THE TEMPORARY TRAFFIC SIGNAL INSTALLATION.

2	EACH	VIDEO ENCODER

THE FOLLOWING SHALL BE INSTALLED AS PART OF THE TEMPORARY TRAFFIC SIGNAL INSTALLATION. THESE ITEMS SHALL BE RELOCATED TO THE PERMANENT TRAFFIC SIGNAL INSTALLATION PRIOR TO REMOVAL OF THE TEMPORARY TRAFFIC SIGNAL INSTALLATION.

1	EACH	LAYER II SWITCH

TEMPORARY VIDEO DETECTION DETAIL
(NOT TO SCALE)

NOTES:

1. THE CONCRETE BLOCK SHALL BE FITTED WITH LIFTING EYES FOR EASE OF PLACEMENT OR RELOCATION.
2. ADEQUATE AERIAL CABLE SLACK SHALL BE PROVIDED TO ACCOMODATE MULTIPLE PEDESTRIAN SIGNAL PLACEMENTS.
3. A WEIGHTED BARREL MAY BE USED AS A FOUNDATION IN LIEU OF A CONCRETE BLOCK IF APPROVED BY THE ENGINEER.

TEMPORARY POST-MOUNTED PEDESTRIAN SIGNAL DETAIL
(NOT TO SCALE)

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

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DATE - 11/13/2017	REVISED -

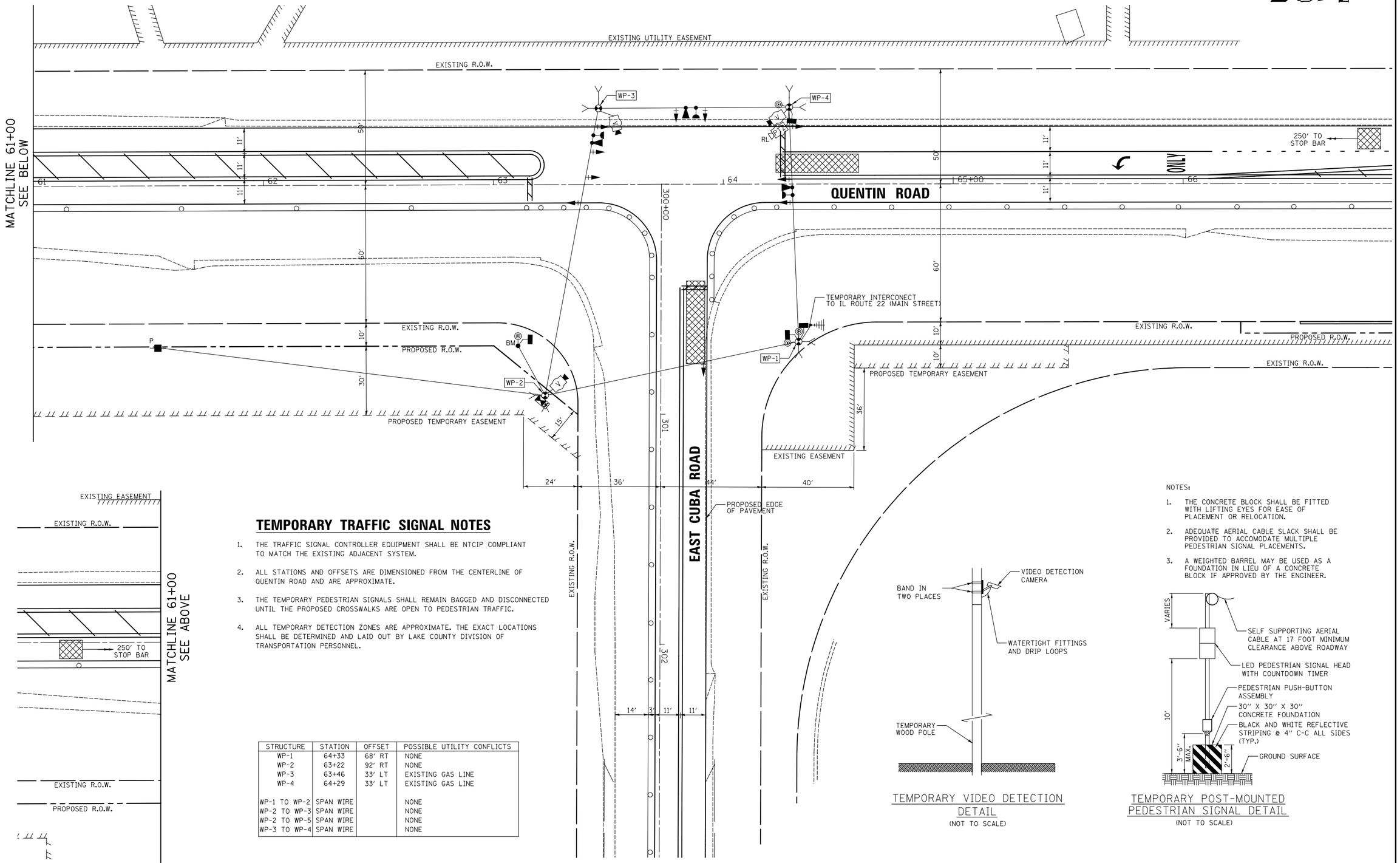
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE
0 20 40

TEMPORARY TRAFFIC SIGNAL INSTALLATION AND REMOVAL PLAN
QUENTIN ROAD AT EAST CUBA ROAD

SCALE: 1" = 20' | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	230
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



TEMPORARY TRAFFIC SIGNAL NOTES

1. THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT SHALL BE NTCIP COMPLIANT TO MATCH THE EXISTING ADJACENT SYSTEM.
2. ALL STATIONS AND OFFSETS ARE DIMENSIONED FROM THE CENTERLINE OF QUENTIN ROAD AND ARE APPROXIMATE.
3. THE TEMPORARY PEDESTRIAN SIGNALS SHALL REMAIN BAGGED AND DISCONNECTED UNTIL THE PROPOSED CROSSWALKS ARE OPEN TO PEDESTRIAN TRAFFIC.
4. ALL TEMPORARY DETECTION ZONES ARE APPROXIMATE. THE EXACT LOCATIONS SHALL BE DETERMINED AND LAID OUT BY LAKE COUNTY DIVISION OF TRANSPORTATION PERSONNEL.

STRUCTURE	STATION	OFFSET	POSSIBLE UTILITY CONFLICTS
WP-1	64+33	68' RT	NONE
WP-2	63+22	92' RT	NONE
WP-3	63+46	33' LT	EXISTING GAS LINE
WP-4	64+29	33' LT	EXISTING GAS LINE
WP-1 TO WP-2	SPAN WIRE		NONE
WP-2 TO WP-3	SPAN WIRE		NONE
WP-2 TO WP-5	SPAN WIRE		NONE
WP-3 TO WP-4	SPAN WIRE		NONE

TEMPORARY VIDEO DETECTION DETAIL
(NOT TO SCALE)

NOTES:

1. THE CONCRETE BLOCK SHALL BE FITTED WITH LIFTING EYES FOR EASE OF PLACEMENT OR RELOCATION.
2. ADEQUATE AERIAL CABLE SLACK SHALL BE PROVIDED TO ACCOMODATE MULTIPLE PEDESTRIAN SIGNAL PLACEMENTS.
3. A WEIGHTED BARREL MAY BE USED AS A FOUNDATION IN LIEU OF A CONCRETE BLOCK IF APPROVED BY THE ENGINEER.

TEMPORARY POST-MOUNTED PEDESTRIAN SIGNAL DETAIL
(NOT TO SCALE)

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

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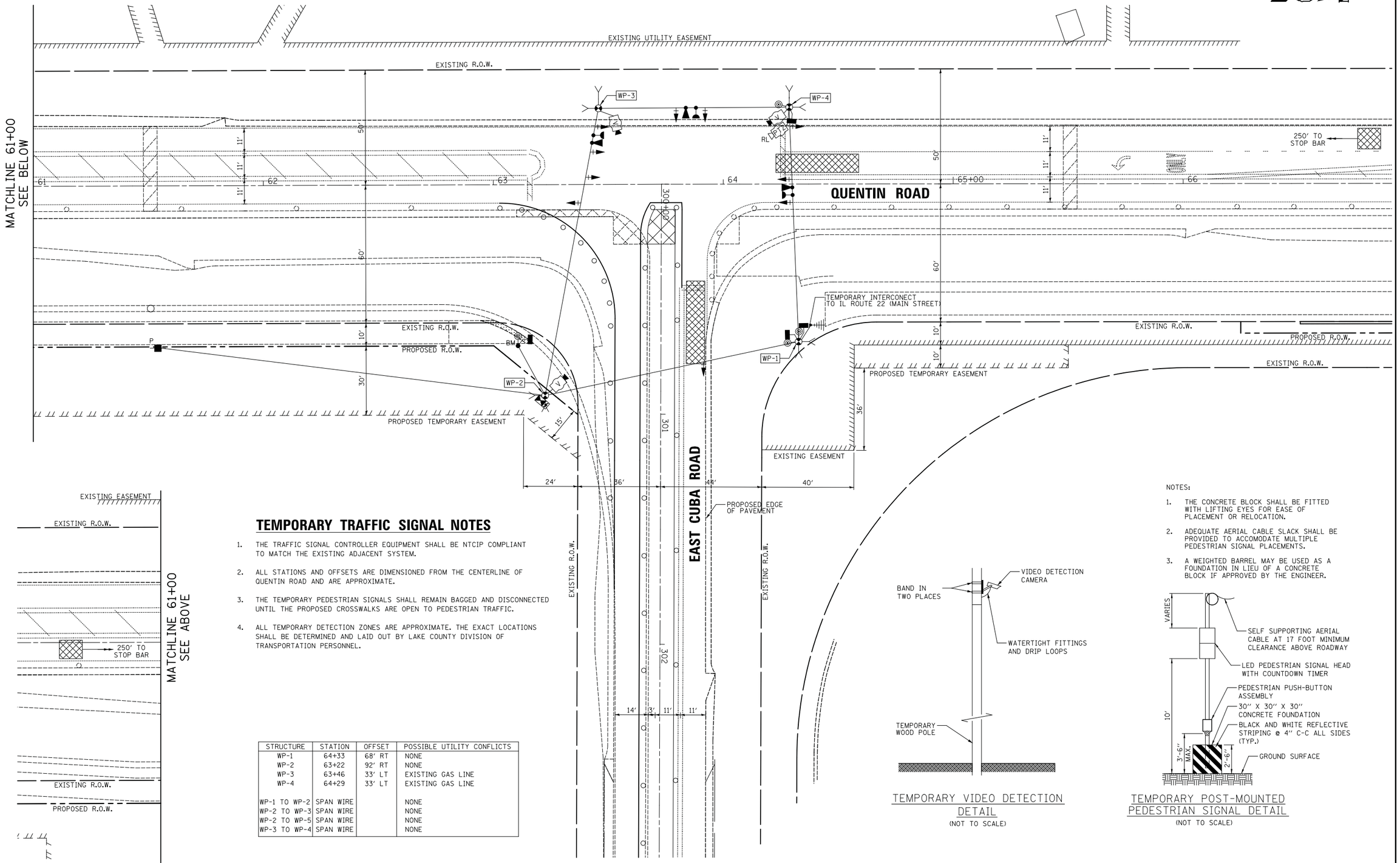
DEPARTMENT OF TRANSPORTATION

SCALE
0 20 40

TEMPORARY TRAFFIC SIGNAL PLAN – STAGE 1
QUENTIN ROAD AT EAST CUBA ROAD

SCALE: 1" = 20' | SHEET NO. 1 OF 6 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	231
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



TEMPORARY TRAFFIC SIGNAL NOTES

1. THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT SHALL BE NTCIP COMPLIANT TO MATCH THE EXISTING ADJACENT SYSTEM.
2. ALL STATIONS AND OFFSETS ARE DIMENSIONED FROM THE CENTERLINE OF QUENTIN ROAD AND ARE APPROXIMATE.
3. THE TEMPORARY PEDESTRIAN SIGNALS SHALL REMAIN BAGGED AND DISCONNECTED UNTIL THE PROPOSED CROSSWALKS ARE OPEN TO PEDESTRIAN TRAFFIC.
4. ALL TEMPORARY DETECTION ZONES ARE APPROXIMATE. THE EXACT LOCATIONS SHALL BE DETERMINED AND LAID OUT BY LAKE COUNTY DIVISION OF TRANSPORTATION PERSONNEL.

STRUCTURE	STATION	OFFSET	POSSIBLE UTILITY CONFLICTS
WP-1	64+33	68' RT	NONE
WP-2	63+22	92' RT	NONE
WP-3	63+46	33' LT	EXISTING GAS LINE
WP-4	64+29	33' LT	EXISTING GAS LINE
WP-1 TO WP-2	SPAN WIRE		NONE
WP-2 TO WP-3	SPAN WIRE		NONE
WP-2 TO WP-5	SPAN WIRE		NONE
WP-3 TO WP-4	SPAN WIRE		NONE

TEMPORARY VIDEO DETECTION DETAIL
(NOT TO SCALE)

NOTES:

1. THE CONCRETE BLOCK SHALL BE FITTED WITH LIFTING EYES FOR EASE OF PLACEMENT OR RELOCATION.
2. ADEQUATE AERIAL CABLE SLACK SHALL BE PROVIDED TO ACCOMODATE MULTIPLE PEDESTRIAN SIGNAL PLACEMENTS.
3. A WEIGHTED BARREL MAY BE USED AS A FOUNDATION IN LIEU OF A CONCRETE BLOCK IF APPROVED BY THE ENGINEER.

TEMPORARY POST-MOUNTED PEDESTRIAN SIGNAL DETAIL
(NOT TO SCALE)

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

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

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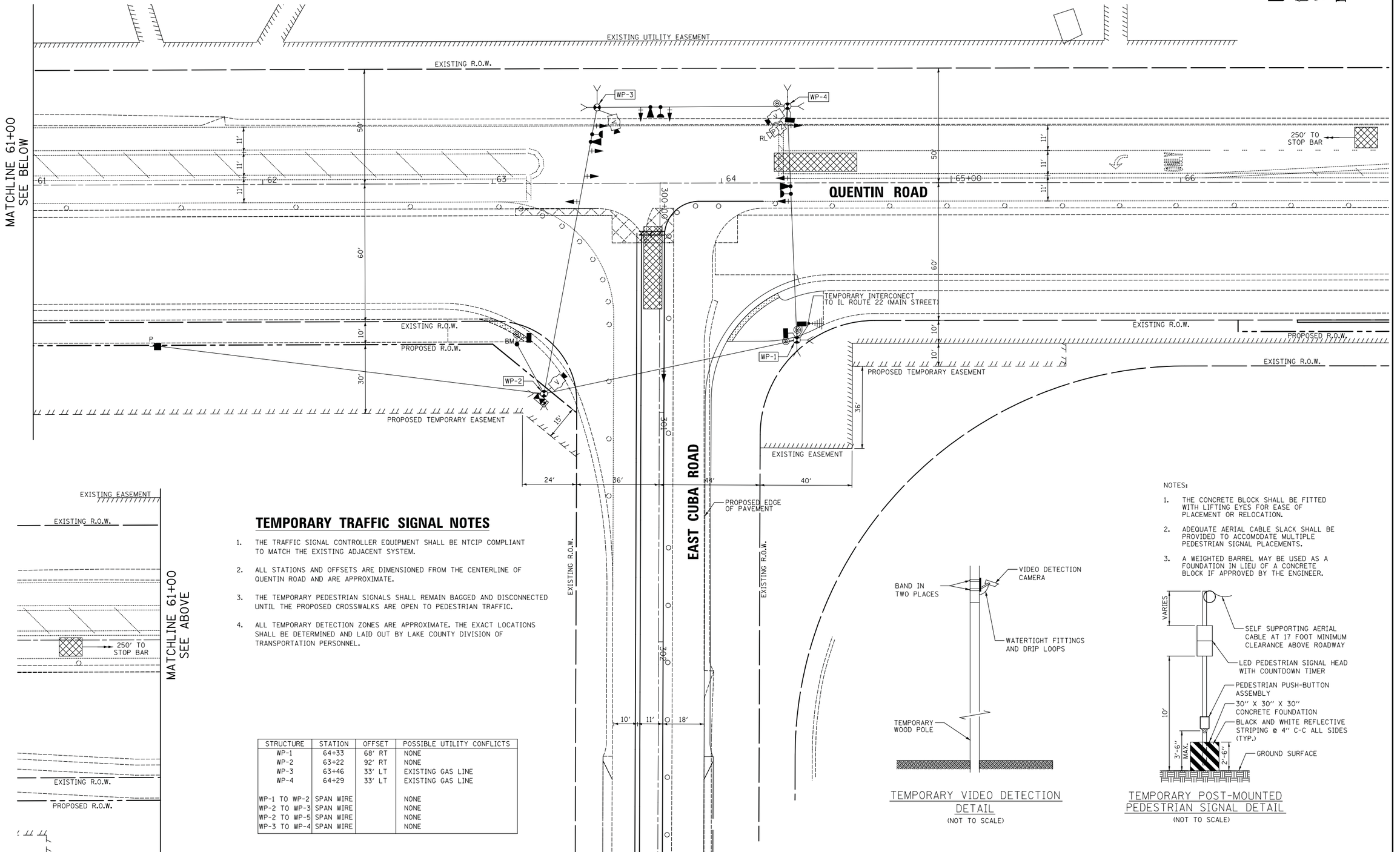
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE
0 20 40

TEMPORARY TRAFFIC SIGNAL PLAN – STAGE 1A
QUENTIN ROAD AT EAST CUBA ROAD

SCALE: 1" = 20' | SHEET NO. 2 OF 6 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	232
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



TEMPORARY TRAFFIC SIGNAL NOTES

1. THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT SHALL BE NTCIP COMPLIANT TO MATCH THE EXISTING ADJACENT SYSTEM.
2. ALL STATIONS AND OFFSETS ARE DIMENSIONED FROM THE CENTERLINE OF QUENTIN ROAD AND ARE APPROXIMATE.
3. THE TEMPORARY PEDESTRIAN SIGNALS SHALL REMAIN BAGGED AND DISCONNECTED UNTIL THE PROPOSED CROSSWALKS ARE OPEN TO PEDESTRIAN TRAFFIC.
4. ALL TEMPORARY DETECTION ZONES ARE APPROXIMATE. THE EXACT LOCATIONS SHALL BE DETERMINED AND LAID OUT BY LAKE COUNTY DIVISION OF TRANSPORTATION PERSONNEL.

STRUCTURE	STATION	OFFSET	POSSIBLE UTILITY CONFLICTS
WP-1	64+33	68' RT	NONE
WP-2	63+22	92' RT	NONE
WP-3	63+46	33' LT	EXISTING GAS LINE
WP-4	64+29	33' LT	EXISTING GAS LINE
WP-1 TO WP-2	SPAN WIRE		NONE
WP-2 TO WP-3	SPAN WIRE		NONE
WP-2 TO WP-5	SPAN WIRE		NONE
WP-3 TO WP-4	SPAN WIRE		NONE

TEMPORARY VIDEO DETECTION DETAIL
(NOT TO SCALE)

NOTES:

1. THE CONCRETE BLOCK SHALL BE FITTED WITH LIFTING EYES FOR EASE OF PLACEMENT OR RELOCATION.
2. ADEQUATE AERIAL CABLE SLACK SHALL BE PROVIDED TO ACCOMODATE MULTIPLE PEDESTRIAN SIGNAL PLACEMENTS.
3. A WEIGHTED BARREL MAY BE USED AS A FOUNDATION IN LIEU OF A CONCRETE BLOCK IF APPROVED BY THE ENGINEER.

TEMPORARY POST-MOUNTED PEDESTRIAN SIGNAL DETAIL
(NOT TO SCALE)

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

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

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DATE - 11/13/2017	REVISED -	

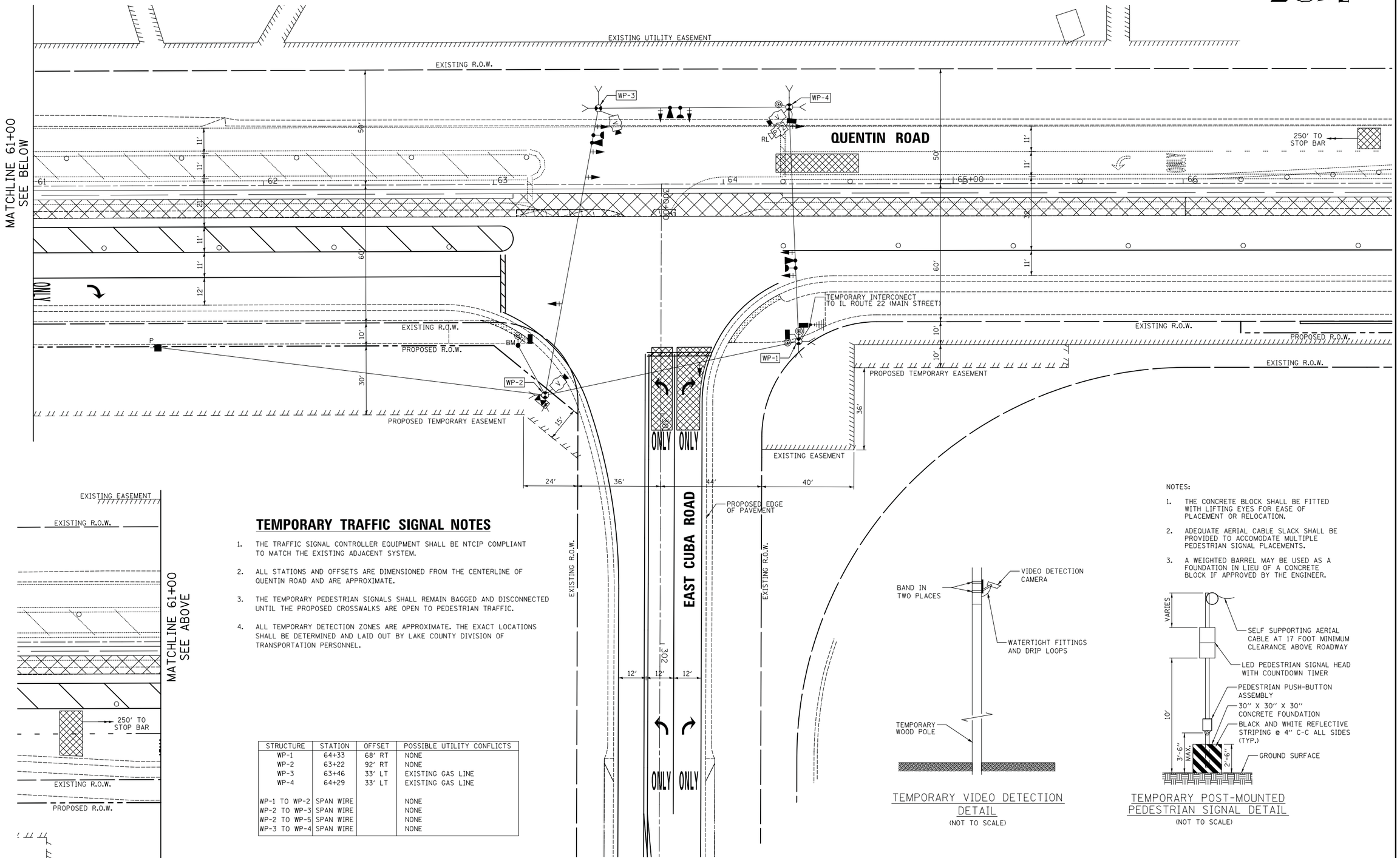
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE
0 20 40

TEMPORARY TRAFFIC SIGNAL PLAN – STAGE 1B
QUENTIN ROAD AT EAST CUBA ROAD

SCALE: 1" = 20' | SHEET NO. 3 OF 6 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	233
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



TEMPORARY TRAFFIC SIGNAL NOTES

1. THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT SHALL BE NTCIP COMPLIANT TO MATCH THE EXISTING ADJACENT SYSTEM.
2. ALL STATIONS AND OFFSETS ARE DIMENSIONED FROM THE CENTERLINE OF QUENTIN ROAD AND ARE APPROXIMATE.
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STRUCTURE	STATION	OFFSET	POSSIBLE UTILITY CONFLICTS
WP-1	64+33	68' RT	NONE
WP-2	63+22	92' RT	NONE
WP-3	63+46	33' LT	EXISTING GAS LINE
WP-4	64+29	33' LT	EXISTING GAS LINE
WP-1 TO WP-2	SPAN WIRE		NONE
WP-2 TO WP-3	SPAN WIRE		NONE
WP-2 TO WP-5	SPAN WIRE		NONE
WP-3 TO WP-4	SPAN WIRE		NONE

TEMPORARY VIDEO DETECTION DETAIL
(NOT TO SCALE)

NOTES:

1. THE CONCRETE BLOCK SHALL BE FITTED WITH LIFTING EYES FOR EASE OF PLACEMENT OR RELOCATION.
2. ADEQUATE AERIAL CABLE SLACK SHALL BE PROVIDED TO ACCOMODATE MULTIPLE PEDESTRIAN SIGNAL PLACEMENTS.
3. A WEIGHTED BARREL MAY BE USED AS A FOUNDATION IN LIEU OF A CONCRETE BLOCK IF APPROVED BY THE ENGINEER.

TEMPORARY POST-MOUNTED PEDESTRIAN SIGNAL DETAIL
(NOT TO SCALE)

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

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DATE	- 11/13/2017	REVISED	-

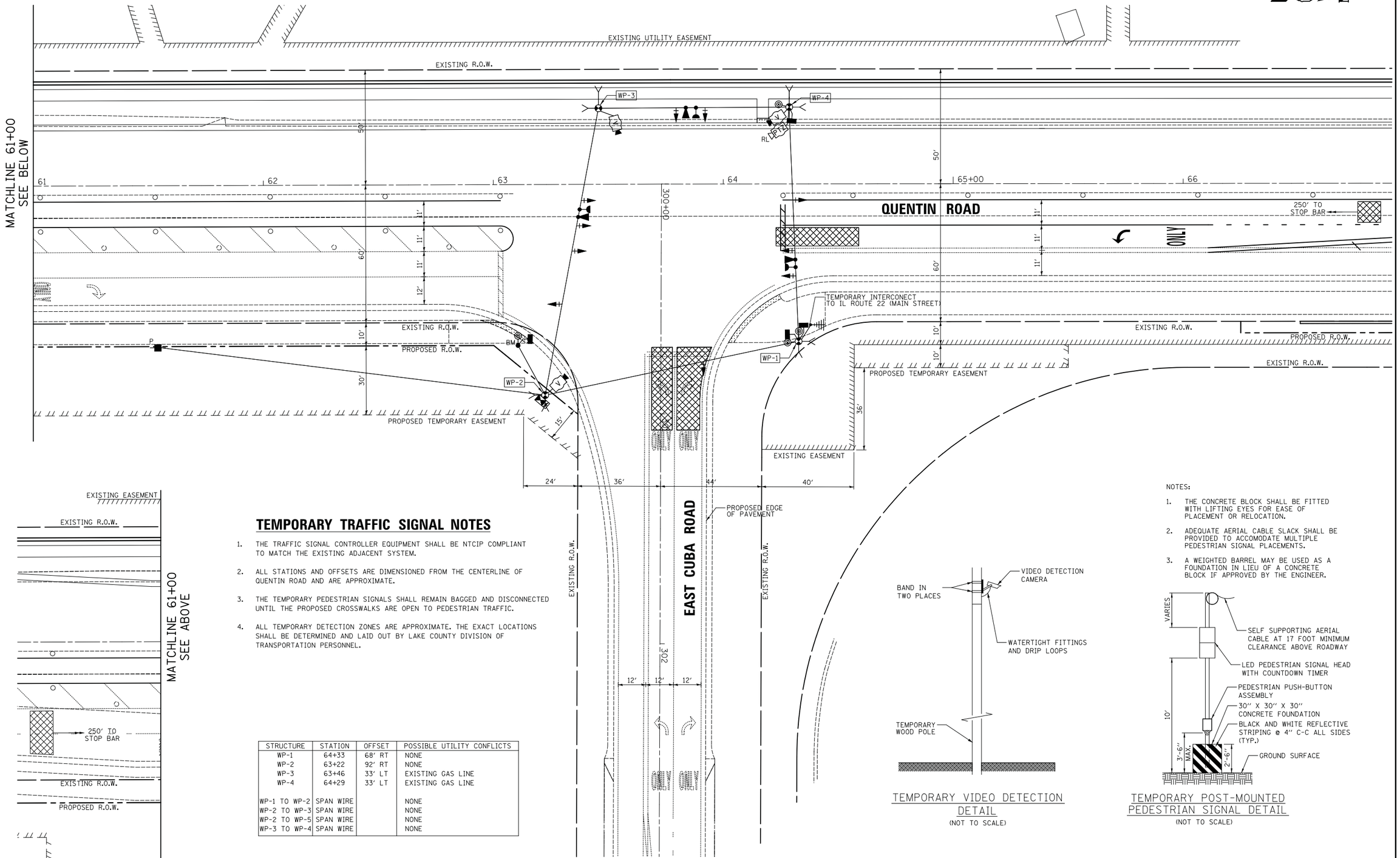
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE
0 20 40

TEMPORARY TRAFFIC SIGNAL PLAN – STAGE 1C
QUENTIN ROAD AT EAST CUBA ROAD

SCALE: 1" = 20' | SHEET NO. 4 OF 6 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	234
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



TEMPORARY TRAFFIC SIGNAL NOTES

1. THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT SHALL BE NTCIP COMPLIANT TO MATCH THE EXISTING ADJACENT SYSTEM.
2. ALL STATIONS AND OFFSETS ARE DIMENSIONED FROM THE CENTERLINE OF QUENTIN ROAD AND ARE APPROXIMATE.
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4. ALL TEMPORARY DETECTION ZONES ARE APPROXIMATE. THE EXACT LOCATIONS SHALL BE DETERMINED AND LAID OUT BY LAKE COUNTY DIVISION OF TRANSPORTATION PERSONNEL.

STRUCTURE	STATION	OFFSET	POSSIBLE UTILITY CONFLICTS
WP-1	64+33	68' RT	NONE
WP-2	63+22	92' RT	NONE
WP-3	63+46	33' LT	EXISTING GAS LINE
WP-4	64+29	33' LT	EXISTING GAS LINE
WP-1 TO WP-2	SPAN WIRE		NONE
WP-2 TO WP-3	SPAN WIRE		NONE
WP-2 TO WP-5	SPAN WIRE		NONE
WP-3 TO WP-4	SPAN WIRE		NONE

TEMPORARY VIDEO DETECTION DETAIL
(NOT TO SCALE)

NOTES:

1. THE CONCRETE BLOCK SHALL BE FITTED WITH LIFTING EYES FOR EASE OF PLACEMENT OR RELOCATION.
2. ADEQUATE AERIAL CABLE SLACK SHALL BE PROVIDED TO ACCOMODATE MULTIPLE PEDESTRIAN SIGNAL PLACEMENTS.
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TEMPORARY POST-MOUNTED PEDESTRIAN SIGNAL DETAIL
(NOT TO SCALE)

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

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

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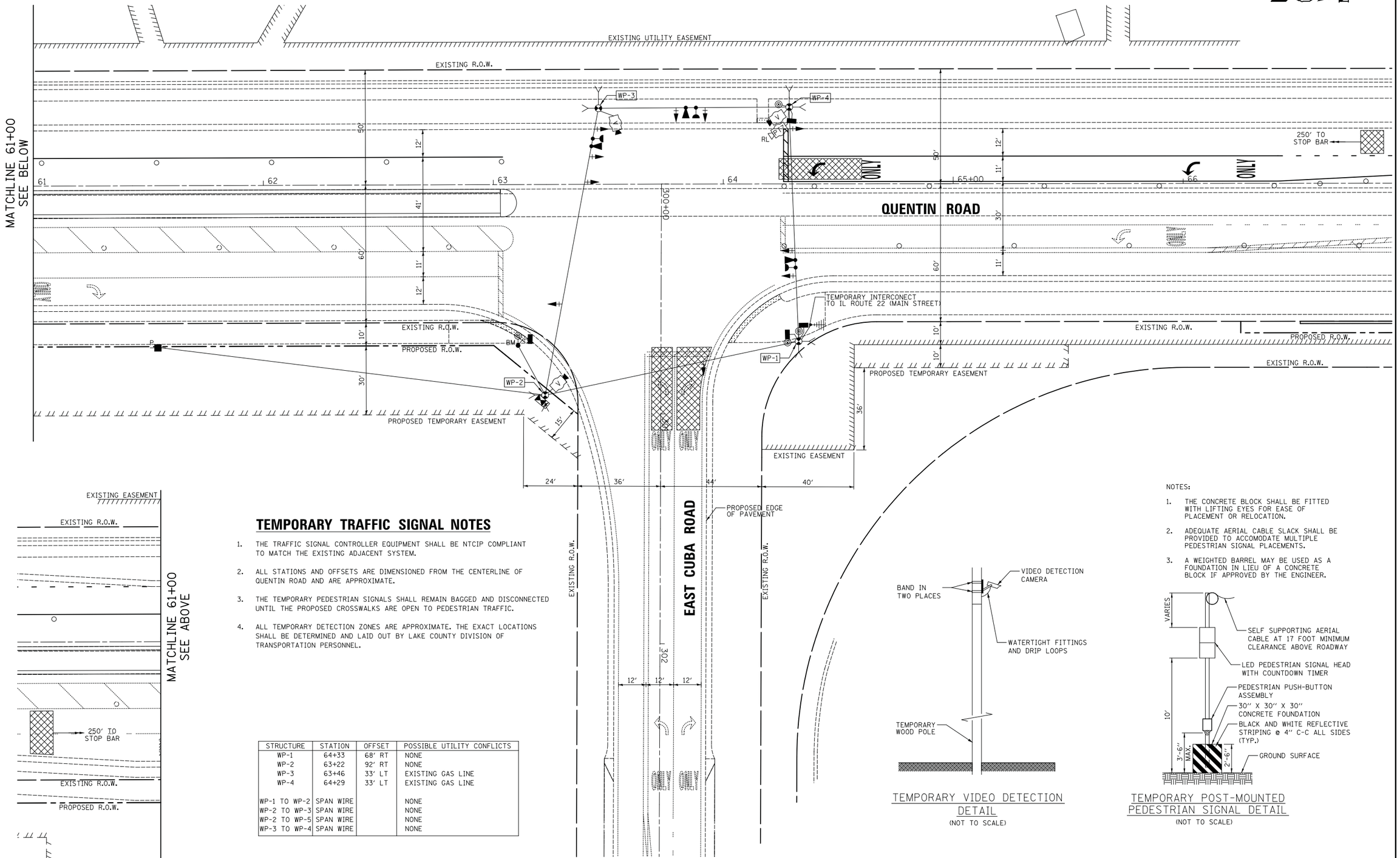
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE
0 20 40

TEMPORARY TRAFFIC SIGNAL PLAN – STAGE 2-2B
QUENTIN ROAD AT EAST CUBA ROAD

SCALE: 1" = 20' | SHEET NO. 5 OF 6 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	235
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



TEMPORARY TRAFFIC SIGNAL NOTES

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STRUCTURE	STATION	OFFSET	POSSIBLE UTILITY CONFLICTS
WP-1	64+33	68' RT	NONE
WP-2	63+22	92' RT	NONE
WP-3	63+46	33' LT	EXISTING GAS LINE
WP-4	64+29	33' LT	EXISTING GAS LINE
WP-1 TO WP-2	SPAN WIRE		NONE
WP-2 TO WP-3	SPAN WIRE		NONE
WP-2 TO WP-5	SPAN WIRE		NONE
WP-3 TO WP-4	SPAN WIRE		NONE

TEMPORARY VIDEO DETECTION DETAIL
(NOT TO SCALE)

NOTES:

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TEMPORARY POST-MOUNTED PEDESTRIAN SIGNAL DETAIL
(NOT TO SCALE)

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

ORIGINAL SURVEY	NOTE BOOK	NO.
SURVEYED	BY	DATE
PLOTTED		
TEMPLATE		
AREAS		
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

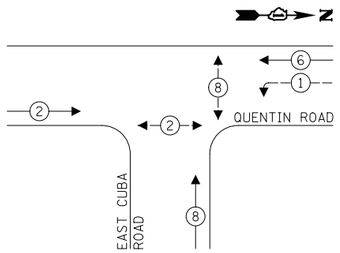
SCALE
0 20 40

TEMPORARY TRAFFIC SIGNAL PLAN – STAGE 3
QUENTIN ROAD AT EAST CUBA ROAD

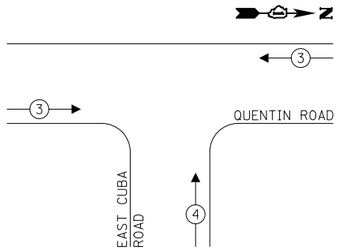
SCALE: 1" = 20' | SHEET NO. 6 OF 6 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	236
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

TEMPORARY CONTROLLER SEQUENCE



TEMPORARY EMERGENCY VEHICLE PREEMPTION SEQUENCE



LEGEND:

- PROTECTED PHASE
- PROTECTED/PERMITTED PHASE
- PEDESTRIAN PHASE
- OL — OVERLAP

NOTES:

1. THE TEMPORARY PEDESTRIAN SIGNALS SHALL REMAIN BAGGED AND DISCONNECTED UNTIL THE PROPOSED CROSSWALKS ARE OPEN TO PEDESTRIAN TRAFFIC.
2. THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT SHALL BE NTCIP COMPLIANT TO MATCH THE EXISTING ADJACENT SYSTEM.

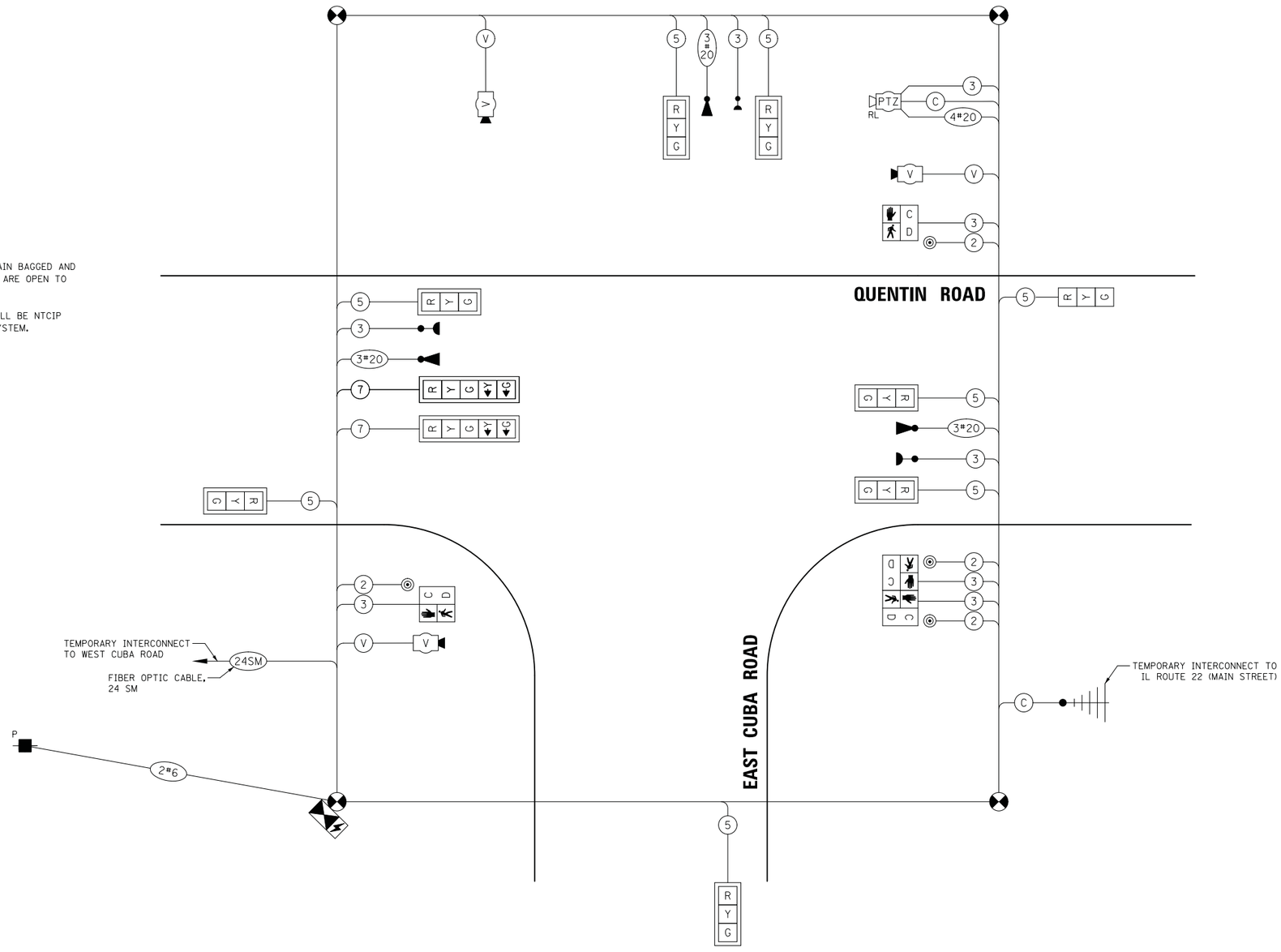
TRAFFIC SIGNAL ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. OF LAMPS	LED WATTAGE	% OPERATION	TOTAL WATTAGE
SIGNAL (RED)	9	17	50	76.5
(YELLOW)	9	25	5	11.3
(GREEN)	9	15	45	60.7
ARROW	4	12	10	4.8
PED. SIGNAL	4	25	100	100.0
CONTROLLER	1	100	100	100.0
UPS	1	25	100	25.0
VIDEO SYSTEM	1	150	100	150.0
BLANK-OUT SIGN	-	25	5	-
FLASHER	-	-	50	-
STREET NAME SIGN	-	64	50	-
LUMINAIRE	-	250	50	-
			TOTAL =	528.3

ENERGY COSTS TO:

VILLAGE OF KILDEER
21911 QUENTIN ROAD
KILDEER, IL 60047

ENERGY SUPPLY: CONTACT: DONALD PESCE
PHONE: (847) 870-2057
COMPANY: COMED
ACCOUNT NUMBER: ---



TEMPORARY CABLE PLAN
(NOT TO SCALE)

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Itasca, Illinois 60143
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DATE - 11/13/2017	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

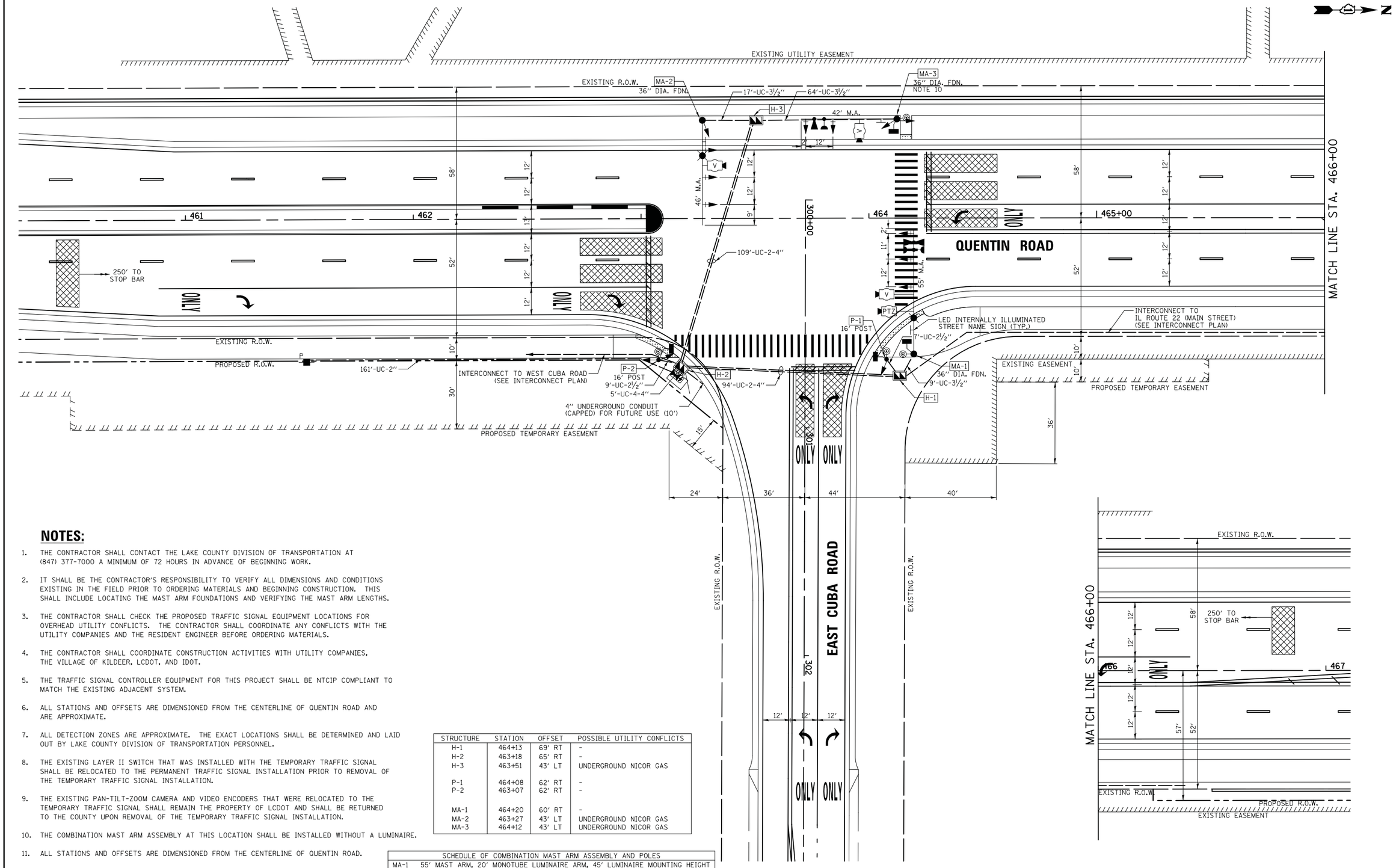
TEMPORARY CABLE PLAN AND SEQUENCES
QUENTIN ROAD AT EAST CUBA ROAD

SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	237
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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

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



NOTES:

1. THE CONTRACTOR SHALL CONTACT THE LAKE COUNTY DIVISION OF TRANSPORTATION AT (847) 377-7000 A MINIMUM OF 72 HOURS IN ADVANCE OF BEGINNING WORK.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS EXISTING IN THE FIELD PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION. THIS SHALL INCLUDE LOCATING THE MAST ARM FOUNDATIONS AND VERIFYING THE MAST ARM LENGTHS.
3. THE CONTRACTOR SHALL CHECK THE PROPOSED TRAFFIC SIGNAL EQUIPMENT LOCATIONS FOR OVERHEAD UTILITY CONFLICTS. THE CONTRACTOR SHALL COORDINATE ANY CONFLICTS WITH THE UTILITY COMPANIES AND THE RESIDENT ENGINEER BEFORE ORDERING MATERIALS.
4. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES, THE VILLAGE OF KILDEER, LCDOT, AND IDOT.
5. THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT FOR THIS PROJECT SHALL BE NTCIP COMPLIANT TO MATCH THE EXISTING ADJACENT SYSTEM.
6. ALL STATIONS AND OFFSETS ARE DIMENSIONED FROM THE CENTERLINE OF QUENTIN ROAD AND ARE APPROXIMATE.
7. ALL DETECTION ZONES ARE APPROXIMATE. THE EXACT LOCATIONS SHALL BE DETERMINED AND LAID OUT BY LAKE COUNTY DIVISION OF TRANSPORTATION PERSONNEL.
8. THE EXISTING LAYER II SWITCH THAT WAS INSTALLED WITH THE TEMPORARY TRAFFIC SIGNAL SHALL BE RELOCATED TO THE PERMANENT TRAFFIC SIGNAL INSTALLATION PRIOR TO REMOVAL OF THE TEMPORARY TRAFFIC SIGNAL INSTALLATION.
9. THE EXISTING PAN-TILT-ZOOM CAMERA AND VIDEO ENCODERS THAT WERE RELOCATED TO THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN THE PROPERTY OF LCDOT AND SHALL BE RETURNED TO THE COUNTY UPON REMOVAL OF THE TEMPORARY TRAFFIC SIGNAL INSTALLATION.
10. THE COMBINATION MAST ARM ASSEMBLY AT THIS LOCATION SHALL BE INSTALLED WITHOUT A LUMINAIRE.
11. ALL STATIONS AND OFFSETS ARE DIMENSIONED FROM THE CENTERLINE OF QUENTIN ROAD.

STRUCTURE	STATION	OFFSET	POSSIBLE UTILITY CONFLICTS
H-1	464+13	69' RT	-
H-2	463+18	65' RT	-
H-3	463+51	43' LT	UNDERGROUND NICOR GAS
P-1	464+08	62' RT	-
P-2	463+07	62' RT	-
MA-1	464+20	60' RT	-
MA-2	463+27	43' LT	UNDERGROUND NICOR GAS
MA-3	464+12	43' LT	UNDERGROUND NICOR GAS

SCHEDULE OF COMBINATION MAST ARM ASSEMBLY AND POLES	
MA-1	55' MAST ARM, 20' MONOTUBE LUMINAIRE ARM, 45' LUMINAIRE MOUNTING HEIGHT
MA-2	46' MAST ARM, 20' MONOTUBE LUMINAIRE ARM, 45' LUMINAIRE MOUNTING HEIGHT
MA-3	42' MAST ARM, 20' MONOTUBE LUMINAIRE ARM, 45' LUMINAIRE MOUNTING HEIGHT

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

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

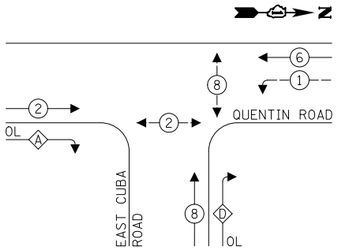
SCALE
0 20 40

TRAFFIC SIGNAL MODERNIZATION PLAN
QUENTIN ROAD AT EAST CUBA ROAD

SCALE: 1" = 20' | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	238
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

PROPOSED CONTROLLER SEQUENCE



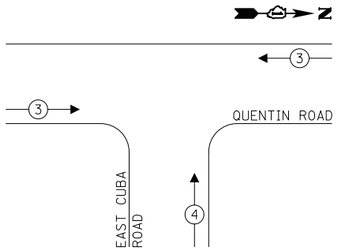
LEGEND:

- PROTECTED PHASE
- PROTECTED/PERMITTED PHASE
- PEDESTRIAN PHASE
- OL OVERLAP

RIGHT TURN OVERLAP PHASE DESIGNATION:

OVERLAP LETTER		PERMISSIVE PHASE		PROTECTED PHASE
A	=	2	+	8
D	=	8	+	1

PROPOSED EMERGENCY VEHICLE PREEMPTION SEQUENCE



NOTES

1. LED INTERNALLY ILLUMINATED STREET NAME SIGNS AND LUMINAIRES SHALL NOT BE CONNECTED TO THE UNINTERRUPTIBLE POWER SUPPLY UNIT.
2. THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT SHALL BE NTCIP COMPLIANT TO MATCH THE EXISTING ADJACENT SYSTEM.

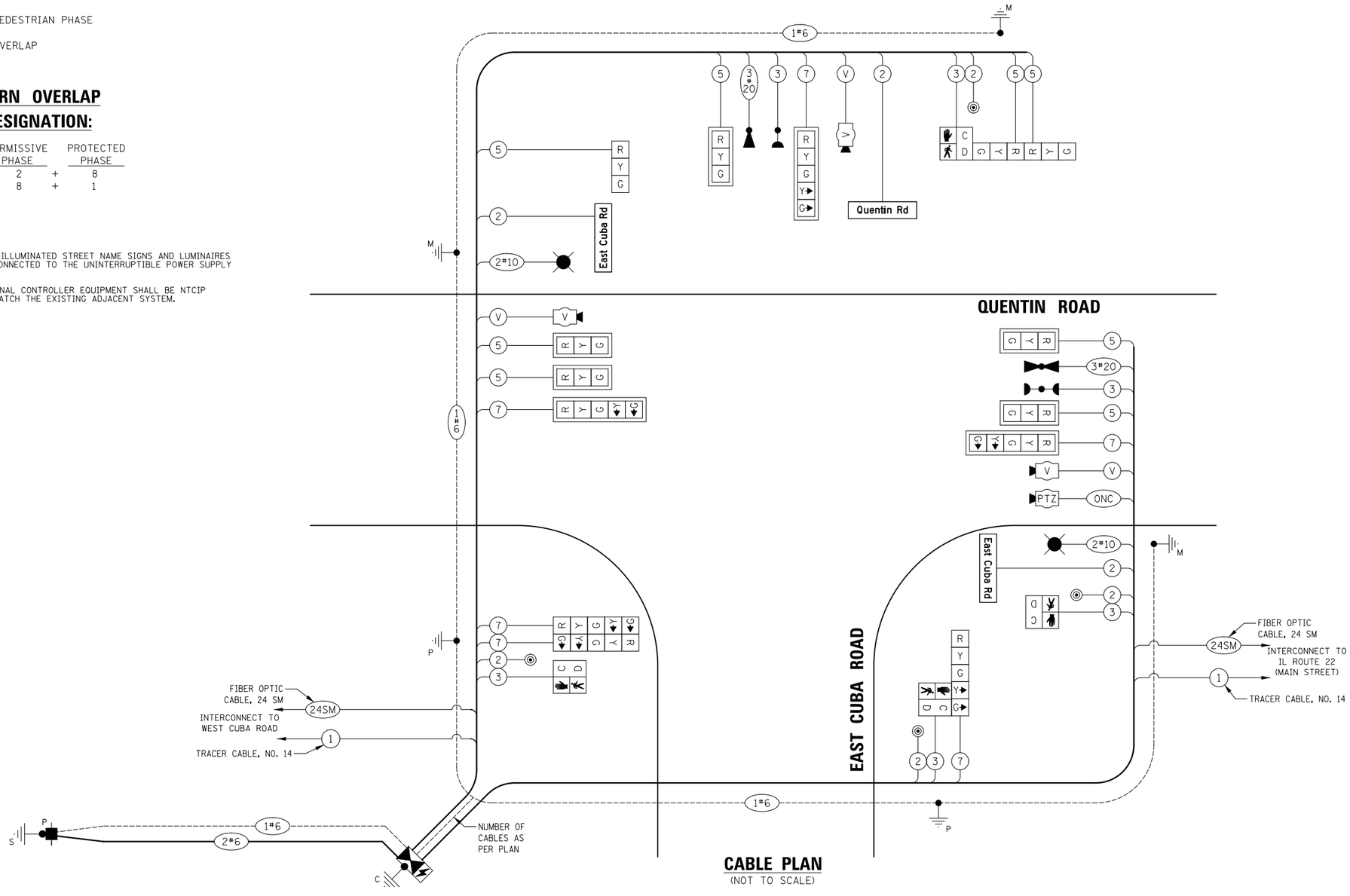
TRAFFIC SIGNAL ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. OF LAMPS	LED WATTAGE	% OPERATION	TOTAL WATTAGE
SIGNAL (RED)	14	11	50	77.0
(YELLOW)	14	20	5	14.0
(GREEN)	14	12	45	75.6
ARROW	12	10	10	2.4
PED. SIGNAL	4	20	100	80.0
CONTROLLER	1	100	100	100.0
UPS	1	25	100	25.0
VIDEO SYSTEM	1	150	100	150.0
BLANK-OUT SIGN	-	25	5	-
FLASHER	-	-	50	-
STREET NAME SIGN	3	64	50	96.0
LUMINAIRE	2	250	50	250.0
			TOTAL =	870.0

ENERGY COSTS TO:

VILLAGE OF KILDEER
21911 QUENTIN ROAD
KILDEER, IL 60047

ENERGY SUPPLY: CONTACT: DONALD PESCE
PHONE: (847) 870-2057
COMPANY: COMED
ACCOUNT NUMBER: ---



CABLE PLAN
(NOT TO SCALE)

LEGEND:

(ONC) OUTDOOR RATED NETWORK CABLE

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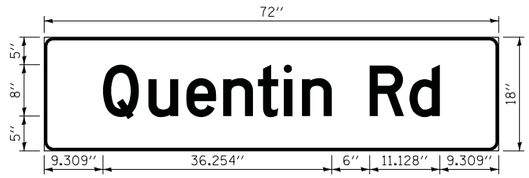
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CABLE PLAN, SEQUENCE OF OPERATIONS, AND EMERGENCY VEHICLE PREEMPTION SEQUENCE
QUENTIN ROAD AT EAST CUBA ROAD

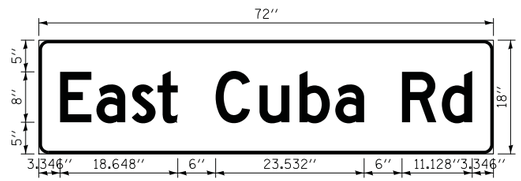
SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	239
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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



DESIGN SERIES	AREA (SQ FT)	SIGN PANEL TYPE	SHEETING TYPE	QTY. REQUIRED
D	9.00	LED SNS (SINGLE-SIDED)	N/A	1



DESIGN SERIES	AREA (SQ FT)	SIGN PANEL TYPE	SHEETING TYPE	QTY. REQUIRED
D	9.00	LED SNS (DOUBLE-SIDED)	N/A	2

SCHEDULE OF QUANTITIES

PAY ITEM	UNIT	QNTY.
SERVICE INSTALLATION - POLE MOUNTED	EACH	1
UNDERGROUND CONDUIT, GALVANIZED STEEL, 2'' DIA.	FOOT	161
UNDERGROUND CONDUIT, GALVANIZED STEEL, 2 1/2'' DIA.	FOOT	16
UNDERGROUND CONDUIT, GALVANIZED STEEL, 3 1/2'' DIA.	FOOT	90
UNDERGROUND CONDUIT, GALVANIZED STEEL, 4'' DIA.	FOOT	436
DOUBLE HANDHOLE	EACH	3
ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 10	FOOT	880
LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 250 WATT	EACH	2
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	1167
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	1073
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	1739
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	955
ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C	FOOT	181
ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	846
CONCRETE FOUNDATION, TYPE A	FOOT	8
CONCRETE FOUNDATION, TYPE C	FOOT	4
CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	45
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	5
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	3
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	3
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	3
PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	4
TRAFFIC SIGNAL BACKPLATE, LOUVERED, FORMED PLASTIC	EACH	8
LIGHT DETECTOR	EACH	2
LIGHT DETECTOR AMPLIFIER	EACH	1
PEDESTRIAN PUSH-BUTTON	EACH	4
TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
REMOVE EXISTING HANDHOLE	EACH	3
REMOVE EXISTING CONCRETE FOUNDATION	EACH	7
EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C	FOOT	486
RELOCATE SWITCH	EACH	1
LED INTERNALLY ILLUMINATED STREET NAME SIGN	EACH	3
OUTDOOR RATED NETWORK CABLE	FOOT	209
FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	EACH	1
UNINTERRUPTABLE POWER SUPPLY, SPECIAL	EACH	1
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 42 FT. (SPECIAL)	EACH	1
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 46 FT. (SPECIAL)	EACH	1
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 55 FT. (SPECIAL)	EACH	1
VIDEO DETECTION SYSTEM COMPLETE INTERSECTION	EACH	1
TRAFFIC SIGNAL POST, 16 FOOT, (SPECIAL)	EACH	2
REMOTE CONTROLLED VIDEO SYSTEM	EACH	1
LAYER II (DATALINK) SWITCH	EACH	1
RELOCATE EXISTING REMOTE-CONTROLLED VIDEO SYSTEM	EACH	1
TEMPORARY TRAFFIC SIGNAL TIMING	EACH	1

FINAL SURVEY — NOTE BOOK — NO. — BY — DATE
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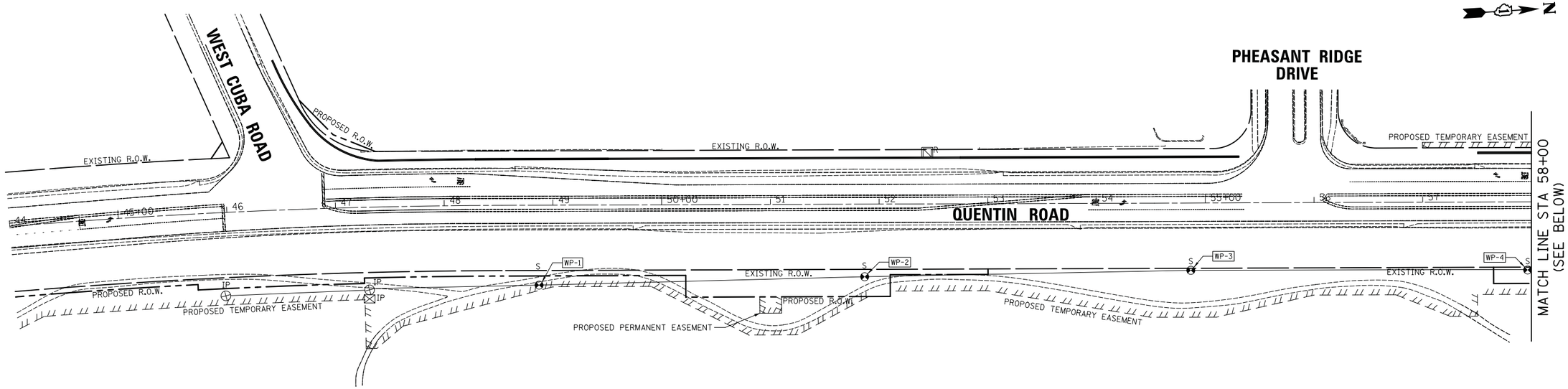
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ILLUMINATED STREET NAME SIGNS AND SCHEDULE OF QUANTITIES
QUENTIN ROAD AT EAST CUBA ROAD

SHEET NO. 1 OF 1 SHEETS STA. TO STA.

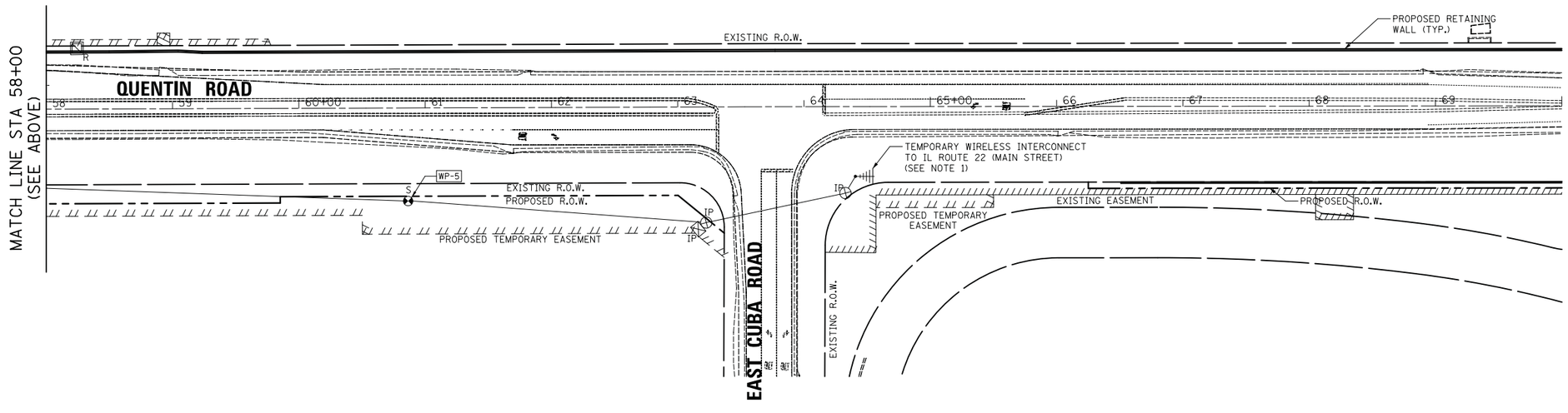
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	240
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



STRUCTURE	STATION	OFFSET	POSSIBLE UTILITY CONFLICTS
WP-1	48+87	73′ RT	-
WP-2	51+87	67′ RT	-
WP-3	54+87	62′ RT	-
WP-4	57+96	62′ RT	-
WP-5	60+86	74′ RT	-

TEMPORARY INTERCONNECT NOTES

1. THE TEMPORARY WIRELESS INTERCONNECT SHALL MEET THE REQUIREMENTS OF THE SPECIAL PROVISION FOR "WIRELESS TRANSMISSION SYSTEM POINT TO POINT." THIS SHALL BE INCLUDED IN THE PAY ITEM "TEMPORARY TRAFFIC SIGNAL INSTALLATION."



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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE
0 50 100

TEMPORARY INTERCONNECT PLAN
QUENTIN ROAD
WEST CUBA ROAD TO IL ROUTE 22 (MAIN STREET)

SCALE: 1″ = 50′ | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	241
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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

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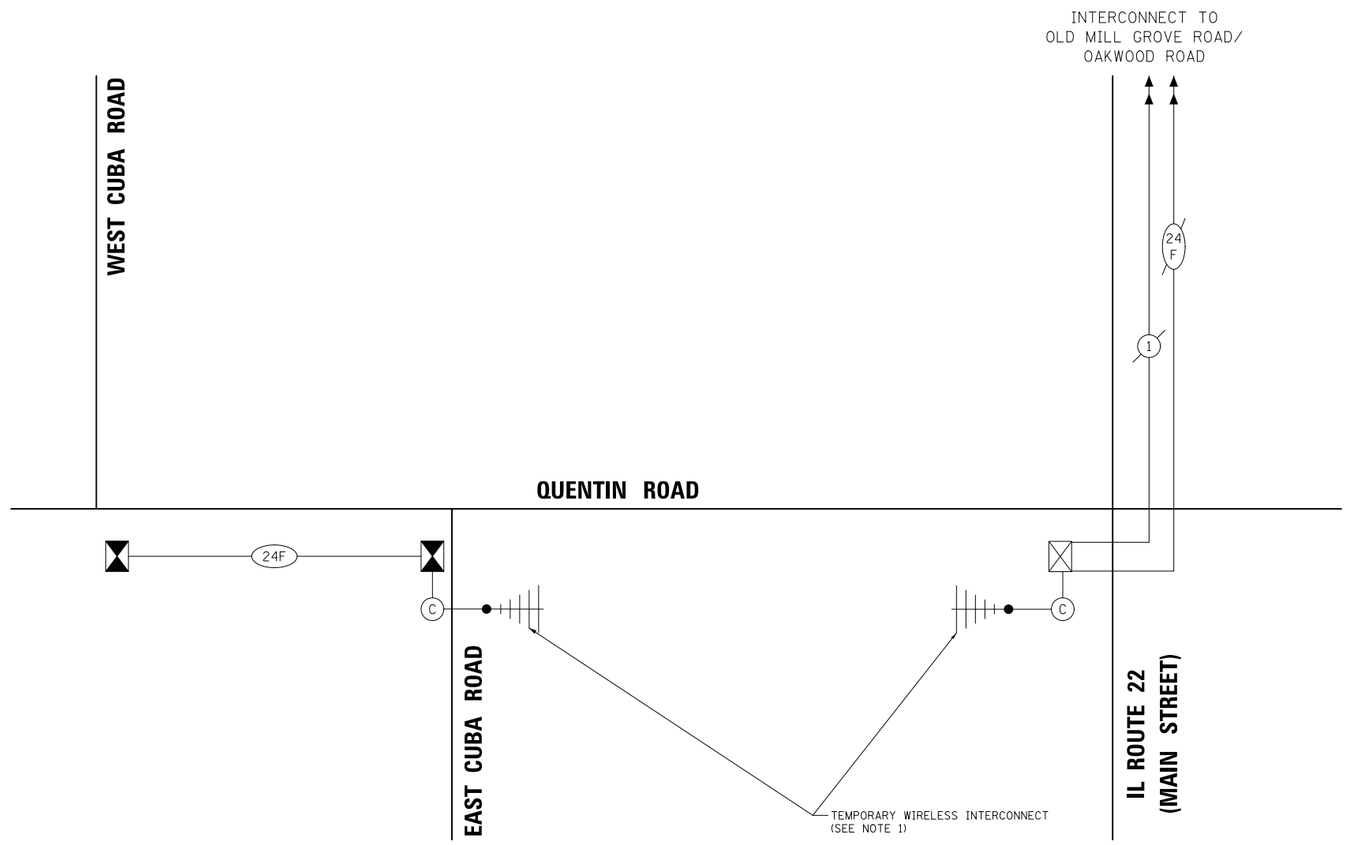

NOTES:

1. THE TEMPORARY WIRELESS INTERCONNECT SHALL MEET THE REQUIREMENTS OF THE SPECIAL PROVISION FOR "WIRELESS TRANSMISSION SYSTEM POINT TO POINT." THIS SHALL BE INCLUDED IN THE PAY ITEM "TEMPORARY TRAFFIC SIGNAL INSTALLATION."

2. THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT SHALL BE NTCIP COMPLIANT TO MATCH THE EXISTING ADJACENT SYSTEM.

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

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY INTERCONNECT SCHEMATIC
QUENTIN ROAD
WEST CUBA ROAD TO ILLINOIS ROUTE 22 (MAIN STREET)

SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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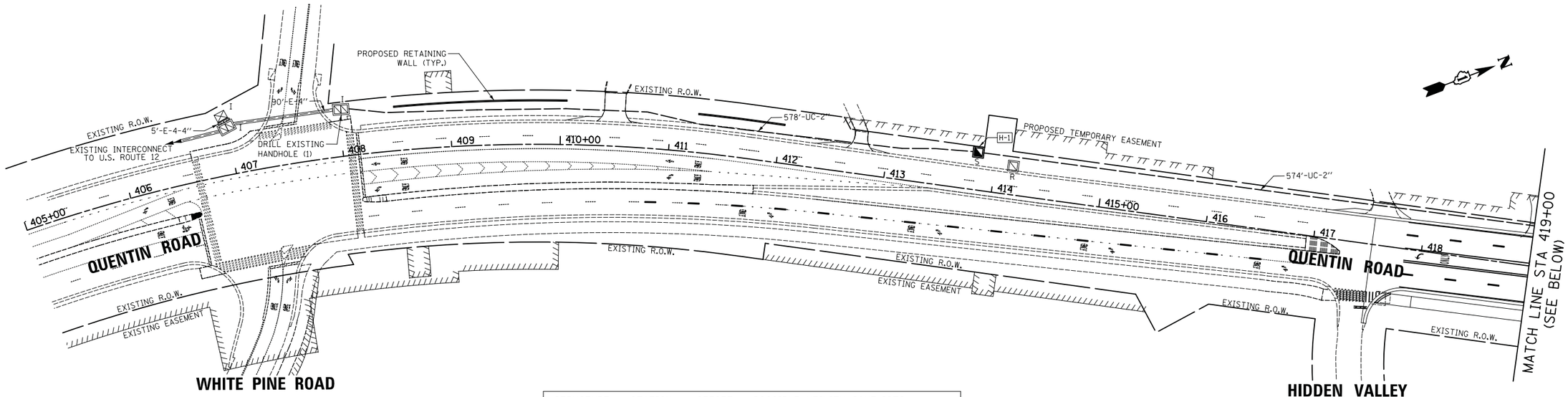
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

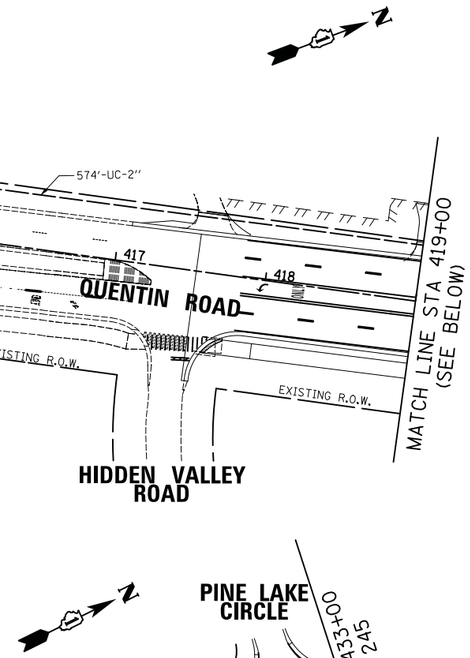


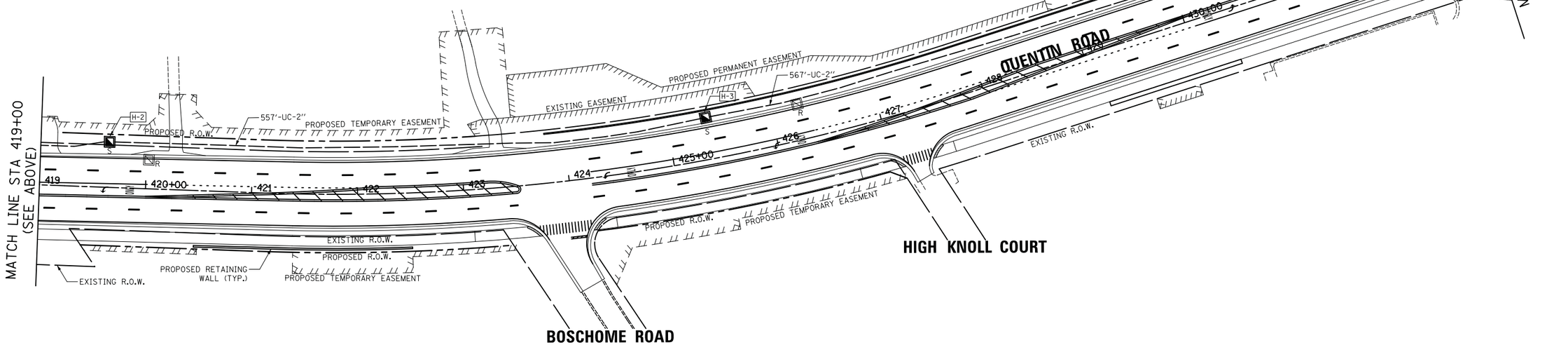
STRUCTURE	STATION	OFFSET	POSSIBLE UTILITY CONFLICTS
H-1	413+83	35' LT	EX UNDERGROUND GAS
H-2	419+65	43' LT	EX UNDERGROUND GAS
H-3	425+37	39' LT	EX STORM SEWER
H-4	431+16	40' LT	EX STORM SEWER, CABLE TV, ELECTRIC

INTERCONNECT NOTES:

1. RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDER, 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.

2. THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT FOR THIS PROJECT SHALL BE NTCIP COMPLIANT TO MATCH THE EXISTING ADJACENT SYSTEM.





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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE
0 50 100

INTERCONNECT PLAN
QUENTIN ROAD
U.S. ROUTE 12 (RAND ROAD) TO IL ROUTE 22 (MAIN STREET)

SCALE: 1" = 50' | SHEET NO. 1 OF 4 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	243
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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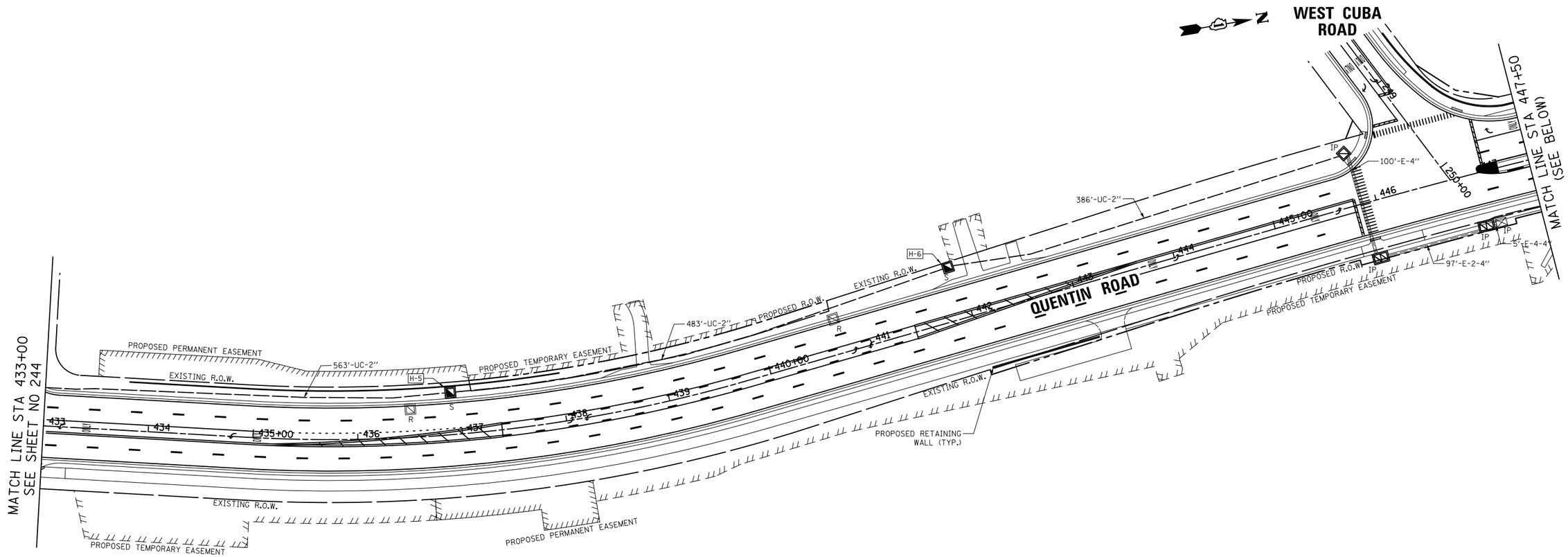
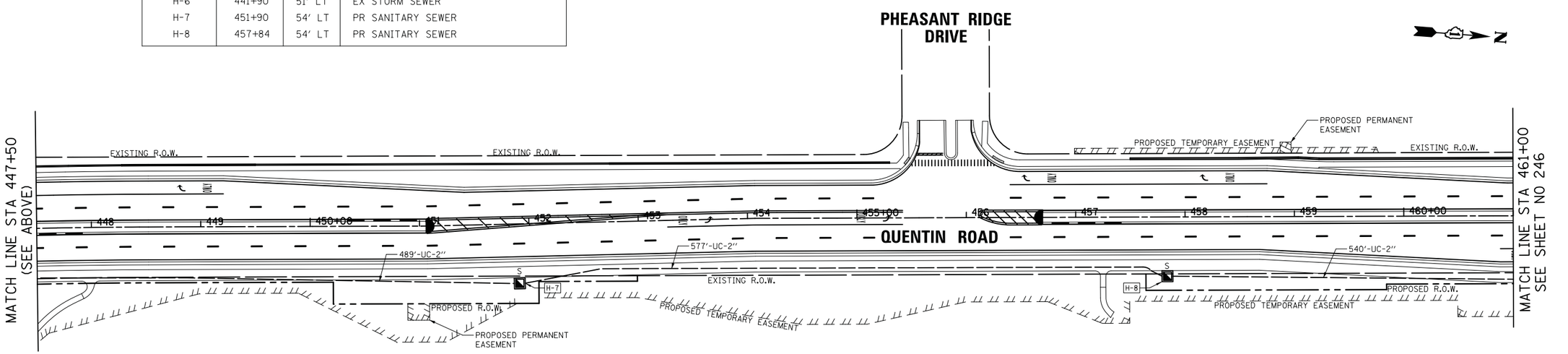


STRUCTURE	STATION	OFFSET	POSSIBLE UTILITY CONFLICTS
H-5	436+92	40' LT	EX UNDERGROUND GAS, PR STORM SEWER
H-6	441+90	51' LT	EX STORM SEWER
H-7	451+90	54' LT	PR SANITARY SEWER
H-8	457+84	54' LT	PR SANITARY SEWER



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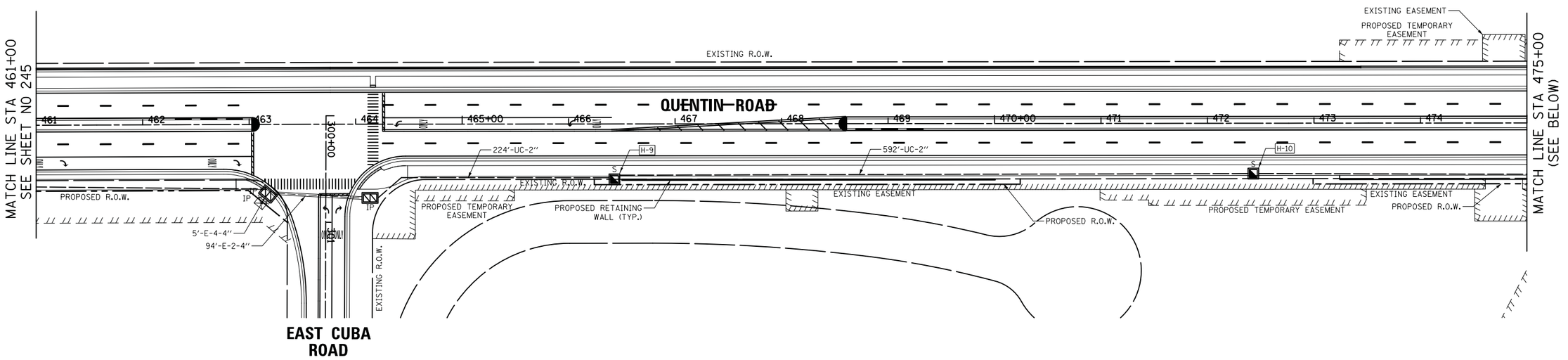
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE
0 50 100

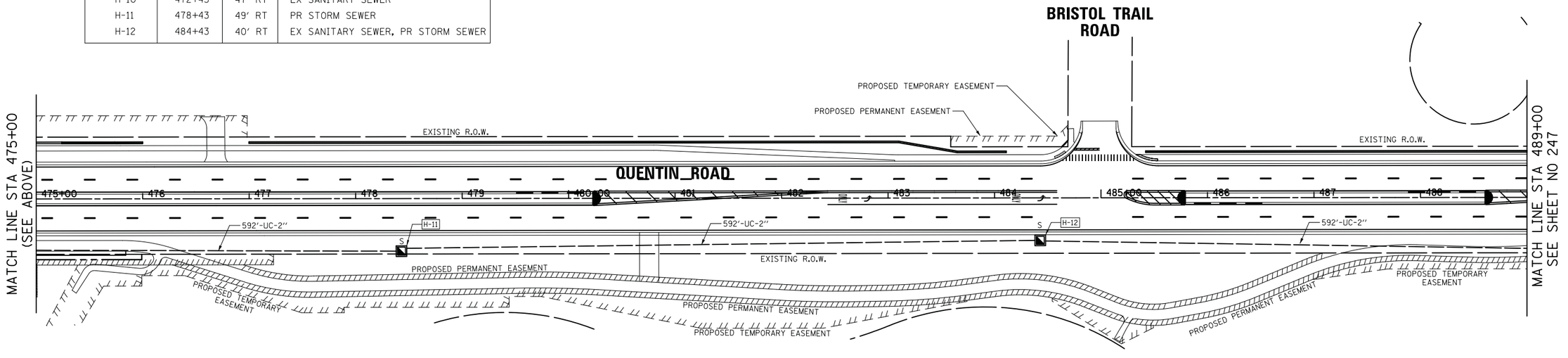
INTERCONNECT PLAN
QUENTIN ROAD
U.S. ROUTE 12 (RAND ROAD) TO IL ROUTE 22 (MAIN STREET)

SCALE: 1" = 50' | SHEET NO. 2 OF 4 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	244
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



STRUCTURE	STATION	OFFSET	POSSIBLE UTILITY CONFLICTS
H-9	466+43	43' RT	EX SANITARY SEWER
H-10	472+43	47' RT	EX SANITARY SEWER
H-11	478+43	49' RT	PR STORM SEWER
H-12	484+43	40' RT	EX SANITARY SEWER, PR STORM SEWER



DESIGNED - BRD	REVISED -	**STATE OF ILLINOIS**	SCALE 0 50 100
DRAWN - LEP	REVISED -	**DEPARTMENT OF TRANSPORTATION**	
CHECKED - JJE	REVISED -		
DATE - 11/13/2017	REVISED -		

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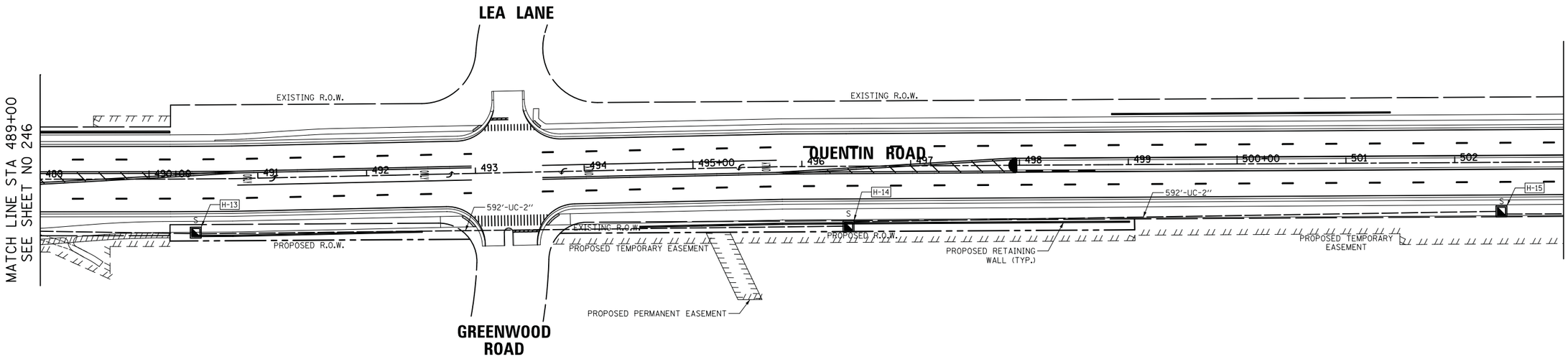
INTERCONNECT PLAN
QUENTIN ROAD
U.S. ROUTE 12 (RAND ROAD) TO IL ROUTE 22 (MAIN STREET)

SCALE: 1" = 50' | SHEET NO. 3 OF 4 SHEETS | STA. | TO STA.

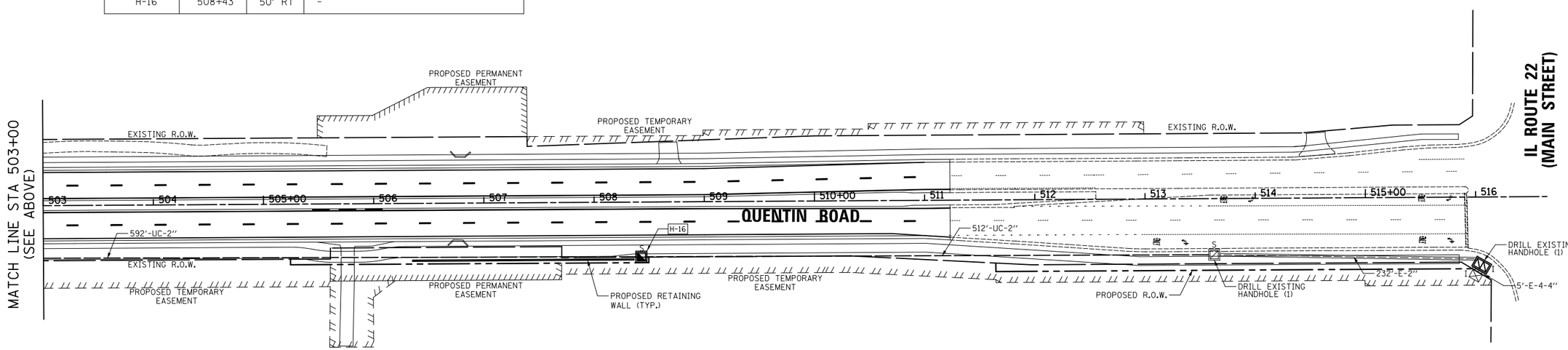
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	245
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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

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



STRUCTURE	STATION	OFFSET	POSSIBLE UTILITY CONFLICTS
H-13	490+43	49' RT	PR STORM SEWER, EX ELECTRIC
H-14	496+43	50' RT	-
H-15	502+43	45' RT	-
H-16	508+43	50' RT	-



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

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

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DRAWN - LEP	REVISED -	
CHECKED - JJE	REVISED -	
DATE - 11/13/2017	REVISED -	

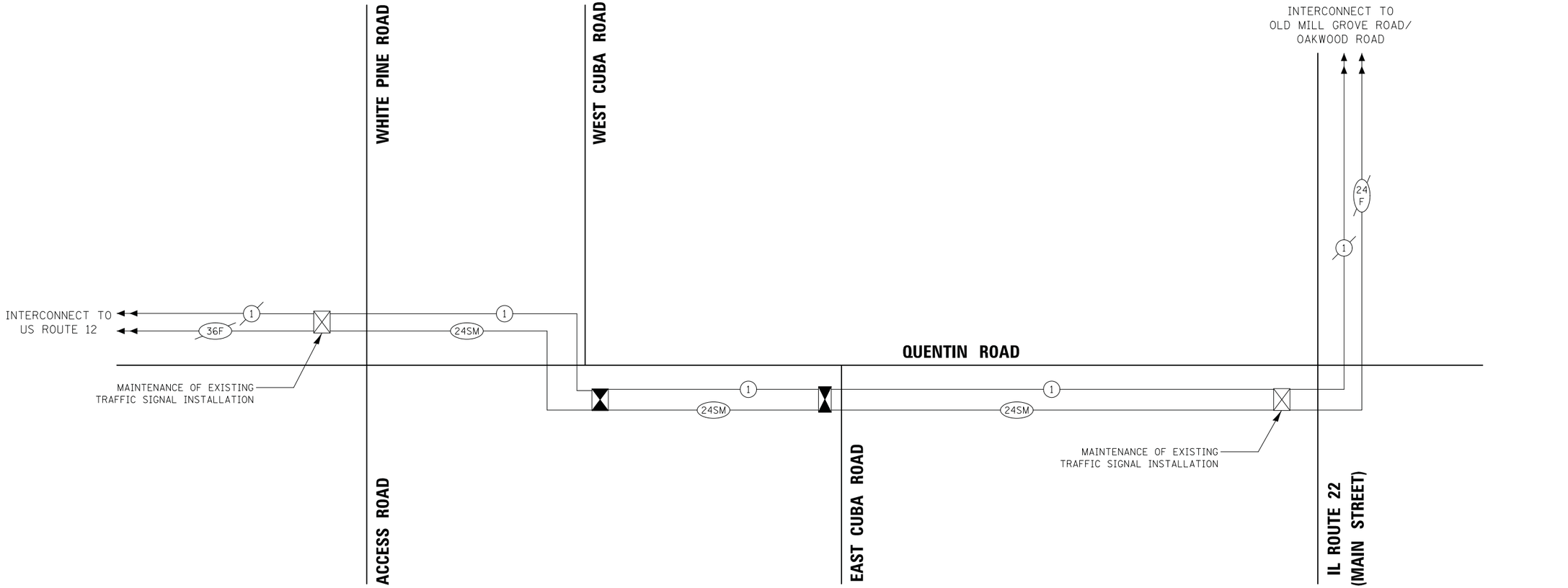
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE
0 50 100

INTERCONNECT PLAN
QUENTIN ROAD
U.S. ROUTE 12 (RAND ROAD) TO IL ROUTE 22 (MAIN STREET)

SCALE: 1" = 50' | SHEET NO. 4 OF 4 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	246
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



INTERCONNECT SCHEDULE OF QUANTITIES

PAY ITEM	UNIT	QNTY.
UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	10194
HANDHOLE	EACH	16
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	2
ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C	FOOT	11098
DRILL EXISTING HANDHOLE	EACH	2
REMOVE ELECTRIC CABLE FROM CONDUIT	EACH	263
REMOVE EXISTING HANDHOLE	EACH	8
FIBER OPTIC CABLE IN CONDUIT, 24 FIBERS, SINGLE MODE	FOOT	11167
RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM LEVEL 2	EACH	2

NOTES:

1. THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT SHALL BE NTCIP COMPLIANT TO MATCH THE EXISTING ADJACENT SYSTEM.

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

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

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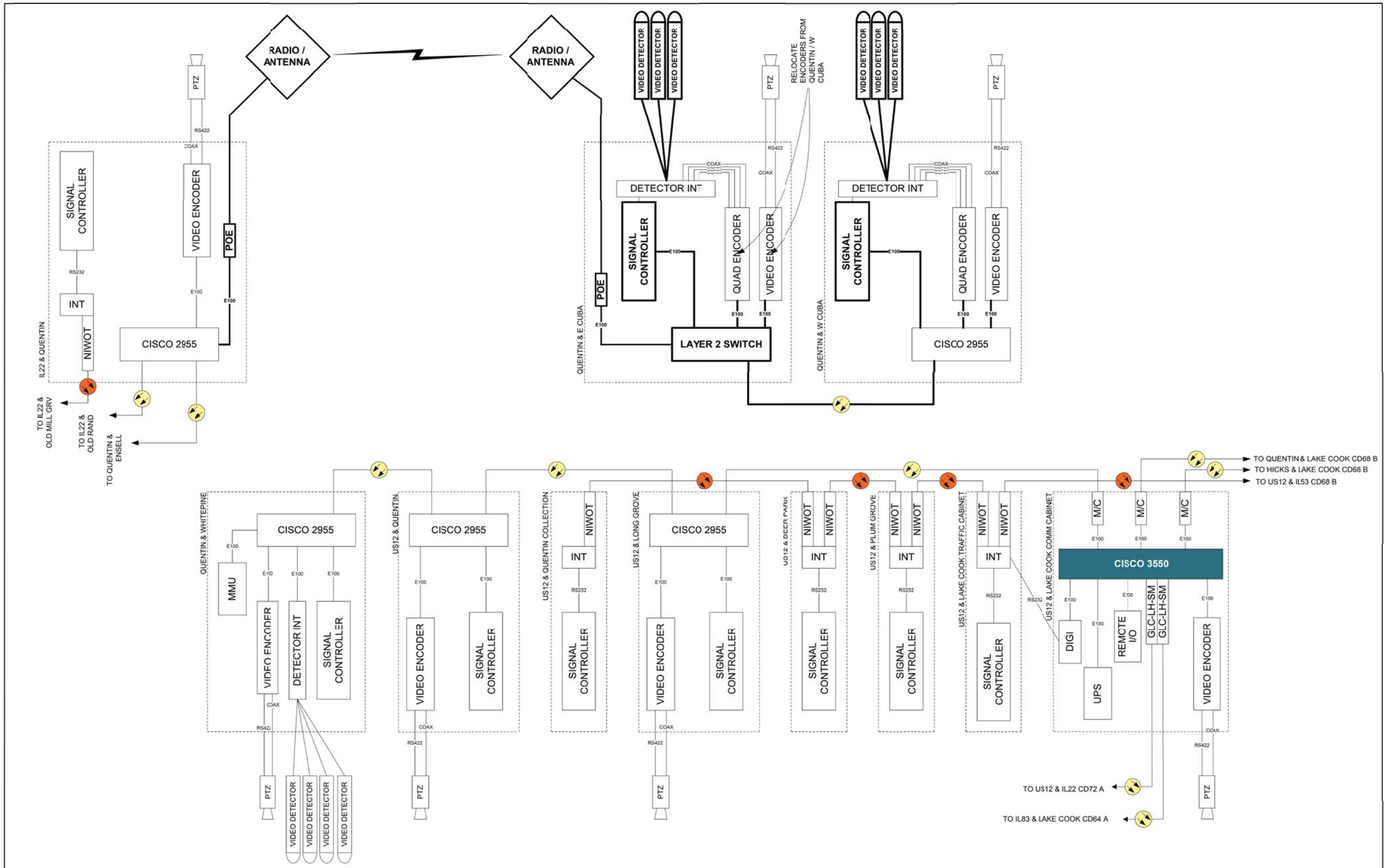
DRAWN - LEP	REVISED -	
CHECKED - JJE	REVISED -	
DATE - 11/13/2017	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INTERCONNECT SCHEMATIC & SCHEDULE OF QUANTITIES
QUENTIN ROAD
U.S. ROUTE 12 (RAND ROAD) TO ILLINOIS ROUTE 22 (MAIN STREET)

SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	247
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



	DESIGNED - DG	REVISED -	LAKE COUNTY DIVISION OF TRANSPORTATION	68A **TEMP** LAKE COOK / US12	ROJTE	SECTION	ROUTE SECTION	SHEET	SHEETS
	DRAWN - YM	REVISED -							
	CHECKED - DG	REVISED -							
	DATE 2016.01.07	REVISED -		SCALE N/A					

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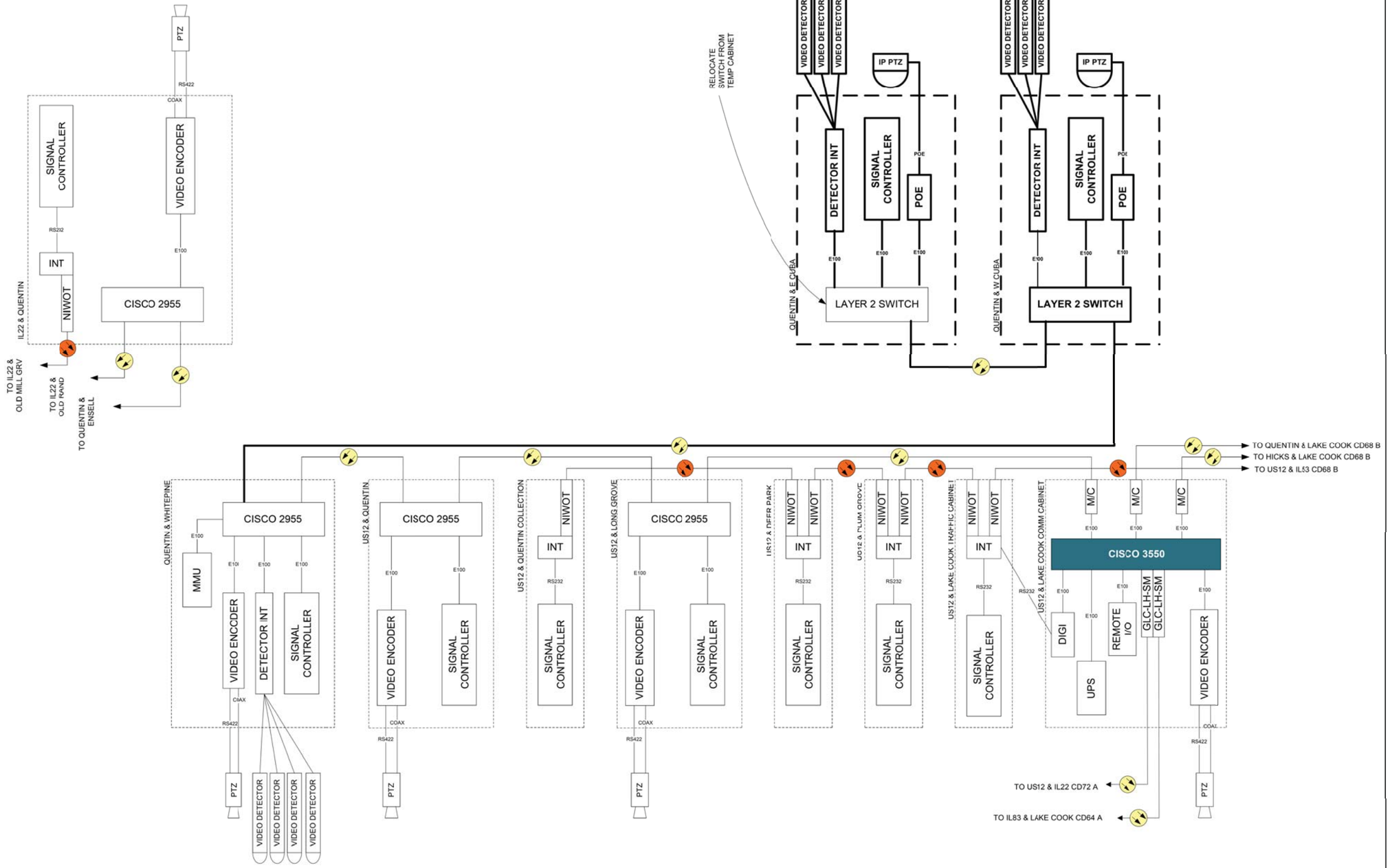
DESIGNED - BRD	REVISED -	**STATE OF ILLINOIS** **DEPARTMENT OF TRANSPORTATION**
DRAWN - LEP	REVISED -	
CHECKED - JJE	REVISED -	
DATE - 11/13/2017	REVISED -	

TEMPORARY CABINET DETAIL
QUENTIN ROAD
U.S. ROUTE 12 (RAND ROAD) TO ILLINOIS ROUTE 22 (MAIN STREET)
SHEET NO. OF SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	248
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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

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



	DESIGNED - DG	REVISED -	LAKE COUNTY DIVISION OF TRANSPORTATION	38A LAKE COOK / US12	ROUTE	SECTION	ROUTE SECTION	SHEET	SHEETS
	DRAWN - YM	REVISED -							
	CHECKED - DG	REVISED -							
	DATE 2016.01.07	REVISED -		SCALE N/A					

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

ORIGINAL SURVEY — NOTE BOOK — NO.
SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED
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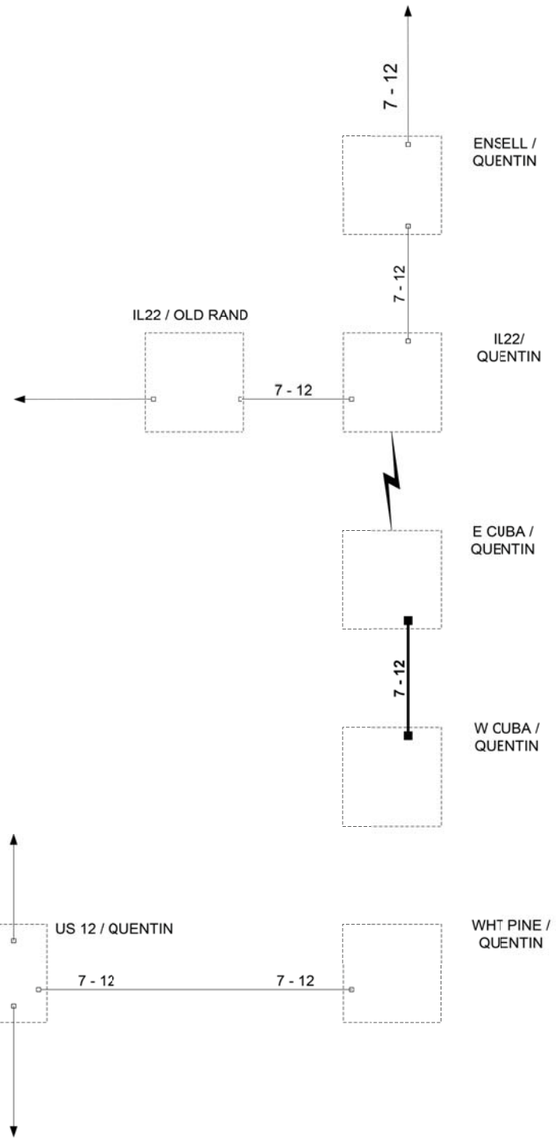
DRAWN - LEP	REVISED -	
CHECKED - JJE	REVISED -	
DATE - 11/13/2017	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CABINET DETAIL
QUENTIN ROAD
U.S. ROUTE 12 (RAND ROAD) TO ILLINOIS ROUTE 22 (MAIN STREET)
SHEET NO. OF SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	249
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



EXISTING CONNECTOR / EXISTING FIBER
NEW CONNECTOR / EXISTING FIBER
EXISTING FUSION SPLICE / EXISTING FIBER
NEW FUSION SPLICE / EXISTING FIBER
NEW CONNECTOR / NEW FIBER
NEW FUSION SPLICE / NEW FIBER

	DESIGNED - DG	REVISED -	LAKE COUNTY DIVISION OF TRANSPORTATION	FIBER SPLICING DIAGRAM 1 TEMP	ROUTE	SECTION	ROUTE SECTION	SHEET F1	SHEETS
	DRAWN - YM	REVISED -							
	CHECKED - DG	REVISED -							
	DATE 2016.01.07	REVISED -		SCALE N/A					

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

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

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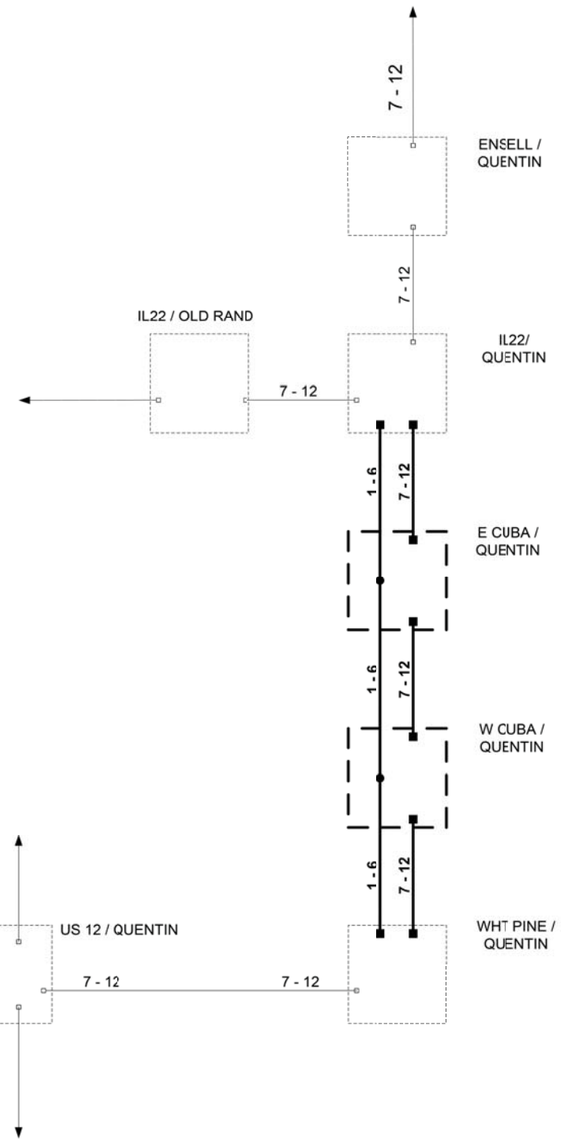
DRAWN - LEP	REVISED -
CHECKED - JJE	REVISED -
DATE - 11/13/2017	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY FIBER SPICING DIAGRAM
QUENTIN ROAD
U.S. ROUTE 12 (RAND ROAD) TO ILLINOIS ROUTE 22 (MAIN STREET)
SHEET NO. OF SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	250
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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



	DESIGNED - DG	REVISED -	
	DRAWN - YM	REVISED -	
	CHECKED - DG	REVISED -	
	DATE 2016.01.07	REVISED -	

LAKE COUNTY
DIVISION OF TRANSPORTATION

FIBER SPLICING DIAGRAM 1
FINAL

SCALE N/A

ROUTE	SECTION	ROUTE SECTION	SHEET	SHEETS
			F1	

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

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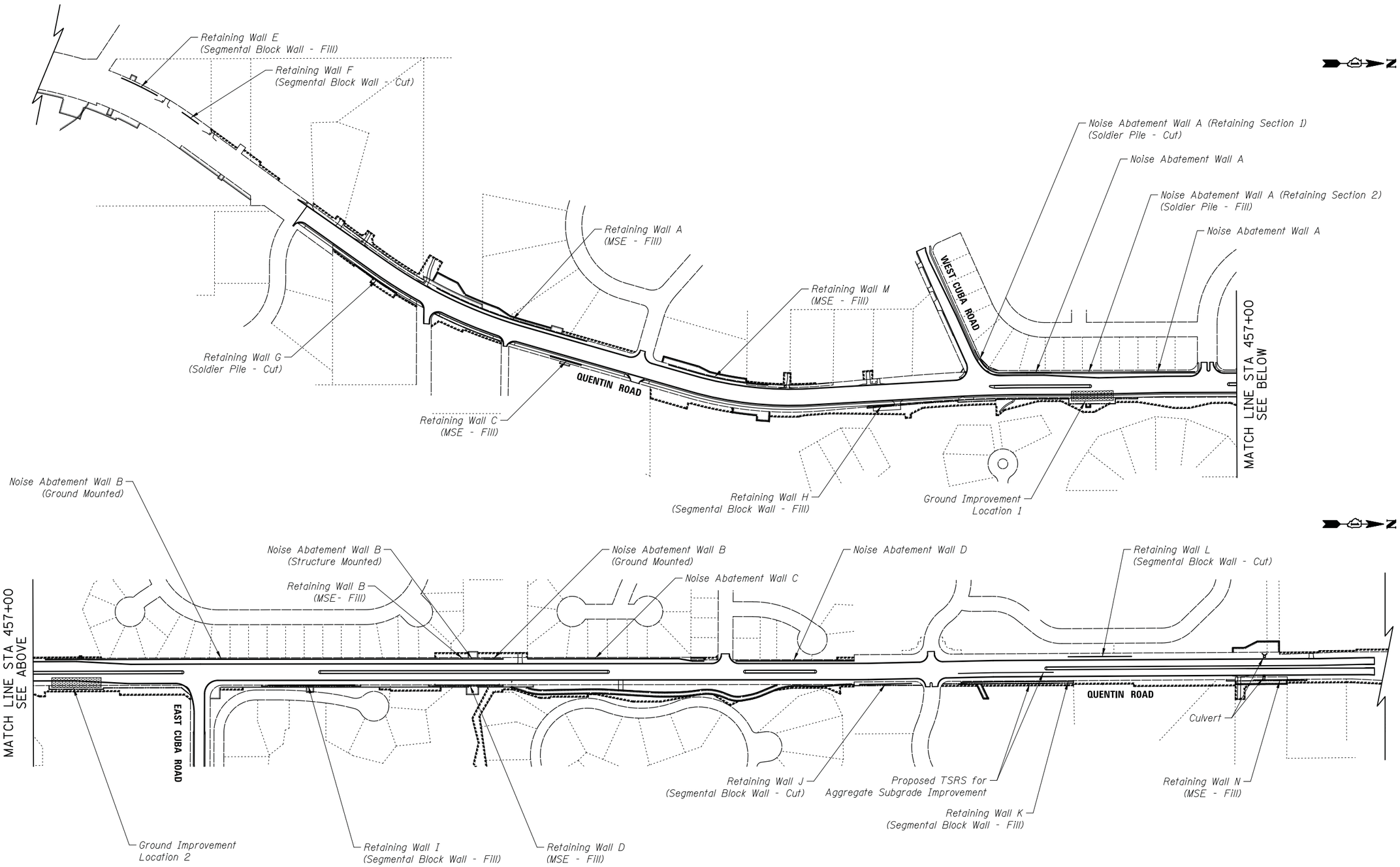
DRAWN - LEP	REVISED -	
CHECKED - JJE	REVISED -	
DATE - 11/13/2017	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FIBER SPICING DIAGRAM
QUENTIN ROAD
U.S. ROUTE 12 (RAND ROAD) TO ILLINOIS ROUTE 22 (MAIN STREET)

SHEET NO. OF SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	251
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



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2/22/2018

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DRAWN - K. KOMPARE	REVISED -	
DESIGNED - K. KOMPARE	REVISED -	
CHECKED - G. HATLESTAD	REVISED -	
DATE - 01/29/18	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

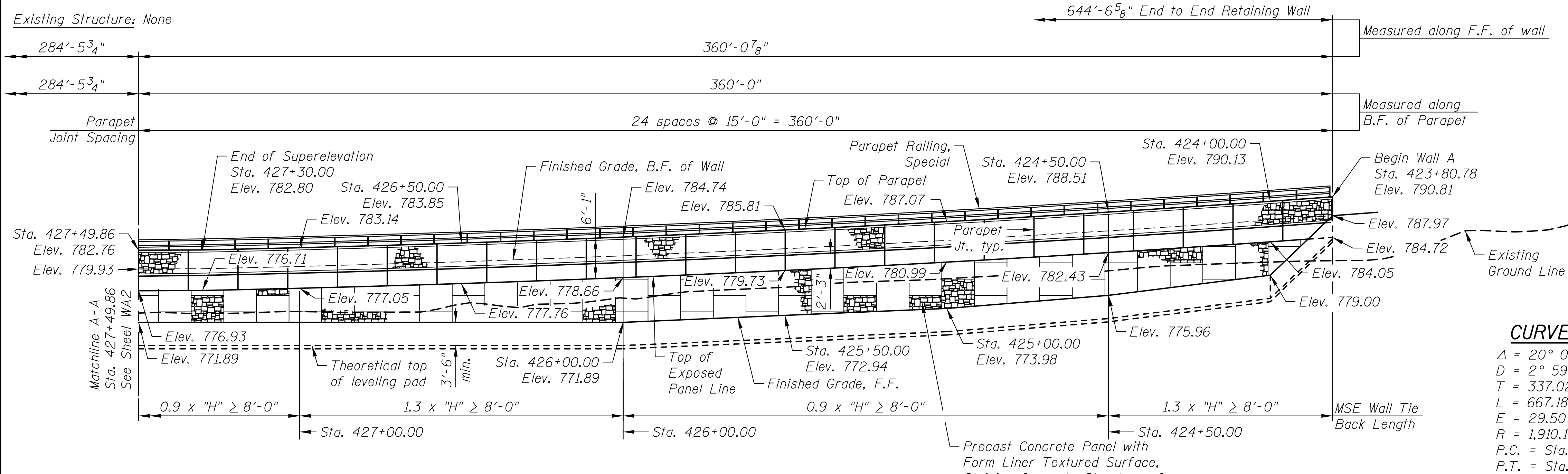
STRUCTURAL KEY PLAN
QUENTIN ROAD; F.A.U. 2574
SHEET NO. 1 OF 1 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	252
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

Benchmark: Railroad spike (set) in power pole. Quentin Road Sta. 27+81.66, Offset 48.61' Lt., Elevation 774.97.

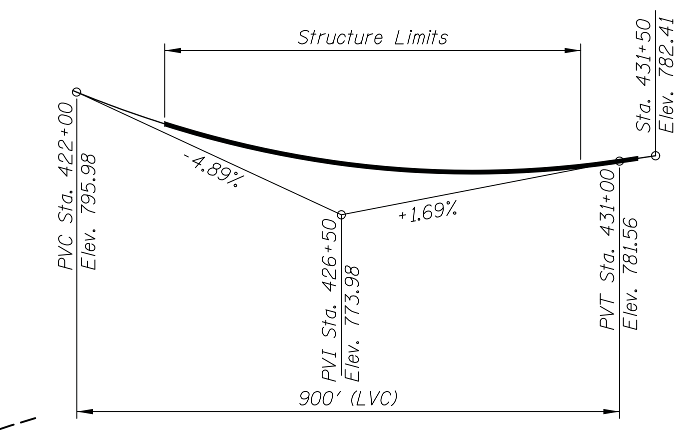
Maintenance of Traffic: Traffic to be maintained during construction.

Existing Structure: None



ELEVATION

(Looking at Front Face of wall - Opposite of Plan View)



PROFILE GRADE

(Along northbound and southbound Quentin Road)

CURVE DATA

Δ = 20° 00' 46" (LT)
D = 2° 59' 59"
T = 337.02'
L = 667.18'
E = 29.50'
R = 1,910.10'
P.C. = Sta. 421+09.64
P.T. = Sta. 427+76.82
P.I. = Sta. 424+46.66
S.E. = 3.20%
S.E. Runoff = 135'
S.E. Runoff Sta. 427+30 to 428+65

DESIGN STRESSES

FIELD UNITS

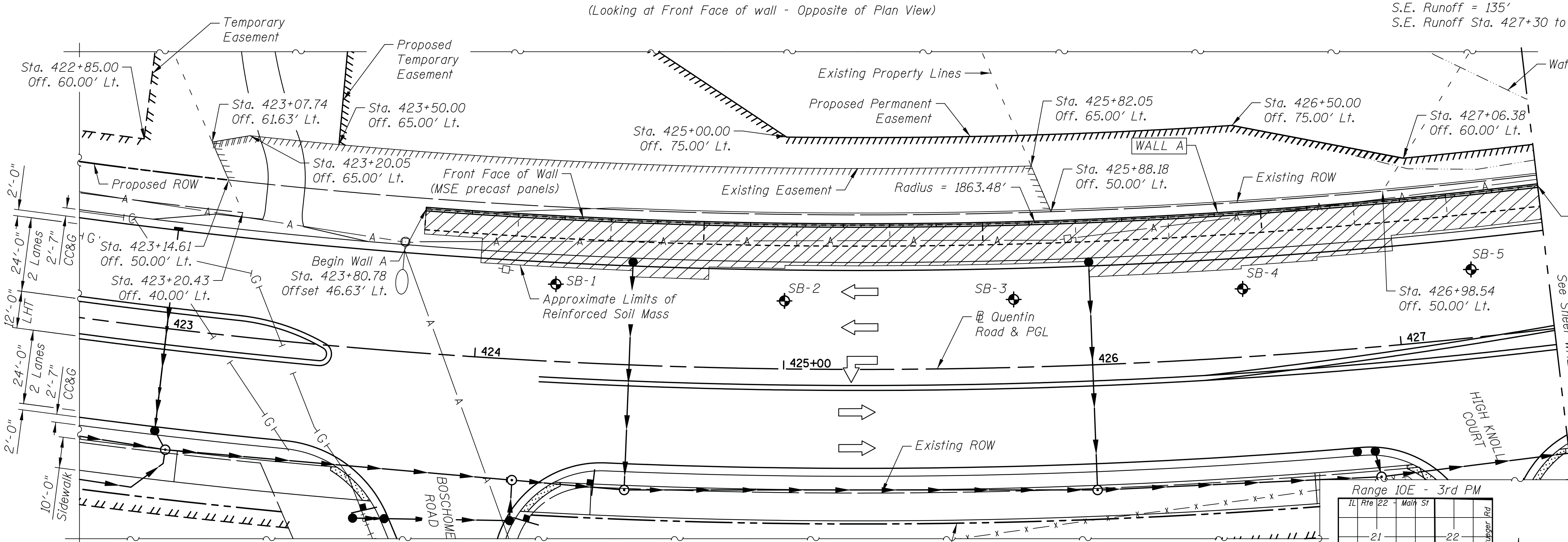
f'c = 4,000 psi
fy = 60,000 psi (Reinforcement)

PRECAST UNITS

f'c = 4,500 psi (Precast Panels)
fy = 60,000 psi (Reinforcement)
fy = 65,000 psi (Welded Wire Fabric)

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 and 2016 Interims



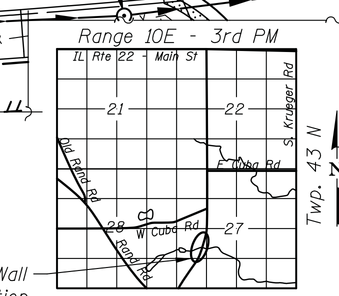
PLAN

Proposed ROW

LEGEND

- Proposed Storm Sewer
- Existing Gas Line
- Existing Aerial Lines
- Existing Fence
- Soil Boring
- Reinforced soil mass

Notes:
Wall offsets are measured from ℄ Quentin Road to the front face of MSE precast panels.
Radii are measured at front face of MSE precast panels.
B.F. - Back Face
F.F. - Front Face



Retaining Wall Location

LOCATION SKETCH

CIVILTECH ENGINEERING, INC.
GREGORY J. HATLESTAD, S.E.

STATE OF ILLINOIS GREGORY J. HATLESTAD 081-005562 LICENSED STRUCTURAL ENGINEER CHICAGO, IL

GREGORY J. HATLESTAD, S.E.
081-005562

EXP 11-30-2018

DATE 01-29-2018

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

GENERAL PLAN AND ELEVATION WALL A QUENTIN ROAD, F.A.U. RTE. 2574 SECTION 08-00090-12-CH LAKE COUNTY STA. 423+80.78 TO STA. 430+35.00

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450 E Devon Ave, Suite 300
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DRAWN - J. SCHROEDER	REVISED -		
DESIGNED - J. SCHROEDER	REVISED -		
CHECKED - G. HATLESTAD	REVISED -		
DATE - 01/29/18	REVISED -		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION I
WALL A
QUENTIN ROAD; F.A.U. 2574
SHEET NO. WA1 OF WA10 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	253
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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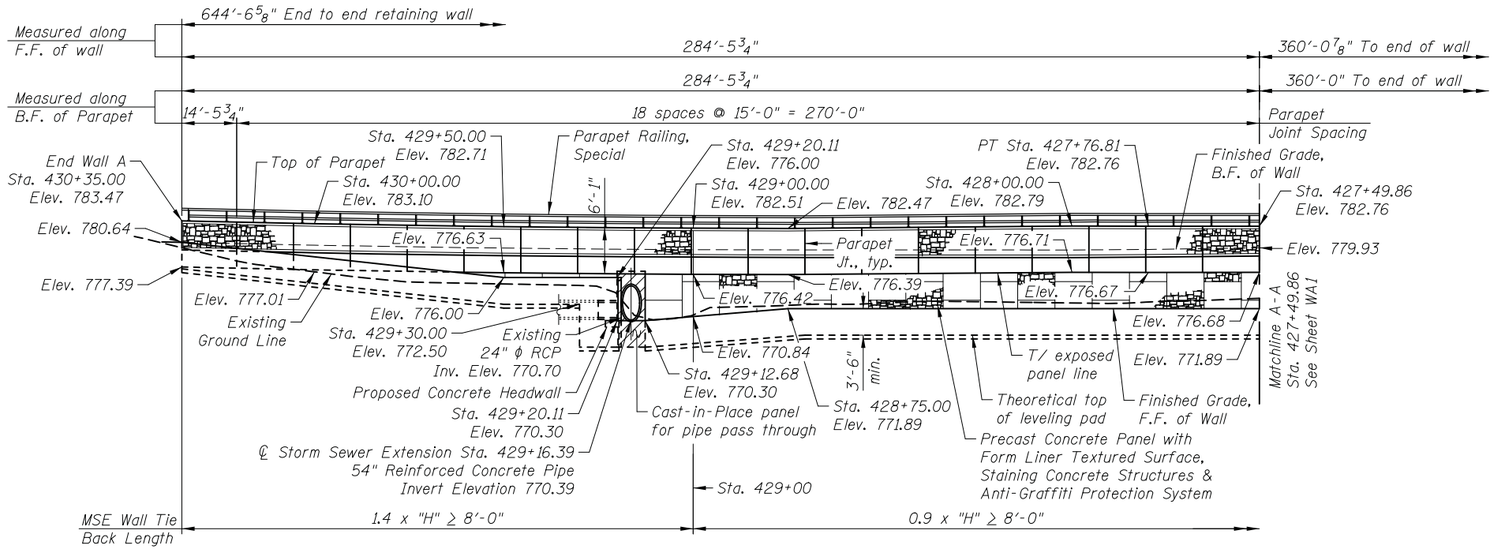
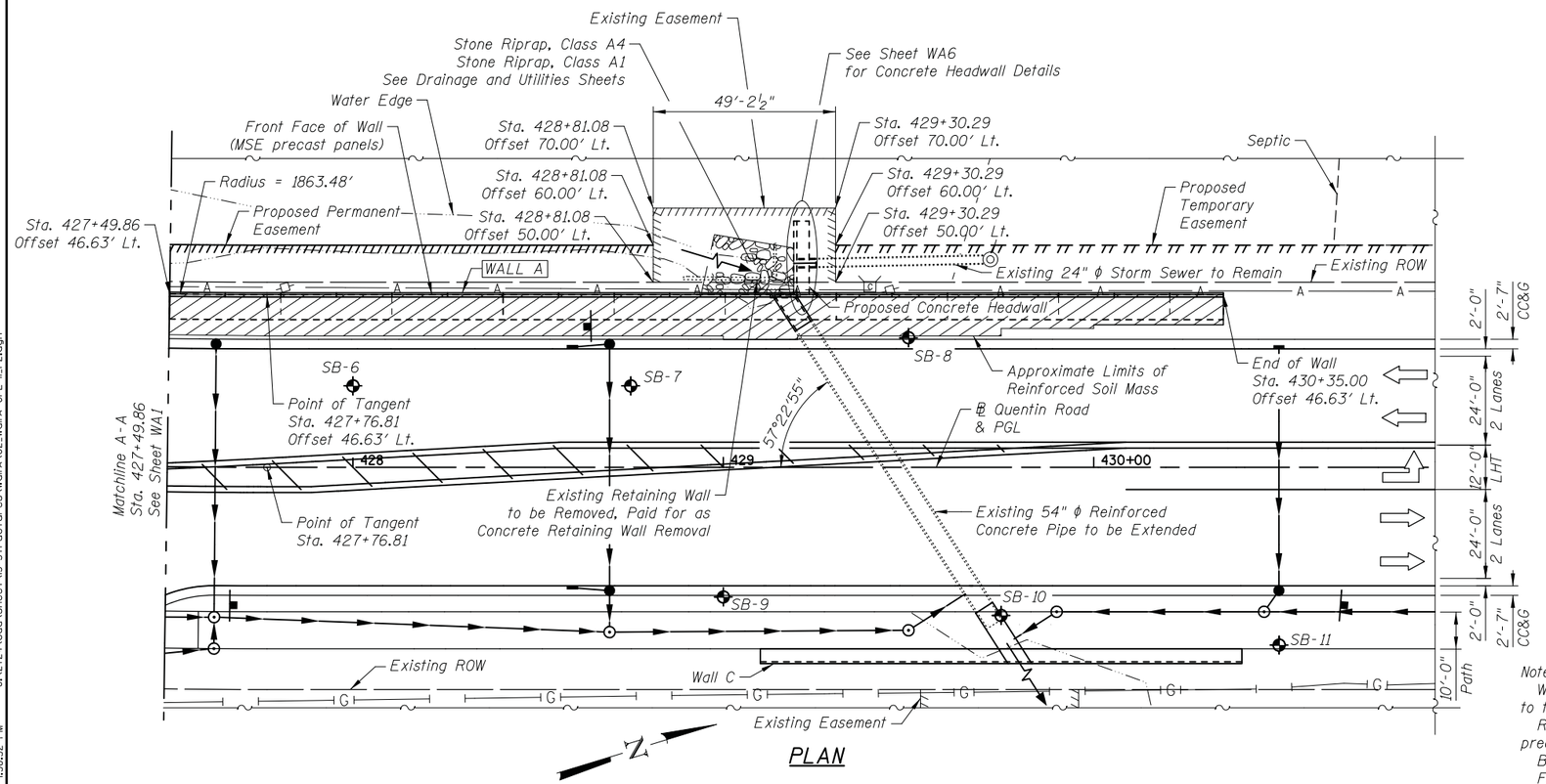


ELEVATION

(Looking at Front Face of wall - Opposite of plan view)



PLAN

TOTAL BILL OF MATERIALS

ITEM	UNIT	TOTAL
Structure Excavation	Cu. Yd.	2,411
Concrete Structures	Cu. Yd.	7.6
Concrete Superstructure	Cu. Yd.	389.6
Form Liner Textured Surface	Sq. Ft.	9,232
Protective Coat	Sq. Yd.	284
Reinforcement Bars	Pound	650
Reinforcement Bars, Epoxy Coated	Pound	48,030
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	5,150
Staining Concrete Structures	Sq. Ft.	8,158
Parapet Railing, Special	Foot	645
Concrete Retaining Wall Removal	Foot	35
Anti-graffiti Protection System	Sq. Ft.	8,158

INDEX OF SHEETS

GENERAL NOTES

1. Reinforcement bars designated (E) shall be epoxy coated.
2. Panels must be arranged to provide continuous vertical joints for the full height of the wall to accommodate potential differential settlement.

LEGEND

- Proposed Storm Sewer
- G — Existing Gas Line
- A — Existing Aerial Lines
- G — Existing Nicor gasline
- Soil Boring
- Reinforced soil mass

Notes:
Wall offsets are measured from ℄ Quentin Road to the front face of MSE precast panels.
Radii are measured at front face of MSE precast panels.
B.F. - Back Face
F.F. - Front Face

GENERAL PLAN AND ELEVATION II
WALL A
QUENTIN ROAD, F.A.U. RTE. 2574
SECTION 08-00090-12-CH
LAKE COUNTY
STA. 423+80.78 TO STA. 430+35.00

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DRAWN - J. SCHROEDER	REVISED -	
DESIGNED - J. SCHROEDER	REVISED -	
CHECKED - G. HATLESTAD	REVISED -	
DATE - 01/29/18	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION II
WALL A
QUENTIN ROAD; F.A.U. 2574
SHEET NO. WA2 OF WA10 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	254
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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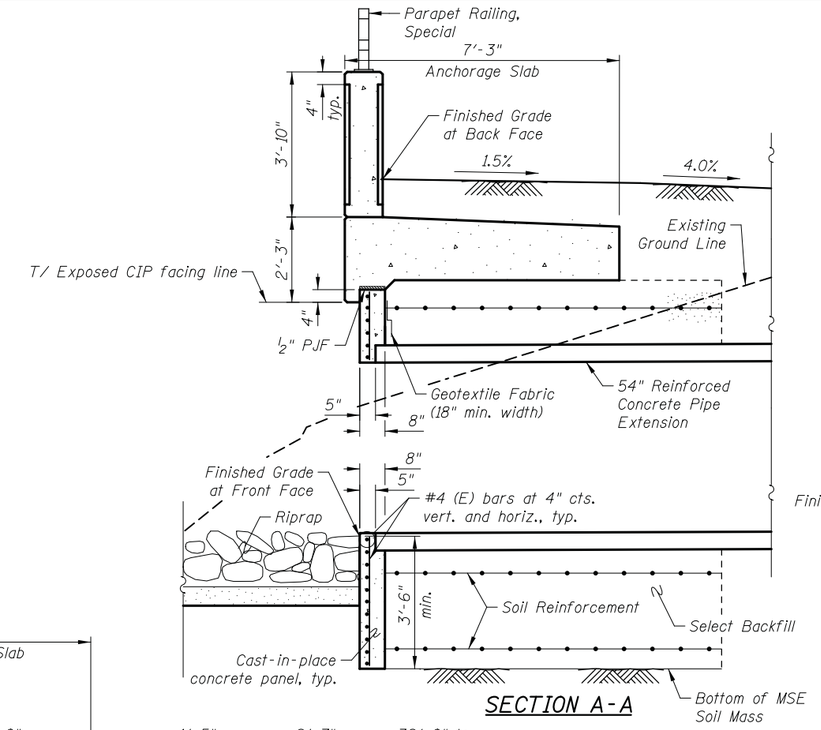
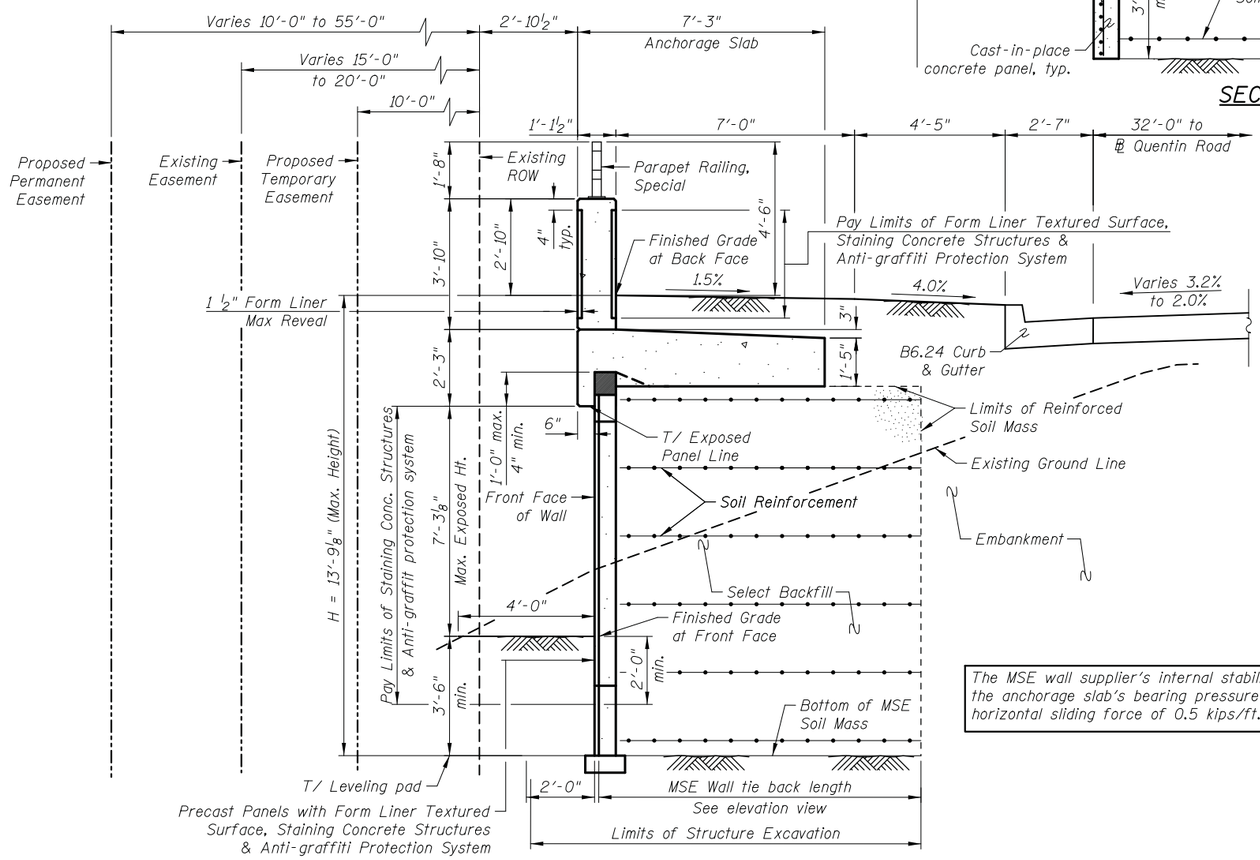
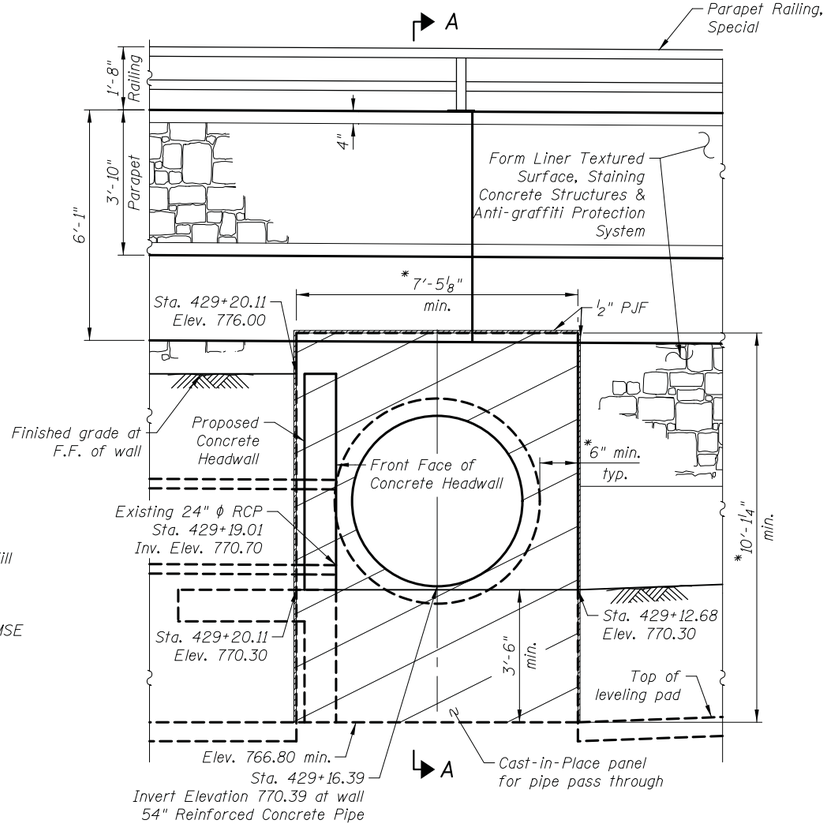


SECTION A-A



TYPICAL WALL SECTION



CAST-IN-PLACE CONCRETE PANEL ELEVATION

* Wall supplier to determine required dimensions

The MSE wall supplier's internal stability design shall account for the anchorage slab's bearing pressure surcharge of 1.0 ksf and horizontal sliding force of 0.5 kips/ft. of wall.

MSE WALL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structure Excavation	Cu. Yd.	2,411
Form Liner Textured Surface	Sq. Ft.	5,075
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	5,150
Staining Concrete Structures	Sq. Ft.	4,076
Anti-graffiti Protection System	Sq. Ft.	4,076

Notes:
See sheet WA5 for Anchorage Slab Details and Bill of Material.
See sheet WA6 for Concrete Headwall Details.
Cost of concrete and epoxy coated reinforcement in C.I.P. panel to be included in the pay item Mechanically Stabilized Earth Retaining Walls.

CIVILTECH
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Tel: 630.773.3900 Fax: 630.773.3975
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DESIGNED - J. SCHROEDER	REVISED -	
CHECKED - G. HATLESTAD	REVISED -	
DATE - 01/29/18	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MSE WALL DETAILS
WALL A
QUENTIN ROAD; F.A.U. 2574
SHEET NO. WA3 OF WA10 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	255
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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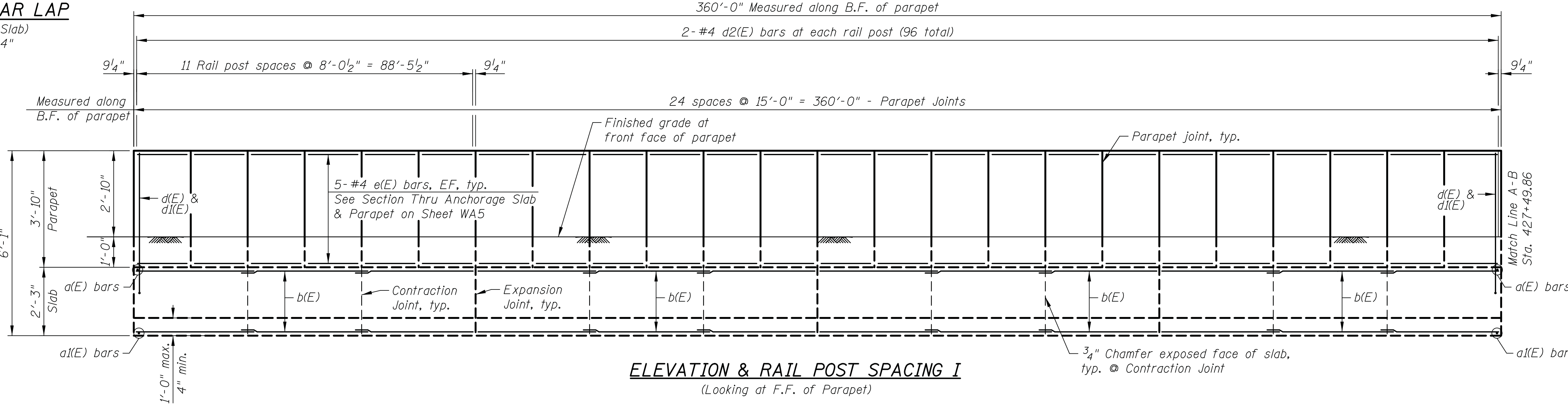
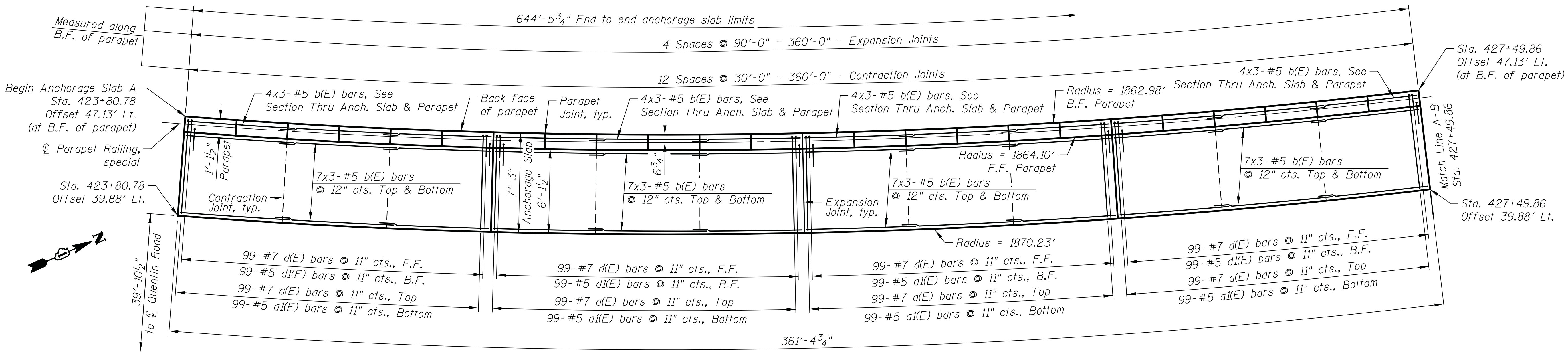
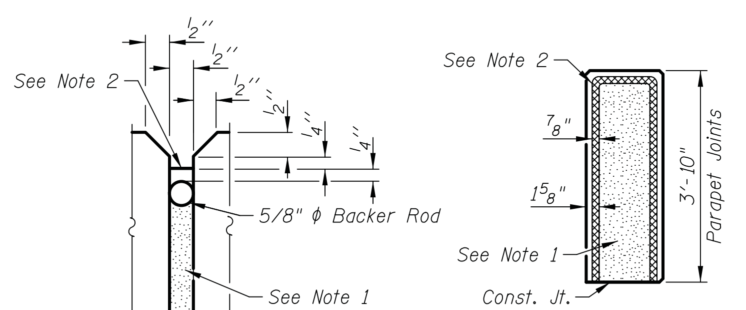
MINIMUM BAR LAP
(Anchorage Slab)
#5 = 3'-4"



ELEVATION & RAIL POST SPACING I
(Looking at F.F. of Parapet)

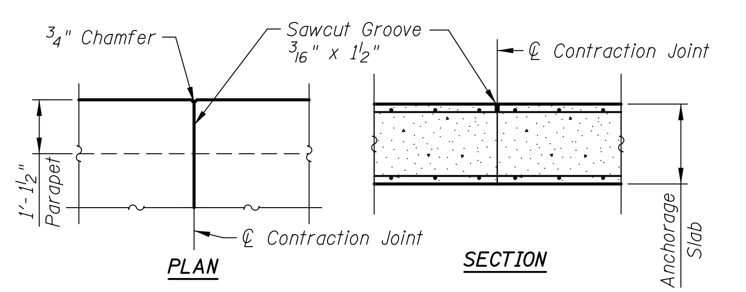


PLAN I

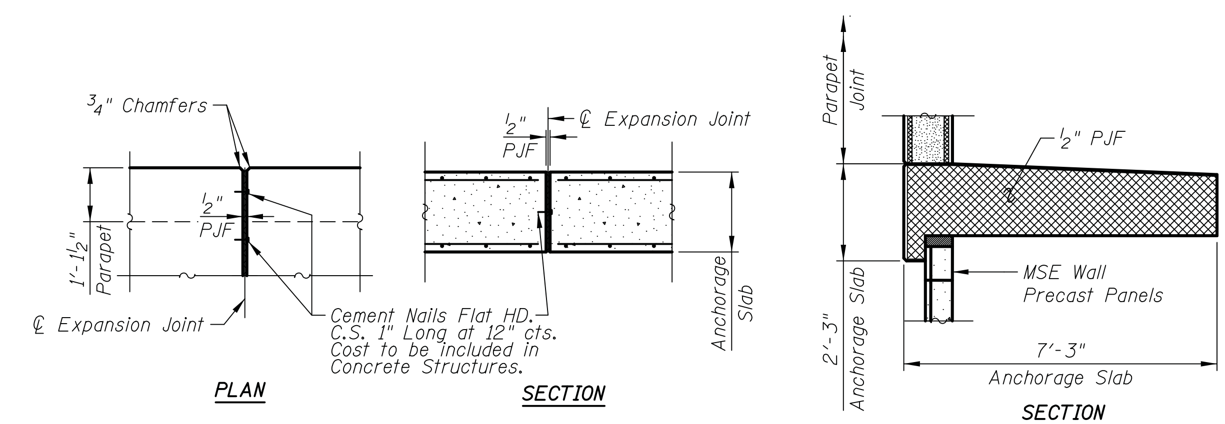


PARAPET JOINT DETAILS

Parapet Joint Notes:
1. 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 ⅝" backer rod.
2. ½" Preformed Self-Expanding Cork Joint Filler according to Article 1051.07 of the Std. Spec. Cost included with Concrete Superstructure.



ANCHORAGE SLAB CONTRACTION JOINT DETAILS



ANCHORAGE SLAB EXPANSION JOINT DETAILS

Notes:
See sheet WA5 for Section Thru Anchorage Slab & Parapet, Bill of Material, Reinforcement Schedule, and Bar Diagrams.
Bars indicated thus 7x3-#5 etc. indicates 7 lines of bars with 3 lengths per line.

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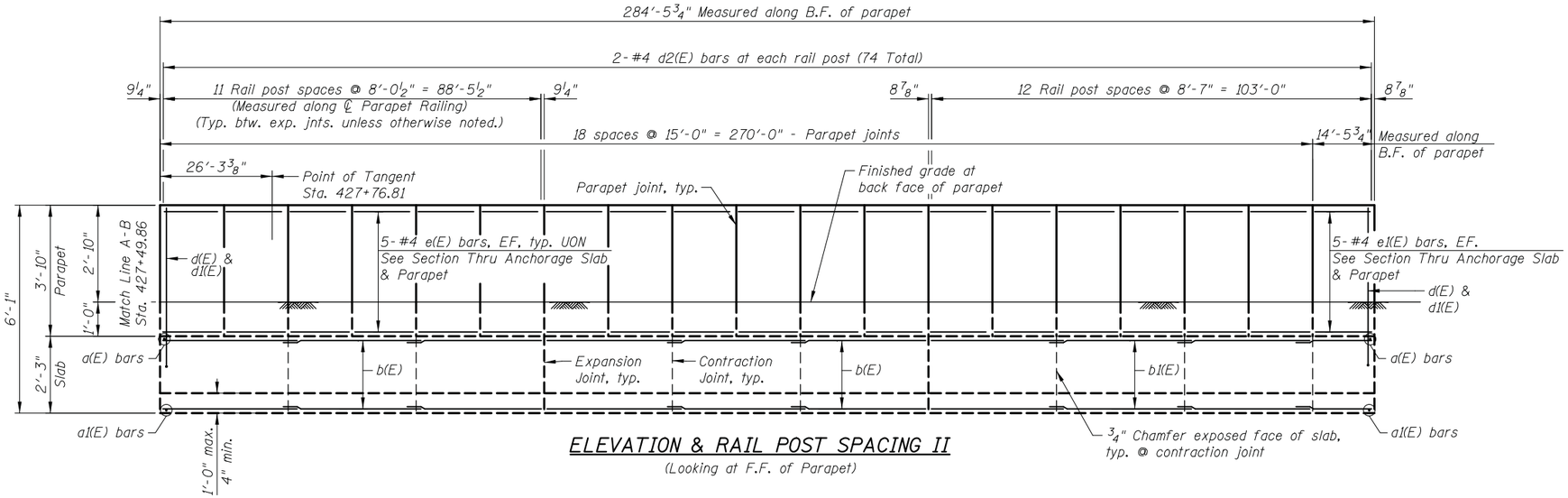
DATE - 01/29/18	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

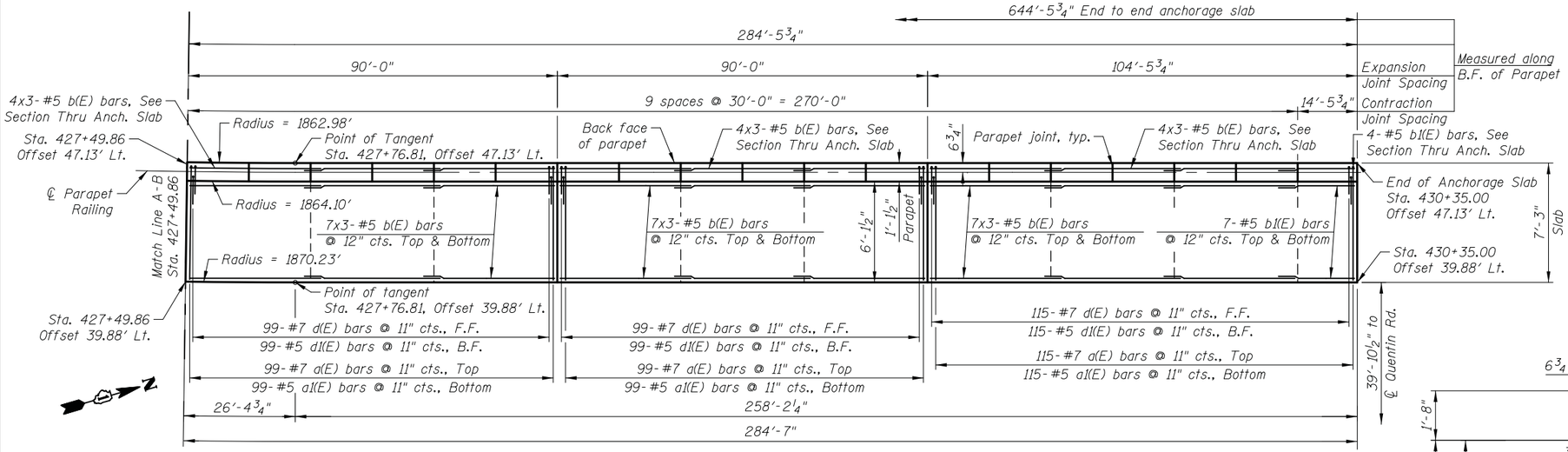
ANCHORAGE SLAB
WALL A
QUENTIN ROAD; F.A.U. 2574
SHEET NO. WA4 OF WA10 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	256
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



ELEVATION & RAIL POST SPACING II

(Looking at F.F. of Parapet)



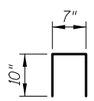
PLAN II

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	709	#7	8'-10"	
a1(E)	709	#5	7'-1"	
b(E)	378	#5	32'-3"	
b1(E)	18	#5	17'-10"	
d(E)	709	#7	5'-10"	
d1(E)	709	#5	5'-6"	
d2(E)	170	#4	2'-3"	
e(E)	420	#4	14'-8"	
e1(E)	10	#4	14'-2"	

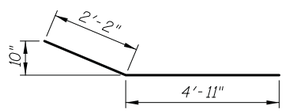
Item	Unit	Quantity
Concrete Superstructure	Cu. Yd.	389.6
Form Liner Textured Surface	Sq. Ft.	4,082
Protective Coat	Sq. Yd.	284
Reinforcement Bars, Epoxy Coated	Pound	48,080
Staining Concrete Structures	Sq. Ft.	4,082
Anti-graffiti Protection System	Sq. Ft.	4,082

Note:
See sheet WA4 for Match Line A-B, and parapet joint details.
Bars indicated thus 7x3-#5 etc. indicates 7 lines of bars with 3 lengths per line.

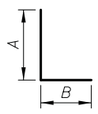


BAR d2(E)

BAR a(E)



BAR a1(E)

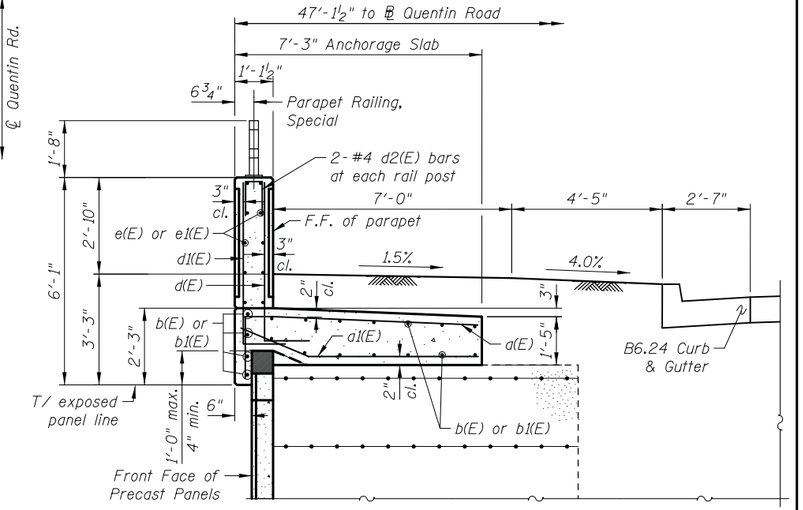


BARS d(E) & d1(E)

Bar	A	B
d(E)	4'-8"	1'-2"
d1(E)	4'-8"	10"

MINIMUM BAR LAP

(Slab)
#5 = 3'-4"



SECTION THRU ANCHORAGE SLAB & PARAPET

(All exposed edges have a 3/4" chamfer)

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DESIGNED - J. SCHROEDER	REVISED -	
CHECKED - G. HATLESTAD	REVISED -	
DATE - 01/29/18	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ANCHORAGE SLAB DETAILS
WALL A
QUENTIN ROAD; F.A.U. 2574
SHEET NO. WA5 OF WA10 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	257
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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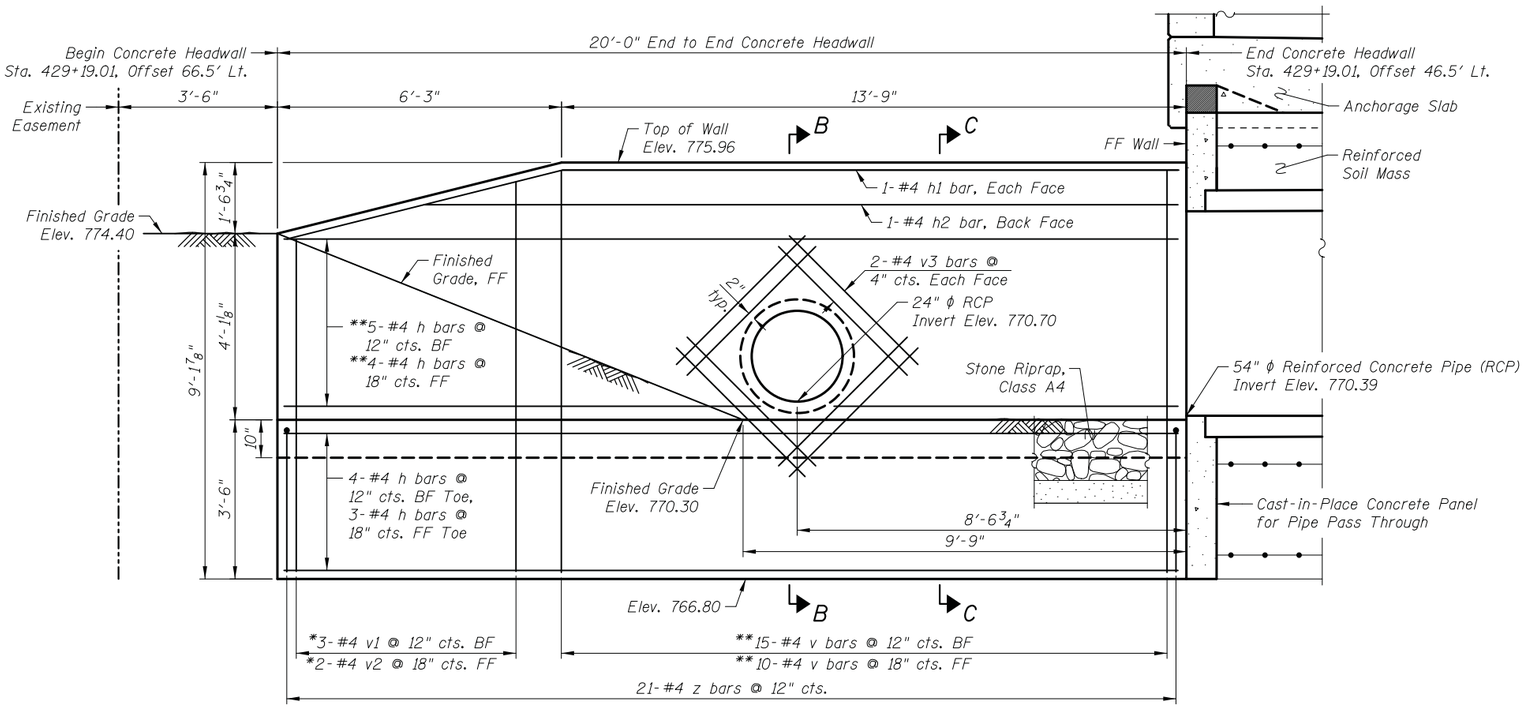
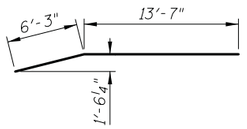


ELEVATION

Looking at Front Face of Wall
*See Field Cutting Diagram
**Cut Vertical & Horizontal Bars to Clear Storm Sewer



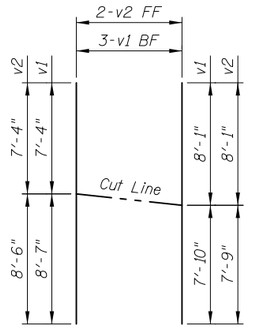
h1 BAR

BILL OF MATERIAL

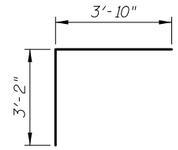
Bar	No.	Size	Length	Shape
h	20	#4	19'-8"	
h1	2	#4	19'-10"	
h2	1	#4	16'-7"	
v	25	#4	8'-10"	
v1	3	#4	15'-11"	
v2	2	#4	15'-10"	
v3	16	#4	4'-0"	
z	21	#4	7'-0"	

Item	Unit	Quantity
Concrete Structures	Cu. Yd.	7.6
Reinforcement Bars	Pound	650

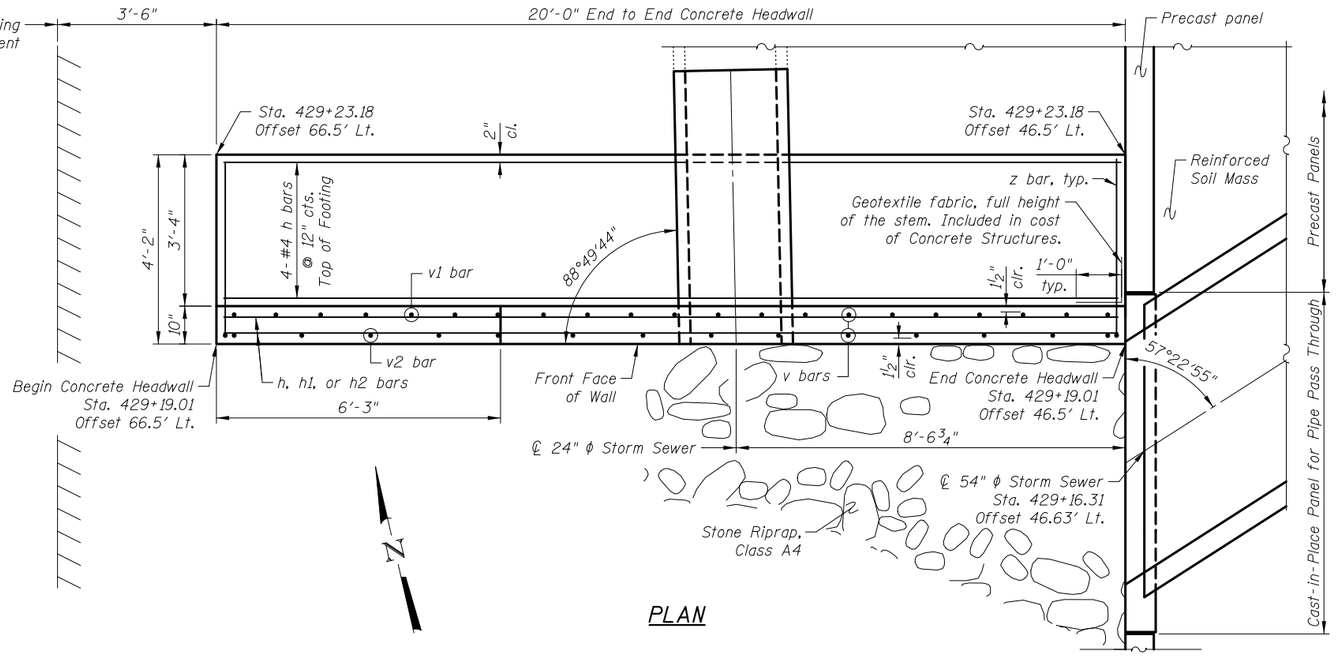
Notes:
FF = Front Face
BF = Back Face
EF = Each Face
Const. = Construction
Jt. = Joint



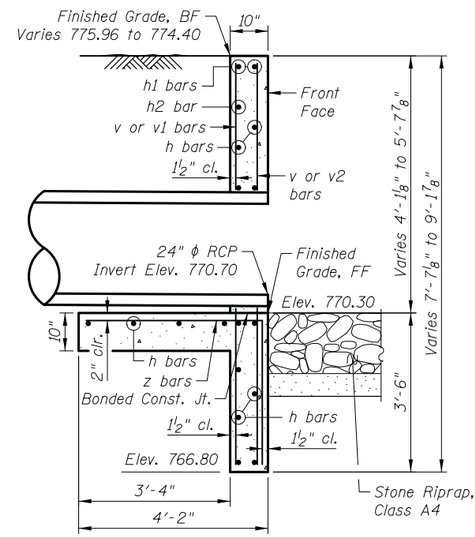
FIELD CUTTING DIAGRAM



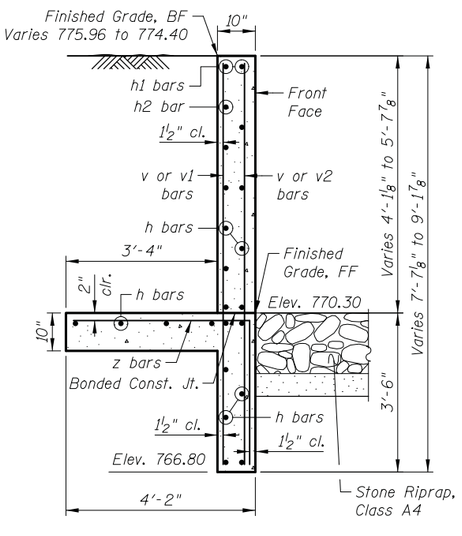
z BAR



PLAN



SECTION B-B



SECTION C-C

CIVILTECH
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DESIGNED - J. SCHROEDER	REVISED -	
CHECKED - G. HATLESTAD	REVISED -	
DATE - 01/29/18	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE HEADWALL DETAILS
WALL A
QUENTIN ROAD; F.A.U. 2574
SHEET NO. WA6 OF WA10 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	258
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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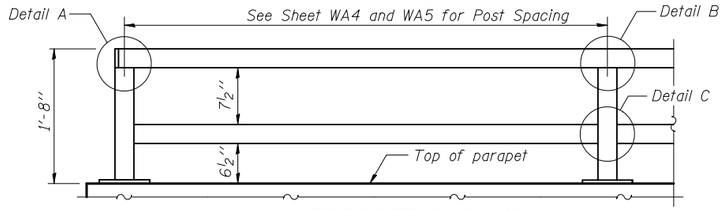
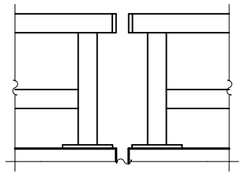
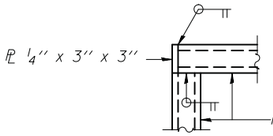
Notes:
A. All posts, anchor devices, plates and structural steel tubing shall be hot-dip galvanized after shop fabrication according to Article 509.05 of the Standard Specifications.
B. All post, railing, splices, anchor devices, and bent plates shall be painted the color black (Munsell No. N1).



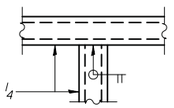
PARAPET RAILING ELEVATION
(Inside Face of Two Element Rail)



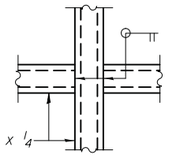
PARAPET RAILING ELEVATION AT EXPANSION JOINT



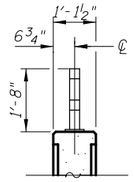
DETAIL A



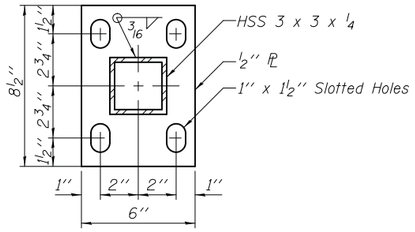
DETAIL B



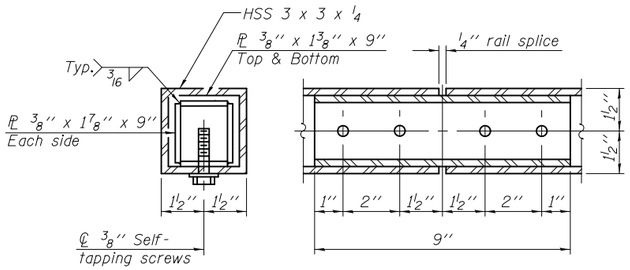
DETAIL C



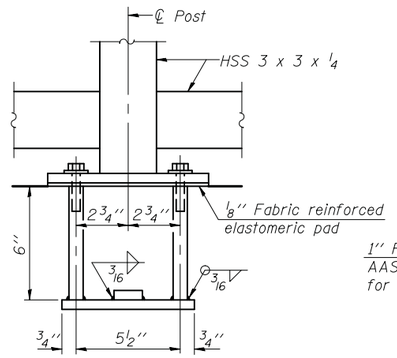
SECTION THRU PARAPET

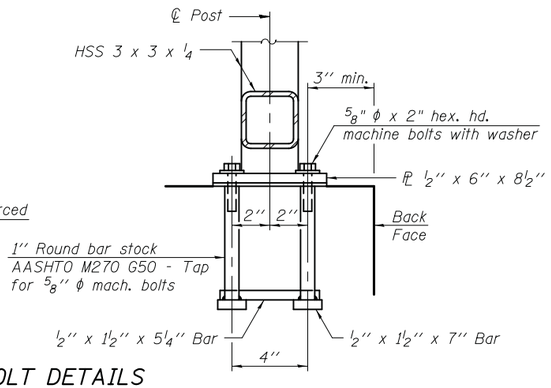


BASE PL



RAIL SPLICE





ANCHOR BOLT DETAILS

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting ⅝" ϕ anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.

BILL OF MATERIAL

Item	Unit	Quantity
Parapet Railing, Special	Foot	645

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450 E Devon Ave, Suite 300
Itasca, Illinois 60143
Tel: 630.773.3900 Fax: 630.773.3975
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CHECKED - G. HATLESTAD	REVISED -	
DATE - 01/29/18	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PARAPET RAILING, SPECIAL
WALL A
QUENTIN ROAD; F.A.U. 2574
SHEET NO. WA7 OF WA10 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	259
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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MIDLAND STANDARD ENGINEERING & TESTING, INC.

STRUCTURE FOUNDATION BORING LOG

Page 1 of 1

Date 2/2/12

ROUTE FAU 2574 DESCRIPTION Quentin Road LOGGED BY SPE

SECTION 08-00090-12-ES LOCATION Wall A (STA. 23+50 to STA. 30+25)

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

BORING NO. SB-1 DRILLING METHOD CFA HAMMER TYPE Automatic

Station 24+25
Offset 25' L of CL
Ground Surface Elev. 784.4 (ft.)

Surface Water Elev. none (ft.)
Groundwater Elev.
First Encounter 13.0' (ft.)
Upon Completion 17.3' (ft.)
After -- Hrs. -- (ft.)

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
1" Black over 8" Grey Crushed Limestone	783.6				
Brown and Grey CLAY, A-6: FILL, very stiff			3 3-4	2.64 BS	16
		4	2 2-3	0.62 B	25
to Brown, Grey and Olive-Brown, firm	777.9				
Dark Grey and Olive-Grey Silt LOAM, trace Organics: FILL, stiff			2 2-2	1.05 B	28
		8			
	774.9		1 1-2	0.78 B	27
Black Silt LOAM, A-8, firm	773.4				
Dark Grey CLAY, A-7-6, stiff		12	1 2-3	1.94 BS	41
	770.9				
Yellow-Brown and Grey CLAY, A-7-6 to A-6, stiff to very stiff			ST	3.0 P	28
		16	4 6-9	1.63 B	21
to Brown and Grey	764.4	20	5 7-13	3.0 P	20
End of Boring at 20'					

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

MIDLAND STANDARD ENGINEERING & TESTING, INC.

STRUCTURE FOUNDATION BORING LOG

Page 1 of 1

Date 2/2/12

ROUTE FAU 2574 DESCRIPTION Quentin Road LOGGED BY SPE

SECTION 08-00090-12-ES LOCATION Wall A (STA. 23+50 to STA. 30+25)

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

BORING NO. SB-2 DRILLING METHOD CFA HAMMER TYPE Automatic

Station 25+00
Offset 22' L of CL
Ground Surface Elev. 782.6 (ft.)

Surface Water Elev. none (ft.)
Groundwater Elev.
First Encounter 10.5' (ft.)
Upon Completion dry (ft.)
After -- Hrs. -- (ft.)

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
4" Crushed Limestone with RAP	782.3				
Olive-Brown and Grey CLAY, A-6: FILL, very stiff			4 6-3	2.56 B	14
to Brown and Grey, stiff		4	3 5-6	1.55 BS	20
to Dark Grey, little Black	774.6		ST	1.25 P	31
		8			
Yellow-Brown and Olive-Grey CLAY, A-7-6, stiff	773.1		3 2-4	1.28 BS	25
Brown and Grey CLAY, A-6, very stiff to hard					
		12	7 9-11	2.95 SB	18
			5 8-12	7.14 B	18
		16			
to Brown and Grey, very hard	764.6		7 10-13	11.13 BS	16
Grey CLAY, A-6					
Cobble at 19.5'	762.6	20	4 69/7"	3.49 BS	19
End of Boring at 20'					

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

MIDLAND STANDARD ENGINEERING & TESTING, INC.

STRUCTURE FOUNDATION BORING LOG

Page 1 of 1

Date 2/1/12

ROUTE FAU 2574 DESCRIPTION Quentin Road LOGGED BY SPE

SECTION 08-00090-12-ES LOCATION Wall A (STA. 23+50 to STA. 30+25)

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

BORING NO. SB-3 DRILLING METHOD CFA HAMMER TYPE Automatic

Station 25+75
Offset 22' L of CL
Ground Surface Elev. 781.2 (ft.)

Surface Water Elev. none (ft.)
Groundwater Elev.
First Encounter none (ft.)
Upon Completion dry (ft.)
After -- Hrs. -- (ft.)

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
Grey Crushed Limestone (3")	780.9				
Dark Grey and Brown CLAY, A-6: FILL, stiff			2 3-3	1.94 BS	17
		4	50/4"	--	12
Asphalt chunk at 4'	776.2				
Dark Grey to Yellow-Brown and Grey CLAY, A-7-6, stiff			2 3-4	1.40 BS	28
	772.7	8			
Brown and Grey CLAY, A-6, very stiff			3 4-5	2.33 BS	19
		12	4 5-5	2.64 BS	25
			5 9-11	3.57 BS	17
		16			
to hard	763.2		5 8-10	7.33 BS	16
Grey CLAY, A-6, very stiff			4 5-7	3.22 BS	16
	761.2	20			
End of Boring at 20'					

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

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DESIGNED - J. SCHROEDER	REVISED -	
CHECKED - G. HATLESTAD	REVISED -	
DATE - 01/29/18	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS I
WALL A
QUENTIN ROAD; F.A.U. 2574
SHEET NO. WA8 OF WA10 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	260
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

MIDLAND STANDARD ENGINEERING & TESTING, INC.

STRUCTURE FOUNDATION BORING LOG

Date 2/1/12

ROUTE FAU 2574 DESCRIPTION Quentin Road LOGGED BY SPE

SECTION 08-00090-12-ES LOCATION Wall A (STA. 23+50 to STA. 30+25)

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

BORING NO. SB-4 DRILLING METHOD CFA HAMMER TYPE Automatic

Station 26+50
Offset 22' L of CL
Ground Surface Elev. 780.3 (ft.)

Surface Water Elev. none (ft.)
Groundwater Elev.
First Encounter 15.5' (ft.)
Upon Completion 11.4' (ft.)
After -- Hrs. -- (ft.)

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
Grey Crushed Limestone (4")	780				
Olive-Brown and Grey CLAY, A-6: FILL, stiff to very stiff			2 2-3	1.5 P	10
		4	2 4-5	2.25 BS	21
	774.8				
Black to Dark Grey CLAY, A-7-6, stiff			3 4-5	1.63 B	31
	772.3	8			
Dark Grey to Yellow-Brown and Grey CLAY, A-7-6, stiff			2 2-2	1.16 BS	33
		12	1 2-2	1.16 B	26
	767.3				
Brown and Grey CLAY, A-6, very stiff to stiff			4 5-6	3.0 P	15
		16			
			3 5-6	1.82 B	15
	760.3	20	3 5-5	1.66 B	18
End of Boring at 20'					

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

MIDLAND STANDARD ENGINEERING & TESTING, INC.

STRUCTURE FOUNDATION BORING LOG

Date 2/1/12

ROUTE FAU 2574 DESCRIPTION Quentin Road LOGGED BY SPE

SECTION 08-00090-12-ES LOCATION Wall A (STA. 23+50 to STA. 30+25)

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

BORING NO. SB-5 DRILLING METHOD CFA HAMMER TYPE Automatic

Station 27+25
Offset 22' L of CL
Ground Surface Elev. 779.2 (ft.)

Surface Water Elev. none (ft.)
Groundwater Elev.
First Encounter none (ft.)
Upon Completion dry (ft.)
After -- Hrs. -- (ft.)

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
Grey Crushed Limestone (10")	778.4				
Brown, Dark Grey and Olive-Brown CLAY, A-6: FILL, very stiff			2 3-5	2.10 BS	13
	774.2	4	3 3-4	3.0 P	21
Black CLAY, A-7-6	773.2				
Yellow-Brown and Grey CLAY, A-7-6, firm	772		3 3-5	0.66 BS	28
Brown and Grey CLAY, A-6, hard		8			
			5 6-8	5.04 B	17
		12	5 7-9	4.15 BS	19
	763.7				
			5 6-8	4.25 P	--
Grey CLAY, A-6, stiff		16			
			2 3-4	1.55 B	18
	759.2	20	2 3-4	1.71 B	18
End of Boring at 20'					

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

MIDLAND STANDARD ENGINEERING & TESTING, INC.

STRUCTURE FOUNDATION BORING LOG

Date 2/1/12

ROUTE FAU 2574 DESCRIPTION Quentin Road LOGGED BY SPE

SECTION 08-00090-12-ES LOCATION Wall A (STA. 23+50 to STA. 30+25)

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

BORING NO. SB-6 DRILLING METHOD CFA HAMMER TYPE Automatic

Station 28+00
Offset 22' L of CL
Ground Surface Elev. 779.2 (ft.)

Surface Water Elev. none (ft.)
Groundwater Elev.
First Encounter none (ft.)
Upon Completion dry (ft.)
After -- Hrs. -- (ft.)

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
Grey Crushed Limestone (4")	778.9				
Dark Grey and Olive-Grey CLAY, A-6: FILL, hard			3 4-5	4.27 BS	17
		4	3 7-6	2.5 P	19
to Brown and Grey, very stiff	774.2				
Black CLAY, A-7-6	773.2				
Yellow-Brown and Grey CLAY, A-6, very stiff			2 3-5	2.17 BS	21
	770.7	8			
Brown and Grey CLAY, A-6, stiff to very stiff			5 7-6	1.16 BS	12
	767.2	12	8 18-19	3.5 P	22
Grey CLAY, A-6, very stiff					
			5 7-9	3.69 BS	15
		16			
			5 7-8	2.06 B	13
	759.2	20	4 8-15	2.21 B	16
End of Boring at 20'					

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

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DESIGNED	- J. SCHROEDER	REVISED -
CHECKED	- G. HATLESTAD	REVISED -
DATE	- 01/29/18	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS II
WALL A
QUENTIN ROAD; F.A.U. 2574
SHEET NO. WA9 OF WA10 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	261
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

MIDLAND STANDARD ENGINEERING & TESTING, INC.

STRUCTURE FOUNDATION BORING LOG

Date 2/1/12

ROUTE FAU 2574 DESCRIPTION Quentin Road LOGGED BY SPE

SECTION 08-00090-12-ES LOCATION Wall A (STA. 23+50 to STA. 30+25)

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

BORING NO. SB-7 DRILLING METHOD CFA HAMMER TYPE Automatic

Station 28+75
Offset 22' L of CL
Ground Surface Elev. 779.0 (ft.)

Surface Water Elev. none (ft.)
Groundwater Elev.
First Encounter none (ft.)
Upon Completion dry (ft.)
After -- Hrs. -- (ft.)

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
Grey Crushed Limestone (4")	778.7				
Dark Brown and Olive-Brown CLAY, A-6: FILL, very stiff			3 3-4	2.5 P	13
to Brown	773.5	4	3 3-4	3.10 B	19
Dark Grey to Yellow-Brown and Grey CLAY, A-7-6, stiff to very stiff			2 4-5	1.28 BS	21
	769	8	2 4-7	2.21 BS	21
Brown and Grey CLAY, A-6, very hard			6 7-11	8.92 BS	17
Grey CLAY, A-6, very stiff	766	12	4 6-8	2.95 B	17
			6 8-13	2.5 P	15
	759	20	4 4-6	3.30 B	18
End of Boring at 20'					

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

MIDLAND STANDARD ENGINEERING & TESTING, INC.

STRUCTURE FOUNDATION BORING LOG

Date 2/1/12

ROUTE FAU 2574 DESCRIPTION Quentin Road LOGGED BY SPE

SECTION 08-00090-12-ES LOCATION Wall A STA. 23+50 to STA. 30+25)

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

BORING NO. SB-8 DRILLING METHOD CFA HAMMER TYPE Automatic

Station 29+50
Offset 35' L of CL
Ground Surface Elev. 779.3 (ft.)

Surface Water Elev. none (ft.)
Groundwater Elev.
First Encounter 13.5' (ft.)
Upon Completion 8.5' (ft.)
After -- Hrs. -- (ft.)

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
Black CLAY Topsoil (8")	778.6				
Brown and Black CLAY, A-6: FILL, stiff			3 2-4	1.16 S	18
to Brown and Olive-Brown	773.8	4	2 4-4	1.5 P	15
Black to Dark Grey CLAY, A-7-6, stiff	771.3	8	2 3-3	1.78 BS	29
Yellow-Brown and Grey CLAY, A-7-6(23), stiff			2 3-3	1.36 BS	29
	765.3	12	ST-5	0.75 P	27
Grey SAND (f-c), A-2, medium dense	763.8		4 6-7	--	15
Grey CLAY, A-6, very stiff	761.3	16	4 6-8	3.10 B	18
Grey SAND to Sandy LOAM, A-2 to A-4, medium dense	759.3	20	4 7-6	--	12
End of Boring at 20					

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

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DESIGNED	- J. SCHROEDER	REVISED -
CHECKED	- G. HATLESTAD	REVISED -
DATE	- 01/29/18	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

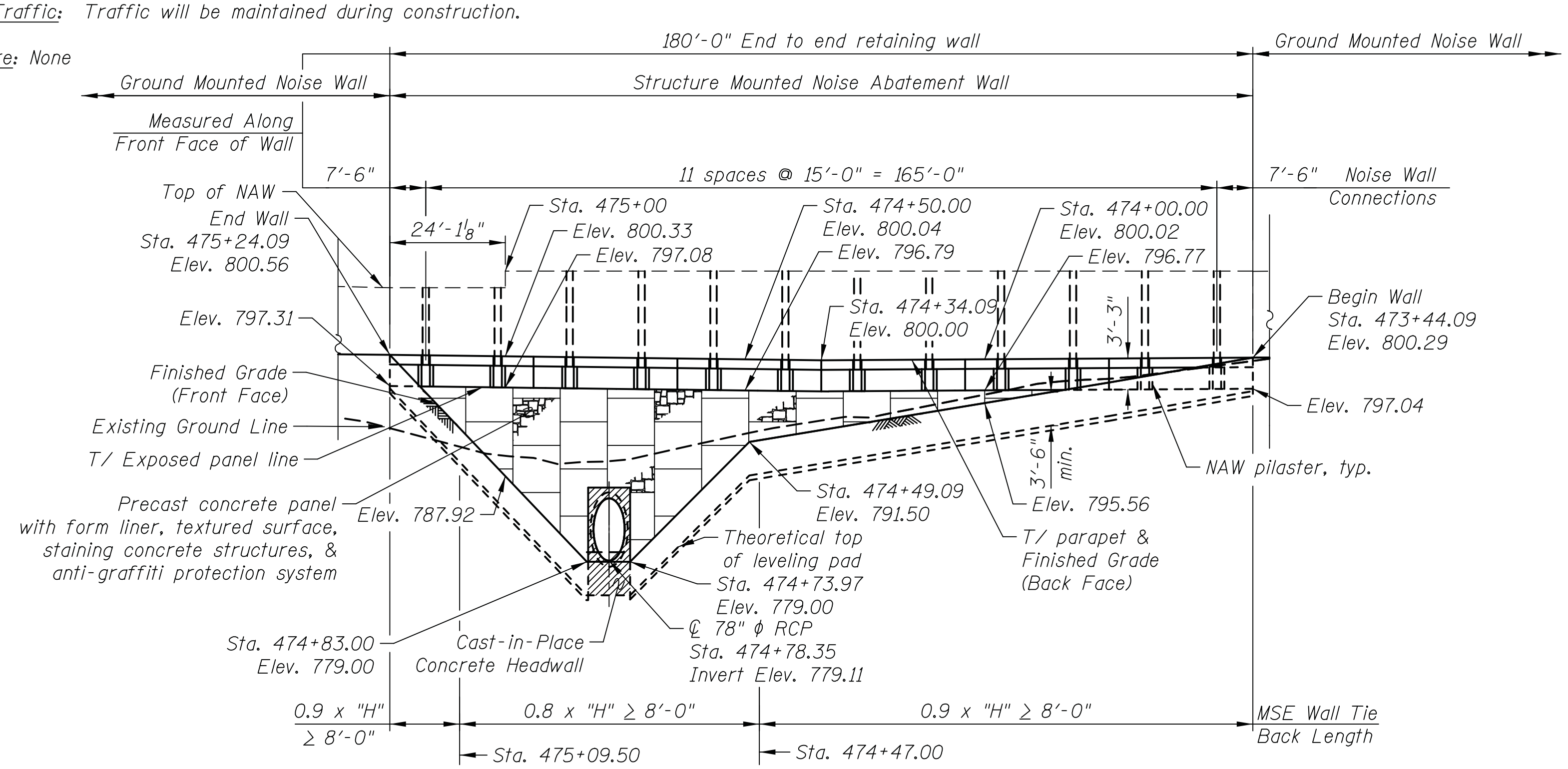
SOIL BORING LOGS III
WALL A
QUENTIN ROAD; F.A.U. 2574
SHEET NO. WA10 OF WA10 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	262
			CONTRACT NO. 61E22	
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

Benchmark: TBM #5 Railroad spike (set) in seventh power pole North of Cuba Road on West side of Quentin Road, Quentin Road Sta. 475+75.63, Offset 56.00' Lt., Elevation 796.44.

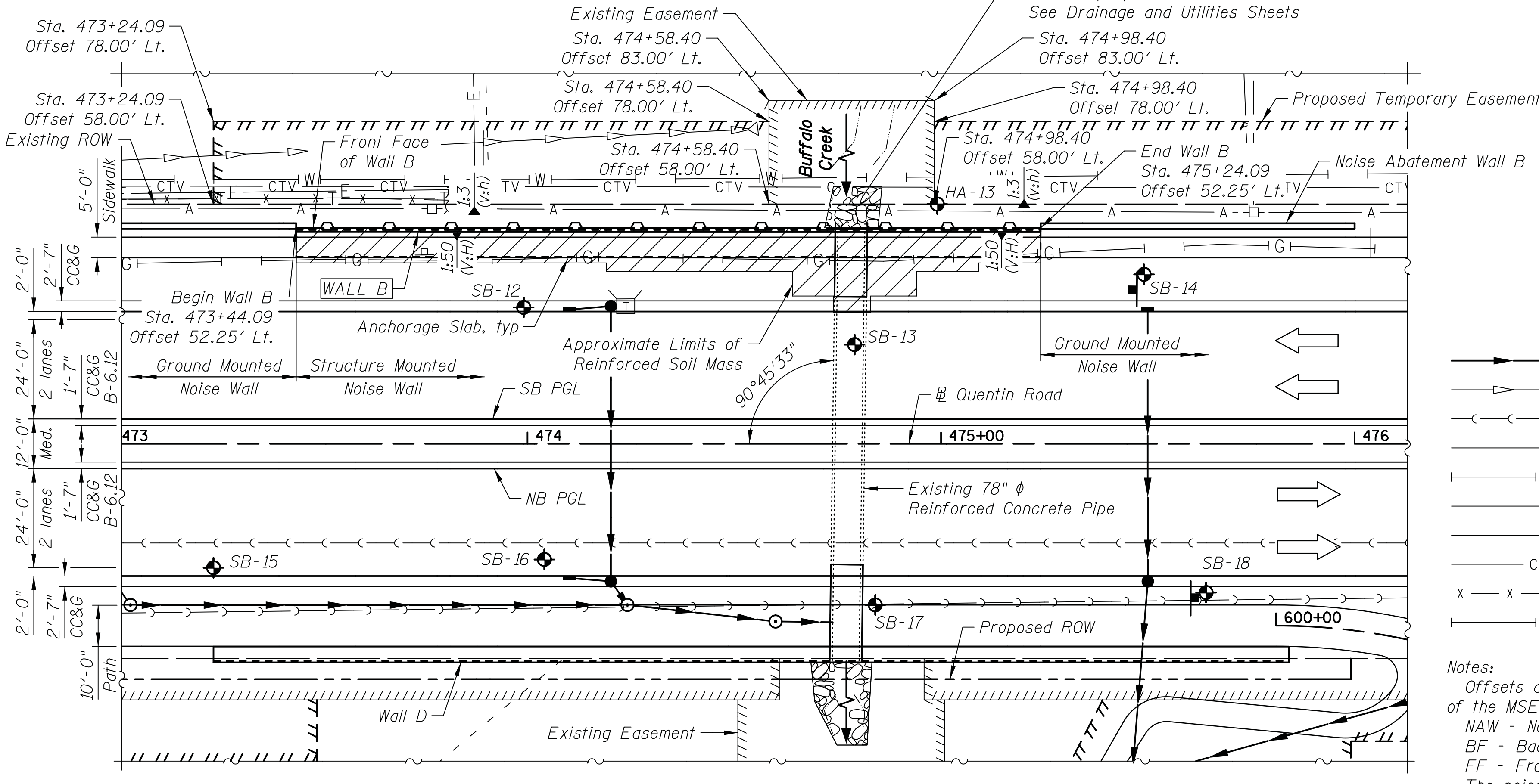
Maintenance of Traffic: Traffic will be maintained during construction.

Existing Structure: None



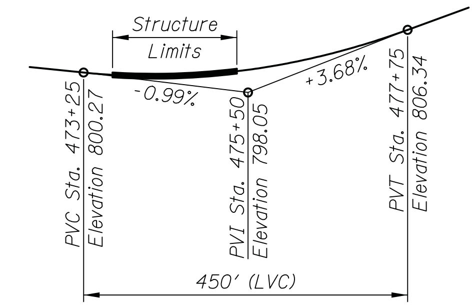
ELEVATION

(Looking at Front Face of Wall)



PLAN

INDEX OF SHEETS



PROPOSED PROFILE QUENTIN ROAD

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structure Excavation	Cu. Yd.	687
Concrete Superstructure	Cu. Yd.	71.6
Form Liner Textured Surface	Sq. Ft.	1,361
Protective Coat	Sq. Yd.	169
Reinforcement Bars, Epoxy Coated	Pound	10,040
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	1,459
Anti-Graffiti Protection System	Sq. Ft.	1,153
Staining Concrete Structures	Sq. Ft.	1,153

GENERAL NOTES

1. Reinforcement bars designated (E) shall be epoxy coated.
2. See Sheet NB1 through NB10 for Noise Wall Attached to Structure
3. Panels must be arranged to provide continuous vertical joints for the full height of the wall to accommodate potential differential settlement.

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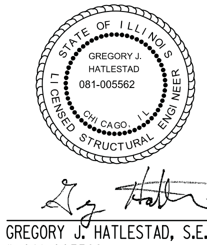
GREGORY J. HATLESTAD, S.E.



GREGORY J. HATLESTAD, S.E.
081-005562

EXP 11-30-2018

DATE 01-29-2018

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

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 and 2016 Interims

1989 AASHTO Guide Specification for Structural Design of Sound Barriers with 1992 and 2002 Interims

DESIGN STRESSES

FIELD UNITS

f'c = 4,000 psi
fy = 60,000 psi (Reinforcement)

PRECAST UNITS

f'c = 4,500 psi (Precast Panels)
fy = 60,000 psi (Reinforcement)
fy = 65,000 psi (Welded Wire Fabric)

LOADING

Wind Load on Noise Wall = 35 psf

LEGEND

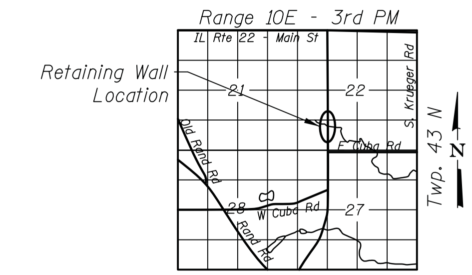
- Proposed Storm Sewer
- Existing Storm Sewer
- Existing Sanitary Sewer
- A — Existing Aerial Lines
- G — Existing Gas Line
- E — Existing Underground Electric
- T — Existing Underground Telephone
- CTV — Existing Underground Cable TV
- x — Existing Fence
- W — Existing Water Main
- Soil Boring

Notes:

Offsets are measured from ℄ Quentin Road to the front face of the MSE precast panels.

NAW - Noise Abatement Wall
BF - Back Face
FF - Front Face

The noise wall shall have form liner on both faces of the wall for the entire length of the noise wall. The front face of the MSE retaining wall shall have form liner for the full length of the wall.



LOCATION SKETCH

GENERAL PLAN AND ELEVATION WALL B QUENTIN ROAD, F.A.U. RTE. 2574 SECTION 08-00090-12-CH LAKE COUNTY STA. 473+44.09 TO STA. 475+24.09

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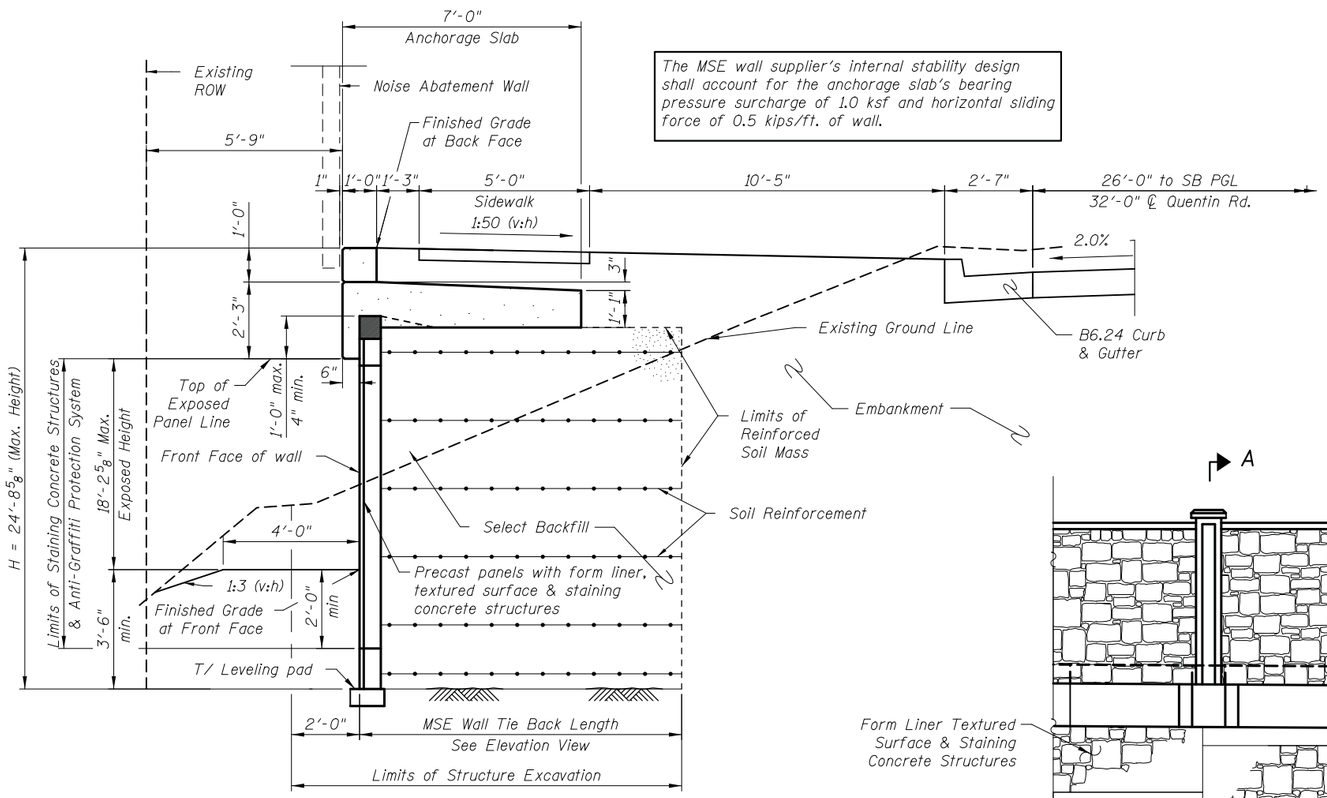
DESIGNED - K. KOMPARE	REVISED -		
CHECKED - G. HATLESTAD	REVISED -		
DATE - 01/29/18	REVISED -		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

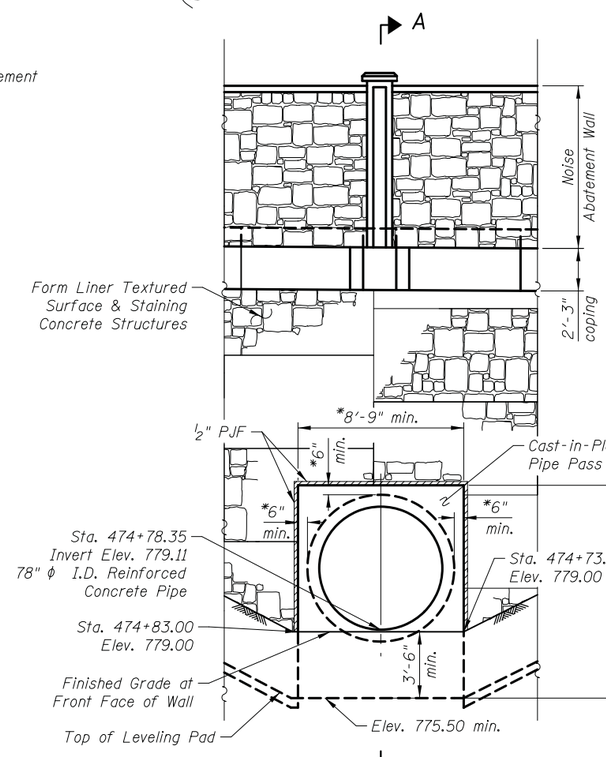
GENERAL PLAN AND ELEVATION
WALL B
QUENTIN ROAD F.A.U. 2574
SHEET NO. WB1 OF WB6 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	263
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



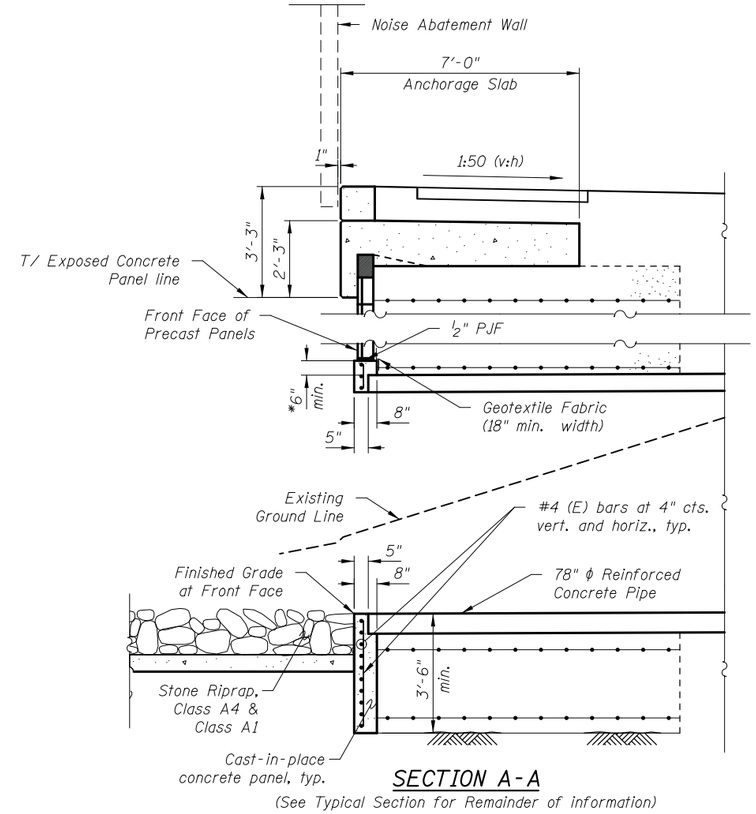
The MSE wall supplier's internal stability design shall account for the anchorage slab's bearing pressure surcharge of 1.0 ksf and horizontal sliding force of 0.5 kips/ft. of wall.

TYPICAL WALL SECTION



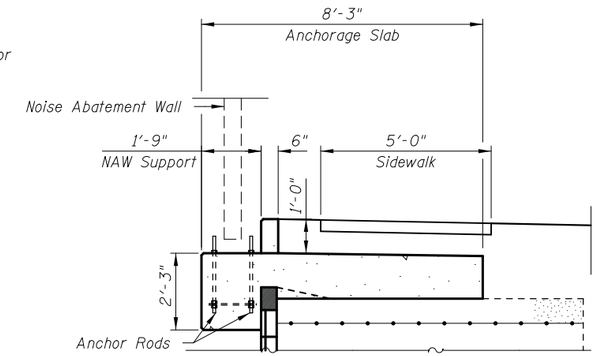
CAST-IN-PLACE PANEL FOR 78" ϕ PIPE PASS THROUGH

* Wall supplier to determine required dimensions



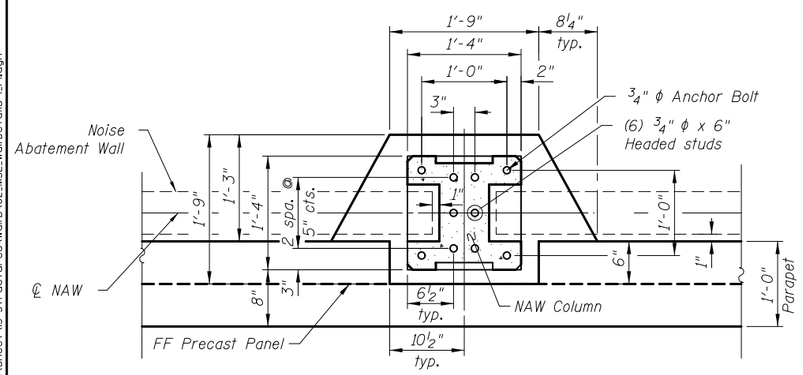
SECTION A-A

(See Typical Section for Remainder of information)



TYPICAL SECTION AT PILASTERS

(See Typical Section for Remainder of information)



NOISE WALL COLUMN CONNECTION PLAN

Notes:

Cost of concrete and epoxy coated reinforcement in CIP panel to be included in the pay item Mechanically Stabilized Earth Retaining Wall.

See sheet WB3 & WB4 for anchorage slab details and Bill of Material.

MSE WALL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structure Excavation	Cu. Yd.	687
Form Liner Textured Surface	Sq. Ft.	1,361
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	1,459
Anti-Graffiti Protection System	Sq. Ft.	1,153
Staining Concrete Structures	Sq. Ft.	1,153

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CHECKED - G. HATLESTAD	REVISED -	
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MSE WALL DETAILS
WALL B
QUENTIN ROAD F.A.U. 2574
SHEET NO. WB2 OF WB6 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	264
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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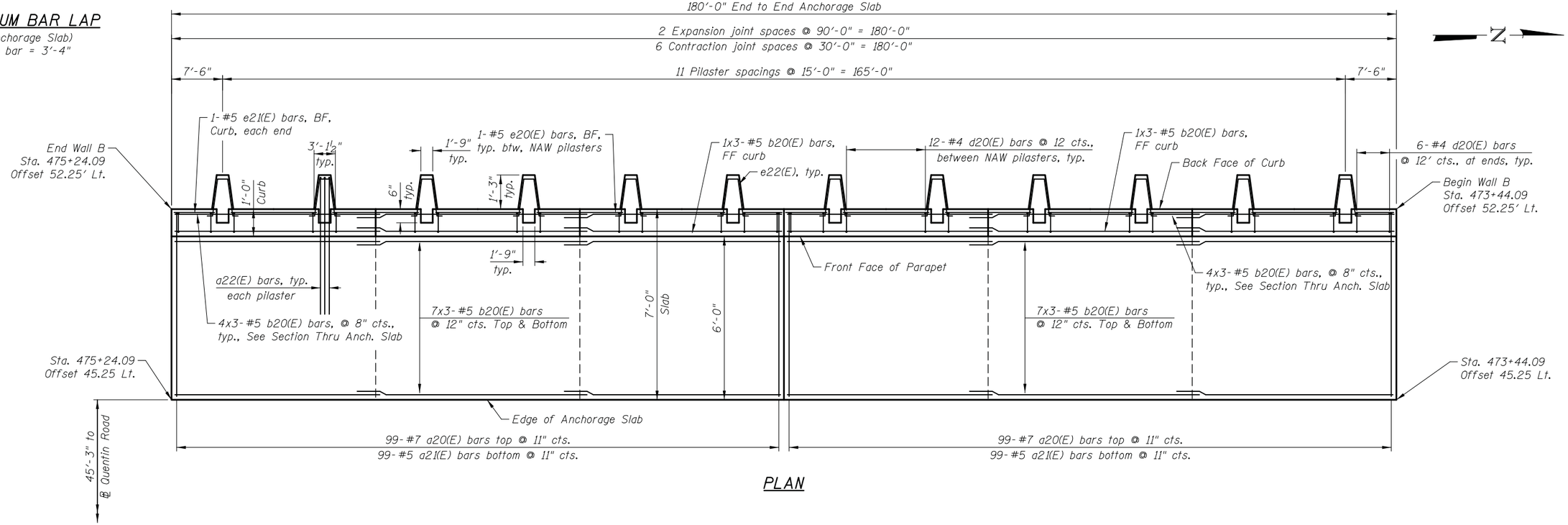
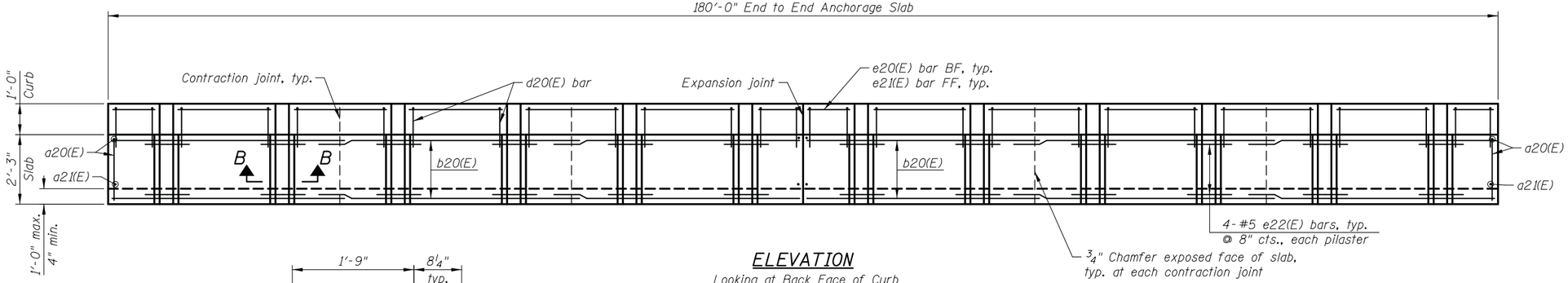
MINIMUM BAR LAP

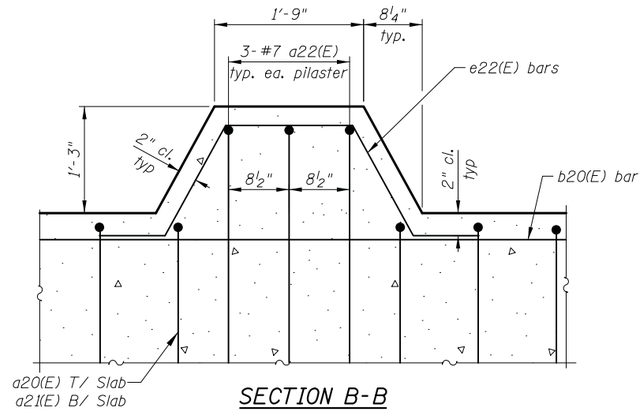
(Anchorage Slab)
#5 bar = 3′-4"



PLAN



ELEVATION
Looking at Back Face of Curb



SECTION B-B

Notes:
1) See sheet WB4 for Section Thru Anchorage Slab, Bill of Material, Reinforcement Schedule, and Bar Diagrams
2) Bars indicated thus 7x3-#5 etc. indicates 7 lines of bars with 3 lengths per line
3) FF = Front Face
BF = Back Face
cts. = centers
ea. = each

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CHECKED - G. HATLESTAD	REVISED -	
DATE - 01/29/18	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ANCHORAGE SLAB
WALL B
QUENTIN ROAD F.A.U. 2574
SHEET NO. WB3 OF WB6 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	265
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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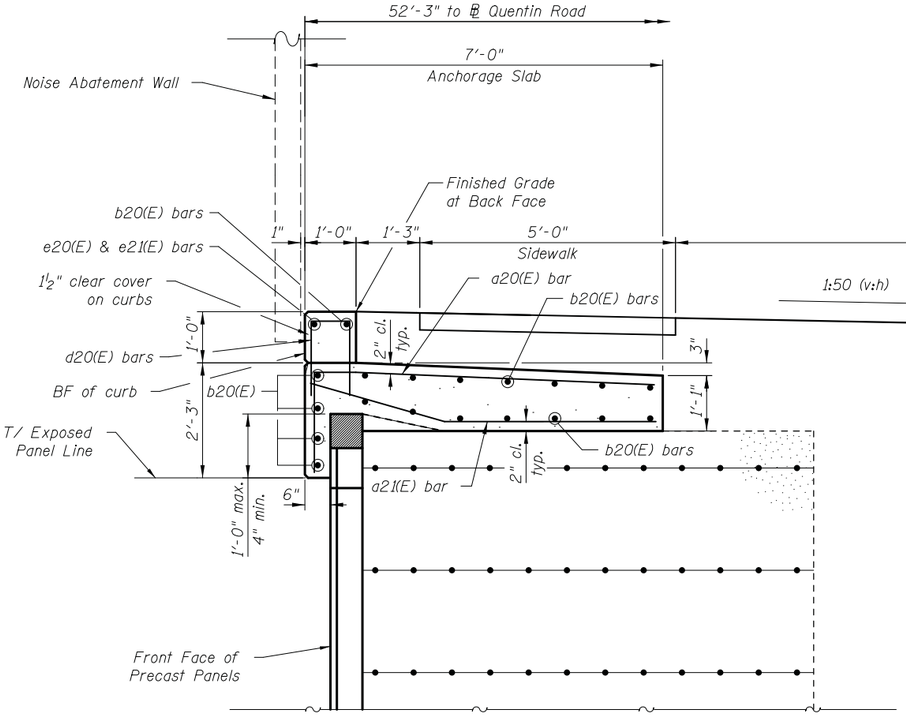
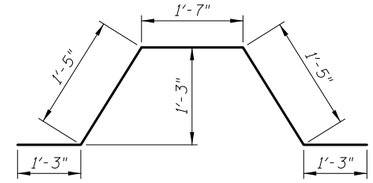
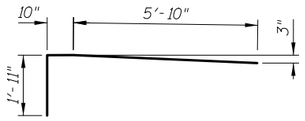


SECTION THRU ANCHORAGE SLAB

(All exposed edges have a ¾" chamfer)



BAR e22(E)



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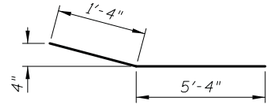

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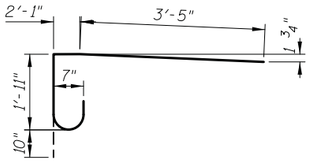

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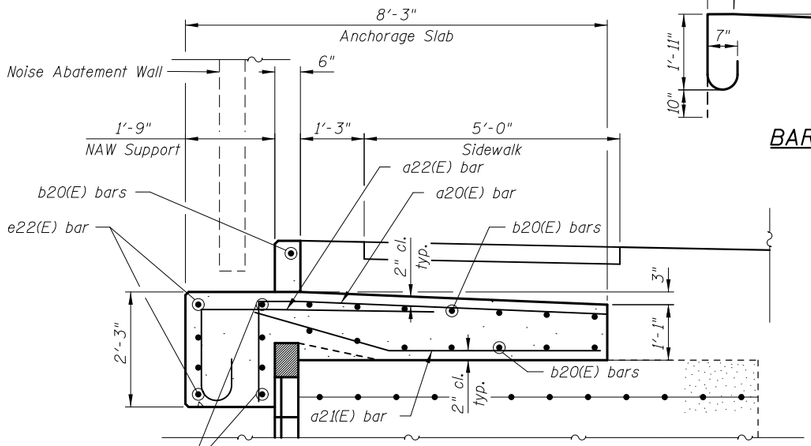
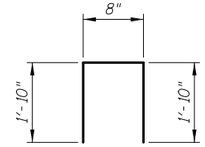


SECTION THRU ANCHORAGE SLAB AT NOISE WALL CONNECTION

(All exposed edges have a ¾" chamfer)

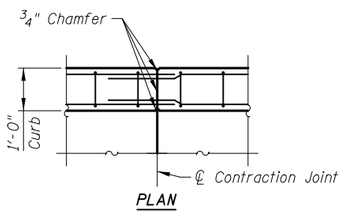


BAR d20(E)

ANCHORAGE SLAB BILL OF MATERIAL

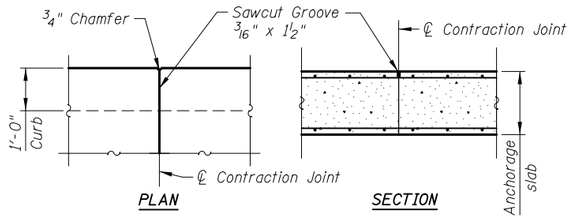
Bar	No.	Size	Length	Shape
a20(E)	198	#7	8'-7"	
a21(E)	198	#5	6'-8"	
a22(E)	36	#7	8'-3"	
b20(E)	114	#5	32'-2"	
d20(E)	144	#4	4'-4"	
e20(E)	10	#5	12'-11"	
e21(E)	4	#5	6'-3"	
e22(E)	24	#5	6'-11"	

Item	Unit	Quantity
Concrete Superstructure	Cu. Yd.	71.6
Protective Coat	Sq. Yd.	19
Reinforcement Bars, Epoxy Coated	Pound	10,040



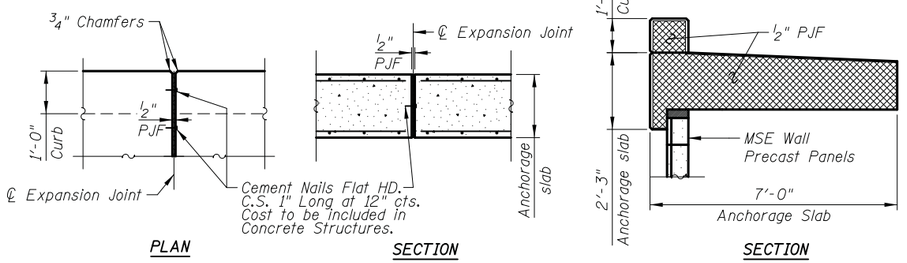
PLAN

CURB CONTRACTION JOINT DETAILS



PLAN SECTION

ANCHORAGE SLAB CONTRACTION JOINT DETAILS



PLAN SECTION SECTION

ANCHORAGE SLAB & CURB EXPANSION JOINT DETAILS

CIVILTECH
Two Pierce Place, Suite 1400
Itasca, Illinois 60143
Tel: 630.773.3900 Fax: 630.773.3975
www.civiltechinc.com

DRAWN - M. RENDINO	REVISED -	
DESIGNED - K. KOMPARE	REVISED -	
CHECKED - G. HATLESTAD	REVISED -	
DATE - 01/29/18	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MSE WALL DETAILS
WALL B
QUENTIN ROAD F.A.U. 2574
SHEET NO. WB4 OF WB6 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	266
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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2/2/2018

MIDLAND STANDARD ENGINEERING & TESTING, INC.

STRUCTURE FOUNDATION BORING LOG

Page 1 of 1

Date 2/15/12

ROUTE FAU364 DESCRIPTION Quentin Road LOGGED BY SPE

SECTION 08-00090-12-ES LOCATION Wall B (STA. 73+45 to STA. 75+25)

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

BORING NO. SB-12 DRILLING METHOD CFA HAMMER TYPE Automatic

Station 74+00
Offset 25' L of CL
Ground Surface Elev. 798.29 (ft.)

Surface Water Elev. None (ft.)
Groundwater Elev.
First Encounter 18.0' (ft.)
Upon Completion 16.8' (ft.)
After -- Hrs. -- (ft.)

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
6" Bituminous Concrete over 5" Brown Sand and Gravel	797.39				
Olive-Brown and Brown CLAY, A-6: FILL, very stiff to stiff			3 3-3	2.13 BS	17
		4	1 2-3	1.94 B	23
to Dark Grey and Black	792.79				
Brown CLAY, A-6, stiff			3 3-5	1.47 B	27
	790.29	8			
Brown and Grey CLAY, A-6, hard to very hard			3 4-7	5.03 S	18
		12	5 7-13	9.00 BS	15
			8 12-15	10.28 BS	17
		16	7 11-12	4.41 BS	16
	780.29				
Grey SAND (f-c), A-2 with interbedded Silt Seams	778.29	20	4 5-10	--	16
End of Boring at 20'					

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

MIDLAND STANDARD ENGINEERING & TESTING, INC.

STRUCTURE FOUNDATION BORING LOG

Page 1 of 1

Date 2/15/12

ROUTE FAU364 DESCRIPTION Quentin Road LOGGED BY SPE

SECTION 08-00090-12-ES LOCATION Wall B (STA. 73+45 to STA. 75+25)

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

BORING NO. SB-13 DRILLING METHOD CFA HAMMER TYPE Automatic

Station 74+80
Offset 16' L of CL
Ground Surface Elev. 798.31 (ft.)

Surface Water Elev. None (ft.)
Groundwater Elev.
First Encounter None (ft.)
Upon Completion Dry (ft.)
After -- Hrs. -- (ft.)

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
5-1/2" Bituminous Concrete over 18" Brown Sand and Gravel	796.31		5 4-4	2.72 BS	12
Brown and Grey CLAY, A-6: FILL, very stiff to stiff		4	4 3-3	1.36 B	22
	793.31				
Brown SAND and GRAVEL, trace Concrete: FILL, medium dense			5 9-13	--	10
	790.31	8			
Brown CLAY, A-6: FILL, stiff			1 2-3	1.25 P	23
to Brown, Grey and Dark Grey		12	2 3-5	1.55 B	18
			2 3-4	1.47 BS	21
		16	3 3-4	1.75 P	19
to Olive-Grey and Black, firm		20	2 3-4	1.5 P	24
	775.81		2 3-7	0.70 B	25
Auger Refusal at 22.5'					

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

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2/2/2018

CIVILTECH
Two Pierce Place, Suite 1400
Itasca, Illinois 60143
Tel: 630.773.3900 Fax: 630.773.3975
www.civiltechinc.com

DRAWN	- M. RENDINO	REVISED -
DESIGNED	- K. KOMPARE	REVISED -
CHECKED	- G. HATLESTAD	REVISED -
DATE	- 01/29/18	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS I
WALL B
QUENTIN ROAD F.A.U. 2574
SHEET NO. WB5 OF WB6 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	267
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

MIDLAND STANDARD ENGINEERING & TESTING, INC.

STRUCTURE FOUNDATION BORING LOG

Page 1 of 1

Date 2/13/12

ROUTE FAU364 DESCRIPTION Quentin Road LOGGED BY SPE

SECTION 08-00090-12-ES LOCATION Wall B (STA. 73+45 to STA. 75+25)

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

BORING NO. SB-14 DRILLING METHOD CFA HAMMER TYPE Automatic

Station 75+50
Offset 33' L of CL
Ground Surface Elev. 796.73 (ft.)

Surface Water Elev. None (ft.)
Groundwater Elev.
First Encounter 13.5' (ft.)
Upon Completion Dry (ft.)
After -- Hrs. -- (ft.)

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
Dark Brown CLAY Topsoil (7")	796.13				
Brown CLAY, A-6: FILL, stiff			3 4-3	1.47 B	19
to Brown and Dark Brown, stiff to firm		4	2 3-4	1.01 B	21
	788.73	8	2 2-3	0.78 B	20
Black CLAY, A-7-6	787.23		2 3-4	--	34
Brown to Brown and Grey CLAY, A-6, very stiff to hard		12	ST-5	3.0 P	25
			4 6-9	3.45 BS	24
	778.73	16	6 9-12	7.18 BS	16
Grey CLAY, A-6, hard	776.73	20	8 10-12	4.27 B	16
End of Boring at 20'					

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

MSET PROJECT NO.: 11453 **LOG OF BORING NO. HA-13** Page 1 of 1

PROJECT: Quentin Road SITE LOCATION: Lake County, IL

BORING LOCATION: STA. 75+00, 50'L of CL CLIENT: Civiltech Engineering, Inc.

DEPTH (feet)	SOIL TYPE	Material Description	Elevation	SAMPLE TYPE/INTERVAL	SAMPLE NO.	N-VALUE Blows per ft.	TESTS Wc%	TESTS Dry Unit Weight, pcf	TESTS Unconfined Compressive Strength, tsf	REMARKS
0		Dark Brown CLAY, A-6: FILL stiff	783.2	AU	1	--	30	--	--	
2.5		to Brown and Grey		AU	2	--	18	--	2.0 (Qp)	
				AU	3	--	18	--	1.5 (Qp)	
5		Brown and Grey CLAY, A-7-6, very stiff	779.2	AU	4	--	18	--	3.5 (Qp)	
		damp at 6', firm to stiff								
7.5		Grey CLAY, A-6, very stiff	775.7	AU	5	--	25	--	1.0 (Qp)	
10				AU	6	--	19	--	3.0 (Qp)	
12.5				AU	7	--	18	--	3.5 (Qp)	
		End of Boring at 13.5'	769.7							

WATER LEVEL OBSERVATIONS, ft.
DURING DRILLING: 7.0'
IMMEDIATELY AFTER DRILLING: 7.0'
DELAYED READING AFTER

MSET

BORING STARTED: 4/13/12
BORING COMPLETED: 4/13/12
LOGGED BY: MHP
BORING METHOD: Hand Auger

Midland Standard Engineering & Testing, Inc. 558 Plate Drive Unit 6, East Dundee, IL 60118 (847) 844-1895 f(847) 844-3875

CIVILTECH
Two Pierce Place, Suite 1400
Itasca, Illinois 60143
Tel: 630.773.3900 Fax: 630.773.3975
www.civiltechinc.com

DRAWN	M. RENDINO	REVISED -
DESIGNED	K. KOMPARE	REVISED -
CHECKED	G. HATLESTAD	REVISED -
DATE	01/29/18	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS II
WALL B
QUENTIN ROAD F.A.U. 2574
SHEET NO. WB6 OF WB6 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	268
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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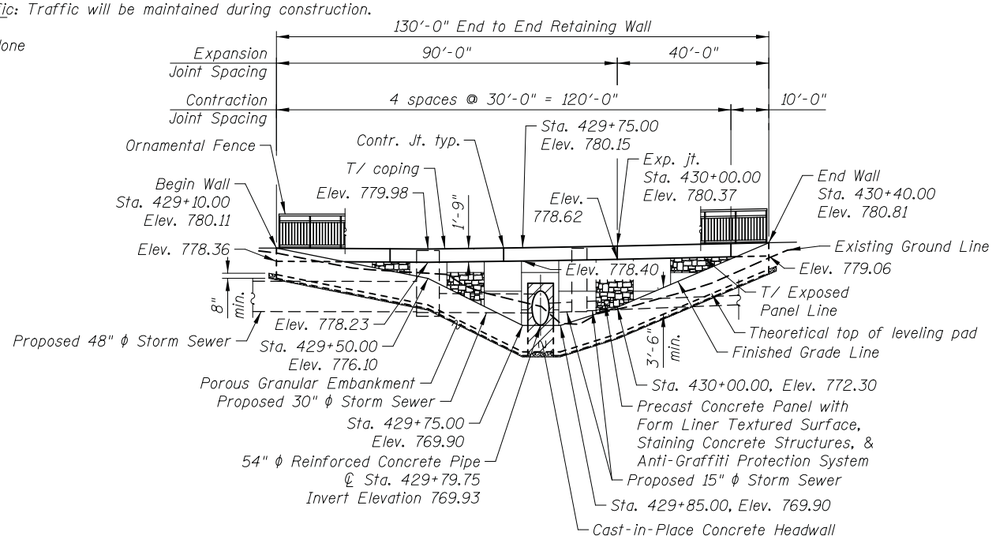
Benchmark: Railroad spike (set) in power pole. Quentin Road Sta. 427+81.66, Offset 48.61' Lt., Elevation 774.97.

Maintenance of Traffic: Traffic will be maintained during construction.

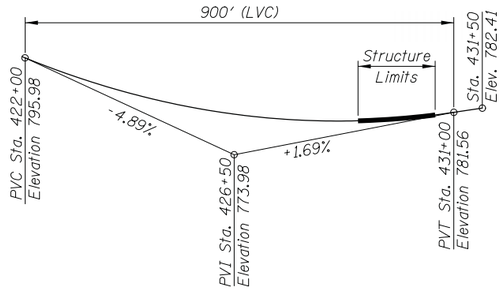
Existing Structure: None



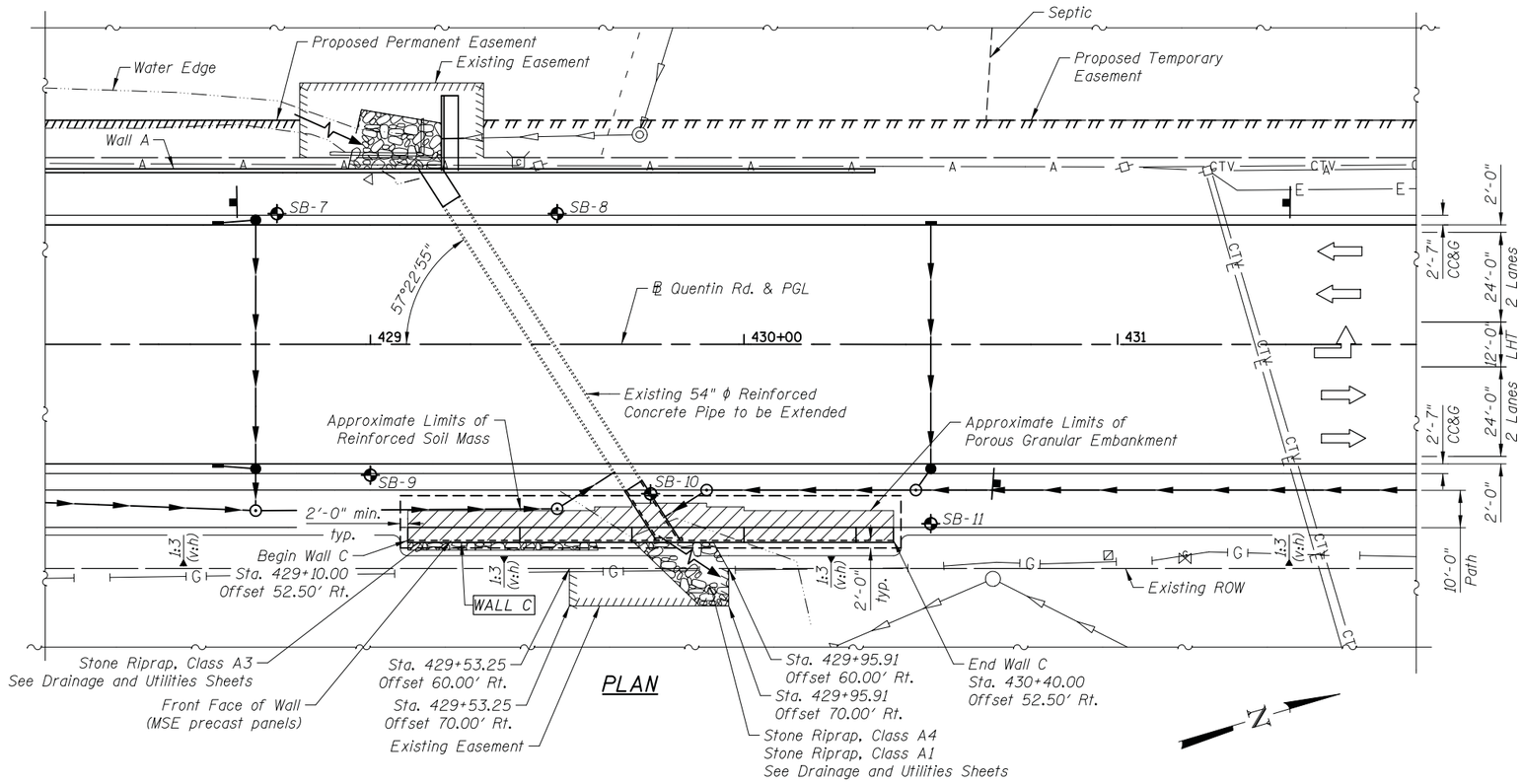
ELEVATION

Looking at Front Face of Wall

Notes:
Wall offsets are measured from ℄ Quentin Road to the front face of MSE precast panels.
FF - Front Face
BF - Back Face



PROFILE QUENTIN ROAD



PLAN

INDEX OF SHEETS

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Porous Granular Embankment	Cu. Yd.	47
Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.	347
Concrete Superstructure	Cu. Yd.	29.6
Form Liner Textured Surface	Sq. Ft.	884
Protective Coat	Sq. Yd.	58
Reinforcement Bars, Epoxy Coated	Pound	2,970
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	884
Anti-Graffiti Protection System	Sq. Ft.	673
Ornamental Fence	Foot	129
Staining Concrete Structures	Sq. Ft.	673

GENERAL NOTES

1. Reinforcement bars designated (E) shall be epoxy coated.
2. Panels must be arranged to provide continuous vertical joints for the full height of the wall to accomodate potential differential settlement.

CURVE DATA

Δ = 20° 00' 46" (LT)
D = 2° 59' 59"
T = 337.02'
L = 667.18'
E = 29.50'
R = 1,910.10'
P.C. = Sta. 421+09.64
P.T. = Sta. 427+76.81
P.I. = Sta. 424+46.66
S.E. = 3.20%
S.E. Runoff = 135'
S.E. Runoff Sta. 427+30 to 428+65
Tangent Runout = 85'
Tangent Runout Sta. 428+65 to 429+50

CIVILTECH ENGINEERING, INC.
GREGORY J. HATLESTAD, S.E.

STATE OF ILLINOIS · GREGORY J. HATLESTAD · 081-005562 · CHICAGO, IL · LICENSED STRUCTURAL ENGINEER

GREGORY J. HATLESTAD, S.E.
081-005562

EXP 11-30-2018

DATE 01-29-2018

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

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 and 2016 Interims

DESIGN STRESSES

FIELD UNITS

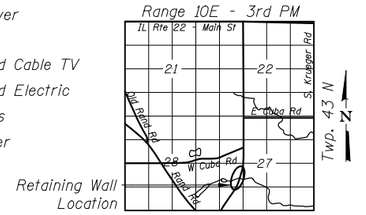
f'c = 4,000 psi
fy = 60,000 psi (Reinforcement)

PRECAST UNITS

f'c = 4,500 psi (Precast Panels)
fy = 60,000 psi (Reinforcement)
fy = 65,000 psi (Welded Wire Fabric)

LEGEND

- Proposed Storm Sewer
- G — Existing Gas Line
- CTV — Existing Underground Cable TV
- E — Existing Underground Electric
- A — Existing Aerial Lines
- Existing Storm Sewer
- Soil Boring



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
WALL C
QUENTIN ROAD; F.A.U. RTE. 2574
SECTION 08-00090-12-CH
LAKE COUNTY
STA. 429+10.00 TO STA. 430+40.00

CIVILTECH
450 E Devon Ave, Suite 300
Itasca, Illinois 60143
Tel: 630.773.3900 Fax: 630.773.3975
www.civiltechinc.com

DRAWN - K. KOMPARE	REVISED -	
DESIGNED - K. KOMPARE	REVISED -	
CHECKED - G. HATLESTAD	REVISED -	
DATE - 01/29/18	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
WALL C
QUENTIN ROAD; F.A.U. 2574
SHEET NO. WC1 OF WC5 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	269
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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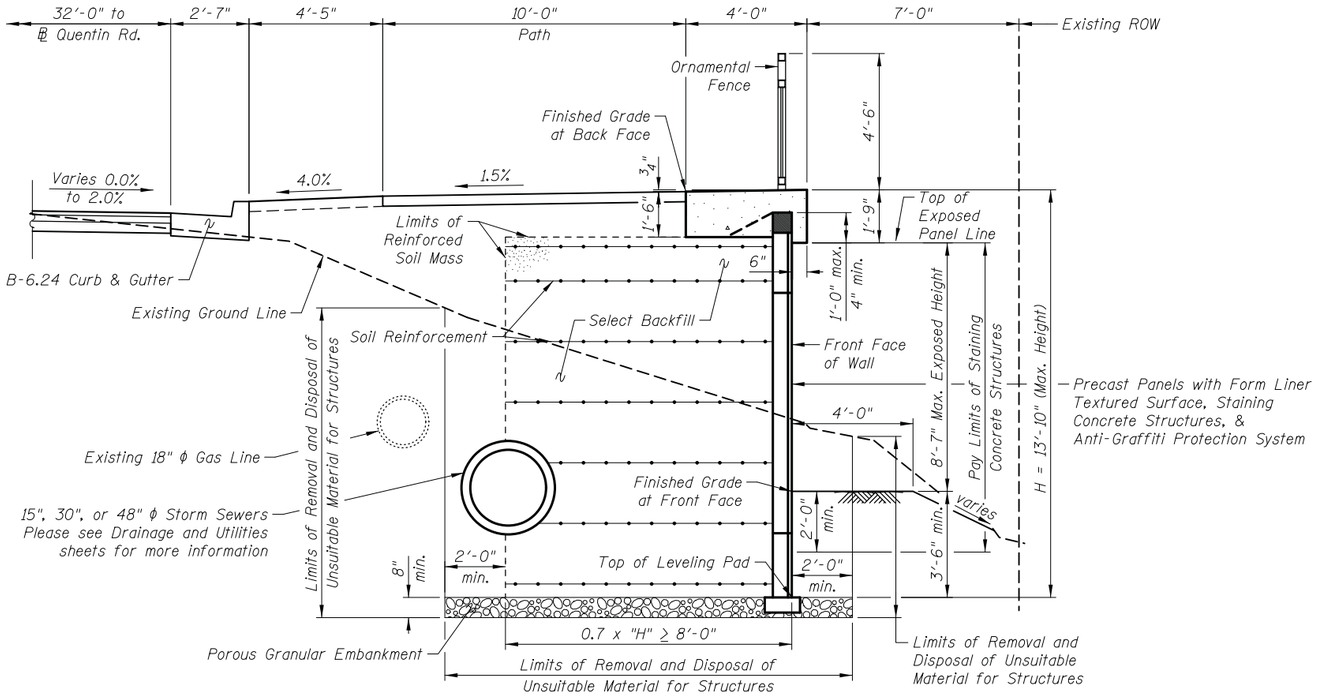
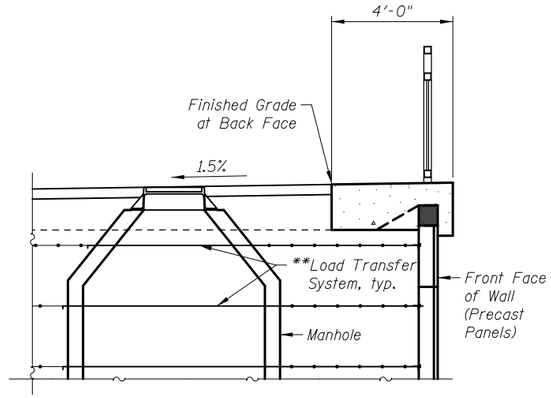


TYPICAL WALL SECTION



SECTION AT DRAINAGE STRUCTURE

See Typical Wall Section for balance of information

** MSE supplier to design load transfer system to accomodate concrete pipe and catch basin

The MSE wall supplier's internal stability design shall account for the anchorage slab's bearing pressure surcharge of 1.0 ksf and horizontal sliding force of 0.5 kips/ft. of wall.

MSE WALL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Porous Granular Embankment	Cu. Yd.	47
Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.	347
Form Liner Textured Surface	Sq. Ft.	884
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	884
Anti-Graffiti Protection System	Sq. Ft.	673
Staining Concrete Structures	Sq. Ft.	673

Notes:

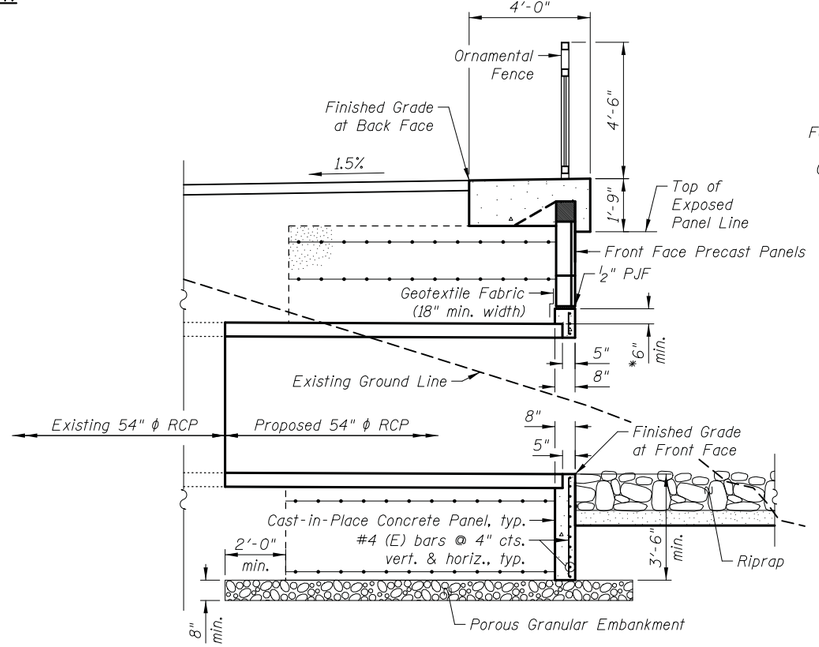
For Frame & Grate, Manhole, and Catch Basin types, see Drainage and Utilities sheets.

For Rim and Invert Elevations of Storm Sewers, see Drainage and Utilities sheets.

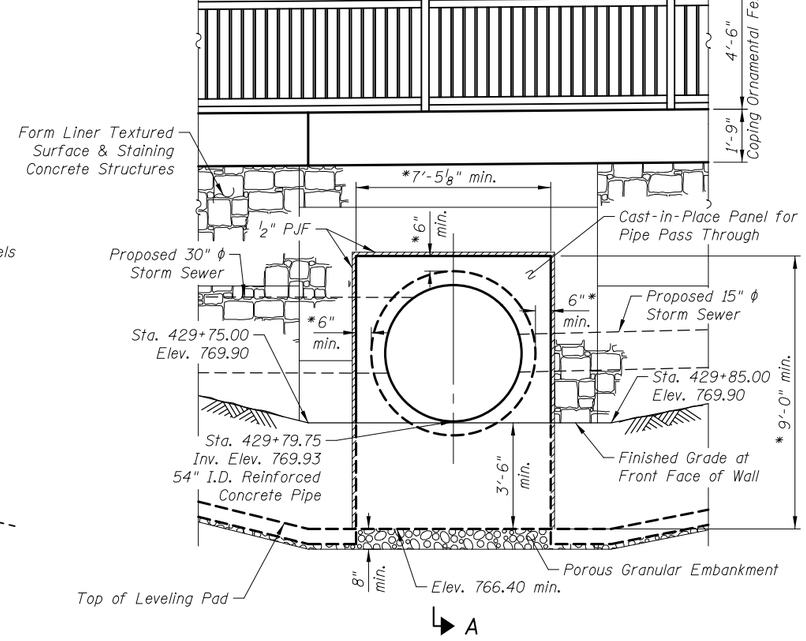
Cost of concrete and epoxy coated reinforcement in CIP panel to be included in the pay item Mechanically Stabilized Earth Retaining Wall.

See sheet WC3 for anchorage slab details and Bill of Material.

See sheet WC4 for Ornamental Fence details.



SECTION A-A



CAST-IN-PLACE PANEL FOR 54" ϕ PIPE PASS THROUGH

* Wall supplier to determine required dimensions

CIVILTECH
450 E Devon Ave, Suite 300
Itasca, Illinois 60143
Tel: 630.773.3900 Fax: 630.773.3975
www.civiltechinc.com

DRAWN - K. KOMPARE	REVISED -	
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CHECKED - G. HATLESTAD	REVISED -	
DATE - 01/29/18	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MSE WALL DETAILS
WALL C
QUENTIN ROAD; F.A.U. 2574
SHEET NO. WC2 OF WC5 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	270
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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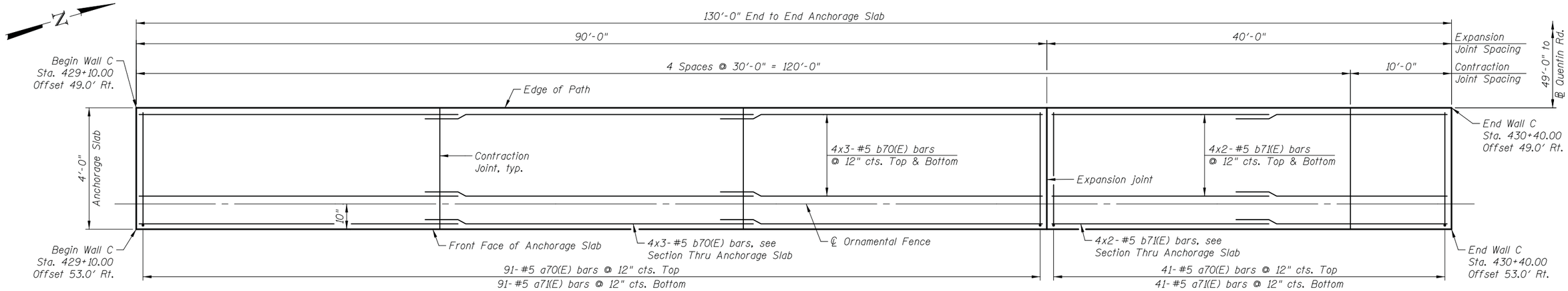
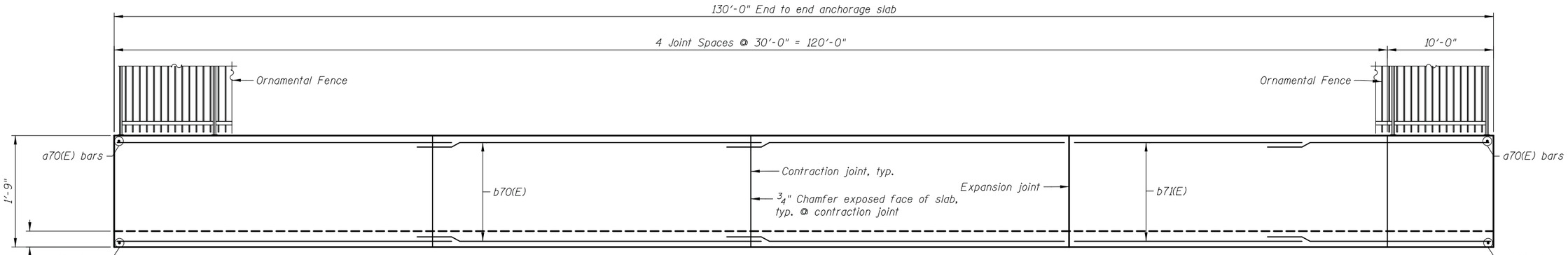
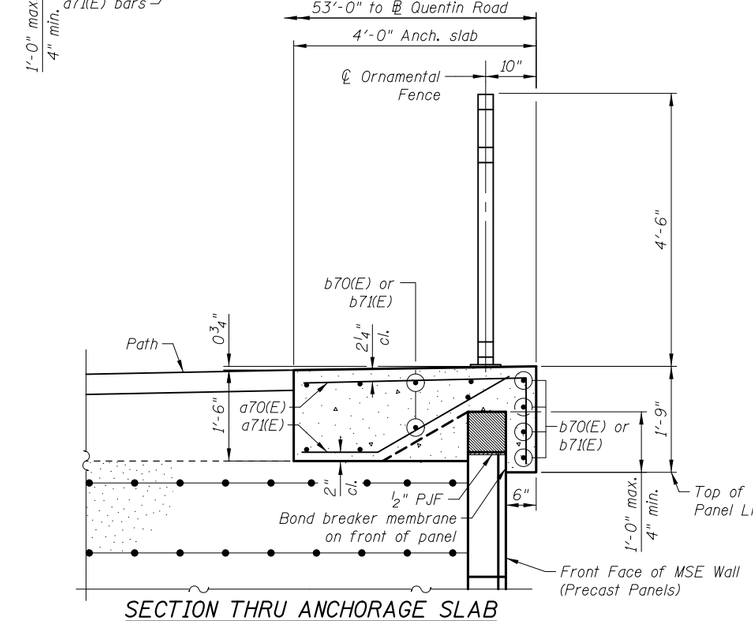


PLAN



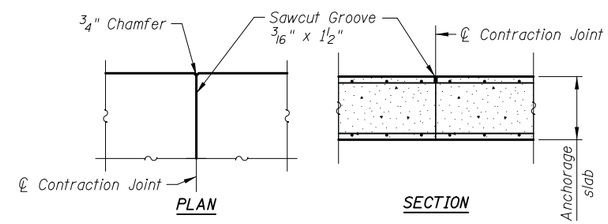
ELEVATION

(Looking at Front Face of Anchorage Slab)

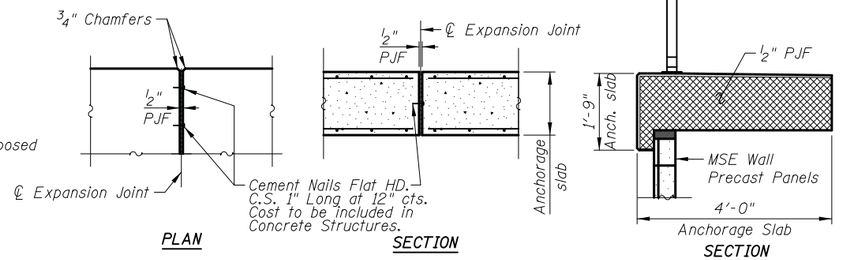


SECTION THRU ANCHORAGE SLAB

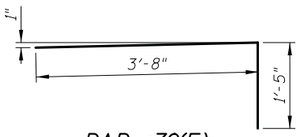
(Looking North)



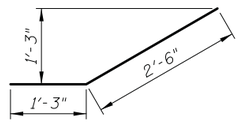
ANCHORAGE SLAB CONTRACTION JOINT DETAILS



ANCHORAGE SLAB EXPANSION JOINT DETAILS



BAR a70(E)



BAR a71(E)

MINIMUM BAR LAP

#5 bar = 3'-4"

ANCHORAGE SLAB BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a70(E)	132	#5	5'-1"	
a71(E)	132	#5	3'-9"	
b70(E)	36	#5	32'-2"	
b71(E)	24	#5	21'-6"	

Item	Unit	Quantity
Concrete Superstructure	Cu. Yd.	29.6
Protective Coat	Sq. Yd.	58
Reinforcement Bars, Epoxy Coated	Pound	2,970

Notes:

Bars indicated thus 4x2-#5 indicate 4 lines of bars with 2 lengths per line.

For Ornamental Fence Details and rail post spacing, see sheet WC4.

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DESIGNED - K. KOMPARE	REVISED -	
CHECKED - G. HATLESTAD	REVISED -	
DATE - 01/29/18	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ANCHORAGE SLAB
WALL C
QUENTIN ROAD; F.A.U. 2574
SHEET NO. WC3 OF WC5 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	271
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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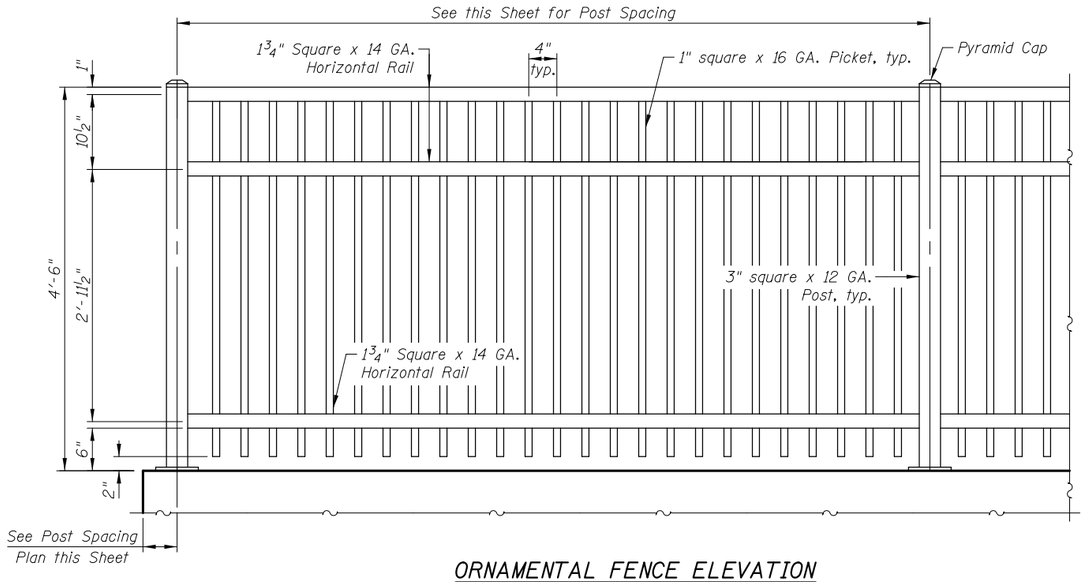
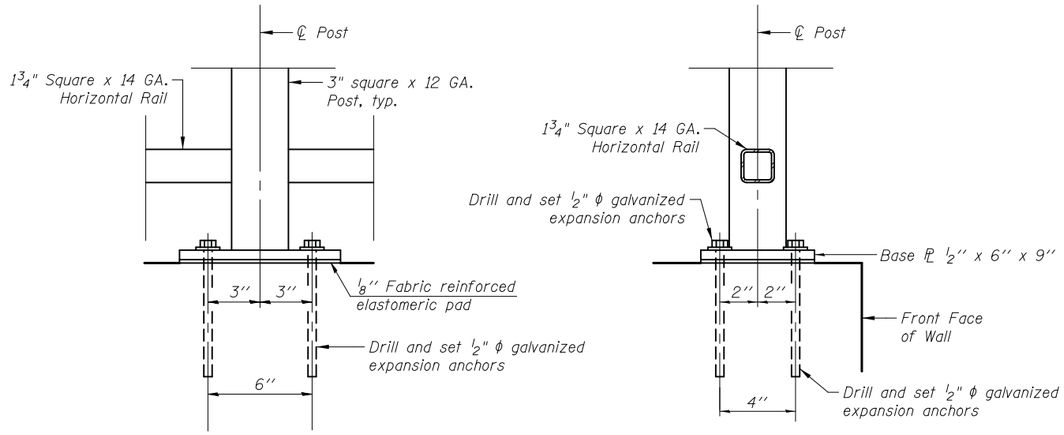


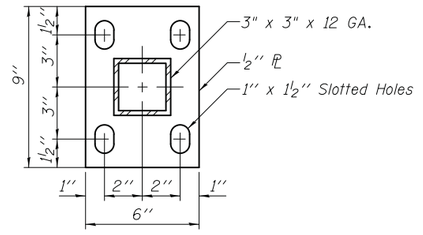
ORNAMENTAL FENCE ELEVATION

All posts, railings, splices, anchor devices, and bent plates shall be painted black.

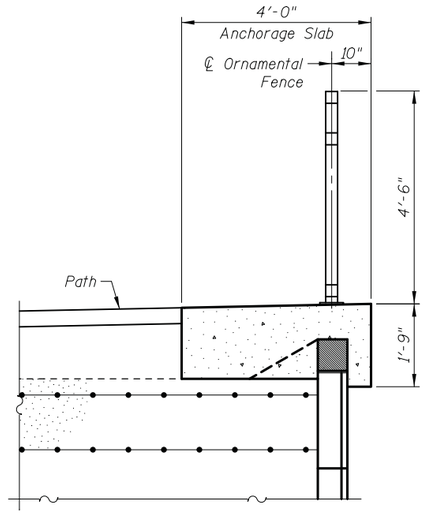


ANCHOR BOLT DETAILS

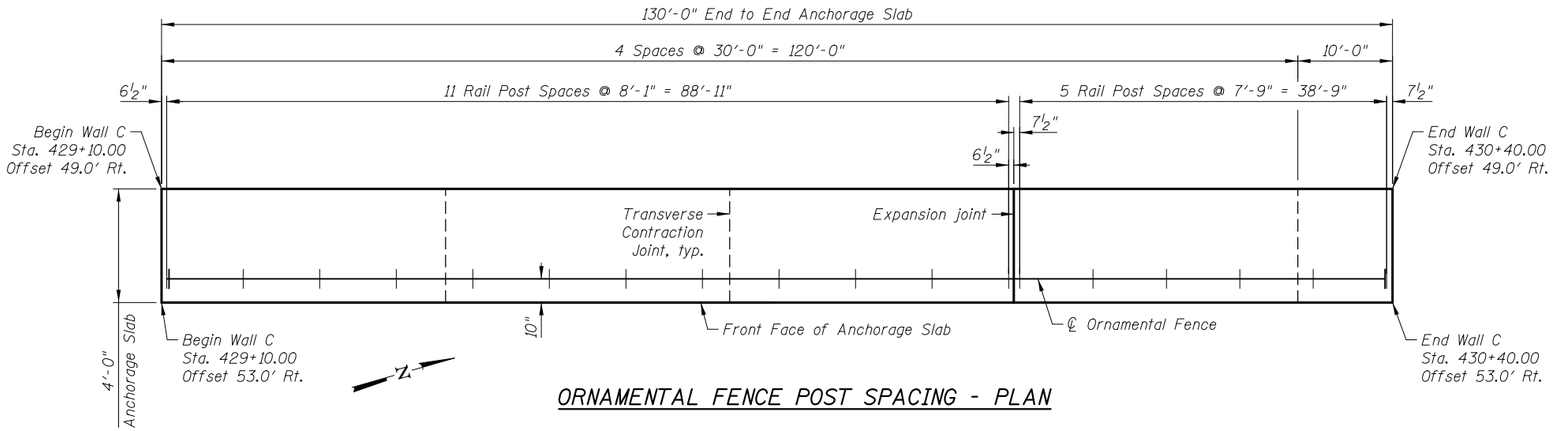
Embedment shall be according to the manufacturer's specifications.



BASE PL



SECTION THRU ANCHORAGE SLAB



ORNAMENTAL FENCE POST SPACING - PLAN

BILL OF MATERIAL

Item	Unit	Quantity
Ornamental Fence	Foot	129

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ORNAMENTAL FENCE DETAILS
WALL C
QUENTIN ROAD; F.A.U. 2574
SHEET NO. WC4 OF WC5 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	272
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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MIDLAND STANDARD ENGINEERING & TESTING, INC.

Page 1 of 1

STRUCTURE FOUNDATION BORING LOG

Date 1/31/12

ROUTE FAU364 **DESCRIPTION** Quentin Road **LOGGED BY** SPE

SECTION 08-00090-12-ES **LOCATION** Wall C (STA 28+75 to STA 30+50)

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

BORING NO. SB-9 **DRILLING METHOD** CFA **HAMMER TYPE** Automatic

Station 29+00
Offset 35' R of CL
Ground Surface Elev. 779.0 (ft.)

Surface Water Elev. none (ft.)
Groundwater Elev.
First Encounter none (ft.)
Upon Completion dry (ft.)
After -- Hrs. -- (ft.)

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
Black CLAY Topsoil (9")	778.2				
Brown and Black CLAY, A-6: FILL, stiff	776		2 2-4	1.25 P	18
Olive-Grey CLAY, A-6, very stiff		4	2 4-6	4.0 P	14
to Brown and Grey, hard	763.5	8	4 6-11 5 10-14	5.35 BS 6.01 BS	17 15
Grey CLAY, A-6, very stiff		12	5 9-13 4 8-10	7.34 S 5.55 BS	14 16
Cobble at 18.5'	759	16	4 7-8 15 8-7	3.80 B 2.75 P	16 17
End of Boring at 20'		20			

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu	MOIST (%)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

MIDLAND STANDARD ENGINEERING & TESTING, INC.

Page 1 of 1

STRUCTURE FOUNDATION BORING LOG

Date 2/2/12

ROUTE FAU364 **DESCRIPTION** Quentin Road **LOGGED BY** SPE

SECTION 08-00090-12-ES **LOCATION** Wall C (STA. 28+75 to STA. 30+50)

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

BORING NO. SB-10 **DRILLING METHOD** CFA **HAMMER TYPE** Automatic

Station 29+75
Offset 40' R of CL
Ground Surface Elev. 779.7 (ft.)

Surface Water Elev. none (ft.)
Groundwater Elev.
First Encounter 12.0' (ft.)
Upon Completion dry (ft.)
After -- Hrs. -- (ft.)

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
Black CLAY Topsoil (12")	778.7				
Brown CLAY, A-6: FILL, firm to stiff			2 2-2	0.93 BS	16
to Brown and Olive-Grey	771.7	4 8	2 3-3 3 2-4	1.82 BS 1.65 B	20 24
Brown and Grey CLAY, A-7-6, firm	768.7		2 2-3	0.62 BS	32
Brown CLAY, A-6, stiff to very stiff	764.2	12 16	ST 5 6-6	1.5 P 2.75 P	19 13
Grey CLAY, A-6, very stiff	759.7	20	4 5-6 4 6-6	2.64 B 2.25 B	16 17
End of Boring at 20'					

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu	MOIST (%)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

MIDLAND STANDARD ENGINEERING & TESTING, INC.

Page 1 of 1

STRUCTURE FOUNDATION BORING LOG

Date 2/2/12

ROUTE FAU364 **DESCRIPTION** Quentin Road **LOGGED BY** SPE

SECTION 08-00090-12-ES **LOCATION** Wall C (STA. 28+75 to STA. 30+50)

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

BORING NO. SB-11 **DRILLING METHOD** CFA **HAMMER TYPE** Automatic

Station 30+50
Offset 48' R of CL
Ground Surface Elev. 780.3 (ft.)

Surface Water Elev. none (ft.)
Groundwater Elev.
First Encounter none (ft.)
Upon Completion dry (ft.)
After -- Hrs. -- (ft.)

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
Black Silty CLAY Topsoil (12")	779.3				
Brown and Grey trace Black Silty CLAY, A-6: FILL, stiff			3 3-3	1.75 BS	24
trace to little wood and organics	773.3	4	1 2-2	--	42
Olive-Brown and Grey Silty CLAY, A-7-6, very stiff	769.3	8	1 2-4 2 4-5	1.55 BS 2.29 BS	31 23
Brown and Grey Silty CLAY, A-6, very stiff to hard	760.3	12 16 20	ST 4 8-9 8 9-11 8 9-10	3.0 P 7.53 BS 6.21 B 5.12 BS	19 15 17 17
End of Boring at 20'					

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu	MOIST (%)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

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DESIGNED	- K. KOMPARE	REVISED -
CHECKED	- G. HATLESTAD	REVISED -
DATE	- 01/29/18	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

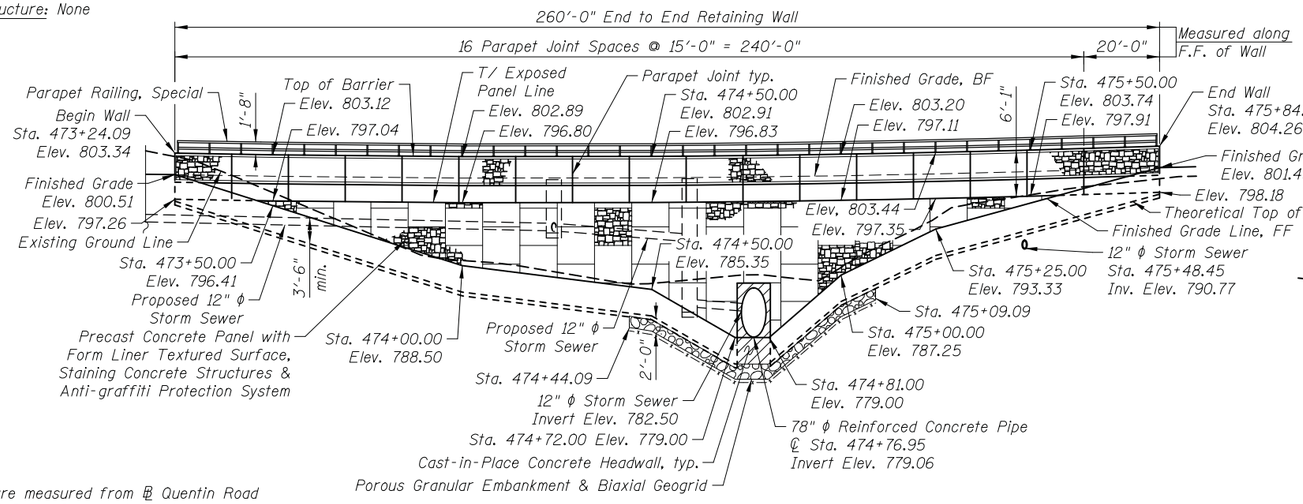
SOIL BORING LOGS
WALL C
QUENTIN ROAD; F.A.U. 2574
SHEET NO. WC5 OF WC5 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	273
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

Benchmark: TBM #5 Railroad spike (set) in seventh power pole North of Cuba Road on West side of Quentin Road, Quentin Road Sta. 475+75.63, Offset 56.00' Lt., Elevation 796.44.

Maintenance of Traffic: Traffic will be maintained during construction.

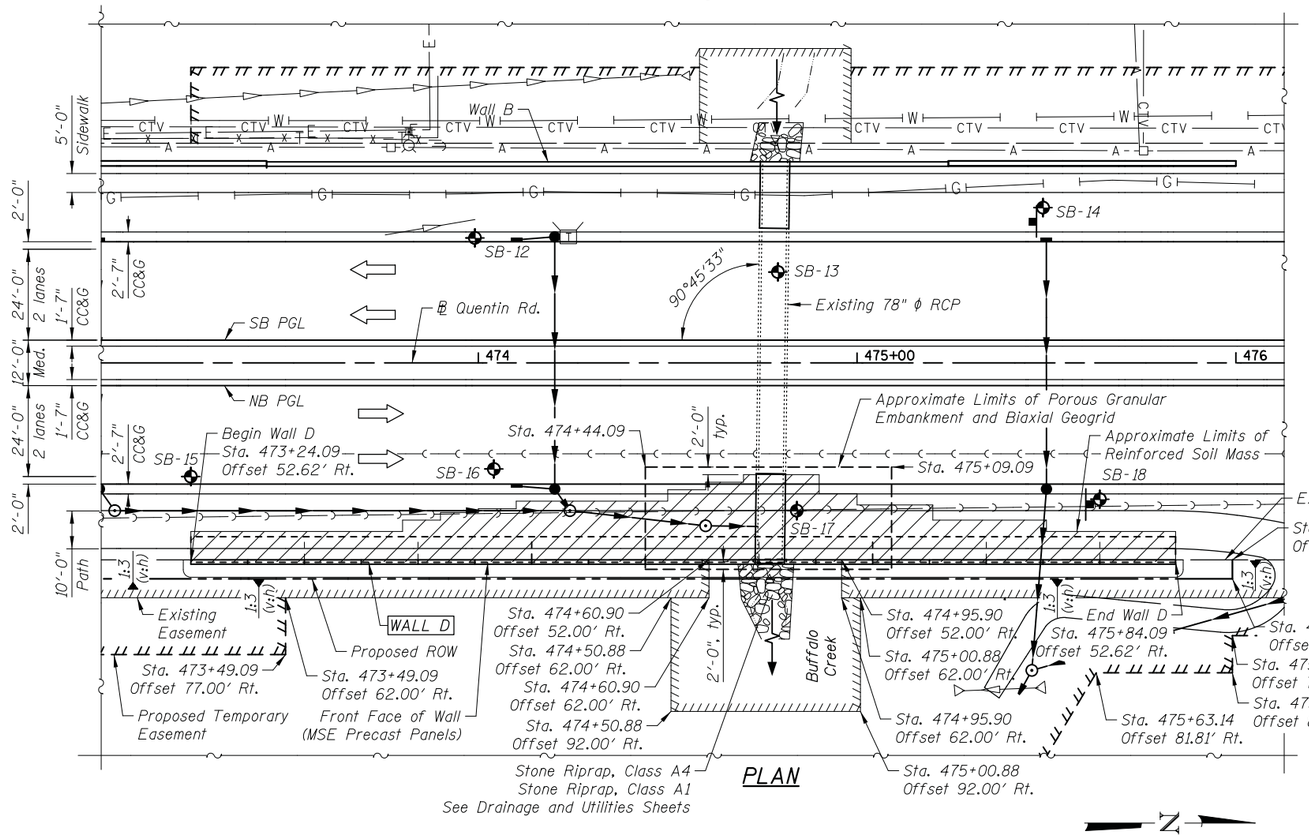
Existing Structure: None



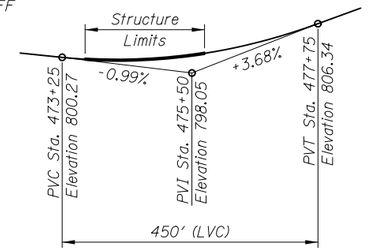
Notes:
Offsets are measured from ℄ Quentin Road to the front face of precast panels.
F.F. - Front Face
B.F. - Back Face

ELEVATION

(Looking at Front Face of Wall)



PLAN



PROPOSED PROFILE QUENTIN ROAD

CIVILTECH ENGINEERING, INC.
GREGORY J. HATLESTAD, S.E.

STATE OF ILLINOIS
GREGORY J. HATLESTAD
081-005562
LICENSED STRUCTURAL ENGINEER
CHICAGO

GREGORY J. HATLESTAD, S.E.
081-005562

EXP 11-30-2018

DATE 01-29-2018

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

LEGEND

- Proposed Storm Sewer
- G — Existing Gas Line
- Existing Storm Sewer
- Existing Sanitary Sewer
- CTV — Existing Underground Cable TV
- A — Existing Aerial Lines
- T — Existing Underground Telephone
- E — Existing Underground Electric
- x — x — x — x — Existing Fence
- W — Existing Water Main
- Soil Boring

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Porous Granular Embankment	Cu. Yd.	130
Structure Excavation	Cu. Yd.	481
Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.	852
Concrete Superstructure	Cu. Yd.	154.9
Form Liner Textured Surface	Sq. Ft.	4,089
Protective Coat	Sq. Yd.	111
Reinforcement Bars, Epoxy Coated	Pound	19,370
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	2,539
Biaxial Geogrid	Sq. Yd.	195
Staining Concrete Structures	Sq. Ft.	3,736
Parapet Railing, Special	Foot	259
Anti-graffiti Protection System	Sq. Ft.	3,736

GENERAL NOTES

1. Reinforcement bars designated (E) shall be epoxy coated.
2. Panels must be arranged to provide continuous vertical joints for the full height of the wall to accomodate potential differential settlement.

DESIGN SPECIFICATIONS

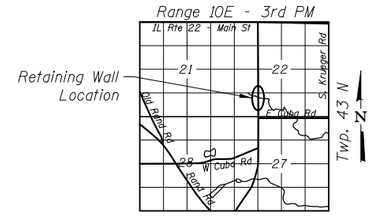
2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 and 2016 Interims

INDEX OF SHEETS

DESIGN STRESSES

FIELD UNITS
f'c = 4,000 psi
fy = 60,000 psi (Reinforcement)

PRECAST UNITS
f'c = 4,500 psi (Precast Panels)
fy = 60,000 psi (Reinforcement)
fy = 65,000 psi (Welded Wire Fabric)



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
WALL D
QUENTIN ROAD, F.A.U. RTE. 2574
SECTION 08-00090-12-CH
LAKE COUNTY
STA. 473+24.09 TO STA. 475+84.09

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
WALL D
QUENTIN ROAD; F.A.U. 2574
SHEET NO. WD1 OF WD7 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	274
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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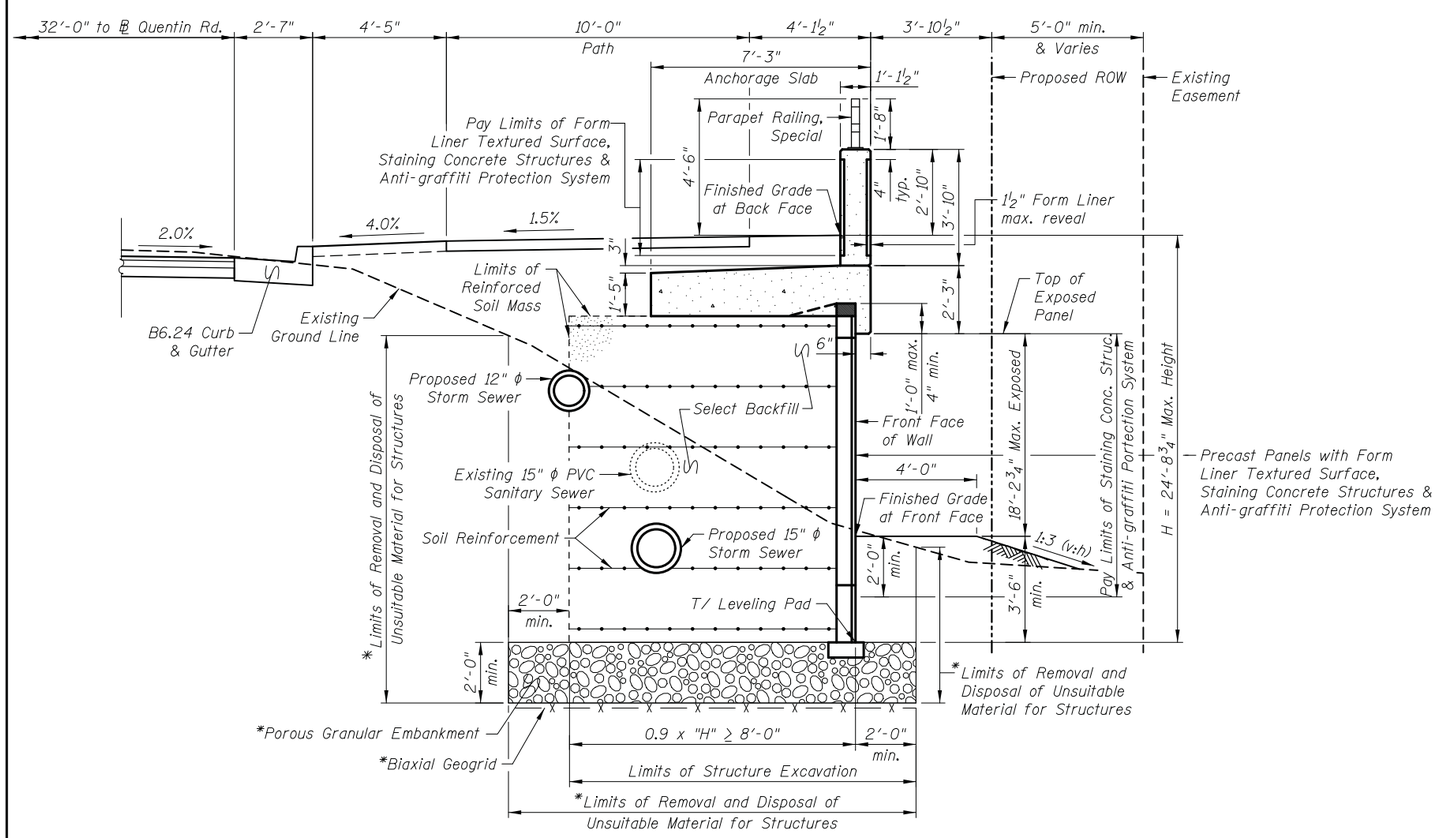


TYPICAL WALL SECTION

*Occurs between Sta. 474+44.09 and Sta. 475+09.09

The MSE wall supplier's internal stability design shall account for the anchorage slab's bearing pressure surcharge of 1.0 ksf and horizontal sliding force of 0.5 kips/ft. of wall.

MSE WALL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Porous Granular Embankment	Cu. Yd.	130
Structure Excavation	Cu. Yd.	481
Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.	852
Form Liner Textured Surface	Sq. Ft.	2,442
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	2,539
Biaxial Geogrid	Sq. Yd.	195
Staining Concrete Structures	Sq. Ft.	2,089
Anti-graffiti Protection System	Sq. Ft.	2,089

Notes:

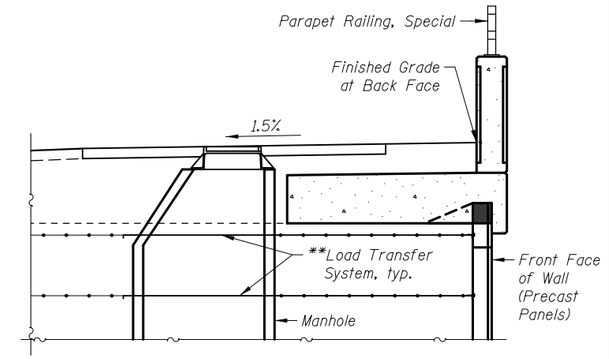
For Frame & Grate, Manhole, and Catch Basin types, see Drainage and Utilities sheets.

For Rim and Invert Elevations of Storm Sewers, see Drainage and Utilities sheets.

Cost of concrete and epoxy coated reinforcement in CIP panel to be included in the pay item Mechanically Stabilized Earth Retaining Wall.

See sheet WD4 for anchorage slab details and Bill of Material.

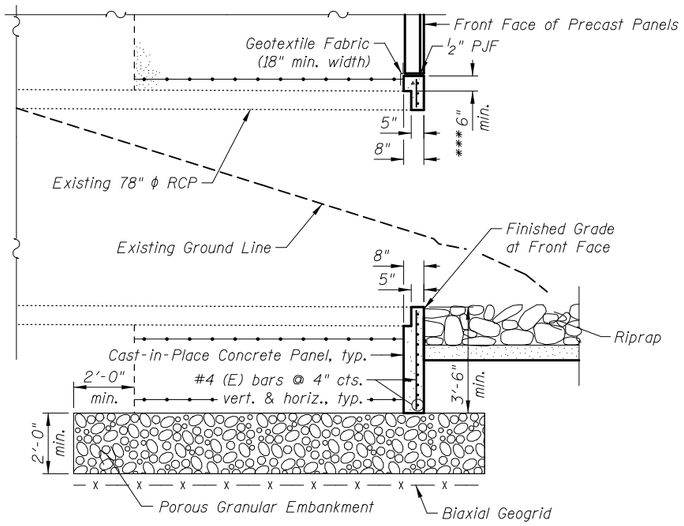
See sheet WD5 for Parapet Railing, Special details.



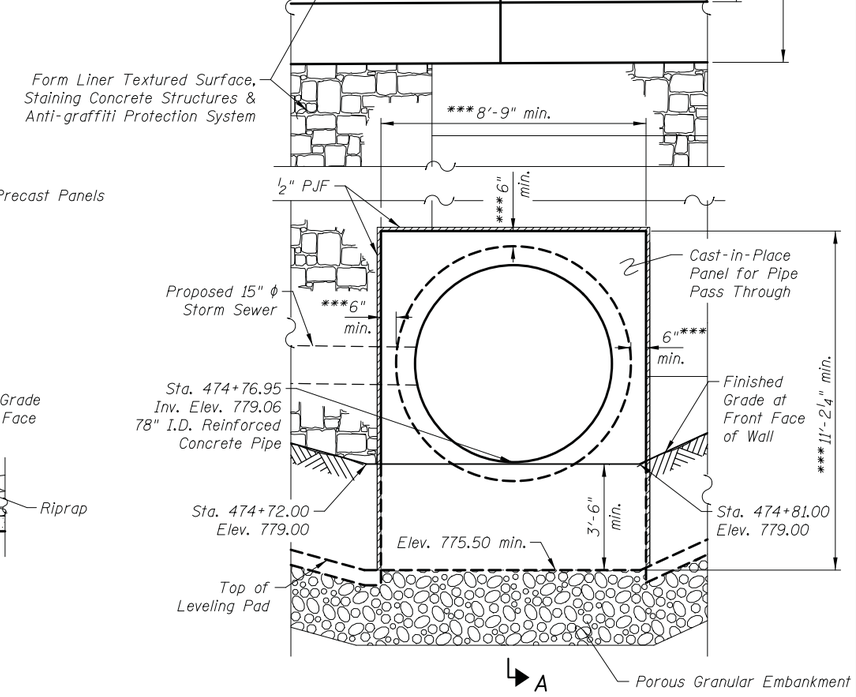
SECTION AT DRAINAGE STRUCTURE

See Typical Wall Section for balance of information

** MSE supplier to design load transfer system to accomodate concrete pipe and catch basin



SECTION A-A



CAST-IN-PLACE PANEL FOR 78" ϕ PIPE PASS THROUGH

*** Wall supplier to determine required dimensions

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MSE WALL DETAILS
WALL D
QUENTIN ROAD; F.A.U. 2574
SHEET NO. WD2 OF WD7 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	275
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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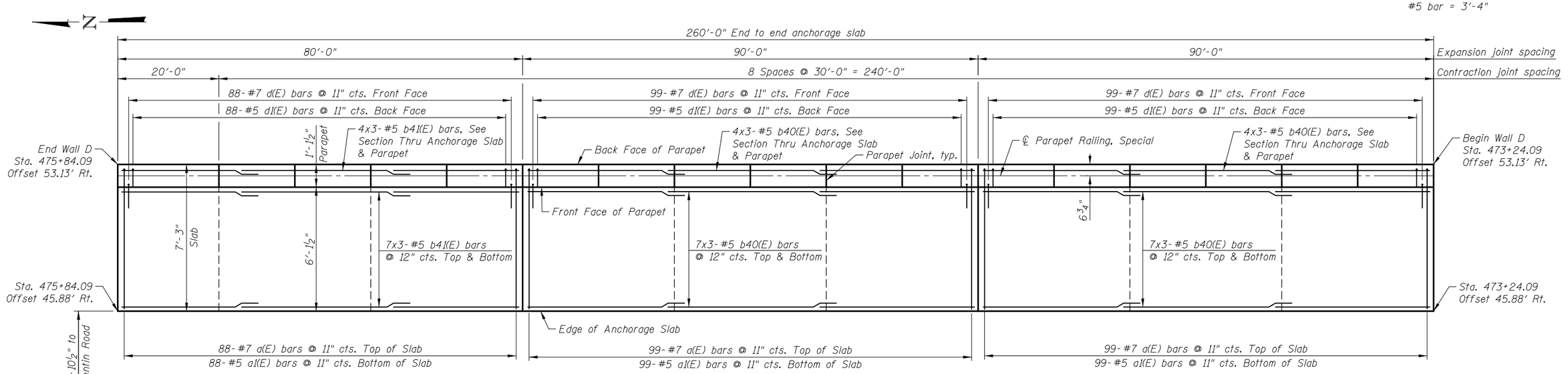
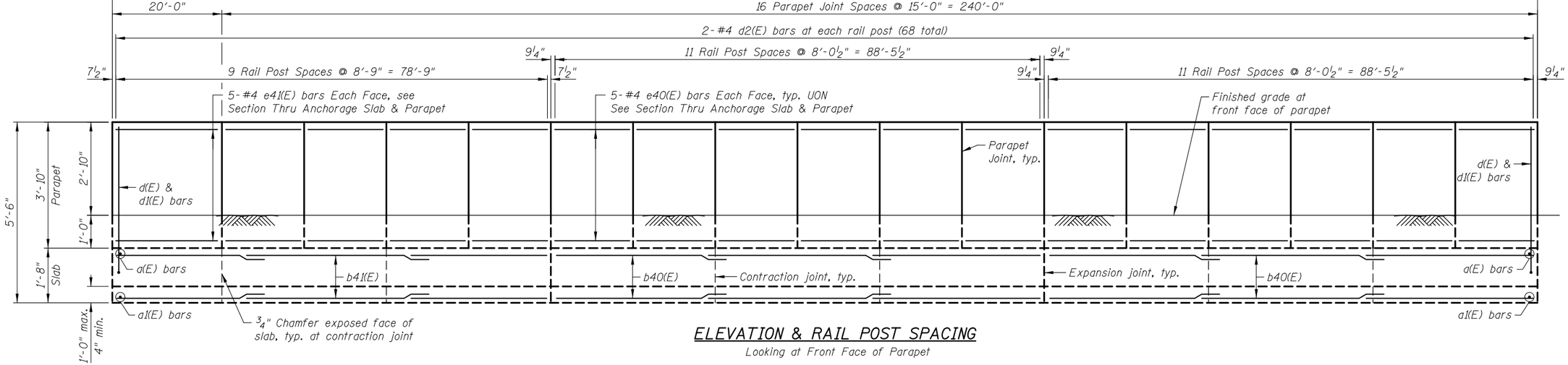
MINIMUM BAR LAP

(Anchorage Slab)
#5 bar = 3'-4"



PLAN



ELEVATION & RAIL POST SPACING

Looking at Front Face of Parapet

Notes:

Bars indicated thus 4x3-#5 indicate 4 lines of bars with 3 lengths per line.

See Sheet WD4 for Section Thru Anchorage Slab & Parapet, Bill of Material, Parapet Joint Details, Reinforcement Schedule, and Bar Bending Diagrams.

See sheet WD5 for Parapet Railing, Special details.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ANCHORAGE SLAB
WALL D
QUENTIN ROAD; F.A.U. 2574
SHEET NO. WD3 OF WD7 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	276
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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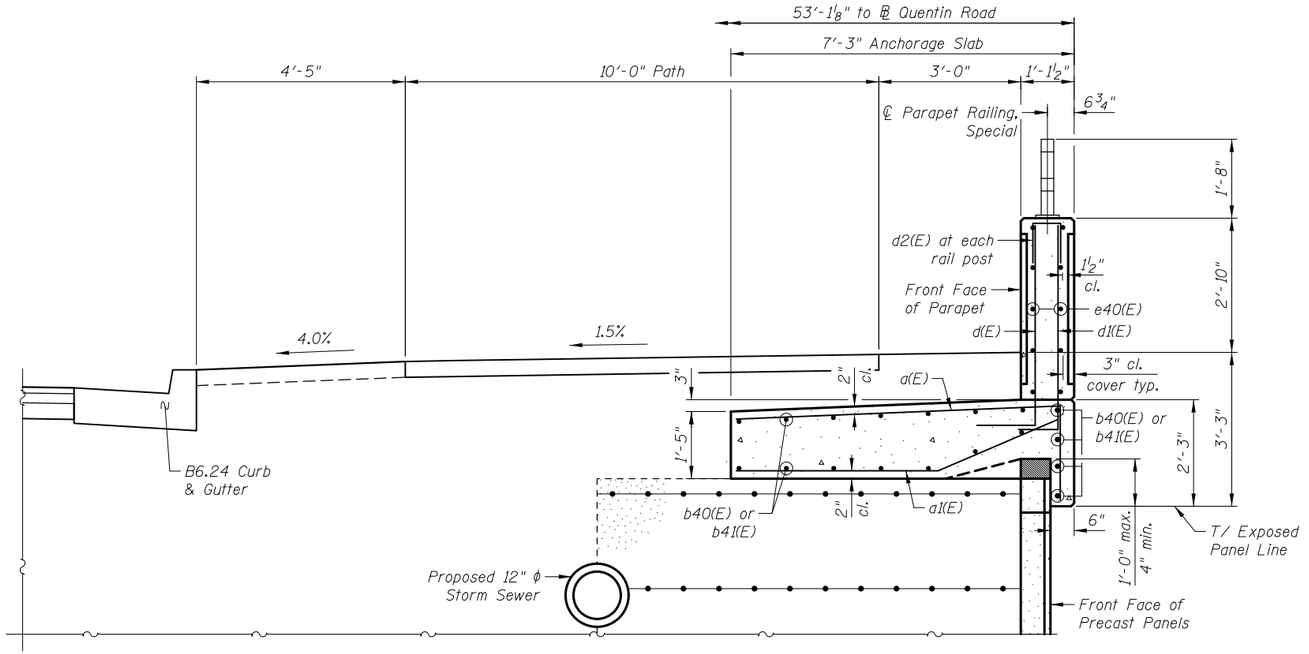
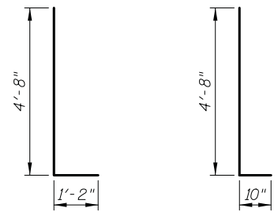


SECTION THRU ANCHORAGE SLAB & PARAPET

(All exposed edges have a ¾" chamfer)



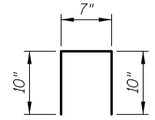
BAR d(E)

BAR d1(E)

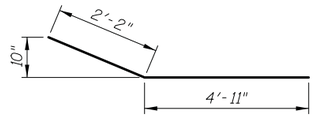
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	286	#7	8'-10"	
a1(E)	286	#5	7'-1"	
b40(E)	108	#5	32'-2"	
b41(E)	54	#5	28'-10"	
d(E)	286	#7	5'-10"	
d1(E)	286	#5	5'-6"	
d2(E)	68	#4	2'-3"	
e40(E)	160	#4	14'-8"	
e41(E)	10	#4	19'-8"	

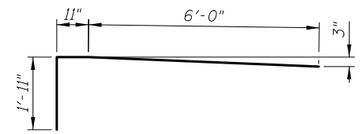
Item	Unit	Quantity
Concrete Superstructure	Cu. Yd.	154.9
Form Liner Textured Surface	Sq. Ft.	1,647
Protective Coat	Sq. Yd.	115
Reinforcement Bars, Epoxy Coated	Pound	19,380
Staining Concrete Structures	Sq. Ft.	1,647
Anti-graffiti Protection System	Sq. Ft.	1,647



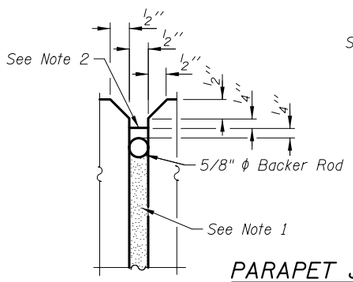
BAR d2(E)

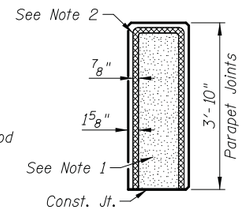


BAR a1(E)



BAR a(E)

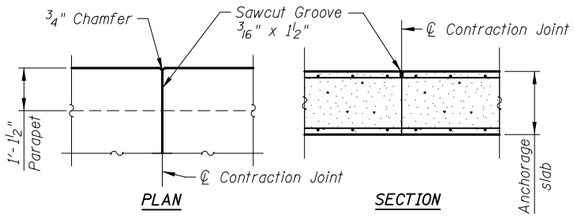




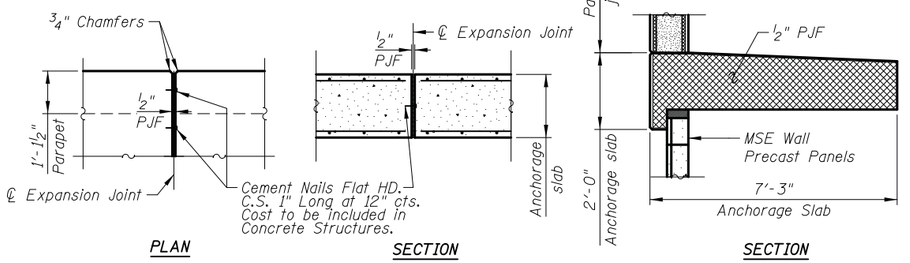
PARAPET JOINT DETAILS

Parapet Joint Notes:

1. 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 $\frac{5}{8}$" backer rod.
2. ½" Preformed Self-Expanding Cork Joint Filler according to Article 1051.07 of the Std. Spec. Cost included with Concrete Superstructure.



ANCHORAGE SLAB CONTRACTION JOINT DETAILS



ANCHORAGE SLAB EXPANSION JOINT DETAILS

CIVILTECH
450 E Devon Ave, Suite 300
Itasca, Illinois 60143
Tel: 630.773.3900 Fax: 630.773.3975
www.civiltechinc.com

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DESIGNED - K. KOMPARE	REVISED -	
CHECKED - G. HATLESTAD	REVISED -	
DATE - 01/29/18	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ANCHORAGE SLAB DETAILS
WALL D
QUENTIN ROAD; F.A.U. 2574
SHEET NO. WD4 OF WD7 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	277
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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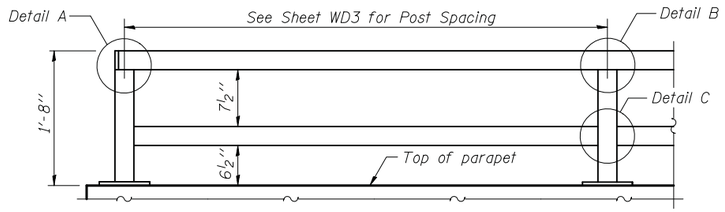
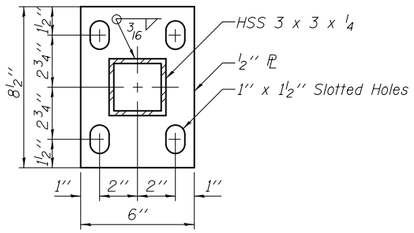
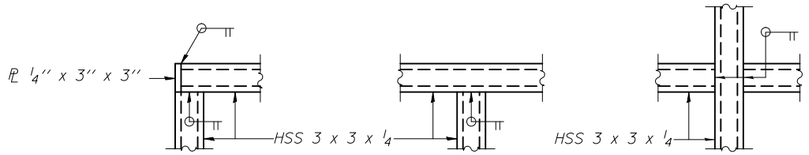
Notes:
A. All posts, anchor devices, plates and structural steel tubing shall be hot-dip galvanized after shop fabrication according to Article 509.05 of the Standard Specifications.
B. All post, railing, splices, anchor devices, and bent plates shall be painted the color black (Munsell No. N1).



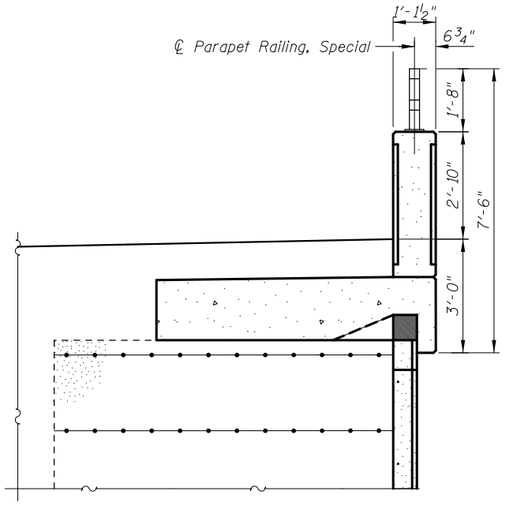
PARAPET RAILING ELEVATION
(Inside Face of Two Element Rail)



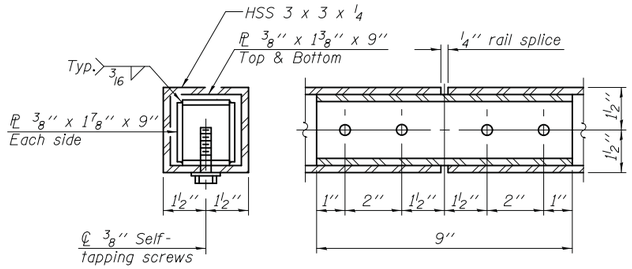
BASE PL



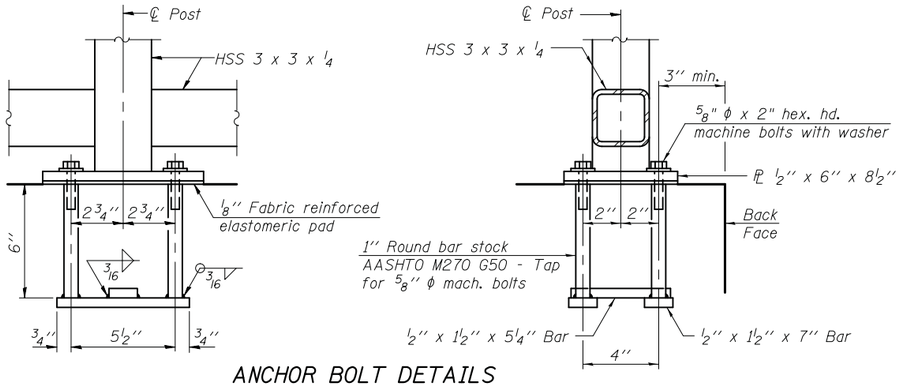
DETAIL A DETAIL B DETAIL C



SECTION THRU ANCHORAGE SLAB



RAIL SPLICE



ANCHOR BOLT DETAILS

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting ⅝" ϕ anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.

BILL OF MATERIAL

Item	Unit	Quantity
Parapet Railing, Special	Foot	259

CIVILTECH
450 E Devon Ave, Suite 300
Itasca, Illinois 60143
Tel: 630.773.3900 Fax: 630.773.3975
www.civiltechinc.com

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DESIGNED - K. KOMPARE	REVISED -	
CHECKED - G. HATLESTAD	REVISED -	
DATE - 01/29/18	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PARAPET RAILING, SPECIAL
WALL D
QUENTIN ROAD; F.A.U. 2574
SHEET NO. WD5 OF WD7 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	278
			CONTRACT NO. 61E22	
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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MIDLAND STANDARD ENGINEERING & TESTING, INC.

STRUCTURE FOUNDATION BORING LOG

Page 1 of 1

Date 2/13/12

ROUTE FAU364 DESCRIPTION Quentin Road LOGGED BY SPE

SECTION 08-00090-12-ES LOCATION Wall D (STA. 73+25 to STA. 75+85)

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

BORING NO. SB-15 DRILLING METHOD CFA HAMMER TYPE Automatic

Station 73+25
Offset 38' R of CL
Ground Surface Elev. 801.13 (ft.)

Surface Water Elev. None (ft.)
Groundwater Elev.
First Encounter None (ft.)
Upon Completion Dry (ft.)
After -- Hrs. -- (ft.)

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
Dark Brown and Brown CLAY, A-6: FILL, stiff	799.63				
			8 3-2	2.0 P	18
Brown CLAY, A-6, hard		4			
			3 3-4	5.48 BS	19
			4 5-6	6.01 BS	18
to Brown and Grey, hard to very stiff		8			
			6 7-10	3.83 BS	17
		12	6 8-10	4.89 B	20
			6 8-10	5.51 BS	18
		16			
	783.13		9 6-10	4.0 P	17
Grey CLAY, A-6, hard					
	781.13	20	4 5-7	4.69 B	19
End of Boring at 20'					

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

MIDLAND STANDARD ENGINEERING & TESTING, INC.

STRUCTURE FOUNDATION BORING LOG

Page 1 of 1

Date 2/28/12

ROUTE FAU364 DESCRIPTION Quentin Road LOGGED BY SPE

SECTION 08-00090-12-ES LOCATION Wall D (STA. 73+25 to STA. 75+85)

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

BORING NO. SB-16 DRILLING METHOD CFA HAMMER TYPE Automatic

Station 74+05
Offset 36' R of CL
Ground Surface Elev. 795.11 (ft.)

Surface Water Elev. none (ft.)
Groundwater Elev.
First Encounter 6.0' (ft.)
Upon Completion 6.2' (ft.)
After -- Hrs. -- (ft.)

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
Dark Brown CLAY, A-6: FILL					
			2 3-3	1.75 P	31
	791.61				
Olive-Grey, Brown and Black CLAY, A-6: FILL		4	3 3-5	3.80 BS	17
	788.61				
Brown and Dark Brown Clay LOAM, A-6: FILL			0 1-2	0.58 B	19
	787.11	8			
Washed Stone			2 2-3	--	7
	784.61				
Brown CLAY, A-6		12	8 13-16	6.21 BS	17
			7 9-12	6.21 B	18
		16			
to Brown and Grey			8 11-13	5.43 B	19
	777.11				
Grey SAND (f-c), little Gravel, A-2			5 10-12	--	12
	775.11	20			
End of Boring at 20'					

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

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Itasca, Illinois 60143
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DESIGNED	- K. KOMPARE	REVISED -
CHECKED	- G. HATLESTAD	REVISED -
DATE	- 01/29/18	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS I
WALL D
QUENTIN ROAD; F.A.U. 2574
SHEET NO. WD6 OF WD7 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	279
			CONTRACT NO. 61E22	
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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MIDLAND STANDARD ENGINEERING & TESTING, INC.

STRUCTURE FOUNDATION BORING LOG

Page 1 of 1

Date 2/13/12

ROUTE FAU364 DESCRIPTION Quentin Road LOGGED BY SPE

SECTION 08-00090-12-ES LOCATION Wall D (STA. 73+25 to STA. 75+85)

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

BORING NO. SB-17 DRILLING METHOD CFA HAMMER TYPE Automatic

Station 74+85
Offset 47' R of CL
Ground Surface Elev. 792.68 (ft.)

Surface Water Elev. None (ft.)
Groundwater Elev.
First Encounter None (ft.)
Upon Completion Dry (ft.)
After -- Hrs. -- (ft.)

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
Dark Brown CLAY TOPSOIL (12")	791.68				
Brown and Black CLAY, A-6: FILL, very stiff to stiff			2 3-2	2.27 BS	19
		4	1 2-2	1.16 BS	21
little Gravel, trace Asphalt	784.68		2 3-2	---	10
Black CLAY, A-7-6	783.68	8			
Olive-Brown to Yellow-Brown and Grey CLAY, A-6, stiff			3 4-5	2.5 P	29
		12	4 4-4	1.90 BS	24
	777.18		ST-6	1.5 P	20
Grey CLAY, A-6, stiff		16			
			3 4-5	1.47 B	19
	772.68	20	3 5-6	1.94 BS	18
End of Boring at 20'					

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

MIDLAND STANDARD ENGINEERING & TESTING, INC.

STRUCTURE FOUNDATION BORING LOG

Page 1 of 1

Date 2/13/12

ROUTE FAU364 DESCRIPTION Quentin Road LOGGED BY SPE

SECTION 08-00090-12-ES LOCATION Wall D (STA. 73+25 to STA. 75+85)

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

BORING NO. SB-18 DRILLING METHOD CFA HAMMER TYPE Automatic

Station 75+65
Offset 44' R of CL
Ground Surface Elev. 797.50 (ft.)

Surface Water Elev. None (ft.)
Groundwater Elev.
First Encounter None (ft.)
Upon Completion Dry (ft.)
After -- Hrs. -- (ft.)

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
Dark Brown over Brown and Grey CLAY, A-6: FILL, hard			3 4-4	4.66 BS	20
	793	4	2 3-3	2.5 P	28
Black CLAY, A-7-6	792				
Olive-Brown to Brown CLAY, A-6, stiff to very stiff			2 2-3	1.78 BS	24
		8			
	787		3 4-4	2.33 BS	25
Brown and Grey CLAY, A-6, very stiff to very hard		12	4 5-6	2.91 BS	21
			4 8-10	6.18 BS	14
	779.5	16	8 9-10	10.09 B	16
Grey CLAY, A-6, very stiff	777.5	20	3 5-7	2.72 B	16
End of Boring at 20'					

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

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CHECKED	- G. HATLESTAD	REVISED -
DATE	- 01/29/18	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

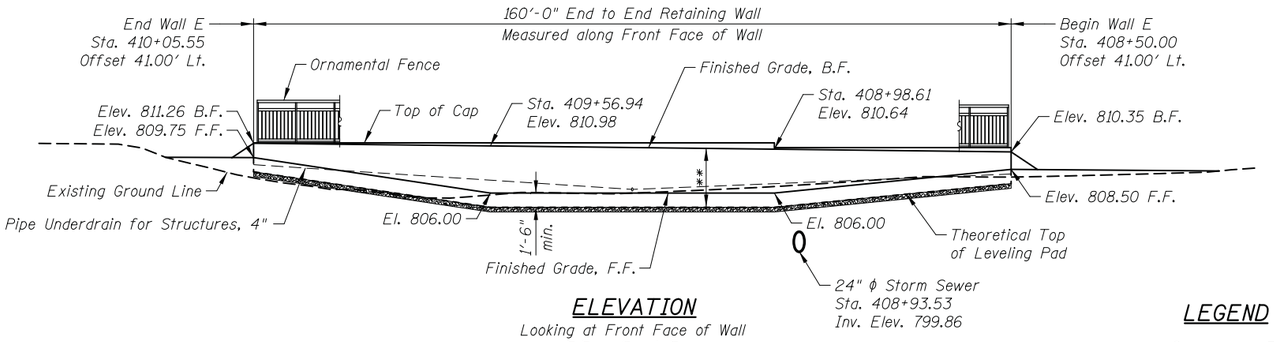
SOIL BORING LOGS II
WALL D
QUENTIN ROAD; F.A.U. 2574
SHEET NO. WD7 OF WD7 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	280
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

Benchmark: Lake County Mapping B.M. #4-28B Cut Square on Handhole in SE Corner of the Intersection of Quentin Rd. and Long Grove Rd. N.G.V.D. 1929 Elevation 805.74

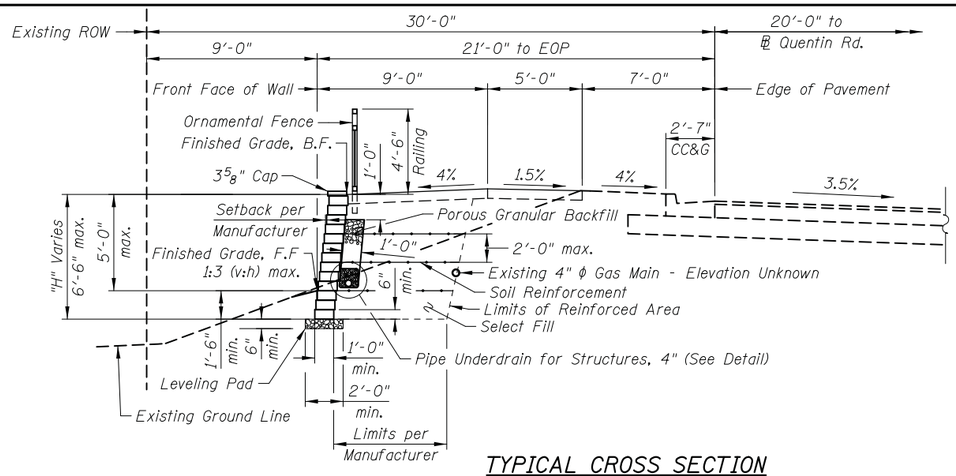
Maintenance of Traffic: Traffic will be maintained during construction.

Existing Structure: None.



ELEVATION

Looking at Front Face of Wall
F.F. = Front Face
B.F. = Back Face
** Pay Limits of Segmental Concrete Block Wall



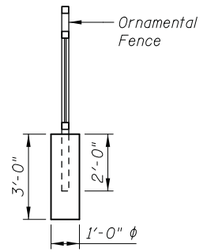
TYPICAL CROSS SECTION

LEGEND

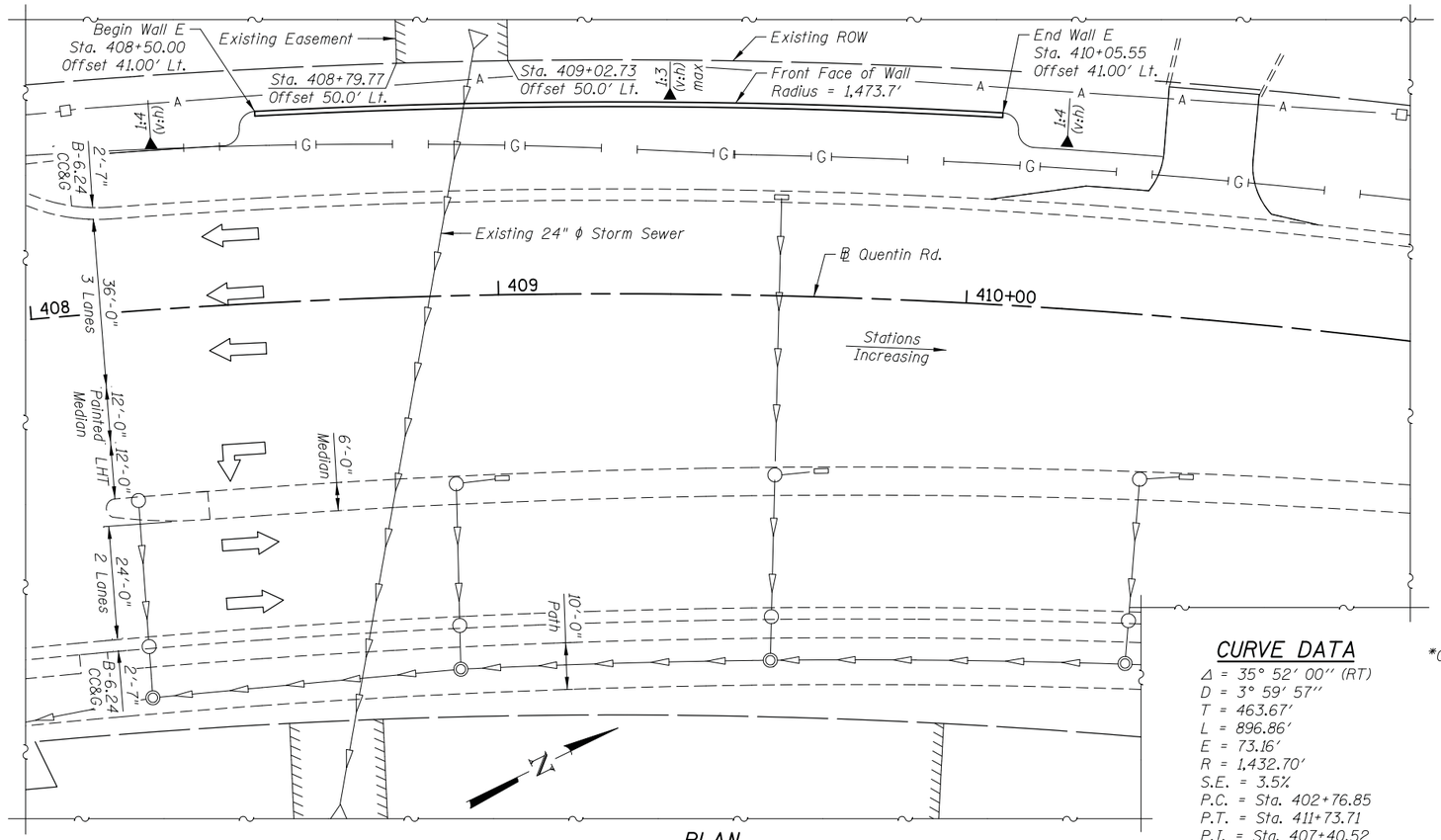
G — Existing Gas Line
Existing Storm Sewer

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Porous Granular Backfill	Cu. Yd.	17
Segmental Concrete Block Wall	Sq. Ft.	854
Pipe Underdrain for Structures 4"	Foot	161
Ornamental Fence	Foot	160

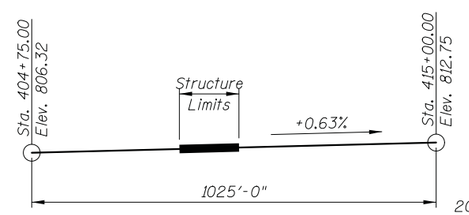


ORNAMENTAL FENCE



PLAN

Offsets are measured from ℄ Quentin Rd. to the front face of the Segmental Concrete Block Wall.



EXISTING PROFILE QUENTIN ROAD

CURVE DATA

Δ = 35° 52' 00" (RT)
D = 3° 59' 57"
T = 463.67'
L = 896.86'
E = 73.16'
R = 1,432.70'
S.E. = 3.5%
P.C. = Sta. 402+76.85
P.T. = Sta. 411+73.71
P.I. = Sta. 407+40.52
End S.E. = 411+89.60
N.C. = 412+91.60

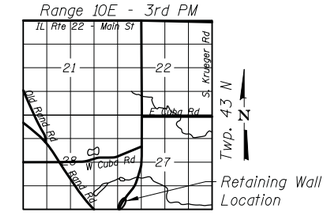
DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications.
7th Edition with 2015 and 2016 Interims

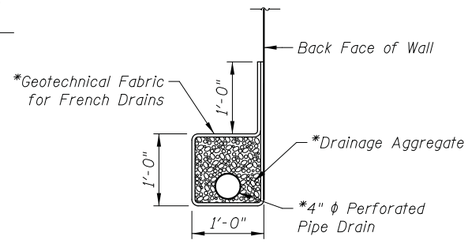
GENERAL NOTES:

1. Design and installation of Segmental Concrete Block Wall (including need for Soil Reinforcement) to be in accordance with Wall System Manufacturer Design Requirements and Specifications.

2. Excavation, leveling pad, select fill, soil reinforcement, and design are included in cost of Segmental Concrete Block Wall.



LOCATION SKETCH



PIPE UNDERDRAIN DETAIL

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

GENERAL PLAN AND ELEVATION
WALL E
QUENTIN ROAD, F.A.U. RTE 2547
SECTION 08-00090-12-CH
LAKE COUNTY
STA. 408+50.00 TO STA. 410+05.55

CIVILTECH
450 E Devon Ave, Suite 300
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DESIGNED - K. KOMPARE	REVISED -	
CHECKED - G. HATLESTAD	REVISED -	
DATE - 01/29/18	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
WALL E
QUENTIN ROAD F.A.U. 2574
SHEET NO. WE1 OF WE1 SHEET

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	281
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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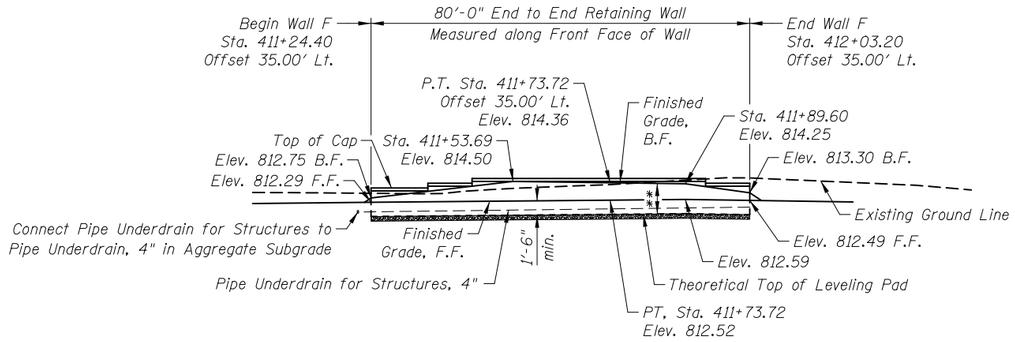
Benchmark: Lake County Mapping B.M. #4-28B Cut Square on Handhole in SE Corner of the Intersection of Quentin Rd. and Long Grove Rd. N.G.V.D. 1929 Elevation 805.74

Maintenance of Traffic: Traffic will be maintained during construction.

Existing Structure: None.

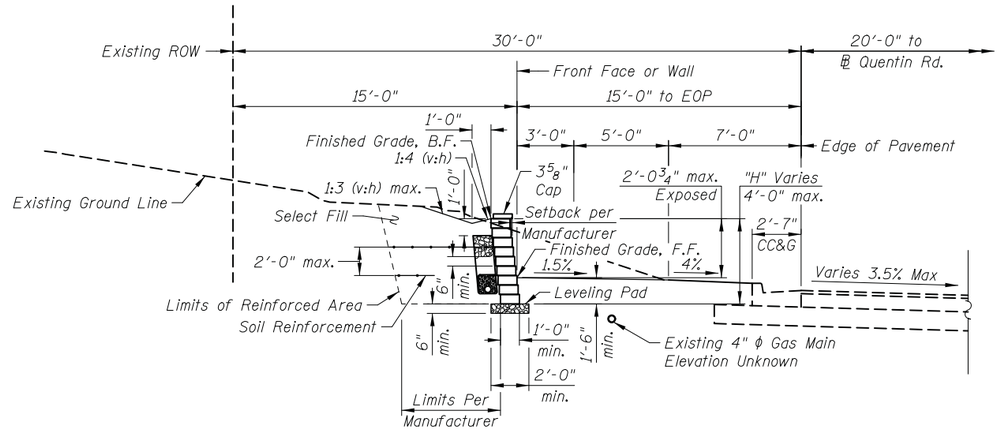
CURVE DATA

Δ = 35° 52′ 02″ (RT)
D = 3° 59′ 57″
T = 463.68′
L = 896.87′
E = 73.16′
R = 1,432.70′
S.E. = 3.5%
P.C. = Sta. 402+76.84
P.T. = Sta. 411+73.72
P.I. = Sta. 407+40.52
End S.E. = 411+89.60
N.C. = 412+91.60



ELEVATION

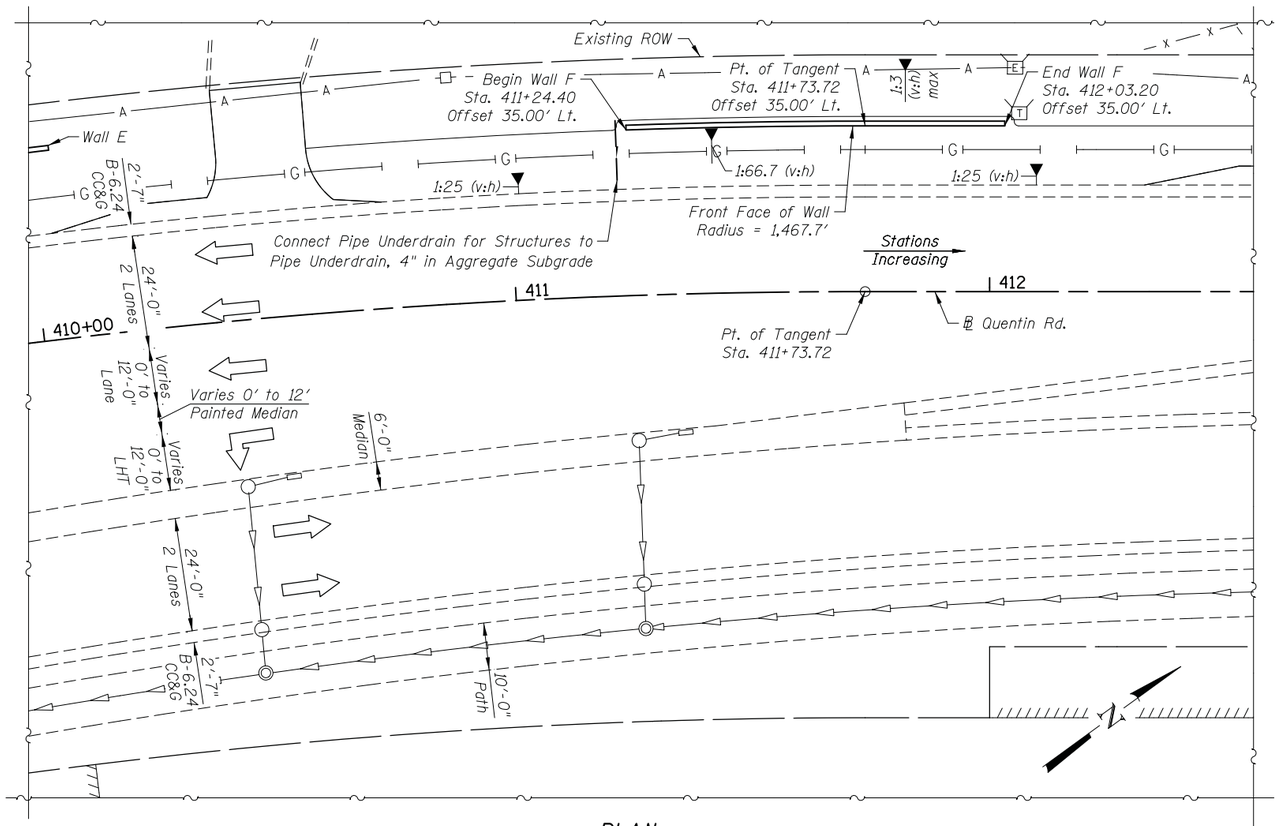
Looking at Front Face of Wall
F.F. = Front Face
B.F. = Back Face
** Pay Limits of Segmental Concrete Block Wall



TYPICAL CROSS SECTION

LEGEND

G — Existing Gas Line
— Existing Storm Sewer



PLAN

Offsets are measured from ℄ Quentin Rd. to the front face of the Segmental Concrete Block Wall.

TOTAL BILL OF MATERIAL

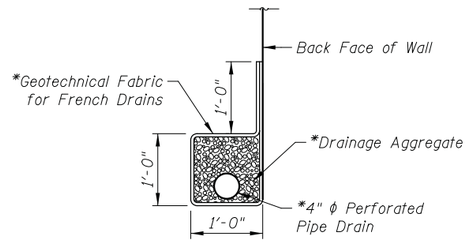
ITEM	UNIT	TOTAL
Porous Granular Backfill	Cu. Yd.	5
Segmental Concrete Block Wall	Sq. Ft.	243
Pipe Underdrain for Structures 4"	Foot	96

EXISTING PROFILE QUENTIN ROAD

GENERAL NOTES:

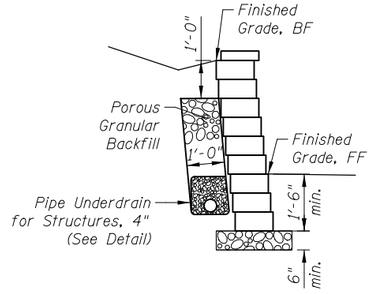
1. Design and installation of Segmental Concrete Block Wall (including need for Soil Reinforcement) to be in accordance with Wall System Manufacturer Design Requirements and Specifications.

2. Excavation, leveling pad, select fill, soil reinforcement, and design are included in cost of Segmental Concrete Block Wall.



PIPE UNDERDRAIN DETAIL

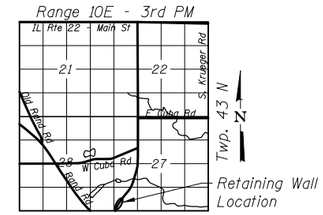
*Included in the cost of Pipe Underdrains for Structures 4"



BACKFILL DETAIL

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 and 2016 Interims



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
WALL F
QUENTIN ROAD, F.A.U. RTE 2547
SECTION 08-00090-12-CH
LAKE COUNTY
STA. 411+24.40 TO STA. 412+03.20

CIVILTECH
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DESIGNED - K. KOMPARE	REVISED -	
CHECKED - G. HATLESTAD	REVISED -	
DATE - 01/29/18	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
WALL F
QUENTIN ROAD F.A.U. 2574
SHEET NO. WF1 OF WF1 SHEET

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	282
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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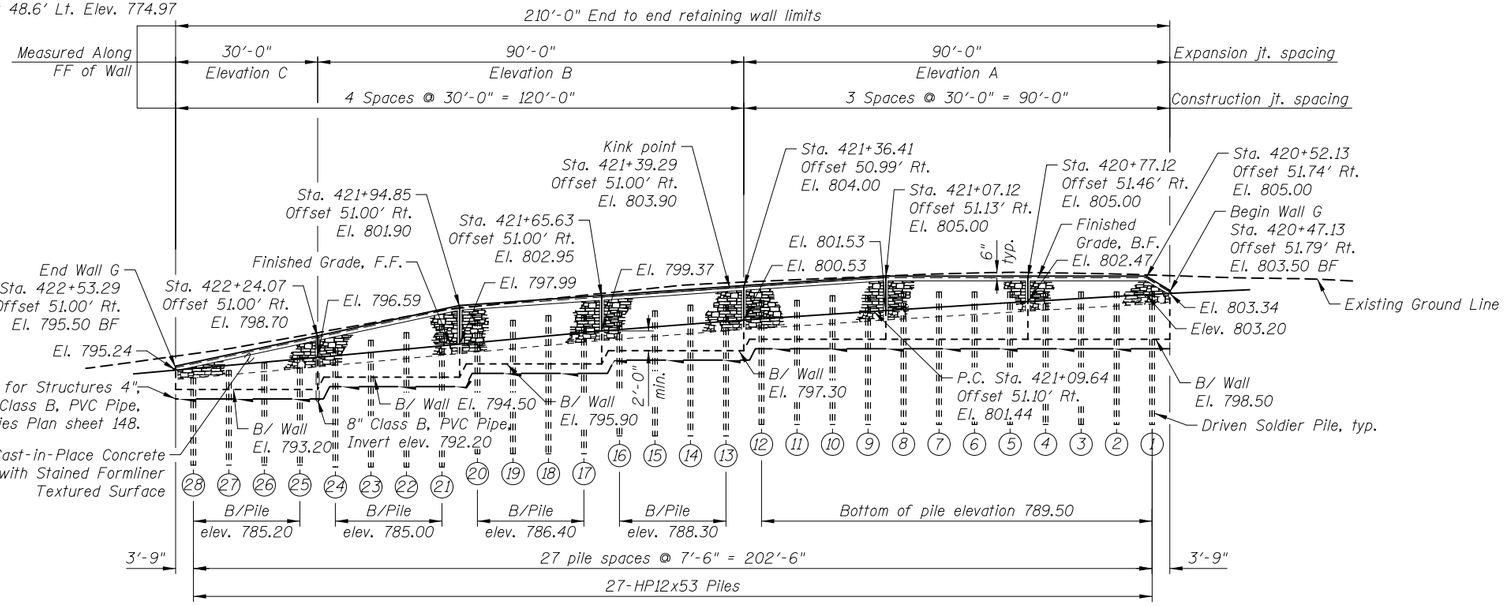
Benchmark: TBM #1 Railroad spike (set) in first power pole North of High Knoll Court on West side of Quentin Road. Sta. 427+81.66, Offset 48.6' Lt. Elev. 774.97

Maintenance of Traffic: Traffic will be maintained during construction.

Existing Structure: None.



ELEVATION

Unfolded elevation
(Looking at Front Face of Wall - opposite of plan view)

LEGEND

- Existing storm sewer
- Existing electric line
- Existing telephone line
- Existing Aerial Lines
- Existing Gas Line
- Proposed Storm Sewer
- Proposed Pipe Underdrain
- Soil Boring

CURVE DATA

Δ = 20° 00' 46" (Lt.)
D = 2° 59' 58.64"
T = 337.02'
L = 667.18'
E = 29.50'
R = 1,910.10'
S.E. = 3.2%
P.C. = Sta. 421+09.64
P.T. = Sta. 427+76.82
P.I. = Sta. 424+46.66
N.C. = Sta. 419+35.00
Start S.E. = Sta. 421+55.00
End S.E. = Sta. 427+30.00

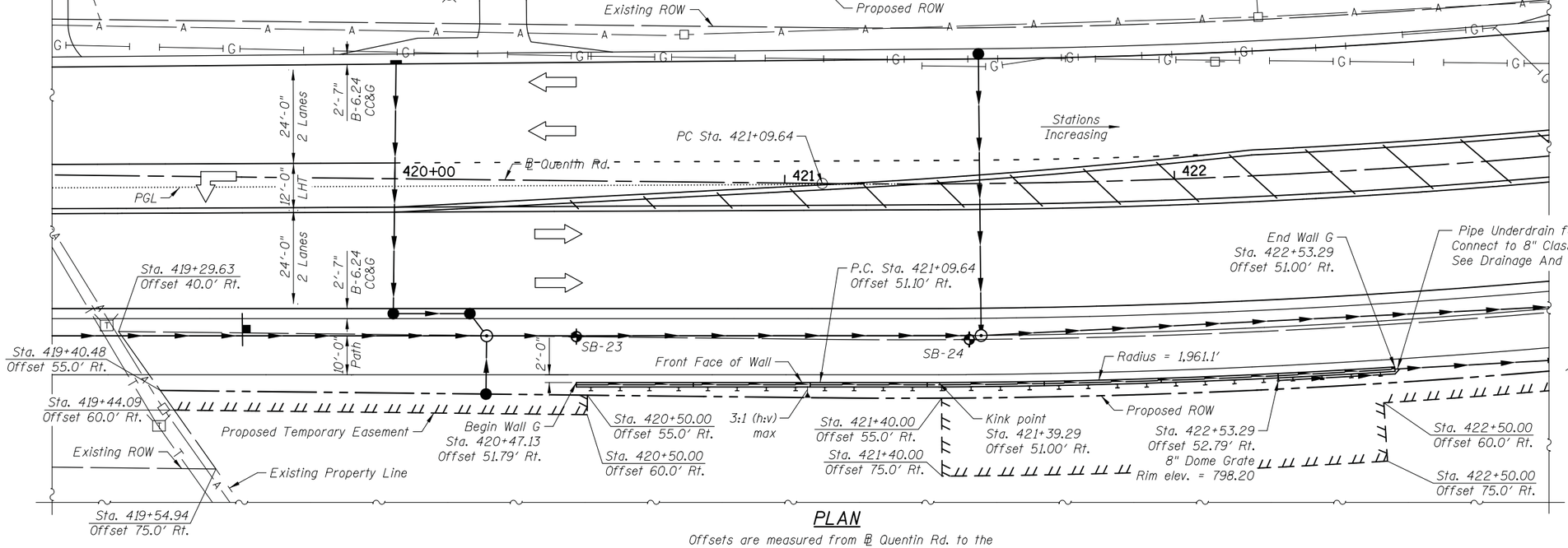
DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)

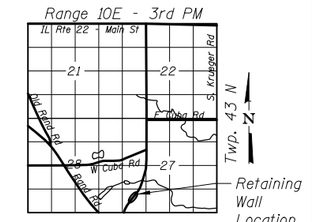
DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 and 2016 Interims



PLAN

Offsets are measured from ℄ Quentin Rd. to the front face of the Soldier Pile Retaining Wall.



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
WALL G
QUENTIN ROAD, F.A.U. RTE 2547
SECTION 08-00090-12-CH
LAKE COUNTY
STA. 420+47.13 TO STA. 422+53.29

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DESIGNED - J. SCHROEDER	REVISED -	
CHECKED - G. HATLESTAD	REVISED -	
DATE - 01/29/18	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
WALL G
QUENTIN ROAD F.A.U. 2574
SHEET NO. WG1 OF WG5 SHEET

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	283
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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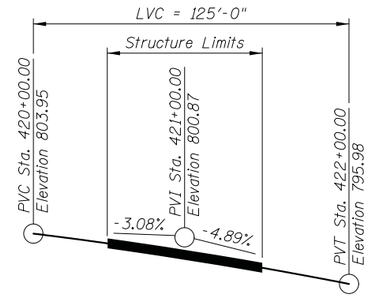
GENERAL NOTES

1. All exposed edges shall have $\frac{3}{4}$" Chamfer.
2. Reinforcement Bars designated (E) shall be Epoxy Coated.

INDEX OF SHEETS

TOTAL BILL OF MATERIAL

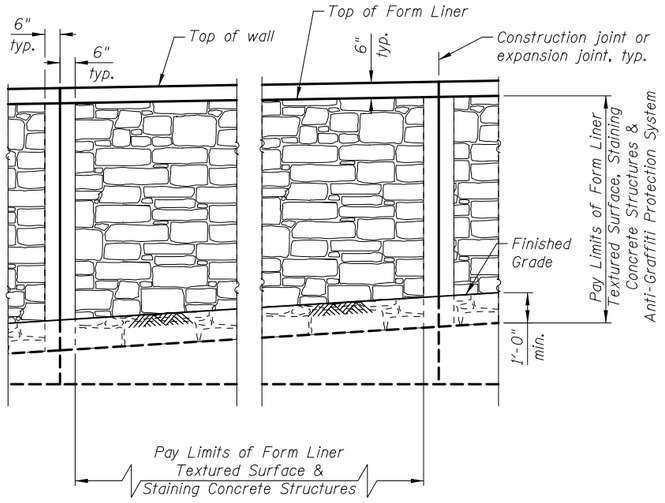
ITEM	UNIT	TOTAL
Structure Excavation	Cu. Yd.	173
Form Liner Textured Surface	Sq. Ft.	705
Stud Shear Connectors	Each	160
Reinforcement Bars, Epoxy Coated	Pound	4,640
Furnishing Soldier Piles (HP Section)	Foot	374
Driving Soldier Piles	Foot	374
Untreated Timber Lagging	Sq. Ft.	830
Concrete Structures (Retaining Wall)	Cu. Yd.	53.3
Geocomposite Wall Drain	Sq. Yd.	68
Anti-Graffiti Protection System	Sq. Ft.	705
Staining Concrete Structures	Sq. Ft.	705
Pipe Underdrains for Structures 4"	Foot	211



PROPOSED PROFILE QUENTIN ROAD

PILE ELEVATIONS

Pile No.	Centerline of Pile Station	Centerline of Pile Offset (Rt.)	Top of Pile Elevation	Stud Shear Connectors
1	420+50.89	53.37	803.5	6
2	420+58.39	53.28	803.5	6
3	420+65.89	53.20	803.5	6
4	420+73.39	53.12	803.5	6
5	420+80.89	53.03	803.5	6
6	420+88.39	52.95	803.5	6
7	420+95.89	52.87	803.5	6
8	421+03.39	52.79	803.5	6
9	421+10.86	52.70	803.1	6
10	421+18.15	52.64	803.1	6
11	421+25.45	52.60	802.6	6
12	421+32.75	52.60	802.6	6
13	421+40.05	52.61	802.1	6
14	421+47.36	52.61	802.1	6
15	421+54.67	52.61	801.5	6
16	421+61.97	52.61	801.5	6
17	421+69.28	52.61	801.0	7
18	421+76.58	52.61	801.0	7
19	421+83.89	52.61	800.5	6
20	421+91.19	52.61	800.5	6
21	421+98.50	52.61	800.0	7
22	422+05.80	52.61	799.2	6
23	422+13.11	52.61	798.4	5
24	422+20.41	52.61	797.6	5
25	422+27.72	52.61	796.8	5
26	422+35.02	52.61	796.0	4
27	422+42.33	52.61	795.2	3
28	422+49.63	52.61	794.4	3



FORM LINER TEXTURED SURFACE DETAIL

Notes:
See sheet WG3 for retaining wall elevations.

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DATE - 01/29/18	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RETAINING WALL DETAILS
WALL G
QUENTIN ROAD F.A.U. 2574
SHEET NO. WG2 OF WG5 SHEET

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	284
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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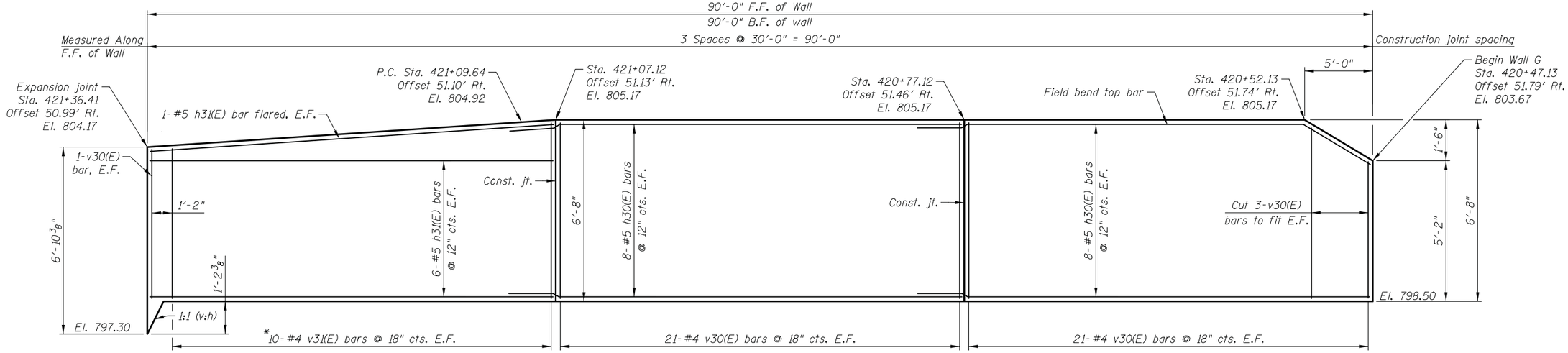
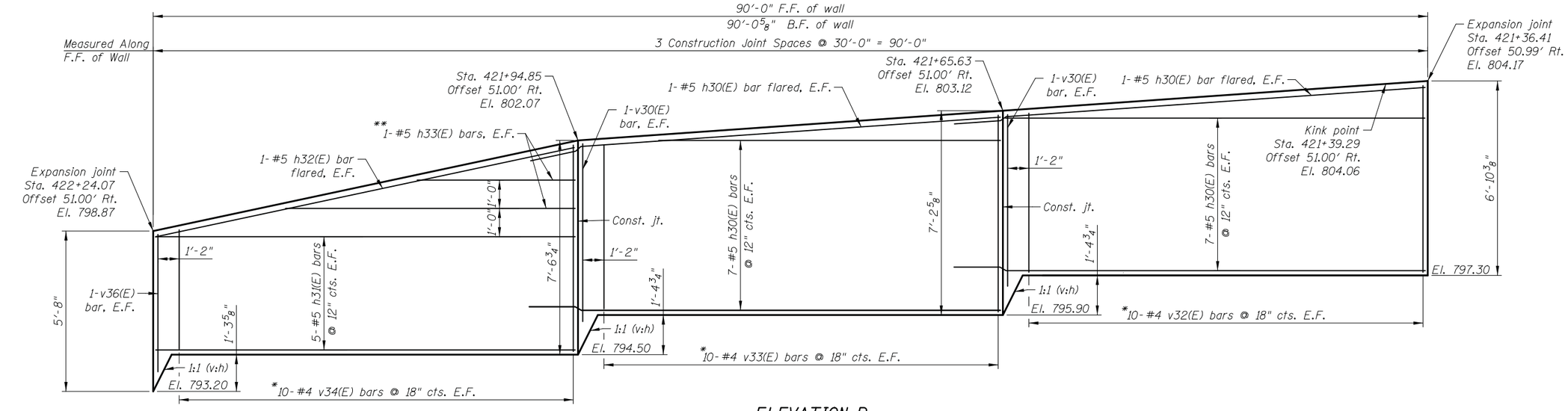
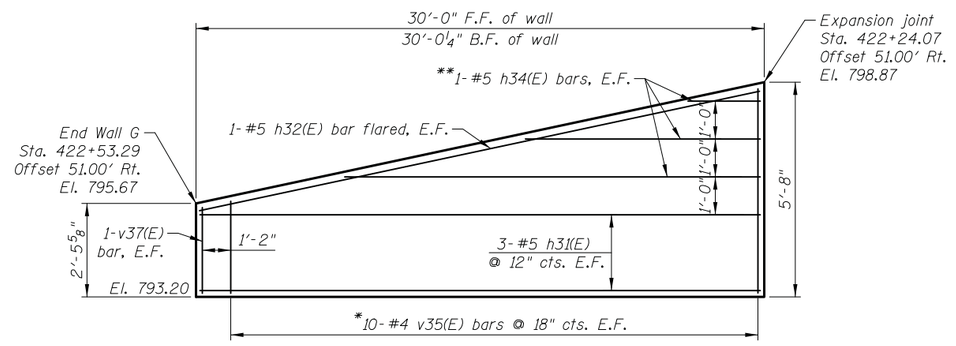


ELEVATION A



ELEVATION B



ELEVATION C

MINIMUM BAR LAP

#5 bar = 3'-7"

* See Field Cutting Diagram on sheet WG4.

** Order h33(E) & h34(E) bars full length, cut to fit and use remainder as designated.

Note: Stations and offsets are taken from front face of wall.

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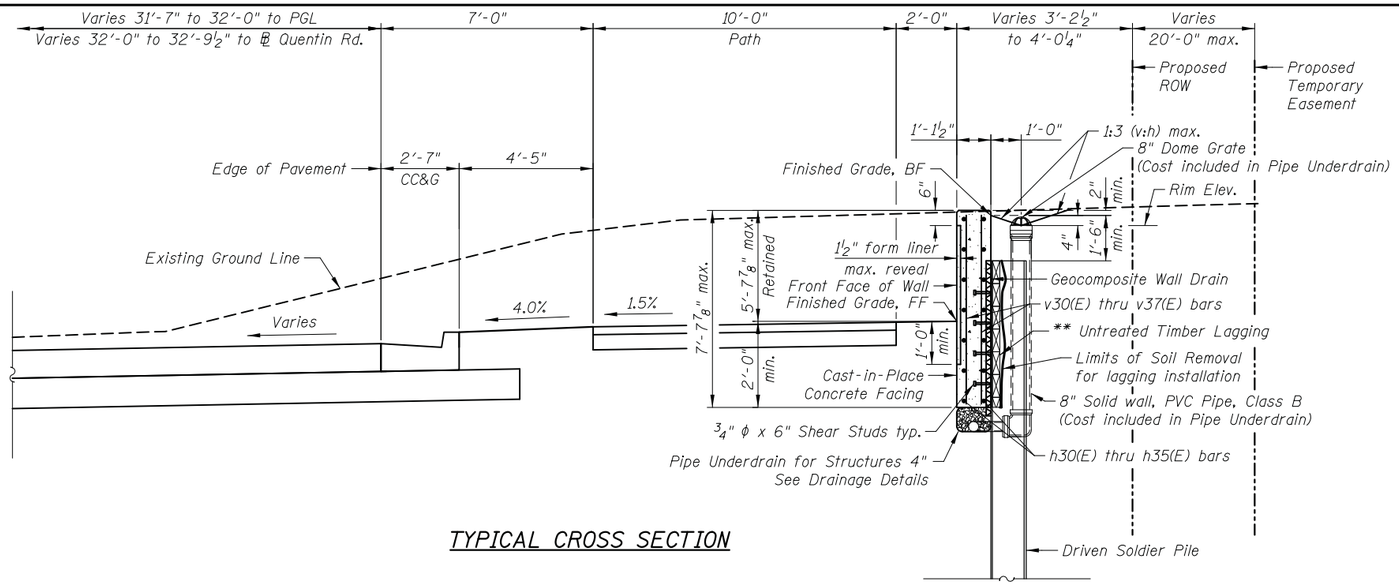
DESIGNED - J. SCHROEDER	REVISED -	
CHECKED - G. HATLESTAD	REVISED -	
DATE - 01/29/18	REVISED -	

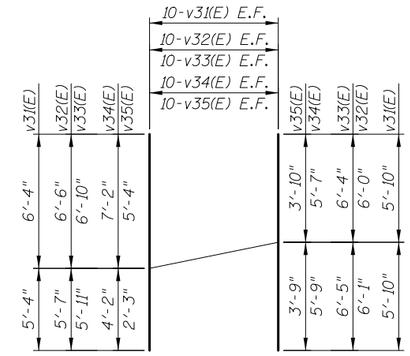
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RETAINING WALL
WALL G
QUENTIN ROAD F.A.U. 2574
SHEET NO. WG3 OF WG5 SHEET

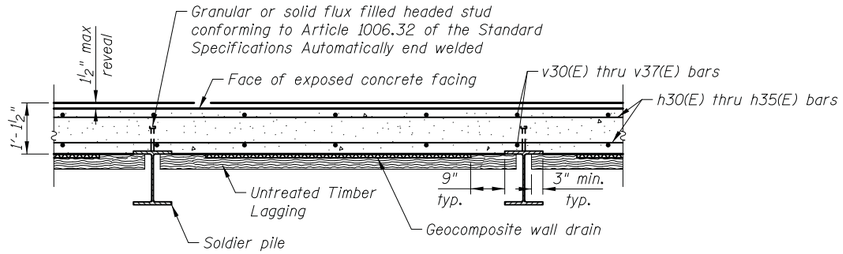
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	285
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



TYPICAL CROSS SECTION



FIELD CUTTING DIAGRAM



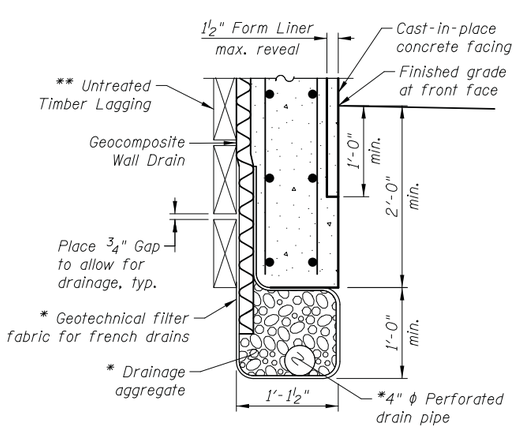
SECTION THRU DRIVEN SOLDIER PILE WALL

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

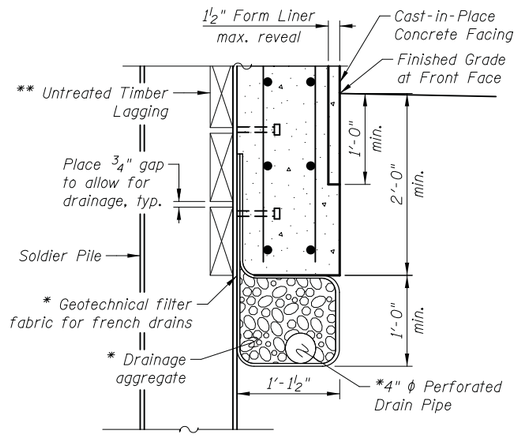
REINFORCEMENT BAR LIST

Bar	No.	Size	Length	Shape
h30(E)	64	#5	33'-7"	
h31(E)	30	#5	29'-8"	
h32(E)	4	#5	29'-10"	
h33(E)	2	#5	31'-8"	
h34(E)	2	#5	38'-3"	
v30(E)	90	#4	6'-4"	
v31(E)	20	#4	11'-8"	
v32(E)	20	#4	12'-1"	
v33(E)	20	#4	12'-9"	
v34(E)	20	#4	11'-4"	
v35(E)	20	#4	7'-7"	
v36(E)	2	#4	5'-1"	
v37(E)	2	#4	2'-2"	

Item	Unit	Quantity
Structure Excavation	Cu. Yd.	173
Form Liner Textured Surface	Sq. Ft.	705
Stud Shear Connectors	Each	160
Reinforcement Bars, Epoxy Coated	Pound	4,640
Furnishing Soldier Piles (HP Section)	Foot	374
Driving Soldier Piles	Foot	374
Untreated Timber Lagging	Sq. Ft.	830
Concrete Structures (Retaining Wall)	Cu. Yd.	53.3
Geocomposite Wall Drain	Sq. Yd.	68
Anti-Graffiti Protection System	Sq. Ft.	705
Staining Concrete Structures	Sq. Ft.	705
Pipe Underdrains for Structures 4"	Foot	211



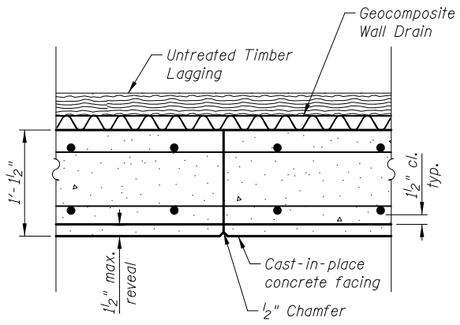
BETWEEN SOLDIER PILES



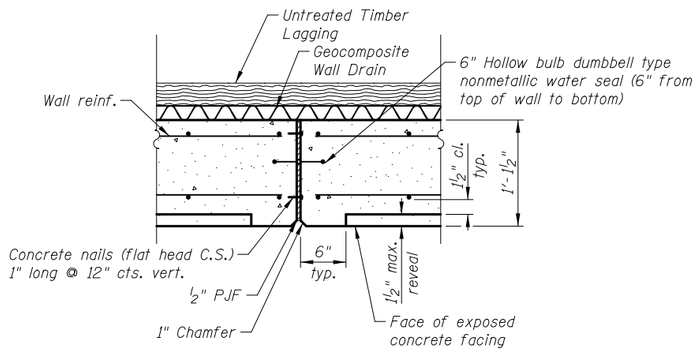
AT SOLDIER PILES

DRAINAGE DETAILS

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



CONSTRUCTION JOINT



EXPANSION JOINT

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DESIGNED - J. SCHROEDER	REVISED -	
CHECKED - G. HATLESTAD	REVISED -	
DATE - 01/29/18	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RETAINING WALL DETAILS
WALL G
QUENTIN ROAD F.A.U. 2574
SHEET NO. WG4 OF WG5 SHEET

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	286
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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MIDLAND STANDARD ENGINEERING & TESTING, INC.
STRUCTURE FOUNDATION BORING LOG

Page 1 of 1

Date 10/24/13

ROUTE 364 DESCRIPTION Quentin Road LOGGED BY WW

SECTION 08-00080-12-ES LOCATION Retaining Wall H

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

BORING NO. SB-23 DRILLING METHOD HSA HAMMER TYPE Auto

Station 420+47
Offset 40' R
Ground Surface Elev. 805.1 (ft.)

Surface Water Elev. 791.6 (ft.)
Groundwater Elev.
First Encounter 13.5' (ft.)
Upon Completion Dry (ft.)
After _____ Hrs. _____ (ft.)

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
Dark Brown Silty CLAY, Topsoil 4"	804.8				
Brown and Grey CLAY, A-6 little Sand, trace Gravel, hard			7 13-14	4.5 Qp	15
		3			
			9 13-17	4.5 Qp	14
		6			
			5 13-13	7.76 BS	16
		9			
			31 8-13	4.66 BS	16
Sandy CLAY seam at 12 Feet		12	4 10-16	7.37 B	16
		15	3 7-9	6.79 B	19
	789.6				
Grey CLAY, A-6 trace Sand, trace Gravel, hard			4 9-11	3.41 B	16
	787.6				
End of Boring at 17.5 Feet					

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

MIDLAND STANDARD ENGINEERING & TESTING, INC.
STRUCTURE FOUNDATION BORING LOG

Page 1 of 1

Date 10/24/13

ROUTE 364 DESCRIPTION Quentin Road LOGGED BY WW

SECTION 08-00080-12-ES LOCATION Retaining Wall H

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

BORING NO. SB-24 DRILLING METHOD HSA HAMMER TYPE Auto

Station 421+47
Offset 40' R
Ground Surface Elev. 804.2 (ft.)

Surface Water Elev. NA (ft.)
Groundwater Elev.
First Encounter None (ft.)
Upon Completion Dry (ft.)
After _____ Hrs. _____ (ft.)

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
Dark Brown Silty CLAY Topsoil 6"	803.7				
Brown and Grey CLAY, A-6 little Sand, trace Gravel, hard			9 13-17	4.5 Qp	13
		3			
			8 13-15	4.5 Qp	14
		6			
			5 9-12	8.04 B	16
		9			
			4 8-10	6.10 B	18
		12	4 6-8	5.24 BS	14
	789.2				
End of Boring at 15 Feet			4 7-11	6.18 B	18

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)

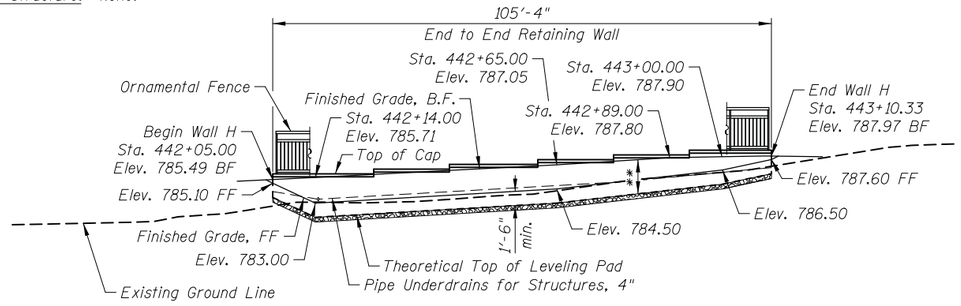
The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

Benchmark: TBM #2 Railroad spike (set) in fourth power pole South of Cuba Road on West side of Quentin Road. Station 438+58.84, Offset 39.2' Lt. Elev. 781.42

Maintenance of Traffic: Traffic will be maintained during construction.

Existing Structure: None.

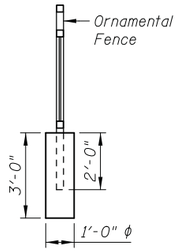


ELEVATION

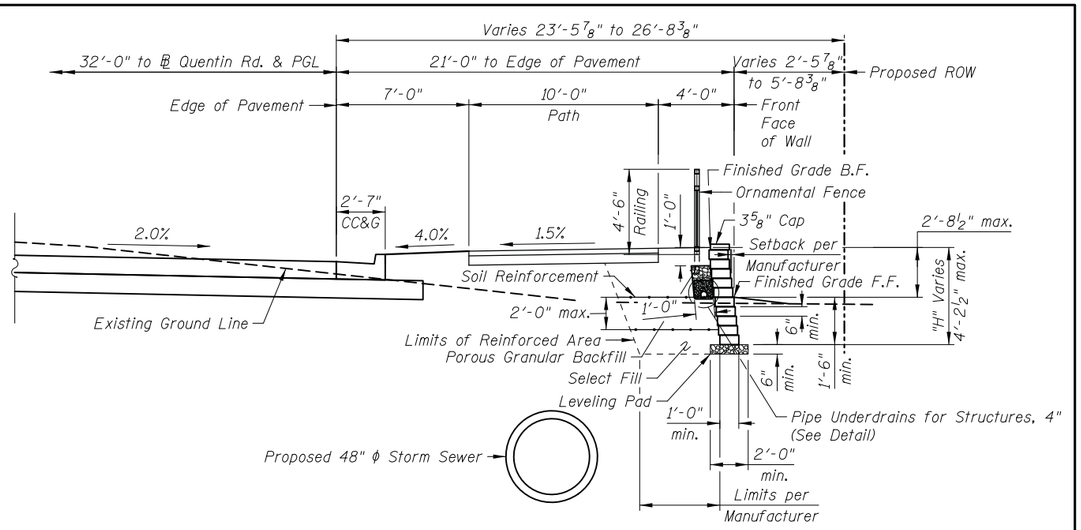
Looking at Front Face of Wall
F.F. = Front Face
B.F. = Back Face
** Pay Limits of Segmental Concrete Block Wall

LEGEND

- G — Existing Gas Line
- A — Existing Aerial Lines
- Existing Sanitary Sewer
- Proposed Storm Sewer



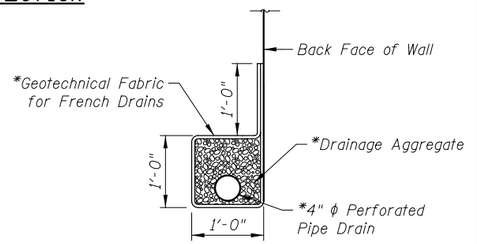
ORNAMENTAL FENCE



TYPICAL CROSS SECTION

GENERAL NOTES:

1. Design and installation of Segmental Concrete Block Wall (including need for Soil Reinforcement) to be in accordance with Wall System Manufacturer Design Requirements and Specifications.
2. Excavation, leveling pad, select fill, soil reinforcement, and design are included in cost of Segmental Concrete Block Wall.



PIPE UNDERDRAIN DETAIL

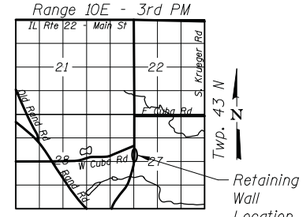
*Included in the cost of Pipe Underdrains for Structures 4"

TOTAL BILL OF MATERIAL

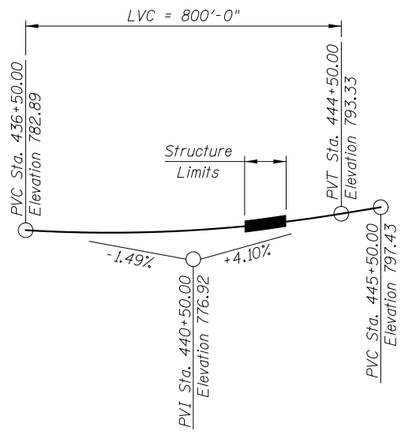
ITEM	UNIT	TOTAL
Porous Granular Backfill	Cu. Yd.	5
Segmental Concrete Block Wall	Sq. Ft.	388
Pipe Underdrains for Structures 4"	Foot	106
Ornamental Fence	Foot	106

DESIGN SPECIFICATIONS

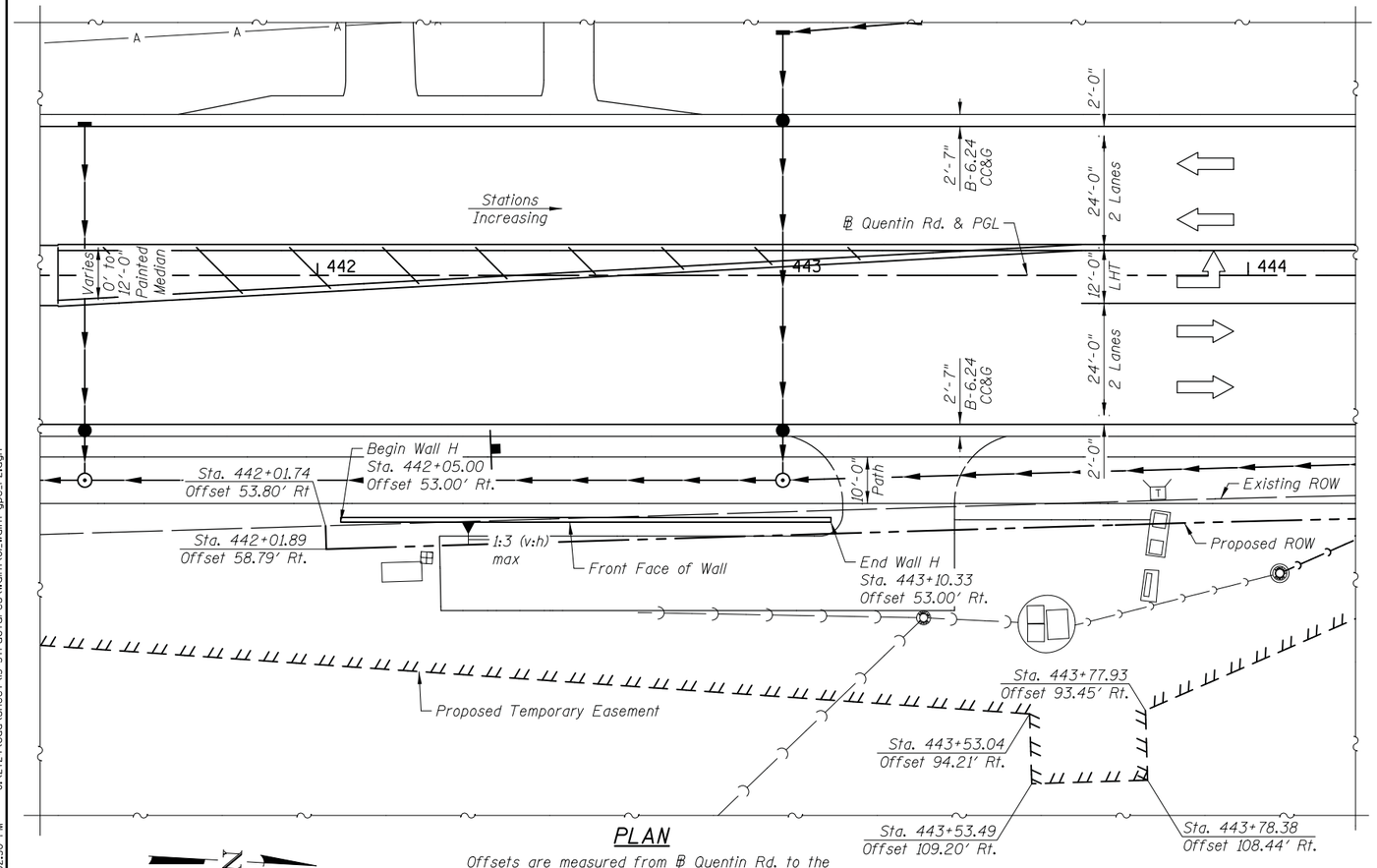
2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 and 2016 Interims



LOCATION SKETCH



PROPOSED PROFILE QUENTIN ROAD



PLAN

Offsets are measured from ℄ Quentin Rd. to the front face of the Segmental Concrete Block Wall.

GENERAL PLAN AND ELEVATION
WALL H
QUENTIN ROAD, F.A.U. RTE 2547
SECTION 08-00090-12-CH
LAKE COUNTY
STA. 442+05.00 TO STA. 443+10.33

CIVILTECH
450 E Devon Ave, Suite 300
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www.civiltechinc.com

DRAWN - K. KOMPARE	REVISED -	
DESIGNED - K. KOMPARE	REVISED -	
CHECKED - G. HATLESTAD	REVISED -	
DATE - 01/29/18	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
WALL H
QUENTIN ROAD F.A.U. 2574
SHEET NO. WH1 OF WH1 SHEET

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	288
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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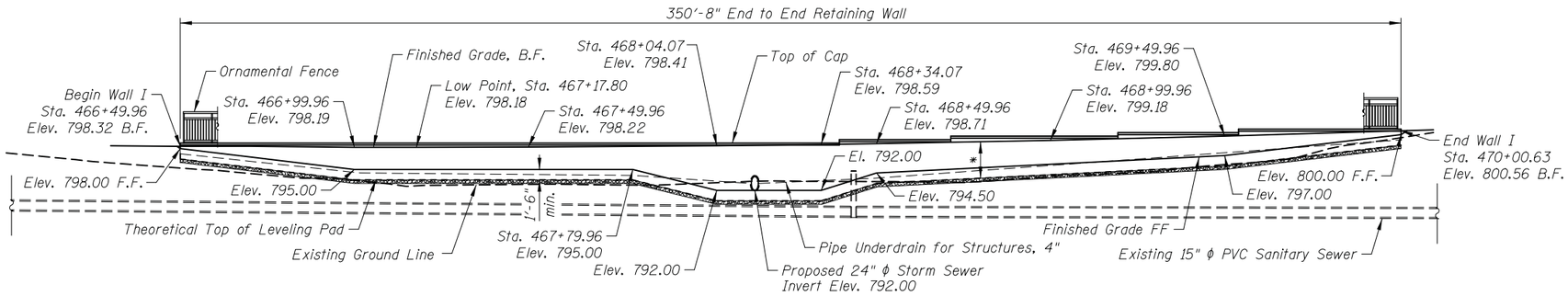
Benchmark: TBM #4 Railroad spike (set) in power pole South of Cuba Road on West side of Quentin Road. Station 461+95.76, Offset 54.5' Lt. Elev. 799.08

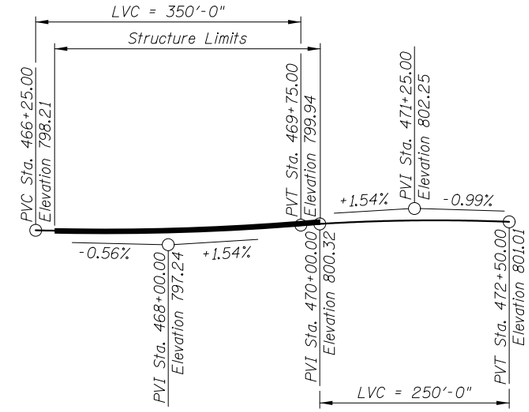
Maintenance of Traffic: Traffic will be maintained during construction.

Existing Structure: None.



ELEVATION

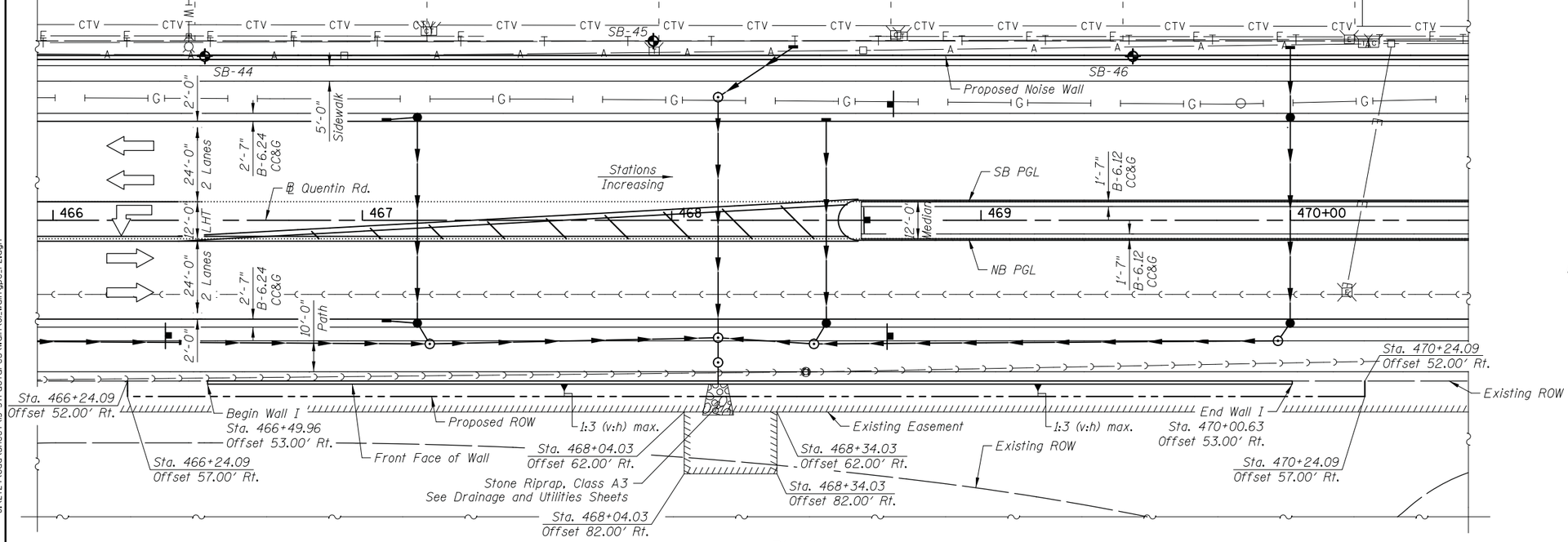
Looking at Front Face of Wall
F.F. = Front Face
B.F. = Back Face
* Pay Limits of Segmental Concrete Block Wall



PROPOSED PROFILE QUENTIN ROAD

LEGEND

- G — Existing Gas Line
- CTV — Existing Underground Cable TV
- E — Existing Underground Electric
- T — Existing Underground Telephone
- A — Existing Aerial Lines
- Existing Sanitary Sewer
- W — Existing Water Main
- Proposed Storm Sewer
- Soil Boring



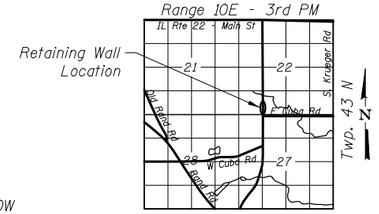
PLAN

Offsets are measured from ℄ Quentin Rd. to the front face of the Segmental Concrete Block Wall.

INDEX OF SHEETS

DESIGN SPECIFICATIONS

2015 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 and 2016 Interims



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
WALL I
QUENTIN ROAD, F.A.U. RTE 2547
SECTION 08-00090-12-CH
LAKE COUNTY
STA. 466+49.96 TO STA. 470+00.63

CIVILTECH
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CHECKED - G. HATLESTAD	REVISED -	
DATE - 01/29/18	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
WALL I
QUENTIN ROAD F.A.U. 2574
SHEET NO. WI1 OF WI2 SHEET

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	289
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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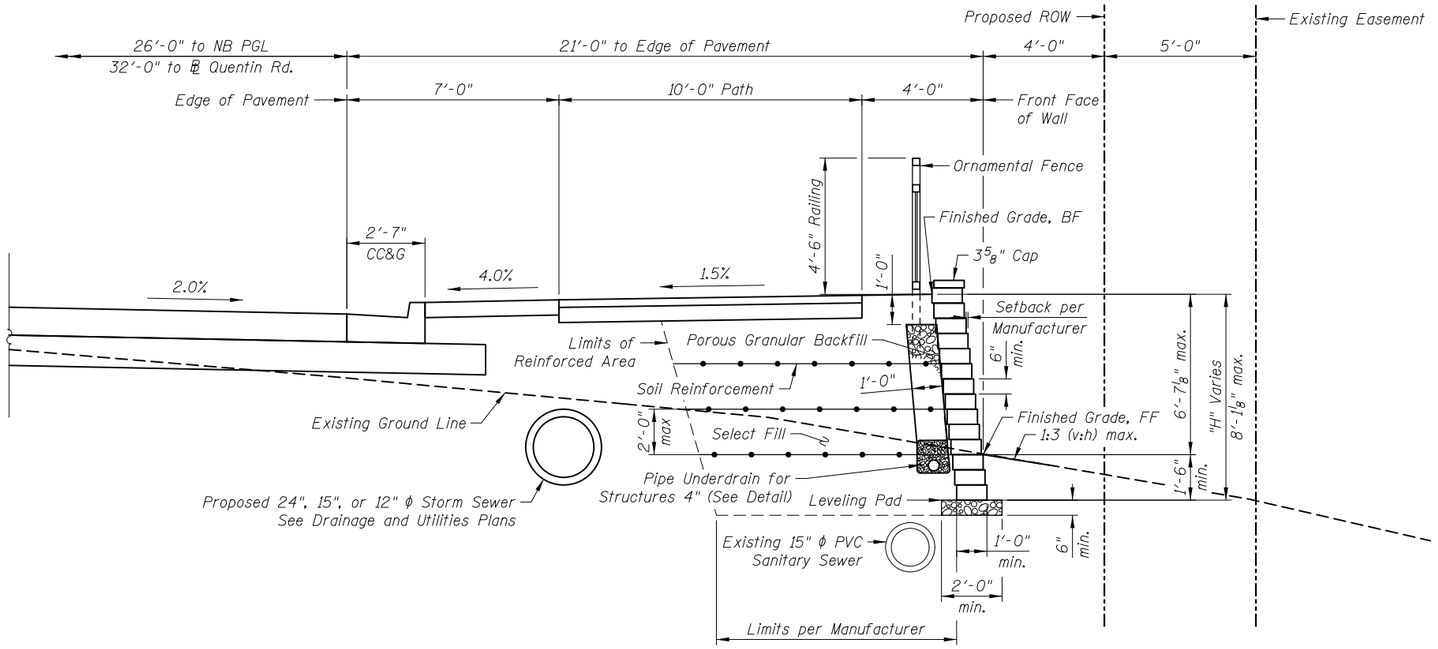


TYPICAL WALL CROSS SECTION

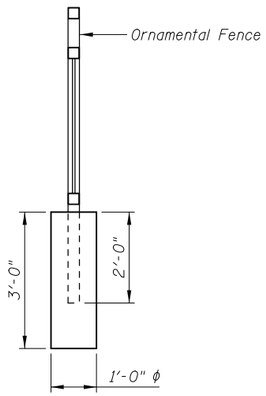
TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Porous Granular Backfill	Cu. Yd.	44
Segmental Concrete Block Wall	Sq. Ft.	1,706
Pipe Underdrains for Structures 4"	Foot	349
Ornamental Fence	Foot	351

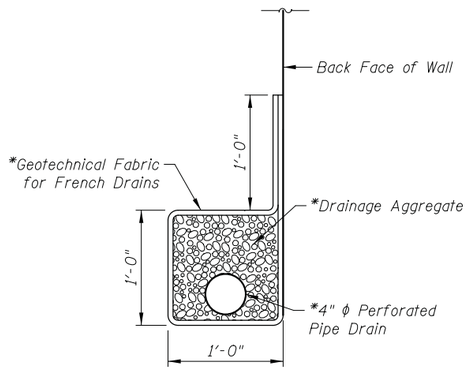
GENERAL NOTES:

1. Design and installation of Segmental Concrete Block Wall (including need for Soil Reinforcement) to be in accordance with Wall System Manufacturer Design Requirements and Specifications.

2. Excavation, leveling pad, select fill, soil reinforcement, and design are included in cost of Segmental Concrete Block Wall.



ORNAMENTAL FENCE



PIPE UNDERDRAIN DETAIL

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

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DESIGNED - K. KOMPARE	REVISED -	
CHECKED - G. HATLESTAD	REVISED -	
DATE - 01/29/18	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RETAINING WALL DETAILS
WALL 1
QUENTIN ROAD F.A.U. 2574
SHEET NO. W12 OF W12 SHEET

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	290
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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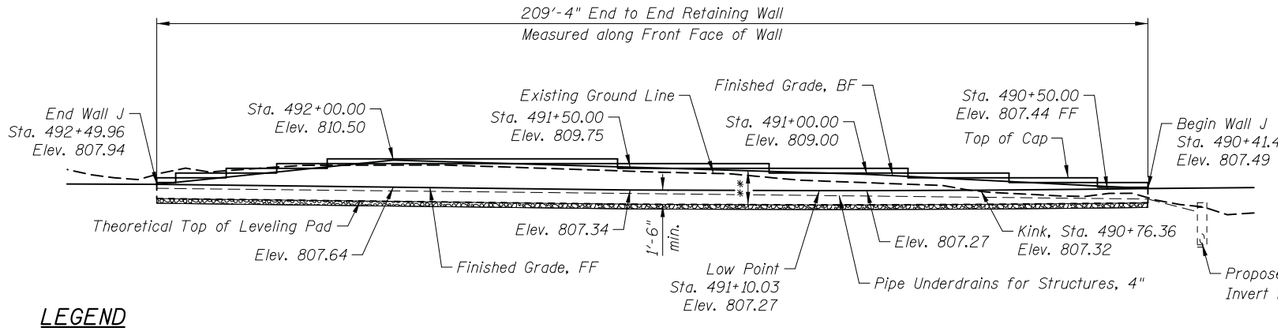
2/2/2018

Benchmark: TBM #7 Railroad spike (set) in second power pole North of Lea Lane on West side of Quentin Road. Station 496+69.44, Offset 54.9' Lt. Elev. 806.54

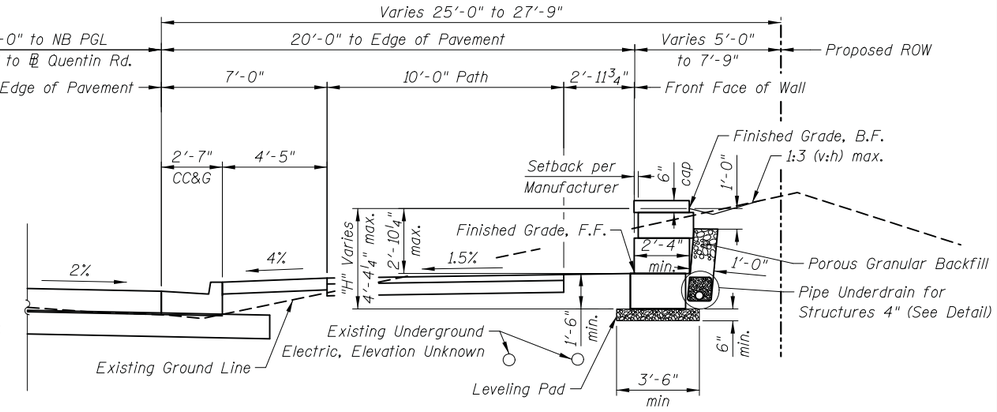
Maintenance of Traffic: Traffic will be maintained during construction.

Existing Structure: None.



ELEVATION

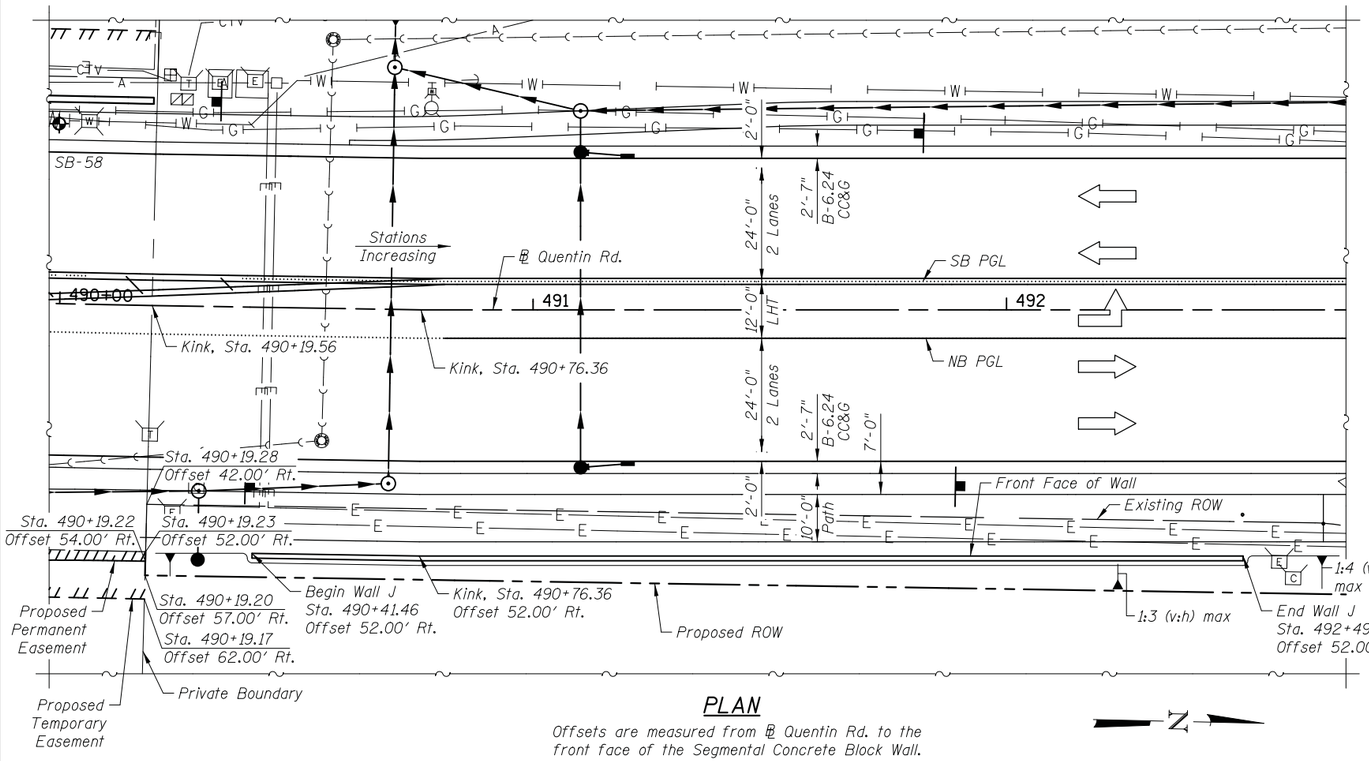
Looking at Front Face of Wall
F.F. = Front Face
B.F. = Back Face
** Pay Limits of Segmental Concrete Block Wall



TYPICAL CROSS SECTION

LEGEND

- E — Existing Underground Electric
- G — Existing Gas Line
- C — Existing Sanitary Sewer
- A — Existing Aerial Lines
- W — Existing Water Main
- CTV — Existing Underground Cable TV
- W — Existing Water Main
- Proposed Storm Sewer



PLAN

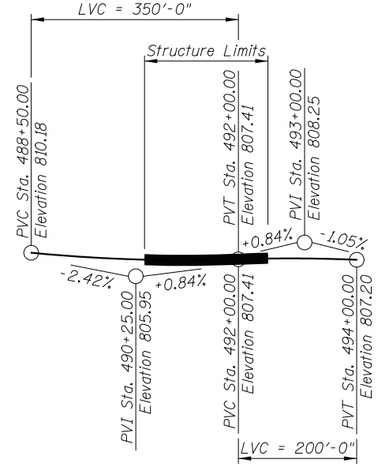
Offsets are measured from ℄ Quentin Rd. to the front face of the Segmental Concrete Block Wall.

TOTAL BILL OF MATERIAL

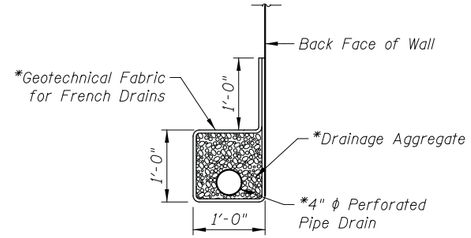
ITEM	UNIT	TOTAL
Porous Granular Backfill	Cu. Yd.	14
Segmental Concrete Block Wall	Sq. Ft.	674
Pipe Underdrains for Structures 4"	Foot	221

GENERAL NOTES:

1. Design and installation of Segmental Concrete Block Wall (including need for Soil Reinforcement) to be in accordance with Wall System Manufacturer Design Requirements and Specifications.
2. Excavation, leveling pad, select fill, soil reinforcement, and design are included in cost of Segmental Concrete Block Wall.



PROPOSED PROFILE QUENTIN ROAD

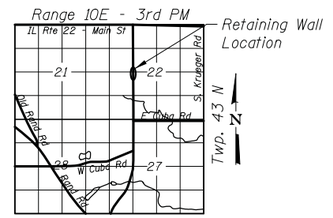


PIPE UNDERDRAIN DETAIL

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

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 and 2016 Interims



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
WALL J
QUENTIN ROAD, F.A.U. RTE 2547
SECTION 08-00090-12-CH
LAKE COUNTY
STA. 490+41.46 TO STA. 492+49.96

CIVILTECH
450 E Devon Ave, Suite 300
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DRAWN - K. KOMPARE	REVISED -	
DESIGNED - K. KOMPARE	REVISED -	
CHECKED - G. HATLESTAD	REVISED -	
DATE - 01/29/18	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
WALL J
QUENTIN ROAD F.A.U. 2574
SHEET NO. WJ1 OF WJ1 SHEET

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	291
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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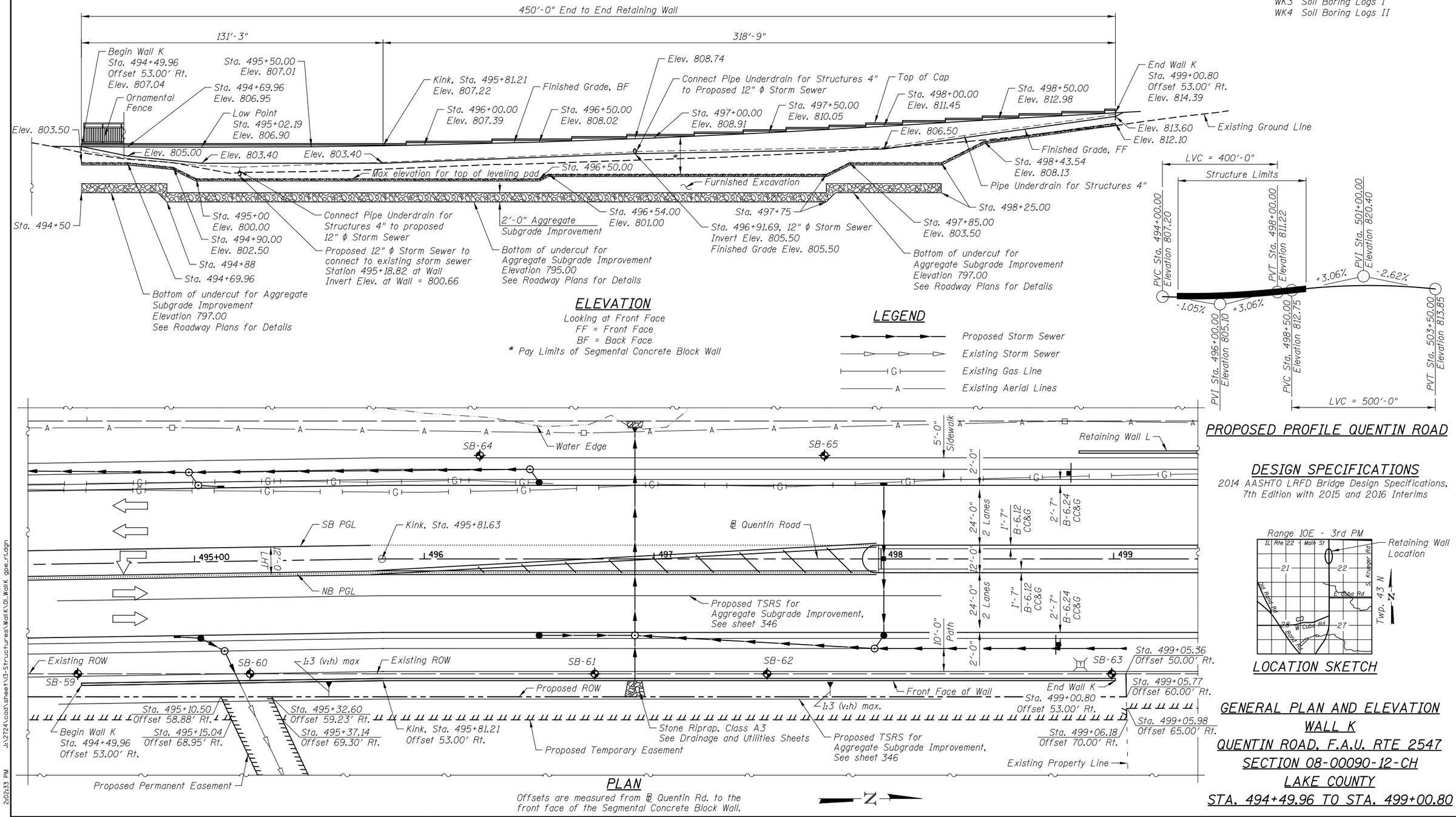
Benchmark: TBM #7 Railroad spike (set) in second power pole North of Lea Lane on West side of Quentin Road, Sta. 496+69.44 Offset 54.9′ Lt. Elev. 806.54

Maintenance of Traffic: Traffic will be maintained during construction.

Existing Structure: None

INDEX OF SHEETS



ELEVATION

Looking at Front Face
FF = Front Face
BF = Back Face
* Pay Limits of Segmental Concrete Block Wall

LEGEND

- Proposed Storm Sewer
- Existing Storm Sewer
- G — Existing Gas Line
- A — Existing Aerial Lines

PROPOSED PROFILE QUENTIN ROAD

PLAN

Offsets are measured from ℄ Quentin Rd. to the front face of the Segmental Concrete Block Wall.

LOCATION SKETCH

GENERAL PLAN AND ELEVATION WALL K QUENTIN ROAD, F.A.U. RTE 2547 SECTION 08-00090-12-CH LAKE COUNTY STA. 494+49.96 TO STA. 499+00.80

CIVILTECH
450 E Devon Ave, Suite 300
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DRAWN	- K. KOMPARE	REVISED	- 11/28/2017
DESIGNED	- K. KOMPARE	REVISED	-
CHECKED	- G. HATLESTAD	REVISED	-
DATE	- 01/29/18	REVISED	-

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
WALL K
QUENTIN ROAD F.A.U. 2574
SHEET NO. WK1 OF WK4 SHEET

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	292
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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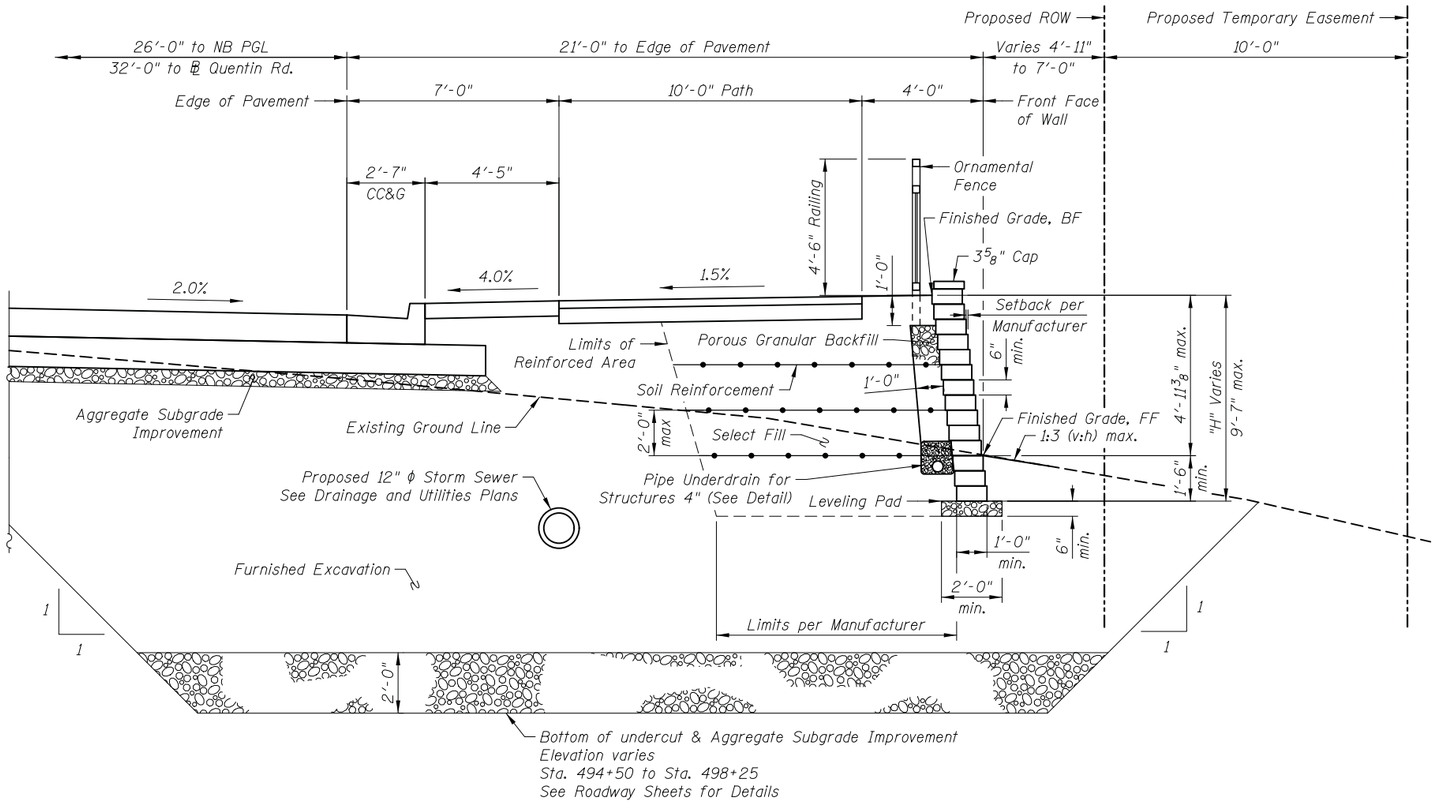


TYPICAL WALL CROSS SECTION

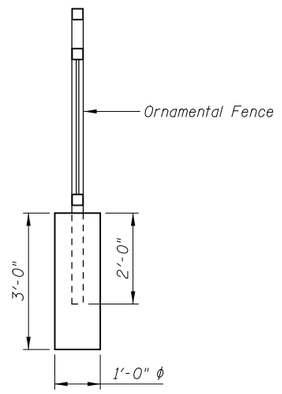
TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Porous Granular Backfill	Cu. Yd.	40
Segmental Concrete Block Wall	Sq. Ft.	3,020
Pipe Underdrains for Structures 4"	Foot	452
Ornamental Fence	Foot	450

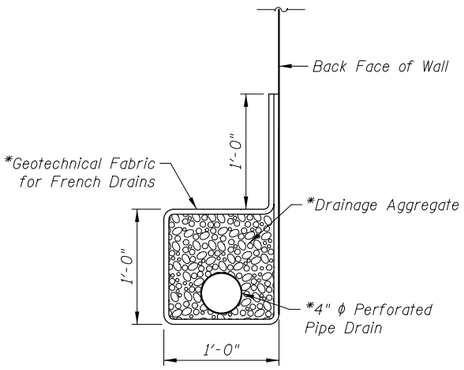
GENERAL NOTES:

1. Design and installation of Segmental Concrete Block Wall (including need for Soil Reinforcement) to be in accordance with Wall System Manufacturer Design Requirements and Specifications.

2. Excavation, leveling pad, select fill, soil reinforcement, and design are included in cost of Segmental Concrete Block Wall.



ORNAMENTAL FENCE



PIPE UNDERDRAIN DETAIL

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

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DRAWN - K. KOMPARE	REVISED - 11/28/2017	
DESIGNED - K. KOMPARE	REVISED -	
CHECKED - G. HATLESTAD	REVISED -	
DATE - 01/29/18	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RETAINING WALL DETAILS
WALL K
QUENTIN ROAD F.A.U. 2574
SHEET NO. WK2 OF WK4 SHEET

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	293
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

MIDLAND STANDARD ENGINEERING & TESTING, INC.

STRUCTURE FOUNDATION BORING LOG

Date 11/6/13

ROUTE 364 DESCRIPTION Quentin Road LOGGED BY MP

SECTION 08-00080-12-ES LOCATION Wall M

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

BORING NO. SB-59 DRILLING METHOD HSA HAMMER TYPE Auto

Station 494+48
Offset 48' R
Ground Surface Elev. 805.8 (ft.)

Surface Water Elev. _____ (ft.)
Groundwater Elev.
First Encounter None (ft.)
Upon Completion Dry (ft.)
After _____ Hrs. _____ (ft.)

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
Black CLAY, A-7-6 mixed with Brown Sand & Gravel, FILL	803.3		4 4-5	-	19
Dark Grey CLAY, trace Sand, trace Gravel, A-6 stiff to firm	799.3	3	1 2-2	1.09 B	34
Brown CLAY, little Sand, little Gravel, A-6, stiff	797.8	6	1 3-4	0.31 B 1.63 B	31 15
Grey CLAY, trace Sand, trace Gravel, A-6, very stiff		9	3 4-5	2.17 B	19
		12	4 6-7	3.38 B	16
	790.8		3 5-7	3.53 B	17
End of Boring at 15 Feet					

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

MIDLAND STANDARD ENGINEERING & TESTING, INC.

STRUCTURE FOUNDATION BORING LOG

Date 11/6/13

ROUTE 364 DESCRIPTION Quentin Road LOGGED BY MP

SECTION 08-00080-12-ES LOCATION Wall M

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

BORING NO. SB-60 DRILLING METHOD HSA HAMMER TYPE Auto

Station 495+23
Offset 49' R
Ground Surface Elev. 801.5 (ft.)

Surface Water Elev. _____ (ft.)
Groundwater Elev.
First Encounter None (ft.)
Upon Completion Dry (ft.)
After _____ Hrs. _____ (ft.)

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
Black Organic CLAY, some Peat Fibers, A- 8, very soft	798		1 1-1	<0.25 Qp	58
Grey Silty LOAM, A-4, very soft		3	0 0-0	0.12 B	20
to stiff	793.5	6	0 2-4	1.25 Qp	13
Grey CLAY, trace Sand, trace Gravel, A-6, stiff to very stiff		9	3 4-5	1.20 B	18
		12	3 3-7	1.78 B	18
	786.5		3 6-7	3.34 B	18
End of Boring at 15 Feet					

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

MIDLAND STANDARD ENGINEERING & TESTING, INC.

STRUCTURE FOUNDATION BORING LOG

Date 11/6/13

ROUTE 364 DESCRIPTION Quentin Road LOGGED BY MP

SECTION 08-00080-12-ES LOCATION Wall M

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

BORING NO. SB-61 DRILLING METHOD HSA HAMMER TYPE Auto

Station 496+74
Offset 50' R
Ground Surface Elev. 804.1 (ft.)

Surface Water Elev. _____ (ft.)
Groundwater Elev.
First Encounter None (ft.)
Upon Completion Dry (ft.)
After _____ Hrs. _____ (ft.)

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
Black CLAY, A-7-6 very stiff	801.6		2 2-3	2.21 B	20
Brown and Grey CLAY, trace Sand, trace Gravel, A-6 very stiff	798.6	3	1 3-5	2.56 B	21
Grey CLAY, trace Sand, trace Gravel, A-6 stiff to hard		6	2 3-5	1.75 B	18
		9	3 5-6	1.20 BS	18
		12	4 5-7	4.69 B	18
	789.1		2 4-6	2.83 B	18
End of Boring at 15 Feet					

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

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DATE - 01/29/18	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS I
WALL K
QUENTIN ROAD F.A.U. 2574
SHEET NO. WK3 OF WK4 SHEET

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	294
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

MIDLAND STANDARD ENGINEERING & TESTING, INC.

STRUCTURE FOUNDATION BORING LOG

Date 11/6/13

ROUTE 364 DESCRIPTION Quentin Road LOGGED BY MP

SECTION 08-00080-12-ES LOCATION Wall M

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

BORING NO. SB-62 DRILLING METHOD HSA HAMMER TYPE Auto

Station 497+49
Offset 50' R
Ground Surface Elev. 805.4 (ft.)

Surface Water Elev. _____ (ft.)
Groundwater Elev.
First Encounter None (ft.)
Upon Completion Dry (ft.)
After _____ Hrs. _____ (ft.)

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
Dark Brown and Black CLAY, A-6to A-7-6 stiff to firm					
			3 3-3	.	23
		3			
to Black Organic CLAY, A-7-6 to A-8			1 1-2	1.01 B	44
	799.9				
		6			
Brown and Grey to Grey Silty LOAM, A-2-4 loose to slightly dense			0 1-3	.	14
		9	1 2-3	.	14
	794.9				
Grey CLAY, trace sand, trace Gravel, A-6, very stiff to hard		12	3 5-6	2.25 B	20
			4 6-8	4.89 B	16
	790.4				
End of Boring at 15 Feet					

SOIL DESCRIPTION | ELEV (ft.) | DEPTH (ft.) | BLOWS /6" | UCS Qu (tsf) | MOIST (%)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The Standard Penetration Tes: (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

MIDLAND STANDARD ENGINEERING & TESTING, INC.

STRUCTURE FOUNDATION BORING LOG

Date 11/6/13

ROUTE 364 DESCRIPTION Quentin Road LOGGED BY MP

SECTION 08-00080-12-ES LOCATION Wall M

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

BORING NO. SB-63 DRILLING METHOD HSA HAMMER TYPE Auto

Station 498-99
Offset 50' R
Ground Surface Elev. 811.8 (ft.)

Surface Water Elev. _____ (ft.)
Groundwater Elev.
First Encounter None (ft.)
Upon Completion Dry (ft.)
After _____ Hrs. _____ (ft.)

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
Black CLAY, A-6 Topsoil 6"	811.3				
Brown and Grey CLAY, trace Sand, trace gravel, A-6			4 6-12	4.35 BS	19
		3			
			4 6-7	7.29 B	19
		6			
			2 4-8	5.08 B	18
		9	4 7-10	5.20 B	20
	801.3				
Grey CLAY, trace Sand, trace Gravel, A-6, very stiff		12	3 6-8	2.91 B	17
	798.8				
Brown and Grey CLAY, trace Sand, trace Gravel, A-6 very stiff			3 4-6	3.65 B	23
	796.8				
End of Boring at 15 Feet					

SOIL DESCRIPTION | ELEV (ft.) | DEPTH (ft.) | BLOWS /6" | UCS Qu (tsf) | MOIST (%)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

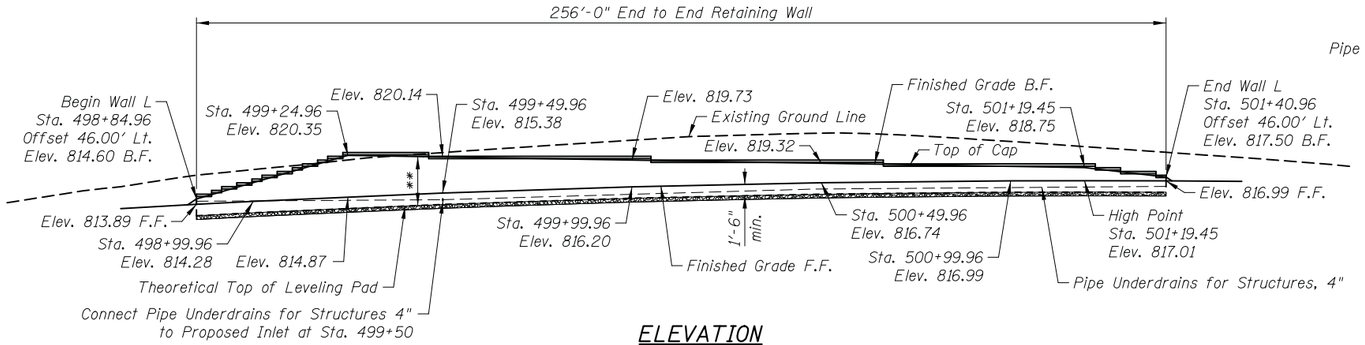
SOIL BORING LOGS II
WALL K
QUENTIN ROAD F.A.U. 2574
SHEET NO. WK4 OF WK4 SHEET

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	295
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

Benchmark: TBM #7 Railroad spike (set) in second power pole North of Lea Lane on West side of Quentin Road. Station 496+69.44, Offset 54.9' Lt. Elev. 806.54

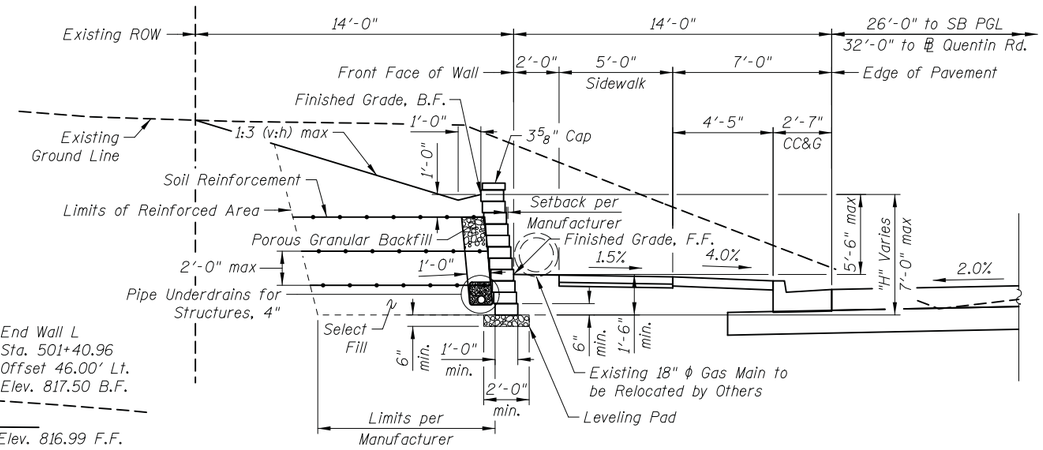
Maintenance of Traffic: Traffic will be maintained during construction.

Existing Structure: None.



ELEVATION

Looking at Front Face of Wall
F.F. = Front Face
B.F. = Back Face
** Pay Limits of Segmental Concrete Block Wall



TYPICAL CROSS SECTION

GENERAL NOTES:

1. Design and installation of Segmental Concrete Block Wall (including need for Soil Reinforcement) to be in accordance with Wall System Manufacturer Design Requirements and Specifications.

2. Excavation, leveling pad, select fill, soil reinforcement, and design are included in cost of Segmental Concrete Block Wall.

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Porous Granular Backfill	Cu. Yd.	30
Segmental Concrete Block Wall	Sq. Ft.	1,171
Pipe Underdrains for Structures, 4"	Foot	272

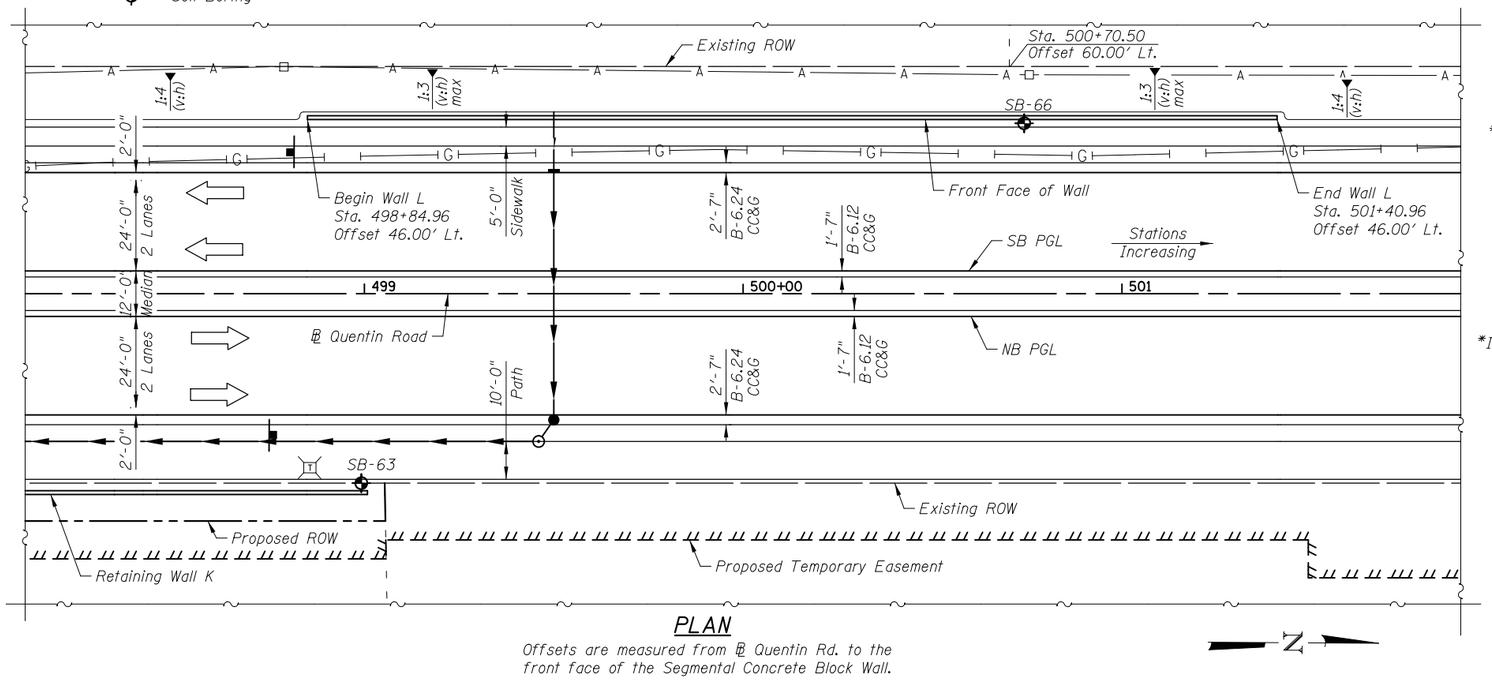
DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 and 2016 Interims

INDEX OF SHEETS

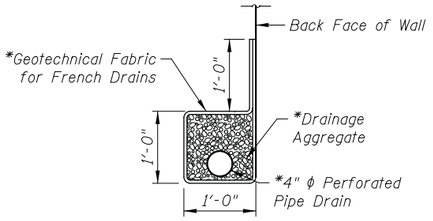
LEGEND

- Proposed Storm Sewer
- G — Existing Gas Line
- A — Existing Aerial Lines
- Soil Boring



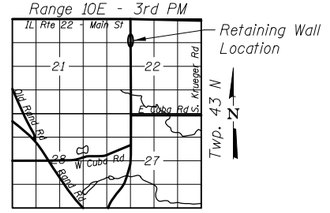
PLAN

Offsets are measured from ℄ Quentin Rd. to the front face of the Segmental Concrete Block Wall.

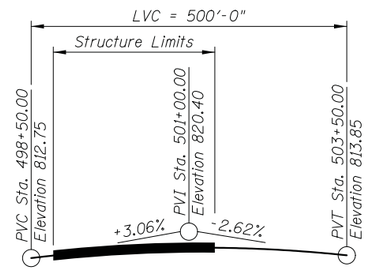


PIPE UNDERDRAIN DETAIL

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



LOCATION SKETCH



PROPOSED PROFILE QUENTIN ROAD

GENERAL PLAN AND ELEVATION
WALL L
QUENTIN ROAD, F.A.U. RTE 2547
SECTION 08-00090-12-CH
LAKE COUNTY
STA. 498+84.96 TO STA. 501+40.96

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DATE - 01/29/18	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
WALL L
QUENTIN ROAD F.A.U. 2574
SHEET NO. WL1 OF WL2 SHEET

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	296
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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MIDLAND STANDARD ENGINEERING & TESTING, INC.

STRUCTURE FOUNDATION BORING LOG

Page 1 of 1

Date 11/6/13

ROUTE 364 DESCRIPTION Quentin Road LOGGED BY MP

SECTION 08-00080-12-ES LOCATION Wall N

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

BORING NO. SB-66 DRILLING METHOD HSA HAMMER TYPE Auto

Station 500+74
Offset 45' L
Ground Surface Elev. 822.7 (ft.)

Surface Water Elev. _____ (ft.)
Groundwater Elev.
First Encounter None (ft.)
Upon Completion Dry (ft.)
After _____ Hrs. _____ (ft.)

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
Brown CLAY, trace Sand, trace Gravel, A-6, hard					
			7 9-10	4.66 B	19
		3			
			4 7-10	4.38 B	22
		6			
			6 9-13	5.66 B	20
	814.7				
Grey CLAY, trace Sand, trace Gravel, A-6, very stiff to stiff		9	4 6-8	2.68 B	19
		12	3 4-7	1.55 B	16
			4 5-7	3.30 B	19
	807.7				
End of Boring at 15 feet					

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
WALL L
QUENTIN ROAD F.A.U. 2574
SHEET NO. WL2 OF WL2 SHEET

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	297
				CONTRACT NO. 61E22
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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Benchmark: TBM #2 Railroad spike (set) in power pole South of Cuba Road on West side of Quentin Road, Sta. 438+58.84 Offset 39.2' Lt. Elev. 781.42

Maintenance of Traffic: Traffic will be maintained during construction.

Existing Structure: None

INDEX OF SHEETS

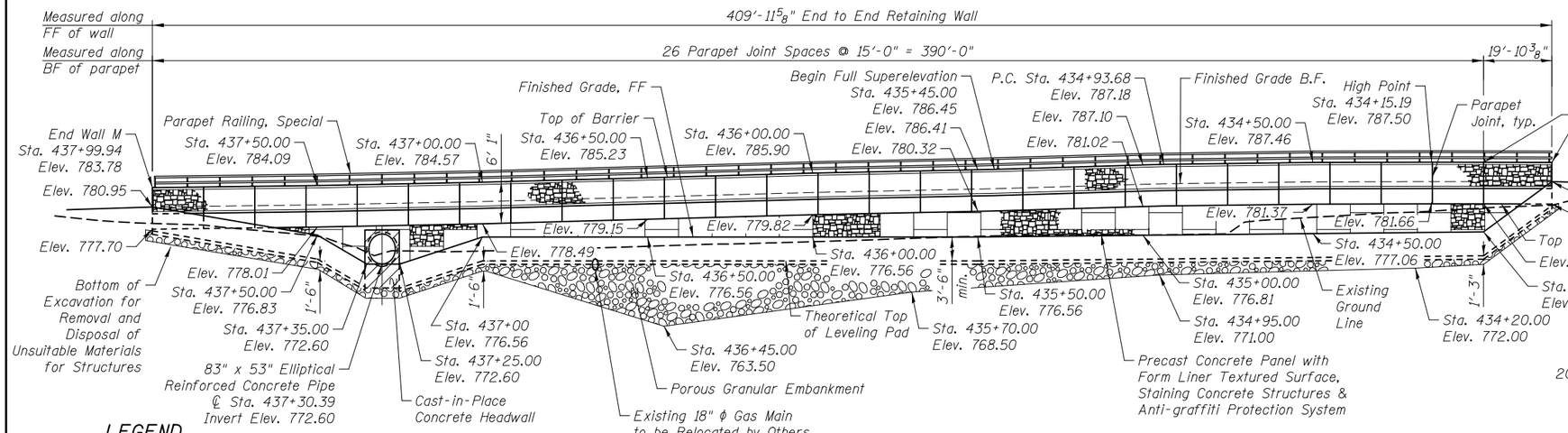
DESIGN STRESSES

FIELD UNITS

f'c = 4,000 psi
fy = 60,000 psi (Reinforcement)

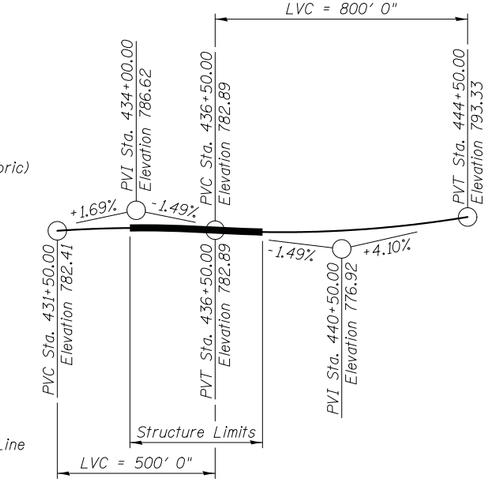
PRECAST UNITS

f'c = 4,500 psi (Precast Panels)
fy = 60,000 psi (Reinforcement)
fy = 65,000 psi (Welded Wire Fabric)



ELEVATION

Looking at Front Face of Wall Opposite of Plan View



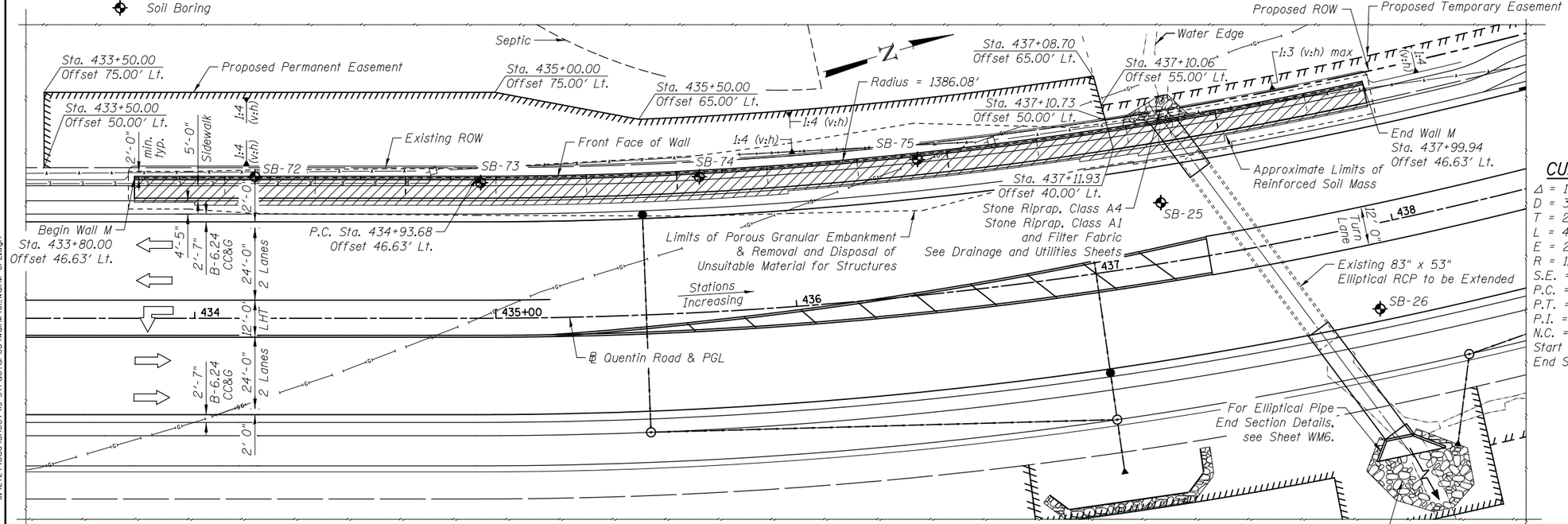
PROPOSED PROFILE QUENTIN ROAD

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 and 2016 Interims

LEGEND

- Existing Gas Line
- Existing Aerial Lines
- Existing Underground Electric
- Proposed Storm Sewer
- Soil Boring

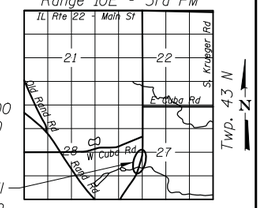


PLAN

Notes:
Wall offsets are measured from ℄ Quentin Road to the front face of MSE wall precast panels.
FF - Front Face
BF - Back Face

CURVE DATA

Δ = 19° 15' 47" (Lt.)
D = 3° 59' 57"
T = 243.13'
L = 481.67'
E = 20.48'
R = 1,432.70'
S.E. = 3.60%
P.C. = Sta. 434+93.69
P.T. = Sta. 439+75.36
P.I. = Sta. 437+36.82
N.C. = Sta. 433+10.00
Start S.E. = Sta. 435+45.00
End S.E. = Sta. 439+25.00



LOCATION SKETCH

CIVILTECH ENGINEERING, INC.
GREGORY J. HATLESTAD, S.E.

STATE OF ILLINOIS
GREGORY J. HATLESTAD
081-005562
EXPIRES 11/30/2018
LICENSED STRUCTURAL ENGINEER

GREGORY J. HATLESTAD, S.E.
081-005562

EXP 11-30-2018

DATE 01-29-2018

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

GENERAL PLAN AND ELEVATION WALL M QUENTIN ROAD; F.A.U. RTE. 2574 SECTION 08-00090-12-CH LAKE COUNTY STA. 433+80.00 TO STA. 437+99.94

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CHECKED	G. HATLESTAD	REVISED	-
DATE	01/29/18	REVISED	-

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
WALL M
QUENTIN ROAD F.A.U. 2574
SHEET NO. WM1 OF WM8 SHEET

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	298
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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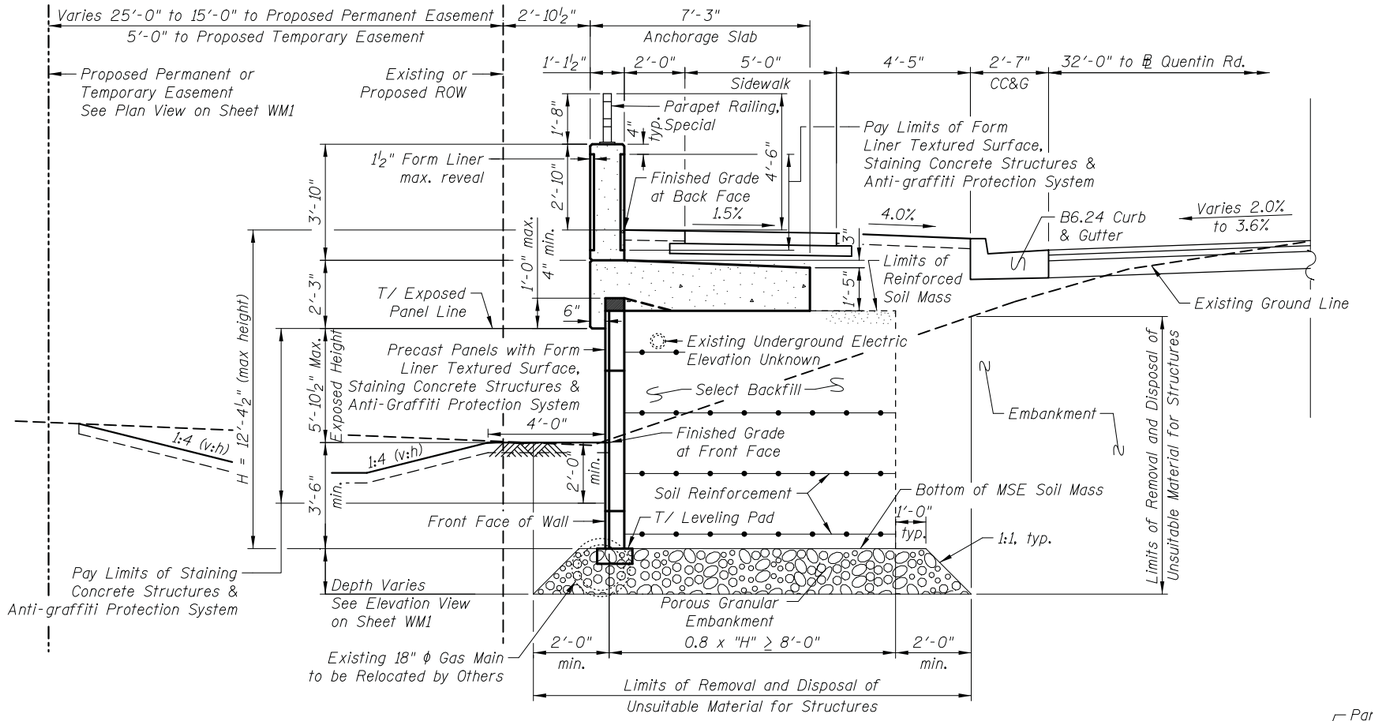
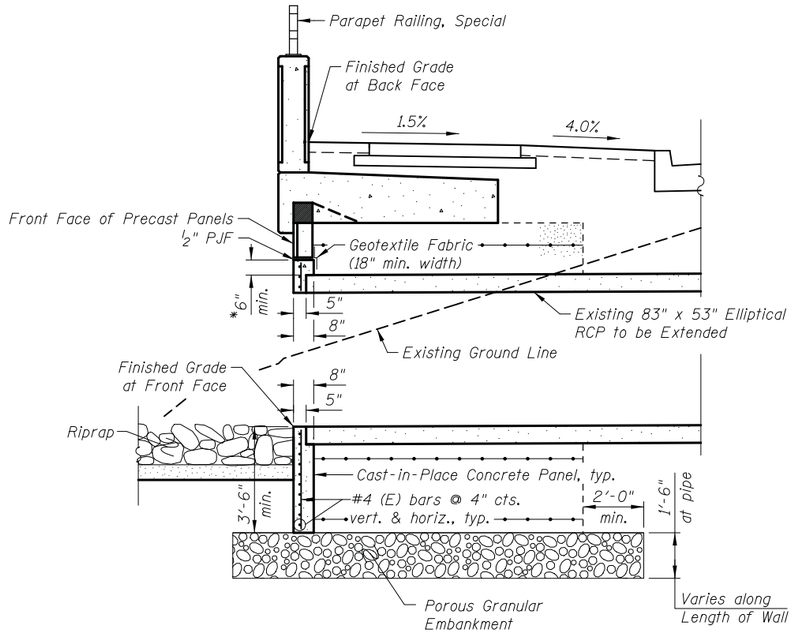


TYPICAL WALL SECTION



SECTION A-A

* Wall supplier to determine required dimensions

> *The MSE wall supplier's internal stability design shall account for the anchorage slab's bearing pressure surcharge of 1.0 ksf and horizontal sliding force of 0.5 kips/ft. of wall.*

GENERAL NOTES

1. Reinforcement bars designated (E) shall be epoxy coated.
2. Panels must be arranged to provide continuous vertical joints for the full height of the wall to accommodate potential differential settlement.

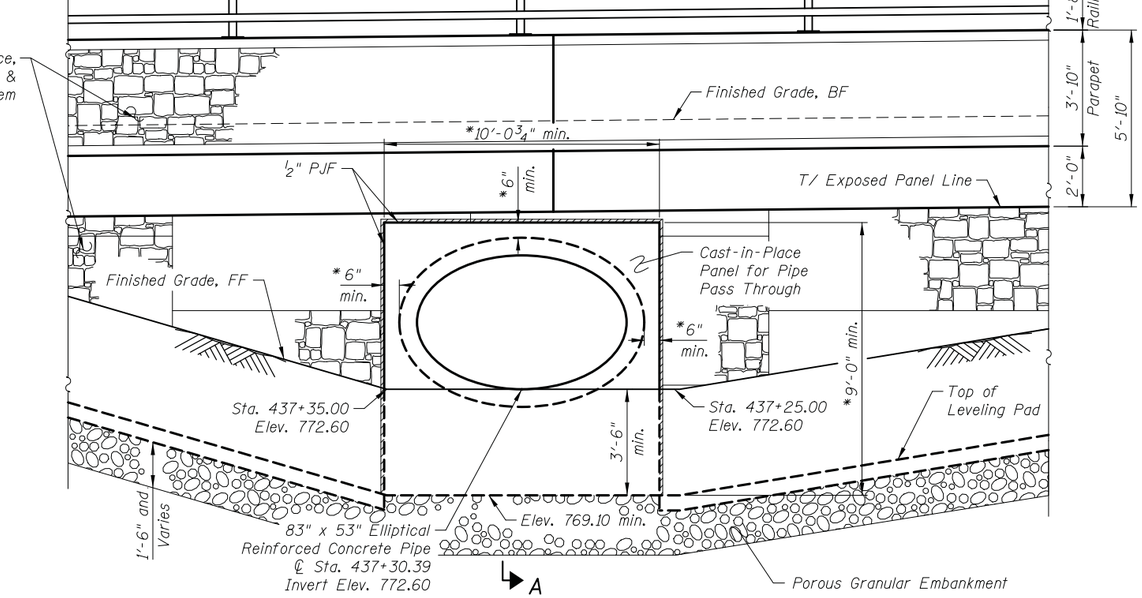
MSE WALL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Porous Granular Embankment	Cu. Yd.	795
Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.	2,342
Form Liner Textured Surface	Sq. Ft.	2,560
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	2,635
Anti-graffiti Protection System	Sq. Ft.	1,993
Staining Concrete Structures	Sq. Ft.	1,993

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Porous Granular Embankment	Cu. Yd.	795
Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.	2,342
Concrete Superstructure	Cu. Yd.	244.5
Form Liner Textured Surface	Sq. Ft.	5,156
Protective Coat	Sq. Yd.	175
Reinforcement Bars, Epoxy Coated	Pound	30,540
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	2,635
End Sections, Equivalent Round-Size 66"	Each	1
Anti-graffiti Protection System	Sq. Ft.	4,589
Staining Concrete Structures	Sq. Ft.	4,589
Parapet Railing, Special	Foot	409

Notes:
Cost of concrete and epoxy coated reinforcement in CIP panel to be included in the pay item Mechanically Stabilized Earth Retaining Wall.



CAST-IN-PLACE PANEL FOR 83" x 53" ELLIPTICAL PIPE PASS THROUGH

* Wall supplier to determine required dimensions

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DEPARTMENT OF TRANSPORTATION

MSE WALL DETAILS
WALL M
QUENTIN ROAD F.A.U. 2574
SHEET NO. WM2 OF WM8 SHEET

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	299
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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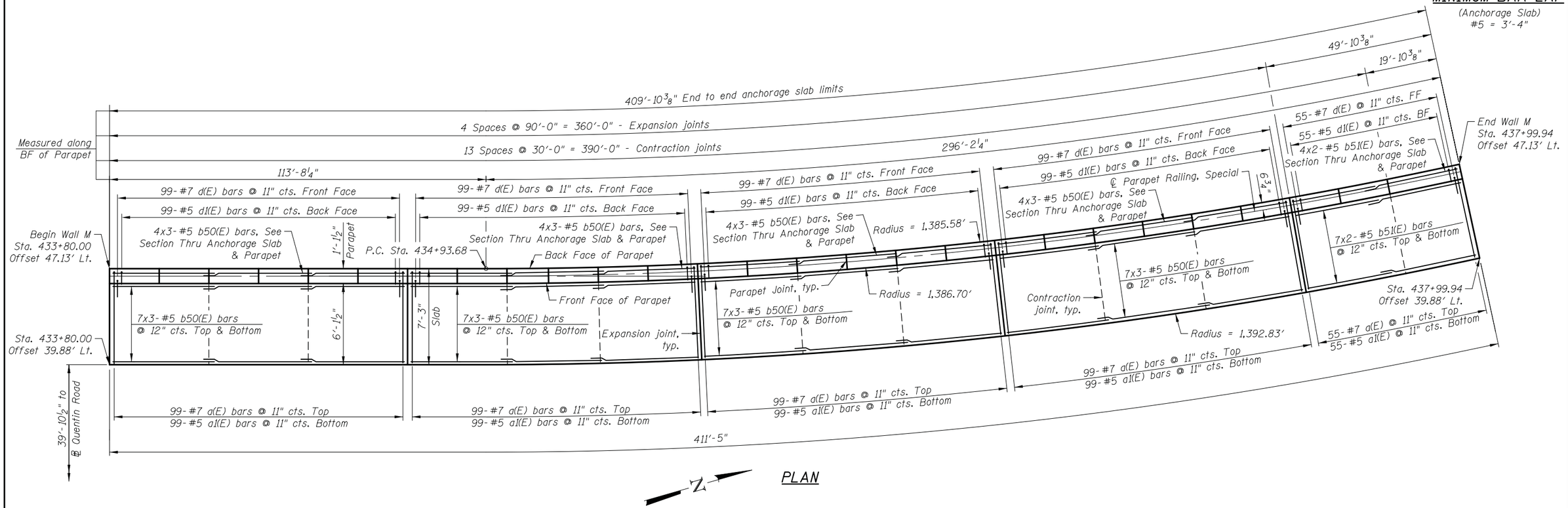
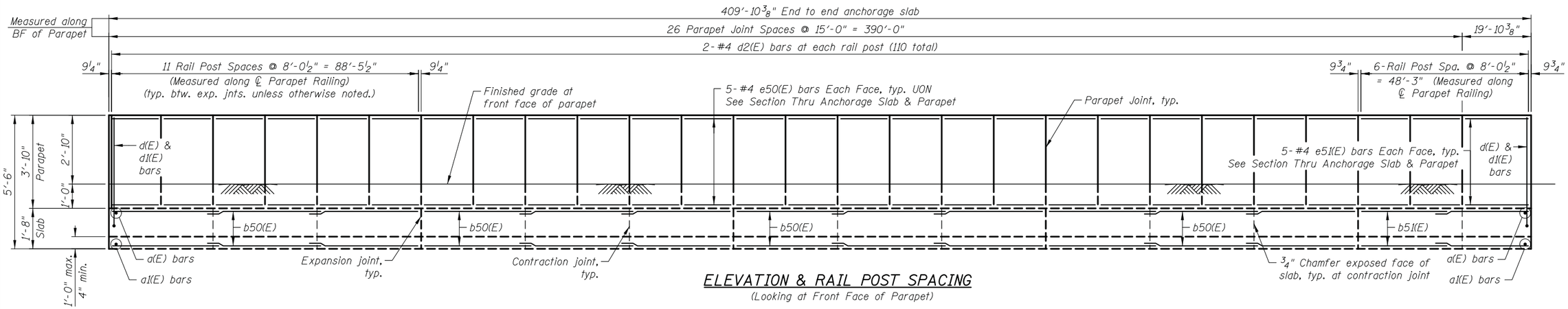
MINIMUM BAR LAP

(Anchorage Slab)
#5 = 3'-4"



PLAN



ELEVATION & RAIL POST SPACING

(Looking at Front Face of Parapet)

Notes:

See Sheet WM4 for Section Thru Anchorage Slab & Parapet, Bill of Material, Parapet Joint Details, Reinforcement Schedule, and Bar Bending Diagrams.

Bars indicated thus 7x3-#5 etc. indicates 7 lines of bars with 3 lengths per line.

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DATE - 01/29/18	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ANCHORAGE SLABS
WALL M
QUENTIN ROAD F.A.U. 2574
SHEET NO. WM3 OF WM8 SHEET

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	300
		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		