

CONTRACT PLANS COMPONENTS:

- ROADWAY PLANS
- SIGNING AND PAVEMENT MARKING PLANS
- SIGNALIZATION PLANS
- LIGHTING PLANS
- LANDSCAPE AND IRRIGATION PLANS
- STRUCTURAL PLANS
- WATER & SEWER PLANS - CITY OF VERO BEACH

INDIAN RIVER COUNTY BOARD OF COUNTY COMMISSIONERS

BID SET

INDEX OF SHEETS

SHEET No.	DESCRIPTION
1	COVER SHEET
2-4	DRAINAGE MAPS
5-12A	TYPICAL SECTIONS
13-14	QUANTITIES & GENERAL NOTES
15-19	SUMMARY OF DRAINAGE STRUCTURES
20-27D	DETAILS
28	INTERSECTION PLATEAU GRADING
29-43	PLAN SHEETS
44-57	PROFILE SHEETS
58-66	DRIVEWAY PROFILES SHEETS
67-87	CROSS SECTIONS
88-94	STORM WATER POLLUTION PREVENTION PLAN
95-99	TRAFFIC CONTROL PLANS

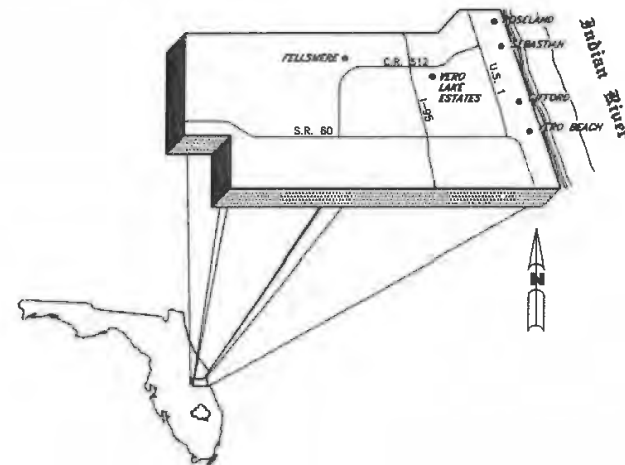


**STATE ROUTE 60
WIDENING, MILL & RESURFACE
FROM 44TH AVENUE TO 38TH AVENUE**

&

**43RD AVENUE
RECONSTRUCTION
FROM 19TH STREET TO 26TH STREET**

**BEGIN BRIDGE STATION 129+62.455
END BRIDGE STATION 130+94.455**



RECEIVED

AUG 09, 2019

INDIAN RIVER COUNTY
ENGINEERING DIVISION

PUBLIC WORKS DIRECTOR:
RICHARD B. SZPYRKA, P.E.

ASSISTANT PUBLIC WORKS DIRECTOR:
JAMES W. ENNIS, P.E.

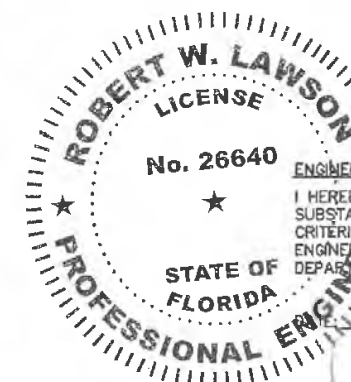
PROJECT MANAGER:
WILLIAM JOHNSON, P.E.

	LENGTH OF PROJECT			
	SR 60		43RD AVE.	
	MILES	FEET	MILES	FEET
ROADWAY	0.476	2512	0.806	4254
BRIDGES	-	-	0.033	174
NET LENGTH OF PROJECT	0.476	2512	0.839	4428
EXCEPTIONS	-	-	-	-
GROSS LENGTH OF PROJECT	0.476	2512	0.839	4428

THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH AND ARE GOVERNED BY THE FLORIDA DEPARTMENT OF TRANSPORTATION, DESIGN STANDARDS (2017-2018 EDITION) AND SUPPLEMENTS THERETO.

GOVERNING SPECIFICATIONS:

THE FLORIDA DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION, JULY 2017 EDITION, SUPPLEMENTS THERETO, AND SPECIAL PROVISIONS THERETO IF NOTED IN THE CONTRACT SPECIFICATIONS FOR THIS PROJECT.



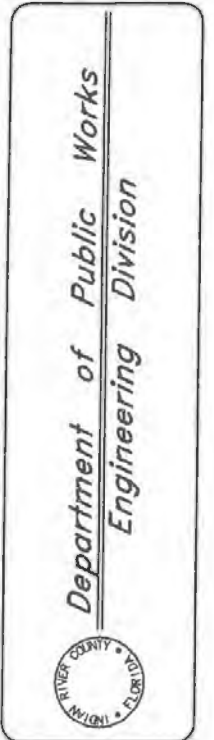
ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN ALTERED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA

ENGINEER'S CERTIFICATION

I HEREBY CERTIFY THAT THE ATTACHED PLANS AND DESIGN ARE IN SUBSTANTIAL COMPLIANCE WITH THE DESIGN STANDARDS AND CRITERIA IN EFFECT ON THIS DATE FOR INDIAN RIVER COUNTY ENGINEERING DEPARTMENT AND THE STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION.

PROFESSIONAL ENGINEER # 26640

ROBERT W. LAWSON, P.E.



No.	Revision:	By:	Date:

Scale: N.T.S.
Approved: HWD
Drawn: FM
Checked: HWD
Date: 6/2017

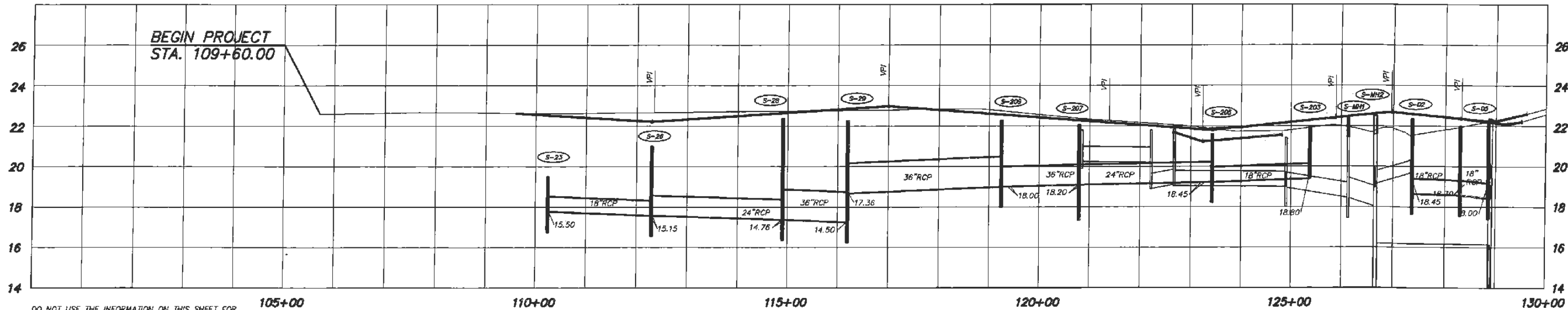
**STATE ROUTE 60
&
43RD AVENUE**

Sheet:	1
Of:	99
Project No.	LNW# WP1027

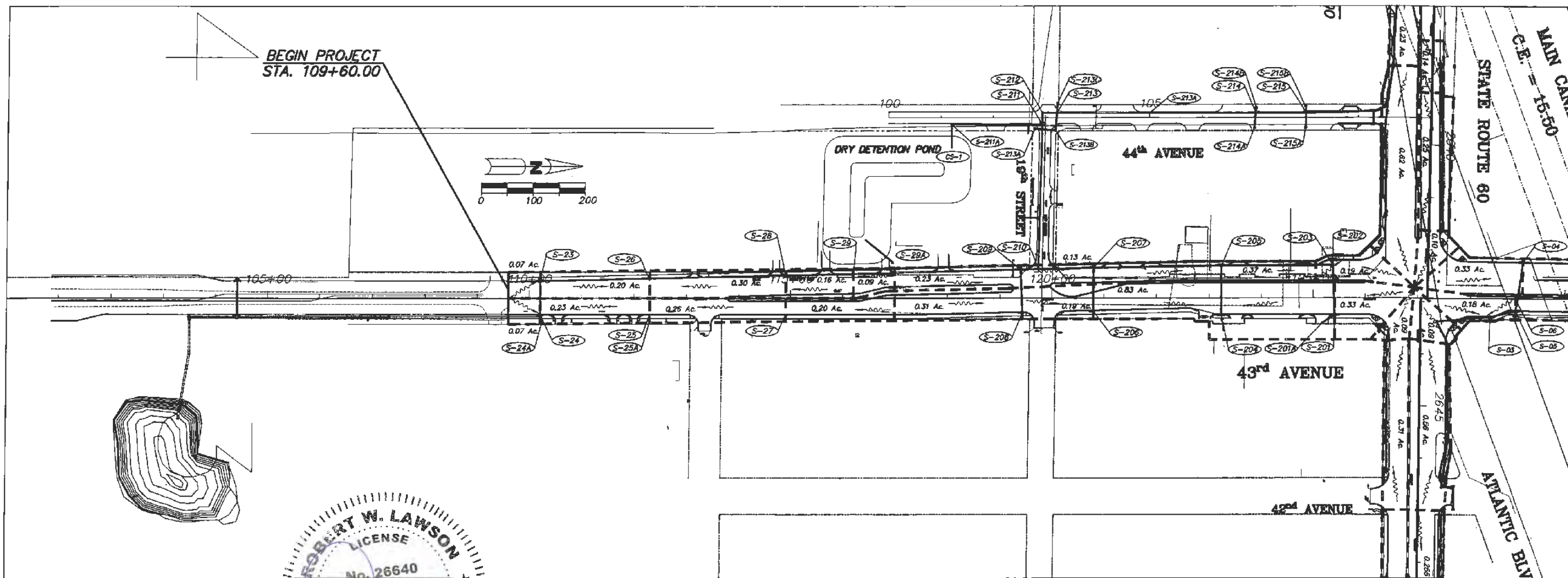
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EB7817 / LB7062

User Name: bfrichards Path Name: G:\Projects\LMR\1000-1099\1027_60-43rd\Coord\DESIGN_files\01-1027COVER_SHEET.dwg



DO NOT USE THE INFORMATION ON THIS SHEET FOR CONSTRUCTION PURPOSES. THIS SHEET IS IN THE PLANS FOR DOCUMENTATION AND TO ASSIST CONSTRUCTION PERSONNEL WITH DRAINAGE CONCERNS.



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ROBERT W. LAWSON
 LICENSE
 No. 26640
 JUL 21 2019
 STATE OF FLORIDA
 PROFESSIONAL ENGINEER

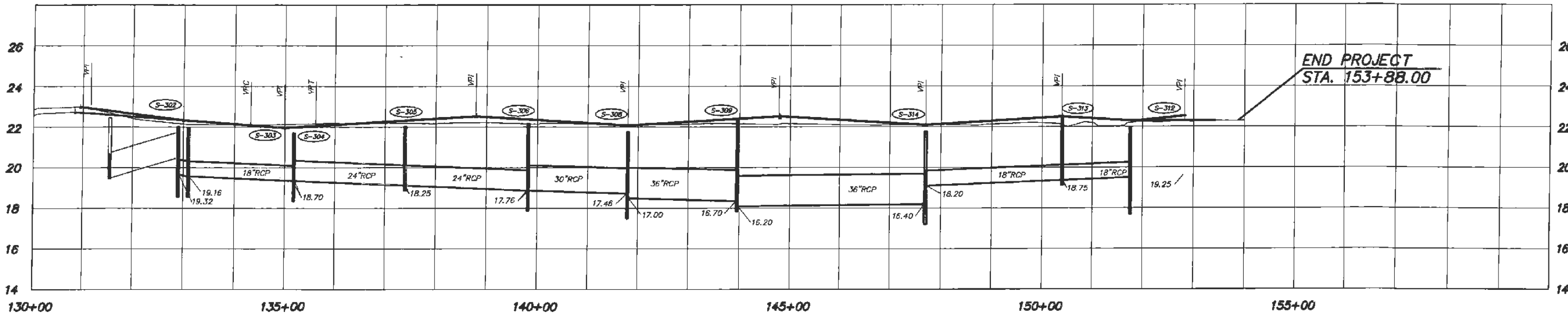
Revision:	By:	Date:

Department of Public Works
 Engineering Division

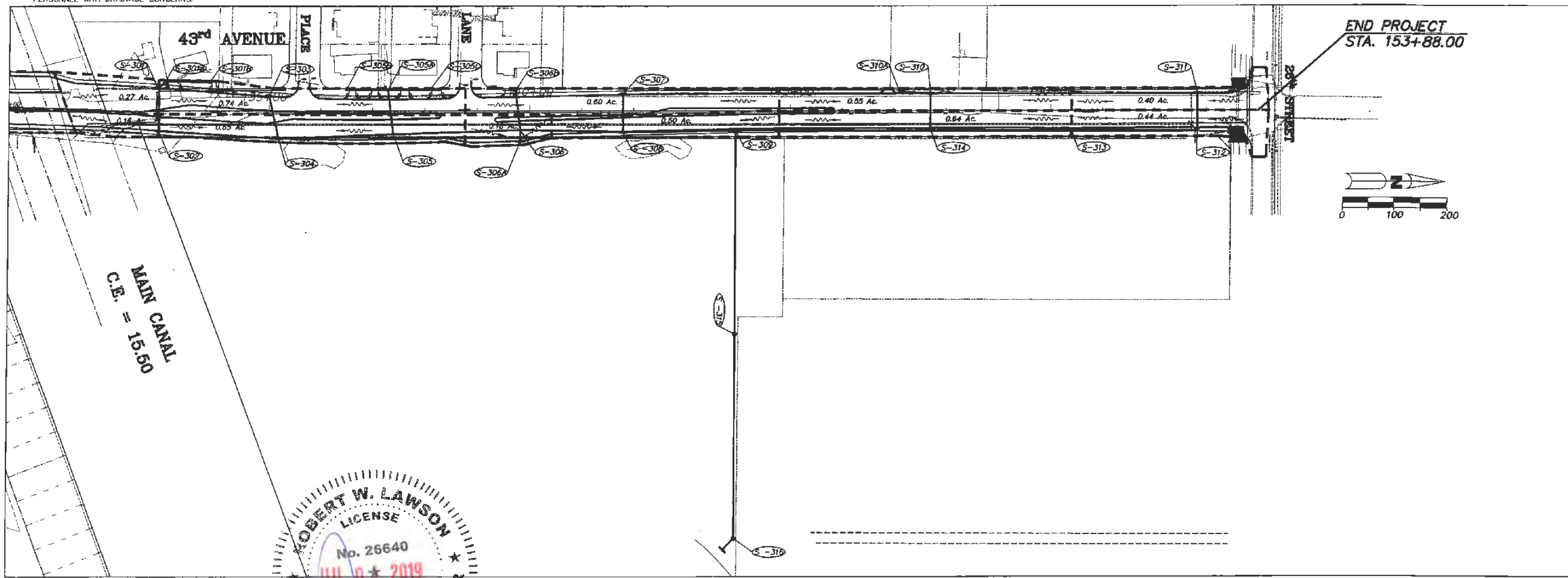
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 Drawn: FM
 Checked: HWD
 Date: 8/2017
 Field Book No:

Project:
 DRAINAGE MAP
 FOR
 SR 60 & 43RD AVENUE

Sheet: 2
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 Project No.
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ROBERT W. LAWSON
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 STATE OF FLORIDA

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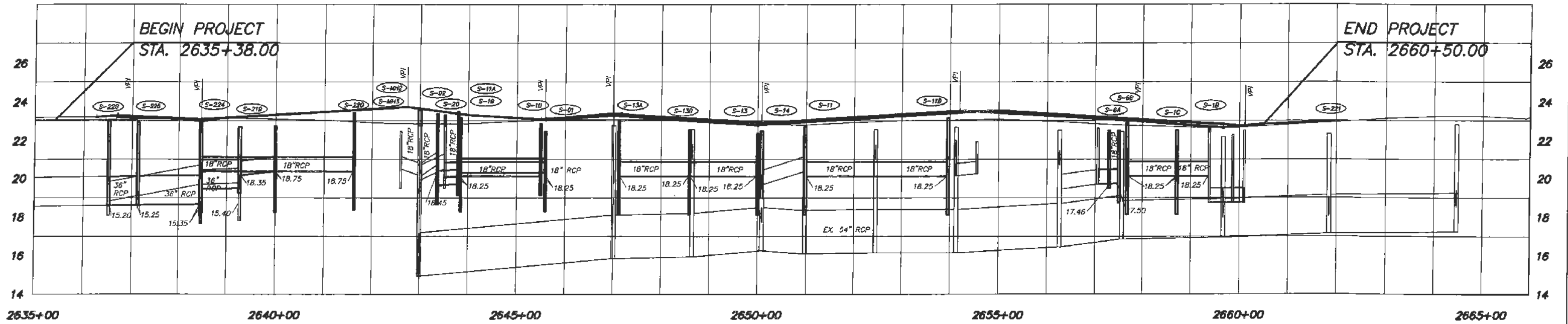
Department of Public Works
 Engineering Division

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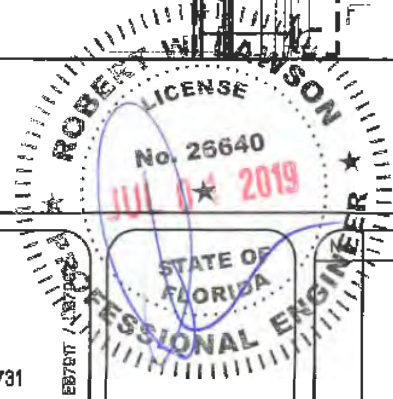
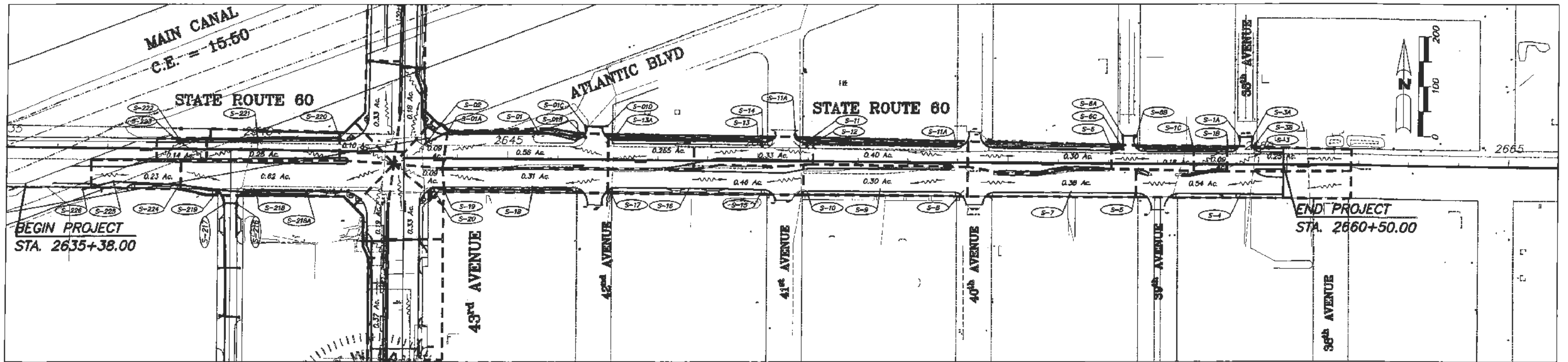
Project:
 DRAINAGE MAP
 FOR
 SR 60 & 43RD AVENUE

Sheet: 3
 Of: 99
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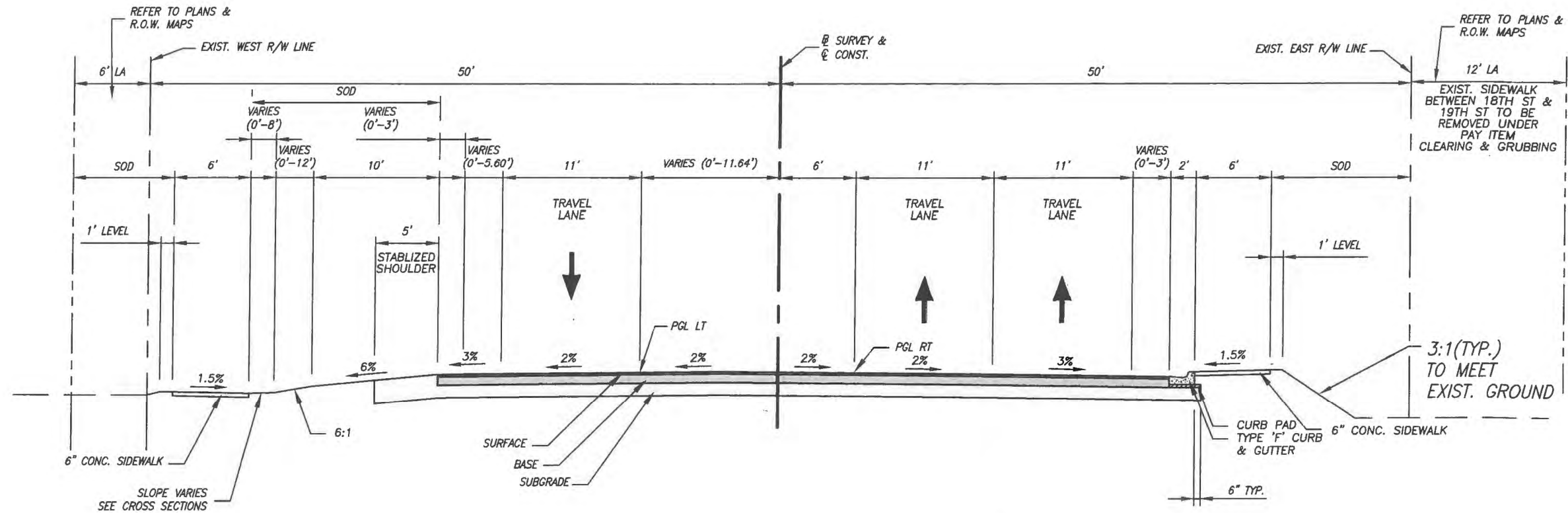


Department of Public Works
Engineering Division

Scale: 1"=200'
Approved: HWD
Drawn: FM
Checked: HWD
Date: 6/2017
Field Book No:

Project:
DRAINAGE MAP
FOR
SR 60 & 43RD AVENUE

Sheet: 4
Of: 99
Project No.
LHW# WP1027



TYPICAL SECTION NOTES:

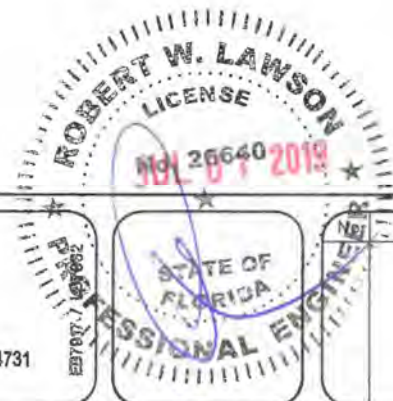
1. ALL PAVED AREAS WITHIN THE PROJECT LIMITS WHICH ARE NOT SPECIFICALLY COVERED BY A "TYPICAL SECTION" SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PAVEMENT SPECIFICATIONS INDICATED HEREON, UNLESS OTHERWISE NOTED.
2. WHEN LOCATED ON THE HIGH SIDE OF THE ROADWAY, CURB & GUTTER TYPE "F" SHALL BE MODIFIED IN ACCORDANCE WITH FDOT STANDARD INDEX NO. 300
3. CURB PADS SHALL BE CONSTRUCTED OF 6" BASEROCK OR 3" OF B-12.5 AND SHALL EXTEND A MINIMUM OF 6" BEYOND THE BACK OF CURB. COST OF CURB PAD SHALL BE INCLUDED IN THE PRICE FOR CURB & GUTTER

POSTED SPEED 45 MPH

DESIGN SPEED 45 MPH

**TYPICAL SECTION
STA. 109+60.00 TO STA. 113+98.70
43RD AVENUE**

NEW CONSTRUCTION	
SURFACE:	1" TYPE FC-9.5 ASPHALTIC CONCRETE SURFACE COURSE (TRAFFIC C) (PG 76-22) W/ POLYMER OVER 1-1/2" TYPE SP-12.5 (TRAFFIC C) ASPHALTIC CONCRETE STRUCTURAL COURSE
BASE:	9" CEMENTED COQUINA SHELL (DOUBLE COURSE) WITH RC-70 PRIME COAT (LBR 100)
SUBGRADE:	12" STABILIZED SUBGRADE TYPE "B" (LBR-40)



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INDIAN RIVER COUNTY
Department of Public Works
Engineering Division

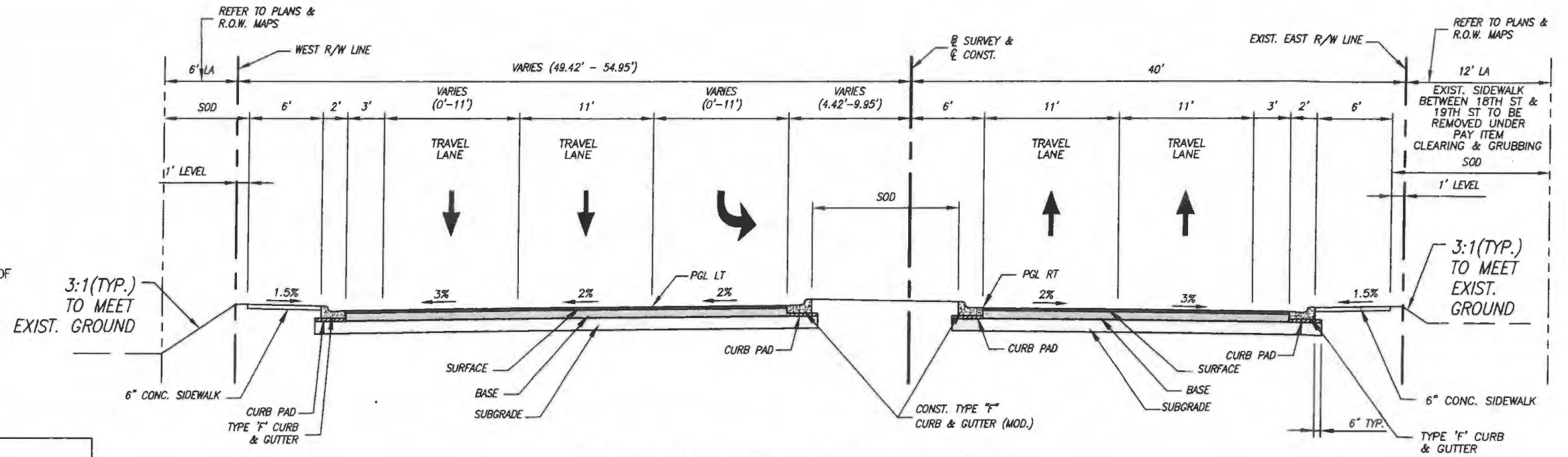
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Approved: HWD
Drawn: FM
Checked: HWD
Date: 6/2017
Field Book No:

Project:
TYPICAL SECTIONS
FOR
SR 60 & 43RD AVENUE

Sheet: 5
Of: 99
Project No.
LNW# WP1027

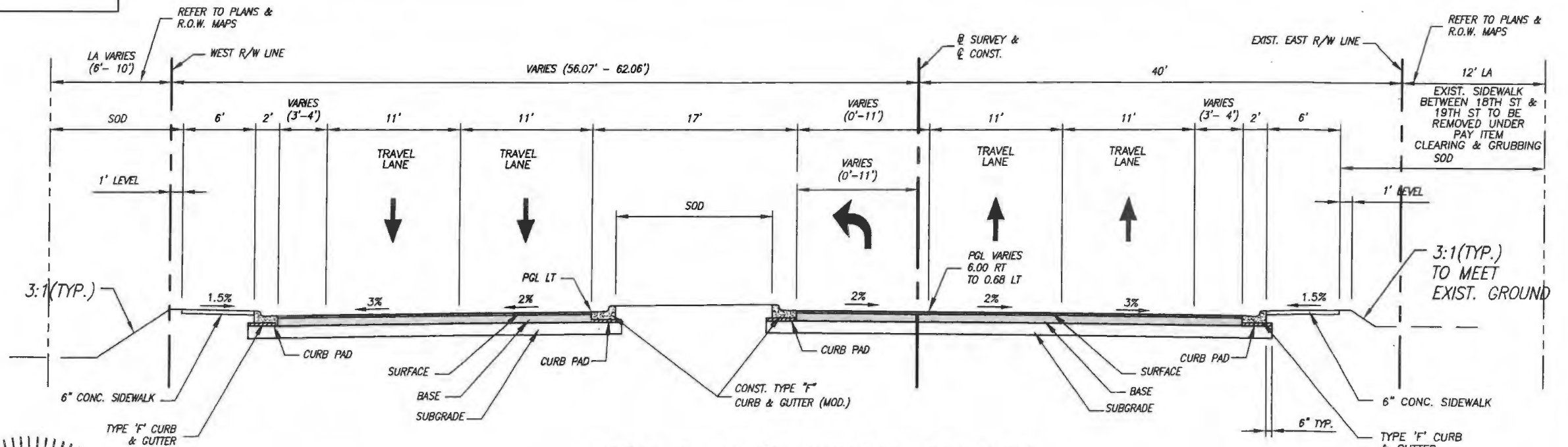
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**43RD AVENUE TYPICAL SECTION
STA. 113+98.70 TO STA. 116+83**

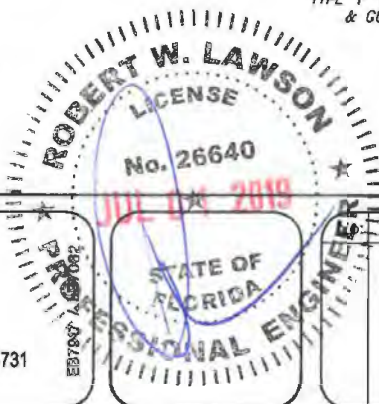
NEW CONSTRUCTION	
SURFACE:	1" TYPE FC-9.5 ASPHALTIC CONCRETE SURFACE COURSE (TRAFFIC C) (PG 76-22) W/ POLYMER OVER 1-1/2" TYPE SP-12.5 (TRAFFIC C) ASPHALTIC CONCRETE STRUCTURAL COURSE
BASE:	9" CEMENTED COQUINA SHELL (DOUBLE COURSE) WITH RC-70 PRIME COAT (LBR 100)
SUBGRADE:	12" STABILIZED SUBGRADE TYPE "B" (LBR-40)



**43RD AVENUE TYPICAL SECTION
STA. 116+83 TO STA. 119+83.50**

POSTED SPEED 45 MPH

DESIGN SPEED 45 MPH



Revision: By: Date:



Department of Public Works
Engineering Division

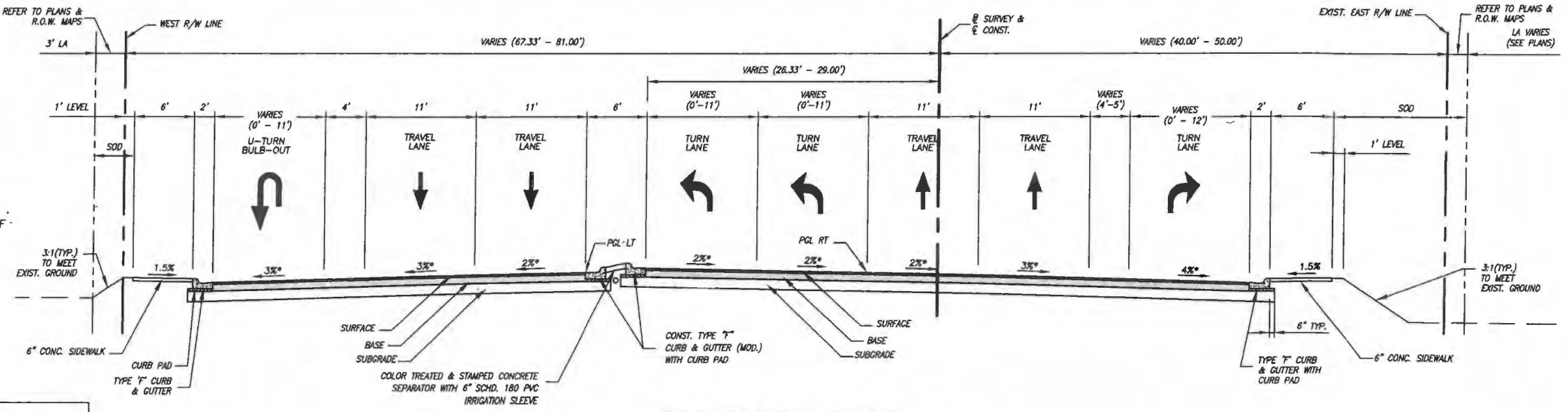
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Checked: HWD
Date: 6/2017
Field Book No:

Project:
TYPICAL SECTIONS
FOR
SR 60 & 43RD AVENUE

Sheet: 6
Of: 99
Project No.
LNN# WP1027

TYPICAL SECTION NOTES:

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4. OVERBUILD CONSISTING OF 1" TYPE FC-9.5 OVER OVERBUILD SP IS REQUIRED ON SR 60 AND THRU THE INTERSECTION AS INDICATED ON THE PLANS.

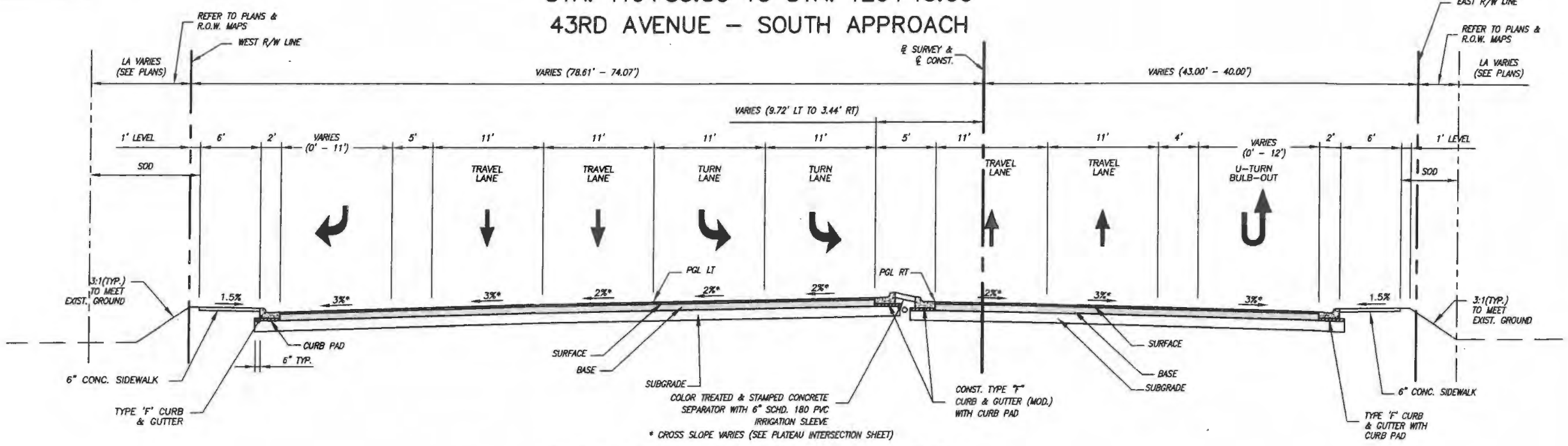


NEW CONSTRUCTION	
SURFACE:	1" TYPE FC-9.5 ASPHALTIC CONCRETE SURFACE COURSE (TRAFFIC C) (PG 76-22) W/ POLYMER OVER 1-1/2" TYPE SP-12.5 (TRAFFIC C) ASPHALTIC CONCRETE STRUCTURAL COURSE
BASE:	9" CEMENTED COQUINA SHELL (DOUBLE COURSE) WITH RC-70 PRIME COAT (LBR 100)
SUBGRADE:	12" STABILIZED SUBGRADE TYPE "B" (LBR-40)

EXPANDED INTERSECTION - TYPICAL SECTION

STA. 119+83.50 TO STA. 126+45.00
43RD AVENUE - SOUTH APPROACH

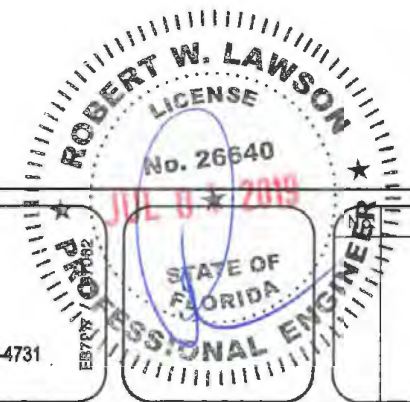
POSTED SPEED 45 MPH
DESIGN SPEED 45 MPH



EXPANDED INTERSECTION - TYPICAL SECTION

STA. 127+50.00 TO STA. 133+48.80
43RD AVENUE - NORTH APPROACH

NOTE:
BRIDGE STA. 129+62.455 TO STA. 130+94.455
REFER TO BRIDGE PLANS.



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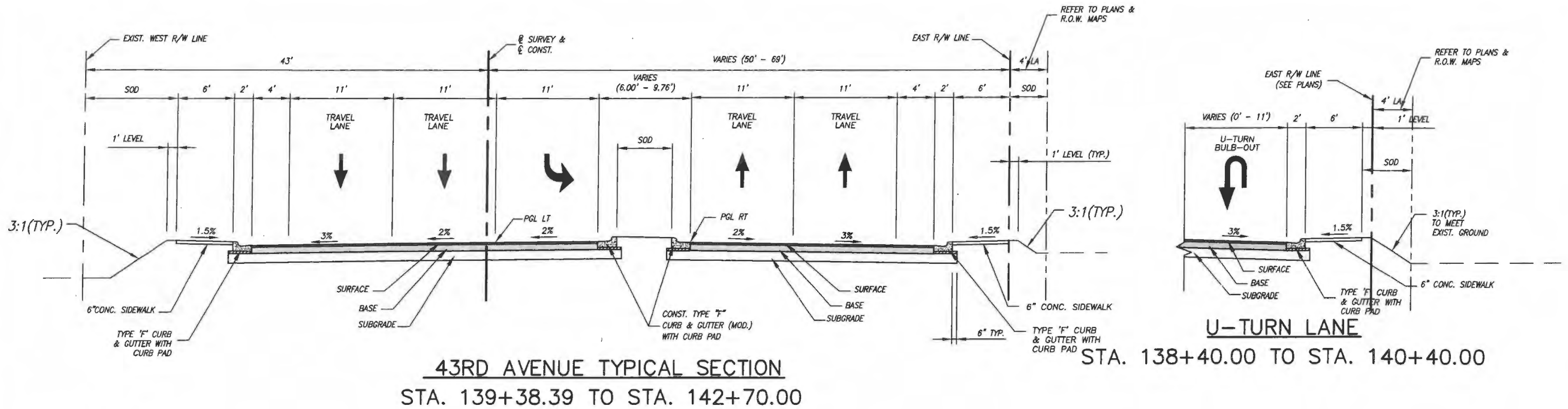
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Department of Public Works
Engineering Division

Scale:	NTS
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Project:
TYPICAL SECTIONS
FOR
SR 60 & 43RD AVENUE

Sheet:	7
Of:	99
Project No.	LNW# WP1027



TYPICAL SECTION NOTES:

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POSTED SPEED 45 MPH

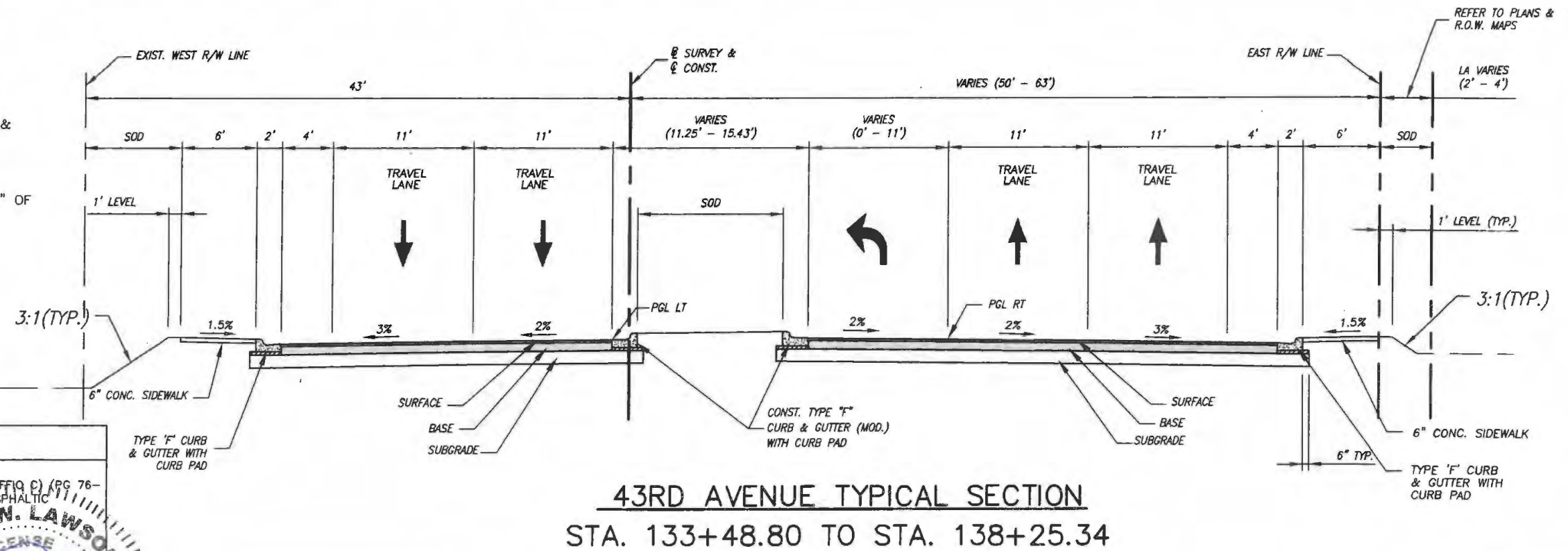
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NEW CONSTRUCTION

SURFACE: 1" TYPE FC-9.5 ASPHALTIC CONCRETE SURFACE COURSE (TRAFFIC C) (PG 76-22) W/ POLYMER OVER 1-1/2" TYPE SP-12.5 (TRAFFIC C) ASPHALTIC CONCRETE STRUCTURAL COURSE

BASE: 9" CEMENTED COQUINA SHELL (DOUBLE COURSE) WITH RC-70 PRIME COAT (LBR 100)

SUBGRADE: 12" STABILIZED SUBGRADE TYPE "B" (LBR-40)



Revision: _____ By: _____ Date: _____



Department of Public Works
Engineering Division

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Project: TYPICAL SECTIONS
FOR
SR 60 & 43RD AVENUE

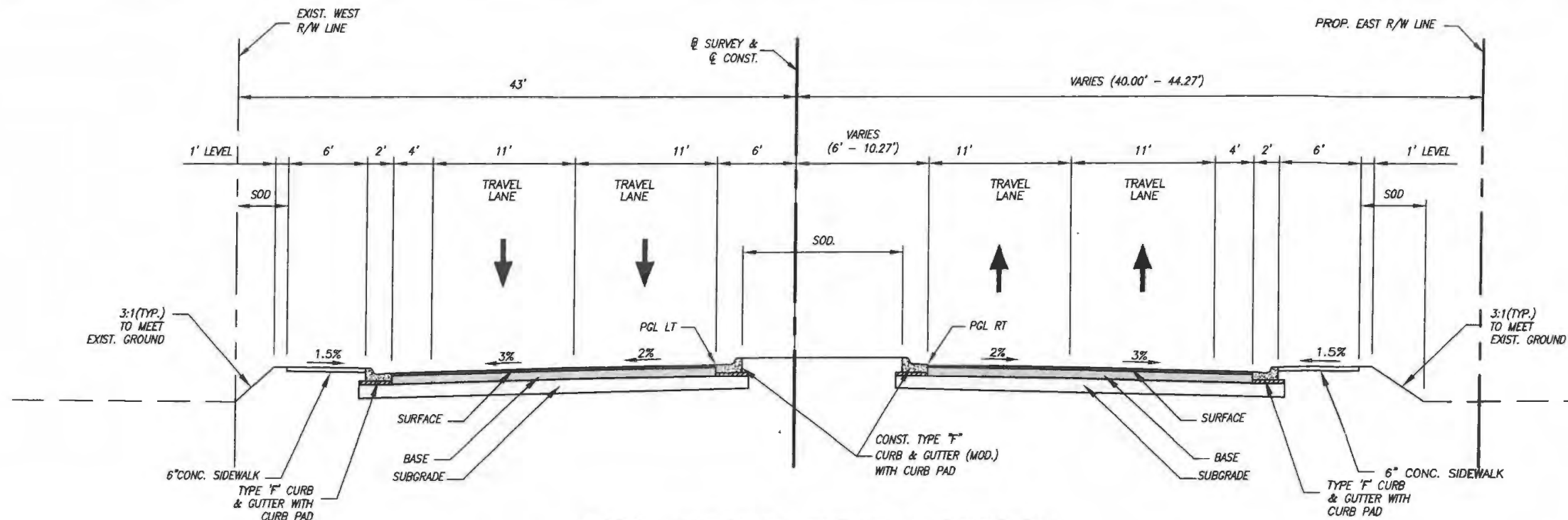
Sheet: 8
Of: 99
Project No. _____
LNW# WP1027

TYPICAL SECTION NOTES:

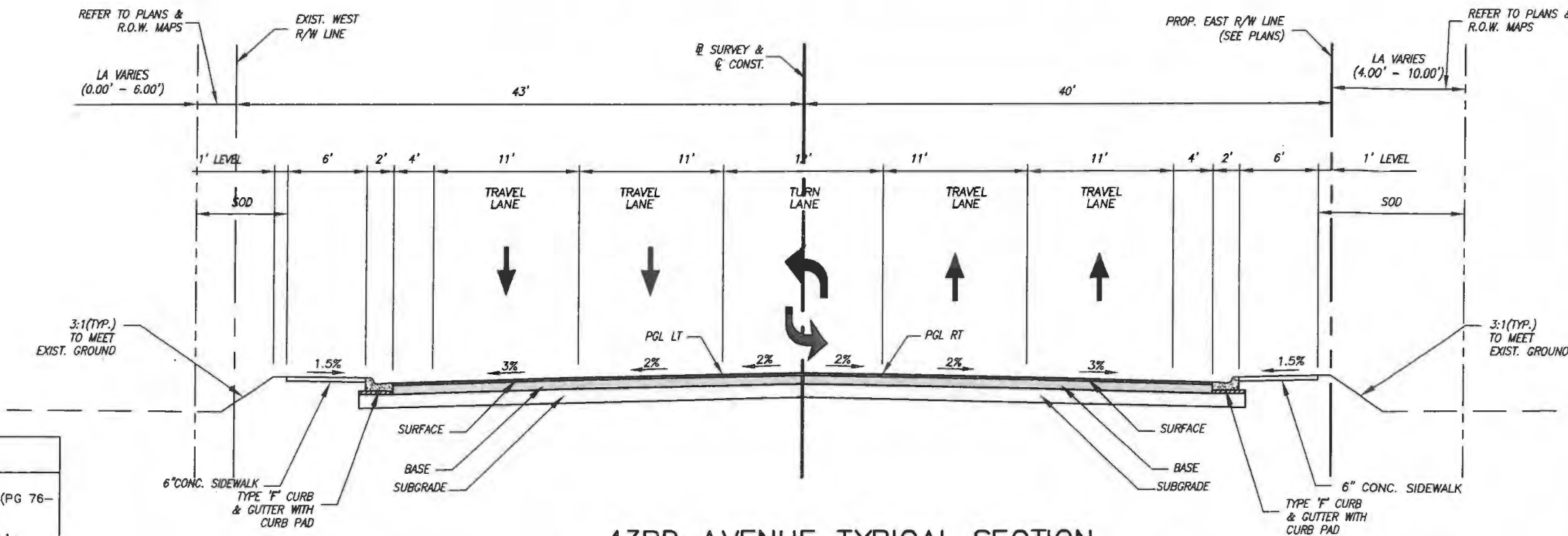
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POSTED SPEED 45 MPH

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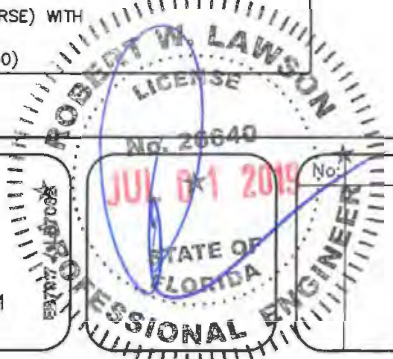


43RD AVENUE TYPICAL SECTION
STA. 142+70.00 TO STA. 145+80.81



43RD AVENUE TYPICAL SECTION
STA. 145+80.81 TO STA. 151+83.74

NEW CONSTRUCTION	
SURFACE:	1" TYPE FC-9.5 ASPHALTIC CONCRETE SURFACE COURSE (TRAFFIC C) (PG 76-22) W/ POLYMER OVER 1-1/2" TYPE SP-12.5 (TRAFFIC C) ASPHALTIC CONCRETE STRUCTURAL COURSE
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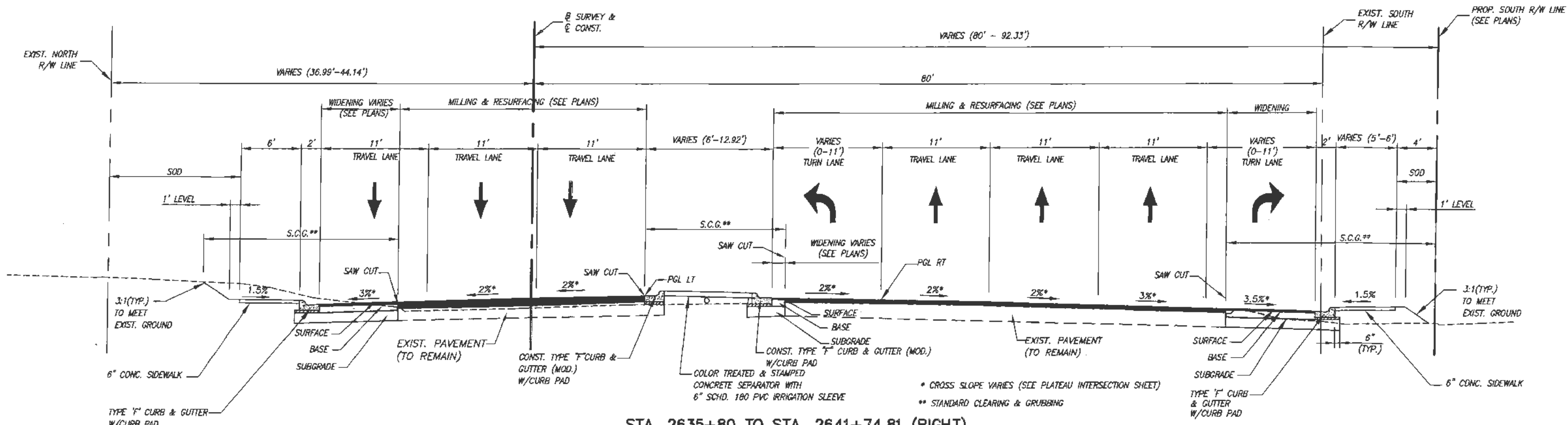


Department of Public Works
Engineering Division

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Project: TYPICAL SECTIONS
FOR
SR 60 & 43RD AVENUE

Sheet: 9
Of: 99
Project No.
LNW# WP1027



STA. 2635+80 TO STA. 2641+74.81 (RIGHT)
 STA. 2636+67.18 TO STA. 2641+74.81 (LEFT)
TYPICAL SECTION
SR 60
OVERBUILD

POSTED SPEED 45 MPH
DESIGN SPEED 45 MPH

TYPICAL SECTION NOTES:

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- RESURFACE CONSISTING OF 1" AVERAGE DEPTH FC-9.5 OVER TYPE SP IS REQUIRED ON SR 60 THRU THE INTERSECTION AS INDICATED ON THE PLANS

STATION	WB EXIST	WB PROP	COMMENT	EB EXIST	EB PROP	COMMENT
2637+00			BRIDGE	2.63%	2%	3% OUTSIDE LANE
2638+00	2.55%	2%	3.91% OUTSIDE LANE	3.11%	2%	3% OUTSIDE LANE
2639+00	3.73%	2%	3% OUTSIDE LANE	2.66%	2%	3% OUTSIDE LANE
2640+00	3.51%	2%	3% OUTSIDE LANE	2.64%	2%	3%-3.45% OUTSIDE LANES
2641+00	3.18%	2.09%-2.5%	SEE PLATEAU	3.30%	2%	SEE PLATEAU
2642+00	3.72%	0%	SEE PLATEAU	3.27%	0%	SEE PLATEAU
2643+00			SEE PLATEAU			SEE PLATEAU
2644+00	3%	1.36%	SEE PLATEAU	3.50%	1.45%	SEE PLATEAU
2645+00	3.74%	2%	2.4% OUTSIDE LANE	3.48%	2%	3% OUTSIDE LANE
2646+00	3.38%	2%	3%-3.47% OUTSIDE LANES	3.03%	2%	3% OUTSIDE LANE
2647+00	2.83%	2%	3% OUTSIDE LANE	3.66%	2%	3% OUTSIDE LANE
2648+00	3.16%	2%	3% OUTSIDE LANE	3.76%	2%	3.73% OUTSIDE LANE
2649+00	3.92%	2%	3% OUTSIDE LANE	3.54%	2%	4% OUTSIDE LANE
2650+00	4.28%	2%	3% OUTSIDE LANE	3.54%	2%	3% OUTSIDE LANE
2651+00	3.94%	2%	3% OUTSIDE LANE	4.04%	2%	3% OUTSIDE LANE
2652+00	4.14%	2%	4% OUTSIDE LANE	3.48%	2%	3% OUTSIDE LANE
2653+00	3.93%	2%	3.82% OUTSIDE LANE	3.84%	2%	3% OUTSIDE LANE
2654+00	2.76%	2%	3% OUTSIDE LANE	2.86%	2%	3% OUTSIDE LANE
2655+00	2.88%	2%	3% OUTSIDE LANE	4.05%	2%	3% OUTSIDE LANE
2656+00	3.13%	2%	3% OUTSIDE LANE	3.47%	2%	3% OUTSIDE LANE
2657+00	3.39%	2%	3% OUTSIDE LANE	3.02%	2%	3% OUTSIDE LANE
2658+00	2.13%	2%	3% OUTSIDE LANE	2.62%	2%	3% OUTSIDE LANE
2659+00	3.11%	2%	4% OUTSIDE LANE			NO OVERBUILD
2660+00	3.12%	2%	3% OUTSIDE LANE			NO OVERBUILD

WIDENING

SURFACE: 1" TYPE FC-9.5 ASPHALTIC CONCRETE SURFACE COURSE (TRAFFIC C) (PG 76-22) W/ POLYMER OVER 1-1/2" TYPE SP-12.5 (TRAFFIC C) ASPHALTIC CONCRETE STRUCTURAL COURSE

BASE: 9" CEMENTED COQUINA SHELL (DOUBLE COURSE) WITH RC-70 PRIME COAT (LBR 100)

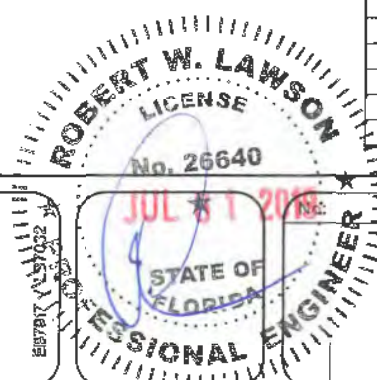
SUBGRADE: 12" STABILIZED SUBGRADE TYPE "B" (LBR-40)

MILLING & RESURFACING

MILLING: MILL EXISTING PAVEMENT (2.5" AVERAGE DEPTH) (LOCATIONS ARE SHOWN ON THE PLANS)

OVERBUILD: TYPE SP OVERBUILD (TRAFFIC C) THICKNESS VARIES (0" TO 2")

RESURFACING: TYPE SP STRUCTURAL COURSE (TRAFFIC C) 1.5" AND FRICTION COURSE FC-9.5 (1") (TRAFFIC C; (PG 76-22) WITH POLYMER.



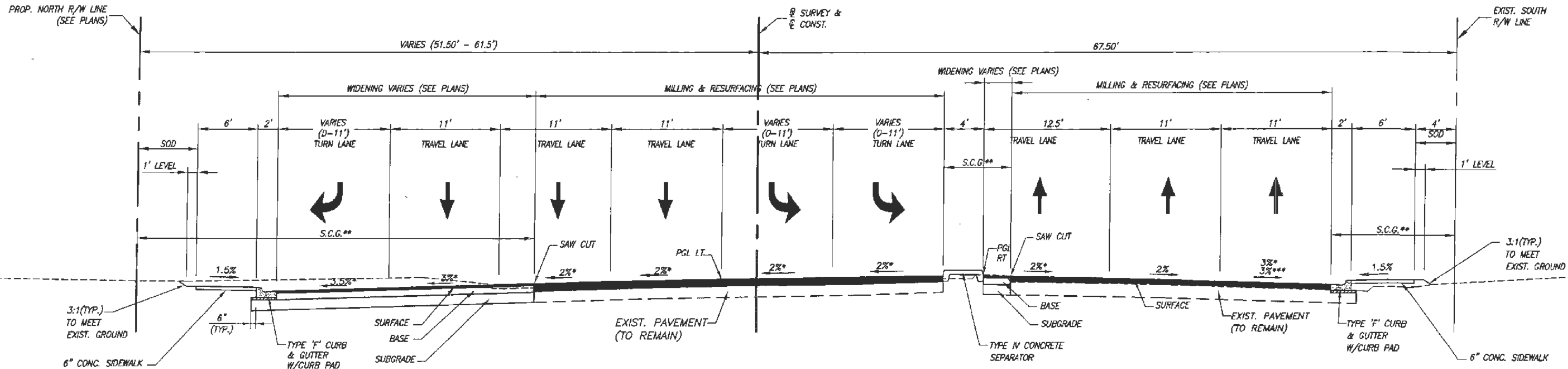
Revision:	By:	Date:

INDIAN RIVER COUNTY
 Department of Public Works
 Engineering Division

Scale: NTS
 Approved: HWD
 Drawn: FM
 Checked: HWD
 Date: 6/2017
 Field Book No:

Project:
 TYPICAL SECTIONS
 FOR
 SR 60 & 43RD AVENUE

Sheet: 1D
 Of: 99
 Project No.
 LNW# WP1027



* CROSS SLOPE VARIES (SEE PLATEAU INTERSECTION SHEET)
 REFER TO SHEET 27 FOR PLATEAU GRADING WITHIN THE INTERSECTION OF SR 60 & 43RD AVENUE
 ** STANDARD CLEARING & GRUBBING
 *** CROSS SLOPE VARIES FROM 3% TO 4% STA. 2647+29 TO 2649+23 RIGHT

STA. 2643+71.60 TO STA. 2649+23.00
 TYPICAL SECTION
 SR 60

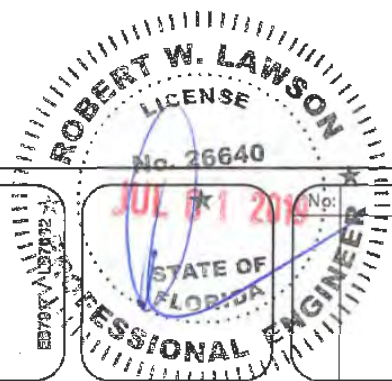
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TYPICAL SECTION NOTES:

1. ALL PAVED AREAS WITHIN THE PROJECT LIMITS WHICH ARE NOT SPECIFICALLY COVERED BY A "TYPICAL SECTION" SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PAVEMENT SPECIFICATIONS INDICATED HEREON, UNLESS OTHERWISE NOTED.
2. WHEN LOCATED ON THE HIGH SIDE OF THE ROADWAY, CURB & GUTTER TYPE "F" SHALL BE MODIFIED IN ACCORDANCE WITH FDOT STANDARD INDEX NO. 300
3. CURB PADS SHALL BE CONSTRUCTED OF 6" BASEROCK OR 3" OF B-12.5 AND SHALL EXTEND A MINIMUM OF 6" BEYOND THE BACK OF CURB. COST OF CURB PAD SHALL BE INCLUDED IN THE PRICE FOR CURB & GUTTER
4. RESURFACE CONSISTING OF 1" AVERAGE DEPTH FC-9.5 OVER TYPE SP IS REQUIRED ON SR 60 THRU THE INTERSECTION AS INDICATED ON THE PLANS

WIDENING	
SURFACE:	1" TYPE FC-9.5 ASPHALTIC CONCRETE SURFACE COURSE (TRAFFIC C) (PG 76-22) W/ POLYMER OVER 1-1/2" TYPE SP-12.5 (TRAFFIC C) ASPHALTIC CONCRETE STRUCTURAL COURSE
BASE:	9" CEMENTED COQUINA SHELL (DOUBLE COURSE) WITH RC-70 PRIME COAT (LBR 100)
SUBGRADE:	12" STABILIZED SUBGRADE TYPE "B" (LBR-40)

MILLING & RESURFACING	
MILLING:	MILL EXISTING PAVEMENT (2.5" AVERAGE DEPTH) (LOCATIONS ARE SHOWN ON THE PLANS)
OVERBUILD:	TYPE SP OVERBUILD (TRAFFIC C) THICKNESS VARIES (0" TO 2")
RESURFACING:	TYPE SP STRUCTURAL COURSE (TRAFFIC C) 1.5" AND FRICTION COURSE FC-9.5 (1") (TRAFFIC C) (PG 76-22) WITH POLYMER.



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 ARCADIS U.S., INC.
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 www.arcadis-us.com

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Department of Public Works
 Engineering Division

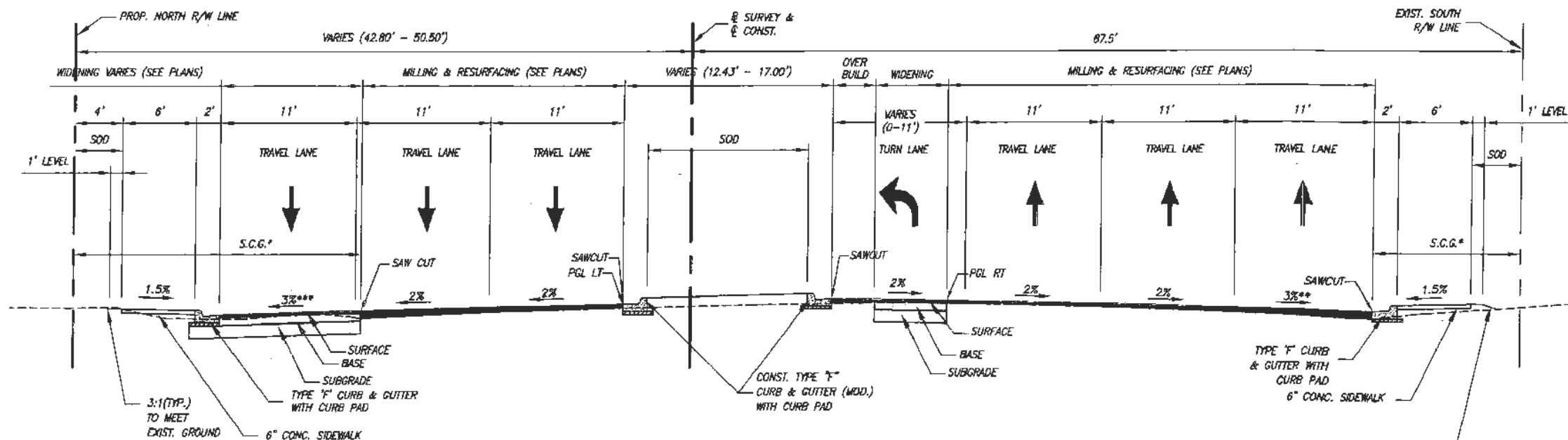
Scale:	NTS
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Project:
 TYPICAL SECTIONS
 FOR
 SR 60 & 43RD AVENUE

Sheet:	11
Of:	99
Project No.	LNW# WP1027

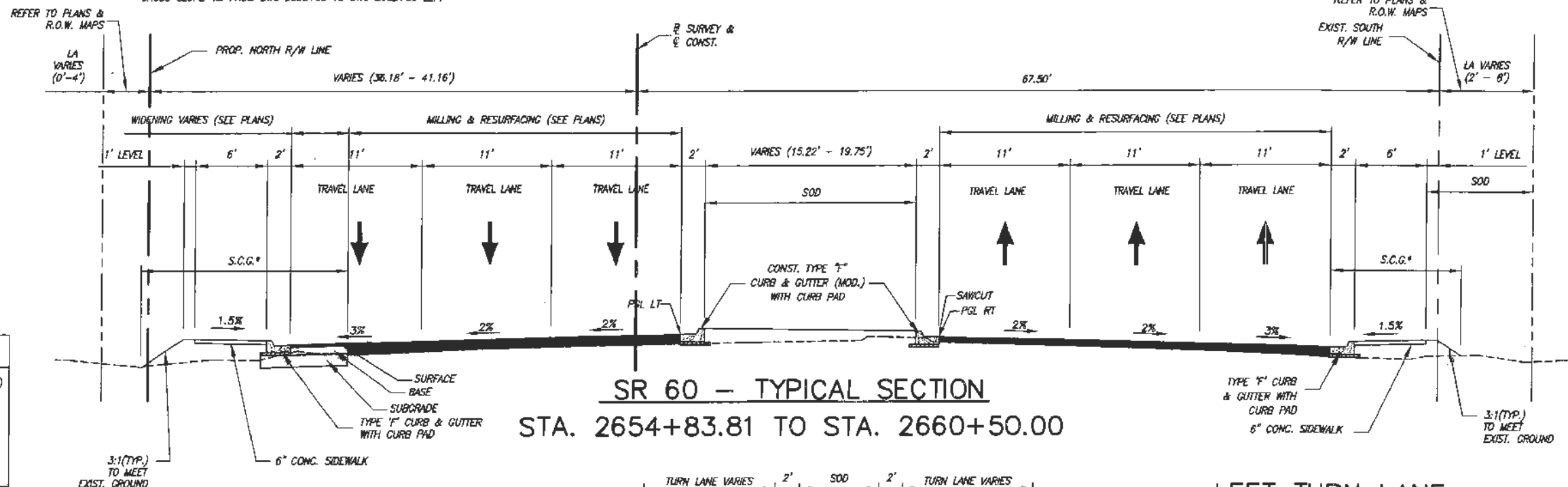
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4. RESURFACE CONSISTING OF 1" AVERAGE DEPTH FC-9.5 OVER TYPE SP IS REQUIRED ON SR 60 THRU THE INTERSECTION AS INDICATED ON THE PLANS



SR 60 - TYPICAL SECTION
STA. 2649+23.00 TO STA. 2653+83.16

* STANDARD CLEARING & GRUBBING
 ** CROSS SLOPE VARIES 3% TO 4% FROM STA. 2647+29 TO 2648+29 RIGHT, STA. 2649+23 TO STA. 2650+23 RIGHT, CROSS SLOPE 4% FROM STA. 2648+29 TO STA. 2649+23 RIGHT
 *** CROSS SLOPE VARIES 3% TO 4% FROM STA. 2651+00 TO 2652+80 LEFT, STA. 2652+80 TO STA. 2653+80 LEFT, CROSS SLOPE 4% FROM STA. 2652+00 TO STA. 2652+80 LEFT

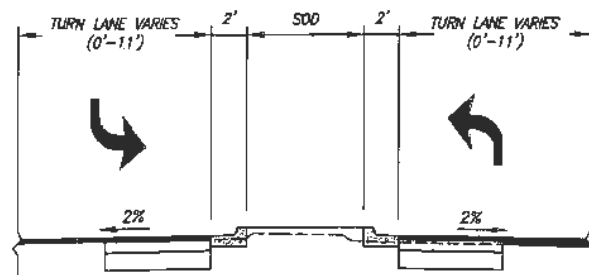


SR 60 - TYPICAL SECTION
STA. 2654+83.81 TO STA. 2660+50.00

POSTED SPEED 45 MPH
DESIGN SPEED 45 MPH

WIDENING	
SURFACE:	1" TYPE FC-9.5 ASPHALTIC CONCRETE SURFACE COURSE (TRAFFIC C) (PG 76-22) W/ POLYMER OVER 1-1/2" TYPE SP-12.5 (TRAFFIC C) ASPHALTIC CONCRETE STRUCTURAL COURSE
BASE:	9" CEMENTED COQUINA SHELL (DOUBLE COURSE) WITH RC-70 PRIME COAT (LBR 100)
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MILLING & RESURFACING	
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RESURFACING:	TYPE SP STRUCTURAL COURSE (TRAFFIC C) 1.5" AND FRICTION COURSE FC-9.5 (1") (TRAFFIC C) (PG 76-22) WITH POLYMER.



LEFT TURN LANE
 2655+61.68 TO 2656+90.30
 2658+63.04 TO 2659+25.15
 2654+83.81 TO 2656+11.68
 2658+50.83 TO 2659+12.90

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PROFESSIONAL ENGINEER
 No. 26640
 JUL 01 2019
 STATE OF FLORIDA
 W. LAWSON

Revision:	By:	Date:

Department of Public Works
Engineering Division

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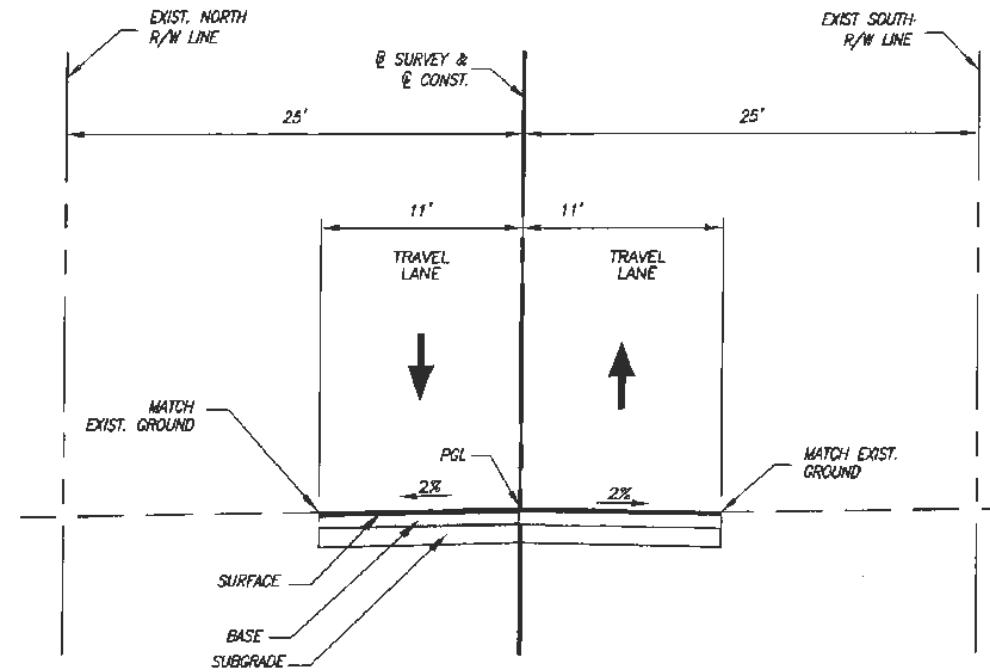
Project:
TYPICAL SECTIONS
FOR
SR 60 & 43RD AVENUE

Sheet:	12
Of:	99
Project No.	LNW# WP1027

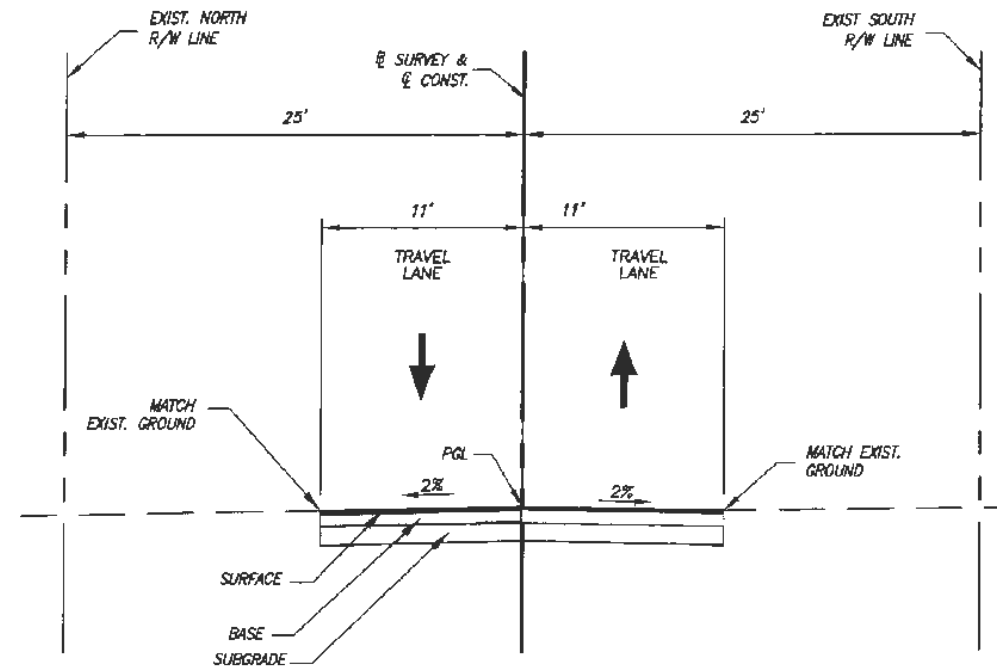
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DESIGN SPEED 30 MPH



**44TH AVENUE TYPICAL SECTION
 STA. 100+40 TO STA. 109+52**



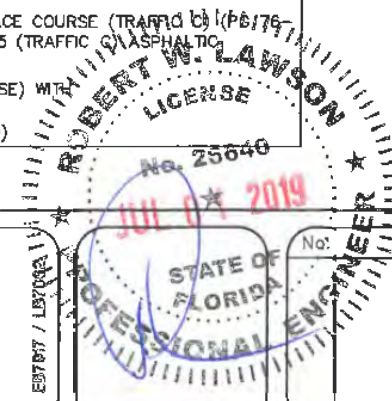
**19TH AVENUE TYPICAL SECTION
 STA. 9+47 TO STA. 11+95.43**

RECONSTRUCTION

SURFACE: 1" TYPE FC-9.5 ASPHALTIC CONCRETE SURFACE COURSE (TRAFFIC CLASS 1) (PG 179-22) W/ POLYMER OVER 1-1/2" TYPE SP-12.5 (TRAFFIC CLASS 1) ASPHALTIC CONCRETE STRUCTURAL COURSE

BASE: 9" CEMENTED COQUINA SHELL (DOUBLE COURSE) WITH RC-70 PRIME COAT (LBR 100)

SUBGRADE: 12" STABILIZED SUBGRADE TYPE "B" (LBR-40)



No.	Revision:	By:	Date:



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 Engineering Division*

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Project:
 TYPICAL SECTIONS
 FOR
 SR 60 & 43RD AVENUE

Sheet: 12A
 Of: 99
 Project No.
 LNW# WP1027

SUMMARY OF PAY ITEMS

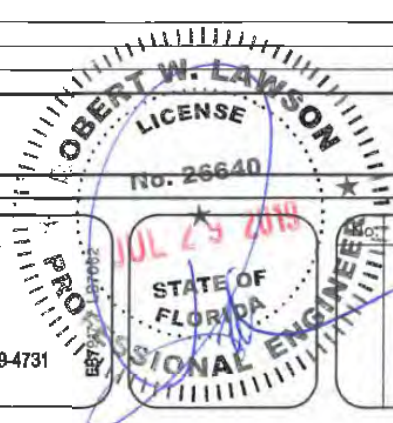
NO.	ITEM	UNIT	QUANTITY
	LIGHTING		
0835 2 11	PULL BOX (F&I) (ROADSIDE), MOULDED	EA	71
0715 1 13	LIGHTING CONDUCTOR, F&I, INSULATED, No. 4	LF	36765
0715 4 33	CONFLICT LIGHT POLE COMPLETE W/ CONCRETE BASE, F&I, WIND SPEED 160	EA	36
0715 4 13	STANDARD LIGHT POLE COMPLETE W/ CONCRETE BASE, F&I, WIND SPEED 160	EA	30
0715 5 30	LUMINAIRE AND BRACKET ARM MOUNTED ON SIGNAL POLE, F&I	EA	4
0715 500 1	POLE CABLE DISTRIBUTION SYSTEM, IP-66	EA	70
0715 7 11	LOAD CENTER (INCLUDES ALL COMPONENTS LISTED ON SERVICE POINT DETAILS DRAWING)	EA	3
1050 31102	LIGHTING CONDUIT, F&I, UNDERGROUND, 2" PVC SCH. 40	LF	11094
	LANDSCAPE		
	HARDSCAPE		
0526 1 2	PAVERS, ARCHITECTURAL, SIDEWALK	SY	290
0523 1	PATTERNED PAVEMENT, VEHICULAR AREAS	SY	800
0520 2 13	HEADER CURB	LF	632
	PLANT LIST		
	TREES		
0580 5 5532	GORDONIA IASANTHUS (LOBLOLLY BAY)(8-10'x 4-5' 2.75 CAL)	EA	9
0580 5 572	LIGUSTRUM JAPONICUM (JAPANESE PRIVET)(8-10' DA MULTISTEM	EA	14
0580 4 235	PHOENIX SYLVESTRIS (SYLVESTER DATE PALM)(16' CT)	EA	3
0580 4 345	SABAL PALMETTO (SABAL PALM)(15-20' CT)	EA	5
	SHRUBS		
0580 7 177	ILEX BOMITORIA "Schillings" (DWARF YALPONHOLLY)(#7 FULL)(24" OC)	EA	46
0580 7 337	MYRCANTHES FRAGRANS (SIMPSON'S STOPPER)(#7)(24" O.C.)	EA	59
E575 1	BAHIA SOD (PASPALUM NOTATUM)	SY	5450
E575 1 4A	ST. AUGUSTINE SOD	SY	3400
E580337 5	HERBICIDE, ROOT CONTROL FABRIC-20" WIDE	LF	145
E580326 4	MULCH WOOD CHIPS	CY	16
05090 1	IRRIGATION SYSTEM	LS	1

PAY ITEMS & CONTINGENCY ITEMS FOOTNOTES:

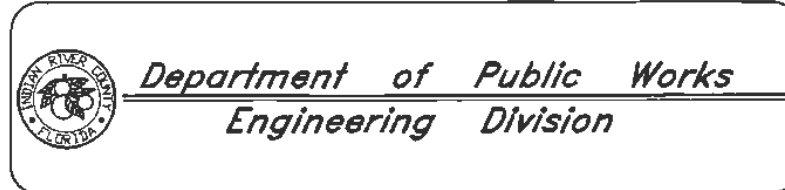
- ITEM 0509 01 INCLUDES ALL WELLS, PUMP STATIONS, CONTROLLERS, PIPING, HEADS, VALVES, FIXTURES, ENCLOSURES, CONCRETE WORK, SLEEVES, PANELS, AND ALL ELSE NECESSARY FOR A COMPLETE INSTALLATION AND SYSTEM.
- ITEM 0523 1 INCLUDES DURATHERM, INTEGRATED PAVING CONCEPTS, CINNAMON, WAGON WHEEL.
- ITEM 0526 1 2 INCLUDE BELARD, HOLLAND 4"x8" 80mm, RED/CHESTNUT/CHARCOAL, 45 DEGREES HERRINGBONE.
- ITEM E580326 4 UTILIZE FLORIMULCH
- ITEM E580337 5 INCLUDES 24" DEEPROOT BARRIER PROTECTION

SUMMARY OF PAY ITEMS

NO.	ITEM	UNIT	QUANTITY
	BRIDGE		
0101 1B	MOBILIZATION	LS	1
	BRIDGE REMOVAL		
0101 3	DEMOLITION & REMOVAL OF EXISTING BARRIERS, RAILINGS, SLAB, AND 4 WING WALLS AS REQUIRED AND DEBRIS PILES AND GUARDRAILS	LS	1
	SUPERSTRUCTURE		
0450 1 2	PRESTRESSED BEAMS TYPE II	LF	778.13
0400 2 4A	CLASS II CONC. FOR BRIDGE DECK AND DIAPHRAGM	CY	144
0415 1 4	REINFORCING STEEL FOR BRIDGE DECK AND DIAPHRAGM	LB	63,459
0400 14B 10	CONC. TRAFFIC RAILING BARRIER - 32" VERTICAL SHAPE	LF	348.67
0460 7D 2	ALUMINUM PEDESTRIAN BARRIER RAILING	LF	348.67
0440 7	BRIDGE FLOOR GROOVING	SY	523
0400 147	COMPOSITE NEOPRENE PADS	CF	1.64
	SUBSTRUCTURE		
0400 2 4B	CLASS II CONC. FOR PILE CAPS, PEDESTALS AND SEISMIC BLOCKS	CY	60
0415 1 5	REINFORCING STEEL FOR PILE CAPS, PEDESTALS AND SEISMIC BLOCKS	LB	16,156
0455 3 2A	PRESTRESSED PILES 2.00 18"x 65 FT TEST PILE	LF	130
0455 3 2B	PRESTRESSED PILES 11.00 18"x 50 FT END BENTS	LF	550
0455 3 2C	PRESTRESSED PILES 2.00 18"x 50 FT WING BENTS	LF	100
0455 3 2D	PRESTRESSED PILES 13.00 18"x 50 FT INTERMEDIATE BENTS INCLUDING DEBRIS PILES	LF	620
0455 137	P.D.A. TESTING	EA	2
0400 2 4C	CLASS II CONC. FOR SIDEWALKS	CY	98
	APPROACH SLAB EXTENSIONS		
0400 2 10	CLASS II CONC. FOR APPROACH SLABS	CY	62
0415 1 9	REINFORCING STEEL FOR APPROACH SLABS	LB	12,170
0530 4 6	(REVETMENT MAT)(CANAL EXCAVATION AS REQUIRED SHALL BE INCLUDED) INCLUDING REMOVAL OF EXISTING TO PLACE NEW END BENTS	SF	2,934
0715 2117	4" PVC CONDUIT	LF	1,400



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 Approved: HWD
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Project: QUANTITIES & GENERAL NOTES
 FOR SR 60 & 43RD AVENUE

Sheet: 13A
 Of: 99
 Project No. _____
 LHM WP1027

GENERAL NOTES

1. PRIOR TO COMMENCEMENT OF ANY EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH FLORIDA STATUTE 553.851 FOR THE PROTECTION OF UNDERGROUND GAS PIPELINES.
2. ALL GRADES SHOWN ARE FINISHED GRADES, UNLESS OTHERWISE NOTED.
3. STATIONING AND OFFSETS REFER TO THE CENTERLINE OF CONSTRUCTION, UNLESS OTHERWISE NOTED.
4. ALL RETURN RADI DIMENSIONS, STATIONS, OFFSETS, AND ELEVATIONS REFER TO THE EDGE OF PAVEMENT, UNLESS OTHERWISE NOTED.
5. BENCHMARK (B.M.) LOCATIONS ARE INDICATED BY THE SYMBOL: 
6. B.M. DATUM IS NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD-29).
7. ANY EXISTING SECTION CORNER, QUARTER SECTION CORNER AND INDIAN RIVER COUNTY SURVEY CONTROL MONUMENTS WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED. IF A MONUMENT IS IN DANGER OF BEING DISTURBED, THE CONTRACTOR SHALL HAVE A PROFESSIONAL LAND SURVEYOR REFERENCE IT PRIOR TO CONSTRUCTION, AND RESET IT AFTER CONSTRUCTION.
8. ANY PUBLIC LAND CORNER WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED. IF A CORNER MONUMENT IS IN DANGER OF BEING DISTURBED, AND HAS NOT BEEN PROPERLY REFERENCED, THE CONTRACTOR SHALL NOTIFY THE DISTRICT LOCATION SURVEYOR, WITHOUT DELAY, BY TELEPHONE.
9. ANY NGVD-29 MONUMENT WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED. IF A MONUMENT IS IN DANGER OF BEING DISTURBED, THE CONTRACTOR SHOULD NOTIFY:
MARK MAINTENANCE SECTION
GEODETIC INFORMATION CENTER ATTN: N/CG-162
ROCKVILLE, MARYLAND 20852
TELEPHONE: 301-443-8319
10. NO CONSTRUCTION SHALL COMMENCE UNTIL ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN SECURED AND THE CONTRACTOR IS ISSUED A "NOTICE TO PROCEED".
11. CONTRACTOR SHALL UTILIZE CONSTRUCTION METHODS AND DEVICES AS INDICATED IN FDOT STANDARD INDEXES 100, 101, 102, 103, 104 AND 106 WHERE NECESSARY IN ORDER TO COMPLY WITH ALL STATE, LOCAL AND NPDES WATER QUALITY STANDARDS.
12. CONTRACTOR SHALL MAINTAIN TRAFFIC AT ALL TIMES DURING CONSTRUCTION IN ACCORDANCE WITH FDOT INDEX NOS. 600 THRU 660 AND SHALL PROVIDE ALL BARRICADES, LIGHTING, SIGNAGE AND FLAGMEN AS NECESSARY TO PROVIDE FOR THE SAFETY OF THE PUBLIC IN THE AREA OF THE WORK. MAINTENANCE OF TRAFFIC SHALL BE IN ACCORDANCE WITH CURRENT FDOT ROADWAY & TRAFFIC DESIGN STANDARDS AND SPECIFICATIONS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
13. EXISTING DRAINAGE STRUCTURES AND PIPES WITHIN THE LIMITS OF CONSTRUCTION SHALL REMAIN, UNLESS OTHERWISE NOTED.
14. DURING CONSTRUCTION, SHOULD ANY DRAINAGE STRUCTURES (INCLUDING PIPES) BE FOUND THAT ARE NOT SHOWN ON THE PLANS, NOTIFY THE ENGINEER IMMEDIATELY.
15. EXISTING UTILITIES ARE TO BE ADJUSTED OR RELOCATED BY OTHERS AS DIRECTED BY THE ENGINEER, UNLESS OTHERWISE NOTED.
16. IN REFERENCE TO EXISTING UTILITIES AND UTILITY ADJUSTMENTS:
A. THE LOCATION OF UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THE EXACT LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. IN ADDITION, THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY IF "OTHER" UTILITIES (NOT SHOWN ON THE PLANS) EXIST WITHIN THE AREA OF CONSTRUCTION. SHOULD THERE BE UTILITY CONFLICTS, THE CONTRACTOR SHALL INFORM THE ENGINEER AND NOTIFY THE RESPECTIVE UTILITY OWNER(S) TO RESOLVE UTILITY CONFLICTS AND UTILITY ADJUSTMENTS, AS REQUIRED.
B. FOR EXISTING UTILITY SYMBOLS, SEE FDOT STANDARD INDEX 002.
C. WATER AND SANITARY SEWER UTILITY WORK SHALL BE IN CONFORMANCE WITH ALL CODES, STANDARDS, AND ORDINANCES CURRENTLY ADOPTED BY THE STATE OF FLORIDA D.E.P., INDIAN RIVER COUNTY H.R.S., AND THE LOCAL UTILITY DEPT. OWNING THE FACILITIES.
17. CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING IN OR AROUND AREAS OF OVERHEAD OR UNDERGROUND UTILITIES.
18. CONTRACTOR SHALL NOTIFY SUNSHINE STATE "ONE CALL" (1-800-432-4770) AND ALL AFFECTED UTILITIES 48 HOURS IN ADVANCE OF ANY CONSTRUCTION SO THAT A COMPANY REPRESENTATIVE MAY BE PRESENT.

EXISTING UTILITY OWNERS:

IRC UTILITIES DEPARTMENT	ARJUNA WERAGODA, PE	772-226-1821
AT&T BROADBAND	CRIG BOWERS	772-778-9635
IRC TELECOMMUNICATION DIVISION	MANNY CABO	772-226-1318
FLORIDA POWER & LIGHT Co.	DENNIS G. PAGANO	772-489-6204
FP&L PROJECTS & RELOCATIONS	BILL HESTER	772-337-7099
FLORIDA GAS TRANSMISSION Co.	JOSEPH SANCHEZ	407-838-7000
AT&T	MARK GUTIERREZ	772-460-4443
COMCAST CABLE	WILSON LOPEZ	772-940-9310
VERO BEACH ELECTRICAL ENGINEERING	JILL GLOYER	772-978-5459
CITY GAS COMPANY OF FLORIDA	GLEN "BOCK" KREINHAGEN	772-971-2551 EXT. 23
SEBASTIAN RIVER WCD	ROBERT ULEVICH	772-562-9176
INDIAN RIVER FARMS WCD	DAVID GUNTER	772-562-2141
IRC TRAFFIC	JOHN ANKENY	772-226-1563
VERO BEACH WATER & SEWER DEPT.	TODD YOUNG	772-978-5209

20. WHEN WORKING WITHIN TEN (10') FEET OF A TRAFFIC SIGNAL POLE, INDIAN RIVER COUNTY TRAFFIC OPERATIONS SHALL BE NOTIFIED: 772-567-8000.
21. INTERSECTING ROADS AND DRIVEWAYS SHALL BE GRADED AS DIRECTED BY THE ENGINEER, UNLESS OTHERWISE NOTED ON THE PLANS.
22. WHERE OPEN-CUTS OF THE EXISTING ROADWAY ARE MADE IN ORDER TO INSTALL PIPELINES, CONDUITS OR SLEEVES, REPAIR THE PAVEMENT IN ACCORDANCE WITH THE "OPEN-CUT PAVEMENT REPAIR DETAIL" IN THESE PLANS. MAINTAIN REPAIRED PAVEMENT FOR THE DURATION OF THE PROJECT.
23. IN REFERENCE TO THE PROPOSED DRAINAGE STRUCTURES & PIPE:
A. SPECIAL ATTENTION IS DIRECTED TO THE FACT THAT PORTIONS OF SOME DRAINAGE STRUCTURES MAY EXTEND INTO THE COMPACTED SUBGRADE PORTION OF THE ROAD BED. EXTREME CAUTION WILL BE NECESSARY DURING COMPACTOR OPERATIONS IN THESE LOCATIONS.
B. CONCRETE PIPE CULVERT (R.C.P.) SHALL BE CLASS III, WALL B UNLESS OTHERWISE NOTED.
C. ALL STORM STRUCTURE TOPS SHALL BE ADJUSTED AT TIME OF FINAL PAVEMENT OR CURB CONSTRUCTION. FINAL ADJUSTMENT OF ALL TOPS SHALL BE THE RESPONSIBILITY OF THE UNDERGROUND CONTRACTOR.
D. THE LENGTHS OF PIPE SHOWN HEREON HAVE BEEN DETERMINED BY CALCULATING THE DISTANCE BETWEEN THE "CENTERLINE" OF THE INLETS AND/OR MANHOLES.
E. ALL OUCH BOTTOM INLETS SHALL HAVE AN EYEBOLT AND CHAIN IN ACCORDANCE WITH FDOT INDEX 201.
F. THE CONTRACTOR SHALL VERIFY THE EXISTING INVERT ELEVATIONS AND DIMENSIONS OF ALL EXISTING DRAINAGE STRUCTURES PRIOR TO FABRICATION OF PROPOSED DRAINAGE STRUCTURES.
G. OFFSETS TO CURB INLETS ARE AT EDGE OF PAVEMENT.
24. ALL MAILBOXES CURRENTLY SERVED FROM THE ROADWAY BEFORE CONSTRUCTION, MUST BE SERVED IN THE SAME MANNER AFTER CONSTRUCTION. CONFORM WITH FDOT STANDARD INDEX 532. COST OF THIS ITEM SHALL BE INCLUDED UNDER THE CONTRACT PRICE FOR CLEARING AND GRUBBING. CONTRACTOR SHALL CONTACT THE US POSTAL SERVICE MR. DAVE SAVILLE AT 772-713-4622 PRIOR TO BEGINNING OF CONSTRUCTION TO COORDINATE MAIL SERVICE REQUIREMENTS. MAIL SERVICE SHALL REMAIN AVAILABLE AT ALL TIMES DURING CONSTRUCTION.
25. ALL EXISTING FDOT / INDIAN RIVER COUNTY SIGNS WITHIN THE LIMITS OF CONSTRUCTION WHICH ARE TO BE RELOCATED OR REMOVED SHALL BE REMOVED BY THE CONTRACTOR AND STOCKPILED WITHIN THE RIGHT-OF-WAY FOR REMOVAL OR RELOCATION BY INDIAN RIVER COUNTY FORCES. NOTIFY INDIAN RIVER COUNTY TRAFFIC OPERATIONS AT 772-567-8000.
26. CONTRACTOR SHALL EXERCISE CAUTION WHILE REMOVING AND/OR RELOCATING EXISTING SIGNS IN ORDER TO PREVENT ANY UNNECESSARY DAMAGE TO THE SIGNS. SIGNS WHICH ARE DAMAGED BEYOND USE, AS DETERMINED BY THE ENGINEER, SHALL BE REPLACED BY THE CONTRACTOR AT HIS EXPENSE.
27. MAINTENANCE OF TRAFFIC SHALL BE IN ACCORDANCE WITH CURRENT FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS AND SPECIFICATIONS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL STANDARDS (MUTCD).
28. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DOCUMENTING THE EXISTING PAVEMENT MARKINGS BEFORE RESURFACING WORK IS STARTED AND THIS INFORMATION SHALL BE USED IN CONJUNCTION WITH TEMPORARY STRIPING AND FINISHED STRIPING.
29. EXCAVATED SOILS AND EXISTING ROCK BASE MAY BE USED FOR EMBANKMENT CONSTRUCTION PROVIDED THAT THE MATERIAL IS CLEAN FILL, FREE OF ORGANIC MATERIALS, ROOTS OR OTHER DELETERIOUS MATERIALS, AND CONFORMS WITH FDOT SPECIFICATIONS AND FDOT STANDARD INDEX 505.
30. ANY BORROW MATERIAL REQUIRED FOR THE PROJECT SHALL BE FURNISHED BY THE CONTRACTOR FROM AREAS PROVIDED BY HIM.
31. ALL MUCK AND PLASTIC MATERIAL WITHIN THE LIMITS OF CONSTRUCTION SHALL BE REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH FDOT STANDARD INDEX 500.
32. NONE OF THE EXISTING BASE THAT IS REMOVED DURING CONSTRUCTION SHALL BE USED IN THE CONSTRUCTION OF THE PROPOSED BASE, UNLESS AUTHORIZED BY THE ENGINEER.
33. ALL VEGETATION, DEBRIS, PAVEMENT, CONCRETE OR OTHER UNSUITABLE MATERIALS SHALL BE LEGALLY DISPOSED OF OFF-SITE IN AN AREA PROVIDED BY THE CONTRACTOR.
34. ALL EXISTING IRRIGATION SYSTEM COMPONENTS CONFLICTING WITH THE PROPOSED CONSTRUCTION SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR. EXISTING PIPES SHALL BE CAPPED PRESSURE TIGHT AT THE R/W LINE OR LIMITS OF CONSTRUCTION. EXISTING CONTROL WIRING SHALL BE CUT, SEALED AND LEFT BURIED BELOW GRADE AT THE R/W LINE OR LIMITS OF CONSTRUCTION. IN ALL CASES, THE CONTRACTOR SHALL CLEARLY MARK IN THE FIELD ALL IRRIGATION SYSTEM BREAKS IN A MANNER ACCEPTABLE TO THE ENGINEER FOR FUTURE RE-CONNECTION OR EXTENSION BY OTHERS. THE COST FOR IRRIGATION SYSTEM REMOVAL, CAPPING PIPE AND SEALING WIRING AND ALL OTHER WORK RELATING TO EXISTING IRRIGATION SYSTEMS SHALL BE INCLUDED IN THE CONTRACT PRICE FOR CLEARING AND GRUBBING.
35. DRIVEWAY SLOPES MAY BE MODIFIED AS DIRECTED BY THE ENGINEER TO MATCH EXISTING CONDITIONS.
36. ALL EXISTING INLET COPIES & MANHOLE CASTINGS WHICH ARE REMOVED WITHIN THE LIMITS OF COUNTY R/W'S SHALL BE STOCKPILED WITHIN THE R/W FOR REMOVAL BY COUNTY FORCES. CONTACT THE ROAD & BRIDGE DIVISION AT (561)233-3956.
37. THE CONTRACTOR SHALL COMPLETELY REMOVE EXISTING ASPHALT & BASE MATERIAL FROM EXISTING DRIVEWAYS & INLETS. ALL FILL SHALL CONSIST OF CLEAN, GRANULAR FILL MATERIAL.

CONTAMINATION NOTES:

RECOMMENDED PLANS NOTES (1-DEWATERING, 2-IDENTIFIED AREAS OF CONTAMINATION, 3-UNIDENTIFIED AREAS OF CONTAMINATION, 4-BRIDGE ASBESTOS):

1. THERE IS IDENTIFIED GROUNDWATER CONTAMINATION ON PROPERTIES ADJACENT TO THE FDOT RIGHT-OF-WAY (ROW). IF DEWATERING METHODS WILL BE EMPLOYED IN THE AREAS LISTED BELOW, CONTAMINATION IMPACTS MAY OCCUR.
? APPROXIMATELY STA 116+00 TO STA 133+40
? APPROXIMATELY STA 2636+00 TO STA 2630+00
THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 2-WEEKS NOTIFICATION TO THE INDIAN RIVER COUNTY ENGINEER WHEN APPROACHING THE ABOVE REFERENCED AREAS.
THE CONTRACTOR SHALL NOTIFY THE INDIAN RIVER COUNTY ENGINEER OR A DESIGNATED QUALIFIED ENVIRONMENTAL INDIVIDUAL/CONSULTANT FOR TECHNICAL ASSISTANCE BEFORE APPLYING FOR A DEWATERING PERMIT FROM ANY ENVIRONMENTAL REGULATORY AGENCY TO AVOID POTENTIAL CONTAMINATION PLUME EXAGGERATION AND DETERMINE PROPER GROUNDWATER MANAGEMENT ASSOCIATED WITH THE ABOVE REFERENCED SITES.
A COORDINATION MEETING BETWEEN THE INDIAN RIVER COUNTY ENGINEER OR A DESIGNATED QUALIFIED ENVIRONMENTAL INDIVIDUAL/CONSULTANT AND THE CONTRACTOR SHALL BE HELD PRIOR TO THE START OF CONSTRUCTION TO COORDINATE ACTIVITIES WITHIN THE ABOVE MENTIONED AREAS.
2. THERE IS IDENTIFIED GROUNDWATER CONTAMINATION WITHIN THE PROJECT CORRIDOR. IF GROUND DISTURBING ACTIVITIES (REACHING THE SATURATED SOILS) ARE SCHEDULED, CONTAMINATION IMPACTS MAY OCCUR IN THE AREAS LISTED BELOW:
OAPPROXIMATELY STATION (STA) 127+60 LT TO STA 128+60 LT (MARKS MOBILE'S PLUME - NW CORNER)
O APPROXIMATELY STATION (STA) 2643+20 TO STA 2646+60 RT (YOUNG'S MARKET'S AND SERO BEACH DRY CLEANERS PLUMES - SE CORNER)
OAPPROXIMATELY STATION (STA) 2640+40 TO STA 2641+20 RT (TDM'S MOBILE'S PLUME - SW CORNER)
THE INDIAN RIVER COUNTY ENGINEER WILL HAVE A CONTAMINATION ASSESSMENT AND REMEDIATION (CAR) CONTRACTOR WORKING UNDER A SEPARATE CONTRACT TO PERFORM MONITORING DURING CONSTRUCTION ACTIVITIES IN THESE AREAS. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 2-WEEKS NOTIFICATION TO THE INDIAN RIVER COUNTY ENGINEER WHEN APPROACHING THE ABOVE REFERENCED AREA(S).
A COORDINATION MEETING BETWEEN THE INDIAN RIVER COUNTY ENGINEER OR A DESIGNATED QUALIFIED ENVIRONMENTAL INDIVIDUAL/CONSULTANT AND THE CONTRACTOR SHALL BE HELD PRIOR TO THE START OF CONSTRUCTION TO COORDINATE ACTIVITIES WITHIN THE ABOVE MENTIONED AREAS.
3. UNIDENTIFIED AREAS OF CONTAMINATION

WHEN ENCOUNTERING OR EXPOSING ANY ABNORMAL CONDITION INDICATING THE PRESENCE OF A HAZARDOUS OR TOXIC WASTE, OR CONTAMINANTS, CEASE OPERATIONS IMMEDIATELY IN THE VICINITY AND NOTIFY THE INDIAN RIVER COUNTY ENGINEER. THE PRESENCE OF TANKS OR BARRELS; DISCOURDED EARTH, METAL, WOOD, GROUND WATER, ETC.; VISIBLE FUMES; ABNORMAL ODORS; EXCESSIVELY HOT EARTH; SMOKE; OR OTHER CONDITIONS THAT APPEAR ABNORMAL MAY INDICATE HAZARDOUS OR TOXIC WASTES OR CONTAMINANTS AND MUST BE TREATED WITH EXTREME CAUTION.

MAKE EVERY EFFORT TO MINIMIZE THE SPREAD OF CONTAMINATION INTO UNCONTAMINATED AREAS. IMMEDIATELY PROVIDE FOR THE HEALTH AND SAFETY OF ALL WORKERS AT THE JOB SITE AND MAKE PROVISIONS NECESSARY FOR THE HEALTH AND SAFETY OF THE PUBLIC THAT MAY BE EXPOSED TO ANY POTENTIALLY HAZARDOUS CONDITIONS. PROVISIONS SHALL MEET ALL APPLICABLE LOCAL, STATE, AND FEDERAL LAWS, RULES, REGULATIONS OR CODES COVERING HAZARDOUS CONDITIONS AND WILL BE IN A MANNER COMMENSURATE WITH THE GRAVITY OF THE CONDITIONS.

THE INDIAN RIVER COUNTY ENGINEER AND/OR CONTRACTOR WILL COORDINATE AND MOBILIZE A QUALIFIED CONTAMINATION ASSESSMENT/REMEDIATION (CAR) CONTRACTOR. QUALIFICATIONS OF SUCH CAR CONTRACTOR SHALL INCLUDE, BUT NOT BE LIMITED TO: EXPERIENCE AND PERSONNEL TO PREPARE CONTAMINATION ASSESSMENT PLANS, CONDUCT CONTAMINATION ASSESSMENTS, PREPARE SITE ASSESSMENT REPORTS, REMEDIATION PLANS, IMPLEMENT REMEDIAL ACTION PLANS, RISK BASED CORRECTIVE ACTIONS, STORAGE TANKS SYSTEM REMOVAL, HIGHWAY SPILL RESPONSE AS WELL AS EXPERIENCE WITH INFRASTRUCTURE/CONSTRUCTION ACTIVITIES WITHIN (POTENTIALLY) CONTAMINATED AREAS SPECIFIC TO TRANSPORTATION SYSTEMS.

ALL THE WORK PERFORMED BY THE CAR CONTRACTOR SHALL BE PERFORMED IN COMPLIANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS GOVERNING WORKER SAFETY AND ENVIRONMENTAL REGULATIONS. THIS IS TO INCLUDE OCCUPATIONAL EXPOSURE TO CONTAMINATED SOILS, GROUNDWATER, WASTES AND ATMOSPHERE DURING THE CONSTRUCTION OF ALL FEATURES INCLUDED IN THE CONSTRUCTION PLANS. IN ADDITION, THE CAR CONTRACTOR MUST BE STAFFED WITH FLORIDA LICENSED TECHNICAL PROFESSIONALS (GEOLOGISTS AND ENGINEERS) WHO WILL BE INVOLVED WITH THE PROJECT AND KNOWLEDGEABLE OF THE WORK ACTIVITIES CONDUCTED WITHIN THE IDENTIFIED CONTAMINATED AREAS AND WHO WOULD SIGN AND SEAL PROJECT REPORTS AS REQUIRED FOR SUBMITTAL TO THE APPROPRIATE ENVIRONMENTAL REGULATORY AGENCIES.

THE INDIAN RIVER COUNTY ENGINEER WILL IMMEDIATELY NOTIFY THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) DISTRICT VI CONTAMINATION IMPACT COORDINATOR (DIC) AT (305) 470-5228 AFTER ENCOUNTERING THE UNIDENTIFIED AREAS OF CONTAMINATION. PRELIMINARY INVESTIGATION BY THE CAR CONTRACTOR WILL DETERMINE THE COURSE OF ACTION NECESSARY FOR SITE SECURITY AND THE STEPS NECESSARY UNDER APPLICABLE LAWS, RULES, AND REGULATIONS FOR ADDITIONAL ASSESSMENT AND/OR REMEDIATION WORK TO RESOLVE THE CONTAMINATION ISSUE.

FOLLOWING COMPLETION OF THE PROJECT, THE CAR CONTRACTOR SHALL BE REQUIRED TO PROVIDE COPIES OF ALL REPORTS SUBMITTED TO REGULATORY AGENCIES, WASTE MATERIAL PROFILES, MANIFESTS AND/OR DISPOSAL RECEIPTS FOR THE HANDLING OF ALL CONTAMINATED MEDIA INCLUDING BUT NOT LIMITED TO GROUND WATER, WASTE WATER, SOILS, SOLID WASTES, SLUDGE, HAZARDOUS WASTES, AIR MONITORING RECORDS AND SAMPLE RESULTS FOR ALL MATERIALS TESTED AND ANALYZED TO THE INDIAN RIVER COUNTY ENGINEER AND THE FDOT DIC.

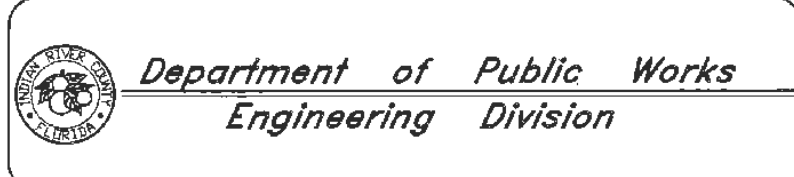
1. PRIOR TO INITIATING ANY BRIDGE MODIFICATION, REHABILITATION OR DEMOLITION ACTIVITY ON BRIDGE #884056, THE CONSTRUCTION CONTRACTOR SHALL SUBMIT A NOTICE OF ASBESTOS RENOVATION OR DEMOLITION [DEP FORM 62-257.900(1)] TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP), OR THEIR DESIGNEE, A MINIMUM OF TEN (10) WORKING DAYS PRIOR TO INITIATING ANY RENOVATION OR DEMOLITION ACTIVITIES.



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No. 26640
JUL 11 2019
STATE OF FLORIDA
PROFESSIONAL ENGINEER

Revision:	By:	Date:



Department of Public Works
Engineering Division

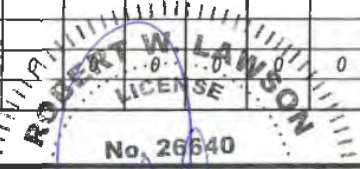
Scale: **N.T.S.**
Approved: **HWD**
Drawn: **FM**
Checked: **HWD**
Date: **6/2017**
Field Book No:

Project:
QUANTITIES & GENERAL NOTES
FOR
SR 60 & 43RD AVENUE

Sheet: **14**
Of: **99**
Project No.
LNW# WP1027


SUMMARY OF DRAINAGE STRUCTURES


STR. NO.	INDEX NO.	STA.	SIDE	TYPE	SIZE	PIPE										CURB INLETS										DBI					MANHOLES								REMARKS					
						15"	18"	24"	30"	36"	42"	48"	18" FD	P-1 <10	P-2 <10	J-2 <10	P-4 <10	P-5 <10	P-5 >10	J-5 <10	J-5 >10	P-6 <10	J-6 <10	P-V <10	ADJ TOP	C <10	C<10 MOD	D <10	E <10	P-7 <10	P-7 PART	J-7 <10	P-8 <10	P-8 PART	J-8 >10	ADJ TOP	MES 18"	MES 36"		MES 42"	MES 48"			
S-301	200.201.205.211	132+90	42.92 LT	INLET, PIPE	18"		86								1																													
S-302	200.201.211	132+90	37.28 RT	INLET, PIPE	18"		208								1																													
S-301B	200.201.211	133+86	55 LT	INLET, PIPE	18"		83															1																						
S-301A	200.201.232	133+03	57 LT	INLET, PIPE	18"		18															1																						
S-303	200.201.211	135+00	27.16 LT	INLET, PIPE	18"		84															1																						
S-303A	200.201.211	136+03.67	22.69 LT	INLET, PIPE	18"		104							1																														
S-304	200.201.211	135+18.51	52.04 RT	INLET, PIPE	24"																		1																					
S-305B	200.201.211	136+50	41 LT	INLET, PIPE	18"		80																1																					
S-305A	200.201.211	137+30	41 LT	INLET, PIPE	18"		82																1																					
S-305	200.201	137+40	51.7 RT	MH, PIPE	24"																						1																	
S-305C	200.201.211	138+10	41 LT	INLET, PIPE	18"		80																1																					
S-306A	200.201.211	139+80.76	57.19 RT	INLET, PIPE	18"		22																1																					
S-306B	200.201.211	139+73	39 LT	INLET, PIPE	18"		77																1																					
S-306	200.201	139+82	36.70 RT	MH, PIPE	30"								198																		1													
S-307	200.201.211	141+80	37 LT	INLET, PIPE	18"		72																1																					
S-308	200.201.211	141+80	39.13 RT	INLET, PIPE	36"																			1																				
S-309	200.201	143+96	38 RT	MH, PIPE	42"																											1												
S-310	200.201.211	147+70	32 LT	INLET, PIPE	18"		71																	1																				
S-311	200.201.210	147+70	32 RT	INLET, PIPE	36"																											1												
S-313	200.201	150+40	36.5 RT	MH, PIPE	18"		270																								1													
S-311	200.201.211	152+82	32 LT	INLET, PIPE	18"		71																	1																				
S-312	200.201.210	152+82	32 RT	INLET, PIPE	18"		242																										1											
S-315	200.201	143+96	428 RT	MH, PIPE	42"																											1												
S-316	200.201	143+96	821 RT	MH, PIPE	42"																											1												
SHEET TOTAL						0	150	464	88	590	853	0	0	0	0	1	1	3	0	0	0	6	1	0	0	5	0	2	0	4	0	0	0	0	1	0								
GRAND TOTAL																																												



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NO.	REVISION.	BY.	DATE.


Department of Public Works
Engineering Division


JUL 25 2017
STATE OF FLORIDA
PROFESSIONAL ENGINEER

SUMMARY OF DRAINAGE QUANTITIES
FOR
SR 60 & 43RD AVENUE

SHEET: 16
 OF: 99
 PROJECT NO. A1027
 IRC_JOB_NO.

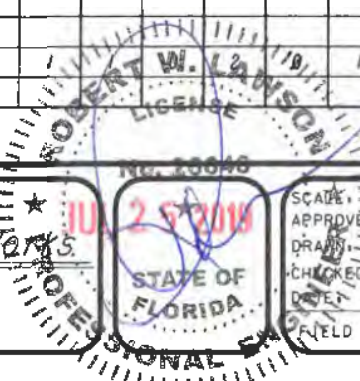
SUMMARY OF DRAINAGE STRUCTURES

STR. NO.	INDEX NO.	STA.	SIDE	TYPE	SIZE	PIPE										CURB INLETS										DBI					MANHOLES					REMARKS						
						15"	18"	24"	30"	36"	42"	48"	18" FD	P-1 <10	P-2 <10	J-2 <10	P-4 <10	P-5 <10	P-5 >10	J-5 <10	J-5 >10	P-6 <10	J-6 <10	P-V <10	ADJ TOP	C <10	C <10 MOD	D <10	E <10	P-7 <10	P-7 PART	J-7 <10	P-8 <10	P-8 PART	J-8 >10		ADJ TOP	MES 18"	MES 36"	MES 42"	MES 48"	
S-15	200.201.211	2650+09	51.00 LT	INLET																		1																				
S-11A	200.201.232	2650+73.81	50.86 LT	INLET, PIPE	18"		25																	1																		
S-12	200.201	2650+96.61	29.89 LT	MH, PIPE	18"																																		1			
S-11	200.201.210	2650+98.51	35.57 LT	INLET, PIPE	18"																																					
S-10	200.201.211	2650+97.81	58.42 RT	INLET	54"																																					
S-9	200.201	2652+45.18	53.84 RT	MANHOLE	54"																																					
S-11B	200.201	2653+96.5	35.56 LT	MH, PIPE	18"		12																																			
S-8	200.201	2654+13.14	55.65 RT	MANHOLE	54"																																					
S-11C	200.201.232	2654+46.61	50.32 LT	DBI																																						
S-7	200.201	2656+25.91	55.15 RT	MANHOLE	54"																																					
S-6	200.201	2657+04.7	25.47 LT	INLET, PIPE	18"																																					
S-6C	200.201	2657+30.14	29 LT	MH, PIPE	18"		23																																			
S-6A	200.201.211	2657+30.14	56 LT	INLET, PIPE	18"		26																																			
S-6B	200.201.211	2657+50.56	55.25 LT	INLET, PIPE	18"		23																																			
S-5	200.201.211	2657+56.49	58.6 RT	INLET	54"																																					
S-1C	200.201.210	2658+72	24 LT	INLET, PIPE	18"		6																																			
S-1B	200.201.211	2659+38.16	24.16 LT	INLET	18"		66																																			
S-1A	200.201.211	2659+63.7	55.34 LT	INLET, PIPE	18"		25																																			
S-4	200.201.211	2659+67	58.6 LT	INLET	48"																																					
S-3A	200.201.211	2659+86.3	54.42 LT	INLET, PIPE	18"		25																																			
S-3B	200.201	2659+88	30 LT	MANHOLE	18"																																					
S-3	200.201	2660+09.8	24.29 LT	INLET, PIPE	18"																																					
S-211	200.201	101+21	9.0 LT	MH, PIPE	36																																					
S-213A	200.201.232	102+80	21.2 RT	INLET, PIPE	18"		40																																			
SHEET TOTAL						0	282	0	0	201	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	7	2	1						0	0	1	4	0	0	0	0	
GRAND TOTAL						0	282	0	0	201	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	7	2	1						0	0	1	4	0	0	0	0	



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NO.	REVISION.	BY.	DATE.

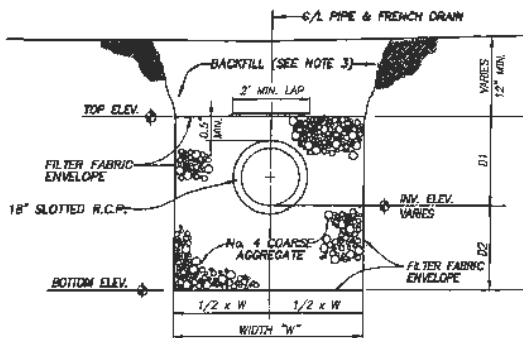


Department of Public Works
Engineering Division

SCALE: 1"=40'
APPROVED: [Signature]
DRAWN: B.F.
CHECKED: H.D.
DATE: 6/2017
FIELD BOOK NO.:

SUMMARY OF DRAINAGE QUANTITIES
FOR
SR 60 & 43RD AVENUE

SHEET: 18
OF: 99
PROJECT NO. A1027
IRC_JOB_NO.



CROSS SECTION

TYPICAL DETAIL - FRENCH DRAIN

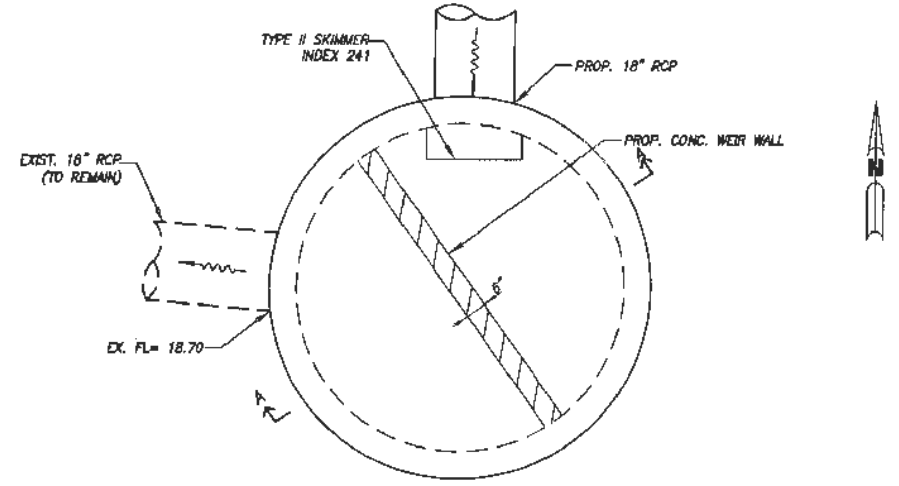
FRENCH DRAIN GENERAL NOTES:

- 1) CONFORM WITH ALL REQUIREMENTS OF FDOT INDEX NO. 285 EXCEPT AS SHOWN ON, AND/OR MODIFIED BY, THIS DETAIL AND THESE GENERAL NOTES.
- 2) ALL FILTER FABRIC JOINTS SHALL LAP A MINIMUM OF TWO (2') FEET.
- 3) PROVIDE CLEAN SAND BACKFILL ABOVE FRENCH DRAIN LOCATED UNDER GRASSED AREAS. PROVIDE SELECT BACKFILL IN ACCORDANCE W/ SECTION 443 OF THE FDOT SPECIFICATIONS ABOVE FRENCH DRAIN LOCATED UNDER ROADWAY PAVEMENT OR DRIVEWAY PAVEMENT.
- 4) PROVIDE ALL SHORING, SHEETING AND/OR BRACING AS REQUIRED FOR CONSTRUCTION OF THE FRENCH DRAIN WITHIN THE R/W. THE COST OF SHORING, SHEETING AND BRACING SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR FRENCH DRAIN (PER LF).
- 5) ALL PIPES TERMINATING WITHIN THE FRENCH DRAIN WITHOUT A MANHOLE/ INLET SHALL BE CAPPED WITH A PREFABRICATED C.M.P. CAP OR PLUGGED WITH A MASONRY PLUG IN ACCORDANCE WITH FDOT INDEX NO. 284.

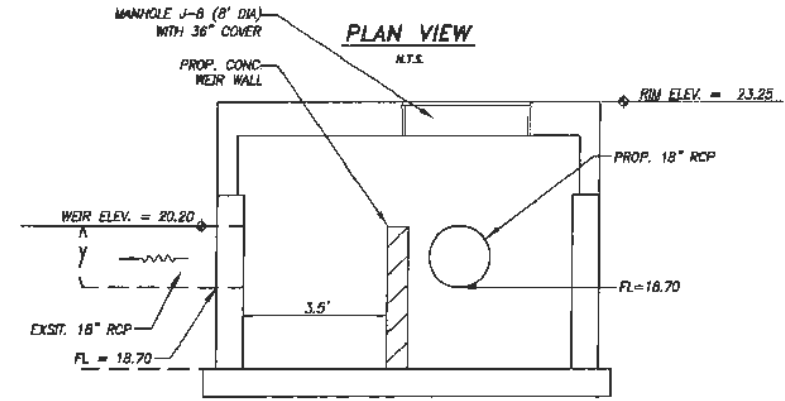
FRENCH DRAIN DATA			
	S-100 TO S-102	S-220 TO S-222	S-218A TO S-218
TOTAL LENGTH	360'	290'	92'
DEPTH - "D1"	2.75'	2.75'	2.75'
DEPTH - "D2"	0.75'	0.75'	0.75'
TRENCH WIDTH	6.00'	6.00'	6.00'
PIPE SIZE/MATL.	18" R.C.P.	18" R.C.P.	18" R.C.P.
PIPE INV. ELEV.	19.10'	18.75'	18.75'
TRENCH TOP ELEV.	21.85'	21.50'	21.50'
TRENCH BOT. ELEV.	18.35'	18.00'	18.00'

FRENCH DRAIN DATA		
	S-01 TO S-01A	S-13A TO S-13
TOTAL LENGTH	162'	264'
DEPTH - "D1"	2.75'	2.25'
DEPTH - "D2"	0.75'	1.75'
TRENCH WIDTH	6.00'	6.00'
PIPE SIZE/MATL.	18" R.C.P.	18" R.C.P.
PIPE INV. ELEV.	18.60'	18.25'
TRENCH TOP ELEV.	21.00'	20.90'
TRENCH BOT. ELEV.	17.50'	16.50'

FRENCH DRAIN DATA		
	S-11A TO S-11	S-1C
TOTAL LENGTH	286'	96'
DEPTH - "D1"	2.75'	2.75'
DEPTH - "D2"	0.75'	0.75'
TRENCH WIDTH	6.00'	6.00'
PIPE SIZE/MATL.	18" R.C.P.	18" R.C.P.
PIPE INV. ELEV.	18.25'	21.00'
TRENCH TOP ELEV.	21.00'	21.00'
TRENCH BOT. ELEV.	17.50'	21.00'

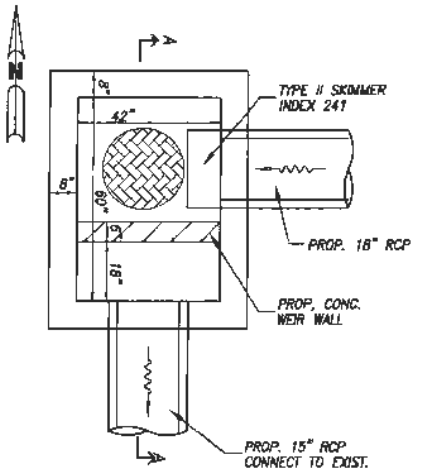


PLAN VIEW

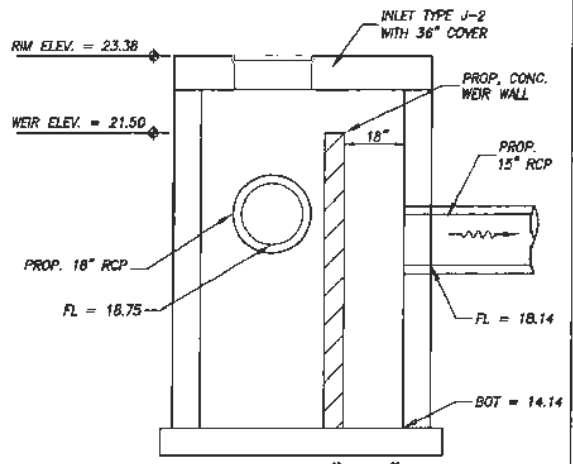


SECTION "A-A"

CONTROL STRUCTURE S-12 DETAIL

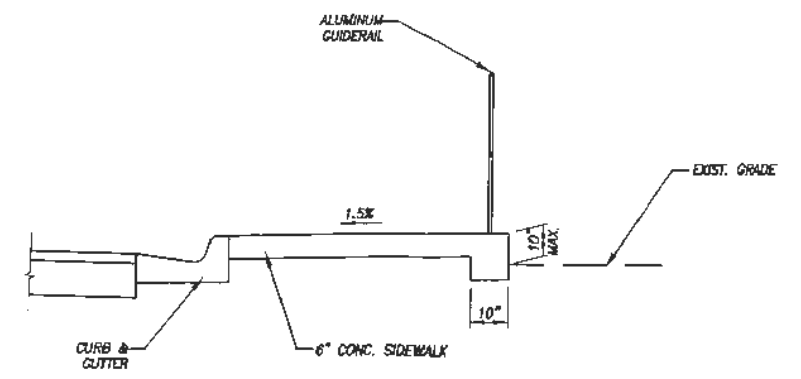


PLAN VIEW

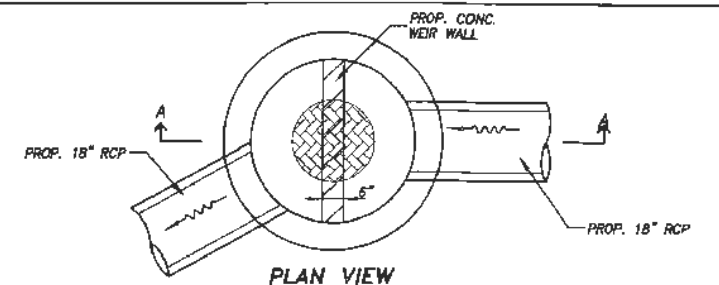


SECTION "A-A"

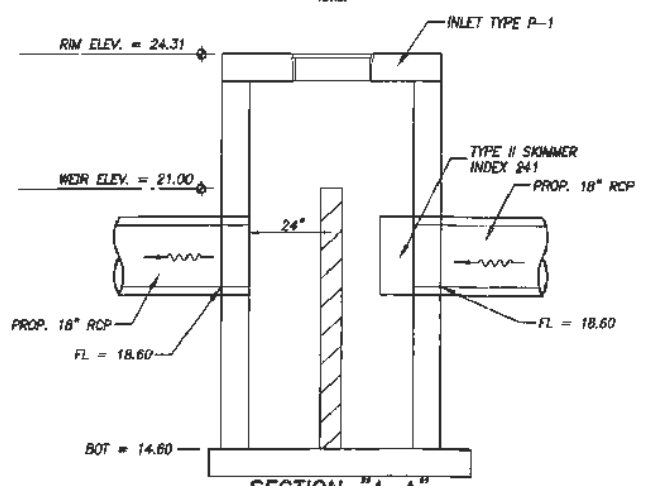
CONTROL STRUCTURE S-222 DETAIL



THICKENED EDGE SIDEWALK

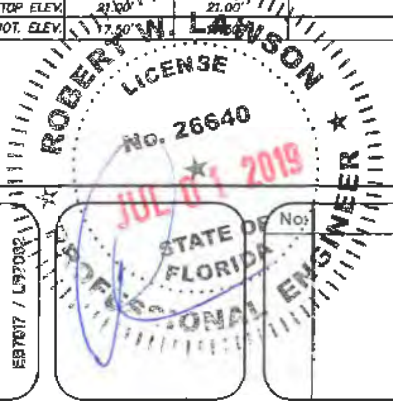


PLAN VIEW



SECTION "A-A"

CONTROL STRUCTURE S-01A DETAIL



Revision:	By:	Date:

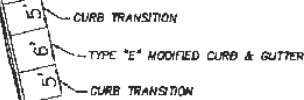
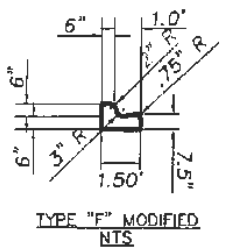
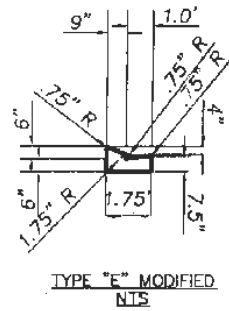
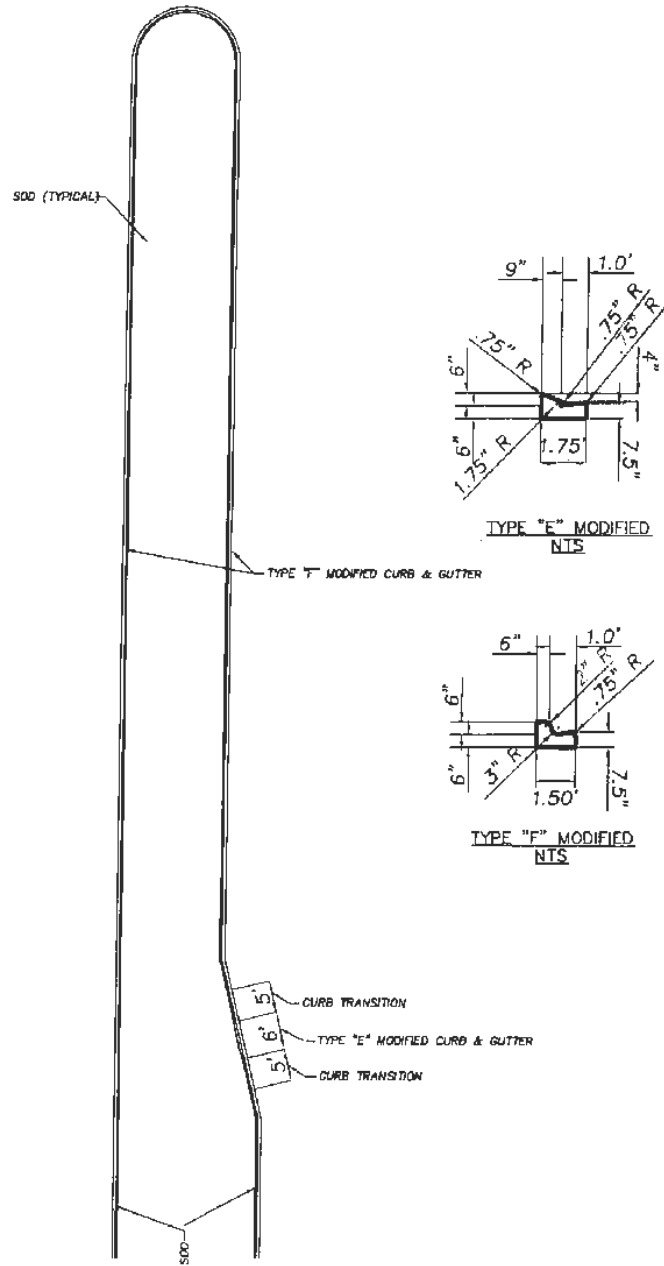
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Scale:	N.T.S.
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Checked:	HWD
Date:	6/2017
Field Book No:	

Project: **DETAILS FOR SR 60 & 43RD AVENUE**

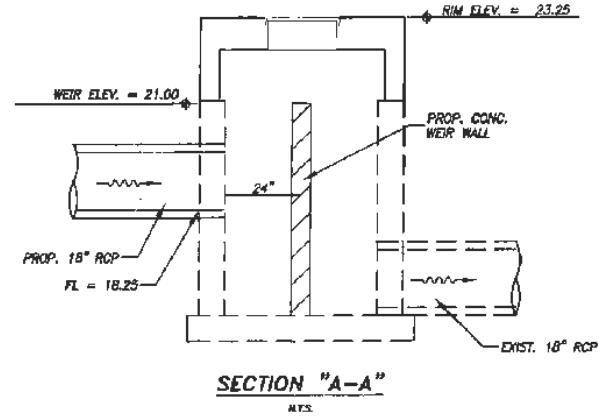
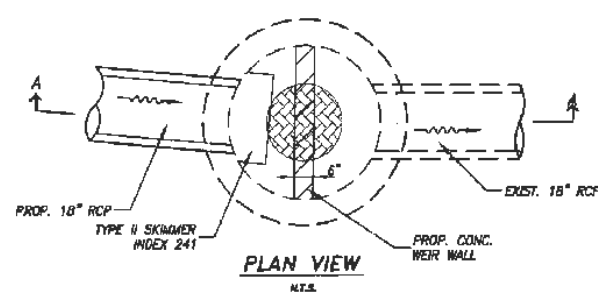
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Of:	99
Project No.	LHW# WP1027

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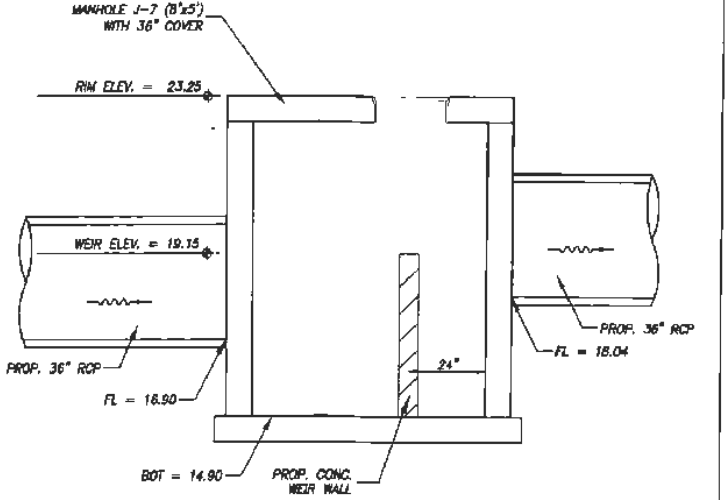
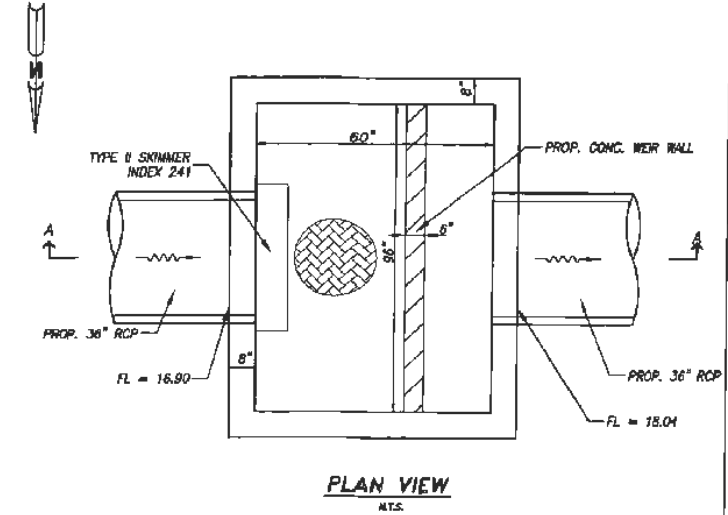


MODIFIED CURB FOR MOWER ACCESS

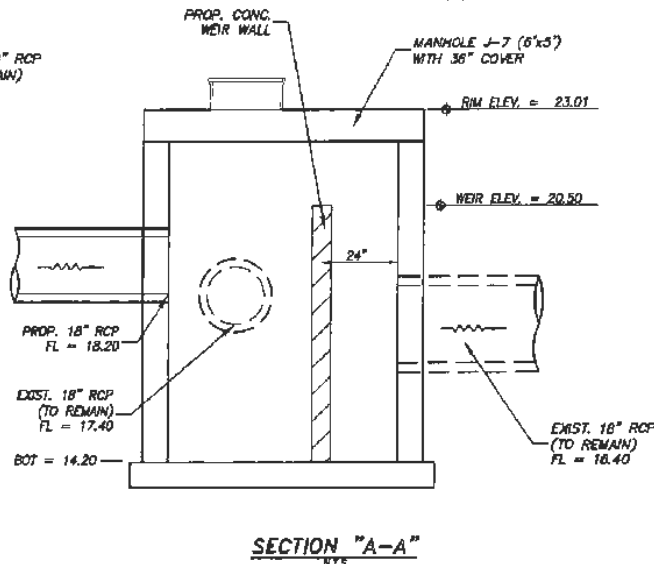
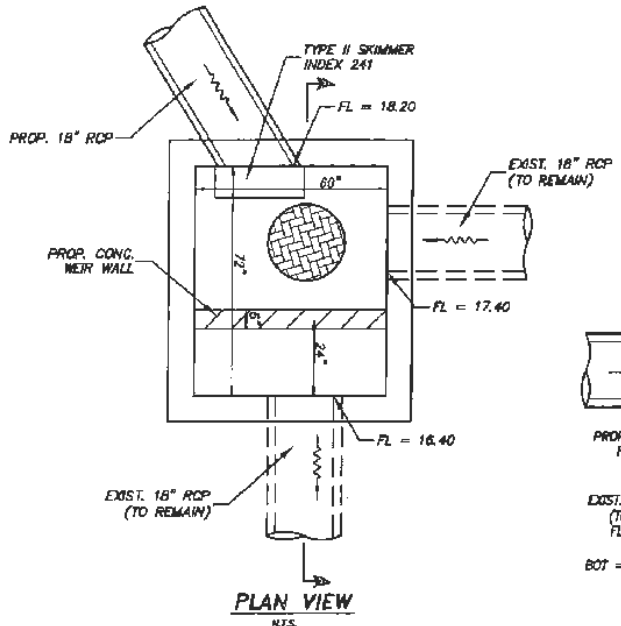
- NOTES:
 1. TO BE CONSTRUCTED AT ALL LEFT TURN LANES.



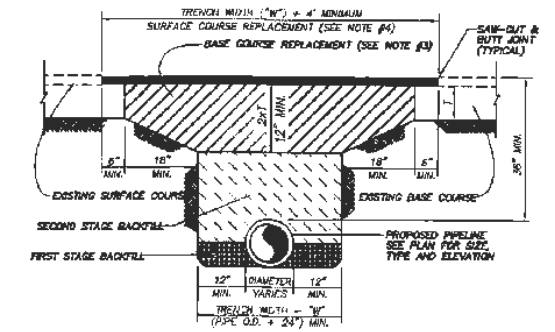
CONTROL STRUCTURE S-18 DETAIL



CONTROL STRUCTURE CS-1 DETAIL

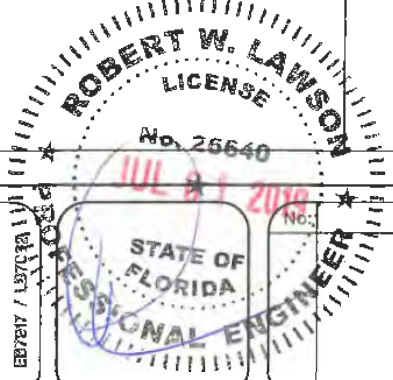


CONTROL STRUCTURE S-14 DETAIL



- NOTES:
 1. ALL WORK AND MATERIALS SHALL CONFORM WITH F.D.C.T. STANDARD SPECIFICATIONS, LATEST EDITION, AND ALL CONDITIONS OF THE R/W PERMIT ISSUED BY THE F.D.C.T., COUNTY OF LOCAL ROAD AGENCY.
 2. FIRST AND SECOND STAGE BACKFILL SHALL BE PLACED IN 6" MAX. LIFTS (COMPACTED THICKNESS) AND SHALL BE COMPACTED TO 100% OF THE MASHTO 1-89 MASHING DENSITY.
 3. BASE REPLACEMENT OVER TRENCH SHALL BE THREE TIMES THE THICKNESS OF THE EXISTING BASE COURSE. BASE COURSE REPLACEMENT MATERIAL SHALL BE LIMEPOCK ONLY AND SHALL BE PLACED IN 3 OR 3 EQUAL LIFTS OF MAX. COMPACTED THICKNESS AND COMPACTED TO 98% OF THE MASHTO 1-89 MAXIMUM DENSITY. NO EXISTING BASE MATERIAL SHALL BE USED FOR THE BASE COURSE REPLACEMENT. FINISHED BASE COURSE AND VERTICAL SURFACE OF SAW-CUTS SHALL RECEIVE PRIME & TACK COATS.
 4. SURFACE COURSE REPLACEMENT SHALL MATCH THE THICKNESS AND TYPE OF MATERIAL(S) OF THE EXISTING PAVEMENT, AS A MINIMUM, PROVIDE 2" OF TYPE SP 12.5 ASPHALTIC CONCRETE.

OPEN-CUT PAVEMENT REPAIR DETAIL



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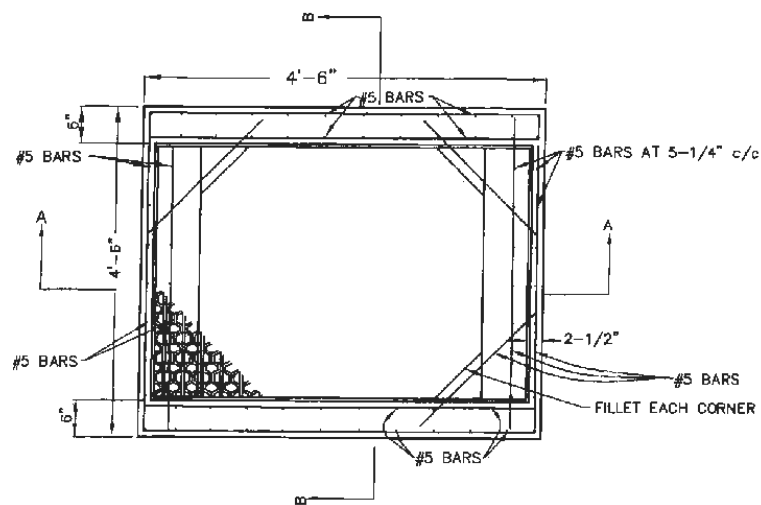


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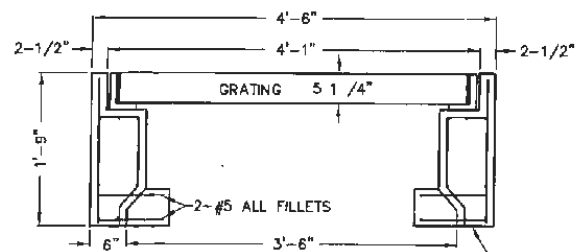
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 Date: 6/2017
 Field Book No:

Project:
 DETAILS
 FOR
 SR 60 & 43RD AVENUE

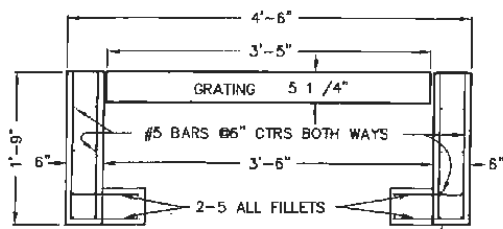
Sheet: 21
 Of: 99
 Project No.
 LNW-WF1027



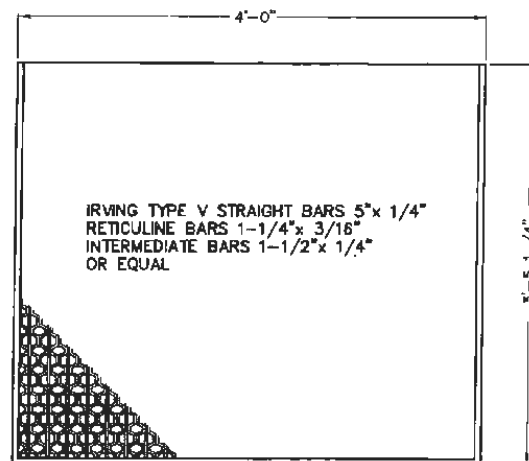
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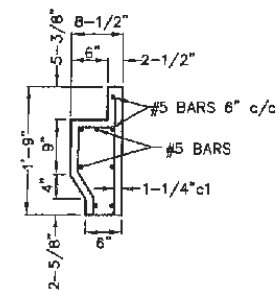
SECTION A-A



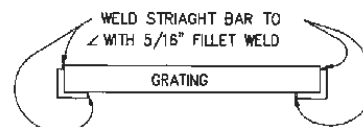
SECTION B-B



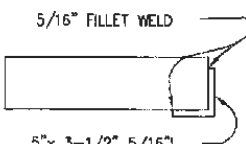
STEEL GRATING



WALL SECTION
DETAIL



SECTION C-C



DITCH BOTTOM INLET TOP - TYPE X
N.T.S.



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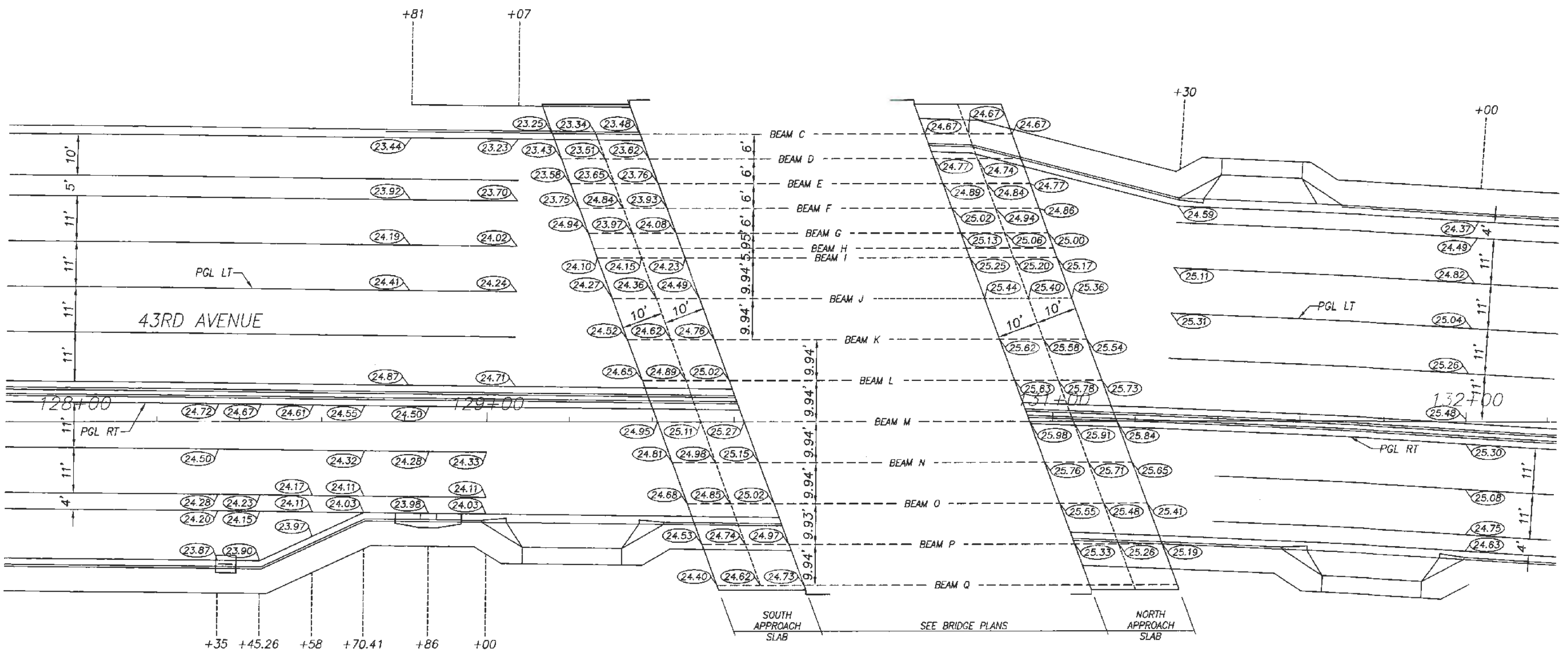


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DETAILS
FOR
SR 60 & 43RD AVENUE

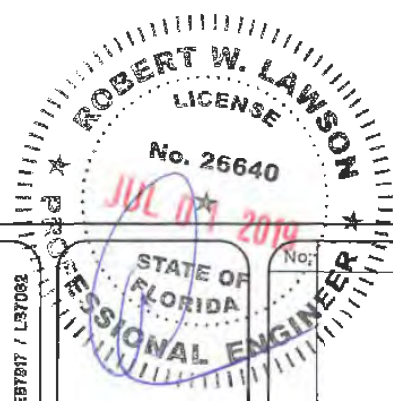
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Of: 99
Project No.
LNW# WP1027



NOTE: ALL ELEVATIONS SHOWN ARE FINISHED GRADE

SPECIAL GRADING DETAIL

NTS



No.	Revision:	By:	Date:

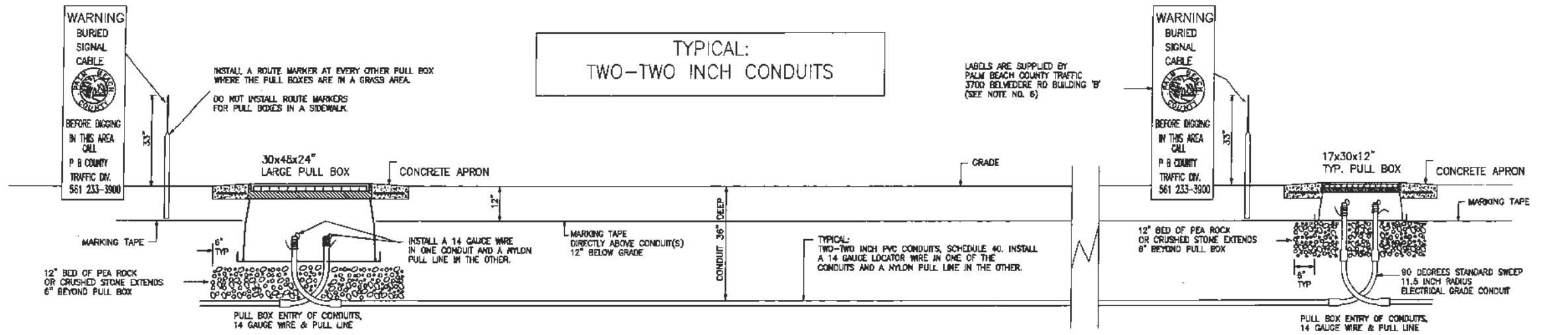


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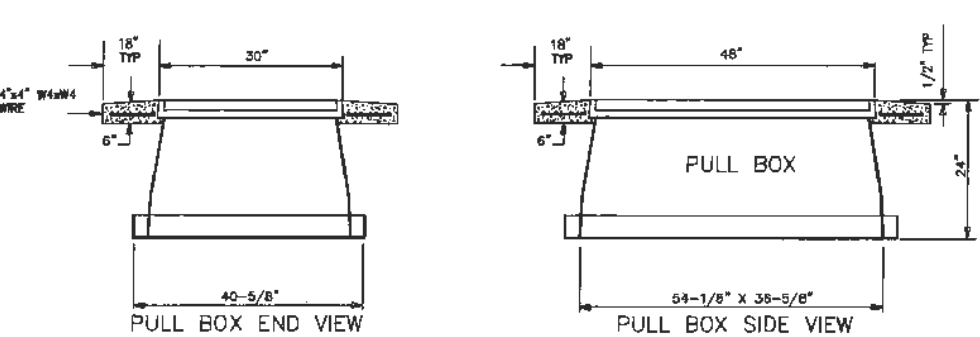
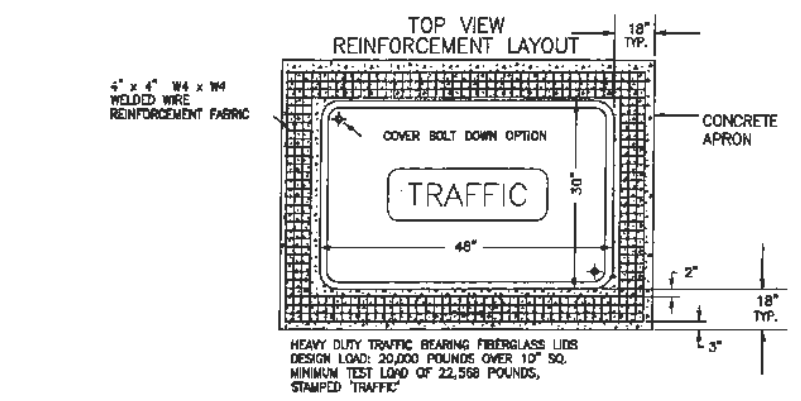
Project: DETAILS
FOR
SR 60 & 43RD AVENUE

Sheet: 22
Of: 99
Project No.
LNW# WP1027

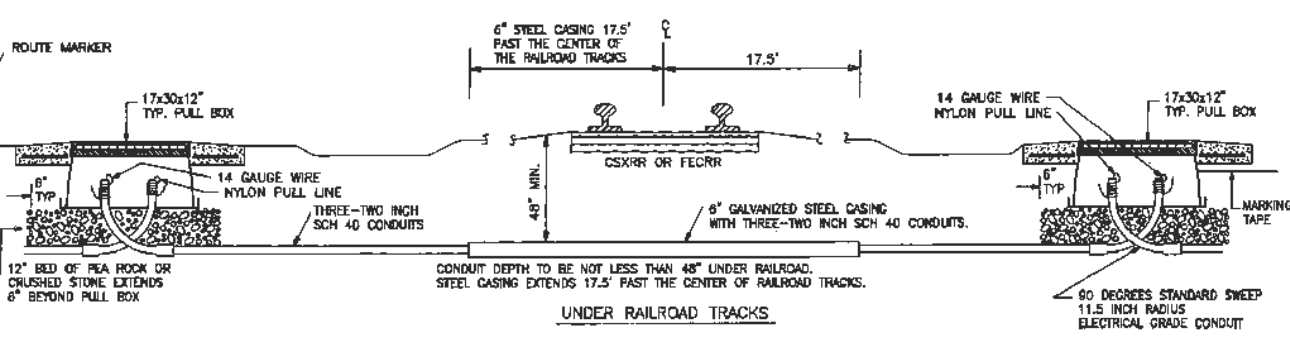
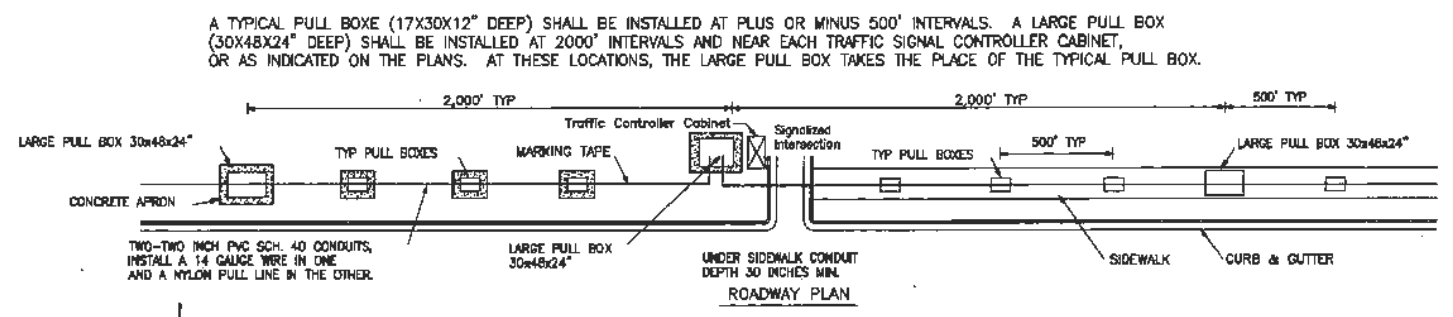


TYPICAL:
TWO-TWO INCH CONDUITS

LABELS ARE SUPPLIED BY
PALM BEACH COUNTY TRAFFIC
3700 BELVEDERE RD BUILDING 'B'
(SEE NOTE NO. 6)



LARGE 30" X 48" X 24" DEEP PULL BOX



NOTES:

- For applications not covered in this typical the contractor shall refer to the FDOT Standard Specifications for Road and Bridge Construction.
- All pull boxes and lids shall be Heavy Duty Traffic Bearing Fiberglass Composite (Rated 20,000 pounds over ten inch square). Pull box lids shall be stamped 'TRAFFIC'.
- Ends of conduit shall be sealed in accordance with Section 630 (Conduit) of the FDOT Standard Specifications for Road and Bridge Construction.
- One run of conduit (between pull boxes) shall not contain more than 360 degrees of bend including pull box bends.
- Marking Tape: 3 inches wide marked 'CAUTION TRAFFIC SIGNAL CABLE BURIED BELOW'. Tape shall be orange with black 2 inches high black letters in non color fading material. The marking tape shall be continuous from pull box to pull box.
- Palm Beach County Traffic Operations, 3700 Belvedere Rd., 561-233-3900, will supply the Contractor with warning labels for the route markers. The Contractor shall install one warning label per marker.

- A 14 gauge insulated strand copper wire shall be installed in one of the conduits. A nylon pull line shall be installed in the other conduit.
- All pull boxes (not installed in a sidewalk) shall have an 18" wide x 6" thick concrete apron sloped away from pull box. The apron shall be 3,000 psi (Class II) and have 4"x4" W4xW4 welded wire reinforcement fabric. The cost of the apron is to be included in the cost of each furnish / install pull box.
- Do not install a pull box within four feet of a public sidewalk curb ramp.

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ROBERT J. HILL
LICENSE
No. 26640
JUL 31 2019
STATE OF FLORIDA
PROFESSIONAL ENGINEER

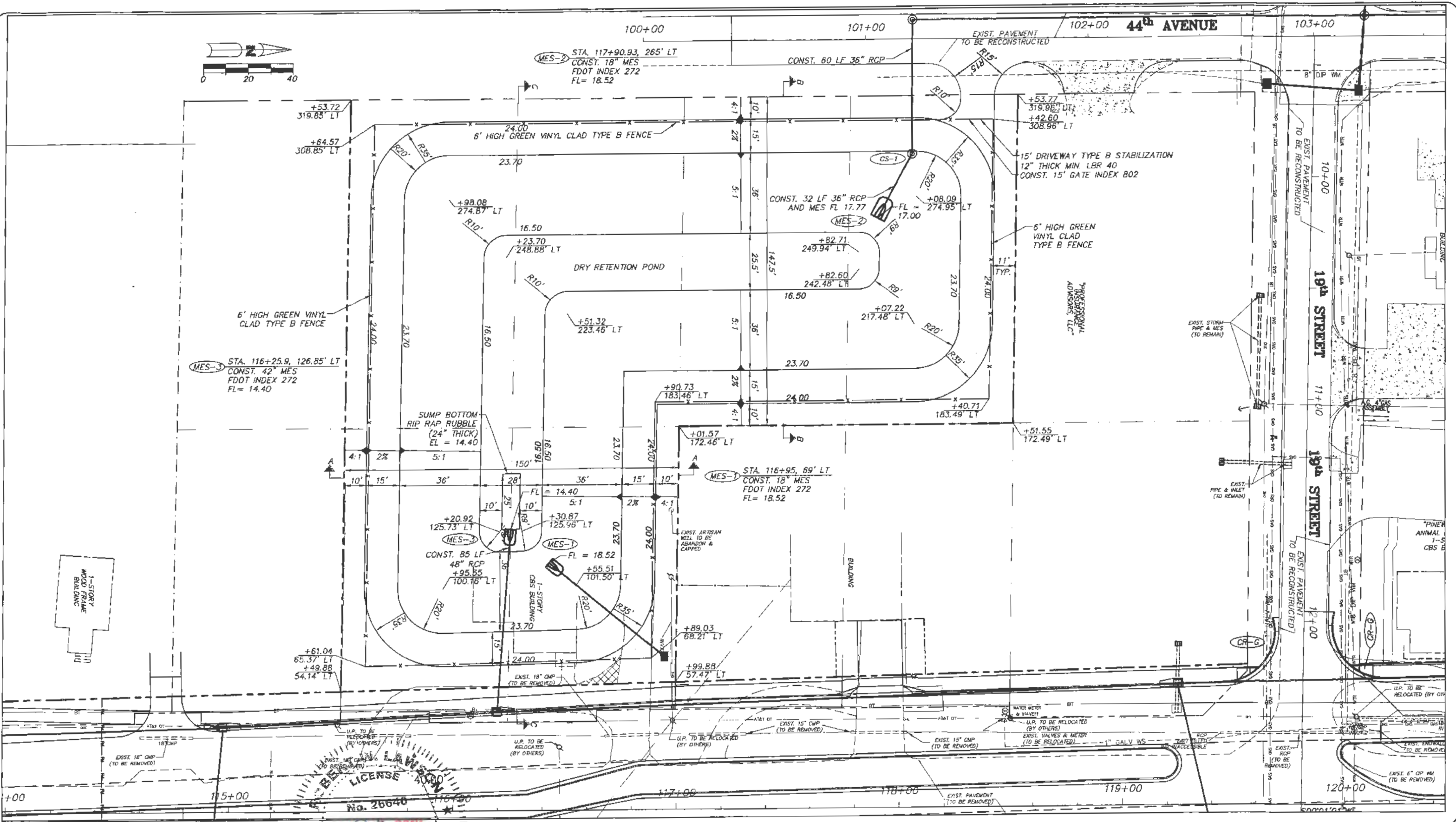
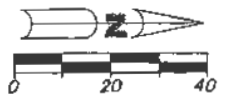
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Date: 6/2017
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DETAILS
FOR
SR 60 & 43RD AVENUE

Sheet: 23
Of: 99
Project No.
LNWF WP1027



BENJAMIN L. ADKINSON
 LICENSE No. 26640
 JUL 17 2019
 STATE OF FLORIDA
 PROFESSIONAL ENGINEER

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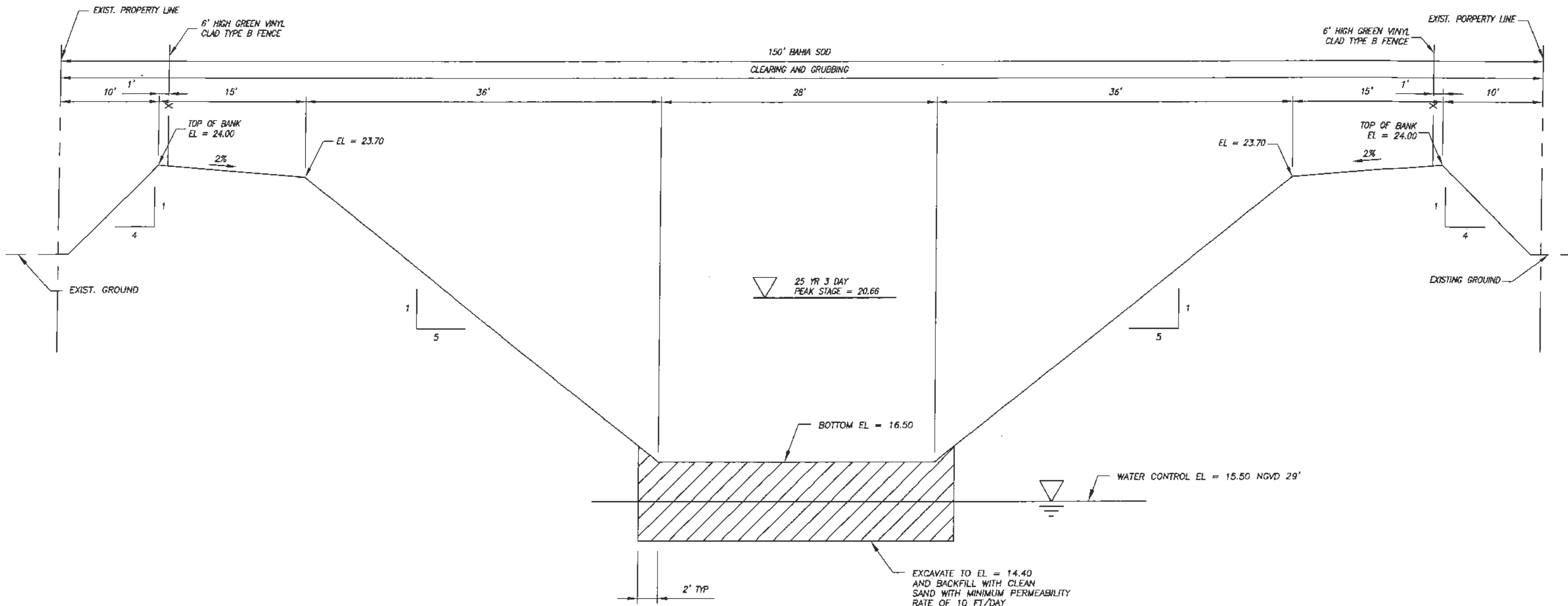
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 Field Book No:

Project: PLAN SHEETS
 FOR
 SR 60 & 43RD AVENUE

Sheet: 24
 Of: 99
 Project No.
 LNW# WP1027


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RETENTION AREA #1
SECTION A-A



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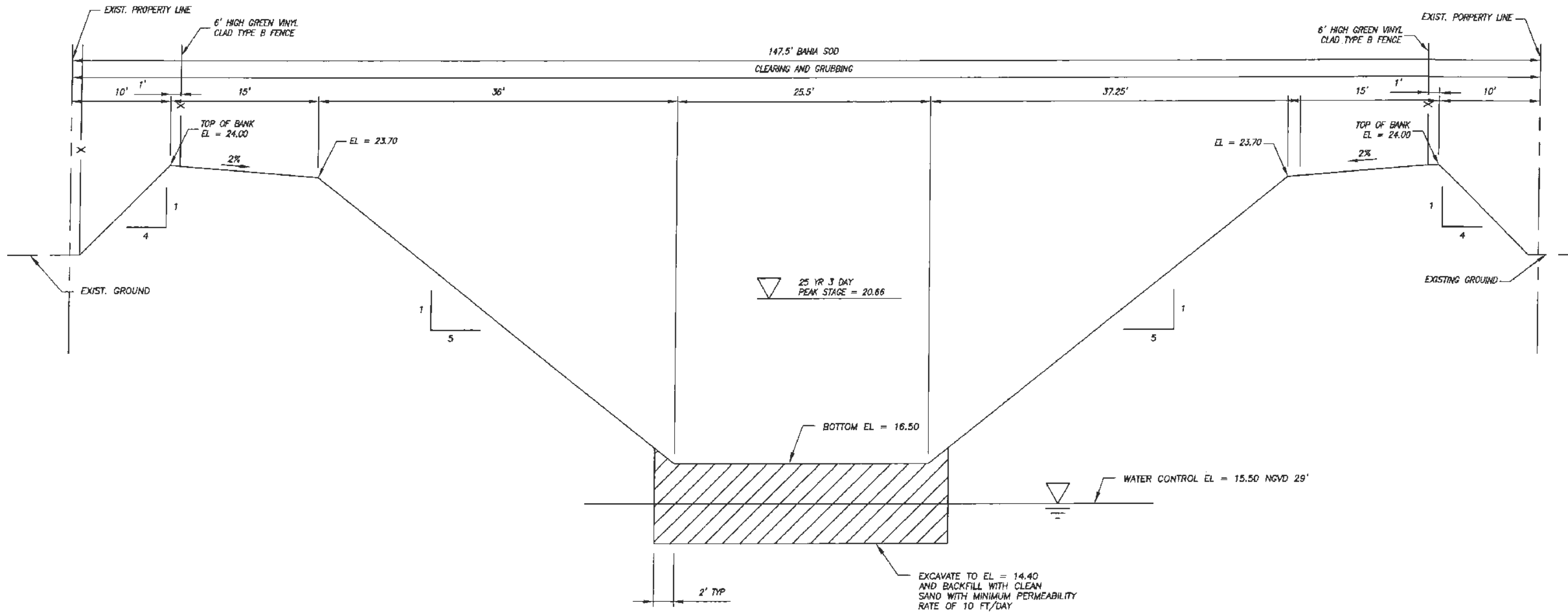

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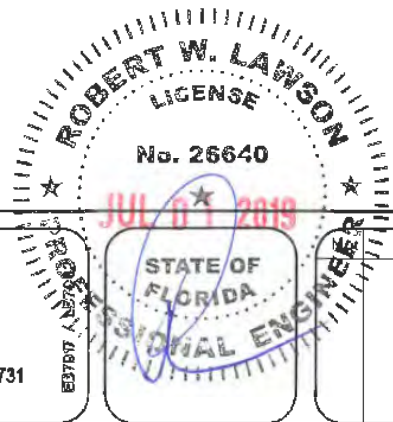
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DETAILS
FOR
SR 60 & 43RD AVENUE

Sheet: 25
 Of: 99
 Project No.
 LNW# WP1027


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**RETENTION AREA #1
SECTION B-B**



Revision:	By:	Date:



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 Date: 6/2017
 Field Book No:

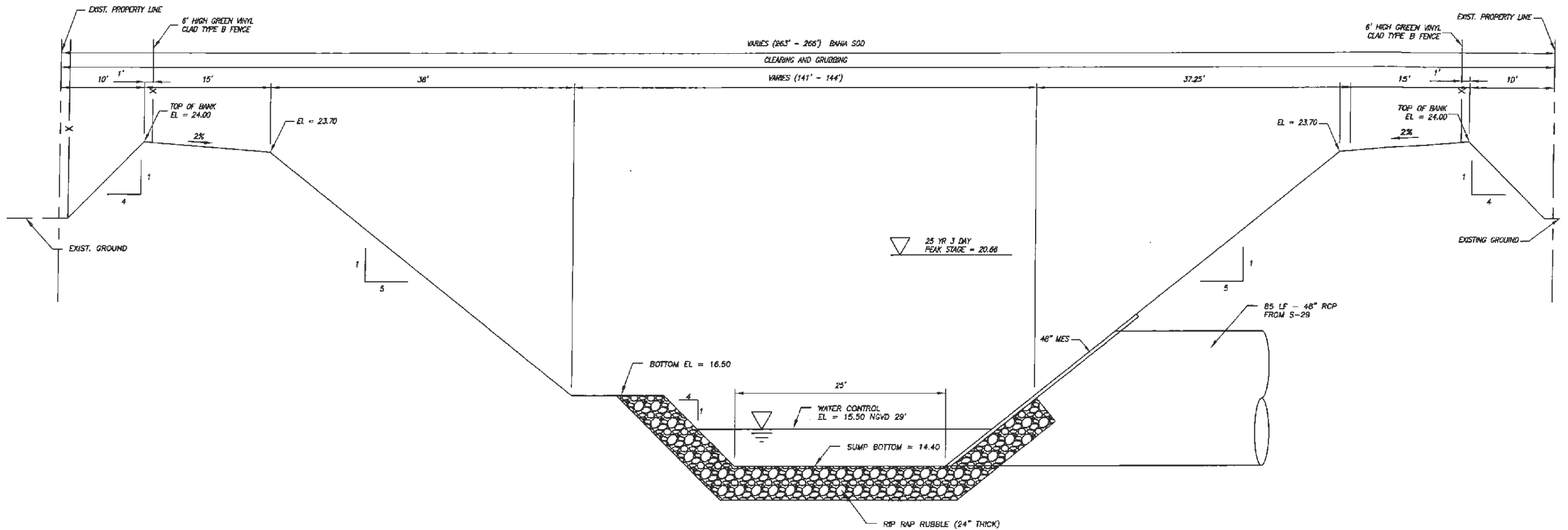
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**DETAILS
 FOR
 SR 60 & 43RD AVENUE**

Sheet: 26

Of: 99

Project No.

LHW# WF1027



**RETENTION AREA #1
SECTION C-C**



Revision:	By:	Date:



*Department of Public Works
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 Date: 6/2017
 Field Book No:

Project:
 DETAILS
 FOR
SR 60 & 43RD AVENUE

Sheet: 27

Of: 99

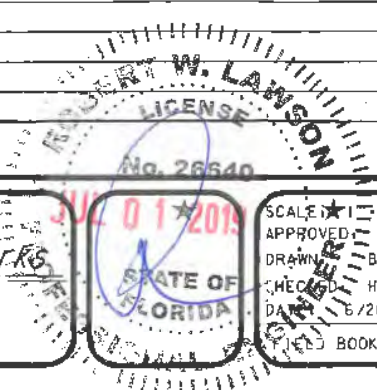
Project No.

LNW# WP1027

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UTILITY MATRIX

STATION	OFFSET	UTILITY	CONFLICT	DISPOSITION	REMARK
UTILITY POLES					
109+86	39.00 LT	EXIST. U.P.	PROP. SIDEWALK	RELOCATED BY OTHERS	
110+11	26.00 RT	EXIST. U.P.	PROP. PAVEMENT	RELOCATED BY OTHERS	
110+76	39.00 LT	EXIST. U.P.	PROP. SIDEWALK	RELOCATED BY OTHERS	
112+20	39.00 LT	EXIST. U.P.	PROP. CURB	RELOCATED BY OTHERS	
112+24	25.50 RT	EXIST. U.P.	PROP. PAVEMENT	RELOCATED BY OTHERS	
113+42	40.00 LT	EXIST. U.P.	PROP. CURB	RELOCATED BY OTHERS	
113+59	26.00 RT	EXIST. U.P.	PROP. PAVEMENT	RELOCATED BY OTHERS	
115+48	40.00 LT	EXIST. U.P.	PROP. PAVEMENT	RELOCATED BY OTHERS	
116+48	29.00 LT	EXIST. U.P.	PROP. PAVEMENT	RELOCATED BY OTHERS	
116+49	25.00 RT	EXIST. U.P.	PROP. PAVEMENT	RELOCATED BY OTHERS	
116+98	40.00 LT	EXIST. U.P.	PROP. PAVEMENT	RELOCATED BY OTHERS	
118+48	32.00 RT	EXIST. U.P.	PROP. SIDEWALK	RELOCATED BY OTHERS	
118+50	40.00 LT	EXIST. U.P.	PROP. PAVEMENT	RELOCATED BY OTHERS	
119+64	38.00 RT	EXIST. U.P.	PROP. CURB	RELOCATED BY OTHERS	
120+06	40.00 LT	EXIST. U.P.	PROP. PAVEMENT	RELOCATED BY OTHERS	
120+80	39.00 LT	EXIST. U.P.	PROP. PAVEMENT	RELOCATED BY OTHERS	
120+84	50.00 LT	EXIST. L.P.	PROP. PAVEMENT	TO BE REMOVED	
122+44	40.00 LT	EXIST. U.P.	PROP. PAVEMENT	RELOCATED BY OTHERS	
122+98	58.00 LT	EXIST. L.P.	PROP. PAVEMENT	TO BE REMOVED	
123+68	38.00 RT	EXIST. U.P.	PROP. SIDEWALK	RELOCATED BY OTHERS	
126+31	44.00 LT	EXIST. SIGNAL POLE	PROP. PAVEMENT	TO BE REMOVED	
126+35	43.00 RT	EXIST. U.P.	PROP. PAVEMENT	RELOCATED BY OTHERS	
127+43	36.00 LT	EXIST. SIGNAL POLE	PROP. PAVEMENT	TO BE REMOVED	
127+48	30.00 RT	EXIST. U.P.	PROP. PAVEMENT	RELOCATED BY OTHERS	
127+61	34.00 RT	EXIST. U.P.	PROP. PAVEMENT	RELOCATED BY OTHERS	
127+65	34.00 RT	EXIST. U.P.	PROP. PAVEMENT	RELOCATED BY OTHERS	
128+41	54.00 LT	EXIST. U.P.	PROP. PAVEMENT	RELOCATED BY OTHERS	
131+81	51.00 LT	EXIST. L.P.	PROP. CURB	RELOCATED BY OTHERS	
132+01	41.00 LT	EXIST. U.P.	PROP. PAVEMENT	RELOCATED BY OTHERS	
132+90	40.00 LT	EXIST. U.P.	PROP. PAVEMENT	RELOCATED BY OTHERS	
134+10	42.00 LT	EXIST. U.P.	PROP. SIDEWALK	RELOCATED BY OTHERS	
GAS					
110+21	37.00 RT	GAS MAIN	PROP. INLET	RELOCATED BY FLORIDA CITY GAS	
110+25	21.00 RT	GAS MAIN	PROP. 18" RCP	RELOCATE UNDER STORM BY FLORIDA CITY GAS	
112+30	21.00 RT	GAS MAIN	PROP. 18" RCP	RELOCATE UNDER STORM BY FLORIDA CITY GAS	
114+90	21.00 RT	GAS MAIN	PROP. 18" RCP	RELOCATE UNDER STORM BY FLORIDA CITY GAS	
119+43	21.00 RT	GAS MAIN	PROP. 18" RCP	RELOCATE UNDER STORM BY FLORIDA CITY GAS	
119+67	55.00 LT	EXIST. GAS MAIN	PROP. 24" RCP	RELOCATE UNDER STORM BY FLORIDA CITY GAS	
119+98	57.00 LT	EXIST. GAS MAIN	PROP. 24" RCP	ABANDON BY FLORIDA CITY GAS	
120+04	57.00 LT	PROP. GAS MAIN	PROP. 24" RCP	INSTALL NEW LINE UNDER STORM BY FLORIDA CITY GAS	
120+80	55.00 LT	GAS MAIN	PROP. 18" RCP	INSTALL NEW LINE UNDER STORM BY FLORIDA CITY GAS	
120+80	36.00 LT	GAS MAIN	PROP. 18" RCP	ABANDON BY FLORIDA CITY GAS	
120+85	58.00 LT	EXIST. GAS MAIN	PROP. 24" RCP	INSTALL NEW LINE UNDER STORM BY FLORIDA CITY GAS	



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EB 7917 / LB 7062

NO.	REVISION	BY	DATE

Department of Public Works
Engineering Division

JUL 01 2017

STATE OF FLORIDA

ENGINEER

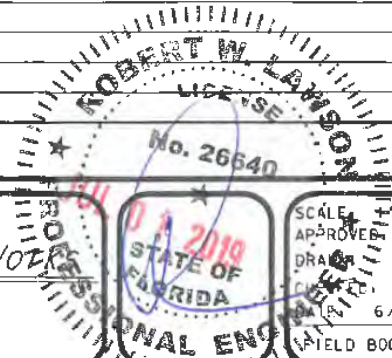
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BOOK NO.

DETAILS
FOR
SR 60 & 43RD AVENUE

SHEET	27A
OF	99
PROJECT NO.	A1027
IRC_JOB_NO.	

UTILITY MATRIX

STATION	OFFSET	UTILITY	CONFLICT	DISPOSITION	REMARK
123+36	40.00 LT	GAS MAIN	PROP. 18" RCP	ABANDON BY FLORIDA CITY GAS	
123+41	57.00 LT	GAS MAIN	PROP. 18" RCP	INSTALL NEW LINE UNDER STORM BY FLORIDA CITY GAS	
124+45	60.00 LT	GAS MAIN	PROP. 18" RCP	INSTALL NEW LINE UNDER STORM BY FLORIDA CITY GAS	
WATER					
120+03	56.00 LT	PROP. 8" WM	PROP. 24" RCP	INSTALL NEW 8" WL BY DIRECTIONAL DRILL	MAINTAIN 12" MIN. VERTICAL SEPARATION
123+23	42.00 RT	PROP. 8" WM	PROP. INLET	NEW LINE EAST OF INLET	MAINTAIN 3' MIN. SEPARATION BEHIND INLET
125+40	45.00 RT	EXIST. 8" DI WM	PROP. INLET	NEW LINE EAST OF INLET	MAINTAIN 3' MIN. SEPARATION BEHIND INLET
129+00	44.00 LT	EX. 12" WM	PROP. 18" RCP	WM REMOVED	MAINTAIN 3' MIN. SEPARATION BEHIND INLET
132+95	50.00 LT	PROP. 2" HDPE	PROP. 18" RCP	INSTALL WATERLINE UNDER STORM	MAINTAIN 12" MIN. VERTICAL SEPARATION
133+16	48.00 RT	PROP. 12" WM	PROP. INLET	INSTALL 12" WM UNDER STORM	MAINTAIN 3' MIN. SEPARATION BEHIND INLET
133+75	44.00 RT	PROP. 2" HDPE	PROP. 18" RCP	INSTALL WATERLINE UNDER STORM	MAINTAIN 12" MIN. VERTICAL SEPARATION
135+55	53.00 RT	PROP. 8" WM	PROP. 24" RCP	INSTALL 8" WM UNDER STORM	MAINTAIN 12" MIN. VERTICAL SEPARATION
138+60	42.00 RT	PROP. 6" WM	PROP. 24" RCP	INSTALL 6" WM UNDER STORM	MAINTAIN 12" MIN. VERTICAL SEPARATION
143+95	53.00 RT	PROP. 12" WM	PROP. 42" RCP	INSTALL 12" WM UNDER STORM	MAINTAIN 12" MIN. VERTICAL SEPARATION
148+13	38.00 RT	PROP. 2" WM	18" RCP	INSTALL NEW SERVICE UNDER STORM	MAINTAIN 12" MIN. VERTICAL SEPARATION
SEWER					
110+25	33.00 RT	EXIST. 2" FM	PROP. 18" RCP	NEW 2" FM OVER 18" RCP	
112+30	43.00 RT	EXIST. 2" FM	PROP. 18" RCP	NEW 2" FM OVER 18" RCP	
114+90	32.00 RT	EXIST. 8" FM	PROP. 18" RCP	POT HOLE/LOWER IF NECESSARY	
119+42	30.00 RT	EXIST. 8" FM	PROP. 18" RCP	POT HOLE/LOWER IF NECESSARY	
120+80	23.00 RT	EXIST. 8" SAN.	PROP. INLET	CHANGED TO PI INLET AND LOWERED PROP. 18" RCP	
123+23	32.00 LT	EXIST. 3" FM	PROP. 18" RCP	GROUT AND ABANDON	
123+23	29.00 RT	EXIST. 8" FM	PROP. 18" RCP	8" FM UNDER 18" RCP	
123+23	23.00 RT	EXIST. 6" SAN.	PROP. 18" RCP	STORM UNDER 6" SANITARY	
125+41	26.00 RT	EXIST. 8" FM	PROP. 18" RCP	POT HOLE/LOWER IF NECESSARY	
128+74	27.00 RT	EXIST. 6" FM	PROP. 18" RCP	18" UNDER 6" FM	
128+86	21.00 RT	EXIST. 8" FM	PROP. 18" RCP/INLET	POT HOLE/LOWER IF NECESSARY	
132+90	22.00 RT	EXIST. 8" FM	PROP. 18" RCP	REMOVE AND INSTALL NEW 8" FM	
135+06	22.00 RT	EXIST. 8" FM	PROP. 18" RCP	REMOVE 8" FM	
137+37	22.00 RT	EXIST. 8" FM	PROP. 18" RCP	REMOVE 8" FM	
139+80	22.00 RT	EXIST. 8" FM	PROP. 18" RCP	REMOVE 8" FM	
140+38	38.00 RT	EXIST. 4" FM	PROP. 30" RCP	4" FM UNDER 30" RCP	
141+80	22.00 RT	EXIST. 8" FM	PROP. 18" RCP	REMOVE 8" FM	
143+95	59.00 RT	EXIST. 8" FM	PROP. 42" RCP	8" FM UNDER 42" STORM	
147+70	23.00 RT	EXIST. 8" FM	PROP. 18" RCP	REMOVE 8" FM	
151+76	23.00 RT	EXIST. 8" FM	PROP. 18" RCP	REMOVE 8" FM	
CABLE					
116+20	46.00 LT	EXIST. BT CABLE	PROP. INLET	TO BE PLACED OUT OF SERVICE	
119+27	46.00 LT	EXIST. BT CABLE	PROP. 18" RCP	TO BE PLACED OUT OF SERVICE	
120+80	46.00 LT	EXIST. BT CABLE	PROP. 18" RCP	TO BE PLACED OUT OF SERVICE	
125+42	39.00 RT	EXIST. BT CABLE	PROP. 18" RCP & DBI	TO BE PLACED OUT OF SERVICE	
128+30	34.00 RT	EXIST. BT CABLE	PROP. INLET	TO BE PLACED OUT OF SERVICE	
132+90	41.00 LT	EXIST. BT CABLE	PROP. INLET	TO BE PLACED OUT OF SERVICE	



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Department of Public Works
 Engineering Division

SCALE: 1" = 40'
 APPROVER: B.F.
 DRAWN: H.D.
 DATE: 6/2017
 FIELD BOOK NO.

DETAILS
 FOR
SR 60 & 43RD AVENUE

SHEET: 278
 OF: 99
 PROJECT NO. A1027
 IJC_JOB_NO.


UTILITY MATRIX

STATION	OFFSET	UTILITY	CONFLICT	DISPOSITION	REMARK
133+07	29.00 RT	EXIST. BT CABLE	PROP. 18" RCP	TO BE PLACED OUT OF SERVICE	
135+13	29.00 RT	EXIST. BT CABLE	PROP. 18" RCP	TO BE PLACED OUT OF SERVICE	
137+38	29.00 RT	EXIST. BT CABLE	PROP. 18" RCP	TO BE PLACED OUT OF SERVICE	
139+81	29.00 RT	EXIST. BT CABLE	PROP. 18" RCP	TO BE PLACED OUT OF SERVICE	
141+80	29.00 RT	EXIST. BT CABLE	PROP. 18" RCP	TO BE PLACED OUT OF SERVICE	
147+70	29.00 RT	EXIST. BT CABLE	PROP. 18" RCP	TO BE PLACED OUT OF SERVICE	
151+76	29.00 RT	EXIST. BT CABLE	PROP. 18" RCP	TO BE PLACED OUT OF SERVICE	
126+34	70.00 LT	EXIST. BT MANHOLE	PROP. PAVEMENT	TO BE ADJUSTED TO PROPOSED GRADE	
126+43	52.00 RT	EXIST. BT MANHOLE	PROP. PAVEMENT	TO BE ADJUSTED TO PROPOSED GRADE	
126+94	70.00 LT	EXIST. BT MANHOLE	PROP. PAVEMENT	TO BE ADJUSTED TO PROPOSED GRADE	
132+95	32.00 RT	EXIST. BT MANHOLE	PROP. 18" RCP	NOT A BT MANHOLE	
LIGHT POLES					
2638+12	25.00 LT	EXIST. L.P.	PROP. CURB	TO BE REMOVED BY OTHERS	
2639+70	22.00 LT	EXIST. L.P.	PROP. FRENCH DRAIN	TO BE REMOVED BY OTHERS	
2639+98	83.00 RT	EXIST. L.P.	PROP. INLET	TO BE REMOVED AND RETURNED TO OWNER	
2640+68	83.00 RT	EXIST. L.P.	PROP. CURB & GUTTER	TO BE REMOVED AND RETURNED TO OWNER	
2641+24	21.00 LT	EXIST. L.P.	PROP. CURB & GUTTER	TO BE REMOVED	
2647+67	41.00 LT	EXIST. L.P.	PROP. CURB & GUTTER	TO BE REMOVED AND RETURNED TO OWNER	
2648+26	41.00 LT	EXIST. L.P.	PROP. CURB & GUTTER	TO BE REMOVED AND RETURNED TO OWNER	
2649+07	43.00 LT	EXIST. L.P.	PROP. SIDEWALK	TO BE REMOVED AND RETURNED TO OWNER	
2650+08	40.00 LT	EXIST. L.P.	PROP. INLET	TO BE REMOVED AND RETURNED TO OWNER	
2652+18	41.00 LT	EXIST. L.P.	PROP. FRENCH DRAIN	TO BE REMOVED AND RETURNED TO OWNER	
UTILITY POLES					
2638+06	27.00 LT	EXIST. U.P.	PROP. SIDEWALK	TO REMAIN	
2639+71	79.00 RT	EXIST. U.P.	PROP. PAVEMENT	TO BE REMOVED BY OTHERS	
2644+34	67.00 RT	EXIST. U.P.	PROP. SIDEWALK	TO REMAIN	
2646+31	32.00 LT	EXIST. U.P.	PROP. PAVEMENT	TO BE REMOVED BY OTHERS	
2647+08	68.00 RT	EXIST. U.P.	PROP. SIDEWALK	TO REMAIN LUMINARE TO BE REMOVED	
2650+83	34.00 LT	EXIST. U.P.	PROP. PAVEMENT	TO BE REMOVED BY OTHERS	
2650+87	66.00 RT	EXIST. U.P.	PROP. SIDEWALK	TO REMAIN LUMINARE TO BE REMOVED	
2654+71	67.00 RT	EXIST. U.P.	PROP. SIDEWALK	TO REMAIN LUMINARE TO BE REMOVED	
2658+57	32.00 LT	EXIST. U.P.	PROP. FENCH DRAIN & 18" RCP	TO BE RELOCATED BY OTHERS	
CABLE					
2636+67	75.00 RT	EXIST. BT DUCT	PROP. SIDEWALK	TO REMAIN	
2636+92	25.00 RT	EXIST. BT MANHOLE	PROP. PAVEMENT	TO BE ADJUSTED TO PROPOSED GRADE	
2639+26	81.00 RT	EXIST. BT DUCT	PROP. 18" RCP	TO REMAIN	
2642+24	25.00 RT	EXIST. BT MANHOLE	PROP. PAVEMENT	TO BE ADJUSTED TO PROPOSED GRADE	
2647+10	14.00 RT	EXIST. BT MANHOLE	PROP. PAVEMENT	TO BE ADJUSTED TO PROPOSED GRADE	
2647+31	61.00 RT	EXIST. BT MANHOLE	PROP. SIDEWALK	TO BE ADJUSTED TO PROPOSED GRADE	
2649+31	63.00 RT	EXIST. BT MANHOLE	PROP. SIDEWALK	TO BE ADJUSTED TO PROPOSED GRADE	
2654+63	14.00 RT	EXIST. BT MANHOLE	PROP. PAVEMENT	TO BE ADJUSTED TO PROPOSED GRADE	
2654+89	53.00 RT	EXIST. BT MANHOLE	PROP. PAVEMENT	TO BE ADJUSTED TO PROPOSED GRADE	

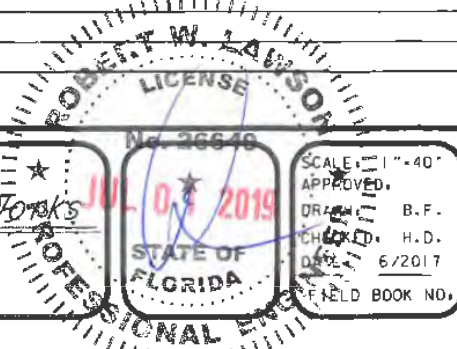


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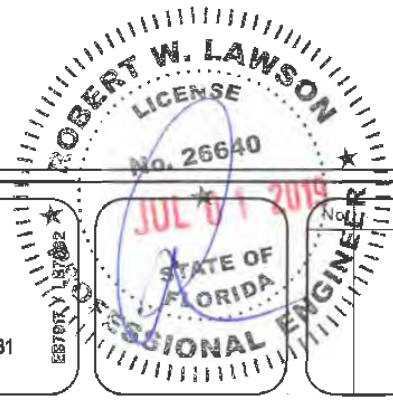
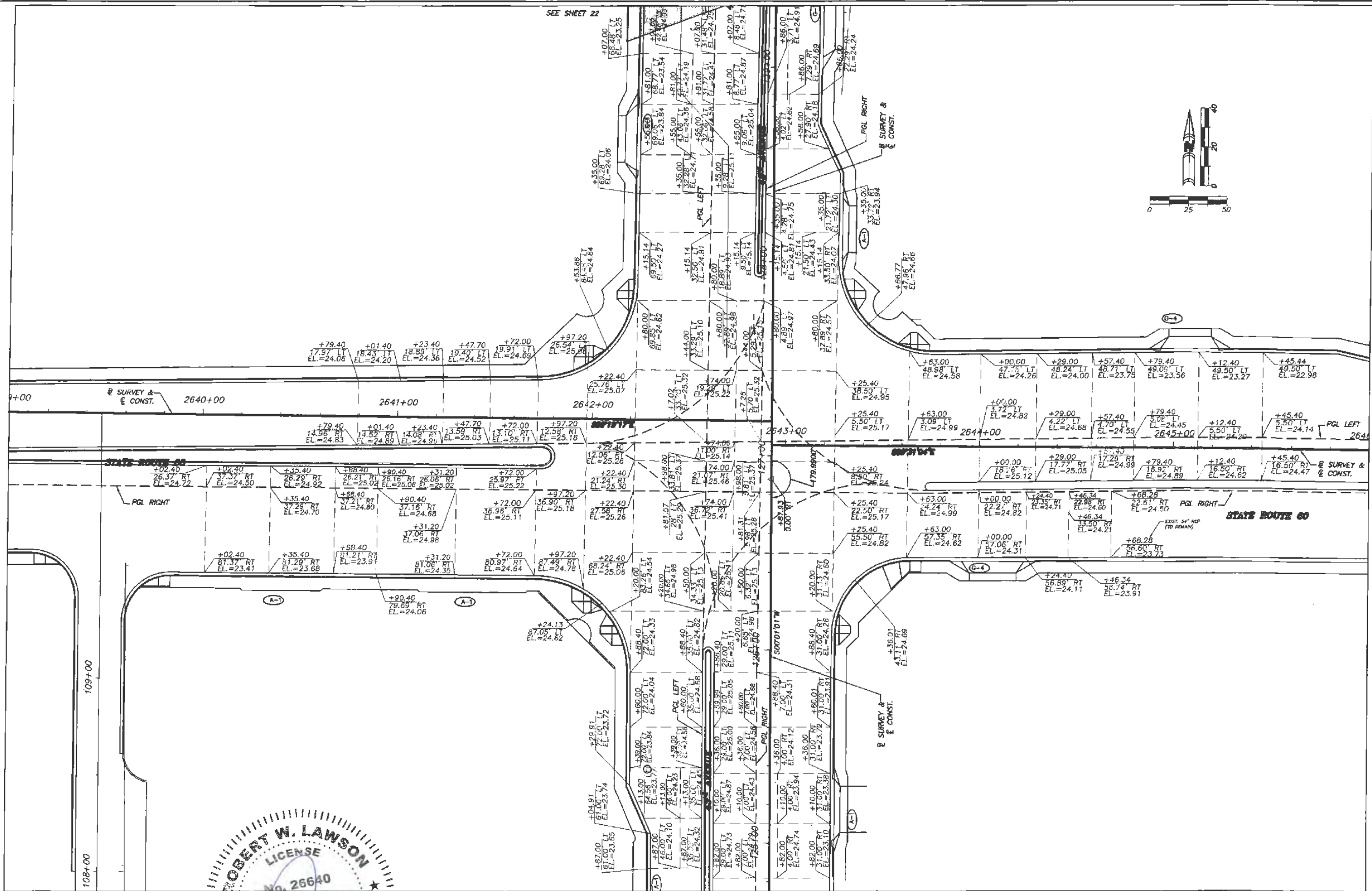
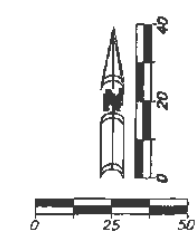


ROBERT W. LAWSON
 LICENSE
 No. 26648
 JUL 03 2019
 STATE OF FLORIDA
 PROFESSIONAL ENGINEER


DETAILS
 FOR
SR 60 & 43RD AVENUE

SHEET OF:	27C 99
PROJECT NO.	A1027
TRC_JOB_NO.	

SEE SHEET 22



Revision:	By:	Date:


Department of Public Works
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Scale:	1" = 50'
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INTERSECTION PLATEAU GRADING
 FOR
SR 60 & 43RD AVENUE

Sheet:	28
Of:	99
Project No.	LHW# WP1027


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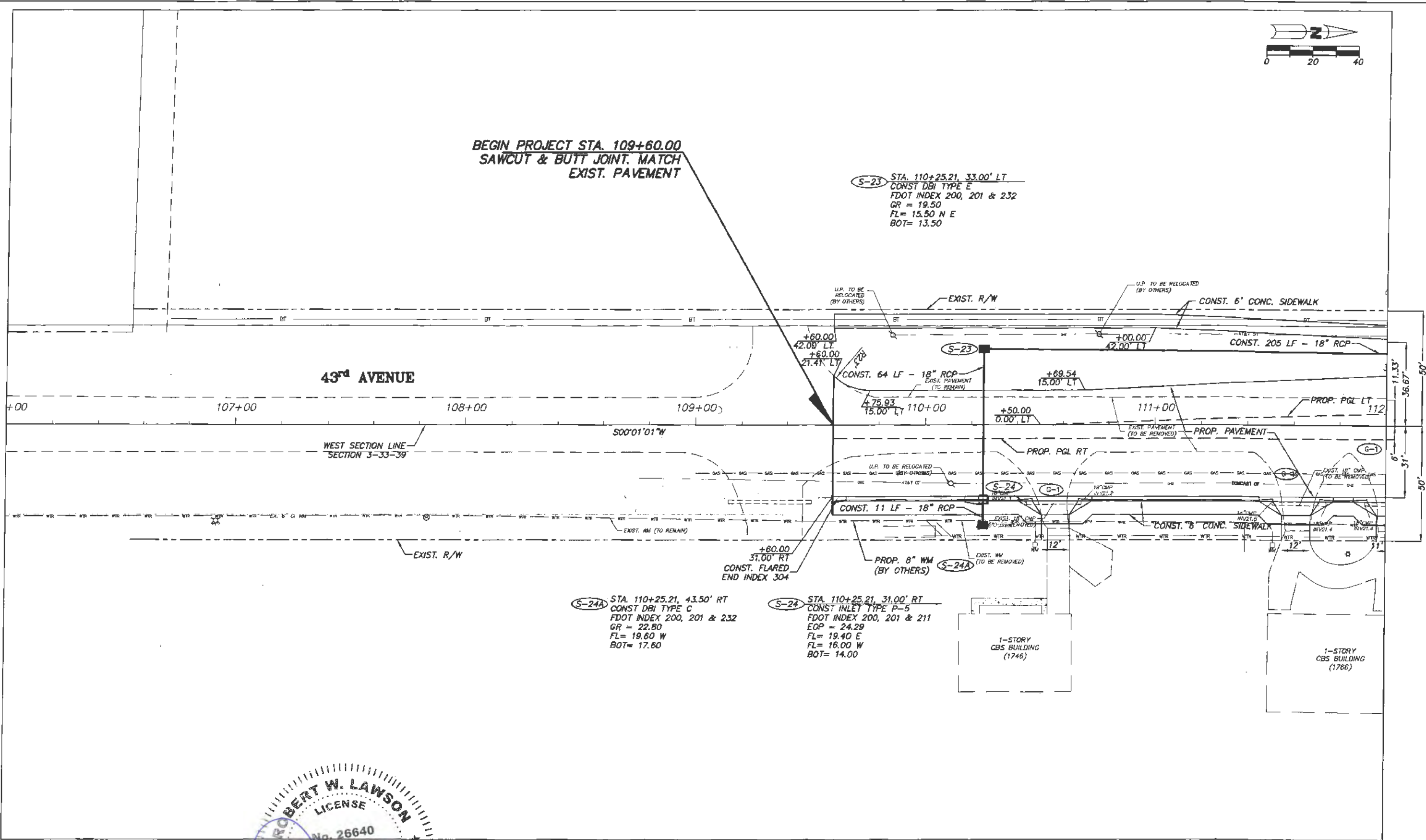


BEGIN PROJECT STA. 109+60.00
SAWCUT & BUTT JOINT. MATCH
EXIST. PAVEMENT

S-23 STA. 110+25.21, 33.00' LT
CONST DBI TYPE E
FDOT INDEX 200, 201 & 232
GR = 19.50
FL = 15.50 N E
BOT = 13.50

S-24A STA. 110+25.21, 43.50' RT
CONST DBI TYPE C
FDOT INDEX 200, 201 & 232
GR = 22.80
FL = 19.60 W
BOT = 17.60

S-24 STA. 110+25.21, 31.00' RT
CONST INLET TYPE P-5
FDOT INDEX 200, 201 & 211
EOP = 24.29
FL = 19.40 E
FL = 16.00 W
BOT = 14.00



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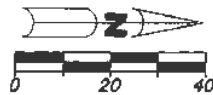
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Field Book No:

Project:
PLAN SHEETS
FOR
SR 60 & 43RD AVENUE

Sheet: 29
Of: 99
Project No.
LNW# WP1027



S-26 STA. 112+30, 31.00' LT
 CONST DBI TYPE E
 FDOT INDEX 200, 201 & 232
 GR = 22.00
 FL = 17.50 E
 FL = 15.15 N S
 BOT = 13.15

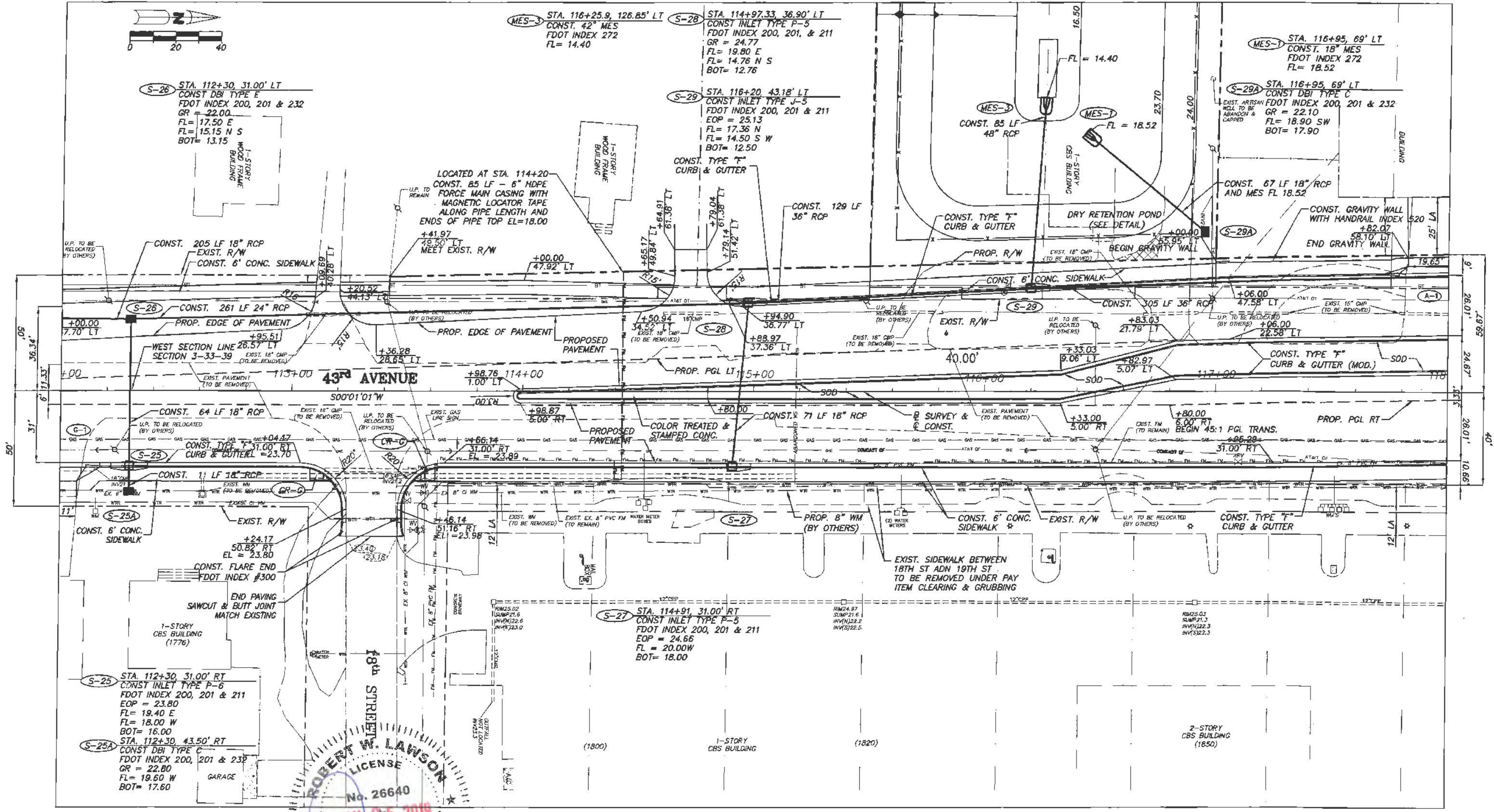
MES-3 STA. 116+25.9, 126.85' LT
 CONST. 42" MES
 FDOT INDEX 272
 FL = 14.40

S-28 STA. 114+97.33, 36.90' LT
 CONST INLET TYPE P-5
 FDOT INDEX 200, 201, & 211
 GR = 24.77
 FL = 19.80 E
 FL = 14.76 N S
 BOT = 12.76

S-29 STA. 116+20, 43.18' LT
 CONST INLET TYPE J-5
 FDOT INDEX 200, 201 & 211
 EOP = 25.13
 FL = 17.36 N
 FL = 14.50 S W
 BOT = 12.50

MES-1 STA. 116+95, 69' LT
 CONST. 18" MES
 FDOT INDEX 272
 FL = 18.52

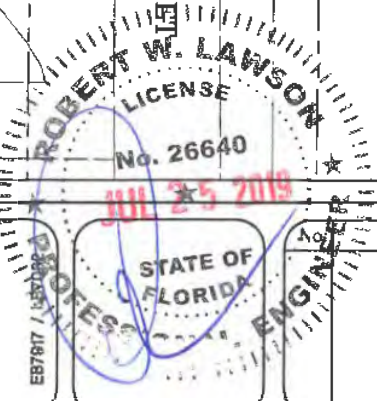
S-29A STA. 116+95, 69' LT
 CONST DBI TYPE C
 FDOT INDEX 200, 201 & 232
 GR = 22.10
 FL = 18.90 SW
 BOT = 17.90



S-25 STA. 112+30, 31.00' RT
 CONST INLET TYPE P-6
 FDOT INDEX 200, 201 & 211
 EOP = 23.80
 FL = 19.40 E
 FL = 18.00 W
 BOT = 16.00

S-25A STA. 112+30, 43.50' RT
 CONST DBI TYPE C
 FDOT INDEX 200, 201 & 232
 GR = 22.80
 FL = 19.60 W
 BOT = 17.60

S-27 STA. 114+91, 31.00' RT
 CONST INLET TYPE P-5
 FDOT INDEX 200, 201 & 211
 EOP = 24.66
 FL = 20.00 W
 BOT = 18.00



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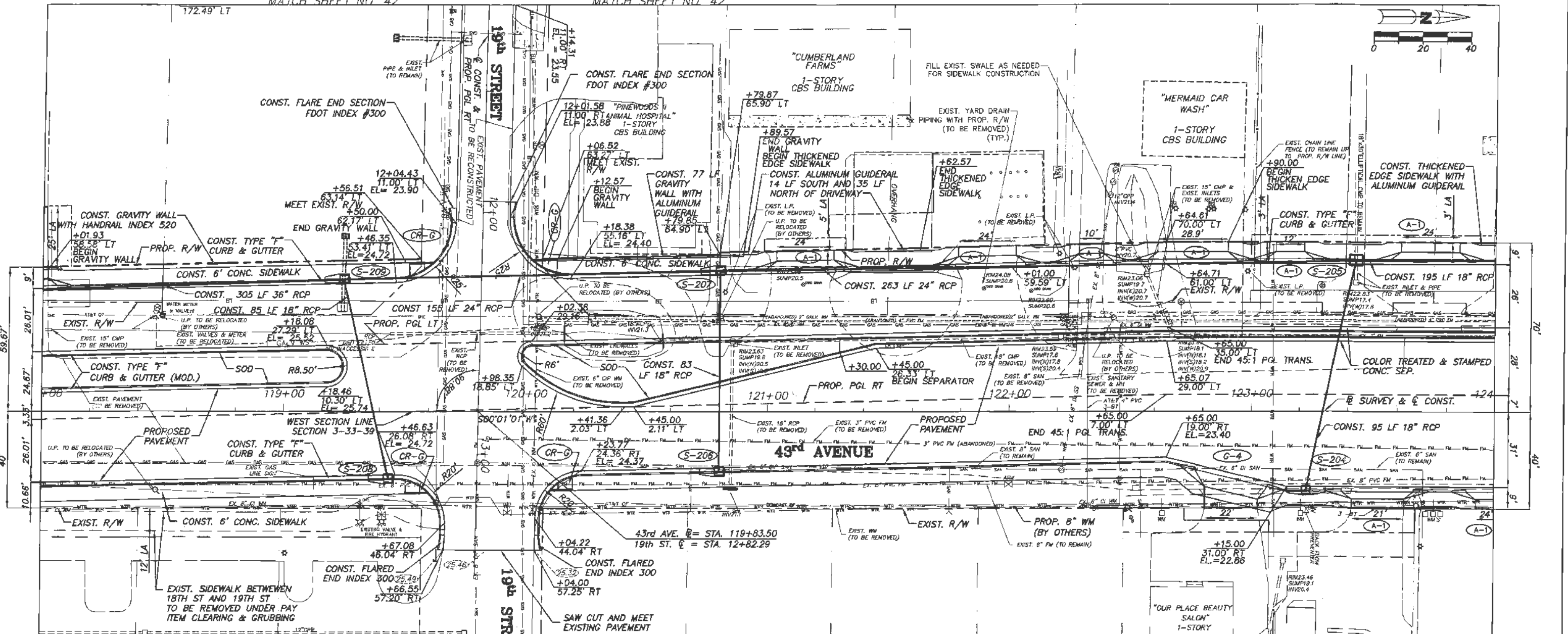
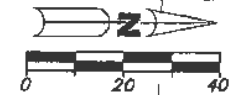
Scale: 1" = 40'
 Approved: HWD
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 Date: 6/2017
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Project:
 PLAN SHEETS
 FOR
 SR 60 & 43RD AVENUE

Sheet: 30
 Of: 99
 Project No.
 LNW# WF1027

MATCH SHEET NO. 42

MATCH SHEET NO. 42



DRAINAGE STRUCTURE NOTES

- S-209** STA. 119+25.00, 53.01' LT
CONST. INLET TYPE J-5
FDOT INDEX 200, 201 & 211
EOP = 24.47
FL=21.80 (ME) (15" W)
REMOVE EXIST. PIPE AND MES (E)
FL= 20.37 (E)
FL= 18.00 (N & S)
BOT= 16.00
- S-207** STA. 120+80, 56.89' RT
CONST. INLET TYPE P-5
FDOT INDEX 200, 201 & 211
EOP = 23.89
FL= 18.20 (S, N)
FL= 16.73 (E)
BOT= 14.73
- S-205** STA. 123+43.00, 61.00' LT
CONST. INLET TYPE P-6
FDOT INDEX 200, 201, & 211
EOP = 23.04
FL= 18.45 (N, S & E)
FL= 17.8 (W M.E.)
BOT= 16.45
- S-208** STA. 119+44.00, 26.14' RT
CONST. INLET TYPE P-5
FDOT INDEX 200, 201 & 211
EOP= 24.40
FL= 20.50 (W)
BOT= 18.50
- S-206** STA. 120+80, 23.11' RT
CONST. INLET TYPE P-1
FDOT INDEX 200, 201 & 210
EOP= 23.89
FL= 16.86 (W)
BOT= 14.86
- S-204** STA. 123+23, 31.00' RT
CONST. INLET TYPE P-6
FDOT INDEX 200, 201 & 211
EOP= 22.62
FL= 18.60 (W)
BOT= 16.60



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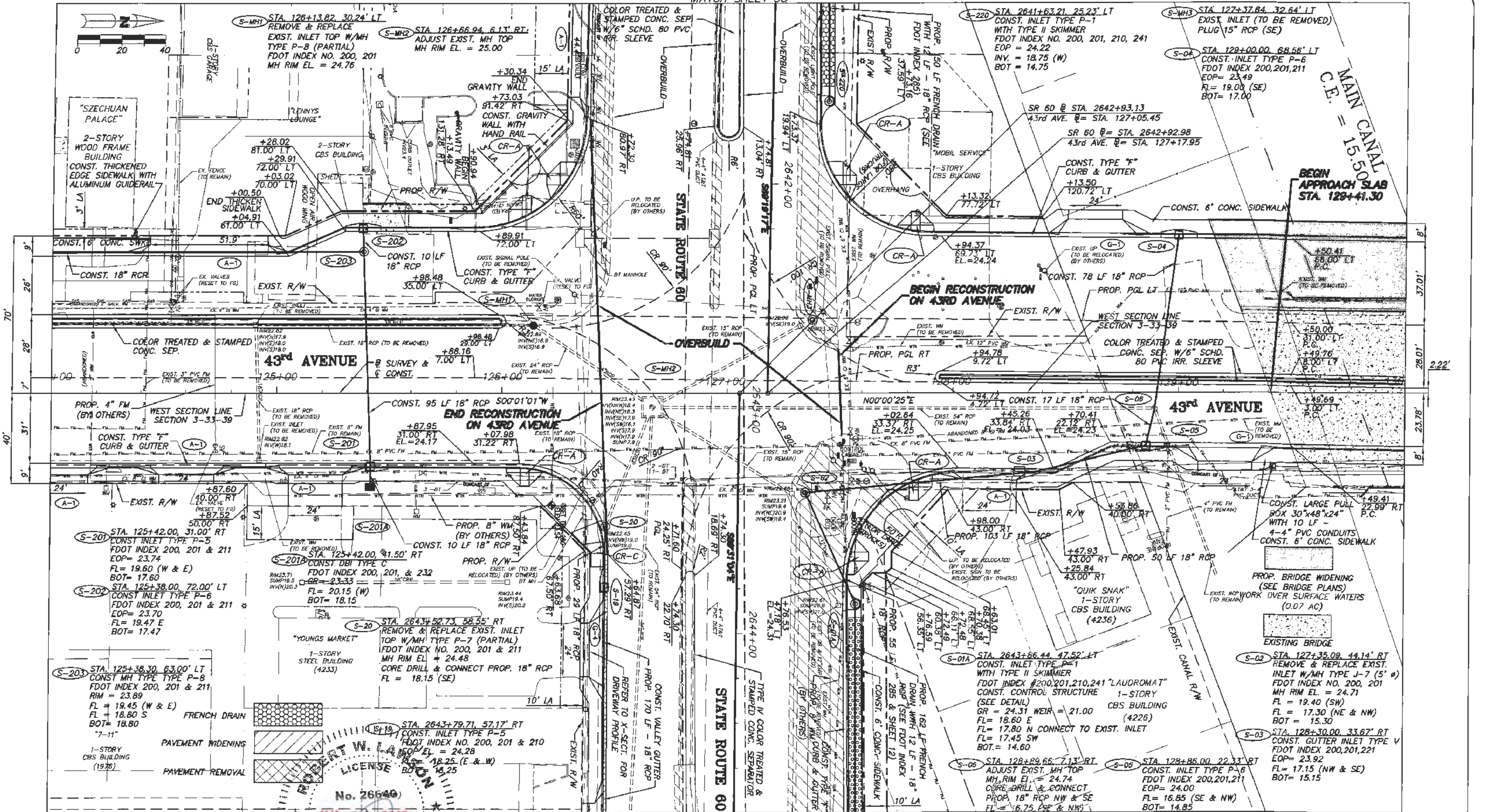
STATE OF FLORIDA
PROFESSIONAL ENGINEER

Department of Public Works
Engineering Division

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Project: PLAN SHEETS
FOR
SR 60 & 43RD AVENUE

Sheet: 31
Of: 99
Project No. LNW# WP1027



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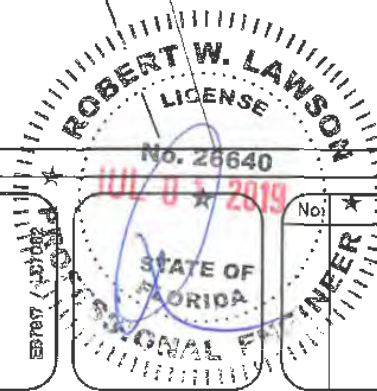
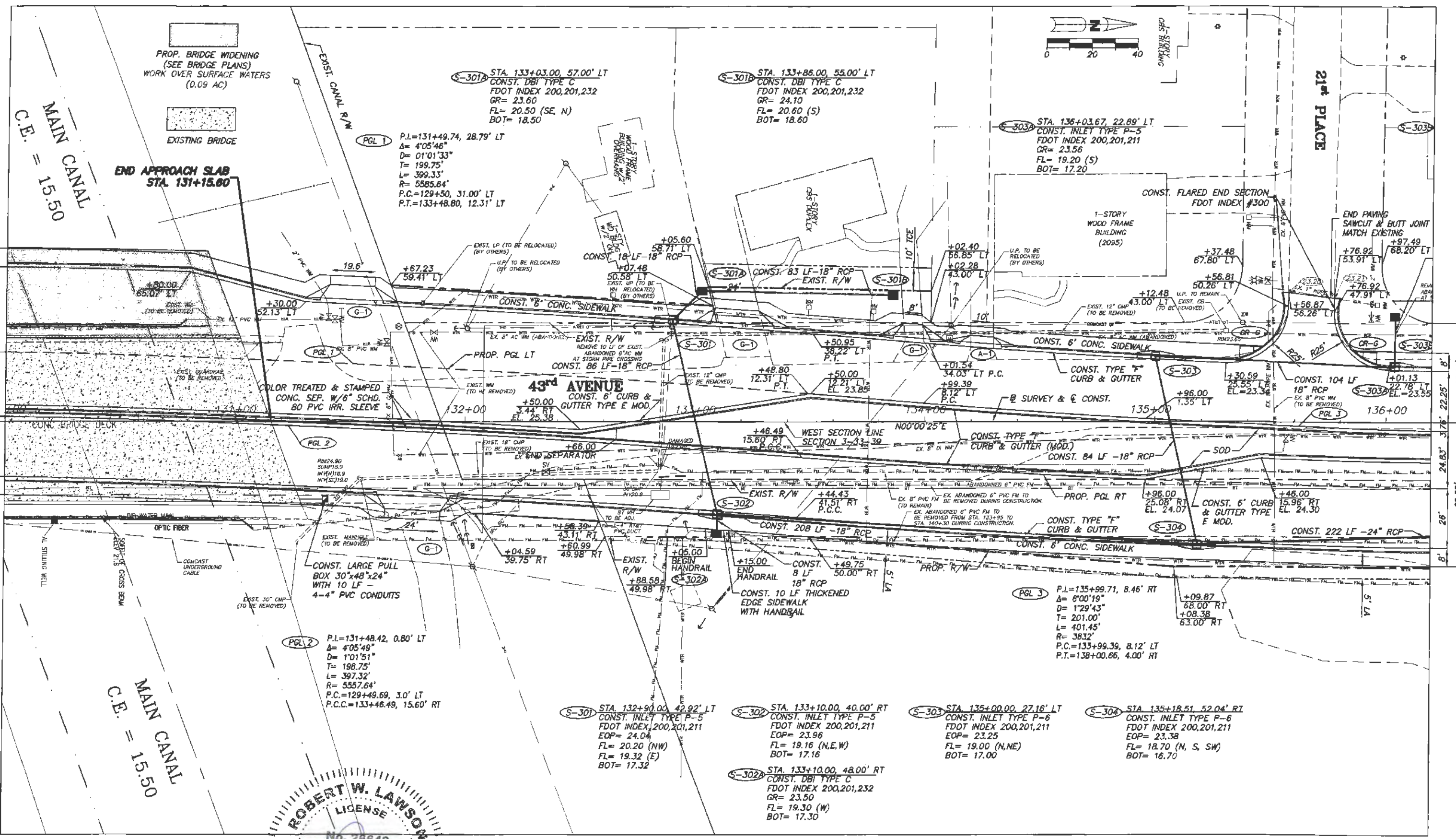
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 PROFESSIONAL ENGINEER
 No. 26640
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Indian River County
 Department of Public Works
 Engineering Division

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Project: PLAN SHEETS
 FOR
 SR 60 & 43RD AVENUE

Sheet: 32
 Of: 99
 Project No. _____
 LNW# WP1027



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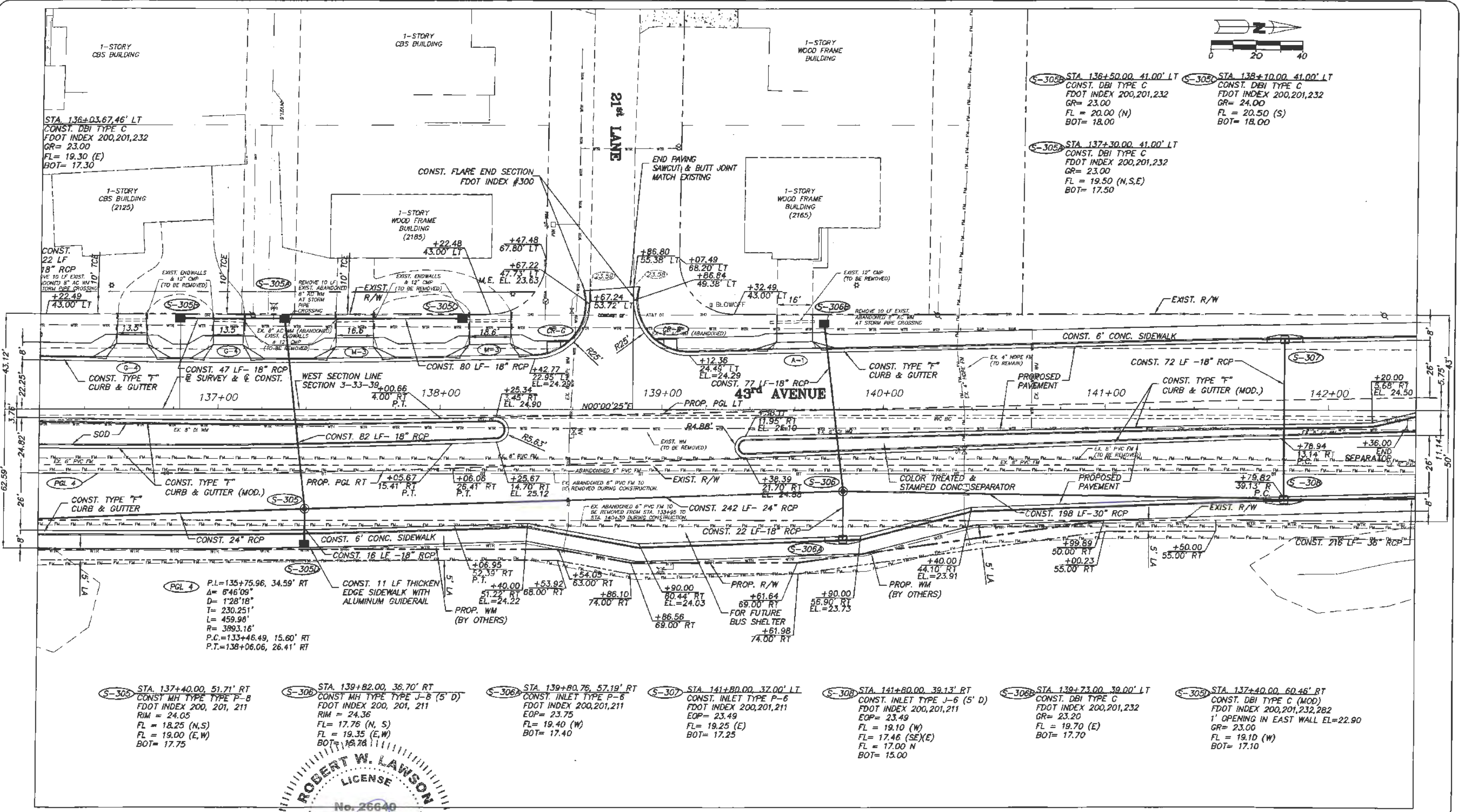
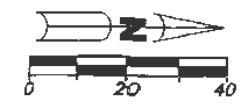
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 Field Book No:

Project:
 PLAN SHEETS
 FOR
 SR 60 & 43RD AVENUE

Sheet: 33
 Of: 99
 Project No.
 LNW# WP1027

No.	Revision:	By:	Date:



STA. 136+03.67, 46' LT
CONST. DBI TYPE C
FDOT INDEX 200,201,232
GR= 23.00
FL= 19.30 (E)
BOT= 17.30

S-305 STA. 136+50.00, 41.00' LT
CONST. DBI TYPE C
FDOT INDEX 200,201,232
GR= 23.00
FL = 20.00 (N)
BOT= 18.00

S-305 STA. 137+30.00, 41.00' LT
CONST. DBI TYPE C
FDOT INDEX 200,201,232
GR= 23.00
FL = 19.50 (N,S,E)
BOT= 17.50

P.L.=135+75.96, 34.59' RT
Δ= 6°46'09"
D= 1'28"18"
T= 230.251'
L= 459.98'
R= 3993.16'
P.C.=133+46.49, 15.60' RT
P.T.=138+06.06, 26.41' RT

S-305 STA. 137+40.00, 51.71' RT
CONST. MH TYPE TYPE P-8
FDOT INDEX 200, 201, 211
RIM = 24.05
FL = 18.25 (N,S)
FL = 19.00 (E,W)
BOT= 17.75

S-305 STA. 139+82.00, 38.70' RT
CONST. MH TYPE TYPE J-8 (S' D)
FDOT INDEX 200, 201, 211
RIM = 24.36
FL = 17.76 (N, S)
FL = 19.35 (E,W)
BOT= 17.76

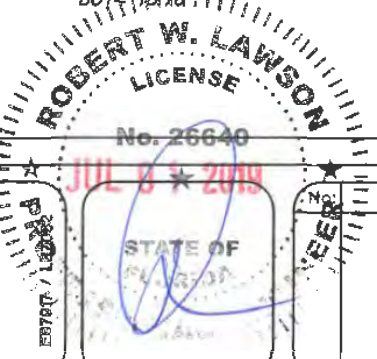
S-306 STA. 139+80.76, 57.19' RT
CONST. INLET TYPE P-6
FDOT INDEX 200,201,211
EOP= 23.75
FL = 19.40 (W)
BOT= 17.40

S-307 STA. 141+80.00, 37.00' LT
CONST. INLET TYPE P-6
FDOT INDEX 200,201,211
EOP= 23.49
FL = 19.25 (E)
BOT= 17.25

S-308 STA. 141+80.00, 39.13' RT
CONST. INLET TYPE J-6 (S' D)
FDOT INDEX 200,201,211
EOP= 23.49
FL = 19.10 (W)
FL = 17.46 (SE)(E)
FL = 17.00 N
BOT= 15.00

S-306 STA. 139+73.00, 39.00' LT
CONST. DBI TYPE C
FDOT INDEX 200,201,232
GR= 23.20
FL = 19.70 (E)
BOT= 17.70

S-305 STA. 137+40.00, 60.46' RT
CONST. DBI TYPE C (MOD)
FDOT INDEX 200,201,232,282
1' OPENING IN EAST WALL EL=22.90
GR= 23.00
FL = 19.10 (W)
BOT= 17.10



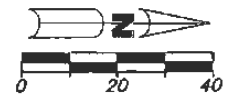
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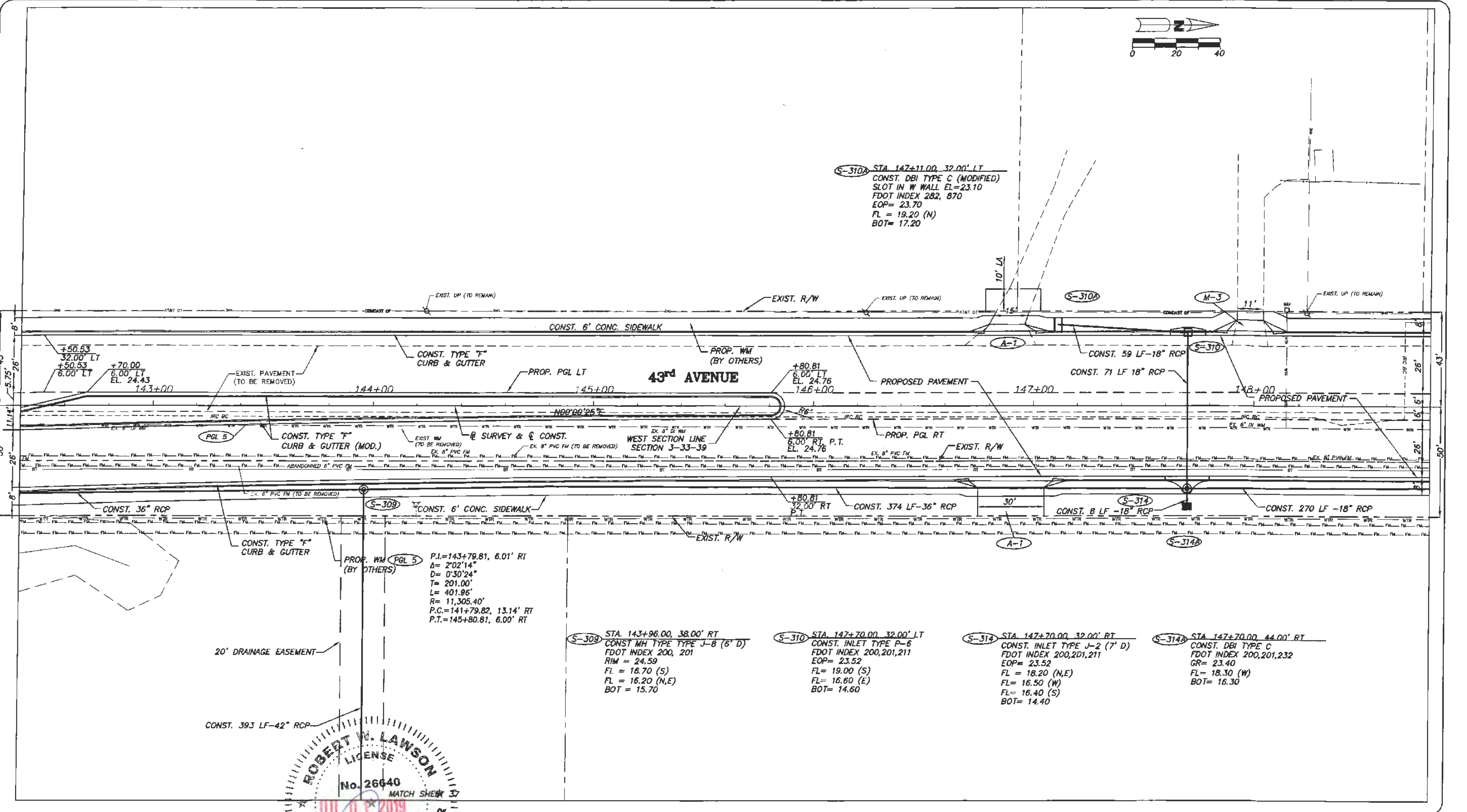
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Field Book No:

Project:
PLAN SHEETS
FOR
SR 60 & 43RD AVENUE

Sheet: 34
Of: 99
Project No.
LNW WP1027



S-310A STA 147+11.00, 32.00' LT
 CONST. DBI TYPE C (MODIFIED)
 SLOT IN W WALL EL=23.10
 FDOT INDEX 282, 870
 EOP= 23.70
 FL = 19.20 (N)
 BOT= 17.20



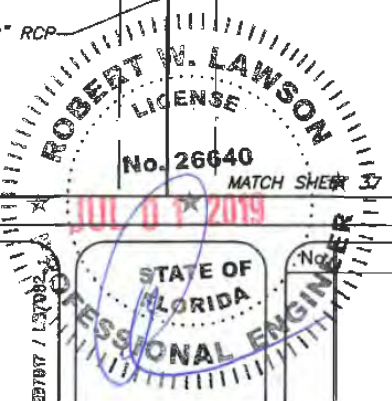
PROP. WM (BY OTHERS) PGL 5
 P.I.=143+79.81, 6.01' RT
 Δ= 2'02"14"
 D= 0'30"24"
 T= 201.00'
 L= 401.96'
 R= 11,305.40'
 P.C.=141+79.82, 13.14' RT
 P.T.=145+80.81, 6.00' RT

S-308 STA 143+96.00, 38.00' RT
 CONST. MH TYPE TYPE J-B (6" D)
 FDOT INDEX 200, 201
 RIM = 24.59
 FL = 16.70 (S)
 FL = 16.20 (N,E)
 BOT = 15.70

S-310 STA 147+70.00, 32.00' LT
 CONST. INLET TYPE P-6
 FDOT INDEX 200,201,211
 EOP= 23.52
 FL = 19.00 (S)
 FL = 16.60 (E)
 BOT= 14.60

S-314 STA 147+70.00, 32.00' RT
 CONST. INLET TYPE J-2 (7" D)
 FDOT INDEX 200,201,211
 EOP= 23.52
 FL = 18.20 (N,E)
 FL = 16.50 (W)
 FL = 16.40 (S)
 BOT= 14.40

S-314A STA 147+70.00, 44.00' RT
 CONST. DBI TYPE C
 FDOT INDEX 200,201,232
 GR= 23.40
 FL = 18.30 (W)
 BOT= 16.30



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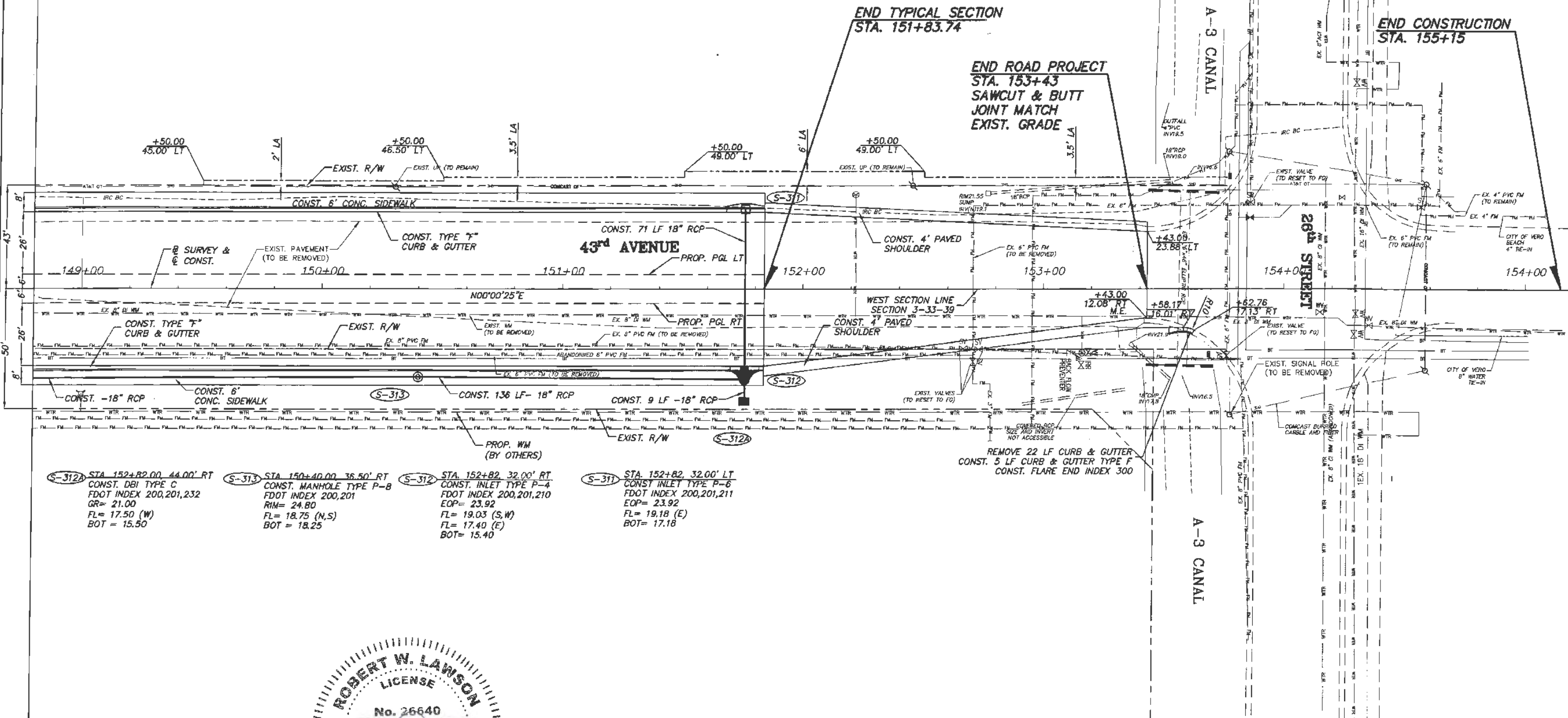
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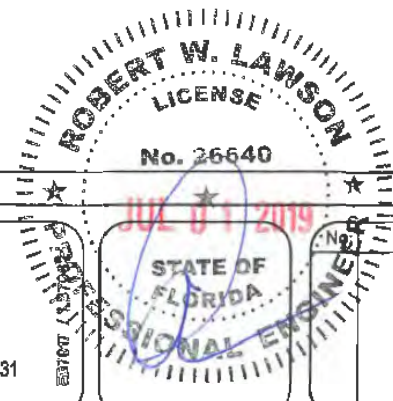
Project:
 PLAN SHEETS
 FOR
 SR 60 & 43RD AVENUE

Sheet: 35
 Of: 99
 Project No.
 LNW# WP1027

- NOTE:
- CONTRACTOR TO REMOVE, STORE DURING CONSTRUCTION, AND RELOCATE AT A LOCATION DIRECTED BY THE ENGINEER THE EXISTING WOODEN CROSS MONUMENT AND FLOWERS AS CLOSE AS POSSIBLE TO THE CURRENT LOCATION UPON COMPLETION OF CONSTRUCTION.
 - CONTRACTOR TO INSPECT THE EXISTING 48" x 76" PIPES AT THE A-3 CANAL AND REPLACE EXISTING PIPES AS DIRECTED BY THE ENGINEER.



- S-312A STA 152+82.00 44.00' RT
CONST. DBI TYPE C
FDOT INDEX 200,201,232
GR= 21.00
FL= 17.50 (W)
BOT = 15.50
- S-313 STA 150+40.00 36.50' RT
CONST. MANHOLE TYPE P-8
FDOT INDEX 200,201
RIM= 24.80
FL= 18.75 (N,S)
BOT = 18.25
- S-312 STA 152+82 32.00' LT
CONST. INLET TYPE P-6
FDOT INDEX 200,201,210
EOP= 23.92
FL= 19.03 (S,W)
FL= 17.40 (E)
BOT= 15.40
- S-311 STA 152+82 32.00' LT
CONST. INLET TYPE P-6
FDOT INDEX 200,201,211
EOP= 23.92
FL= 19.18 (E)
BOT= 17.18



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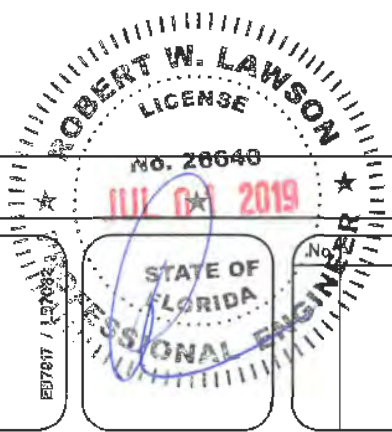
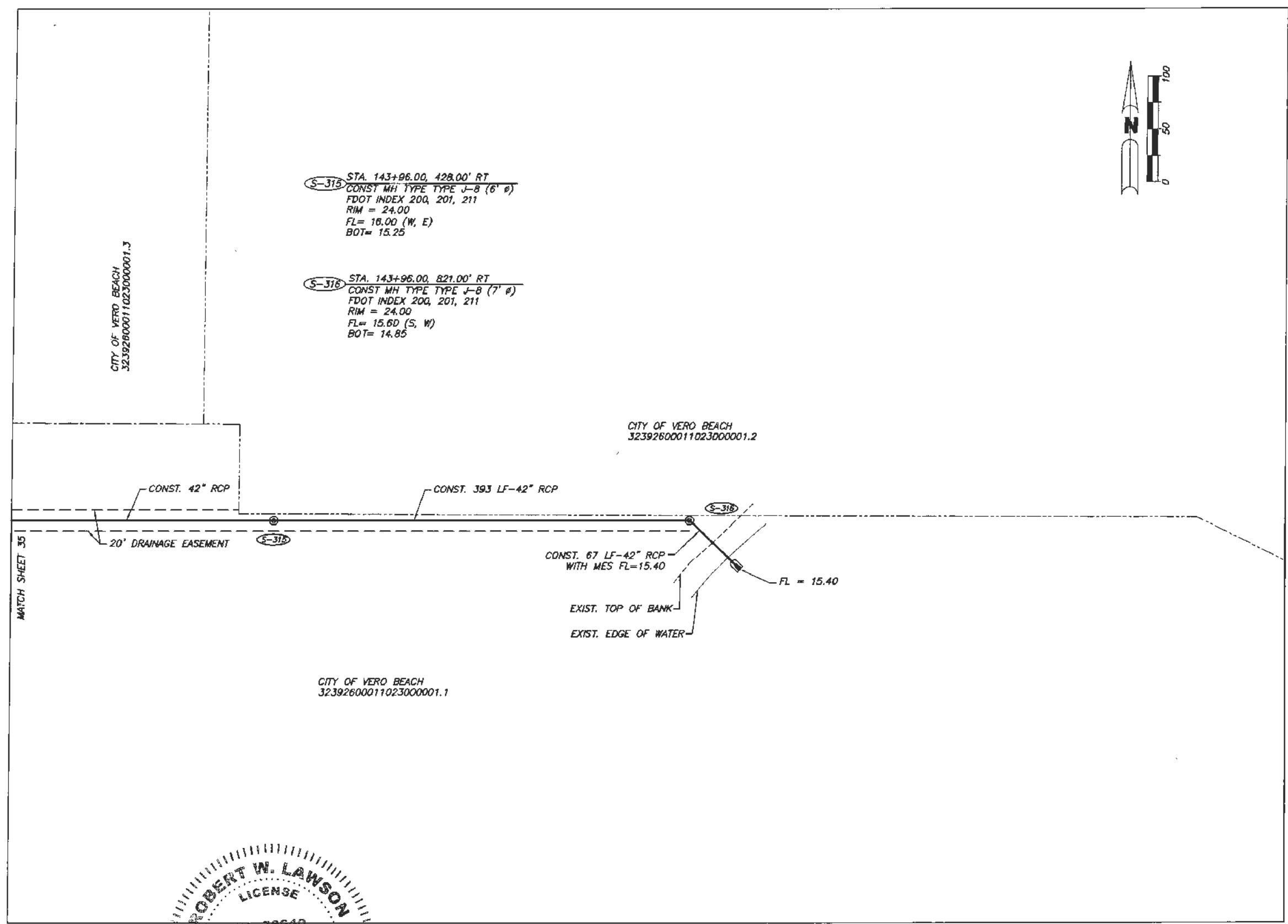
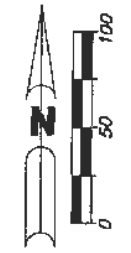
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Scale: 1" = 40'
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Checked: HWD
Date: 6/2017
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Project:
PLAN SHEETS
FOR
SR 60 & 43RD AVENUE

Sheet: 36
Of: 99
Project No.
LN# WP1027



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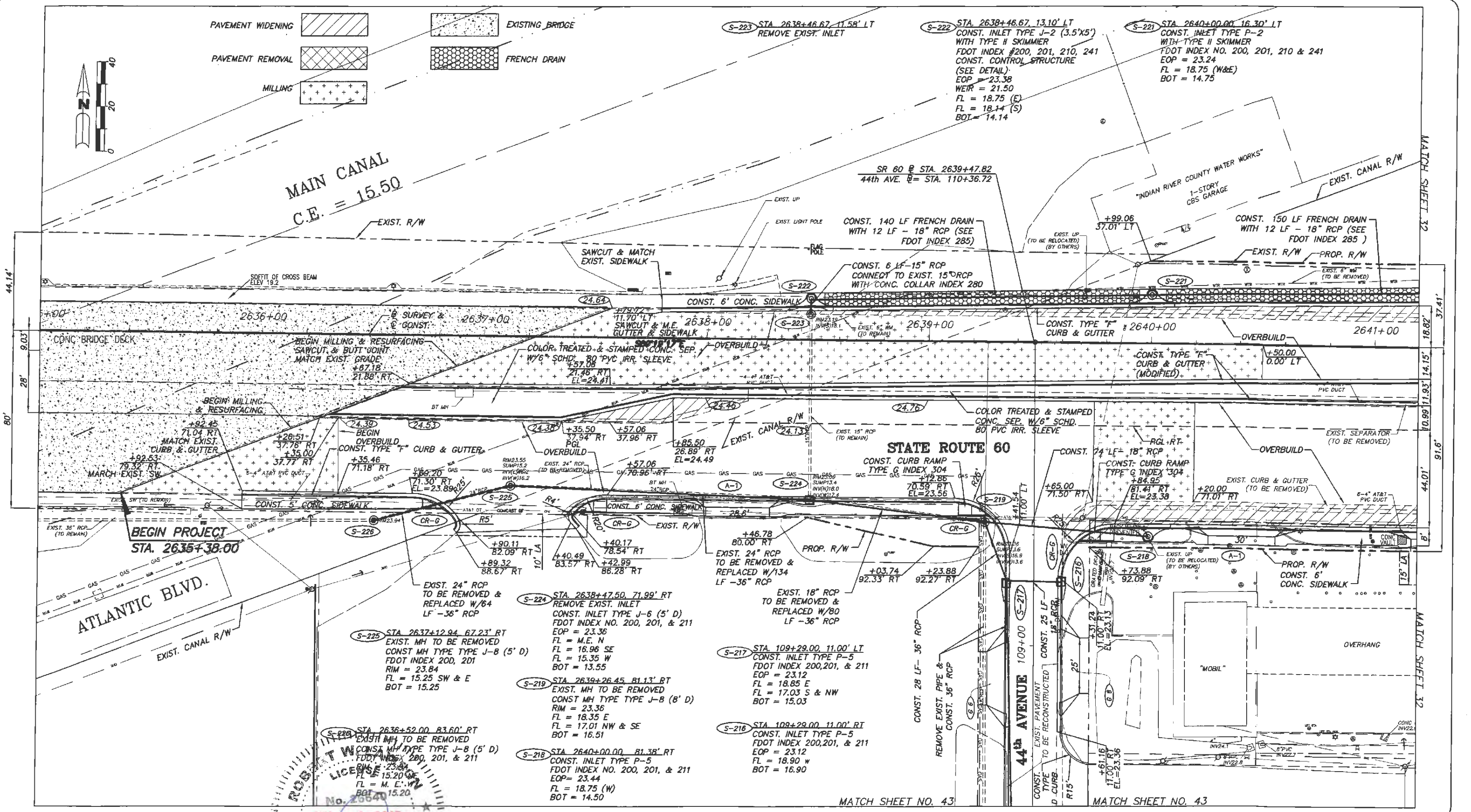
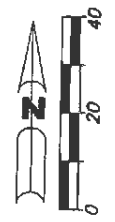
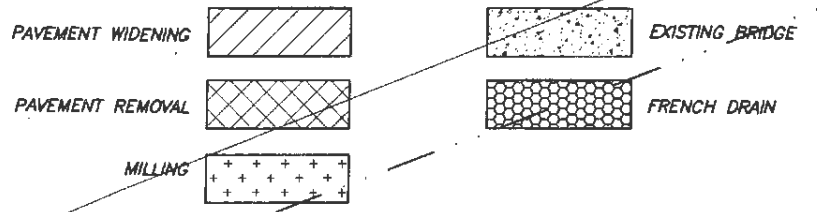
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 PLAN SHEETS
 FOR
 SR 60 & 43RD AVENUE

Sheet: 37
 Of: 99
 Project No.
 LN# WP1027

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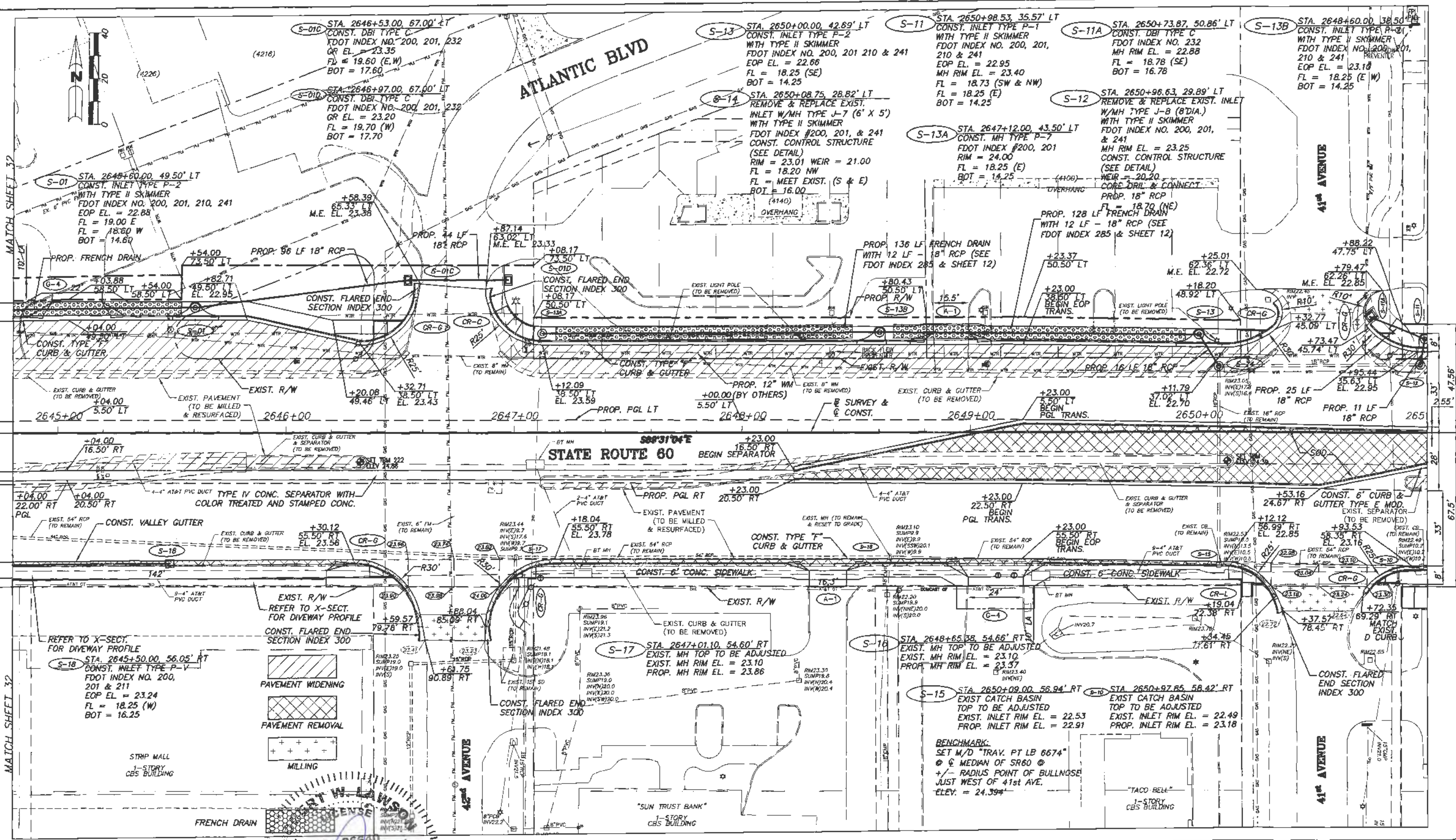
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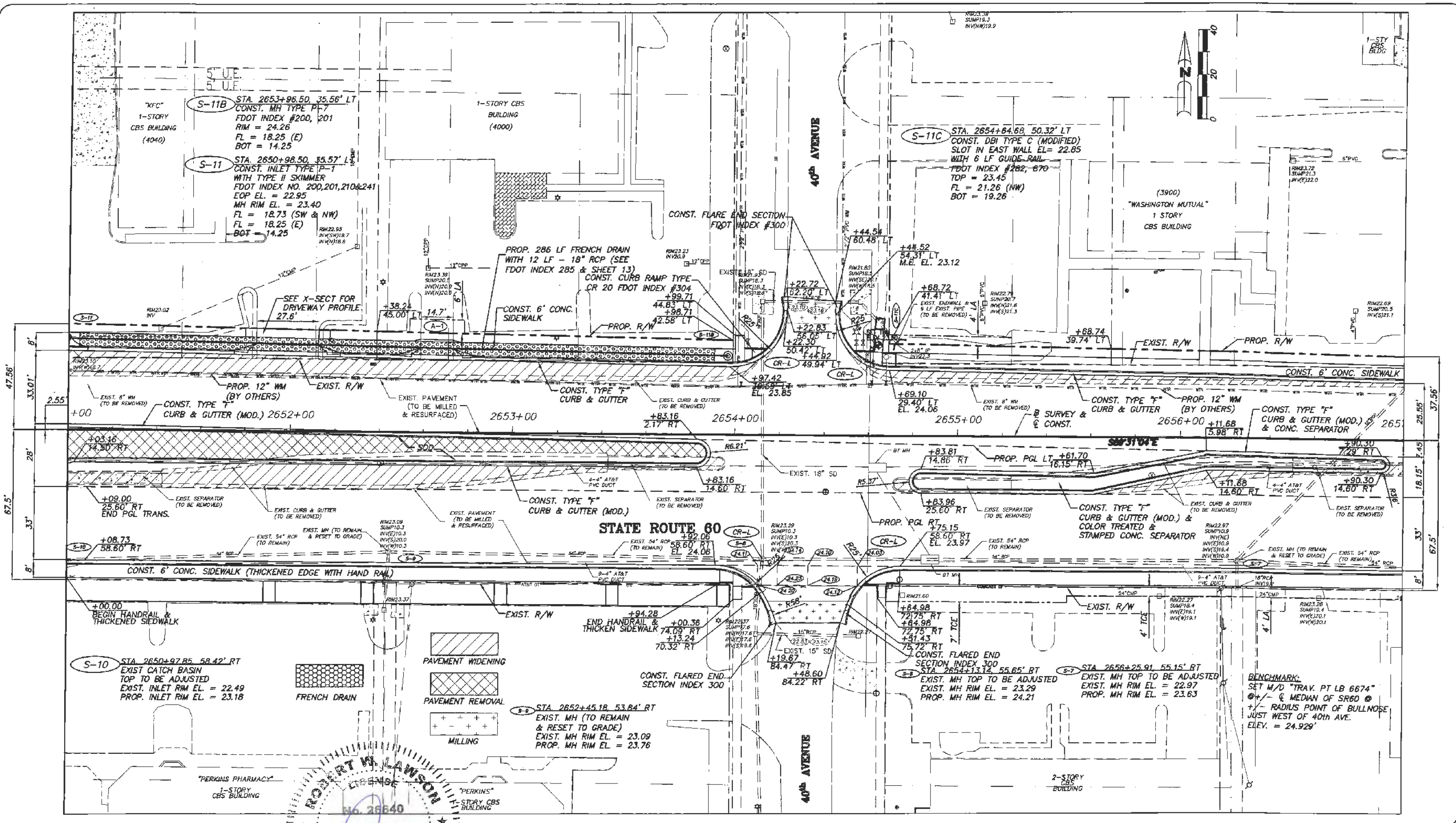
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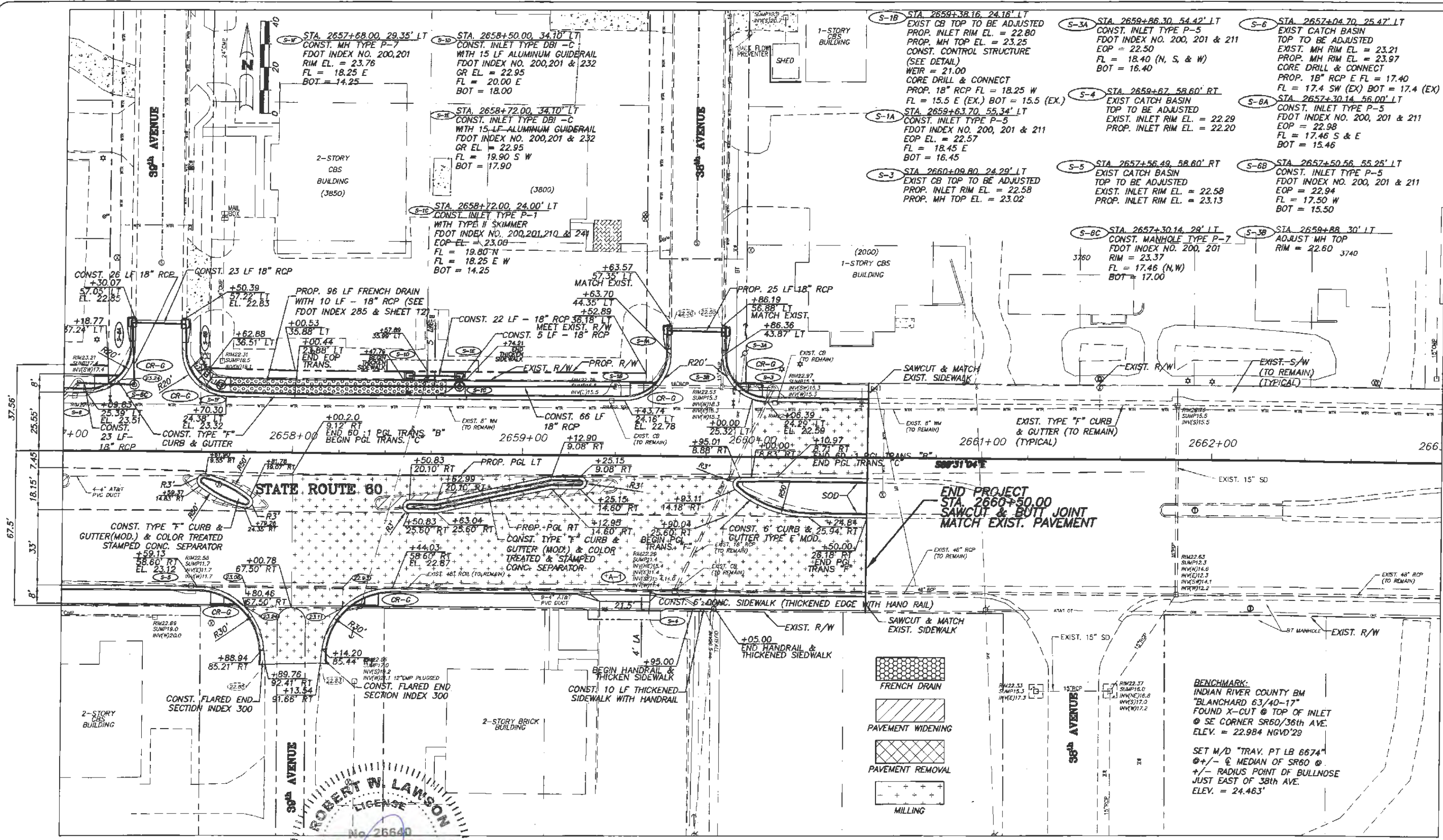
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Project:
 PLAN SHEETS
 FOR
SR 60 & 43RD AVENUE

Sheet: 38
 Of: 99
 Project No.
 LNW# WP1027

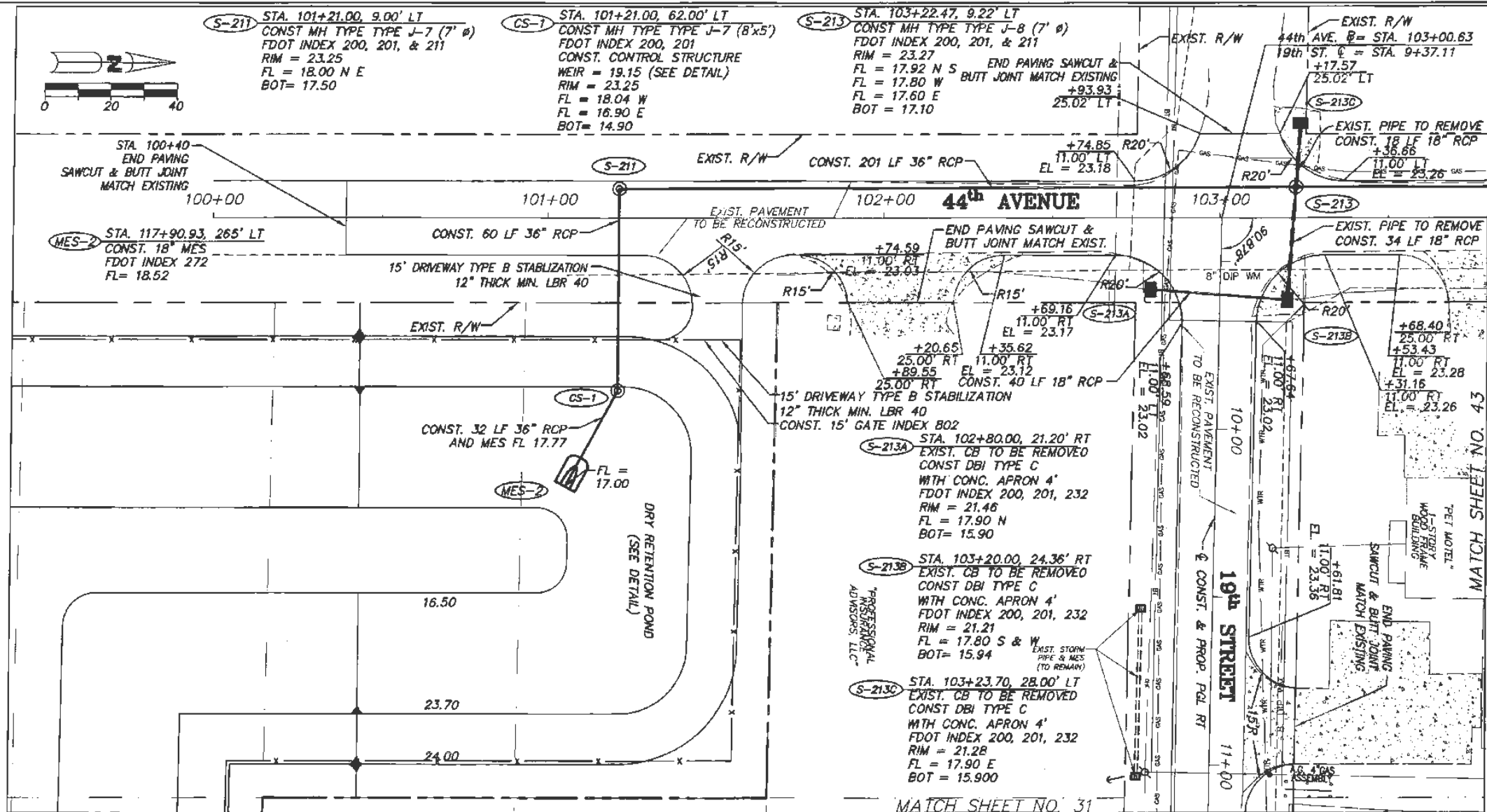




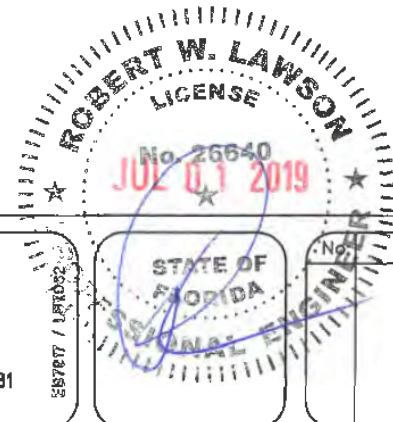


BENCHMARK:
 INDIAN RIVER COUNTY BM
 "BLANCHARD 63/40-17"
 FOUND X-CUT @ TOP OF INLET
 @ SE CORNER SR60/36th AVE.
 ELEV. = 22.984 NGVD'29

SET M/D "TRAV. PT LB 6674"
 @ +/- @ MEDIAN OF SR60 @
 +/- RADIUS POINT OF BULLNOSE
 JUST EAST OF 38th AVE.
 ELEV. = 24.463'



44TH AVENUE PLAN SHEET



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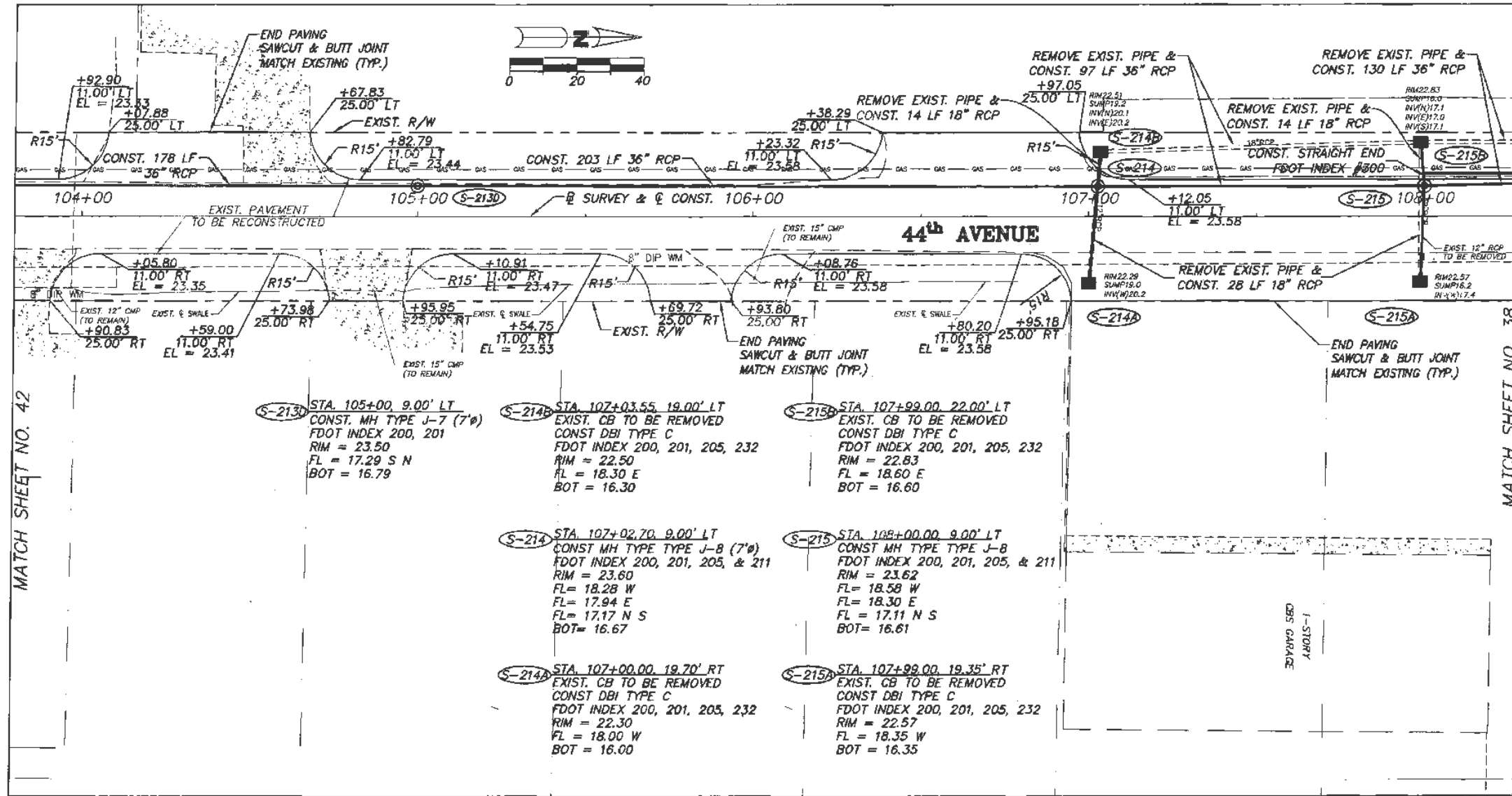
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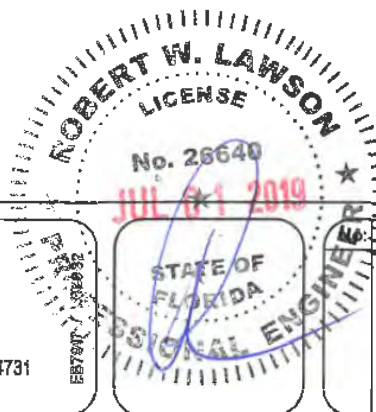
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Project:
 PLAN SHEETS
 FOR
 SR 60 & 43RD AVENUE


Sheet: 42
 Of: 99
 Project No.
 LNW# WP1027



44TH AVENUE PLAN SHEET



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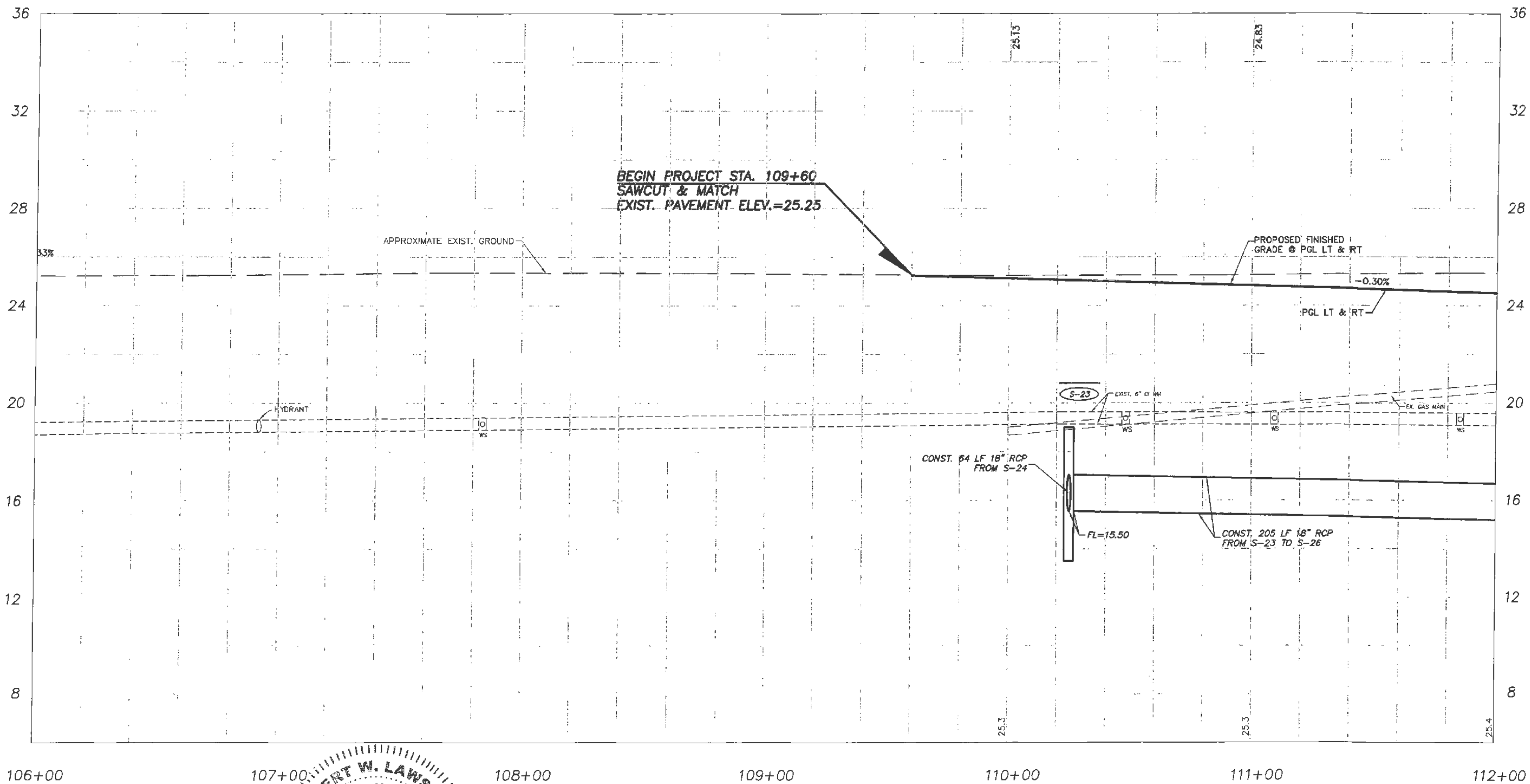

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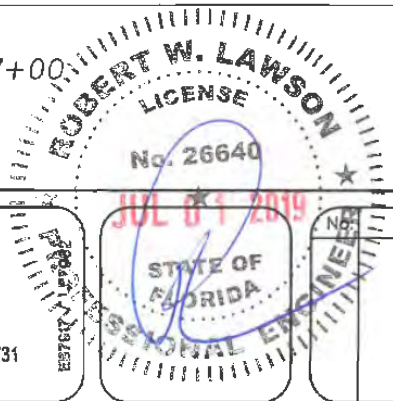
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 Of: 99
 Project No.
 LNW# WP1027


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43RD AVENUE



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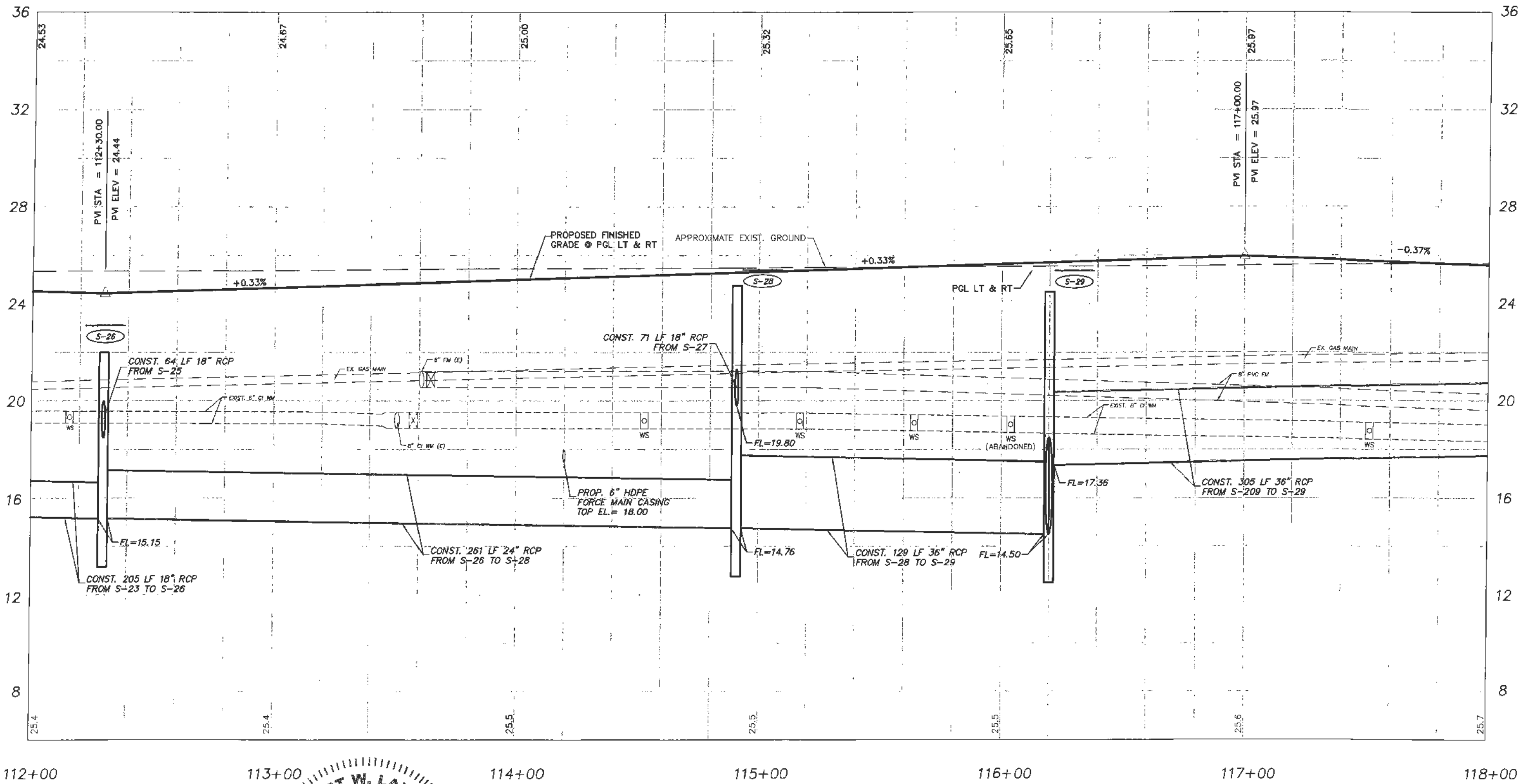

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Project:
 PROFILE SHEETS
 FOR
 SR 60 & 43RD AVENUE

Sheet: 44
 Of: 99
 Project No.
 LNW WP1027


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43RD AVENUE

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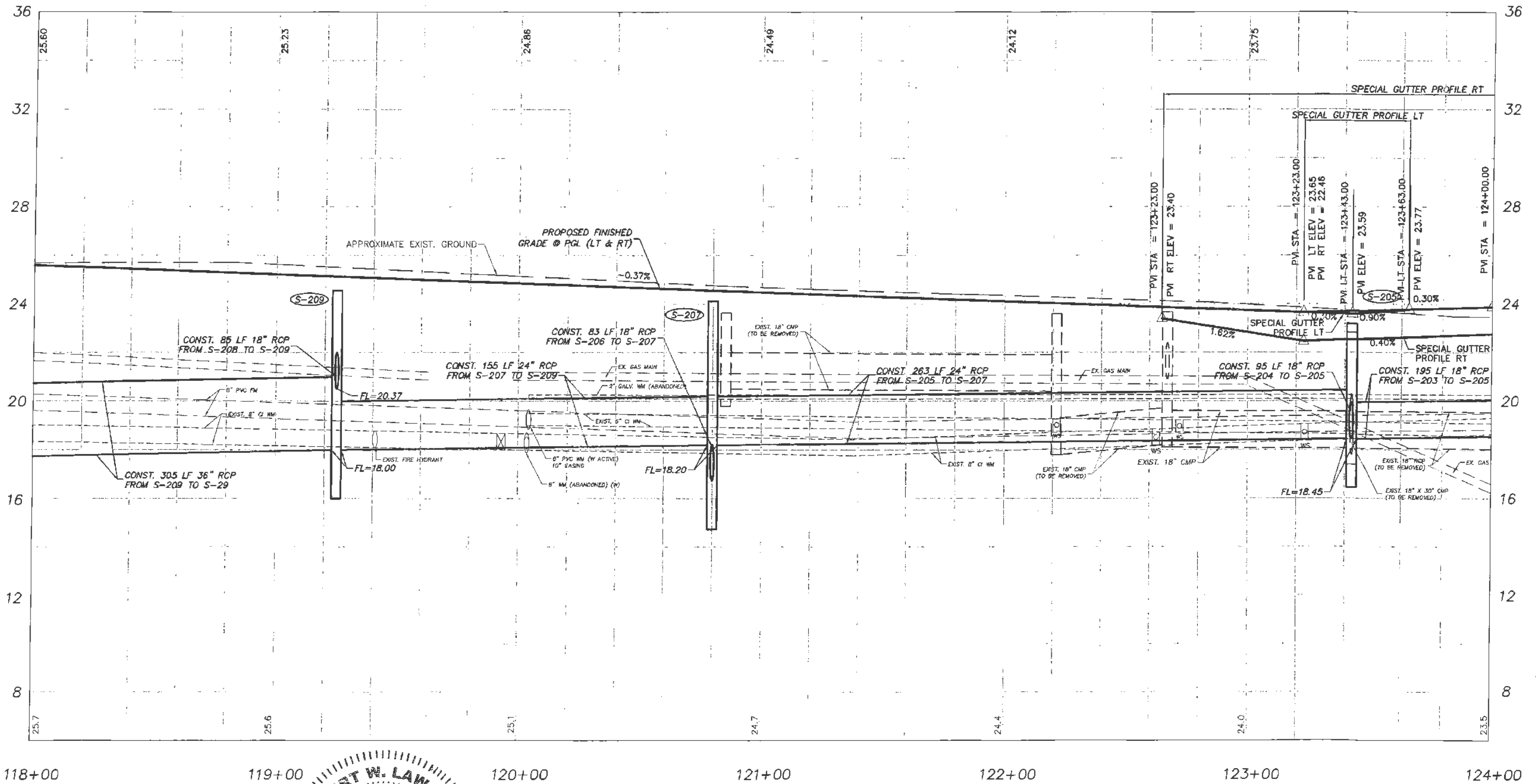
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Project:
PROFILE SHEETS
FOR
SR 60 & 43RD AVENUE

Sheet: 45
Of: 99
Project No.
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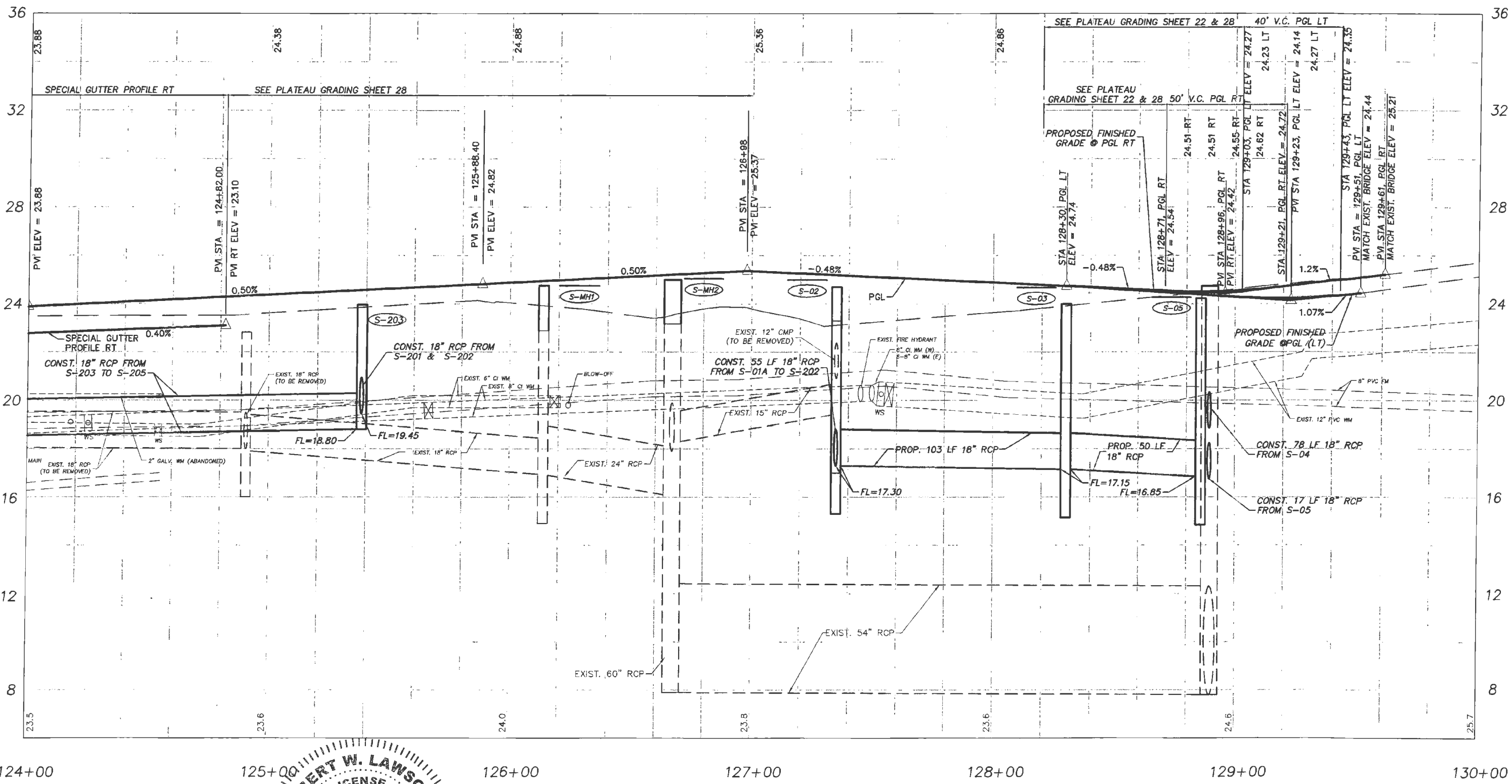

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 PROFILE SHEETS
 FOR
SR 60 & 43RD AVENUE


Sheet: 46
 Of: 99
 Project No.
 LNW# WP1027


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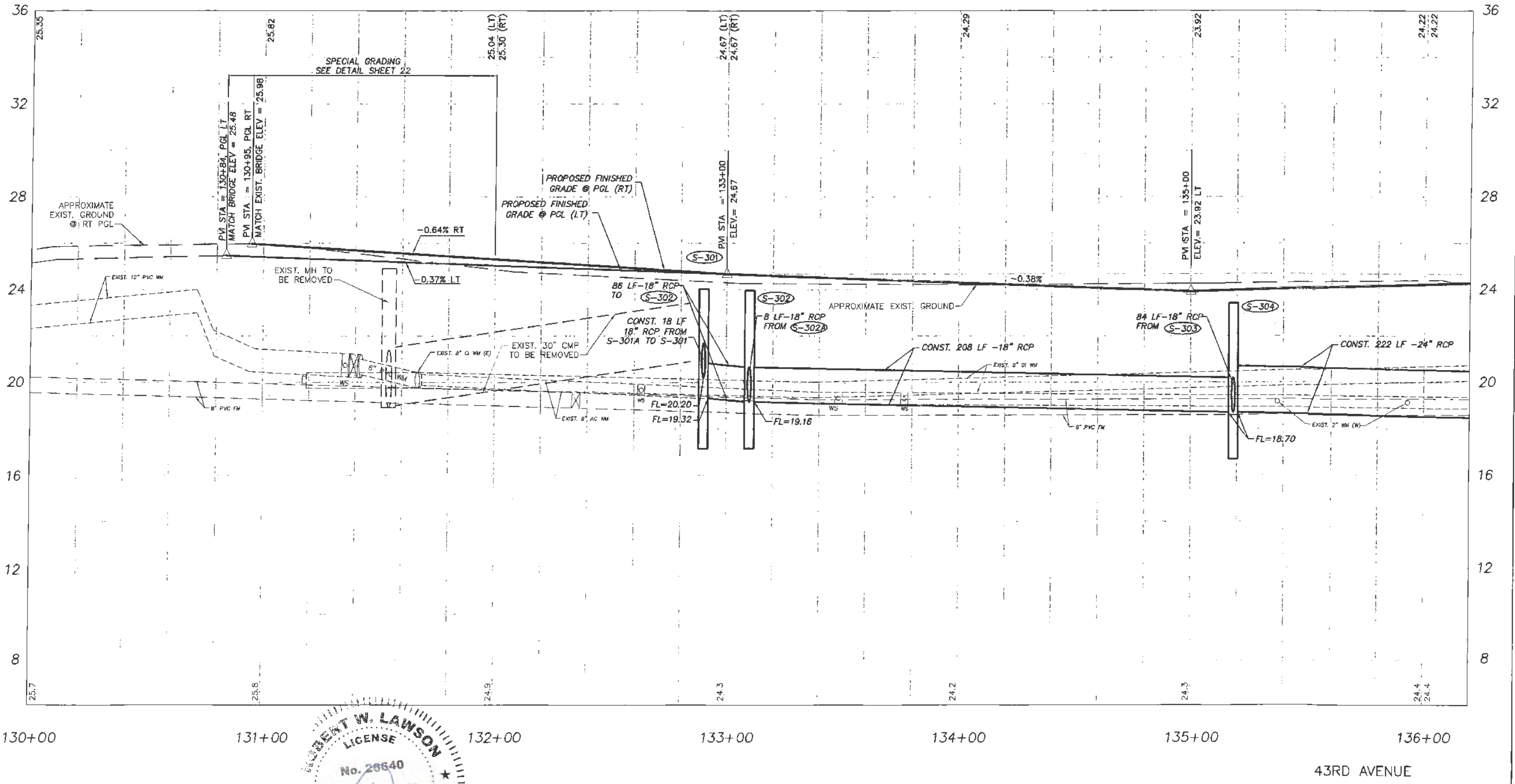

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 PROFILE SHEETS
 FOR
SR 60 & 43RD AVENUE

Sheet: 47
 Of: 99
 Project No.
 LN# WP1027


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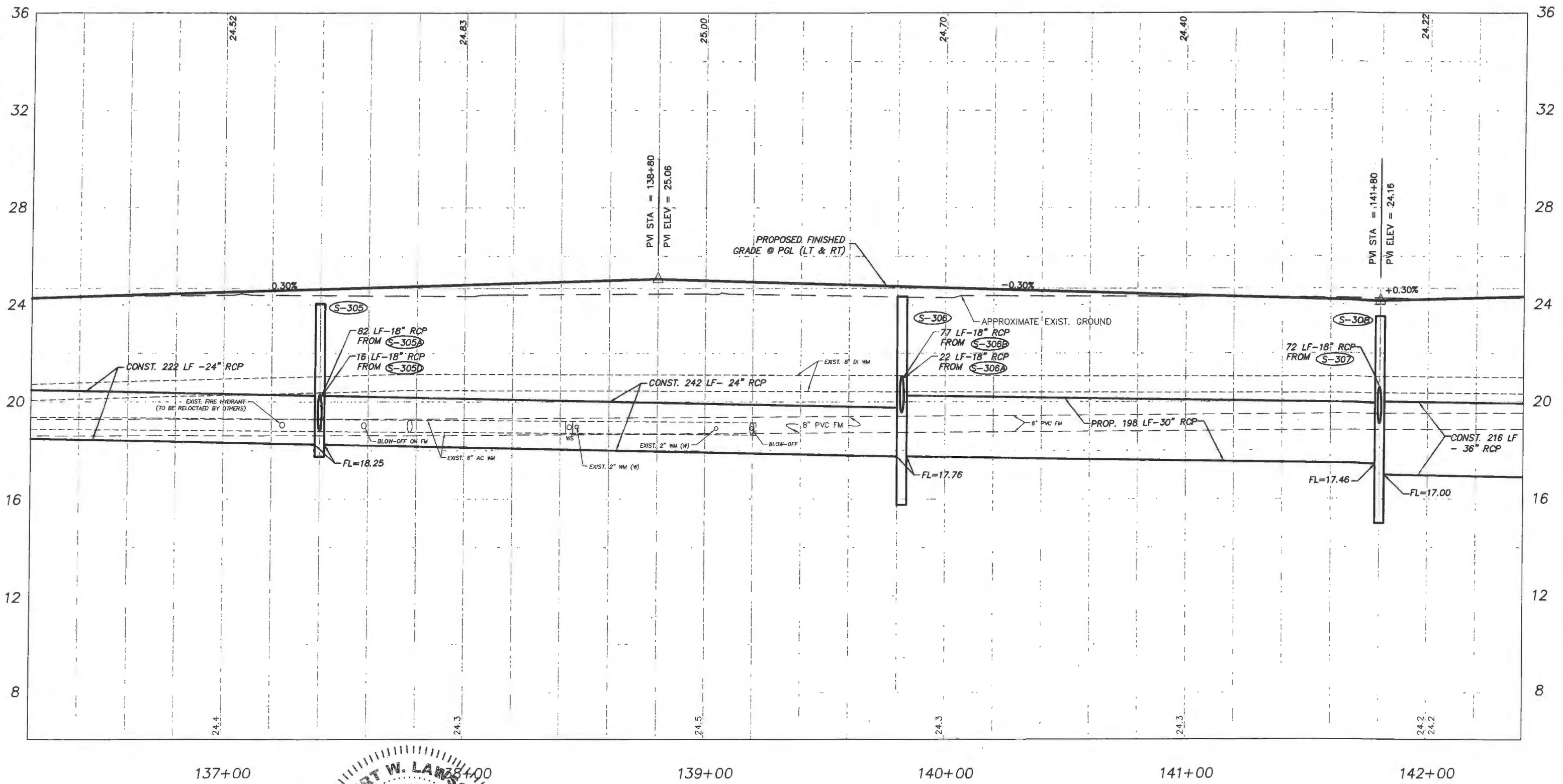
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Project:
 PROFILE SHEETS
 FOR
 SR 60 & 43RD AVENUE

Sheet 48
 Of 99
 Project No.
 LNWF WP1027



137+00

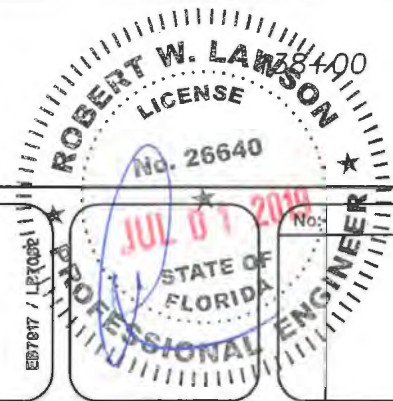
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43RD AVENUE



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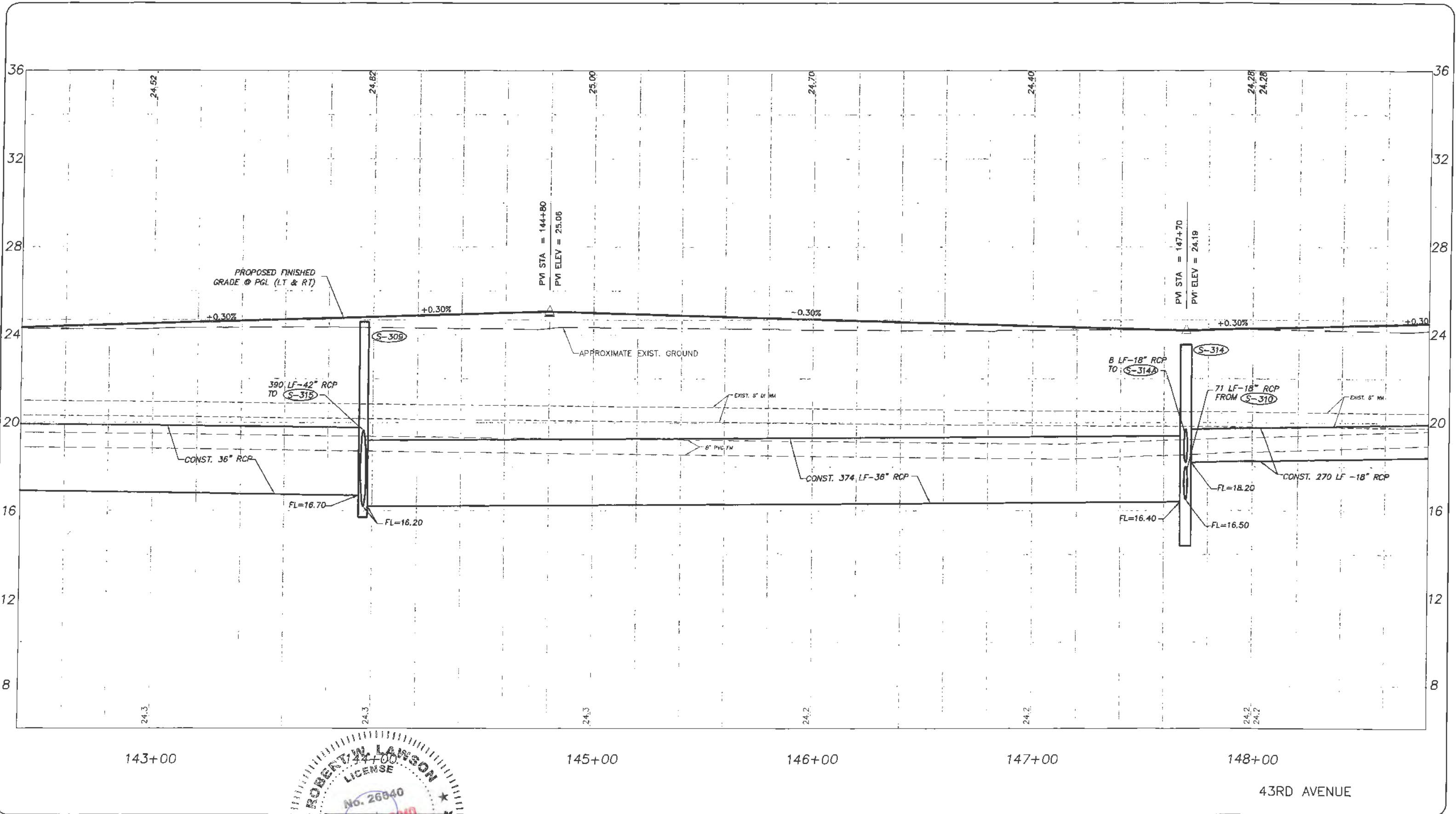
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Project:
PROFILE SHEETS
FOR
SR 60 & 43RD AVENUE

Sheet: 49
Of: 99
Project No.
LNW# WP1027

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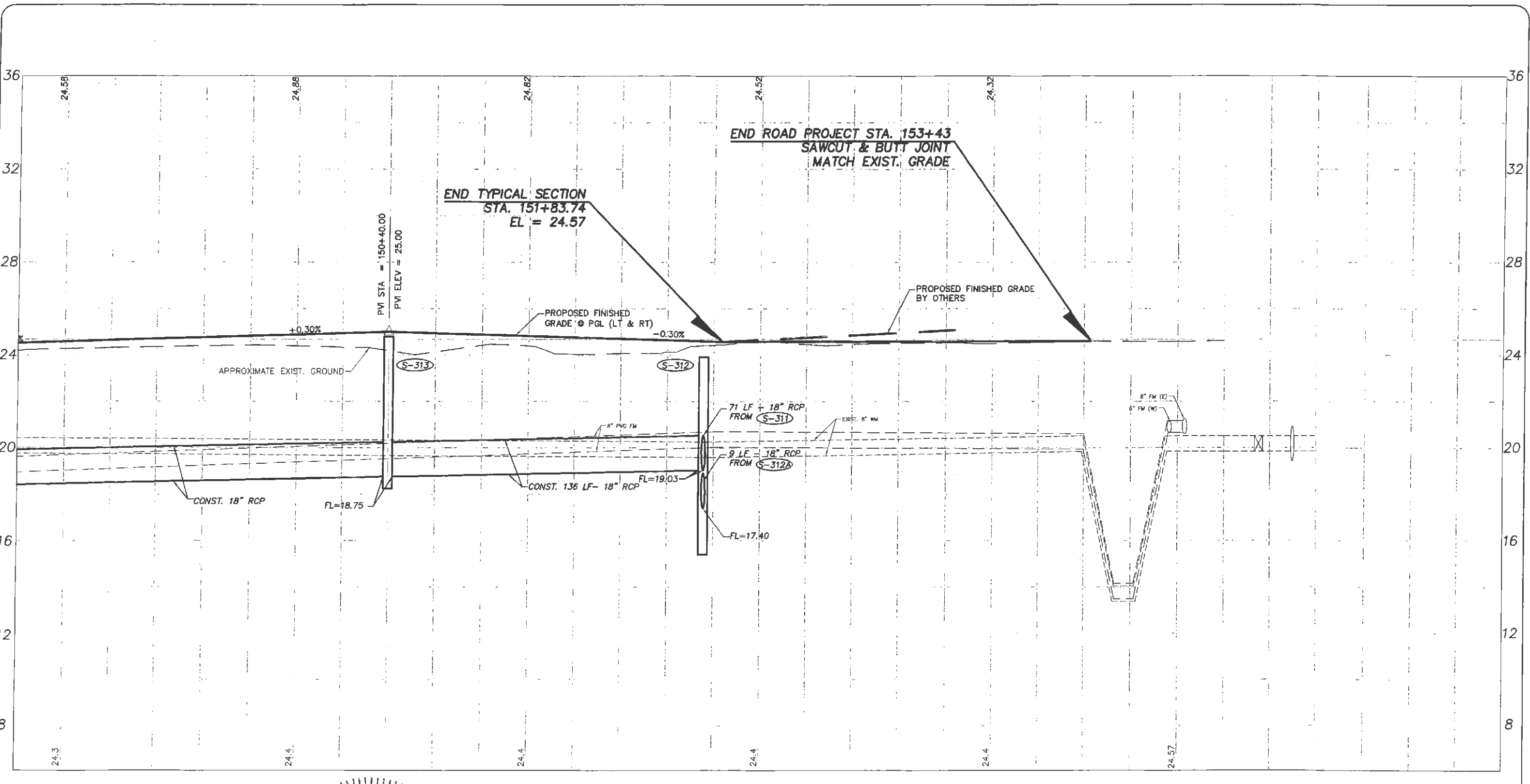
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 FOR
 SR 60 & 43RD AVENUE

Sheet: 50
 Of: 99
 Project No.
 LNW# WP1027

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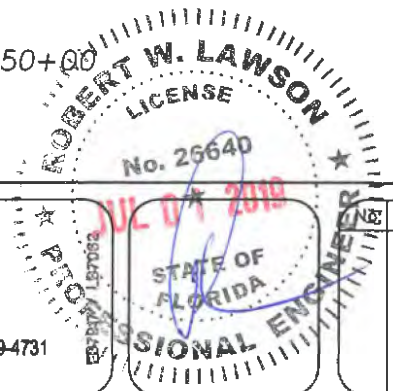
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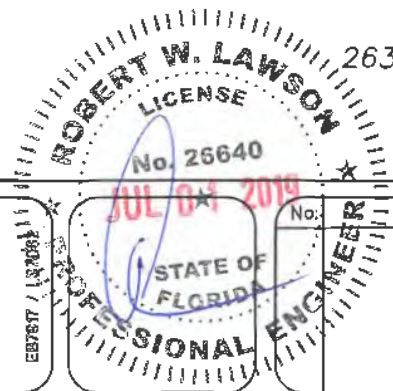
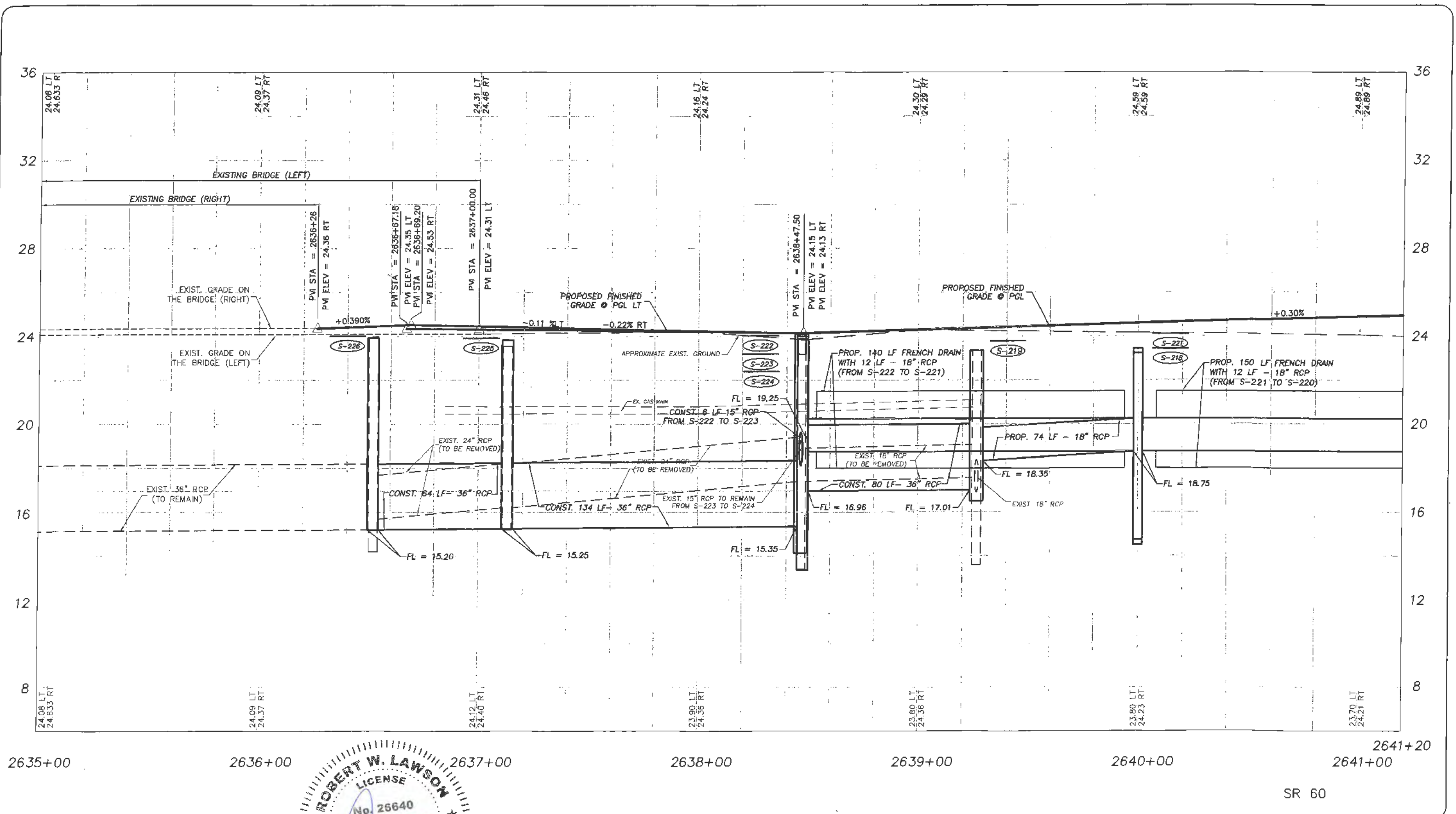
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FOR
SR 60 & 43RD AVENUE

Sheet: 51
Of: 99
Project No.
LNW# WP1027

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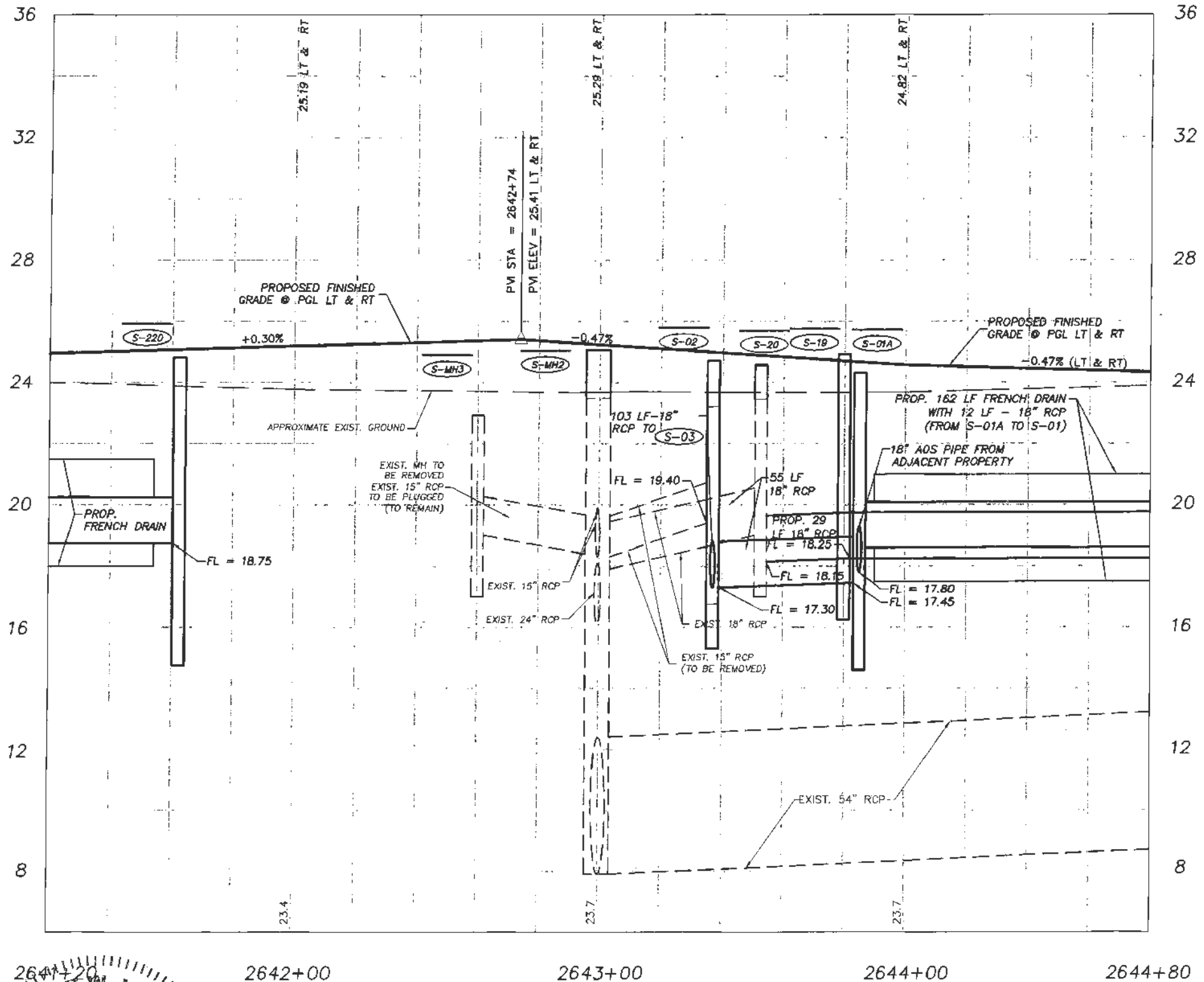
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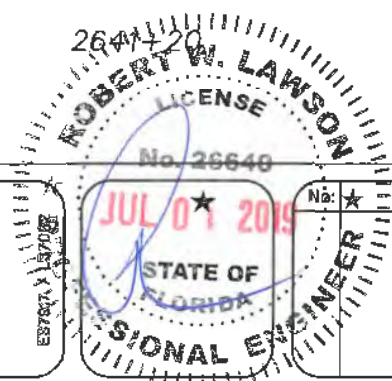
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 FOR
 SR 60 & 43RD AVENUE

Sheet: 52
 Of: 99
 Project No.
 LNW# WP1027



SR 60



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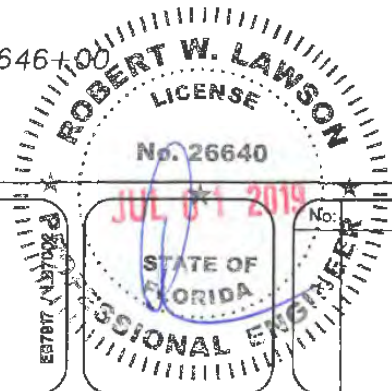
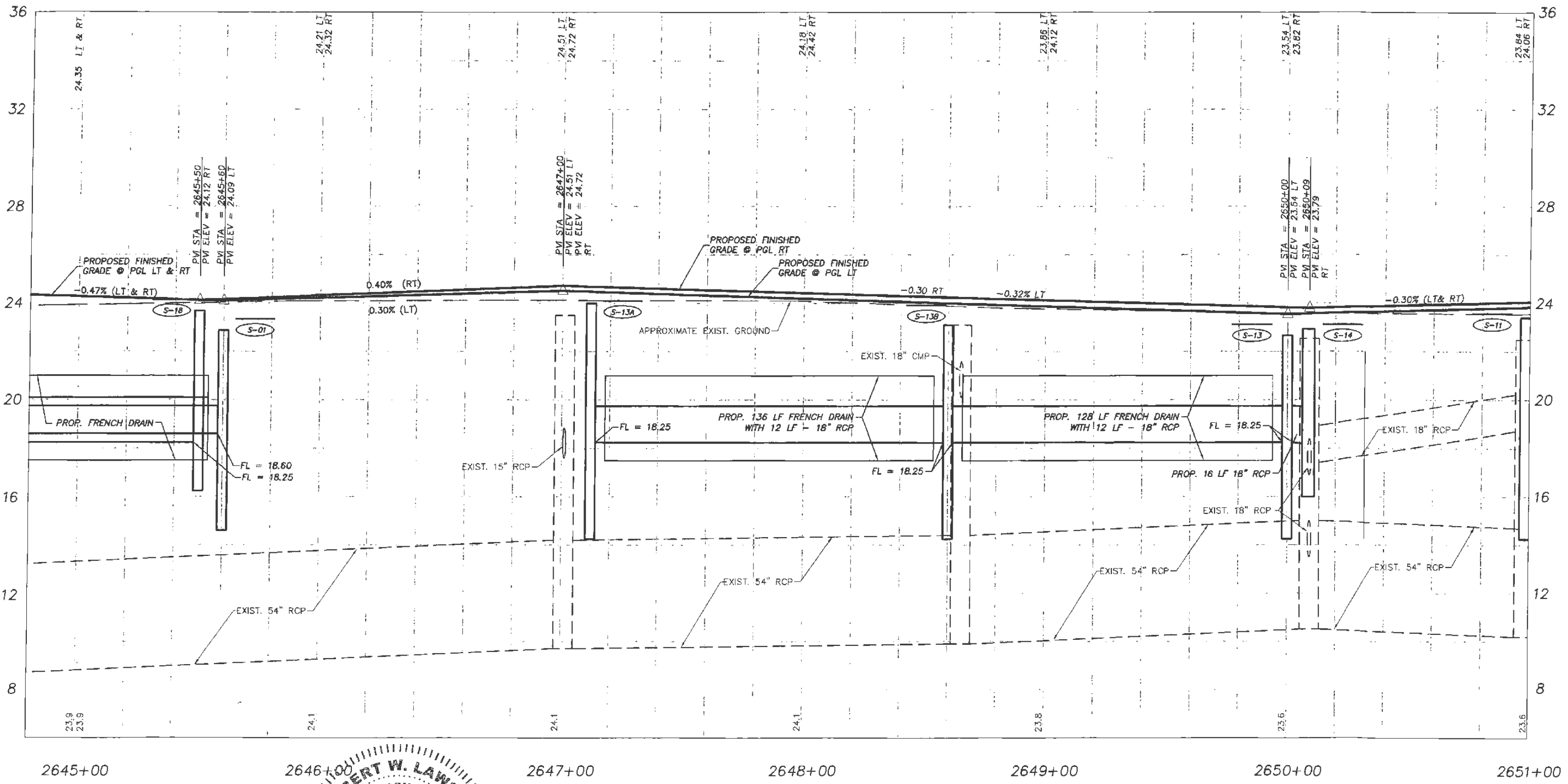
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 FOR
 SR 60 & 43RD AVENUE

Sheet: 53
 Of: 99
 Project No.
 LNW# WP1027

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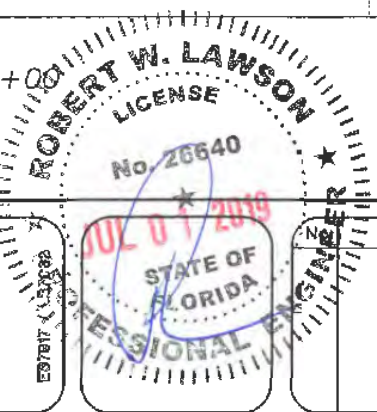
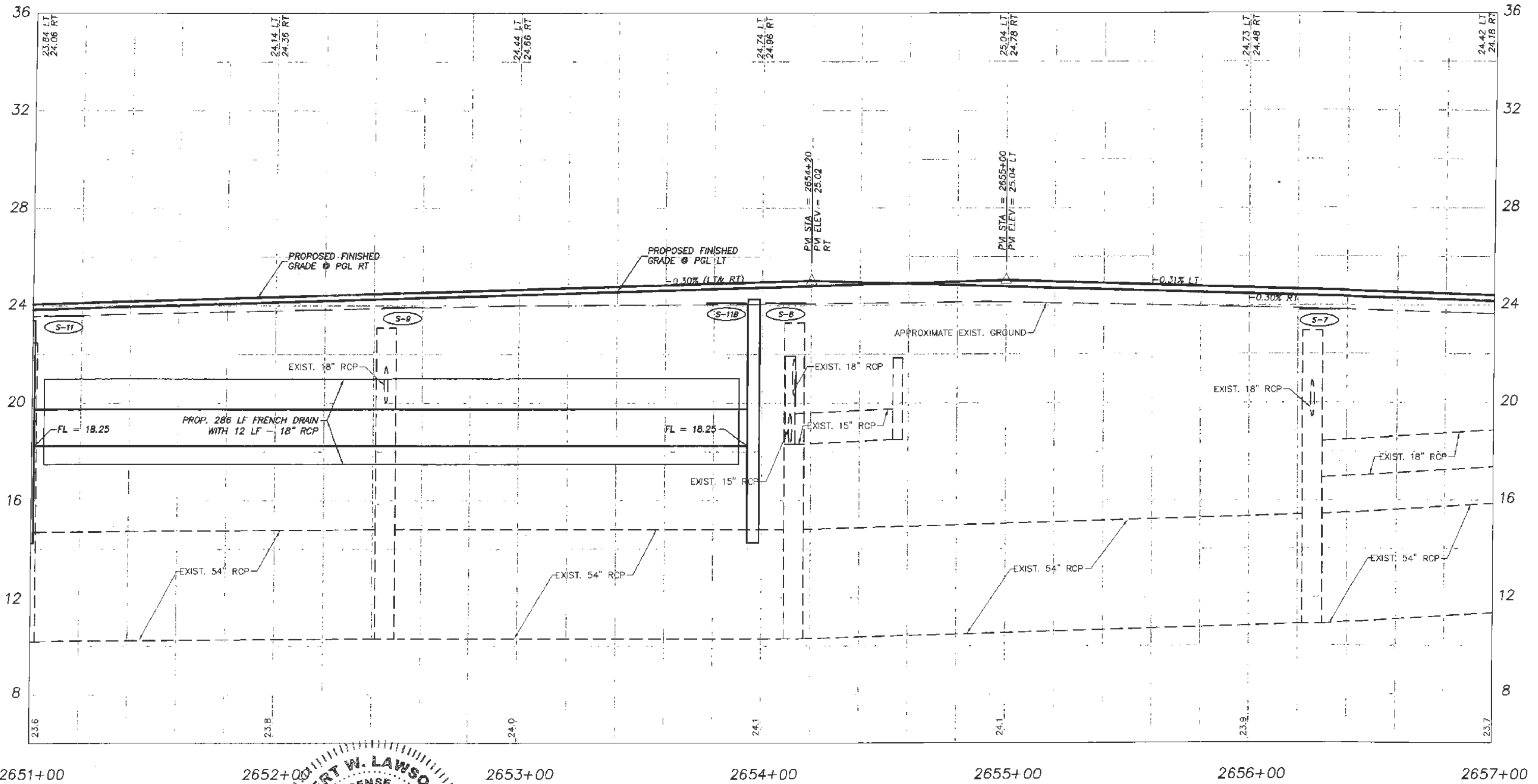
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 FOR
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Sheet: 54
 Of: 99
 Project No.
 LN# WP1027




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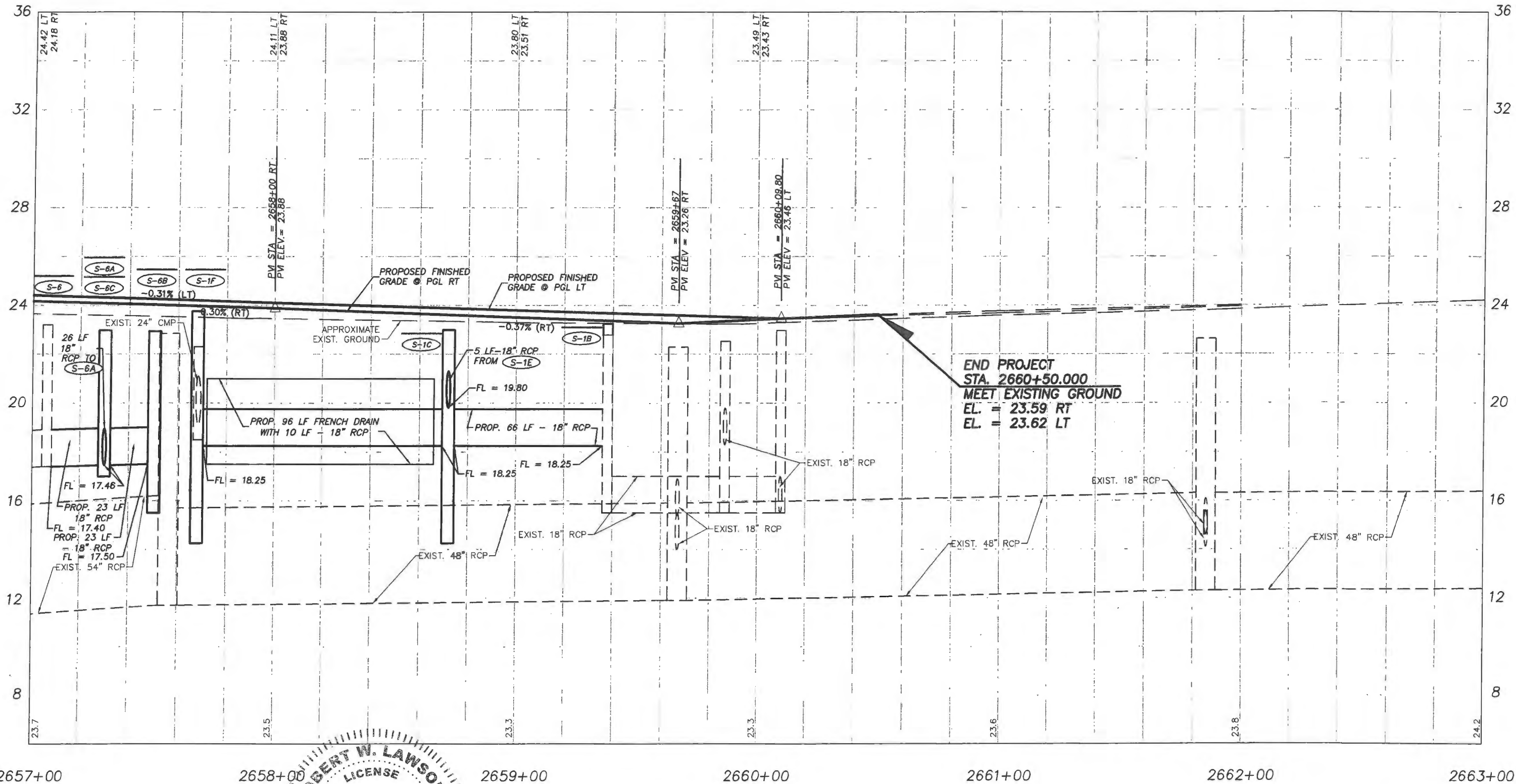

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 FOR
 SR 60 & 43RD AVENUE

Sheet: 55
 Of: 99
 Project No.
 LHW WP1027



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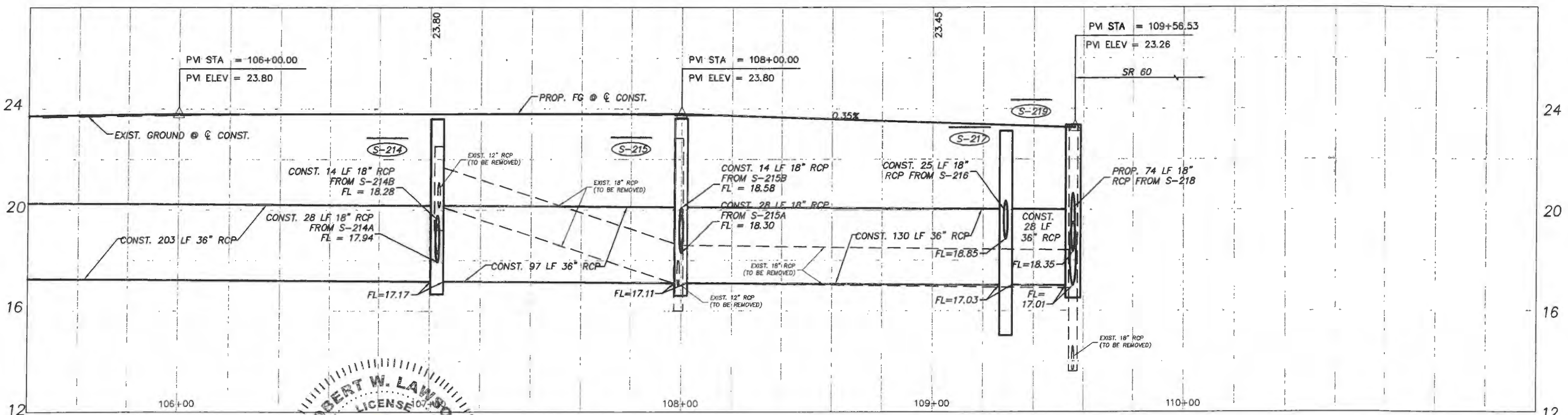
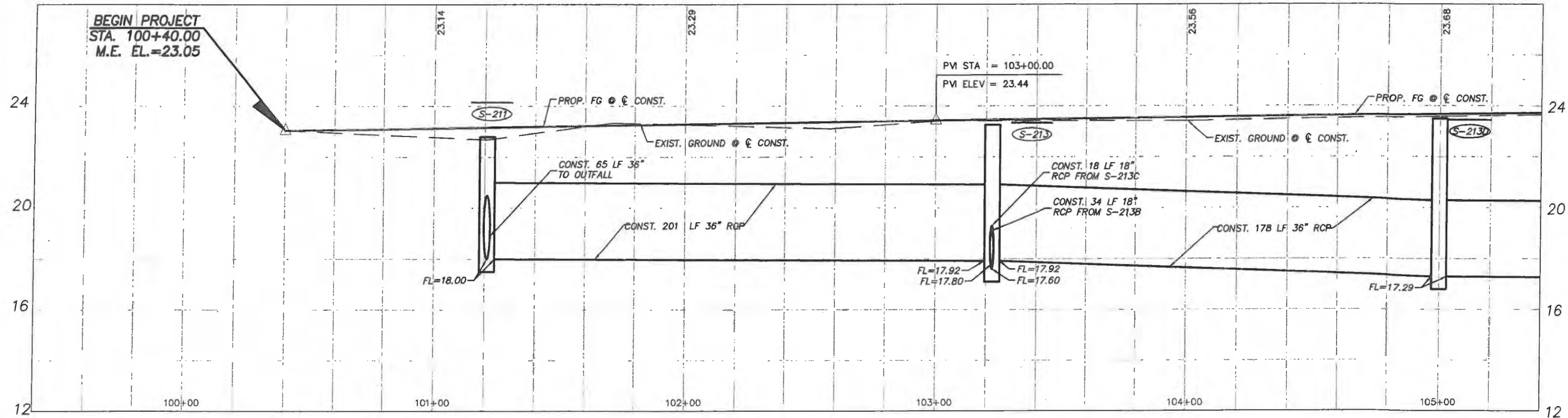
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 PROFILE SHEETS
 FOR
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Sheet: 56
 Of: 99
 Project No.
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44TH AVENUE PROFILE

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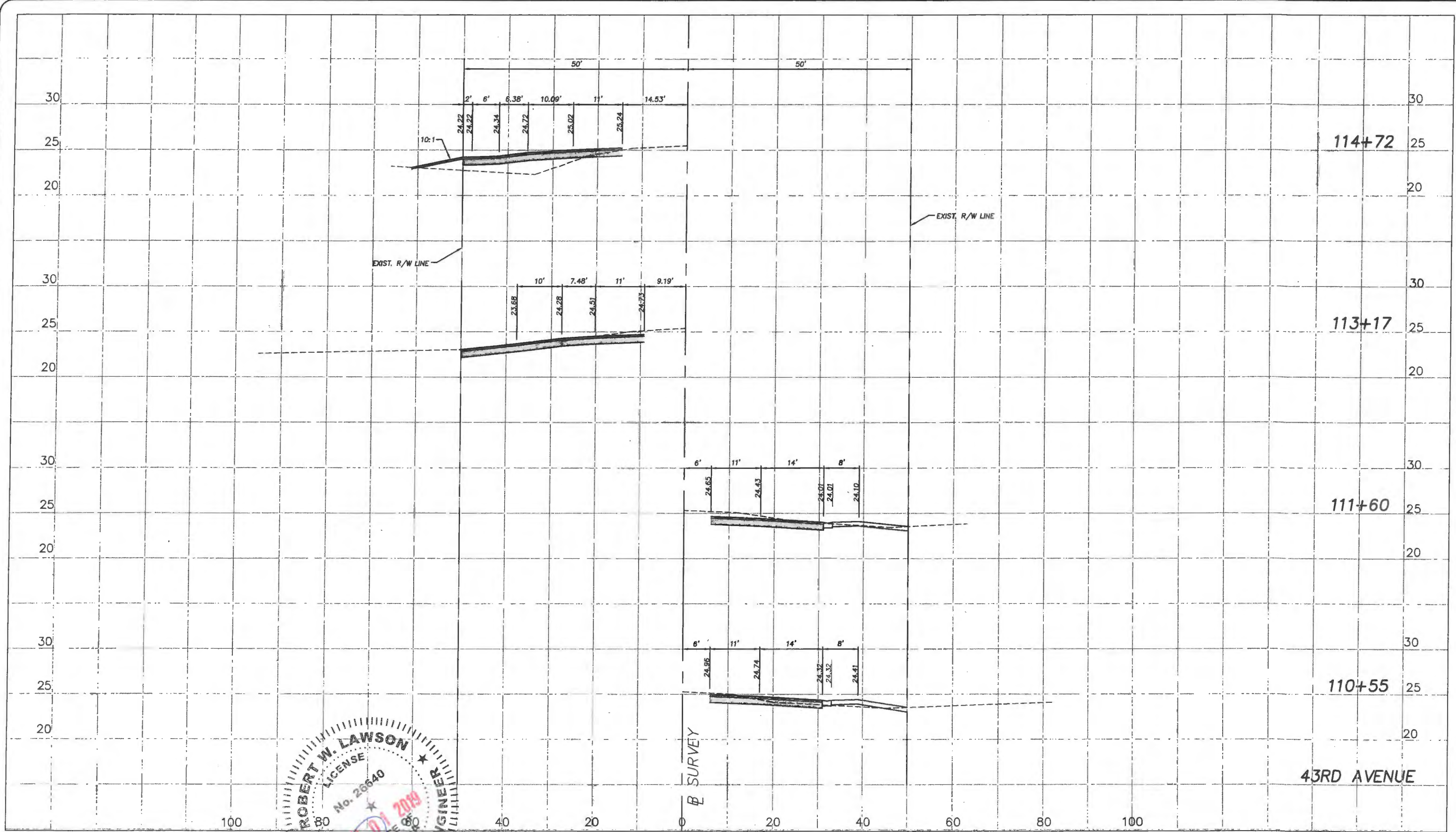
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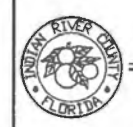
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 PROFILE SHEETS
 FOR
 SR 60 & 43RD AVENUE

Sheet: 57
 Of: 99
 Project No.
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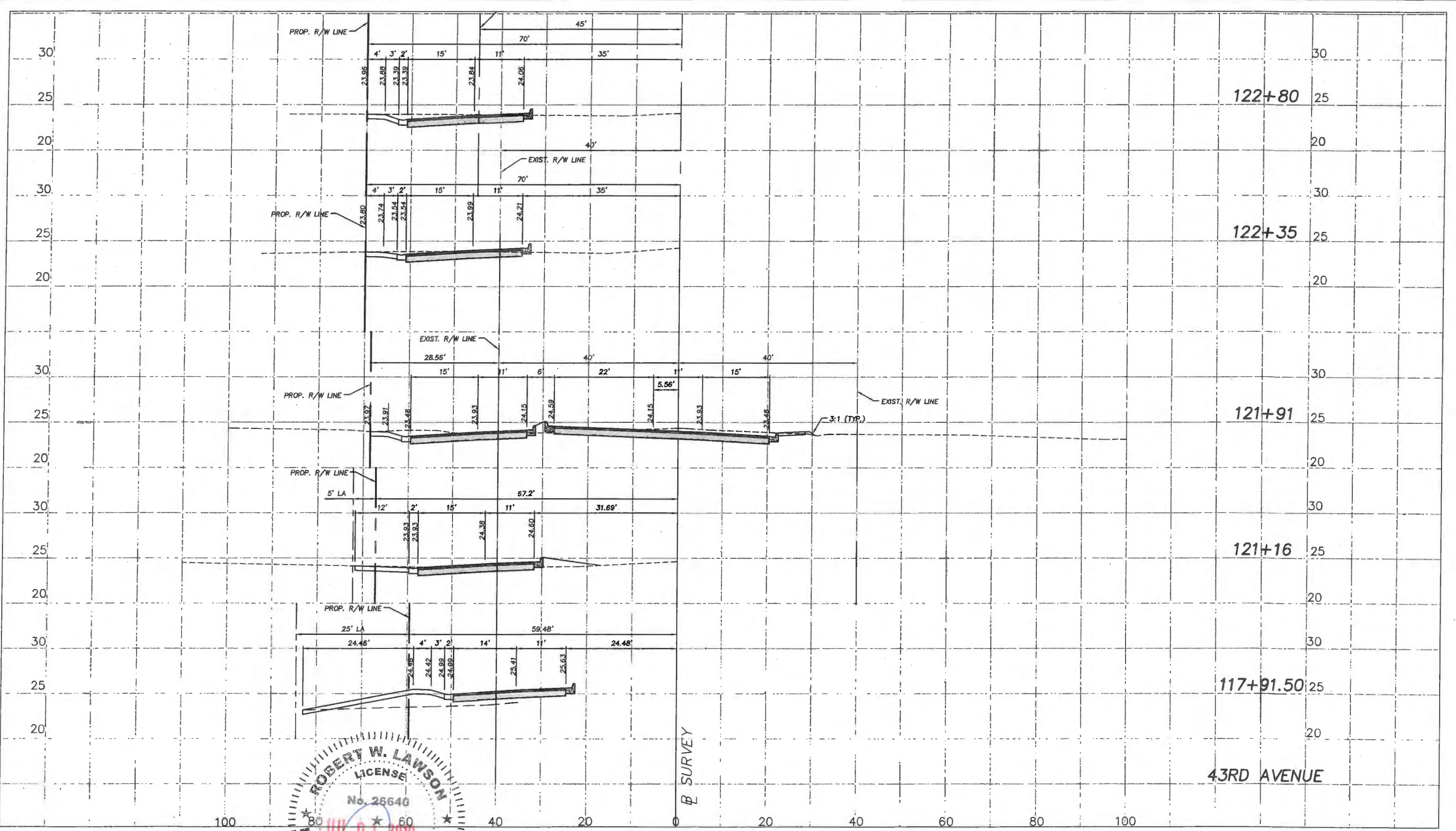
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Project:
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 FOR
 SR 60 & 43RD AVENUE

Sheet: 58
 Of: 99
 Project No.
 LNW# WP1027

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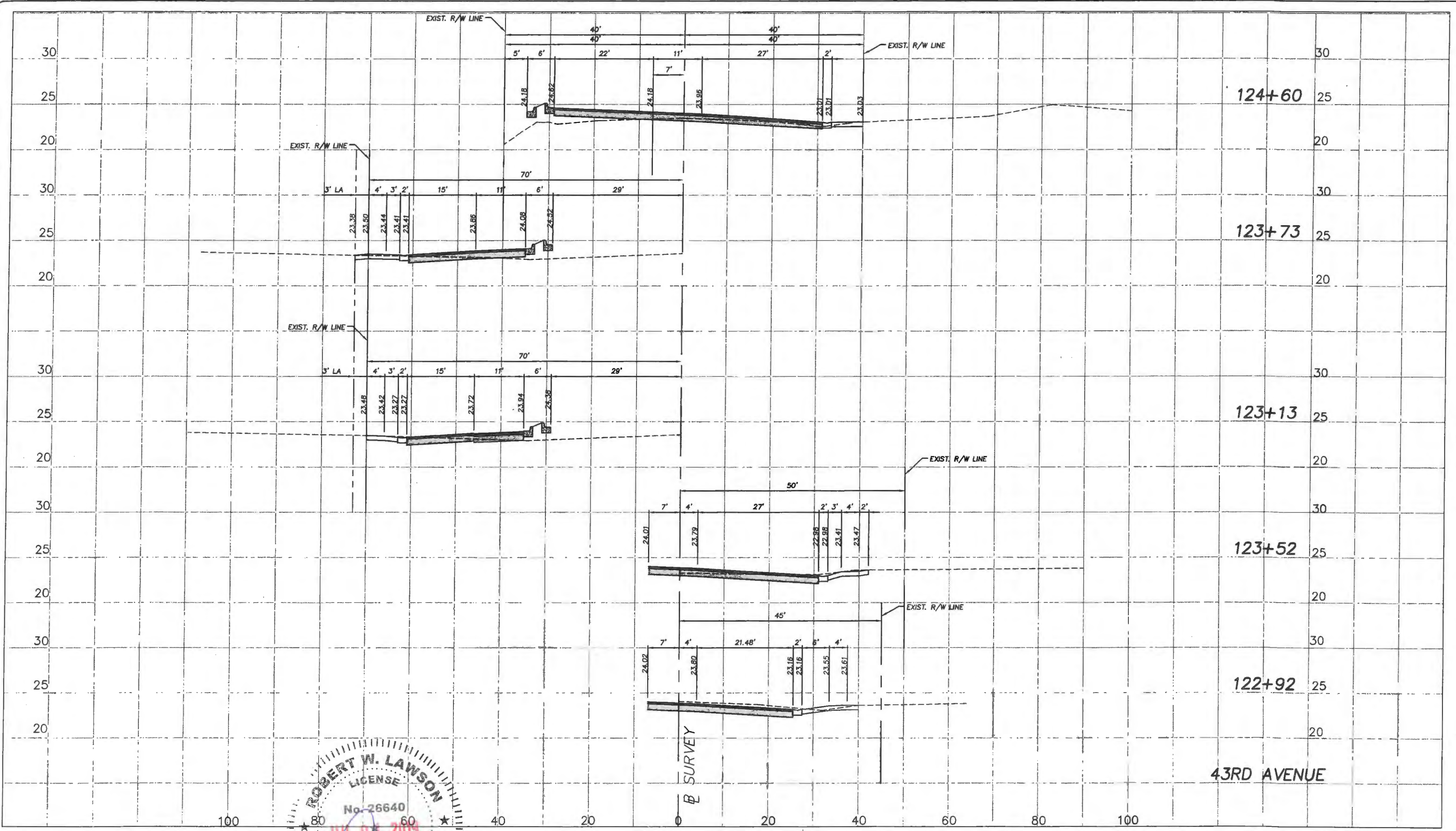


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Project:
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 FOR
 SR 60 & 43RD AVENUE

Sheet: 59
 Of: 99
 Project No.
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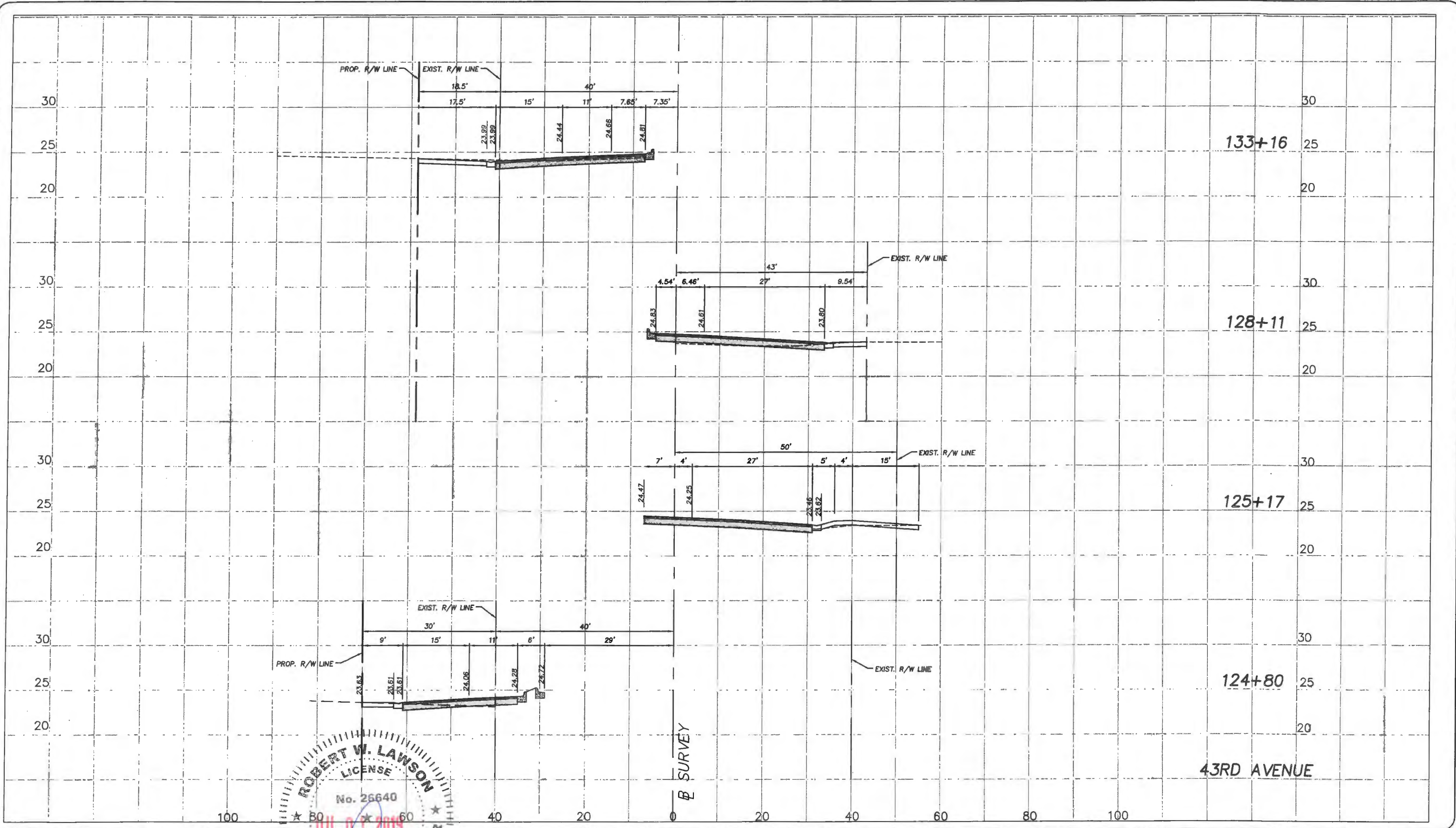
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Scale: 1"=10' VERT.
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 Approved: HWD
 Drawn: FM
 Checked: HWD
 Date: 6/2017
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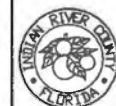
Project:
 DRIVEWAY PROFILES
 FOR
 SR 60 & 43RD AVENUE

Sheet: 60
 Of: 99
 Project No.
 LNW# WP1027



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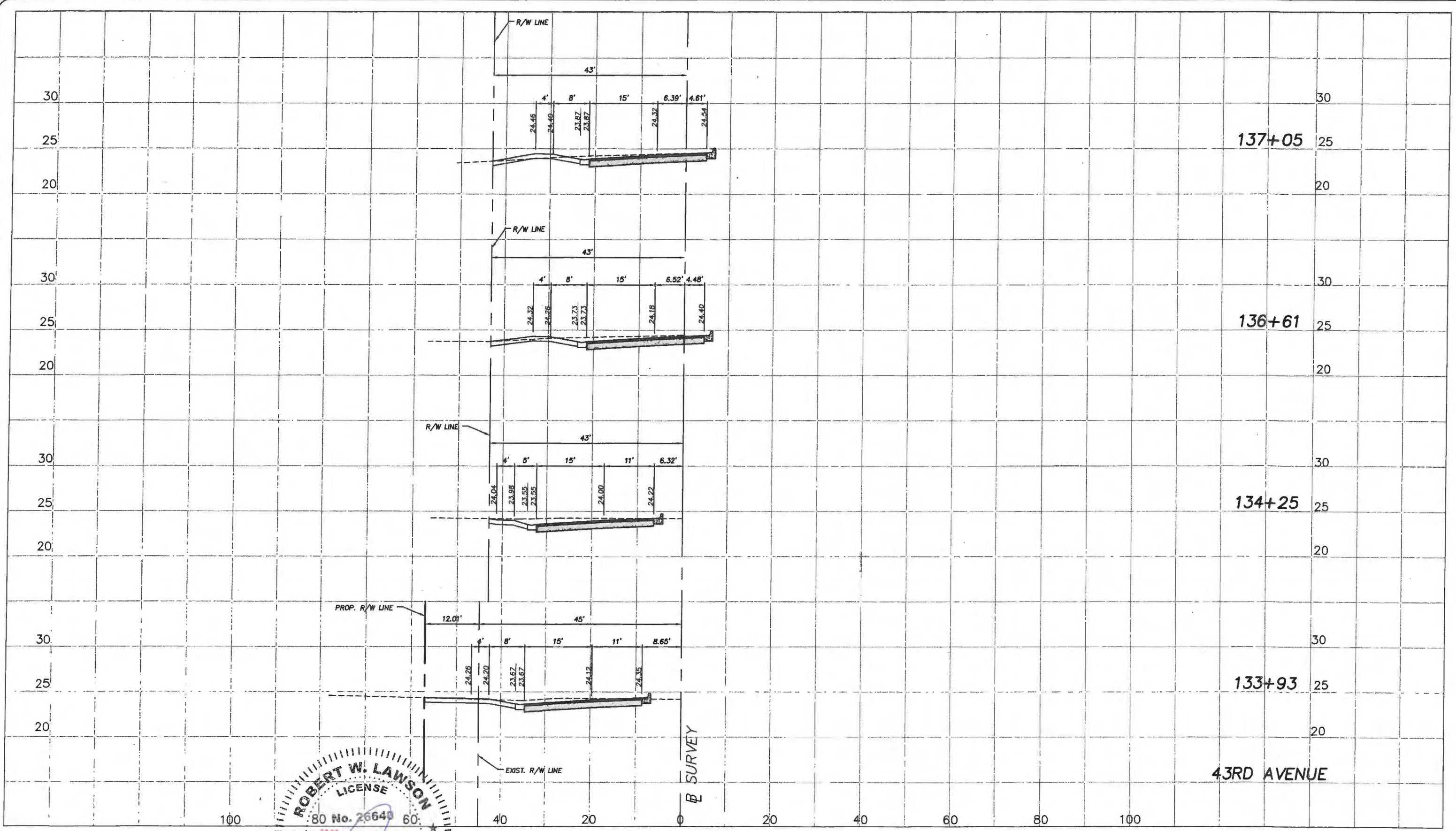
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 Approved: HWD
 Drawn: FM
 Checked: HWD
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Project:
 DRIVEWAY PROFILES
 FOR
 SR 60 & 43RD AVENUE


Sheet: 61
 Of: 99
 Project No.
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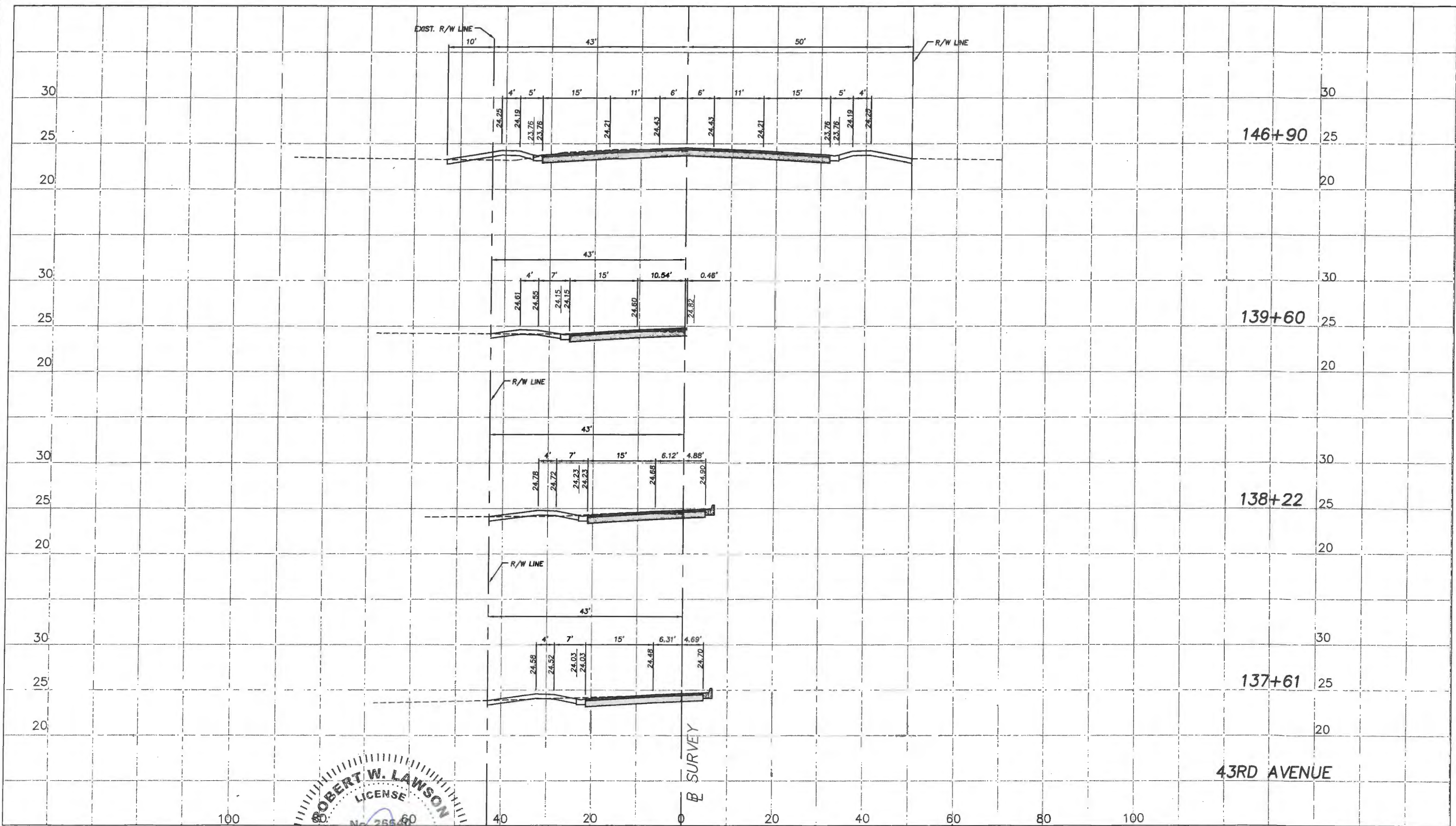

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Project:
 DRIVEWAY PROFILES
 FOR
 SR 60 & 43RD AVENUE

Sheet: 62
 Of: 99
 Project No.
 LNw WP1027


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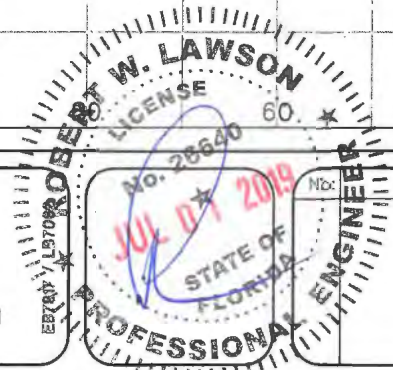
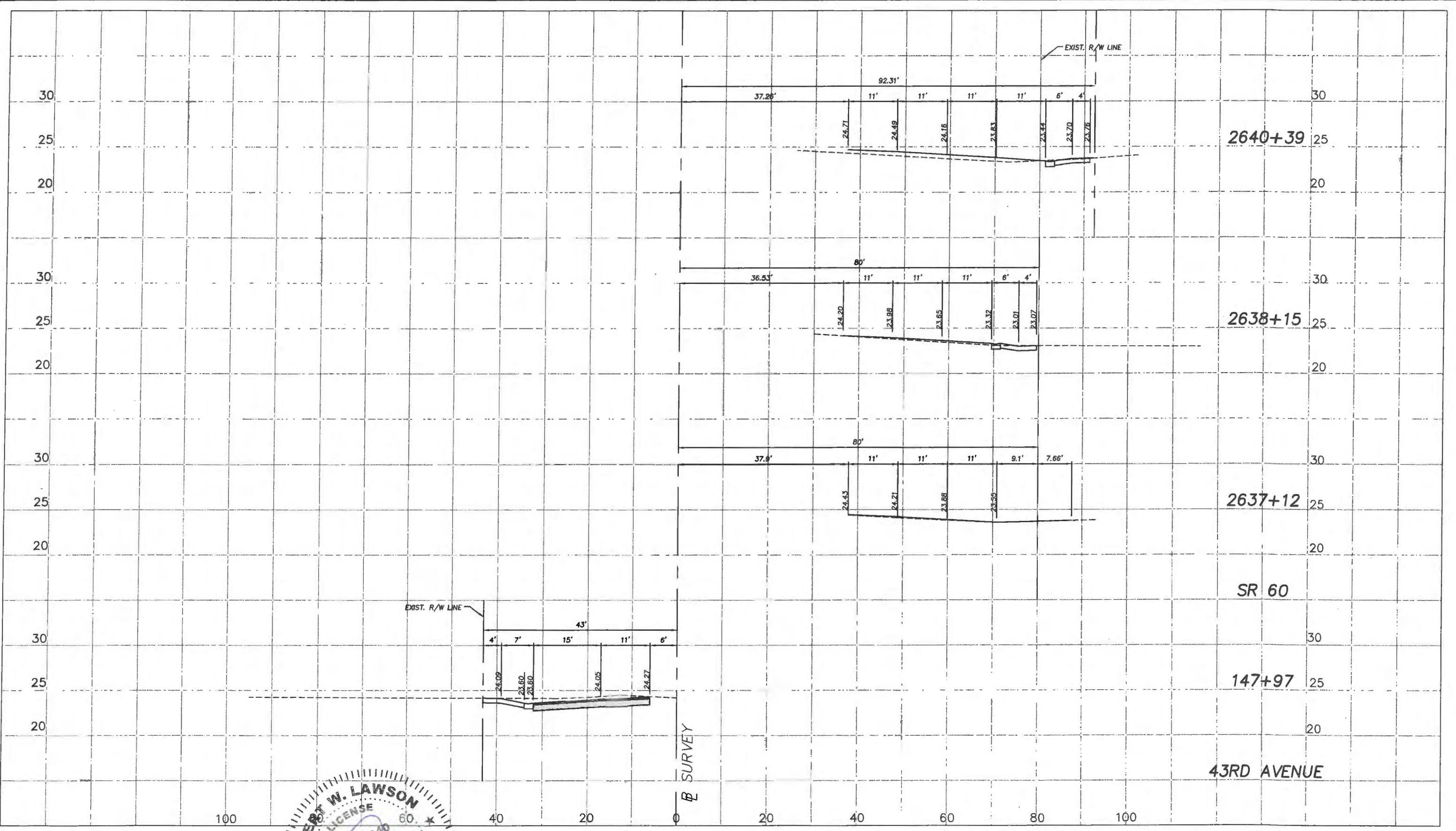
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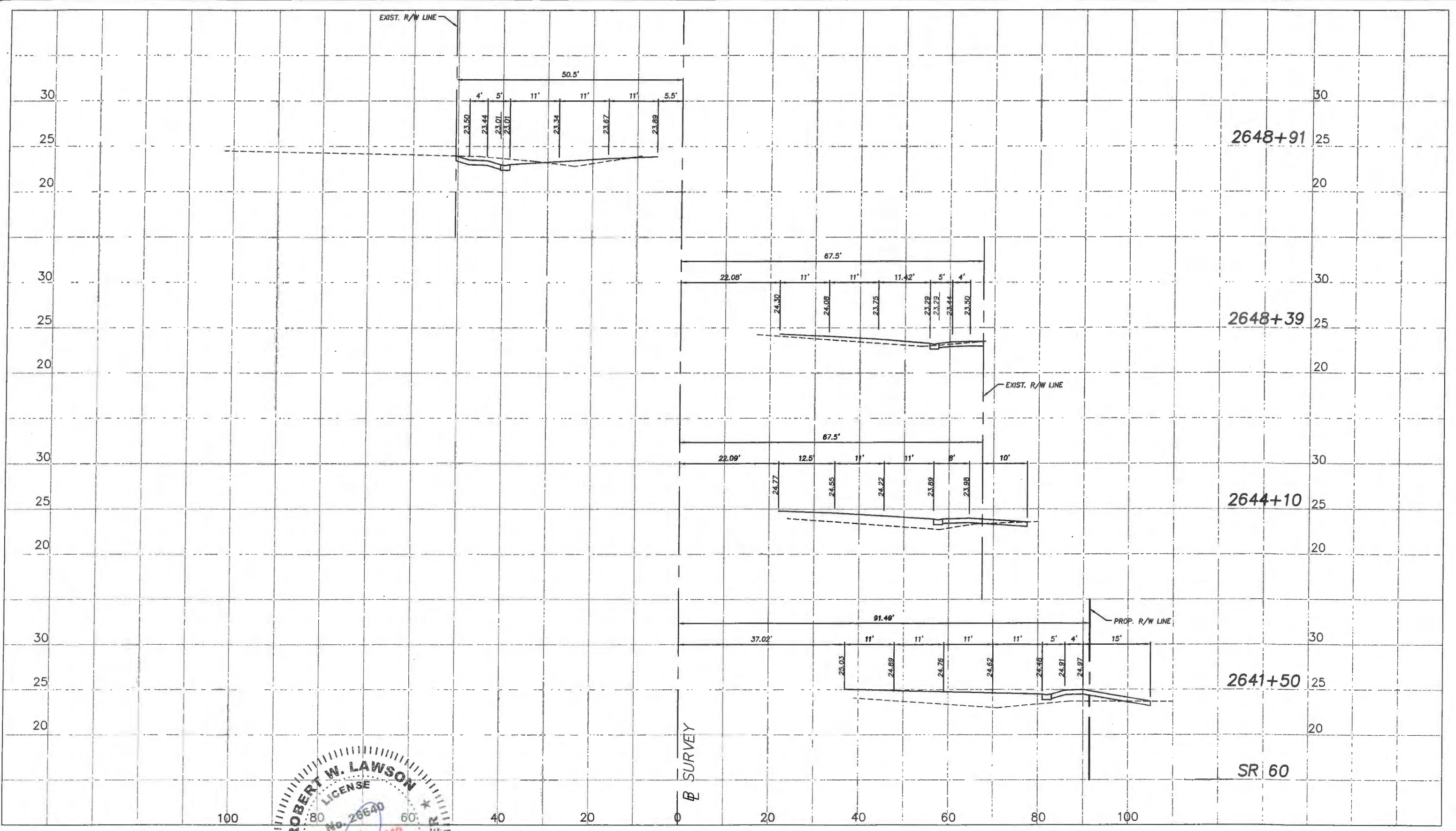
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 DRIVEWAY PROFILES
 FOR
 SR 60 & 43RD AVENUE

Sheet: 63
 Of: 99
 Project No.
 LNW WP1027

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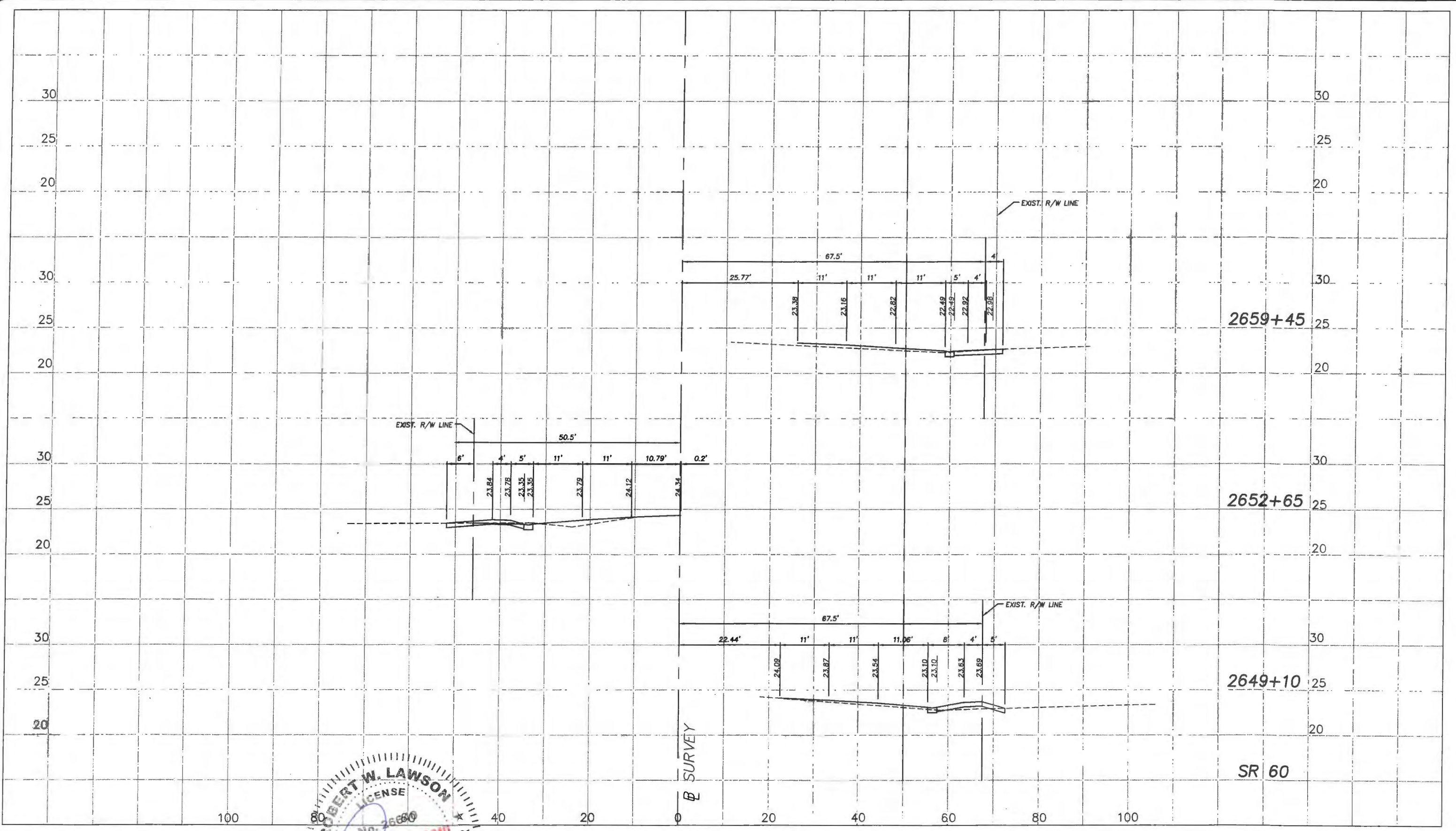
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 Field Book No:

Project:
 DRIVEWAY PROFILES
 FOR
 SR 60 & 43RD AVENUE

Sheet: 65
 Of: 99
 Project No.
 LNW# WP1027



2659+45

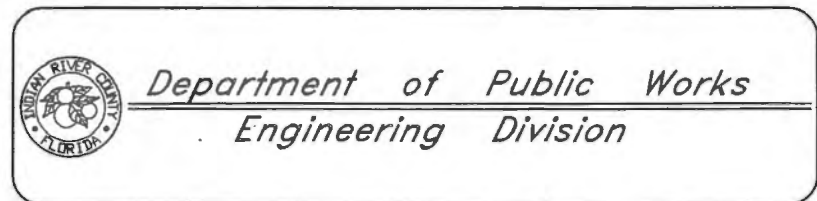
2652+65

2649+10

SR 60



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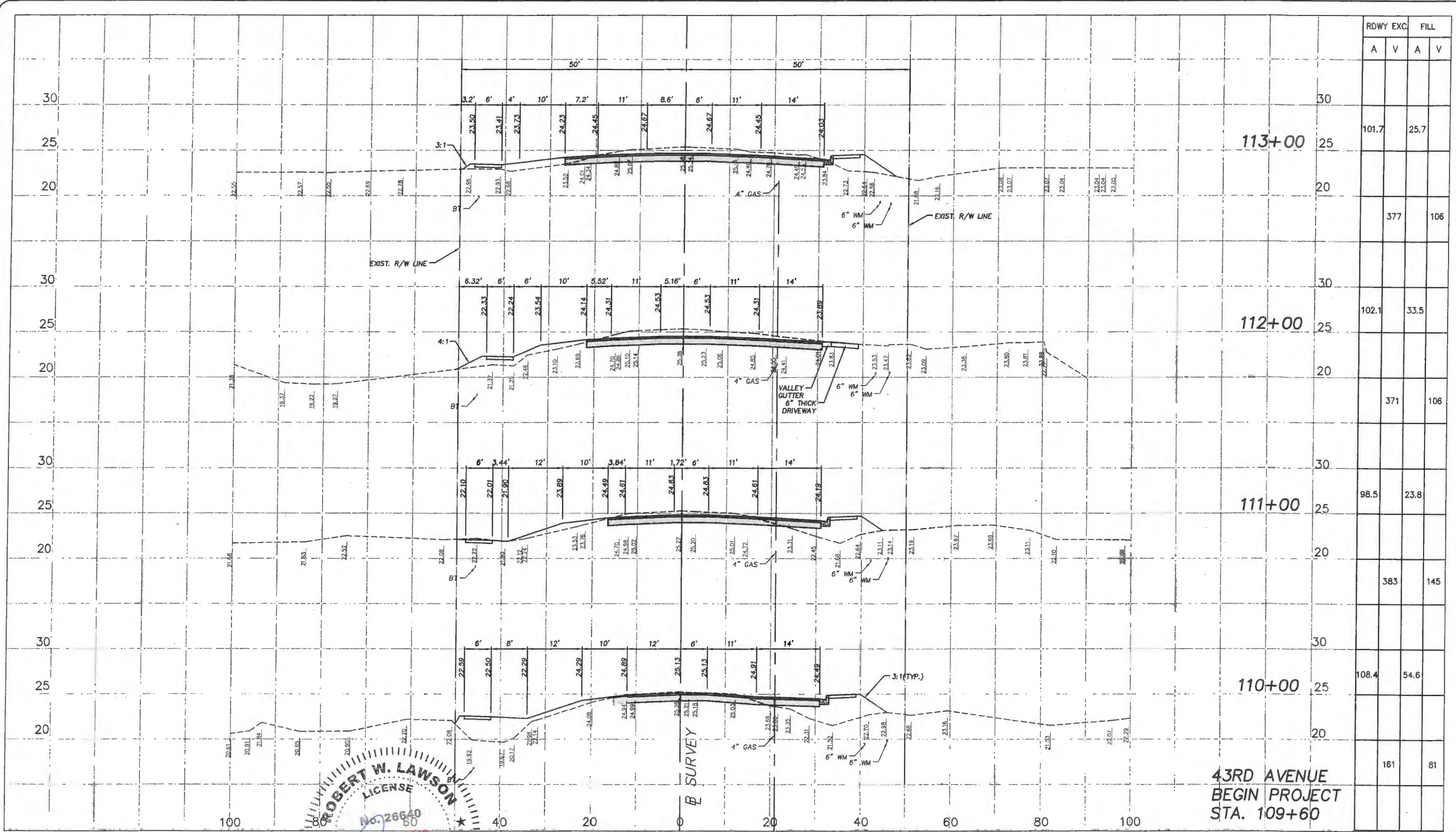


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Project:
DRIVEWAY PROFILES
FOR
SR 60 & 43RD AVENUE

Sheet: 66
Of: 99
Project No.
LNW# WP1027

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Station	RDWY EXC.		FILL	
	A	V	A	V
113+00				
112+00	101.7		25.7	
111+00	102.1		33.5	
110+00	98.5		23.8	
109+60	108.4		54.6	
			161	81

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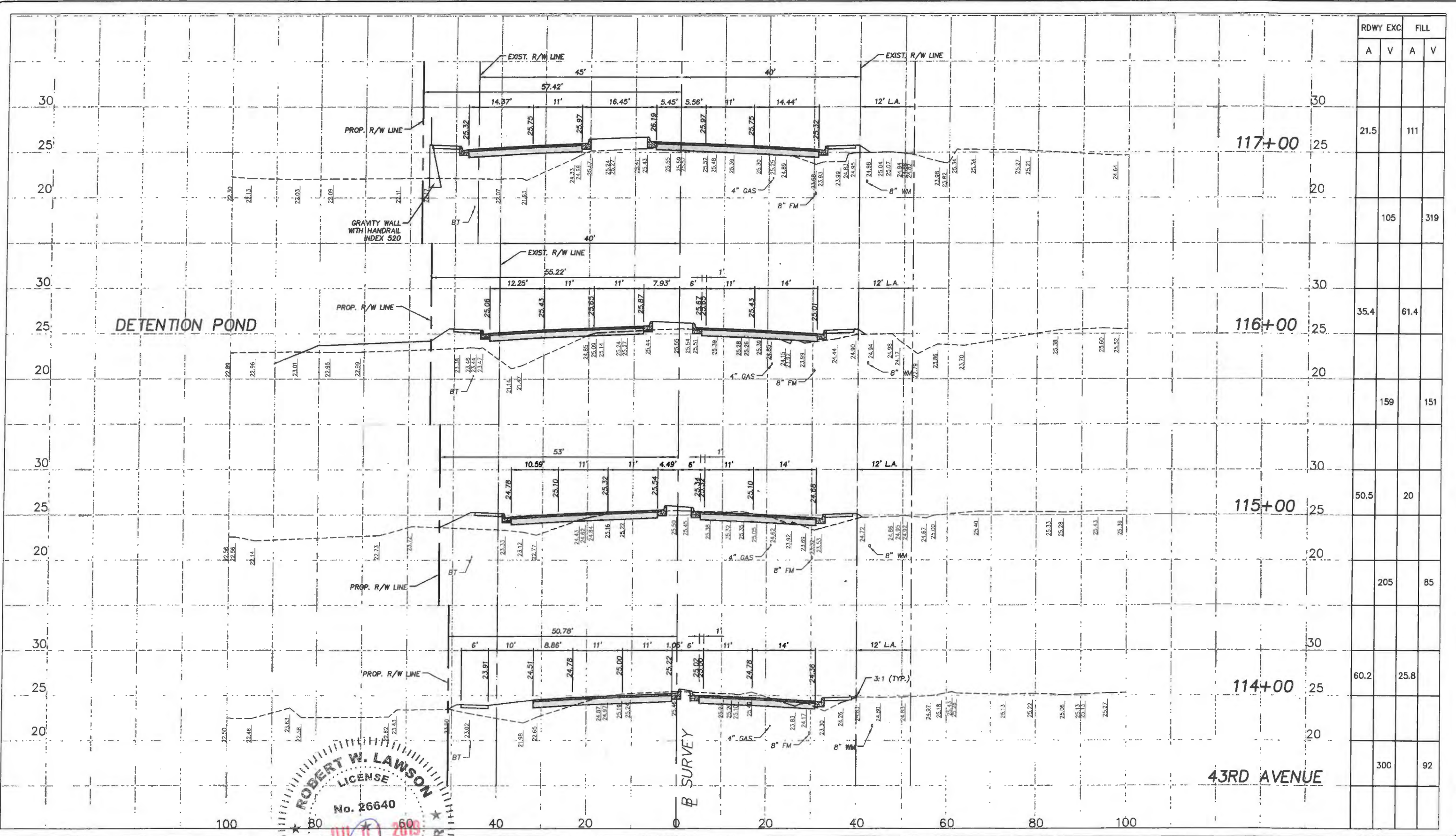
B SURVEY
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Scale: 1"=10' VERT.
 1"=20' HORIZ.
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Project:
 CROSS SECTIONS
 FOR
 SR 60 & 43RD AVENUE

Sheet: 67
 Of: 99
 Project No.
 LNW# WP1027

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		RDWY EXC		FILL	
		A	V	A	V
30					
25	117+00	21.5		111	
20					
30			105		319
25	116+00	35.4		61.4	
20					
30			159		151
25	115+00	50.5		20	
20					
30			205		85
25	114+00	60.2		25.8	
20					
30			300		92

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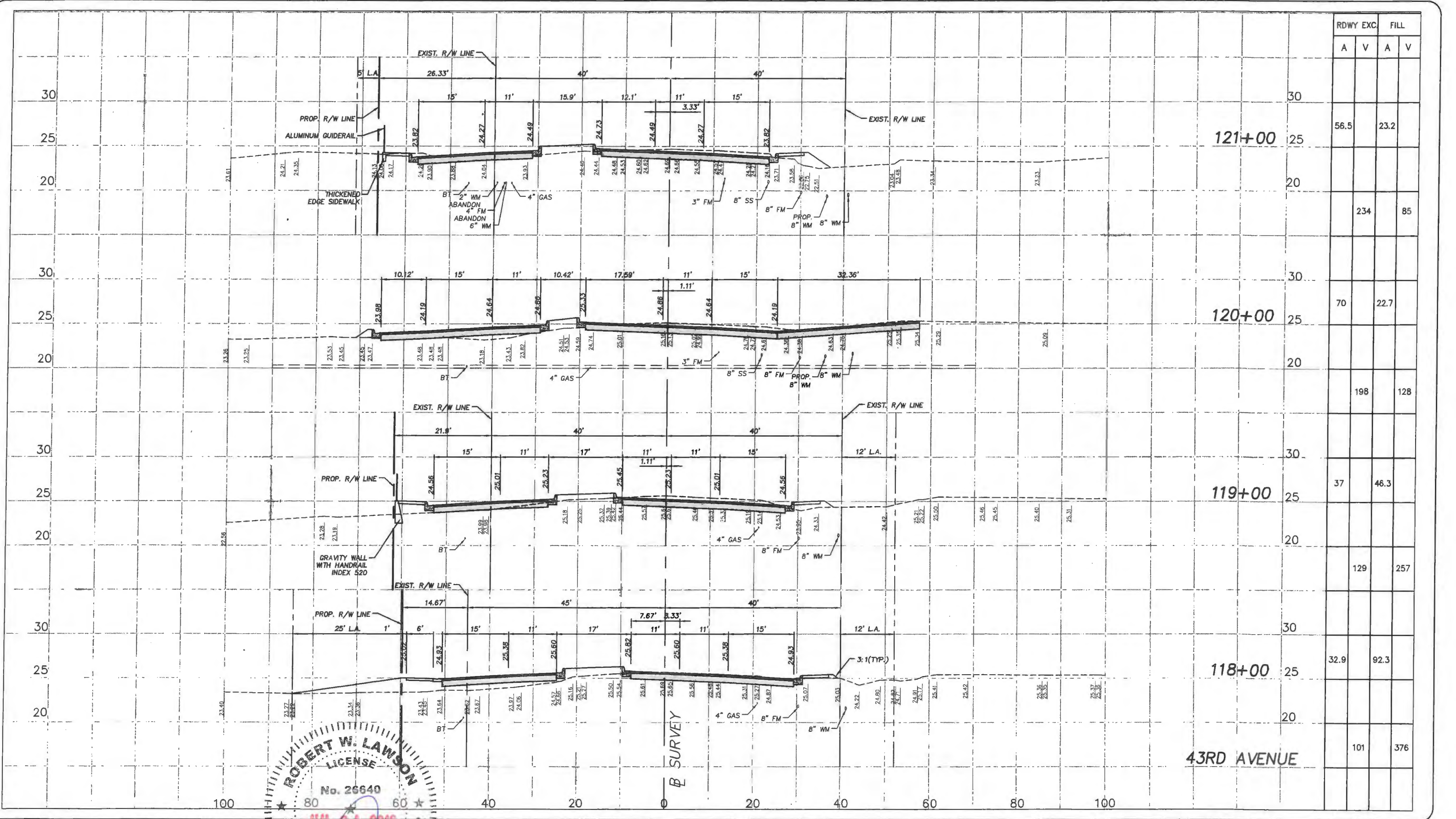


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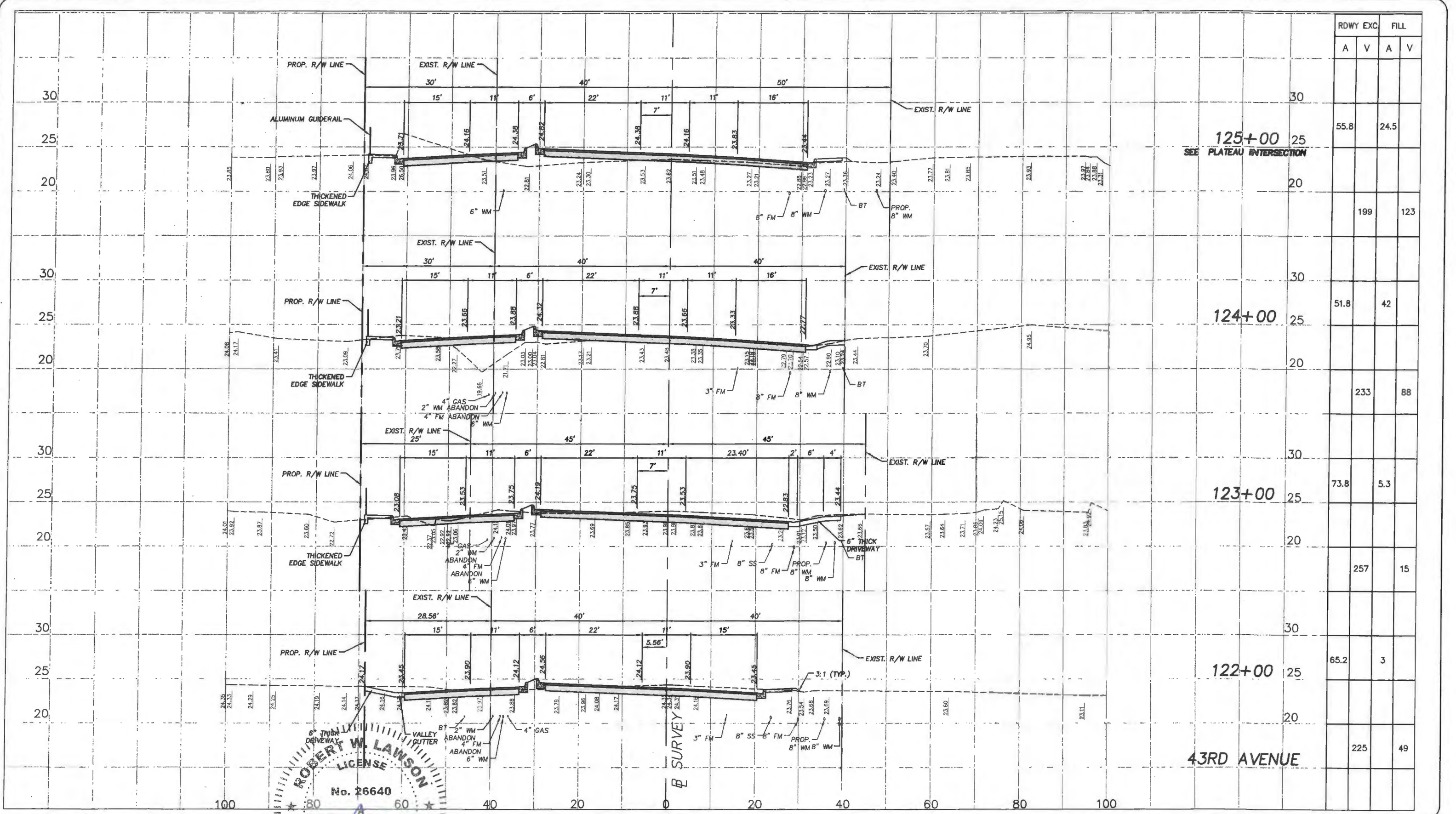
Project:
 CROSS SECTIONS
 FOR
 SR 60 & 43RD AVENUE

Sheet: 68
 Of: 99
 Project No.
 LNW# WP1027

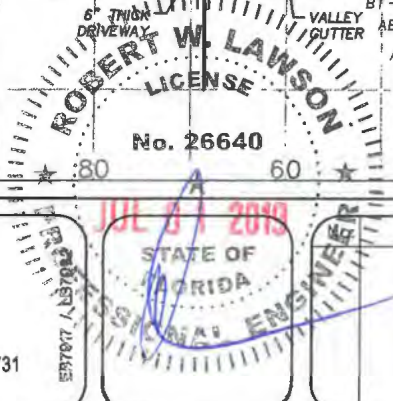


		RDWY EXC		FILL	
		A	V	A	V
121+00	25	56.5		23.2	
120+00	25		70		22.7
119+00	25		37		46.3
118+00	25		32.9		92.3
43RD AVENUE			101		376

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Station	RDWY EXC.		FILL	
	A	V	A	V
125+00				
124+00	55.8	24.5		
123+00			199	123
122+00	51.8	42		
			233	88
	73.8	5.3		
			257	15
	65.2	3		
43RD AVENUE			225	49



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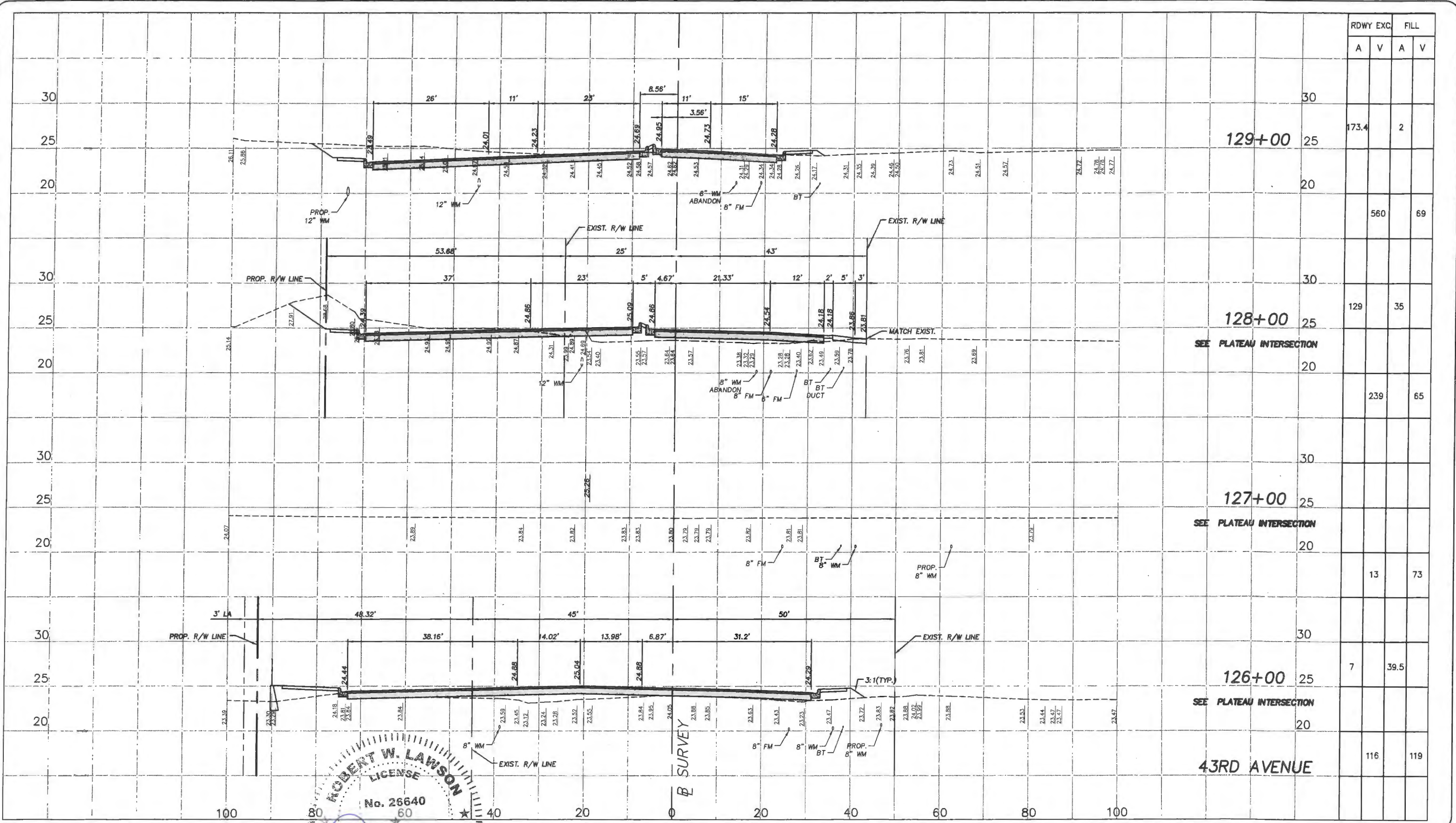
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 Field Book No:

Project: CROSS SECTIONS
 FOR
 SR 60 & 43RD AVENUE

Sheet: 70
 Of: 99
 Project No.
 LNW# WP1027



RDWY EXC.	FILL	
	A	V
173.4		2
	560	69
129		35
	239	65
13		73
7		39.5
	116	119

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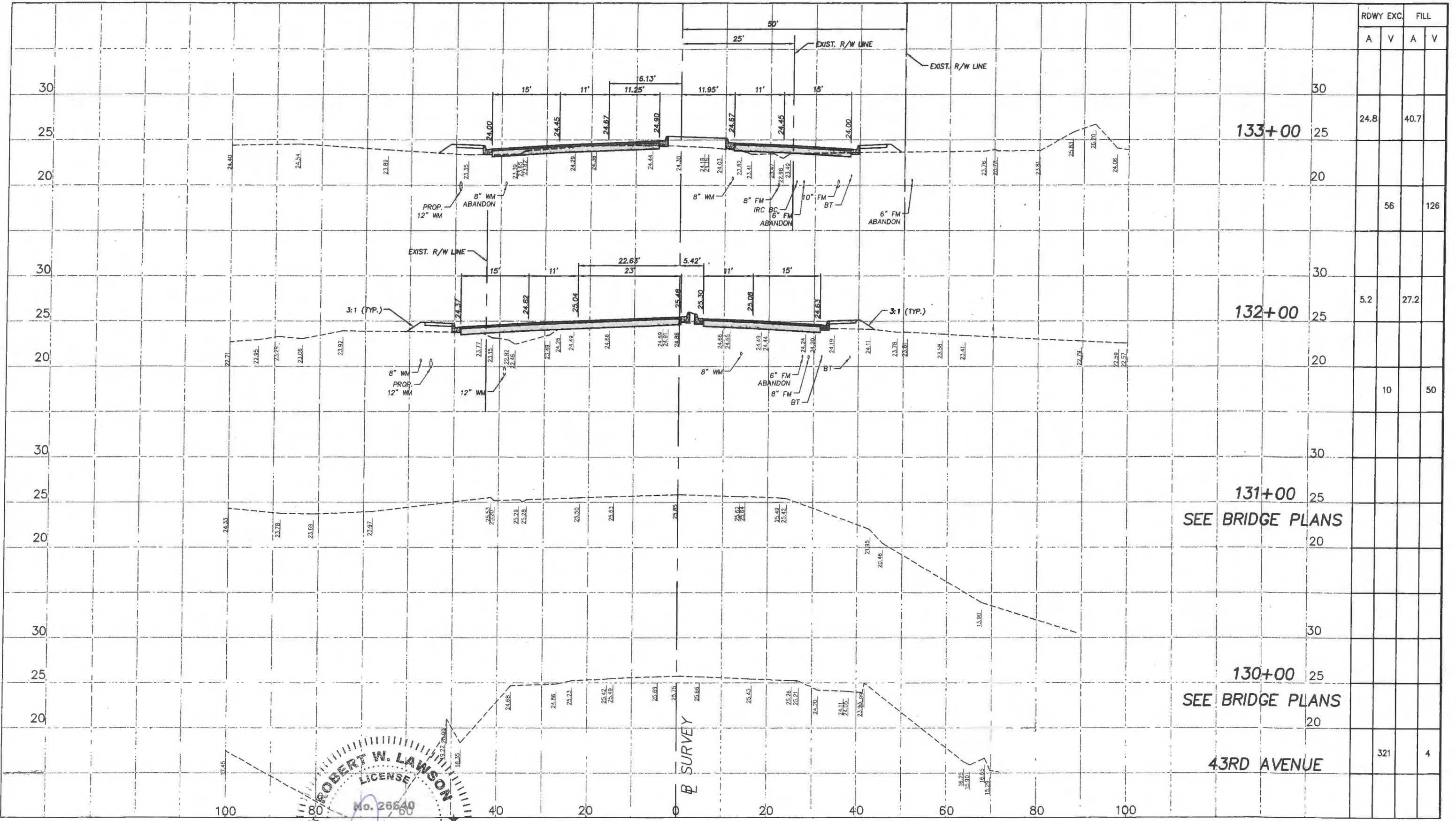


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 1"=20' HORIZ.
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Project:
 CROSS SECTIONS
 FOR
 SR 60 & 43RD AVENUE

Sheet: 71
 Of: 99
 Project No.
 LNW WP1027



Station	Excavation (A)	Excavation (V)	Fill	
			A	V
133+00		24.8		40.7
132+00	5.2			27.2
131+00				
130+00				
43RD AVENUE			321	4

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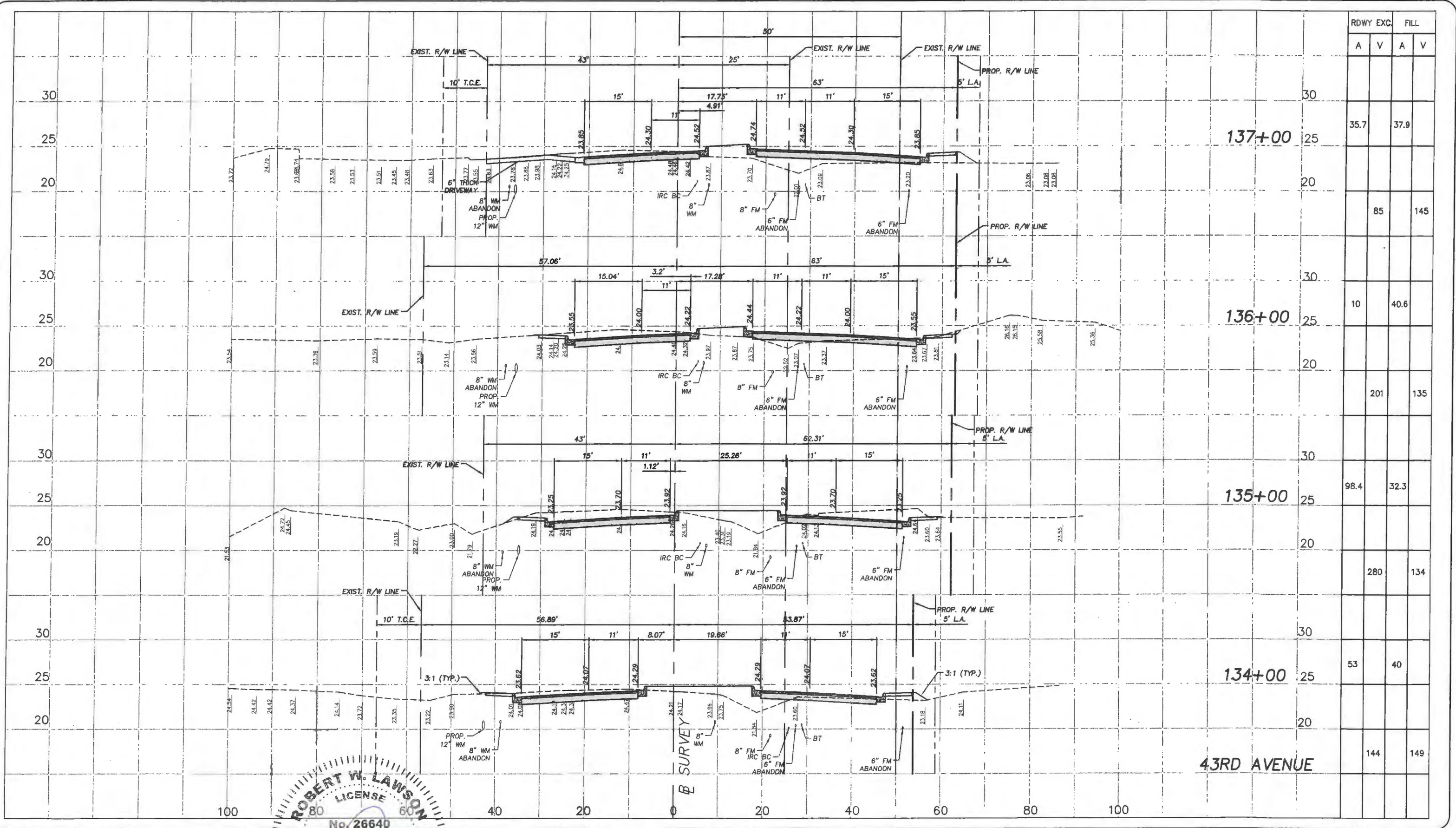
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 1"=20' HORIZ.
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Project:
CROSS SECTIONS
FOR
SR 60 & 43RD AVENUE

Sheet: 72
 Of: 99
 Project No.
 LNW WP1027



	RDWY EXC.		FILL	
	A	V	A	V
137+00		35.7		37.9
136+00	10		40.6	
135+00		98.4		32.3
134+00		53		40
43RD AVENUE		144		149

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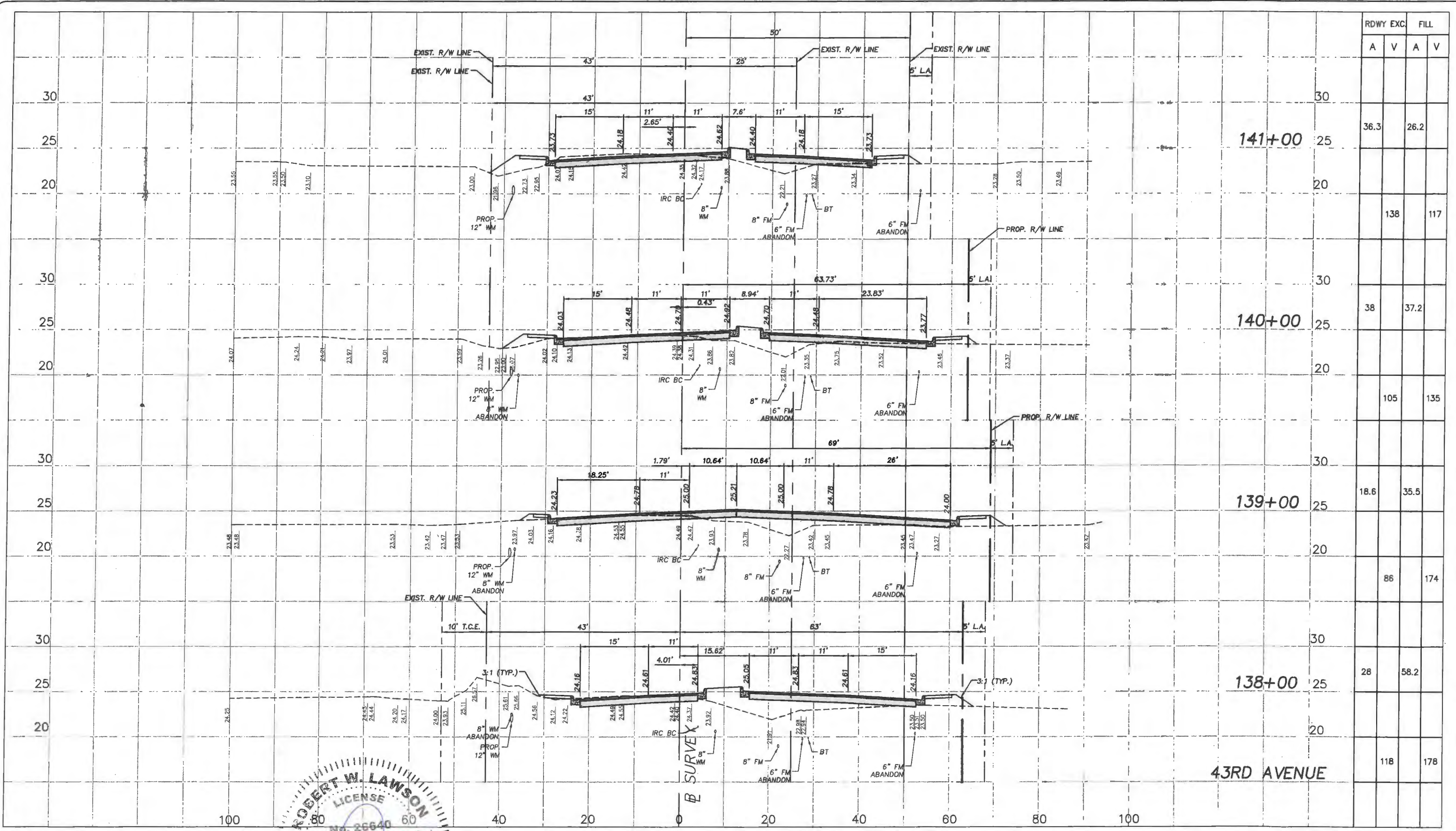
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 Department of Public Works
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 1"=20' HORIZ.
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 Field Book No:

Project:
 CROSS SECTIONS
 FOR
 SR 60 & 43RD AVENUE

Sheet: 73
 Of: 99
 Project No.
 LNW# WF1027



RDWY	EXC		FILL	
	A	V	A	V
141+00		36.3		26.2
140+00		38		37.2
139+00		18.6		35.5
138+00		28		58.2
43RD AVENUE		118		178

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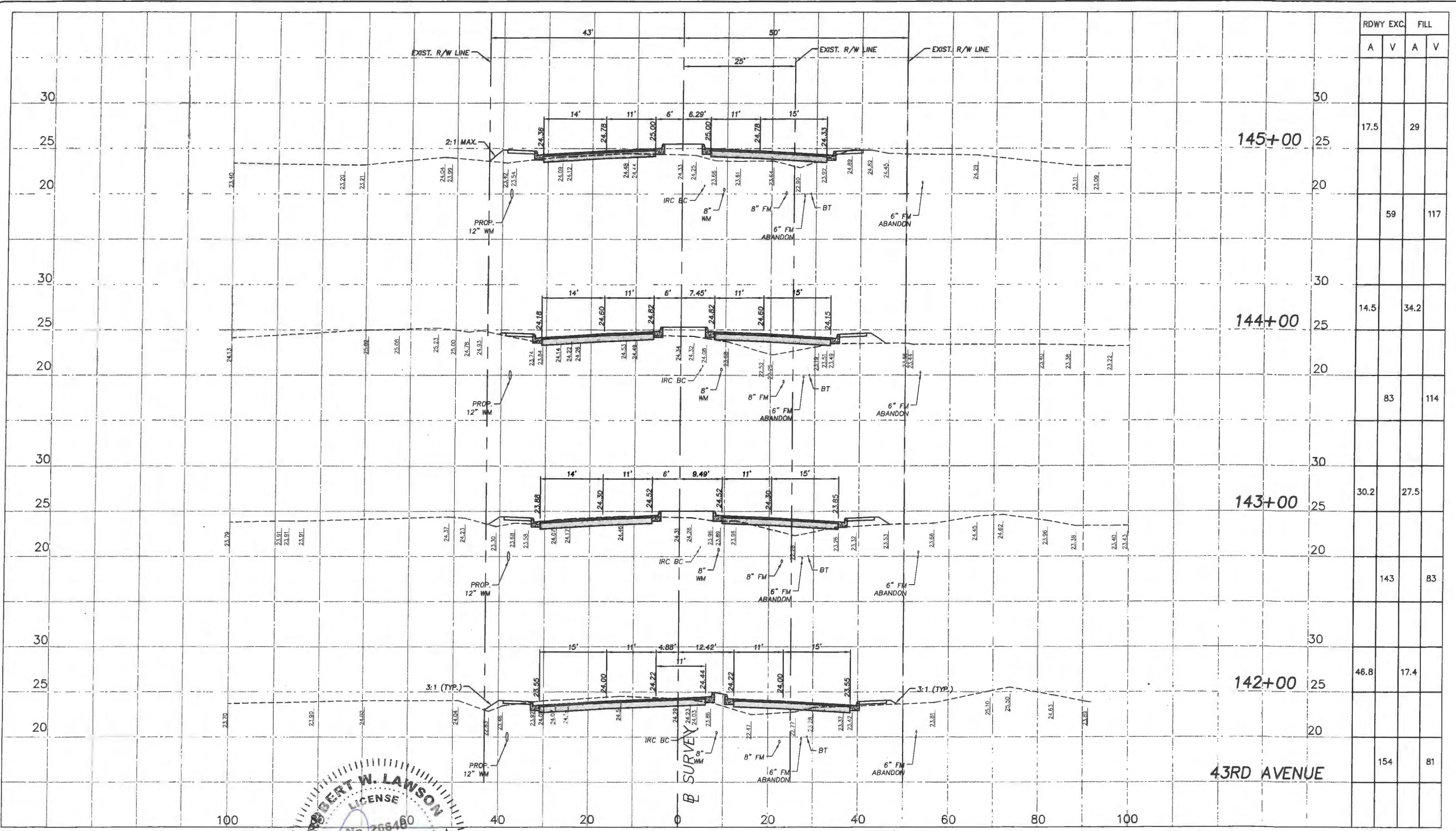
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Project:
 CROSS SECTIONS
 FOR
 SR 60 & 43RD AVENUE

Sheet: 74
 Of: 99
 Project No.
 LNW WP1027

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RDWY	EXC.		FILL	
	A	V	A	V
145+00		17.5		29
144+00		14.5		34.2
143+00		30.2		27.5
142+00		46.8		17.4
43RD AVENUE		154		81

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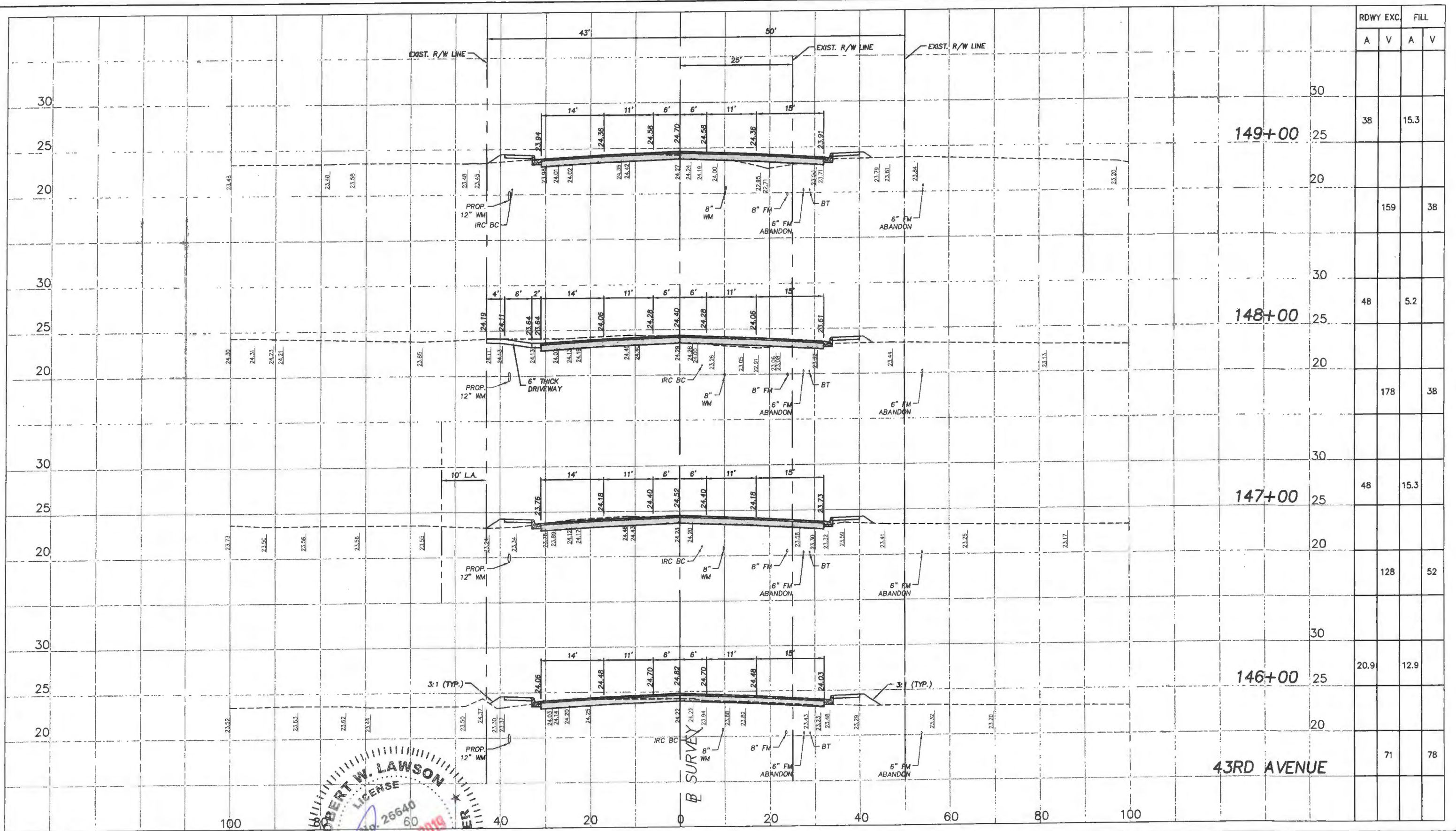
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 Drawn: FM
 Checked: HWD
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 FOR
 SR 60 & 43RD AVENUE

Sheet: 75
 Of: 99
 Project No.
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	RDWY EXC.	FILL	
		A	V
149+00	38	15.3	
148+00	48	5.2	
147+00	48	15.3	
146+00	20.9	12.9	
43RD AVENUE	71	78	

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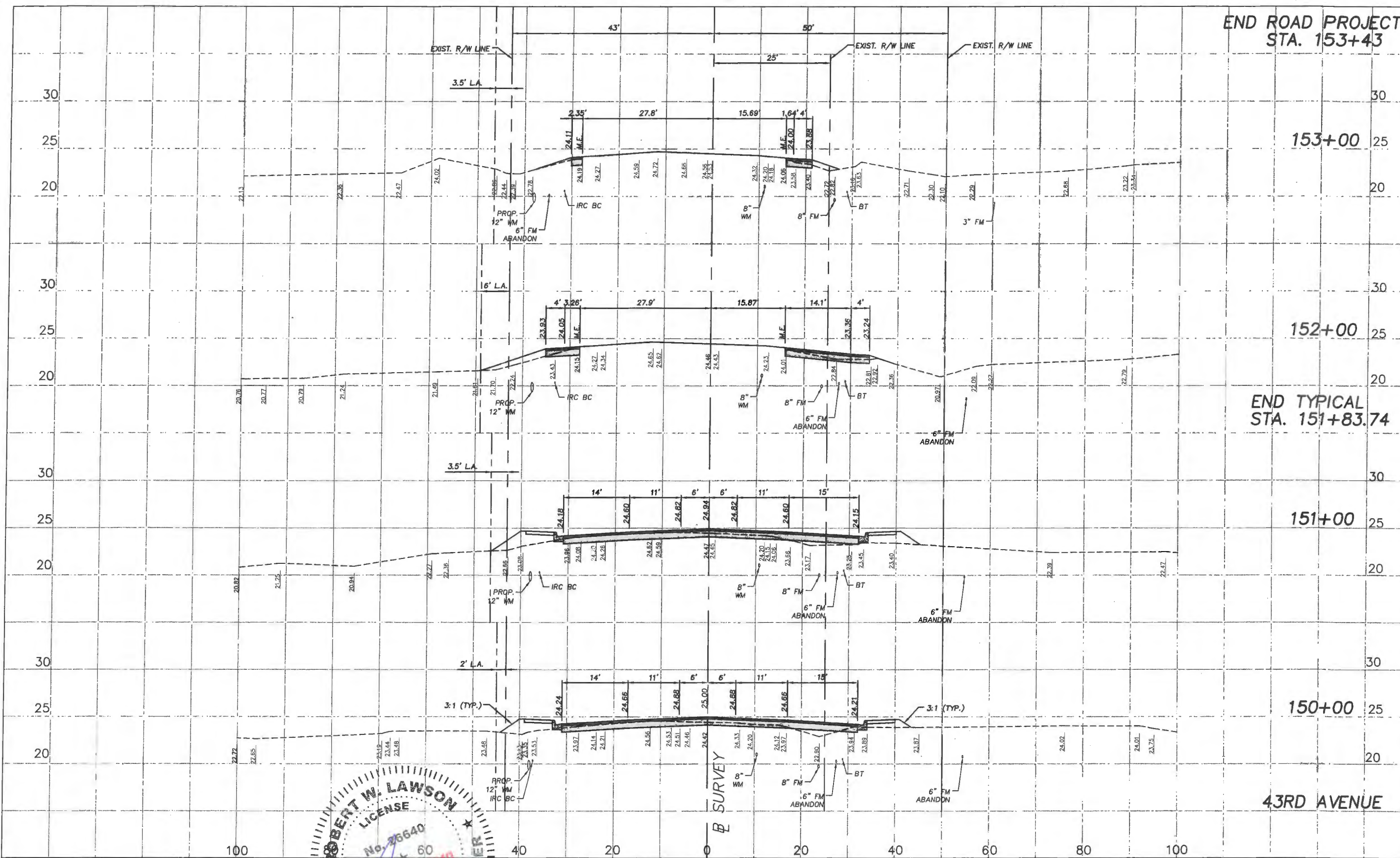
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 Checked: HWD
 Date: 6/2017
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 CROSS SECTIONS
 FOR
 SR 60 & 43RD AVENUE

Sheet: 76
 Of: 99
 Project No.
 LNW# WP1027

END ROAD PROJECT
STA. 153+43

RDWY EXC.		FILL	
A	V	A	V
	8		6



RDWY EXC.		FILL	
A	V	A	V
	8		6
		9.5	7
	47		54
		15.8	22.3
	109		90
		43.1	26.4
	146		81
		36	17.5
	137		61

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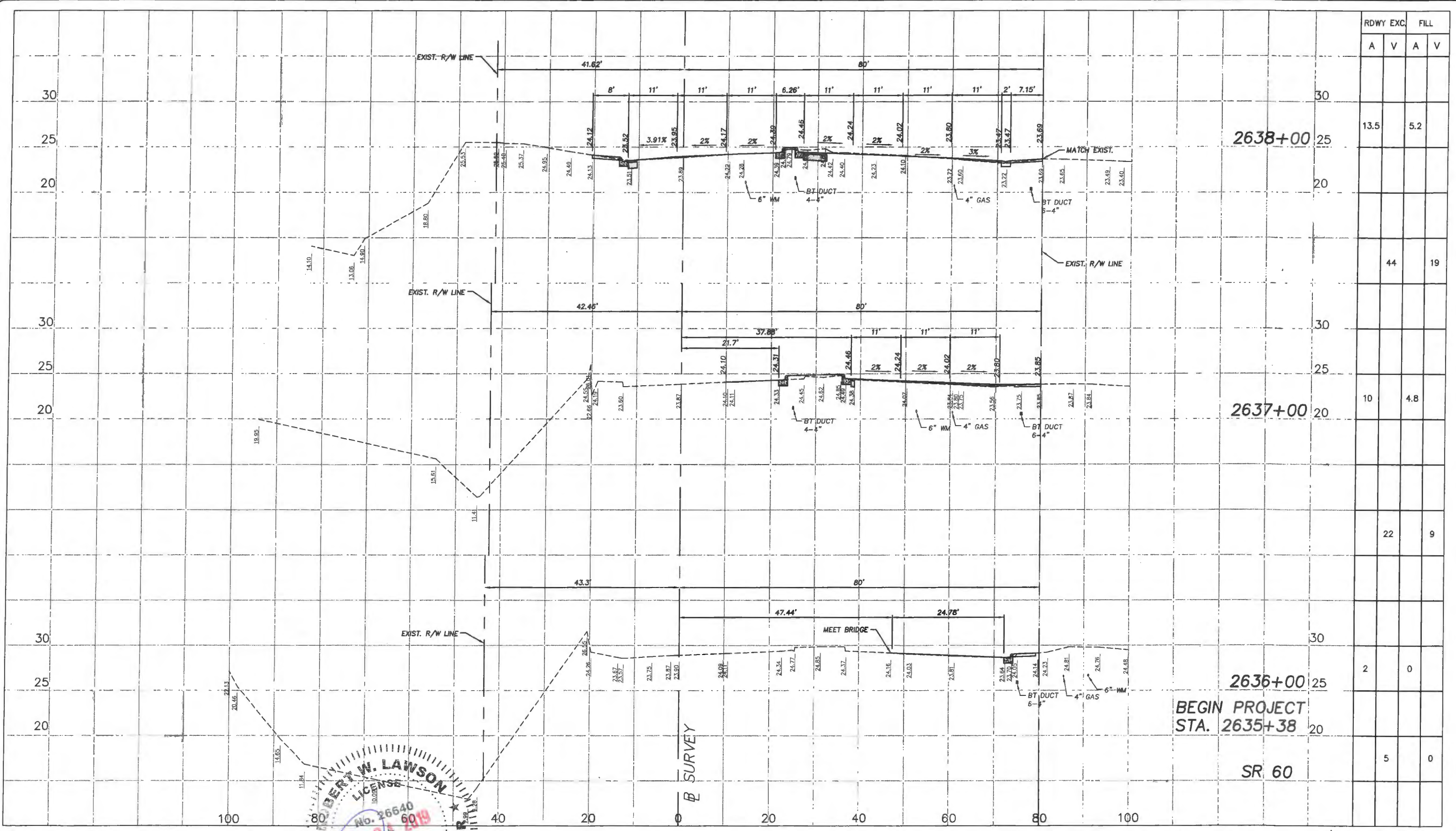
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CROSS SECTIONS
FOR
SR 60 & 43RD AVENUE

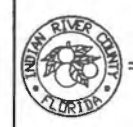
Sheet: 77
Of: 99
Project No.
LNW# WP1027



RDWY	EXC.		FILL	
	A	V	A	V
2638+00		13.5		5.2
2637+00		10		4.8
2636+00		2		0
BEGIN PROJECT STA. 2635+38		5		0

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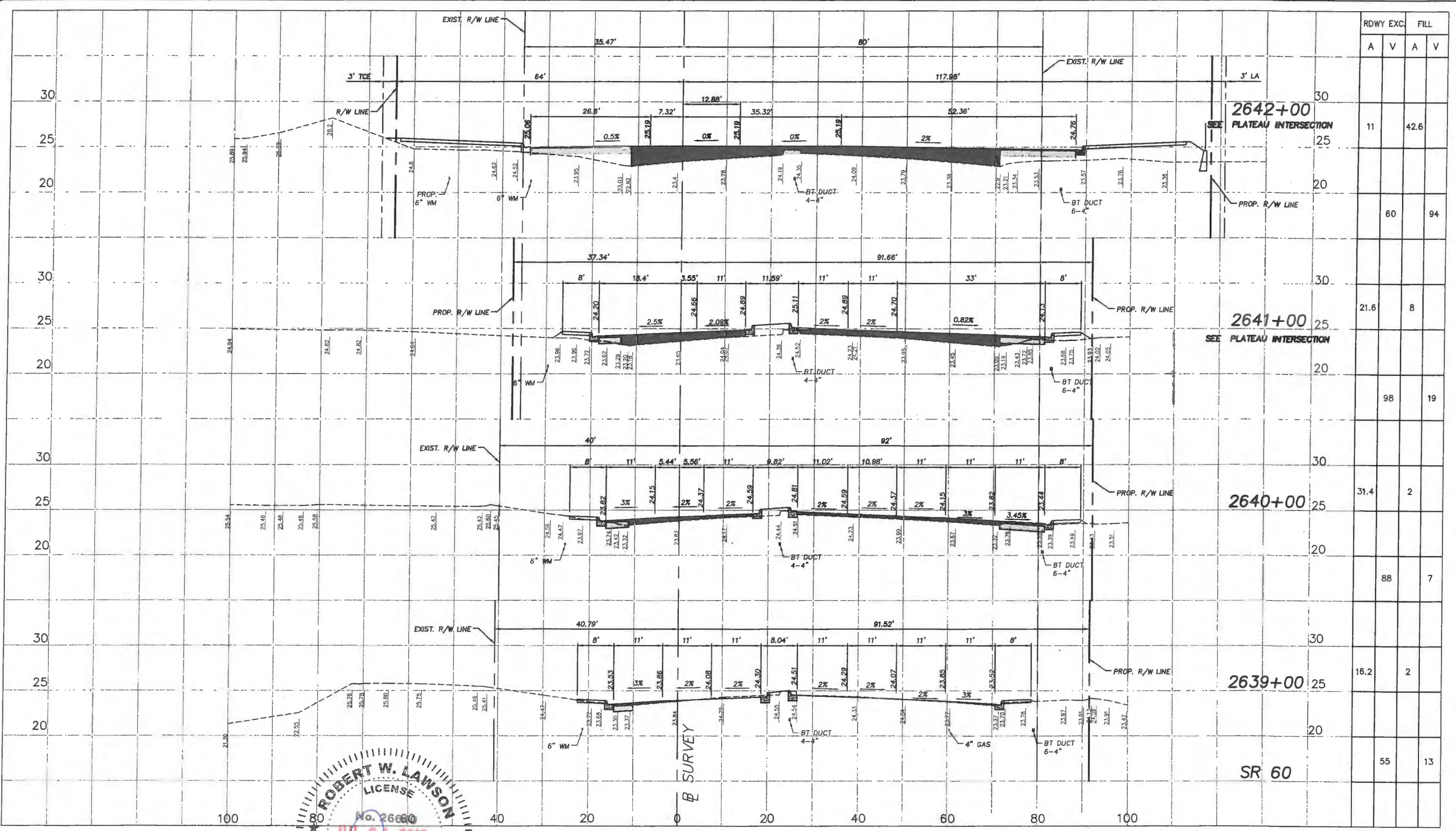


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Project:
 CROSS SECTIONS
 FOR
 SR 60 & 43RD AVENUE


Sheet: 78
 Of: 99
 Project No.
 LNW# WP1027



RDWY	EXC.		FILL	
	A	V	A	V
2642+00	11		42.6	
2641+00	21.6		8	
2640+00	31.4		2	
2639+00	16.2		2	
SR 60	55		13	

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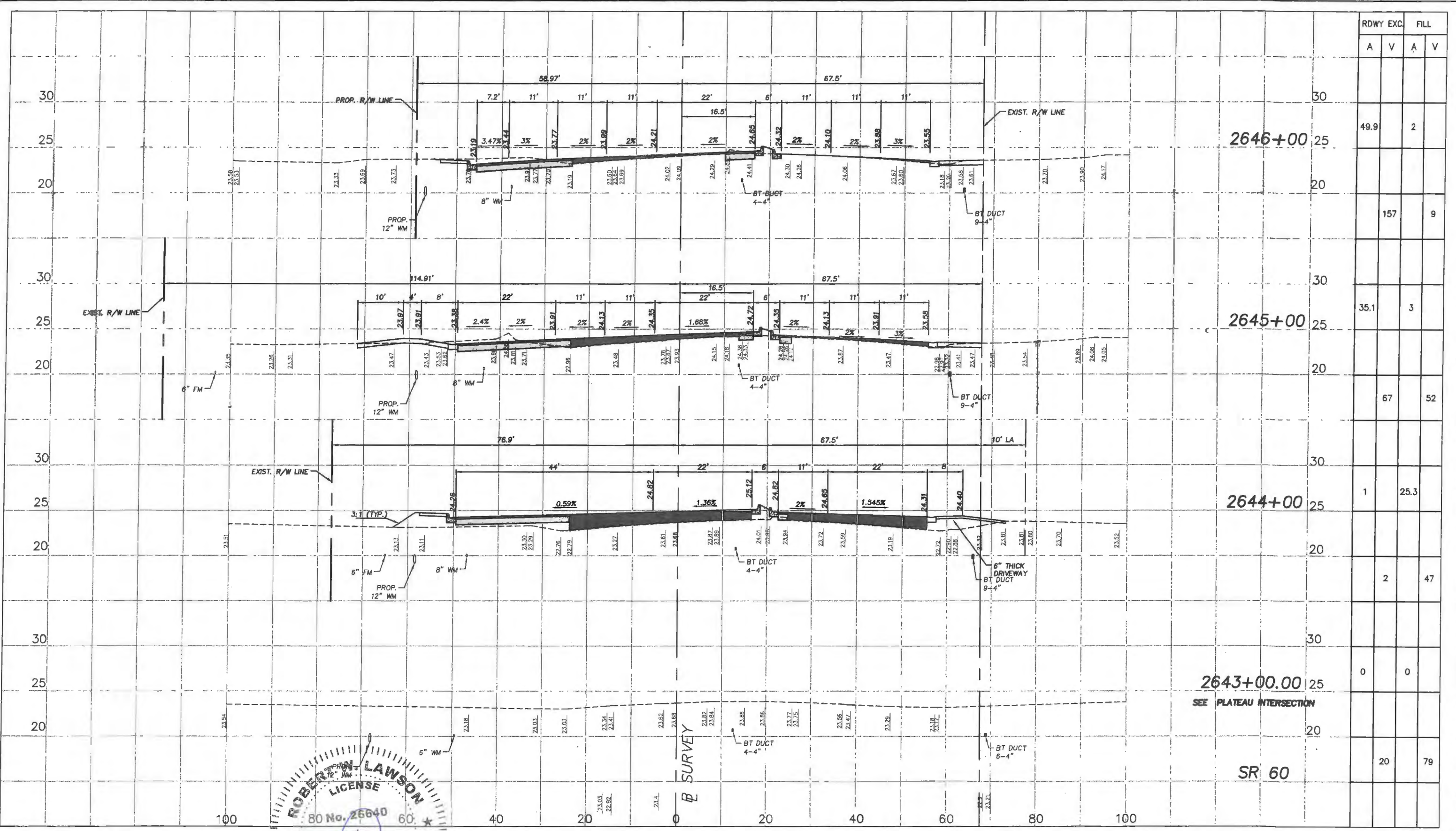
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Project:
CROSS SECTIONS
FOR
SR 60 & 43RD AVENUE

Sheet: 79
 Of: 99
 Project No.
 LNW# WP1027



RDWY	EXC.		FILL	
	A	V	A	V
2646+00		49.9		2
2645+00		35.1		3
2644+00		67		52
2643+00.00		0		0
SR 60	20		79	

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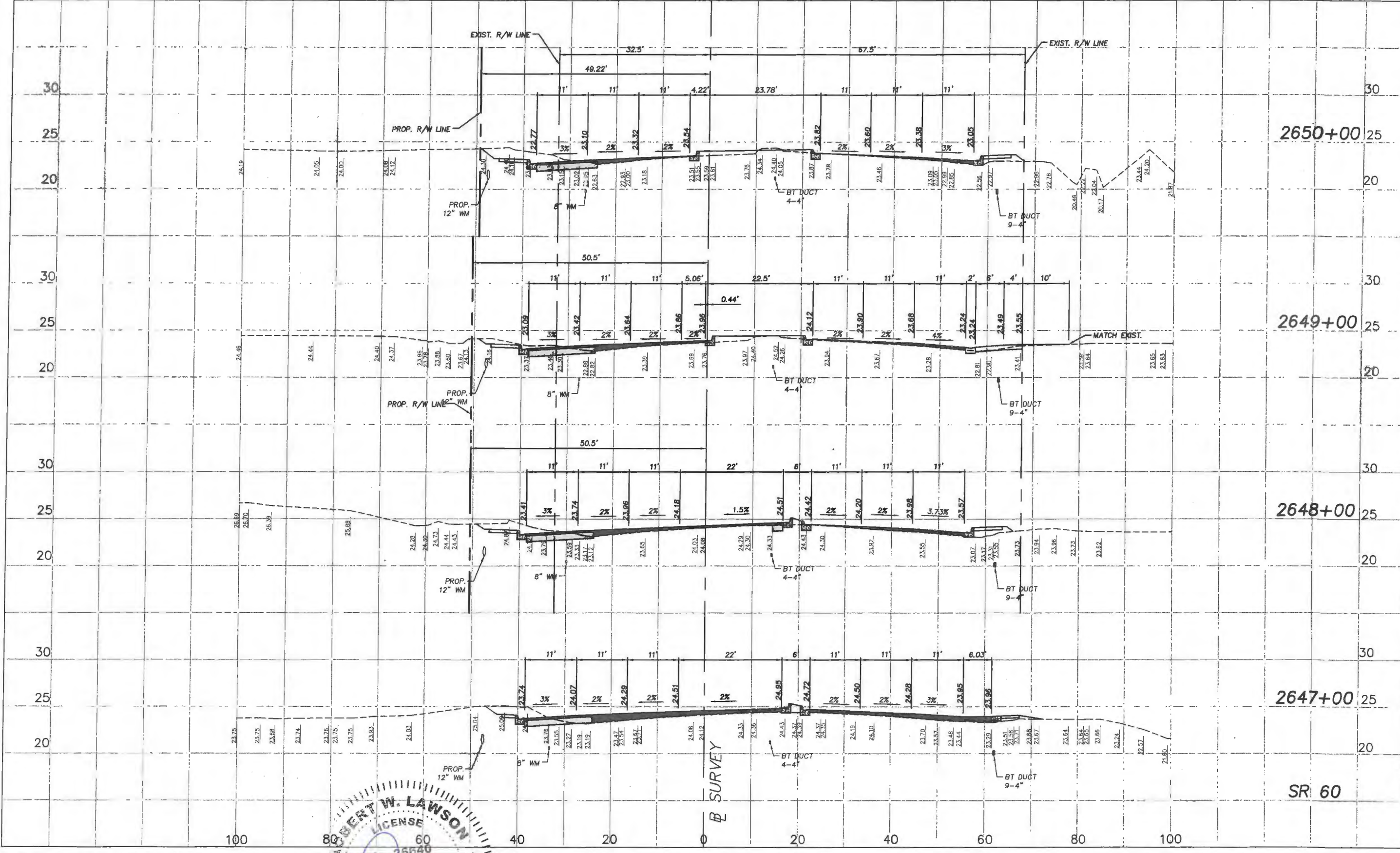
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Project:
CROSS SECTIONS
FOR
SR 60 & 43RD AVENUE

Sheet: 80
 Of: 99
 Project No.
 LNW WP1027

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RDWY EXC.		FILL	
A	V	A	V
32.9		8	
	106		30
24.2		8.2	
	108		26
34.2		5.7	
	110		16
25.2		3	
	139		9



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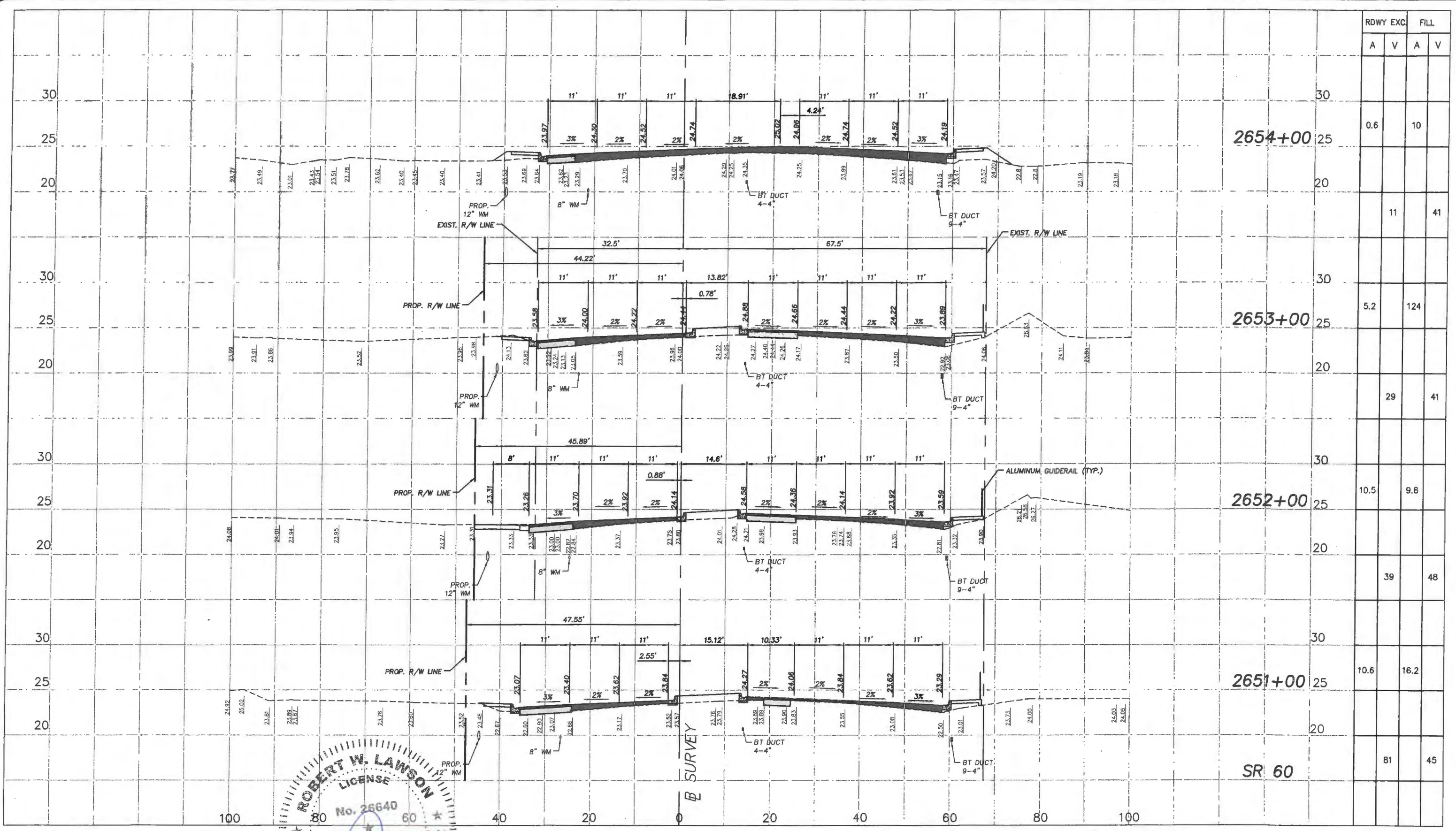
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Project:
CROSS SECTIONS
FOR
SR 60 & 43RD AVENUE

Sheet: 81
Of: 99
Project No.
LNW# WP1027

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	RDWY EXC.		FILL	
	A	V	A	V
2654+00		0.6		10
2653+00		5.2		124
2652+00		10.5		9.8
2651+00		10.6		16.2
SR 60		81		45

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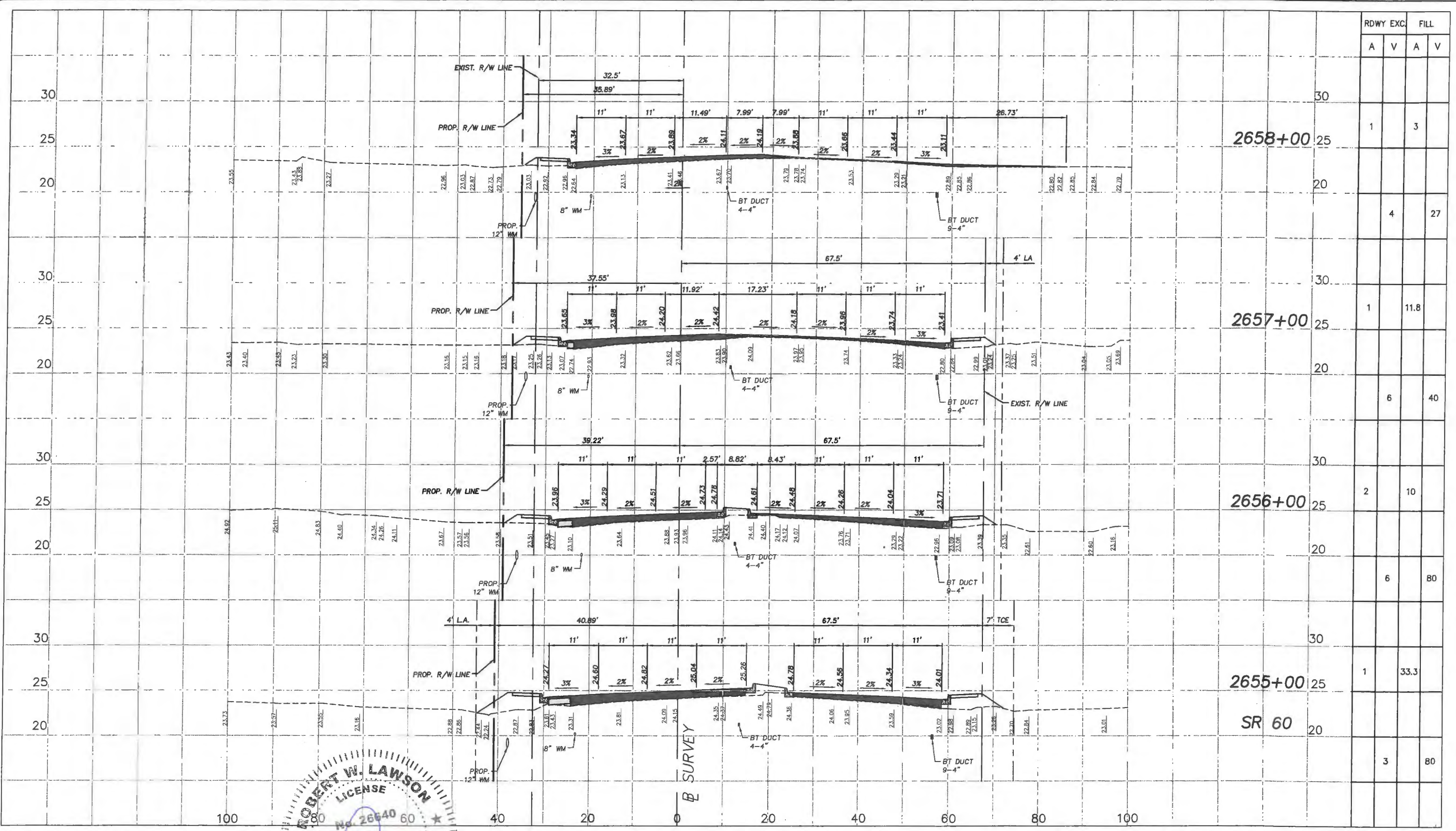
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Project: CROSS SECTIONS FOR SR 60 & 43RD AVENUE

Sheet: 82
 Of: 99
 Project No.
 LNW# WP1027

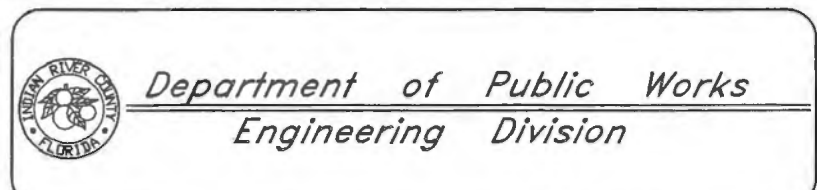
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RDWY EXC.		FILL	
A	V	A	V
1			3
		4	27
1			11.8
		6	40
2			10
		6	80
1			33.3
		3	80



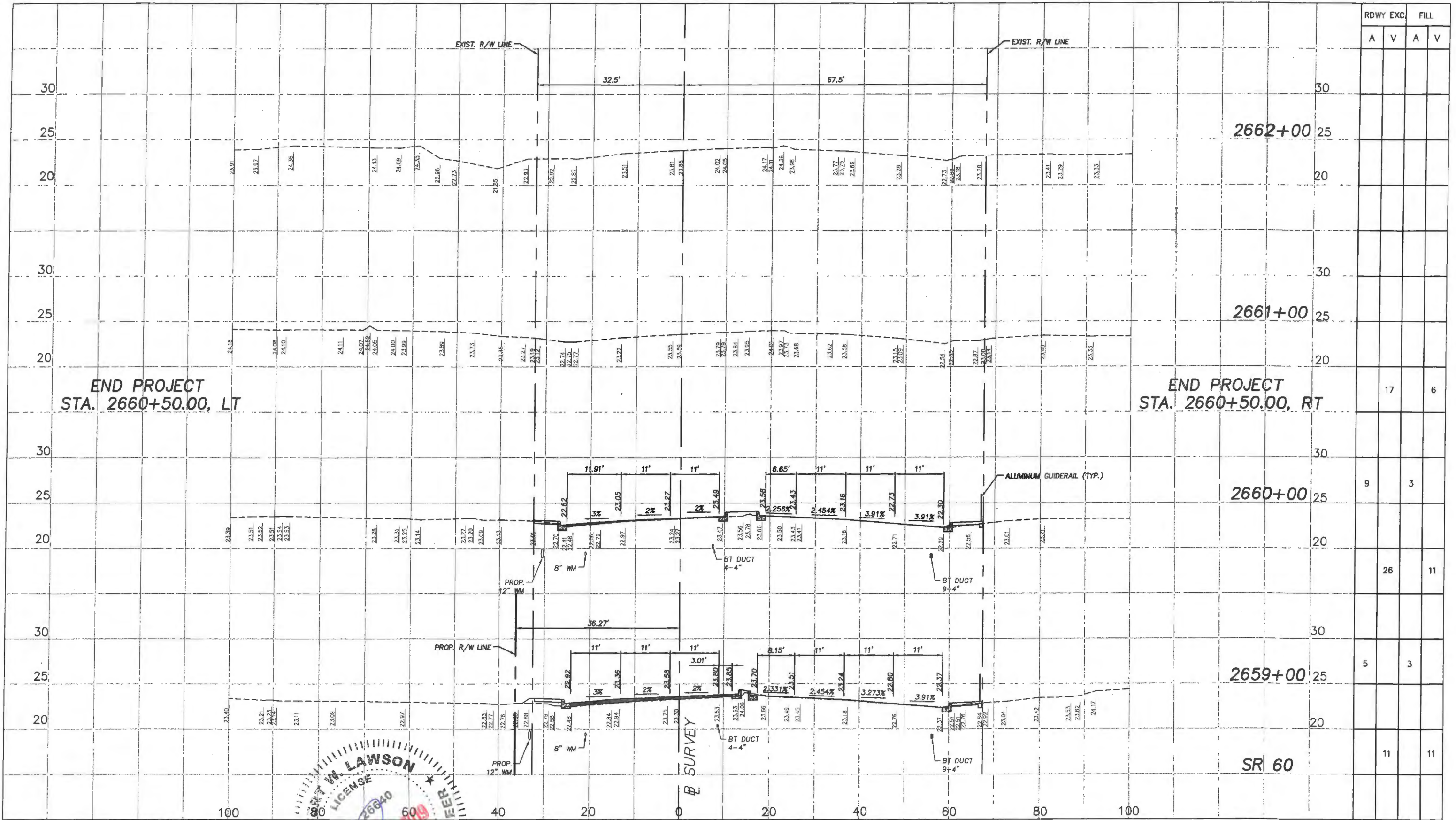
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Project:
CROSS SECTIONS
FOR
SR 60 & 43RD AVENUE

Sheet: 83
Of: 99
Project No.
LNW# WP1027



EB7017 / LB7082

Revision: By: Date:

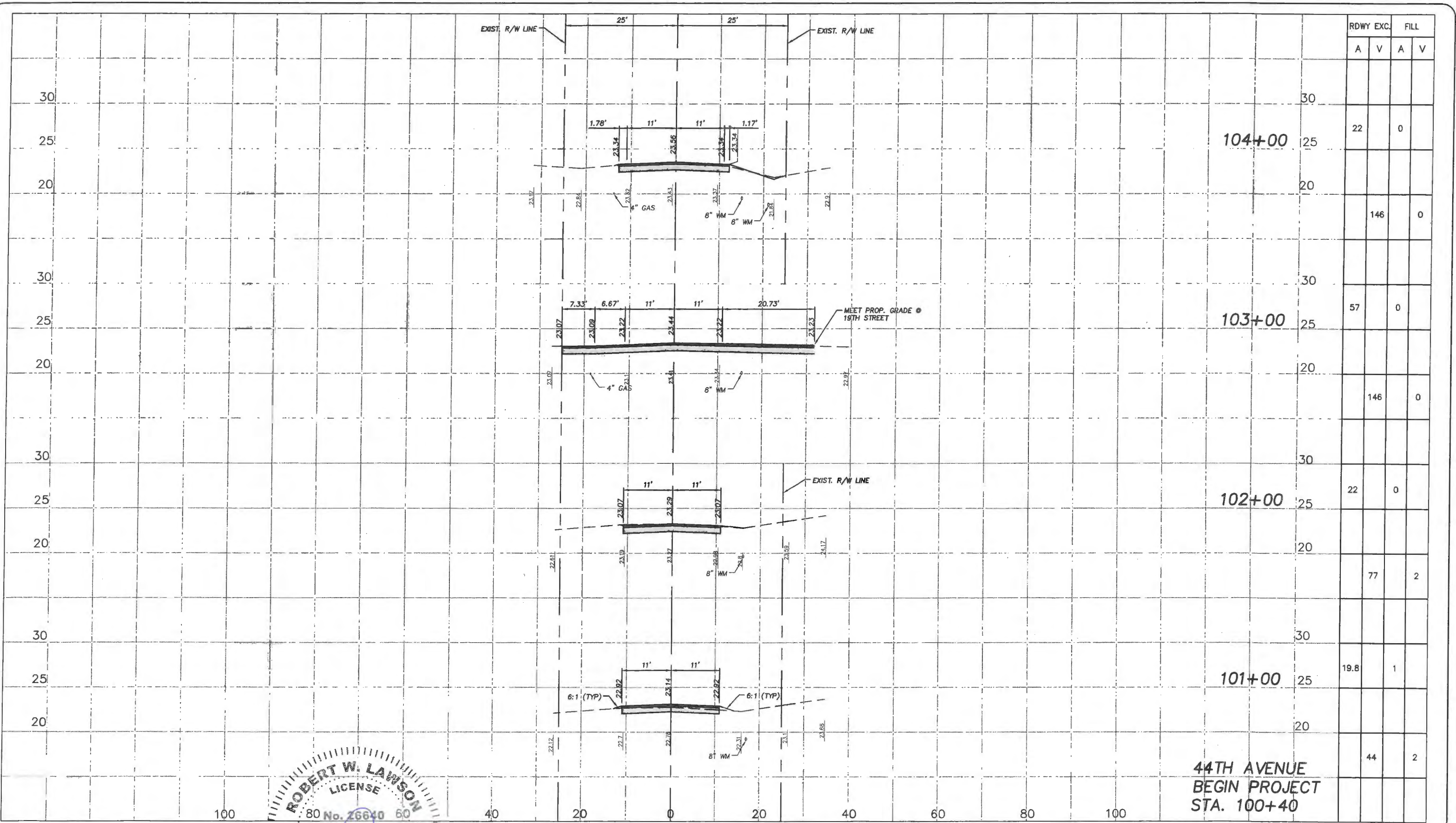


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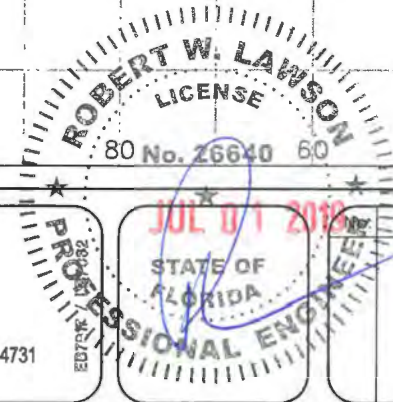
Project:
CROSS SECTIONS
FOR
SR 60 & 43RD AVENUE

Sheet: 84
Of: 99
Project No.
LNW# WP1027

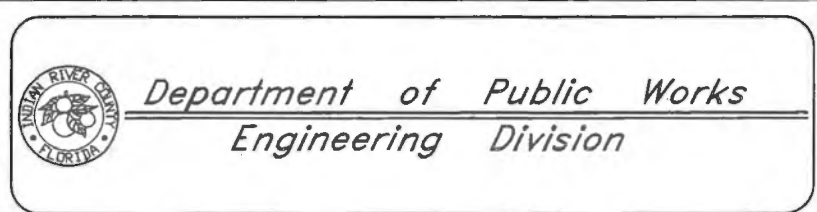


RDWY EXC.		FILL	
A	V	A	V
22	0	0	0
146	0	0	0
57	0	0	0
146	0	0	0
22	0	0	0
77	2	0	0
19.8	1	0	0
44	2	0	0

44TH AVENUE
 BEGIN PROJECT
 STA. 100+40



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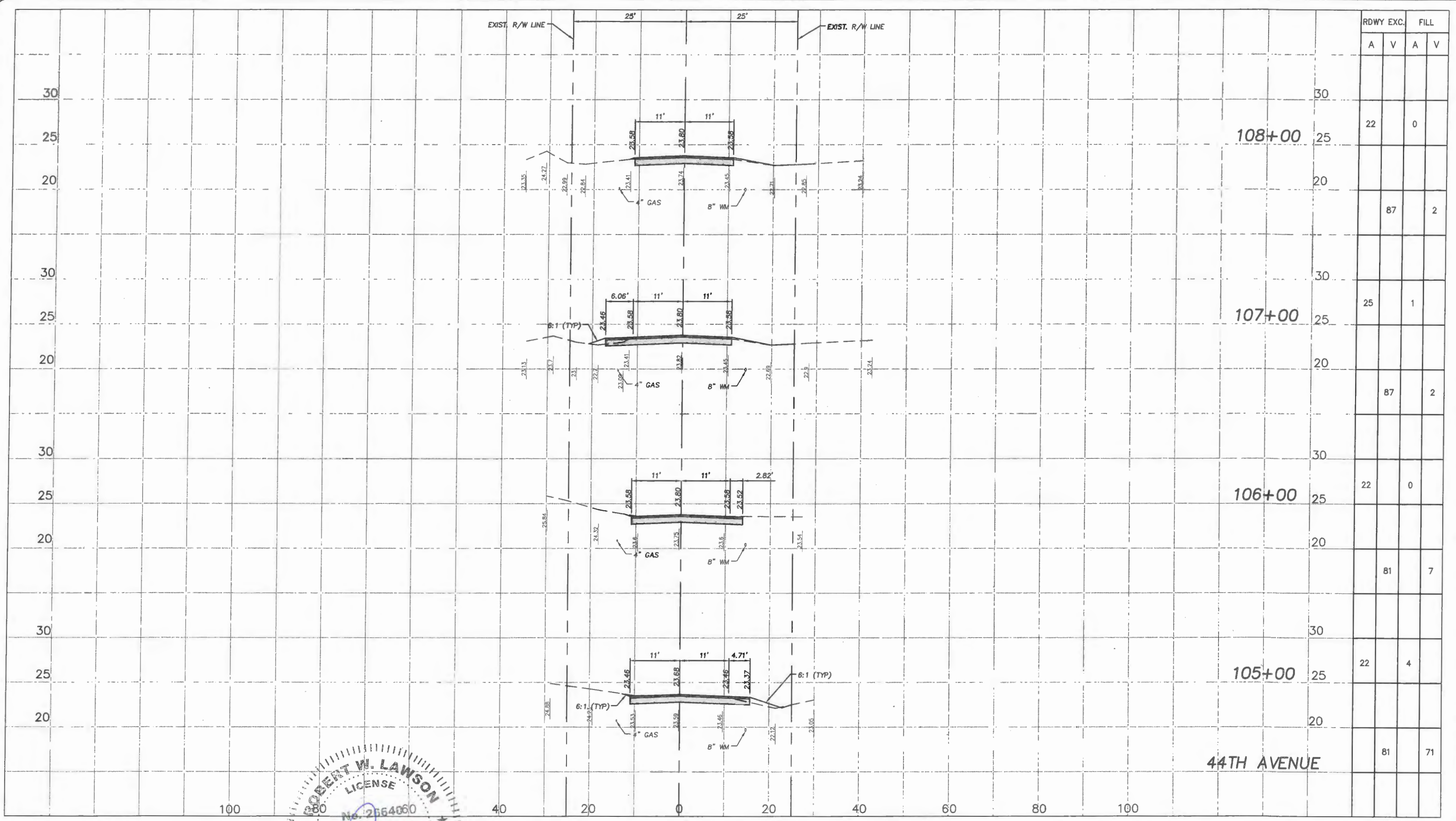


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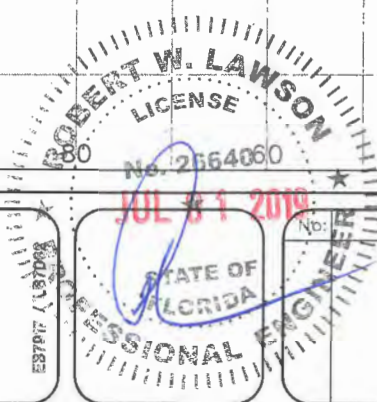
Project:
 CROSS SECTIONS
 FOR
 SR 60 & 43RD AVENUE

Sheet: 85
 Of: 99
 Project No.
 LNWP WP1027

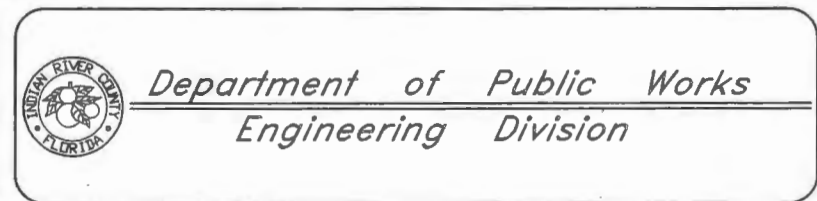




RDWY	EXC.		FILL	
	A	V	A	V
108+00		22		0
107+00		25		1
106+00		22		0
105+00		22		4
44TH AVENUE		81		71



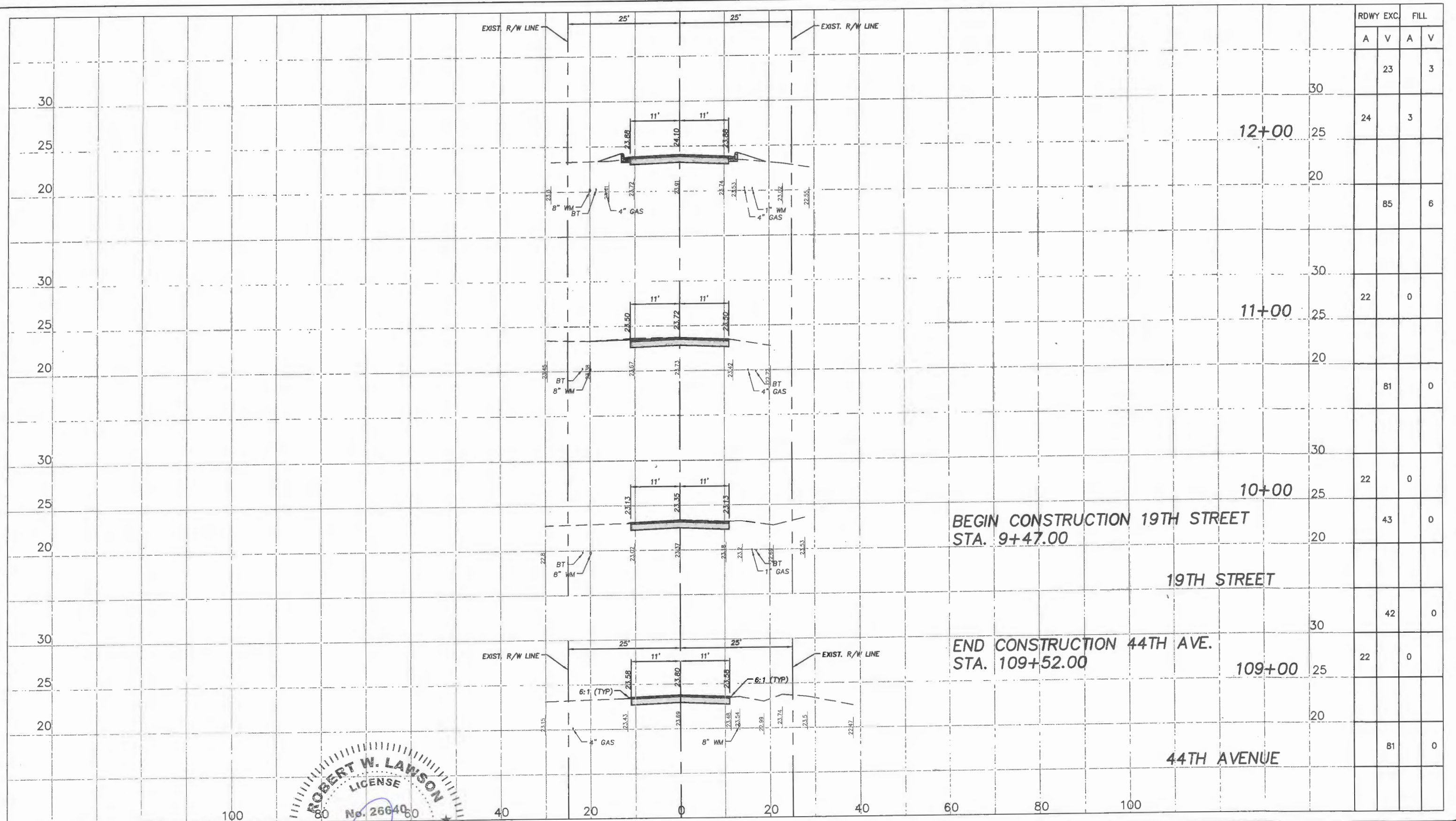
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Project: CROSS SECTIONS
FOR
SR 60 & 43RD AVENUE

Sheet: 86
Of: 99
Project No.
LNW WP1027



RDWY EXC.		FILL	
A	V	A	V
	23		3
	24		3
	85		6
	22		0
	81		0
	22		0
	43		0
	42		0
	22		0
	81		0

N.P.D.E.S. STORMWATER POLLUTION PREVENTION PLAN

THE CONTRACTOR SHALL PREPARE AND PROVIDE INDIAN RIVER COUNTY WITH A SPECIAL PLAN FOR THE PREVENTION, CONTROL AND ABATEMENT OF EROSION AND WATER POLLUTION.

THIS PLAN SHALL BE PREPARED IN ACCORDANCE WITH THE GENERAL REQUIREMENTS AND/OR ANY SPECIAL CONDITIONS OF ALL PERMITS WHICH AUTHORIZE THE CONSTRUCTION OF THE PROJECT. IN THE EVENT THERE ARE NO PERMITS REQUIRED TO CONSTRUCT THE PROJECT, OR THE APPROVED PERMITS TO DO SPECIFICALLY ADDRESS EROSION AND WATER POLLUTION OR THEY DO NOT CONTROL SPECIAL CONDITIONS RELATED TO EROSION AND WATER POLLUTION, THE PROJECT STORMWATER POLLUTION PREVENTION PLAN FOR CONSTRUCTION ACTIVITIES SHALL BE GOVERNED BY FLORIDA DEPARTMENT OF TRANSPORTATION STANDARDS SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION) SUBARTICLES 7-1.1, 7-2.2, 7-8.2, AND ARTICLES 104.1 THROUGH 104.9.

THE CONTRACTOR'S PART OF THE SWPPP WILL INCLUDE HIS EROSION CONTROL AND STORMWATER MANAGEMENT PLAN DURING CONSTRUCTION AND ALL ADDITIONAL MEASURES HE WILL EMPLOY TO DISPOSE, CONTROL, OR OTHERWISE PREVENT THE DISCHARGE OF SOLIDS, HAZARDOUS, AND SANITARY WASTES TO WATERS. PROCEDURES TO CONTROL ON-SITE TRACKING AND SPILLING OF SOIL BY VEHICLES AND CONSTRUCTION EQUIPMENT SHALL ALSO BE INCLUDED. THE CONTRACTOR SHALL ALSO INCLUDE A PROCEDURE FOR CLEANUP AND REPORTING OF NON-STORM WATER DISCHARGES SUCH AS CONTAMINATED GROUNDWATER AND ACCIDENTAL SPILLS OF CONTAMINANTS. THE CONTRACTOR'S PART OF SWPPP INCLUDING REQUIRED SIGNED CERTIFICATION STATEMENTS SHALL BE FURNISHED TO AND APPROVED BY INDIAN RIVER COUNTY PRIOR TO INITIATION OF ANY SOIL DISTURBING ACTIVITIES.

THE SWPPP FOR CONSTRUCTION ACTIVITIES SHALL BE PREPARED IN ACCORDANCE WITH THE FORMAT AND GUIDELINES SET FORTH IN THE EPA DOCUMENT NUMBER 833-R-92-001, DATED OCTOBER 1992, TITLED "STORMWATER MANAGEMENT FOR CONSTRUCTION ACTIVITIES" AND THE CONTRACTOR'S PROPOSED SEQUENCE OF OPERATIONS. THE SWPPP FOR CONSTRUCTION ACTIVITIES SHALL DESCRIBE, BUT NOT BE LIMITED TO THE FOLLOWING ITEMS OR ACTIVITIES:

THE CONTRACTOR SHALL APPLY FOR AND OBTAIN AN NPDES PERMIT FROM THE FDEP. THE CONTRACTOR SHALL PREPARE AND SUBMIT THE NOTICE OF INTENT ALONG WITH THE APPROPRIATE SWPP, SUPPORTING DOCUMENTS, AND PERMIT FEE TO THE FDEP PRIOR TO CONSTRUCTION COMMENCEMENT.

1. FOR EACH PHASE OF CONSTRUCTION OPERATIONS OR ACTIVITIES, THE CONTRACTOR SHALL SUPPLY THE FOLLOWING INFORMATION
 - A. LOCATIONS OF ALL EROSION CONTROL DEVICES.
 - B. TYPES OF ALL EROSION CONTROL DEVICES.
 - C. ESTIMATED LENGTH OF TIME EROSION CONTROL DEVICES WILL BE IN OPERATION.
 - D. MONITORING SCHEDULES FOR MAINTENANCE OF EROSION CONTROL DEVICES.
 - E. METHOD OF MAINTENANCE OF EROSION CONTROL DEVICES.
 - F. METHODS OF CONTAINMENT OR REMOVAL OF POLLUTANTS OR HAZARDOUS WASTES.

2. THE CONTRACTOR SHALL FURNISH THE ENGINEER THE NAME AND TELEPHONE NUMBER OF THE PERSON WHO WILL BE RESPONSIBLE FOR MONITORING AND MAINTAINING THE EROSION CONTROL DEVICES.

3. THE CONTRACTOR SHALL SUBMIT A COPY OF HIS SWPPP FOR CONSTRUCTION ACTIVITIES TO THE ENGINEER FOR HIS REVIEW AND APPROVAL ON OR BEFORE THE PROJECT PRECONSTRUCTION MEETING. THE CONTRACTOR SHALL PREPARE AND SUBMIT THE SWPPP AND FDEP NOI TO THE FDEP PRIOR TO THE PROJECT PRECONSTRUCTION MEETING.

NO CONSTRUCTION ACTIVITIES SHALL COMMENCE UNTIL THE SWPPP FOR CONSTRUCTION ACTIVITIES HAS BEEN REVIEWED AND RECEIVED APPROVAL FROM THE ENGINEER AND FDEP.

THE CONTRACTOR SHALL SUBMIT TWO (2) COPIES OF THE APPROVED SWPPP FOR CONSTRUCTION ACTIVITIES TO THE ENGINEER AND ONE (1) COPY OF THE APPROVED SWPPP FOR CONSTRUCTION ACTIVITIES TO INDIAN RIVER COUNTY PRIOR TO THE BEGINNING OF CONSTRUCTION.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING, MONITORING AND MODIFYING THE SWPPP FOR CONSTRUCTION ACTIVITIES TO MEET CHANGING PROJECT SITE CONDITIONS.

5. THE CONTRACTOR SHALL MAINTAIN A COPY OF THE APPROVED SWPPP FOR CONSTRUCTION ACTIVITIES AT A CENTRAL LOCATION ON THE PROJECT SITE AT ALL TIMES AND BE RESPONSIBLE FOR COMPLIANCE WITH THE APPROVED SWPPP FOR CONSTRUCTION ACTIVITIES.

6. FULL PAYMENT FOR ALL WORK AND MATERIALS NECESSARY FOR PREPARATION, SUBMITTAL AND SUBSEQUENT MODIFICATION OF THE CONTRACTOR'S SWPPP FOR CONSTRUCTION ACTIVITIES AND FOR IMPLEMENTING IT DURING CONSTRUCTION SHALL BE INCLUDED IN THE MOBILIZATION PAY ITEM (L.S.) AND THE N.D.P.E.S. COMPLIANCE PAY ITEM (LS).



No.	Revision:	By:	Date:



Department of Public Works
Engineering Division

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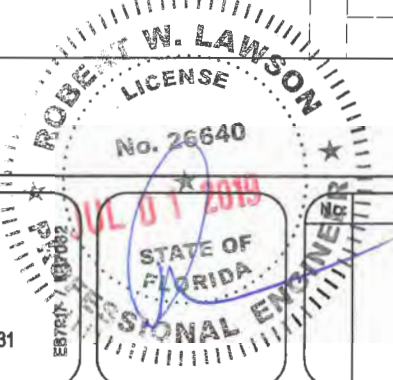
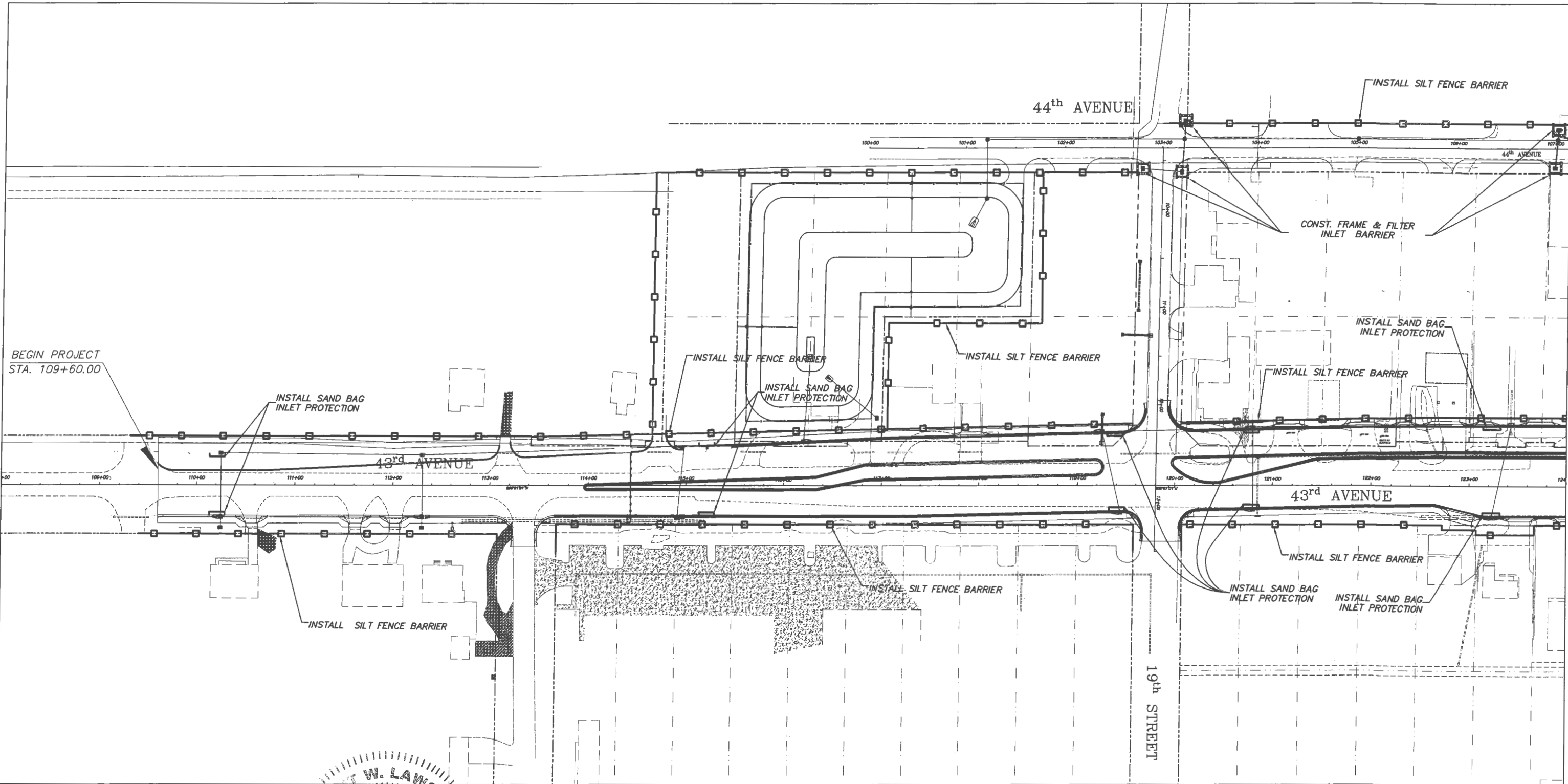
Project:
STORM WATER POLLUTION
PREVENTION PLAN
FOR
SR 60 & 43RD AVENUE

Sheet: 88
Of: 99
Project No.
LNW# WP1027


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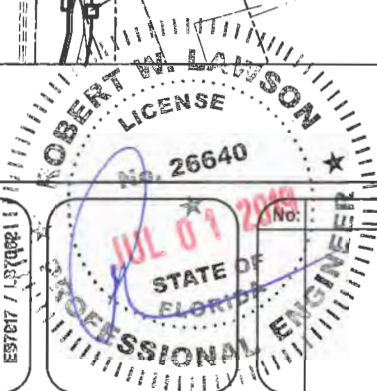
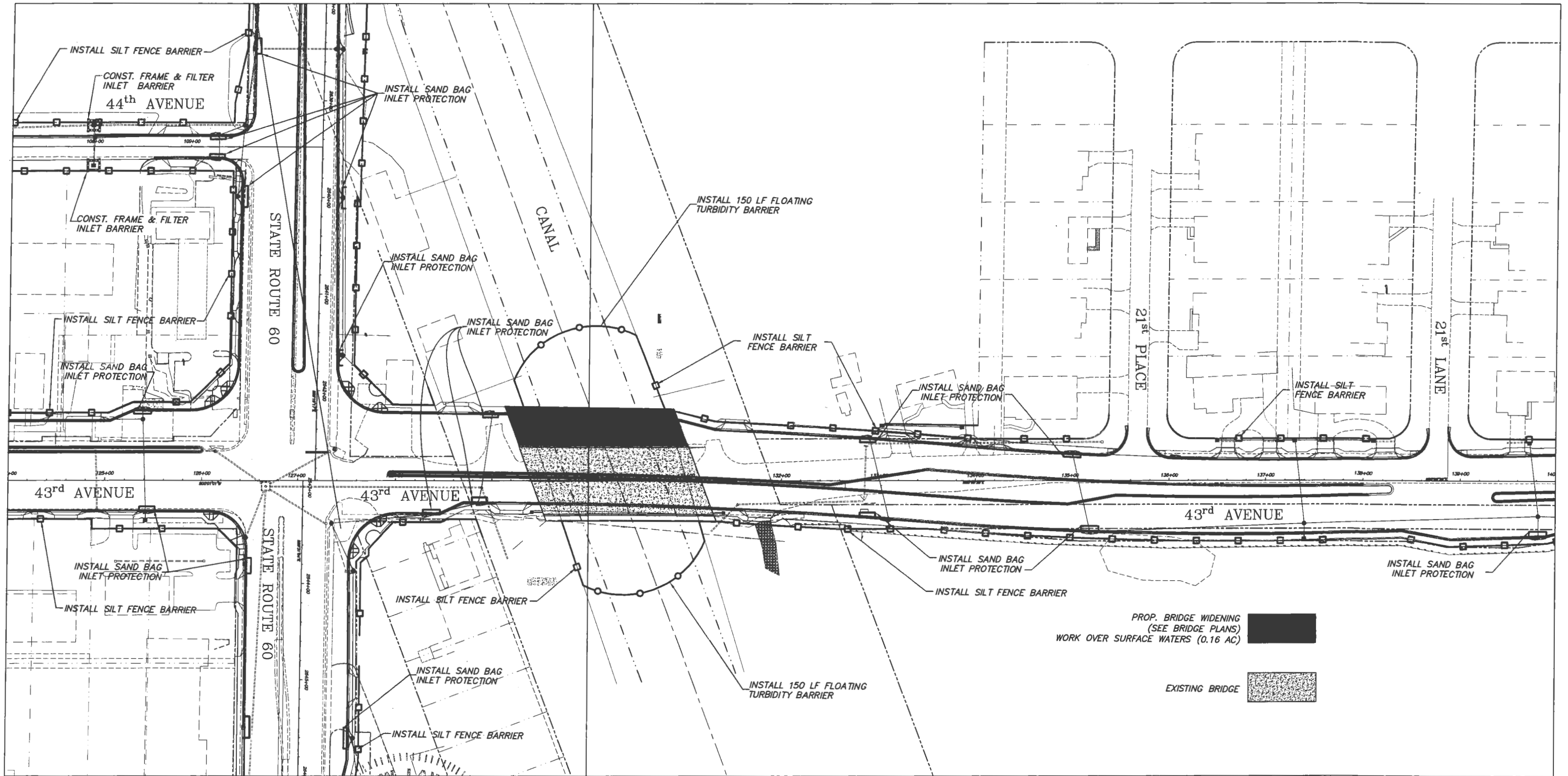
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Project:
 STORM WATER POLLUTION
 PREVENTION PLAN
 FOR
 SR 60 & 43RD AVENUE


Sheet: 89
 Of: 99
 Project No.
 LN# WP1027



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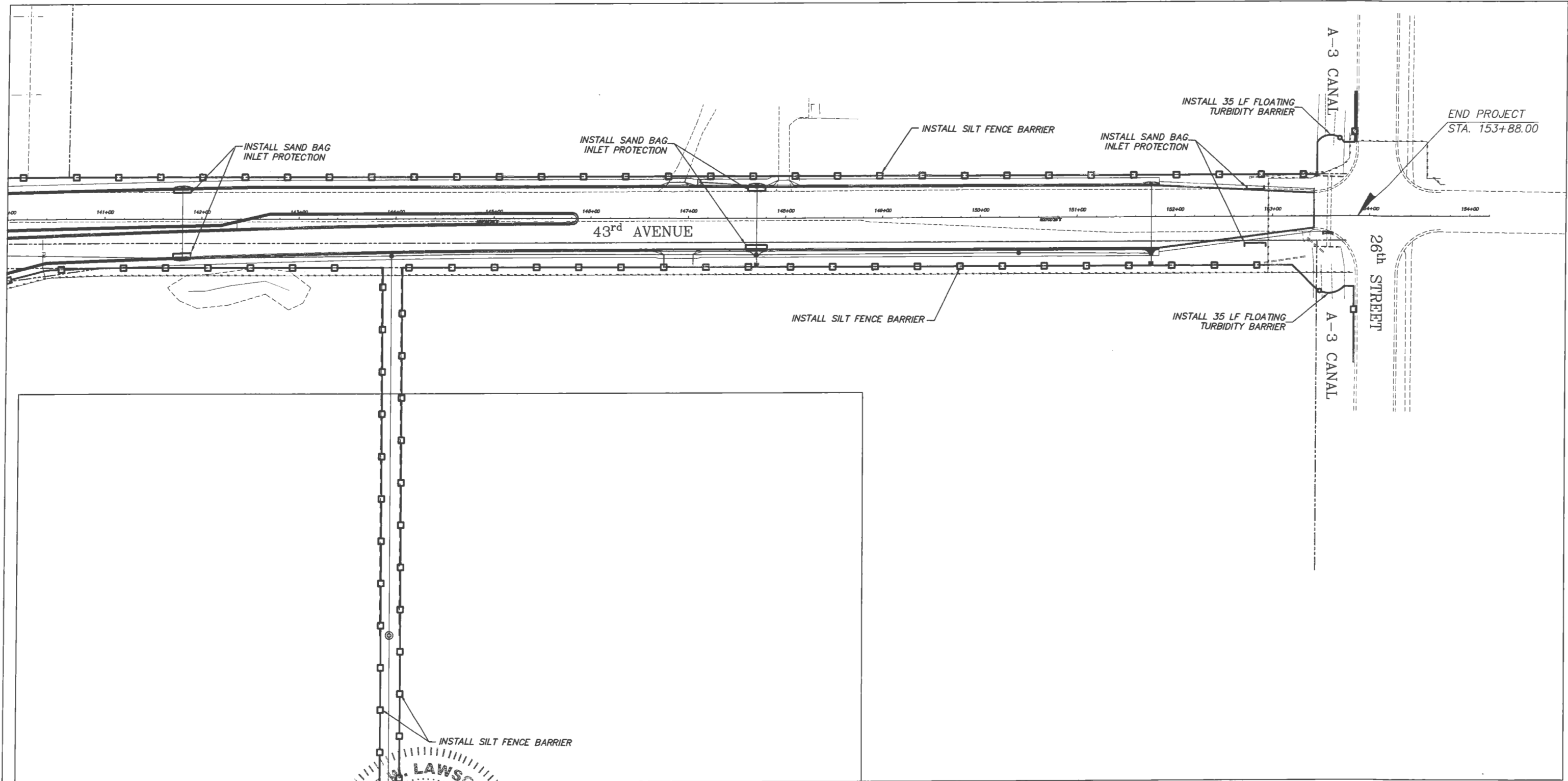

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 Field Book No:

Project:
 STORM WATER POLLUTION
 PREVENTION PLAN
 FOR
SR 60 & 43RD AVENUE

Sheet: 90
 Of: 99
 Project No.
 LNW# WP1027


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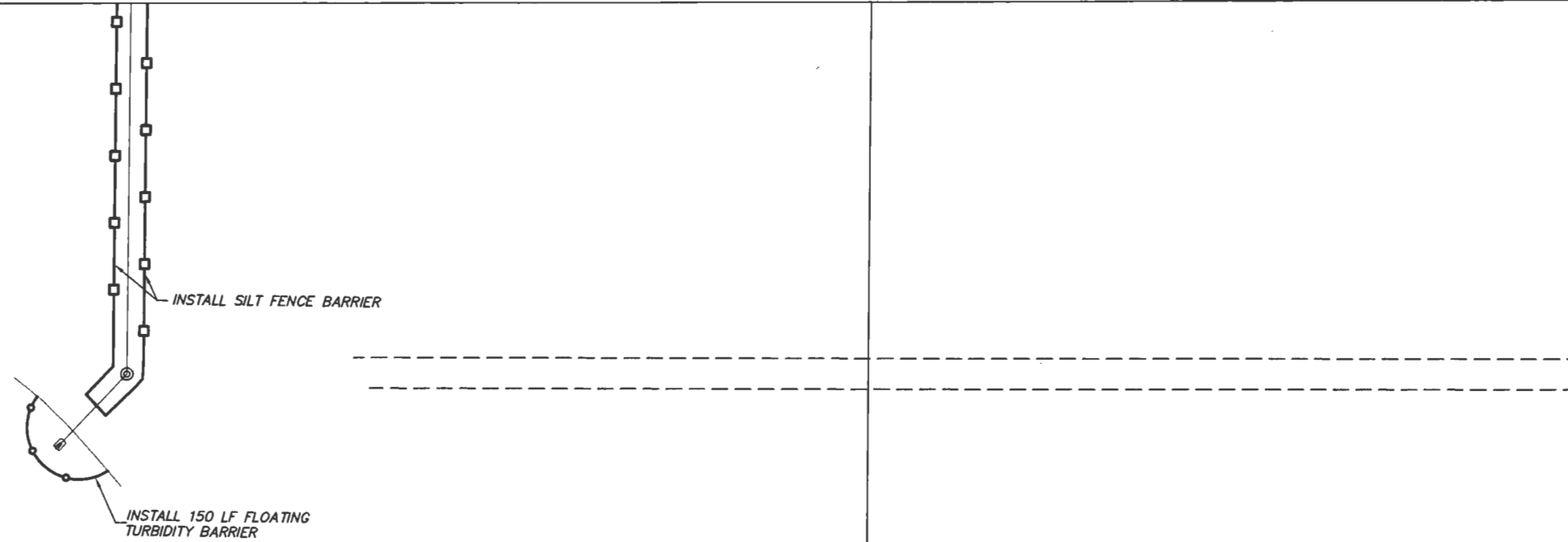
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 Department of Public Works
 Engineering Division

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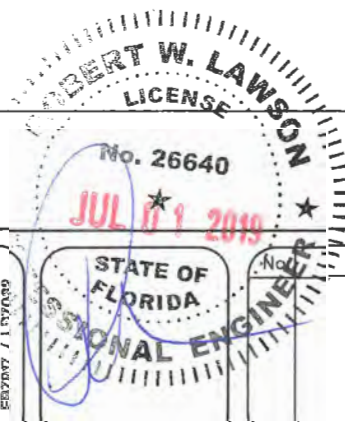
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 STORM WATER POLLUTION
 PREVENTION PLAN
 FOR
 SR 60 & 43RD AVENUE

Sheet: 91
 Of: 99
 Project No.
 LNW# WP1027

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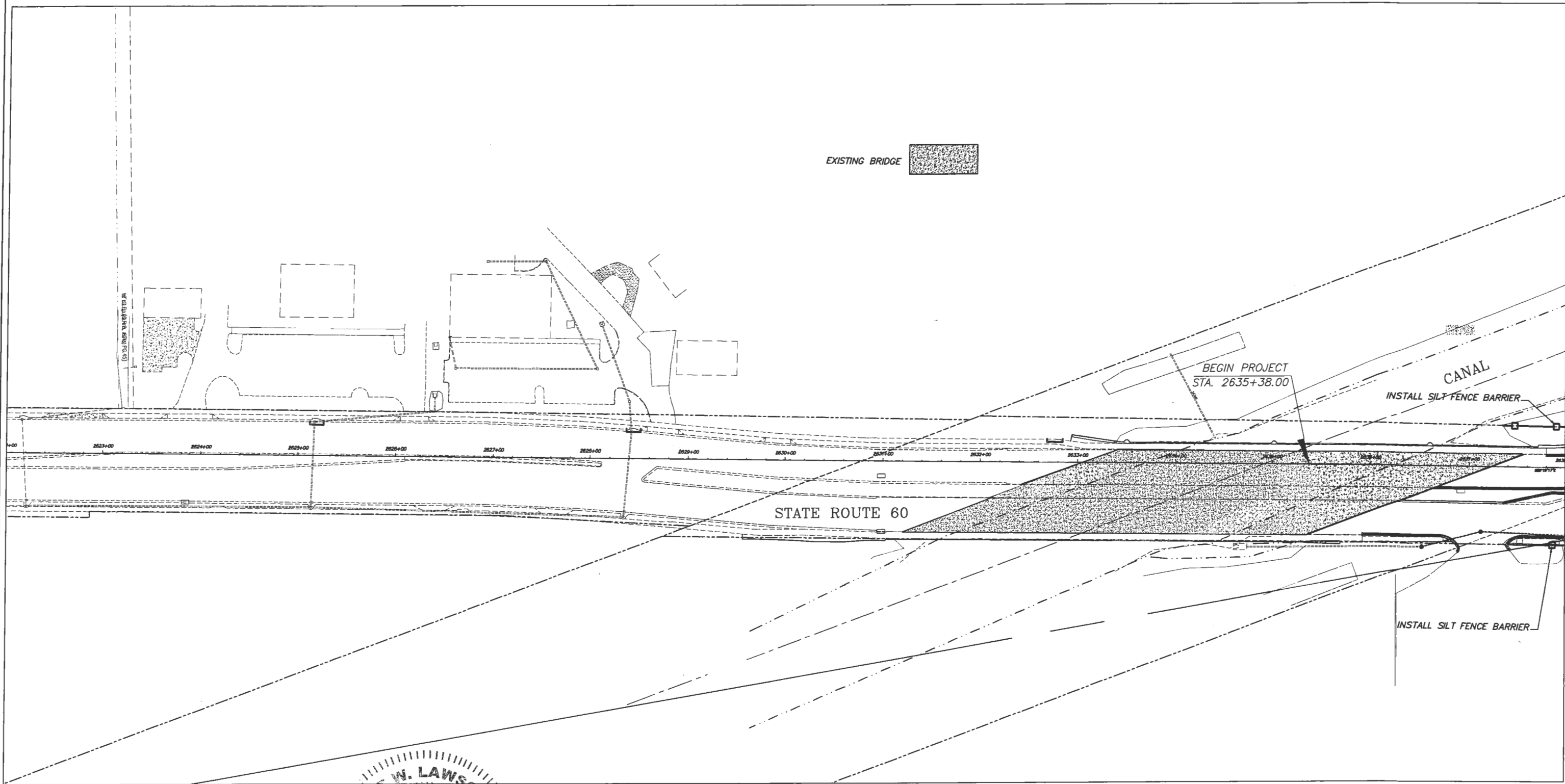
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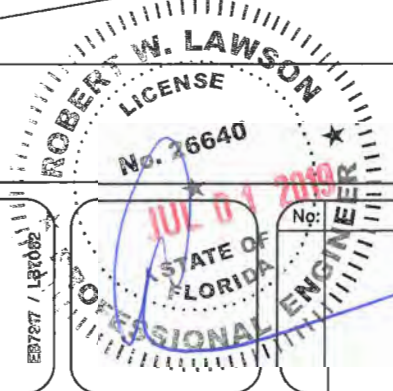
Project:
STORM WATER POLLUTION
PREVENTION PLAN
FOR
SR 60 & 43RD AVENUE

Sheet: 92
Of: 99
Project No.
LNW# WP1027

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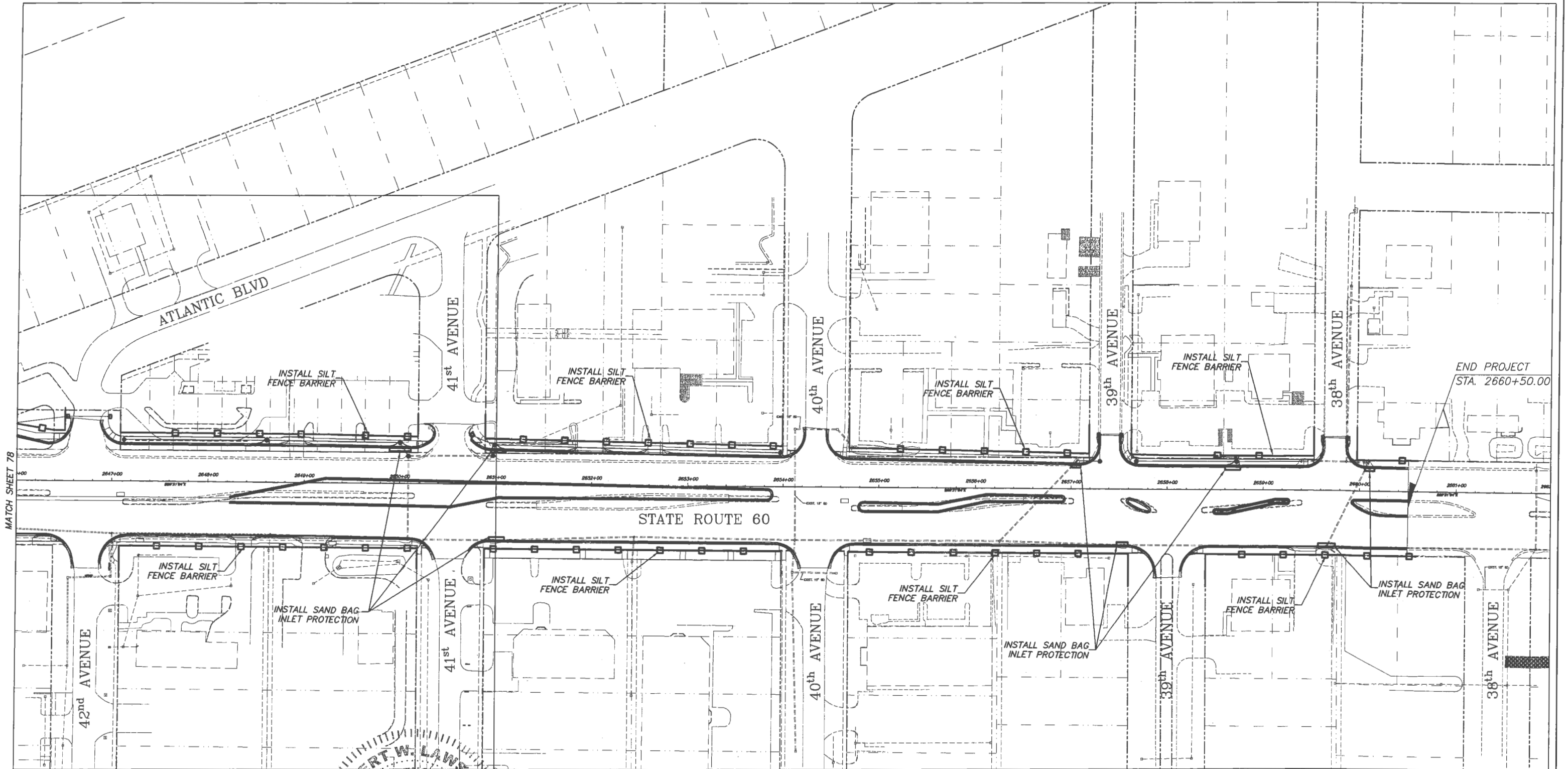
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 STORM WATER POLLUTION
 PREVENTION PLAN
 FOR
SR 60 & 43RD AVENUE

Sheet: 93
 Of: 99
 Project No.
 LNW# WP1027

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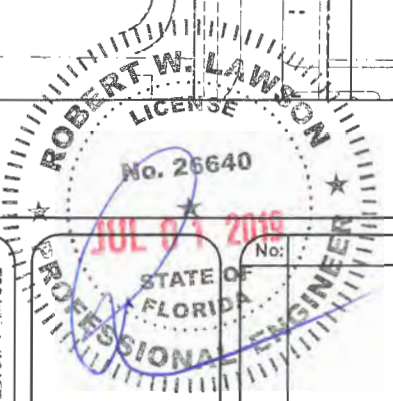
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END PROJECT
STA. 2660+50.00



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Date: 6/2017
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PREVENTION PLAN
FOR
SR 60 & 43RD AVENUE

Sheet: 94
Of: 99
Project No.
LNW# WP1027

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TRAFFIC CONTROL PLAN GENERAL NOTES:

- ALL TRAFFIC CONTROL DEVICES AND SCHEMES SHALL CONFORM TO THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION), THE FDOT DESIGN STANDARDS (LATEST EDITION), AND FHWA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD 2009 EDITION).
- THESE CONSTRUCTION ACTIVITIES MAY GENERALLY BE CONSTRUCTED IN A SEQUENCE WHICH BEST EXPEDITES THE CONSTRUCTION AT THE DISCRETION OF THE ENGINEER. TRAFFIC DISRUPTIONS WHICH ARE NOT SHOWN ON THE TRAFFIC CONTROL PLAN, BUT WHICH ARE NECESSARY TO CONSTRUCT THE PROJECT SHALL BE SUBMITTED IN WRITING TO THE ENGINEER AND APPROVAL SHALL BE OBTAINED 3 FULL BUSINESS DAYS PRIOR TO COMMENCEMENT OF WORK. SUBMITTAL MATERIAL SHALL INCLUDE SKETCHES, CALCULATIONS, AND OTHER DATA REQUIRED BY THE ENGINEER.
- FOURTEEN DAYS PRIOR TO THE BEGINNING OF THE CONSTRUCTION THE CONTRACTOR WILL FURNISH AND INSTALL VMS SIGNS TO NOTIFY RESIDENTS OF THE IMPENDING WORK. THESE SIGNS WILL STAY IN PLACE UP TO THE BEGINNING OF THE CONSTRUCTION.
- THE CONTRACTOR SHALL NOTIFY THE DISTRICT PUBLIC INFORMATION OFFICE AND THE PROJECT ENGINEER OF PROPOSED LANE CLOSURES OR TEMPORARY DETOURS 14 WORKING DAYS IN ADVANCE. THE CONTRACTOR SHALL NOTIFY THE LOCAL POLICE DEPARTMENTS, FIRE DEPARTMENTS, AND EMS WITHIN 48 HOURS OF ANTICIPATED DISRUPTION OF NORMAL FLOW OF TRAFFIC.
- ALLOWABLE ON-SITE CONSTRUCTION WORK HOURS ARE FROM 8:00 AM TO 6:00 PM MONDAY THROUGH FRIDAY.
- NO DETOUR OR LANE CLOSURES WILL BE ALLOWED WITHOUT ASSURANCE THAT THE PRIME AND SUBCONTRACTORS HAVE PLANNED THE OPERATIONS TO ACHIEVE RE-OPENING ACCORDING TO THE CONTRACT.
- ACCESS TO ADJACENT PROPERTIES SHALL BE MAINTAINED BY THE CONTRACTOR DURING ALL PHASES OF CONSTRUCTION.
- MAIL DELIVERY, GARBAGE PICKUP AND OTHER MUNICIPAL SERVICES SHALL BE MAINTAINED ON ALL ADJACENT PROPERTIES DURING ALL PHASES OF CONSTRUCTION.
- WHENEVER CONSTRUCTION EQUIPMENT IS BEING DRIVEN OR TRANSPORTED ON THE OPEN TRAVEL LANES, THE CONTRACTOR SHALL UTILIZE FDOT STANDARD INDEX NO. 619.
- THE CONTRACTOR SHALL PROVIDE ANY AND ALL MATERIALS AND EQUIPMENT NEEDED TO MEET DROP-OFF REQUIREMENTS OF FDOT STANDARD INDEX NO. 600. PAYMENT FOR ALL MATERIALS AND EQUIPMENT SHALL BE INCLUDED UNDER PAY THE ITEM, MAINTENANCE OF TRAFFIC.
- THE CONTRACTOR SHALL INSTALL EROSION CONTROL MEASURES PRIOR TO BEGINNING CONSTRUCTION AND SHALL MAINTAIN DRAINAGE DURING CONSTRUCTION OPERATIONS TO ENSURE SAFE VEHICULAR OPERATIONS AS WELL AS TO PROHIBIT ANY UNDUE IMPACT ON OFF-SITE DRAINAGE OR ENVIRONMENTAL CONCERNS. PROVISIONS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO USE AND SHALL INCLUDE PROVISIONS AS REQUIRED IN THE NPDES AND OTHER PERMITS.
- EXCAVATIONS DEEPER THAN 18 INCHES AND ANY OTHER WORK WHICH MAY ADVERSELY AFFECT THE PERFORMANCE OF ANY UTILITY SHALL NOT BE DONE ON SATURDAYS. ALL SATURDAY WORK MUST BE APPROVED BY THE ENGINEER.
- DRIVEWAY SLOPES MAY BE MODIFIED AS DIRECTED BY THE ENGINEER TO MATCH EXISTING CONDITIONS DURING CONSTRUCTION.

SIGNING AND PAVEMENT MARKINGS:

- THE CONTRACTOR SHALL REMOVE OR COVER ANY EXISTING OR PROPOSED SIGNS AND/OR PAVEMENT MARKINGS WHICH CONFLICT WITH THE TRAFFIC CONTROL THROUGH THE WORK ZONE. WHEN THE CONFLICT NO LONGER EXISTS THE CONTRACTOR SHALL RESTORE THE SIGNS AND/OR PAVEMENT MARKINGS TO THEIR ORIGINAL POSITION. REMOVAL OF PAVEMENT MARKINGS IN AREAS WHICH WILL NOT BE MILLED, BUT WHERE RESTRIPIPING OCCURS, SHALL BE BY SAND OR WATER BLASTING OR ANY OTHER METHOD THAT WILL NOT MATERIALLY DAMAGE THE SURFACE TEXTURE OF THE PAVEMENT AND WHICH WILL ELIMINATE THE PREVIOUS MARKING PATTERN REGARDLESS OF WEATHER AND LIGHT CONDITIONS. USE OF BLACK PAINT TO COVER EXISTING PAVEMENT MARKINGS SHALL BE PROHIBITED.
- ALL EXISTING PAVEMENT MARKINGS AND RPM'S THAT HAVE BEEN ALTERED OR REMOVED DUE TO CONSTRUCTION OPERATIONS, AND WHICH WILL NOT BE REPLACED BY NEW MARKINGS AND RPM'S, AS SHOWN ON THE PAVEMENT MARKING PLANS, SHALL BE REPLACED UPON COMPLETION OF THE PHASES OF CONSTRUCTION WHICH REQUIRE THEIR ALTERATION OR REMOVAL. DURING AND AFTER COMPLETION OF EACH CONSTRUCTION PHASE, THE CONTRACTOR SHALL PROVIDE ALL NECESSARY TEMPORARY PAVEMENT MARKINGS (I.E. LANE LINES, ARROWS, CROSSWALKS, STOP BARS, RPM'S, ETC.) UNTIL THE FINAL FRICTION COURSE IS PLACED AND PERMANENT MARKINGS INSTALLED.
- THE CONTRACTOR SHALL INSTALL CONSTRUCTION SIGNING PRIOR TO COMMENCEMENT OF CONSTRUCTION AND MAINTAIN SIGNING DURING ALL PHASES OF CONSTRUCTION.
- INSTALL TEMPORARY PAINT (STRIPING/MARKINGS) AND RPM'S SUBSEQUENT TO INSTALLATION OF FINAL SURFACE COURSE PAVING AND PERMANENT THERMOPLASTIC (STRIPING/MARKINGS) AND RPM'S SUBSEQUENT TO A 14 DAY COURING PERIOD.

LIGHTING:

- THE CONTRACTOR SHALL MAINTAIN THE EXISTING LEVEL OF ILLUMINATION ON THE TRAVELED ROADWAY THROUGHOUT CONSTRUCTION.

PEDESTRIAN, BICYCLES AND WHEELCHAIRS:

- PEDESTRIAN WALKWAYS, BUS STOPS AND PEDESTRIAN ACCESS SHALL BE MAINTAINED FREE OF ANY OBSTRUCTIONS SUCH AS HOLES, DEBRIS, MUD, CONSTRUCTION EQUIPMENT, STORED MATERIALS, ETC. ANY HAZARDS NEAR OR ADJACENT TO WALKWAYS, BUS STOPS AND ACCESS TO TRANSIT VEHICLES SHALL BE CLEARLY DELINEATED.
- WHEN SAFE PEDESTRIAN ACCESS/WALKWAYS CANNOT BE PROVIDED, PEDESTRIANS SHALL BE DIRECTED TO ALTERNATIVE ROUTES BY APPROPRIATE TRAFFIC CONTROL DEVICES. PEDESTRIAN, BICYCLE AND WHEELCHAIR TRAFFIC SHALL BE GUIDED AND MAINTAINED USING APPROVED WARNING LIGHTS, SIGNING AND CHANNELIZATION DEVICES. SUCH DEVICES SHALL BE MAINTAINED IN ACCORDANCE WITH THE MUTCD SECTIONS ON WORK ZONE TRAFFIC CONTROL FOR PEDESTRIANS AND CHAPTER 6D, PEDESTRIAN AND WORKER SAFETY.
- IT SHALL BE THE RESPONSIBILITY OF CONTRACTOR TO INSTALL ANY NECESSARY PAVEMENT, ROAD ROCK, PAVEMENT MARKINGS AND SIGNAGE TO ACCOMMODATE AN EXISTING ALTERNATIVE WALK ROUTE.

PHASING NOTES:

PHASE 1 -UTILIZING INDICES 600, 613, 615, 616, 618, 635, 660 - 43RD AVE. STA. 109+60 TO STA. 153+88, SR 60 STA. 2635+38 TO STA. 2660+50.

- PHASE 1 CONSTRUCTION CONSISTS OF PLACING OF TURBIDITY BARRIERS, SEDIMENT BARRIERS, AND INLET PROTECTION AND ALL CLEARING AND GRUBBING.
- INSTALL ADVANCE CONSTRUCTION AHEAD WARNING SIGNS, BARRICADES, AND CONSTRUCTION SIGNS, AND REMOVE CONFLICTING MARKINGS AND SIGNS.
- TEMPORARY MARKINGS SHALL BE INSTALLED FOR TRAFFIC CONTROL.

PHASE 2 -UTILIZING INDICES 600, 613, 615, 616, 618, 635, 660 - 43RD AVE. STA. 109+60 TO STA. 153+88, SR 60 STA. 2635+38 TO STA. 2660+50.

- PHASE 2 CONSISTS OF ALL ROADWAY CONSTRUCTION, STORM WATER DRAINAGE CONSTRUCTION, AND CURB & GUTTER & SIDEWALK INSTALLATION ON THE NORTH AND SOUTH SIDE OF SR 60 AND THE EAST AND WEST SIDE OF 43RD AVENUE.
- ACCESS TO PROPERTIES ON SHALL BE MAINTAINED AT ALL TIMES.
- INSTALL ADVANCE CONSTRUCTION AHEAD WARNING SIGNS, BARRICADES, AND CONSTRUCTION SIGNS, AND REMOVE CONFLICTING MARKINGS AND SIGNS.
- DROP-OFF CONDITIONS SHALL MEET THE REQUIREMENTS AS OUTLINED IN FDOT STANDARD INDEX NO. 600 AND ANY DROP-OFF CONDITION THAT IS CREATED SHALL BE RESTORED WITHIN THE SAME WORK PERIOD.
- CONSTRUCT STORM WATER DRAINAGE AND ROADWAY WIDENING ON NORTH AND SOUTH SIDES OF SR 60 AND THE EAST AND WEST SIDES OF 43RD AVE. CONSTRUCTION INCLUDES EMBANKMENT AND EXCAVATION; ALL WORK ASSOCIATED WITH DRAINAGE STRUCTURES AND PIPES; GRADING; ALL WORK ASSOCIATED WITH PLACING OF PAVED ROADWAY, CURB AND GUTTER, SIDEWALK, AND RELATED ITEMS IN TYPICAL SECTION; PLACEMENT OF NEW LIGHTING; ADJUSTMENT TO EXISTING LIGHTING; SODDING; SIGNALIZATION; AND PROTECTION OF EXISTING IRRIGATION SYSTEMS.
- MAINTAIN A POSTED SPEED LIMIT OF 45 MPH.

PHASE 3 -UTILIZING INDICES 600, 613, 615, 616, 619, 635, 660 43RD AVE. STA. 109+60 TO STA. 153+88, SR 60 STA. 2635+38 TO STA. 2660+50.

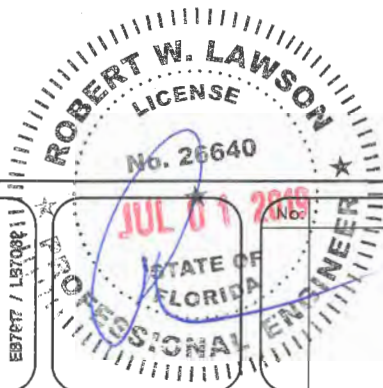
- PHASE 3 CONSISTS OF ALL ROADWAY CONSTRUCTION, STORM WATER DRAINAGE CONSTRUCTION, AND CURB & GUTTER, MEDIAN CONSTRUCTION ON SR 60 AND 43RD AVE.
- INSTALL ADVANCE CONSTRUCTION AHEAD WARNING SIGNS, BARRICADES, AND CONSTRUCTION SIGNS, AND REMOVE CONFLICTING MARKINGS AND SIGNS.
- MAINTAIN A POSTED SPEED LIMIT OF 45 MPH.

PHASE 4 -UTILIZING INDICES 600, 613, 615, 616, 619, 635, 660 43RD AVE. STA. 109+60 TO STA. 153+88, SR 60 STA. 2635+38 TO STA. 2660+50.

- PHASE 4 CONSISTS OF INSTALLATION OF SIGNING AND APPLICATION OF PAVEMENT MARKINGS AND RPM'S.
- INSTALL ADVANCE CONSTRUCTION AHEAD WARNING SIGNS, BARRICADES, AND CONSTRUCTION SIGNS, AND REMOVE CONFLICTING MARKINGS AND SIGNS.
- MAINTAIN A POSTED SPEED LIMIT OF 45 MPH.
- THE FDOT AND/OR INDIAN RIVER COUNTY MAY REQUIRE THAT PHASE 3 BE PERFORMED DURING NIGHT TIME.

PHASE 5 -UTILIZING INDICES 600, 613, 615, 616, 619, 635, 660 43RD AVE. STA. 109+60 TO STA. 153+88, SR 60 STA. 2635+38 TO STA. 2660+50.

- PHASE 5 CONSISTS OF INSTALLATION OF SIGNING AND APPLICATION OF PAVEMENT MARKINGS AND RPM'S.
- INSTALL ADVANCE CONSTRUCTION AHEAD WARNING SIGNS, BARRICADES, AND CONSTRUCTION SIGNS, AND REMOVE CONFLICTING MARKINGS AND SIGNS.
- MAINTAIN A POSTED SPEED LIMIT OF 45 MPH.



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 ARCADIS U.S., INC.
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Revision:	By:	Date:

INDIAN RIVER COUNTY
 Department of Public Works
 Engineering Division

Scale:
 Approved: HWD
 Drawn: BF
 Checked: HWD
 Date: 6/2017
 Field Book No:

Project:
 TRAFFIC CONTROL PLANS
 FOR
 SR 60 & 43RD AVENUE

Sheet: 95
 Of: 99
 Project No.
 LNW# WP1027

Indian River County Traffic Engineering has underground conduit for traffic signal interconnections in this area as well as other traffic signal equipment. It shall be the contractor's responsibility to contact Sunshine State One Call System at 1-800-432-4770 for locations of this equipment at least 72 hours prior to any construction.

Regarding Traffic Control Plan General Note #5 shown on sheet 94, lane closures are restricted to outside the normal peak hours of traffic, lane closures shall occur during the hours of 9:00 AM to 4:00 PM unless otherwise approved by the County Public Works Director or his designee.

For full road closures, Portable Changeable Message Signs are required to pre-advertise the roadway closure, a minimum of seven (7) days in advance of the road closure and during the duration of the road closure. The use of Portable Changeable Message Signs for lane closures on thoroughfare plan roadways will be required. Messages are to be as approved by the Public Works Department and shown on the TCP.

It shall be the responsibility of the contractor to ensure that all subcontractors are in full compliance with all traffic control regulations.

It shall be the responsibility of the contractor working on County roadways or within Right-of-Ways to establish maintenance of traffic prior to any work being performed. The contractor shall frequently monitor the work zone set-up to ensure that all signing is properly placed and that warning signs remain at the proper advance posting distance from the work area. Any signs that do not apply to the work zone shall be removed or covered. The contractor shall remove the work zone set-up at the conclusion of the work.

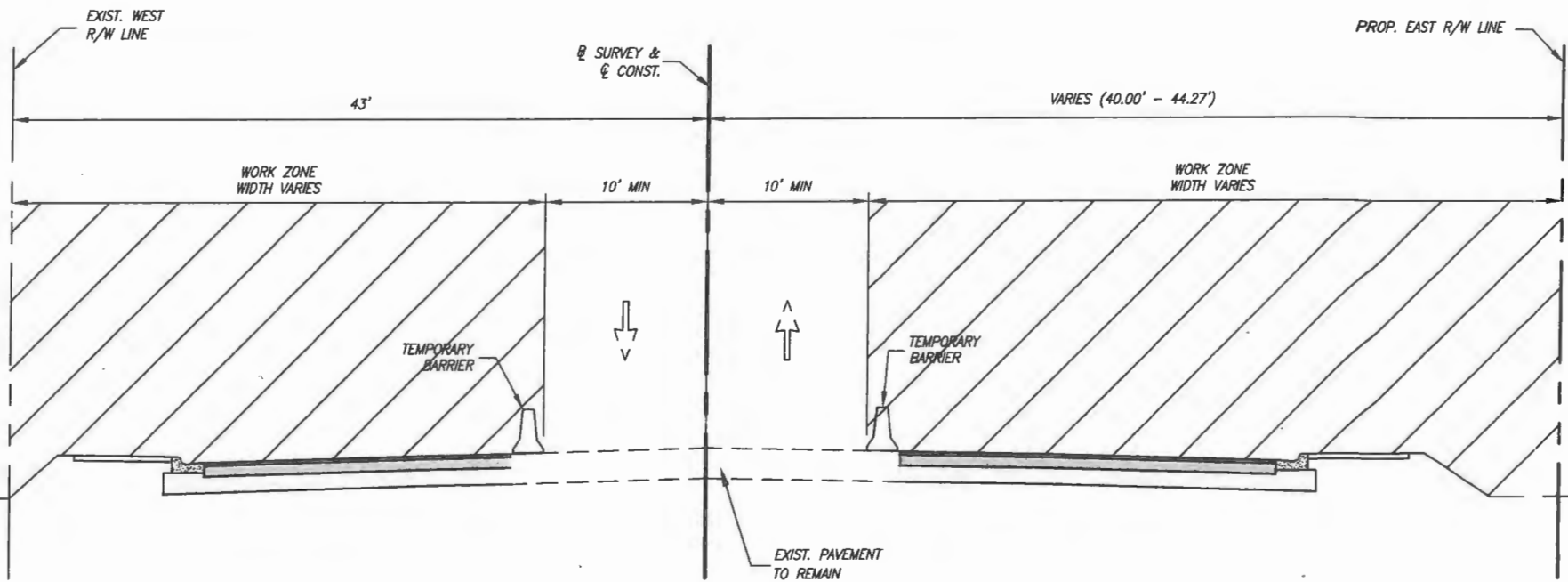
It is the policy of the Traffic Engineering Division to randomly monitor the contractor's compliance with all regulations while working on County roadways and within right-of-ways. Matters of public safety shall be attended to immediately upon notification by the County Public Work Director or his designee.

The contractor shall notify the County Traffic Engineering twenty-four (24) hours in advance of any lane closings at (772) 226-1547. For full road closures, the county shall be notified a minimum of ten (10) days in advance of the planned closure. Public Works Department staff shall inspect the Maintenance of Traffic for compliance with the approved TCP prior to construction commencement.

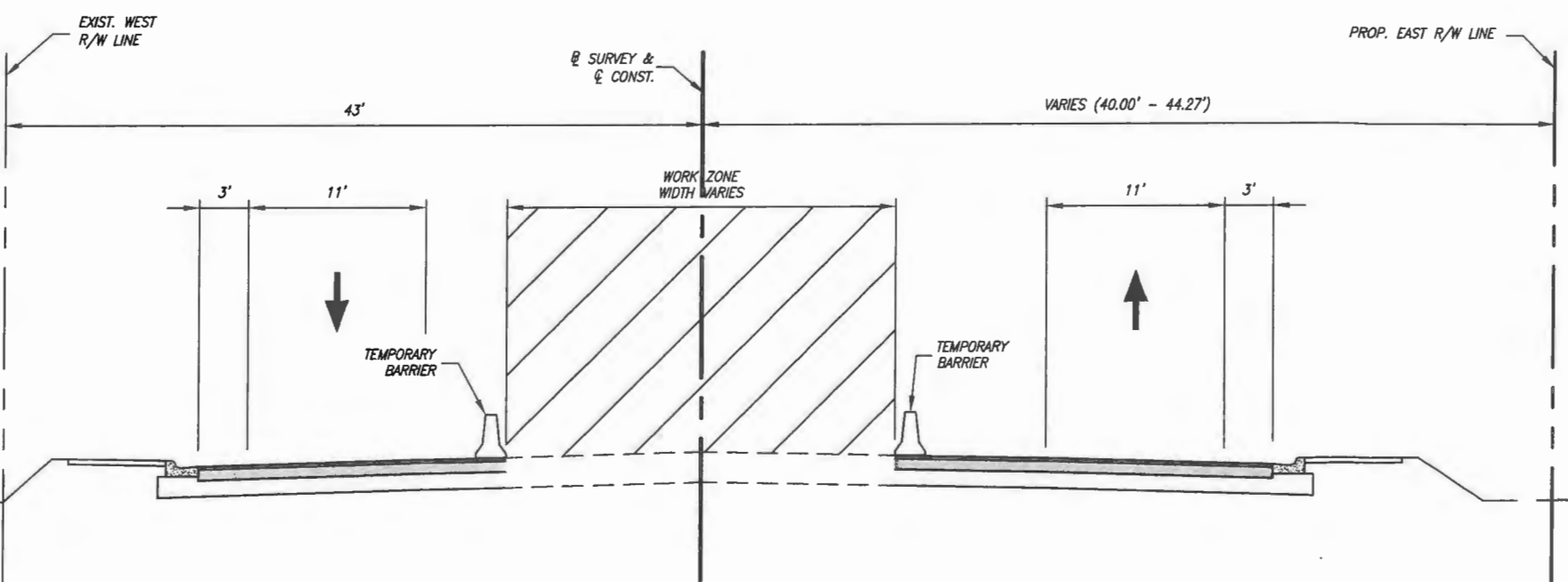
Construction at or Near Signalized Intersections shall comply with Indian River County Traffic Engineering Division's Special Conditions for Right-of-Way Construction.

Retro-reflective raised pavement markers are required in all areas where lane shifts may occur, all temporary centerline pavement markings within the work zone, and all other work zone applications per FDOT Design Standards, 2015 Indices 600.

Contractor may provide optional base material slope wedges to mitigate drop off conditions per index 600.

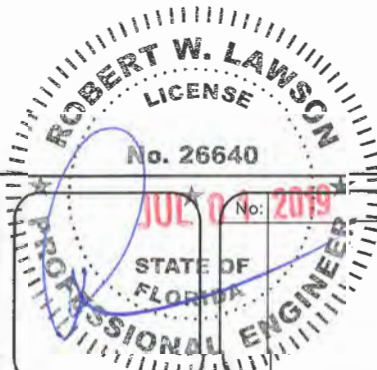


PHASE II 43RD AVENUE
STA. 109+60 TO STA. 153+88




PHASE III 43RD AVENUE
STA. 109+60 TO STA. 153+88

DESIGN SPEED 45 MPH



Revision:	By:	Date:

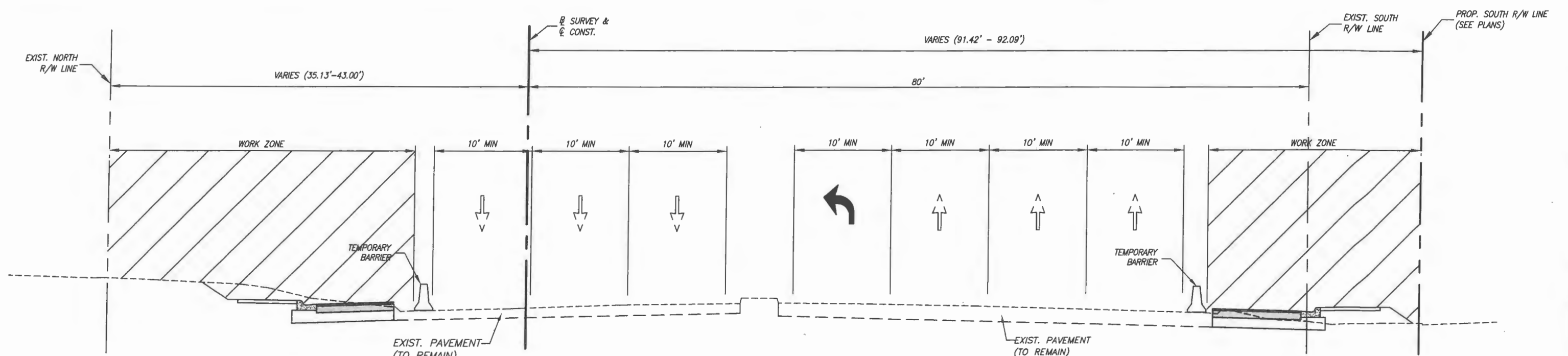

Department of Public Works
 Engineering Division

Scale:	
Approved:	HWD
Drawn:	FM
Checked:	HWD
Date:	6/2017
Field Book No:	

Project:
TRAFFIC CONTROL PLANS
FOR
SR 60 & 43RD AVENUE

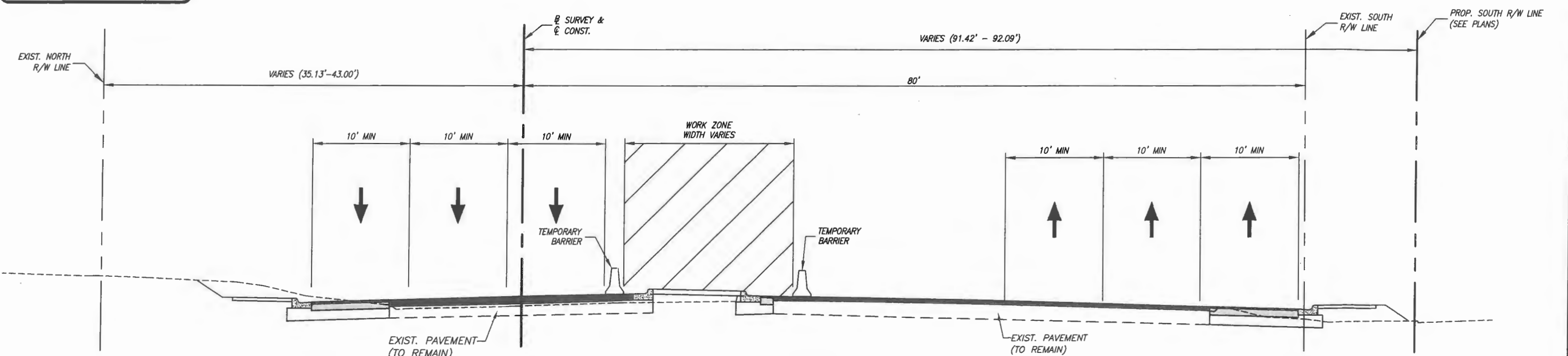
Sheet: 96
Of: 99
Project No.
LNW# WP1027


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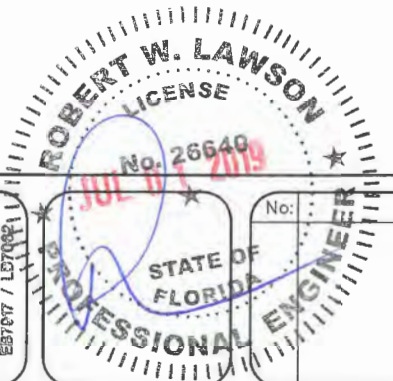


DESIGN SPEED 45 MPH


PHASE II SR 60
STA. 2635+38 TO STA. 2660+50



PHASE III SR 60
STA. 2635+38 TO STA. 2660+50




No:	Revision:	By:	Date:

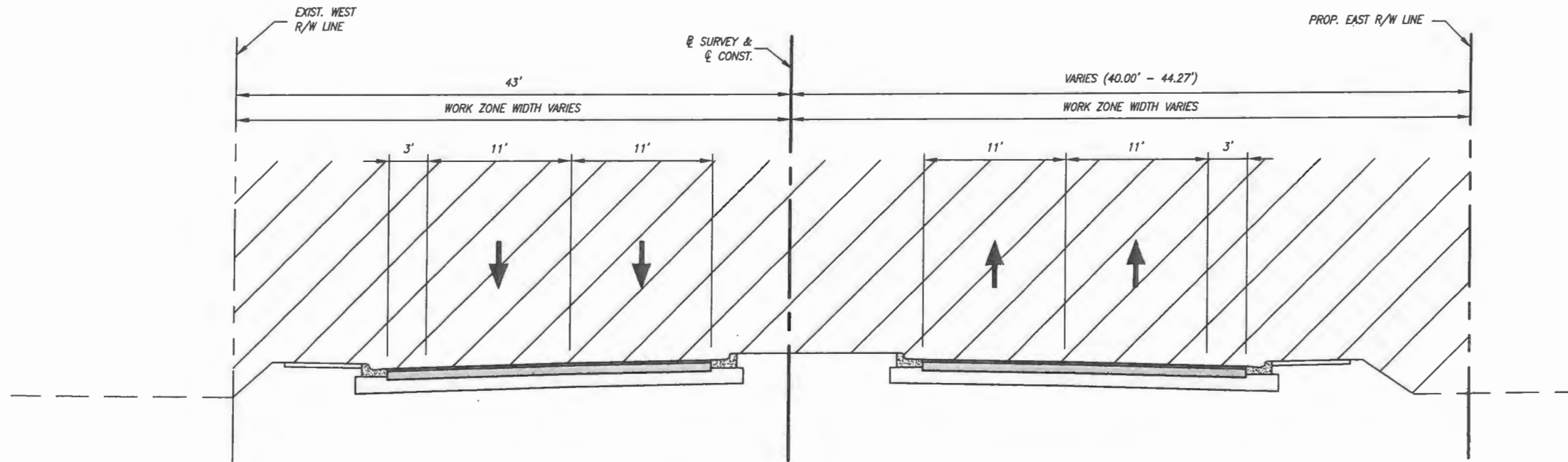

 Department of Public Works
 Engineering Division

Scale:
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 Drawn: FM
 Checked: HWD
 Date: 6/2017
 Field Book No:

Project:
 TRAFFIC CONTROL PLANS
 FOR
 SR 60 & 43RD AVENUE

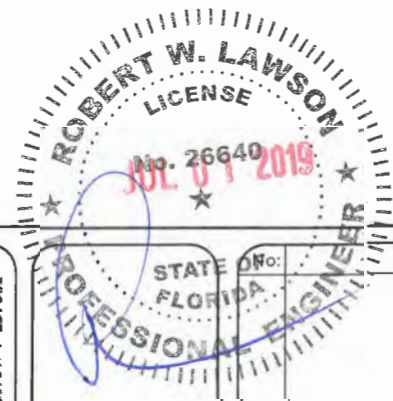
Sheet: 97
 Of: 99
 Project No.
 LNWA WP1027


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PHASE IV 43RD AVENUE TYPICAL SECTION
 STA. 109+60 TO STA. 153+88

DESIGN SPEED 45 MPH



Revision:	By:	Date:

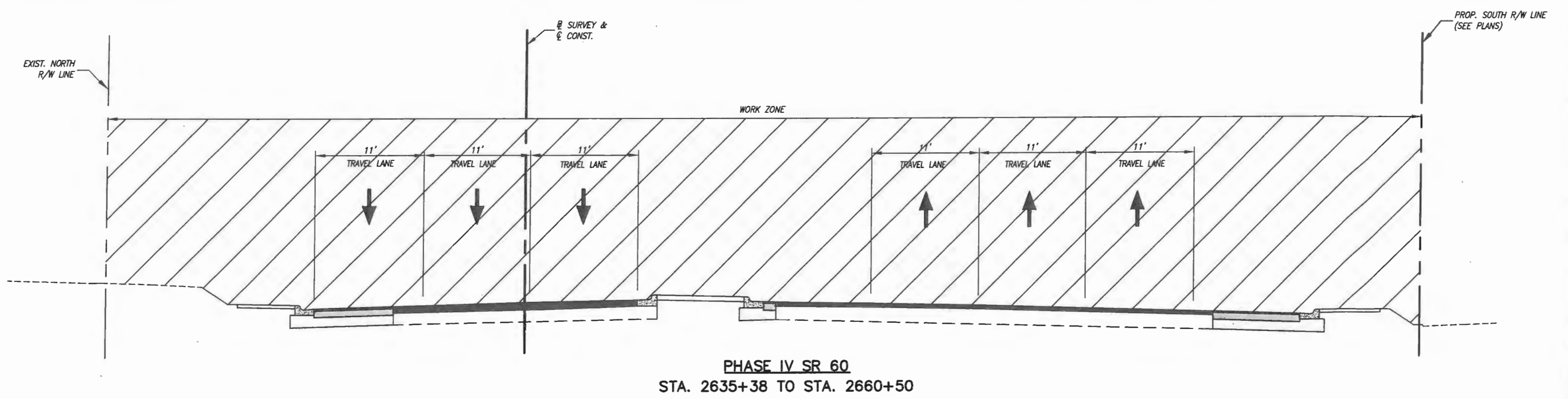

Department of Public Works
Engineering Division

Scale:
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 Checked: HWD
 Date: 6/2017
 Field Book No:

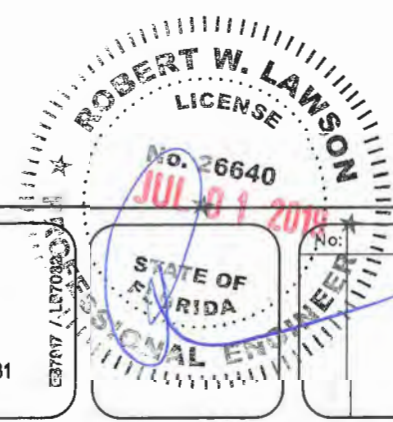
Project:
 TRAFFIC CONTROL PLANS
 FOR
SR 60 & 43RD AVENUE

Sheet: 98
 Of: 99
 Project No.
 LNW# WP1027



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AUG 12, 2019

INDIAN RIVER COUNTY
ENGINEERING DIVISION

INDIAN RIVER COUNTY
BOARD OF COUNTY COMMISSIONERS



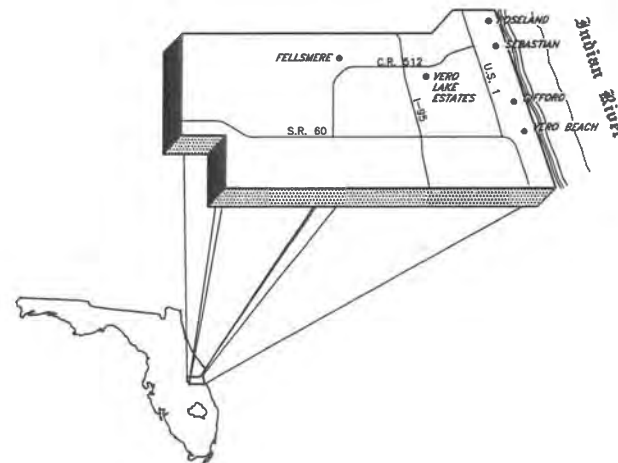
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NO.	ITEM	UNIT	QUANTITY
0700 1 11	SINGLE POST SIGN, F&I, <12 SF	AS	73
0700 1 13	SINGLE POST SIGN, F&I, 21>30 SF	AS	1
0700 1 50	SINGLE POST SIGN, RELOCATE	AS	15
0705 111	DELINEATOR, FLEXIBLE TUBULAR	EA	18
0706 3	RETRO-REFLECTIVE PAVEMENT MARKERS	EA	796
0710 11290	REFLECTIVE, PAINT, YELLOW, NOSE	LF	134
0711 11122	THERMOPLASTIC, STANDARD, WHITE, SOLID, 8"	LF	2135
0711 11123	THERMOPLASTIC, STANDARD, WHITE, SOLID, 12"	LF	2611
0711 11124	THERMOPLASTIC, STANDARD, WHITE, SOLID, 18"	LF	455
0711 11125	THERMOPLASTIC, STANDARD, WHITE, SOLID, 24"	LF	585
0711 11160	THERMOPLASTIC, STANDARD, WHITE, MESSAGE	EA	20
0711 11170	THERMOPLASTIC, STANDARD, WHITE, ARROW	EA	86
0711 11222	THERMOPLASTIC, STANDARD, YELLOW, SOLID, 18"	LF	77
0711 16101	THERMOPLASTIC, STANDARD, WHITE, SOLID, 6"	NM	3.10
0711 16131	THERMOPLASTIC, STANDARD, WHITE, SKIP, 6"	GM	3.59
0711 16201	THERMOPLASTIC, STANDARD, YELLOW, SOLID, 6"	NM	2.37
0711 16231	THERMOPLASTIC, STANDARD, YELLOW, SKIP, 6"	GM	0.44

INDEX OF SHEETS	
SHEET No.	DESCRIPTION
S-1	COVER SHEET
S-2 - S-14	SIGNING & PAVEMENT MARKING PLANS

STATE ROUTE 60
&
43RD AVENUE
PROJECT
C.P.#0512

THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH AND ARE GOVERNED BY THE FLORIDA DEPARTMENT OF TRANSPORTATION, DESIGN STANDARDS (2017-2018) AND SUPPLEMENTS THERETO.

GOVERNING SPECIFICATIONS:
THE FLORIDA DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION, 2017 EDITION, SUPPLEMENTS THERETO, AND SPECIAL PROVISIONS THERETO IF NOTED IN THE CONTRACT SPECIFICATIONS FOR THIS PROJECT.



PUBLIC WORKS DIRECTOR:
RICHARD B. SZPYRKA, P.E.

COUNTY ENGINEER:
JAMES W. ENNIS, P.E.

PROJECT MANAGER:
WILLIAM JOHNSON, P.E.

ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN ALTERED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.

ROBERT W. LAWSON
LICENSE
ENGINEER'S CERTIFICATION
No. 26640
AUG 12 2019
DATE: 8-12-2019
STATE OF FLORIDA
PROFESSIONAL ENGINEER # 26640
ROBERT W. LAWSON, P.E.

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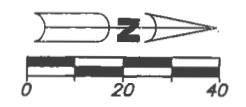
EB7917 / LB7062

Department of Public Works
Engineering Division

No.	Date
Revision:	By:
Scale: N.T.S. Approved: HWD Drawn: FM Checked: FM Date: 06/2017	

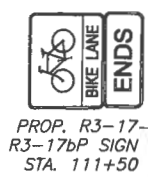
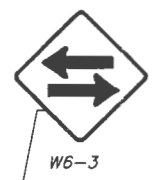
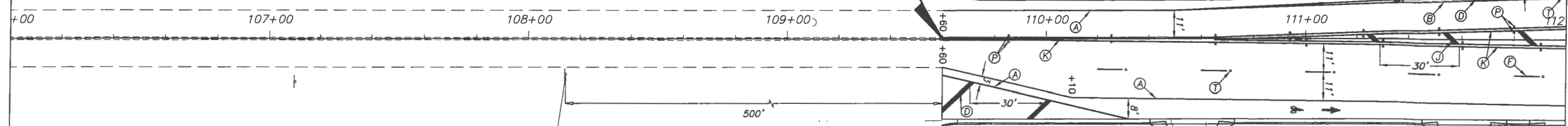
SIGNING & PAVEMENT MARKING PLANS
FOR
SR 60 & 43RD AVENUE

Sheet: S-1
Of: S-14
Project No. WP1027



BEGIN PAVEMENT MARKINGS
MATCH EXIST. PAVEMENT MARKINGS
STA. 109+60.00

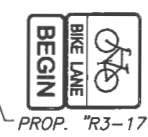
43rd AVENUE



PROP. R3-17
R3-17bP SIGN
STA. 111+50



W6-1
STA. 104+60



PROP. "R3-17" SIGN

STRIPING KEY

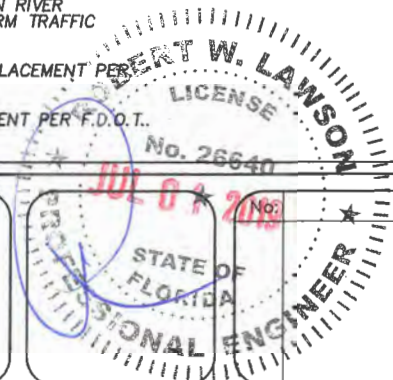
- (A) = 6" SOLID WHITE
- (B) = 8" SOLID WHITE
- (C) = 12" SOLID WHITE
- (D) = 18" SOLID WHITE
- (E) = 24" SOLID WHITE
- (F) = 6" SKIP WHITE TYP. (10' - 30')
- (G) = 6" SKIP WHITE TYP. (6' - 10')
- (H) = 6" SKIP WHITE TYP. (2' - 4')
- (I) = 6" SOLID YELLOW
- (J) = 18" SOLID YELLOW
- (K) = 6" DOUBLE YELLOW
- (L) = 6" SKIP YELLOW TYP. (10' - 30')
- (M) = 6" SKIP YELLOW TYP. (6' - 10')
- (N) = 6" SKIP YELLOW TYP. (2' - 4')
- (P) = RPM BI-DIRECTIONAL AMBER/AMBER
- (R) = FDP WHITE
- (S) = FDP YELLOW
- (T) = RPM BI-DIRECTIONAL WHITE/RED
- = REFLECTIVE PAVEMENT MARKER

NOTES


ALL PAVEMENT MARKINGS AND REFLECTIVE PAVEMENT MARKERS SHALL BE IN ACCORDANCE WITH THE LATEST INDIAN RIVER COUNTY TYPICAL DRAWING, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, & F.D.O.T DESIGN STANDARDS.

RPM'S & PAVEMENT MARKINGS ON 43RD AVENUE PLACEMENT PER INDIAN RIVER COUNTY TYPICAL DRAWING.

RPM'S & PAVEMENT MARKINGS ON S.R. 60 PLACEMENT PER F.D.O.T. DESIGN STANDARDS.




Revision:	By:	Date:

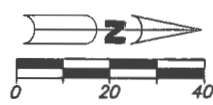

Department of Public Works
 Engineering Division

Scale: 1"=40'
 Approved: HWD
 Drawn: FM
 Checked: HWD
 Date: 6/2017
 Field Book No:

Project:
 SIGNING & PAVEMENT MARKING PLANS
 FOR
 SR 60 & 43RD AVENUE

Sheet: S-2
 Of: S-14
 Project No.
 LNW# WP1027


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STRIPING KEY

- (A) = 6" SOLID WHITE
- (B) = 8" SOLID WHITE
- (C) = 12" SOLID WHITE
- (D) = 18" SOLID WHITE
- (E) = 24" SOLID WHITE
- (F) = 6" SKIP WHITE TYP. (10' - 30')
- (G) = 6" SKIP WHITE TYP. (6' - 10')
- (H) = 6" SKIP WHITE TYP. (2' - 4')
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- (M) = 6" SKIP YELLOW TYP. (6' - 10')
- (N) = 6" SKIP YELLOW TYP. (2' - 4')
- (P) = RPM BI-DIRECTIONAL AMBER/AMBER
- (R) = FDP WHITE
- (S) = FDP YELLOW
- (T) = RPM BI-DIRECTIONAL WHITE/RED
- (.) = REFLECTIVE PAVEMENT MARKER

NOTES

ALL PAVEMENT MARKINGS AND REFLECTIVE PAVEMENT MARKERS SHALL BE IN ACCORDANCE WITH THE LATEST INDIAN RIVER COUNTY TYPICAL DRAWING, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, & F.D.O.T DESIGN STANDARDS.

RPM'S & PAVEMENT MARKINGS ON 43RD AVENUE PLACEMENT PER INDIAN RIVER COUNTY TYPICAL DRAWING.

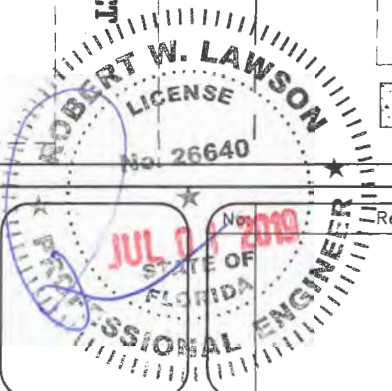
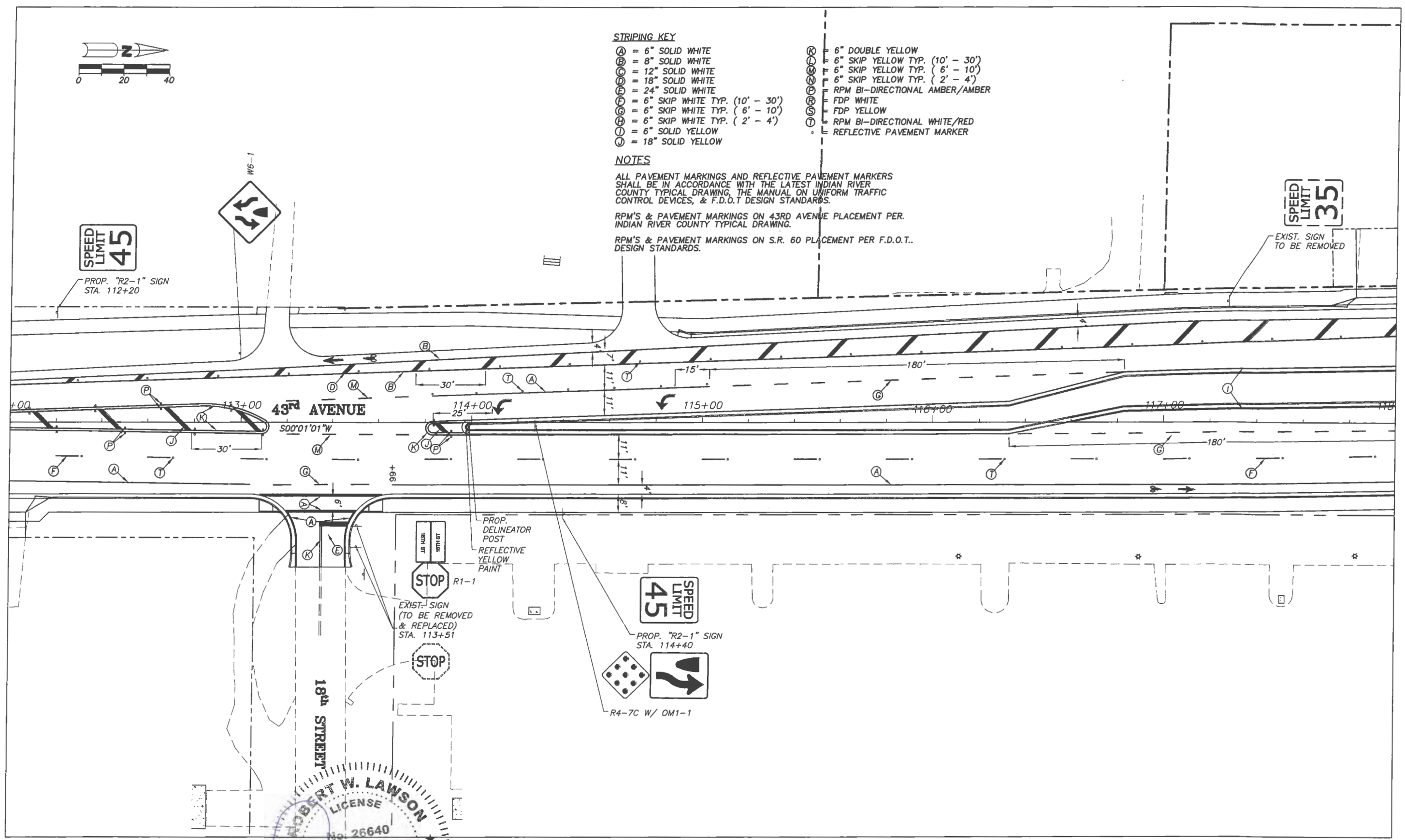
RPM'S & PAVEMENT MARKINGS ON S.R. 60 PLACEMENT PER F.D.O.T. DESIGN STANDARDS.



PROP. "R2-1" SIGN
STA. 112+20



EXIST. SIGN
TO BE REMOVED



Revision:	By:	Date:

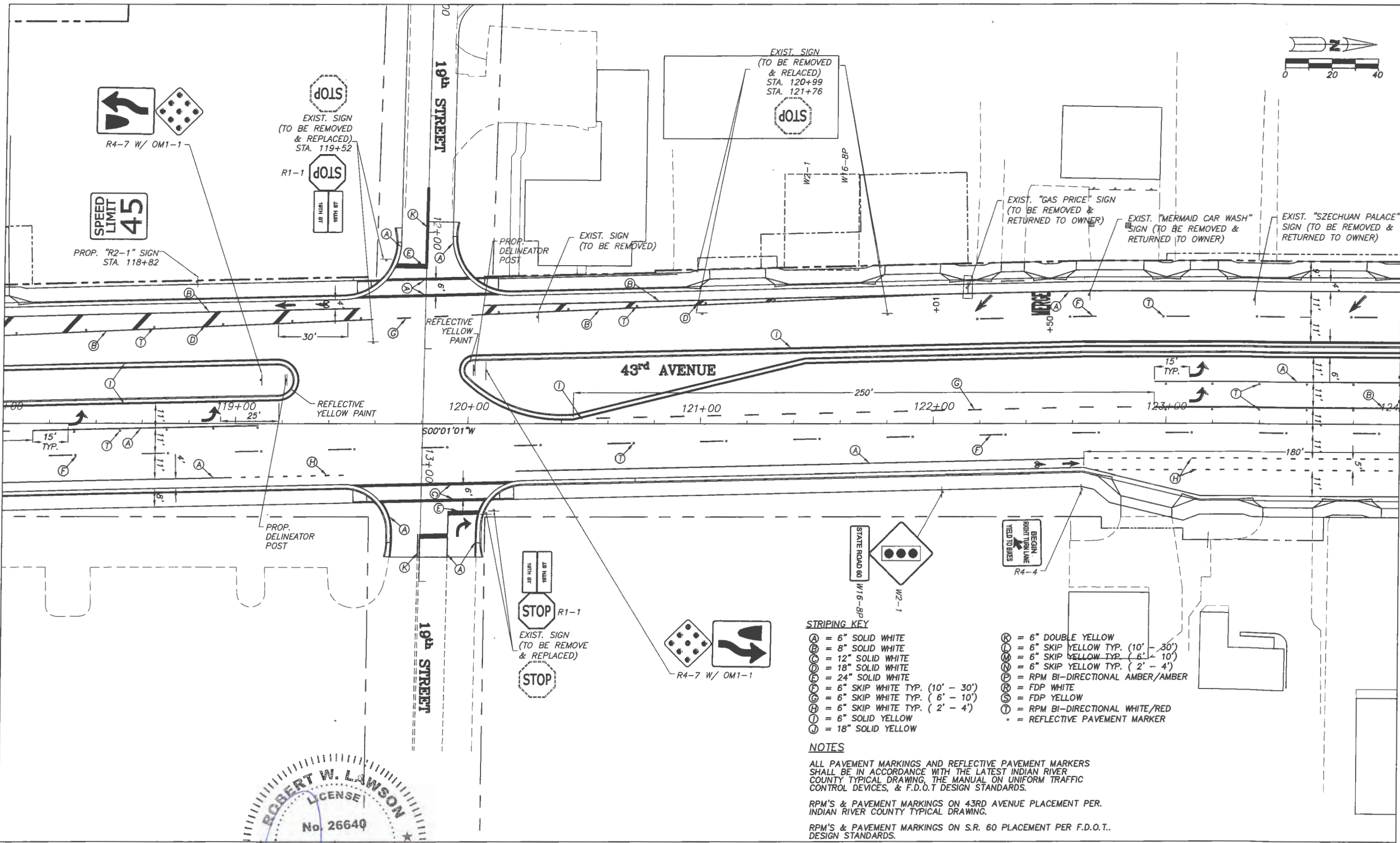
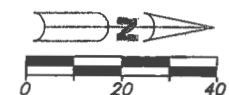
Department of Public Works
 Engineering Division

Scale:	1"=40'
Approved:	HWD
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Checked:	HWD
Date:	6/2017
Field Book No:	

Project:
 SIGNING & PAVEMENT MARKING PLANS
 FOR
 SR 60 & 43RD AVENUE

Sheet:	S-3
Of:	S-14
Project No.	
LNW#	WP1027

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STRIPING KEY

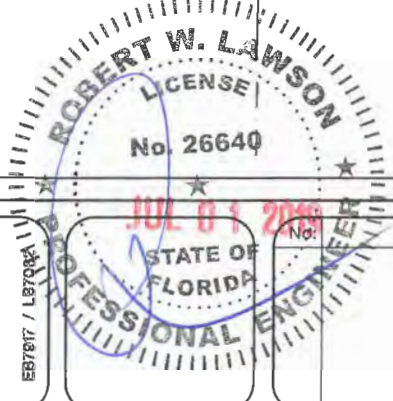
- A = 6" SOLID WHITE
- B = 8" SOLID WHITE
- C = 12" SOLID WHITE
- D = 18" SOLID WHITE
- E = 24" SOLID WHITE
- F = 6" SKIP WHITE TYP. (10' - 30')
- G = 6" SKIP WHITE TYP. (6' - 10')
- H = 6" SKIP WHITE TYP. (2' - 4')
- I = 6" SOLID YELLOW
- J = 18" SOLID YELLOW
- K = 6" DOUBLE YELLOW
- L = 6" SKIP YELLOW TYP. (10' - 30')
- M = 6" SKIP YELLOW TYP. (6' - 10')
- N = 6" SKIP YELLOW TYP. (2' - 4')
- P = RPM BI-DIRECTIONAL AMBER/AMBER
- R = FDP WHITE
- S = FDP YELLOW
- T = RPM BI-DIRECTIONAL WHITE/RED
- = REFLECTIVE PAVEMENT MARKER

NOTES

ALL PAVEMENT MARKINGS AND REFLECTIVE PAVEMENT MARKERS SHALL BE IN ACCORDANCE WITH THE LATEST INDIAN RIVER COUNTY TYPICAL DRAWING, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, & F.D.O.T. DESIGN STANDARDS.

RPM'S & PAVEMENT MARKINGS ON 43RD AVENUE PLACEMENT PER INDIAN RIVER COUNTY TYPICAL DRAWING.

RPM'S & PAVEMENT MARKINGS ON S.R. 60 PLACEMENT PER F.D.O.T. DESIGN STANDARDS.



Revision:	By:	Date:



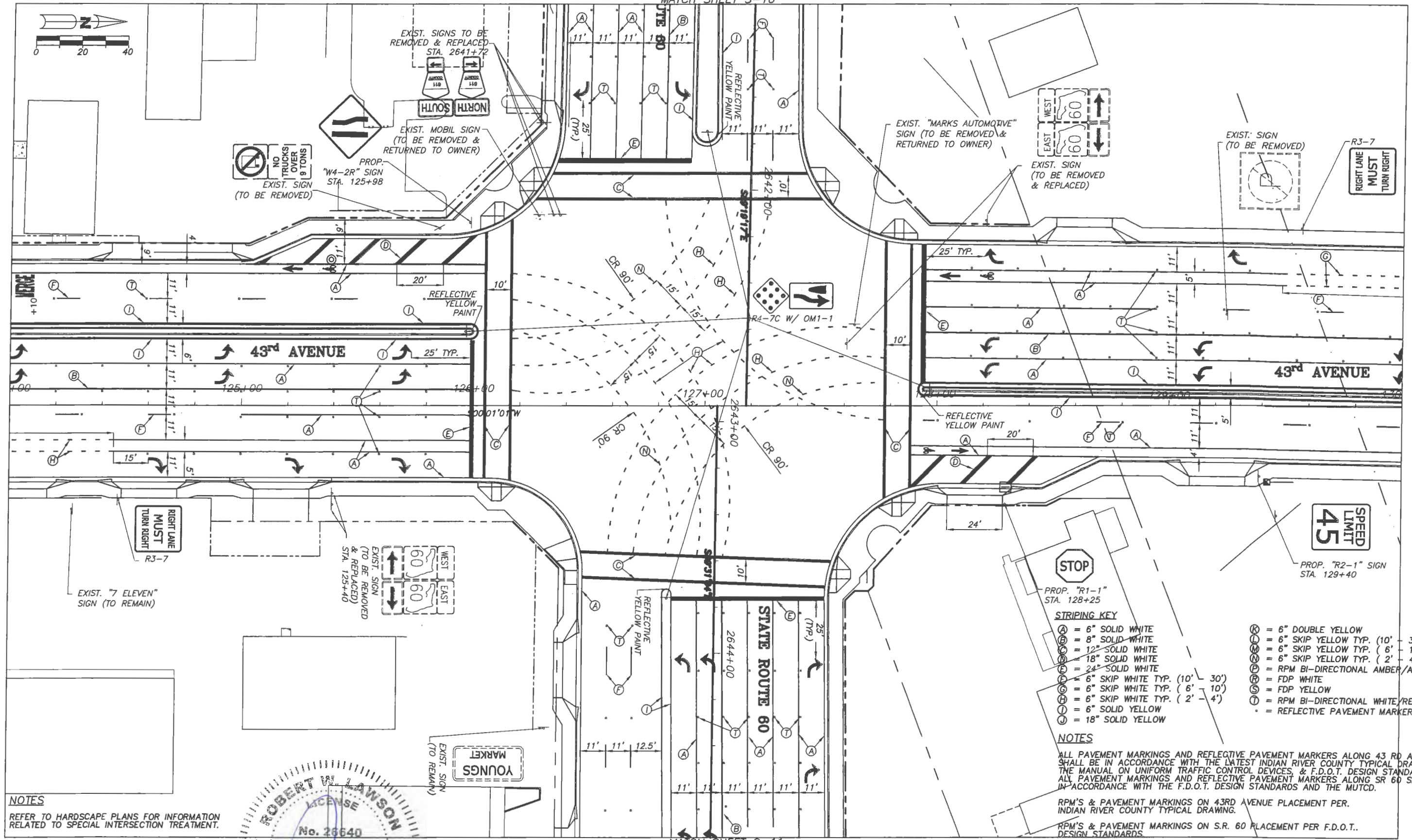
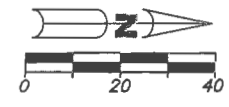
Department of Public Works
Engineering Division

Scale: 1"=40'
Approved: HWD
Drawn: FM
Checked: HWD
Date: 6/2017
Field Book No:

Project:
SIGNING & PAVEMENT MARKING PLANS
FOR
SR 60 & 43RD AVENUE

Sheet: S-4
Of: S-14
Project No.
LNW# WP1027

MATCH SHEET S-10



MATCH SHEET S-11

NOTES
REFER TO HARDSCAPE PLANS FOR INFORMATION RELATED TO SPECIAL INTERSECTION TREATMENT.

- STRIPING KEY**
- (A) = 6" SOLID WHITE
 - (B) = 8" SOLID WHITE
 - (C) = 12" SOLID WHITE
 - (D) = 18" SOLID WHITE
 - (E) = 24" SOLID WHITE
 - (F) = 6" SKIP WHITE TYP. (10' - 30')
 - (G) = 6" SKIP WHITE TYP. (6' - 10')
 - (H) = 6" SKIP WHITE TYP. (2' - 4')
 - (I) = 6" SOLID YELLOW
 - (J) = 18" SOLID YELLOW

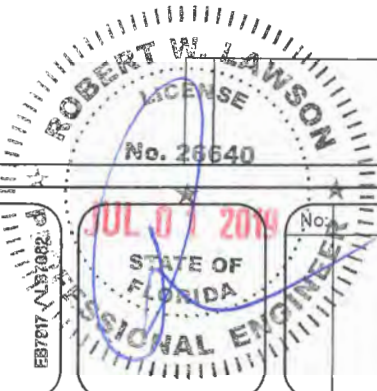
- (K) = 6" DOUBLE YELLOW
- (L) = 6" SKIP YELLOW TYP. (10' - 30')
- (M) = 6" SKIP YELLOW TYP. (6' - 10')
- (N) = 6" SKIP YELLOW TYP. (2' - 4')
- (P) = RPM BI-DIRECTIONAL AMBER/AMBER
- (R) = FDP WHITE
- (S) = FDP YELLOW
- (T) = RPM BI-DIRECTIONAL WHITE/RED
- (•) = REFLECTIVE PAVEMENT MARKER

NOTES

ALL PAVEMENT MARKINGS AND REFLECTIVE PAVEMENT MARKERS ALONG 43RD AVE. SHALL BE IN ACCORDANCE WITH THE LATEST INDIAN RIVER COUNTY TYPICAL DRAWING, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, & F.D.O.T. DESIGN STANDARDS. ALL PAVEMENT MARKINGS AND REFLECTIVE PAVEMENT MARKERS ALONG SR 60 SHALL BE IN ACCORDANCE WITH THE F.D.O.T. DESIGN STANDARDS AND THE MUTCD.

RPM'S & PAVEMENT MARKINGS ON 43RD AVENUE PLACEMENT PER INDIAN RIVER COUNTY TYPICAL DRAWING.

RPM'S & PAVEMENT MARKINGS ON S.R. 60 PLACEMENT PER F.D.O.T. DESIGN STANDARDS.



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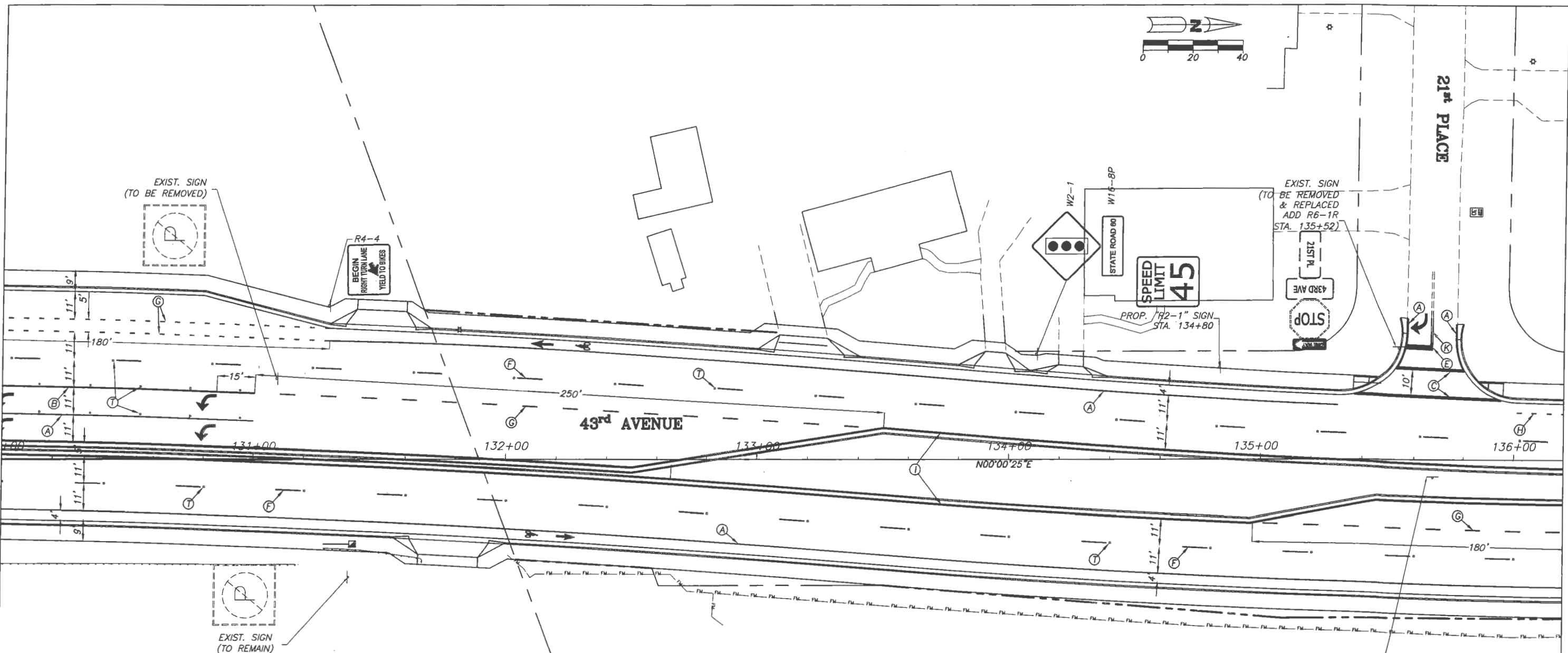
INDIAN RIVER COUNTY
FLORIDA

Department of Public Works
Engineering Division

Scale: 1"=40'
Approved: HWD
Drawn: FM
Checked: HWD
Date: 6/2017
Field Book No:

Project:
SIGNING & PAVEMENT MARKING PLANS
FOR
SR 60 & 43RD AVENUE

Sheet: S-5
Of: S-14
Project No.
LNW# WP1027



STRIPING KEY

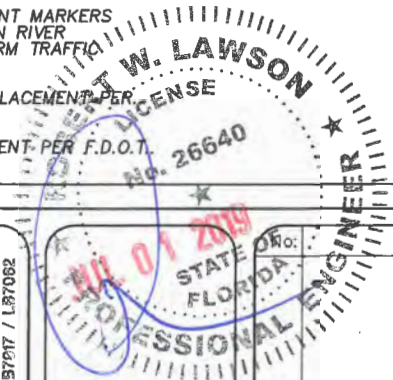
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|--------------------------------------|---------------------------------------|
| (A) = 6" SOLID WHITE | (K) = 6" DOUBLE YELLOW |
| (B) = 8" SOLID WHITE | (L) = 6" SKIP YELLOW TYP. (10' - 30') |
| (C) = 12" SOLID WHITE | (M) = 6" SKIP YELLOW TYP. (6' - 10') |
| (D) = 18" SOLID WHITE | (N) = 6" SKIP YELLOW TYP. (2' - 4') |
| (E) = 24" SOLID WHITE | (P) = RPM BI-DIRECTIONAL AMBER/AMBER |
| (F) = 6" SKIP WHITE TYP. (10' - 30') | (R) = FDP WHITE |
| (G) = 6" SKIP WHITE TYP. (6' - 10') | (S) = FDP YELLOW |
| (H) = 6" SKIP WHITE TYP. (2' - 4') | (T) = RPM BI-DIRECTIONAL WHITE/RED |
| (I) = 6" SOLID YELLOW | (*) = REFLECTIVE PAVEMENT MARKER |
| (J) = 18" SOLID YELLOW | |

NOTES

ALL PAVEMENT MARKINGS AND REFLECTIVE PAVEMENT MARKERS SHALL BE IN ACCORDANCE WITH THE LATEST INDIAN RIVER COUNTY TYPICAL DRAWING, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, & F.D.O.T DESIGN STANDARDS.

RPM'S & PAVEMENT MARKINGS ON 43RD AVENUE PLACEMENT PER INDIAN RIVER COUNTY TYPICAL DRAWING.

RPM'S & PAVEMENT MARKINGS ON S.R. 60 PLACEMENT PER F.D.O.T. DESIGN STANDARDS.



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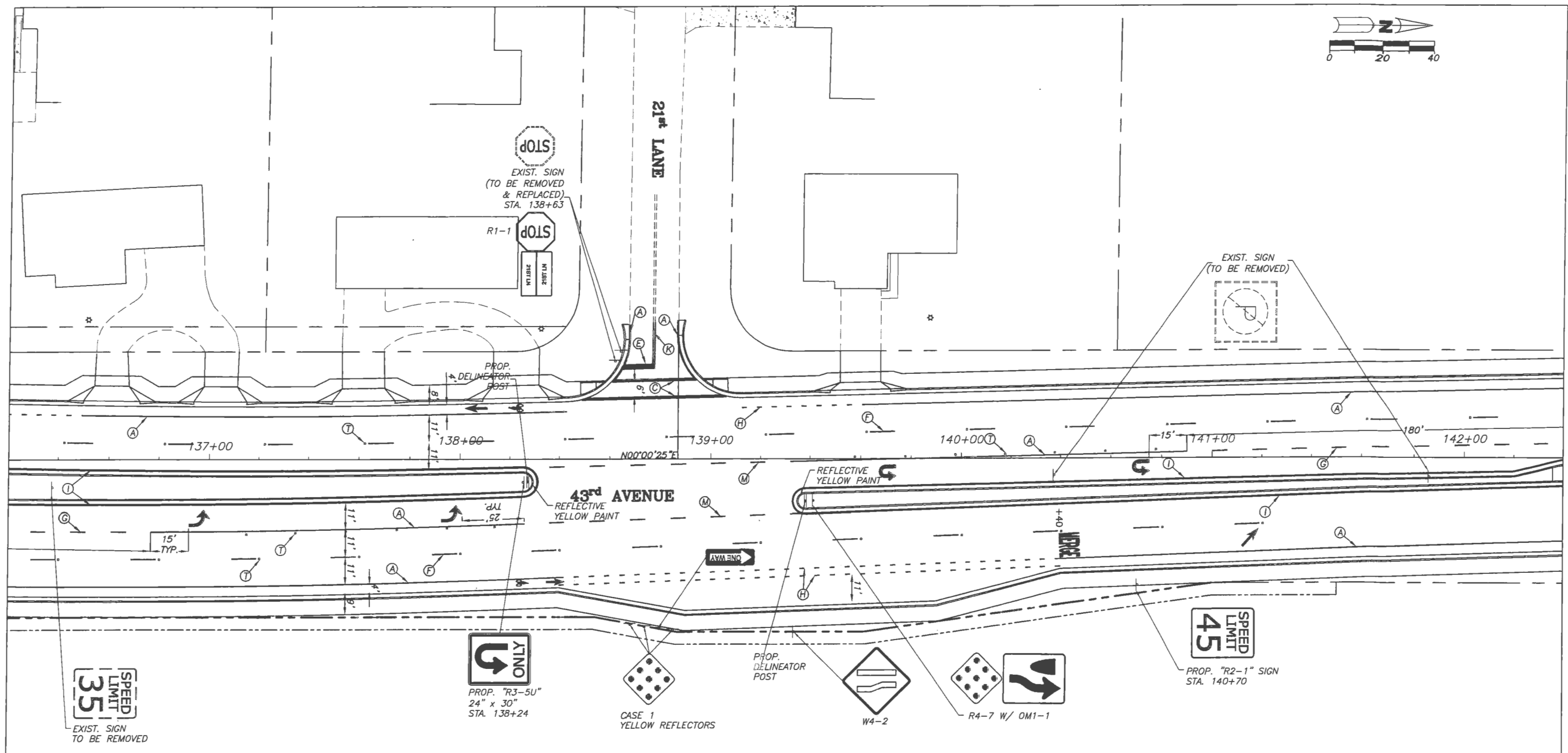
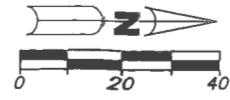
Revision:	By:	Date:

INDIAN RIVER COUNTY
 FLORIDA
 Department of Public Works
 Engineering Division

Scale:	1"=40'
Approved:	HWD
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Project:
 SIGNING & PAVEMENT MARKING PLANS
 FOR
 SR 60 & 43RD AVENUE

Sheet: S-6
Of: S-14
Project No. LNW# WP1027



NOTES

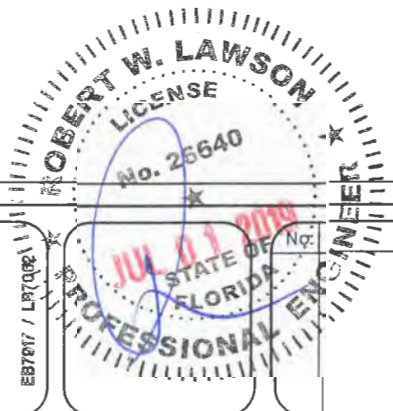
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RPM'S & PAVEMENT MARKINGS ON S.R. 60 PLACEMENT PER F.D.O.T. DESIGN STANDARDS.

STRIPING KEY

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- (R) = FDP WHITE
- (S) = FDP YELLOW
- (T) = RPM BI-DIRECTIONAL WHITE/RED
- * = REFLECTIVE PAVEMENT MARKER



Revision: _____ By: _____ Date: _____



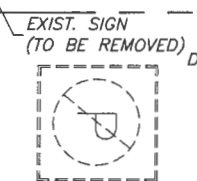
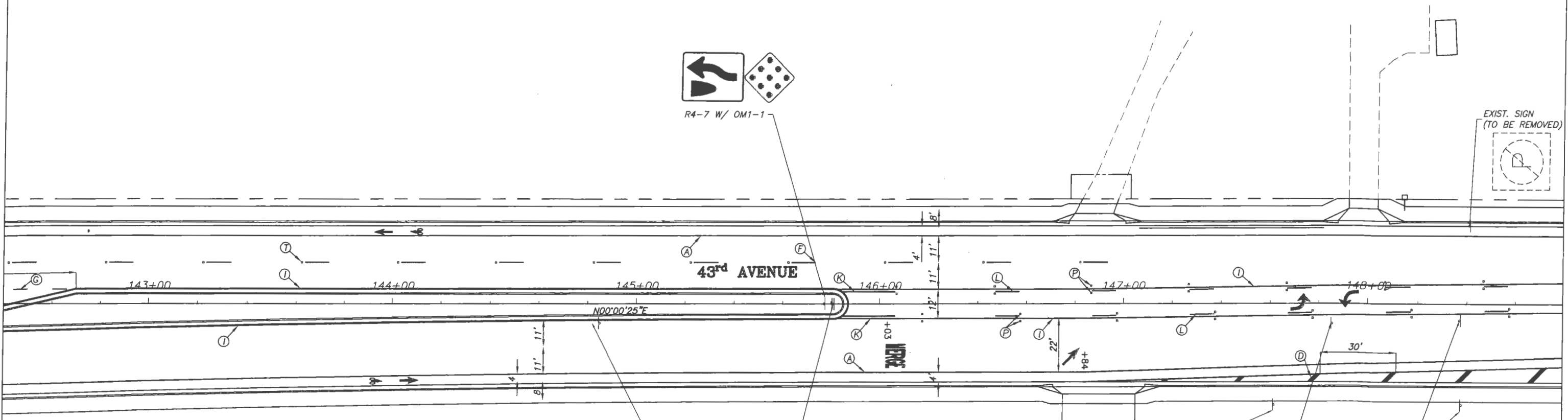
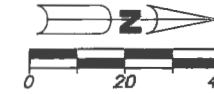
Department of Public Works
Engineering Division

Scale: 1"=40'
Approved: HWD
Drawn: FM
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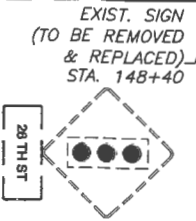
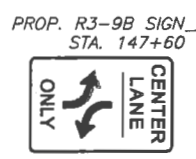
Project:
SIGNING & PAVEMENT MARKING PLANS
FOR
SR 60 & 43RD AVENUE

Sheet: S-7
Of: S-14
Project No.
LNW# WP1027

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PROP. DELINEATOR POST



STRIPING KEY

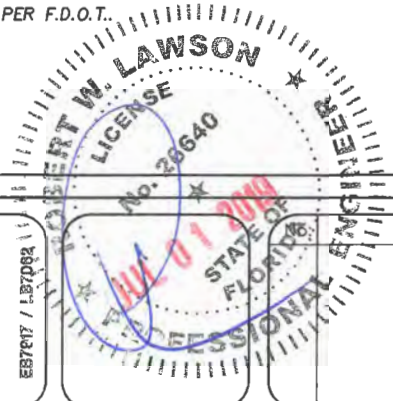
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- (P) = RPM BI-DIRECTIONAL AMBER/AMBER
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- (*) = REFLECTIVE PAVEMENT MARKER

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RPM'S & PAVEMENT MARKINGS ON S.R. 60 PLACEMENT PER F.D.O.T. DESIGN STANDARDS.



Revision:	By:	Date:

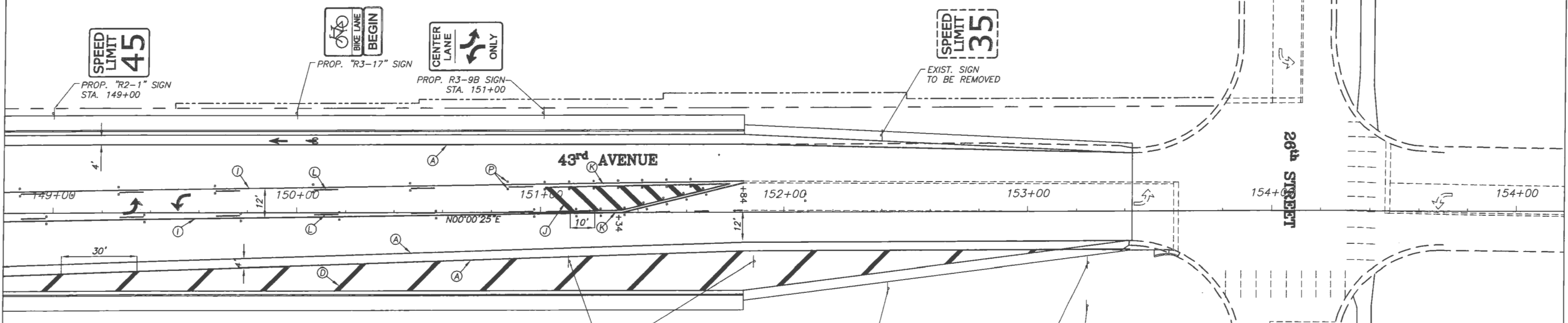
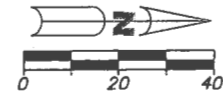
Department of Public Works
Engineering Division

Scale: 1"=40'
 Approved: HWD
 Drawn: FM
 Checked: HWD
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Project:
 SIGNING & PAVEMENT MARKING PLANS
 FOR
SR 60 & 43RD AVENUE

Sheet: S-8
 Of: S-14
 Project No.
 LNW# WP1027

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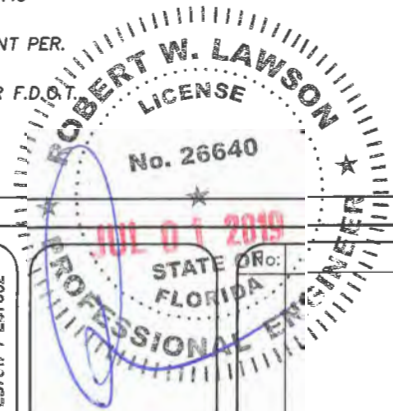
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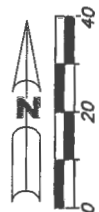
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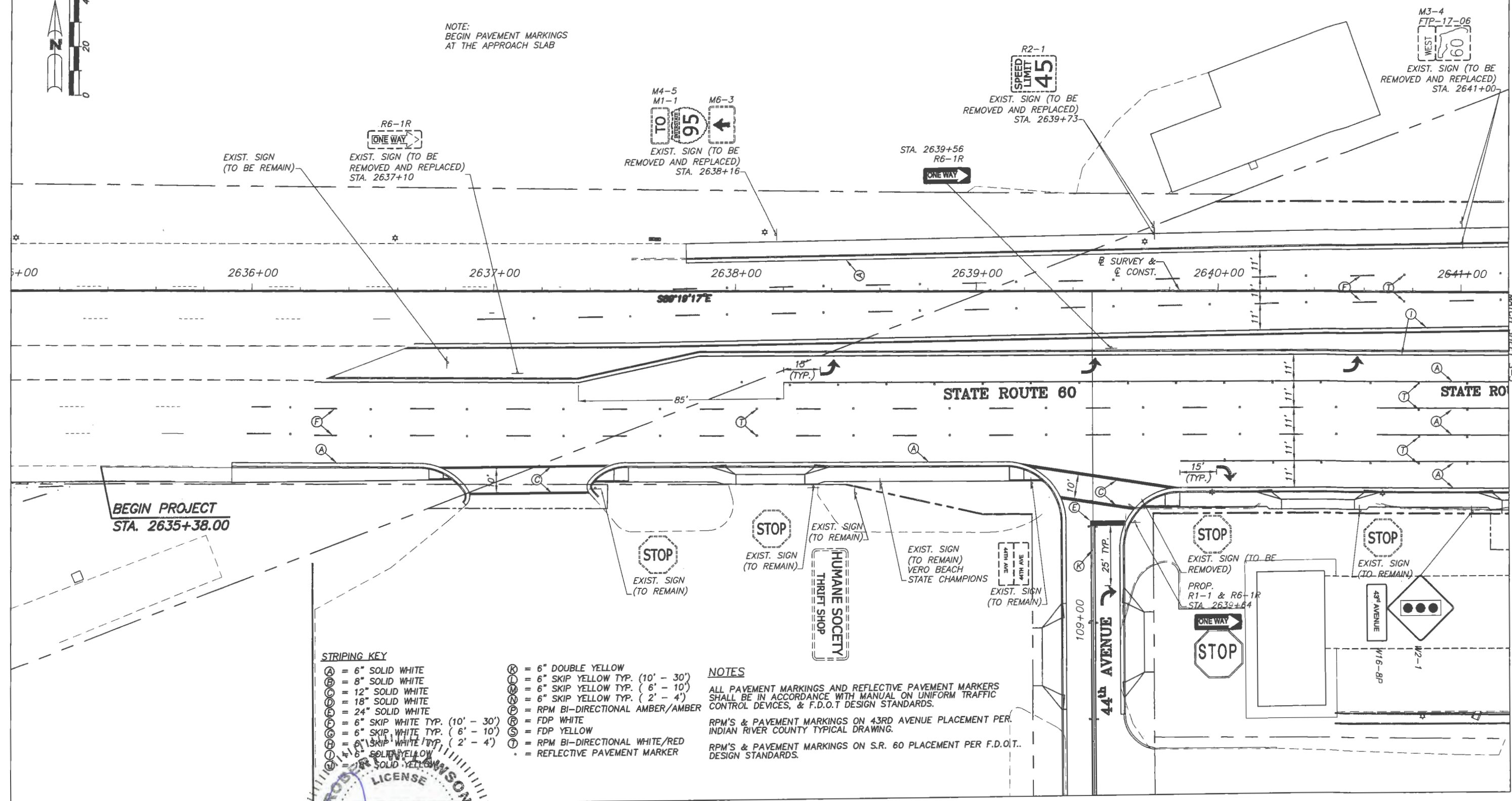
Project:
SIGNING & PAVEMENT MARKING PLANS
FOR
SR 60 & 43RD AVENUE

Sheet: S-9
Of: S-14
Project No.
LNW# WP1027

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NOTE:
BEGIN PAVEMENT MARKINGS
AT THE APPROACH SLAB



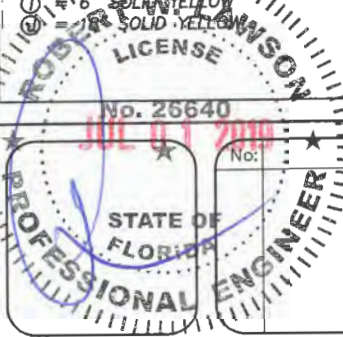
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RPM'S & PAVEMENT MARKINGS ON 43RD AVENUE PLACEMENT PER INDIAN RIVER COUNTY TYPICAL DRAWING.

RPM'S & PAVEMENT MARKINGS ON S.R. 60 PLACEMENT PER F.D.O.T. DESIGN STANDARDS.



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Project:
SIGNING & PAVEMENT MARKING PLANS
FOR
SR 60 & 43RD AVENUE

Sheet: S-10
Of: S-14
Project No.
LNW# WP1027

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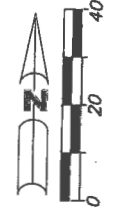
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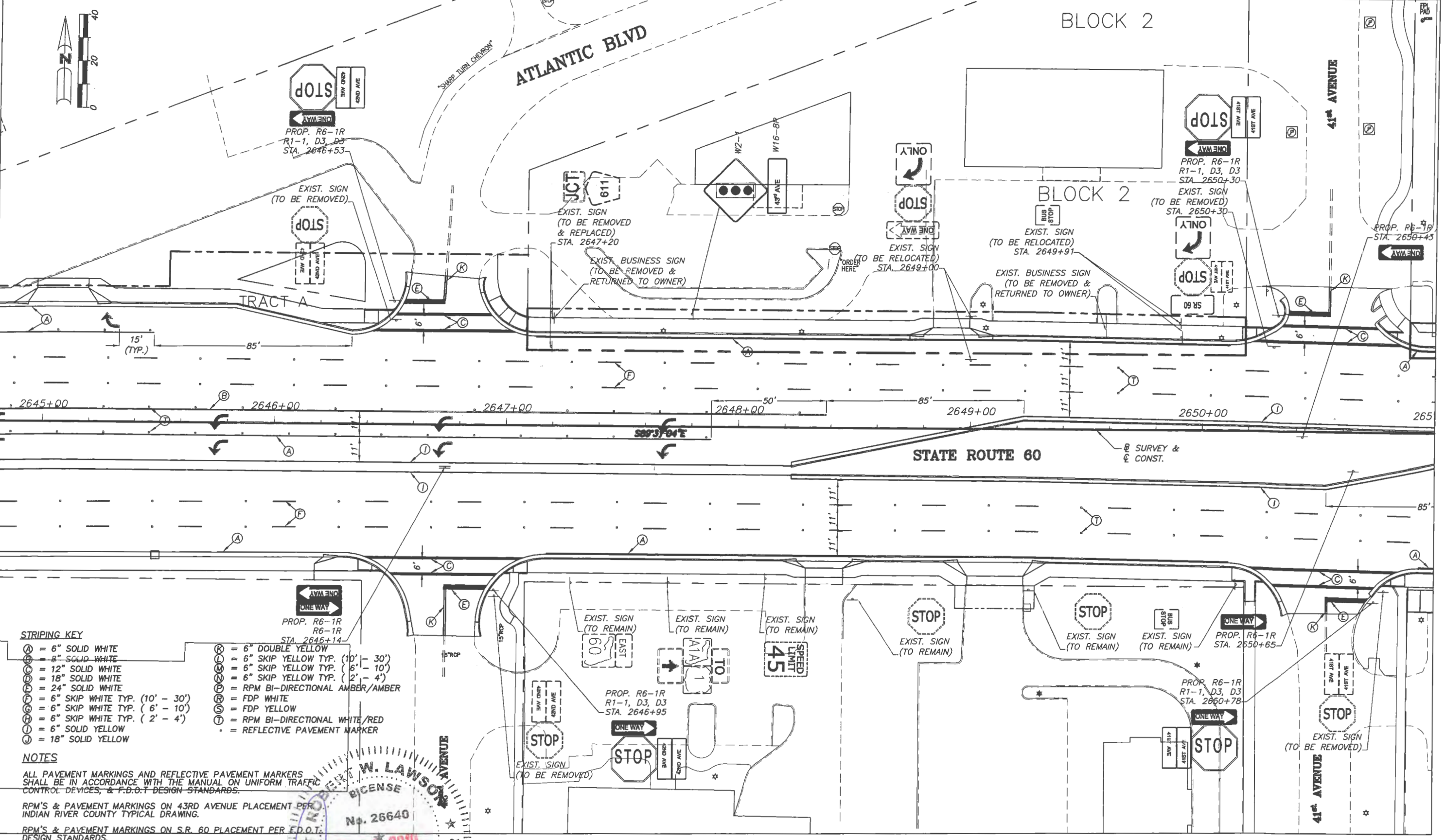
41st AVENUE

BLOCK 2

STATE ROUTE 60



MATCH SHEET S-5



STRIPING KEY

- A = 6" SOLID WHITE
- B = 8" SOLID WHITE
- C = 12" SOLID WHITE
- D = 18" SOLID WHITE
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- F = 6" SKIP WHITE TYP. (10' - 30')
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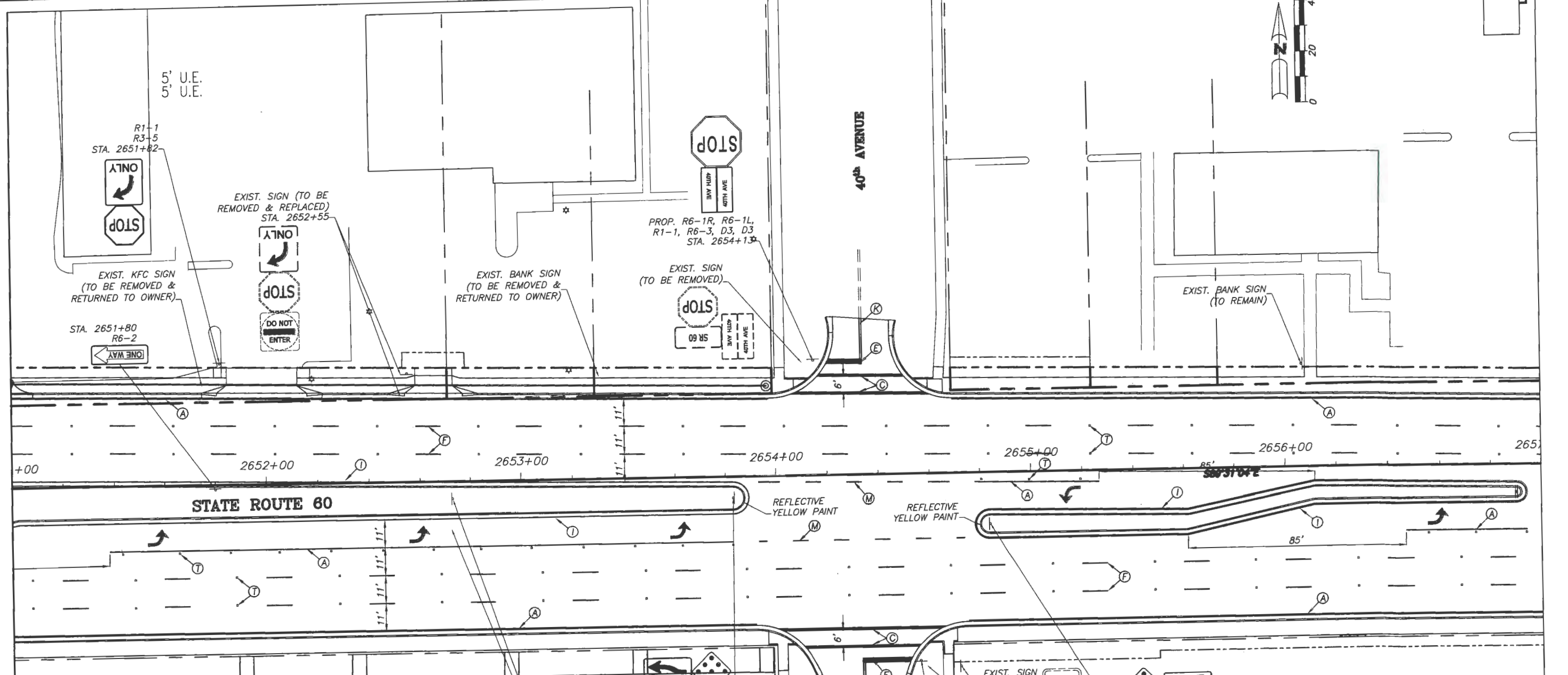
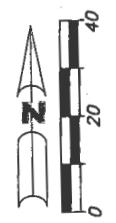
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INDIAN RIVER COUNTY
 Department of Public Works
 Engineering Division

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 Checked: HWD
 Date: 6/2017
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Project:
 SIGNING & PAVEMENT MARKING PLANS
 FOR
 SR 60 & 43RD AVENUE

Sheet: S-11
 Of: S-14
 Project No.
 LNW# WP1027



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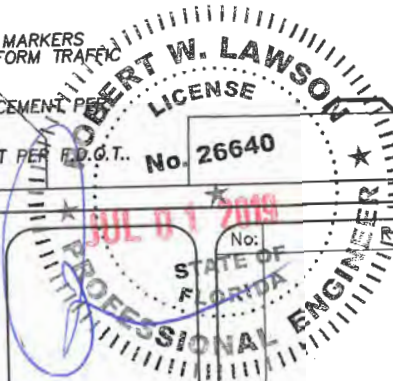
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NOTES

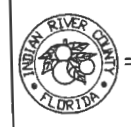
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RPM'S & PAVEMENT MARKINGS ON 43RD AVENUE PLACEMENT PER INDIAN RIVER COUNTY TYPICAL DRAWING.

RPM'S & PAVEMENT MARKINGS ON S.R. 60 PLACEMENT PER F.D.O.T. DESIGN STANDARDS.



Revision:	By:	Date:



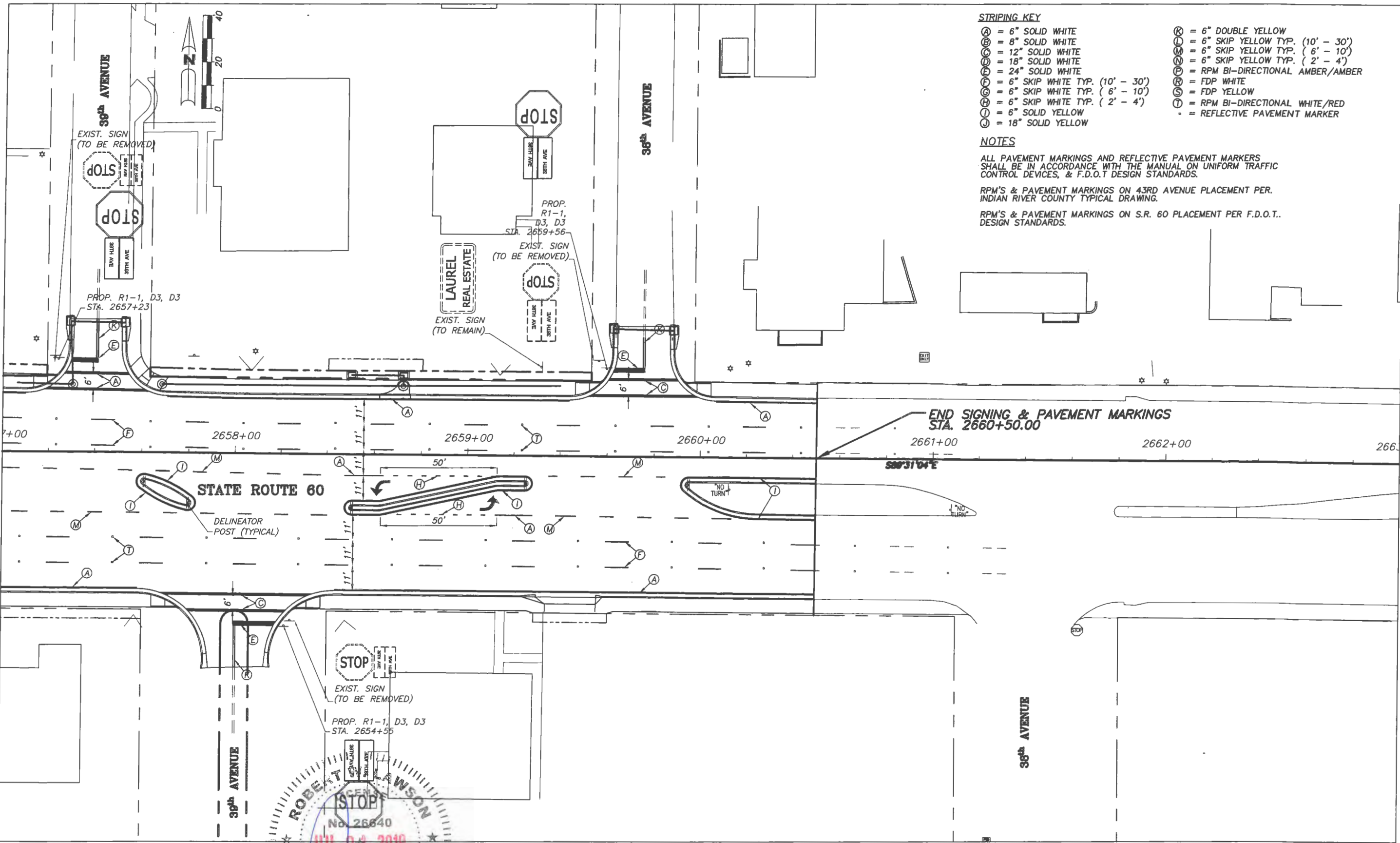
Department of Public Works
Engineering Division

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Approved: HWD
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Checked: HWD
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Project:
SIGNING & PAVEMENT MARKING PLANS
FOR
SR 60 & 43RD AVENUE

Sheet: S-12
Of: S-14
Project No.
LNW# WP1027

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STRIPING KEY

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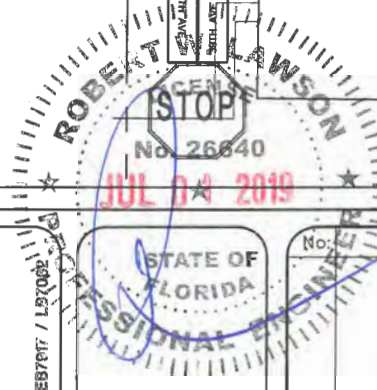
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RPM'S & PAVEMENT MARKINGS ON S.R. 60 PLACEMENT PER F.D.O.T. DESIGN STANDARDS.

END SIGNING & PAVEMENT MARKINGS
STA. 2660+50.00



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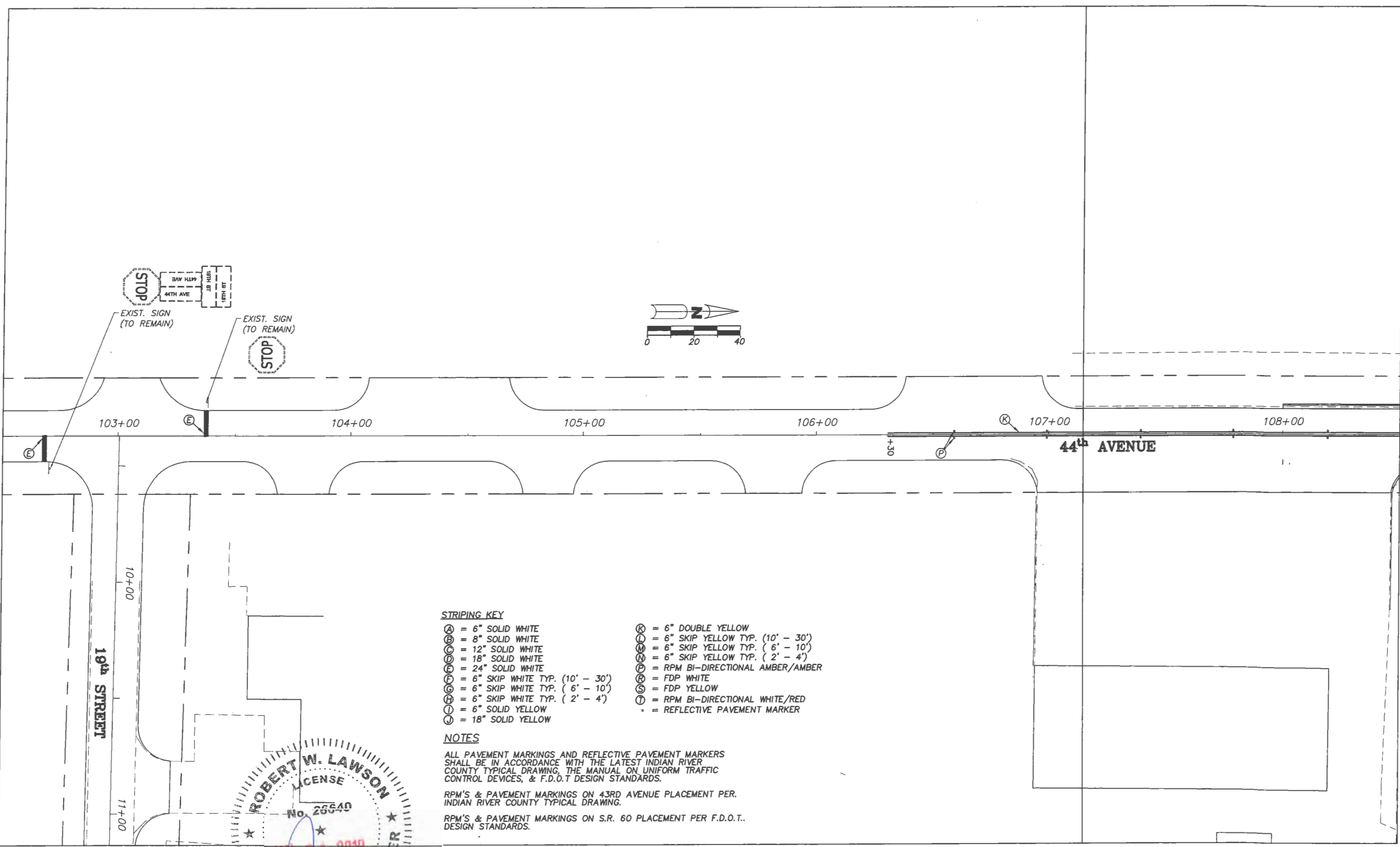
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INDIAN RIVER COUNTY
FLORIDA
Department of Public Works
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Scale:	1"=40'
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Project:
SIGNING & PAVEMENT MARKING PLANS
FOR
SR 60 & 43RD AVENUE

Sheet: S-13
Of: S-14
Project No.
LNW# WP1027



STRIPING KEY

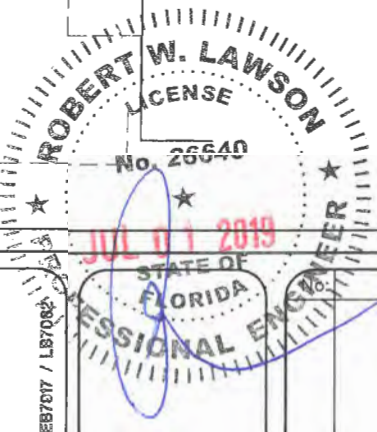
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Department of Public Works
 Engineering Division

Scale: 1"=40'
 Approved: HWD
 Drawn: FM
 Checked: HWD
 Date: 6/2017
 Field Book No:

Project:
 SIGNING & PAVEMENT MARKING PLANS
 FOR
SR 60 & 43RD AVENUE

Sheet: S-14
 Of: S-14
 Project No.
 LNW# WP1027

INDIAN RIVER COUNTY STATE OF FLORIDA SIGNALIZATION PLANS

F.D.O.T. F.P.N. 431759-2-54-01

INDEX OF SHEETS

SHEET No.	DESCRIPTION
T-1	KEY SHEET
T-2	TABULATION OF QUANTITIES
T-3 TO T-3A	GENERAL NOTES
T-4 TO T-5	SIGNALIZATION PLANS
T-6 TO T-7	INTERCONNECT PLAN
T-8	MAST ARM TABULATION
T-9	TABLE OF VARIABLES FOR STANDARD MAST ARM ASSEMBLIES INDEX NO. S-1700
T-10	GUIDE SIGN DETAIL



STATE ROUTE 60 WIDENING MILL & RESURFACE FROM 44TH AVENUE TO 38TH AVENUE & 43RD AVENUE RECONSTRUCTION FROM 19TH STREET TO 26TH STREET

RECEIVED

JULY 02, 2019

INDIAN RIVER COUNTY
ENGINEERING DIVISION

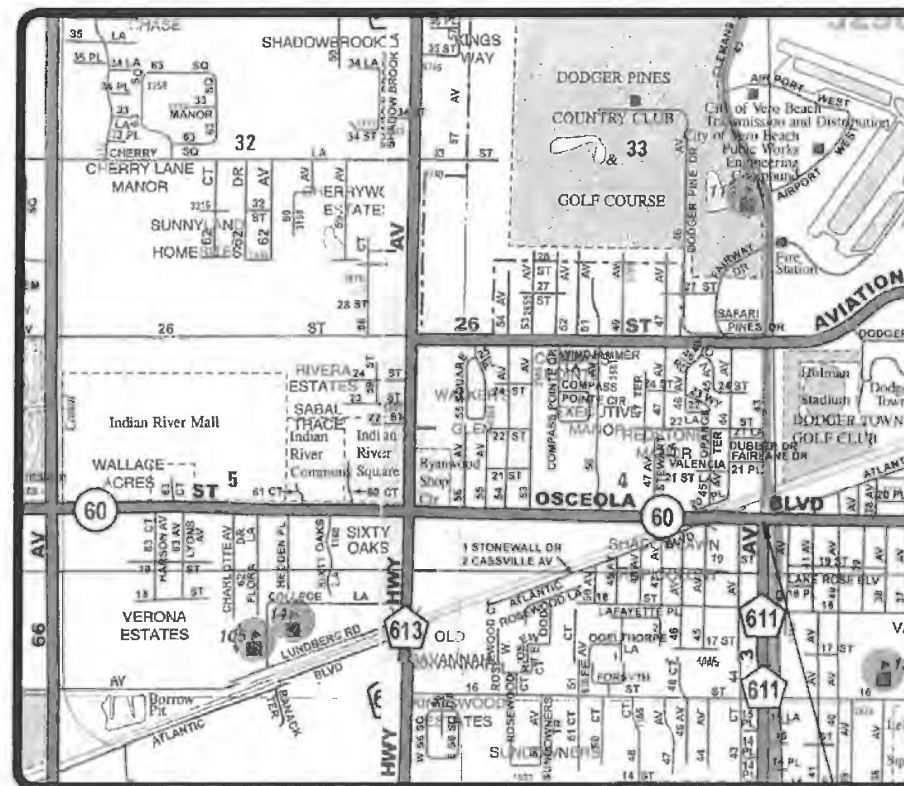
PUBLIC WORKS DIRECTOR:
RICHARD B. SZPYRKA, P.E.

COUNTY ENGINEER:
JAMES W. ENNIS, P.E.

PROJECT MANAGER:
WILLIAM JOHNSON, P.E.

STANDARDS AND SPECIFICATIONS:
ALL MATERIALS AND CONSTRUCTION WITHIN THE F.D.O.T. RIGHT-OF-WAY SHALL CONFORM TO THE FY 2016-17 FLORIDA DEPARTMENT OF TRANSPORTATION DESIGN STANDARDS AND FY 2017 SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND INDIAN RIVER COUNTY TYPICALS FOR THE ANNUAL SIGNAL INSTALLATION CONTRACT.

APPLICABLE DESIGN STANDARDS REVISIONS:
For Design Standards Modifications click on "Design Standards" at the following web site:
<http://www.dot.state.fl.us/rddesign/>



LOCATION MAP
NOT TO SCALE

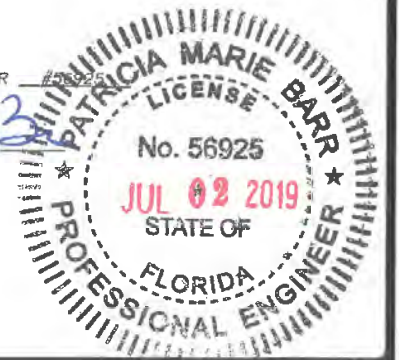
PROJECT LOCATION

ENGINEER'S CERTIFICATION

I HEREBY CERTIFY THAT THE ATTACHED PLANS AND DESIGN ARE IN SUBSTANTIAL COMPLIANCE WITH THE DESIGN STANDARDS AND CRITERIA IN EFFECT ON THIS DATE FOR INDIAN RIVER COUNTY ENGINEERING DEPARTMENT AND THE STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION.

DATE: _____ PROFESSIONAL ENGINEER

Patricia Barr
PATRICIA BARR, P.E.



SEC. 3 & 4, TWP. 33S, RGE. 39E

 SIMMONS & WHITE <small>ENGINEERING PLANNING CONSULTING SINCE 1922</small> <small>2561 Macomber Blvd • Suite 3 • West Palm Beach, Florida 33411 • (561) 473-7840</small>				S.R. 60 & 43RD AVENUE KEY SHEET			
DESIGN T.B.	DRAWN T.M.	CHECKED A.L.	APPROVED R.R.	DATE	JOB NO. 11-064	DRAWING NO. 11064T01	SHEET OF T-1 T-10

TABULATION OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT																					TOTAL THIS SHEET		GRAND TOTAL		REF. SHEET
			T-4		T-5		T-6		T-7																		
			PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL					
630-2-11	CONDUIT (F & I) (UNDERGROUND)	LF	354				5318		6400													12072		12072			
630-2-12	CONDUIT (F & I) (UNDER PAVT.) (DIR. BORE)	LF	456				555		72													1083		1083			
630-2-15	CONDUIT (F & I) (BRIDGE MOUNTED)	LF					760		860													1620		1620			
632-7-1	CABLE (SIGNAL) (F & I)	PI	1																			1		1			
633-1-123	FIBER OPTIC CABLE (F & I) (UNDERGROUND) (96 SINGLE MODE)	LF					3594		3702													7296		7296			
633-3-15	FIBER OPTIC CONNECTION HARDWARE (F & I) (PRETERMINATED PATCH PANEL)	EA	1																			1		1			
635-2-11	PULL & SPLICE BOXES (F & I)	EA	23																			23		23			
635-2-13	PULL & SPLICE BOXES (F & I) (FIBER OPTICS)	EA					15		11													26		26			
639-1-122	ELECTRICAL POWER SERVICE (F & I) (UNDERGROUND) (METER)	AS	1																			1		1			
639-2-1	ELECTRICAL SERVICE WIRE (F & I)	LF	200																			200		200			
639-3-11	ELECTRICAL SERVICE DISCONNECT (F & I) (POLE)	EA	1																			1		1			
641-2-12	PRESTRESSED CONC. POLE (F & I) (P-11)	EA	1																			1		1			
641-2-80	CONC. POLE REMOVAL (COMPLETE/DEEP)	EA	4																			4		4			
646-1-11	ALUMINUM SIGNAL POLE (F & I) (PEDESTAL)	EA	8																			8		8			
649-31-105	MAST ARM ASSEMBLY (F & I) (SINGLE ARM W/O LUM) (78')	EA	1																			1		1			
649-31-109	MAST ARM ASSEMBLY (F & I) (SINGLE ARM W/ LUM) (70.5')	EA	2																			2		2			
649-31-118	MAST ARM ASSEMBLY (F & I) (DOUBLE ARM W/O LUM) (70.5'-60')	EA	1																			1		1			
650-1-24	SIGNAL TRAFFIC (F & I) (3 SECT 1 WAY) (POLYCARBONATE W/ ALUMINUM TOP SECT.)	AS			16																	16		16			
650-1-28	SIGNAL TRAFFIC (F & I) (5 SECT 1 WAY) (POLYCARBONATE W/ ALUMINUM TOP SECT.)	AS			4																	4		4			
653-1-11	PEDESTRIAN SIGNAL (F & I) (LED, 1 WAY)	AS			8																	8		8			
660-4-11	VEHICLE DETECTION (F & I) (VIDEO) (CABINET EQUIPMENT)	EA	1																			1		1			
660-4-12	VEHICLE DETECTION (F & I) (VIDEO) (ABOVE GROUND EQUIPMENT)	EA	4																			4		4			
665-1-11	PEDESTRIAN DETECTOR (F & I) (STD)	EA	8																			8		8			
670-5-110	TRAFFIC CONTROLLER ASSEMBLY (F & I) (NEMA)	AS	1																			1		1			
670-5-600	CONTROLLER ASSEMBLY REMOVAL	AS	1																			1		1			
682-1-133	CCTV CAMERA (F & I) (NON-PRESSURIZED) (IP, HIGH DEF.)	EA	1																			1		1			
684-1-1	MANAGED FIELD ETHERNET SWITCH (F & I)	EA	1																			1		1			
685-1-13	UMINTERRUPTIBLE POWER SOURCE (F & I) (LINE INTERACTIVE W/ SEP. CABINET)	EA	1																			1		1			
700-5-22	INTERNALLY ILLUMINATED SIGN (F & I) (NAME) (OH) (12-18 SF)	EA																									
	SR 60				2																	2		2			
	43RD AVE				2																	2		2			
700-3-201	SIGN PANEL (F & I) (OVERHEAD) (12 SF)	EA																									
	R10-16 U-TURN YIELD TO RIGHT TURN				4																	4		4			



SIMMONS & WHITE
ENGINEERING | PLANNING | CONSULTING | SINCE 1922
 2581 Metrocentre Blvd Suite 3 • West Palm Beach, Florida 33407 • (561) 478-7848

DESIGN T.B.	DRAWN T.M.	CHECKED A.L.	APPROVED R.R.	DATE
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S.R. 60
 & 43RD AVENUE
TABULATION OF QUANTITIES

JOB NO. 11-064	DRAWING NO. 11064T02	SHEET OF T-2 T-10
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INDIAN RIVER COUNTY-TRAFFIC SIGNAL GENERAL NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD); FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (STANDARD SPECIFICATIONS) 2017; FLORIDA DEPARTMENT OF TRANSPORTATION DESIGN STANDARDS (STANDARD INDEX(ES)) 2016-2017, ALL SUPPLEMENTS THERETO; NATIONAL ELECTRIC CODE; INDIAN RIVER COUNTY TRAFFIC SIGNAL SPECIFICATIONS; AND ANY OR ALL INDIAN RIVER COUNTY TRAFFIC ENGINEERING DIVISION REQUIREMENTS.
2. THE AGENCY RESPONSIBLE FOR MAINTENANCE OF THE TRAFFIC SIGNAL AND RELATED COMMUNICATIONS EQUIPMENT IS INDIAN RIVER COUNTY TRAFFIC ENGINEERING DIVISION (IRCTED) (772) 226-1547. ALL TRAFFIC SIGNAL AND RELATED COMMUNICATIONS EQUIPMENT WHEN USING PAY ITEM SERIES: 632, 634, 635, 660, 670, 684 AND 685 FOR THIS CONTRACT SHALL BE COMPATIBLE WITH IRCTED'S CENTRAL COMPUTER NETWORK SYSTEM. PRIOR TO ANY PURCHASING OF THE ABOVE PRODUCTS, ENSURE THEY HAVE BEEN APPROVED FOR SYSTEM COMPATIBILITY BY THE MAINTAINING AGENCY.
3. IRCTED SHALL BE NOTIFIED AT (772) 226-1547 AT LEAST TWO (2) FULL BUSINESS DAYS PRIOR TO ANY WORK BEING PERFORMED AT A SIGNALIZED LOCATION IN ORDER TO PROPERLY TRANSFER MAINTENANCE RESPONSIBILITIES.
4. THE CONTRACTOR SHALL DELIVER ALL REMOVED TRAFFIC SIGNAL EQUIPMENT, EXCEPT CONCRETE STRAIN POLES, TO IRCTED LOCATED AT 4548 41st STREET, VERO BEACH, FL 32967 (772) 226-3460. THE COST OF DELIVERY TO IRCTED SHALL BE INCLUDED IN THE REMOVAL OF THE RELATED SIGNAL PAY ITEM. THE CONTRACTOR SHALL CONTACT THE IRCTED SEVEN (7) FULL BUSINESS DAYS PRIOR TO THE DELIVERY OF ANY REMOVED EQUIPMENT. CONTRACTOR IS RESPONSIBLE FOR CONCRETE STRAIN POLE DISPOSAL AT THE CONTRACTOR'S EXPENSE.
5. THE CONTRACTOR SHALL BE ADVISED THAT OTHER PROJECTS MAY BE UNDER CONSTRUCTION CONCURRENTLY WITH THIS PROJECT AND THAT COORDINATION EFFORTS MAY BE NECESSARY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE CONSTRUCTION SCHEDULE AND FOR THE AMOUNT OF COORDINATION REQUIRED. THE COST SHALL BE INCLUDED IN THE BID.
6. LOCATIONS, ELEVATIONS AND DIMENSIONS OF EXISTING FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF THE PREPARATION OF THESE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATIONS, ELEVATIONS AND OTHER FEATURES AFFECTING HIS/HER WORK PRIOR TO CONSTRUCTION, AND NOTIFY THE ENGINEER IMMEDIATELY AND PRIOR TO ANY FURTHER RELATED WORK ACTIVITY WHEN CONFLICT BETWEEN DRAWINGS AND ACTUAL CONDITIONS ARE DISCOVERED.
7. THE CONTRACTOR SHALL CALL SUNSHINE STATE ONE-CALL AT 1-800-432-4770 FOR LOCATIONS OF UTILITIES WITHIN THE AREA(S) OF CONSTRUCTION FOR THIS PROJECT A MINIMUM OF TWO (2) FULL BUSINESS DAYS PRIOR TO ANY DIGGING OR EXCAVATION ACTIVITIES. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE TO CONTACT ANY UTILITY OWNER(S) THAT MAY NOT BE A "SUNSHINE" MEMBER.
8. EXISTING UTILITIES ARE TO REMAIN IN PLACE UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE LOCATION AND PROTECTION, REPAIR AND/OR REPLACEMENT OF ALL UTILITIES THAT MAY BE AFFECTED BY THE CONSTRUCTION OF THIS PROJECT. EXISTING UTILITIES SHALL BE MAINTAINED IN SERVICE DURING CONSTRUCTION UNLESS OTHERWISE APPROVED BY THE UTILITY OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ANY REQUIRED UTILITY RELOCATIONS.
9. THE CONTRACTOR SHALL NOTIFY ALL INVOLVED UTILITIES TWO (2) FULL BUSINESS DAYS IN ADVANCE, BEFORE SETTING TRAFFIC SIGNAL POLES OR PERFORMING ANY DIGGING OR OTHER EXCAVATION WORK, SO THAT A COMPANY REPRESENTATIVE CAN BE PRESENT. THE LOCATION OF THE UTILITIES SHOWN IN THE PLANS ARE APPROXIMATE ONLY. THE EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR. KNOWN UTILITY COMPANIES INCLUDE:

COMPANY	CONTACT	TELEPHONE NUMBER
AT&T	MARK GUTIERREZ	(772) 460-4443
AT&T BROADBAND	CRAIG BOWERS	(772) 778-9635
CITY GAS COMPANY OF FLORIDA	GLEN "BOCK" KREINHAGEN	(772) 871-2551 EXT. 23
COMCAST CABLE	WILSON LOPEZ	(772) 940-9310
FLORIDA GAS TRANSMISSION	JOSEPH SANCHEZ	(407) 838-7000
FLORIDA POWER & LIGHT	DENNIS G. PAGANO	(772) 489-6204
FP&L PROJECTS & RELOCATIONS	BILL HESTER	(772) 337-7099
INDIAN RIVER COUNTY TELECOMMUNICATION DIVISION	MANNY CABO	(772) 226-1318
INDIAN RIVER COUNTY TRAFFIC	JOHN ANKENY	(772) 226-1563
INDIAN RIVER COUNTY UTILITIES DEPARTMENT	ARJUNA WERAGODA	(772) 226-1821
INDIAN RIVER FARMS WCD	DAVID GUNTER	(772) 562-2141
SEBASTIAN RIVER WCD	ROBERT ULEVICH	(772) 562-9176
VERO BEACH ELECTRICAL ENGINEERING	JILL GLOVER	(772) 978-5459
VERO BEACH WATER & SEWER DEPARTMENT	TODD YOUNG	(772) 978-5209
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE COMPANY PROVIDING ELECTRICAL POWER TO DETERMINE IF A SERVICE PROCESSING FEE IS REQUIRED. IF REQUIRED, FEE SHALL BE REFLECTED IN THE CONTRACTOR'S BID UNIT PRICE FOR ELECTRICAL POWER SERVICE ASSEMBLY.
11. THE CONTRACTOR SHALL COORDINATE AND FIELD VERIFY LOCATION(S) OF THE ELECTRIC SERVICE POINT PRIOR TO INSTALLING CONDUIT, DISCONNECT SWITCH, AND PULL BOXES.
12. (IF APPLICABLE) IT SHOULD BE NOTED THAT NO TEST BORINGS WERE MADE WHERE CONDUIT RUNS ARE TO BE INSTALLED BY JACKING OR TRENCHING. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE THE JOB SITE CONDITIONS BEFORE SUBMITTING BID PROPOSALS IN ACCORDANCE WITH SECTION 2-4 OF THE FDOT SPECIFICATIONS.
13. THE CONTRACTOR SHALL MAINTAIN TRAFFIC IN ACCORDANCE WITH THE APPLICABLE GUIDELINES SET FORTH IN FDOT DESIGN STANDARD INDEXES 600 THROUGH 660; THE MUTCD; AND SECTION 102 OF THE STANDARD SPECIFICATIONS.
14. THE CONTRACTOR SHALL MAKE ALL VIDEO DETECTORS INSTALLED AS PART OF THE PROJECT FULLY OPERATIONAL IN ACCORDANCE WITH THEIR ASSOCIATED ISOLATED INTERSECTION SIGNAL TIMING CHART PRIOR TO THE ACTIVATION OF THE SIGNAL.
15. THE CONTRACTOR SHALL VERIFY ALL SIGNAL POLE ELEVATIONS AND LOCATIONS INCLUDING POSSIBLE UTILITY CONFLICTS PRIOR TO PROCUREMENT. THE CONTRACTOR SHALL VERIFY THAT ALL SIGNAL POLE ELEVATIONS WILL MEET MUTCD, FDOT AND INDIAN RIVER COUNTY REQUIREMENTS FOR LOW POINT OF CLEARANCE. ALL SIGNAL ASSEMBLIES SHALL HAVE A VERTICAL CLEARANCE OF 17.5 FEET MINIMUM AND 19 FEET MAXIMUM FROM THE BOTTOM OF THE ASSEMBLY TO THE ROAD.
16. UNDER NO CIRCUMSTANCES SHALL ENERGIZED CABLE BE PLACED IN THE SAME CONDUIT OR PULL BOX AS VIDEO DETECTION CABLE.
17. ALL FIELD WIRING SHALL BE NEATLY BUNDLED AND CLEARLY IDENTIFIED WITH PERMANENT LEGIBLE, WEATHERPROOF TAGS THAT ARE SECURELY ATTACHED TO EACH CABLE. THE TAGGING SYSTEM PROPOSED SHALL BE SUBMITTED FOR APPROVAL WITH THE OTHER EQUIPMENT SUBMITTALS REQUIRED FOR THIS PROJECT.
18. THE CABINET DOOR SHALL OPEN AWAY FROM THE INTERSECTION UNLESS SPECIFIED OTHERWISE.
19. TRAFFIC SIGNAL ACCEPTANCE TESTING PROCEDURES SHALL BE IN ACCORDANCE WITH SECTION 611 OF THE STANDARD SPECIFICATIONS.
20. THERE WILL BE A 90 DAY WARRANTY PERIOD SUBJECT TO THE REQUIREMENTS CONTAINED IN ARTICLE (SECTIONS 611-5 THROUGH 611-7.3) "CONTRACTOR'S WARRANTY PERIOD FOR SIGNAL INSTALLATIONS" AS FOUND IN FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, DATED 2016.
21. THE CONTRACTOR SHALL PROVIDE FOUR COPIES OF MARKED-UP (AS-BUILT) CONSTRUCTION PLANS, AND ONE CAD FILE OF SUCH, COPY OF SHOP DRAWING AND A COPY OF MAST ARM SPECIFICATION AND ANY/ALL APPROVED SHOP DRAWINGS AT THE TIME OF SIGNAL CONDITIONAL ACCEPTANCE INSPECTION BY THE MAINTAINING AGENCY.
22. ALL SUBMITTALS AND SHOP DRAWINGS SHALL BE PROVIDED TO THE ENGINEER FOR REVIEW IN ACCORDANCE WITH SECTION 603 OF THE STANDARD SPECIFICATIONS: PATRICIA BARR, TRICIA@SIMMONSANDWHITE.COM
23. THE CONTRACTOR SHALL SUBMIT IN WRITING A REQUEST FOR SIGNAL INSPECTION TO THE MAINTAINING AGENCY. (ALLOW TWO (2) WEEKS FOR SIGNAL INSPECTION).

24. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN FOUR (4) PORTABLE CHANGEABLE (VARIABLE) MESSAGE SIGNS (PCMS) FOR A PERIOD OF TWO WEEKS. THE PCMS WILL BE LOCATED AT AN APPROPRIATE DISTANCE IN ADVANCE OF THE APPROACHES TO THE NEW SIGNALIZED INTERSECTION AS SPECIFIED BY THE MAINTAINING AGENCY'S ENGINEER. THE PCMS WILL BE PROVIDED ONE (1) WEEK PRIOR TO THE SCHEDULED ACTIVATION TO FULL COLOR OPERATION AND SHALL REMAIN IN PLACE FOR ONE (1) WEEK FOLLOWING ACTIVATION. COST OF FURNISHING PCMS TO BE INCLUDED UNDER PAY ITEM NO. 102-1 - MAINTENANCE OF TRAFFIC.

25. IN ACCORDANCE WITH FDOT STANDARDS & SPECIFICATIONS, THE CONTRACTOR SHALL PROVIDE THE ASSOCIATED TRAFFIC SIGNAL MANUFACTURER WARRANTIES FOR THE ASSOCIATED MATERIALS AND/OR EQUIPMENT PRIOR TO THE FINAL ACCEPTANCE OF THE TRAFFIC SIGNAL.

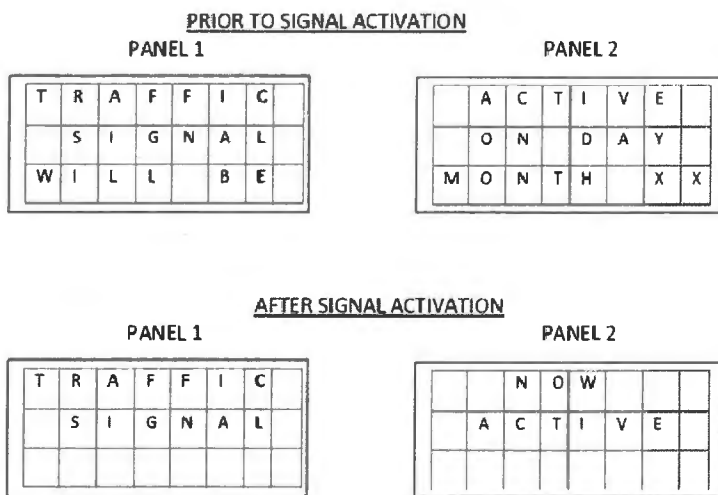
26. PRIOR TO ACTIVATION THE PCMS SIGN SHALL BE:
 (PANEL ONE - LINE 1) "TRAFFIC"
 (PANEL ONE - LINE 2) "SIGNAL"
 (PANEL ONE - LINE 3) "WILL BE"
 (PANEL TWO - LINE 1) "ACTIVE"
 (PANEL TWO - LINE 2) "ON DAY"
 (PANEL TWO - LINE 3) "MONTH XX"

SUBSTITUTION FOR THE WORD "DAY" SHALL BE AS FOLLOWS:
 SUNDAY AS "SUN"
 MONDAY AS "MON"
 TUESDAY AS "TUES"
 WEDNESDAY AS "WED"
 THURSDAY AS "THUR"
 FRIDAY AS "FRI"
 SATURDAY AS "SAT"

SUBSTITUTION FOR THE WORD "MONTH" SHALL BE AS FOLLOWS:
 JANUARY AS "JAN"
 FEBRUARY AS "FEB"
 MARCH AS "MAR"
 APRIL AS "APR"
 MAY AS "MAY"
 JUNE AS "JUN"
 JULY AS "JUL"
 AUGUST AS "AUG"
 SEPTEMBER AS "SEP"
 OCTOBER AS "OCT"
 NOVEMBER AS "NOV"
 DECEMBER AS "DEC"

SUBSTITUTION FOR THE WORD "XX" SHALL BE AS FOLLOWS:
 THE NUMERICAL DAY OF THE MONTH, FROM ONE (1) TO THIRTY-ONE (31). THE DATES LESS THAN TEN (10) SHALL BE PRECEDED BY A ZERO (0); EXAMPLE: "JAN 03" FOR JANUARY 3RD.

27. AFTER THE TURN-ON, THE PCMS SHALL BE CHANGED TO:
 (PANEL ONE - LINE 1) "TRAFFIC"
 (PANEL ONE - LINE 2) "SIGNAL"
 (PANEL TWO - LINE 1) "NOW"
 (PANEL TWO - LINE 2) "ACTIVE"
 PANEL TWO, LINE AND LINE 2, SHALL FLASH THREE (3) TIMES BEFORE REVERTING BACK TO PANEL ONE.



28. THE ENGINEER OR CONTRACTOR SHALL SUBMIT IN WRITING A REQUEST FOR SIGNAL ACTIVATION (TURN-ON) TO THE MAINTAINING AGENCY. THE MAINTAINING AGENCY WILL SCHEDULE THE SIGNAL ACTIVATION A MINIMUM OF SEVEN (7) DAYS AFTER NOTIFICATION THAT THE SIGNAL HAS BEEN PLACED FLASHING MODE AND INSPECTIONS BY MAINTAINING AGENCY FORCES HAVE BEEN COMPLETED.

29. THE CONTRACTOR SHALL BE PRESENT AND SHALL CONDUCT THE TURN-ON TO FULL COLOR OPERATION IN THE PRESENCE OF THE MAINTAINING AGENCY'S ENGINEER. NO ACTIVATIONS SHALL BE SCHEDULED ON MONDAYS, FRIDAYS OR WEEKENDS UNLESS OTHERWISE APPROVED BY THE MAINTAINING AGENCY'S ENGINEER. ANY PROPOSED OR NECESSARY SCHEDULE CHANGE DURING THE SEVEN (7) DAYS PRIOR TO SCHEDULED TURN-ON WILL BE AT THE DETERMINATION AND DISCRETION OF THE MAINTAINING AGENCY'S ENGINEER.

30. UPON COMPLETION AND FINAL ACCEPTANCE OF THE PERMANENT TRAFFIC SIGNAL INSTALLATION BY INDIAN RIVER COUNTY, THE SIGNALS AND EQUIPMENT SHALL BE MAINTAINED BY IRCTED.

31. WHEN IRCTED DETERMINES THAT THE NEED FOR A TRAFFIC SIGNAL IS CRITICAL TO THE PUBLIC WELFARE, EARLY TURN-ON OF THE SIGNAL MAY BE REQUIRED BEFORE THE COMPLETION OF THE CONTRACT. IF THIS NEED ARISES, IRCTED MAY ASSUME THE RESPONSIBILITY FOR MAINTENANCE AND LIABILITY, OR NEGOTIATE WITH THE CONTRACTOR FOR MAINTENANCE AND LIABILITY, FOR SUCH A SIGNAL. NEW SIGNALS SHALL NOT BE PLACED ON FULL COLOR OPERATION UNTIL THE DATE OF INSPECTION EXCEPT AS STATED ABOVE. NEW SIGNALS SHALL BE FLASHED NO LESS THAN A WEEK OR MORE THAN TWO WEEKS PRIOR TO THE INSPECTION. SIGNAL HEADS MUST BE BAGGED WITH BURLAP OR TURNED BACK UNTIL THIS TIME.

- A. **POWER SERVICE**
 1. POWER SERVICES SHALL FOLLOW THE LATEST STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD INDEX NO. 17736
 2. POWER SERVICES ARE TO BE 120/240 VAC WITH TRIPLEX SERVICE DROP WIRE.
 3. CITY OF VERO BEACH POWER SUPPLIED INSTALLATIONS MUST HAVE A SPECIAL METER CAN, SUPPLIED FROM THE CITY OF VERO BEACH TRANSMISSION & DISTRIBUTION.
 4. FLORIDA POWER & LIGHT POWER SUPPLIED INSTALLATIONS REQUIRE A METER CAN.
 5. MAST ARM POWER SERVICES SHALL BE MOUNTED ON A STUB POLE.
 6. CONCRETE STRAIN POLE INSTALLATIONS SHALL HAVE THE POWER SERVICE MOUNTED ON THE STRAIN POLE.
- B. **TRAFFIC SIGNAL CONTROLLER**
 1. SHALL BE COMPATIBLE WITH ECONOLITE SYSTEM SOFTWARE.
 2. SHALL HAVE INTERNAL TIME-BASED CAPABILITIES
 3. SHALL HAVE INTERNAL RAILROAD PREEMPTION WITH IMMEDIATE RETURN TO COORDINATION.
 4. SHALL HAVE A REMOVABLE EEPROM WITH DOWNLOAD AND UPLOAD CAPABILITIES.
- C. **TRAFFIC SIGNAL COMMUNICATIONS INTERCONNECT**

NOTE: VARIANCE TO COMMUNICATION INTERCONNECT DUE TO DESIGN CRITERIA WOULD REQUIRE PRIOR APPROVAL FROM INDIAN RIVER COUNTY.

 1. TWO 2" CONDUITS SHALL BE INSTALLED WITH ALL INTERCONNECT RUNS.
 2. PULL BOXES CONTAINING INTERCONNECT ARE TO BE INSTALLED AT NO MORE THAN 1000 FOOT INTERVALS MARKED "TRAFFIC SIGNAL" (FDOT DESIGN STANDARD 17700).
 3. FIBER OPTIC INTERCONNECT RUNS SHALL HAVE A SLACK/SPLICE BOX AT ALL SIGNALIZED INTERSECTIONS MARKED "FIBER OPTICS". SLACK/SPLICE BOXES SHALL CONTAIN A MINIMUM OF 100 FEET OF FIBER OPTIC CABLE SLACK (FDOT DESIGN STANDARD 17700) AND SHALL BE LOCATED AT NO MORE THAN 1/2-MILE INTERVALS.
 4. FIBER OPTIC CABLE SHALL BE 96-FIBER SINGLE MODE. A #14 AWG (OR IRC-APPROVED ALTERNATIVE) TRACE WIRE SHALL BE INSTALLED WITH THE FIBER RUN.
 5. THE CONNECTION FROM THE SLACK/SPLICE BOX TO THE SIGNAL CABINET (PIG TAIL) SHALL BE A 12-FIBER SINGLE MODE CABLE. FIBER IN THE CABINET SHALL BE TERMINATED IN A FIBER OPTIC TERMINAL PANEL.
 6. IN THE CABINET, DATA CONVERSION WILL BE ACCOMPLISHED WITH RUGGEDCOM GIGABIT ETHERNET SWITCH OR IRC-APPROVED EQUIVALENT.
- D. **TRAFFIC SIGNAL MAST ARM**
 1. MAST ARMS SHALL FOLLOW THE LATEST STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION STANDARDS INDEX NO. 649-030, 649-031.
 2. ALL MAST ARM POLES SHALL HAVE HIGH-PRESSURE SODIUM OR APPROVED LED, COBRA HEAD STYLE LUMINAIRES, BARRING OBSTRUCTIONS OR DESIGN CRITERIA.
 3. MAST ARM POLES ARE TO HAVE A TERMINAL COMPARTMENT IN PLACE OF A HAND HOLE, PER FDOT INDEX NO. 649-031.
 4. MAST ARM MOUNTING HEIGHT (MEASUREMENT TO INDEX NO. 649-031) SHALL BE 19- FEET FOR HORIZONTAL AND 20- FEET FOR VERTICAL MOUNTED SIGNALS, IN THE ABSENCE OF GEOMETRIC ABNORMALITIES.
 5. ALL MAST ARMS SHALL BE GALVANIZED STEEL WITH FACTORY FINISHED U.S. GOVERNMENT FEDERAL STANDARD 595C #14066 (HIGHWAY GREEN) IN ACCORDANCE WITH FDOT.
 6. MAST ARMS ARE TO HAVE INTERNALLY-ILLUMINATED SINGLE-SIDED STREET NAME SIGNS WITH LOCAL STREET NAMES AND 1" WHITE BORDER. THE STREET NAME SIGNS ARE TO BE MOUNTED WITH FIXED BRACKETS ON THE ARM BETWEEN THE POLE AND THE FIRST TRAFFIC SIGNAL.
- E. **TRAFFIC SIGNAL POLES & SPAN WIRE**
 1. POLES SHALL FOLLOW THE LATEST STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD INDEX NO. 641-010.
 2. STRAIN POLES SHALL HAVE HIGH-PRESSURE SODIUM OR APPROVED LED, COBRA HEAD STYLE LUMINAIRES, BARRING OBSTRUCTIONS OR DESIGN CRITERIA.
 3. BOTH UPPER AND LOWER SPAN SHALL BE NO LESS THAN 3/8 INCH CABLE WIRE.
 4. THE SIGNAL CABLE SHALL BE ATTACHED TO THE MESSENGER WIRE BY LASHING RODS.
- F. **TRAFFIC SIGNAL HEADS**
 1. TRAFFIC SIGNALS MOUNTED ON SPAN CABLE ARE TO BE LIGHTWEIGHT, (RED SECTION TO BE ALUMINUM AND ALL OTHER SECTIONS TO BE POLY PLASTIC), 12 INCH INDICATIONS.
 2. TRAFFIC SIGNALS MOUNTED ON MAST SUPPORTS ARE TO BE ALL ALUMINUM 12-INCH INDICATIONS. THE MOUNTING SHALL BE HORIZONTAL USING PELCO ASTRO BRAC OR IRC-APPROVED EQUIVALENT. SPAN MOUNT SIGNALS ARE TO BE MOUNTED VERTICAL. ALL VEHICLE SIGNAL HEADS ARE TO HAVE RETRO-REFLECTIVE BACK PLATES.
 3. TRAFFIC SIGNALS ARE TO BE SUPPLIED WITH ALL LED INDICATIONS, INCLUDING ALL ARROWS AND YELLOWS.
 4. TRAFFIC SIGNALS ARE TO BE SUPPLIED WITH TUNNEL VISORS.
 5. TRAFFIC SIGNALS AND ASSOCIATED ACCESSORIES, INCLUDING BUT NOT LIMITED TO BACKPLATES SHALL BE MCCAIN.
 6. PEDESTRIAN SIGNALS ARE TO BE COUNT DOWN PEDESTRIAN SIGNALS WITH INTERNATIONAL-STYLE HAND/MAN (SYMBOLS) WITH FULL (NOT OUTLINE) LED INDICATIONS.
- G. **VIDEO DETECTORS**
 1. VIDEO DETECTION SYSTEM SHALL BE ECONOLITE LATEST TECHNOLOGY OR IRC-APPROVED EQUIVALENT.
- H. **VIDEO SURVEILLANCE**
 1. VIDEO CAMERAS SHALL BE BOSCH PAN, TILT & ZOOM LATEST TECHNOLOGY OR IRC-APPROVED EQUIVALENT.
- I. **BATTERY BACK-UP**
 1. BATTERY BACKUP SYSTEM IS TO BE USED ON ALL INSTALLATIONS UNLESS OTHERWISE STATED.
 2. BATTERY BACKUP SHALL BE ALPHA FXM 2000 UPS W/SNMP.



				S.R. 60 & 43RD AVENUE	
ENGINEERING PLANNING CONSULTING SINCE 1888 2581 Metrocentre Blvd • Suite 3 • West Palm Beach, Florida 33407 • (561) 478-7848				GENERAL NOTES	
DESIGN T.B.	DRAWN T.M.	CHECKED A.L.	APPROVED R.R.	DATE	JOB NO. 11-064
			DRAWING NO. 11064T03	SHEET T-3	OF T-10

INDIAN RIVER COUNTY-TRAFFIC SIGNAL GENERAL NOTES

PAY ITEM NOTES

PAY ITEM NO. 101-1

INCLUDES ALL NECESSARY EQUIPMENT INCLUDING A TWO PERSON BUCKET TRUCK FOR USE BY THE ENGINEER OR COUNTY REPRESENTATIVE DURING INSPECTION OF TRAFFIC SIGNAL.

PAY ITEM NO. 102-1

INCLUDES ALL COSTS ASSOCIATED WITH FURNISHING, INSTALLING MAINTAINING AND REMOVAL OF ALL ITEMS OF MAINTENANCE OF TRAFFIC NOT PAID FOR UNDER SEPARATE ITEMS.

PAY ITEM NO. 630-2-11

SHALL BE INSTALLED PER SECTION 630, OF FDOT'S STANDARD SPECIFICATIONS. ALL CONDUITS SHALL ENTER PULL BOXES AS REQUIRED IN FDOT STANDARD INDEX 17721, SHEET 2 OF 2. ALL CONDUIT SHALL BE 2 INCH, SCHEDULE 40 PVC UNLESS SPECIFIED OTHERWISE IN THE PLANS OR SPECIFICATIONS.

PAY ITEM NO. 630-2-12

SHALL CONSIST OF MULTIPLE 2 INCH SCHEDULE 40 PVC SLEEVES PER BORE. SEE SPECIFIC PLAN SHEETS FOR NUMBER REQUIRED FOR THE BORE. ALL DIRECTIONAL BORING SHALL BE DONE IN CONFORMANCE WITH FDOT UTILITY ACCOMODATIONS MANUAL REQUIREMENTS.

PAY ITEM NO. 632-7-1

SHALL BE INSTALLED PER FDOT STANDARD INDEX 17700 AS APPLICABLE. THREE SPARE CONDUCTORS PER SIGNAL CABLE ARE REQUIRED. SPARES SHALL BE GROUNDED TO THE BUS GROUNDING FACILITY IN THE CONTROLLER CABINET. THE CONTRACTOR SHALL VERIFY COLOR CODES WITH INDIAN RIVER COUNTY TRAFFIC ENGINEERING DIVISION FOR THE SIGNAL CONDUCTORS PRIOR TO ORDERING.

PAY ITEM NO. 635-2-11 AND 635-2-13

SHALL BE INSTALLED IN ACCORDANCE WITH FDOT STANDARD INDEX 17721, AND IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SIZE THE PULL BOXES SUCH THAT THEY WILL ALLOW PLACEMENT OF ALL CABLES INSIDE THE PULL BOXES WHILE MAINTAINING THE REQUIRED MINIMUM BENDING RADI ON THE CABLES AND NOT EXCEEDING THE MAXIMUM BENDING RADI OF THE CABLES. PULL BOX COVERS SHALL BE FDOT APPROVED OF NON-METALLIC CONSTRUCTION WITH RECESSED COVER LOGO "TRAFFIC SIGNAL" OR "FIBER OPTIC" AS APPROPRIATE. PULL BOXES SHALL BE QUARTZITE AND PLACED BEHIND CURB AND GUTTER. IF THERE IS NO CURB AND GUTTER, THE PULL BOXES SHALL BE PLACED A MINIMUM OF 7 FEET FROM THE EDGE OF PAVEMENT WITH PULL BOXES AND LIDS BEING TRAFFIC BEARING. PULL BOXES SHALL NOT BE PLACED IN PEDESTRIAN RAMPS.

PAY ITEM NO. 639-1-123

SHALL INCLUDE THE COST OF ALL LABOR, MATERIALS, AND PERMITS REQUIRED TO FURNISH AND INSTALL THE ASSEMBLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH ALL AGENCIES REQUIRED FOR APPROVAL OF THE COMPLETED INSTALLATION. FDOT STANDARD INDEX 17736 (AS APPLICABLE) SHALL APPLY.

PAY ITEM NO. 639-2-1

THE CONTRACTOR SHALL BE RESPONSIBLE FOR SIZING THE CONDUCTORS FOR THE POWER SERVICE.

PAY ITEM NO. 650-1-24 AND 650-1-28

HEADS SHALL HAVE AN ALUMINUM TOP SECTION WITH ALL OTHER SECTIONS POLYCARBONATE, BLACK IN COLOR. TUNNEL VISORS SHALL BE FULL VISORS. SIGNAL DISPLAYS SHALL BE LED. THE CONTRACTOR SHALL CONTACT THE INDIAN RIVER COUNTY TRAFFIC ENGINEERING DIVISION PRIOR TO ORDERING. THIS IS TO ENSURE THAT THEY MEET COUNTY STANDARDS AND ARE CONSISTENT WITH LED UNITS CURRENTLY IN SERVICE WITH THE COUNTY. ALL BACKPLATES SHALL BE ALUMINUM WITH RETRO REFLECTIVE SHEETING.

PAY ITEM NO. 660-4-11 AND 660-4-12

SHALL CONSIST OF 4 VEHICLE DETECTOR ASSEMBLIES (VIDEO TYPE), ECONOLITE VIDEO DETECTION, LATEST TECHNOLOGY. A COMPLETE VIDEO DETECTION INSTALLATION CONSISTENT WITH INDIAN RIVER COUNTY STANDARDS FOR ALL APPROACHES OF THE INTERSECTION IS REQUIRED. THE EQUIPMENT SHALL BE VIDEO DETECTION UNITS CAPABLE OF INTERFACE WITH THE TRAFFIC SIGNAL CONTROLLER UNIT AND SHALL INCLUDE THE COST OF MOUNTING ARMS TO EXTEND CAMERA TO A POSITION OVER THE ROADWAY. THE CONTRACTOR IS REQUIRED TO COORDINATE WITH THE SUPPLIER AND INDIAN RIVER COUNTY TRAFFIC ENGINEERING DIVISION TO ENSURE RELIABLE OPERATION. CAMERA LOCATIONS MAY REQUIRE ADJUSTMENT IN THE FIELD. CONTACT INDIAN RIVER COUNTY TRAFFIC ENGINEERING DIVISION BEFORE ORDERING.

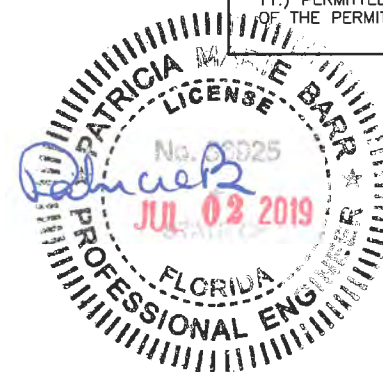
PAY ITEM NO. 670-5-110

THE CONTRACTOR SHALL COORDINATE WITH THE INDIAN RIVER COUNTY TRAFFIC ENGINEERING DIVISION PRIOR TO ORDERING ANY CONTROLLER RELATED EQUIPMENT.

ALL TRAFFIC SIGNAL EQUIPMENT MUST BE CONSISTENT WITH INDIAN RIVER COUNTY TRAFFIC ENGINEERING DIVISION STANDARDS. CONTRACTOR SHALL COORDINATE WITH THE INDIAN RIVER COUNTY TRAFFIC ENGINEERING DIVISION TO CONFIRM THAT EQUIPMENT STANDARDS HAVE NOT CHANGED SINCE THE TIME OF PUBLICATION OF THESE PLANS.

FDOT GENERAL NOTES:

- 1.) MAINTENANCE OF TRAFFIC M.O.T. FOR THIS PROJECT WILL COMPLY WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION DESIGN STANDARD INDEX (600 SERIES) & THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). SPECIAL ATTENTION WILL BE GIVEN TO FDOT DESIGN STANDARD INDEX #611,612,613 & 660.
- 2.) PAVEMENT MARKINGS SHALL BE THERMOPLASTIC INSTALLED PER FDOT DESIGN STANDARD INDEX #17346. RAISED PAVEMENT MARKINGS (RPM'S) SHALL CONFORM TO FDOT DESIGN STANDARD INDEX #17352.
- 3.) IT IS THE PERMITTEE'S RESPONSIBILITY TO OBTAIN FINAL ACCEPTANCE OF PERMITTED WORK (COMPLETED) AND THE RESTORATION OF THE RIGHT-OF-WAY FROM THE DEPARTMENT PRIOR TO USAGE.
- 4.) PERMITTEE WILL RESTORE THE RIGHT OF WAY AS A MINIMUM, TO ITS ORIGINAL CONDITION OR BETTER IN ACCORDANCE W/ FLORIDA DEPARTMENT OF TRANSPORTATION 'S LATEST STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION OR AS DIRECTED BY THE RESIDENT OPERATIONS ENGINEER.
- 5.) SIGNS WILL BE INSTALLED IN ACCORDANCE WITH STANDARD INDEX #11860, #17302 & ALL OTHER APPLICABLE INDICES FOR SINGLE & MULTIPLE COLUMN GROUND SIGNS.
- 6.) RESTRICTED HOURS OF OPERATION WILL BE FROM 9:00AM TO 3:30 PM, (MONDAY-FRIDAY), UNLESS OTHERWISE APPROVED BY THE OPERATIONS ENGINEER, OR DESIGNEE.
- 7.) PERMITTEE WILL COORDINATE ALL WORK WITH THE PALM BEACH OPERATIONS PERMITS DEPARTMENT USING FAX # 561-370-1236. COORDINATION WILL INCLUDE A PRE-CONSTRUCTION MEETING.
- 8.) PERMITTEE WILL COORDINATE (PRE-CONSTRUCTION MEETING, INSPECTIONS, FINAL ACCEPTANCE OF WORK, ETC.) ALL PERMITTED WORK WITH DBI, INC, ATTN: MELISSA PERRY @ 561-992-1318, FAX 561-993-9000.
- 9.) PERMIT IS VALID FOR ONE YEAR FROM DATE OF ISSUE.
- 10.) PERMITTEE SHALL PROVIDE THE PRODUCER'S CERTIFICATION (DELIVERY TICKET) FOR THE NS CONCRETE-2500 PSI (USED FOR SIDEWALK, CURB & GUTTER, DITCH PAVEMENT & TRAFFIC SEPARATOR) PRIOR TO FINAL ACCEPTANCE BY THE DEPARTMENT. THE DELIVERY TICKET SHALL CERTIFY THE CONCRETE WAS BATCHED, DELIVERED & PLACED IN ACCORDANCE WITH SECTION 347 OF THE DEPARTMENT'S STANDARDS SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION (CURRENT EDITION).
- 11.) PERMITTEE WILL PROVIDE THE DEPARTMENT WITH CERTIFIED "AS-BUILT" PLANS TO FINAL ACCEPTANCE OF THE PERMITTED WORK.



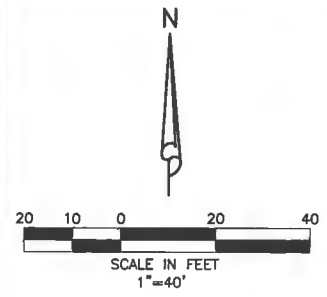
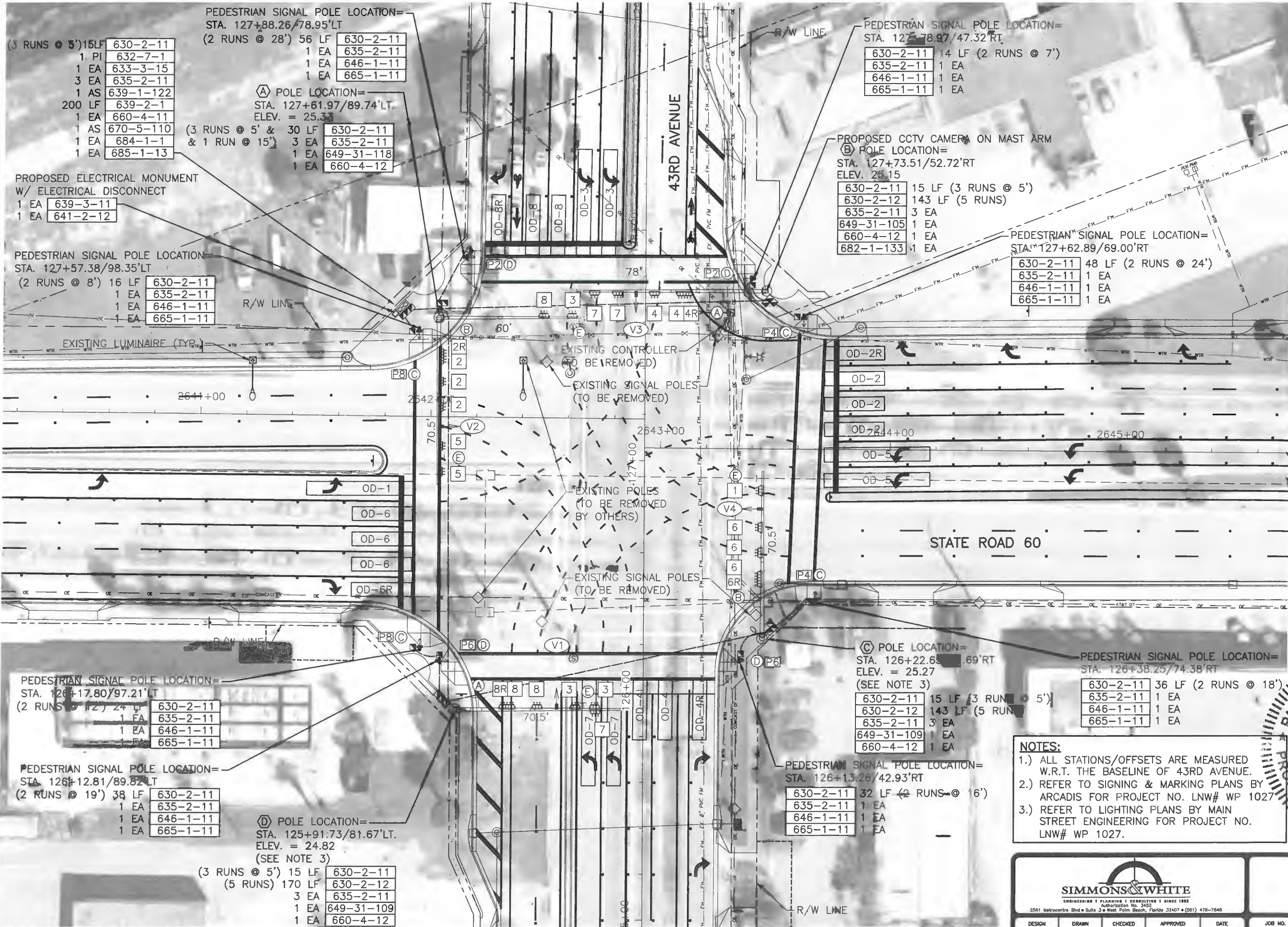
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**S.R. 60
& 43RD AVENUE**

GENERAL NOTES

JOB NO. 11-064	DRAWING NO. 11064T03	SHEET OF T-3A T-10
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- LEGEND**
- ⊙ SIGN
 - Ⓐ MAST ARM
 - Ⓥ VIDEO DETECTOR
 - Ⓢ SIGNAL HEAD
 - Ⓟ PEDESTRIAN HEAD
 - OD-2 DETECTION ZONE

- REMOVAL ITEMS**
- 641-2-80 4 EA
 - 670-5-600 1 AS

PEDESTRIAN SIGNAL POLE LOCATION=
STA. 127+88.26/78.95'LT

(3 RUNS @ 5') 15 LF	630-2-11
1 PI	632-7-1
1 EA	633-3-15
3 EA	635-2-11
1 AS	639-1-122
200 LF	639-2-1
1 EA	660-4-11
1 AS	670-5-110
1 EA	684-1-1
1 EA	685-1-13

(2 RUNS @ 28') 56 LF

630-2-11
1 EA 635-2-11
1 EA 646-1-11
1 EA 665-1-11

Ⓐ POLE LOCATION=
STA. 127+61.97/89.74'LT.
ELEV. = 25.33

(3 RUNS @ 5' & 30 LF	630-2-11
& 1 RUN @ 15')	3 EA 635-2-11
	1 EA 649-31-118
	1 EA 660-4-12

PROPOSED ELECTRICAL MONUMENT
W/ ELECTRICAL DISCONNECT

1 EA	639-3-11
1 EA	641-2-12

PEDESTRIAN SIGNAL POLE LOCATION=
STA. 127+57.38/98.35'LT

(2 RUNS @ 8') 16 LF	630-2-11
1 EA	635-2-11
1 EA	646-1-11
1 EA	665-1-11

PEDESTRIAN SIGNAL POLE LOCATION=
STA. 127+78.97/47.32'RT

630-2-11	14 LF (2 RUNS @ 7')
635-2-11	1 EA
646-1-11	1 EA
665-1-11	1 EA

PROPOSED CCTV CAMERA ON MAST ARM
Ⓑ POLE LOCATION=
STA. 127+73.51/52.72'RT
ELEV. 25.15

630-2-11	15 LF (3 RUNS @ 5')
630-2-12	143 LF (5 RUNS)
635-2-11	3 EA
649-31-105	1 EA
660-4-12	1 EA
682-1-133	1 EA

PEDESTRIAN SIGNAL POLE LOCATION=
STA. 127+62.89/69.00'RT

630-2-11	48 LF (2 RUNS @ 24')
635-2-11	1 EA
646-1-11	1 EA
665-1-11	1 EA

PEDESTRIAN SIGNAL POLE LOCATION=
STA. 126+17.80/97.21'LT

(2 RUNS @ 12') 24 LF	630-2-11
1 EA	635-2-11
1 EA	646-1-11
1 EA	665-1-11

PEDESTRIAN SIGNAL POLE LOCATION=
STA. 126+12.81/89.82'LT

(2 RUNS @ 19') 38 LF	630-2-11
1 EA	635-2-11
1 EA	646-1-11
1 EA	665-1-11

Ⓓ POLE LOCATION=
STA. 125+91.73/81.67'LT.
ELEV. = 24.82
(SEE NOTE 3)

(3 RUNS @ 5') 15 LF	630-2-11
(5 RUNS) 170 LF	630-2-12
3 EA	635-2-11
1 EA	649-31-109
1 EA	660-4-12

Ⓒ POLE LOCATION=
STA. 126+22.65/69.99'RT
ELEV. = 25.27
(SEE NOTE 3)

630-2-11	15 LF (3 RUNS @ 5')
630-2-12	143 LF (5 RUNS)
635-2-11	3 EA
649-31-109	1 EA
660-4-12	1 EA

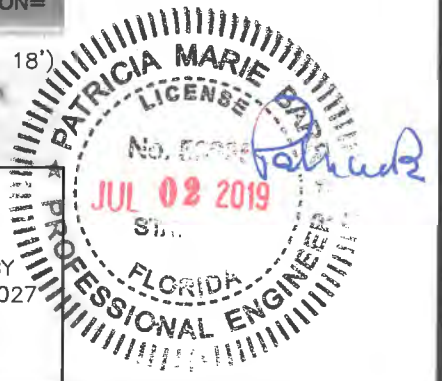
PEDESTRIAN SIGNAL POLE LOCATION=
STA. 126+38.25/74.38'RT

630-2-11	36 LF (2 RUNS @ 18')
635-2-11	1 EA
646-1-11	1 EA
665-1-11	1 EA

PEDESTRIAN SIGNAL POLE LOCATION=
STA. 126+13.26/42.93'RT

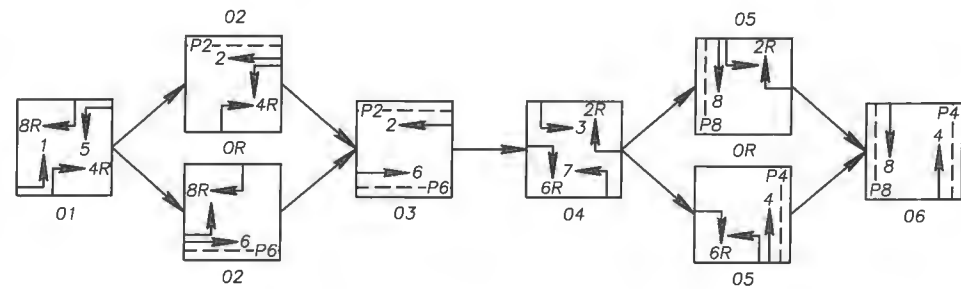
630-2-11	32 LF (2 RUNS @ 16')
635-2-11	1 EA
646-1-11	1 EA
665-1-11	1 EA

- NOTES:**
- 1.) ALL STATIONS/OFFSETS ARE MEASURED W.R.T. THE BASELINE OF 43RD AVENUE.
 - 2.) REFER TO SIGNING & MARKING PLANS BY ARCADIS FOR PROJECT NO. LNW# WP 1027
 - 3.) REFER TO LIGHTING PLANS BY MAIN STREET ENGINEERING FOR PROJECT NO. LNW# WP 1027.

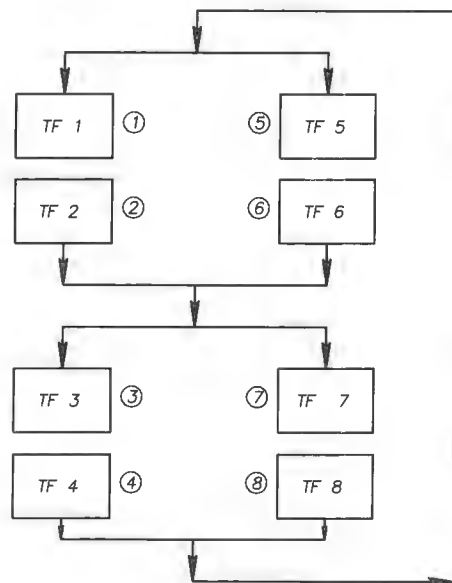


 ENGINEERING & PLANNING CONSULTING SINCE 1888 2581 Metrocentre Blvd • Suite 3 • West Palm Beach, Florida 33407 • (561) 478-7848				S.R. 60 & 43RD AVENUE SIGNALIZATION PLAN				
DESIGN T.B.	DRAWN T.M.	CHECKED A.L.	APPROVED R.R.	DATE	JOB NO. 11-064	DRAWING NO. 11064T04	SHEET T-4	OF T-10

SOP 10



RING DIAGRAM



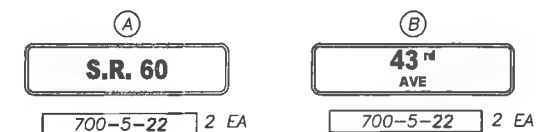
DETECTOR NO.	MOVEMENTS
V-1	3, 8
V-2	2, 5
V-3	4, 7
V-4	1, 6

NOTES:

- CONTROLLER OPERATIONS:
 - SOP 10 IS TO BE USED.
 - MAJOR STREET IS S.R. 60 AND MINOR STREET IS 43RD AVENUE.
 - FLASHING OPERATION TO BE YELLOW FOR MOVEMENTS 2 & 6 AND RED FOR ALL OTHER MOVEMENTS
- CONTRACTOR SHALL VERIFY IF OTHER UTILITIES (NOT SHOWN IN PLANS) EXIST WITHIN THE AREA OF CONSTRUCTION. SHOULD THERE BE CONFLICTS, THE CONTRACTOR SHALL INFORM THE ENGINEER AND NOTIFY THE OWNER OF CONFLICTS AND ADJUSTMENTS AS REQUIRED.
- CONTROLLER SHALL BE PLACED SO THAT THE TECHNICIAN CAN EASILY SEE THE INTERSECTION WITH THE CABINET DOOR OPEN.
- SIGNAL TIMINGS TO BE PROVIDED BY INDIAN RIVER COUNTY TRAFFIC ENGINEERING..
- SPEED LIMIT IS 45 M.P.H. ON S.R. 60 & 35 M.P.H. ON 43RD AVENUE.

DETAIL OF STREET NAME SIGNS

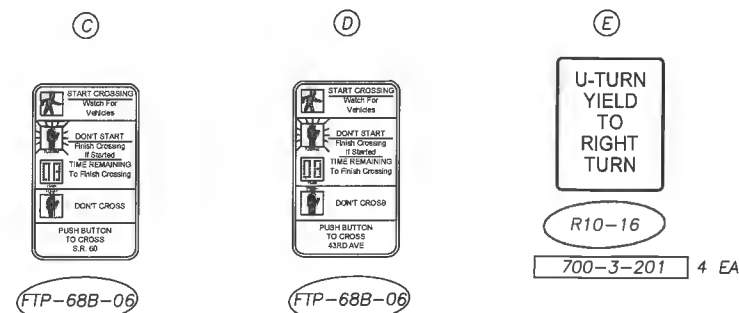
N.T.S.



REFER TO SHEET T-10 FOR STREET NAME SIGN DETAILS

DETAIL OF SIGNS

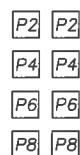
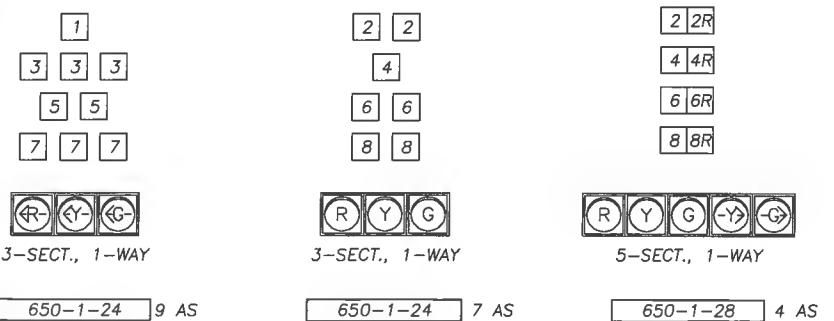
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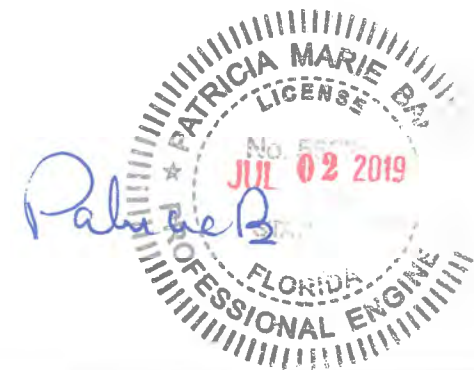
COST OF SIGNS C & D IS INCLUDED UNDER PAY ITEM NUMBER 665-1-11.

DETAIL OF SIGNAL HEADS

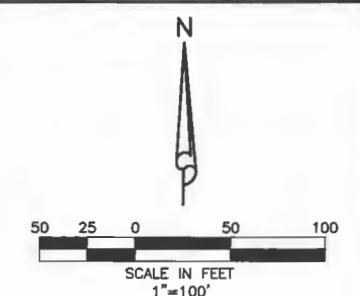
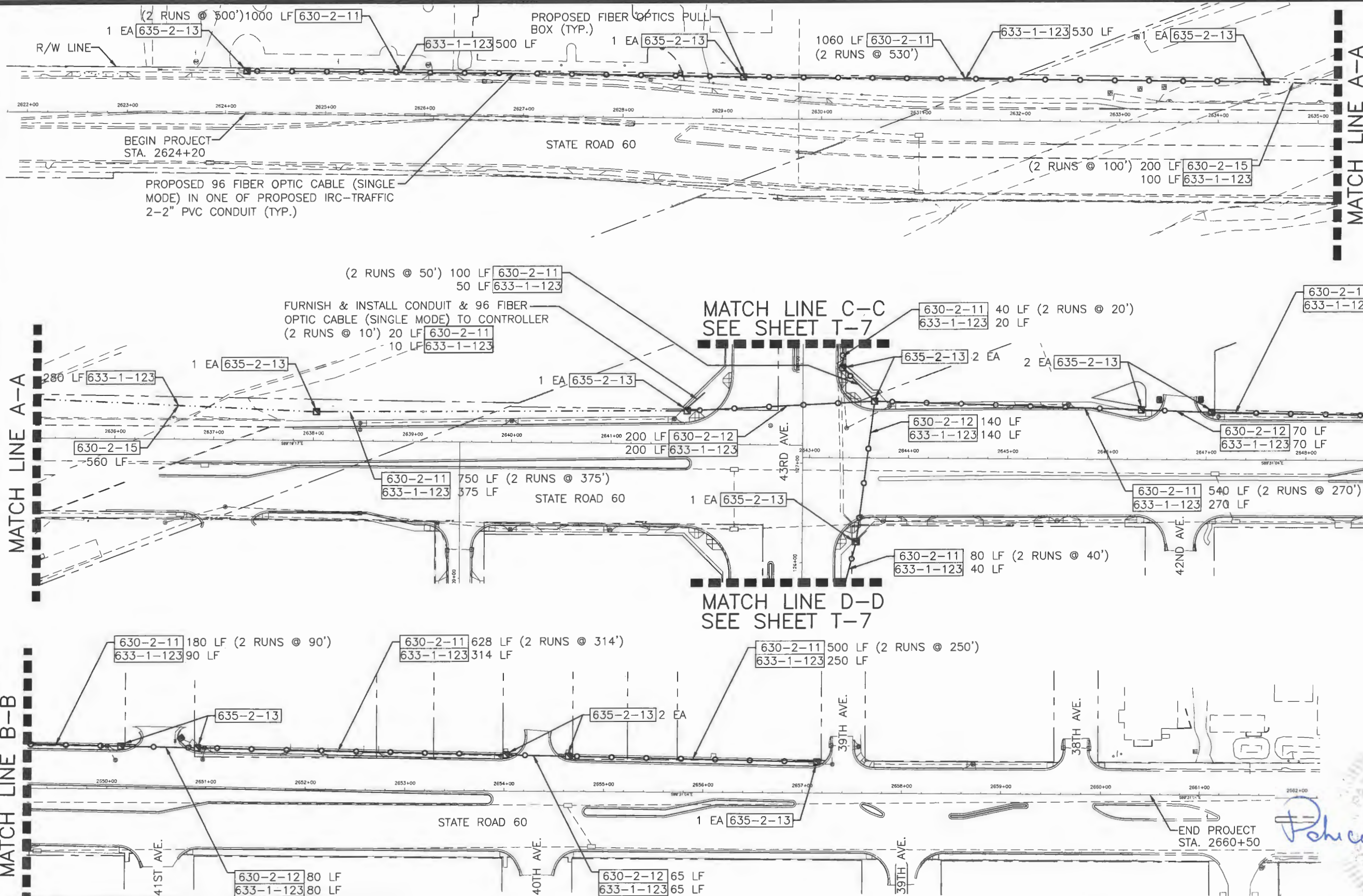
N.T.S.



PED. SIGNAL COUNT-DOWN 1-SECT., 1-WAY 653-1-11 8 AS



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PROPOSED 96 FIBER OPTIC CABLE (SINGLE MODE) IN ONE OF PROPOSED IRC-TRAFFIC 2-2" PVC CONDUIT (TYP.)

FURNISH & INSTALL CONDUIT & 96 FIBER OPTIC CABLE (SINGLE MODE) TO CONTROLLER (2 RUNS @ 10') 20 LF 630-2-11 10 LF 633-1-123

MATCH LINE C-C SEE SHEET T-7

MATCH LINE D-D SEE SHEET T-7

MATCH LINE A-A

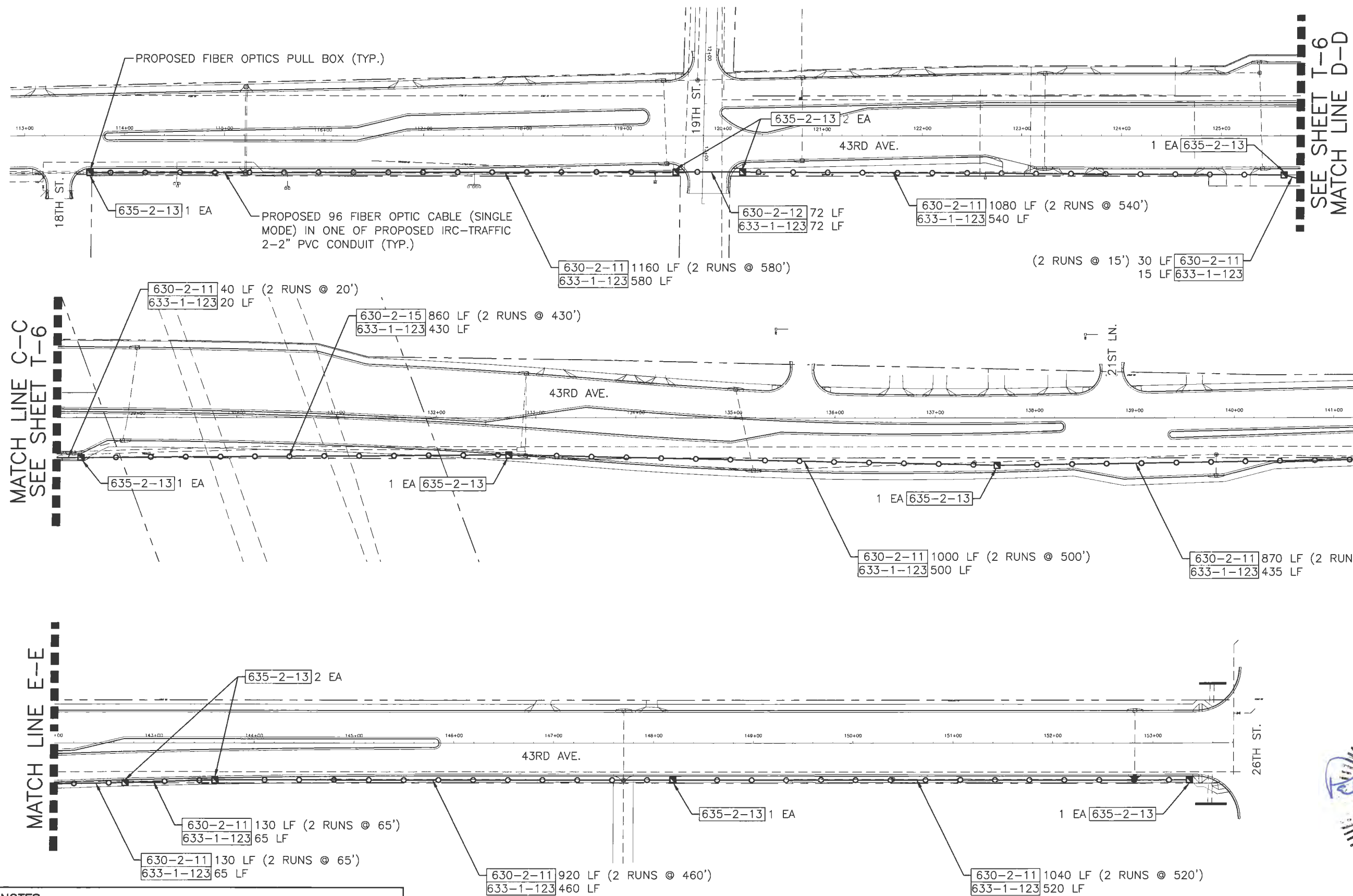
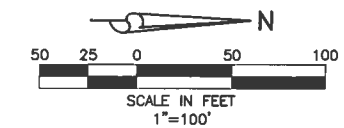
MATCH LINE B-B

MATCH LINE B-B

NOTES:
 1.) ALL 96-COUNT FIBERS MUST BE SPLICED AT THE BEGINNING AND END POINTS OF THE FIBER PROJECT.
 2.) PROVIDE 12-FIBER TERMINATIONS INSIDE THE IRC TRAFFIC CABINET AND 8-FIBER SPLICES IN THE SPLICE HOUSING OUTSIDE THE CABINET. SPECIFIC FIBERS TO BE SPLICED WILL BE PROVIDED BY JOHN ANKENY OF IRC TRAFFIC ENGINEERING DEPARTMENT.



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DESIGN T.B.	DRAWN T.M.	CHECKED A.L.	APPROVED R.R.	DATE	JOB NO. 11-064	DRAWING NO. 11084T06	SHEET T-6	OF T-10



MATCH LINE C-C
SEE SHEET T-6

SEE SHEET T-6
MATCH LINE D-D

MATCH LINE E-E

MATCH LINE E-E

NOTES:
 1.) ALL 96-COUNT FIBERS MUST BE SPLICED AT THE BEGINNING AND END POINTS OF THE FIBER PROJECT.
 2.) PROVIDE 12-FIBER TERMINATIONS INSIDE THE IRC TRAFFIC CABINET AND 8-FIBER SPLICES IN THE SPLICE HOUSING OUTSIDE THE CABINET. SPECIFIC FIBERS TO BE SPLICED WILL BE PROVIDED BY JOHN ANKENY OF IRC TRAFFIC ENGINEERING DEPARTMENT.

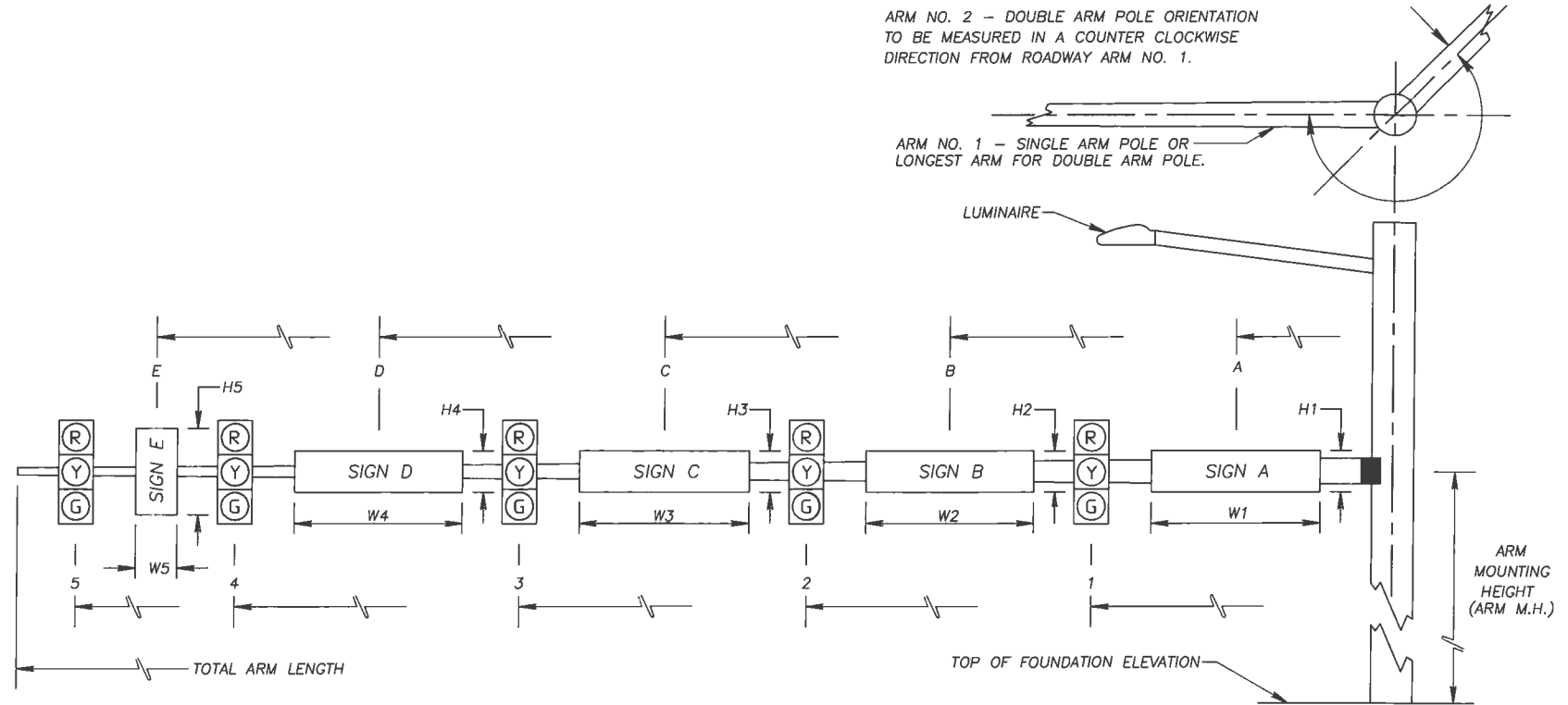


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DESIGN T.B.	DRAWN T.M.	CHECKED A.L.	APPROVED R.R.	DATE
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S.R. 60
 & 43RD AVENUE
 INTERCONNECT PLAN

JOB NO. 11-064	DRAWING NO. 11064T07	SHEET OF T-7 T-10
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ID NO.	SHEET NO.	LOCATION BY STA.	TOP OF FOUNDATION ELEVATION	RDWY ARM NO.	CROWN ELEV.	SIGNAL DATA															TOTAL ARM LENGTH	ARM M.H.	∠ BETWEEN DUAL ARMS 90/270	SIGN DATA															PAINT (A)			
						SIGNAL V/H	BACK PLATES Y/N	PED. SIGNAL Y/N	DISTANCE FROM POLE															DISTANCE FROM POLE / HEIGHT AND WIDTH OF SIGN																		
									1	*	2	*	3	*	4	*	5	*	6	*				7	*	8	*	A	H1	W1	B	H2	W2	C	H3	W3	D	H4		W4	E	H5
A	T-4	127+61.97 89.74'(LT)	25.33	1	25.22	H	Y	N	15	5	26	3	37	3	45	V	54	3	65	3	70.5		90	6	1.5	6	59	2.5	3									FEDERAL GREEN				
B	T-4	127+73.51/52.72'(RT)	25.15	1	25.00	H	Y	N	44.5	3	56	3									60			59	2.5	3											FEDERAL GREEN					
C	T-4	126+22.65 51.69'(RT)	25.27	1	25.12	H	Y	N	34.5	5	48	3	55	V	63	3	73	3			78			12	1.5	6											FEDERAL GREEN					
D	T-4	125+91.73 81.67'(LT)	24.82	1	24.97	H	Y	N	24.5	5	36	3	47	3	55	V	63	3			70.5			18	1.5	6	68	2.5	3								FEDERAL GREEN					
E	T-4	125+91.73 81.67'(LT)	24.82	1	24.97	H	Y	N	21	5	34	3	42.5	V	50	3	58.5	3	58.5	3	70.5			8	1.5	6	53.5	2.5	3								FEDERAL GREEN					

- * DENOTES NUMBER OF SECTIONS IN SIGNAL HEAD ASSEMBLY (K) POTENTIAL HEAD
- # TOP OF FOUNDATION FLUSH WITH SURROUNDING SIDEWALK
- (I) RELATIVE TO CROWN
- V VIDEO DETECTION
- (A) POWDER COAT OR PAINT TO MEET CURRENT FDOT SPECIFICATIONS. SEE SHEET T-3 MAST ARM NOTE D.5.



S.R. 60
& 43RD AVENUE
MAST ARM TABULATION

DESIGN	DRAWN	CHECKED	APPROVED	DATE	JOB NO.	DRAWING NO.	SHEET	OF
T.B.	T.M.	A.L.	R.R.		11-064	11064T08	T-8	T-10

STANDARD MAST ARM ASSEMBLIES DATA TABLE																	TABLE DATE 01-01-12		
STRUCTURE ID NUMBERS	ASSEMBLY NUMBERS	FIRST ARM			SECOND ARM			UF (deg)	LL (deg)	POLE				SPECIAL DRILLED SHAFT ⁽⁴⁾					
		ARM TYPE	FAA ⁽²⁾ (ft.)	FBA ⁽²⁾ (in.)	ARM TYPE	FAA ⁽²⁾ (ft.)	FBA ⁽²⁾ (in.)			POLE TYPE	UAA ⁽³⁾ (ft.)	UB (in.)	UCA ⁽³⁾ (in.)	DA (ft.)	DB (ft.)	RA	RB	RC	RD
A	D6-D5-S4	D6			D5			90		S4	24	21							
B	D7-S6	D7								S6	24	21		16	5	11	19	10	12
C	D6-S24 LUM	D6						45		S24		21		16	5	11	19	10	12
D	D6-S24 LUM	D6						0		S24		21		17	5	11	19	10	12

TABLE NOTES:

1.) Assembly Number Legend

Single Arm:

Arm Type - Pole Type = D# - S#
= E# - T#

Double Arm:

First Arm Type - Second Arm Type - Pole Type = D# - D# - S#
= E# - E# - T#

2.) If an entry appears in columns "FAA" and "FBA", a shorter arm is required. This is obtained by removing length from the arm tip. For these cases the mast arm length shall be shortened from "FA" to "FAA" and the tip diameter shall be increased from "FB" to "FBA".

3.) If an entry appears in columns "UAA" and "UCA", a shorter pole is required. This is obtained by removing length from the pole tip. For these cases the pole height shall be shortened from "UA" to "UAA" and the pole tip diameter shall be increased from "UC" to "UCA".

4.) The foundations for Standard Mast Arm Assemblies are pre-designed and are based upon the following conservative soil criteria which covers the great majority of soil types found in Florida. Only complete the "Special Drilled Shaft" data information if site conditions dictate drilled shafts with additional foundation capacity.

Classification = Cohesionless (Fine Sand)
Friction Angle = 30 Degrees (30°)
Unit Weight = 50 lbs. / cu. ft. (assumed saturated)

GENERAL NOTES:

1.) Work this sheet with the Signal Designer's "Mast Arm Tabulation". See "Mast Arm Tabulation" for special instructions that include non-standard Handhole location, paint color, terminal compartment requirement, and pedestrian features.

2.) Work with Index Nos. 17743 and 17745.

GEOTECHNICAL NOTES:

1.) The contractor is advised that caving soils will be encountered during excavation of drilled shafts.

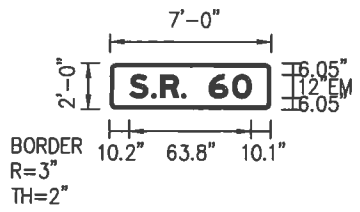
2.) Drilling mud will be required to stabilize drilled shaft excavations.

3.) Contractor should review the boring logs to determine their means and methods.



 SIMMONS & WHITE <small>ENGINEERING PLANNING CONSULTING SINCE 1982</small> <small>2581 Metrocentre Blvd. Suite 3 • West Palm Beach, Florida 33407 • (561) 476-7648</small>					S.R. 60 & 43RD AVENUE TABLE OF VARIABLES FOR STANDARD MAST ARM ASSEMBLIES INDEX #S-1700				
DESIGN T.B.	DRAWN T.M.	CHECKED A.L.	APPROVED R.R.	DATE	JOB NO. 11-064	DRAWING NO. 11064T09	SHEET T-9	OF T-10	

SIGN NAME A		QTY	SIGN NUMBER	STATION(S)
PANEL		BORDER		
WIDTH	7'-0"	WIDTH	2"	none
HEIGHT	2'-0"	RADII	3"	
LEGEND	White	COLOR	White	
COLOR	Green			
SYMBOL(S)	ANGLE	X	Y	WID
				HT
SIGN NUMBER	NUMBER OF POSTS	CLEARANCE Edge of Lens	COLUMN SIZE	AVERAGE LENGTH

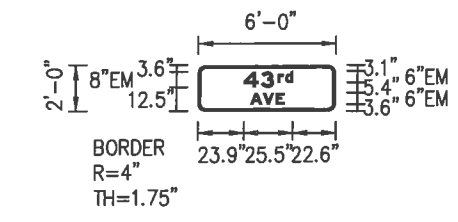


Panel Style: guide_exp_advance_a.ssi
M.U.T.C.D.: 2009 Edition

NO. OF LIGHT FIXTURES	FIXTURE SPACING	PHOTOMETRIC CURVE	WATT	VOLTAGE

COPY SPACE	S	R	6	0	L
	10.2	21.7	26.3	37.3	39.7
	51.7	63.9		63.8	
COPY SPACE					
COPY SPACE					
COPY SPACE					
COPY SPACE					
COPY SPACE					
COPY SPACE					

SIGN NAME B		QTY	SIGN NUMBER	STATION(S)
PANEL		BORDER		
WIDTH	6'-0"	WIDTH	1.75"	none
HEIGHT	2'-0"	RADII	4"	
LEGEND	White	COLOR	White	
COLOR	Green			
SYMBOL(S)	ANGLE	X	Y	WID
				HT
SIGN NUMBER	NUMBER OF POSTS	CLEARANCE Edge of Lens	COLUMN SIZE	AVERAGE LENGTH



Panel Style: guide_exp_advance_a.ssi
M.U.T.C.D.: 2009 Edition

NO. OF LIGHT FIXTURES	FIXTURE SPACING	PHOTOMETRIC CURVE	WATT	VOLTAGE

COPY SPACE	r	d	L
	41.5	45.4	7.9
COPY SPACE			
COPY SPACE			
COPY SPACE			
COPY SPACE			
COPY SPACE			
COPY SPACE			

SIGN NAME		QTY	SIGN NUMBER	STATION(S)
PANEL		BORDER		
WIDTH	WIDTH			
HEIGHT	RADII			
LEGEND	COLOR			
COLOR				
SYMBOL(S)	ANGLE	X	Y	WID
				HT
SIGN NUMBER	NUMBER OF POSTS	CLEARANCE Edge of Lens	COLUMN SIZE	AVERAGE LENGTH

NO. OF LIGHT FIXTURES	FIXTURE SPACING	PHOTOMETRIC CURVE	WATT	VOLTAGE

COPY SPACE					
COPY SPACE					
COPY SPACE					
COPY SPACE					
COPY SPACE					
COPY SPACE					
COPY SPACE					
COPY SPACE					

SIGN NAME		QTY	SIGN NUMBER	STATION(S)
PANEL		BORDER		
WIDTH	WIDTH			
HEIGHT	RADII			
LEGEND	COLOR			
COLOR				
SYMBOL(S)	ANGLE	X	Y	WID
				HT
SIGN NUMBER	NUMBER OF POSTS	CLEARANCE Edge of Lens	COLUMN SIZE	AVERAGE LENGTH

NO. OF LIGHT FIXTURES	FIXTURE SPACING	PHOTOMETRIC CURVE	WATT	VOLTAGE

COPY SPACE					
COPY SPACE					
COPY SPACE					
COPY SPACE					
COPY SPACE					
COPY SPACE					
COPY SPACE					
COPY SPACE					

APPROVED
Date: 02 2019

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ENGINEERING | PLANNING | CONSULTING | SINCE 1888
2581 Metrocentre Blvd • Suite 3 • West Palm Beach, Florida 33407 • (561) 478-7848

DESIGN T.B.	DRAWN T.M.	CHECKED A.L.	APPROVED R.R.	DATE
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S.R. 60
& 43RD AVENUE
GUIDE SIGN DETAIL

JOB NO. 11-064	DRAWING NO. 11064T10	SHEET T-10	OF T-10
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CONTRACT PLANS COMPONENTS:

FDOT FPN# 431759-2-54-01

- ROADWAY PLANS
- SIGNING AND PAVEMENT MARKING PLANS
- SIGNALIZATION PLANS
- LIGHTING PLANS
- LANDSCAPE AND IRRIGATION PLANS
- STRUCTURAL PLANS

INDIAN RIVER COUNTY BOARD OF COUNTY COMMISSIONERS



**STATE ROUTE 60
WIDENING, MILL & RESURFACE
FROM 44TH AVENUE TO 38TH AVENUE**

**&
43RD AVENUE
RECONSTRUCTION
FROM 19TH STREET TO 26TH STREET**

**BEGIN BRIDGE STATION 129+62.455
END BRIDGE STATION 130+94.455**

PUBLIC WORKS DIRECTOR:
RICHARD B. SZPYRKA, P.E.

COUNTY ENGINEER:
JAMES W. ENNIS, P.E.

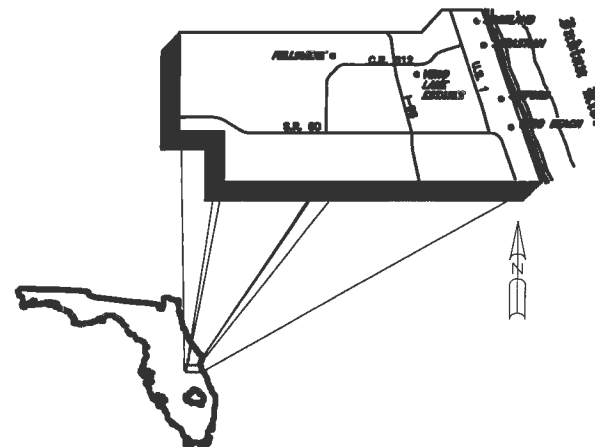
PROJECT MANAGER:
WILLIAM JOHNSON, P.E.

INDEX OF SHEETS

SHEET No.	DESCRIPTION
	COVER SHEET
L-1	SYMBOLS, LUMINAIRE SCHEDULE, PAY ITEMS
L-2	POLE DATA
L-3	GENERAL ELECTRICAL NOTES, CONTACT NUMBERS
L-4 - 15	LIGHTING PLAN
L-16	SERVICE POINT DETAILS
L-17 - 19	SERVICE PANEL SCHEDULE, VOLTAGE DROP CALCULATIONS
L-20 - 23	LIGHT POLE DETAILS
L-24	CONDUIT INSTALLATION DETAILS
PH-1	LUMINAIRE DESCRIPTIONS, PHOTOMETRIC STATISTICS
PH-2 - 13	ROADWAY PHOTOMETRIC PLAN
PH-14 - 18	CROSSWALK VERTICAL PHOTOMETRIC PLAN

THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH AND ARE GOVERNED BY THE FLORIDA DEPARTMENT OF TRANSPORTATION, DESIGN STANDARDS (2017-2018 EDITION) AND SUPPLEMENTS THERETO.

GOVERNING SPECIFICATIONS:
THE FLORIDA DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION, 2017 EDITION, SUPPLEMENTS THERETO, AND SPECIAL PROVISIONS THERETO IF NOTED IN THE CONTRACT SPECIFICATIONS FOR THIS PROJECT.



	SR 60		43RD AVE.	
	MILES	FEET	MILES	FEET
ROADWAY	0.476	2512	0.806	4254
BRIDGES	-	-	0.033	174
NET LENGTH OF PROJECT	0.476	2512	0.839	4428
EXCEPTIONS	-	-	-	-
GROSS LENGTH OF PROJECT	0.476	2512	0.839	4428

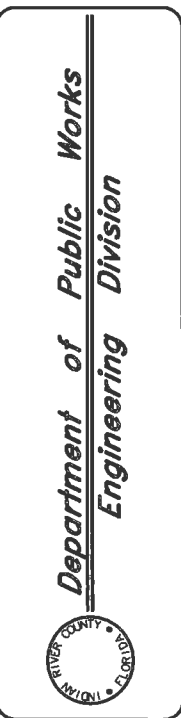
ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN ALTERED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.

ENGINEER'S CERTIFICATION

I HEREBY CERTIFY THAT THE ATTACHED PLANS AND DESIGN ARE IN SUBSTANTIAL COMPLIANCE WITH THE DESIGN STANDARDS AND CRITERIA IN EFFECT ON THIS DATE FOR INDIAN RIVER COUNTY ENGINEERING DEPARTMENT AND THE STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION.

DATE: 1-4-19 PROFESSIONAL ENGINEER # 32025

 WILLIAM E. PINO, P.E.



Date:	
By:	
Revision:	
No.:	
Scale:	N.T.S.
Approved:	WP
Drawn:	JS
Checked:	WP
Date:	12/17/2018

STATE ROUTE 60
&
43RD AVENUE

Sheet:	1
Of:	42
Project No.:	LNW# WP1027

LUMINAIRE SCHEDULE					
Symbol	Label	Catalog Number	Description	Lumens	LLF Watts
○—○	(A)	SCHREDER #36L177-NW-T2M	LED, 40' MH ON ALUMINUM BREAKAWAY POLE	17700	1.00 155
○—○	(B)	SCHREDER #48L200-NW-T3M	LED, 40' MH ON ALUMINUM BREAKAWAY POLE	20000	1.00 166
○—○	(C)	SCHREDER #36L168-NW-T3M	LED, 40' MH ON TRAFFIC SIGNAL POLE	16800	1.00 144
○—○	(D)	SCHREDER #48L185-NW-T2M	LED, 40' MH ON ALUMINUM BREAKAWAY POLE	18500	1.00 148

CONTRACTOR SHALL VERIFY VOLTAGES PRIOR TO ORDERING FIXTURES

SYMBOLS

DESCRIPTION

- 2" SCHEDULE 40 PVC CONDUIT WITH 2 #4 XLT-RHW CONDUCTORS AND 1 #8 THW GREEN INSULATED STRANDED GROUND CONDUCTOR AS INDICATED IN PLAN DETAIL, UNLESS OTHERWISE INDICATED IN PLANS.
- OHE— OVERHEAD ELECTRIC POWER WIRING INSTALLED BY OTHERS IN EASEMENT DIRECTLY BEHIND SIDEWALK - NOT SHOWN IN EXACT LOCATION ON THESE DRAWINGS IN ORDER TO IMPROVE CLARITY. REFER TO "CITY OF VERO BEACH MUNICIPAL ELECTRIC SYSTEM" DRAWINGS.
- ⊘ EXISTING FPL WOOD POLE TO REMAIN OR BE REMOVED BY OTHERS SHOWN FOR REFERENCE ONLY
- ⊘ EXISTING FPL CONCRETE POLE SHOWN FOR REFERENCE ONLY
- ⊘ EXISTING FPL TRANSFORMER ON WOOD POLE SHOWN FOR REFERENCE ONLY
- ▢ DISTRIBUTION POINT - FOR REQUIREMENT SEE INDEX NO. 17504 OF DESIGN STANDARDS
- PULL BOX - FOR SPECIFICATIONS SEE SECTION 635 OF STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION
- PULL BOXES REQUIRED AT:
 - TWO (2) PULL BOXES AT BASE OF SERVICE POLE.
 - ONE AT BASE AT EACH POLE.
 - AS NECESSARY FOR COMPLETION OF THE PROJECT.
- LIGHT FIXTURE AND BRACKET ARM MOUNTED ON BREAKAWAY ALUMINUM POLE MOUNTED ON CONCRETE POLE BASE.
- NEW LIGHT FIXTURE AND BRACKET ARM MOUNTED ON TRAFFIC SIGNAL POLE
- CP CONFLICT POLE - INDICATES NEW POLE & BRACKET ARM ASSEMBLY SHALL BE CONSTRUCTED TO MAINTAIN FPL REQUIRED CLEARANCE (10') FROM POWER WIRING. CRANES SHALL NOT BE USED TO INSTALL CONFLICT POLES. CONFLICT POLE LOCATIONS ARE INDICATED AS A GUIDE. CONTRACTOR SHALL COORDINATE WITH FPL AND VERO BEACH UTILITY REGARDING OVERHEAD WIRING LOCATIONS AND INSTALL CONFLICT POLES ACCORDINGLY.

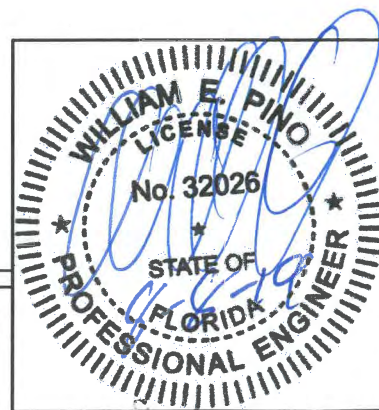
TABULATION OF MATERIAL QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBER																								GRAND TOTAL	
			L-4		L-5		L-6		L-7		L-8		L-9		L-10		L-11		L-12		L-13		L-14		L-15		ORIG.	FINAL
			ORIG.	FINAL	ORIG.	FINAL	ORIG.	FINAL	ORIG.	FINAL	ORIG.	FINAL	ORIG.	FINAL	ORIG.	FINAL	ORIG.	FINAL	ORIG.	FINAL	ORIG.	FINAL	ORIG.	FINAL				
0715 1 13	LIGHTING CONDUCTOR, F & I, INSULATED, NO. 4	LF	824		3485		3485		3472		2984		3452		4835		2373		2478		3719		3892		1706		36765	
1050 31102	LIGHTING CONDUIT, F & I, UNDERGROUND, 2" PVC SCH. 40	LF	280		1058		1050		1052		898		1048		1465		719		751		1127		1133		517		11084	
0715 4 33	CONFLICT LIGHT POLE COMPLETE W/ CONCRETE BASE, F&I, WIND SPEED 180	EA	1		3		3		6		4		3		3		1		3		3		4		2		36	
0715 4 13	STANDARD LIGHT POLE COMPLETE W/ CONCRETE BASE, F&I, WIND SPEED 180	EA	1		3		3		3		1		3		2		3		2		3		4		2		30	
0715 5 30	LUMINAIRE AND BRACKET ARM MOUNTED ON SIGNAL POLE, F&I	EA	-		-		-		2		-		-		-		2		-		-		-		-		4	
0715500 1	POLE CABLE DISTRIBUTION SYSTEM, IP-88 LISTED	EA	2		6		6		11		5		6		5		6		5		6		8		4		70	
0715 7 11	LOAD CENTER (INCLUDES ALL COMPONENTS LISTED ON SERVICE POINT DETAILS DRAWING)	EA	-		-		1		-		-		1		-		-		-		1		-		-		3	
0635 2 11	PULL BOX (F&I) (ROADSIDE), MOULDED	EA	2		6		6		11		6		6		5		6		5		6		8		4		71	

PAY ITEM NOTES:

- ITEM NO. 0715 7 11 INCLUDES ALL COMPONENTS, EXTERNAL, INTERNAL CONDUIT AND CONDUCTORS FOR THE SERVICE AS INDICATED ON PLANS.
- ITEM NO. 0715 4 13 INCLUDES LIGHT POLE, LUMINAIRE, FUSE HOLDERS WITH FUSES, ALL NECESSARY MOUNTING HARDWARE AND ALL INTERNAL CONDUIT, CONDUCTORS AND CONNECTIONS COMPLETE PER PLANS.
- ITEM NO. 0715 1 13 INCLUDES COST OF FURNISHING AND INSTALLING WIRES PER LINEAR FOOT AND ALL MISCELLANEOUS HARDWARE NECESSARY FOR A COMPLETE INSTALLATION AS PER PLANS. INCLUDES AN ADDITIONAL 10% OF TOTAL DISTANCE TO ALLOW FOR SPLICING.
- ITEM NO. 1050 31102 INCLUDES THE COST OF TRENCHING/BORING CONDUITS PER LINEAR FOOT, MISCELLANEOUS PARTS NECESSARY FOR A COMPLETE INSTALLATION AS PER PLANS, SUCH AS ELBOWS, SWEEPS, CONNECTING HARDWARE, TRENCHING, BACKFILLING AND EXPANSION FITTINGS AND CONNECTIONS PER STANDARD INDEXES. INCLUDES FOUR FEET OF ADDITIONAL CONDUIT FOR EACH SWEEP.
- ITEM NO. 0715500 1 PCDS SHALL BE IP-88 LISTED AS WHOLE COMPONENT. REFER TO SPECIFICATION OF PCDS ON SHEET L-21. SUBMIT CERTIFICATION WITH SUBMITTALS.

SYMBOLS, LUMINAIRE SCHEDULE, PAY ITEMS



DATE: _____

Revisions: _____ By: _____ Date: _____



Department of Public Works
Engineering Division

Scale: NONE
Approved: WP
Drawn: JS
Checked: WP
Date: 12/17/2018
Field Book No: _____

Project:
ROADWAY LIGHTING PLANS
FOR
SR 60 & 43RD AVENUE

Sheet: L-1
Of: 24
Project No.
LWW# WP1027



43RD AVENUE POLE DATA

POLE NO.	STATION	DIST. OR ARM	LUMINAIRE WATTAGE	LUMINAIRE MOUNTING HEIGHT	POLE SET BACK AND NOTES	FINAL
A1	CP STA. 110+10	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A2	STA. 112+11	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A3	CP STA. 112+28	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A4	STA. 113+45	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A5	CP STA. 114+21	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A6	STA. 115+81	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A7	CP STA. 116+28	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A8	STA. 117+56	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A9	CP STA. 118+81	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A10	STA. 119+40	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A11	CP STA. 120+88	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A12	STA. 120+87	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A13	CP STA. 122+80	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A14	STA. 123+31	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A15	CP STA. 124+32	12' ARM	155W LED	40'	BACK OF SIDEWALK	
D1	CP STA. 129+83	12' ARM	140W LED	40'	BACK OF SIDEWALK	
D2	STA. 130+74	12' ARM	140W LED	40'	BACK OF SIDEWALK	
A16	CP STA. 132+1	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A17	CP STA. 132+82	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A18	CP STA. 134+18	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A19	CP STA. 135+34	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A20	CP STA. 136+22	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A21	STA. 136+55	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A22	CP STA. 136+55	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A23	STA. 136+22	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A24	CP STA. 140+11	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A25	STA. 141+50	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A26	CP STA. 142+72	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A27	STA. 143+82	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A28	CP STA. 144+88	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A29	STA. 146+25	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A30	CP STA. 147+84	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A31	STA. 149+4	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A32	CP STA. 150+41	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A33	STA. 151+81	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A34	STA. 153+20	12' ARM	155W LED	40'	BACK OF SIDEWALK	
C3	STA. 153+56	12' ARM	144W LED	40'	SEE DRAWING L-11 FOR POLE LOCATION	
C4	STA. 153+56	12' ARM	144W LED	40'	SEE DRAWING L-11 FOR POLE LOCATION	

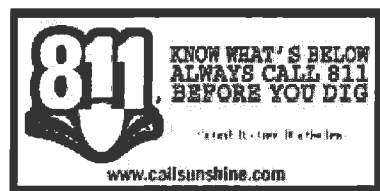
STATE ROUTE 60 POLE DATA

POLE NO.	STATION	DIST. OR ARM	LUMINAIRE WATTAGE	LUMINAIRE MOUNTING HEIGHT	POLE SET BACK AND NOTES	FINAL
A35	CP STA. 2636+48	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A36	STA. 2638+28	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A37	CP STA. 2638+46	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A38	STA. 2639+83	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A39	CP STA. 2639+87	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A40	STA. 2645+88	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A41	CP STA. 2646+22	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A42	STA. 2647+72	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A43	CP STA. 2647+85	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A44	STA. 2648+78	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A45	CP STA. 2648+82	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A46	STA. 2661+50	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A47	CP STA. 2661+59	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A48	STA. 2663+17	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A49	CP STA. 2663+33	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A50	STA. 2664+84	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A51	CP STA. 2665+35	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A52	STA. 2666+75	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A53	CP STA. 2666+84	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A54	CP STA. 2668+31	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A55	STA. 2669+82	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A56	CP STA. 2669+81	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A57	STA. 2680+11	12' ARM	155W LED	40'	BACK OF SIDEWALK	

INTERSECTION OF 43RD AVENUE & STATE ROUTE 60 POLE DATA

POLE NO.	STATION	DIST. OR ARM	LUMINAIRE WATTAGE	LUMINAIRE MOUNTING HEIGHT	POLE SET BACK AND NOTES	FINAL
B1	STA. 2841+48	12' ARM	180W LED	40'	BACK OF SIDEWALK	
B2	CP STA. 2841+71	12' ARM	180W LED	40'	BACK OF SIDEWALK	
B3	CP STA. 125+46	12' ARM	180W LED	40'	BACK OF SIDEWALK	
B4	STA. 2843+84	12' ARM	180W LED	40'	BACK OF SIDEWALK	
B5	CP STA. 128+48	12' ARM	180W LED	40'	BACK OF SIDEWALK	
B6	STA. 129+28	12' ARM	180W LED	40'	BACK OF SIDEWALK	
B7	CP STA. 2844+37	12' ARM	180W LED	40'	BACK OF SIDEWALK	
C1	STA. 125+87 STA. 2842+14	12' ARM	144W LED	40'	SEE DRAWING L-7 FOR POLE LOCATION	
C2	STA. 126+25 STA. 2843+48	12' ARM	144W LED	40'	SEE DRAWING L-7 FOR POLE LOCATION	

POLE DATA



Revisions	By	Date



Department of Public Works
Engineering Division

Scale: NONE
Approved: WP
Drawn: JS
Checked: WP
Date: 12/17/2018
Field Book No:

Project:
ROADWAY LIGHTING PLANS
FOR
SR 60 & 43RD AVENUE

Sheet: L-2
Of: 24
Project No.
L888 WP1027



GENERAL ELECTRICAL NOTES:

1. CONTRACTOR SHALL FURNISH AND INSTALL THE LIGHTING SYSTEM AS DEPICTED ON ELECTRICAL DRAWINGS AND AS SPECIFIED IN TABULATION OF LIGHTING QUANTITIES AND PAY ITEM NOTES.
2. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL MATERIALS AND LABOR TO INSTALL THE ELECTRICAL SYSTEMS AS INDICATED ON THE DRAWINGS. IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY MINOR DETAIL OF CONSTRUCTION. ITEMS NOT SHOWN BUT OBVIOUSLY NECESSARY FOR COMPLETION OF THE WORK SHALL BE INCLUDED.
3. THE INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST ADOPTED VERSION OF THE NATIONAL ELECTRICAL CODE, NFPA-70, A.S.J.I.T.O., 2018, FBC 2014, DOT UTILITY ACCOMMODATION MANUAL, 2017-18, FDOT DESIGN STANDARDS, 2017-18, LATEST ADOPTED VERSION OF NFPA-101, CURRENT LOCAL CODES, AND OTHER APPLICABLE JURISDICTION CODES.
4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS, INSPECTIONS AND APPROVALS. ALL WORK SHALL BE DONE BY A LICENSED ELECTRICIAN.
5. THE CONTRACTOR SHALL COORDINATE WORK WITH THE ENGINEER AND OWNER.
6. THE CONTRACTOR SHALL DETERMINE THE SERVICE REQUIRED DATE FOR THE POWER COMPANY TRANSFORMER INSTALLATION AT THE PRE-CONSTRUCTION CONFERENCE.
7. GROUNDING SHALL BE INSTALLED TO MEET NEC, ARTICLE 250 REQUIREMENTS. A GROUNDING SYSTEM SHALL NOT EXCEED A 48 HOUR DRY RESISTANCE OF 10 OHMS. ADDITIONAL GROUNDING TO MEET THIS REQUIREMENT SHALL BE INSTALLED AT NO EXTRA COST. GROUNDING AND BONDING CONNECTIONS SHALL NOT BE PAINTED.
8. AN EQUIPMENT GROUND WIRE SIZED PER NEC SHALL BE PULLED IN ALL ELECTRICAL CONDUITS, WHETHER OR NOT INDICATED ON PLANS.
9. ALL EQUIPMENT AND MATERIALS SHALL BE NEW AND UNUSED AND U.L. LISTED.
10. UNDERGROUND CONDUITS SHALL BE SCHEDULE 40 P.V.C.
11. ELECTRICAL WARNING TAPE SHALL BE PLACED 12 INCHES DEEP IN TOP OF ALL UNDERGROUND TRENCHINGS.
12. ALL TRENCHES SHALL BE FILLED WITH COMPACTED EXISTING CLEAN BACKFILL (98% ASSHTO T-80) AND COMPACTED UTILIZING COMPACTION MACHINE AT DEPTH OF NOT MORE THAN 6 INCH LAYERS.
13. ALL UNDERGROUND ELECTRICAL CONDUITS SHALL BE A MINIMUM 36 INCH DEEP TO TOP OF THE CONDUITS UNLESS OTHERWISE NOTED.
14. INSTALL PULL BOXES AS NECESSARY TO ACCOMMODATE LONG CABLE PULLS. INSTALL DUCT SEALS AT END OF CONDUITS THAT ENTER PULL BOXES AND JUNCTION BOXES. LEAVE A MINIMUM OF 6 INCH SPACE BETWEEN WIRES AND PULL BOX COVERS.
15. THE DRAWINGS ARE NOT INTENDED TO SHOW THE EXACT LOCATION OF CONDUIT RUNS. TRENCHING SHALL BE COORDINATED WITH THE OTHER TRADES SUCH AS LANDSCAPING AND OTHER UNDERGROUND UTILITIES, SO THAT CONFLICTS ARE AVOIDED PRIOR TO INSTALLATION. ADDITIONALLY, MAINTAIN ENOUGH DISTANCE FROM EXISTING TREES AND LANDSCAPE AREAS TO MINIMIZE DAMAGE TO EXISTING ROOTS.
16. THE CONTRACTOR IS RESPONSIBLE TO TEST ALL SYSTEMS AND SHALL REPAIR OR REPLACE ALL DEFECTIVE WORK TO THE SATISFACTION OF THE ENGINEER AND THE OWNER.
17. A TYPE WRITTEN PANEL SCHEDULE SHALL BE INSTALLED IN THE PANEL BOARD. ALL CIRCUITS SHALL BE IDENTIFIED IN PULL BOXES, PANEL BOARD AND CONTACTORS. IDENTIFICATION SHALL MATCH PANEL BOARD SCHEDULE.
18. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH THE EXISTING CONDITIONS AND COORDINATION OF THE WORK, ANY OMISSIONS OR CONFLICT IN THE WORKING DRAWINGS OR BETWEEN THE DRAWINGS AND EXISTING FIELD CONDITIONS WHICH MAY INTERFERE WITH THE PROPER EXECUTION AND COMPLETION OF THE DESCRIBED WORK SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND THE OWNER PRIOR TO PROCEEDING WITH THE WORK.
19. TWO WEEKS AFTER JOB COMPLETION, THE CONTRACTOR SHALL PERFORM A NIGHT CHECK OF THE LIGHTS AND REPAIR OR REPLACE ANY NON-FUNCTIONING LUMINAIRES AND NOTIFY THE CITY OF ACTIONS TAKEN.
20. CONTRACTOR SHALL TAKE ALL NECESSARY STEPS TO PREVENT OBJECTIONABLE BLOWING OR DRIFTING OF DIRT, SOIL, OR OTHER DEBRIS DURING EXCAVATION AND INSTALLATION OF ELECTRICAL CONDUIT.
21. THE CONTRACTOR SHALL LEAVE THE SITE CLEAN AND ORDERLY AT THE END OF EACH WORKDAY.
22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND PAINTING OF ANY DAMAGED PORTIONS OF POLES AND BRACKET ARMS AT NO COST TO THE OWNER.
23. ALL MATERIALS AND EQUIPMENT SHALL BE STORED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS UNLESS OTHERWISE NOTED.
24. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS & CATALOG NUMBERS FOR ALL NEW MATERIAL FOR APPROVAL BY THE ELECTRICAL CONSULTANT AND THE OWNER.
- 24.A. PHOTOMETRIC SHOP DRAWING SUBMITTALS: CONTRACTOR SHALL SUBMIT A POINT BY POINT SIGNED & SEALED BY A FLORIDA P.E. PHOTOMETRIC LAYOUT INDICATING COMPLIANCE WITH CURRENT FDOT STANDARDS AND DESIGN CRITERIA ESTABLISHED BY THE E.O.R.
- 24.B. WINDLOADING CALCULATIONS: CONTRACTOR SHALL SIGN & SEAL BY A FLORIDA STRUCTURAL P.E. POLES' WINDLOADING CALCULATIONS IN COMPLIANCE WITH FDOT AND ASHTO'S DESIGN CRITERIA FOR THE SPECIFIC GEOGRAPHIC LOCATION
- 24.C. POLE CABLE DISTRIBUTION SUBMITTAL: SUBMIT IP-88 CERTIFICATION OF THE PCDS AS WHOLE CAPABLE OF OPERATING CONTINUOUSLY SUBMERGED UNDER A MINIMUM OF 5 FT OF WATER.
25. EVERY ATTEMPT SHALL BE MADE TO PROTECT ALL EQUIPMENT & MATERIAL FROM ANY DAMAGE DURING TRANSPORTATION, LOADING, UNLOADING AND INSTALLATION AT THE SITE.
26. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOST, STOLEN OR DAMAGED EQUIPMENT OR MATERIAL.
27. ALL EQUIPMENT INSTALLED OUTSIDE OR EXPOSED TO WEATHER SHALL BE NEMA TYPE 4X, UNLESS NOTED OTHERWISE.
28. POLES AND BRACKET ARMS SHALL BE DESIGNED IN ACCORDANCE WITH THE DESIGN CRITERIA AS INDICATED ON THE PLANS.
28. THE LUMINAIRE AND ARM ON "JOINT USE POLES" SHALL BE GROUNDED.
30. ALL GRASS AREAS AFFECTED BY CONSTRUCTION SHALL BE RE-SODED.

31. THE CONTRACTOR SHALL TAKE SPECIAL NOTE OF SOIL CONDITIONS THROUGHOUT THIS PROJECT. ANY SPECIAL SHORING, SHEETING OR OTHER PROCEDURES NECESSARY TO PROTECT ADJACENT PROPERTY, PUBLIC OR PRIVATE, DURING THE EXCAVATION OF SUBSOIL MATERIAL AND EXPLORATION TRENCH, OR FILLING OF ANY AREA, OR FOR ANY OPERATION DURING CONSTRUCTION, SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
32. THE CONTRACTOR SHALL RESTRICT PERSONNEL, THE USE OF EQUIPMENT, AND THE STORAGE OF MATERIALS TO AREAS WITHIN THE LIMITS OF CONSTRUCTION AND DESIGNATED STAGING AREA.
33. ALL EXCESS MATERIAL, AS DESIGNATED BY THE ENGINEER OR OWNER, SHALL BE DISPOSED OF BY THE CONTRACTOR IN AREAS PROVIDED BY HIM WITHIN 72 HOURS OF BEING DEPOSITED IN THE CONSTRUCTION AREA AND AT THE CONTRACTOR'S EXPENSE.
34. ALL DISPOSAL OF MATERIALS, RUBBISH, AND DEBRIS SHALL BE MADE AT A LEGAL DISPOSAL SITE OR BY OTHER PRIOR APPROVED MANNER. MATERIAL CLEARED FROM THE SITE SHALL NOT BE DEPOSITED ON ADJACENT OR NEARBY PROPERTY.
35. EXISTING ABOVE GROUND FEATURES ARE SHOWN ACCORDING TO THE BEST AVAILABLE DATA AND MAY NOT ACCURATELY REFLECT PRESENT CONDITIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH CURRENT SITE CONDITIONS, AND SHALL REPORT DISCREPANCIES TO THE ENGINEER PRIOR TO STARTING WORK.
36. THE LUMINAIRE MANUFACTURER SHALL PLACE A PERMANENT TAG ON THE LUMINAIRE HOUSING ON WHICH IS IMPRINTED THE FOLLOWING INFORMATION: WATTAGE, POSITION OF LUMINAIRE, IES LIGHT DISTRIBUTION WITH LIGHT SOURCE IN POSITION SPECIFIED, INPUT VOLTAGE AND POWER FACTOR.
37. WHEN DISSIMILAR MATERIAL CONNECTIONS ARE MADE, SUCH AS CONCRETE TO METAL, THE DISSIMILAR MATERIAL SHALL BE SEPARATED BY COATING THE CONTACT SURFACE WITH BITUMASTIC MATERIAL.
38. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROVISION, INSTALLATION, AND MAINTENANCE OF ALL TRAFFIC CONTROL AND SAFETY DEVICES IN ACCORDANCE WITH THE FDOT DESIGN STANDARDS.
39. THE INFORMATION PROVIDED IN THESE DRAWINGS IS SOLELY TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF CONDITIONS WHICH WILL BE ENCOUNTERED DURING THE COURSE OF WORK. THE CONTRACTORS ARE DIRECTED, PRIOR TO BIDDING, TO CONDUCT WHATEVER INVESTIGATIONS THEY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSIONS REGARDING THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED, AND UPON WHICH BIDS WILL BE BASED.
40. OPERATING INSTRUCTIONS: UPON COMPLETION OF ALL WORK AND OF ALL TESTS, FURNISH THE NECESSARY SKILLED LABOR AND HELPERS FOR OPERATING ALL ELECTRICAL SYSTEMS AND EQUIPMENT IN ORDER TO INSTRUCT AND TRAIN THE OWNER'S REPRESENTATIVE IN THE OPERATION AND MAINTENANCE OF ALL EQUIPMENT FURNISHED.
41. OPERATION AND MAINTENANCE MANUALS: WITHIN 30 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE, THE CONTRACTOR SHALL PROVIDE TO THE OWNER, OPERATION AND MAINTENANCE MANUALS CONTAINING SUBMITTAL DATA STATING EQUIPMENT RATING, SELECTED OPTIONS AND REQUIRED MAINTENANCE ACTIONS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE. THE CONTRACTOR SHALL ALSO PROVIDE THE NAME AND ADDRESS OF AT LEAST ONE QUALIFIED SERVICE AGENCY.
42. RECORD DRAWINGS: THE CONTRACTOR IS RESPONSIBLE FOR ALL AS-BUILT DRAWINGS, WHICH SHALL BE PROVIDED TO THE OWNER WITHIN 30 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE. THEY SHALL INCLUDE A POWER RISER DIAGRAM AND ROADWAY PLANS INDICATING AN ACCURATE DEPICTION OF ALL INSTALLED ELECTRICAL EQUIPMENT.
43. BRANCH CIRCUIT VOLTAGE DROP: CONTRACTOR SHALL VERIFY THAT THE VOLTAGE DROP FOR ALL THE BRANCH CIRCUITS DOES NOT EXCEED 3% OF THE HOMEPLUG CIRCUITS ORIGINAL VOLTAGE AND SHALL INCREASE THE WIRE SIZE AS NECESSARY TO ADJUST FOR VOLTAGE DROP.
44. CONDUIT ROUTING SHALL BE POLE TO POLE, MAINTAINING POLE SETBACK DISTANCE FROM THE EDGE OF PAVEMENT.
45. POLE POSITION AND ROUTING MAY BE ADJUSTED, AS APPROVED BY THE ENGINEER, TO PREVENT CONFLICTS WITH UTILITY AND DRAINAGE STRUCTURES NOT INDICATED ON THE PLANS.
46. CONTRACTOR SHALL INSTALL CONCRETE PAD AROUND THE POLE FOUNDATION AND PULLBOX PER DOT SPECIFICATION INDICATED AND WHERE GRASS EXISTS, DIRT SHALL BE BACKFILLED TO THE EDGE OF THE PAD, COMPACTED TO A FIRM, STABLE CONDITION APPROXIMATELY EQUAL TO THAT OF THE ADJACENT SOIL. THE FILL SHALL CONFORM TO EXISTING GRADE AND BE FULLY SODED.
47. ALL EXPOSED OR SURFACE MOUNTED CONDUIT SHALL BE FIRE COMPOSITE OR RIGID ALUMINUM CONDUIT. THE EXPOSED RUNS OF CONDUIT ON THE BRIDGE, SHALL BE PROVIDED WITH EITHER EXPANSION JOINTS OR LIQUIDTIGHT FLEXIBLE METAL CONDUIT SECTIONS ADEQUATE TO WITHSTAND VIBRATIONS AND THERMAL EXPANSION.
48. ALL CONDUIT THAT WILL REMAIN EMPTY AS SPARES SHALL BE MANDREL TESTED, CLEANED INSIDE AND BOTH ENDS CAPPED, LEAVE CORROSION RESISTANT, PULL/DRAW WIRE AND PLACE DUCT MARKERS, OR PULLBOXES TO MARK THE LOCATION OF THE ENDS OF THE CONDUIT.
49. PULL BOXES SHALL BE LOCATED AT ENDS OF CONDUIT CROSSING ROADWAYS, AND AS NECESSARY FOR THE COMPLETION OF THE PROJECT.
50. THESE PLANS REPRESENT MINIMUM ACCEPTABLE CRITERIA. THE INSPECTION PER THESE DRAWINGS REPRESENT THE MINIMUM BASE ACCEPTANCE.
51. A PULL BOX SHALL BE INSTALLED AT EACH POLE LOCATION. PULL BOXES SHALL BE LOCATED 2' MAXIMUM FROM THE POLE UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER.
52. A HANDHOLE IS REQUIRED IN ALL POLES. HANDHOLE SHALL BE LOCATED OPPOSITE APPROACHING TRAFFIC WITH COVER FASTENED WITH STAINLESS STEEL SCREWS. SCREEN THREADS SHALL BE COATED WITH WHITE GREASE. THE HANDHOLE OPENING SHALL BE AT LEAST 20 SQUARE INCHES.
53. THE PROJECT ENGINEER MAY LIMIT THE CONTRACTOR'S OPERATION DURING PEAK PERIODS (6:00AM - 6:00PM) AND (4:00PM - 7:00PM).

SPECIAL NOTES TO CONTRACTOR

1. THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL UTILITIES BY ELECTRONIC METHODS AND PRE-TRENCHING IN COORDINATION WITH ALL UTILITY COMPANIES PRIOR TO BEGINNING ANY CONSTRUCTION OPERATIONS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL EXISTING UNDERGROUND AND ABOVE GROUND IMPROVEMENTS SUCH AS CONDUITS, GAS MAINS, SANITARY SEWER LINES, TV CABLE, TELEPHONE, LATERALS, WATER MAINS, POLES, PIPES, CABLES AND OTHER STRUCTURES FROM DAMAGE AND SHALL BE RESPONSIBLE TO RESTORE, REPAIR OR REPLACE ANY DAMAGED ITEMS WITHOUT COMPENSATION.
3. HAND-DIGGING IS REQUIRED WHERE THERE MAY BE ANY CONFLICT WITH EXISTING UNDERGROUND UTILITIES.
4. CONTRACTOR SHALL DO A "POT HOLE" TEST BEFORE INSTALLING THE POLES.
5. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT ALL UTILITY COMPANIES FOR LOCATION OF THEIR EXISTING FACILITIES AND TO LOCATE THESE UTILITIES FOR THE EXACT DEPTH. CONTACT "SUNSHINE" AT 811 48 HOURS PRIOR TO DIGGING.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL DAMAGES SUSTAINED OR COST INCURRED BECAUSE OF THE CONTRACTOR'S OPERATION IN THE VICINITY OF EXISTING UTILITIES OR STRUCTURES. THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE UTILITY COMPANIES WHEN THEIR EXISTING FACILITIES CONFLICT WITH THE NEW CONSTRUCTION.
7. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE TO CONTACT/LOCATE OTHER UTILITIES NOT SUBSCRIBING TO "SUNSHINE".
8. CONTRACTOR SHALL USE CAUTION WHEN WORKING UNDER AND IN THE VICINITY OF OVERHEAD AND UNDERGROUND UTILITIES.

UTILITY AND CITY COORDINATION

1. CONTRACTOR SHALL COORDINATE WITH FPL TO PROVIDE POWER TO METERED SERVICES.
2. CONTRACTOR SHALL COORDINATE WITH FPL TO MAINTAIN THE EXISTING STREET LIGHTING UNTIL THE NEW LIGHTING IS INSTALLED, AND OPERATIONAL.
3. THIS LIGHTING SYSTEM IS WITHIN THE CITY OF VERO BEACH BOUNDARY, AND AS SUCH, SHALL BE OPERATED AND MAINTAINED BY THE CITY.

ELECTRICAL INSTALLATION

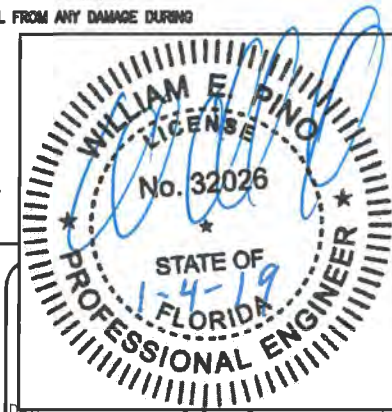
1. INSTALL STREET LIGHTING POLES AND FIXTURES AS SHOWN ON ROADWAY PLANS. INSTALLATION SHALL INCLUDE BUT NOT BE LIMITED TO POLES, FIXTURES, LAMPS, BRACKETS, FUSE HOLDERS, FUSES, PULL BOXES, GROUND RODS, TRENCHING, BORING, CONDUIT, WIRING, CONCRETE PADS AND FOUNDATIONS FROM EACH SERVICE AREA, FOR A COMPLETE OPERATING SYSTEM.
2. PROVIDE COMPLETE ELECTRIC SERVICE AS SHOWN ON ELECTRICAL DRAWINGS.

LIGHT POLE INSTALLATION / BORING NOTES:

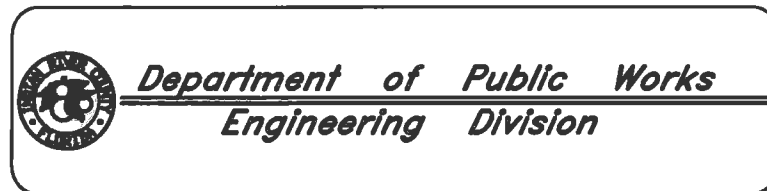
1. DO NOT SCALE OFF ELECTRICAL DRAWINGS.
2. THE LOCATION OF POLES SHALL FIRST BE FLAGGED BY SURVEYOR. THE CONTRACTOR SHALL THEN WALK DOWN ALL POLE LOCATIONS TO VERIFY THAT THEY DO NOT INTERFERE WITH TREES, DRIVEWAYS, SIDEWALKS, OVERHEAD LINES, AND OTHER UNFORESEEN CONDITIONS, PRIOR TO INSTALLATION OF POLES.
3. THE CONTRACTOR SHALL UTILIZE DIRECTIONAL/BORING UNDER EXISTING ROADWAYS.
4. THE CONTRACTOR SHALL SELECT THE AREA FOR BORING THAT WILL HAVE ADEQUATE SPACE TO SET UP THE DIRECTIONAL BORING EQUIPMENT.

UTILITIES	CONTACT	TELEPHONE NUMBERS
FLORIDA POWER & LIGHT-TRANSMISSION	FPL	(800)-226-3545
CITY OF VERO BEACH UTILITIES	CITY OF VERO	(772)-978-5100
INDIAN RIVER COUNTY	GENERAL INFO.	(772)-226-8000
AT&T	BURIED LINES	(800)-924-9420
GAS	FLORIDA CITY GAS	(800)-993-7548
SUNSHINE ON CALL	SUNSHINE	811

**GENERAL ELECTRICAL NOTES,
CONTACT NUMBERS**



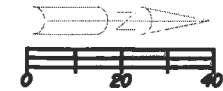
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 Drawn: JS
 Checked: WP
 Date: 12/17/2018
 Field Book No: _____

Project: ROADWAY LIGHTING PLANS
 FOR SR 60 & 43RD AVENUE

Sheet: L-3
 Of: 24
 Project No. LMMW WP1087



BEGIN PROJECT STA. 109+60.00
SAWCUT & BUTT JOINT. MATCH
EXIST. PAVEMENT

43rd AVENUE

107+00

108+00

109+00

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112+00

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STA. #110+10

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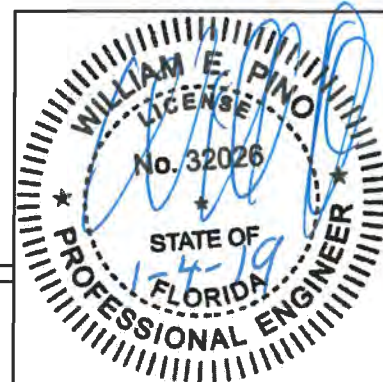
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LIGHTING PLAN



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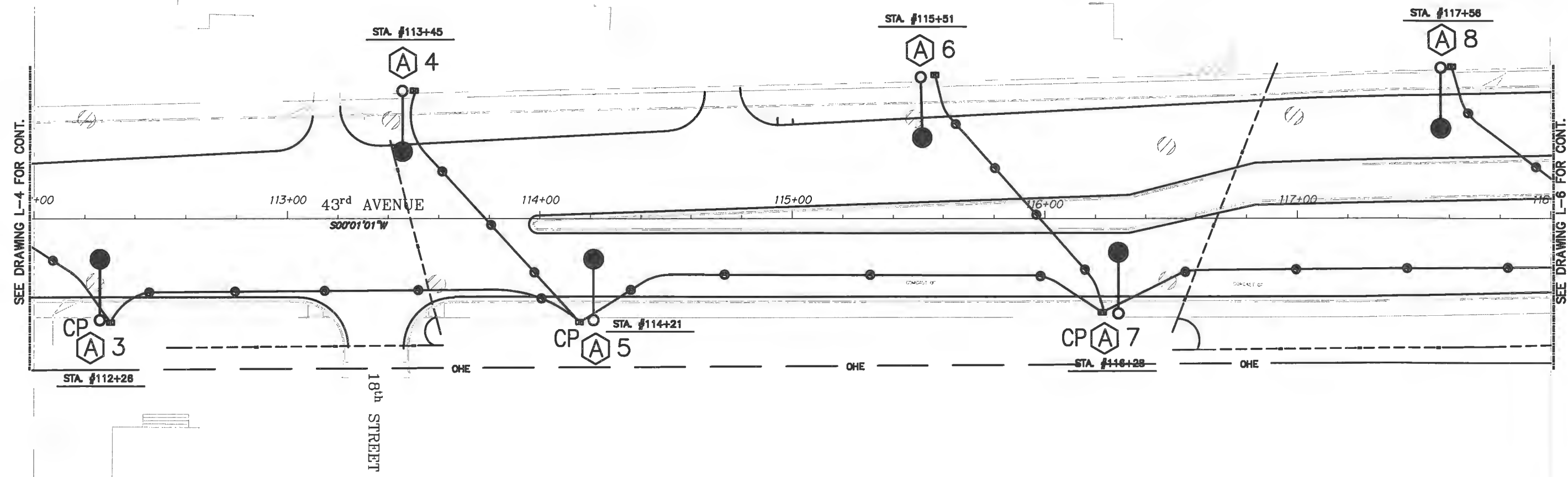
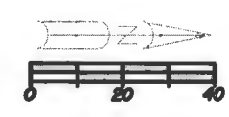
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Engineering Division

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ROADWAY LIGHTING PLANS
FOR
SR 60 & 43RD AVENUE

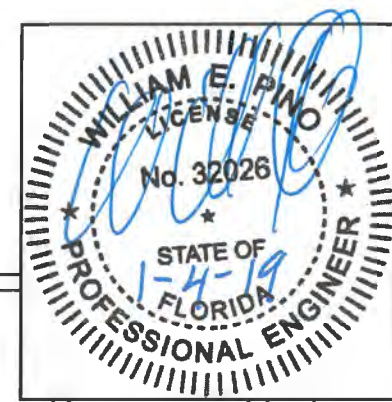
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Of: 24
Project No.
LMMW WP1027

Main Street ENGINEERING
70358 SW 47th Street . Miami, Florida 33155
Tel.: (305) 688-7450 . Fax: (305) 688-2450
FL PE Certificate No.: 00006731



SEE DRAWING L-4 FOR CONT.

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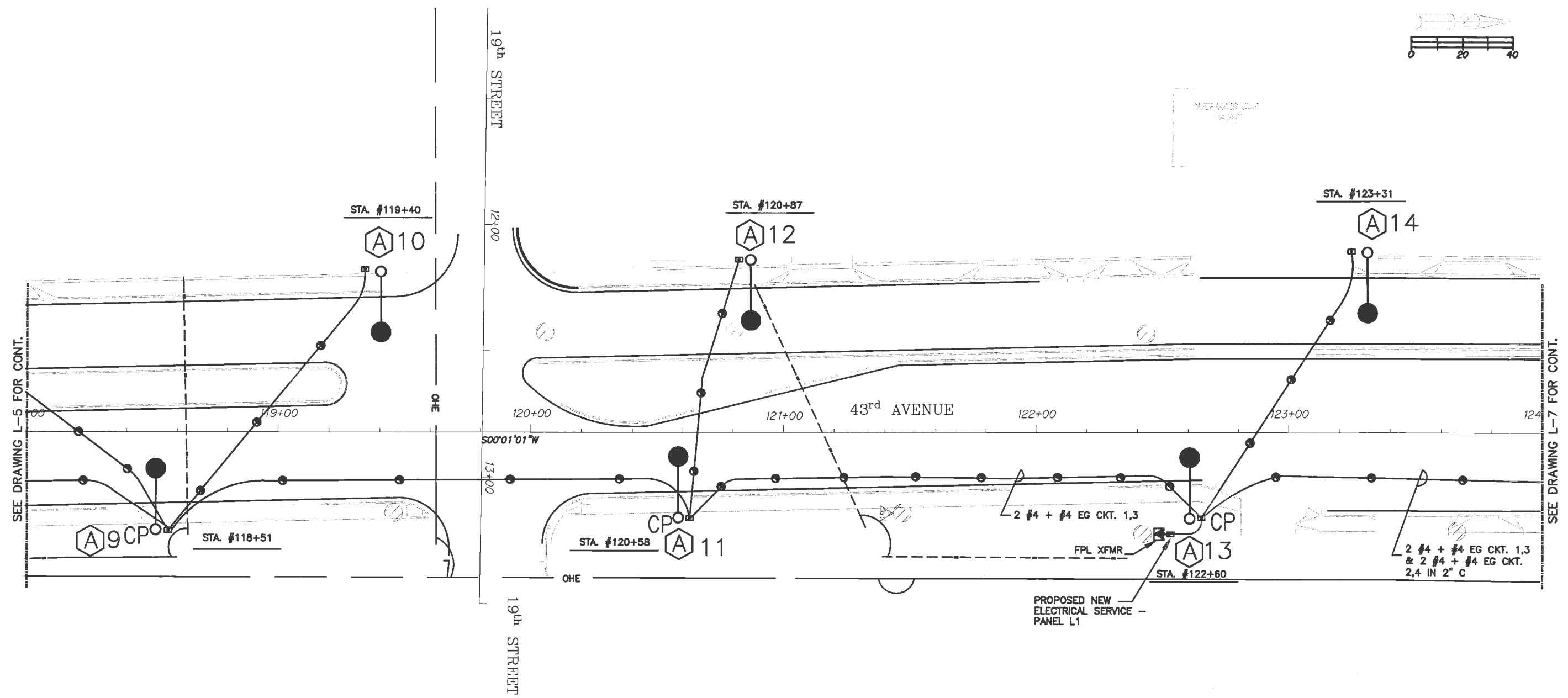
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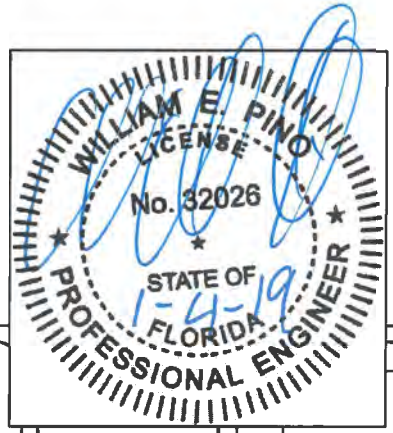
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Sheet: L-5
 Of: 24
 Project No.
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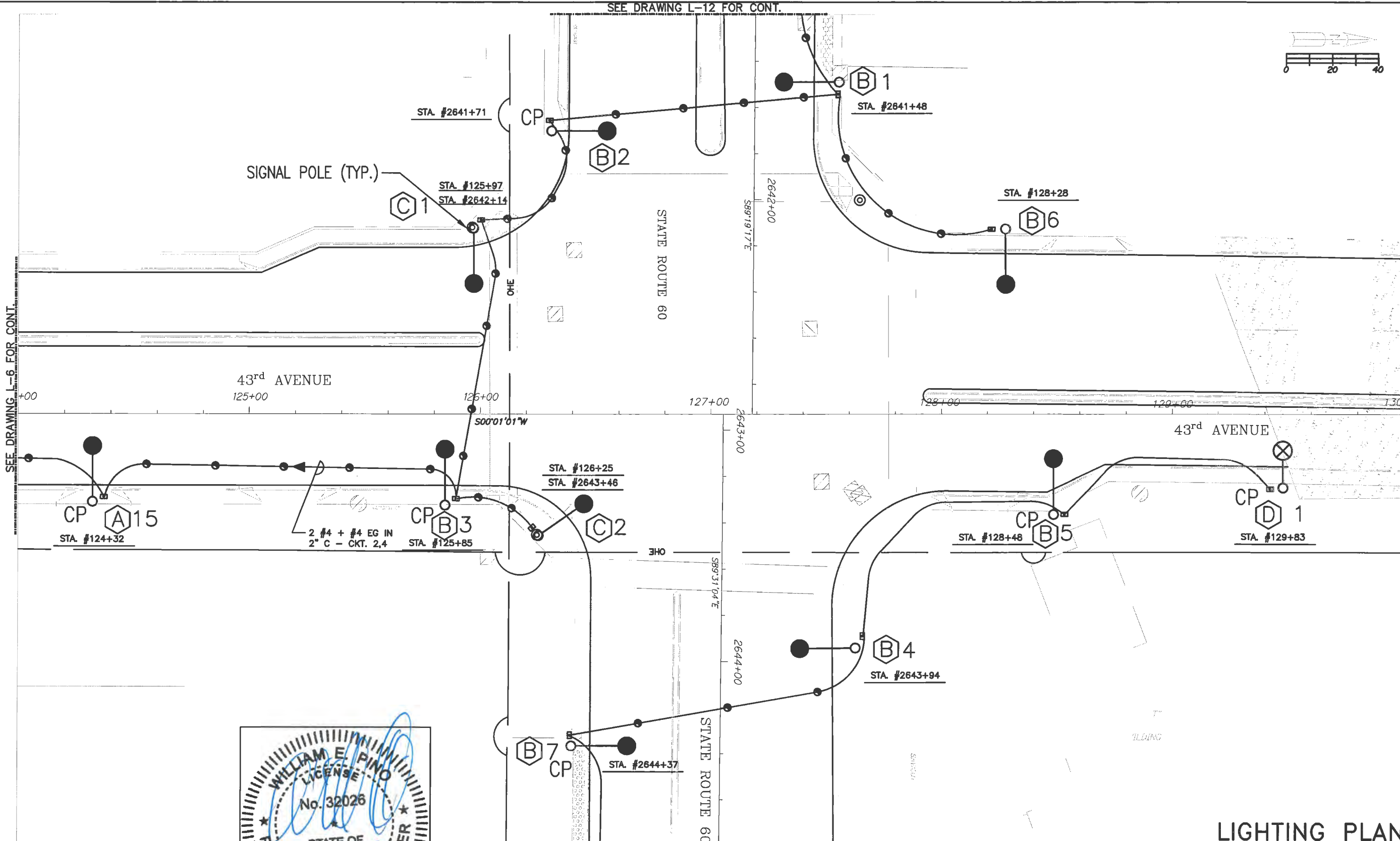
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Sheet: L-6
 Of: 24
 Project No. LNWH WP1027

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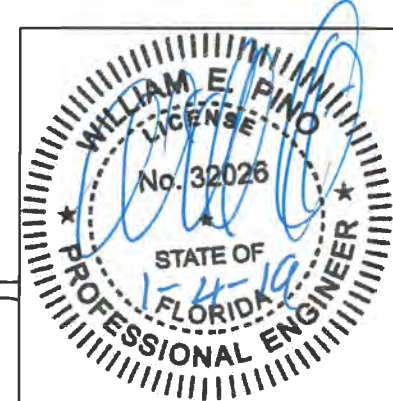


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LIGHTING PLAN



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Department of Public Works
Engineering Division

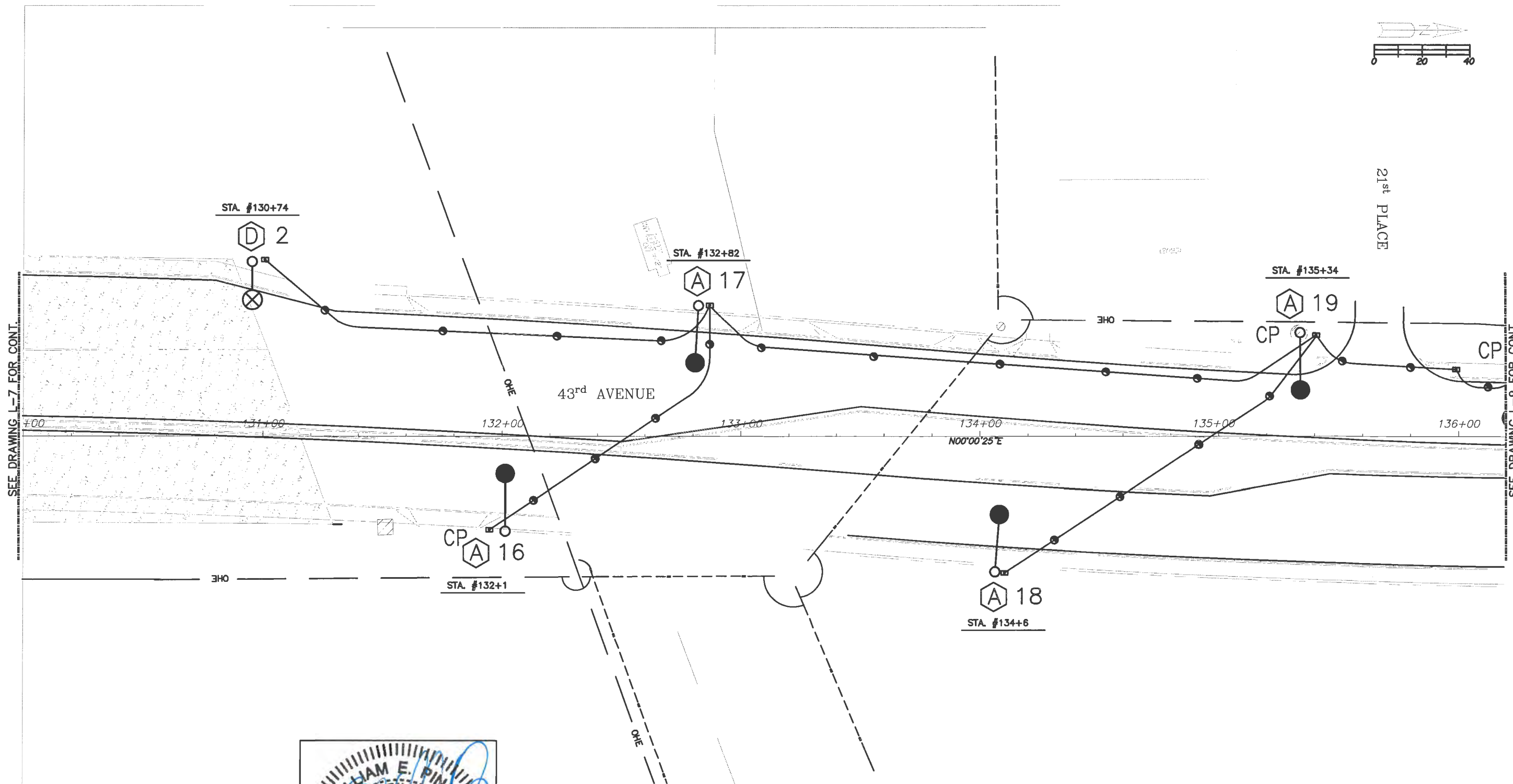
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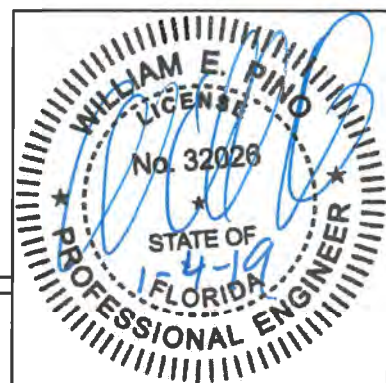
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 Of: 24
 Project No.
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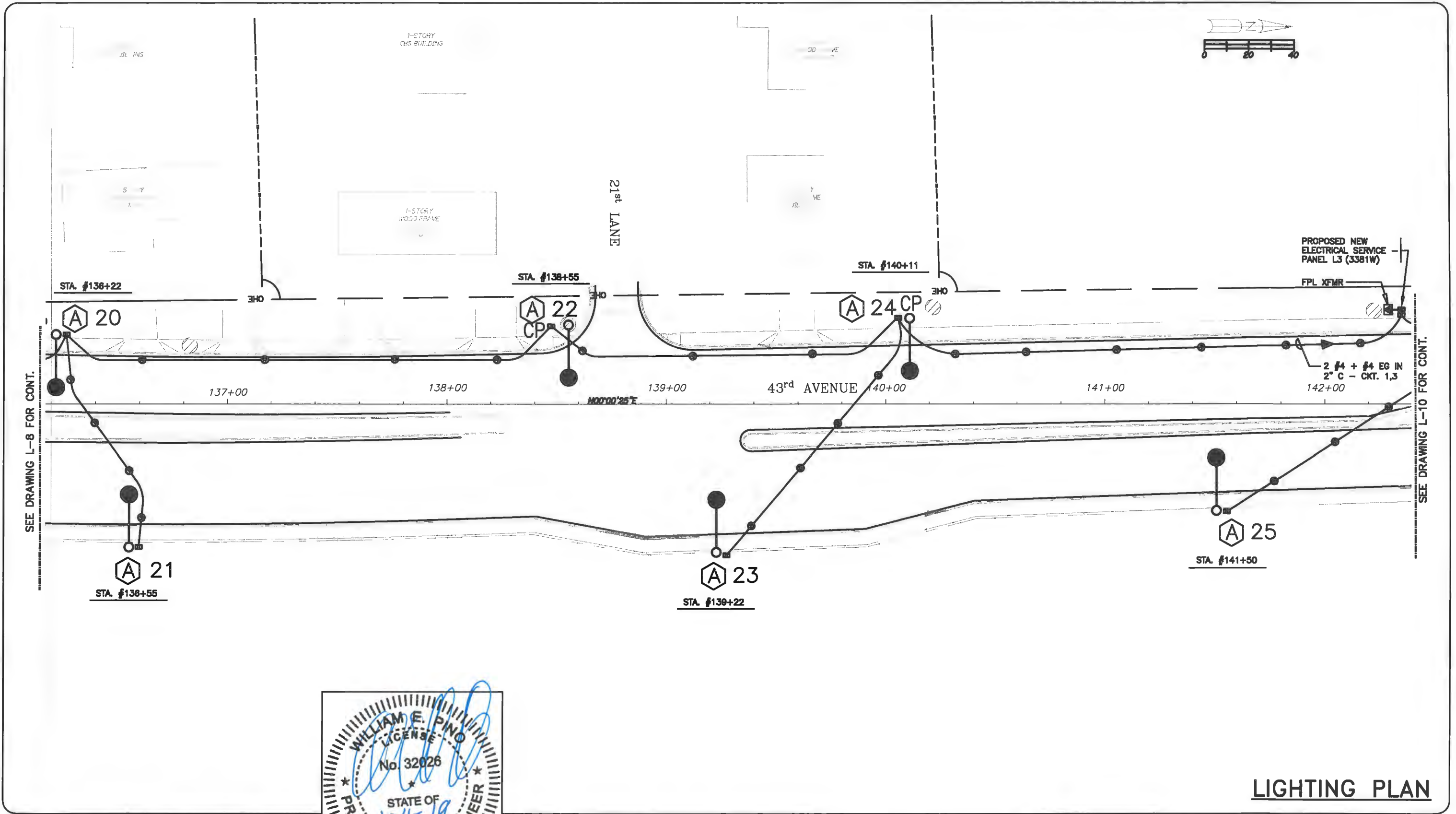
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Sheet: L-8

Of: 24

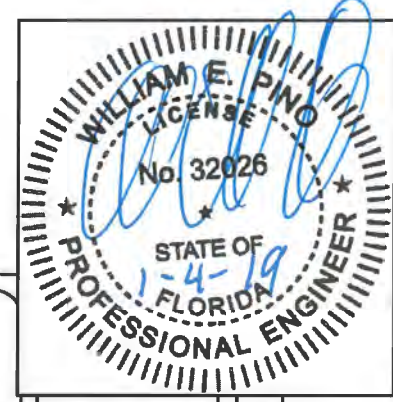
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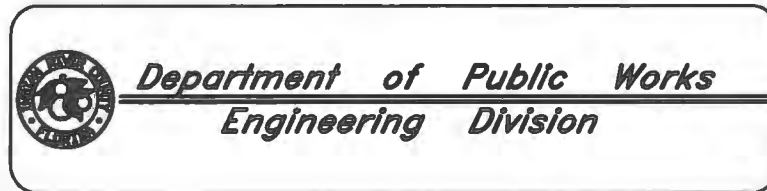
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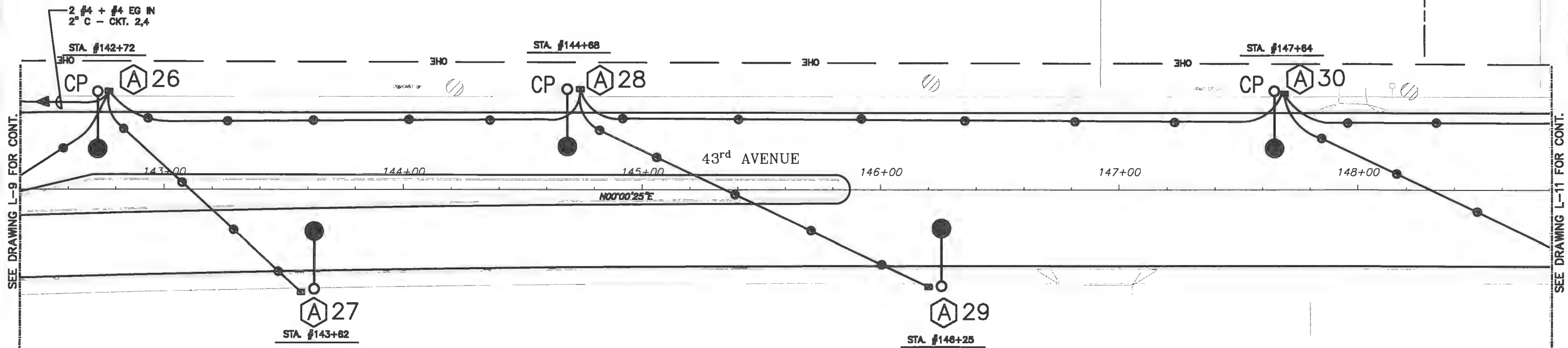
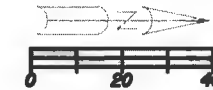
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Sheet: L-9
 Of: 24
 Project No.
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LIGHTING PLAN



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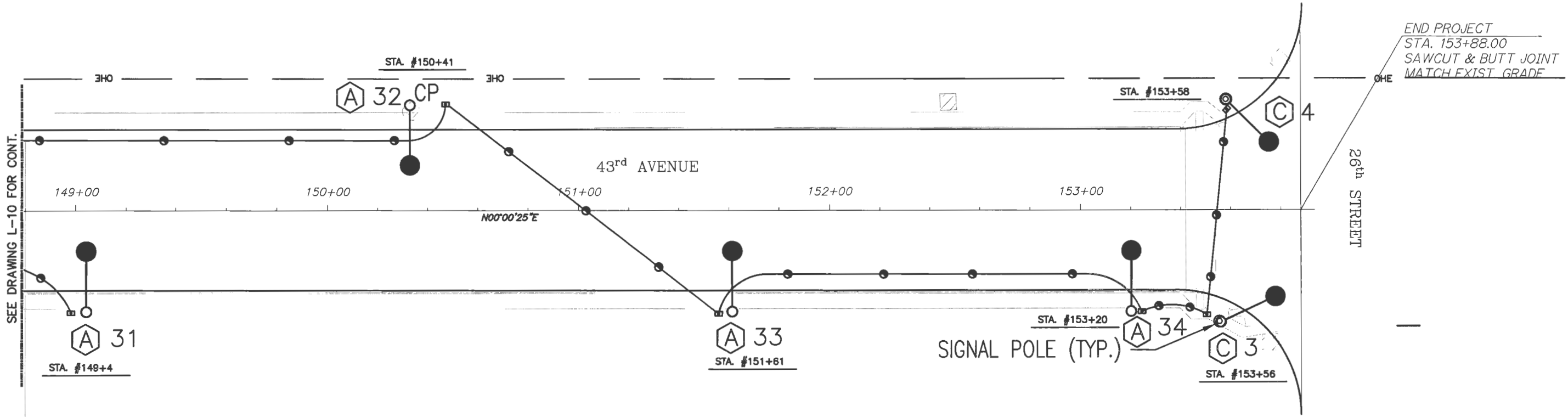
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LIGHTING PLAN



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END PROJECT
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 MATCH EXIST. GRADE

LIGHTING PLAN



Main Street ENGINEERING
 7035B SW 47th Street . Miami, Florida 33155
 Tel.: (305) 666-7450 . Fax: (305) 666-2450
 FL PE Certificate No.: 00008731

DATE: _____

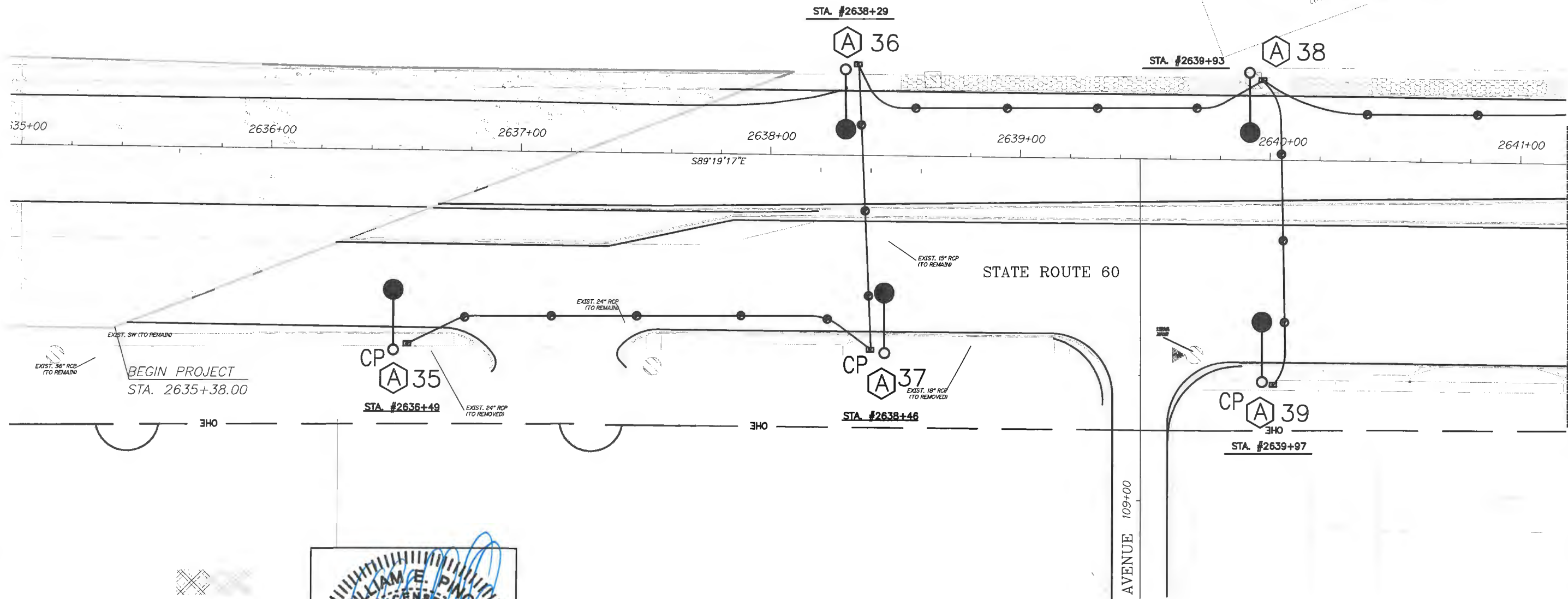
Revisions	By:	Date:

Department of Public Works
Engineering Division

Scale:	1" = 40'
Approved:	WP
Drawn:	JS
Checked:	WP
Date:	12/17/2018
Field Book No:	

Project:
 ROADWAY LIGHTING PLANS
 FOR
 SR 60 & 43RD AVENUE

Sheet:	L-11
Of:	24
Project No.	LNN# WP1027



SEE DRAWING L-7 FOR CONT.

LIGHTING PLAN



DATE: _____

Revision:	By:	Date:



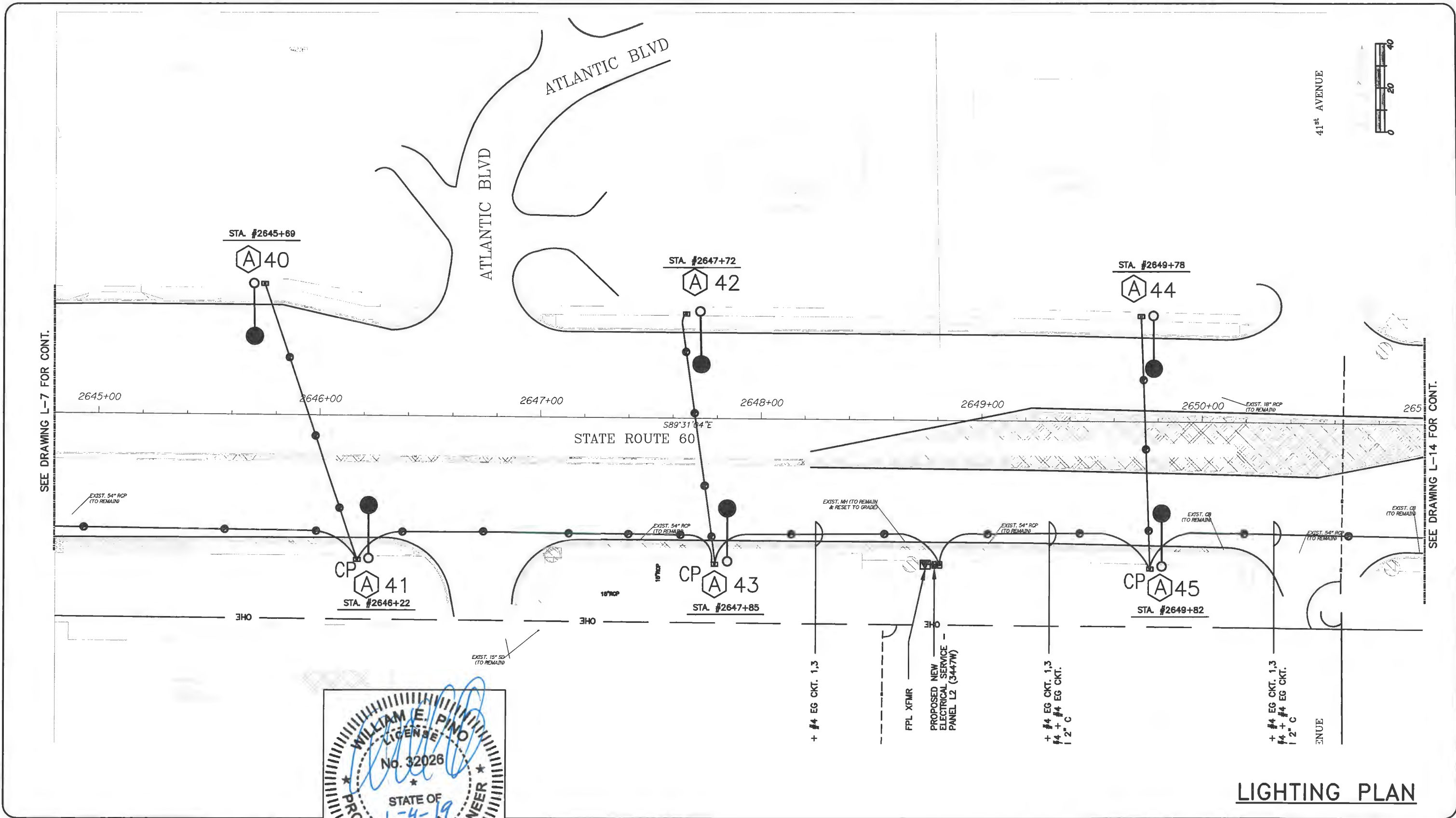
Department of Public Works
Engineering Division

Scale: 1" = 40'
 Approved: WP
 Drawn: JS
 Checked: WP
 Date: 12/17/2018
 Field Book No:

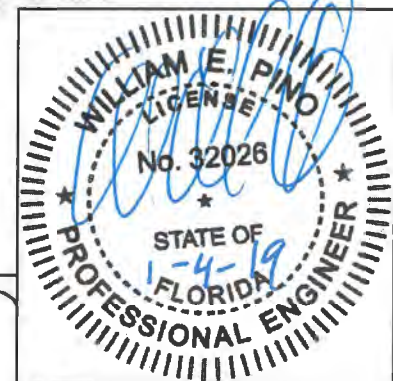
Project:
 ROADWAY LIGHTING PLANS
 FOR
 SR 60 & 43RD AVENUE

Sheet: L-12
 Of: 24
 Project No.
 LNW# WP1027


Main Street ENGINEERING
 70358 SW 47th Street . Miami, Florida 33155
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LIGHTING PLAN




Revision:	By:	Date:


Department of Public Works
Engineering Division

Scale: 1" = 40'
 Approved: WP
 Drawn: JS
 Checked: WP
 Date: 12/17/2018
 Field Book No:

Project:
ROADWAY LIGHTING PLANS
 FOR
SR 60 & 43RD AVENUE

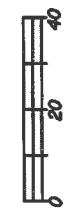
Sheet: L-13
 Of: 24
 Project No.
 LNW# WP1027


Main Street
ENGINEERING
 7035B SW 47th Street . Miami, Florida 33155
 Tel.: (305) 666-7450 . Fax: (305) 666-2450
 FL PE Certificate No.: 00008731

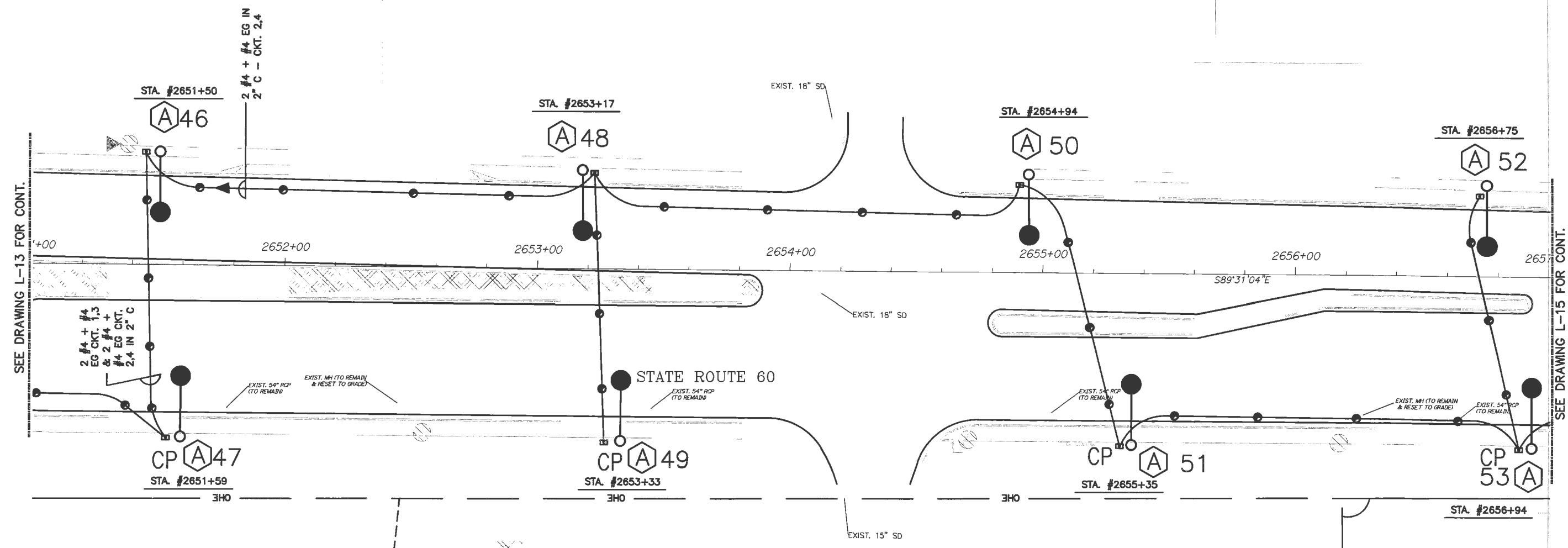
DATE: _____

SEE DRAWING L-7 FOR CONT.

SEE DRAWING L-14 FOR CONT.



40th AVENUE



SEE DRAWING L-13 FOR CONT.

SEE DRAWING L-15 FOR CONT.



LIGHTING PLAN

Main Street ENGINEERING
 7035B SW 47th Street · Miami, Florida 33155
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 FL PE Certificate No.: 00008731

DATE: _____

Revision:	By:	Date:

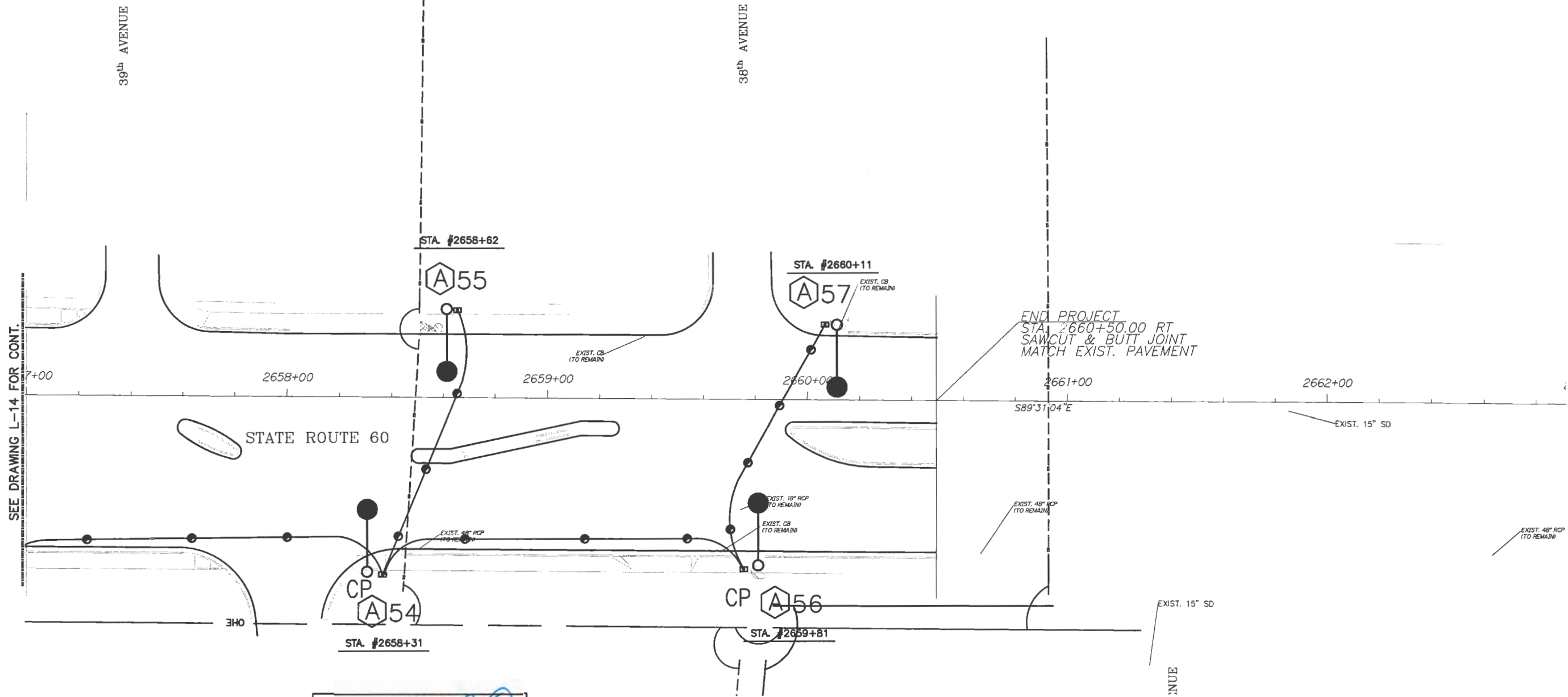


*Department of Public Works
 Engineering Division*

Scale: 1" = 40'
 Approved: WP
 Drawn: JS
 Checked: WP
 Date: 12/17/2018
 Field Book No:

Project:
 ROADWAY LIGHTING PLANS
 FOR
 SR 60 & 43RD AVENUE

Sheet: L-14
 Of: 24
 Project No.
 LNW# WP1027



SEE DRAWING L-14 FOR CONT.

END PROJECT
 STA. 2660+50.00 RT
 SAWCUT & BUTT JOINT
 MATCH EXIST. PAVEMENT

LIGHTING PLAN



Revision:	By:	Date:



Department of Public Works
 Engineering Division

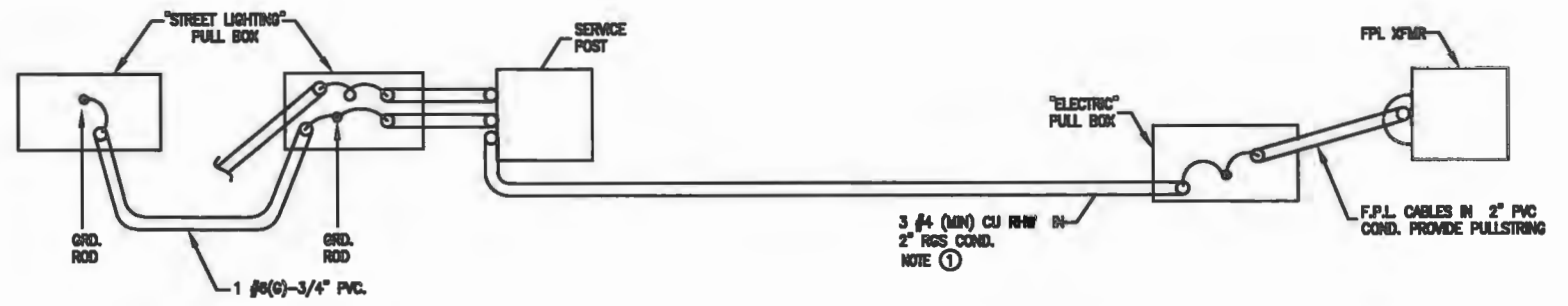
Scale: 1" = 40'
 Approved: WP
 Drawn: JS
 Checked: WP
 Date: 12/17/2018
 Field Book No:

Project:
 ROADWAY LIGHTING PLANS
 FOR
 SR 60 & 43RD AVENUE

Sheet: L-15
 Of: 24
 Project No.
 LNW# WP1027

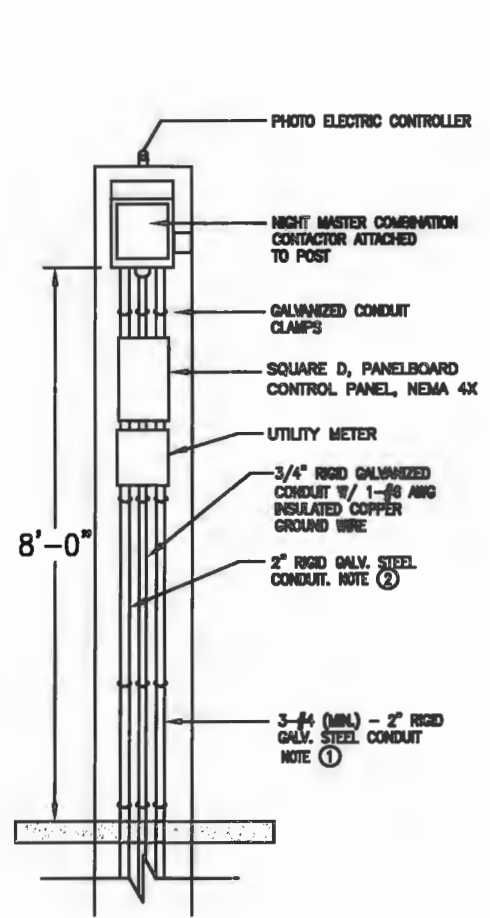
Main Street ENGINEERING
 7035B SW 47th Street . Miami, Florida 33155
 Tel.: (305) 666-7450 . Fax (305) 666-2450
 FL PE Certificate No.: 00008731

DATE: _____

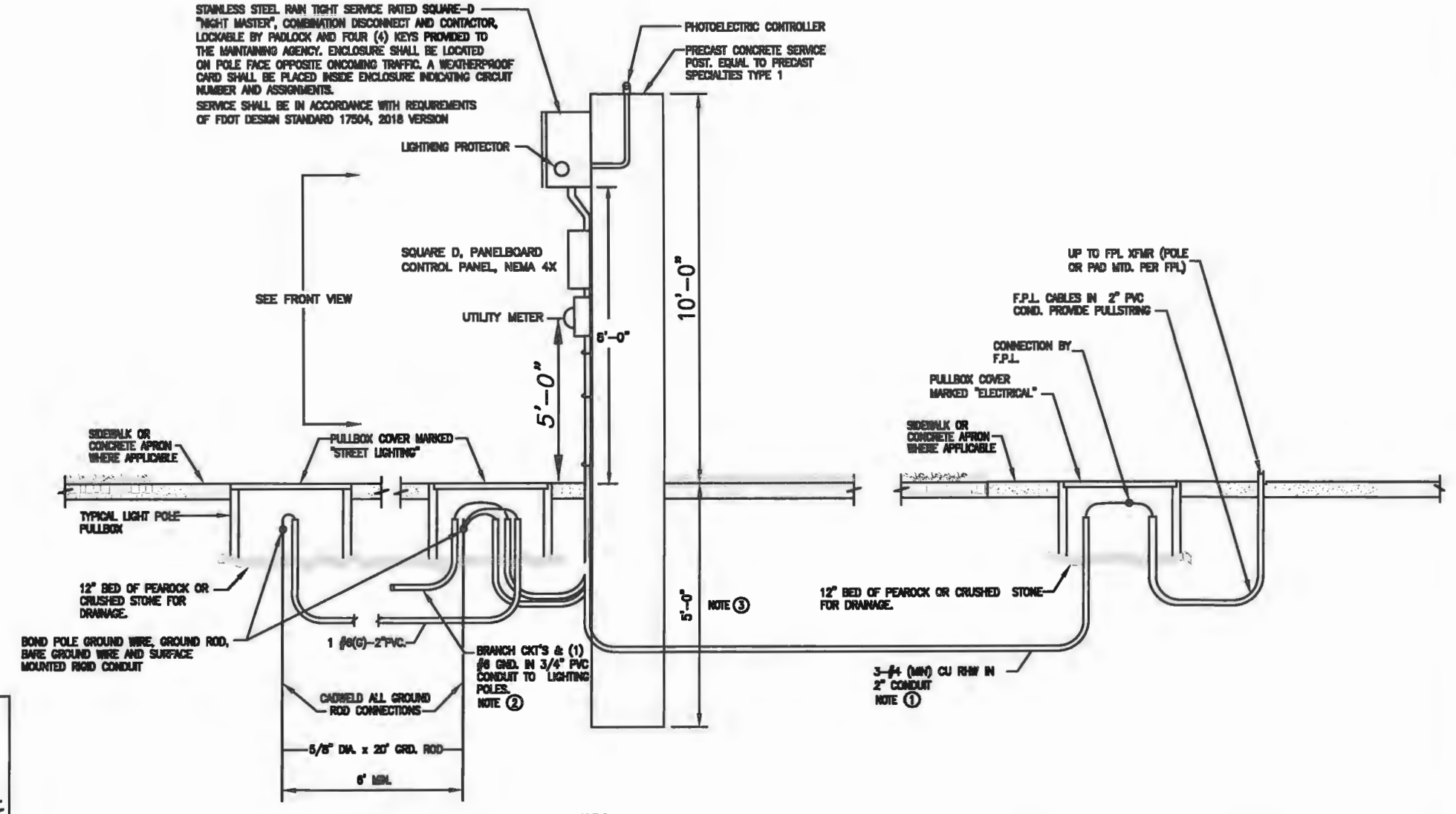


- NOTES:**
- ① PROVIDE OVERSIZED NEUTRAL IF REQUIRED BY LOAD.
 - ② NUMBER & SIZE OF BRANCH CIRCUITS SHALL BE BASED ON ACTUAL JOB CONDITIONS.
 - ③ MODIFY EMBEDMENT DEPTH AS REQUIRED BY FIELD CONDITIONS.
 - ④ CONTRACTOR SHALL INCLUDE ADDRESS AND AIC RATING OF THE PROPOSED FPL SERVICE IN THE SHOP DRAWING SUBMITTAL FOR ENGINEER REVIEW PER NEC 110.24.

N.T.S.



STAINLESS STEEL RAIN TIGHT SERVICE RATED SQUARE-D "NIGHT MASTER", COMBINATION DISCONNECT AND CONTACTOR, LOCKABLE BY PADLOCK AND FOUR (4) KEYS PROVIDED TO THE MAINTAINING AGENCY. ENCLOSURE SHALL BE LOCATED ON POLE FACE OPPOSITE ONCOMING TRAFFIC. A WEATHER-PROOF CARD SHALL BE PLACED INSIDE ENCLOSURE INDICATING CIRCUIT NUMBER AND ASSIGNMENTS. SERVICE SHALL BE IN ACCORDANCE WITH REQUIREMENTS OF FDOT DESIGN STANDARD 17504, 2018 VERSION



N.T.S.

SERVICE POINT DETAILS



Revisions	By	Date

Department of Public Works
Engineering Division

Scale: NONE
Approved: WP
Drawn: JS
Checked: WP
Date: 12/17/2018
Field Book No:

Project:
ROADWAY LIGHTING PLANS
FOR
SR 60 & 43RD AVENUE

Sheet: L-16
Of: 24
Project No.
LMM WP1027

Main Street ENGINEERING
70358 SW 47th Street . Miami, Florida 33155
Tel.: (305) 686-7450 . Fax: (305) 686-2450
FL PE Certificate No.: 00008731

CONTRACTOR SHALL INCLUDE ADDRESS AND AIC RATING OF THE PROPOSED FPL SERVICE IN THE SHOP DRAWING SUBMITAL FOR ENGINEER REVIEW PER NEC 110.24.

STATE ROAD 60 & 43RD AVENUE

VOLTAGE DROP CALCULATION PANEL L1
43RD AVE. SOUTH

POLE No	Ckt. No	Distance	LAMP WATT	Amp(l)	Voltage(v)	DXl	Wire Size	R
A15	1.3	364	155	0.896990741	240	326.5046296	#4	0.308
A13	1.3	137	155	0.896990741	240	122.8877315	#4	0.308
A14	1.3	272	155	0.896990741	240	243.9814815	#4	0.308
A12	1.3	255	155	0.896990741	240	228.7326389	#4	0.308
A11	1.3	140	155	0.896990741	240	125.5787037	#4	0.308
A9	1.3	380	155	0.896990741	240	340.8564815	#4	0.308
A10	1.3	523	155	0.896990741	240	469.1261574	#4	0.308
A8	1.3	534	155	0.896990741	240	478.9930558	#4	0.308
A6	1.3	774	155	0.896990741	240	694.2708333	#4	0.308
A7	1.3	647	155	0.896990741	240	580.3530093	#4	0.308
A4	1.3	1012	155	0.896990741	240	907.7546296	#4	0.308
A5	1.3	885	155	0.896990741	240	793.8368058	#4	0.308
A3	1.3	1097	155	0.896990741	240	983.9988426	#4	0.308
A2	1.3	1255	155	0.896990741	240	1125.72338	#4	0.308
A1	1.3	1400	155	0.896990741	240	1255.787037	#4	0.308

SUB-TOTAL AMPS 2325.00

VOLTAGE DROP CALCULATION PANEL L1
SR 60 WEST

POLE No	Ckt. No	Distance	LAMP WATT	Amp(l)	Voltage(v)	DXl	Wire Size	R
C2	2.4	557	144	0.833333333	240	464.1668867	#4	0.308
B3	2.4	514	166	0.960648148	240	493.7731481	#4	0.308
C1	2.4	649	144	0.833333333	240	540.8333333	#4	0.308
B2	2.4	727	166	0.960648148	240	698.3912037	#4	0.308
B1	2.4	865	166	0.960648148	240	830.9606481	#4	0.308
B7	2.4	978	166	0.960648148	240	939.5138889	#4	0.308
A39	2.4	1033	155	0.896990741	240	926.5914352	#4	0.308
A38	2.4	1170	155	0.896990741	240	1049.479167	#4	0.308
A36	2.4	1215	155	0.896990741	240	1089.84375	#4	0.308
A37	2.4	1341	155	0.896990741	240	1202.864583	#4	0.308
A35	2.4	1552	155	0.896990741	240	1392.12963	#4	0.308

SUB-TOTAL AMPS 1727.00

TOTAL AMPS 4052.00

- GROUND TEST NOTES**
RESISTANCE-TO-GROUND MEASUREMENT OF MORE THAN 5 OHMS SHALL BE CONSIDERED INADEQUATE.
- TEST FOR CONTINUITY OF GROUNDING CONDUCTOR USING A MEGGER OR EQUAL LOW RESISTANCE/ HIGH CAPACITY OHMMETER, CALIBRATED WITHIN THE PAST 180 DAYS. A NEUTRAL/GROUND LOOP RESISTANCE OF MORE THAN 0.5 OHMS-PER THOUSAND FEET SHALL BE CONSIDERED INADEQUATE.

VD	%V
0.20	0.08
0.08	0.03
0.15	0.06
0.14	0.06
0.08	0.03
0.21	0.09
0.29	0.12
0.30	0.12
0.43	0.18
0.36	0.15
0.56	0.23
0.49	0.20
0.61	0.25
0.69	0.29
0.77	0.32
∑(%V)= 2.23	

VD	%V
0.29	0.12
0.30	0.13
0.33	0.14
0.43	0.18
0.51	0.21
0.58	0.24
0.57	0.24
0.65	0.27
0.67	0.28
0.74	0.31
0.86	0.36
∑(%V)= 1.91	

SR60 & 43RD AVE PANEL L1 SCHEDULE

VOLTAGE: 120/240V, 1PHASE, 3W
MOUNTING SURFACE: 1=CONTINUOUS LOAD
ENCLOSURE: NEMA 4X
BUS (AMPS): 125
MAINS: 2P 60A
BUS TYPE: COPPER
AIC RATING: 22 000
LOCATION: SERVICE POLE

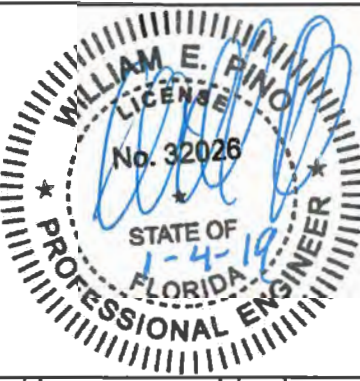
NO.	CT	TRIP	POLE	LOAD DESCRIPTION	LOAD VA	PHASE A	PHASE B	LOAD VA	LOAD DESCRIPTION	TRIP	POLE	CT	NO.
1	1	20	2	POLE LIGHTS	1163	2027	---	864	POLE LIGHTS	20	2	1	2
3	1			43RD AVE - SOUTH	1163	---	2027	864	SR 60 WEST	20		1	4
5				PROVISION ONLY		0	---		PROVISION ONLY				6
7				PROVISION ONLY		---	0		PROVISION ONLY				8
9				PROVISION ONLY		0	---		PROVISION ONLY				10
11				PROVISION ONLY		---	0		PROVISION ONLY				12
2		1											

NOTES:

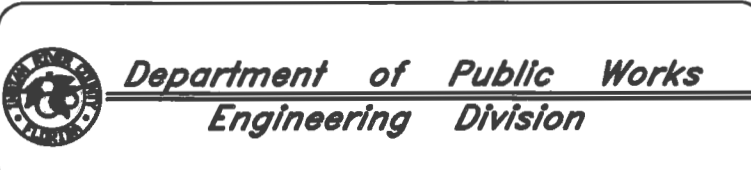
DATE: 8/28/2018

2027	2027	CONNECTED KVA	4.1
		CODE 1 KVA	4.1
			0.0
			0.0
			0.0
			0.0
		DEMAND LOAD (KVA)	5.1
		DEMAND LOAD (A)	21.1
2533	2534	PHASE BALANCE (%)	100

SERVICE PANEL L1 SCHEDULE, VOLTAGE DROP CALCULATIONS



Revision	By	Date



Scale: NONE
Approved: WP
Drawn: JS
Checked: WP
Date: 12/17/2018
Field Book No:

Project: ROADWAY LIGHTING PLANS
FOR SR 60 & 43RD AVENUE

Sheet: L-17
Of: 24
Project No. LRM# WP1027

CONTRACTOR SHALL INCLUDE ADDRESS AND AIC RATING OF THE PROPOSED FPL SERVICE IN THE SHOP DRAWING SUBMITAL FOR ENGINEER REVIEW PER NEC 110.24.

GROUND TEST NOTES

1 USE CLAMP-ON GROUND TESTER, AEMC CAT. NO. 3711, 3731 OR APPROVED EQUAL, CALIBRATED WITHIN THE PAST 180 DAYS. RESISTANCE-TO-GROUND MEASUREMENT OF MORE THAN 5 OHMS SHALL BE CONSIDERED INADEQUATE.

2 TEST FOR CONTINUITY OF GROUNDING CONDUCTOR USING A MEGGER OR EQUAL LOW RESISTANCE/ HIGH CAPACITY OHMMETER, CALIBRATED WITHIN THE PAST 180 DAYS. A NEUTRAL/GROUND LOOP RESISTANCE OF MORE THAN 0.5 OHMS-PER THOUSAND FEET SHALL BE CONSIDERED INADEQUATE.

STATE ROAD 60 & 43RD AVENUE

VOLTAGE DROP CALCULATION PANEL L2
SR 60 EAST

POLE No	Ckt. No	Distance	LAMP WATT	Amp(I)	Voltage(v)	DX I	Wire Size	R
A45	1.3	127	155	0.896990741	240	113.9178241	#4	0.308
A44	1.3	253	155	0.896990741	240	226.9386574	#4	0.308
A47	1.3	334	155	0.896990741	240	299.5949074	#4	0.308
A46	1.3	480	155	0.896990741	240	412.6157407	#4	0.308
A43	1.3	124	155	0.896990741	240	111.2268519	#4	0.308
A42	1.3	251	155	0.896990741	240	225.1446759	#4	0.308
A41	1.3	441	155	0.896990741	240	395.5729187	#4	0.308
A40	1.3	588	155	0.896990741	240	525.6365741	#4	0.308
B7	1.3	640	186	0.960648148	240	614.8148148	#4	0.308
B4	1.3	800	186	0.960648148	240	788.5185185	#4	0.308
B5	1.3	950	186	0.960648148	240	912.6157407	#4	0.308
D1	1.3	1072	148	0.856481481	240	918.1481481	#4	0.308

SUB-TOTAL AMPS 1886.00

VOLTAGE DROP CALCULATION PANEL L2
SR 60 EAST

POLE No	Ckt. No	Distance	LAMP WATT	Amp(I)	Voltage(v)	DX I	Wire Size	R
A48	2.4	688	155	0.896990741	240	599.1898148	#4	0.308
A49	2.4	785	155	0.896990741	240	704.1377315	#4	0.308
A50	2.4	873	155	0.896990741	240	783.0729187	#4	0.308
A51	2.4	1004	155	0.896990741	240	900.5787037	#4	0.308
A53	2.4	1195	155	0.896990741	240	1071.903935	#4	0.308
A52	2.4	1312	155	0.896990741	240	1176.851852	#4	0.308
A54	2.4	1377	155	0.896990741	240	1235.15625	#4	0.308
A55	2.4	1501	155	0.896990741	240	1346.383102	#4	0.308
A56	2.4	1550	155	0.896990741	240	1390.335648	#4	0.308
A57	2.4	1668	155	0.896990741	240	1496.180556	#4	0.308

SUB-TOTAL AMPS 1550.00

TOTAL AMPS 3436.00

VD	%V
0.07	0.03
0.14	0.06
0.18	0.08
0.25	0.11
0.07	0.03
0.14	0.06
0.24	0.10
0.32	0.13
0.38	0.16
0.47	0.20
0.56	0.23
0.57	0.24
Σ(%V)= 1.42	

VD	%V
0.37	0.15
0.43	0.18
0.48	0.20
0.55	0.23
0.66	0.28
0.72	0.30
0.76	0.32
0.83	0.35
0.86	0.36
0.92	0.38
Σ(%V)= 2.59	

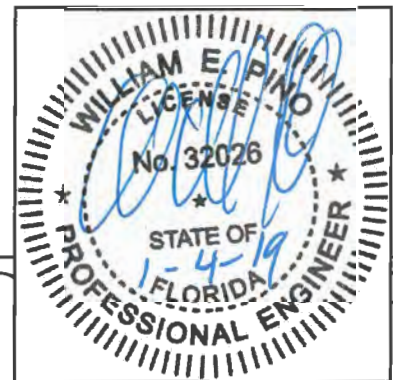
SR60 & 43RD AVE PANEL L2 SCHEDULE

VOLTAGE: 120/240V, 1PHASE, 3W MOUNTING: SURFACE 1=CONTINUOUS LOAD
 BUS (AMPS): 125 ENCLOSURE: NEMA 4X
 MAINS: 2P, 60A BUS TYPE: COPPER
 AIC RATING: 22,000 LOCATION: SERVICE POLE

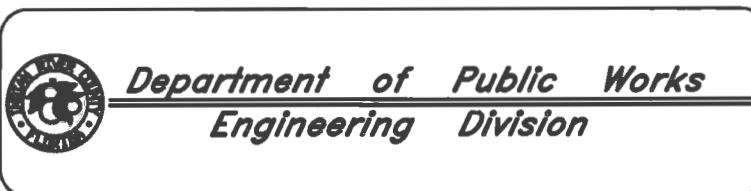
CKT NO.	BREAKER		LOAD DESCRIPTION	LOAD VA	PHASE		LOAD VA	LOAD DESCRIPTION	BREAKER		CKT NO.		
	TRIP	POLE			A	B			TRIP	POLE	CODE	NO.	
1	1	20	2	POLE LIGHTS	949	1724	--	775	POLE LIGHTS	20	2	1	2
3	1			SR 60 - EAST	949	--	1724	775	SR 60 - EAST			1	4
5				PROVISION ONLY		0	--		PROVISION ONLY				6
7				PROVISION ONLY		--	0		PROVISION ONLY				8
9				PROVISION ONLY		0	--		PROVISION ONLY				10
11				PROVISION ONLY		--	0		PROVISION ONLY				12
2		1											

NOTES:
 DATE: 8-28-2018

CONNECTED KVA	3.4
CODE 1 KVA	3.4
DEMAND LOAD (KVA)	4.3
DEMAND LOAD (A)	18.0
PHASE BALANCE (%)	100



Revisions	By	Date



Scale: NONE
 Approved: WP
 Drawn: JS
 Checked: WP
 Date: 12/17/2018
 Field Book No:

Project: ROADWAY LIGHTING PLANS
 FOR SR 60 & 43RD AVENUE

Sheet: L-18
 Of: 24
 Project No. LHM# WP1027



SERVICE PANEL L2 SCHEDULE, VOLTAGE DROP CALCULATIONS

CONTRACTOR SHALL INCLUDE ADDRESS AND AIC RATING OF THE PROPOSED FPL SERVICE IN THE SHOP DRAWING SUBMITAL FOR ENGINEER REVIEW PER NEC 110.24.

GROUND TEST NOTES

- 1 USE CLAMP-ON GROUND TESTER, ASMC CAT. NO. 3711, 3731 OR APPROVED EQUAL, CALIBRATED WITHIN THE PAST 180 DAYS. RESISTANCE-TO-GROUND MEASUREMENT OF MORE THAN 5 OHMS SHALL BE CONSIDERED INADEQUATE.
- 2 TEST FOR CONTINUITY OF GROUNDING CONDUCTOR USING A MEGGER OR EQUAL LOW RESISTANCE/ HIGH CAPACITY OHMMETER, CALIBRATED WITHIN THE PAST 180 DAYS. A NEUTRAL/GROUND LOOP RESISTANCE OF MORE THAN 0.5 OHMS-PER THOUSAND FEET SHALL BE CONSIDERED INADEQUATE.

STATE ROAD 60 & 43RD AVENUE

VOLTAGE DROP CALCULATION
43RD AVE. NORTH

PANEL L3

POLE No	Ckt. No	Distance	LAMP WATT	Amp(I)	Voltage(V)	D X I	Wire Size	R
A24	13	25'	155	0.896990741	240	234.1145633	#4	0.308
A23	13	41'	155	0.896990741	240	368.6631944	#4	0.308
A22	13	446	155	0.896990741	240	400.0578704	#4	0.308
A20	13	700	155	0.896990741	240	627.8935165	#4	0.308
A21	13	817	155	0.896990741	240	732.8414352	#4	0.308
A19	13	802	155	0.896990741	240	719.3665741	#4	0.308
A18	13	816	155	0.896990741	240	731.9444444	#4	0.308
A17	13	1094	155	0.896990741	240	961.3078704	#4	0.308
A15	13	1249	155	0.896990741	240	1120.341435	#4	0.308
D2	13	1317	148	0.656481481	240	1127.986111	#4	0.308

SUB-TOTAL AMPS 1543.00

VD	%V
0.14	0.05
0.23	0.09
0.25	0.10
0.39	0.16
0.45	0.19
0.44	0.18
0.45	0.19
0.60	0.25
0.69	0.29
0.69	0.29
Σ(%V) = 1.81	

VOLTAGE DROP CALCULATION
43RD AVE. NORTH

PANEL L3

POLE No	Ckt. No	Distance	LAMP WATT	Amp(I)	Voltage(V)	D X I	Wire Size	R
A25	24	54	155	0.896990741	240	48.4375	#4	0.308
A25	24	222	155	0.896990741	240	199.1319444	#4	0.308
A27	24	164	155	0.896990741	240	165.0462963	#4	0.308
A28	24	261	155	0.896990741	240	252.0543961	#4	0.308
A29	24	471	155	0.896990741	240	422.4826389	#4	0.308
A30	24	613	155	0.896990741	240	549.6563241	#4	0.308
A31	24	785	155	0.896990741	240	704.1377315	#4	0.308
A32	24	932	155	0.896990741	240	835.9953704	#4	0.308
A33	24	1061	155	0.896990741	240	969.6469907	#4	0.308
A34	24	1280	155	0.896990741	240	1146.148148	#4	0.308
C3	24	1311	144	0.633333333	240	1092.5	#4	0.308
C4	24	1401	144	0.633333333	240	1167.5	#4	0.308

SUB-TOTAL AMPS 1838.00

TOTAL AMPS 3361.00

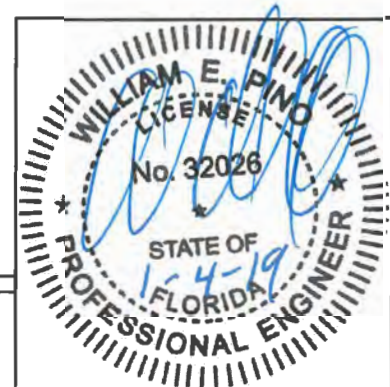
VD	%V
0.03	0.01
0.12	0.05
0.10	0.04
0.16	0.06
0.26	0.11
0.34	0.14
0.43	0.18
0.51	0.21
0.60	0.25
0.71	0.29
0.67	0.28
0.72	0.30
Σ(%V) = 1.94	

SR60 & 43RD AVE PANEL L3 SCHEDULE

VOLTAGE: 120/240V, 1PHASE 3W
MOUNTING SURFACE: 1=CONTINUOUS LOAD
BUS (AMPS): 125
ENCLOSURE: NEMA 4X
MAINS: 2P, 60A
BUS TYPE: COPPER
AIC RATING: 22,000
LOCATION: SERVICE POLE

CKT NO	CODE	BREAKER		LOAD DESCRIPTION	LOAD VA	PHASE		LOAD VA	LOAD DESCRIPTION	BREAKER		CKT	
		TRIP	POLE			A	B			TRIP	POLE	CODE	NO
1	1	20	2	POLE LIGHTS	772	1691	--	919	POLE LIGHTS	20	2	1	2
3	1			43RD AVE. NORTH	772	--	1691	919	43RD AVE. NORTH			1	4
5				PROVISION ONLY		0	--		PROVISION ONLY				6
7				PROVISION ONLY		--	0		PROVISION ONLY				8
9				PROVISION ONLY		0	--		PROVISION ONLY				10
11				PROVISION ONLY		--	0		PROVISION ONLY				12
2		1				1691	1691		CONNECTED KVA			3.4	
NOTES:												CODE 1 KVA	3.4
													0.0
													0.0
													0.0
													0.0
DATE: 8/28/2018												DEMAND LOAD (KVA)	4.2
												DEMAND LOAD (A)	17.6
										2114	2114	PHASE BALANCE (%)	100

SERVICE PANEL L3 SCHEDULE, VOLTAGE DROP CALCULATIONS



Revision	By	Date

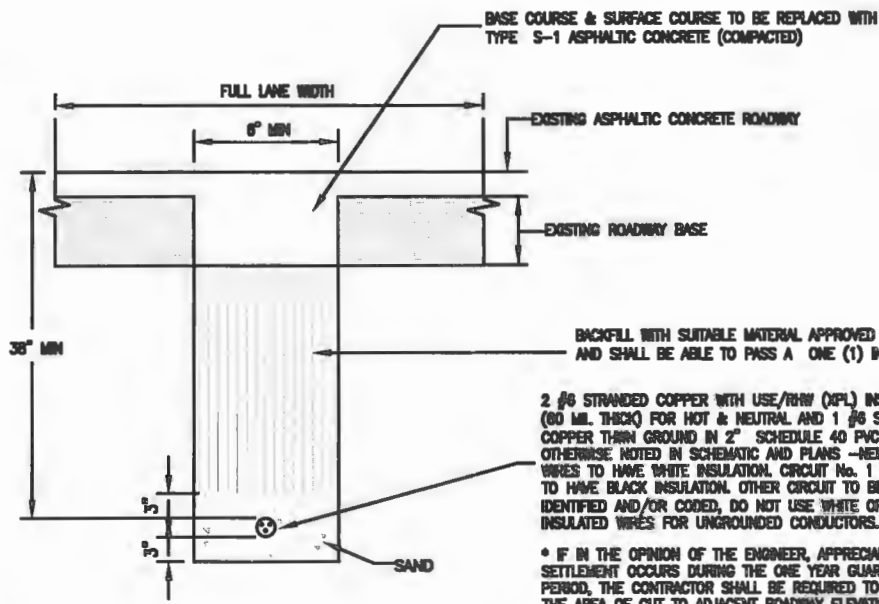


Department of Public Works
Engineering Division

Scale: NONE
Approved: WP
Drawn: JS
Checked: WP
Date: 12/17/2018
Field Book No:

Project:
ROADWAY LIGHTING PLANS
FOR
SR 60 & 43RD AVENUE

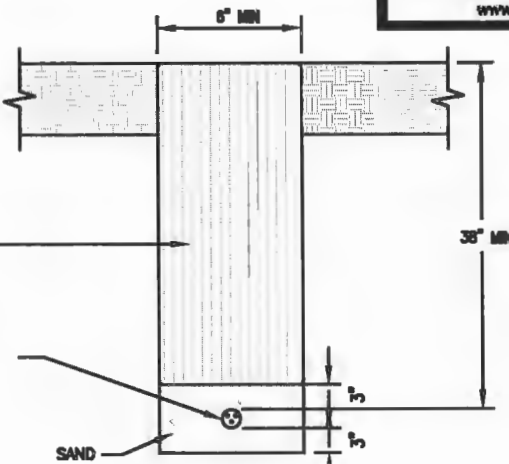
Sheet: L-19
Of: 24
Project No.: LRRP WP1027



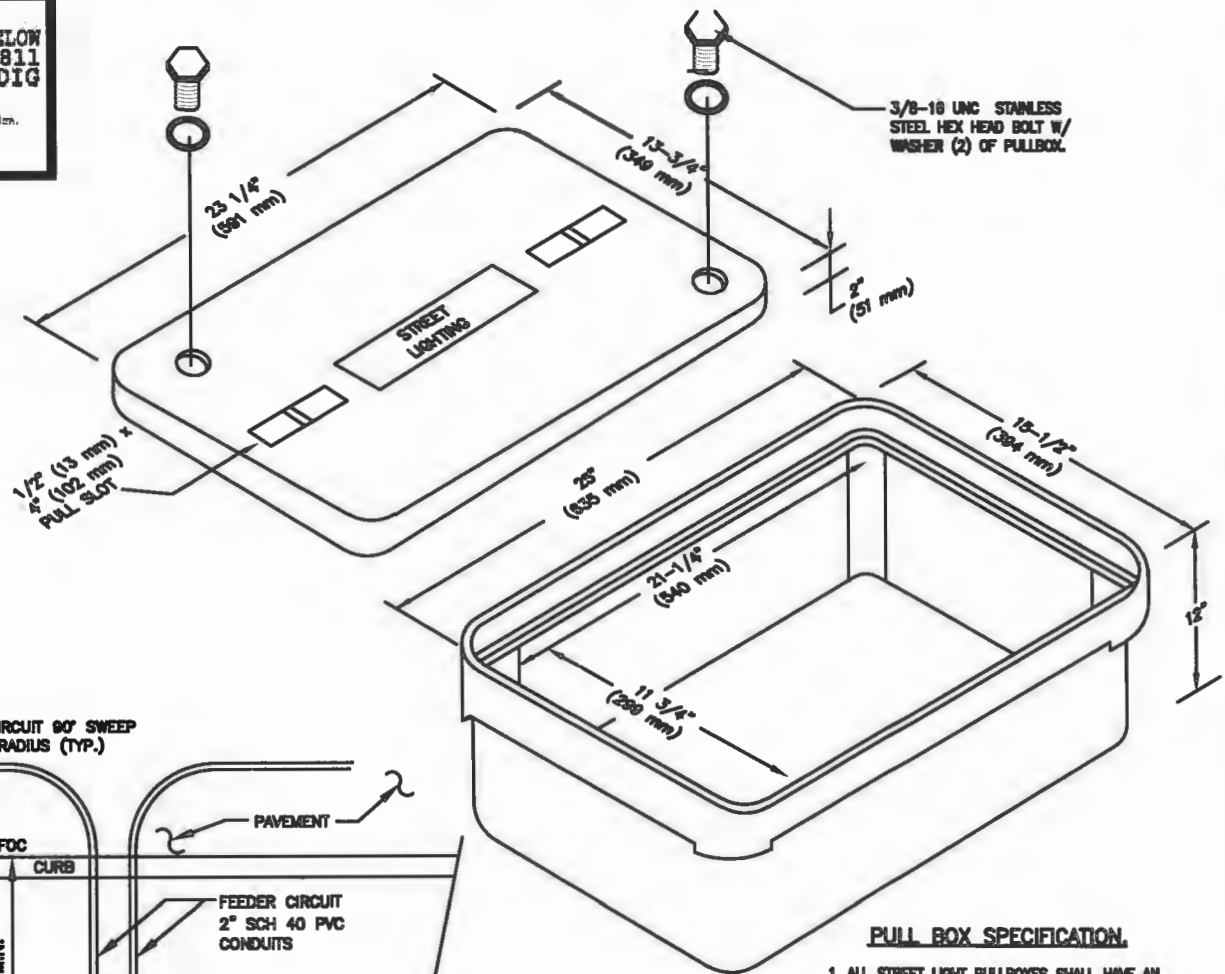
TRENCH DETAIL (ROAD)
N.T.S.

2 #6 STRANDED COPPER WITH USE/RHW (XPL) INSULATION (80 MIL THICK) FOR HOT & NEUTRAL AND 1 #6 STRD. COPPER THIN GROUND IN 2" SCHEDULE 40 PVC UNLESS OTHERWISE NOTED IN SCHEMATIC AND PLANS - NEUTRAL WIRES TO HAVE WHITE INSULATION. OTHER CIRCUIT TO BE IDENTIFIED AND/OR CODED, DO NOT USE WHITE OR GREEN INSULATED WIRES FOR UNGROUNDED CONDUCTORS.

* IF IN THE OPINION OF THE ENGINEER, APPRECIABLE SETTLEMENT OCCURS DURING THE ONE YEAR GUARANTEE PERIOD, THE CONTRACTOR SHALL BE REQUIRED TO RESTORE THE AREA OF CUT TO ADJACENT ROADWAY ELEVATION. SEE "TRAFFIC CONTROL EQUIPMENT SPECIFICATIONS AND STANDARDS FOR THE MTCSDMC".



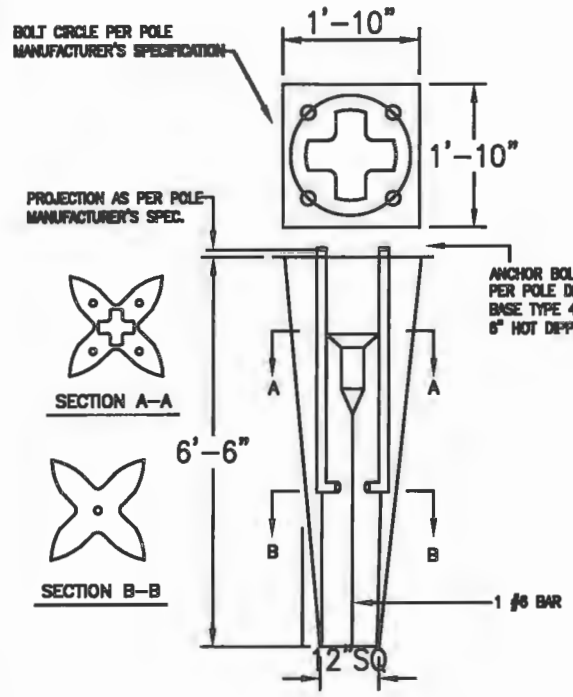
TRENCH DETAIL (SWALE)
N.T.S.



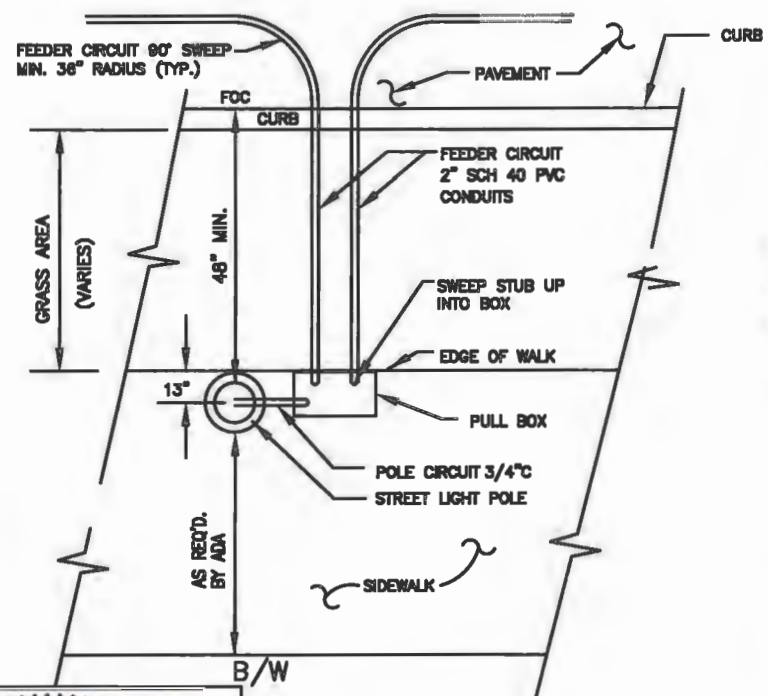
PULL BOX DETAIL
N.T.S.

PULL BOX SPECIFICATION.

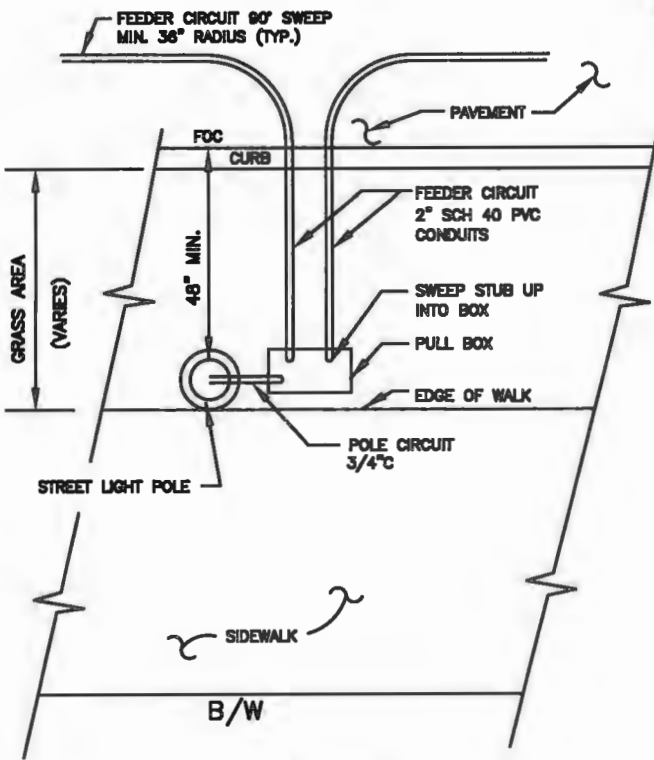
1. ALL STREET LIGHT PULLBOXES SHALL HAVE AN OPEN-BOTTOM, TRAFFIC RATED, QUARTZITE POLYMER CONCRETE DESIGN OR PRECAST CONCRETE DESIGN CONSTRUCTED OF CLASS I CONCRETE HAVING A MINIMUM COMPRESSIVE STRENGTH OF 2,500 PSI AT TWENTY-EIGHT (28) DAYS. POLYMER CONCRETE PULLBOX SHALL BE QUARTZITE PRODUCT NO. PG1324BA12 OR APPROVED EQUIVALENT. CONCRETE PULLBOX SHALL BE BROOKS 38 SERIES OR APPROVED EQUIVALENT. IN EITHER CASE, BOTH PULLBOXES SHALL BE CONSTRUCTED PER ABOVE SPECIFIED MANUFACTURERS SIZE, MATERIALS AND PERFORMANCE SPECIFICATIONS. THEREFORE, BELOW SPECIFIED PULLBOX COVER SHALL BE FULLY INTER-CHANGEABLE WITH EITHER PULLBOX. ALL PULLBOX COVERS FURNISHED AND INSTALLED SHALL BE POLYMER CONCRETE QUARTZITE PRODUCT NO. PG1324HAD0 OR APPROVED EQUIVALENT. NO OTHER DESIGN, SIZE, MODIFICATION OR MATERIALS SHALL BE ACCEPTABLE. PULLBOX COVERS SHALL BE MARKED "STREET LIGHTING" OR "ELECTRIC".
2. WHERE PULLBOX IS LOCATED OUTSIDE OF SIDEWALK, I.e. SWALE AREA, THE PULLBOX SHALL HAVE A 3" CONCRETE APRON (6" THICK) AROUND IT. COST OF CONCRETE APRON SHALL BE INCLUDED IN PULLBOX INSTALLATION COST.



METAL POLE CONCRETE BASE DETAIL
N.T.S.



POLE WITHIN SIDEWALK
N.T.S.



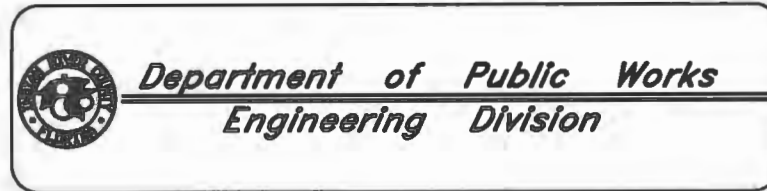
POLE BEFORE SIDEWALK
N.T.S.

TYPICAL STREET LIGHT PLAN DETAIL
N.T.S.

LIGHT POLE DETAILS



Revised:	By:	Date:

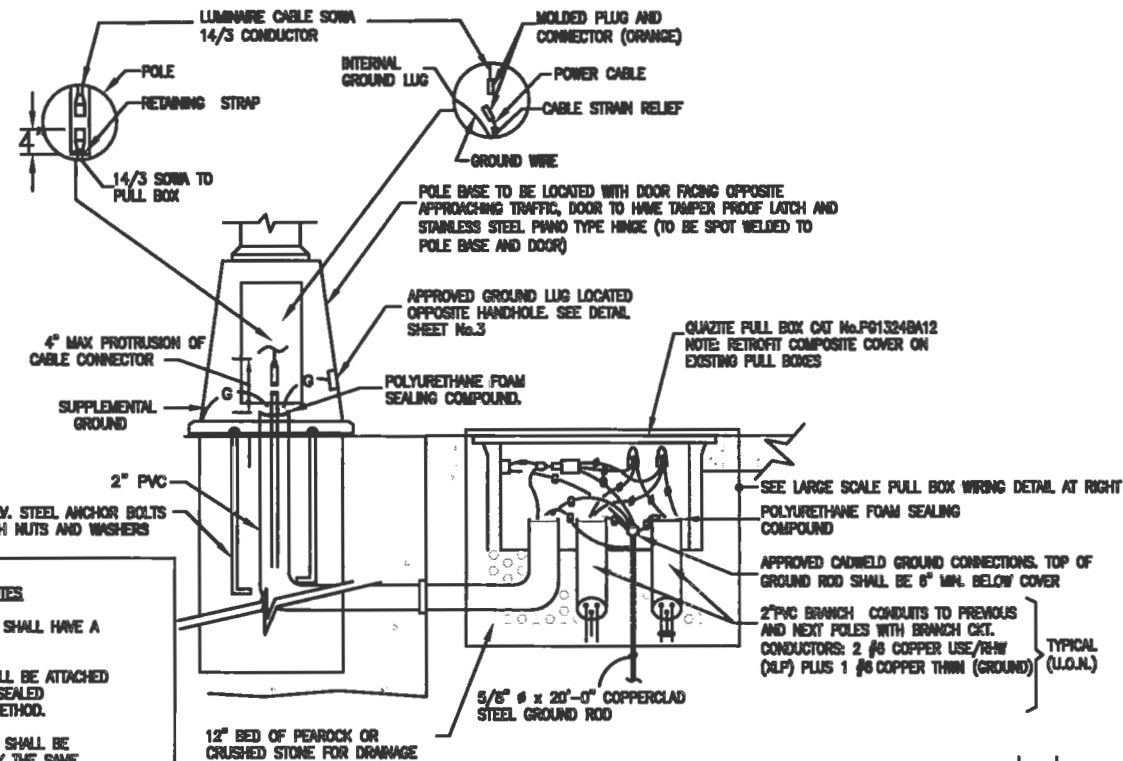


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Approved:	WP
Drawn:	JS
Checked:	WP
Date:	12/17/2018
Field Book No:	

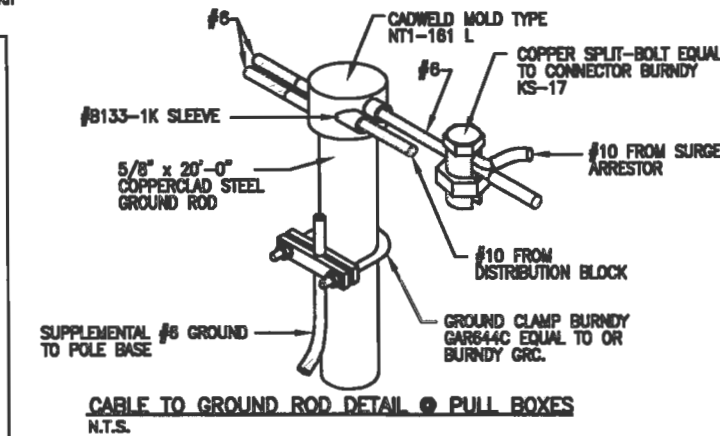
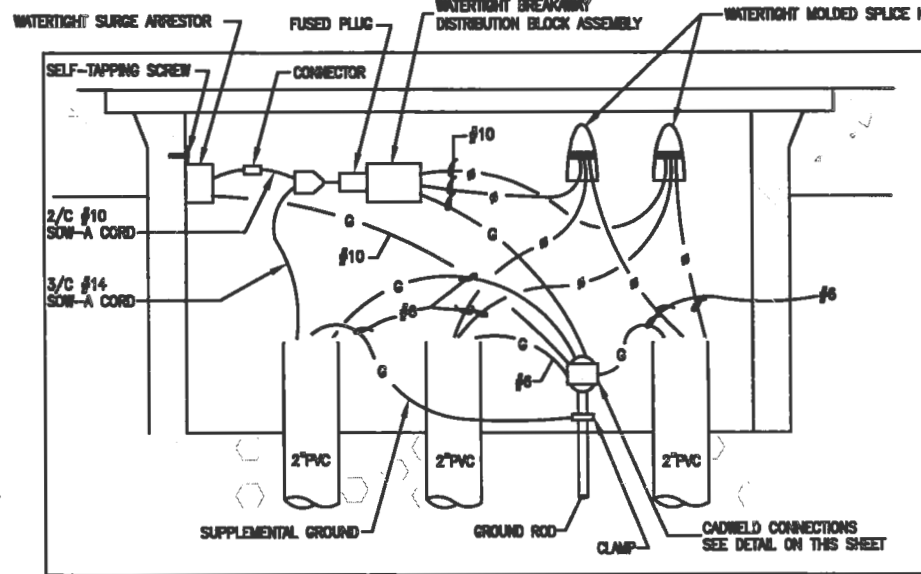
Project:	ROADWAY LIGHTING PLANS FOR SR 60 & 43RD AVENUE
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Sheet:	L-20
Of:	24
Project No.:	UNW WP1027





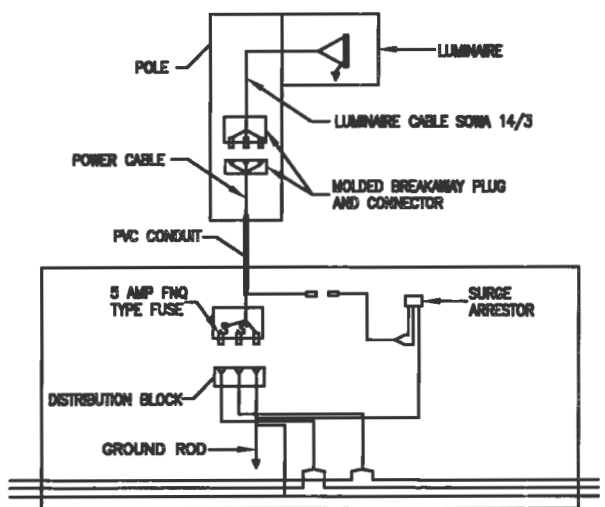
- PCDS NOTES**
1. ALL CONDUCTORS SHALL HAVE A SOWA INSULATION.
 2. CONNECTORS SHALL BE ATTACHED BY MEANS OF A SEALED THERMOPLASTIC METHOD.
 3. ALL COMPONENTS SHALL BE MANUFACTURED BY THE SAME MANUFACTURER.
 4. PULLBOXES ARE SUBJECT TO FLOODING. THE POLE CABLE DISTRIBUTION SYSTEM SHALL BE IP-68 LISTED AS A WHOLE (NOT ONLY COMPONENTS) AND ITS WIRING DIAGRAM SHALL STRICTLY CONFORM TO THE WIRING DIAGRAM SHOWN ON THIS SHEET. PCDS SHALL BE NRTL AS A WHOLE COMPONENT.



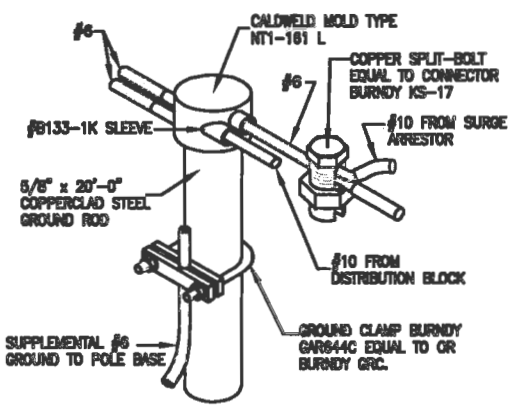
POLE WIRING DETAIL WITH PULL BOX
N.T.S.

PULL BOX WIRING DETAIL
N.T.S.

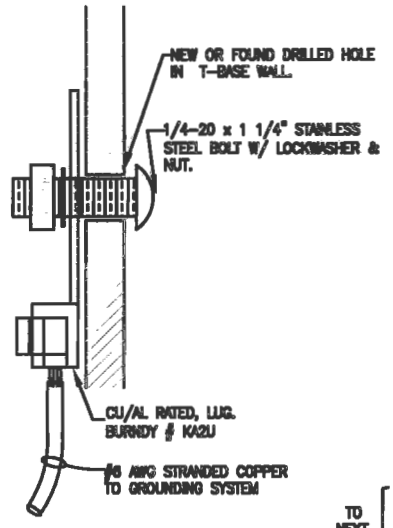
CABLE TO GROUND ROD DETAIL @ PULL BOXES
N.T.S.



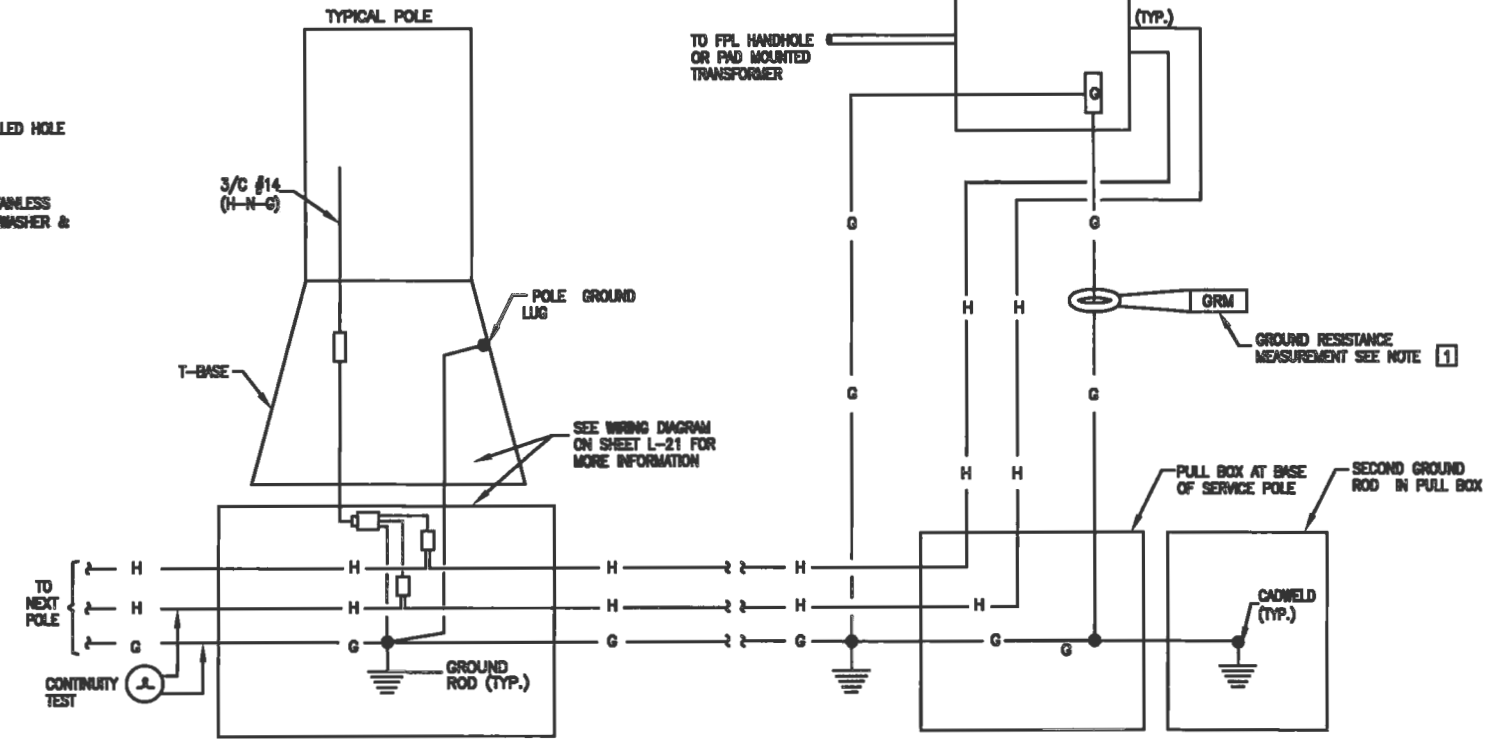
WIRING DIAGRAM
N.T.S.



CABLE TO GROUND ROD DETAIL
N.T.S.



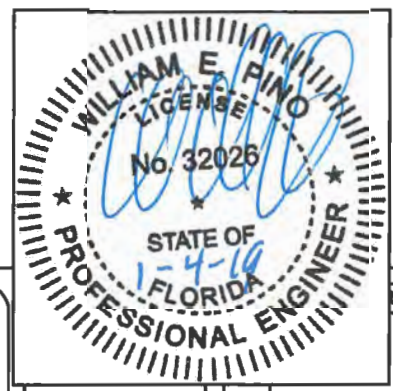
GROUND LUG DETAIL
N.T.S.



GROUNDING SYSTEM SCHEMATIC
N.T.S.

LIGHT POLE DETAILS

STREET LIGHTING WIRING AND GROUNDING SHALL CONFORM TO FDOT FY 2017-18 DESIGN STANDARDS 17515.



DATE: _____

Revisions	By	Date

Department of Public Works
 Engineering Division

Scale: NONE
 Approved: WP
 Drawn: JS
 Checked: WP
 Date: 12/17/2018
 Field Book No:

Project:
ROADWAY LIGHTING PLANS
 FOR
SR 60 & 43RD AVENUE

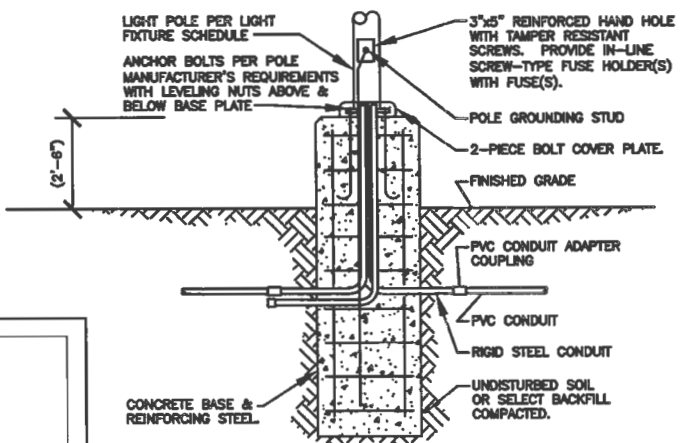
Sheet: L-21
 Of: 24
 Project No.
 LAMP WP1027

Main Street
 ENGINEERING
 70358 SW 47th Street . Miami, Florida 33155
 Tel.: (305) 888-7450 . Fax: (305) 888-2450
 FL PE Certificate No.: 00008731

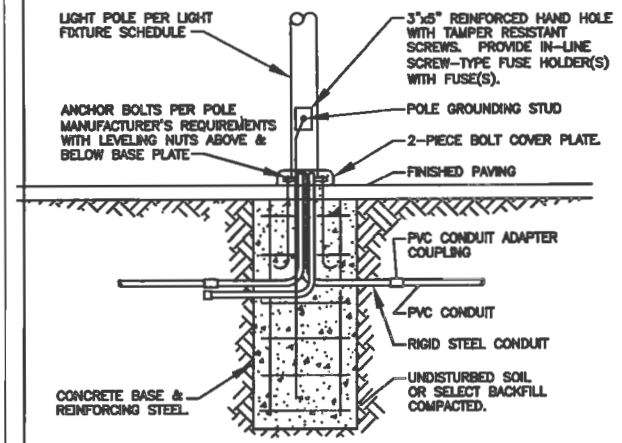
NOTES

- LUMINAIRE SHALL BE A HEAVY DUTY, OUTDOOR LED LIGHTING SOLUTION WITH DIE-CAST ALUMINUM HOUSING WITH POWDER COAT FINISH. WATTAGE AND VOLTAGE AS INDICATED OR REQUIRED. DESIGNED FOR IES DISTRIBUTION
- POLES AND BRACKET ARMS SHALL BE DESIGNED IN ACCORDANCE WITH LOCAL DESIGN CRITERIA USING THE APPLICABLE EQUATIONS FOUND IN "STANDARD SPECIFICATIONS FOR HIGHWAY SIGNS, LUMINAIRE AND TRAFFIC SIGNALS" PUBLISHED BY A.A.S.H.T.O. THE CONTRACTOR (SUPPLIER) SHALL SUBMIT EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF THIS SPECIFICATION IN ADDITION TO THE DOT UTILITY ACCOMMODATION MANUAL AND FDOT DESIGN STANDARDS, INCLUDED IN THE EQUIPMENT SUBMITTAL DATA. NO POLES ARE TO BE INSTALLED PRIOR TO DEPARTMENT APPROVAL.
- CONTRACTOR SHALL APPLY WHITE GREASE ON ALL THREADED SCREWS, NUTS AND BOLT SURFACES

STREET LIGHTING INSTALLATION INCLUDING LIGHT POLES, LIGHT FIXTURES, CONCRETE POLE BASES, WIRING AND GROUNDING SHALL CONFORM TO FDOT FY 2017-18 DESIGN STANDARDS 17515 AND THE LATEST ACCEPTED VERSION OF THE "FLORIDA GREENBOOK".



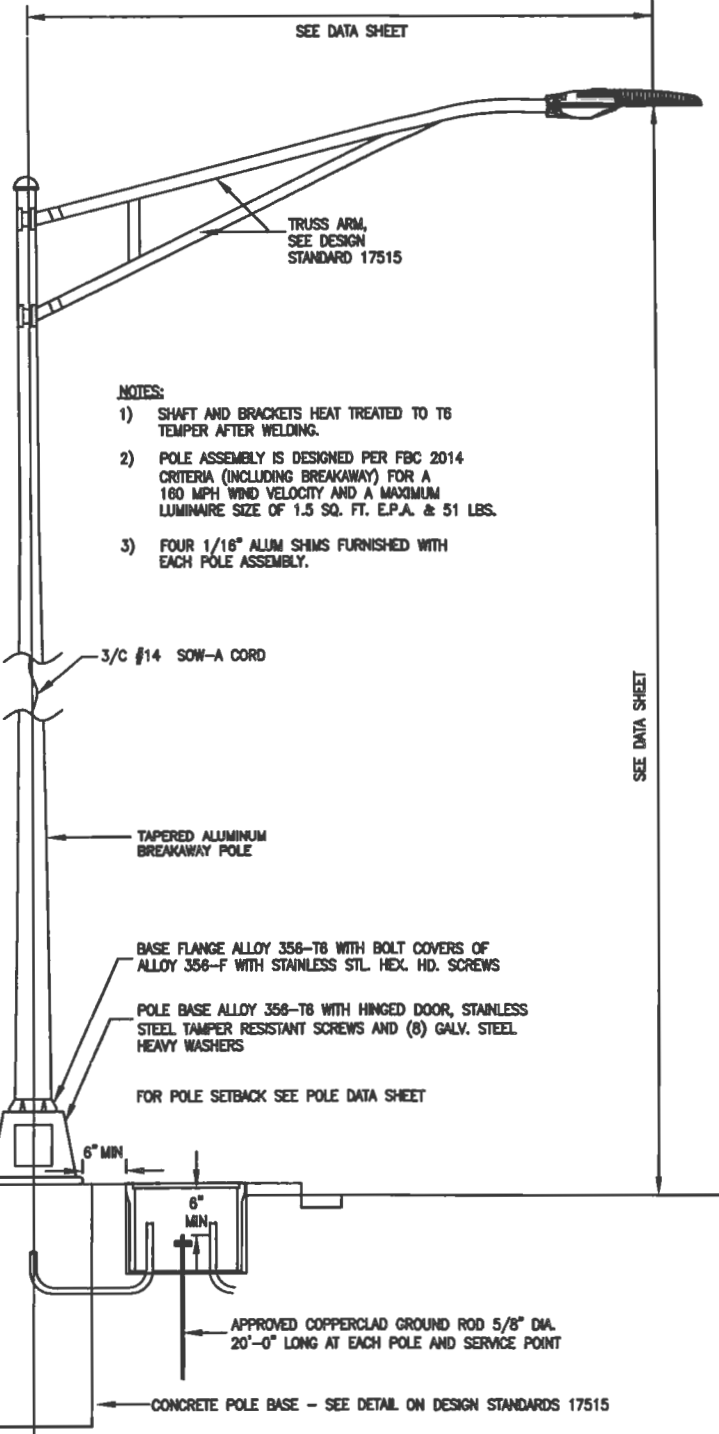
POLE BASE DETAIL - TURF AREAS NTS



POLE BASE DETAIL - PAVED AREA NTS

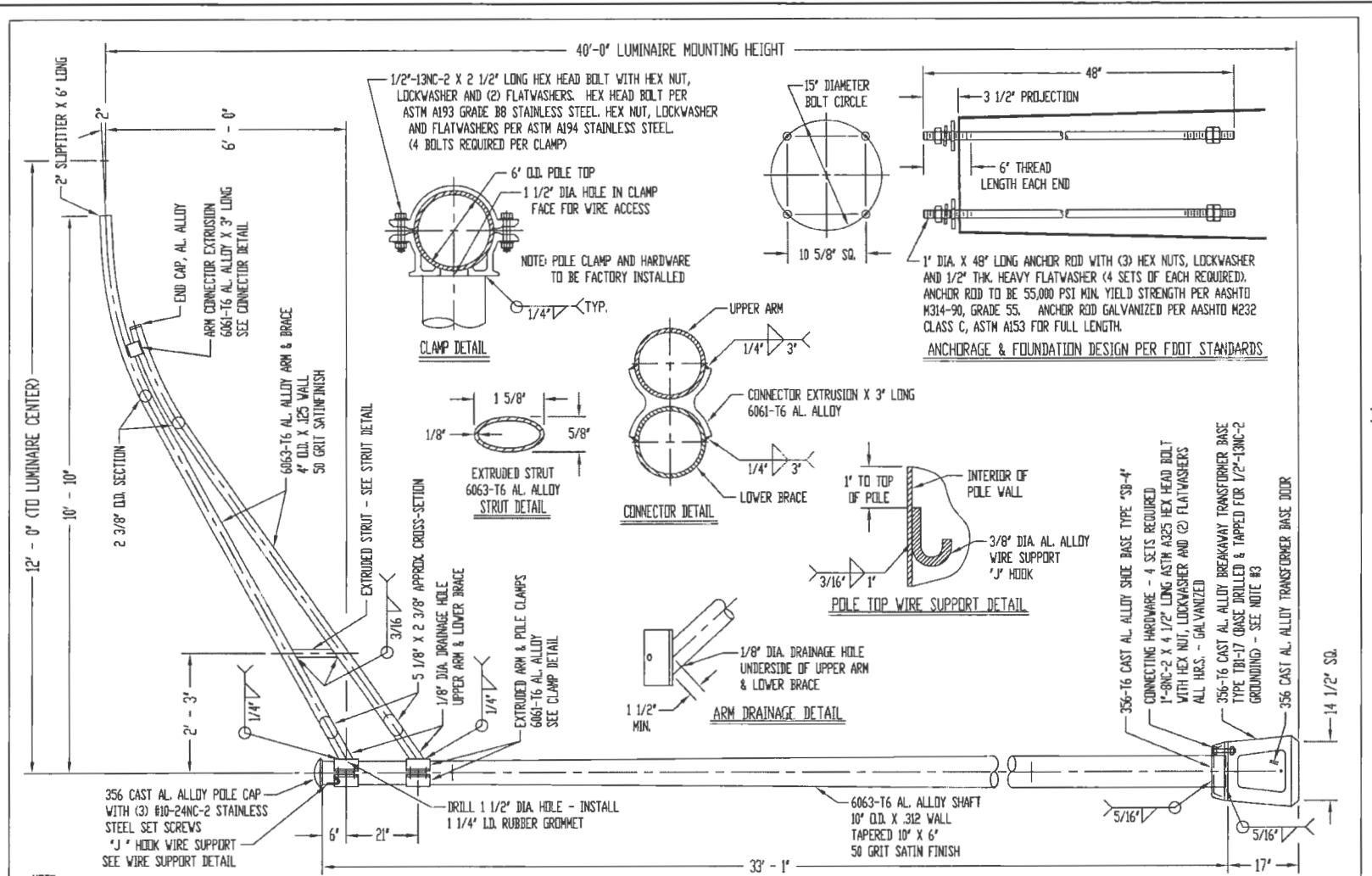
LIGHT POLE NOTES

- ALL LIGHT POLE INSTALLATIONS SHALL BE SUITABLE FOR WIND RESISTANCE AS PER FLORIDA BUILDING CODE, YEAR 2014 REVISION. THE CONTRACTOR SHALL INCLUDE WITH SHOP DRAWING SUBMITTAL, A POLE WIND LOADING CALCULATION FOR LUMINAIRE, POLE AND EMBEDMENT SEALED BY A FLORIDA REGISTERED STRUCTURAL ENGINEER ILLUSTRATING THAT THE PROPOSED INSTALLATION SHALL MEET THE GIVEN WIND LOADING REQUIREMENTS.
- ALL POLES SHALL BE LEVELED PLUMB, WITHIN 1/2".



STANDARD ALUMINUM POLE INSTALLATION DETAIL N.T.S.

LIGHT POLE DETAILS

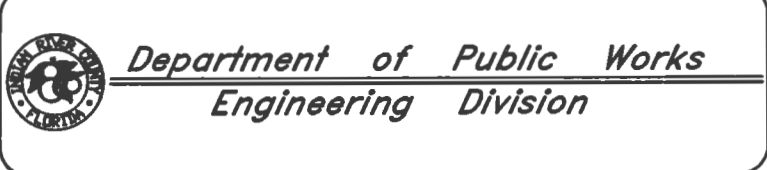


- NOTE:
- USE 4043 WELD WIRE.
 - 6063-T4 ASSEMBLY .375\"/>
 - TRANSFORMER BASE IS A FHWA APPROVED BREAKAWAY DEVICE MEETING THE REQUIREMENTS OF THE 2015 LRFD AASHTO SPECIFICATION - SECTION 12.
 - THIS STANDARD WHEN PROPERLY INSTALLED IS DESIGNED TO SUPPORT A FIXED LUMINAIRE AT THE END OF THE ARM HAVING AN EFFECTIVE PROJECTED AREA OF 1.55 SQ. FT. THE WEIGHT OF THE LUMINAIRE IS 75 LBS. DESIGN IS IN ACCORDANCE WITH THE 2015 LRFD AASHTO SPECIFICATION FOR A 160 MPH 3-SECOND GUSTED WIND SPEED.
 - AFTER INSTALLATION, WARRANTY APPLIES ONLY IF THE ASSEMBLY IS COMPLETE INCLUDING LUMINAIRE AND WIRING.



DATE:	By:	Date:

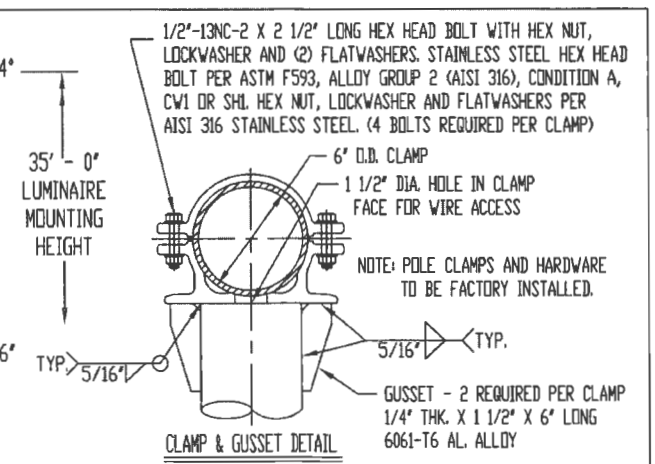
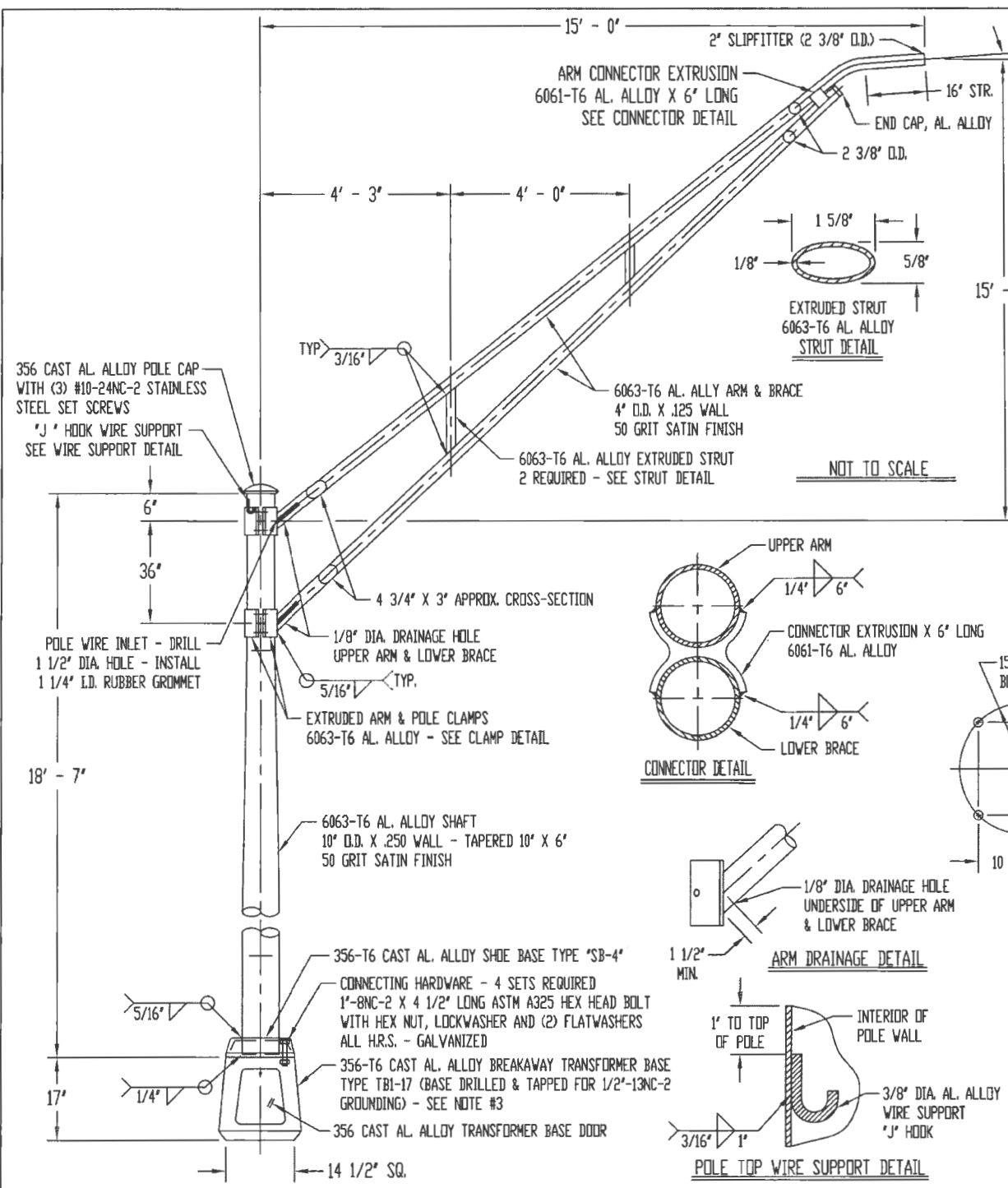
PROJECT:	RTBOY404AW12J-160
ITEM:	ITEM 7154-113, QTY=2
TITLE:	STANDARD GROUND MOUNT POLE
DATE:	07-30-18
SCALE:	NONE
DWG. NO.:	15090



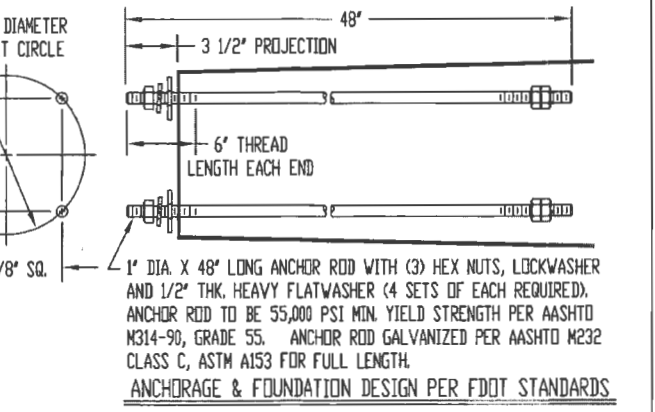
Scale:	NONE
Approved:	WP
Drawn:	JS
Checked:	WP
Date:	12/17/2018
Field Book No.:	

Project:	ROADWAY LIGHTING PLANS
FOR:	SR 60 & 43RD AVENUE

Sheet:	L-22
Of:	24
Project No.:	LNMW WP1027

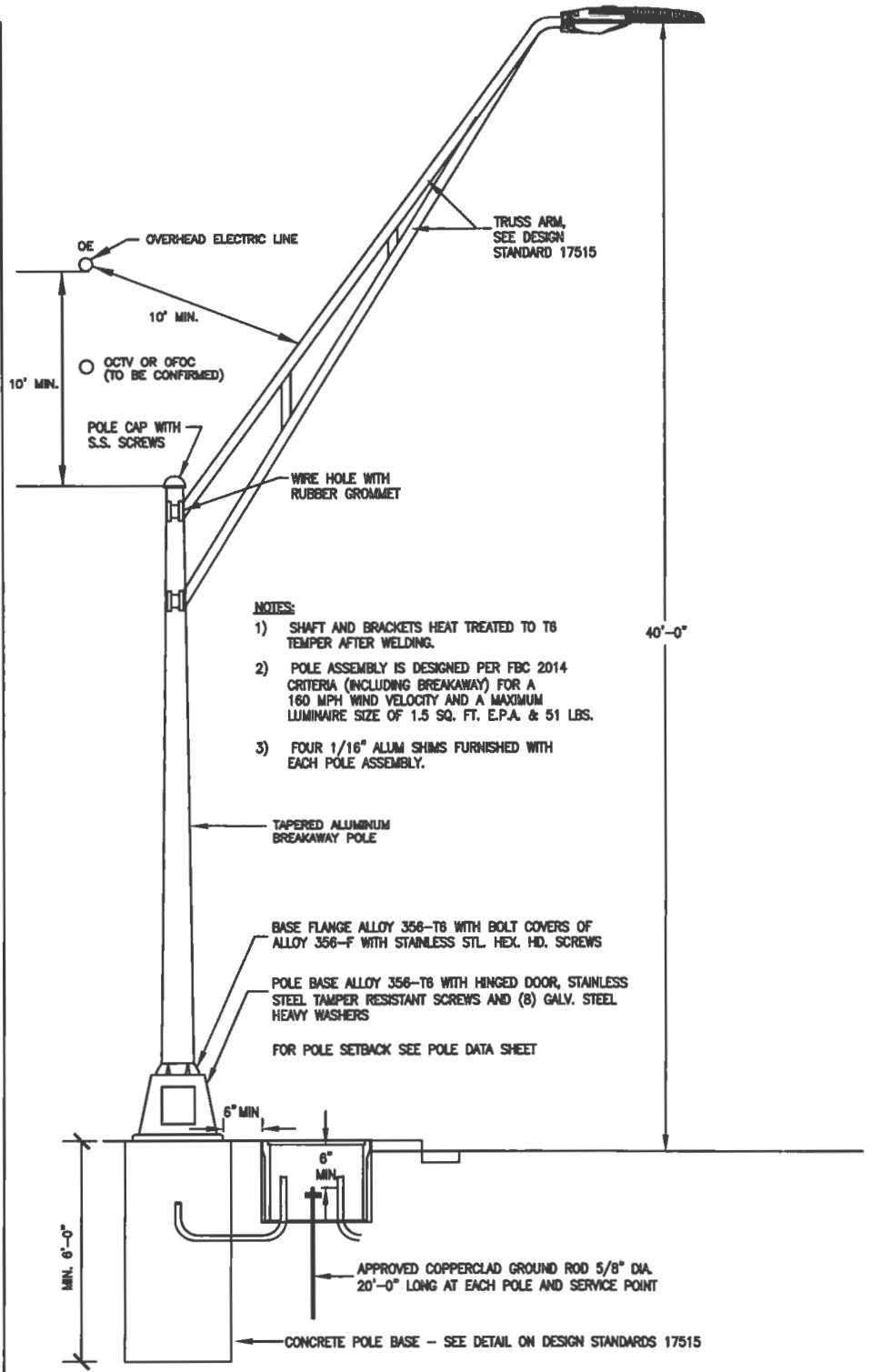


NOTE:
 1. - USE 4043 WELD WIRE.
 2. - 6063-T4 ASSEMBLY .375" WALL OR LESS TO BE HEAT-TREATED TO T6 TEMPER AFTER WELDING.
 3. - TRANSFORMER BASE IS A FHWA APPROVED BREAKAWAY DEVICE MEETING THE REQUIREMENTS OF THE 2015 LRFD AASHTO SPECIFICATION - SECTION 12.
 4. - THIS STANDARD WHEN PROPERLY INSTALLED IS DESIGNED TO SUPPORT A FIXED LUMINAIRE AT THE END OF THE ARM HAVING AN EFFECTIVE PROJECTED AREA OF 1.55 SQ. FT. THE WEIGHT OF THE LUMINAIRE IS 75 LBS. DESIGN IS IN ACCORDANCE WITH THE 2015 LRFD AASHTO SPECIFICATION FOR A 160 MPH 3-SECOND GUSTED WIND SPEED.
 5. - AFTER INSTALLATION, WARRANTY APPLIES ONLY IF THE ASSEMBLY IS COMPLETE INCLUDING LUMINAIRE AND WIRING.

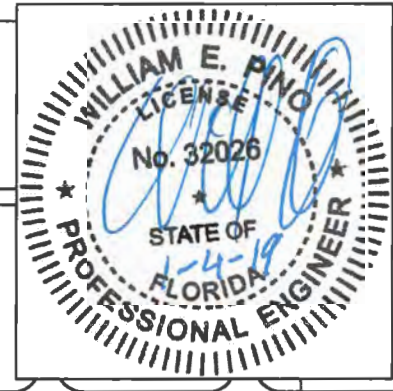


REV	DESCRIPTION	DATE	BY	CHK

TITLE: RTBOX354AW15J-UCP-160
 ITEM 715-4-32, QTY=4
 UTILITY CONFLICT POLE
 PROJECT: PALM BEACH COUNTY, FL.
 SR 708 & SR 809
 FINAN. PROJECT 440080-1-52-01
 FINAN. PROJECT 440079-1-52-01
 CUSTOMER: FLORIDA DEPT. OF TRANSPORTATION
 DR. S.A.F. 07-24-18
 DWG. NO. 15053
 SCALE: NONE



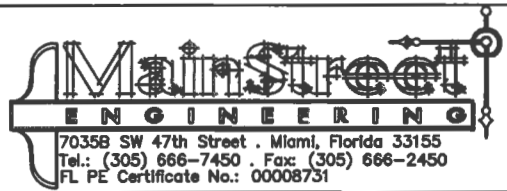
NOTES:
 1) SHAFT AND BRACKETS HEAT TREATED TO T6 TEMPER AFTER WELDING.
 2) POLE ASSEMBLY IS DESIGNED PER FBC 2014 CRITERIA (INCLUDING BREAKAWAY) FOR A 160 MPH WIND VELOCITY AND A MAXIMUM LUMINAIRE SIZE OF 1.5 SQ. FT. E.P.A. & 51 LBS.
 3) FOUR 1/16" ALUM SHIMS FURNISHED WITH EACH POLE ASSEMBLY.



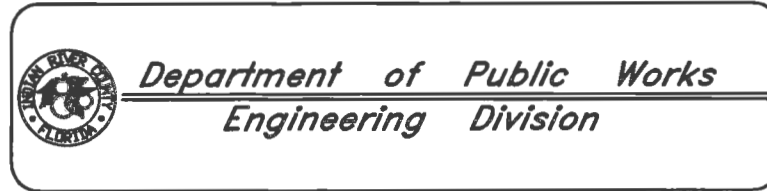
CONTRACTOR SHALL COORDINATE WITH FPL AND VERO BEACH UTILITY REGARDING LOCATION OF OVERHEAD POWER LINES AND INSTALL CONFLICT POLES ACCORDINGLY. DO NOT USE CRANES TO INSTALL CONFLICT POLES.

UTILITY CONFLICT ALUMINUM POLE
 N.T.S.

LIGHT POLE DETAILS



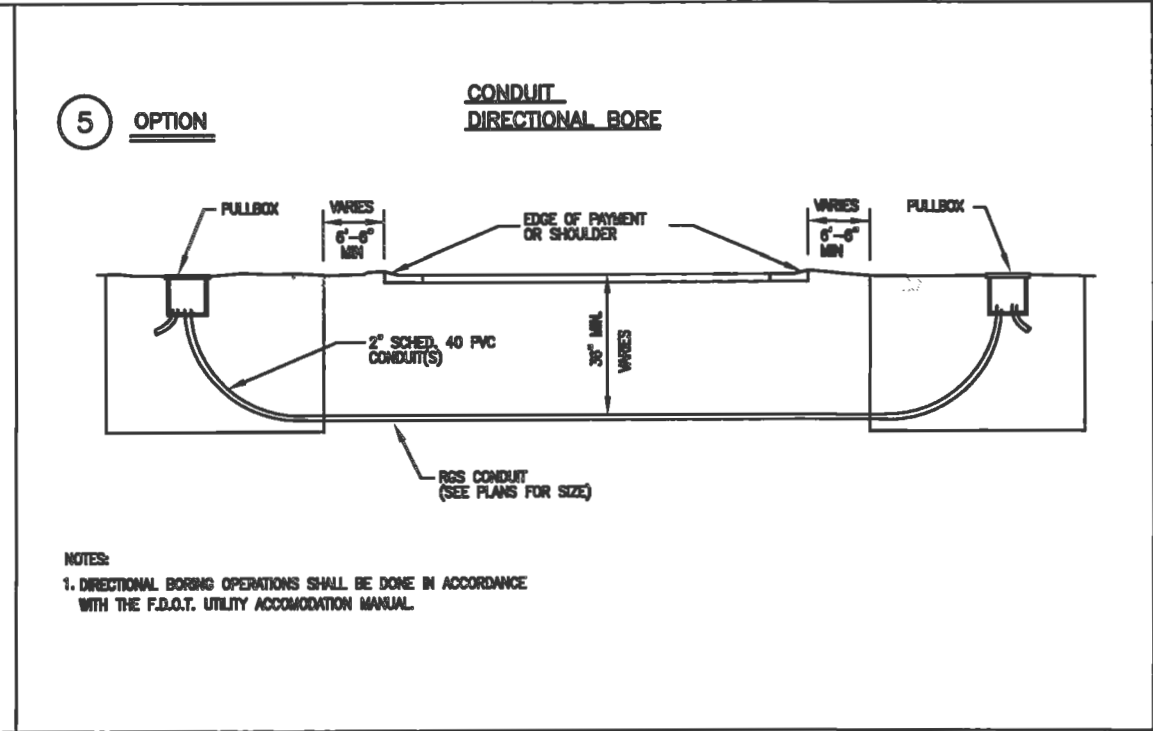
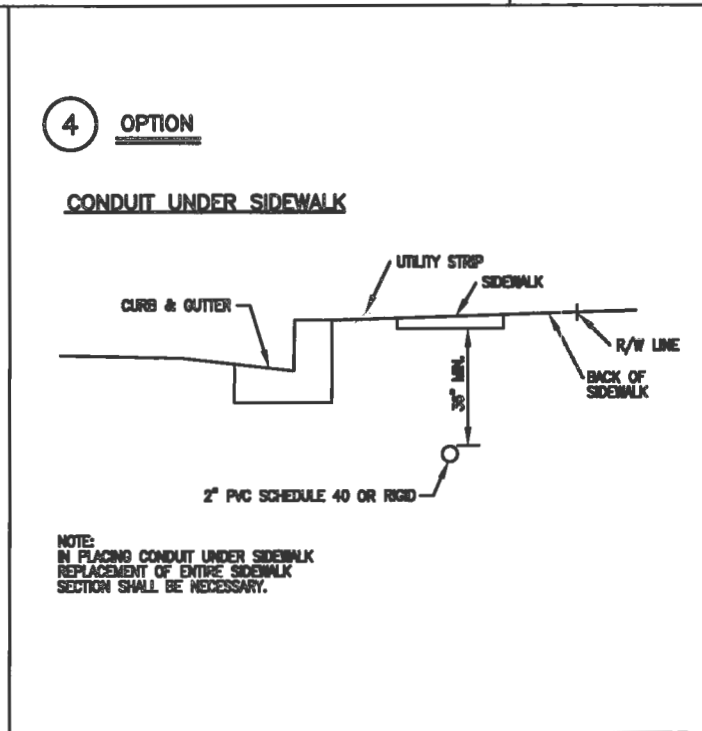
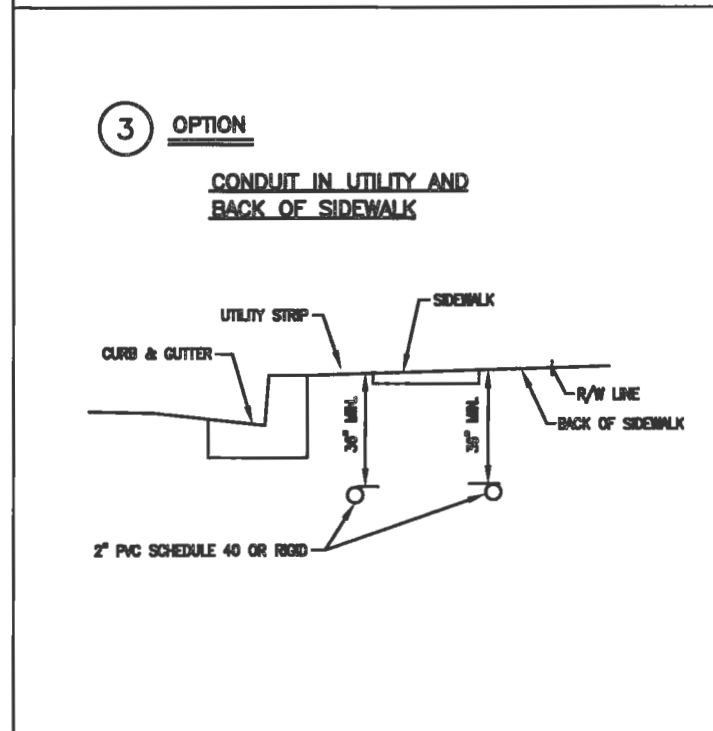
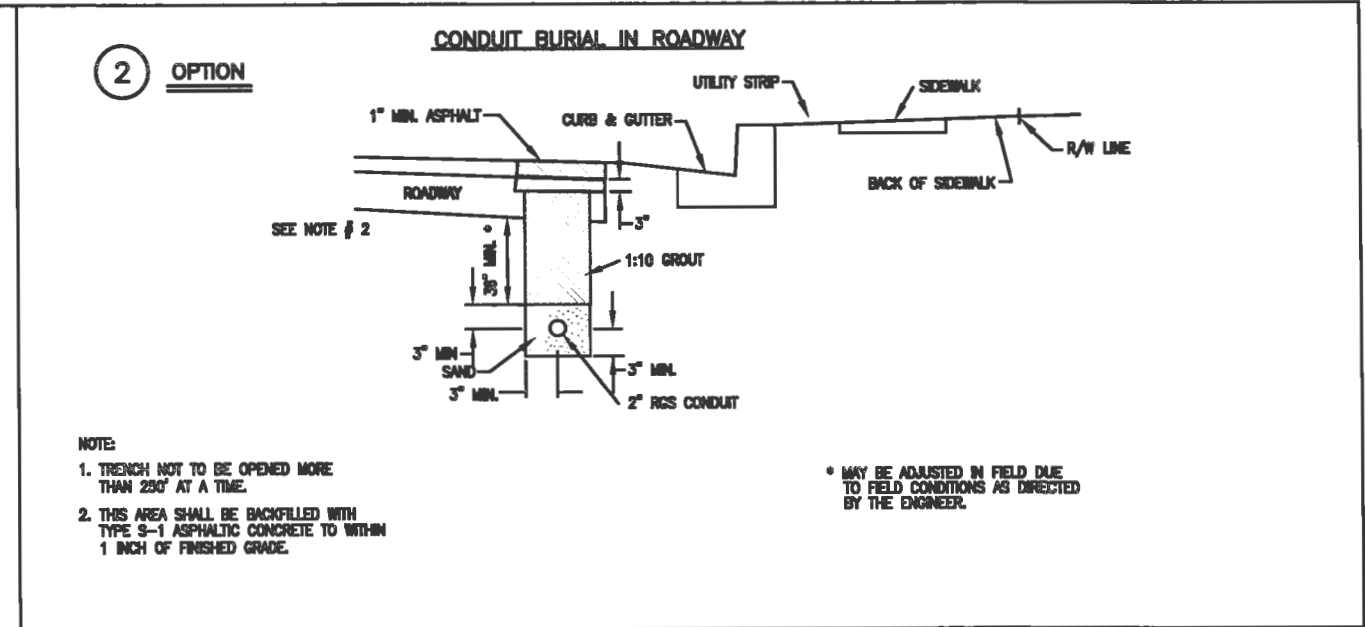
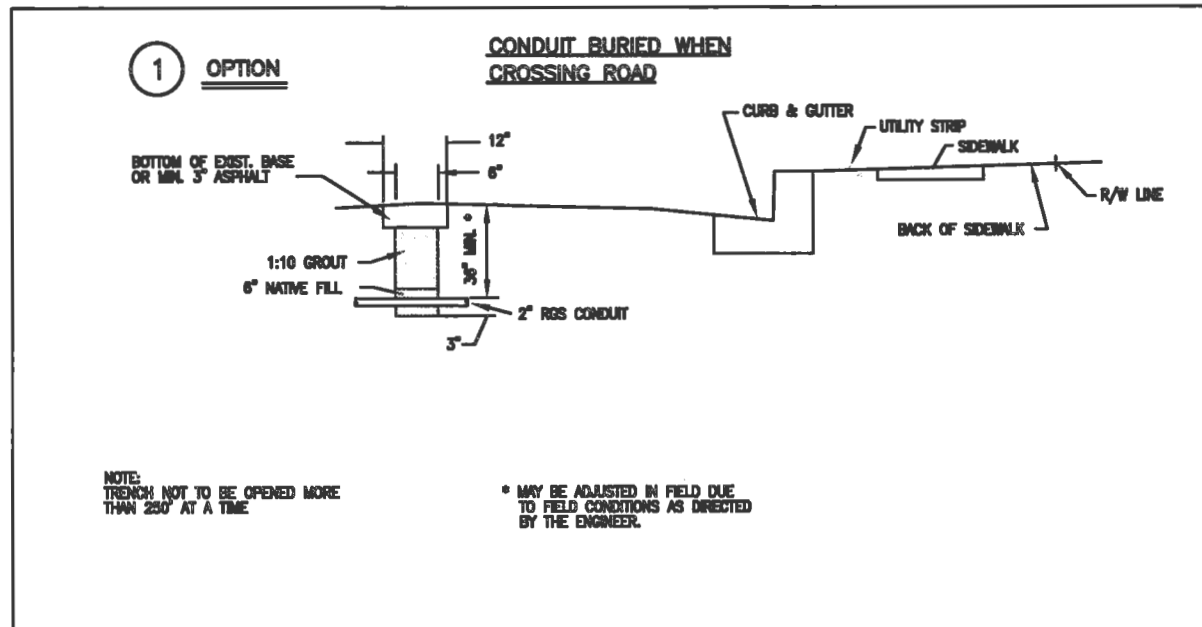
Revision:	By:	Date:



Scale:	NONE
Approved:	WP
Drawn:	JS
Checked:	WP
Date:	12/17/2018
Field Book No:	

Project:
 ROADWAY LIGHTING PLANS
 FOR
 SR 60 & 43RD AVENUE

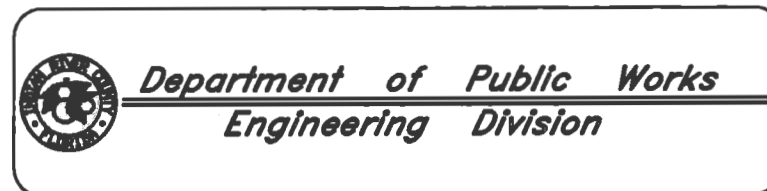
Sheet:	L-23
Of:	24
Project No.:	LNN# WP1027



CONDUIT INSTALLATION DETAILS



Revisions	By	Date



Scale:	NONE
Approved:	WP
Drawn:	JS
Checked:	WP
Date:	12/17/2018
Field Book No:	

Project:
ROADWAY LIGHTING PLANS
FOR
SR 60 & 43RD AVENUE

Sheet: L-24
Of: 24
Project No. LHW 191027

A ● SCHREDER 376381-36L177-NW-T2M
 RTECH (Ambient temperature: 25deg C (77deg F) -
 lumen tolerance: +- 7% - power tolerance: +- 5% test report no. 376381
 lamp(s): 36 Cree XPL HD
 candela file 'SMART2-US-36L177-NW-T2M-SV-GY.ies'
 1 lamp(s) per luminaire, photometry is absolute
 Light Loss Factor = 1.000, watts per luminaire = 155
 Outreach (from mounting axis to photometric center)= 144 in
 mounting height= 40 ft
 number locations= 58, number luminaires= 57
 kw all locations= 9.0

B ● SCHREDER 376371 - 48L200-NW-T3M-SV-GY
 RTECH (Ambient temperature: 25deg C (77deg F) -
 lumen tolerance: +- 7% - power tolerance: +- 5% test report no. 376371
 lamp(s): 48 Cree XPL HD
 candela file 'SMART3-US-48L200-NW-T3M-SV-GY.ies'
 1 lamp(s) per luminaire, photometry is absolute
 Light Loss Factor = 1.000, watts per luminaire = 166
 Outreach (from mounting axis to photometric center)= 144 in
 mounting height= 40 ft
 number locations= 7, number luminaires= 7
 kw all locations= 1.2

C ● SCHREDER 376371-36L168-NW-T3M-SV-GY
 RTECH (Ambient temperature: 25deg C (77deg F) -
 lumen tolerance: +- 7% - power tolerance: +- 5% test report no. 376371
 lamp(s): 36 Cree XPL HD
 candela file 'SMART2-US-36L168-NW-T3M-SV-GY.ies'
 1 lamp(s) per luminaire, photometry is absolute
 Light Loss Factor = 1.000, watts per luminaire = 144
 Outreach (from mounting axis to photometric center)= 144 in
 mounting height= 40 ft
 number locations= 3, number luminaires= 3
 kw all locations= 0.4

D ● SCHREDER 376381-48L185-NW-T2M-SV-GY
 RTECH (Ambient temperature: 25deg C (77deg F) -
 lumen tolerance: +- 7% - power tolerance: +- 5% test report no. 376381
 lamp(s): 48 Cree XPL HD
 candela file 'SMART3-US-48L185-NW-T2M-SV-GY.ies'
 1 lamp(s) per luminaire, photometry is absolute
 Light Loss Factor = 1.000, watts per luminaire = 148
 Outreach (from mounting axis to photometric center)= 144 in
 tilt angle= 10 deg
 mounting height= 40 ft
 number locations= 2,
 kw all locations= 0.3
 number luminaires= 2

43rd AVE
 5655 points at z=0, sp 5ft by 10ft

Average 1.5
 Maximum 3.9
 Minimum 0.4
 Avg:Min 3.84
 Max:Min 9.75
 Coef Var 0.45
 UnifGrad 1.70

Ratio (Max veiling luminance /
 Avg road luminance) = 0.28

SR 60
 4204 points at z=0, sp 10ft by 5ft

Average 1.6
 Maximum 3.2
 Minimum 0.4
 Avg:Min 4.00
 Max:Min 8.00
 Coef Var 0.38
 UnifGrad 1.57

Ratio (Max veiling luminance /
 Avg road luminance) = 0.28

INTERSECTION SR60 & 43rd AVE
 1151 points at z=0, sp 2.5ft by 2.5ft

Average 1.6
 Maximum 3.6
 Minimum 0.4
 Avg:Min 3.99
 Max:Min 9.00
 Coef Var 0.35
 UnifGrad 0.00

Ratio (Max veiling luminance /
 Avg road luminance) = 0.27

SIDEWALK - SR60
 904 points at z=0, sp 7ft by 3.5ft
 HORIZONTAL FOOTCANDLES

Average 1.0
 Maximum 2.0
 Minimum 0.3
 Avg:Min 3.39
 Max:Min 6.67
 Coef Var 0.49
 UnifGrad 1.67

SIDEWALK - INETRSECTION
 126 points at z=0, sp 5ft by 5ft
 HORIZONTAL FOOTCANDLES

Average 1.0
 Maximum 2.0
 Minimum 0.3
 Avg:Min 3.19
 Max:Min 6.67
 Coef Var 0.50
 UnifGrad 1.60

SIDEWALK - 43rd AVE
 1990 points at z=0, sp 3.5ft by 7ft
 HORIZONTAL FOOTCANDLES

Average 0.8
 Maximum 2.6
 Minimum 0.1
 Avg:Min 8.07
 Max:Min 26.00
 Coef Var 0.72
 UnifGrad 2.00

CROSSWALK # 1
 47 points
 VERTICAL FOOTCANDLES,

observer facing East
 Average 1.6
 Maximum 2.1
 Minimum 1.0
 Avg:Min 1.56
 Max:Min 2.10
 Coef Var 0.17

CROSSWALK # 2
 40 points
 VERTICAL FOOTCANDLES,

observer facing West
 Average 1.8
 Maximum 2.2
 Minimum 1.4
 Avg:Min 1.30
 Max:Min 1.57
 Coef Var 0.11

CROSSWALK # 3
 38 points
 VERTICAL FOOTCANDLES,

observer facing North
 Average 1.6
 Maximum 2.3
 Minimum 0.8
 Avg:Min 1.94
 Max:Min 2.88
 Coef Var 0.31

CROSSWALK # 4
 37 points
 VERTICAL FOOTCANDLES,

observer facing South
 Average 1.9
 Maximum 2.2
 Minimum 1.5
 Avg:Min 1.28
 Max:Min 1.47
 Coef Var 0.08

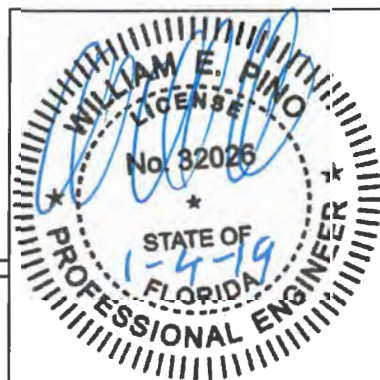
CROSSWALK # 5 - NORTH B
 19 points
 VERTICAL FOOTCANDLES,

observer facing North
 Average 1.7
 Maximum 1.9
 Minimum 1.5
 Avg:Min 1.14
 Max:Min 1.27
 Coef Var 0.09

M18017-12P
 2018-0810

LUMINAIRE DESCRIPTIONS,
PHOTOMETRIC STATISTICS

CONTRACTOR SHALL VERIFY VOLTAGES PRIOR TO ORDERING FIXTURES



DATE: _____

Revision:	By:	Date:



Department of Public Works
 Engineering Division

Scale: 1" = 40'
 Approved: WP
 Drawn: JS
 Checked: WP
 Date: 12/17/2018
 Field Book No:

Project:
 ROADWAY LIGHTING
 PHOTOMETRIC PLANS

Sheet: PH-1
 Of: 18
 Project No.
 LNW# WP1027

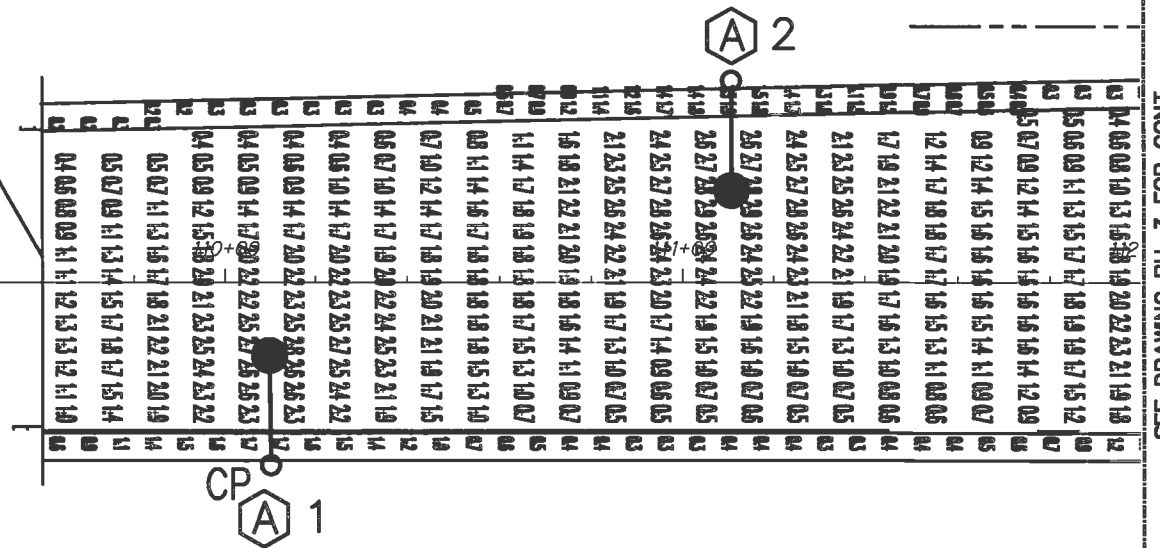


BEGIN PROJECT STA. 109+60.00
 SAWCUT & BUTT JOINT. MATCH
 EXIST. PAVEMENT

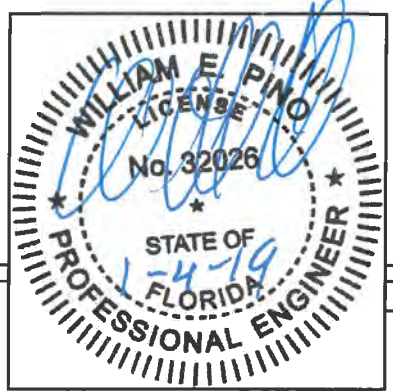


43rd AVENUE

106+00 107+00 108+00 109+00



ROADWAY PHOTOMETRIC PLAN



Revisions	By:	Date:



Department of Public Works
Engineering Division

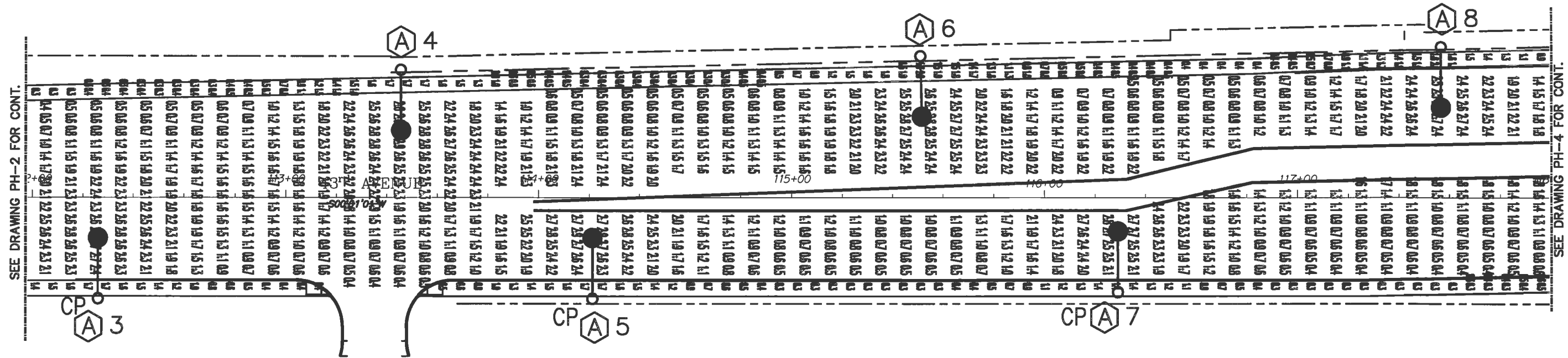
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 Checked: WP
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Project:
 ROADWAY LIGHTING
 PHOTOMETRIC PLANS

Sheet: PH-2
 Of: 18
 Project No.
 LMMW WP1027

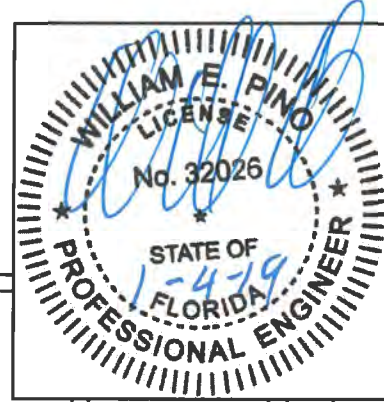
Main Street ENGINEERING
 7035B SW 47th Street • Miami, Florida 33155
 Tel.: (305) 666-7450 • Fax: (305) 666-2450
 FL PE Certificate No.: 00008731

DATE: _____




SEE DRAWING PH-2 FOR CONT.

SEE DRAWING PH-4 FOR CONT.



DATE: _____

Revisors:	By:	Date:


Department of Public Works
Engineering Division

Scale: 1" = 40'
 Approved: WP
 Drawn: JS
 Checked: WP
 Date: 12/17/2018
 Field Book No:

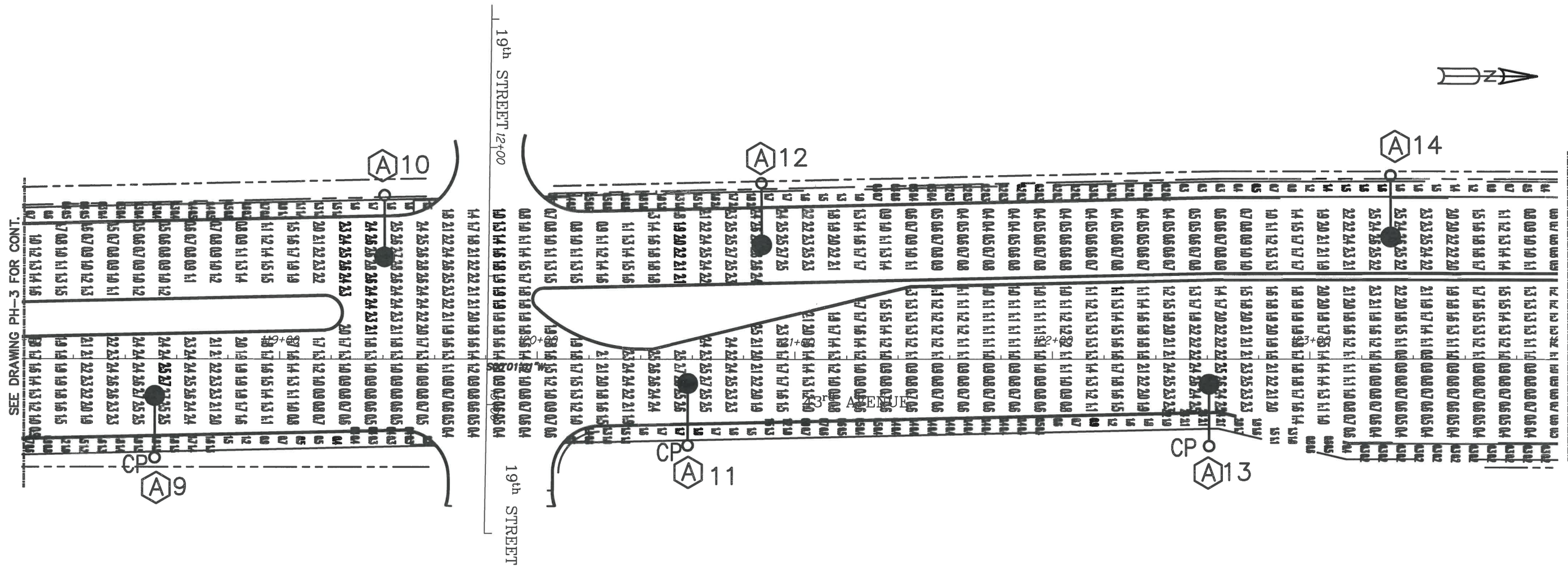
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**ROADWAY LIGHTING
 PHOTOMETRIC PLANS**

Sheet: PH-3
 Of: 18
 Project No.
 LMMW WP1027

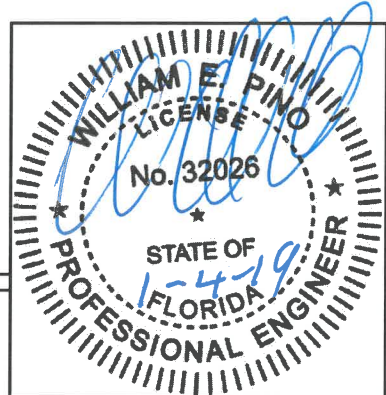
ROADWAY PHOTOMETRIC PLAN


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ENGINEERING
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 FL PE Certificate No.: 00008731

SEE DRAWING PH-3 FOR CONT.



SEE DRAWING PH-5 FOR CONT.



DATE: _____

Revisions	By:	Date:



Department of Public Works
Engineering Division

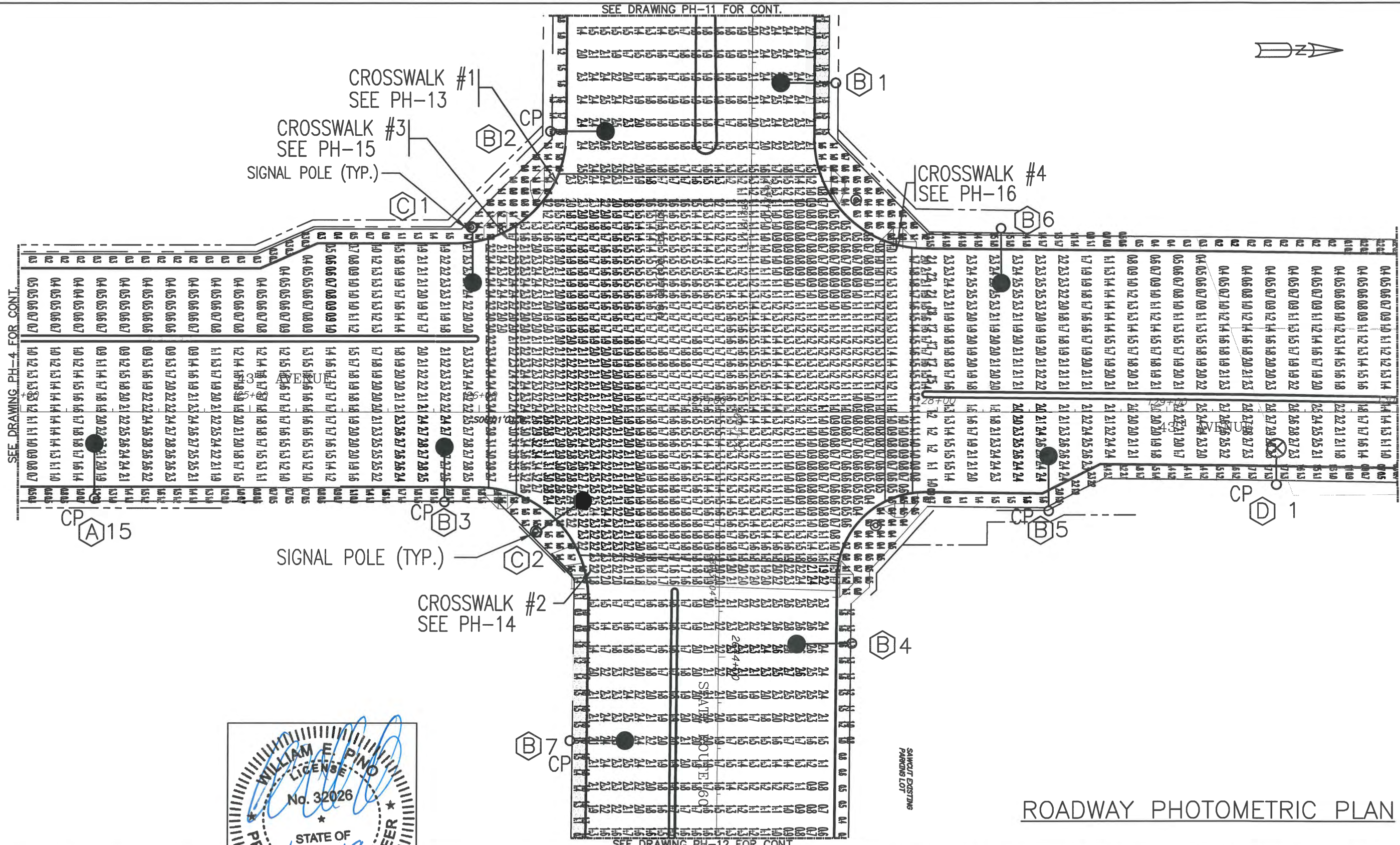
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 Drawn: JS
 Checked: WP
 Date: 12/17/2018
 Field Book No:

Project:
 ROADWAY LIGHTING
 PHOTOMETRIC PLANS

Sheet: PH-4
 Of: 18
 Project No.
 LMMW WP1027



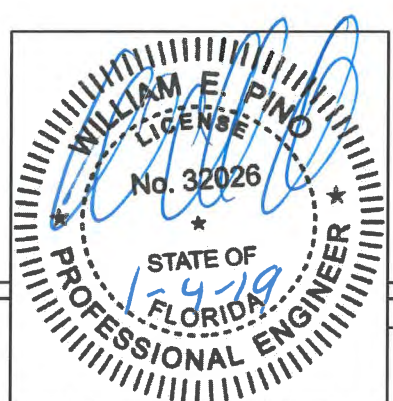
ROADWAY PHOTOMETRIC PLAN



SEE DRAWING PH-4 FOR CONT.

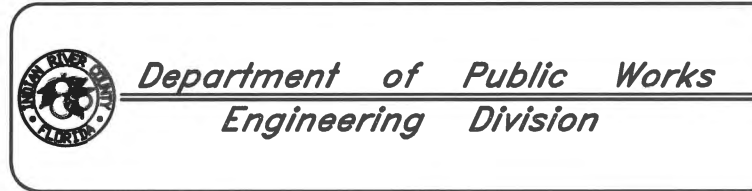
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ROADWAY PHOTOMETRIC PLAN



DATE: _____

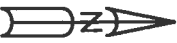
Revision:	By:	Date:



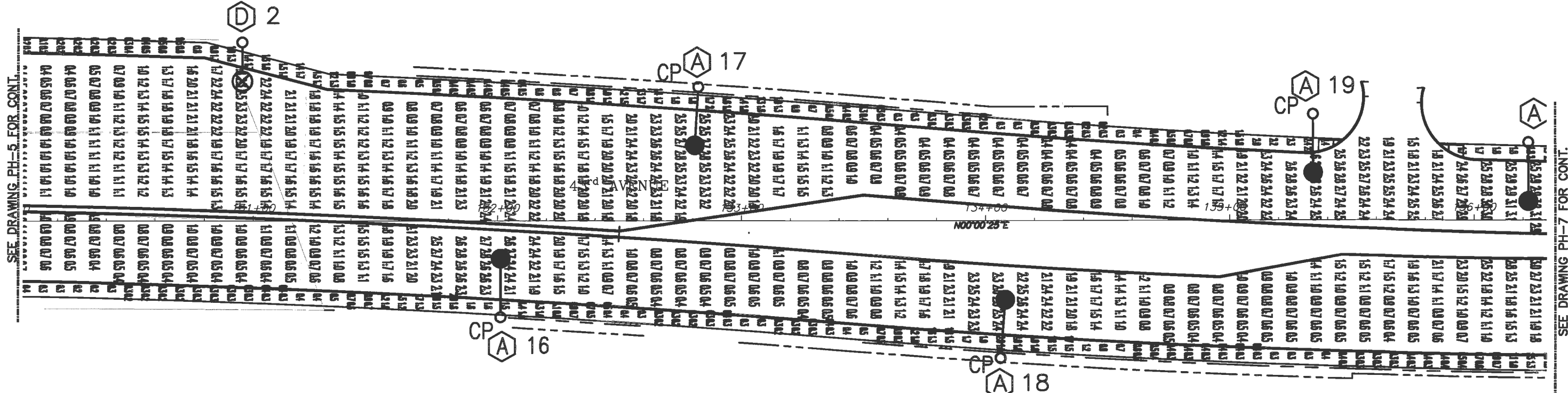
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 Drawn: JS
 Checked: WP
 Date: 12/17/2018
 Field Book No: _____

Project: ROADWAY LIGHTING PHOTOMETRIC PLANS

Sheet: PH-5
 Of: 18
 Project No. LNW# WP1027



21st PLACE



SEE DRAWING PH-5 FOR CONT.

SEE DRAWING PH-7 FOR CONT.



DATE: _____

Revisions	By	Date

Department of Public Works
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Scale: 1" = 40'
 Approved: WP
 Drawn: JS
 Checked: WP
 Date: 12/17/2018
 Field Book No: _____

Project:
 ROADWAY LIGHTING
 PHOTOMETRIC PLANS

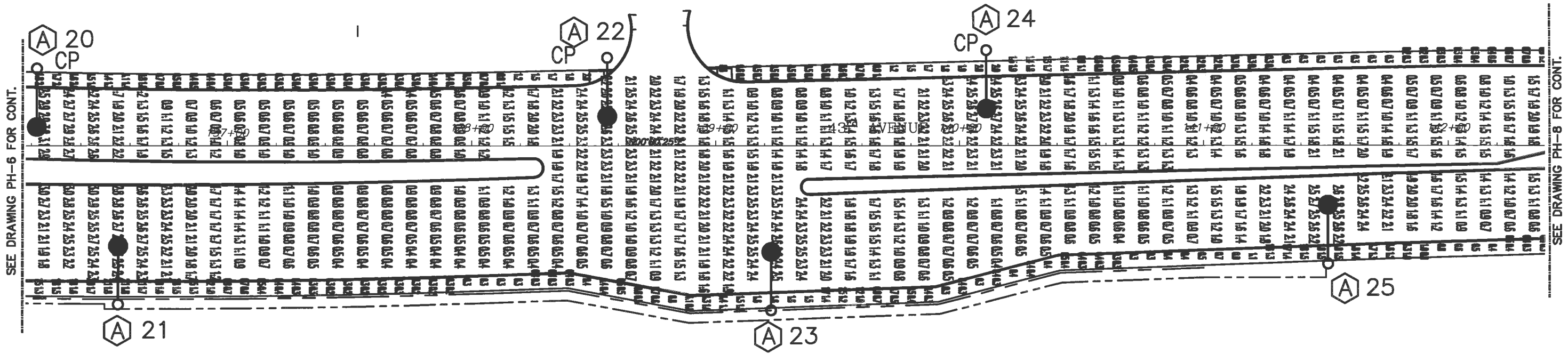
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 Of: 18
 Project No.
 LMMW WP1027

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ROADWAY PHOTOMETRIC PLAN



21st LANE



SEE DRAWING PH-6 FOR CONT.

SEE DRAWING PH-8 FOR CONT.



DATE: _____

Revisions	By:	Date:

Department of Public Works
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Scale: 1" = 40'
 Approved: WP
 Drawn: JS
 Checked: WP
 Date: 12/17/2018
 Field Book No:

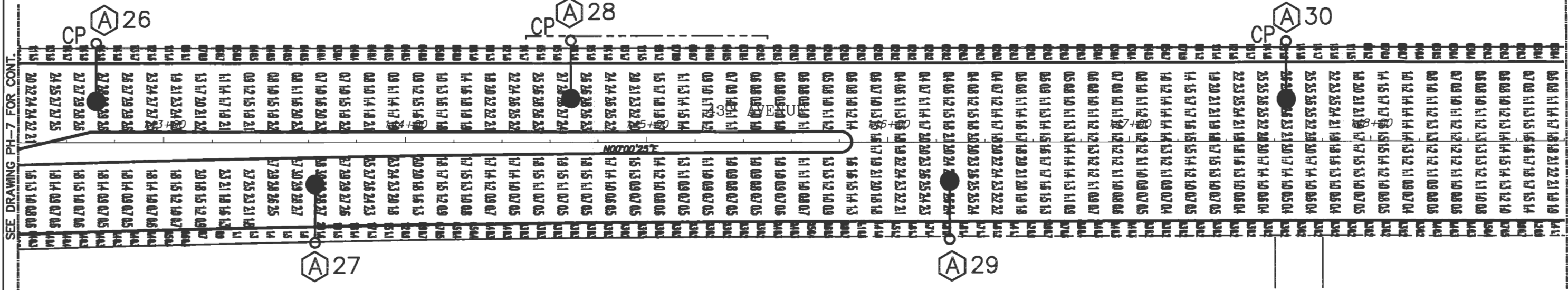
Project:
 ROADWAY LIGHTING
 PHOTOMETRIC PLANS

Sheet: PH-7
 Of: 18
 Project No.
 LMMW WP1027

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ROADWAY PHOTOMETRIC PLAN



SEE DRAWING PH-7 FOR CONT.

SEE DRAWING PH-9 FOR CONT.



DATE: _____

Revisions	By	Date



Department of Public Works
Engineering Division

ROADWAY PHOTOMETRIC PLAN

Scale: 1" = 40'
 Approved: WP
 Drawn: JS
 Checked: WP
 Date: 12/17/2018
 Field Book No:

Project:
**ROADWAY LIGHTING
 PHOTOMETRIC PLANS**

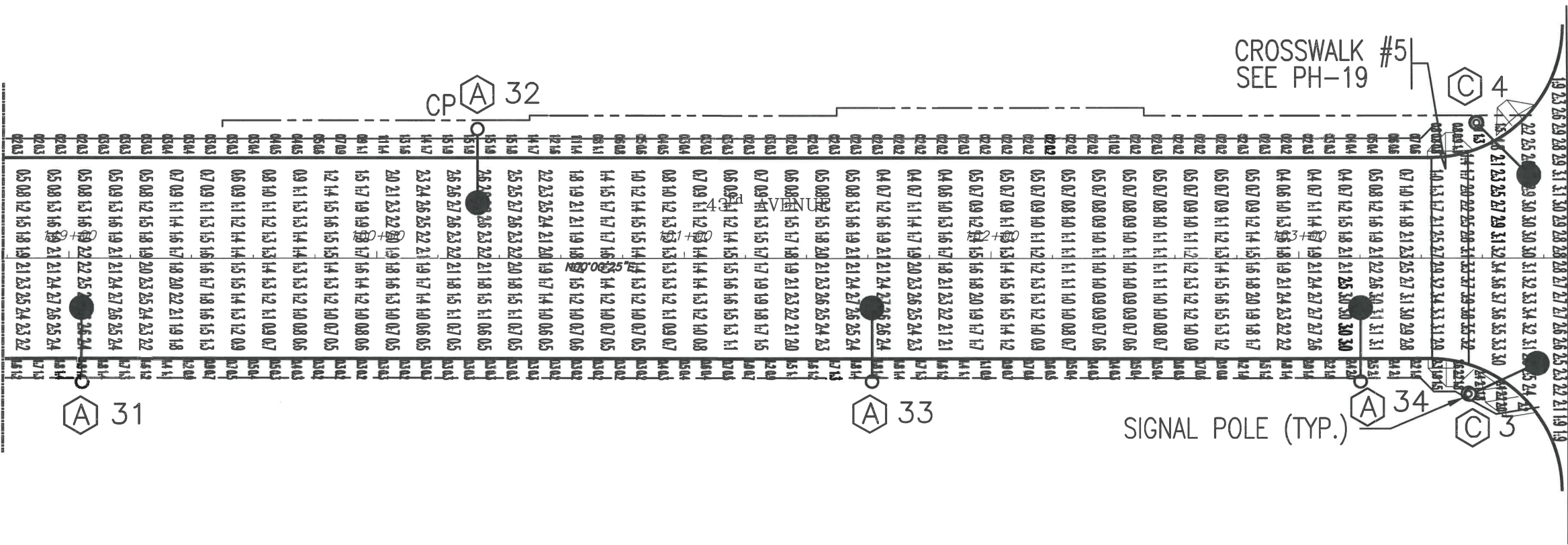
Sheet: PH-8
 Of: 18
 Project No.
 L1000 WP1027





END PROJECT
 STA. 153+88.00
 SAWCUT & BUTT JOINT
 MATCH EXIST. GRADE

SEE DRAWING PH-8 FOR CONT.



ROADWAY PHOTOMETRIC PLAN

M. S. ENGINEERING
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 FL PE Certificate No.: 00008731

WILLIAM E. PINO
 LICENSE
 No. 32026
 STATE OF FLORIDA
 PROFESSIONAL ENGINEER

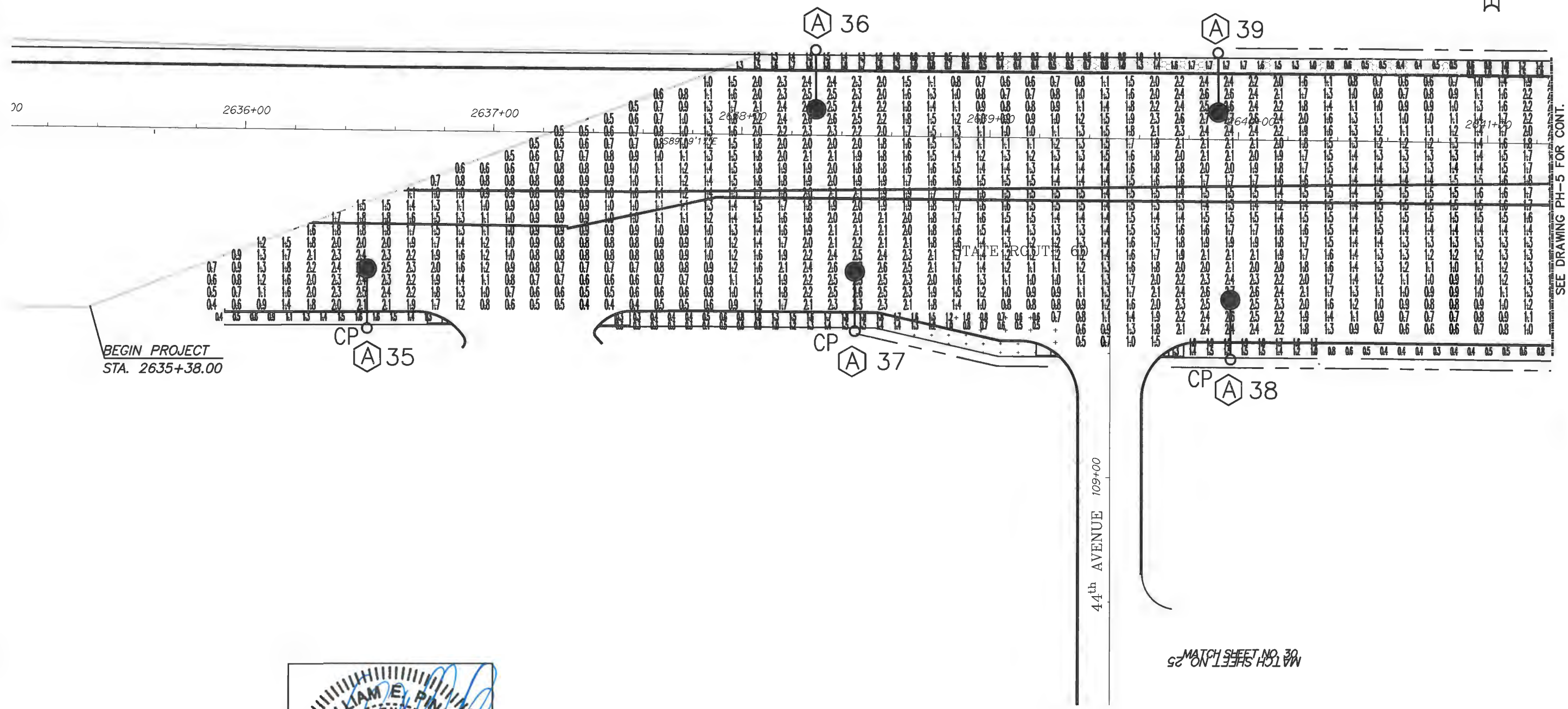
Revision:	By:	Date:

Department of Public Works
 Engineering Division

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 Checked: WP
 Date: 12/17/2018
 Field Book No:

Project:
 ROADWAY LIGHTING
 PHOTOMETRIC PLANS

Sheet: PH-9
 Of: 18
 Project No.
 LNWS WP1027




SEE DRAWING PH-5 FOR CONT.



DATE: _____

Revision:	By:	Date:


Department of Public Works
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Scale: 1" = 40'
 Approved: WP
 Drawn: JS
 Checked: WP
 Date: 12/17/2018
 Field Book No:

Project:
ROADWAY LIGHTING
PHOTOMETRIC PLANS

Sheet: PH-10
 Of: 18
 Project No.
 LNW# WP1027


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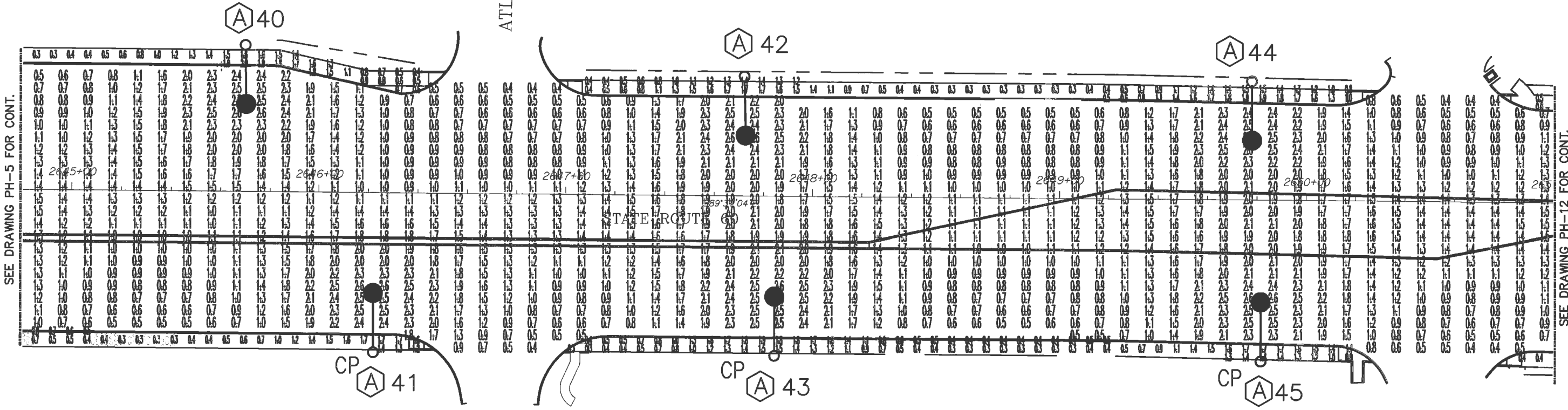
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ATLANTIC BLVD



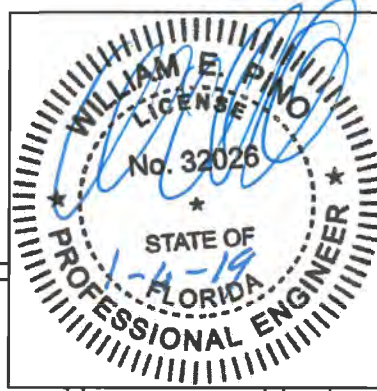
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41st AVENUE



SEE DRAWING PH-5 FOR CONT.

SEE DRAWING PH-12 FOR CONT.



42nd AVENUE

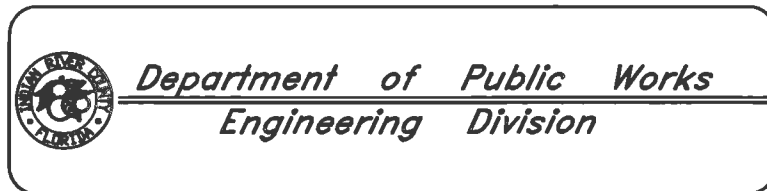
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ROADWAY PHOTOMETRIC PLAN



DATE: _____

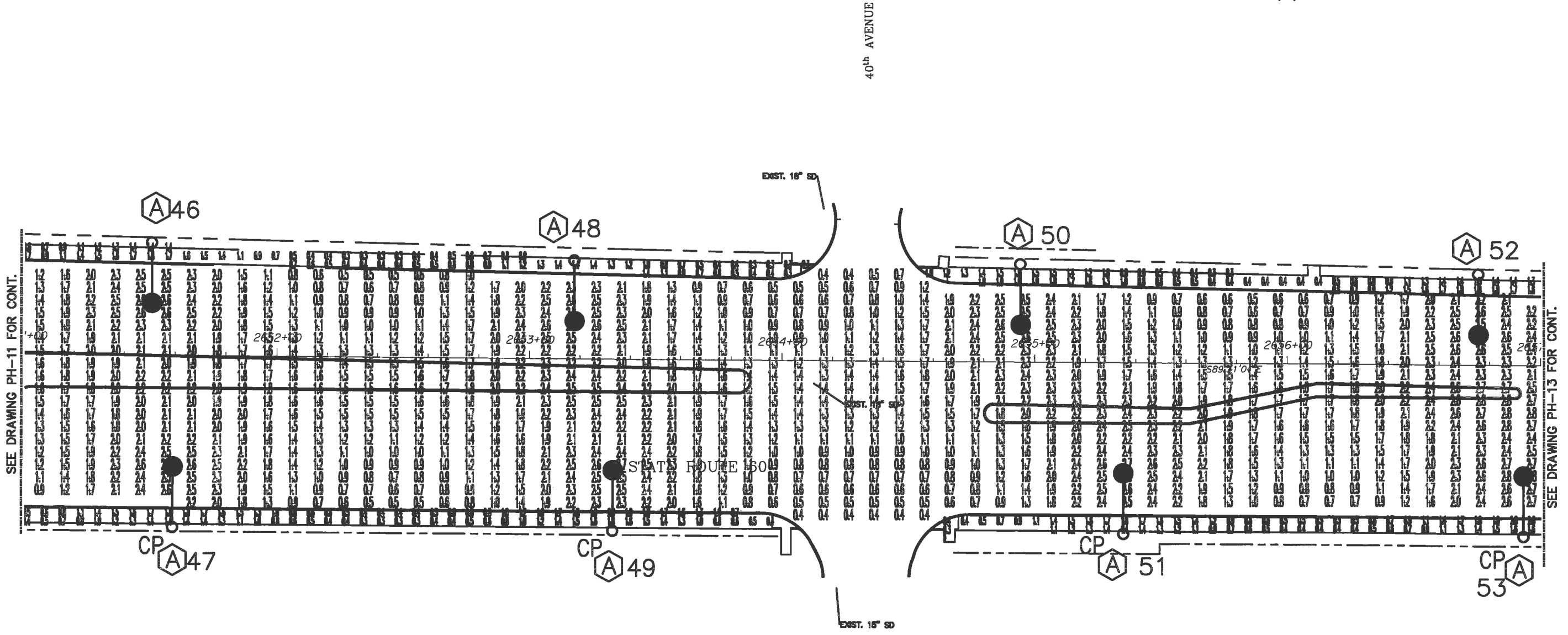
Revision:	By:	Date:



Scale: 1" = 40'
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 Checked: WP
 Date: 12/17/2018
 Field Book No: _____

Project: ROADWAY LIGHTING PHOTOMETRIC PLANS

Sheet: PH-11
 Of: 18
 Project No. LNW# WP1027



SEE DRAWING PH-11 FOR CONT.

SEE DRAWING PH-13 FOR CONT.



DATE: _____

Revisions	By	Date



Department of Public Works
Engineering Division

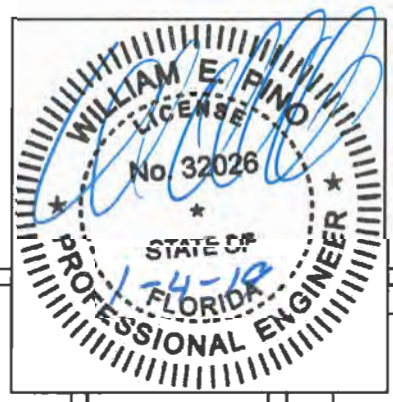
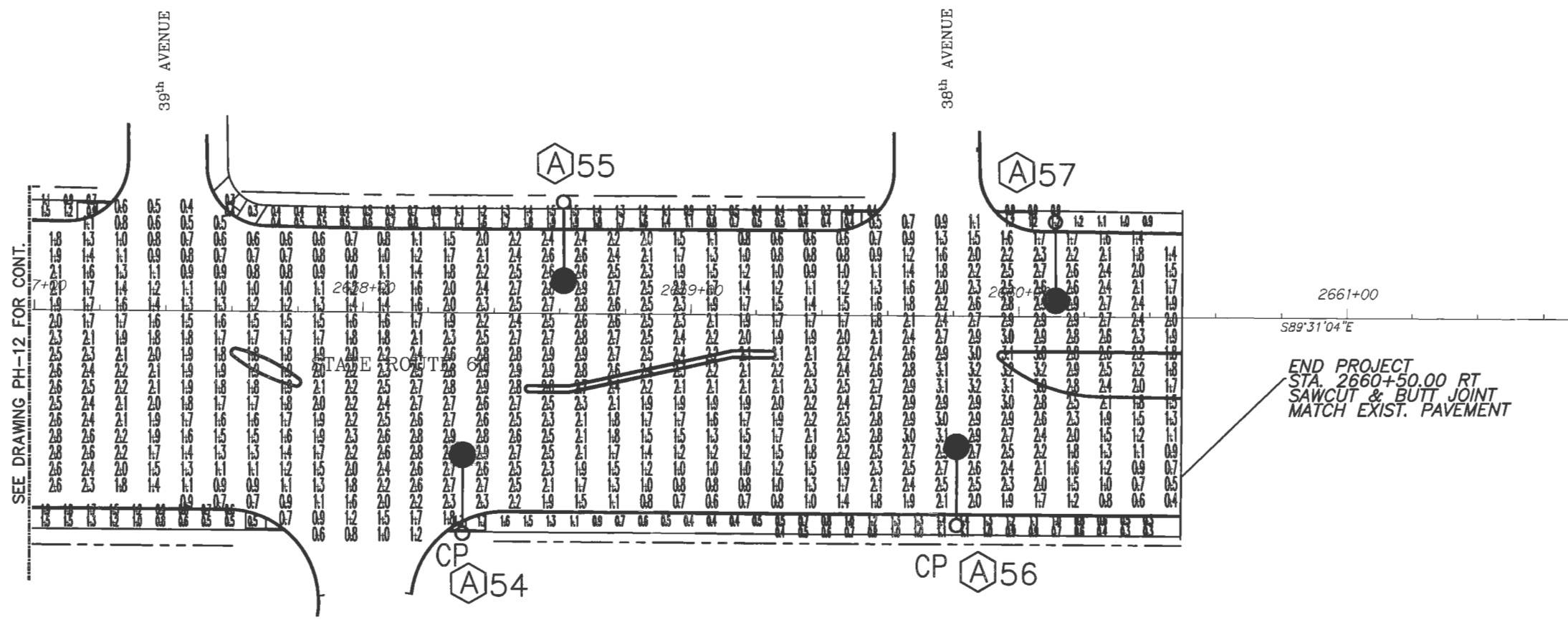
ROADWAY PHOTOMETRIC PLAN

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Scale: 1" = 40'
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Checked: WP
Date: 12/17/2018
Field Book No: _____

Project:
ROADWAY LIGHTING
PHOTOMETRIC PLANS

Sheet: PH-12
Of: 18
Project No.
LMMW WP1027



ROADWAY PHOTOMETRIC PLAN

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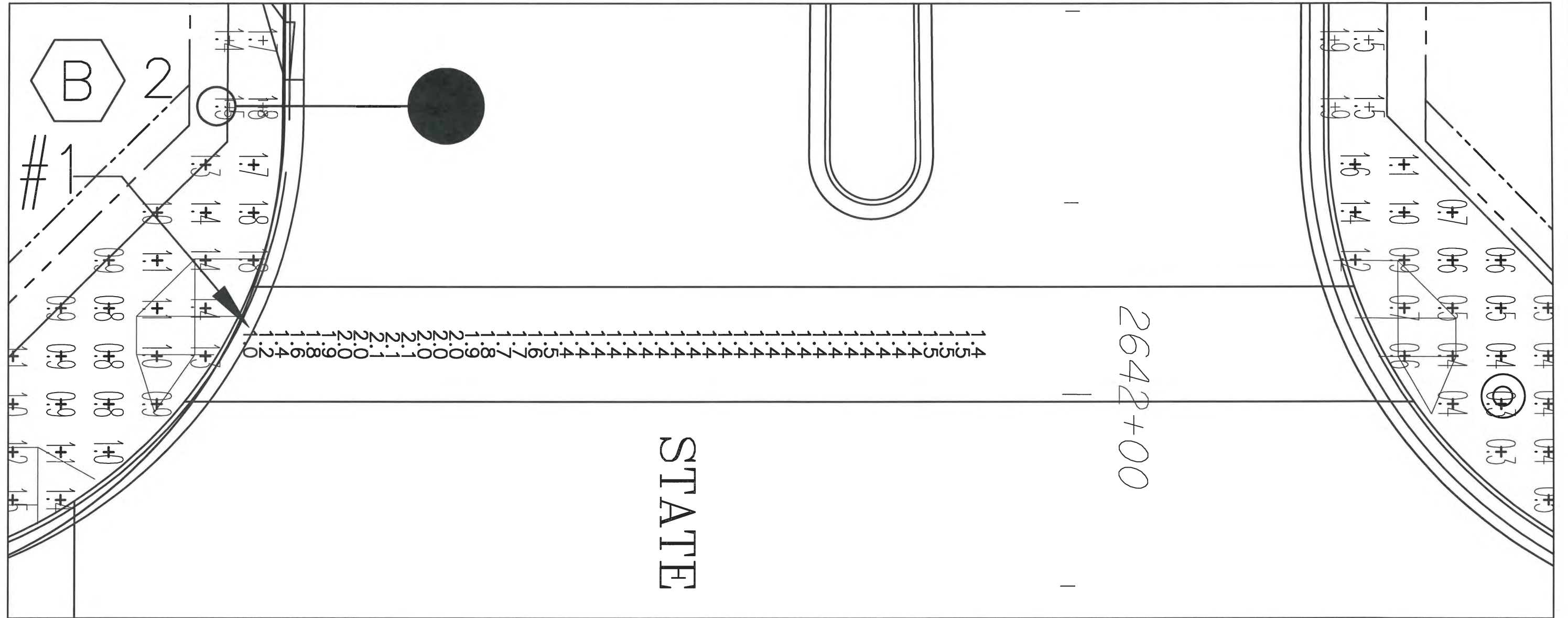
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Department of Public Works
 Engineering Division

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 Checked: WP
 Date: 12/17/2018
 Field Book No:

Project:
 ROADWAY LIGHTING
 PHOTOMETRIC PLANS

Sheet: PH-13
 Of: 18
 Project No.
 LNW# WP1027



**CROSSWALK VERTICAL
PHOTOMETRIC PLAN**



DATE: _____

Revisions	By:	Date:

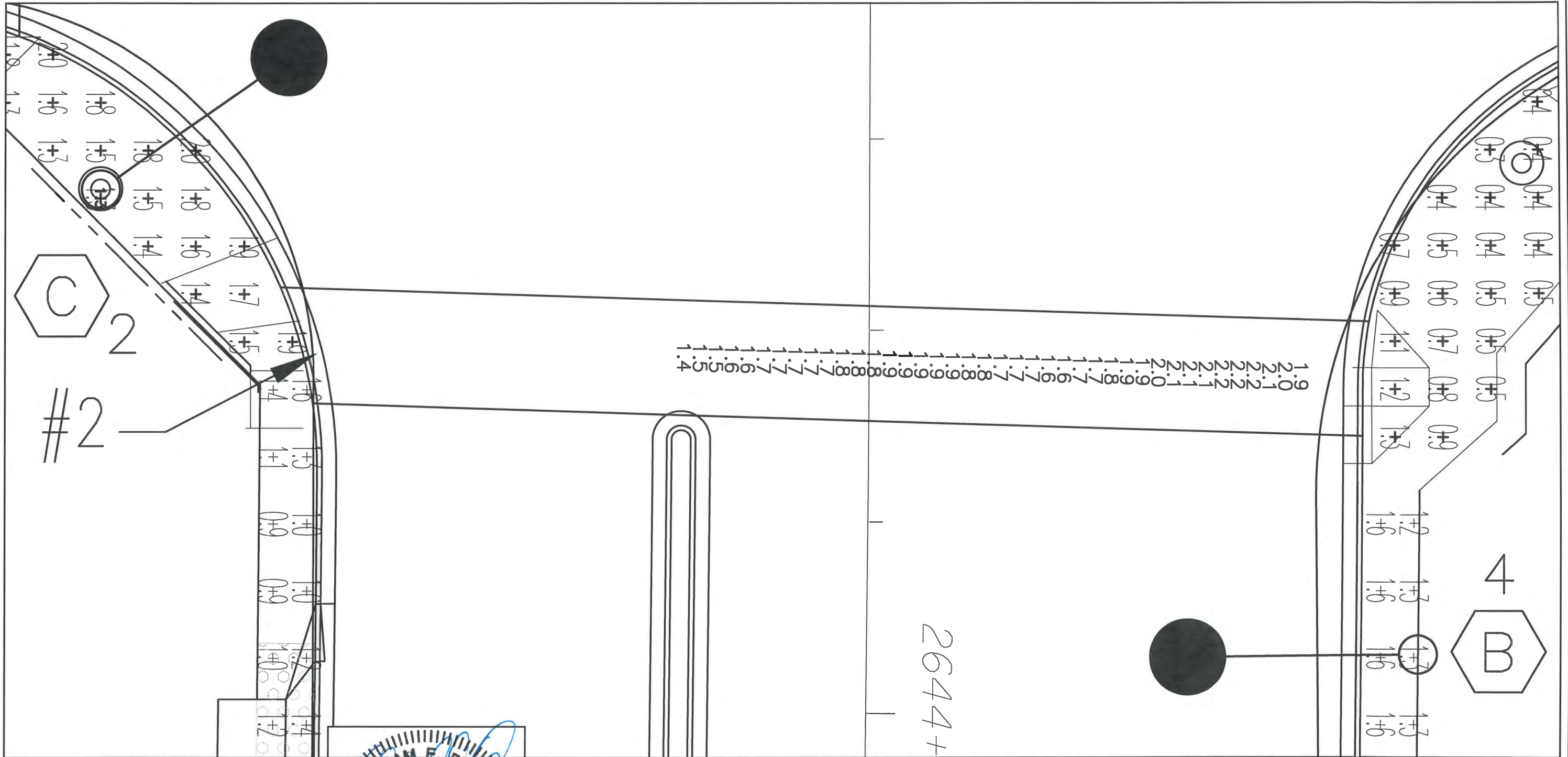


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 Field Book No: _____

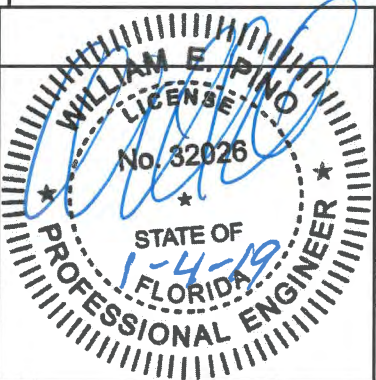
Project: ROADWAY LIGHTING
 PHOTOMETRIC PLANS

Sheet: PH-14
 Of: 18
 Project No. LMMW WP1027





**CROSSWALK VERTICAL
PHOTOMETRIC PLAN**



DATE: _____

Revisions	By:	Date:



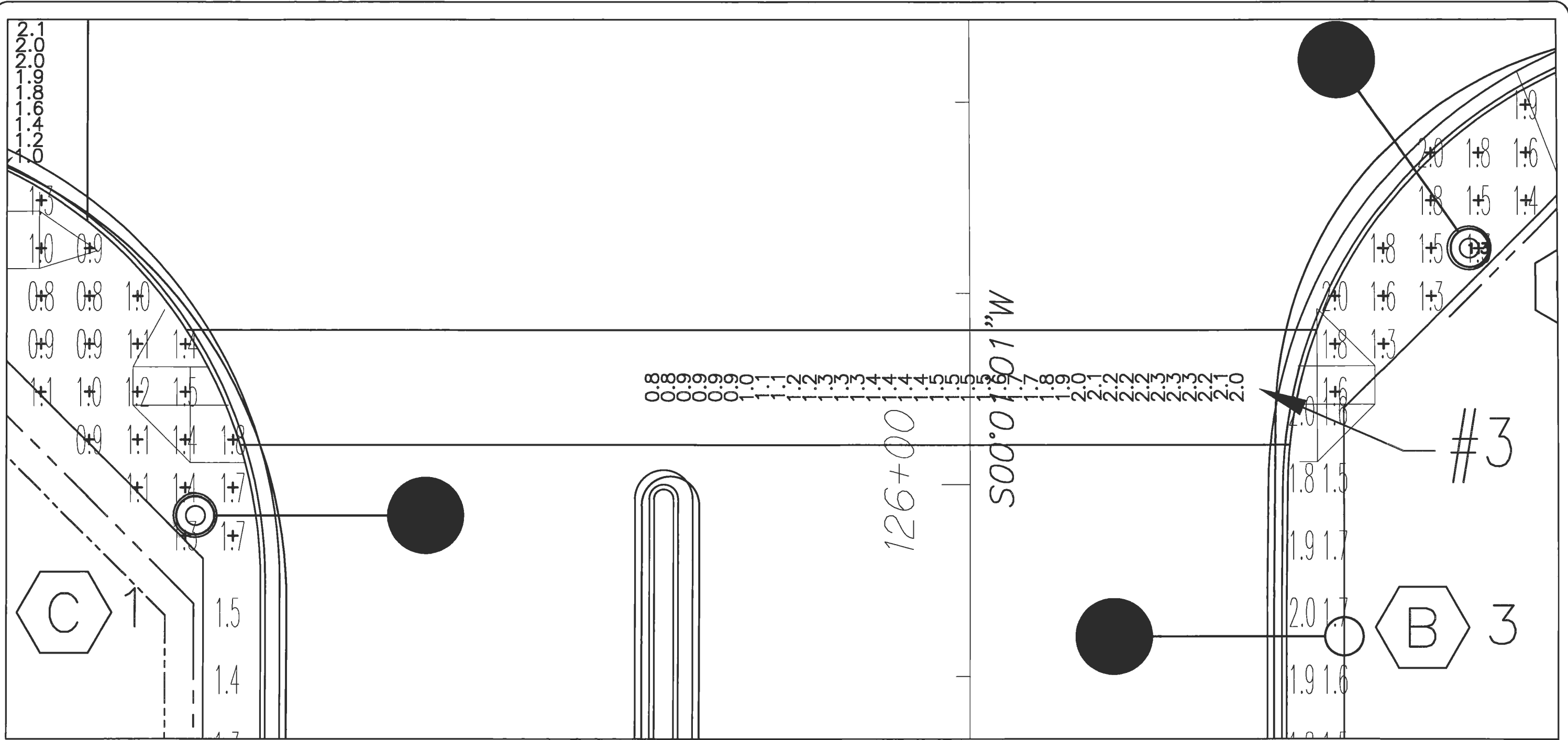
Department of Public Works
Engineering Division

Scale: 1" = 10'
 Approved: WP
 Drawn: JS
 Checked: WP
 Date: 12/17/2018
 Field Book No: _____

Project:
**ROADWAY LIGHTING
 PHOTOMETRIC PLANS**

Sheet: PH-15
 Of: 18
 Project No.
 LMMW WP1027

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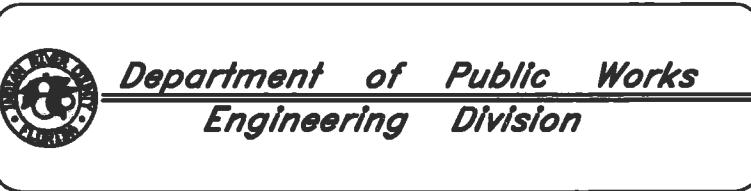


**CROSSWALK VERTICAL
PHOTOMETRIC PLAN**



DATE: _____

Revisions	By:	Date:

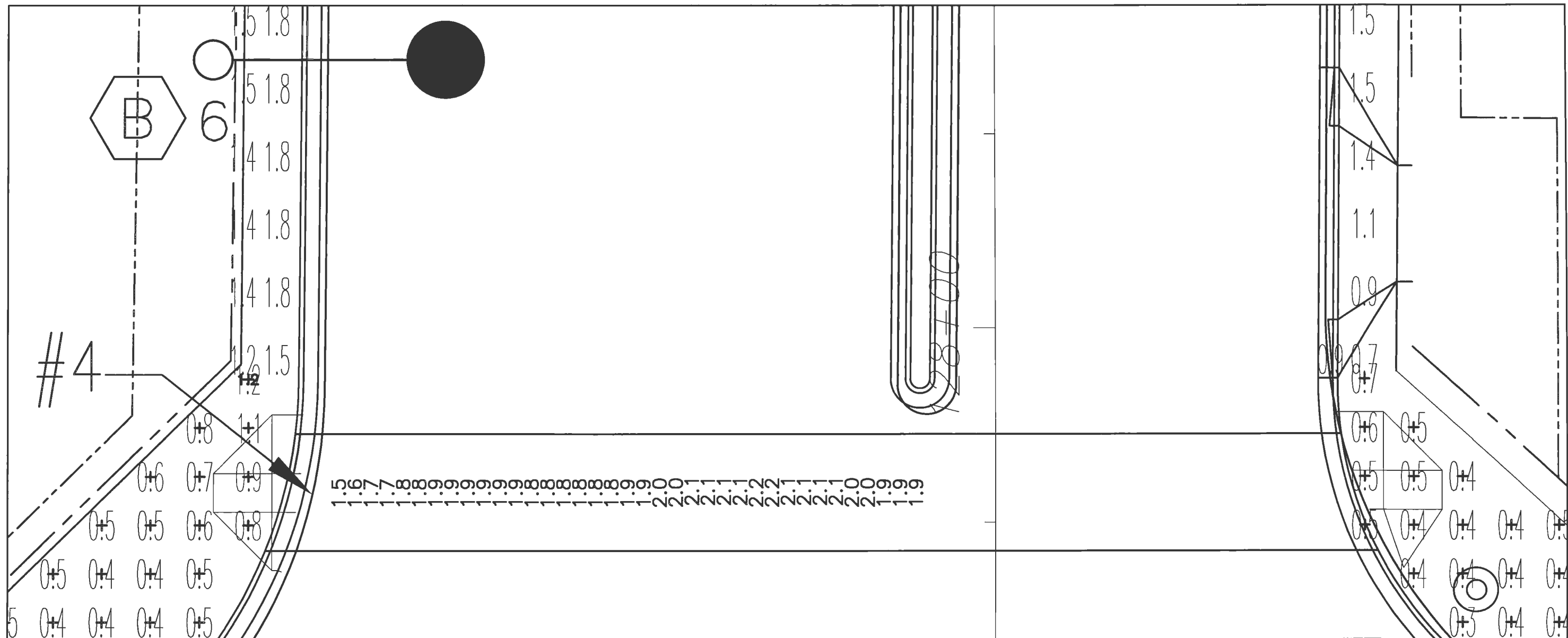


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 Checked: WP
 Date: 12/17/2018
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Project: ROADWAY LIGHTING
 PHOTOMETRIC PLANS

Sheet: PH-16
 Of: 18
 Project No. LMMW WP1027





**CROSSWALK VERTICAL
PHOTOMETRIC PLAN**



DATE: _____

Revisions	By	Date



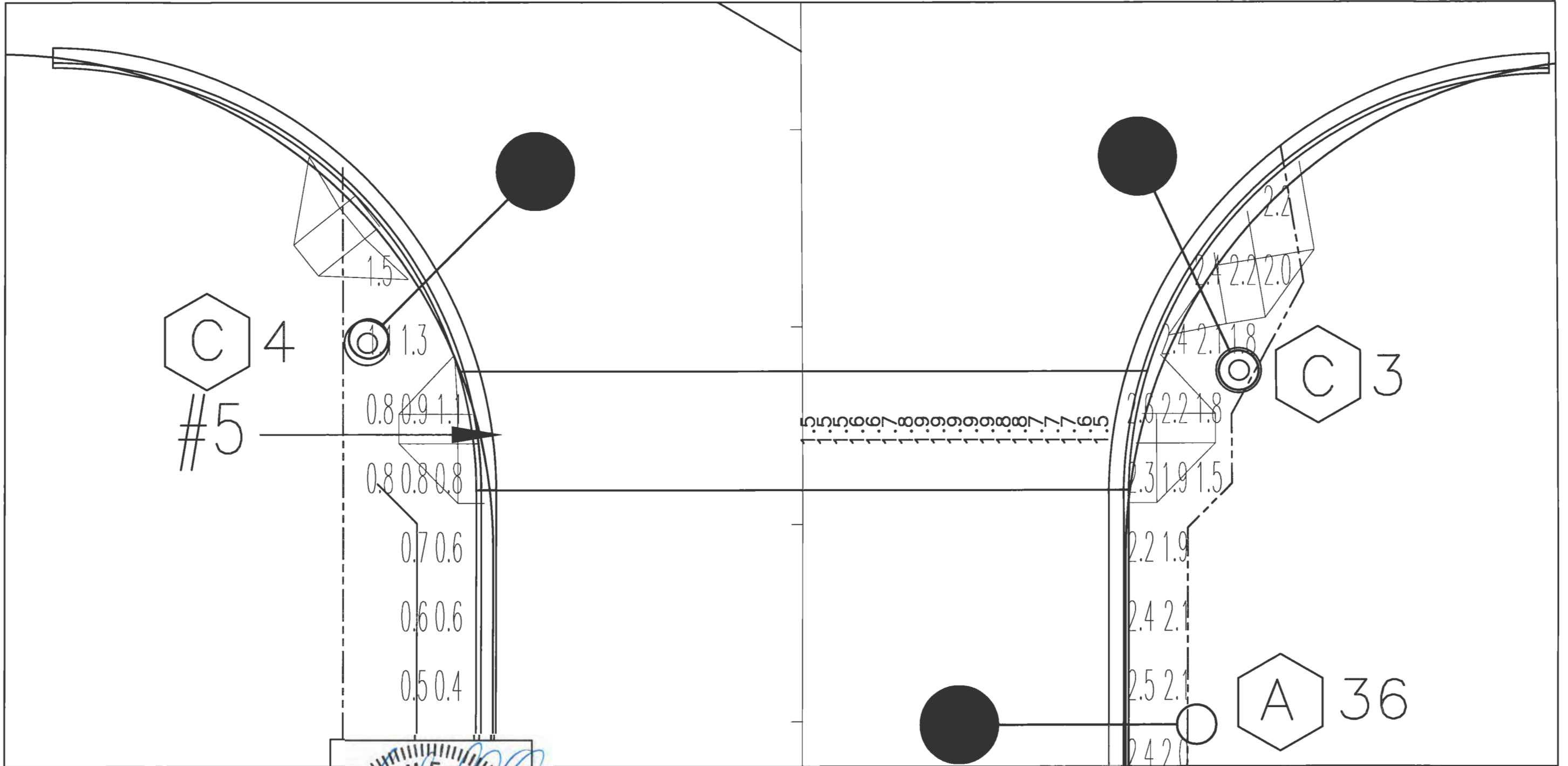
*Department of Public Works
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Scale: 1" = 10'
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 Drawn: JS
 Checked: WP
 Date: 12/17/2018
 Field Book No: _____

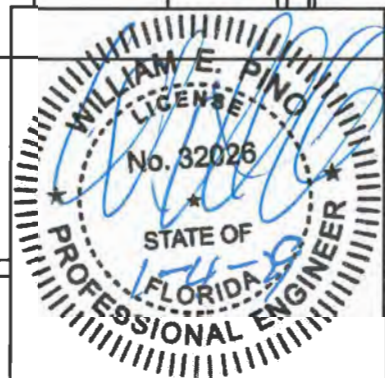
Project:
**ROADWAY LIGHTING
 PHOTOMETRIC PLANS**

Sheet: PH-17
 Of: 18
 Project No.
 LMMW WP1027

Main Street ENGINEERING
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**CROSSWALK VERTICAL
PHOTOMETRIC PLAN**



DATE: _____

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Department of Public Works
Engineering Division

Scale: 1" = 10'
Approved: WP
Drawn: JS
Checked: WP
Date: 12/17/2018
Field Book No:

Project:
**ROADWAY LIGHTING
PHOTOMETRIC PLANS**

Sheet: PH-18

Of: 18

Project No.
LMM WP1027

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FL PE Certificate No.: 00008731

INDIAN RIVER COUNTY BOARD OF COUNTY COMMISSIONERS

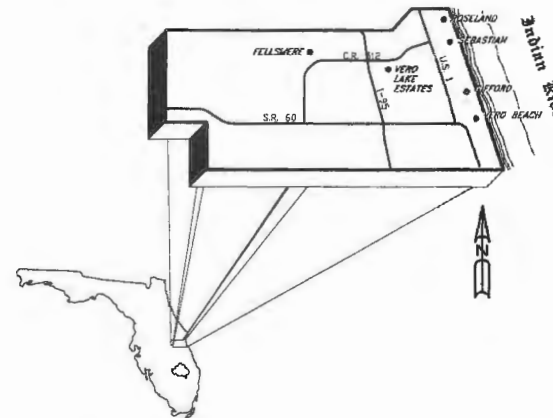


**STATE ROUTE 60
WIDENING, MILL & RESURFACE
FROM 44TH AVENUE TO 38TH AVENUE**

&

**43RD AVENUE
RECONSTRUCTION
FROM 19TH STREET TO 26TH STREET**

**BEGIN BRIDGE STATION 129+62.455
END BRIDGE STATION 130+94.455**



KEY

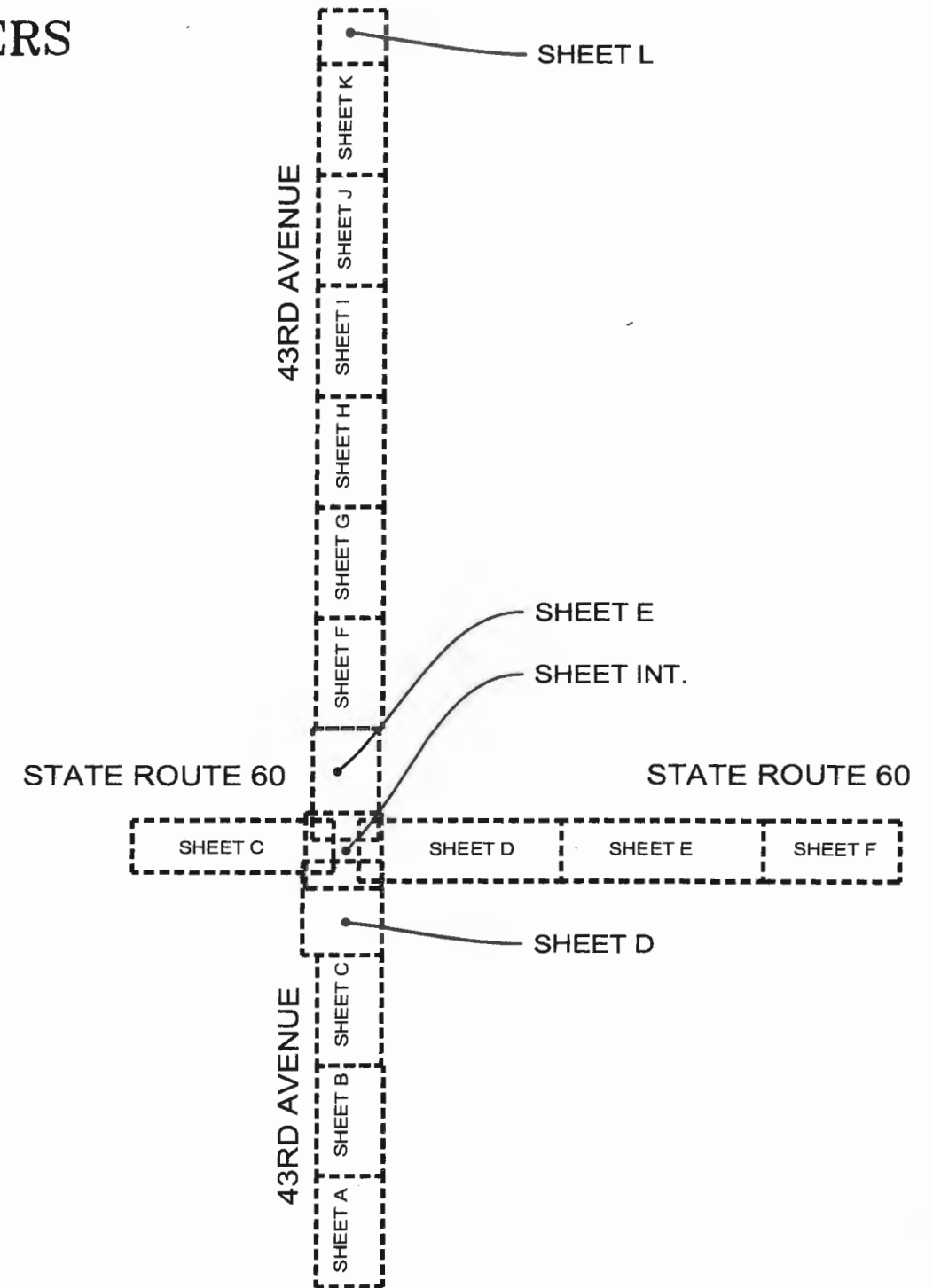
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DT-2	Demolition and Transplant SR 60 Sheets E,F
DT-3	Demolition and Transplant 43 rd Ave. Sheets A,B,C
DT-4	Demolition and Transplant 43 rd Ave. Sheets D, E, F
DT-5	Demolition and Transplant 43 rd Ave. Sheets G,H,I
DT-6	Demolition and Transplant 43 rd Ave. Sheets J,K,L and Tree Protection Detail
DT-7	Demolition and Transplant- Intersection and Existing Tree Schedule
LH-1	Hardscape Layout Plan SR 60 Sheets C,D
LH-2	Hardscape Layout Plan SR 60 Sheets E,F
LH-3	Hardscape Layout Plan 43 rd Ave. Sheets A,B,C
LH-4	Hardscape Layout Plan 43 rd Ave. Sheets D, E, F
LH-5	Hardscape Layout Plan 43 rd Ave. Sheets G,H,I
LH-6	Hardscape Layout Plan 43 rd Ave. Sheets J,K,L
LH-7	Hardscape Layout Plan - Intersection and Hardscape Details
LP-1	Landscape Plan SR 60 Sheets C,D
LP-2	Landscape Plan SR 60 Sheets E,F
LP-3	Landscape Plan 43 rd Ave. Sheets A,B,C
LP-4	Landscape Plan 43 rd Ave. Sheets D, E, F
LP-5	Landscape Plan 43 rd Ave. Sheets G,H,I
LP-6	Landscape Plan 43 rd Ave. Sheets J,K,L
LP-7	Landscape Plan Intersection and Plant Schedule
LP-8	Planting Details
IR-1	Irrigation Plan SR 60 Sheets C,D
IR-2	Irrigation Plan SR 60 Sheets E,F
IR-3	Irrigation Plan 43 rd Ave. Sheets A,B,C
IR-4	Irrigation Plan 43 rd Ave. Sheets D, E, F
IR-5	Irrigation Plan 43 rd Ave. Sheets G,H,I
IR-6	Irrigation Plan 43 rd Ave. Sheets J,K,L
IR-7	Irrigation Plan Intersection
IR-8	Irrigation Details

**SCOPE INCLUDES PLANT REMOVAL AND TRANSPLANTING
HARDSCAPE ELEMENTS PLANTING AND IRRIGATION**

**PUBLIC WORKS DIRECTOR:
RICHARD B. SZPYRKA, P.E.**

**COUNTY ENGINEER:
JAMES W. ENNIS, P.E.**

**PROJECT MANAGER:
WILLIAM JOHNSON, P.E.**



ARCADIS
ARCADIS G&M, INC.
2081 Vista Parkway West Palm Beach, Florida 33411
Tel: (561) 697-7000 Fax: (561) 697-7191
www.arcadis-us.com

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www.studio-sprout.com
LA 0000907
LCC 000213
studio sprout

No:	Revision:	By:	Date:
01	Revisions	CRF	03.02.18
02	Revisions	CRF	12.13.18

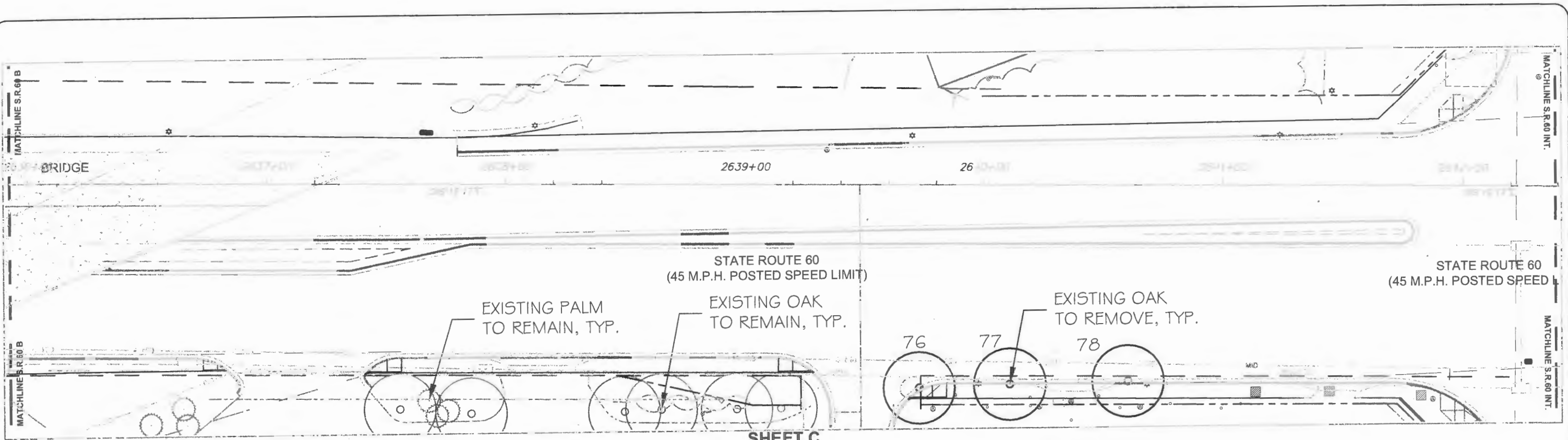


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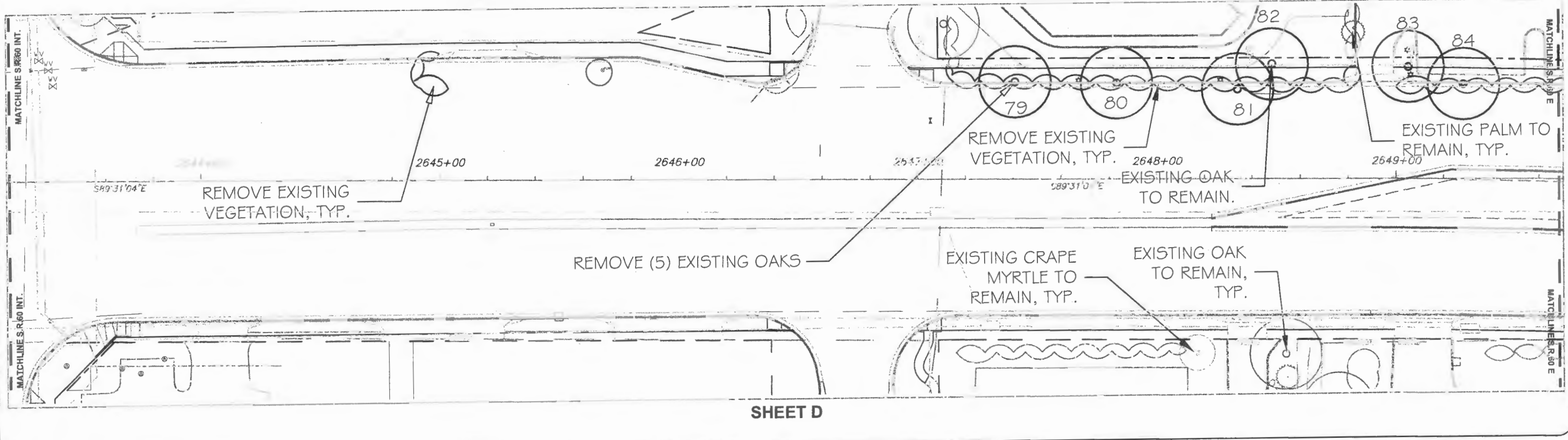
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Approved: CRF
Drawn: JLD
Checked: CRF
Date: 11/11/17
Field Book No:

Project: 100%
KEY SHEET
FOR
STATE ROUTE 60
&
43RD AVENUE

Sheet: KEY
SHEET
Of:
FDOT FIN:
431759-2-54-01
Project No.
IRC# 0512
LNW# WP1027



SHEET C



SHEET D

08310 / LC26000289

ARCADIS G&M, INC.

2081 Vista Parkway
West Palm Beach, Florida 33411

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No:	Revision:	By:	Date:
01	Revisions	CRF	03.02.18
02	Revisions	CRF	12.13.18

Department of Public Works
Engineering Division

Scale: 1"=40'-0"

Approved: CRF

Drawn: JLD

Checked: CRF

Date: 11/11/17

Field Book No:

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DEMOLITION & TRANSPLANT PLAN

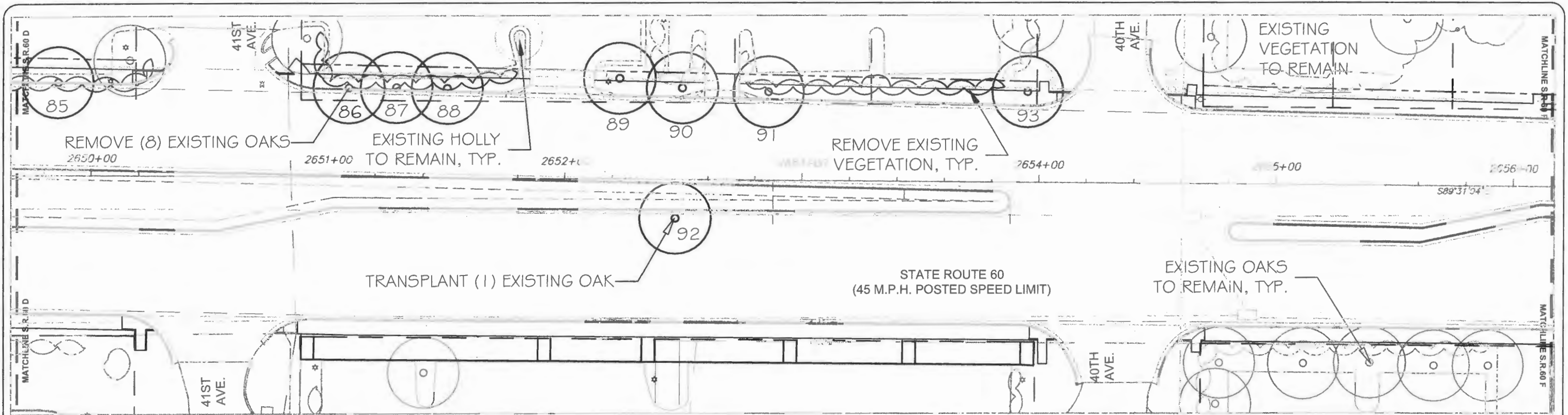
FOR
STATE ROUTE 60
&
43RD AVENUE

Sheet: DT-1

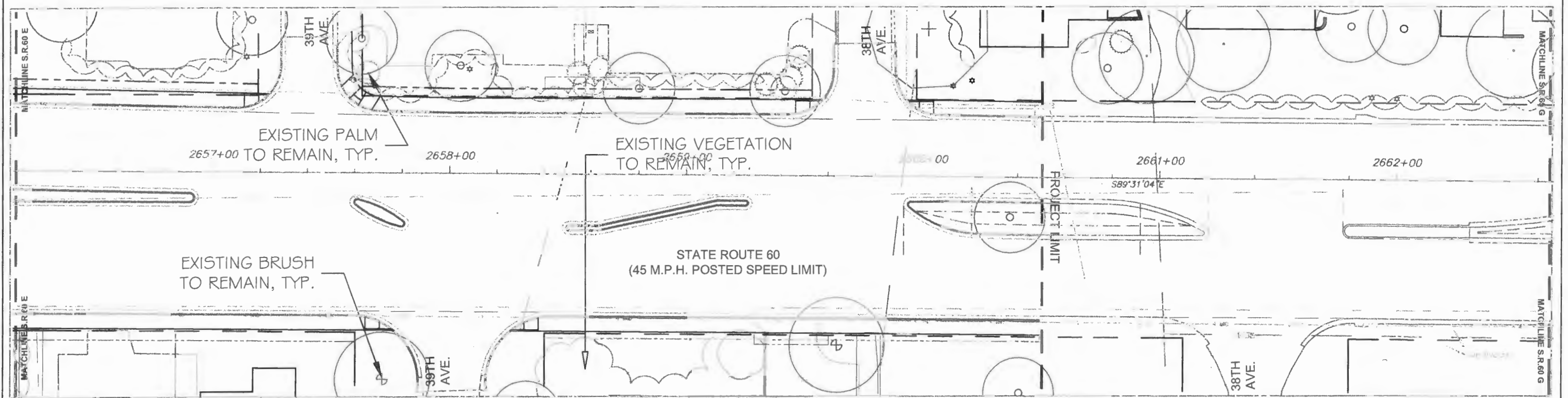
Of: DT-7

FDOT FIN:
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Project No.
IRC# 0512
LNW# WP1027



SHEET E



SHEET F



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01	Revisions	CRF	03.02.18
02	Revisions	CRF	12.13.18



Department of Public Works

Engineering Division

Scale: 1"=40'-0"
 Approved: CRF
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 Checked: CRF
 Date: 11/11/17
 Field Book No:

Project: 100%
DEMOLITION & TRANSPLANT PLAN

 FOR
STATE ROUTE 60
 &
43RD AVENUE

Sheet: DT-2

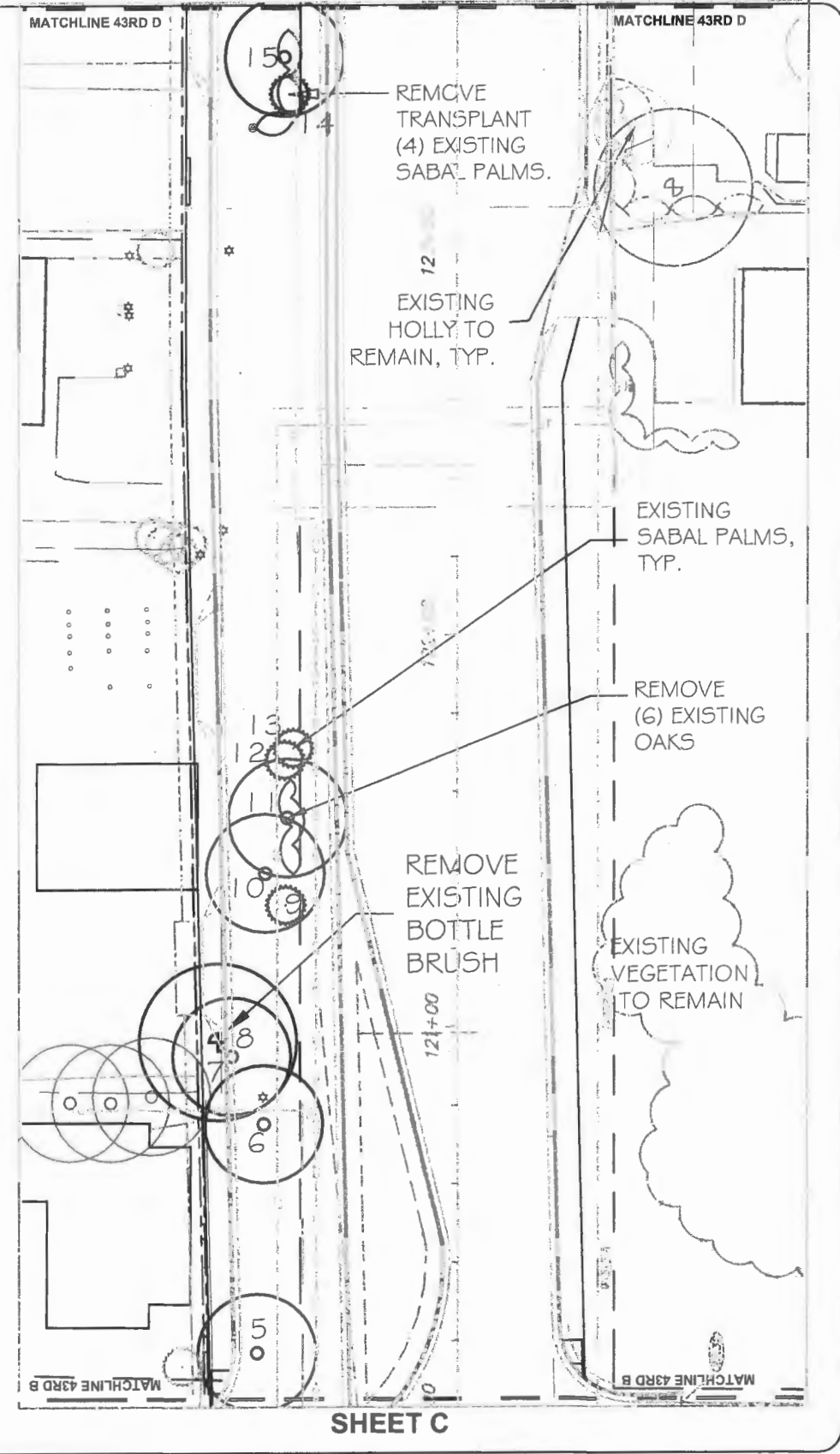
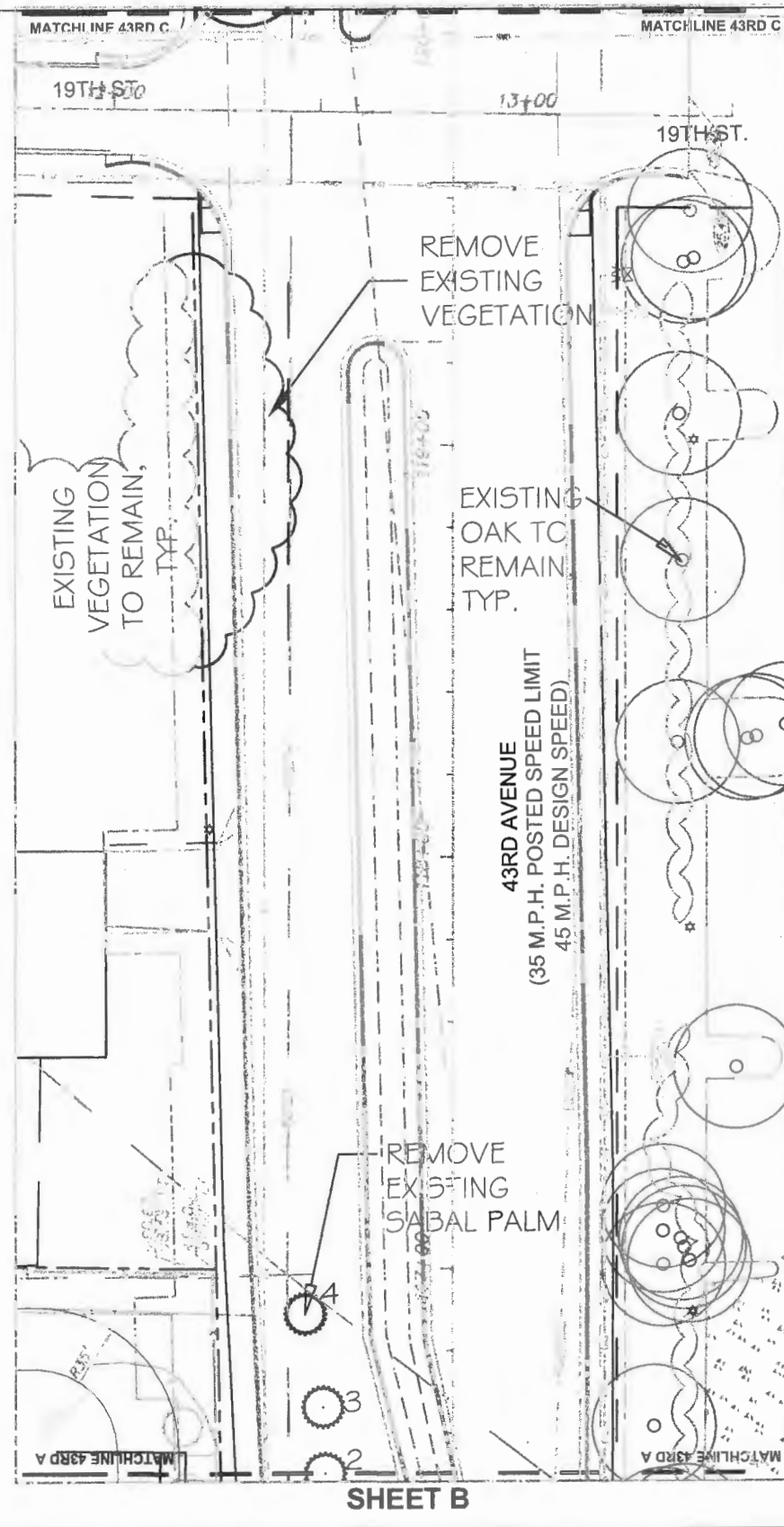
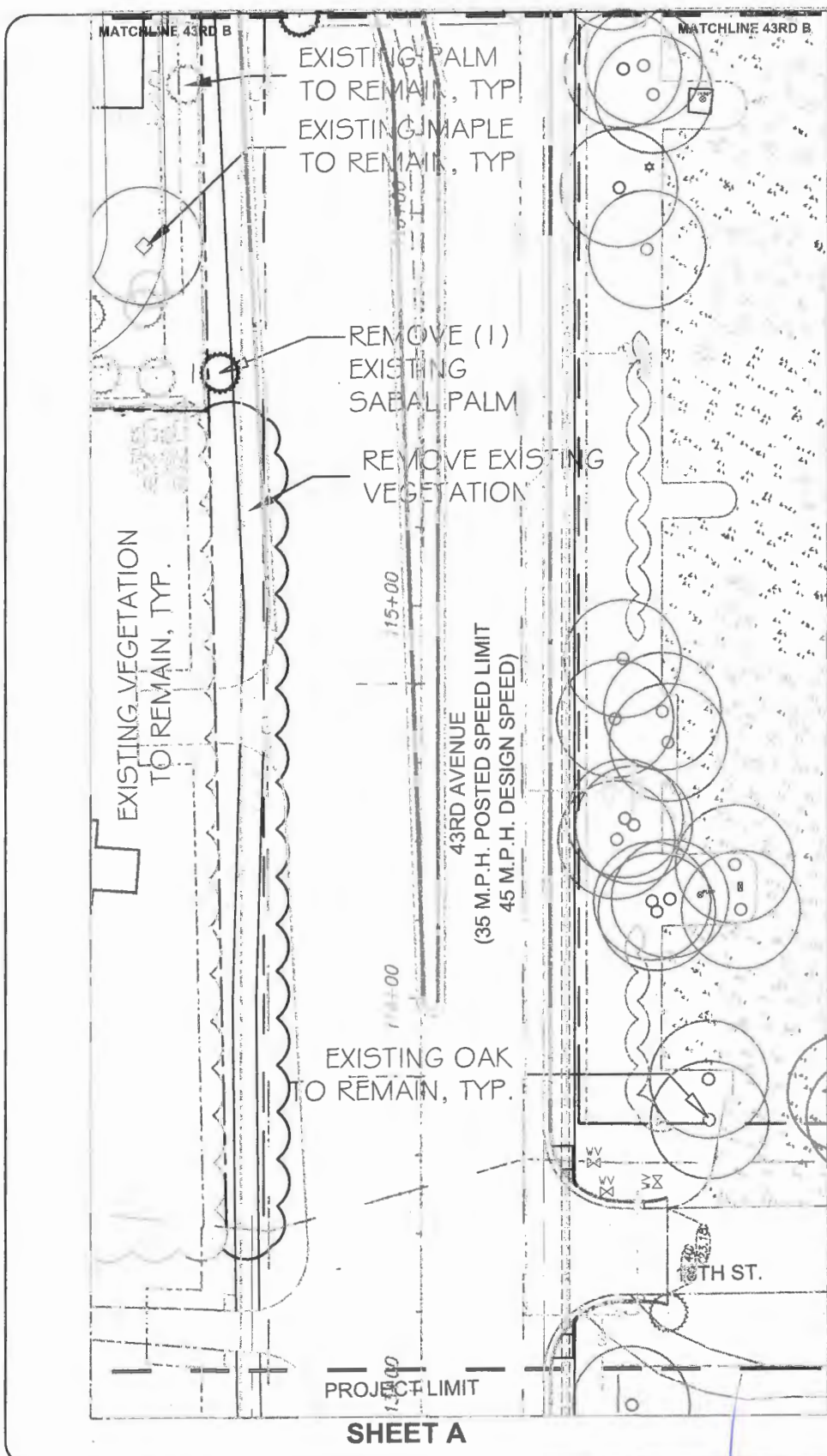
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 FDOT FIN: 431759-2-54-01

 Project No.

 IRC# 0512

 LNW# WP1027





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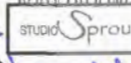
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02	Revisions	CRF	12.13.18



Department of Public Works

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Scale: 1"=40'-0"
 Approved: CRF
 Drawn: JLD
 Checked: CRF
 Date: 11/11/17
 Field Book No:

Project: 100%
DEMOLITION & TRANSPLANT PLAN

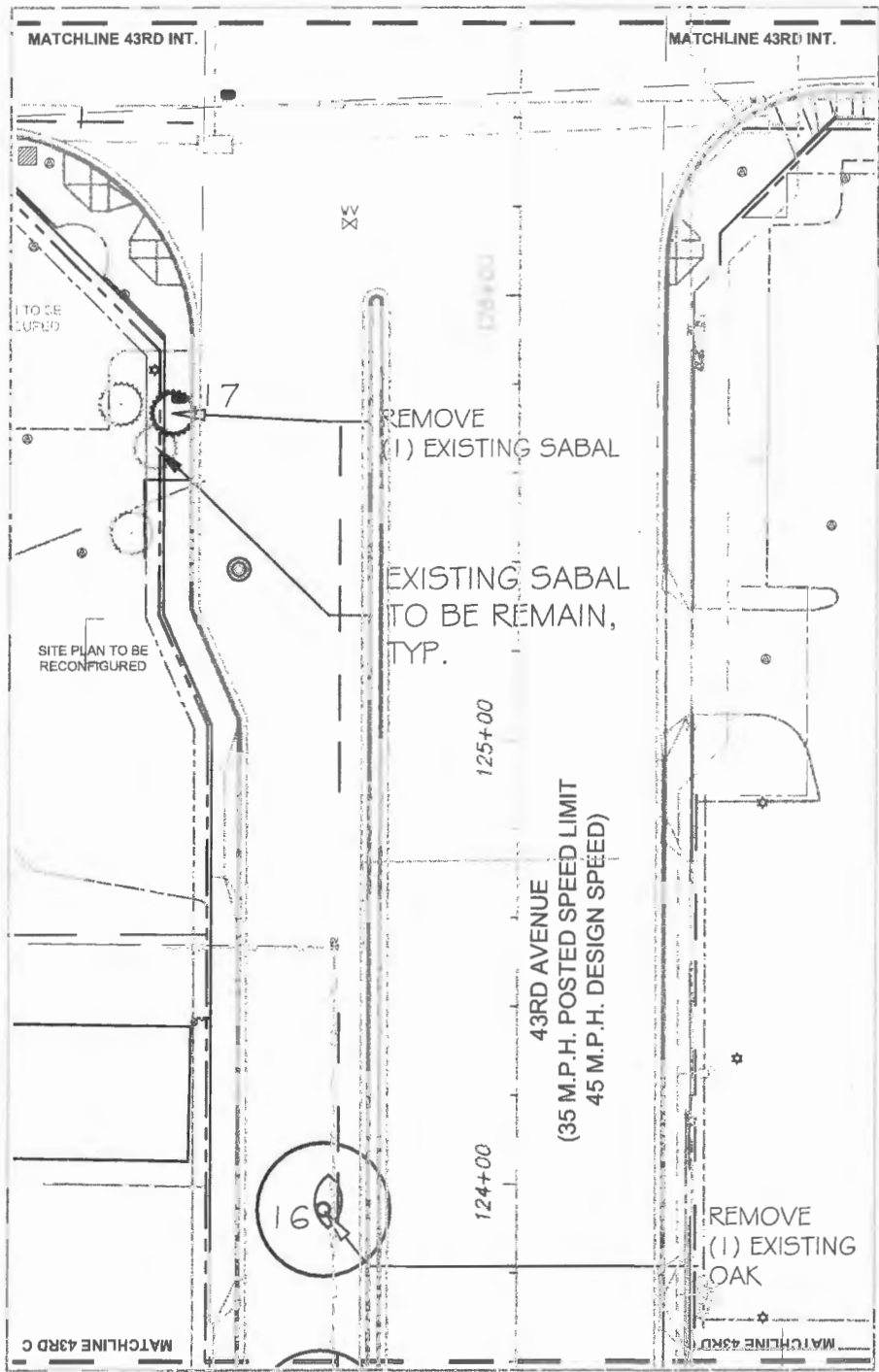
 FOR
 STATE ROUTE 60
 &
 43RD AVENUE

Sheet: DT-3

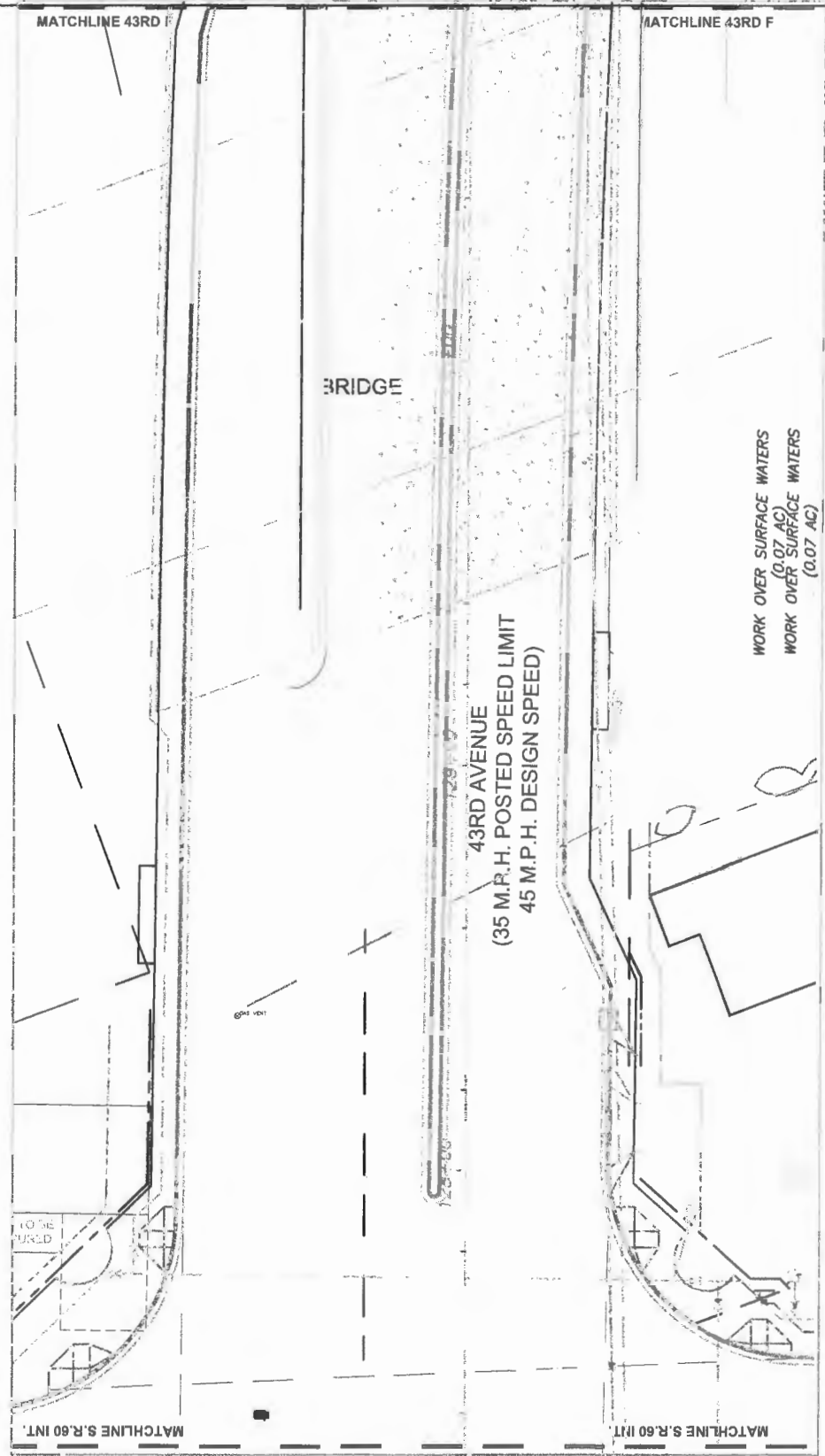
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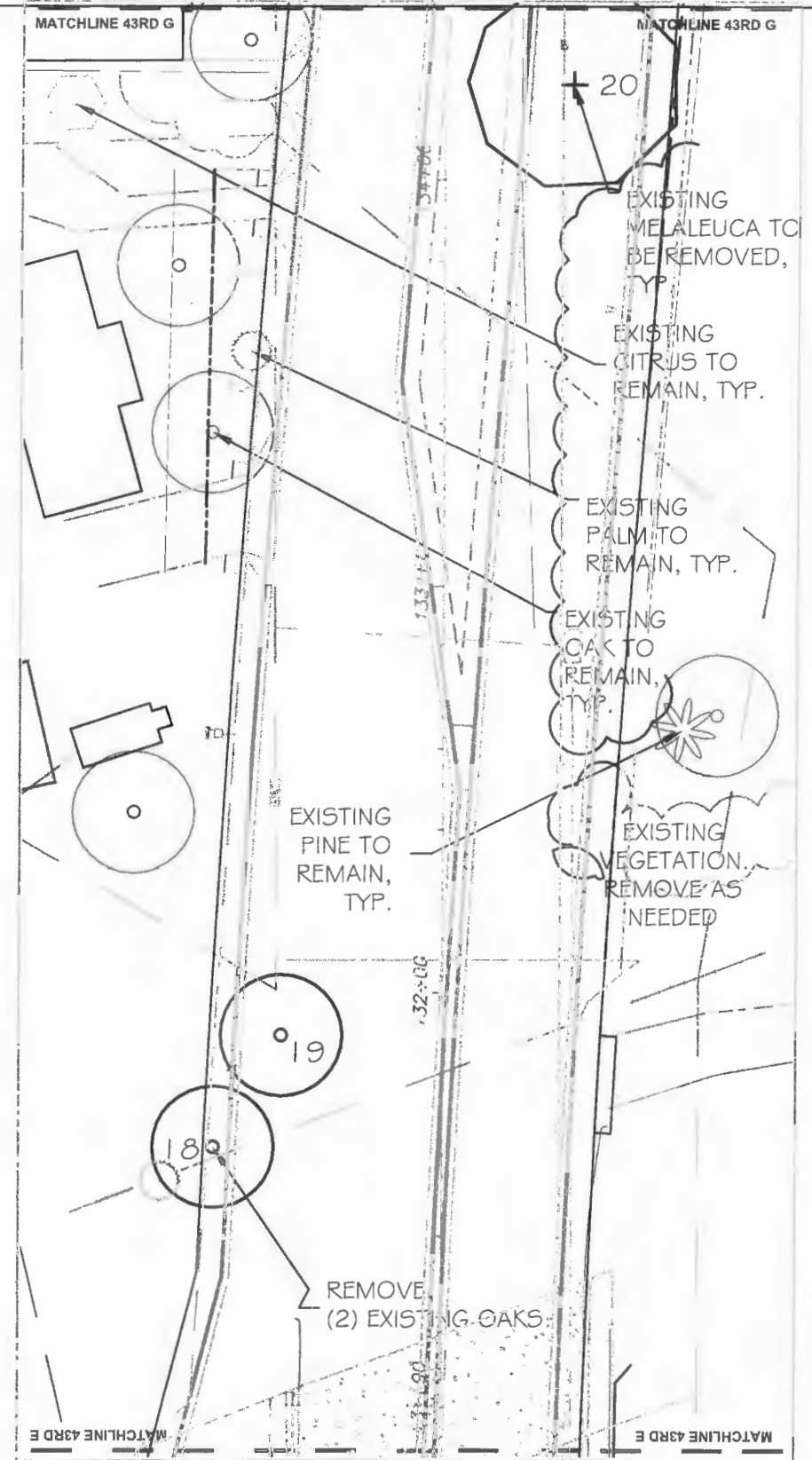
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SHEET D



SHEET E



SHEET F



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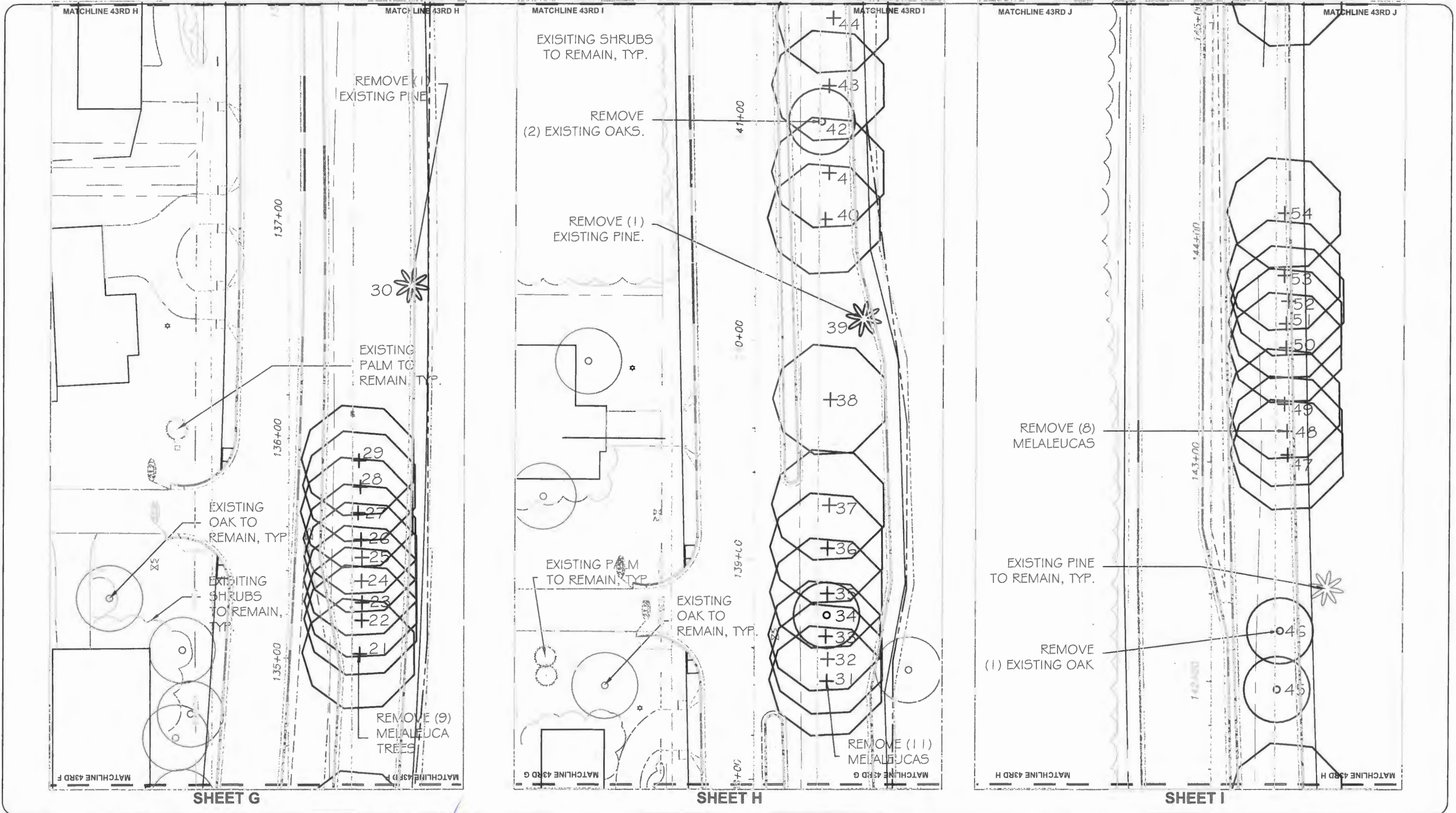
Department of Public Works

Engineering Division

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 Date: 11/11/17
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Project: 100% DEMOLITION & TRANSPLANT PLAN
 FOR STATE ROUTE 60 & 43RD AVENUE

Sheet: DT-4
 Of: DT-7
 FDOT FIN: 431759-2-54-01
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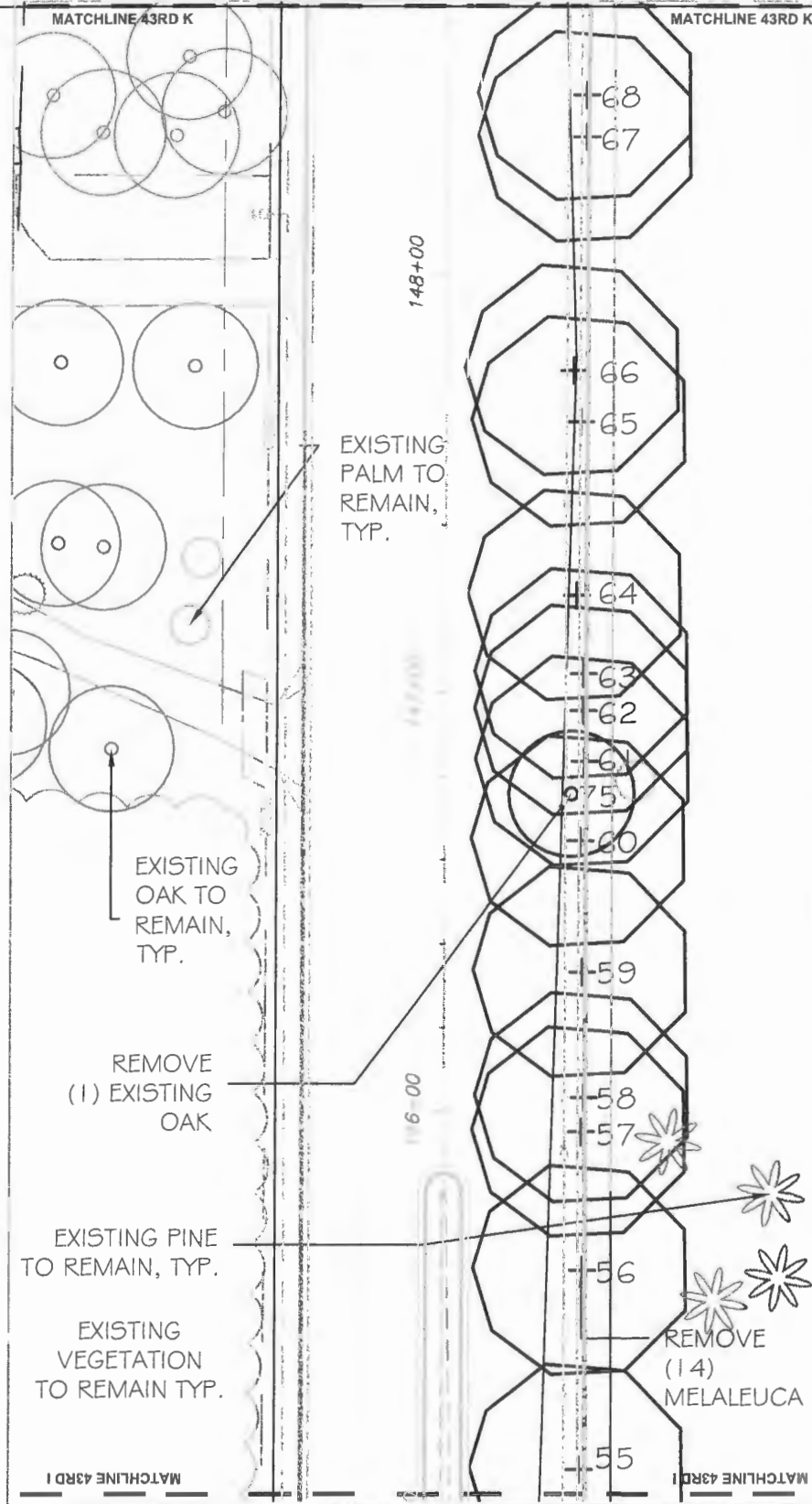
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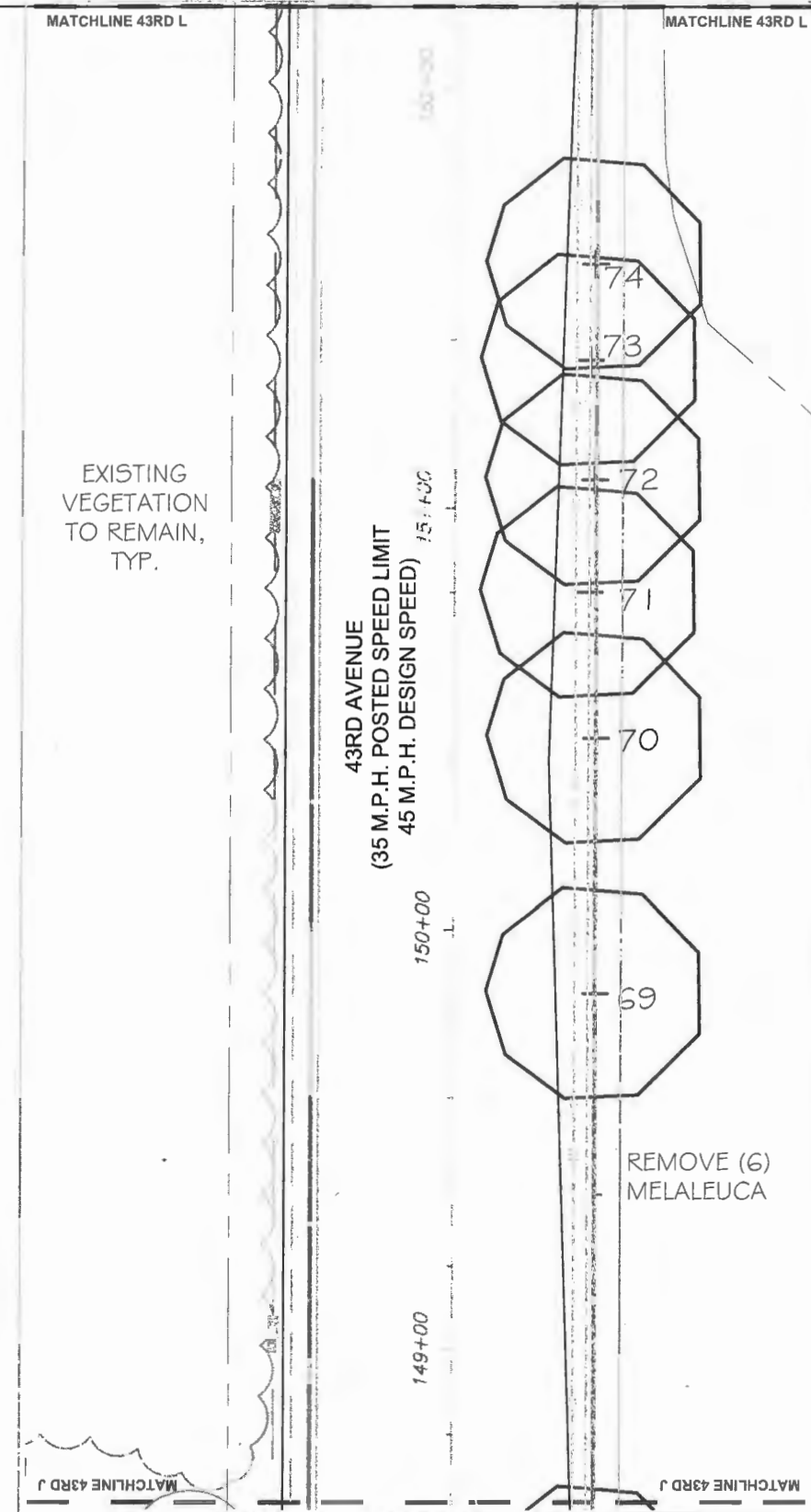
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Project: 100%
DEMOLITION & TRANSPLANT PLAN
 FOR
STATE ROUTE 60
 &
43RD AVENUE

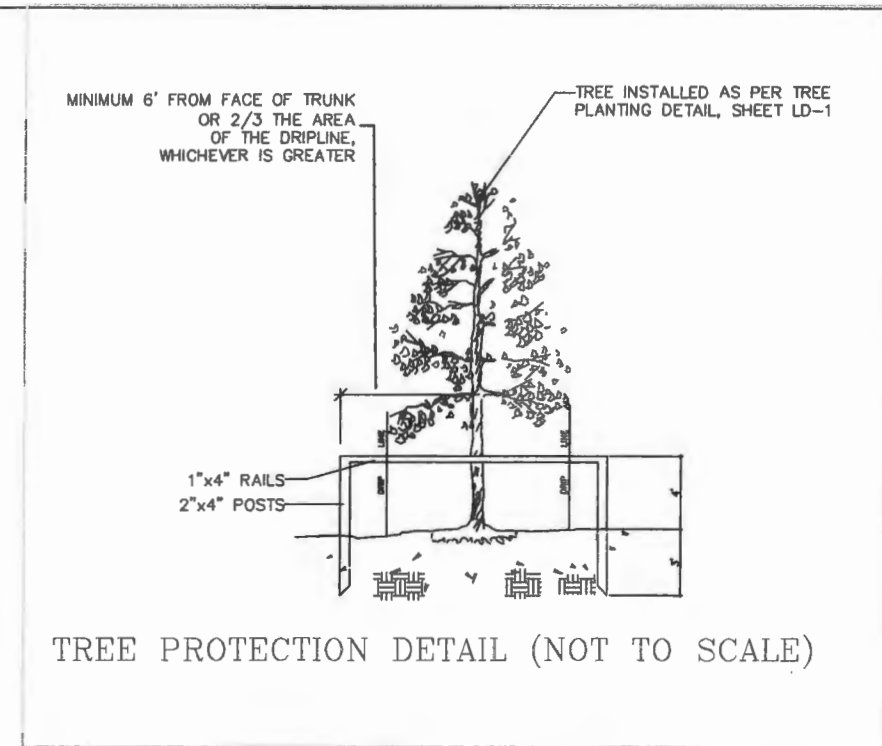
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 IRC# 0512
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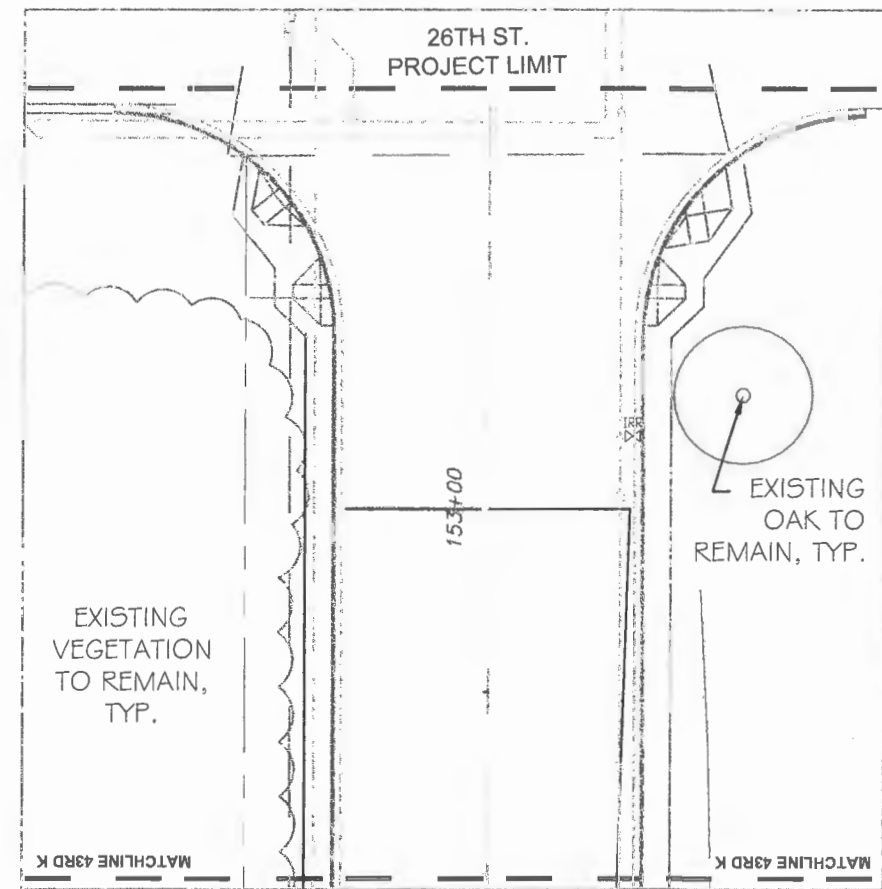
SHEET J



SHEET K



TREE PROTECTION DETAIL (NOT TO SCALE)



SHEET L

08310 / LC28000269

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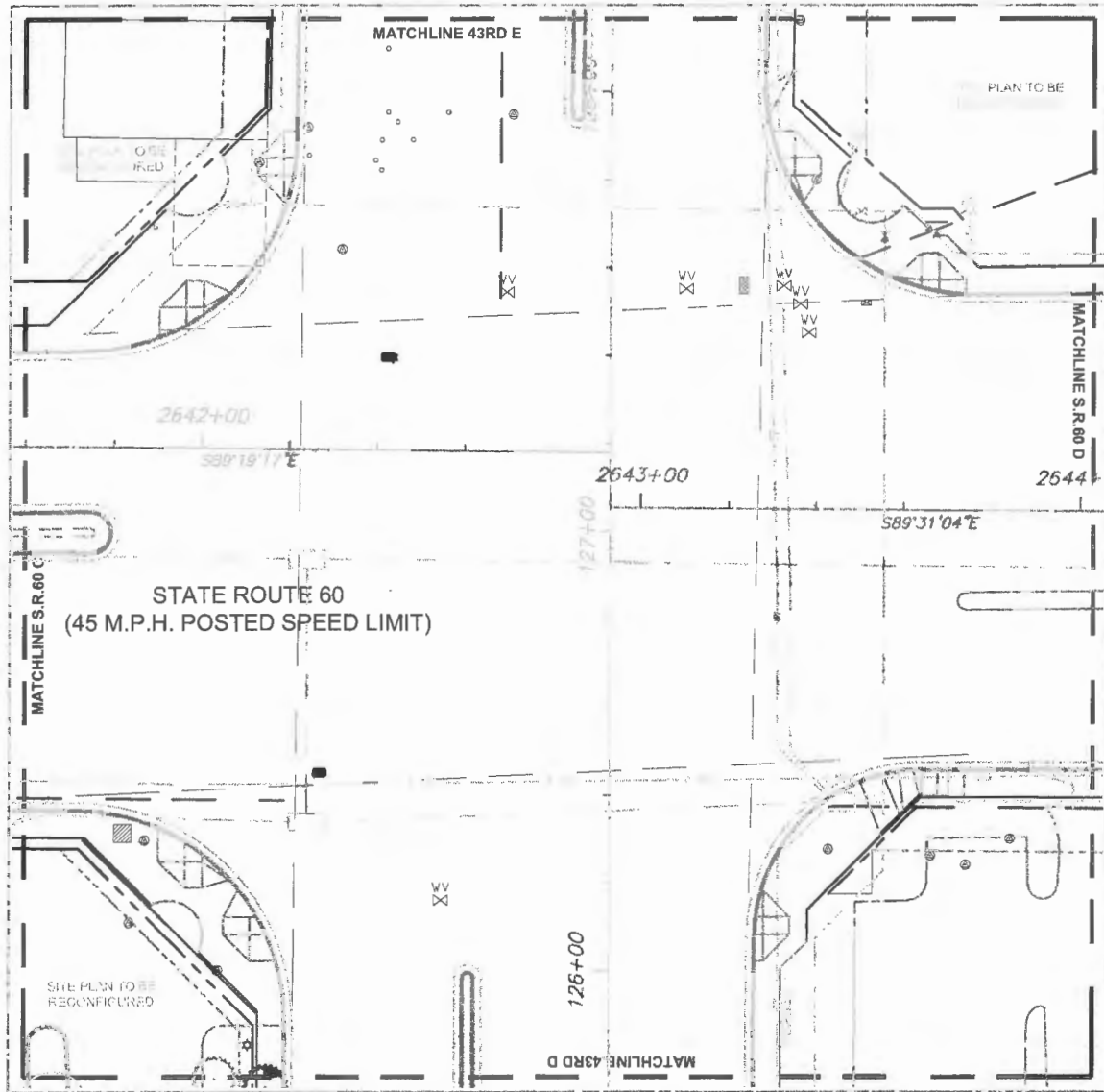
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 DEMOLITION & TRANSPLANT PLAN

FOR
 STATE ROUTE 60
 &
 43RD AVENUE

Sheet: DT-6

Of: DT-7
 FDOT FIN:
 431759-2-54-01
 Project No.
 IRC# 0512
 LNW# WP1027

NO REMOVALS THIS SHEET



SHEET INT.

43RD AVENUE EXISTING TREE SCHEDULE*

NO.	D.B.H.	BOTANICAL NAME	COMMON NAME	ACTION	EXISTING LOCATION	NOTES
1	12"	SABAL PALMETTO	SABAL PALM	REMOVE	DT-3; SHEET A	
2	10"	SABAL PALMETTO	SABAL PALM	REMOVE	DT-3; SHEET B	
3	14"	SABAL PALMETTO	SABAL PALM	REMOVE	DT-3; SHEET B	
4	22"	SABAL PALMETTO	SABAL PALM	REMOVE	DT-3; SHEET B	
5	8"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-3; SHEET C	
6	18"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-3; SHEET C	
7	4"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-3; SHEET C	
8	4"	UNKNOWN	BRUSH	REMOVE	DT-3; SHEET C	
9	10"	SABAL PALMETTO	SABAL PALM	REMOVE	DT-3; SHEET C	
10	4"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-3; SHEET C	
11	4"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-3; SHEET C	
12	12"	SABAL PALMETTO	SABAL PALM	REMOVE	DT-3; SHEET C	
13	12"	SABAL PALMETTO	SABAL PALM	REMOVE	DT-3; SHEET C	
14	18"	SABAL PALMETTO	SABAL PALM	REMOVE	DT-3; SHEET C	
15	8"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-3; SHEET C	
16	6"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-4; SHEET D	
17	22"	SABAL PALMETTO	SABAL PALM	REMOVE	DT-4; SHEET D	
18	18"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-4; SHEET F	
19	32"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-4; SHEET F	
20	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-4; SHEET F	INVASIVE EXOCTIC
21	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET G	INVASIVE EXOCTIC
22	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET G	INVASIVE EXOCTIC
23	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET G	INVASIVE EXOCTIC
24	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET G	INVASIVE EXOCTIC
25	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET G	INVASIVE EXOCTIC
26	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET G	INVASIVE EXOCTIC
27	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET G	INVASIVE EXOCTIC
28	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET G	INVASIVE EXOCTIC
29	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET G	INVASIVE EXOCTIC
30	30"	PINUS ELLIOTTII	SLASH PINE	REMOVE	DT-5; SHEET G	
31	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET H	INVASIVE EXOCTIC
32	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET H	INVASIVE EXOCTIC
33	16"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET H	INVASIVE EXOCTIC
34	30"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-5; SHEET H	
35	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET H	INVASIVE EXOCTIC
36	30"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET H	INVASIVE EXOCTIC
37	30"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET H	INVASIVE EXOCTIC
38	16"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET H	INVASIVE EXOCTIC
39	24"	PINUS ELLIOTTII	SLASH PINE	REMOVE	DT-5; SHEET H	
40	28"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET H	INVASIVE EXOCTIC
41	32"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET H	INVASIVE EXOCTIC
42	32"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-5; SHEET H	
43	22"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET H	INVASIVE EXOCTIC
44	38"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET H	INVASIVE EXOCTIC
45	26"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-5; SHEET I	
46	28"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-5; SHEET I	
47	26"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET I	INVASIVE EXOCTIC
48	18"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET I	INVASIVE EXOCTIC
49	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET I	INVASIVE EXOCTIC
50	30"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET I	INVASIVE EXOCTIC
51	30"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET I	INVASIVE EXOCTIC
52	30"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET I	INVASIVE EXOCTIC
53	30"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET I	INVASIVE EXOCTIC
54	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET I	INVASIVE EXOCTIC
55	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET J	INVASIVE EXOCTIC
56	36"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET J	INVASIVE EXOCTIC
57	36"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET J	INVASIVE EXOCTIC
58	36"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET J	INVASIVE EXOCTIC
59	36"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET J	INVASIVE EXOCTIC
60	32"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET J	INVASIVE EXOCTIC
61	28"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET J	INVASIVE EXOCTIC
62	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET J	INVASIVE EXOCTIC
63	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET J	INVASIVE EXOCTIC
64	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET J	INVASIVE EXOCTIC
65	36"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET J	INVASIVE EXOCTIC
66	36"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET J	INVASIVE EXOCTIC
67	36"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET J	INVASIVE EXOCTIC
68	36"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET J	INVASIVE EXOCTIC
69	36"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET K	INVASIVE EXOCTIC
70	36"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET K	INVASIVE EXOCTIC
71	36"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET K	INVASIVE EXOCTIC
72	36"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET K	INVASIVE EXOCTIC
73	36"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET K	INVASIVE EXOCTIC
74	36"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET K	INVASIVE EXOCTIC
75	24"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-6; SHEET J	

STATE ROAD 60 EXISTING TREE SCHEDULE*

PAY ITEM #	NO.	D.B.H.	BOTANICAL NAME	COMMON NAME	ACTION	EXISTING LOCATION	NEW LOCATION	NOTES
	76		QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-1; SHEET C		
	77		QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-1; SHEET C		
	78		QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-1; SHEET C		
	79	6"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-1; SHEET D		
	80	8"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-1; SHEET D		
	81	8"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-1; SHEET D		
	82	12"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-1; SHEET D		
	83	16"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-1; SHEET D		
	84	18"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-1; SHEET D		
	85	18"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-2; SHEET E		
	86	3"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-2; SHEET E		SMALL NEW
	87	3"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-2; SHEET E		SMALL NEW
	88	3"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-2; SHEET E		SMALL NEW
	89	2"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-2; SHEET E		SMALL NEW
	90	36"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-2; SHEET E		HUGE, V CROCH
	91	24"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-2; SHEET E		HUGE, V CROCH
580-24	92	18"	QUERCUS VIRGINIANA	LIVE OAK	TRANSPLANT	DT-2; SHEET E		
	93	24"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-2; SHEET E		BIG (VINES)

* NOTE: ONLY EXISTING TREES TO BE REMOVED/TRANSPLANTED WERE LISTED ON THE EXISTING TREE SCHEDULES. SEE PLANS FOR EXISTING TREES TO REMAIN.

CONTRACTOR SHALL REVIEW TREES TO BE REMOVED WITH ADJACENT PROPERTY OWNER IN ADEQUATE TIME TO DETERMINE IF ADJACENT PROPERTY OWNER WOULD LIKE TO MOVE TREE INDICATED TO BE REMOVED ELSEWHERE ON THEIR PROPERTY AT THEIR EXPENSE.

AT TIME OF BID, CONTRACTORS SHALL COORDINATE WITH CITY ON LOCATION OF TRANSPLANTED TREE TO CHARLES PARK OFF 24TH AVE AND 15TH STREET.

SEE SPECIFICATIONS FOR TRANSPLANT INFORMATION.

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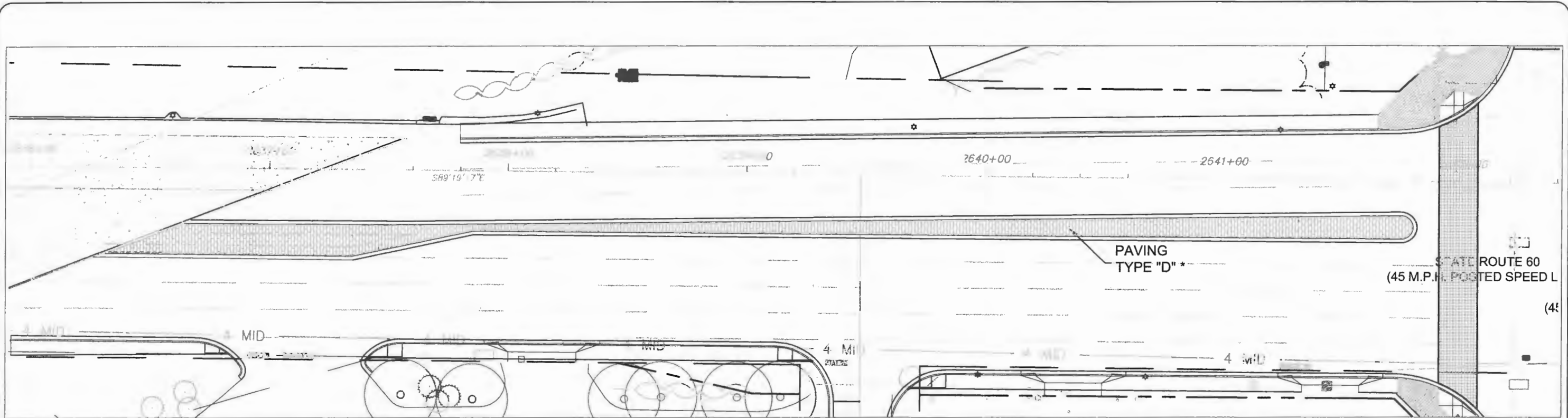
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Engineering Division

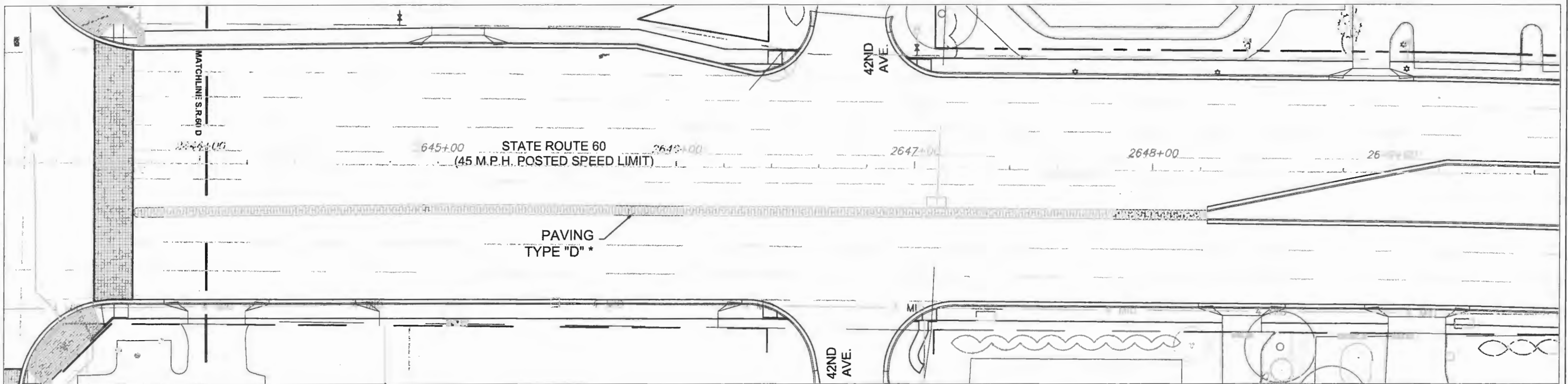
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Field Book No:

Project: 100%
DEMOLITION & TRANSPLANT PLAN
FOR
STATE ROUTE 60
&
43RD AVENUE

Sheet: DT-7
Of: DT-7
FDOT FIN: 431759-2-54-01
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LW# WP1027



SHEET C



SHEET D

*SEE SHEET LH-7 FOR PAVING MATERIALS SCHEDULE

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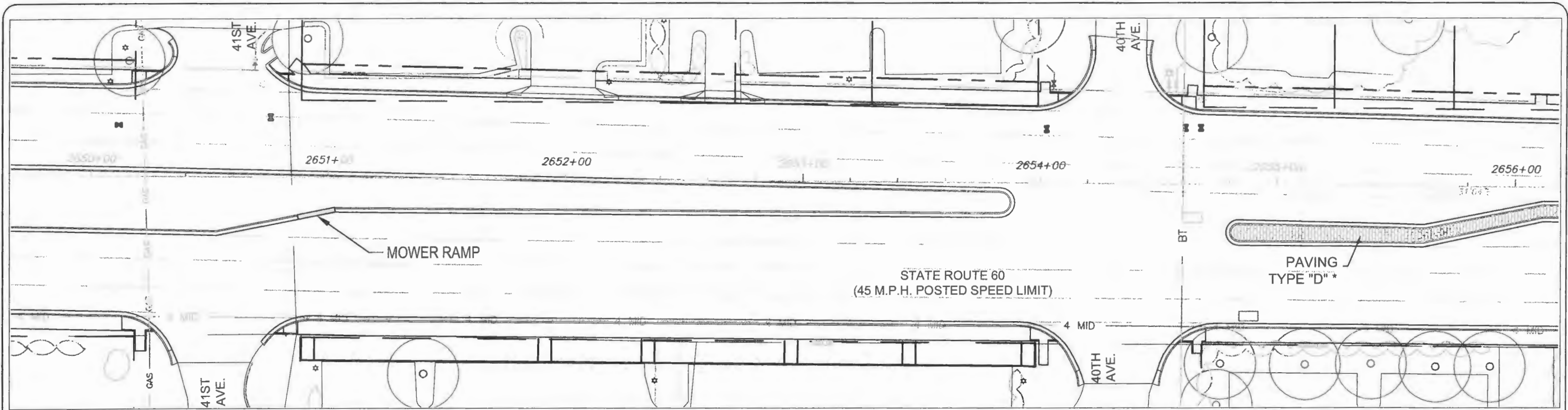


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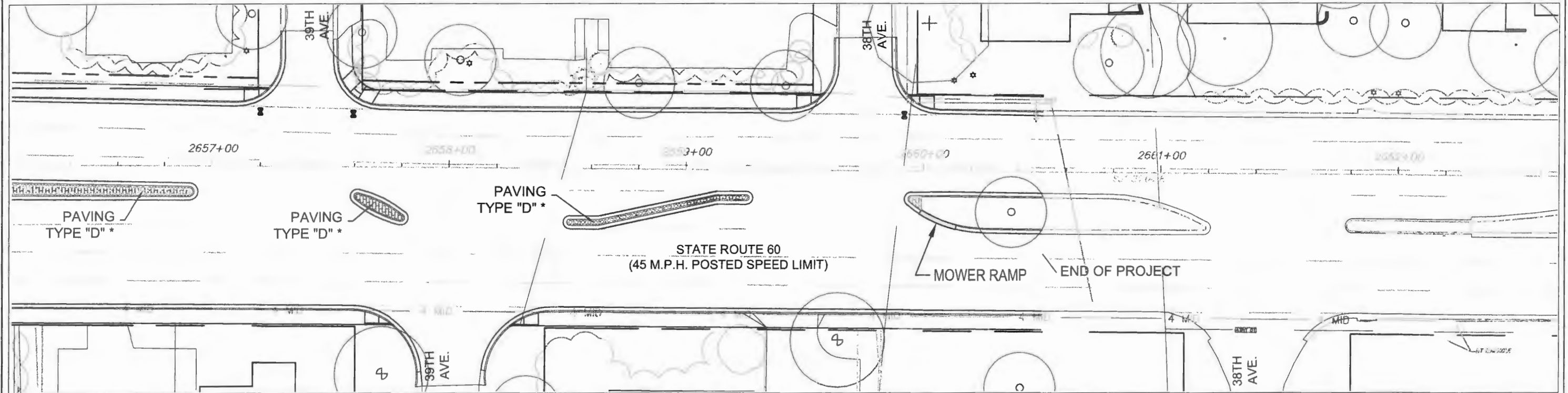
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Project: 100%
HARDSCAPE LAYOUT PLAN
FOR
STATE ROUTE 60
&
43RD AVENUE

Sheet: LH-1
Of: LH-7
FDOT FIN: 431759-2-54-01
Project No.
IRC# 0512
LNW# WP1027



SHEET E



SHEET F

***SEE SHEET LH-7 FOR PAVING MATERIALS SCHEDULE**

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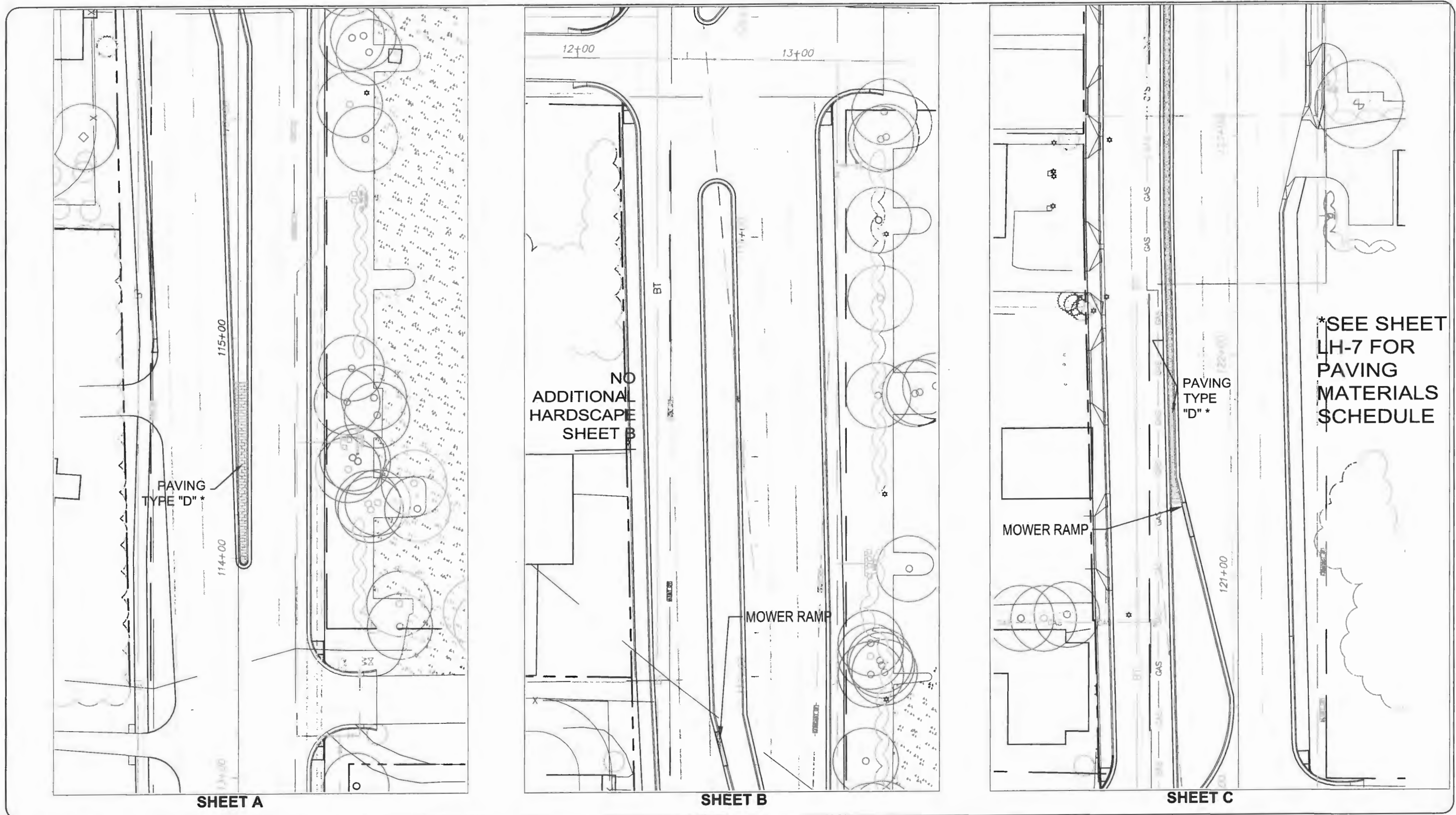
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Department of Public Works
 Engineering Division

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Project: 100%
 HARDSCAPE LAYOUT PLAN
 FOR
 STATE ROUTE 60
 &
 43RD AVENUE

Sheet: LH-2
 Of: LH-7
 FDOT FIN:
 431750-2-54-01
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SHEET A

SHEET B

SHEET C

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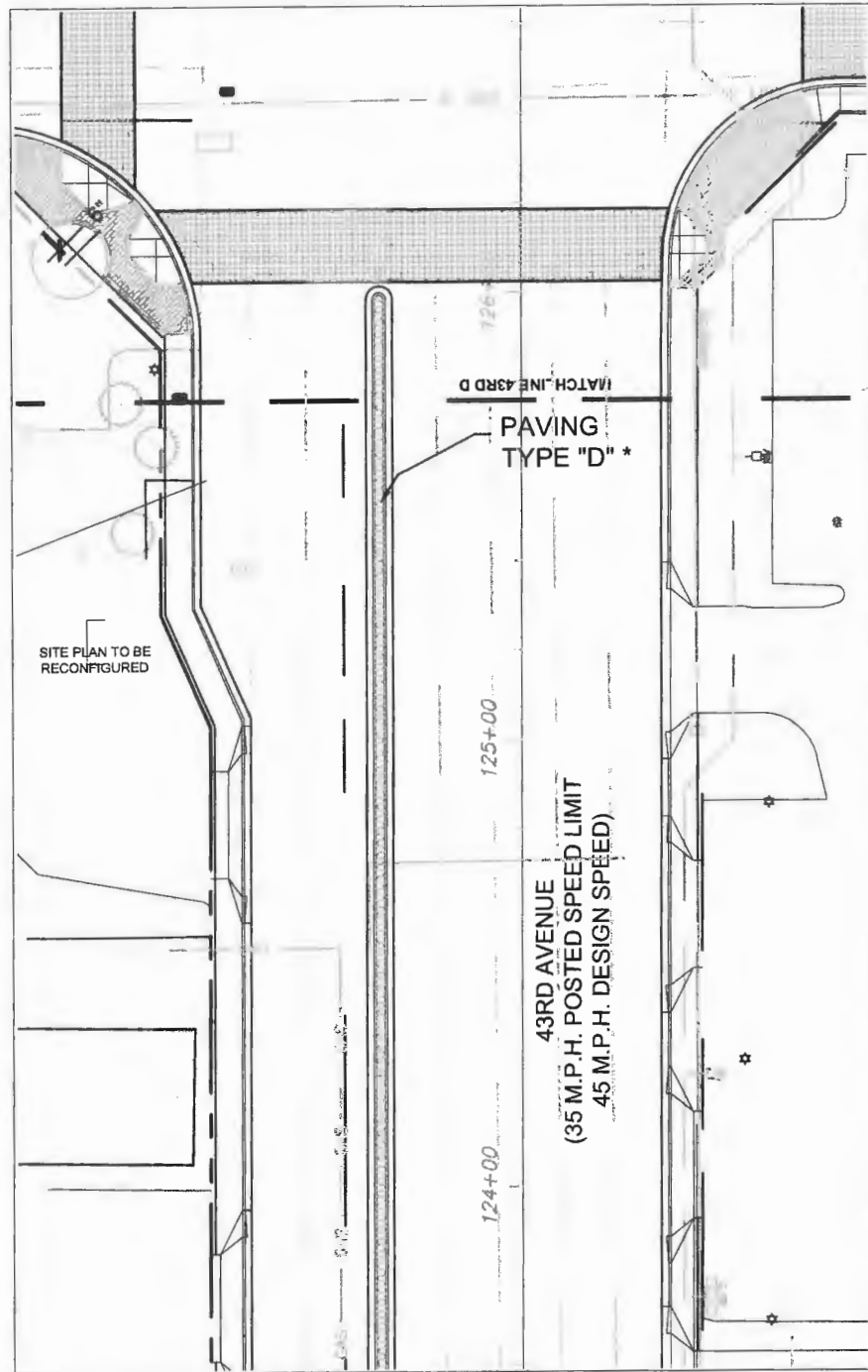
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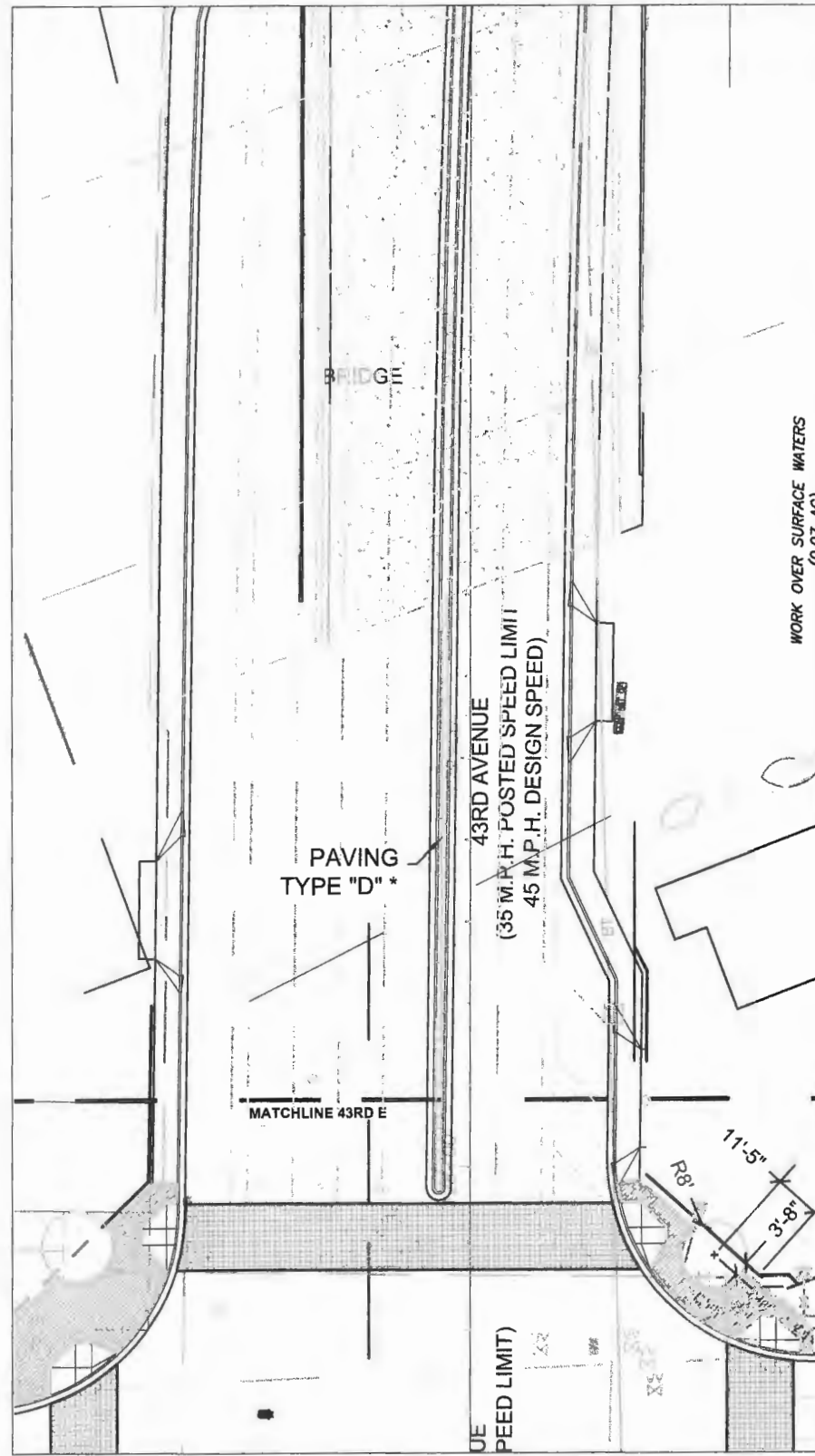
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HARDSCAPE LAYOUT PLAN
 FOR
STATE ROUTE 60
 &
43RD AVENUE

Sheet: LH-3
 Of: LH-7
 FDOT FIN: 431759-2-54-01
 Project No. IRC# 0512
 LNW# WP1027

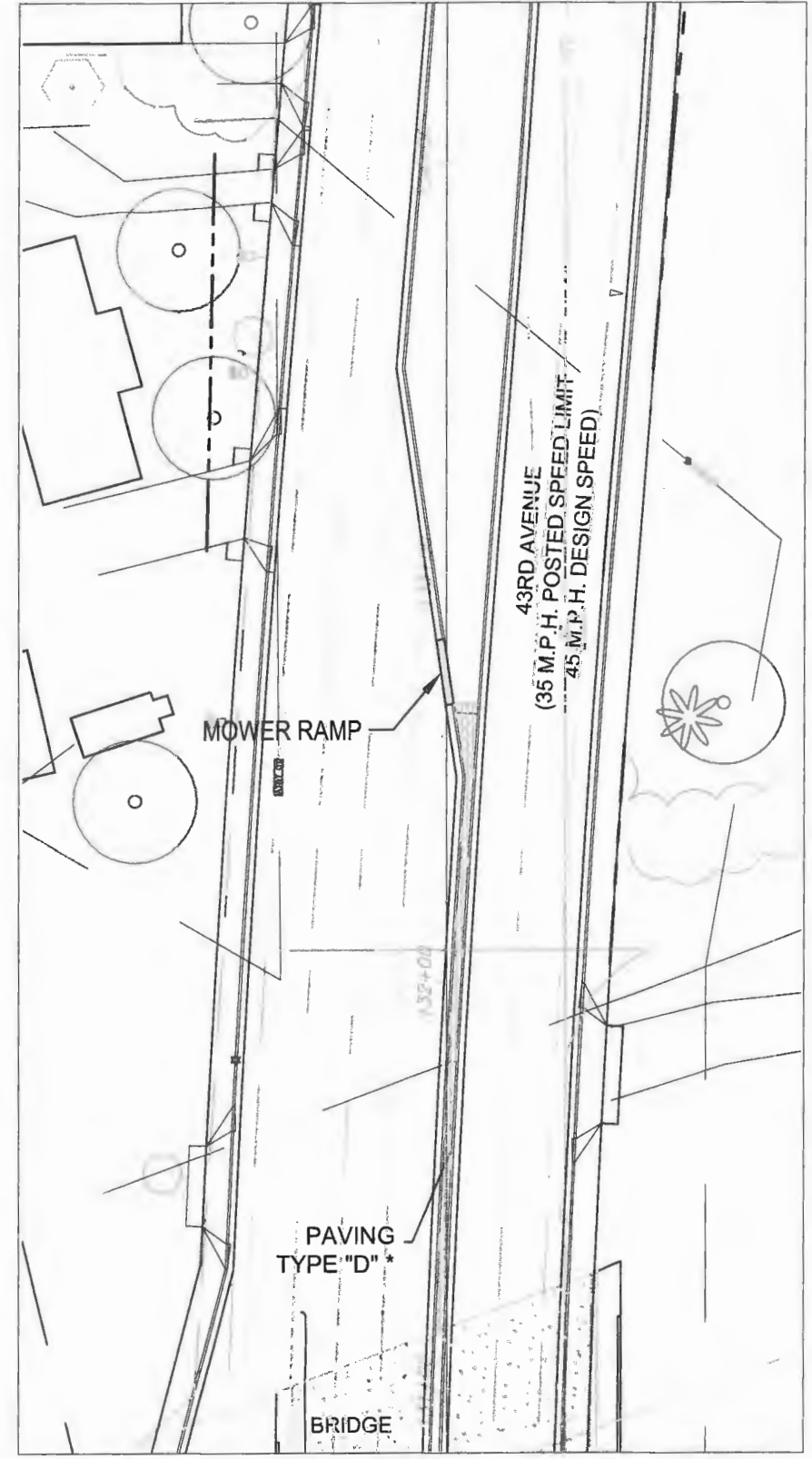
***SEE SHEET LH-7 FOR PAVING MATERIALS SCHEDULE**



SHEET D



SHEET E



SHEET F

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02	Revisions	CRF	12.13.18



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Engineering Division

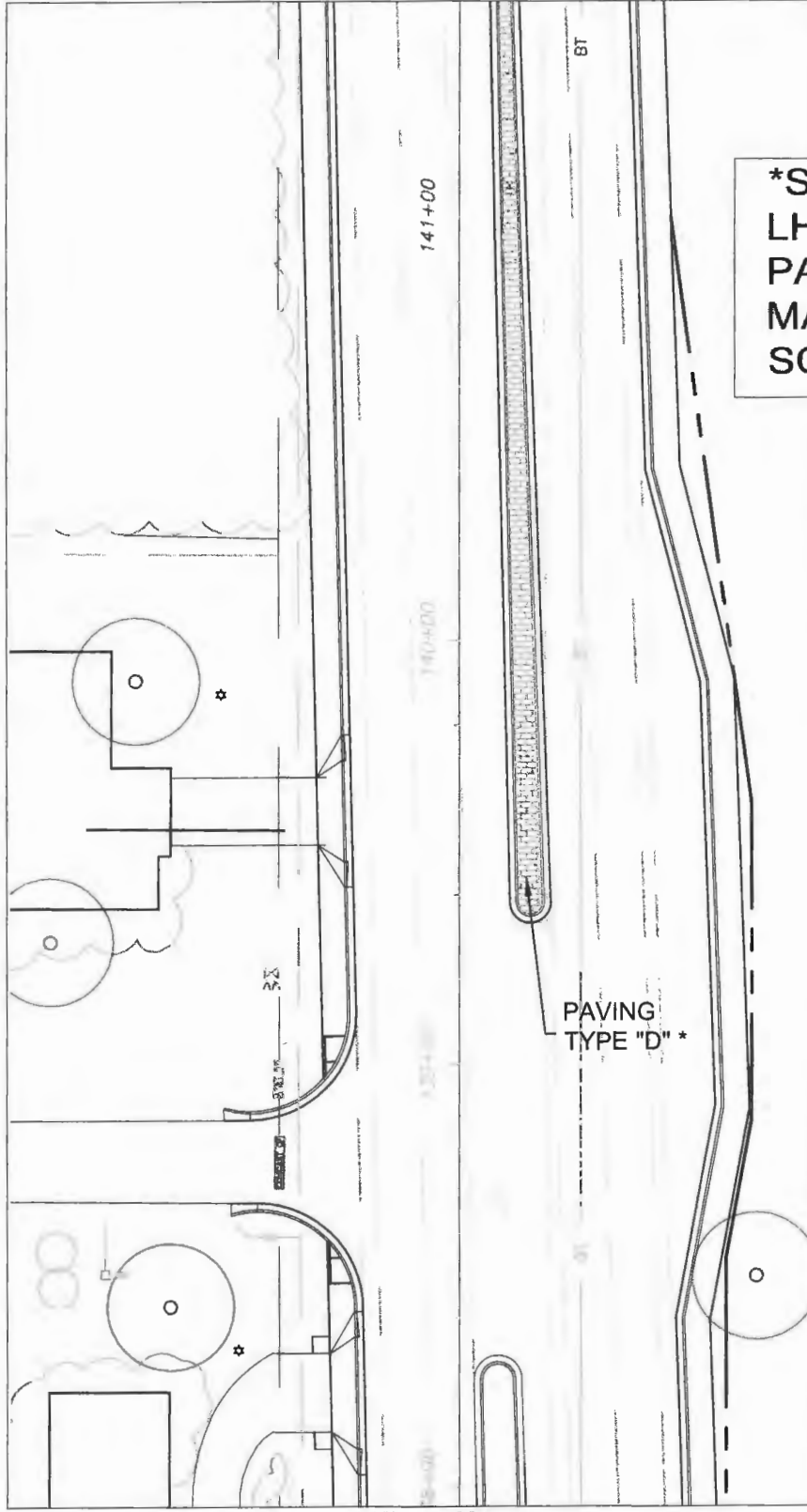
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Date: 11/11/17
Field Book No:

Project: 100%
HARDSCAPE LAYOUT PLAN
FOR
STATE ROUTE 60
&
43RD AVENUE

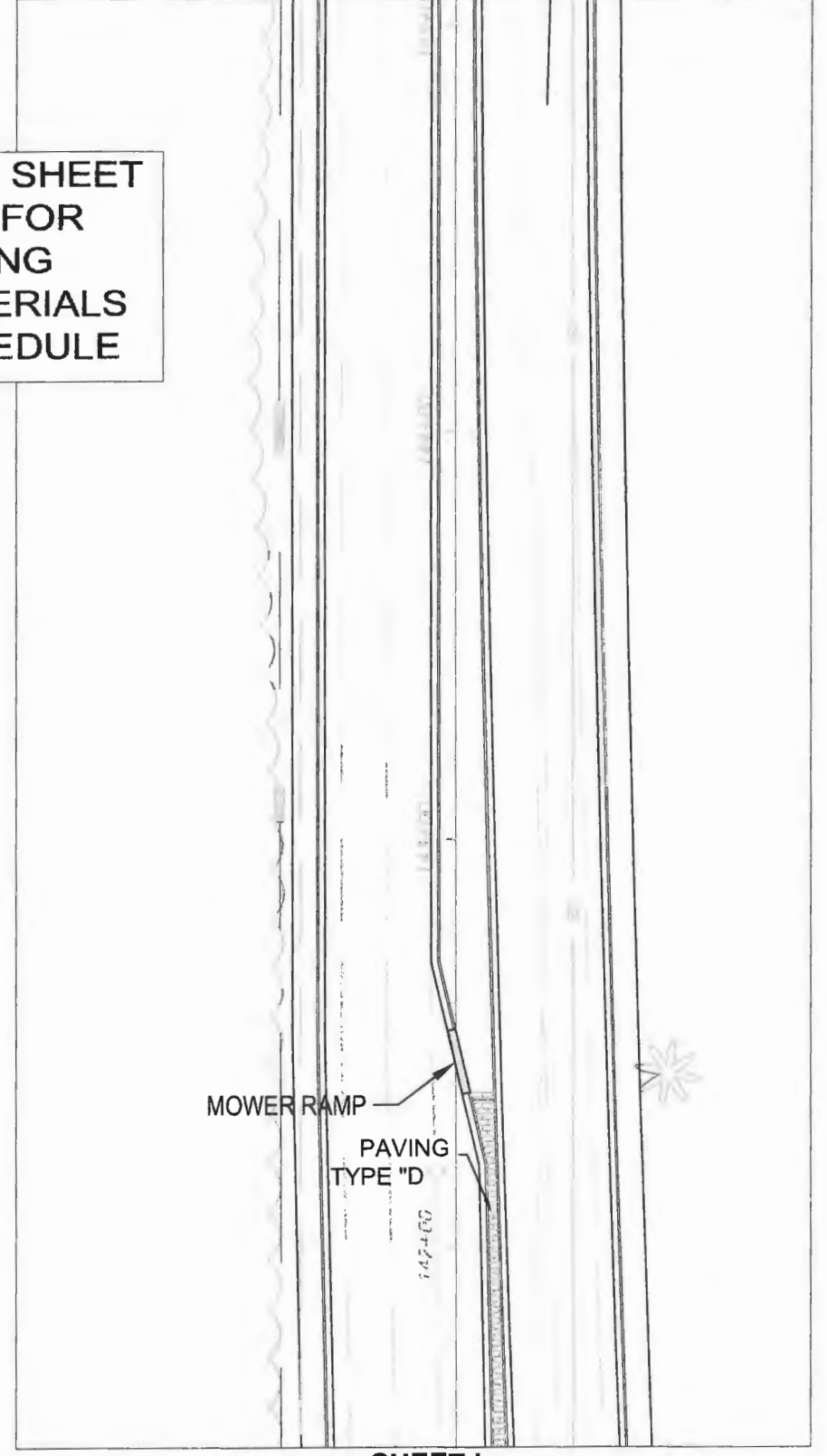
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FDOT FIN:
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SHEET G



SHEET H



SHEET I

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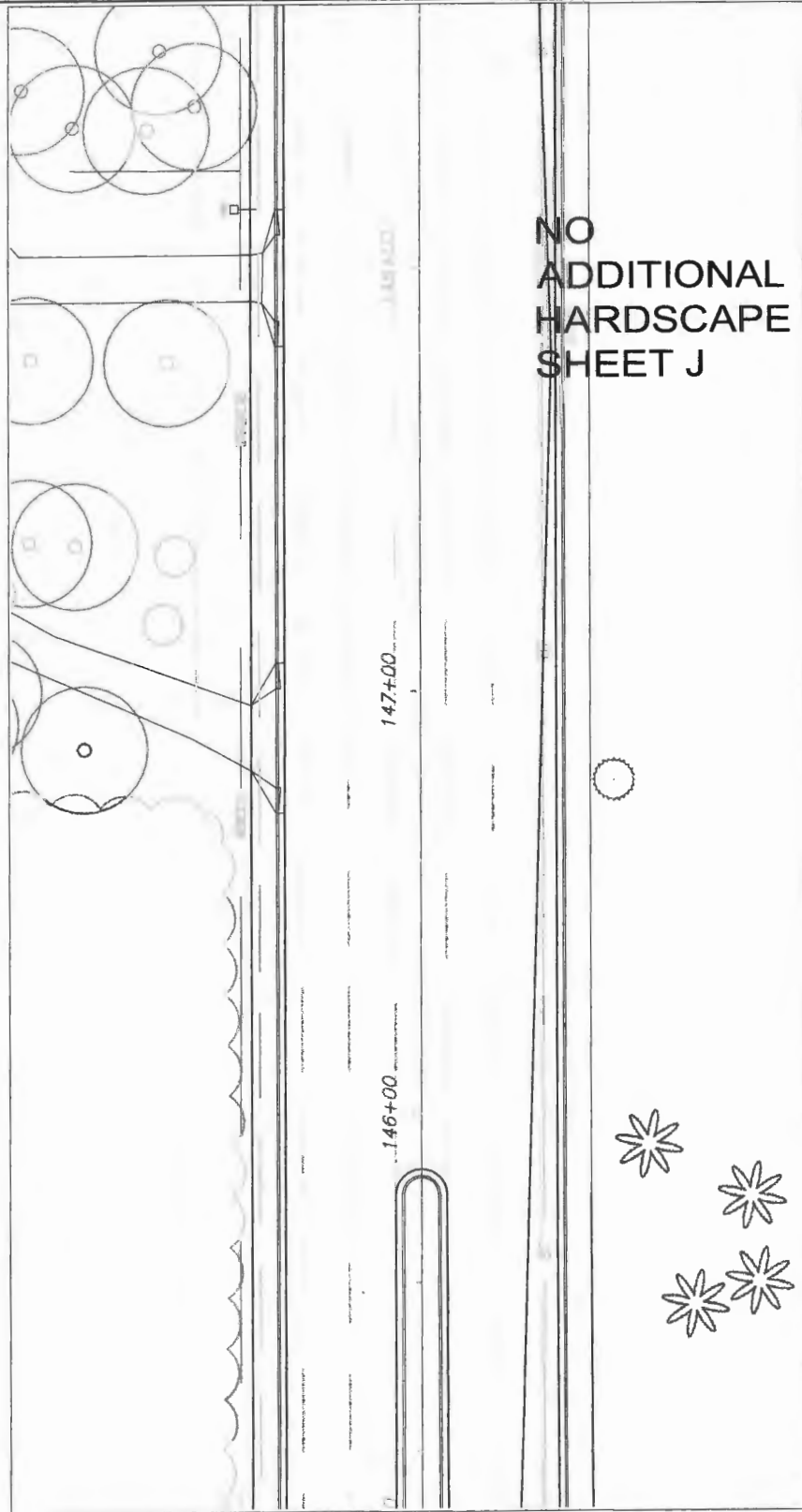
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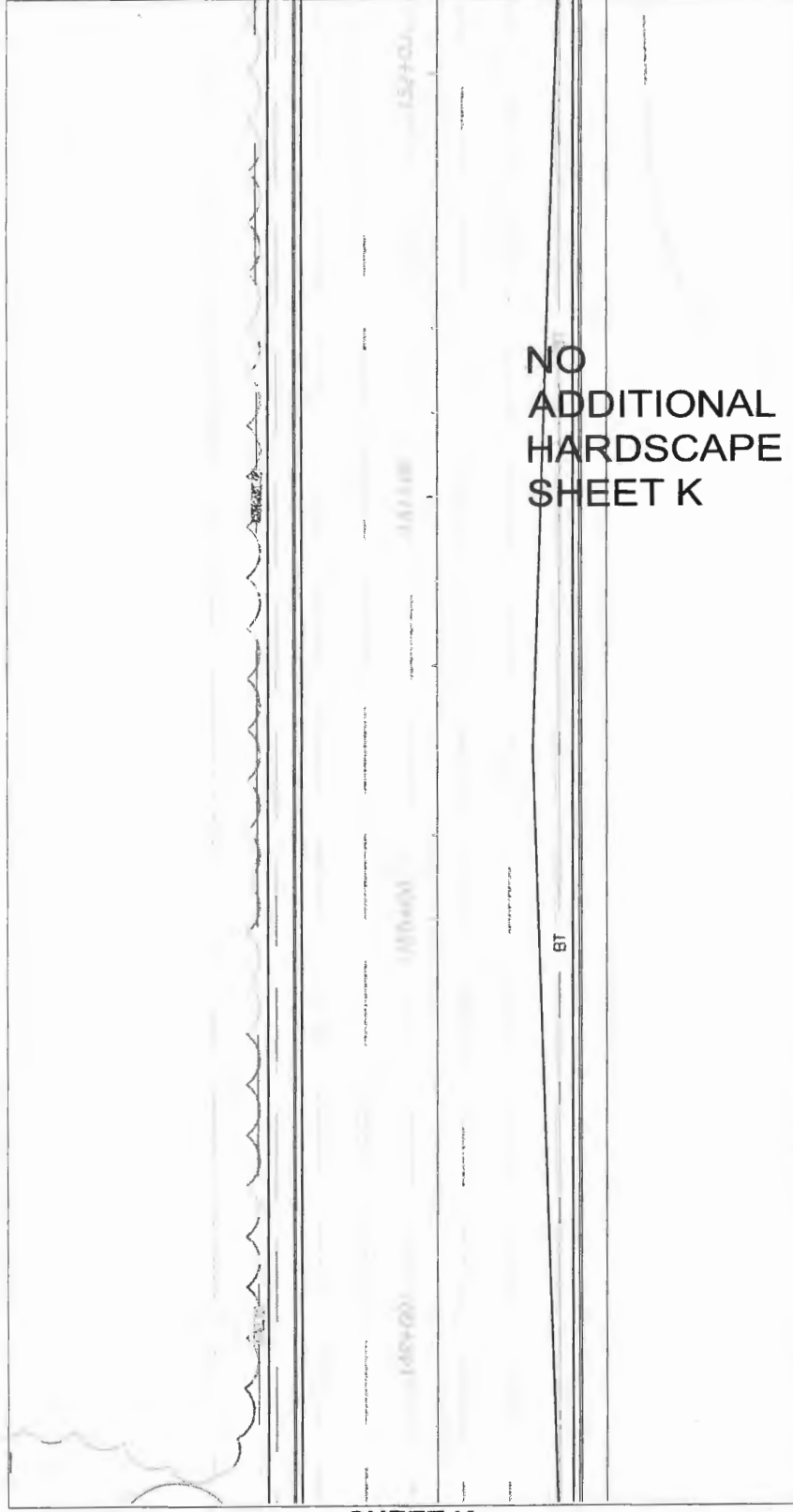
 FOR
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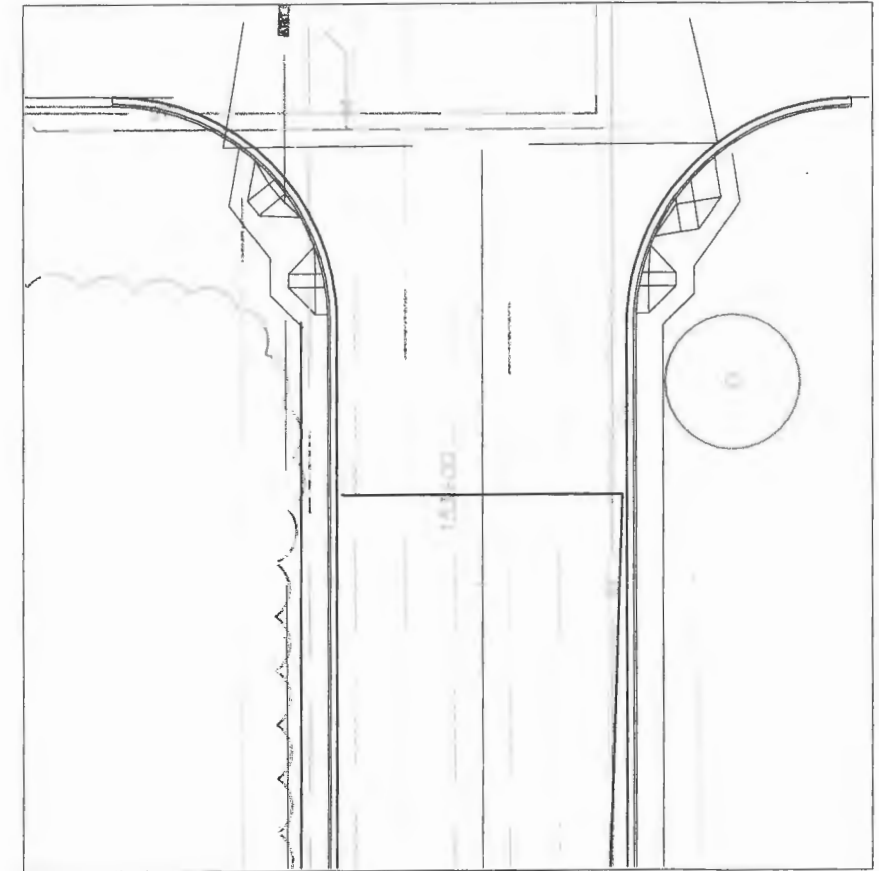
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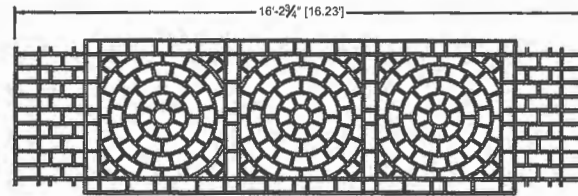
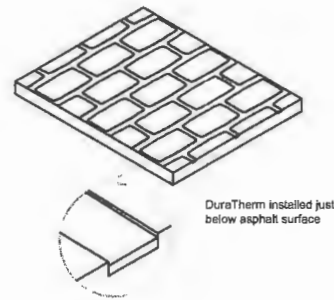


FOR
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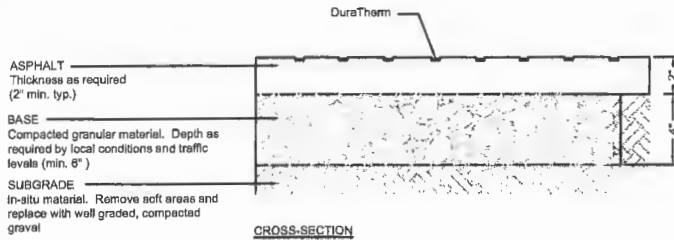
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Of: LH-7
FDOT FIN:
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PAY ITEM	KEY	QTY	MANUFACTURER	TYPE	COLOR	PATTERN
526-1-2	A	290 SY	BELGARD	HOLLAND 4" X 8" 80 MM	RED, CHESNUT, CHARCOAL	45 DEGREE HERRINGBONE
523-1	C	800 SY	DURATHERM	INTEGRATED PAVING CONCEPTS	CINNAMON	WAGON WHEEL
520-70	D	SEE ENGINEER'S DWG	SCOFIELD SYSTEMS	COLOR TREATED STAMPED CONCRETE	SCOFIELD A-26 BRICK RED	RUNNING BOND BRICK PERPENDICULAR TO ROAD
520-2-13	E	632 LF		HEADER CURB - DETAIL BELOW		

632 LINEAR FT OF HEADER CURB SEE DETAIL BELOW

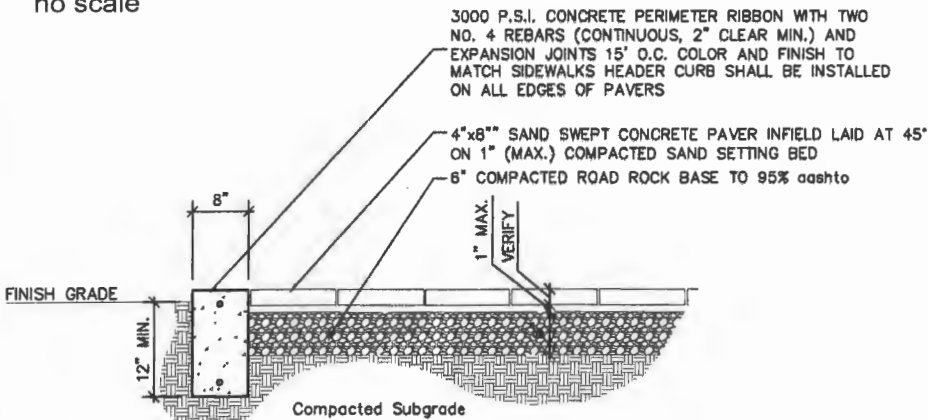


Paving C Duratherm
no scale

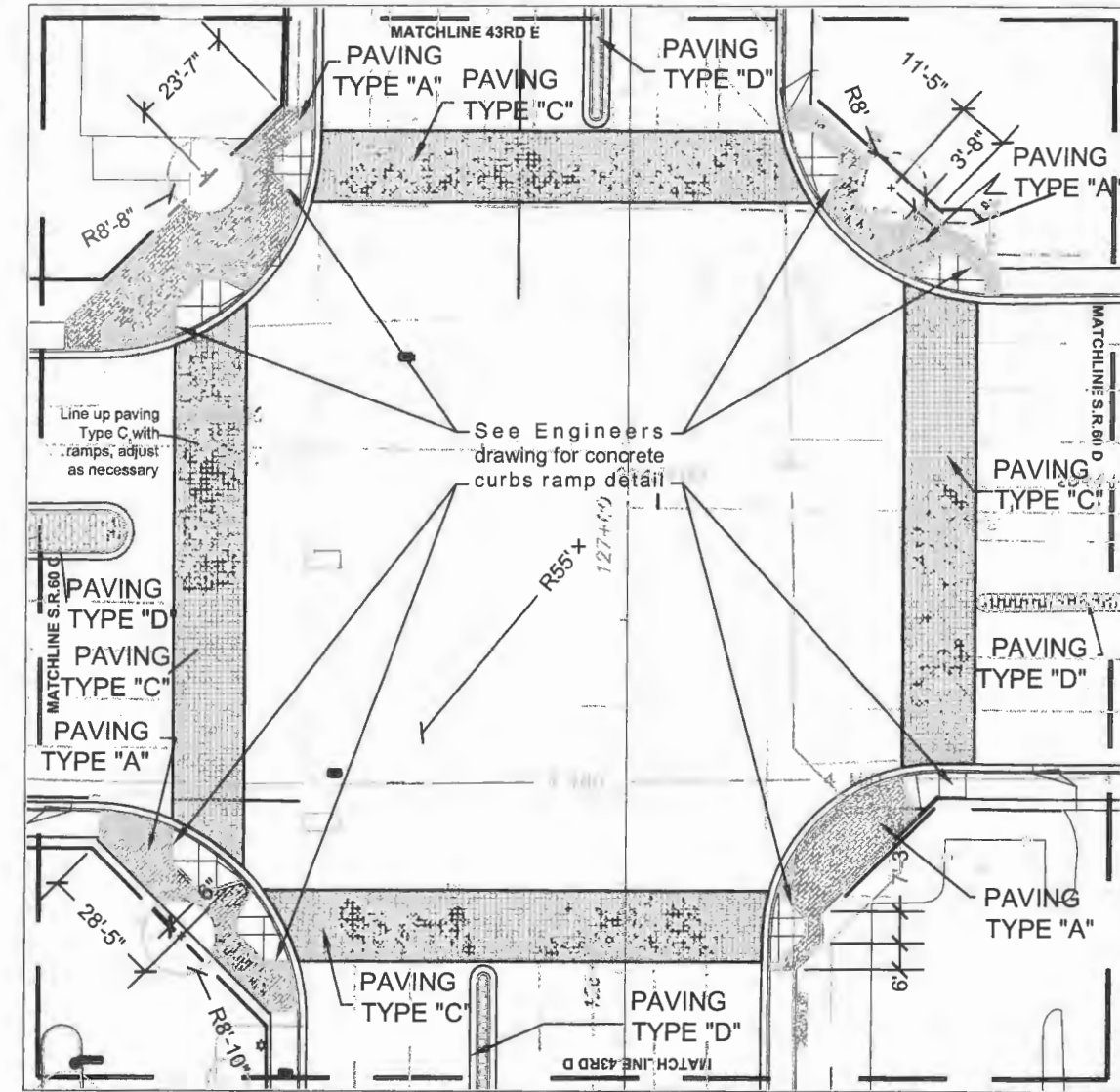


NOTE:
These are typical details only - actual pavement layer thickness should be properly designed by a qualified professional

Paving C Duratherm
no scale



Paving A Pavers with header curb
no scale



SHEET INT.

NOTES

See engineer's drawings for overall sidewalk and stamped concrete dimensions.
Unless otherwise specified, radii are on ROW line
See engineer's specifications for stamped concrete.

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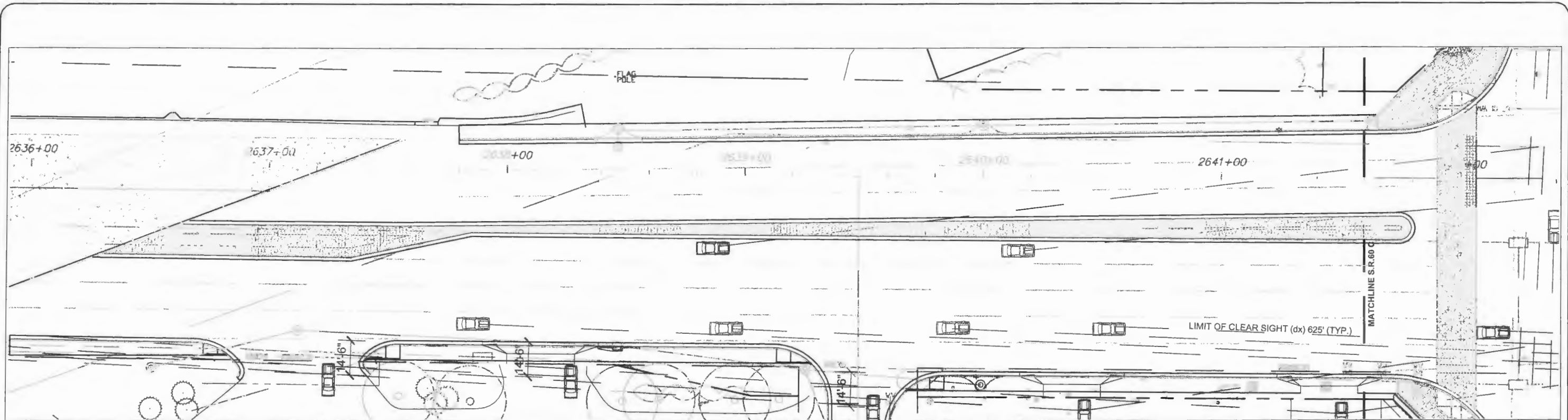


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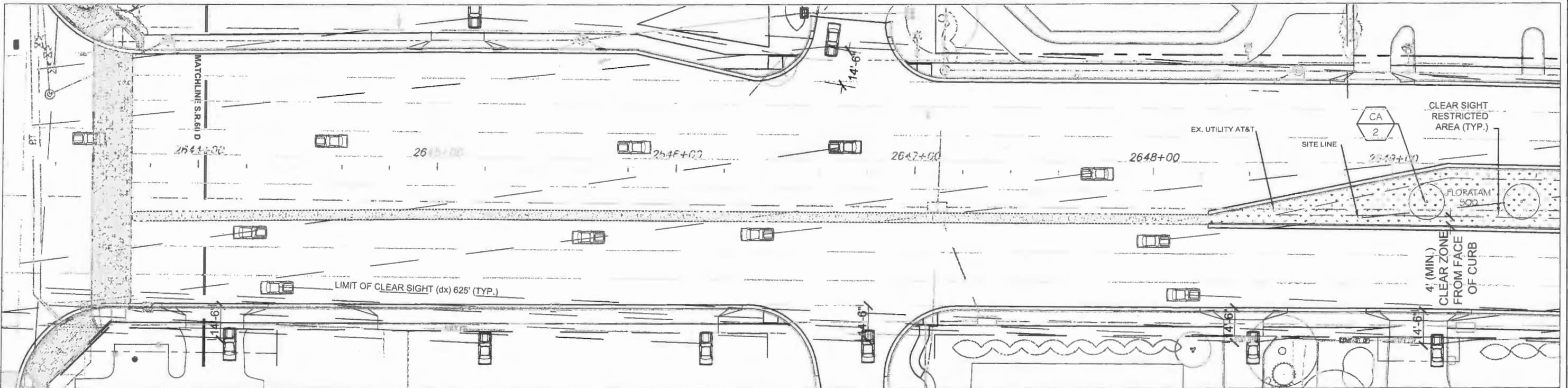
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FOR
STATE ROUTE 60
&
43RD AVENUE

Sheet: LH-7
Of: LH-7
FDOT FIN: 431759-2-54-01
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SHEET C



SHEET D



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 FOR STATE ROUTE 60 & 43RD AVENUE

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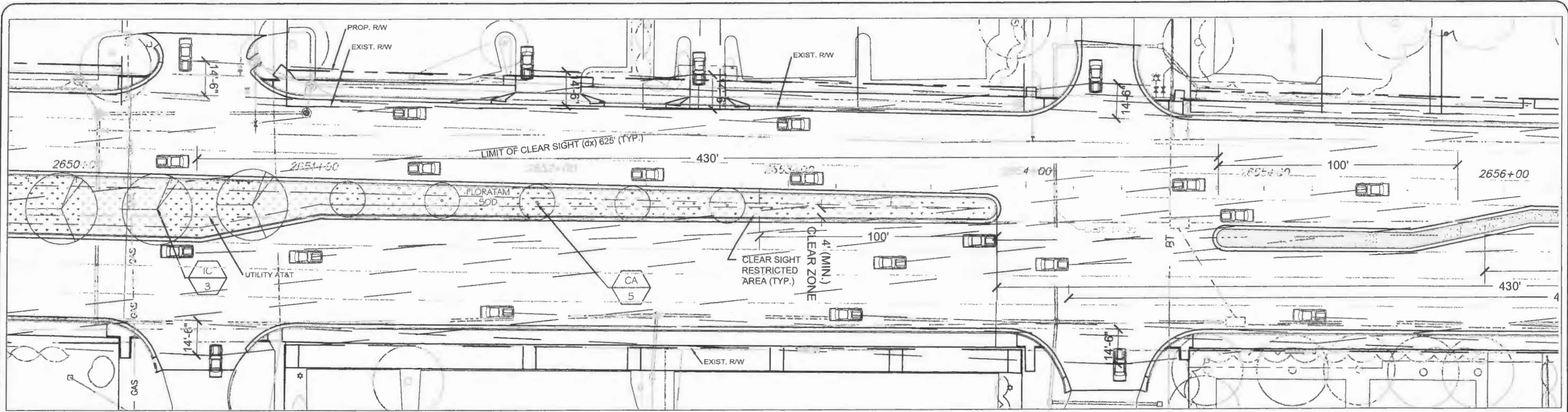
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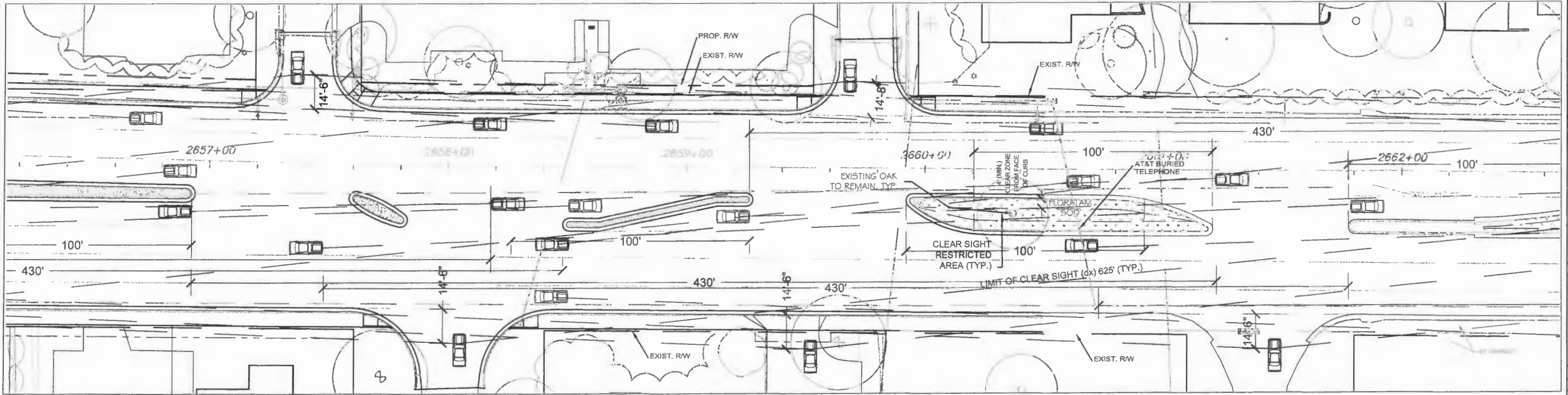
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SHEET E



SHEET F

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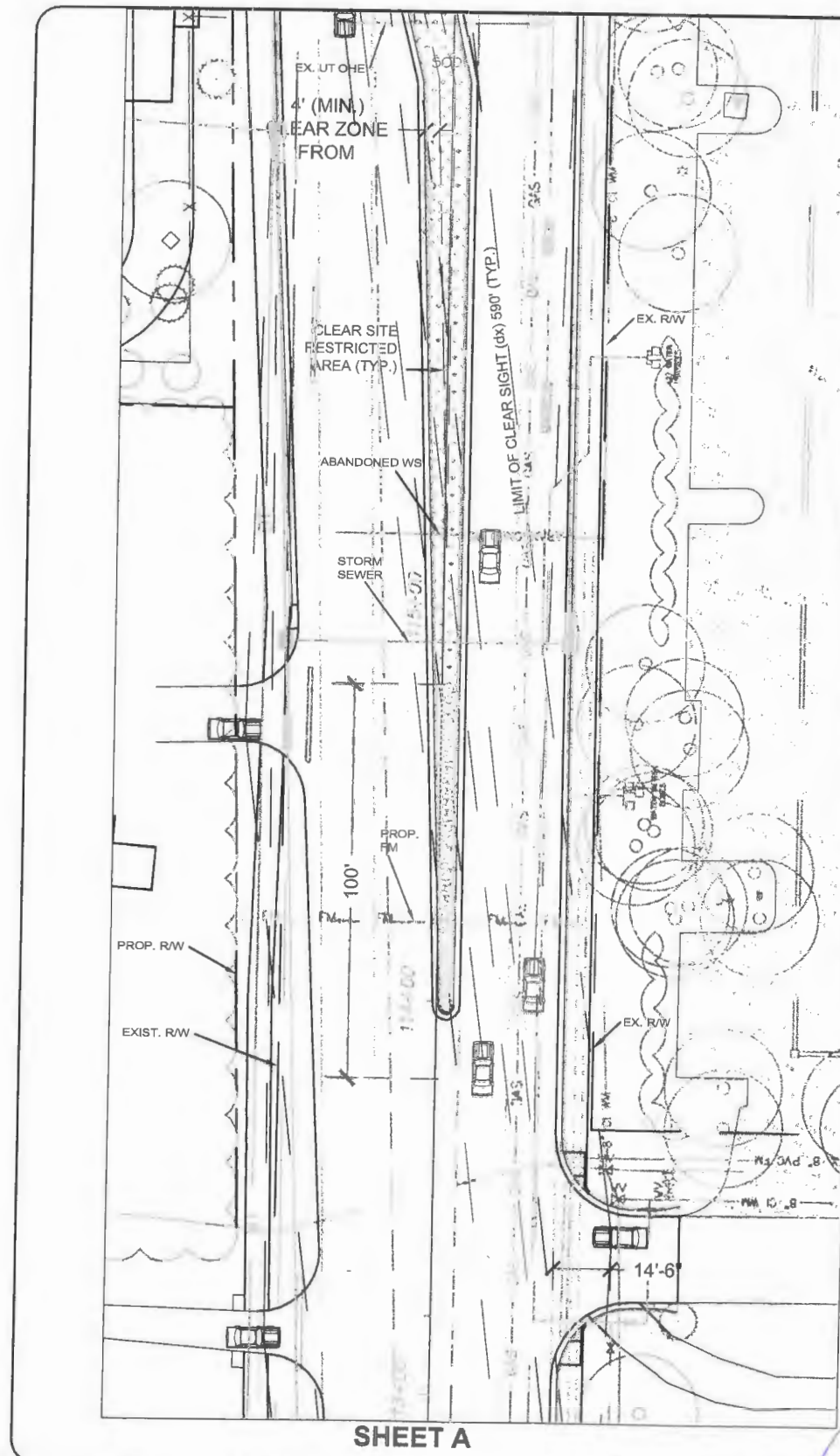
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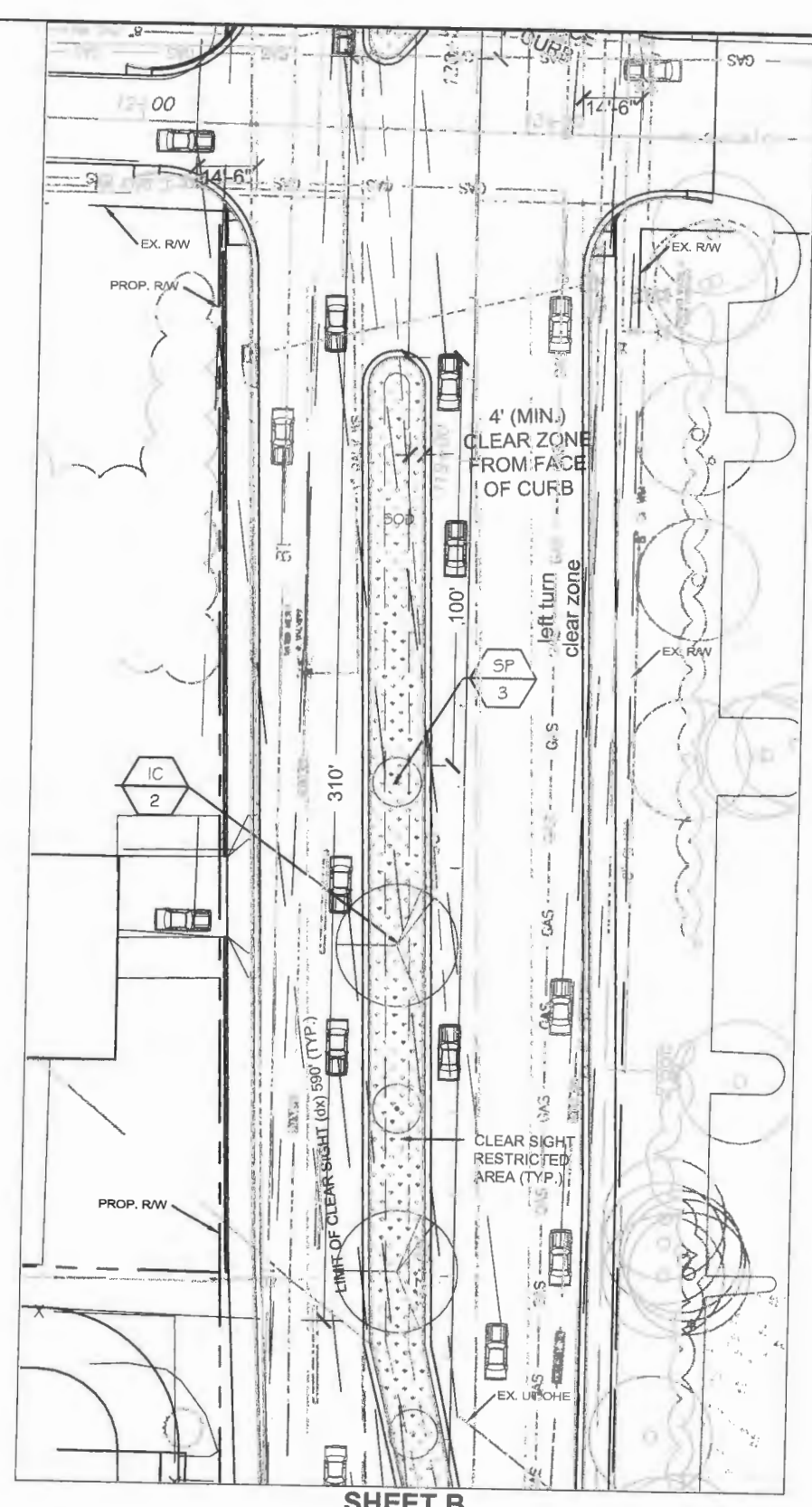
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 43RD AVENUE

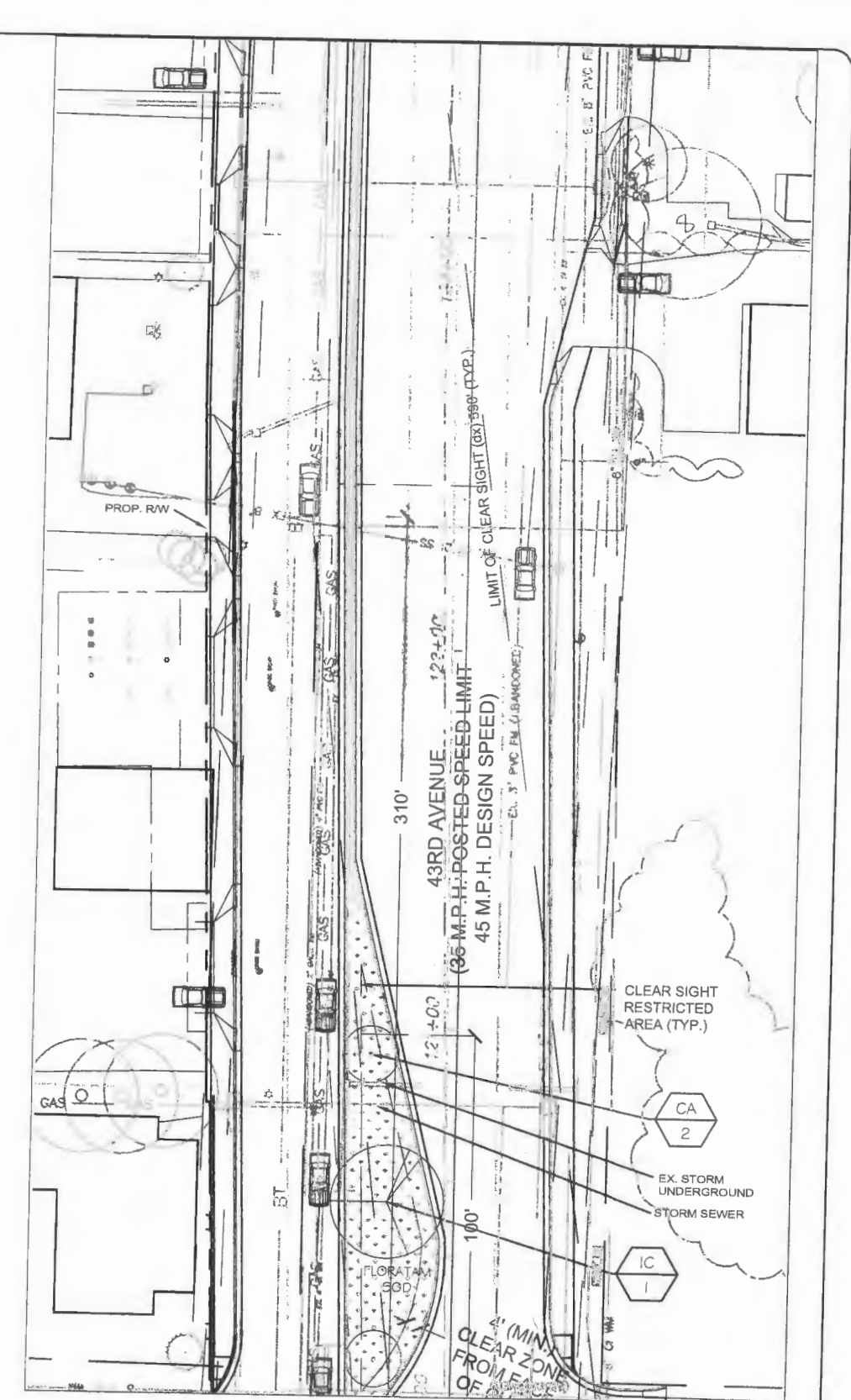
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SHEET A



SHEET B



SHEET C

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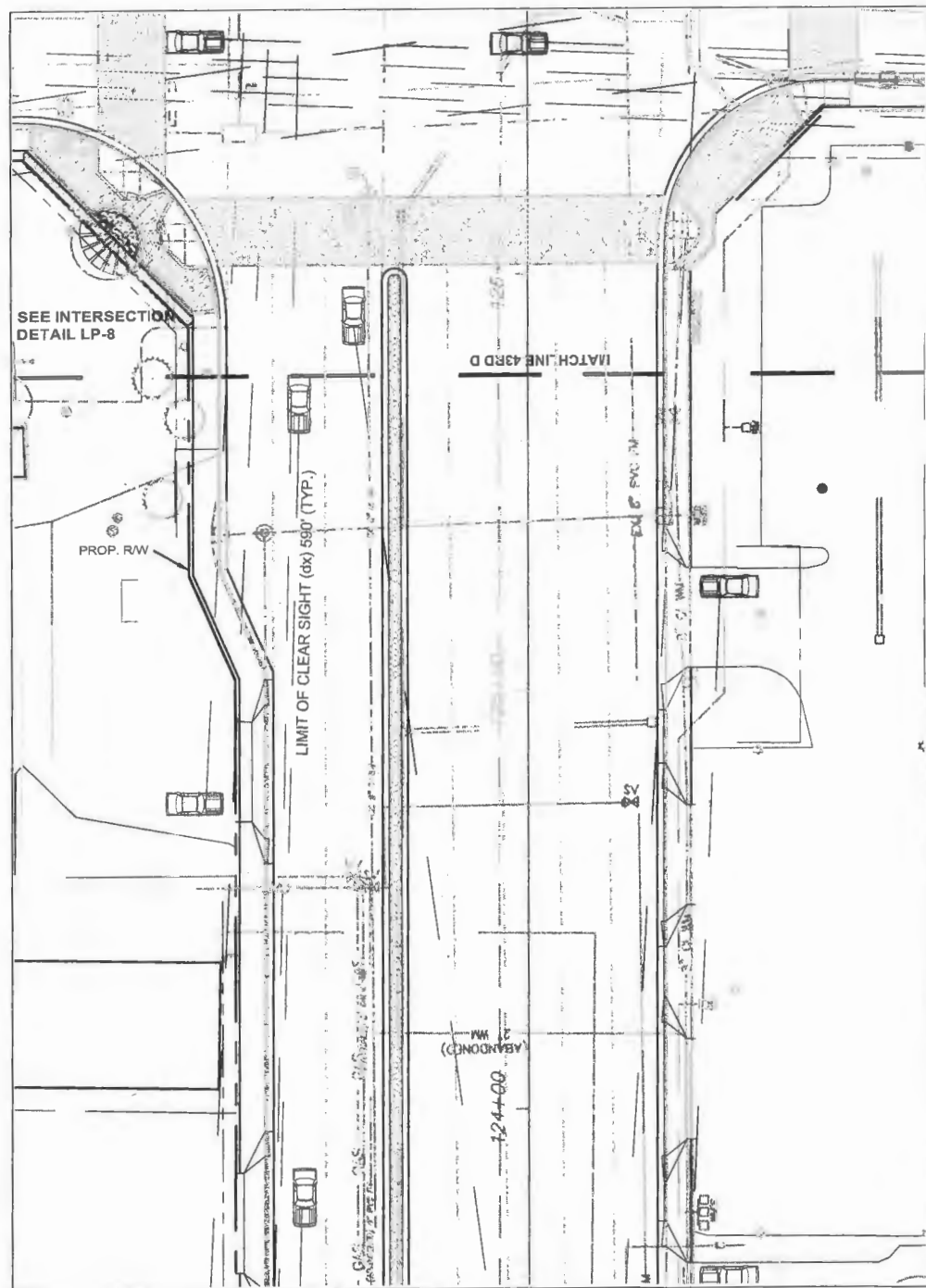
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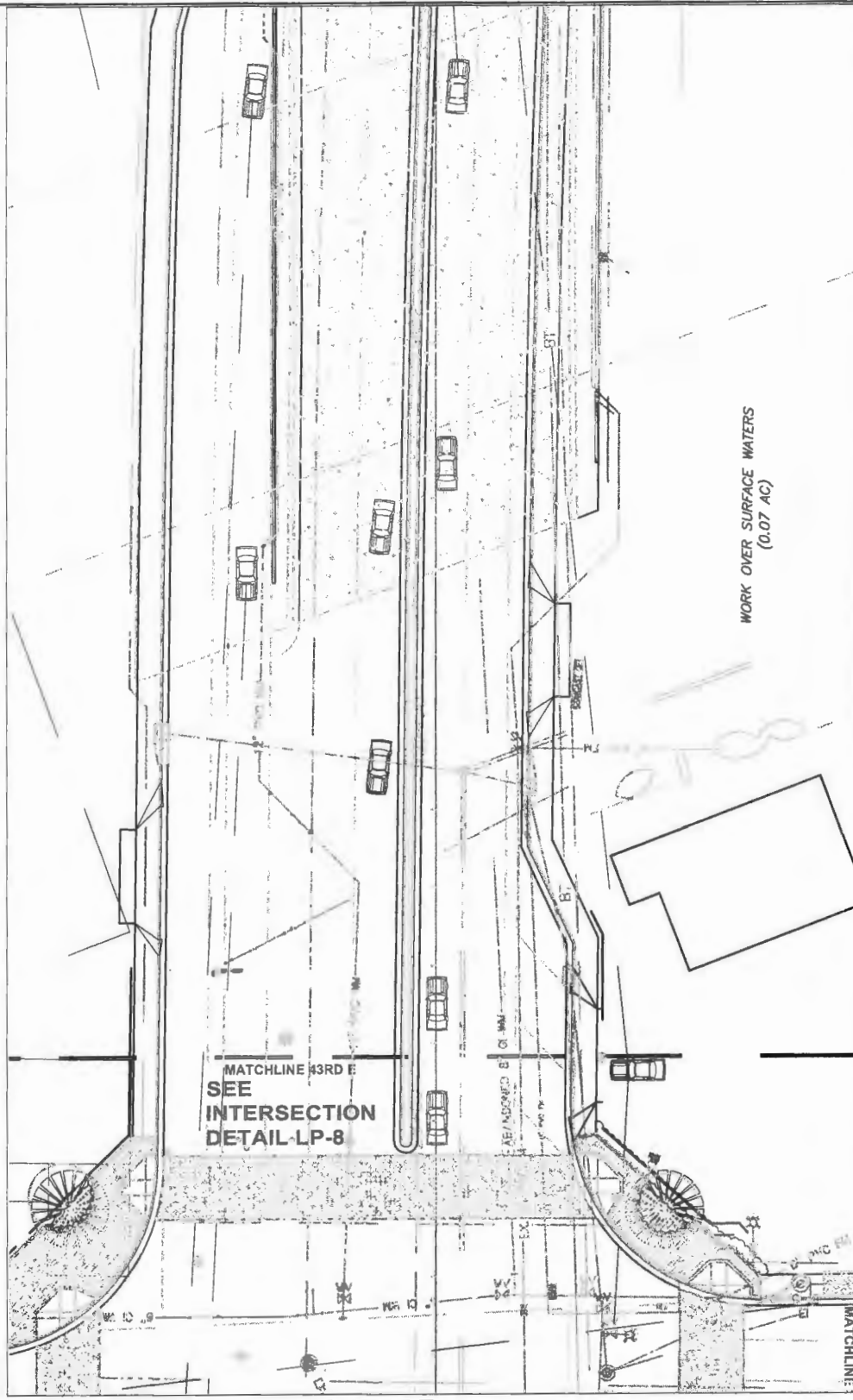
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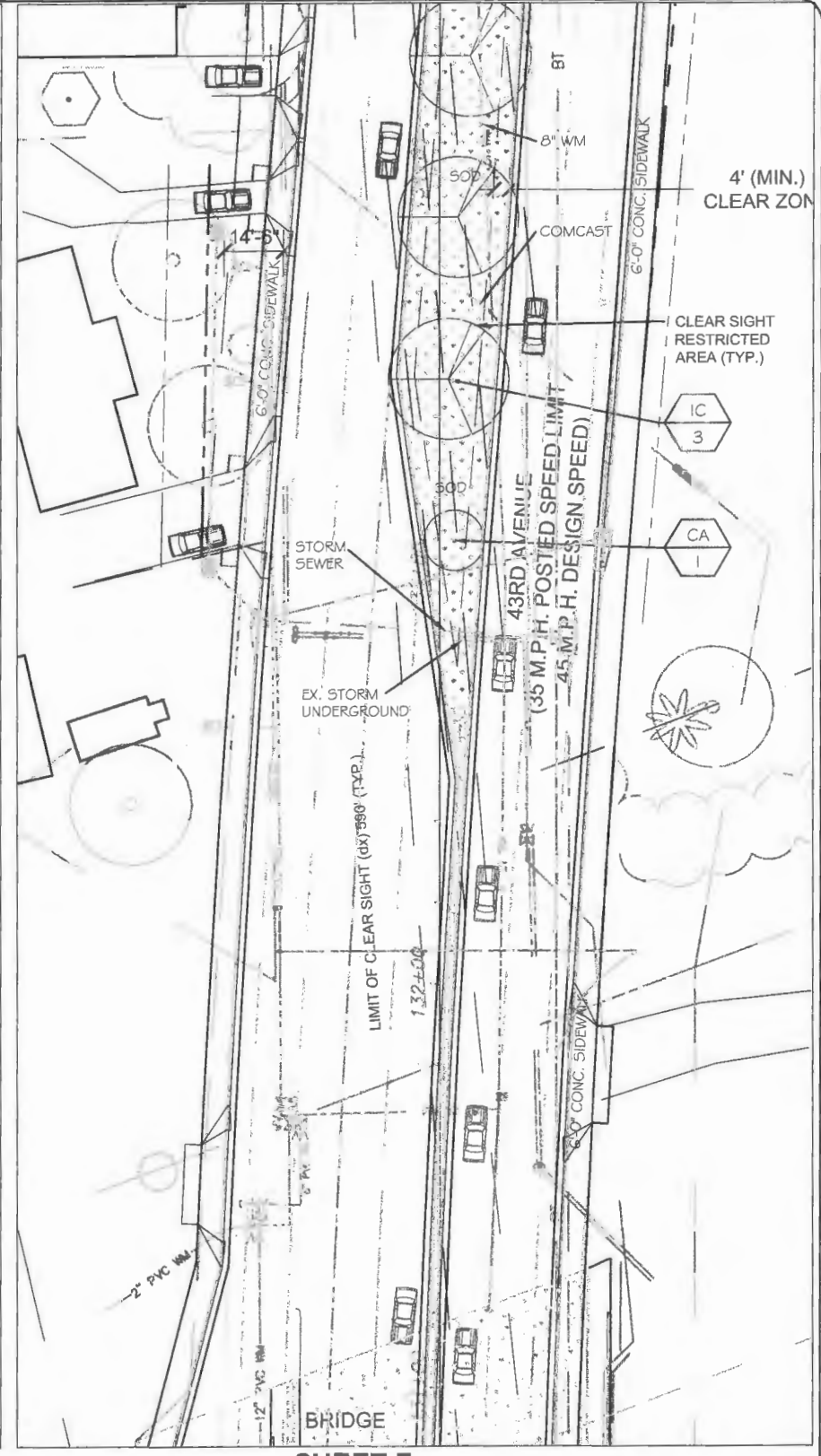
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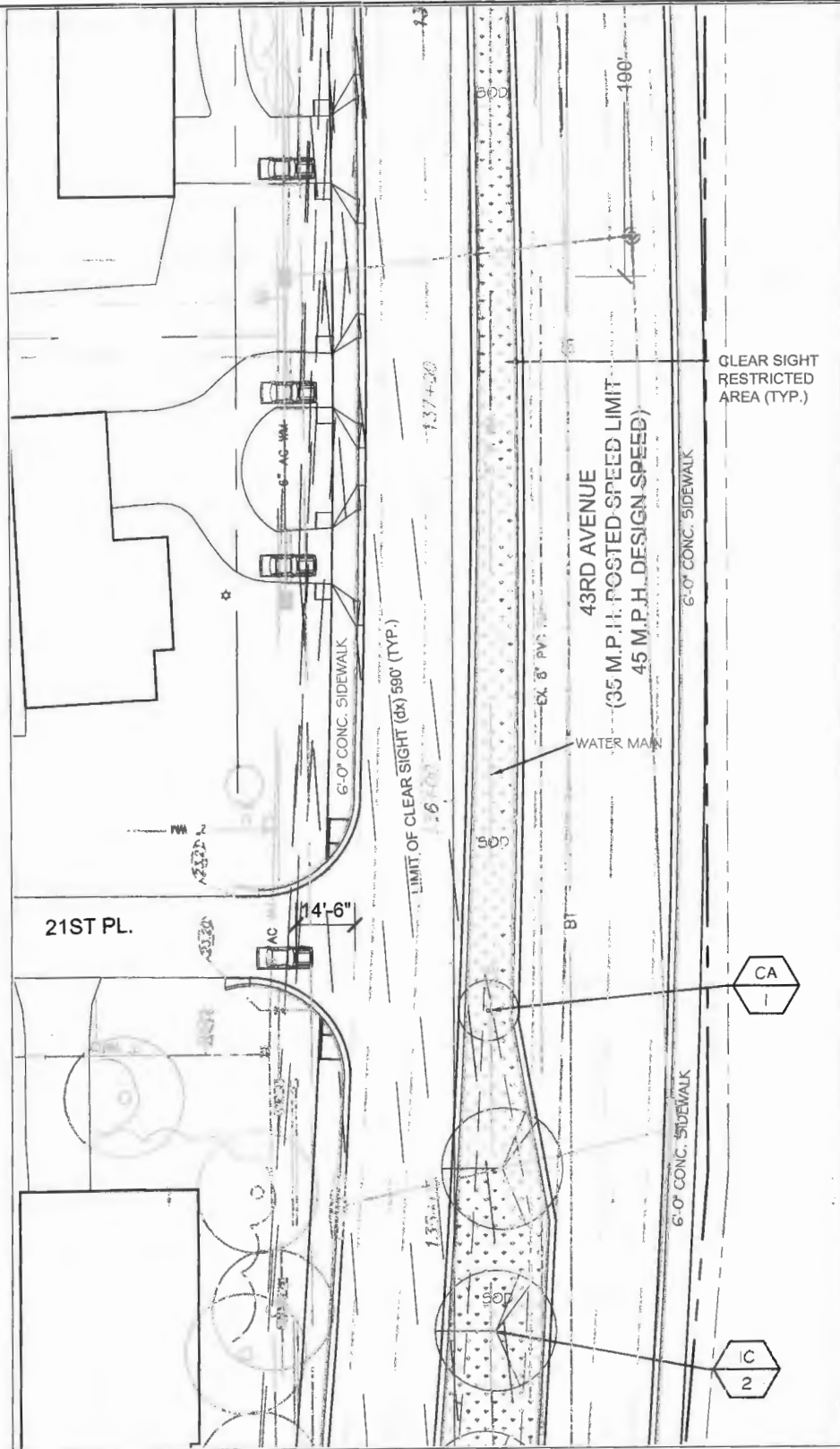


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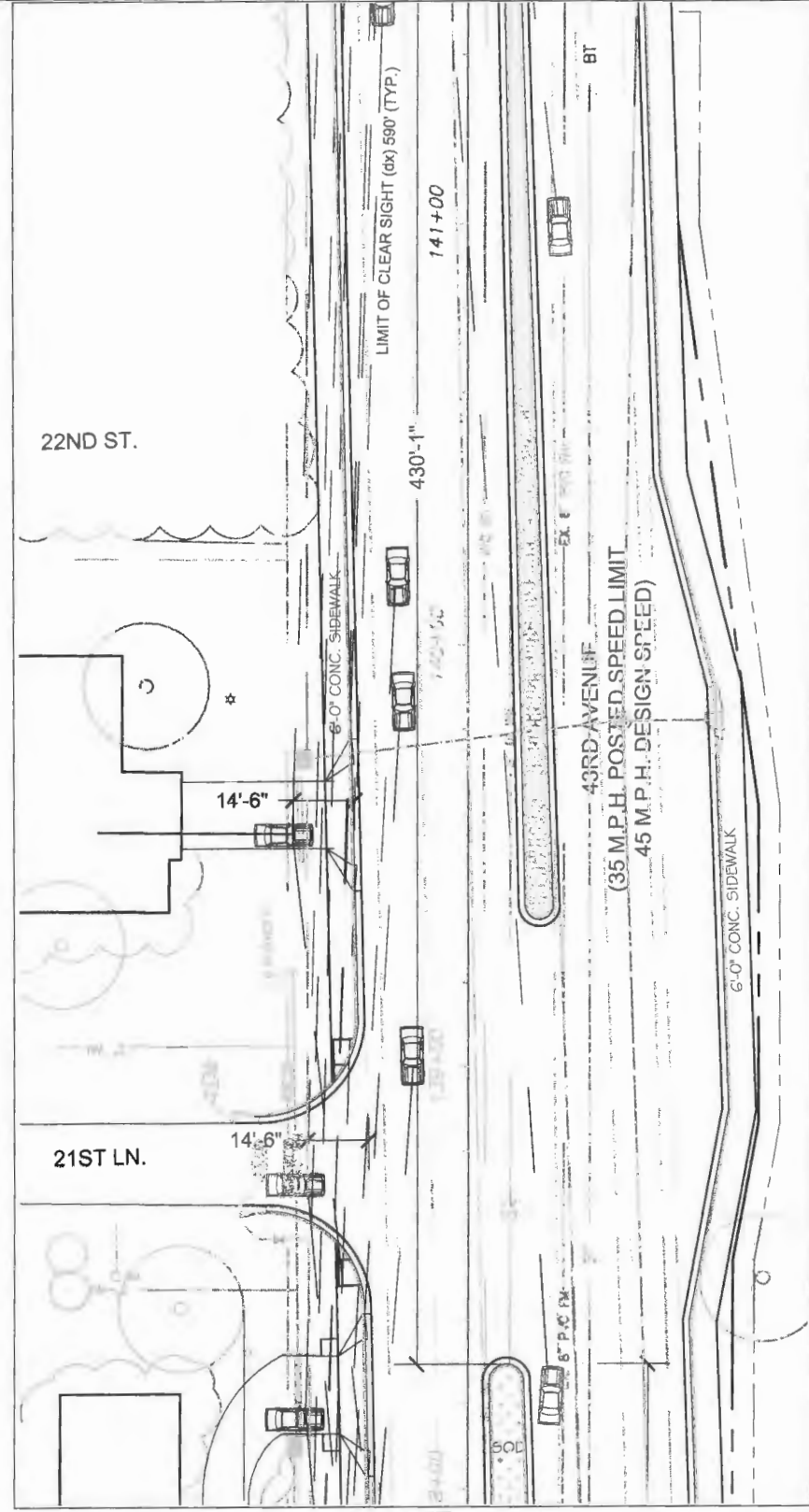
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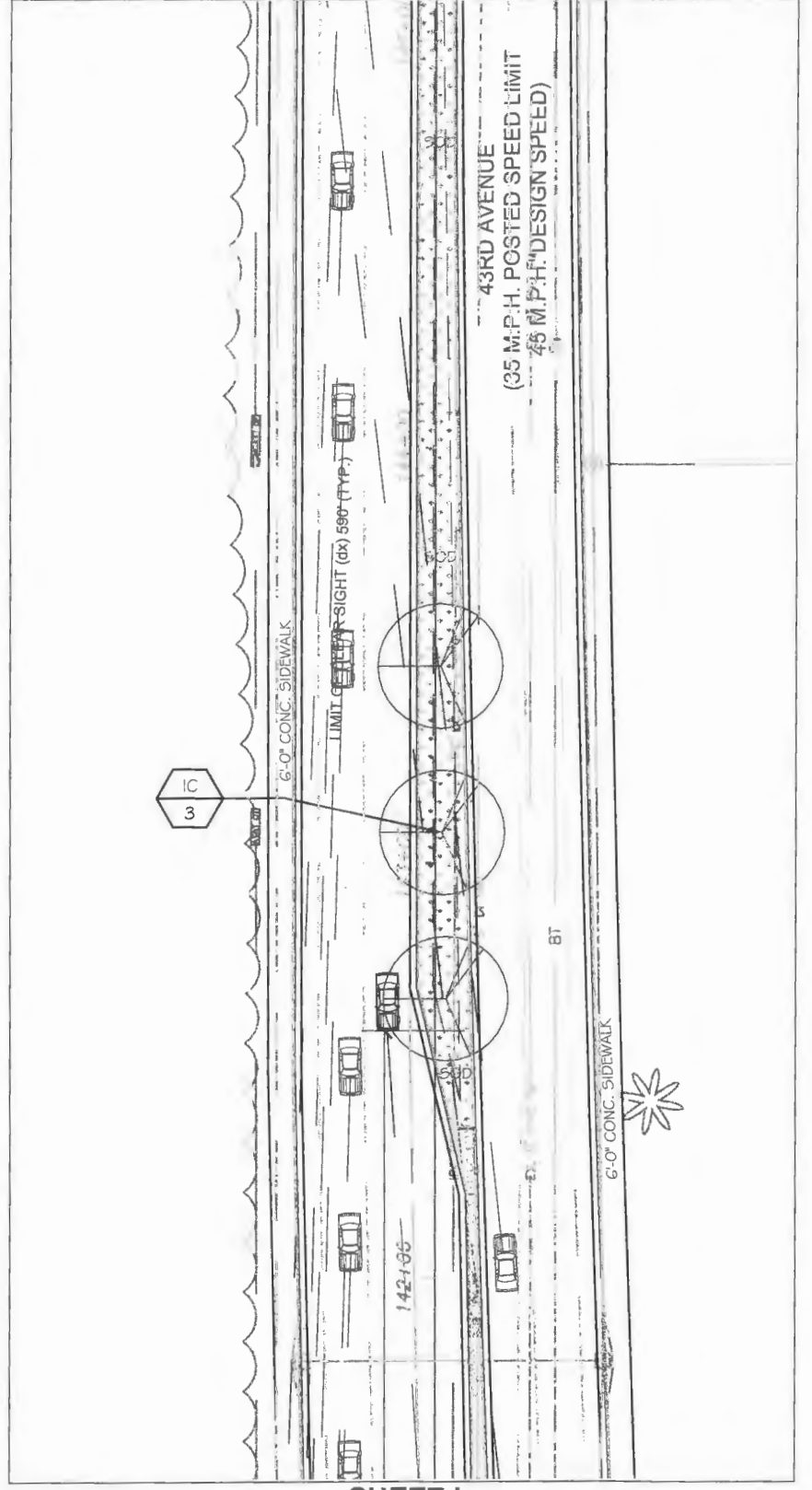
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 FDOT FIN:
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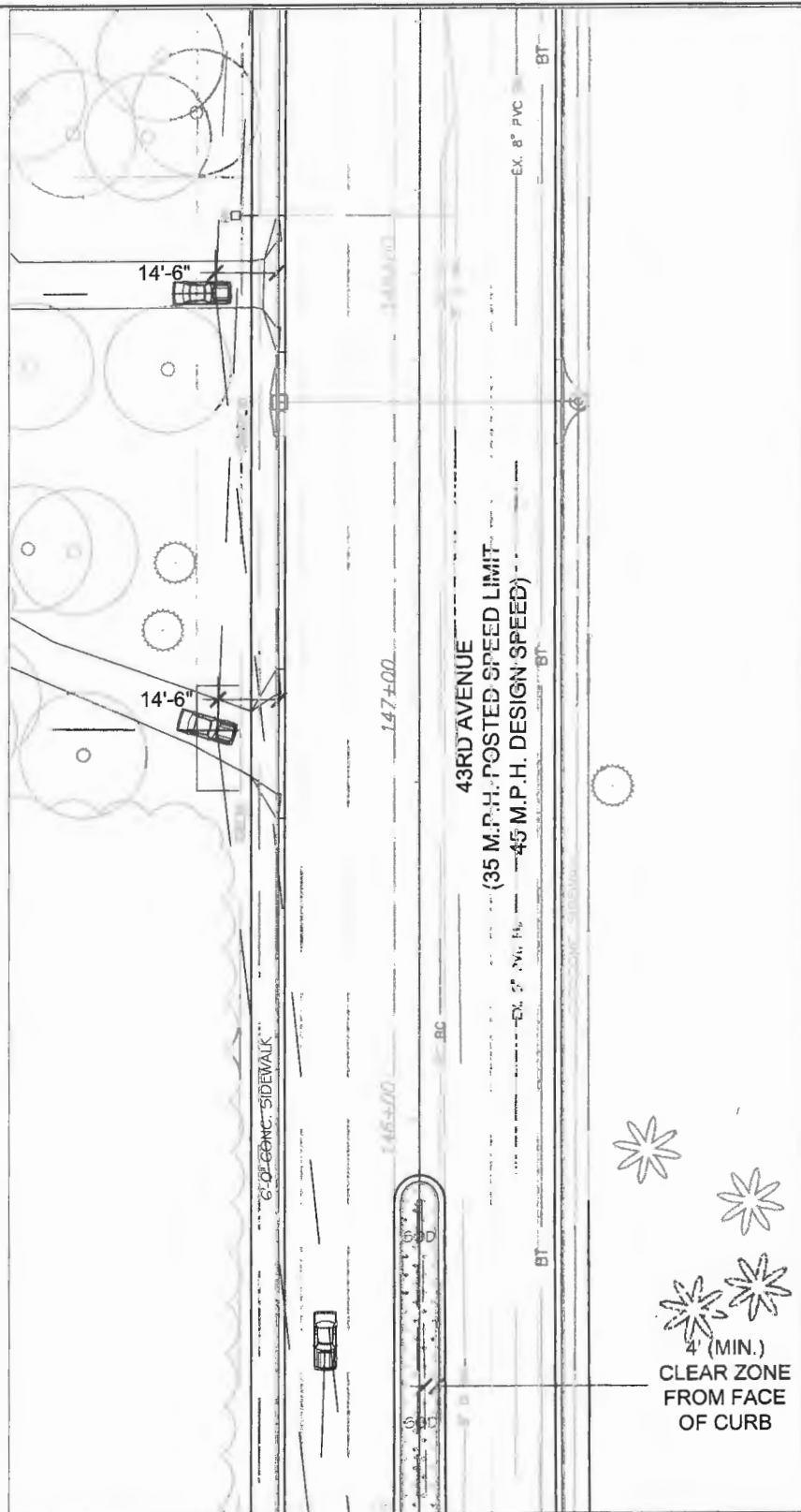


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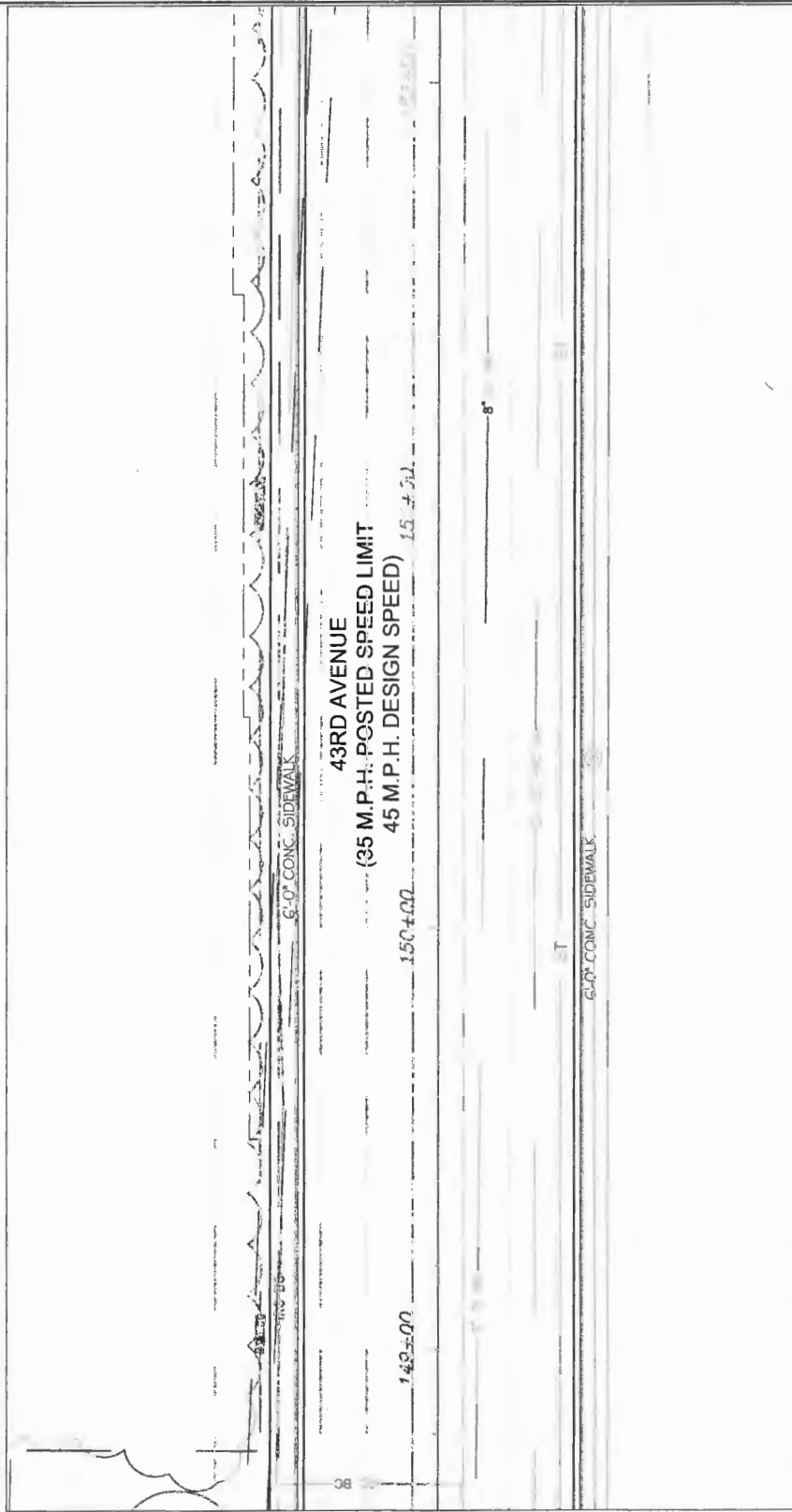
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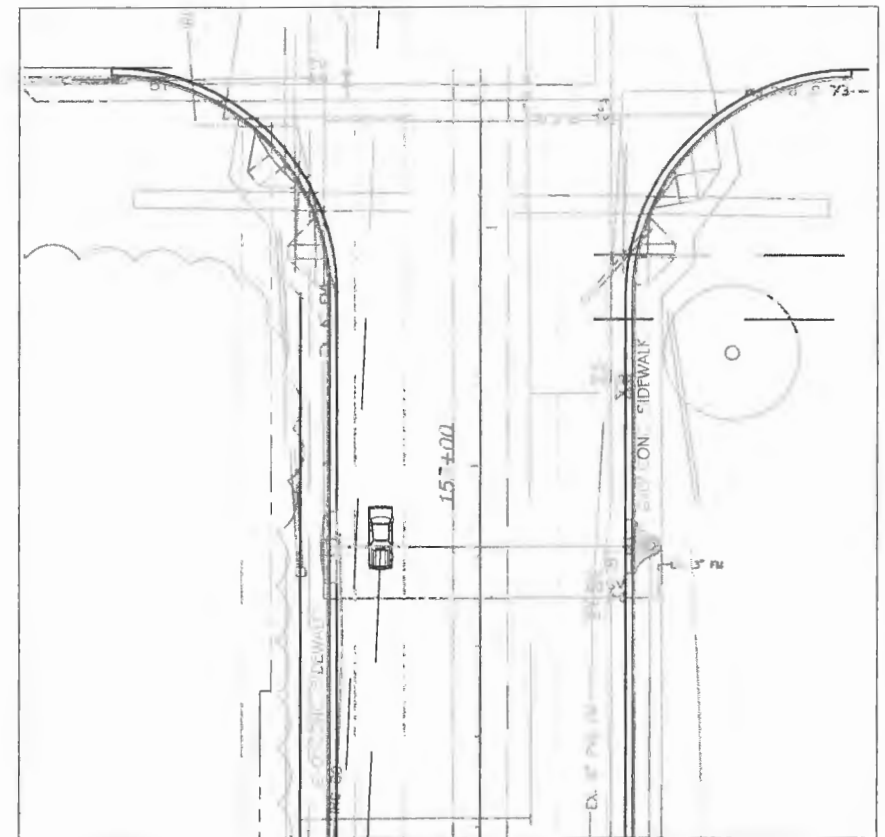
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Sheet: LP-6
Of: LP-8
FDOT FIN:
431759-2-54-01
Project No.
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LNW WP1027

OVERALL PLANT SCHEDULE FOR STATE ROUTE 60 & 43RD AVENUE

Item	SYM	QTY	BOTANICAL	COMMON	SIZE	SPACING
TREES						
580 5-5532	CA	9	GORDONIA IASIANTHUS	LOBLOLLY BAY	8-10' X 4-5' 2.75" CAL	AS SHOWN
580 5-572	IC	14	LIGUSTRUM JAPONICUM	JAPANESE PRIVET	8-10' OA MULTISTEM	AS SHOWN
580 4-235	PS	3	PHOENIX SYLVESTRIS	SYLVESTER DATE PALM	16' CT	AS SHOWN
580 4-345	SP	5	SABAL PALMETTO	SABAL PALM	16-20' CT	AS SHOWN
SHRUBS						
580 - 7-177	DIT	48	ILEX VOMITORIA 'Schillings'	DWARF YAUPON HOLLY	#7 FULL	24" OC
580 - 7-337	VOD	59	MYRSINANTHES FRAGRANS	SIMPSON'S STOPPER	#7	24" O.C.
E575 1		5,450	PASPALUM NOTATUM	BAHIA SOD	SQUARE YARDS - VERIFY QTY	
E575 1.4		3,400	STENOTAPHRUM SECUNDATUM	ST. AUGUSTINE SOD	SQUARE YARDS - VERIFY QTY	
		145	ROOT BARRIER	24" DEEPROOT	LINEAR FEET	
		16	FLORIMULCH	VERIFY QUANTITY	CUBIC YARDS	

NOTES

Items 580 5-5532, 580 5-572, 580 4-235, 580 4-345, 580 7-177, 580 7-337 shall include price of Florimulch per specifications in price of each plant (approximately 16 yards, verify quantity). Separate payment will not be made for mulch.

Item 589 4-235, Phoenix Sylvestris shall include price of 145 linear feet of 24" Deeprout root barrier. Separate payment will not be made for root barrier.

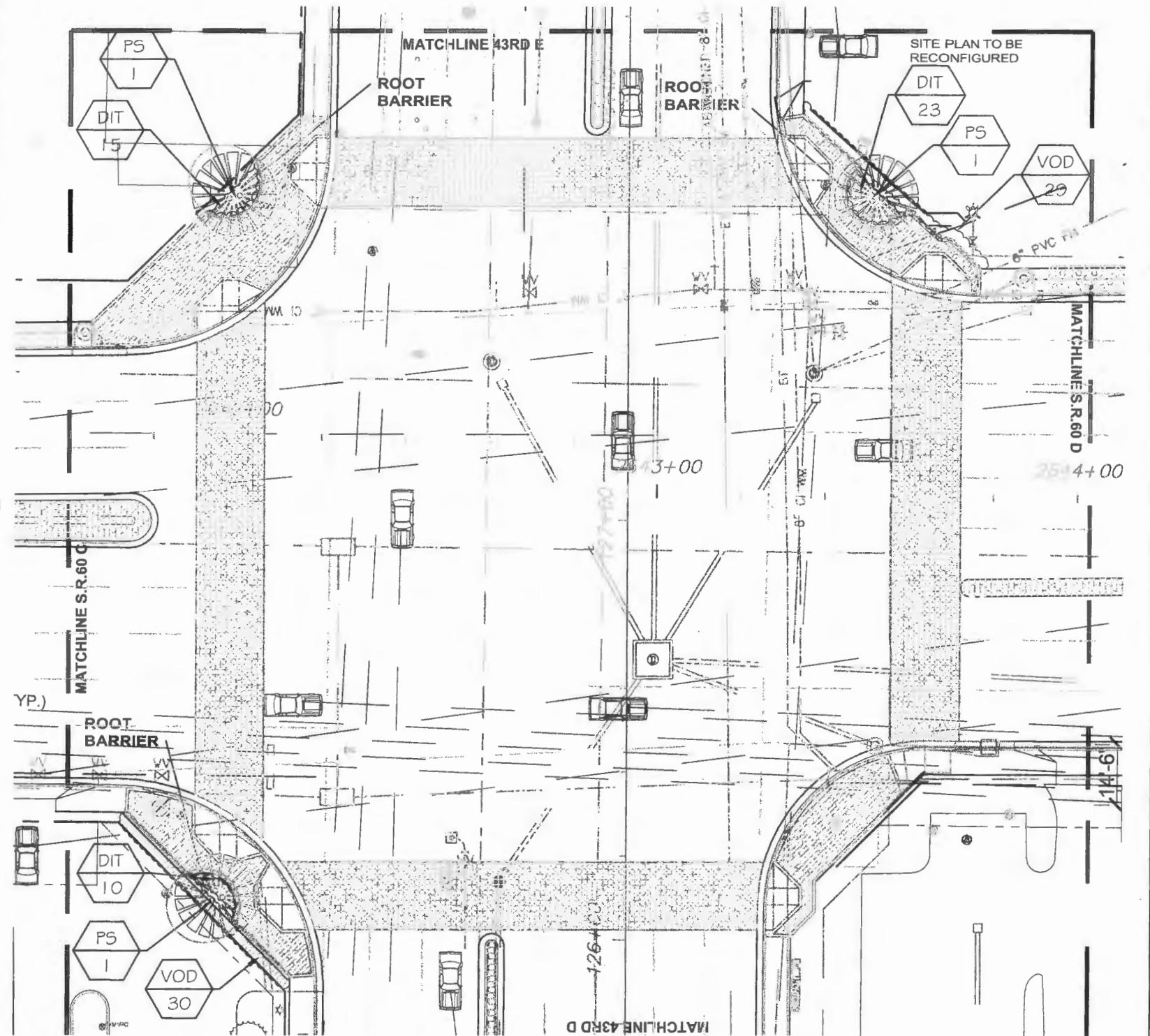
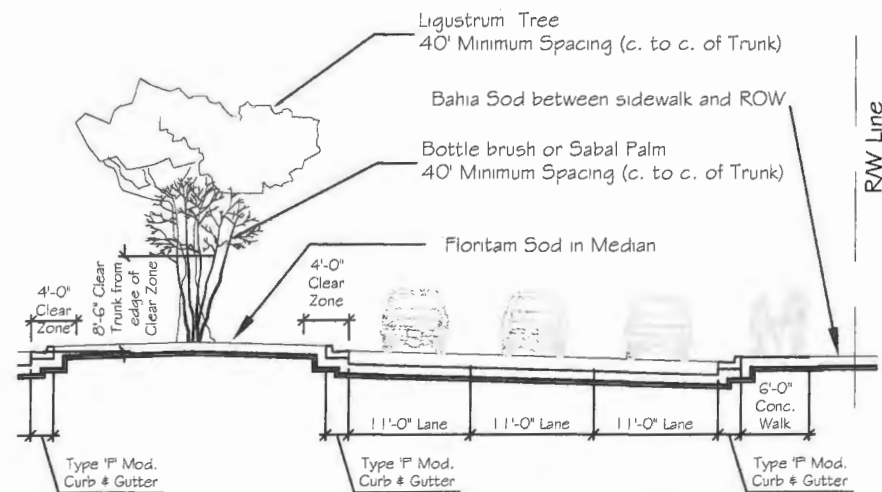
Medians shall receive floritam sod.

Use bahia sod between row and sidewalk in disturbed areas. Quantity reflects ROW area only. Contractor shall repair all disturbed areas, including temporary construction easements. It is the responsibility of the Contractor to determine how much sod will be required to repair temporary easements.

Verify all Utility locations. Do not plant trees closer than 10' from Utility unless root barrier is installed. No trees shall be planted closer than 7.5' from utility. If a proposed tree location is closer than 7.5' to a utility contact Landscape Architect so that adjustment can be made.

Typical Restricted Section B SR 60 & 43rd Ave (not to scale)

DESIGN SPEED = 45MPH POSTED SPEED = 45MPH



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FOR STATE ROUTE 60 & 43RD AVENUE

Sheet: LP-7
Of: LP-8
FDOT FIN: 431759-2-54-01
Project No. IRC# 0512 LNW# WP1027

JOB CONDITIONS:

Any building construction material or foreign material shall be removed from planting areas and replaced with acceptable top soil.

Care shall be taken not to disturb or damage any underground construction or utilities. Any damage to these facilities during the planting operations will be repaired at the expense of the Landscape Contractor in a manner approved by the Owner. Where underground obstructions will not permit the planting materials in accordance with the plans, new locations shall be approved by the Landscape Architect.

Landscape work shall be coordinated with the landscape irrigation work. Landscape Contractor shall ensure that no plantings will interfere with the proper coverage. Landscape Contractor shall point out situations where minor adjustments or relocation or addition of sprinklers heads may be most beneficial for the landscape work as a whole.

PLANT MATERIAL:

Plant species and size shall conform to those indicated on the drawings. Nomenclature shall conform to STANDARDIZED PLANT NAMES, LATEST EDITION. All plant material shall be in accordance with GRADES AND STANDARDS FOR NURSERY PLANTS, latest edition published by the Florida Department Agriculture and Consumer Services. All plants not otherwise specified as Florida Fancy, or Specimen, shall be Florida Grade Number 1 or better as determined by the Florida Grade Plant Industry. Specimen means an exceptionally heavy, symmetrical, tightly-knit plant, so trained or favored in its development that its appearance is unquestionable and outstandingly superior in form, number of branches, compactness and symmetry. All plants shall be sound, healthy, vigorous, well branched and free of disease and insect eggs and larvae and shall have adequate root systems. Trees and shrubs for planting rows shall be uniform in size and shape. All materials shall be subject to approval by the Landscape Architect. Where any requirements are omitted from the Plant List, the plants furnished shall be normal for the variety.

All container grown material shall be healthy, vigorous, well-rooted plants and established in the container. The plants shall have tops which are good quality and are in a healthy growing condition. An established container grown plant shall be transplanted into a container and grown in that container long enough for the new fibrous roots to have developed enough to hold the root mass together when removed from the container. Root bound plants will not be accepted.

Water for planting shall be available at the site and will be provided by the Owner. Site water shall be verified by Contractor prior to submission of bids.

The use of natural material is strongly encouraged for balled and burlapped plants. All synthetic material shall be completely removed from root ball PRIOR to planting.

At time of bid, Contractor shall submit a written schedule of all sources for coconut palms as well as seed sources for coconuts. Coconuts shall be certified Malayan Green with a certified seed source from Jamaica.

TREES:

The most critical factor for selecting a healthy Florida Number 1 tree is the structure. This consists of one central main trunk and leader. Branches are considered competing if they are 2/3 the diameter of the leader or greater. Competing branches may be acceptable if they occur above 50% of the overall height of the tree. Caliper of tree should meet specifications. Leader (center trunk) may have slight (<15 degree) bow (Tabebuia caraba excluded), but must be intact with apical (leading) bid.

Branches should be spread evenly (staggered, alternating) through the tree branches spaced no closer than 4".

Canopy should be full to specifications with little or no openings or holes. A thinning canopy will be taken into consideration with field dug plant material.

Trees should have no open wounds or damage, flush cuts, chlorosis, shorter or taller than specified height, girdling roots, undersize loose root ball, crossing branches, smaller than normal leaves.

All trees shall be installed slightly above grade (1 to 2") and securely staked in such a manner as not to damage the tree. Mulched with 3-4" inches quality mulch, stem will be free of mulch within the first 4". Root ball tying ropes removed from trunk and top of root ball.

MULTIPLE TRUNK TREES:

Trees having no distinct leader. Trunks on these trees should not be touching and free of damage and similar in size. Canopy should be full and uniform.

MATERIALS LIST:

Landscape Contractor shall be responsible for verifying all quantities for material shown on drawings prior to submitting a bid. Planting plan shall take precedence over the plant list. Final quantity of sod and mulch shall be verified.

SUBSTITUTIONS:

No substitutions shall be made without the approval from the Landscape Architect and/or the Owner. Intended substitutions shall be indicated on the bid.

MEASUREMENTS:

Canopy Trees- Height shall be measured from the ground to the average height of canopy. Spread shall be measured to the end of branching equally around the crown from the center of the trunk. Caliper (d.b.h.) will be measured 4'-6" above grade.

Overall height (O.A.) shall be measured from the ground to the tip of the unopened bud.

IRRIGATION:

100% irrigation coverage shall be provided.

GUARANTEE:

All new plant materials shall be guaranteed for one year from the time of acceptance and shall be alive and in satisfactory growth for each specific kind of plant at the end of the guarantee period. The Landscape Contractor shall not be responsible for damage caused by vandalism, violent wind storms or other acts of God beyond control. Replacement shall occur within two weeks of rejection and guaranteed six months from date of installation. Landscape Contractor shall repair damage to other plants or lawns during plant replacements at no additional cost.

MULCH:

Mulch shall not contain sticks 1/4" in diameter or stones. Trees shall be mulched within 24 hours with 3" of mulch covering entire root ball.

SOD:

All sod shall be installed in such a manner that there is an even surface, staggered pattern. Sod will be green in color and in good health. NO overlap, gaps, damage, insects, disease and less than 10% chlorosis will be permitted. All gaps will be filled with clean native soil.

STAKING:

Landscape Contractor to suggest alternate means of staking for approval with Landscape Architect if staking methods shown are not feasible due to site conditions.

FERTILIZER:

Manufacturer's Specification: Submit manufacturer's specification sheet(s) for approval of product. Submit tags from bags of fertilizer used on site to the Architect. Submit copies of the manufacturer's specifications or analysis of all fertilizer for approval.

New Trees, Transplanted Trees, Palms, Shrubs and Ground Cover (Container): Unless otherwise specified on the plans, fertilize with Agriform planting tablets, 20-10-5 formula, 21 gram or equal per manufacturer's recommendation.

Fertilizer for Existing Trees to be Transplanted: Shall be a water soluble fertilizer having a 20-20-20 analysis such as "Peters' Professional" or equal.

Composition and Quality: All fertilizer shall be uniform in composition and dry. Granular fertilizer shall be free flowing and delivered in unopened bags. Tablet fertilizer shall be delivered in unopened containers or boxes. All bags, containers or boxes shall be fully labeled with the manufacturer's analysis.

All shall comply with the State of Florida fertilizer laws.

CLEANUP:

Landscape Contractor shall at all times keep job site clean and free from accumulation of waste material, debris and rubbish.

INSPECTION:

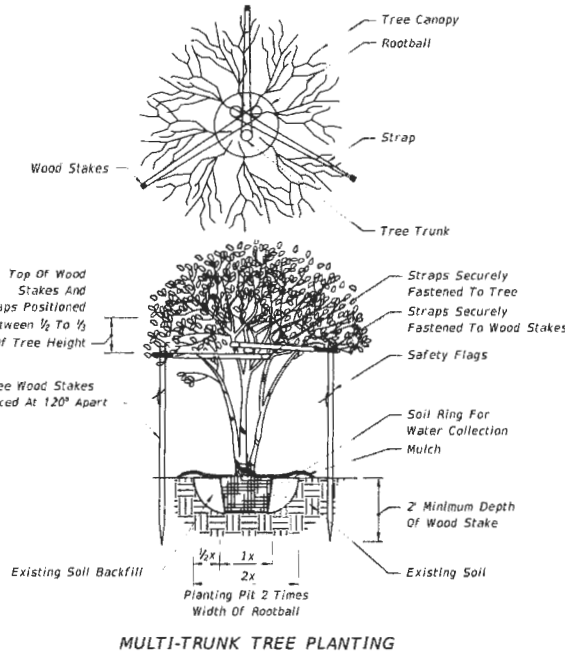
Upon written request from the Contractor, Owner and/or Landscape Architect shall perform inspection to determine completion of Contract.

ACCEPTANCE:

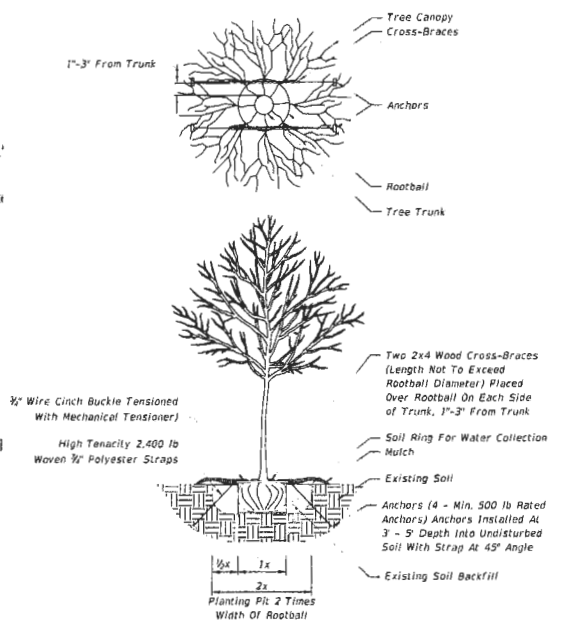
Following inspection, Contractor will be notified, in writing, by Owner and/or Landscape Architect of acceptance of completion with regards to plant material and workmanship according to Contract.

GENERAL NOTES

- All dimensions 6" and less are exaggerated for illustrative purposes only.
- Plant containers shall be removed prior to planning. If plants are not container grown, remove a minimum of the top 1/3 of burlap, fabric, or wire mesh. Never lift or handle the tree by the trunk.
- The uppermost root on all trees shall be covered by less than 1" of soil. Use hand tools to carefully remove all excess soil. The top of root ball shall be set 1-2" above finish grade and set plumb to the horizon. If planting pit is too deep remove the tree and firmly pack additional soil in the bottom of the planting pit to raise the rootball. After positioning the tree in the planting pit, slice through rootballs with 3 and 4 vertical slices (top to bottom) equally distributed around the tree.
- Backfill shall be loosened existing soil. Remove rocks, sticks or other deleterious material greater than 1" in any direction prior to backfilling. Water and tamp to remove air pockets. If existing soils contain excessive sand, clay or other material not conducive to proper plant growth, contact Engineer prior to planting.
- Soil rings shall be constructed of existing soil at the outer edge of the planting pit, with a height of 3" and gently sloping sides. Do not pile soil on top of rootball
- Mulch shall be 3" deep layer placed to the edge of the trunk flare, around the base of shrub, or solidly around groundcover. Never pile mulch against the tree trunk.
- Straps shall be minimum 1" wide nylon or polypropylene. All wood stakes or anchors shall be located beyond the edge of soil ring and located below finished grade, unless otherwise specified.
- Sabal palms may be hurricane cut. All other palms must have fronds tied with biodegradable twine. Palm trunks shall have no burn marks, scars, or sanding.
- All dimensions provided for wood materials are nominal.



MULTI-TRUNK TREE PLANTING



1" - 3 1/2" CALIPER TREE PLANTING WITH UNDERGROUND BRACING



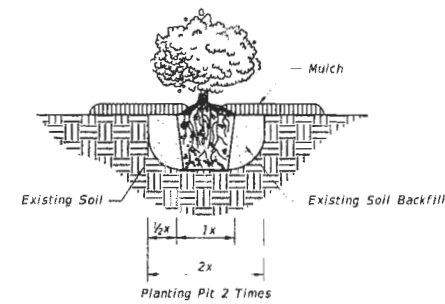
MATERIALS:

-THE CONTRACTOR SHALL FURNISH AND INSTALL TREE ROOT BARRIER AS SPECIFIED. THE TREE ROOT BARRIER SHALL BE EITHER PRODUCT #JG-12.2 AS MANUFACTURED BY DEEPROOT® GREEN INFRASTRUCTURE. -ROOT BARRIER SHALL BE RECYCLABLE, BLACK, INJECTION MOLDED PANELS WITH 0.8" (2.03 MM) WALL THICKNESS IN MODULES 24" (609 MM) LONG AND 24" (609 MM) DEEP. -ROOT BARRIER SHALL BE COMPRISED OF 24" (609 MM) PANELS. EACH PANEL SHALL HAVE NO LESS THAN FOUR (4) MOLDED INTEGRAL VERTICAL ROOT DIRECTING RIBS OF A MINIMUM 0.075" (1.9 MM) THICKNESS, PROTRUDING 1/2" (12.7 MM) AT 90° FROM INTERIOR OF THE BARRIER PANEL, SPACED 6" (152.4 MM) APART. (SEE DETAILS A AND D) -ROOT BARRIER SHALL HAVE A DOUBLE TAP EDGE CONSISTING OF TWO PARALLEL, INTEGRAL, HORIZONTAL RIBS AT THE TOP OF THE PANEL AT 0.06" (1.52 MM) THICKNESS, 3/8" (9.53 MM) WIDE AND 1/4" (6.35 MM) APART WITH THE LOWER RIB ATTACHED TO THE VERTICAL ROOT DIRECTING RIBS (SEE DETAIL A). -ROOT BARRIER SHALL HAVE A MINIMUM OF TWELVE (12) ANTI-LIFT GROUND LOCK TABS CONSISTING OF INTEGRAL HORIZONTAL RIDGES OF MINIMUM 0.075" (1.9 MM) THICKNESS IN THE SHAPE OF A SEGMENT OF AN OBLONG, THE 2" (50.8 MM) CHORD OF THE SEGMENT JOINING THE PANEL WALL AND THE SEGMENT, PROTRUDING 3/8" (9.53 MM) FROM THE PANEL. THE GROUND LOCKS ON EACH PANEL SHALL BE ABOUT EQUALLY SPACED BETWEEN EACH OF THE VERTICAL ROOT DIRECTING RIBS (SEE DETAILS B AND D) -ROOT BARRIER SHALL HAVE AN INTEGRATED ZIPPER JOINING SYSTEM FOR ASSEMBLY BY SLIDING ONE PANEL INTO ANOTHER (SEE DETAIL C).

NOTES:

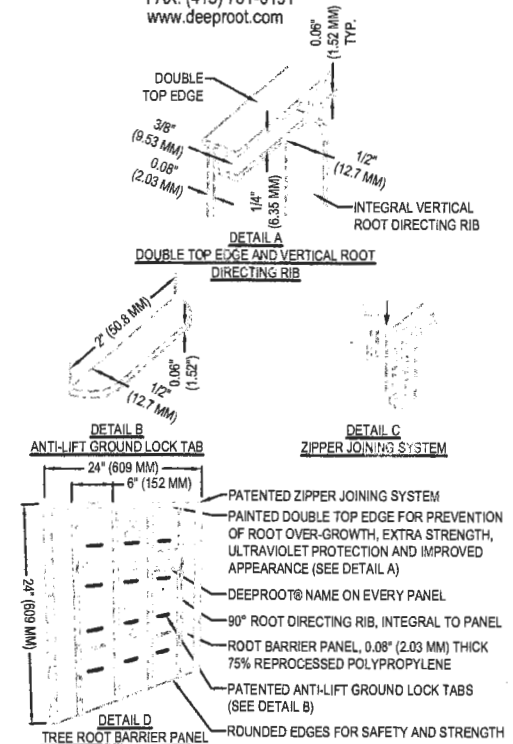
- US PATENT NO. 5,305,549 AND 5,528,857 AND OTHER PATENTS PENDING.
- INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
- DO NOT SCALE DRAWING.
- THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY. THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION.
- ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.
- CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADetails.com/info AND ENTER REFERENCE NUMBER 095-011.

ROOT BARRIER DETAIL



GROUND COVER/SHRUB PLANTING

DEEPROOT GREEN INFRASTRUCTURE, LLC
530 WASHINGTON STREET
SAN FRANCISCO, CA 94111
TOLL FREE: 1-800-ILV-ROOT (458-7668)
PHONE: (415) 781-9700
FAX: (415) 781-0191
www.deeproot.com



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www.studio-sprout.com
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studio Sprout

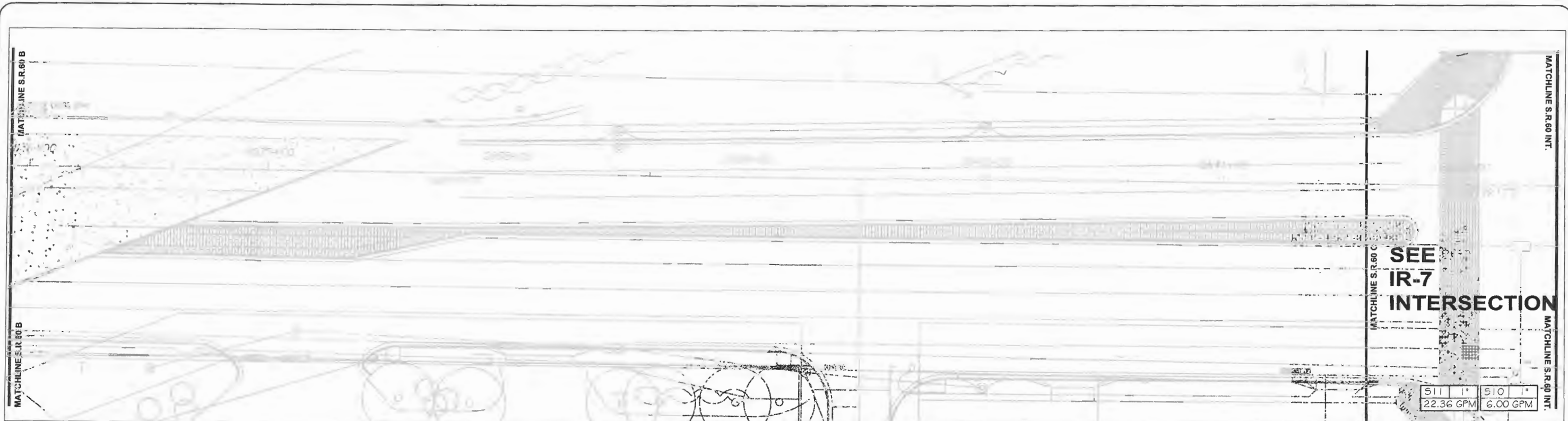
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01	Revisions	CRF	03.02.18
02	Revisions	CRF	12.13.18

Department of Public Works
Engineering Division

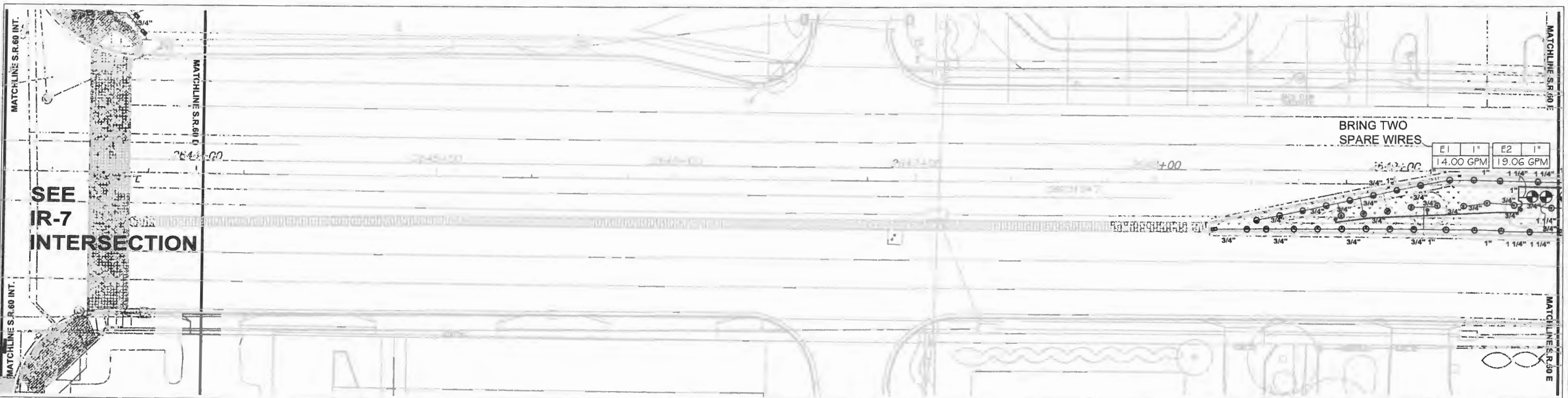
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Approved: CRF
Drawn: JLD
Checked: CRF
Date: 11/11/17
Field Book No:

Project: 100% LANDSCAPE DETAILS
FOR STATE ROUTE 60 & 43RD AVENUE

Sheet: LP-8
Of: LP-8
FDOT FIN: 431759-2-54-01
Project No. IRC# 0512 LNW# WP1027



SHEET C



SHEET D

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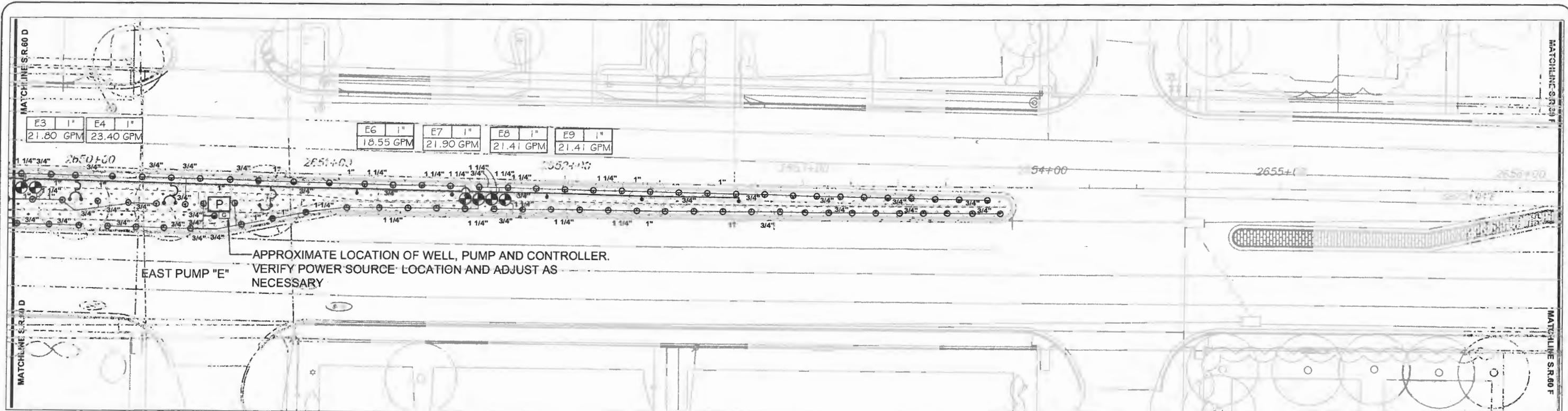
No.	Revision:	By:	Date:
01	Revisions	CRF	03.02.18
02	Revisions	CRF	12.13.18

Department of Public Works
Engineering Division

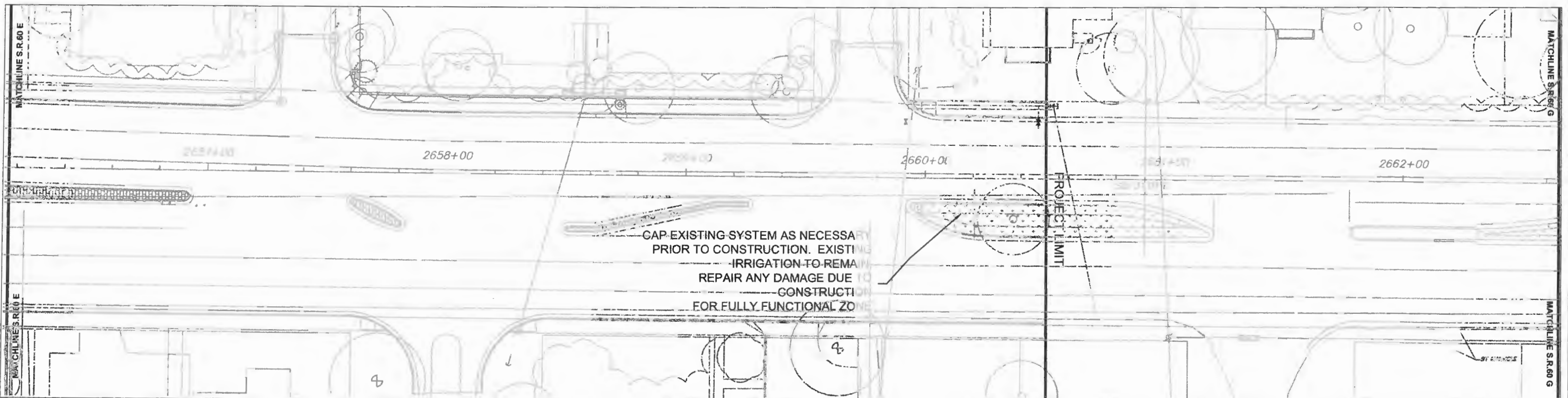
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 Approved: CRF
 Drawn: JLD
 Checked: CRF
 Date: 11/11/17
 Field Book No:

Project: 100% IRRIGATION PLAN
 FOR STATE ROUTE 60 & 43RD AVENUE

Sheet: IR-1
 Of: IR-8
 FDOT FIN: 431759-2-54-01
 Project No. IRC 0512 LNW WP1027



SHEET E



SHEET F

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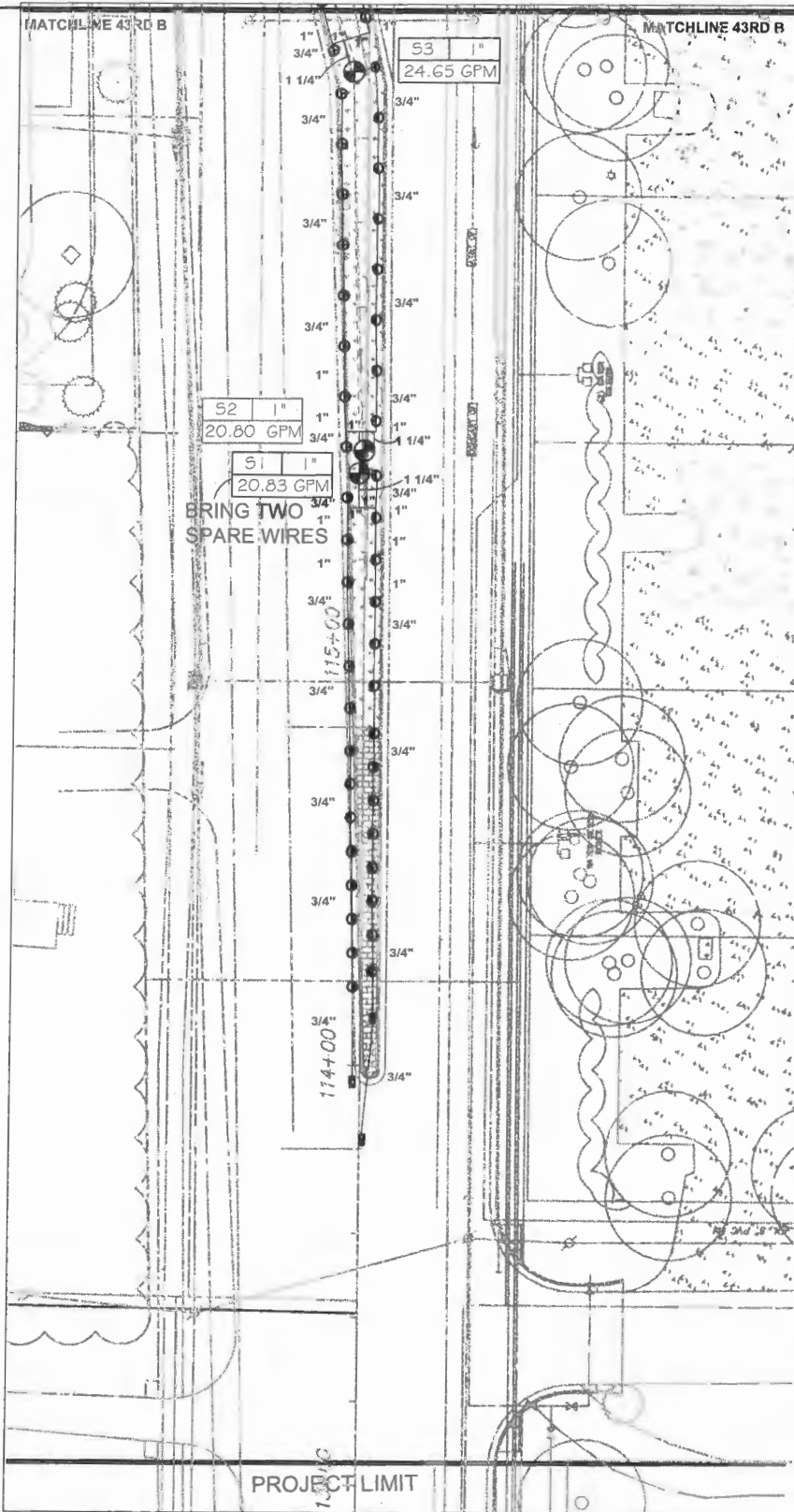
Department of Public Works
Engineering Division

Scale: 1"=40'-0"
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 Drawn: **JLD**
 Checked: **CRF**
 Date: 11/11/17
 Field Book No:

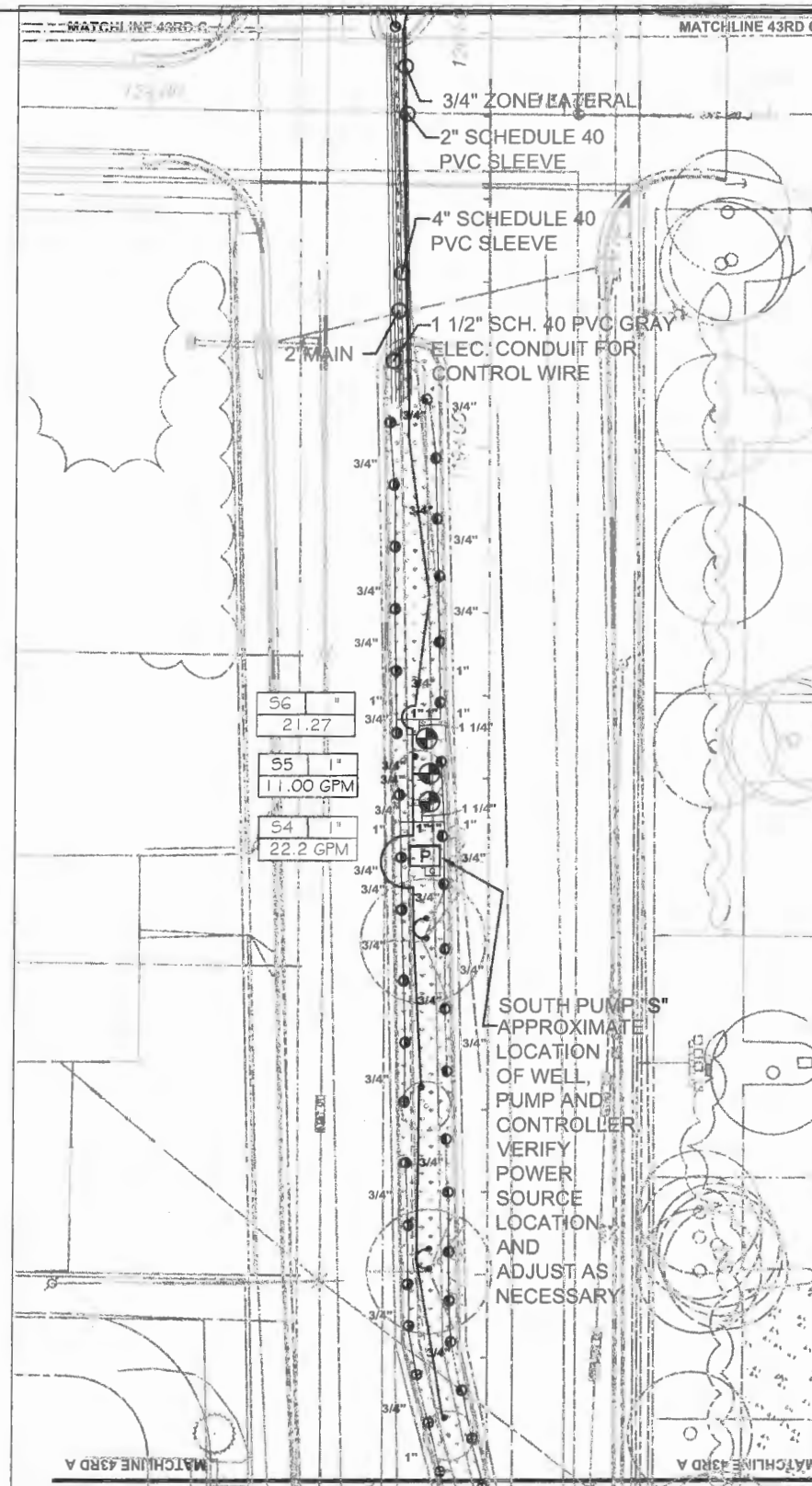
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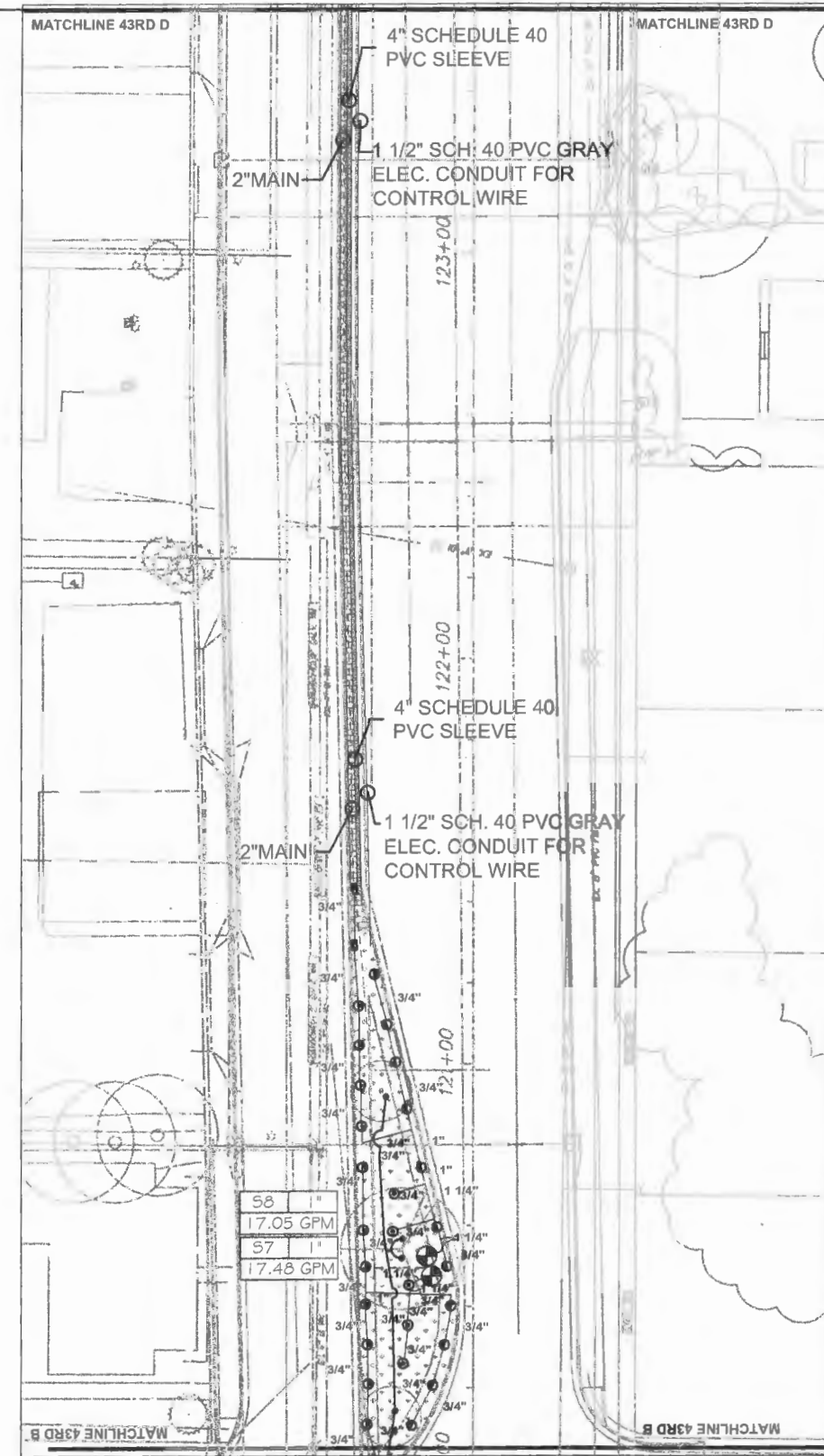
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 Of: IR-8
 FDOT FIN: 431759-2-54-01
 Project No. IRC# 0512 LNW# WP1027



SHEET A



SHEET B



SHEET C

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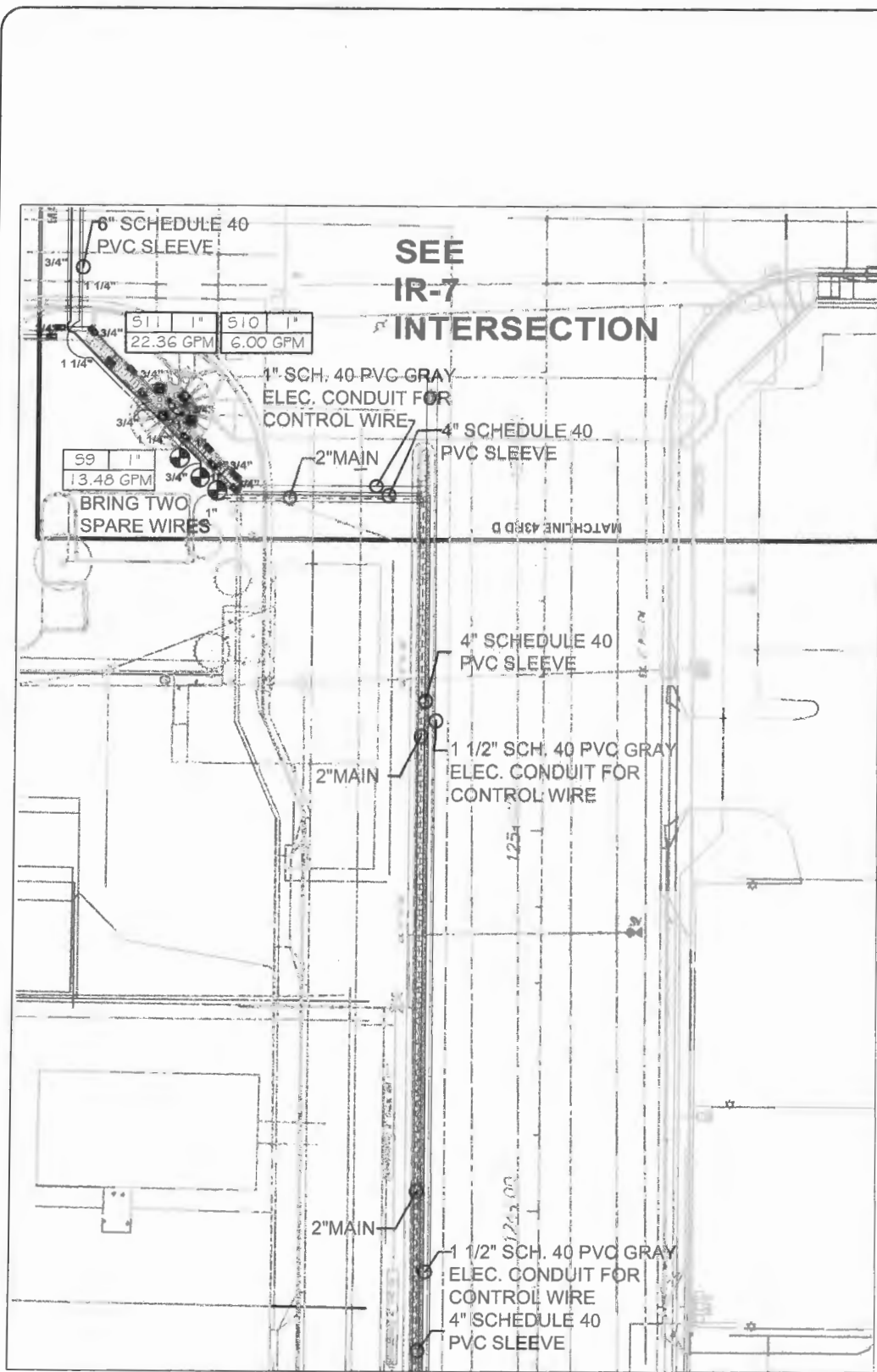
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01	Revisions	CRF	03.02.18
02	Revisions	CRF	12.13.18

Department of Public Works
 Engineering Division

Scale: 1" = 40'-0"
 Approved: CRF
 Drawn: JLD
 Checked: CRF
 Date: 11/11/17
 Field Book No:

Project: 100%
 IRRIGATION PLAN
 FOR
 STATE ROUTE 60
 &
 43RD AVENUE

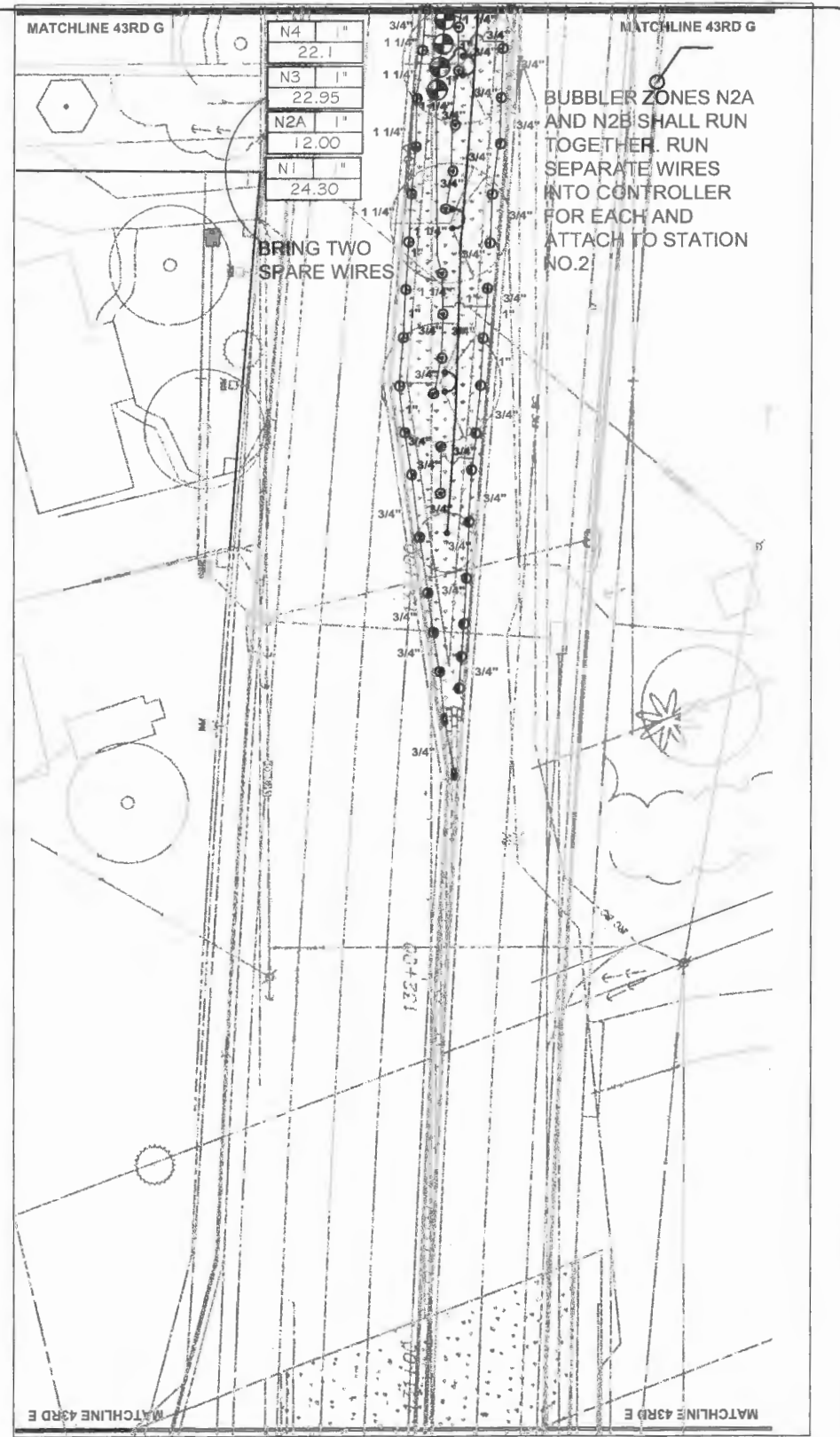
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 FDOT FIN: 431759-2-54-01
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 LNW WP1027



SHEET D



SHEET E



SHEET F

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Department of Public Works
Engineering Division

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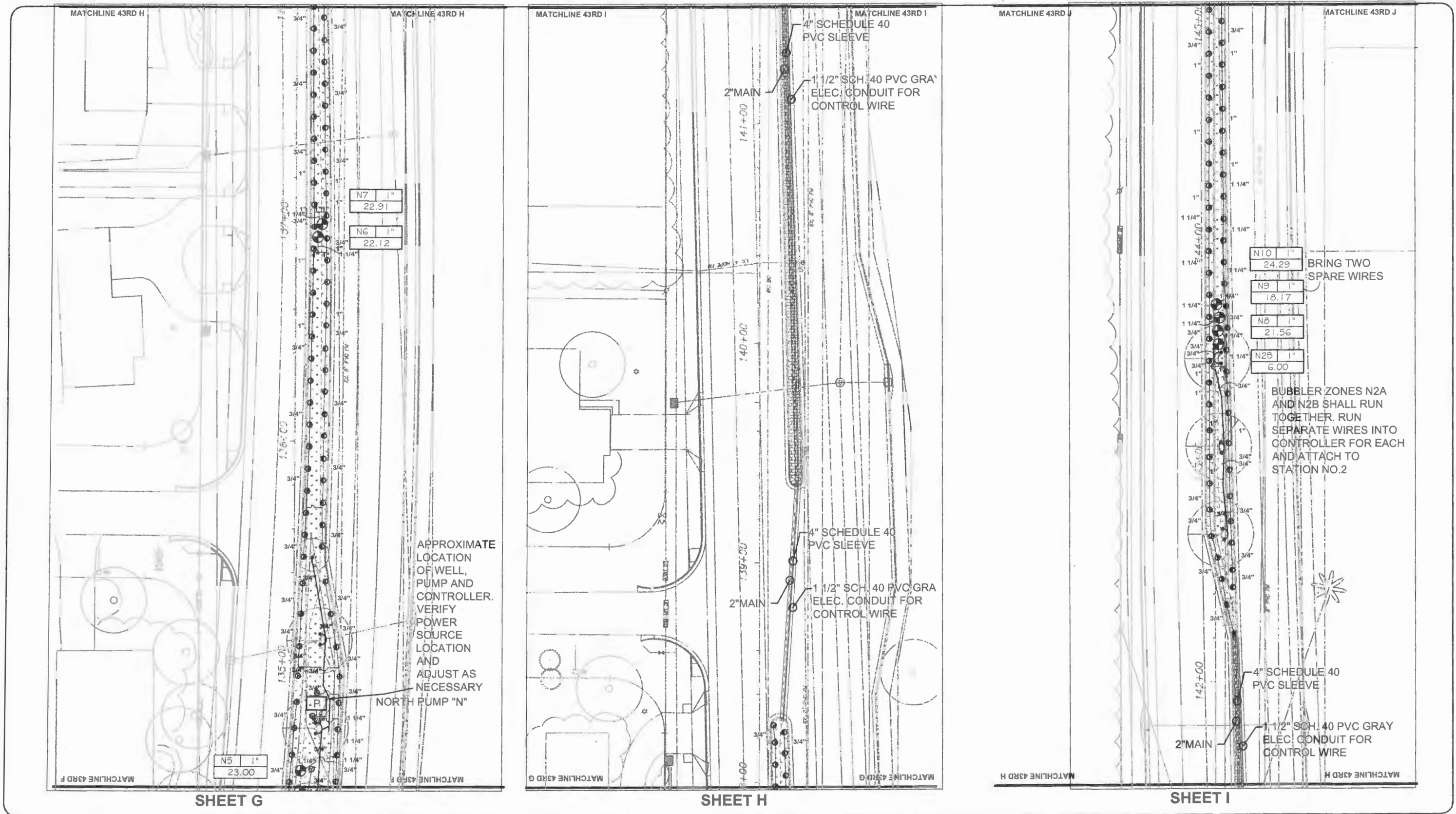
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Project: 100%
IRRIGATION PLAN
FOR
STATE ROUTE 60
&
43RD AVENUE



Sheet: IR-4

Of: IR-8
FDOT FIN:
431759-2-54-01
Project No.
IRC# 0512
LNW# WF1027



APPROXIMATE LOCATION OF WELL, PUMP AND CONTROLLER. VERIFY POWER SOURCE LOCATION AND ADJUST AS NECESSARY

NORTH PUMP "N"

BRING TWO SPARE WIRES

BUBBLER ZONES N2A AND N2B SHALL RUN TOGETHER. RUN SEPARATE WIRES INTO CONTROLLER FOR EACH AND ATTACH TO STATION NO.2

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Engineering Division

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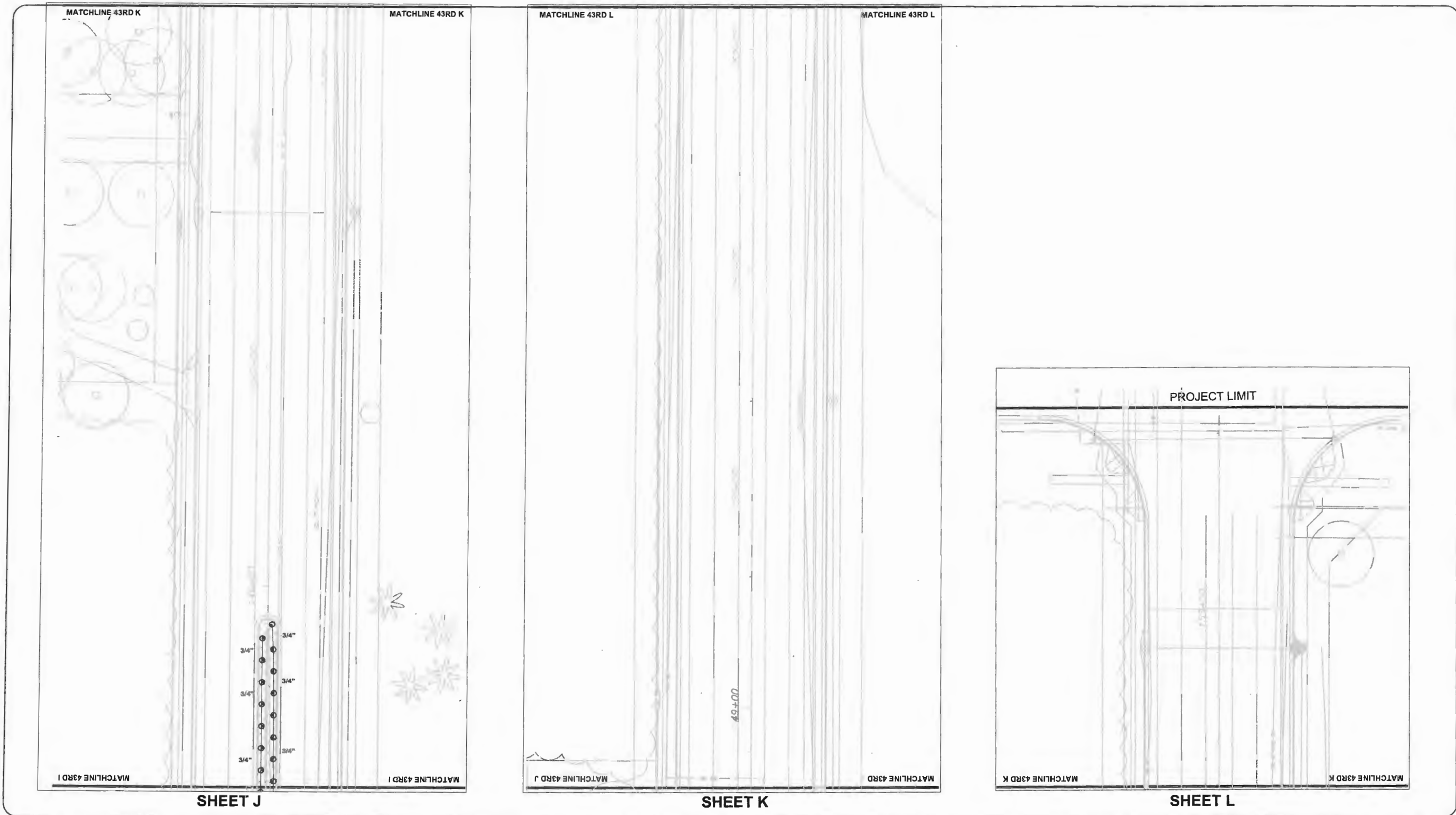
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IRRIGATION PLAN
FOR
STATE ROUTE 60
&
43RD AVENUE


Sheet: IR-5

Of: IR-8

FDOT FIN:
431759-2-54-01

Project No.
IRC# 0512
LHW# WP1027





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 Field Book No:

Project: 100%

 IRRIGATION PLAN

 FOR


 STATE ROUTE 60

 &

 43RD AVENUE

Sheet: IR-6

 Of: IR-8

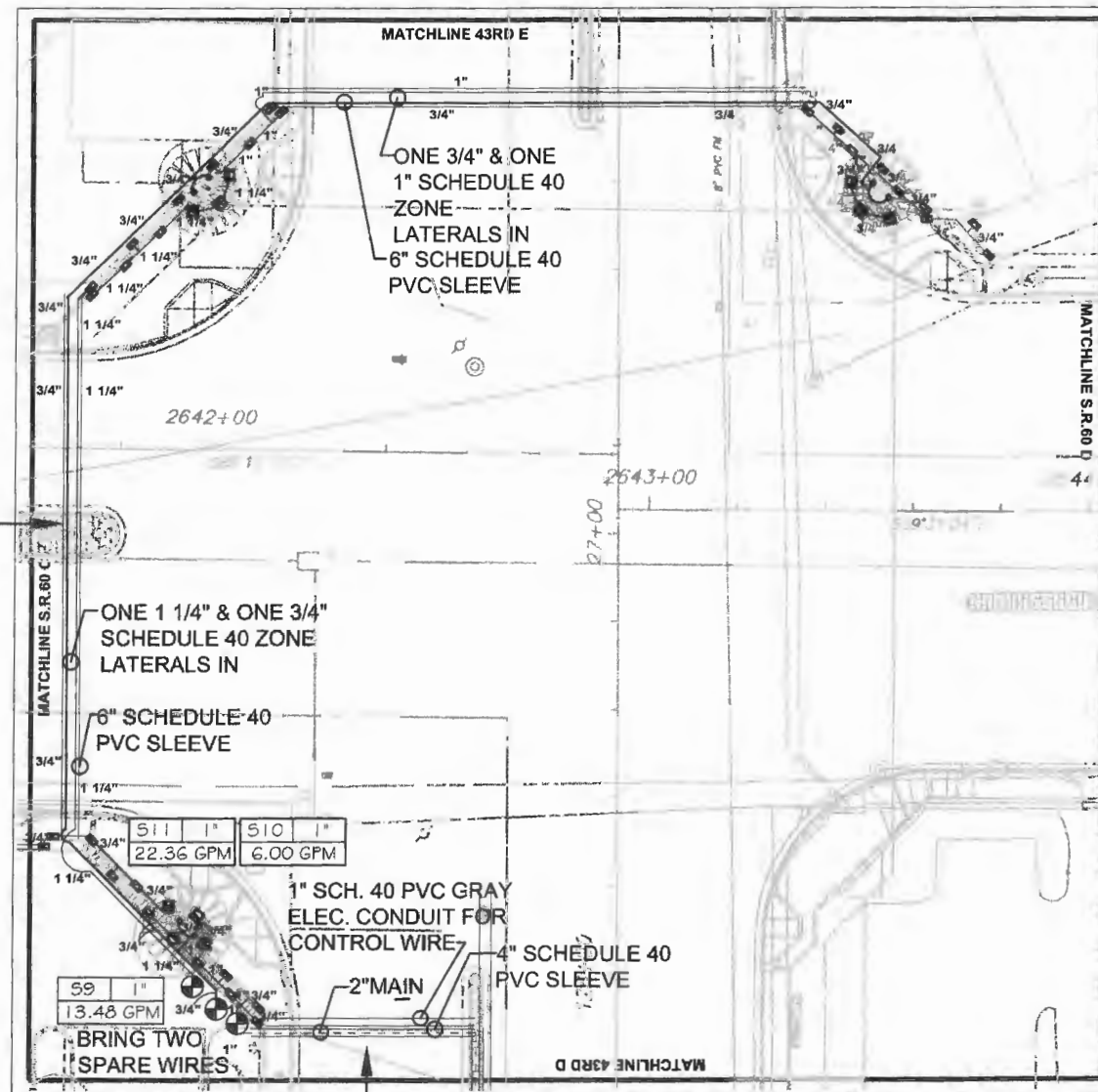
 FDOT FIN:

 431759-2-54-01

 Project No.

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PROVIDE SLEEVE FOR IRRIGATION.

SHEET INT.

PROVIDE SLEEVES FOR IRRIGATION.



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 IRRIGATION PLAN

 FOR

 STATE ROUTE 60

 &

 43RD AVENUE

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 Of: IR-8

 FDOT FIN:

 431759-2-54-01

 Project No.

 IRC 0512

 LNW WP1027

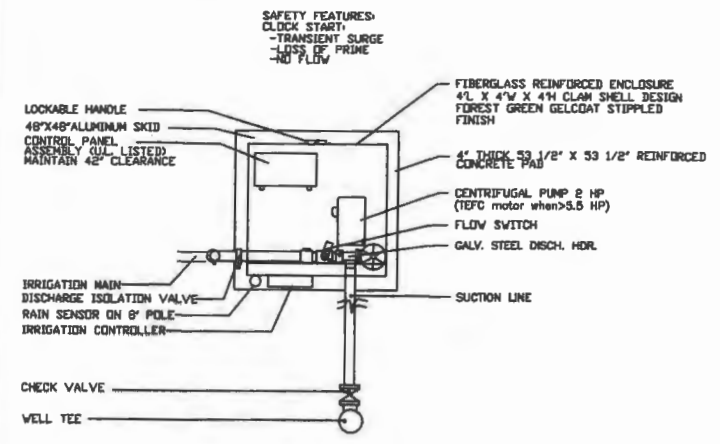
PAY ITEM #05090 1 IRRIGATION SYSTEM

HEAD SCHEDULE

SYM	QTY	MODEL	NOZZLE	THEORETICAL (GPM)
⊙		RAINBIRD 1806-8F 8" POP UP	8'-0" FULL CIRCLE	1.05
⊙		RAINBIRD 1806-8H 6" POP UP	8'-0" HALF CIRCLE	0.52
⊙		RAINBIRD 1806-8T 6" POP UP	8'-0" ONE-THIRD CIRCLE	0.35
⊙		RAINBIRD 1806-8Q 6" POP UP	8'-0" QUARTER CIRCLE	0.26
⊙		RAINBIRD 1806-10F 8" POP UP	10'-0" FULL CIRCLE	1.58
⊙		RAINBIRD 1806-10H 6" POP UP	10'-0" HALF CIRCLE	0.79
⊙		RAINBIRD 1806-10T 6" POP UP	10'-0" ONE-THIRD CIRCLE	0.53
⊙		RAINBIRD 1806-10Q 6" PO UP	10'-0" QUARTER CIRCLE	0.39
⊙		RAINBIRD 1806-12F 6" POP UP	12'-0" FULL CIRCLE	2.60
⊙		RAINBIRD 1806-12TQ 6" POP UP	12'-0" THREE-QUARTER CIRCLE	1.95
⊙		RAINBIRD 1806-12H 6" POP UP	12'-0" HALF CIRCLE	1.30
⊙		RAINBIRD 1806-12T 6" POP UP	12'-0" ONE-THIRD CIRCLE	0.87
⊙		RAINBIRD 1806-12Q 6" POP UP	12'-0" QUARTER CIRCLE	0.65
⊙		RAINBIRD 1806-15F 6" POP UP	15'-0" FULL CIRCLE	3.70
⊙		RAINBIRD 1806-15TQ 6" POP UP	15'-0" THREE-QUARTER CIRCLE	2.78
⊙		RAINBIRD 1806-15H 6" POP UP	15'-0" HALF CIRCLE	1.85
⊙		RAINBIRD 1806-15T 6" POP UP	15'-0" ONE-THIRD CIRCLE	1.23
⊙		RAINBIRD 1806-15Q 6" POP UP	15'-0" QUARTER CIRCLE	0.92
⊙		RAINBIRD 1806-15SST 6" POP UP	15'-0" SST	1.21
⊙		RAINBIRD 1806-8SST 6" POP UP	9'-0" SST	1.73
⊙		RAINBIRD 1806-15EST 6" POP UP	15'-0" EST	0.81
⊙		RAINBIRD 1812-8H 12" POP UP	8'0" HALF CIRCLE	.52
⊙		RAINBIRD 1812-10H 12" POP UP	10'0" HALF CIRCLE	0.7900
⊙		RAIN BIRD 1404 BUBBLER	PRESSURE COMPENSATING	1.0000

NOTE: SUCTION PIPE SHALL BE SCHED 40 GALVANIZED STEEL WITH GALVANIZED ROLL GROOVE FITTINGS FROM THE PUMP TO THE WELL TEE. CHECK VALVES 3" AND LARGER SHALL BE SWING TYPE, 2" AND SMALLER SHALL BE POPPET STYLE. PROVIDE MINIMUM OF 4" CLEARANCE ON ALL SIDES OF PUMP SYSTEM.

* OPTIONAL FEATURES ARE INCLUDED IF MARKED WITH AN "X"
 - PRESSURE CONTROL VALVE
 X IRRIGATION CONTROLLER RAIN BIRD ESP-LX MODULAR 12 STATIONS, WITH RAIN SENSOR
 - PRESSURE TANK FOR PRESSURE DEMAND SYSTEMS



PLAN VIEW HTS
 PUMP PERFORMANCE
 25 GPM @ 120 TDH

HOOPER PUMPING MODEL: HCF-2CS-230/3-E-12.W FILE PH11475.DWG 09/10
 Pompano Beach, Florida, Tel: 954-971-7350

INDIAN RIVER COUNTY SR60 & 43RD
 MEDIANS EAST, NORTH & SOUTH
 CENTRIFUGAL PUMP SYSTEM DETAIL
 FIBERGLASS ENCLOSED SINGLE WELL SUCTION
 CLOCK START

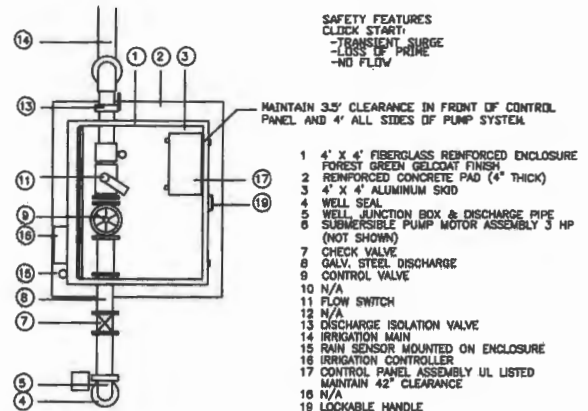
ALTERNATE BID: QTY. THREE: CENTRIFUGAL
 PUMP STATIONS AND 2" WELLS

NOTE: DISCHARGE PIPES & HEADER TO IRRIGATION MAIN SHALL BE SCHED 40 GALVANIZED STEEL PIPE WITH GALV. ROLL GROOVE FITTINGS. PUMP DROP PIPE SHALL BE HOPE HEAT FUSED, SET PUMP 60" ON 2" PIPE. INSTALL MOTOR CABLE SPLICE BETWEEN MOTOR AND CONTROL PANEL IN NEMA 4X JUNCTION BOX ADJACENT TO WELL IN ACCORDANCE WITH ELECTRICAL CODES.

WELL DRILLER SHALL NOTIFY THE PUMP SYSTEM MANUFACTURER IN WRITING WITHIN 24 HOURS OF DEVELOPING THE WELL IF THE WELL PUMPING LEVEL IS GREATER THAN 30" BELOW FINISHED GRADE AFTER 8 HOURS OF CONTINUOUS PUMPING AT 125% OF THE DESIGN FLOW BELOW.

NOTE: PROVIDE MINIMUM OF 4" CLEARANCE ON ALL SIDES OF PUMP SYSTEM
 * OPTIONAL FEATURES ARE INCLUDED IF MARKED WITH AN "X"

X PRESSURE CONTROL VALVE
 X IRRIGATION CONTROLLER RAIN BIRD ESP-LX MODULAR 12 STATIONS, WITH RAIN SENSOR
 - PRESSURE TANK FOR PRESSURE DEMAND SYSTEMS

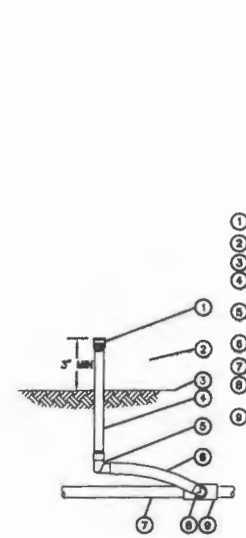


PLAN VIEW HTS
 PUMP PERFORMANCE
 25 GPM @ 158 TDH

HOOPER PUMPING MODEL: HSF-3CS-230/3-A-E-12.W FILE PH11476.DWG 09/10
 Pompano Beach, Florida, Tel: 954-971-7350

INDIAN RIVER COUNTY SR60 & 43RD
 MEDIANS EAST, NORTH & SOUTH
 SUBMERSIBLE PUMP SYSTEM DETAIL
 FIBERGLASS ENCLOSED SINGLE WELL SUCTION
 CLOCK START

BASE BID: QTY. THREE: SUBMERSIBLE
 PUMP STATIONS AND 4" WELLS



RAINBIRD PRESSURE COMPENSATING FLOOD BUBBLER
 NOT TO SCALE

IRRIGATION NOTES

THE CONTRACTOR SHALL MAKE ALL ADJUSTMENTS TO THE PROPOSED IRRIGATION SYSTEM TO ENSURE 100% COVERAGE.

THE CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT OF ANY MAJOR DISCREPANCIES IMMEDIATELY.

THE CONTRACTOR SHALL PROVIDE FULL SIZE "AS BUILT" DRAWINGS AND A REDUCED SIZE COPY WITH COLOR CODED ZONES SHOWING EACH ZONE AND ITS LIMITS, IN A WATERPROOF CLEAR SHEET PROTECTOR TO BE STORED IN CONTROLLER ENCLOSURE.

ALL SPRAY HEADS SHALL BE RAINBIRD 1800 SERIES (OR APPROVED EQUAL) AND MUST BE INSTALLED WITH THE RECOMMENDED RAINBIRD FILTER/SCREENS INSTALLED BELOW NOZZLES.

ALL ROTOR HEADS SHALL BE THE RAINBIRD 5000 SERIES (OR APPROVED EQUAL) AND MUST BE INSTALLED WITH THE MANUFACTURER'S NOZZLES TO PROVIDE 100% COVERAGE.

ALL BUBBLER HEADS ARE TO BE RAINBIRD PRESSURE COMPENSATING FLOOD BUBBLERS MODEL NO. 1404 (OR APPROVED EQUAL).

WHEN LOCATING ONE VALVE BOX NEXT TO ANOTHER, THERE SHALL BE A MIN. OF 24" SEPARATION FOR 500 TO GROW BETWEEN. VALVE BOXES SHALL BE ARRANGED IN A NEAT, ORDERLY STRAIGHT FASHION.

MAIN LINE PIPES ARE TO BE SCHEDULE 40 SOLVENT WELD WITH SCHEDULE 80 SOLVENT WELD PVC FITTINGS. SEE SPEC SECTION 02610 FOR BURIAL DEPTH DETAILS.

ZONE LATERAL PIPES ARE TO BE SCHEDULE 40 SOLVENT WELD PVC PIPE PER CODE AND SHALL NOT EXCEED A VELOCITY 5 F.P.S. SEE SPEC SECTION 02610 FOR BURIAL DEPTH DETAILS.

THE CONTROLLERS ARE TO BE THE RAINBIRD ESP-LX MODULAR MOUNTED ON THE PUMP STATION ENCLOSURE. PROVIDE ALTERNATE BIDDING FOR RAINBIRD ET MANAGEMENT CARTRIDGE INSTALLATION AND RETURN.

ALL CONTROL WIRING SHALL BE A MIN. 14 AWG SIZE 1/4 WIRE, AND ALL GROUND WIRES SHALL BE A MIN. 12 AWG SIZE 1/2 WIRE. SEPARATE WIRING SHALL BE PROVIDED TO EACH VALVE AND LABELED AS STATED ABOVE (SEE SPEC SECTION 02610 FOR SPARE DETAILS.)

THE PUMP STATION IS TO INCLUDE A 3 HP SUBMERSIBLE PUMP W/ ENCLOSURE BY HOOPER PUMP SYSTEMS. A CONCRETE PAD, ALUMINUM SKID, CONTROL PANEL, CONTROLLER, RAIN SENSOR AND ALL OTHER EQUIPMENT PER THE DETAILS SHALL BE INSTALLED CONNECTED TO A 4" SCHEDULED WELL TO APPROXIMATELY 100' WITH A MIN. OF 20' OF SCREEN.

PROVIDE ALTERNATE BIDDING FOR THE 2 HP CENTRIFUGAL HOOPER PUMPING SYSTEMS PUMP STATION CONNECTED TO A 2" WELL TO APPROXIMATELY 100' WITH A MIN. OF 20' OF SCREEN.

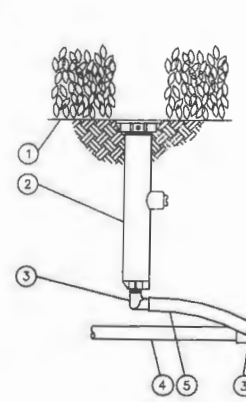
PROVIDE LIGHTNING RODS PER MANUFACTURER'S RECOMMENDATIONS.

ALL WORK WITHIN THE SCOPE OF THESE PLANS SHALL BE IN ACCORDANCE WITH ALL GOVERNING LAWS, CODES, AND ORDINANCES. (PRO-FISHER ASSOCIATES, INC. IS NOT RESPONSIBLE FOR ACQUISITION OF WATER USE PERMITTING OR ANY OTHER PERMITTING REQUIREMENTS REGARDING THE INSTALLATION OF THIS SYSTEM.)

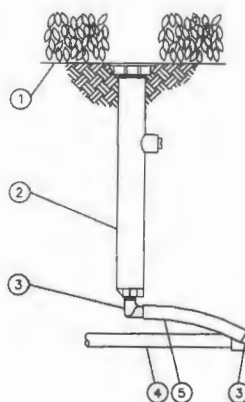
THESE DRAWINGS ARE NOT COMPLETE UNLESS ACCOMPANIED BY WRITTEN SPECIFICATIONS SECTION NO. 02610 "UNDERGROUND IRRIGATION SYSTEM" AND SECTION 02731 "IRRIGATION WELL".

IRRIGATION LEGEND

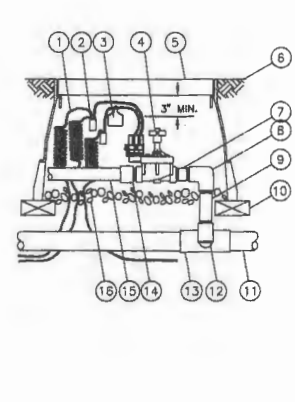
- 2" SCHEDULE 40 SOLVENT WELD PVC MAIN WITH SCHEDULE 80 SOLVENT WELD PVC FITTINGS
- SCHEDULE 40 SOLVENT WELD SPRAY ZONE LATERALS WITH SCHEDULE 40 SOLVENT WELD FITTINGS
- SCHEDULE 40 SOLVENT WELD BUBBLER ZONE LATERALS WITH SCHEDULE 40 SOLVENT WELD FITTINGS
- SCHEDULE 40 SOLVENT WELD PVC SLEEVES
- ⊙ 1" RAINBIRD PESB 24V ELECTRIC REMOTE CONTROL VALVE INSTALLED PER THE DETAILS
- ⊙ PUMP / STATION NUMBER ZONE DEMAND
- ⊙ QTY. THREE PRE-FAB HOOPER PUMPING MODEL HSF-3CS-230/3-A-E-12.W 3 HP SUBMERSIBLE PUMP STATION BY HOOPER PUMPING SYSTEMS, INC. WITH CONCRETE PADS, ALUMINUM SKIDS, FIBERGLASS ENCLOSURES AND ALL OTHER EQUIPMENT PER THE DETAIL INCLUDING RAINBIRD ESP-LX MODULAR IRRIGATION CONTROLLERS AND RAIN SENSORS TO CODE.
- PROVIDE ALTERNATE BID: TO PROVIDE, INSTALL AND SETUP RAINBIRD ET MANAGER CARTRIDGES FOR EACH CONTROLLER TO CONVERT THEM TO SMART/ET WEATHER BASED CONTROLLERS.
- DETERMINE, COORDINATE AND PROVIDE ELECTRICAL POWER SERVICES FOR EACH PUMP STATION WITH ALL NECESSARY ROAD CROSSINGS, SLEEVES, METER CANS, DISCONNECTS AND ALL NECESSARY EQUIPMENT TO CODE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR. VERIFY VOLTAGE AND PHASE. IF THREE PHASE POWER IS NOT AVAILABLE USE SINGLE PHASE PUMP MOTORS.



RAINBIRD 1806 SERIES 6" POP-UP SPRAY HEAD
 NOT TO SCALE



RAINBIRD 1812 SERIES 12" POP-UP SPRAY HEAD
 NOT TO SCALE



RAINBIRD PESB ELECTRIC REMOTE CONTROL ZONE VALVE
 NOT TO SCALE

ARCADIS
 ARCADIS G&M, INC.
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 LCC 000213
 studio Sprout

No:	Revision:	By:	Date:
01	Revisions	CRF	03.02.18
02	Revisions	CRF	12.13.18

Department of Public Works
Engineering Division

Scale: 1" = 40'-0"
 Approved: CRF
 Drawn: JLD
 Checked: CRF
 Date: 11/11/17
 Field Book No:

Project: 100%
IRRIGATION LEGEND & DETAILS
 FOR
 STATE ROUTE 60
 &
 43RD AVENUE

Sheet: IR-8
 Of: IR-8
 FDOT FIN: 431759-2-54-01
 Project No. IR-0512
 LNW WP1027

INDIAN RIVER COUNTY

BOARD OF COUNTY COMMISSIONERS

RECEIVED

AUG 09, 2019

INDIAN RIVER COUNTY
ENGINEERING DIVISION



STATE ROUTE 60 WIDENING, MILL & RESURFACE FROM 44TH AVENUE TO 38TH AVENUE & 43RD AVENUE RECONSTRUCTION FROM 19TH STREET TO 26TH STREET

PUBLIC WORKS DIRECTOR:
RICHARD B. SZPYRKA, P.E.

COUNTY ENGINEER:
JAMES W. ENNIS, P.E.

PROJECT MANAGER:
WILLIAM JOHNSON, P.E.

INDEX OF SHEETS

ROADWAY PLANS

BRIDGE PLANS

B-1	COVER SHEET, LOCATION MAP, & INDEX OF SHEETS
B-2	SUMMARY OF QUANTITIES
B-3a	EXISTING AND PROPOSED BRIDGE CROSS SECTIONS
B-3b	EXISTING AND PROPOSED BRIDGE CROSS SECTIONS
B-4	GENERAL NOTES & SURFACE FINISH DETAIL
B-5	EXISTING BRIDGE PLAN
B-6	PROPOSED BRIDGE PLAN
B-7	PROPOSED WEST BRIDGE ELEVATION
B-8	PROPOSED SUBSTRUCTURE PILES LAYOUT PLAN
B-9	PILE DATA TABLE AND SOIL BORINGS
B-10	EXISTING SOUTH END BENT PLAN AND ELEVATION
B-11	PROPOSED SOUTH END BENT PLAN AND ELEVATION
B-12	PARTIAL SOUTH END BENT ELEVATION AND ELEVATION TABLE
B-13	SOUTH END BENT DETAILS, REINFORCING BAR LIST, & ESTIMATED QUANTITIES
B-14	SOUTH WING WALL SECTION AND ELEVATION
B-15	EXISTING NORTH END BENT PLAN AND ELEVATION
B-16	PROPOSED NORTH END BENT PLAN AND ELEVATION
B-17	PARTIAL NORTH END BENT ELEVATION AND ELEVATION TABLE
B-18	NORTH END BENT DETAILS, REINFORCING BAR LIST, & ESTIMATED QUANTITIES
B-19	NORTH WING WALL SECTION AND ELEVATION
B-20	END BENT PEDESTAL DETAILS, REINFORCING BAR LIST, & ESTIMATED QUANTITIES
B-21	END BENT SEISMIC BLOCKS SECTION AND ELEVATION, REINFORCING BAR LIST, & ESTIMATED QUANTITIES
B-22	EXISTING INTERMEDIATE BENT PLAN AND ELEVATION
B-23	PROPOSED INTERMEDIATE BENT PLAN AND ELEVATION
B-24	PARTIAL INTERMEDIATE BENT ELEVATION AND ELEVATION TABLE
B-25	INTERMEDIATE BENT DETAILS, REINFORCING BAR LIST, & ESTIMATED QUANTITIES
B-26	INTERMEDIATE BENT PEDESTAL DETAILS, REINFORCING BAR LIST, & ESTIMATED QUANTITIES
B-27	INTERMEDIATE BENT SEISMIC BLOCKS SECTION AND ELEVATION, REINFORCING BAR LIST, & ESTIMATED QUANTITIES
B-28	PROPOSED FINISH GRADE PLAN AND BEAM PLACEMENT PLAN

BRIDGE PLANS (CONTINUED)

B-29	BEAM BUILD-UP DETAILS AND NOTES AND BEAM CONSTRUCTION CONTROL SCHEDULE
B-30	AASHTO TYPE II BEAM - TABLE OF BEAM VARIABLES - INDEX NO. S-121 AASHTO TYPE II BEAM - MISCELLANEOUS GIRDER DETAILS
B-31	ASSHTO TYPE II MODIFIED TYPE (1)
B-32	ASSHTO TYPE II MODIFIED TYPE (1)
B-33	ASSHTO TYPE II MODIFIED TYPE (2)
B-34	ASSHTO TYPE II MODIFIED TYPE (2)
B-35	ASSHTO TYPE II MODIFIED TYPE (3)
B-36	ASSHTO TYPE II MODIFIED TYPE (3)
B-37	ASSHTO TYPE II MODIFIED TYPE (4)
B-38	ASSHTO TYPE II MODIFIED TYPE (4)
B-39	ASSHTO TYPE II MODIFIED TYPE (5)
B-40	ASSHTO TYPE II MODIFIED TYPE (5)
B-41	ASSHTO TYPE II MODIFIED TYPE (6)
B-42	ASSHTO TYPE II MODIFIED TYPE (6)
B-43	FINISH GRADE ELEVATIONS PLAN
B-44	BRIDGE ELEVATIONS CROSS SECTION AND FINISH GRADE ELEVATIONS TABLE
B-45	PARTIAL SLAB REINFORCING PLAN
B-46	PARTIAL DIAPHRAGM REINFORCING AND SLAB CROSS SECTION
B-47	END BENT AND INTERMEDIATE BENT DIAPHRAGM SECTIONS
B-48	V-GROOVE DETAIL, SIDEWALK DETAILS AND SCHEDULES EXPANSION JOINT DETAILS AND MISCELLANEOUS DETAILS
B-49	SIDEWALK DETAILS
B-50	MISCELLANEOUS DETAILS
B-51	APPROACH SLAB REINFORCING PLAN AND SIDEWALK DETAILS
B-52	JACKING INFORMATION
B-53	BEARING PLATES (TYPE 1) INDEX NO. 20511
B-54	LOAD BEARING TABLE

F.D.O.T. INDEX NO.

423	TRAFFIC RAILING BARRIER - (32" VERTICAL SHAPE) INDEX NO. 423 (SHEETS 1 - 3)
822	ALUMINUM PEDESTRIAN/BICYCLE BULLET RAILING DETAILS INDEX NO. 822 (SHEETS 1 - 2)
20120	AASHTO TYPE II BEAM - INDEX NO. 20120 (SHEETS 1 - 4)
20510	COMPOSITE ELASTOMERIC BEARING PADS - PRESTRESSED FLORIDA I AND AASHTO TYPE II BEAM INDEX NO. 20510 (SHEET 1)
20511	BEARING PLATES (TYPE 1) - PRESTRESSED FLORIDA I AND AASHTO TYPE II BEAM INDEX NO. 20511 (SHEET 1 - 2)
20600	NOTES AND DETAILS FOR SQUARE PRESTRESSED CONCRETE PILES - INDEX NO. 20600
20601	SQUARE PRESTRESSED CONCRETE PILE SPLICES - INDEX NO. 20601
20618	18" SQUARE PRESTRESSED CONCRETE PILE - INDEX NO. 20618
D20930	APPROACH SLABS (20 FT.) (RIGID PAVEMENT APPROACHES) INDEX NO. D20930 (DRAWING 1 OF 2)
D20930	APPROACH SLABS (20 FT.) (RIGID PAVEMENT APPROACHES) INDEX NO. D20930 (DRAWING 2 OF 2)

THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH AND ARE GOVERNED BY THE STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION, DESIGN STANDARDS. (BOOKLET DATED JANUARY, 2004)

GOVERNING SPECIFICATIONS: THE FLORIDA DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, DATED 2004, AND SPECIAL PROVISIONS THERETO IF IN NOTED IN THE CONTRACT SPECIFICATIONS FOR THIS PROJECT.

ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN ALTERED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.

ENGINEER'S CERTIFICATION: I HEREBY CERTIFY THAT THE ATTACHED PLANS AND DESIGN ARE IN GENERAL COMPLIANCE WITH THE DESIGN STANDARDS AND CRITERIA IN EFFECT ON THIS DATE FOR INDIAN RIVER COUNTY, ENGINEERING DEPARTMENT AND THE STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION.

DATE 7/29/2019 PROFESSIONAL ENGINEER 38797



VICINITY MAP



LOCATION MAP

DATE: Jul 22, 2019 - 10:23am S:\2005-jpos\05-609b\43rd avenue at main relief canal\07_structural dwgs\CADD\B1-COVER.dwg

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.

BRIDGE DESIGN ASSOCIATES, INC.
1401 Royal Palm Beach Blvd., Bldg. 200, Royal Palm Beach, FL 33411
Tel. (561) 686-3660 Fax (561) 791-1995
CONSULTING ENGINEERS
FLORIDA E.C. NO. 4952

NO.	REVISION	DATE	BY

INDIAN RIVER COUNTY
FLORIDA

Department of Public Works
Engineering Division

Scale: AS NOTED
Approved:
Drawn: C.A.B.
Checked: B.C.R.
Date: APRIL 2019
Field Book No:

PROJECT:
Proposed Concrete Bridge for:
43rd Avenue over Main Relief Canal
Indian River County, Florida

SEAL

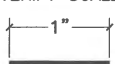
PROJECT NO.
05-609B

SUMMARY OF QUANTITIES

ITEM NO.	ITEM	COMMENTS	NO. REQUIRED	UNIT	QUANTITY	AS BUILT
BRIDGE						
0110 3	REMOVAL OF EXISTING STRUCTURE/BRIDGES	DEMOLITION & REMOVAL OF EXISTING BARRIERS, RAILINGS, SLAB AND 4 WING WALLS AS REQUIRED AND DEBRIS PILES AND GUARDRAILS		L.S.	1	
SUPERSTRUCTURE						
0400 2 4A	CONCRETE CLASS II, BRIDGE SUPERSTRUCTURE	FOR BRIDGE DECK AND DIAPHRAGMS		C.Y.	138.0	
0400 7	BRIDGE DECK GROOVING LESS THAN 8.5"	INCLUDING APPROACH SLABS		S.Y.	523	
0400 147	COMPOSITE NEOPRENE PADS			C.F.	1.64	
0415 1 4	REINFORCING STEEL SUPERSTRUCTURE	FOR BRIDGE DECK AND DIAPHRAGMS		LB	44,548	
0450 1 1	PRESTRESSED BEAMS TYPE II	43'-6" LONG	18	L.F.	778.13	
0458 1 11	CONSTRUCTION F&I POURED JOINT WITH BACKER ROD			L.F.	80.00	
0458 1 21	BRIDGE DECK EXPANSION JOINT REHABILITATION, POURED JOINT WITH BACKER ROD			L.F.	180.00	
0521 5 4	CONCRETE TRAFFIC RAILING - BRIDGE 32" VERTICAL FACE			L.F.	348.67	
0515 4 2	BULLET ALUMINUM RAIL, DOUBLE RAIL			L.F.	348.67	
SUBSTRUCTURE						
0400 2 5	CONCRETE CLASS II, BRIDGE SUBSTRUCTURE	CLASS II CONCRETE FOR PILE CAPS, PEDESTALS AND SEISMIC BLOCKS		C.Y.	60	
0415 1 5	REINFORCING STEEL, BRIDGE SUBSTRUCTURE	REINFORCING STEEL FOR PILE CAPS, PEDESTALS AND SEISMIC BLOCKS		LBS.	16,156	
	PRESTRESSED PILES					
0455 143 3A	TEST PILES - PRESTRESSED CONCRETE, 18" SQ.			L.F.	130	
0455 34 3A	PRESTRESSED CONCRETE PILING, 18" SQ. (END BENTS)			L.F.	550	
0455 34 3B	PRESTRESSED CONCRETE PILING, 18" SQ. (WING BENTS)			L.F.	100	
0455 34 3C	PRESTRESSED CONCRETE PILING, 18" SQ. (INTERMEDIATE BENTS, DEBRIS PILES)			L.F.	650	
0455 137 1	LOAD TEST (DYNAMIC), INTERNAL GAUGES			EACH	2	
0400 2 4B	CONCRETE CLASS II, BRIDGE SUPERSTRUCTURE (LIGHTWEIGHT)			C.Y.	153.7	
0415 1 4	REINFORCING STEEL - BRIDGE SUPERSTRUCTURE			LBS.	18,911.3	
0400 2 10	CLASS II CONCRETE FOR APPROACH SLABS			C.Y.	62	
0415 1 9	REINFORCING STEEL - APPROACH SLABS			LB	12,170	
0530 4 9	ARTICULATING CONCRETE BLOCK REVETMENT SYSTEM, THICKNESS 6"			S.F.	2,934	
1050 31204D	UTILITY PIPE - POLY VINYL CHLORIDE, FURNISH & INSTALL, WATER/SEWER, 4"			L.F.	1,400.5	


Contractor shall verify all dimensions and quantities prior to construction and fabrication. Discrepancies shall be brought to the attention of the Engineer before construction.

DATE: Jul 22, 2019 - 10:23am S:\2005-jobs\05-609b\05-609b-43rd avenue at main relief canal\07_structural.dwg\02-SUMMARY.dwg

VERIFY SCALE

 BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.

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CONSULTING ENGINEERS
 FLORIDA E. B. NO. 4952

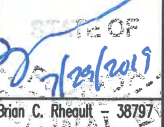
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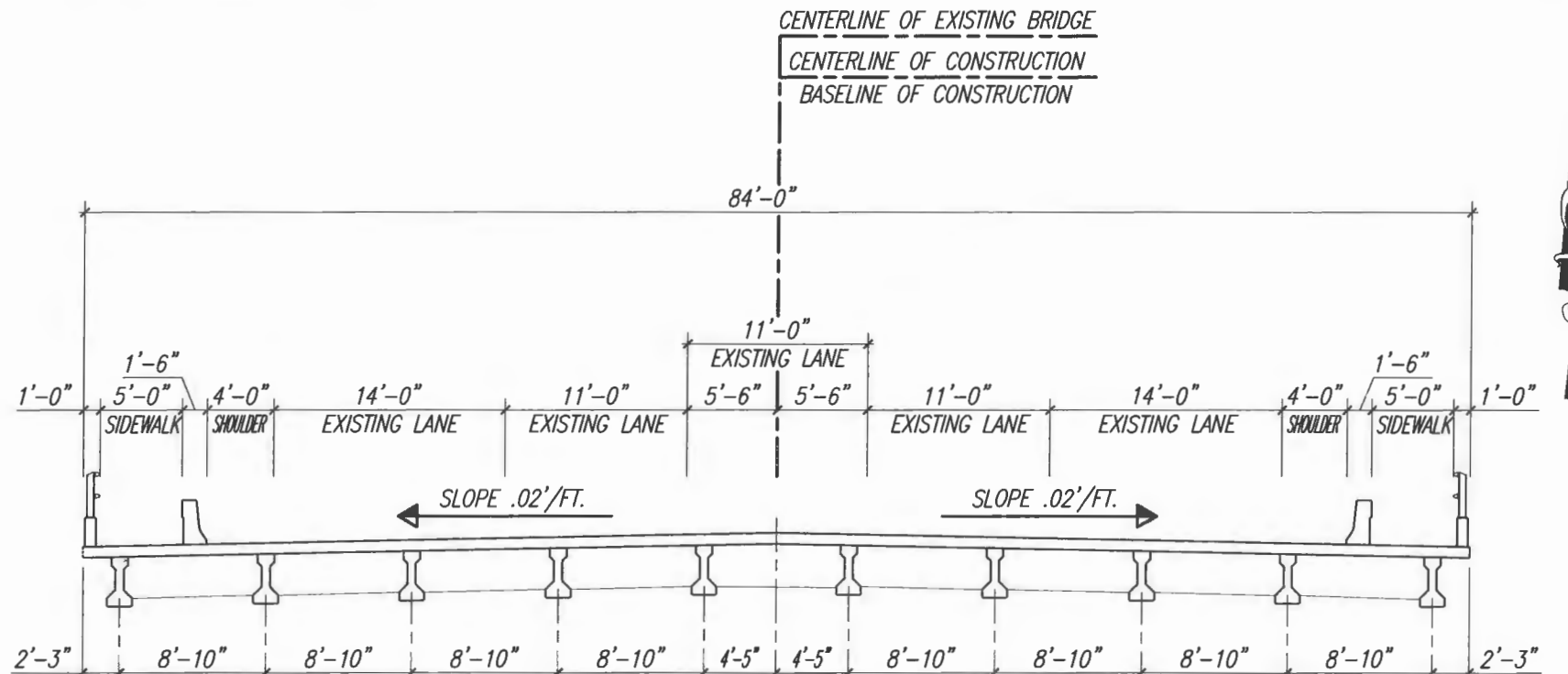
Department of Public Works
Engineering Division

Scale: AS NOTED
 Approved:
 Drawn: C.A.B.
 Checked: B.C.R.
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 Field Book No:

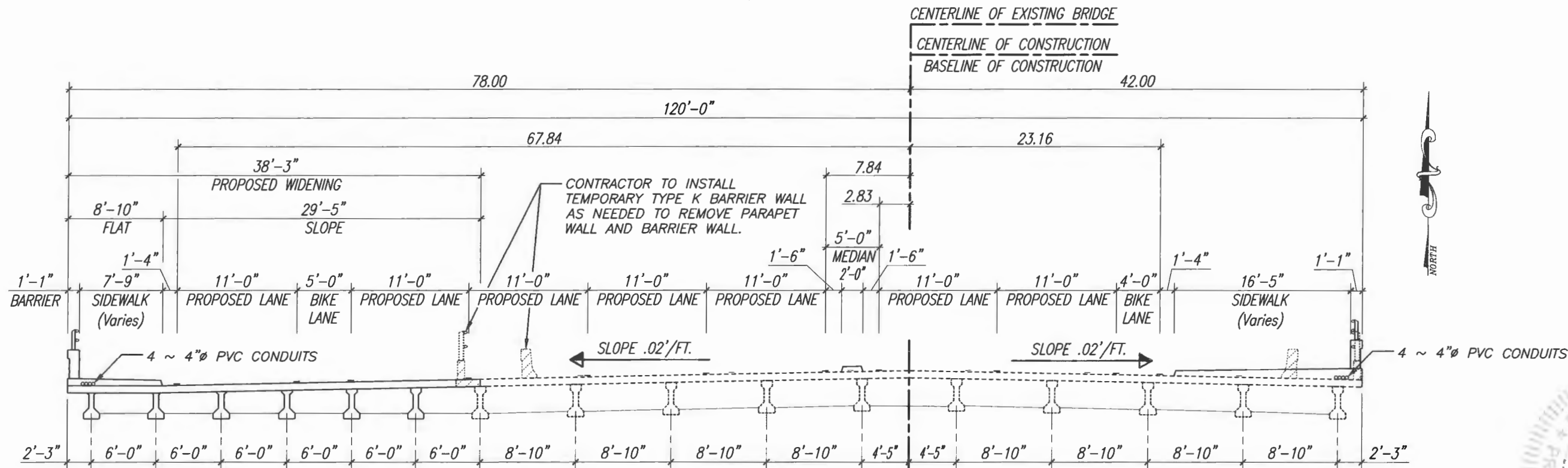
PROJECT:
Proposed Concrete Bridge for:
43rd Avenue over Main Relief Canal
 Indian River County, Florida

SEAL

 Brian C. Rheault - 38797
 FLORIDA P.E. NAME & NUMBER

SHEET
2
 PROJECT NO.
05-609B



EXISTING BRIDGE CROSS SECTION @ BEGIN BRIDGE STA. 129+62.455
 3/16" = 1'-0"



PROPOSED BRIDGE CROSS SECTION @ BEGIN BRIDGE STA. 129+62.455
 3/16" = 1'-0"



DATE: May 09, 2019 - 10:44am S:\2005-jobs\05-609B_43rd Avenue at Main Relief Canal\07_structural\dwg\07_structural.dwg (CDD) (B3)-PROPOSED.dwg

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.

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 FLORIDA P.E. NO. 4952

NO.	REVISION	DATE	BY

INDIAN RIVER COUNTY, FLORIDA

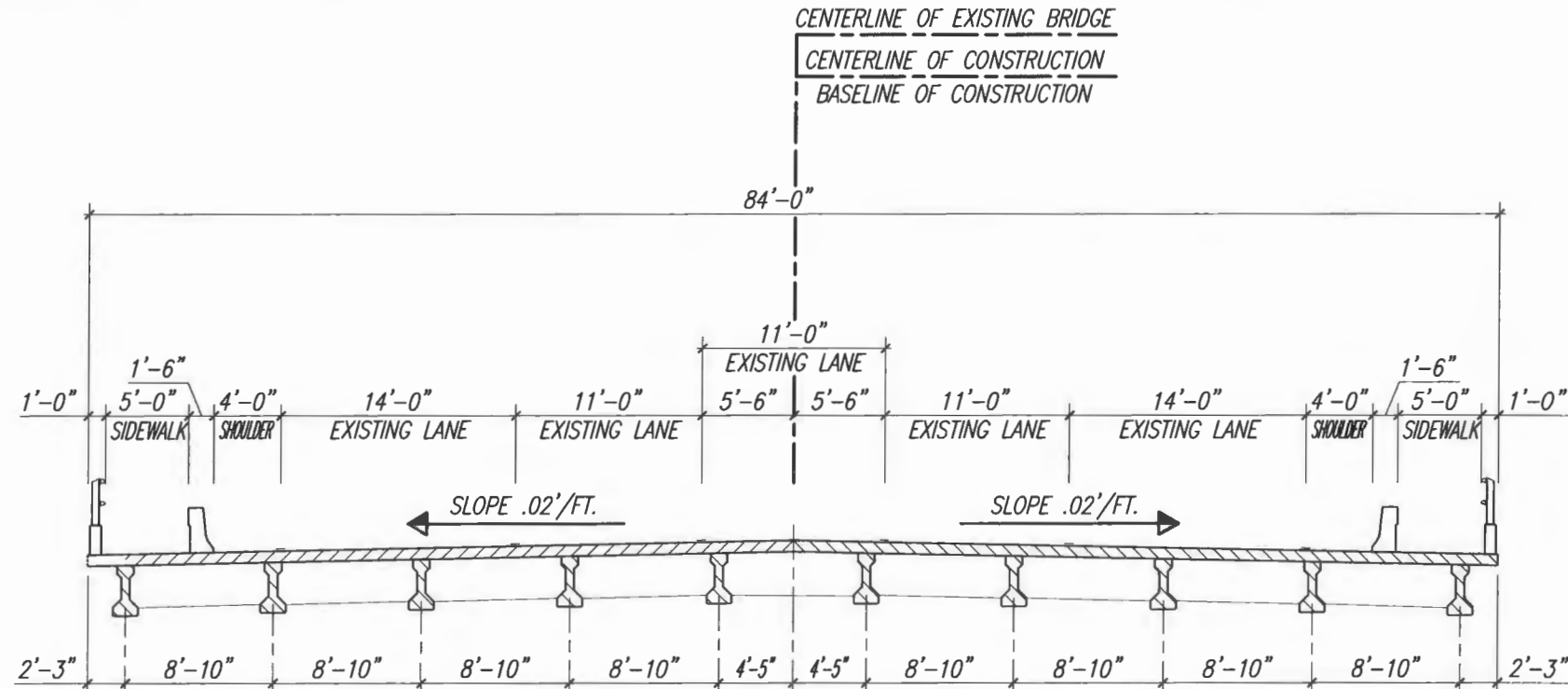
Department of Public Works
Engineering Division

Scale: AS NOTED
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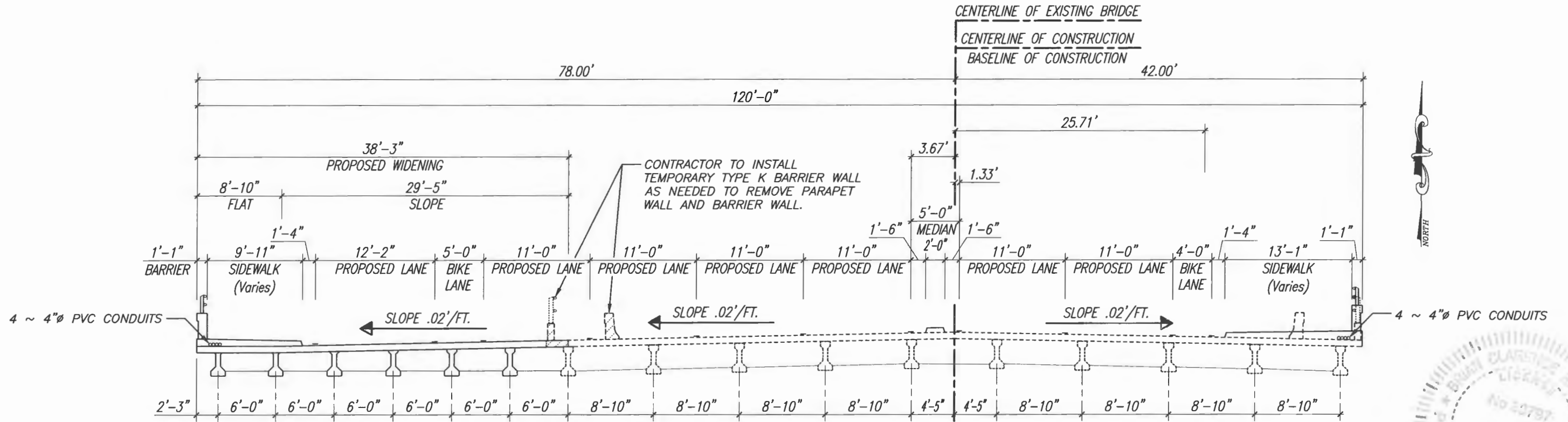
PROJECT:
Proposed Concrete Bridge for:
43rd Avenue over Main Relief Canal
Indian River County, Florida

SEAL
 Brian C. Rheault - 38797
 FLORIDA P.E. NAME & NUMBER

SHEET
B-3a
 PROJECT NO.
05-609B



EXISTING BRIDGE CROSS SECTION @ END BRIDGE STA. 130+94.455
 $3/16" = 1'-0"$



PROPOSED BRIDGE CROSS SECTION @ END BRIDGE STA. 130+94.455
 $3/16" = 1'-0"$

DATE: May 09, 2019 10:44am S:\2005-105-609b-105-609b-43rd avenue at main relief canal\07_structural\dwg\130b-PROPOSECT.dwg

VERIFY SCALE

 BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.

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NO.	REVISION	DATE	BY

Department of Public Works
Engineering Division

Scale: AS NOTED
 Approved:
 Drawn: C.A.B.
 Checked: B.C.R.
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PROJECT:
Proposed Concrete Bridge for:
43rd Avenue over Main Relief Canal
Indian River County, Florida

SEAL

 Brian C. Rheault - 38797
 FLORIDA P.E. NAME & NUMBER

SHEET
B-3b
 PROJECT NO.
05-609B



GENERAL NOTES

GENERAL SPECIFICATIONS:

Florida Department of Transportation Standard Specification for Road and Bridge Construction (2017 Edition) and Supplements thereto.

DESIGN SPECIFICATION:

7th Edition of the AASHTO LRFD Bridge Design Specifications 2017 with current interims.
2017 Edition of the F.D.O.T. Structure Design Manual with current interims.
F.D.O.T. Plans and Preparation Manual January 2017.

DESIGN LOADING:

Live Load:
HL-93 with Dynamic Load Allowance
Dead Load:
32" F Shape Traffic Railing 420 p.l.f.
Reinforced Concrete 150 p.c.f.
Lightweight Reinforced Concrete 110 p.c.f.
Future Wearing Surface 15 p.s.f.
Median 74 p.l.f.
Sidewalk 610 p.l.f. (WEST)
1488 p.l.f. (EAST)
Stay in Place Metal Forms 20 p.s.f.

CONCRETE:

Note: Concrete to be in compliance with F.D.O.T. Specifications 346.

CONCRETE CLASS	MINIMUM 28 DAY COMPRESSIVE STRESS (ksi)	LOCATION OF CONCRETE IN STRUCTURE
Class II (Lightweight)	f'c = 3.4	Sidewalks and Median
Class II	f'c = 3.4	Traffic Barriers
Class IV	f'c = 5.5	Cast-in-place Pile Caps and Sheet Piles and Diaphragms
Class II (Bridge Deck)	f'c = 4.5	Cast-in-place Bridge Deck and Approach Slabs
Class V (Special)	f'c = 6.0	Prestressed Concrete Piles Prestressed Concrete Beams

CONCRETE:

1. Provide 3/4 inch chamfers on all exposed edges and corners except as otherwise noted.
2. Construction joints will be permitted only at the locations indicated on the plans, additional construction joints or alterations to those shown will require approval by the engineer.

REINFORCEMENT:

1. Reinforcement shall be ASTM A-615, Grade 60. Spiral ties for prestressed concrete piles shall be manufactured from cold drawn steel wire meeting the requirements of ASTM A82.
2. All dimensions pertaining to location of reinforcing are to centerline of bars except where the clear dimension is shown to face of concrete.
3. Reinforcement detail dimensions are out-to-out of bars.

MINIMUM CONCRETE COVER:

CIP Superstructure = 2 in. (Typical except as noted).

CIP Substructure/Bent Cap = 4 in. for external surfaces cast against earth.
CIP Substructure/Bent Cap = 3 in. for other external surfaces.

CIP Substructure/Sheet Walls, Precast Facade = 3 in.

Concrete covers shown in the plans do not include placement and fabrication tolerances unless shown as "minimum cover". See F.D.O.T. Standard Specifications for allowable tolerances.

GENERAL NOTES (CONTINUED)

DESIGN METHOD:

All elements were designed using the LRFD (Load and Resistance Factor Design).

PILE LOAD:

See Sheet B-9 for Pile Loads.

PILES:

18 inch square Prestressed Concrete Piles.

SURFACE FINISH:

All exposed surfaces of end bent wing walls and barriers shall receive a "Class 5 applied finish coating".

ENVIRONMENT:

Location: Inland
Superstructure: Slightly Aggressive
Substructure: Moderately Aggressive, controlling criteria:
Water Resistivity = 2,000 (ohm-cm)

DATUM:

All Elevations shown are in N.G.V.D. 29, Unless Noted Otherwise.

MISCELLANEOUS NOTES

1. Floating Turbidity Barrier with fine mesh shall be used in accordance with F.D.O.T. Standard Specifications, Section 104.

CONSTRUCTION NOTES

EQUIPMENT ON UNITS:

Before heavy construction equipment is permitted on the structure during construction, sketches showing the axle spacing and anticipated loadings shall be submitted to and approved by the Engineer.

VIBRATION MONITORING:

The settlement of structures and vibration levels shall be monitored in accordance with F.D.O.T. Specifications 455-1.1. A pre-construction video recording of all structures within the distances specified in the Specifications shall be made.

STAY IN PLACE METAL FORMS:

Design includes allowance for 20 lb./ft. over the projected plan area of the metal forms for the unit weight of metal forms and concrete required to fill the forms flutes.

SCREEDING DECK SLABS:

The riding surface of the bridge deck shall be screeded to finish grade elevations which already include allowance for permanent camber.

DESIGN SPEED:

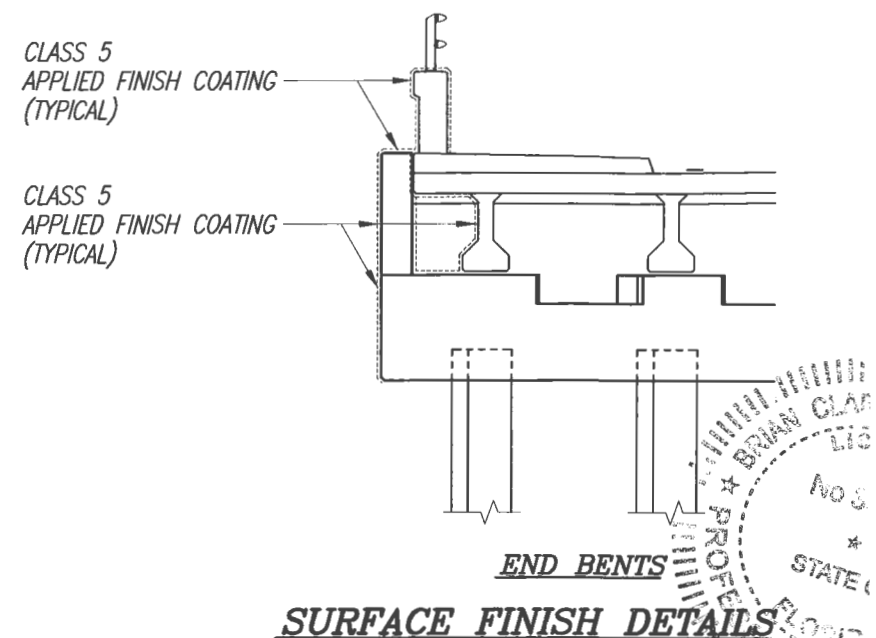
See Roadway Plans.

UTILITIES:

The underground utilities shown in the bridge plans are at approximate locations. For additional information refer to Roadway Plans. All involved utilities shall be verified by the contractor prior to starting work. The Contractor shall notify all involved utility companies prior to excavation, pile driving, or construction and shall be responsible for making its own determination to avoid damage. Any required relocation of existing utilities shall be done by others. Contractor shall assure that active utilities are properly maintained during construction.

MAINTENANCE OF TRAFFIC:

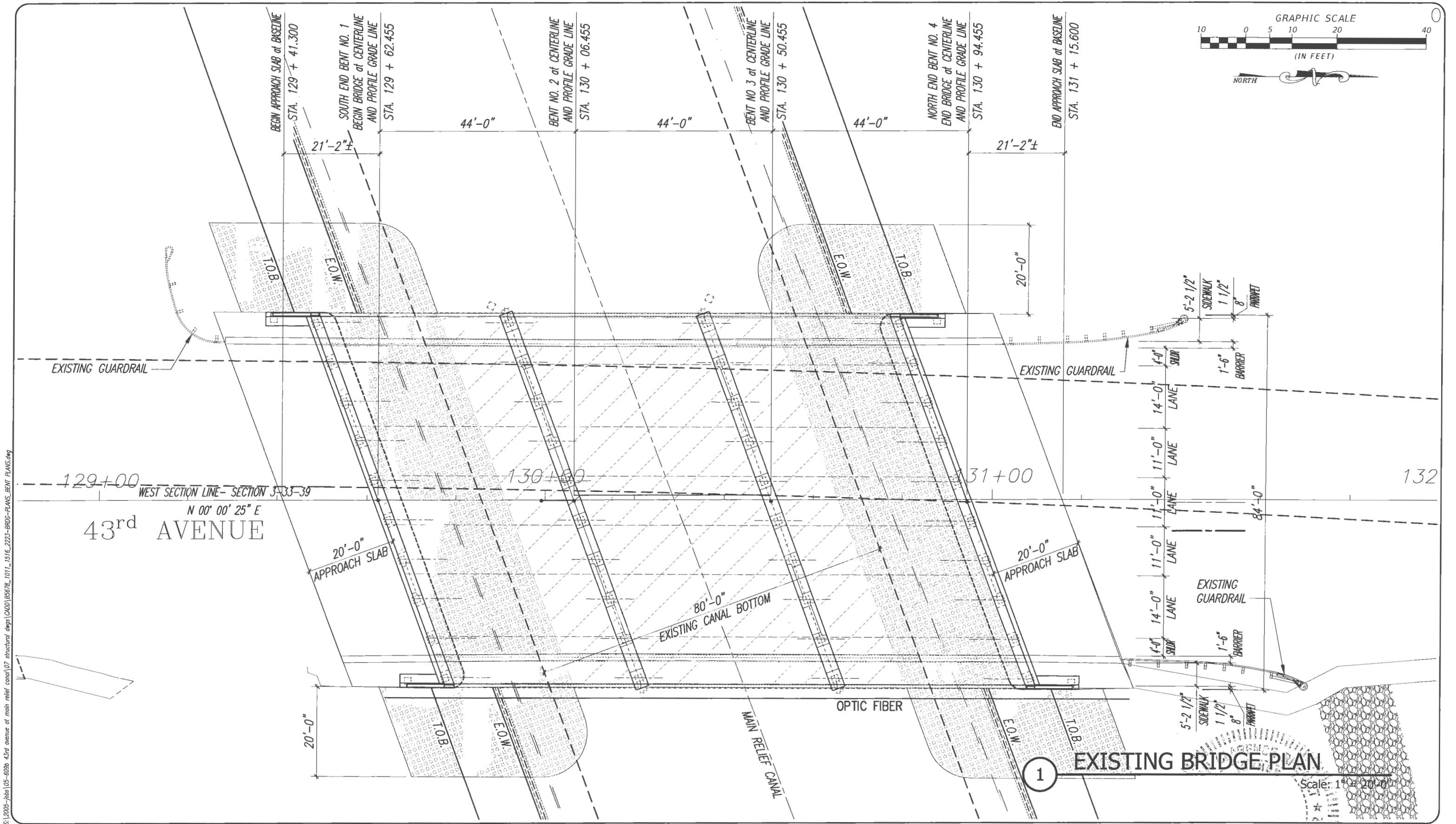
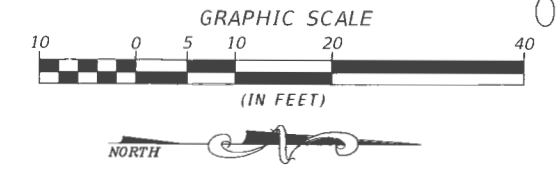
For Maintenance of Traffic, See Roadway Plans..



SURFACE FINISH DETAILS

DATE: May 09, 2019 - 10:44am S:\2005-jdas-jdas\05-6099_43rd_avenue_over_main_relief_canal\07_structural_dwg\CADD\BA-NOTES.dwg

<p>VERIFY SCALE</p> <p>1" = 1'</p> <p>BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.</p>	<p>BRIDGE DESIGN ASSOCIATES, INC. 1402 Royal Palm Beach Blvd., Bldg. 200, Royal Palm Beach, FL 33411 Tel. (561) 688-3660 Fax (561) 791-1995 CONSULTING ENGINEERS FLORIDA E.C.B. NO. 4952</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NO.</th> <th>REVISION</th> <th>DATE</th> <th>BY</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	NO.	REVISION	DATE	BY													<p>Department of Public Works Engineering Division</p>	<p>Scale: AS NOTED Approved: _____ Drawn: C.A.B. Checked: B.C.R. Date: APRIL 2019 Field Book No: _____</p>	<p>PROJECT: Proposed Concrete Bridge for: 43rd Avenue over Main Relief Canal Indian River County, Florida</p>	<p>SEAL Bruce Clayton - 38797 FLORIDA P.E. NAME & NUMBER</p>	<p>SHEET B-4 PROJECT NO. 05-609B</p>
NO.	REVISION	DATE	BY																				



DATE: May 09, 2019 - 10:56am S:\2005-jobs\05-609b-43rd avenue at main relief canal\07_structural dwgs\CAD\B5678_101_1516_223-BRIDGE-PLANS-BENT PLANS.dwg

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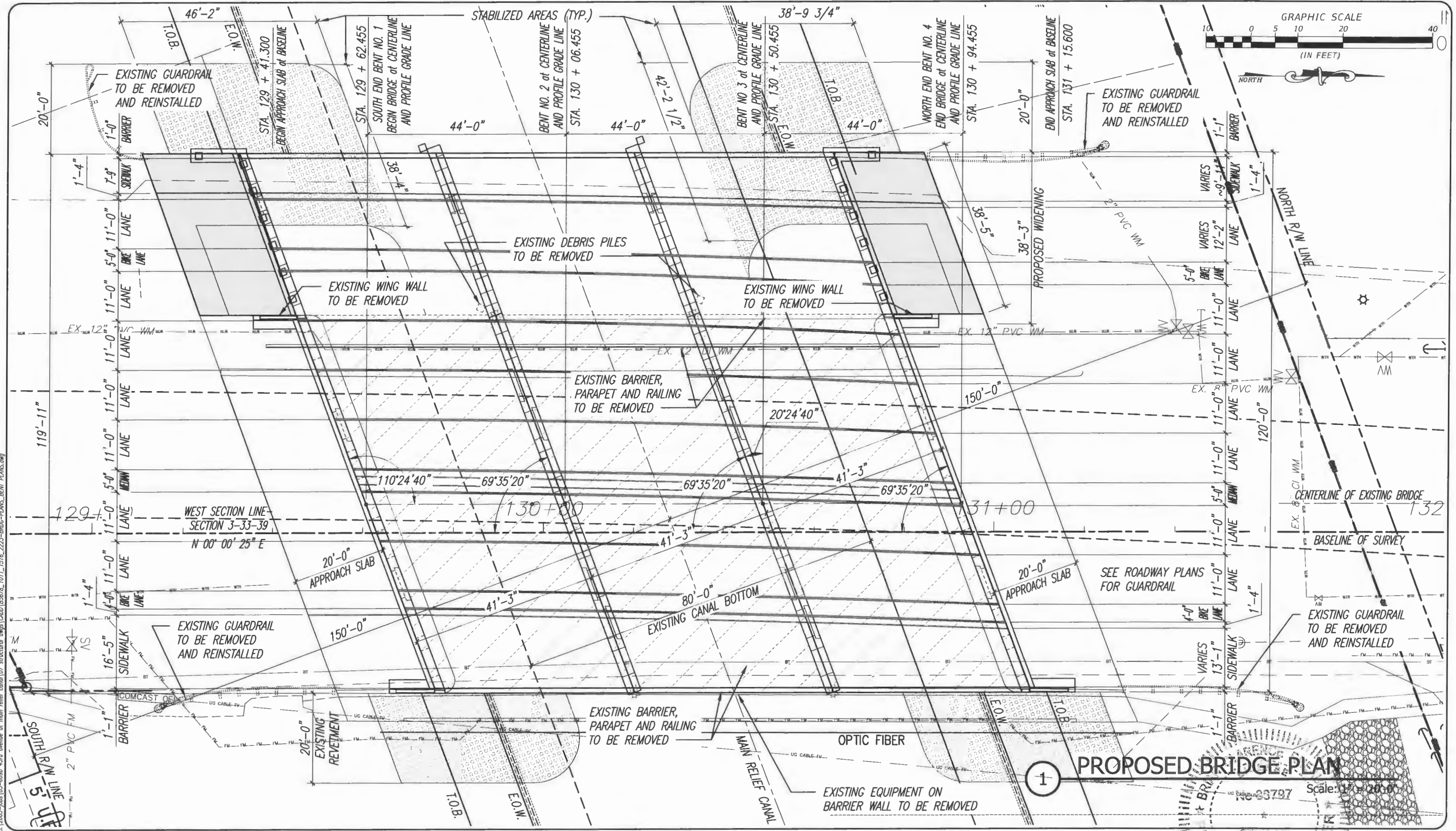
PROJECT:
Proposed Concrete Bridge for 43rd Avenue over Main Relief Canal
 Indian River County, Florida

SEAL

 Brian C. Rheault - 38797
 FLORIDA P.E. NAME & NUMBER

SHEET
B-5
 PROJECT NO.
05-609B

DATE: May 09, 2019 - 10:55am S:\2005-jobs\05-609b\43rd avenue at main relief canal\07 structural dwgs\CAD\05678_101_1516_223-880G-PLANS-BENT PLANS.dwg



PROPOSED BRIDGE PLAN

Scale: 1" = 20'-0"

VERIFY SCALE

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INDIAN RIVER COUNTY, FLORIDA

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PROJECT:
Proposed Concrete Bridge for 43rd Avenue over Main Relief Canal
 Indian River County, Florida

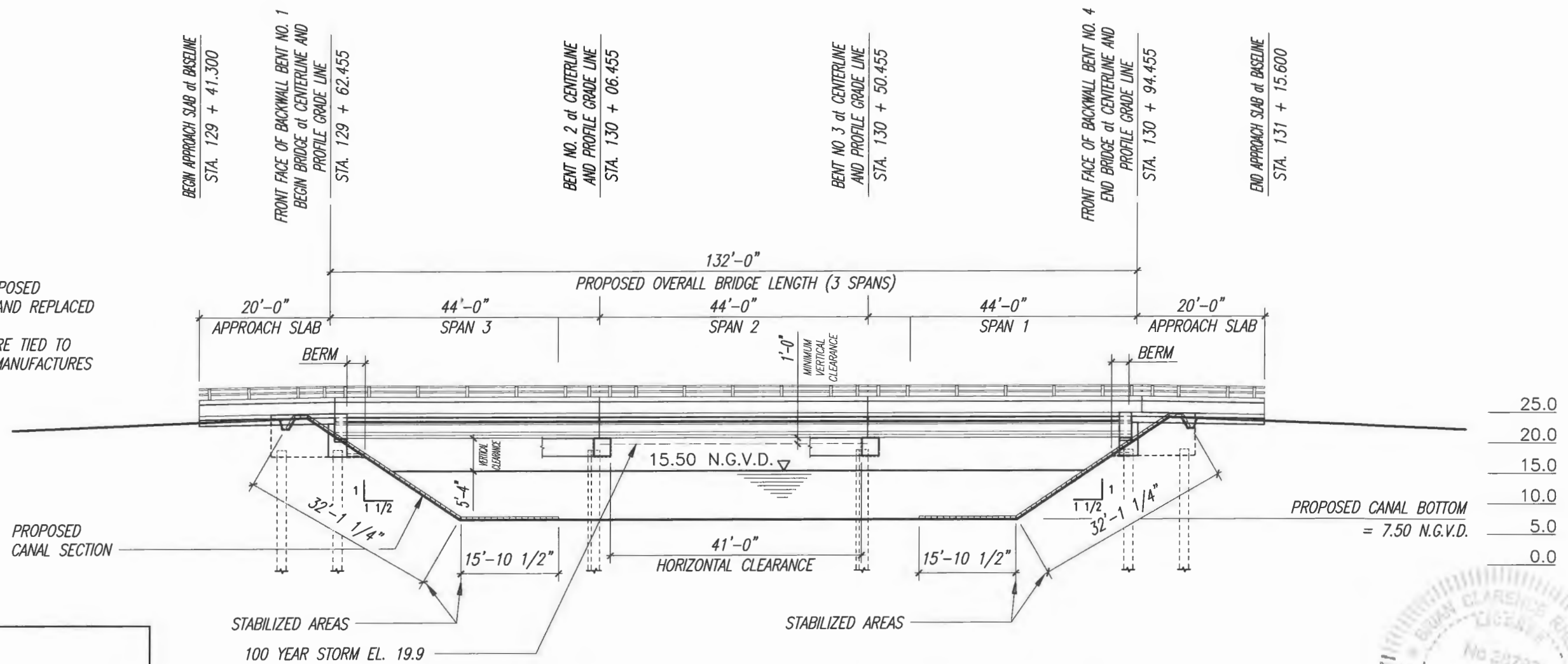
SEAL

 B. J. Stidzart
 No. 39797
 State of Florida

SHEET
B-6
 PROJECT NO.
05-609B



EXISTING REVETMENT UNDER PROPOSED CONSTRUCTION TO BE REMOVED AND REPLACED
 PROPOSED REVETMENT TO BE WIRE TIED TO EXISTING REVETMENT MATS PER MANUFACTURERS RECOMMENDATIONS.



- NOTES:
1. ALLOWABLE LOW MEMBER ELEVATION = 20.9 N.G.V.D.
 2. 100 YEAR FLOW ELEVATION = 19.9 N.G.V.D.
 3. PROVIDE SILT BARRIER IN CANAL DURING CONSTRUCTION.

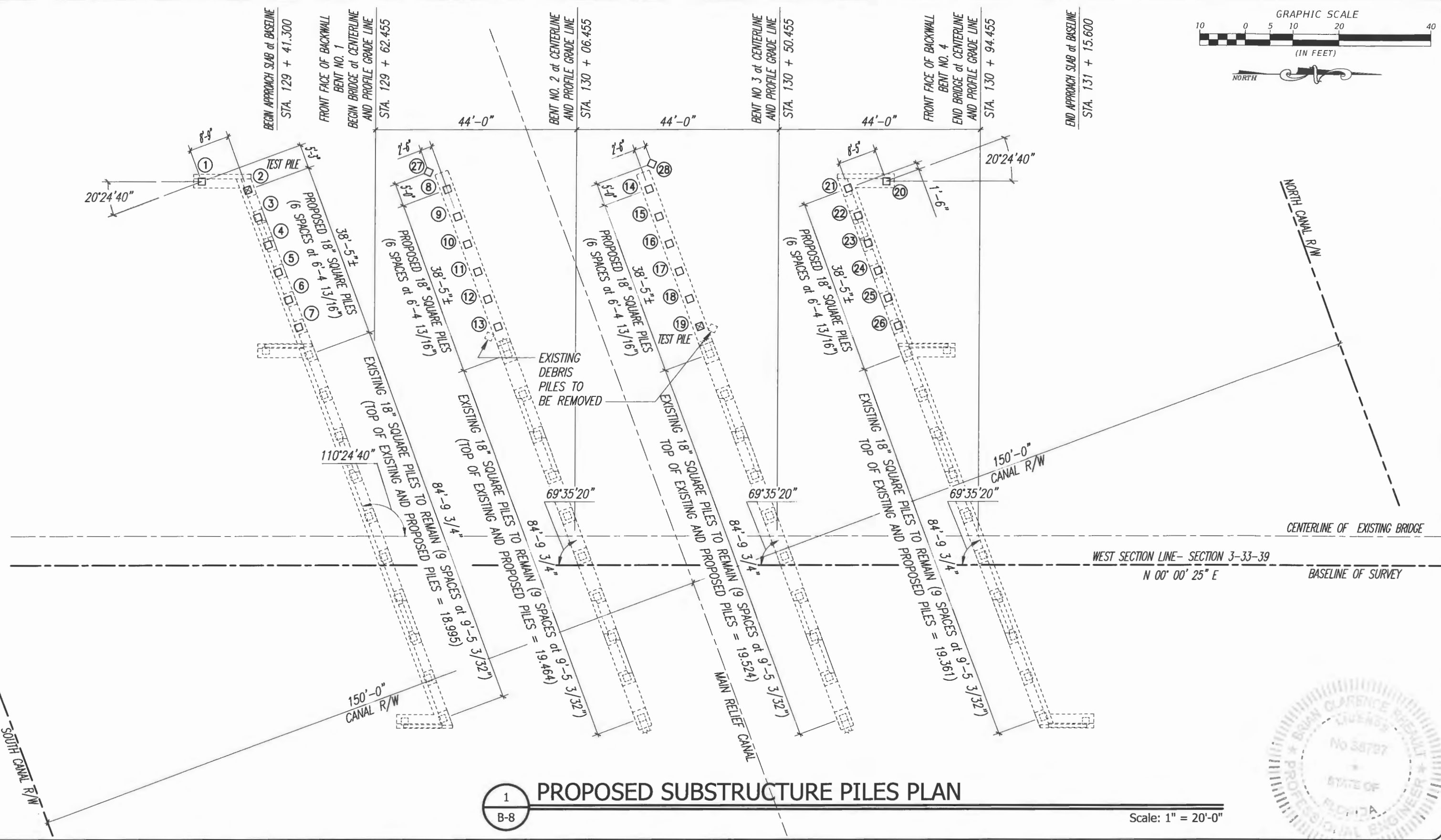
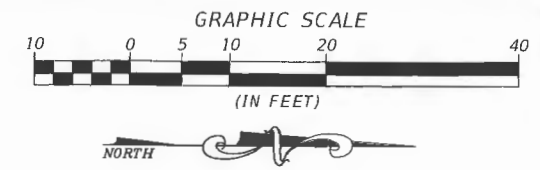
1
 B-7
PROPOSED WEST BRIDGE ELEVATION

Scale: 1" = 10'-0"



DATE: May 09, 2019 - 10:45am S:\2005-jobs\05-609b\05-609b-43rd avenue at main relief canal\07_structural\dwg\1011_1516_2223-PROP-PLANS-BENT PLANS.dwg

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NO.	REVISION	DATE	BY																			



1
B-8
PROPOSED SUBSTRUCTURE PILES PLAN

Scale: 1" = 20'-0"



DATE: May 09, 2019 - 10:46am S:\2005-jobs\05-609p-43rd avenue of main relief canal\07_structural\dwg\CADD\B562R_101_L_1516_2223-BR00-PLANS-BENT PLANS.dwg

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Proposed Concrete Bridge for:
43rd Avenue over Main Relief Canal
Indian River County, Florida

SEAL

 Brian C. Rheault - 38797
 FLORIDA P.E. NAME & NUMBER

SHEET
B-8
 PROJECT NO.
05-609B

Pile Data Table

Installation Criteria								Design Criteria						
Bent/Pier	Pile Size (in.)	Nominal Bearing Capacity (tons)	Tension Capacity (tons)	Minimum Tip Elevation (ft., N.G.V.D.)	Test Pile Length (ft.)	Required Jet Elevation (ft., N.G.V.D.)	Required Preform Elevation (ft., N.G.V.D.)	Factored Design Load (tons)	Down Drag (tons)	Total Scour Resistance (tons)	Net Scour Resistance (tons)	Long Term Scour Elevation (ft.)	100 Year Scour Elevation (ft.)	Ø
Abutments														
Pile 2	18	134	N/A	(-)12.5	65	N/A	N/A	87	0	N/A	N/A	N/A	N/A	0.65
Piles 1 & 20	18	134	N/A	(-)12.5		N/A	N/A	87	0	N/A	N/A	N/A	N/A	0.65
Piles 3 - 7 & 21 - 26	18	134	N/A	(-)12.5		N/A	N/A	87	0	N/A	N/A	N/A	N/A	0.65
INTERMEDIATE BENTS														
Pile 19	18	186	N/A	(-)12.5	65	N/A	N/A	121	0	N/A	N/A	N/A	N/A	0.65
Piles 8 - 18	18	186	N/A	(-)12.5		N/A	N/A	121	0	N/A	N/A	N/A	N/A	0.65
DEBRIS PILES														
27 - 28	18		N/A			N/A	N/A		0	N/A	N/A	N/A	N/A	0.65

PILE DATA - ABUTMENTS

PILE (2) TEST PILE WITH 87 TON CAPACITY (65'-0" LONG MINIMUM)
USE TEST PILE TO DETERMINE FINAL PILE LENGTHS.

PRECAST PRESTRESSED CONCRETE PILING
LOADING SHALL BE AS FOLLOWS:

PILES (1) AND (20)

18" SQUARE PILES WITH 87 TON CAPACITY (50'-0" LONG MINIMUM)

PILES (3) - (7) AND (21) - (26)

18" SQUARE PILES WITH 87 TON CAPACITY (50'-0" LONG MINIMUM)

PILE DATA - INTERMEDIATE BENTS

PILE (19) TEST PILE WITH 121 TON CAPACITY (65'-0" LONG MINIMUM)
USE TEST PILE TO DETERMINE FINAL PILE LENGTHS.

PRECAST PRESTRESSED CONCRETE PILING
LOADING SHALL BE AS FOLLOWS:

PILES (8) - (18)

18" SQUARE PILES WITH 121 TON CAPACITY (50'-0" LONG MINIMUM)

PILE INSTALLATION NOTES:

Contractor to verify location of all utilities prior to any pile driving.
Minimum Tip Elevations required for lateral stability.

NOTES:

Nominal Bearing Capacity (NBC) = (Factored Design Load + Net Scour Resistance + Down Drag) / Ø

Test piles are to be monitored dynamically with the Pile Driving Analyzer (PDA).

End Bent

Estimated Service Load = 57 Tons.

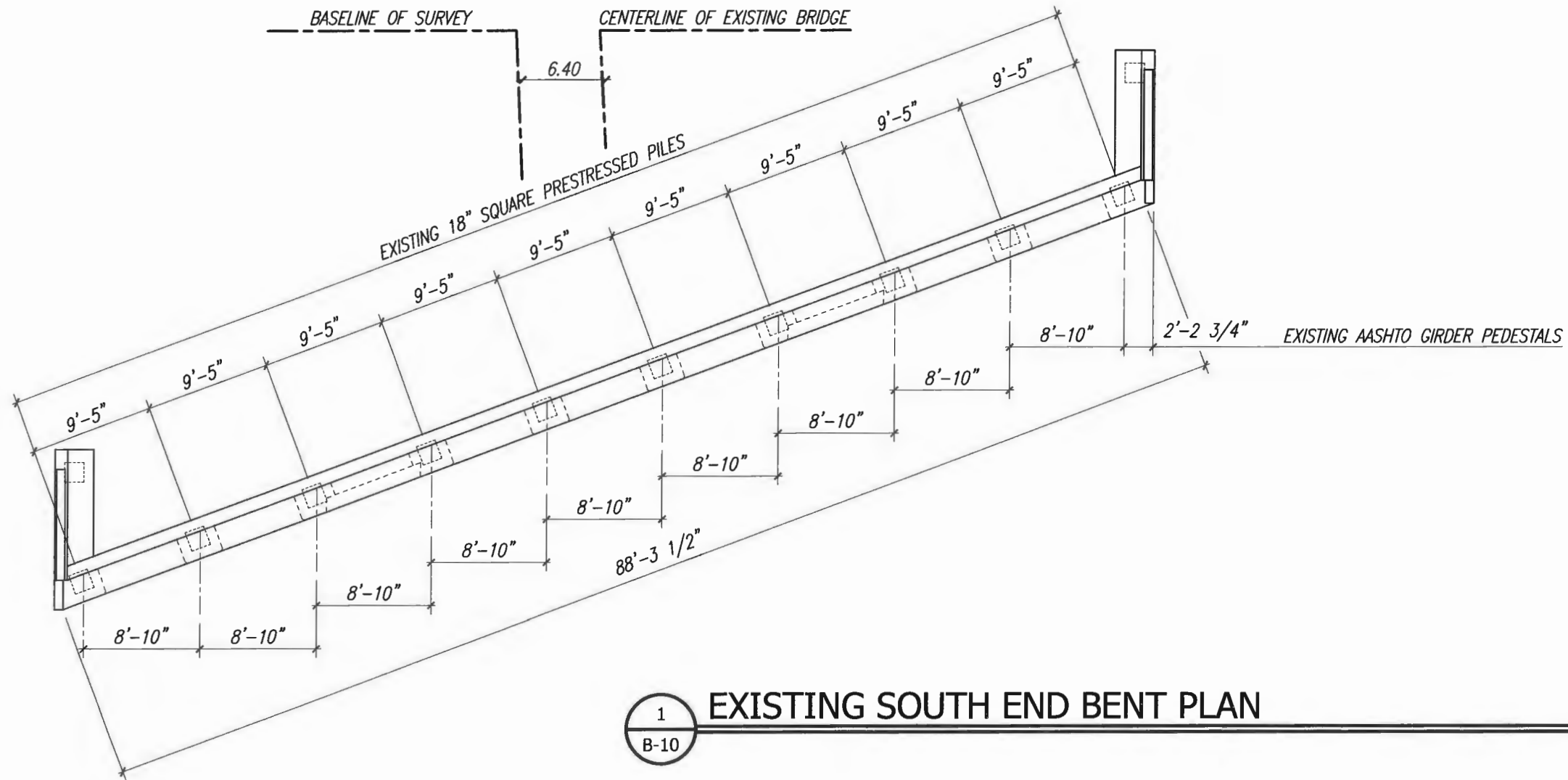
Interior Bent

Estimated Service Load = 81 Tons.



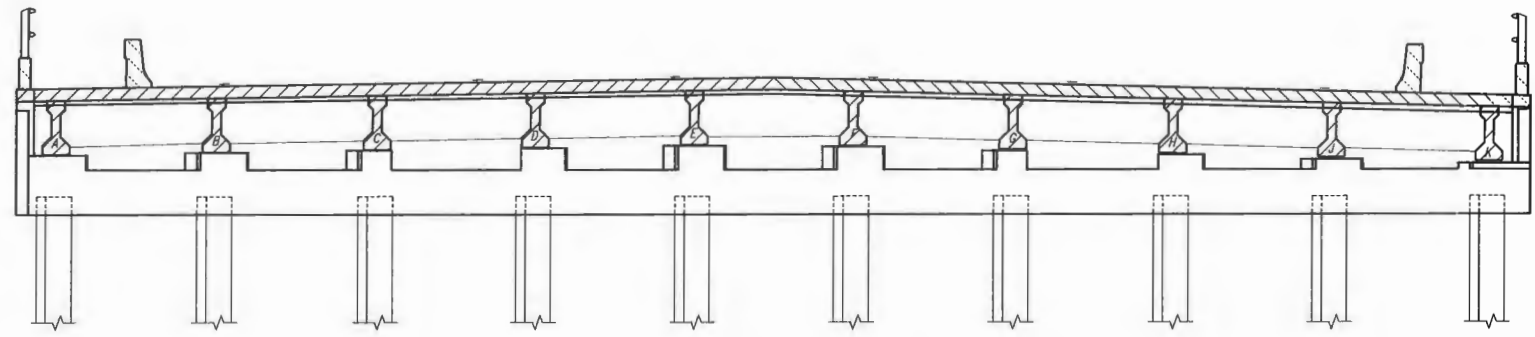
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NO.	REVISION	DATE	BY												



1 EXISTING SOUTH END BENT PLAN
B-10

Scale: 3/16" = 1'-0"



2 EXISTING SOUTH END BENT ELEVATION
B-10

Scale: 3/16" = 1'-0"



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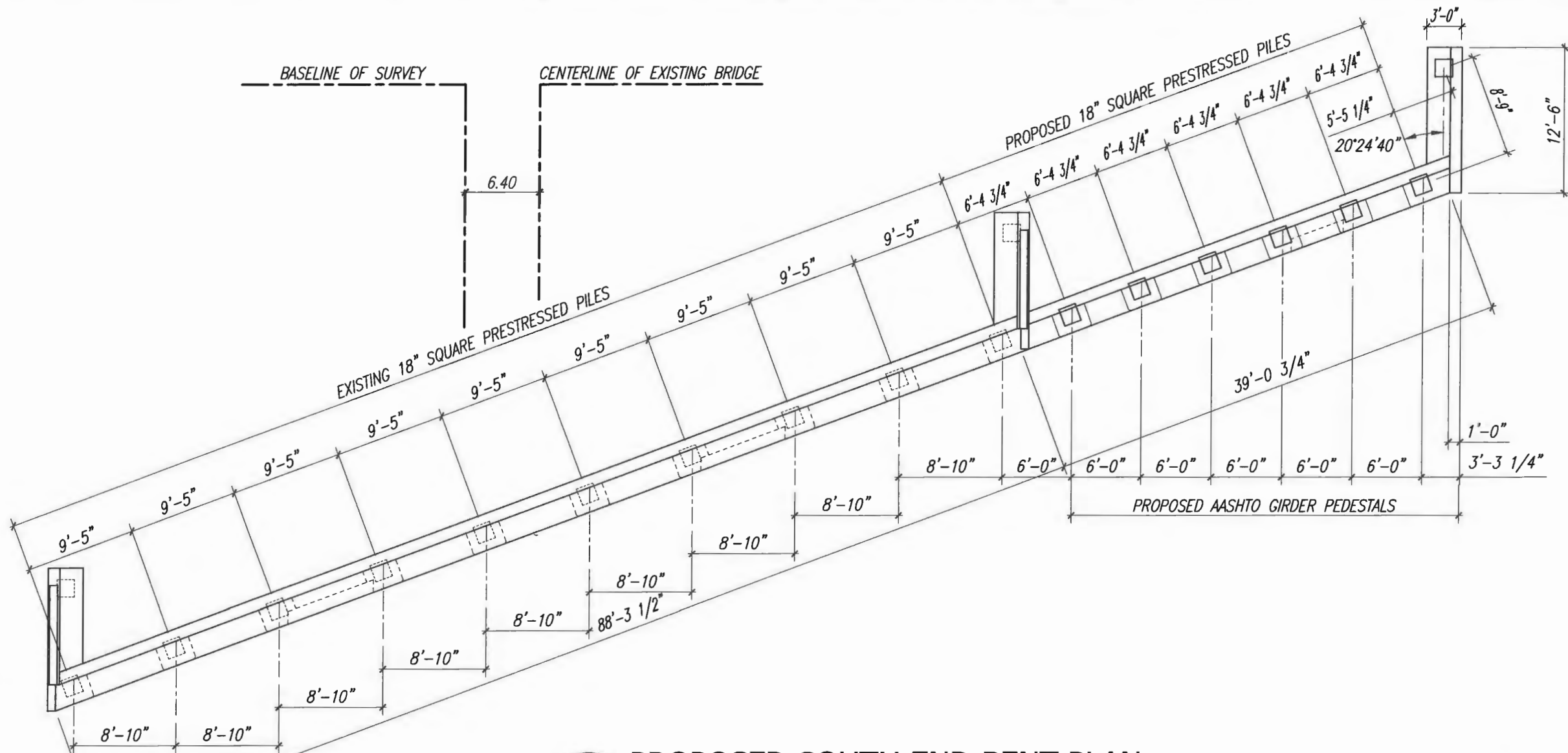
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PROJECT:
Proposed Concrete Bridge for:
43rd Avenue over Main Relief Canal
Indian River County, Florida

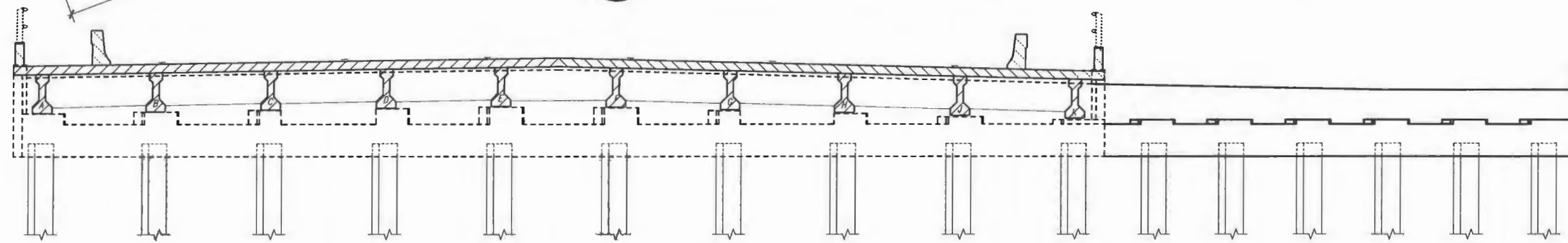
SEAL
B 5/10/2019
FLORIDA P.E. NAME & NUMBER

SHEET
B-10
PROJECT NO.
05-609B



1 PROPOSED SOUTH END BENT PLAN
B-11

Scale: 3/16" = 1'-0"



2 PROPOSED SOUTH END BENT ELEVATION
B-11

Scale: 3/16" = 1'-0"



DATE: May 09, 2019 - 10:46am S:\2005-jobs\05-609b\05-609b-43rd avenue at main relief canal\07 structural dwgs\1011_1516_2023-BRDC-PLANS_BENT_PLANS.dwg

VERIFY SCALE
1" = 1'
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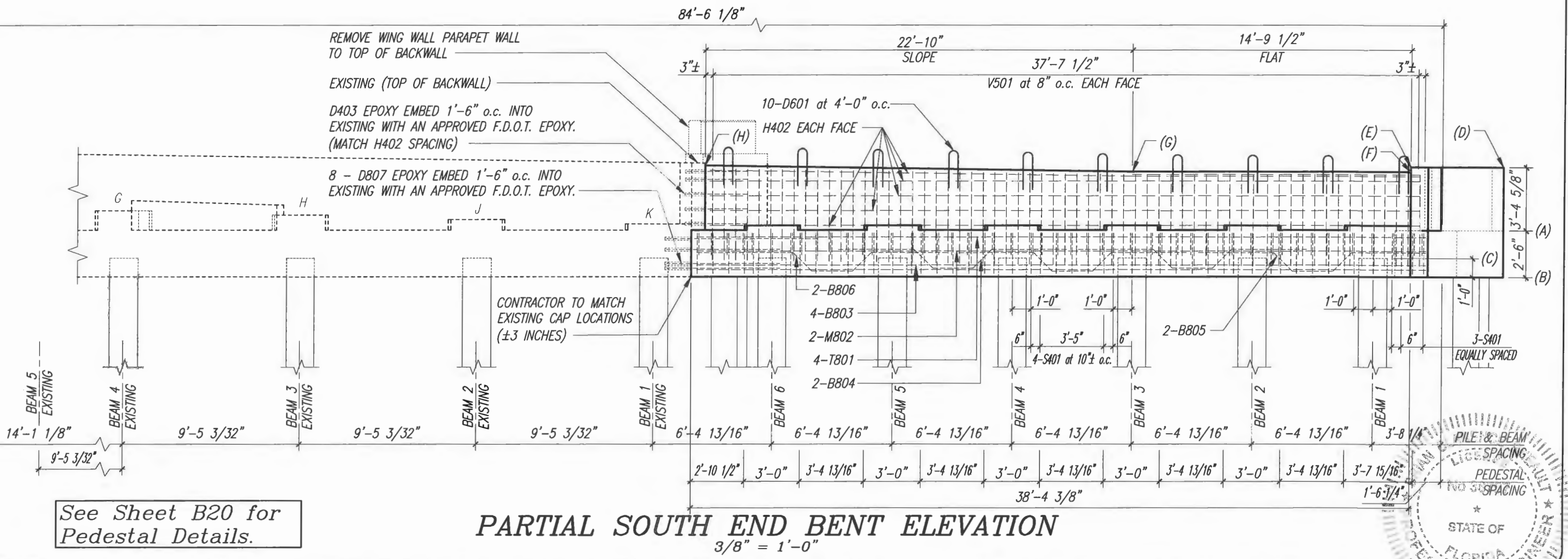
SEAL
Brian C. Rheault - 38797
FLORIDA P.E. NAME & NUMBER

SHEET
B-11
PROJECT NO.
05-609B

Elevation Table

Bents	Elevations (ft.)							
	A	B	C	D	E	F	G	H
South End Bent No. 1	19.94	17.44	18.44	23.33	23.33	22.21	22.21	22.77

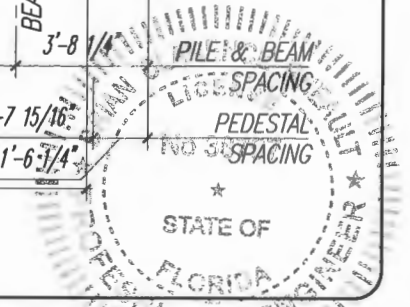
BASELINE OF SURVEY



See Sheet B20 for Pedestal Details.

PARTIAL SOUTH END BENT ELEVATION

3/8" = 1'-0"



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Indian River County, Florida

SEAL
Brian C. Rhoadt - 38797
FLORIDA P.E. NAME & NUMBER

SHEET
B-12
PROJECT NO.
05-609B

Estimated South End Bent Quantities

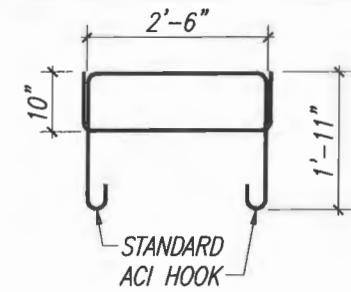
Item	Unit	Quantity (Average)
Class II Concrete (Pile Cap)	Cu. Yds.	18.0
Reinforcing Steel (Pile Cap)	lbs.	3,895

Bill of Reinforcing Steel

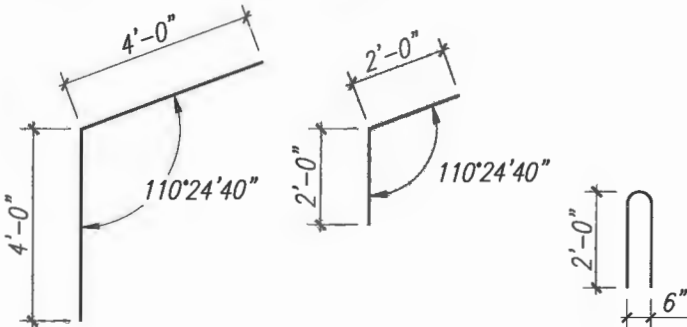
Mark	Size	Number Required	Length + Lap	Total Length	Bending	Weight (lbs.)
C800s	8	8		8'-0"	Bar C800	170.9
T801	8	4		38'-10"	Straight	414.7
M802	8	2		38'-10"	Straight	207.4
B803	8	4		38'-10"	Straight	414.7
B804	8	6		13'-0"	Bar B804	208.3
B805	8	8		13'-0"	Bar B805	277.7
B806	8	2		14'-2"	Bar B806	75.7
D807	8	8		6'-7"	Straight	140.6
S401	4	49		11'-6"	Bar S401	376.4
H402	4	10		38'-10"	Straight	259.4
D403	4	10		3'-3"	Straight	21.7
* V501	5	114		5'-0"	Straight	594.5
D601	6	10		4'-3 1/2"	Straight	64.5
C400s	4	10		4'-0"	Bar C400s	26.7
W808	8	10		12'-0"	Straight	320.4
S404	4	14		11'-6"	Bar S404	107.5
V502	5	38		5'-3"	Straight	133.3
H405	4	10		12'-0"	Straight	80.2

* TRIM V501 AS NEEDED TO SATISFY COVER REQUIREMENTS.

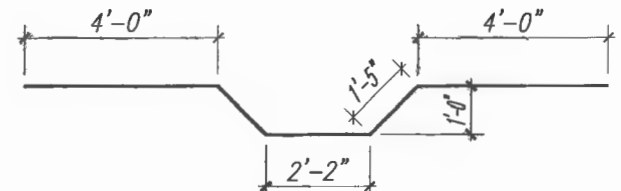
Bending Diagram



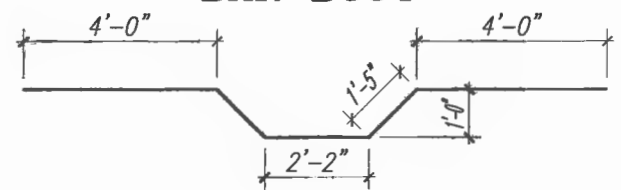
BAR S401 S404



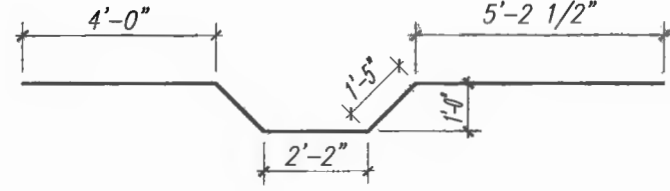
BAR C800s BAR C400s BAR D601



BAR B804

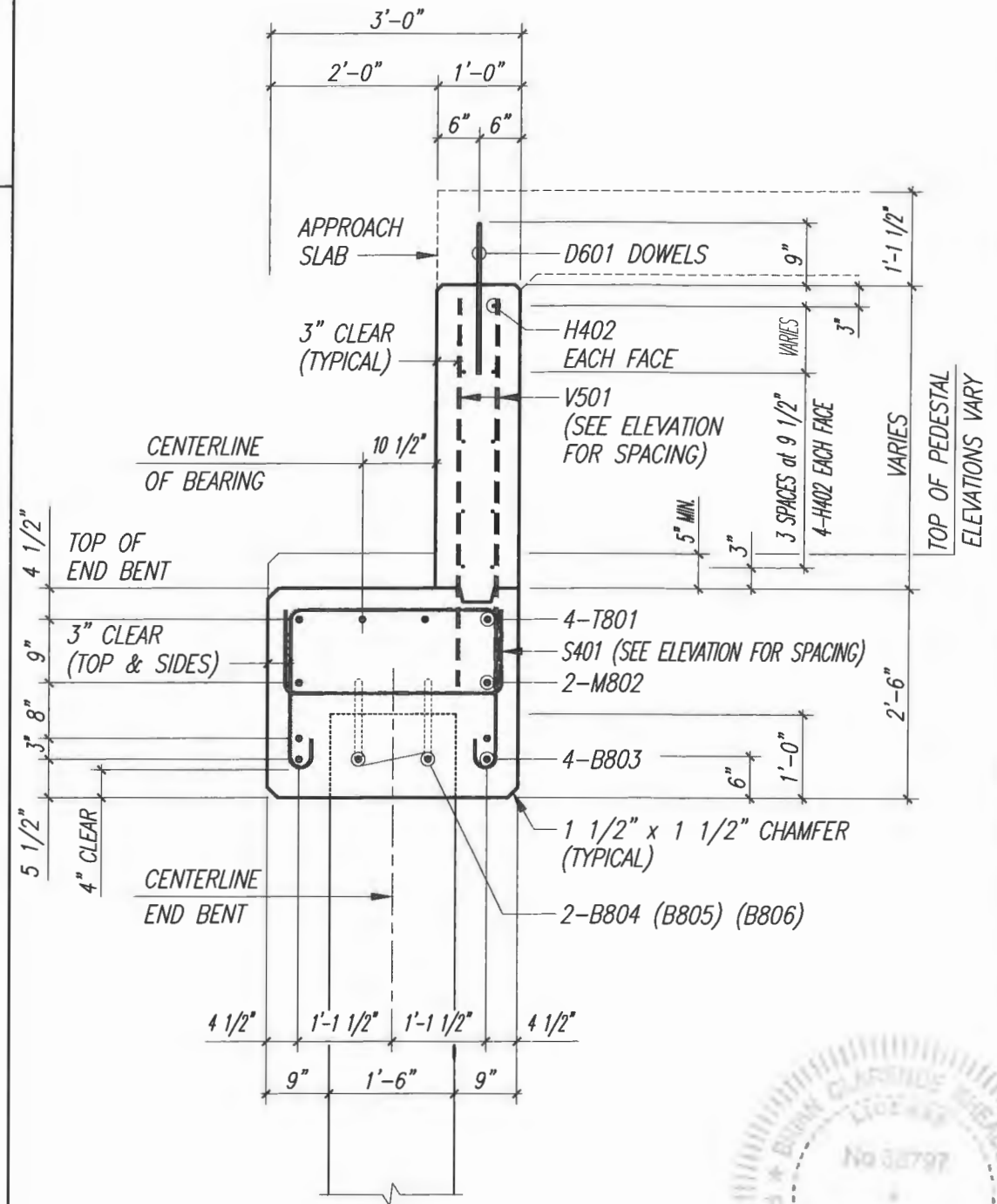


BAR B805



BAR B806

Bill of Reinforcing Steel and Estimated Quantities are for one pile cap only.



SOUTH END BENT NO. 1 SECTION A - A



DATE: May 09, 2019 - 10:47am S:\2005-jobs\05-609b_43rd avenue at main relief canal\07_structural\dwg\121-SOUTH_BENT-SECT_QUANT-SEISMIC_DETAILS.dwg

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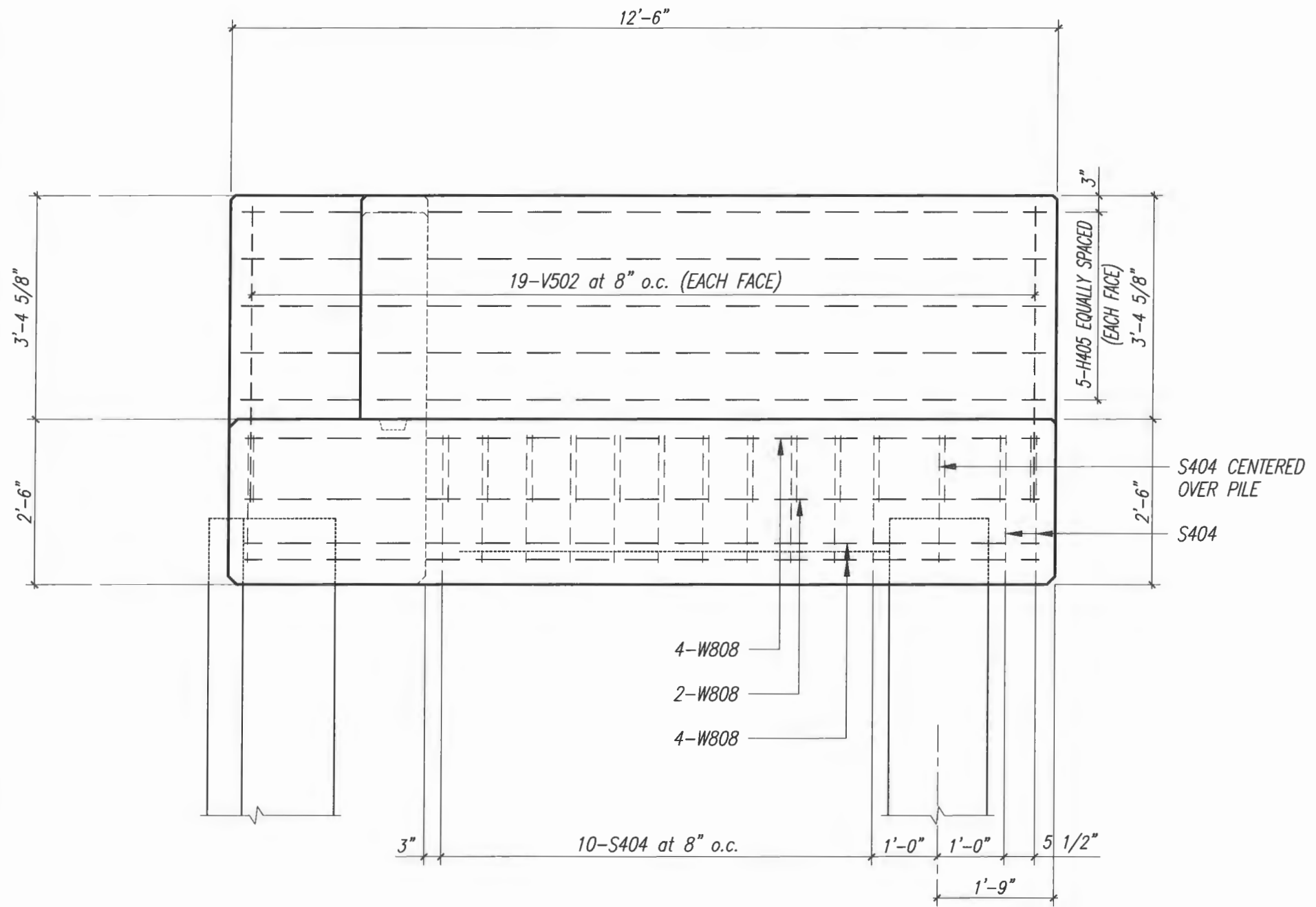
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43rd Avenue over Main Relief Canal
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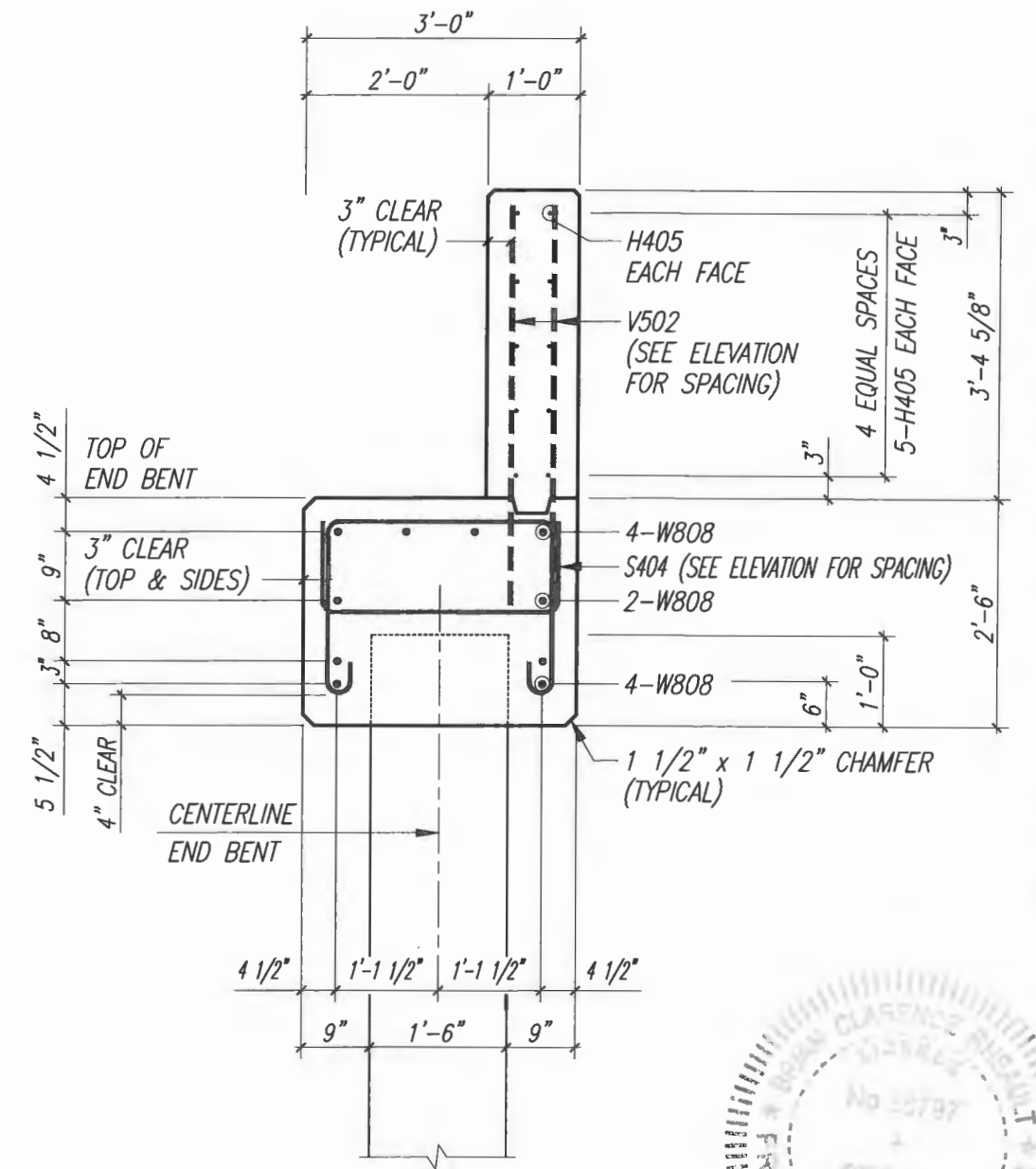
SEAL
Brian C. Rheault - 38797
FLORIDA P.E. NAME & NUMBER

SHEET
B-13
PROJECT NO.
05-609B

DATE: May 09, 2019 - 10:47am S:\2005-jobs\05-609b-43rd avenue over main relief canal\07 structural\dwgs\CADD\B14-SOUTH WING BENT DETAILS.dwg



**PROPOSED SOUTH WING WALL
ELEVATION C - C**



**PROPOSED SOUTH WING WALL
SECTION D - D**



VERIFY SCALE

1" = 1'

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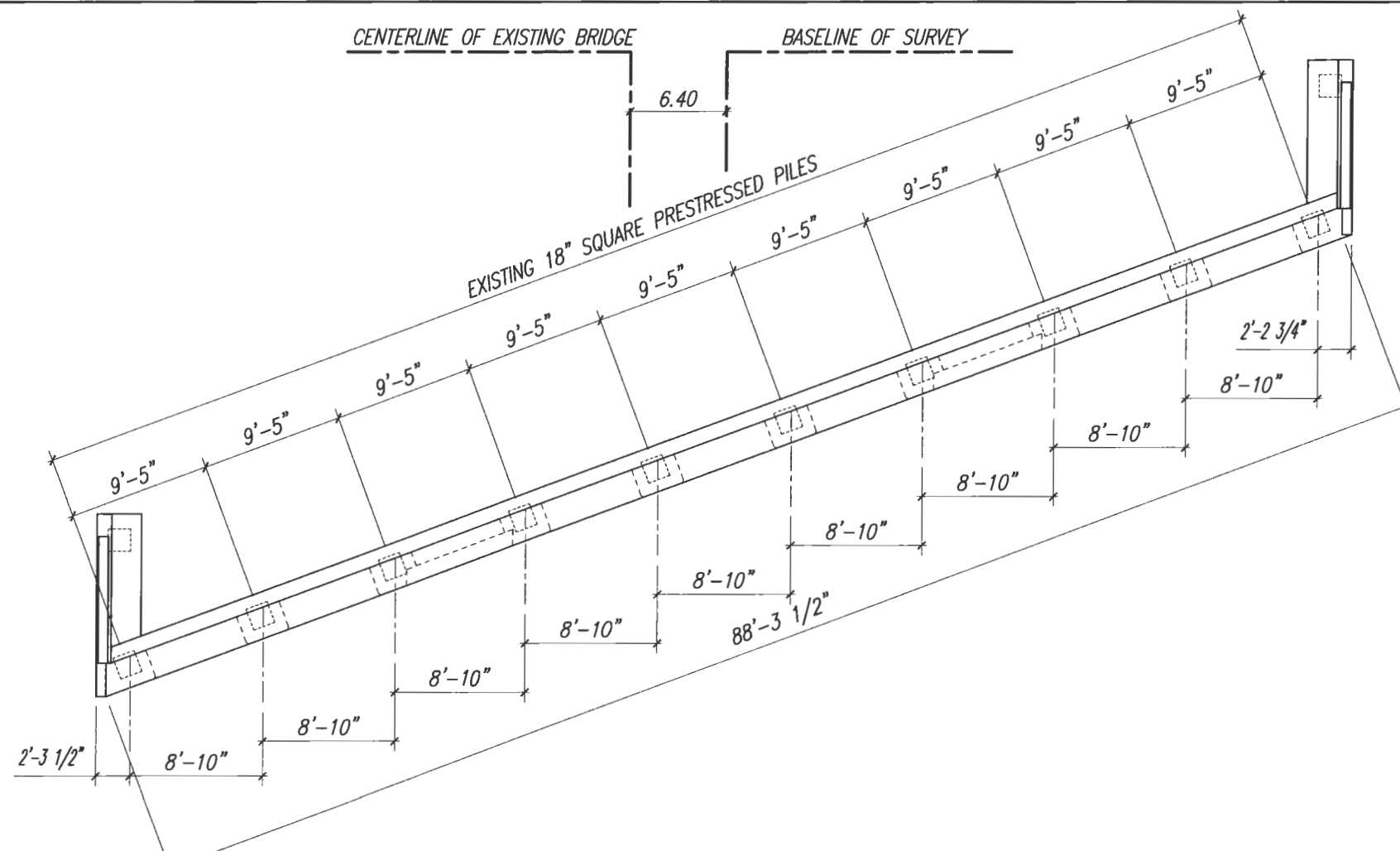
**Department of Public Works
Engineering Division**

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Indian River County, Florida

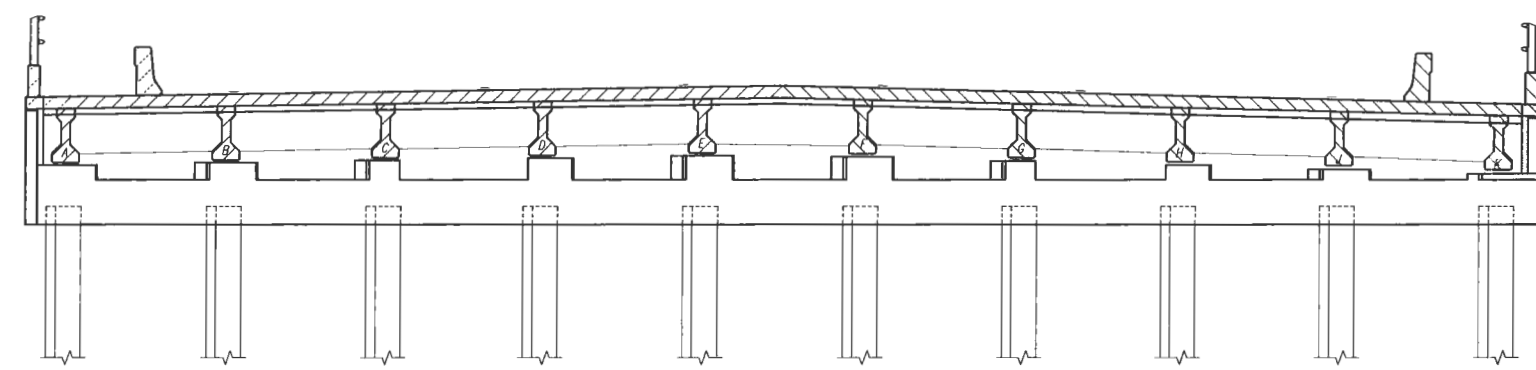
SEAL
Brian C. Rheault - 38797
FLORIDA P.E. NAME & NUMBER

SHEET
B-14
PROJECT NO.
05-609B



1 **EXISTING NORTH END BENT PLAN**
B-15

Scale: 3/16" = 1'-0"



2 **EXISTING NORTH END BENT ELEVATION**
B-15

Scale: 3/16" = 1'-0"

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VERIFY SCALE

1"

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CONSULTING ENGINEERS
FLORIDA C.E. NO. 4952

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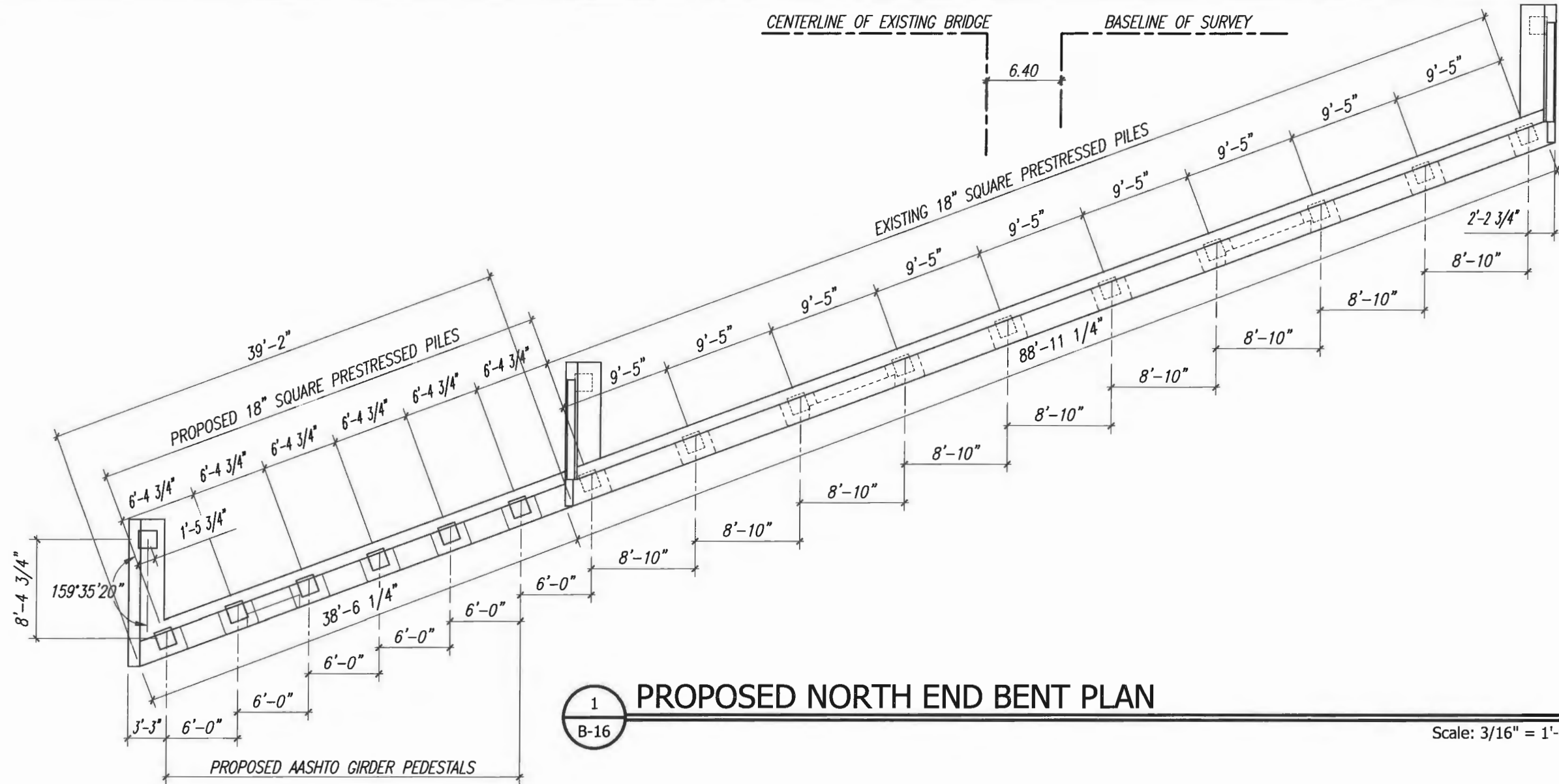
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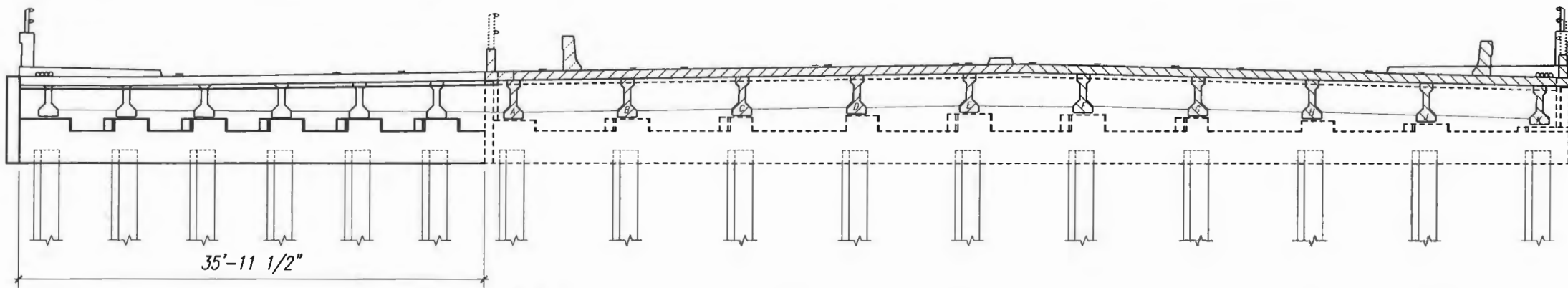
SEAL: _____
5/10/2019
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FLORIDA P.E. NAME & NUMBER

SHEET
B-15
PROJECT NO.
05-609B



1 PROPOSED NORTH END BENT PLAN
B-16

Scale: 3/16" = 1'-0"



2 PROPOSED NORTH END BENT ELEVATION
B-16

Scale: 3/16" = 1'-0"



DATE: May 08, 2019 - 10:47am S:\2005-jobs\05-609b-43rd avenue at main relief canal\07_structural\dwg\CADD\B667B_101_L_1516_2223-BR03-PLANS-BENT PLANS.dwg

VERIFY SCALE

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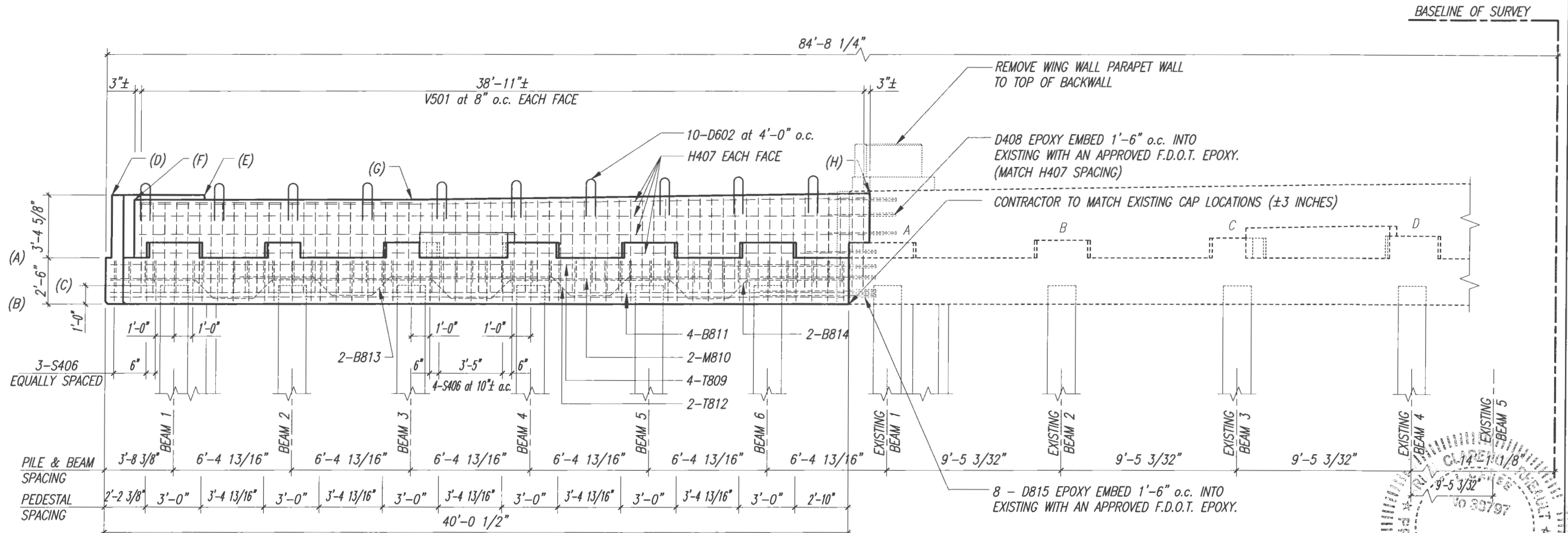
PROJECT:
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Indian River County, Florida

SEAL
Brian C. Rheault
Brian C. Rheault - 38797
FLORIDA P.E. NAME & NUMBER

SHEET
B-16
PROJECT NO.
05-609B

Elevation Table

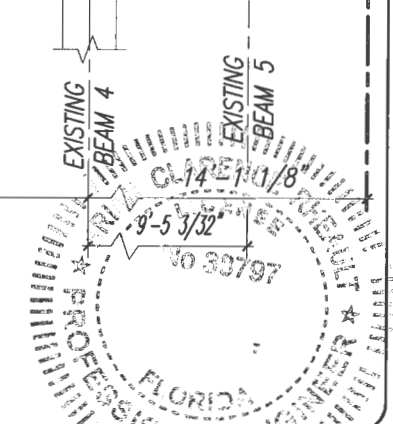
Bents	Elevations (ft.)							
	A	B	C	D	E	F	G	H
North End Bent No. 4	21.28	18.78	19.78	24.67	24.67	23.55	23.55	24.11



See Sheet B20 for Pedestal Details.

PARTIAL NORTH END BENT ELEVATION

3/8" = 1'-0"



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Estimated North End Bent Quantities

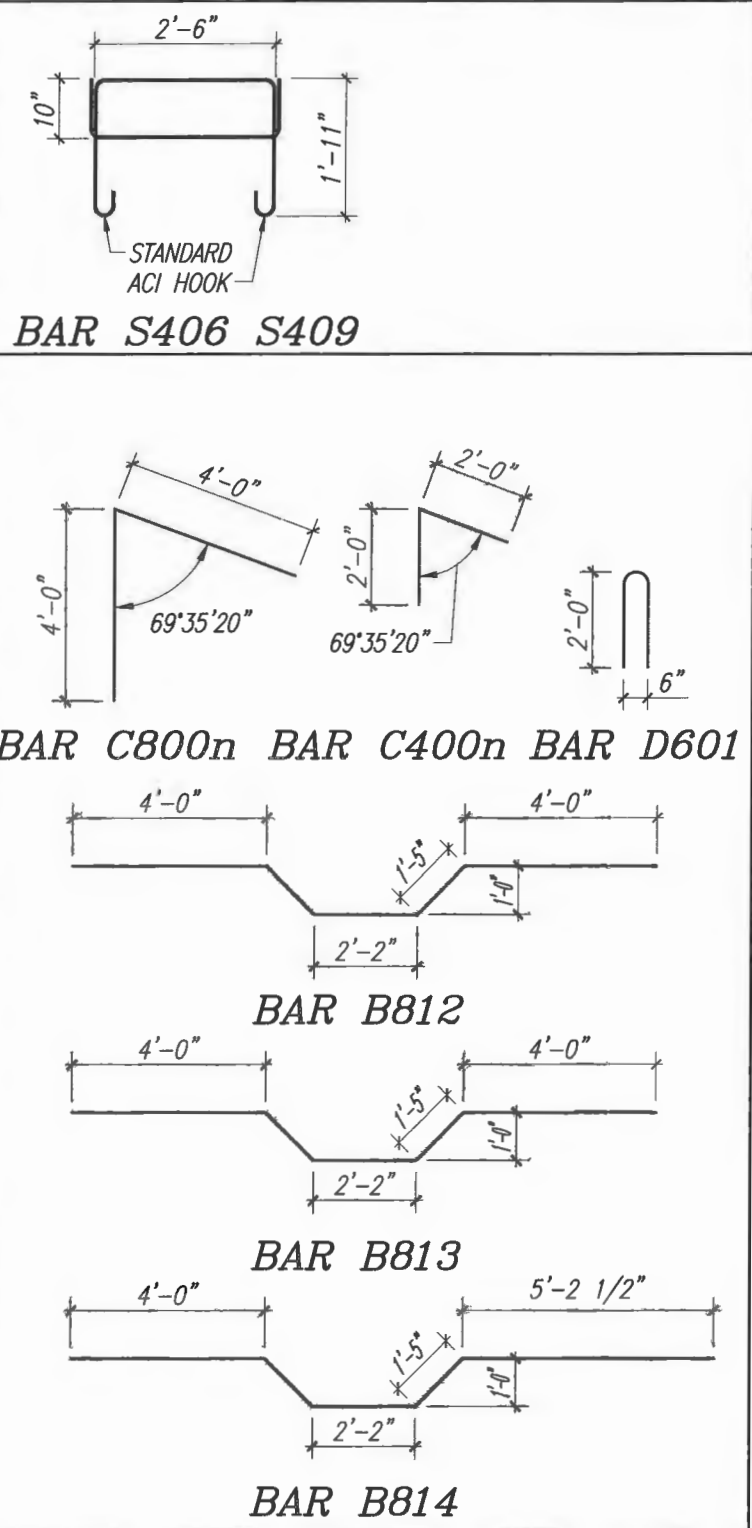
Item	Unit	Quantity (Average)
Class II Concrete (Pile Cap)	Cu. Yds.	18.0
Reinforcing Steel (Pile Cap)	lbs.	3,721

Bill of Reinforcing Steel

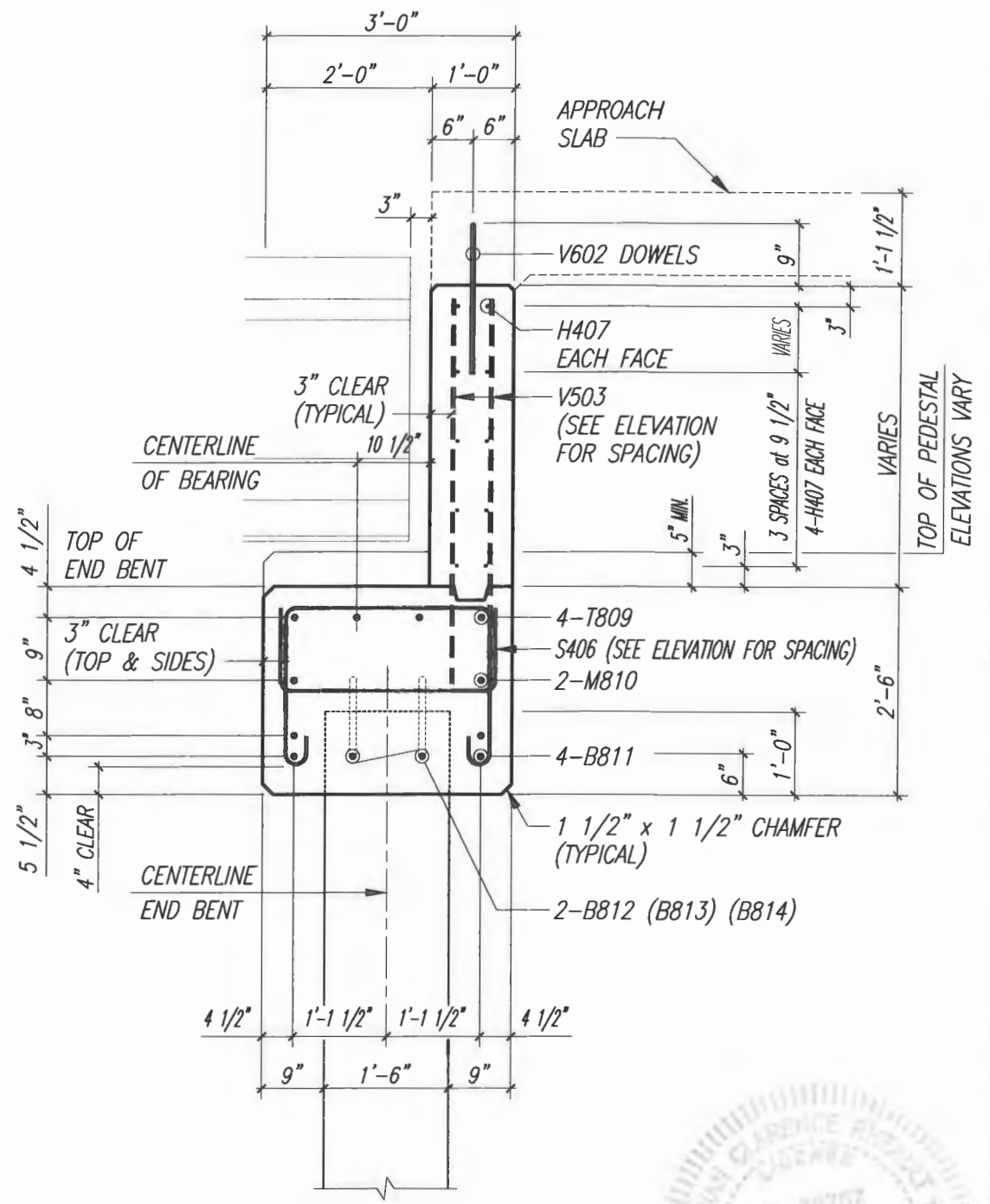
Mark	Size	Number Required	Length + Lap	Total Length	Bending	Weight (lbs.)
C800n	8	8		8'-0"	Bar C800	170.9
T809	8	4		39'-7"	Straight	422.8
M810	8	2		39'-7"	Straight	211.4
B811	8	4		39'-7"	Straight	422.8
B812	8	6		13'-0"	Bar C812	208.3
B813	8	2		13'-0"	Bar C813	69.4
B814	8	2		14'-2"	Bar C814	75.7
B815	8	8		6'-7"	Straight	140.6
S406	4	49		11'-6"	Bar S406	376.4
H407	4	10		31'-8"	Straight	211.5
D408	4	10		3'-3"	Straight	21.7
*V503	5	126		5'-0"	Straight	657.1
D602	6	10		4'-3 1/2"	Straight	64.5
C400n	4	10		4'-0"	Bar C400n	26.7
W816	8	10		12'-0"	Straight	320.4
S409	4	14		11'-6"	Bar S409	107.5
V504	5	38		5'-3"	Straight	133.3
H410	4	10		12'-0"	Straight	80.2

* TRIM V503 AS NEEDED TO SATISFY COVER REQUIREMENTS.

Bending Diagram



Bill of Reinforcing Steel and Estimated Quantities are for one pile cap only.



NORTH END BENT NO. 4 SECTION A - A



DATE: May 09, 2019 - 10:48am S:\2005-jobs\05-609b-43rd avenue of main relief canal\07 structural dwgs\02\018-NORTH_BENT-SECT.dwg

VERIFY SCALE

1" = 1"

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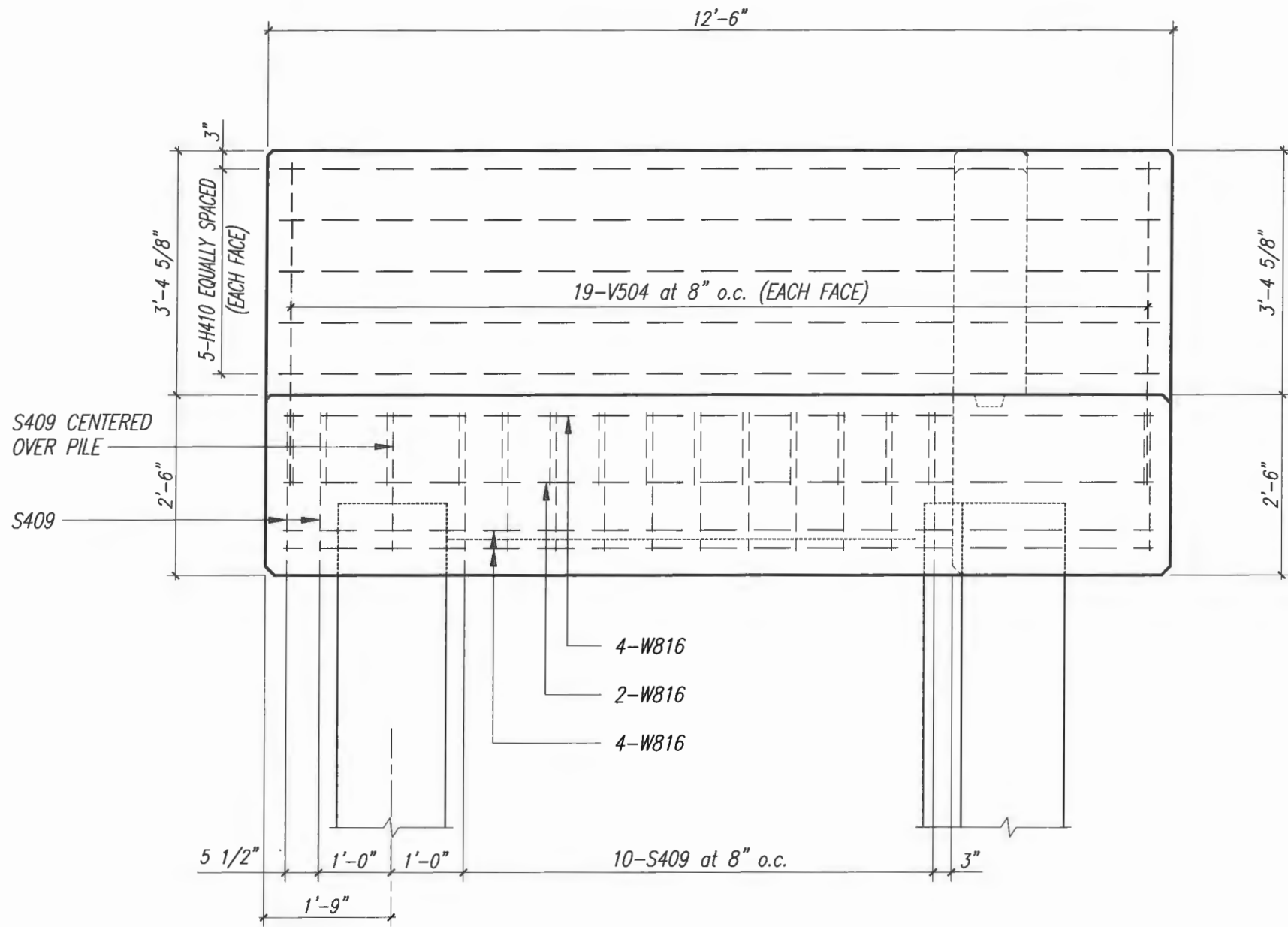
Scale: AS NOTED
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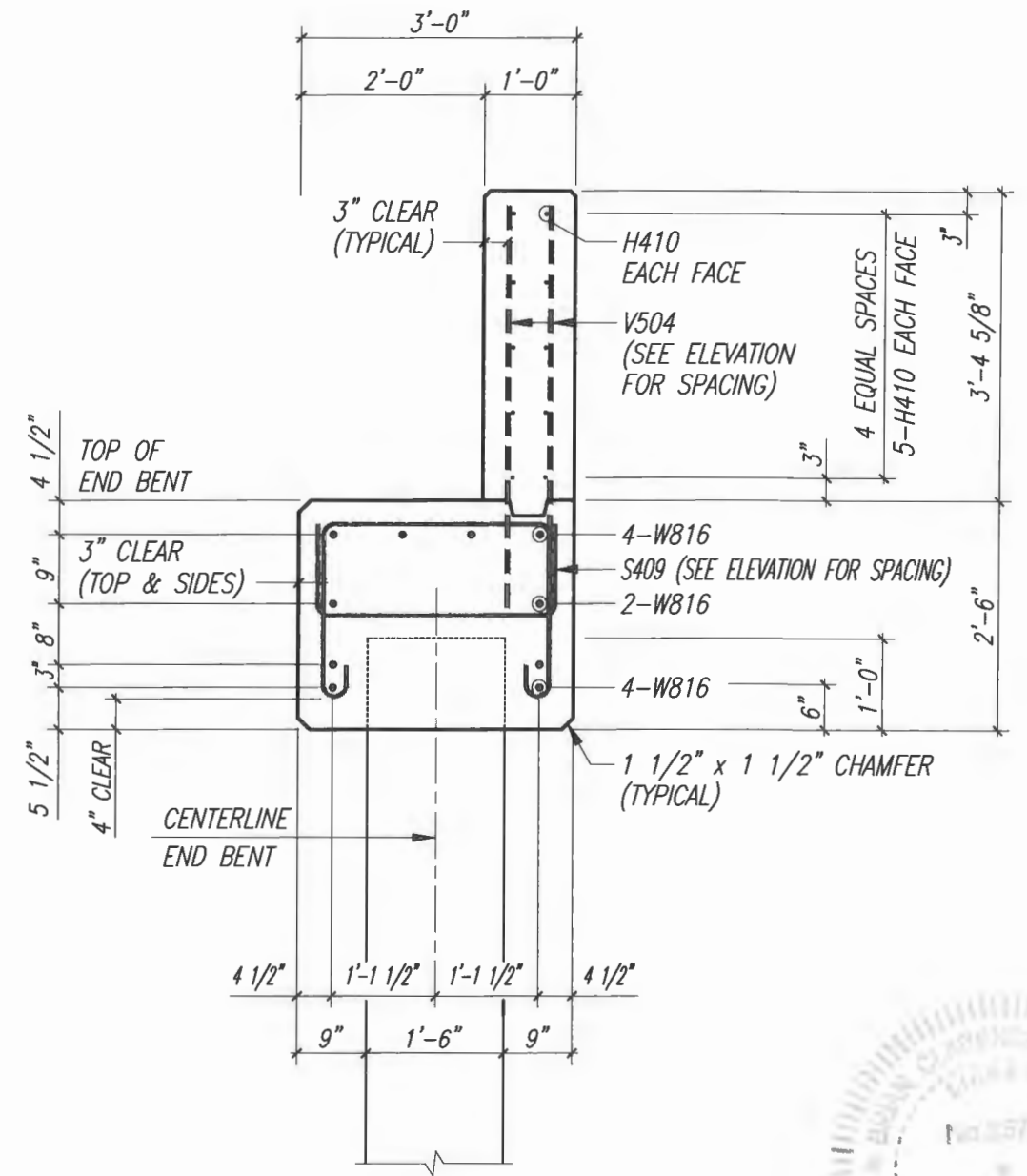
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SHEET
 B-18
 PROJECT NO.
 05-609B

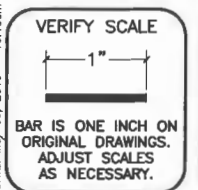
DATE: May 09, 2019 - 10:48am S:\2005-jobs\05-609b-43rd avenue over main relief canal\07 structural dings\CADD\BTS-NORTH WING BENT DETAILS.dwg



**PROPOSED NORTH WING WALL
ELEVATION C - C**




**PROPOSED NORTH WING WALL
SECTION D - D**



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Indian River County, Florida

SEAL
Brian C. Rheault
Brian C. Rheault - 38797
FLORIDA P.E. NAME & NUMBER

SHEET
B-19
PROJECT NO.
05-609B

End Bent

Pedestal Elevations Table

Location		Elevations (ft)			
		End Bent No. 1		End Bent No. 4	
		Elevation	Case	Elevation	Case
BEAM 1	A	20.11	1	21.45	1
	B	20.11		21.45	
BEAM 2	A	20.11	1	21.45	1
	B	20.11		21.45	
BEAM 3	A	20.17	1	21.37	1
	B	20.17		21.37	
BEAM 4	A	20.22	1	21.26	1
	B	20.22		21.26	
BEAM 5	A	20.22	1	21.32	1
	B	20.22		21.32	
BEAM 6	A	20.32	1	21.39	1
	B	20.32		21.39	

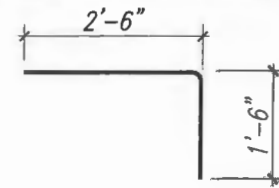
Estimated Pedestal Quantities

Item	Unit	Quantity
Class II Concrete (Pedestals - 6 Required)	Cu. Yds.	0.10
Reinforcing Steel (Pedestals - 6 Required)	lbs.	228

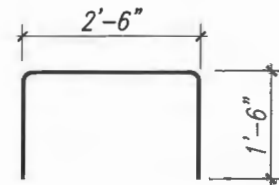
Bill of Reinforcing Steel

Mark	Size	Number Required	Length + Lap	Total Length	Bending	Weight (lbs.)
P411	4	36		4'-0"	Bar P411	96.2
P412	4	36		5'-6"	Bar P412	132.3

Bending Diagram

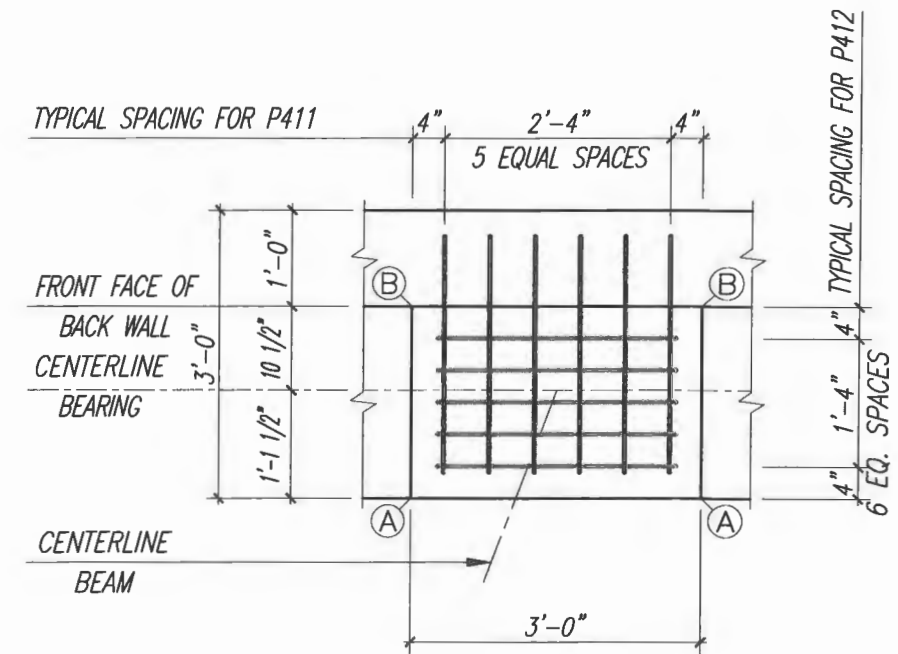


BARS P411

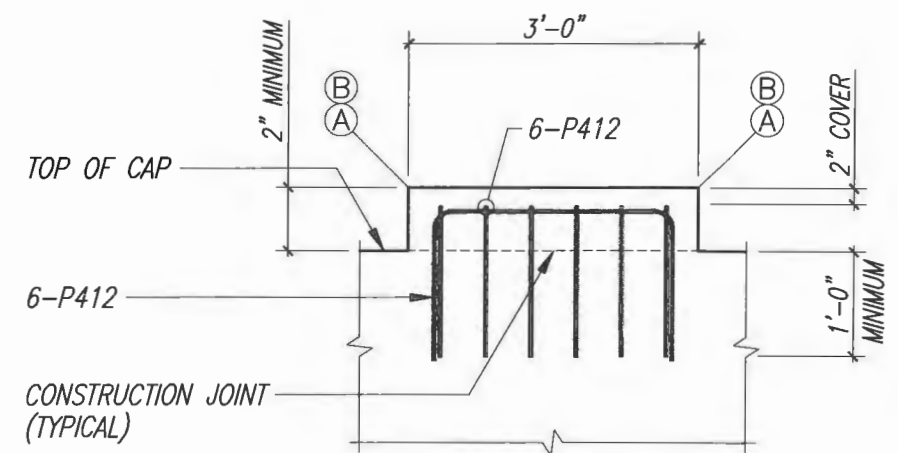


BARS P412

Bill of Reinforcing Steel and Estimated Quantities are for one pile cap only.



PLAN



ELEVATION

P411 & P412 at BEAMS 1 and 2 and 3 and 4 and 5

CASE I

PEDESTAL DETAILS END BENTS 1 AND 4



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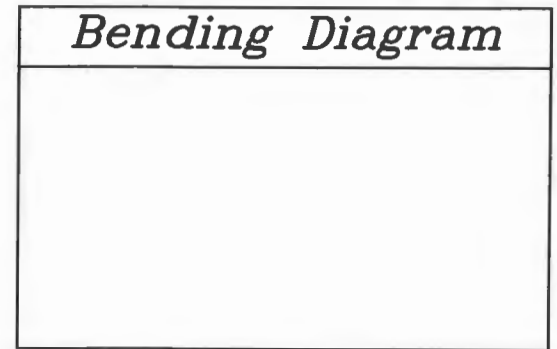
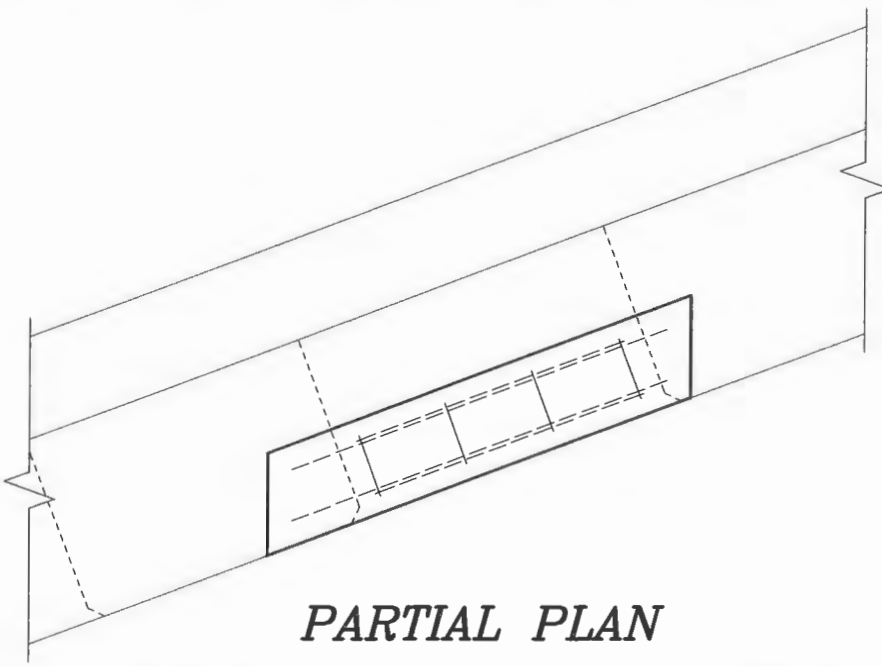
PROJECT:
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SEAL

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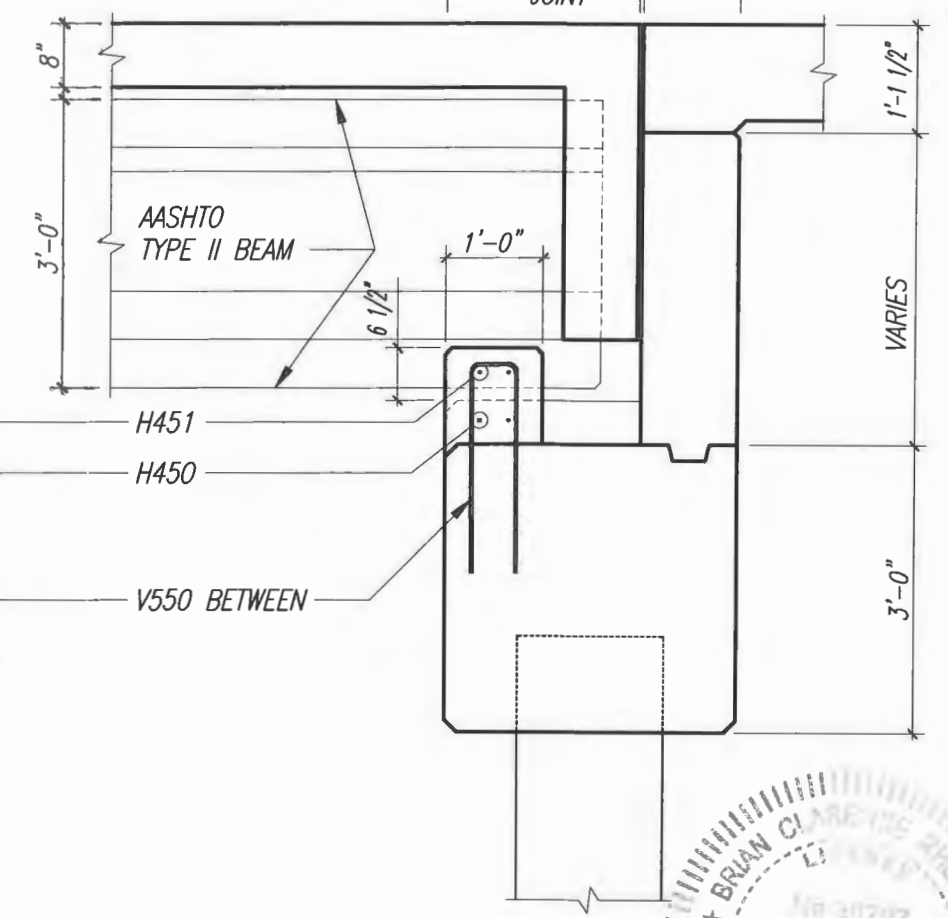
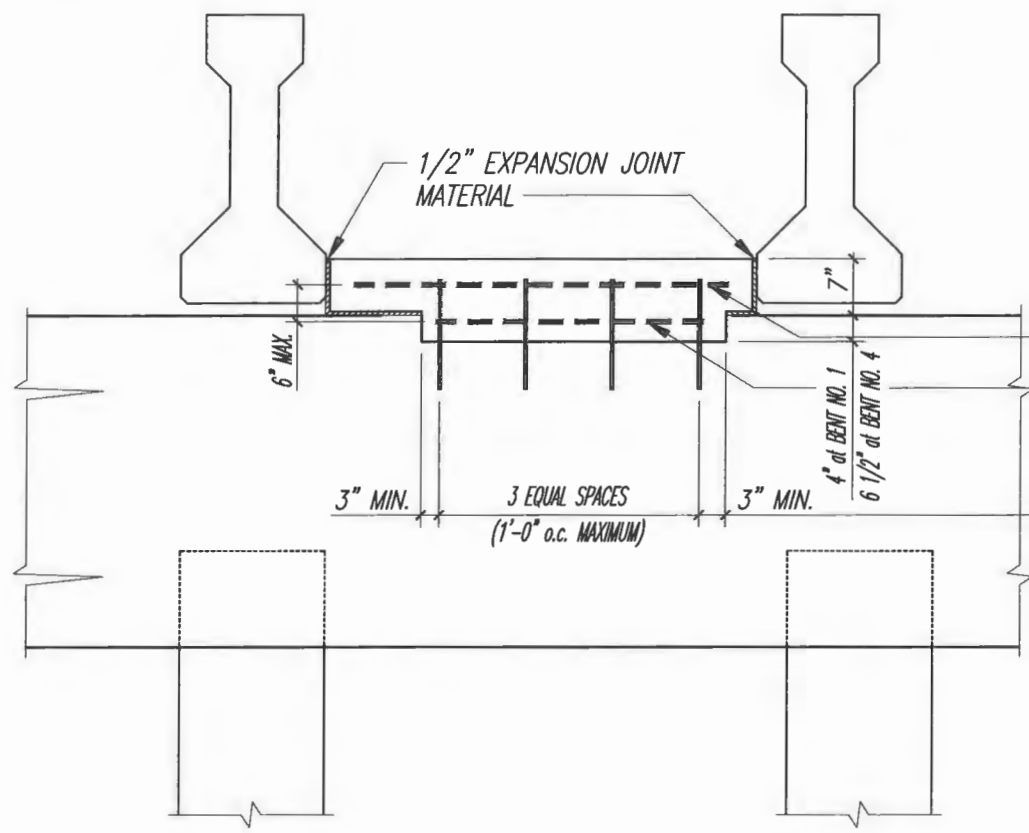
SHEET
B-20
PROJECT NO.
05-609B

End Bent						
Estimated Seismic Block Quantities						
Item		Unit	Quantity			
Class II Concrete (Seismic Blocks) (2 Required)		Cu. Yds.	0.5			
Reinforcing Steel (Seismic Blocks) (2 Required)		lbs.	28.2			
Bill of Reinforcing Steel						
Mark	Size	Number Required	Length + Lap	Total Length	Bending	Weight (lbs.)
V450	4	2		2'-11"	V450	3.9
V451	4	2		4'-2"	V451	5.6
V550	5	4		4'-6"	Straight	18.8



Required Bar Lap Splices		
Mark	Size	Splice Length
T	#4	29"
T	#5	36"
T	#6	44"
T	#8	78"
M	#8	54"
B	#6	36"
B	#8	54"
W (Top)	#8	54"
W (Middle)	#8	54"
W (Bottom)	#8	54"
H	#4	24"
H	#5	36"

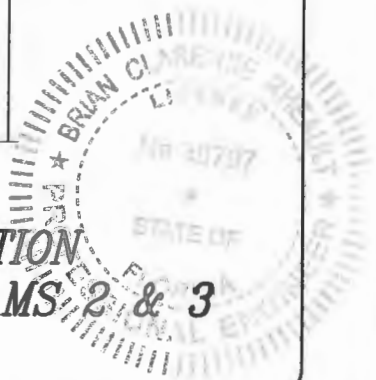
Note:
Splice continuous bars thus:
Top bars at mid-span between the piles
Bottom bars at the piles



TYPICAL END BENT ELEVATION
SEISMIC BLOCKS BETWEEN BEAMS 2 & 3

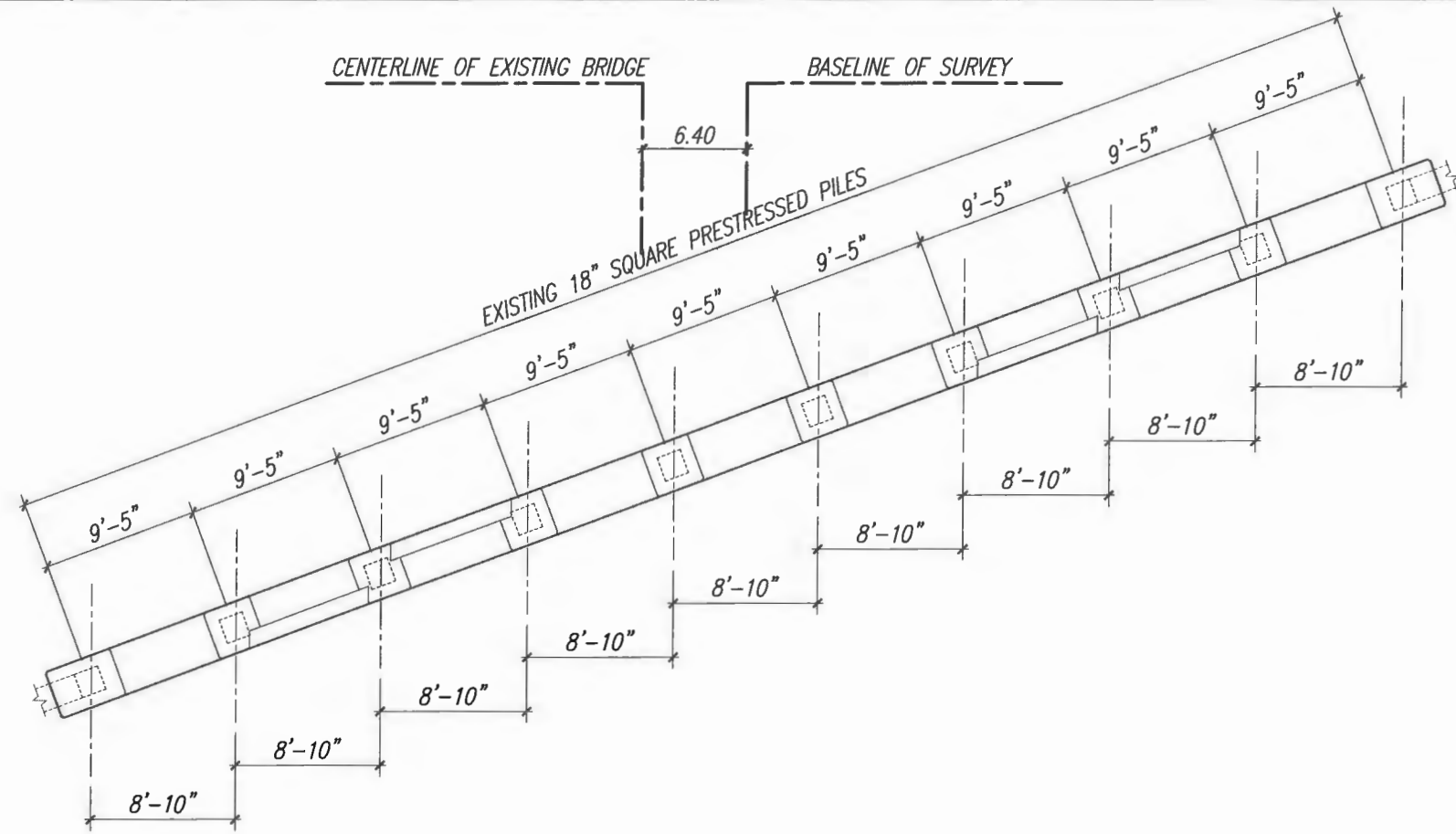
TYPICAL END BENT SECTION
SEISMIC BLOCKS BETWEEN BEAMS 2 & 3

Bill of Reinforcing Steel and Estimated Quantities are for one pile cap only.



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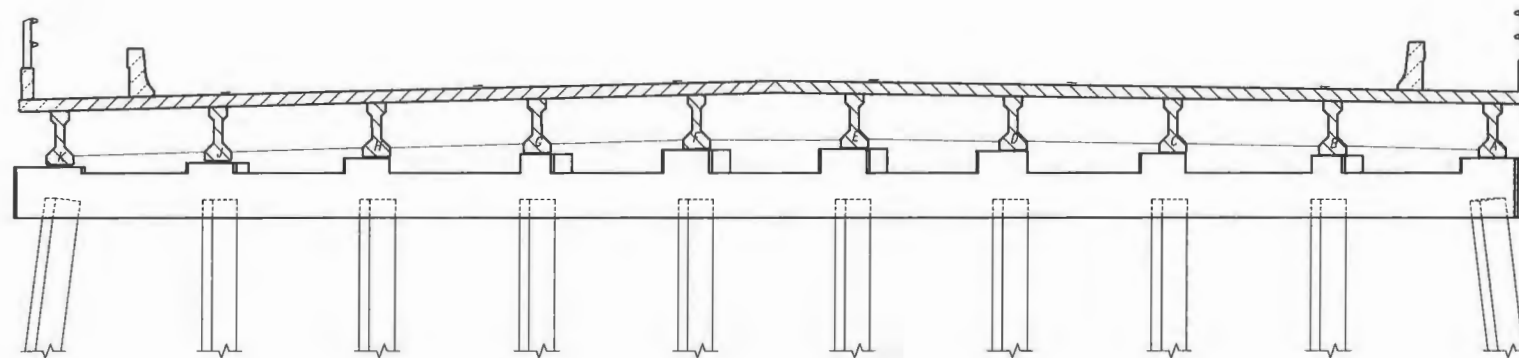
VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.	BRIDGE DESIGN ASSOCIATES, INC. 1402 Royal Palm Beach Blvd., Bldg. 200, Royal Palm Beach, FL 33411 Tel: (561) 886-3600 Fax: (561) 781-1993 CONSULTING ENGINEERS FLORIDA E.C. NO. 4952	<table border="1"> <thead> <tr> <th>NO.</th> <th>REVISION</th> <th>DATE</th> <th>BY</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	NO.	REVISION	DATE	BY													 Department of Public Works Engineering Division	Scale: AS NOTED Approved: Drawn: C.A.B. Checked: B.C.R. Date: APRIL 2019 Field Book No:	PROJECT: Proposed Concrete Bridge for: 43rd Avenue over Main Relief Canal Indian River County, Florida	SEAL Brian C. Rheault - 38797 FLORIDA P.E. NAME & NUMBER	SHEET B-21 PROJECT NO. 05-609B
NO.	REVISION	DATE	BY																				



1
B-22

EXISTING TYPICAL INTERMEDIATE BENT PLAN

Scale: 3/16" = 1'-0"



2
B-22

EXISTING TYPICAL INTERMEDIATE BENT ELEVATION

Scale: 3/16" = 1'-0"



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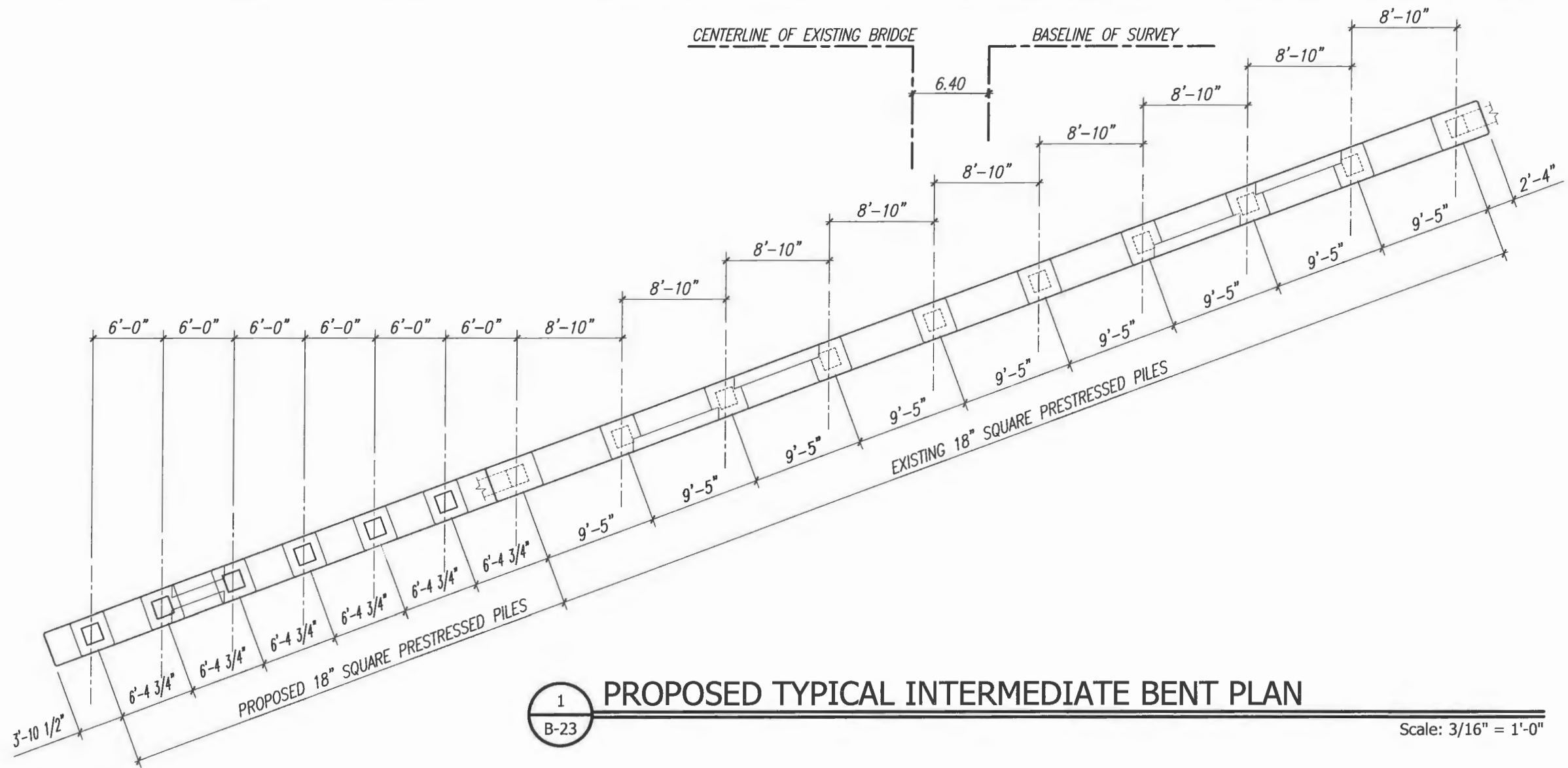
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PROJECT:
Proposed Concrete Bridge for:
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Indian River County, Florida

SEAL

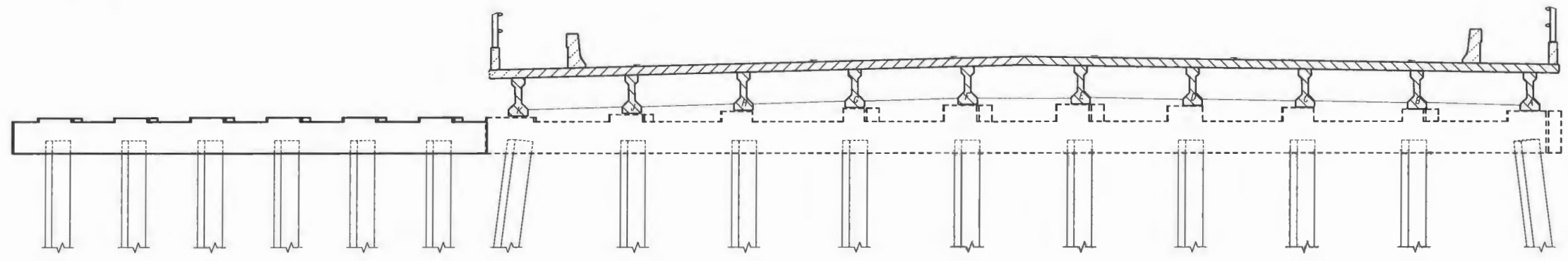
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SHEET
B-22
 PROJECT NO.
05-609B



1 PROPOSED TYPICAL INTERMEDIATE BENT PLAN

Scale: 3/16" = 1'-0"



2 PROPOSED TYPICAL INTERMEDIATE BENT ELEVATION

Scale: 3/16" = 1'-0"



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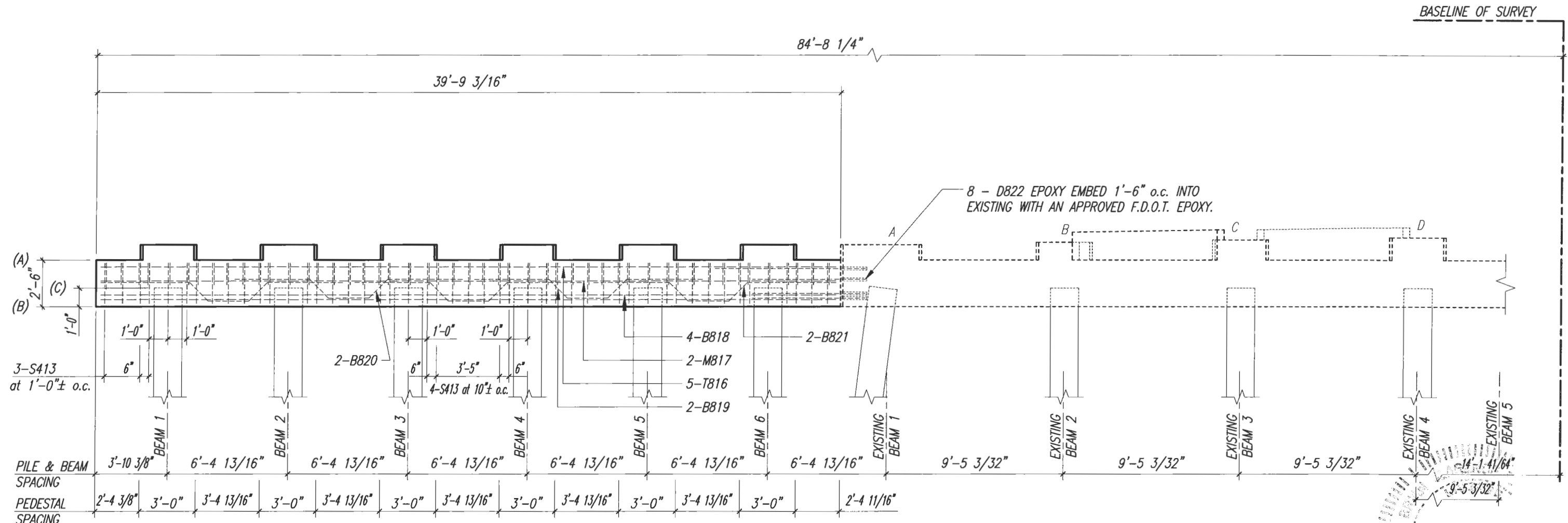
SEAL

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 FLORIDA P.E. NAME & NUMBER

SHEET
B-23
 PROJECT NO.
05-609B

Elevation Table

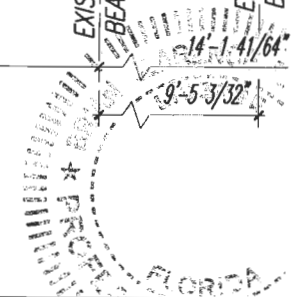
Bents	Elevations (ft.)		
	A	B	C
Intermediate Bent No. 2	20.73	18.23	19.23
Intermediate Bent No. 3	21.11	18.61	19.61



See Sheet B26 for Pedestal Details.

PARTIAL INTERMEDIATE BENT ELEVATION

3/8" = 1'-0"



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NO.	REVISION	DATE	BY																				

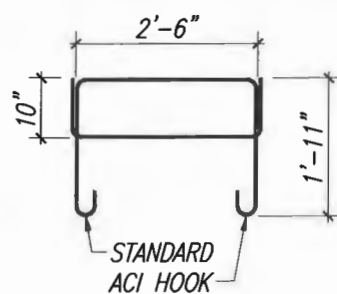
Estimated Intermediate Bent Quantities

Item	Unit	Quantity (Average)
Class II Concrete (Pile Cap)	Cu. Yds.	12
Reinforcing Steel (Pile Cap)	lbs.	1,931

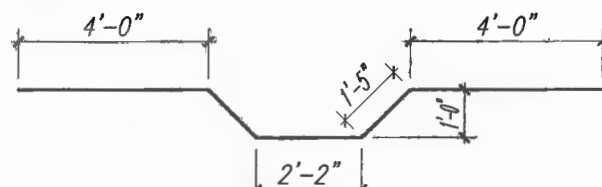
Bill of Reinforcing Steel

Mark	Size	Number Required	Length + Lap	Total Length	Bending	Weight (lbs.)
T816	8	4		39'-5"	Straight	421.0
M817	8	2		39'-5"	Straight	210.5
B818	8	4		39'-5"	Straight	421.0
B819	8	4		13'-0"	Straight	138.8
B820	8	4		13'-9"	Straight	146.9
B821	8	2		14'-2 1/2"	Straight	75.9
D822	8	8		6'-7"	Straight	140.6
S413	4	49		11'-6"	Bar S413	376.4

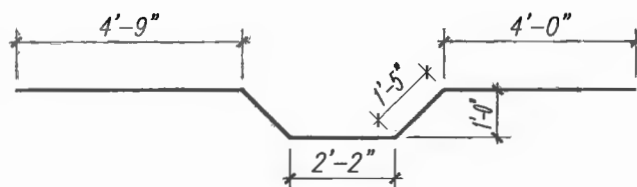
Bending Diagram



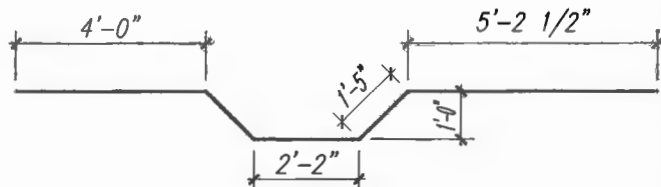
BAR S413



BAR B819

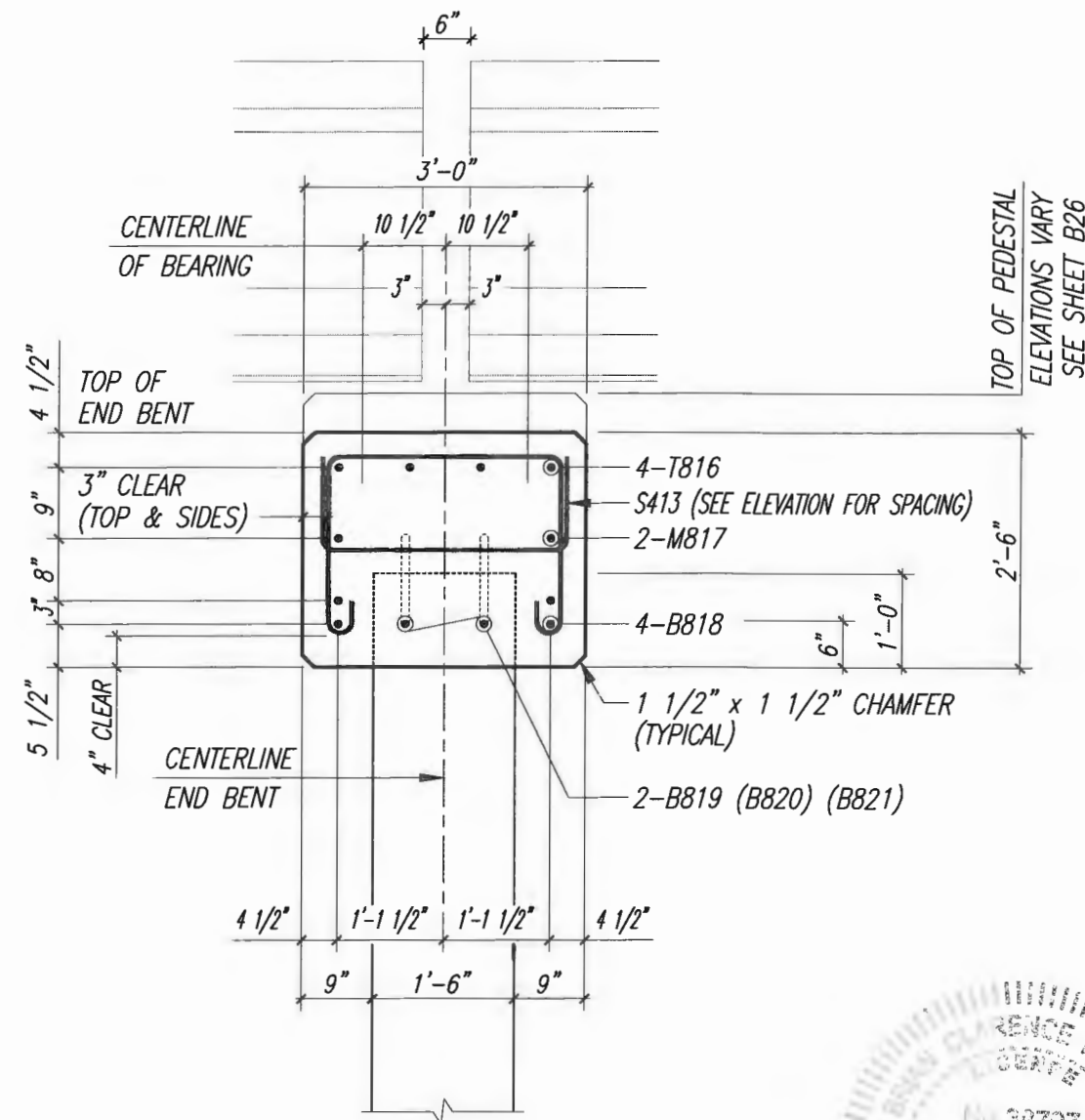


BAR B820



BAR B821

Bill of Reinforcing Steel and Estimated Quantities are for one pile cap only.



TYPICAL INTERMEDIATE BENT SECTION A - A



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VERIFY SCALE

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Department of Public Works
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 Date: APRIL 2019
 Field Book No:

PROJECT:
Proposed Concrete Bridge for:
43rd Avenue over Main Relief Canal
Indian River County, Florida

SEAL
 Brian C. Rheault - 38797
 FLORIDA P.E. NAME & NUMBER

SHEET
B-25
 PROJECT NO.
05-609B

Intermediate Bent

Pedestal Elevations Table

Location		Elevations (ft)			
		Intermediate Bent No. 2		Intermediate Bent No. 3	
		Elevation	Case	Elevation	Case
BEAM 1	A	20.94	1	21.36	1
	B	20.94		21.36	
BEAM 2	A	20.94	1	21.36	1
	B	20.94		21.36	
BEAM 3	A	20.90	1	21.29	1
	B	20.90		21.29	
BEAM 4	A	20.94	1	21.31	1
	B	20.94		21.31	
BEAM 5	A	20.94	1	21.28	1
	B	20.94		21.28	
BEAM 6	A	21.04	1	21.36	1
	B	21.04		21.36	

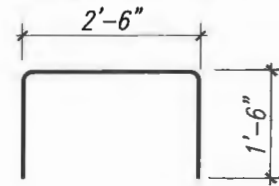
Estimated Pedestal Quantities

Item	Unit	Quantity
Class II Concrete (Pedestals)	(12 Required)	Cu. Yds. 0.5
Reinforcing Steel (Pedestals)	(12 Required)	lbs. 309

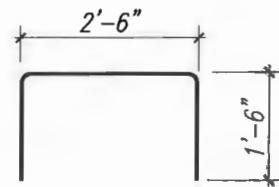
Bill of Reinforcing Steel

Mark	Size	Number Required	Length + Lap	Total Length	Bending	Weight (lbs.)
P414	4	48		5'-6"	Bar P414	176.4
P415	4	36		5'-6"	Bar P415	132.3

Bending Diagram

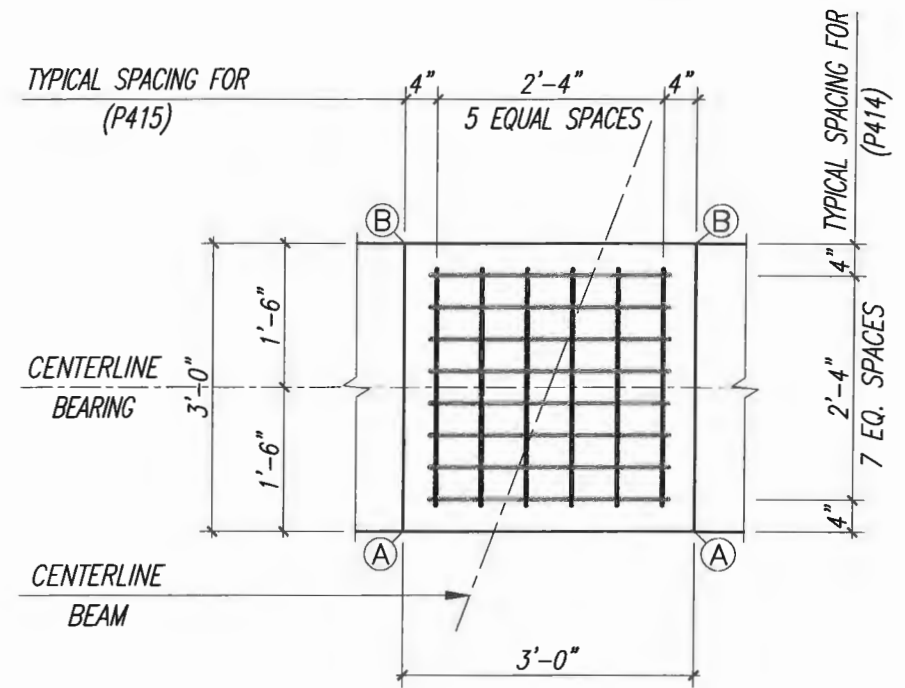


BARS P414



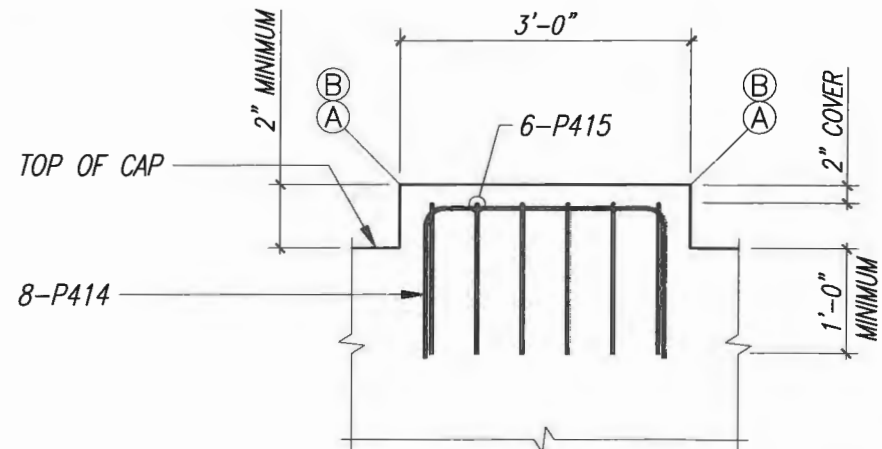
BARS P415

Bill of Reinforcing Steel and Estimated Quantities are for one pile cap only.



PLAN

NOTE:
PEDESTALS WITH LESS THAN 4" OF HEIGHT TO BE CAST MONOLITHICALLY WITH CAP.



ELEVATION

P414 & P415 at BEAMS 1 and 2 and 3 and 4 and 5 and 6

CASE I

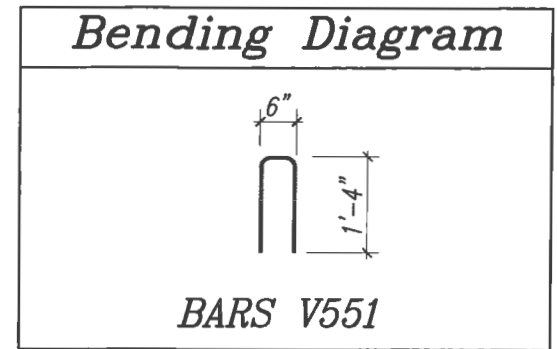
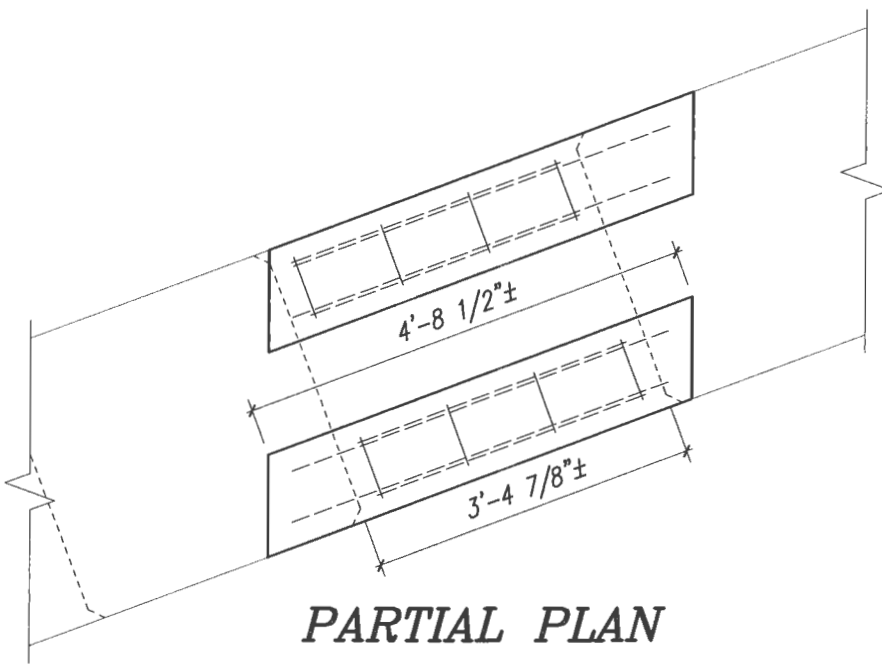
PEDESTAL DETAILS INTERMEDIATE BENTS 2 AND 3



DATE: May 09, 2019 - 10:40am S:\2005-jobs\05-609b 43rd avenue at main relief canal\07 structural.dwg\07 structural.dwg\026-INT BENT PEDESTAL DETAILS.dwg

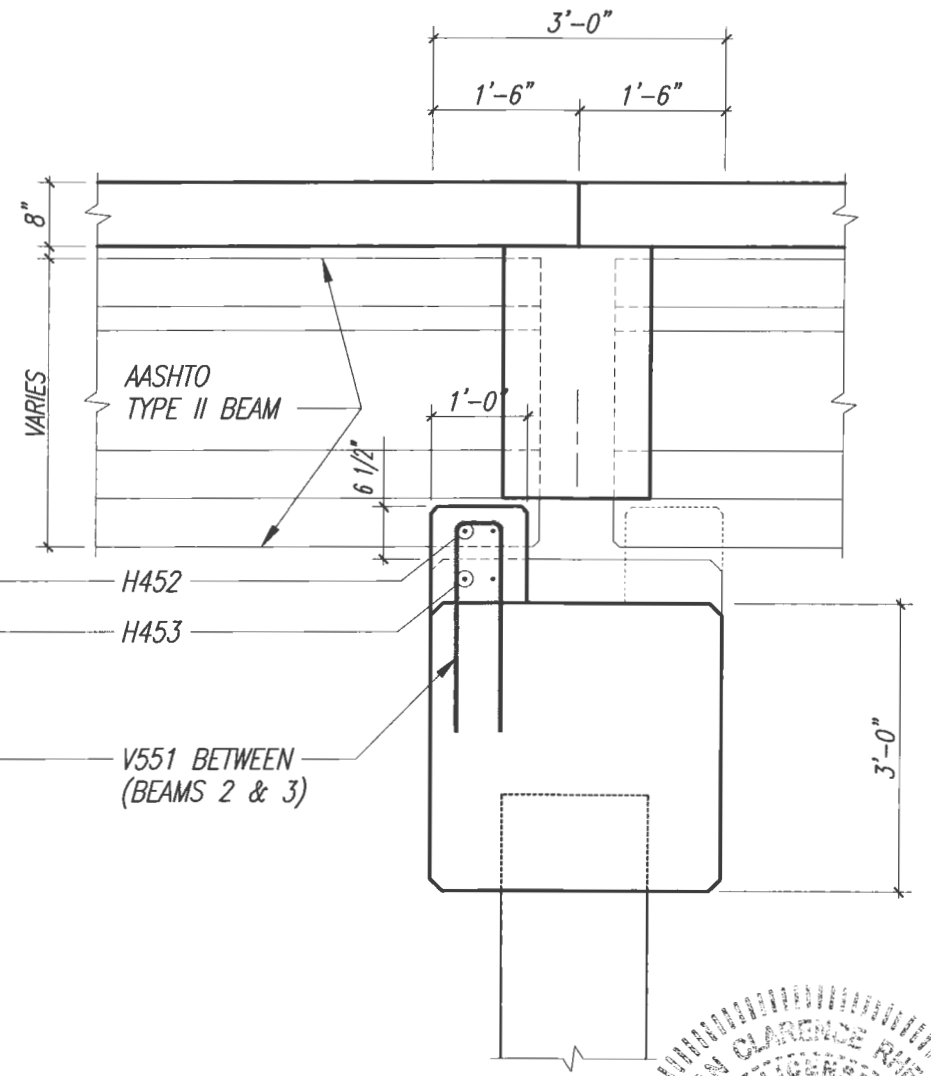
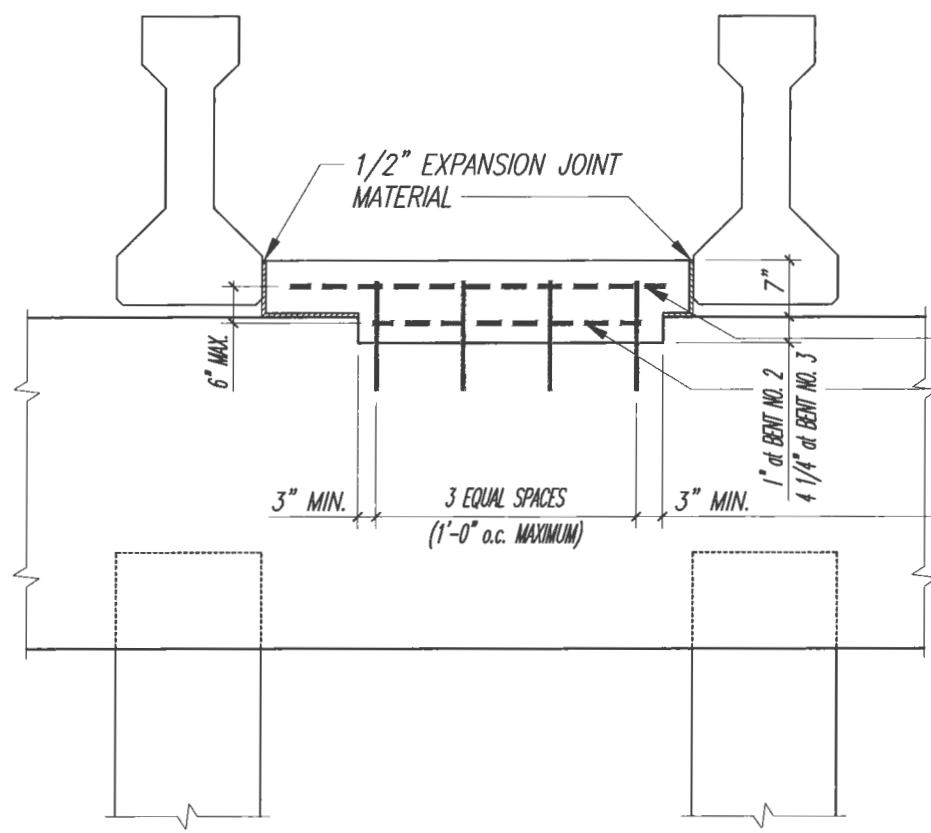
<p>VERIFY SCALE</p> <p>BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.</p>	<p>BRIDGE DESIGN ASSOCIATES, INC. 1402 Royal Palm Beach Blvd., Bldg. 206, Royal Palm Beach, FL 33411 Tel: (561) 988-3000 Fax: (561) 721-1995 CONSULTING ENGINEERS FLORIDA E.B. NO. 4952</p>	<table border="1"> <thead> <tr> <th>NO.</th> <th>REVISION</th> <th>DATE</th> <th>BY</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	NO.	REVISION	DATE	BY													<p>Department of Public Works Engineering Division</p>	<p>Scale: AS NOTED Approved: Drawn: C.A.B. Checked: B.C.R. Date: APRIL 2019 Field Book No:</p>	<p>PROJECT: Proposed Concrete Bridge for: 43rd Avenue over Main Relief Canal Indian River County, Florida</p>	<p>SEAL Brian C. Rheault - 38797 FLORIDA P.E. NAME & NUMBER</p>	<p>SHEET B-26 PROJECT NO. 05-609B</p>
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Intermediate Bent						
Estimated Seismic Block Quantities						
Item	Unit	Quantity				
Class II Concrete (Seismic Blocks) (4 Required)	Cu. Yds.	0.5				
Reinforcing Steel (Seismic Blocks) (4 Required)	lbs.	22.7				
Bill of Reinforcing Steel						
Mark	Size	Number Required	Length + Lap	Total Length	Bending	Weight (lbs.)
BENT NO. 2 and 3						
H452	4	2		4'-2"	Straight	5.6
H453	4	2		2'-11"	Straight	3.9
V551	5	4		3'-2"	Bars V551	13.2



Required Bar Lap Splices		
Mark	Size	Splice Length
T	#4	29"
T	#5	36"
T	#6	44"
T	#8	78"
M	#8	54"
B	#6	36"
B	#8	54"
W (Top)	#8	54"
W (Middle)	#8	54"
W (Bottom)	#8	54"
H	#4	24"
H	#5	36"

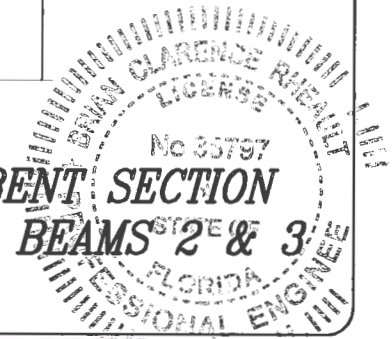
Note:
Splice continuous bars thus:
Top bars at mid-span between the piles
Bottom bars at the piles



TYPICAL INTERMEDIATE BENT ELEVATION
SEISMIC BLOCKS BETWEEN BEAMS 2 & 3

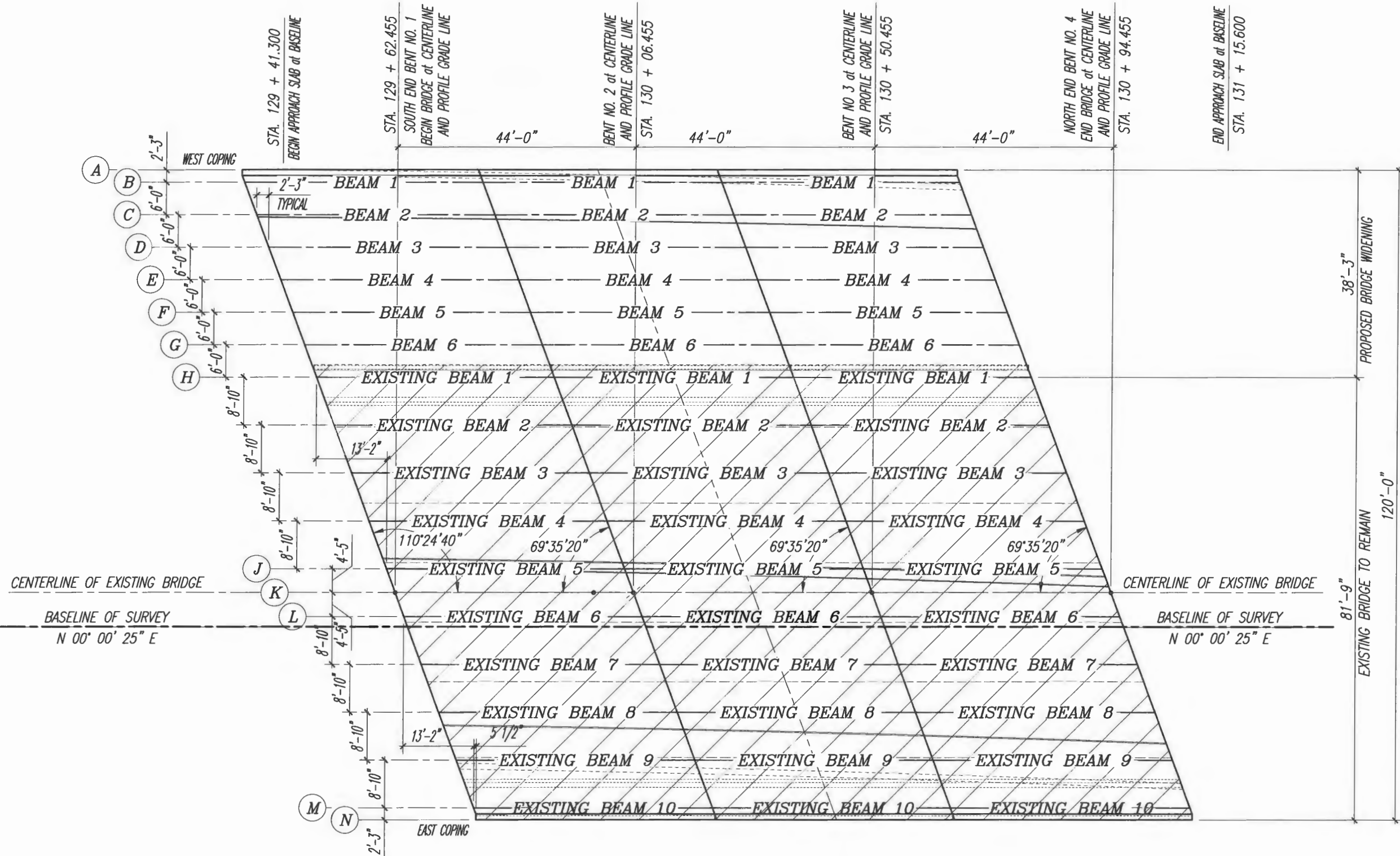
TYPICAL INTERMEDIATE BENT SECTION
SEISMIC BLOCKS BETWEEN BEAMS 2 & 3

Bill of Reinforcing Steel and Estimated Quantities are for one pile cap only.



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PROPOSED FINISH GRADE PLAN AND BEAM PLACEMENT PLAN
3/16" = 1'-0"



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VERIFY SCALE

1" = 16'

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**Proposed Concrete Bridge for:
43rd Avenue over Main Relief Canal**

Indian River County, Florida

SEAL
Brian C. Rheault
Brian C. Rheault - 38797
FLORIDA P.E. NAME & NUMBER

SHEET
B-28
PROJECT NO.
05-609B

Beam Construction Control Schedule

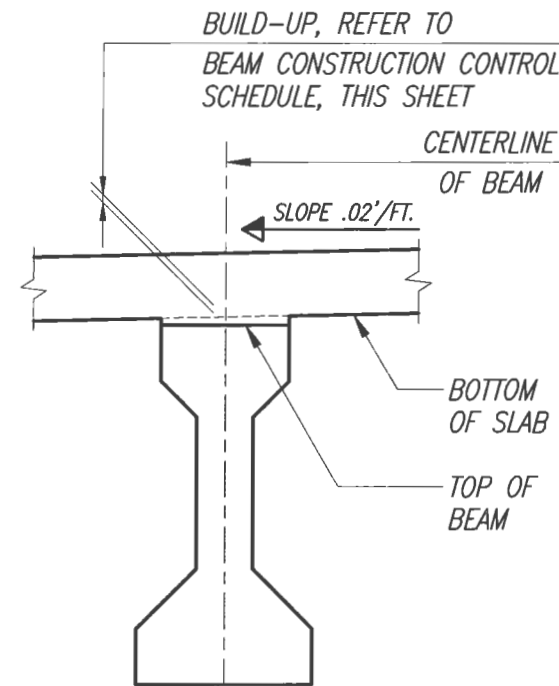
Location	Beam ID.	Camber X (in.)	Dead Load Deflection During Cast Y (in.)	Build-Up at Ends (in.)	Build-Up at Midspan (in.)
Exterior	1	0.61	0.58	1/2 in	0
Interior	2	0.61	0.53	1/2 in	0
Interior	3	0.60	0.65	5/8 in	0
Interior	4	0.53	0.60	5/8 in	0
Interior	5	0.53	0.65	5/8 in	0
Interior	6	0.47	0.59	5/8 in	0

SCREED NOTES:

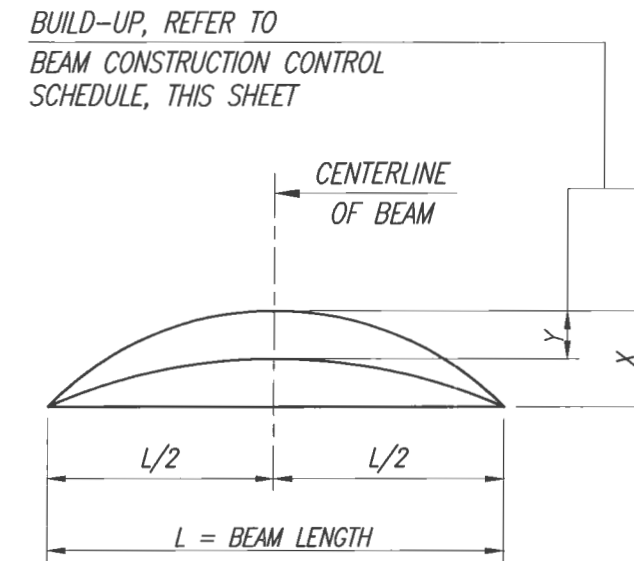
1. Slab shall be screeded to grade with no allowance for permanent camber. Slabs shall be screeded parallel to End Bents and Piers between bulkheads in longitudinal progression of the cast unit unless otherwise directed by the Engineer.
2. For dead load deflection during pour, see Beam Construction Control Schedule this sheet.
3. Design based on no inset of beam in slab. 1" maximum inset allowable for construction tolerances when beam camber greater than anticipated.

NOTE:

All build-up dimensions refer to centerline of beam in longitudinal direction. Refer to the Beam Construction Control Schedule on this sheet for build-up dimensions at midspan and at end of beams. Camber is calculated based on an age of beam concrete of 120 days.

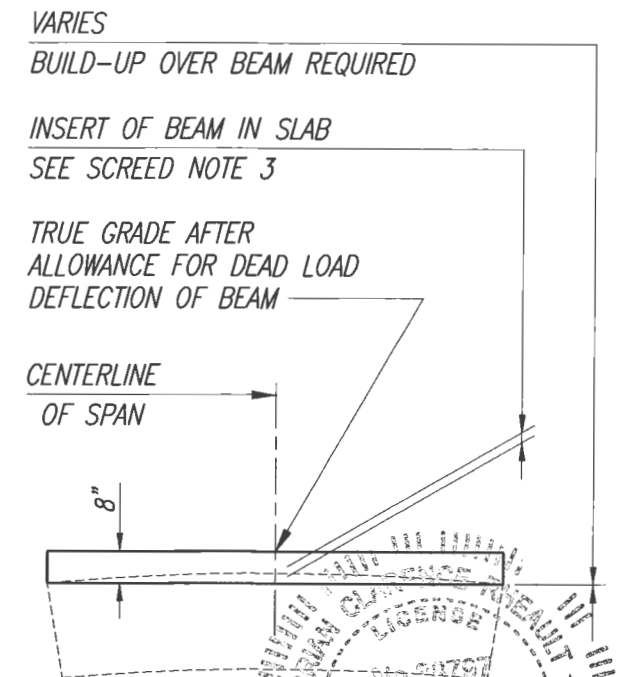


**BUILD-UP OVER BEAM
SECTION B - B**



X - Expected camber due to prestress and dead load of beam.
Y - Expected deflection of the beam due to cast of concrete deck and haunch.

BUILD-UP OVER BEAMS



**BUILD-UP AT ENDS OF BEAMS
RELATION OF BEAM AND SLAB**

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<p>VERIFY SCALE</p> <p>1"</p> <p>BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.</p>	<p>BRIDGE DESIGN ASSOCIATES, INC. 1402 Royal Palm Beach Blvd., Suite 300, Royal Palm Beach, FL 33411 Tel. (561) 686-3660 Fax (561) 791-1995 CONSULTING ENGINEERS FLORIDA E.C. NO. 4952</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NO.</th> <th>REVISION</th> <th>DATE</th> <th>BY</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	NO.	REVISION	DATE	BY													<p>Department of Public Works Engineering Division</p>	<p>Scale: AS NOTED Approved: _____ Drawn: C.A.B. Checked: B.C.R. Date: APRIL 2019 Field Book No: _____</p>	<p>PROJECT: Proposed Concrete Bridge for: 43rd Avenue over Main Relief Canal Indian River County, Florida</p>	<p>SEAL</p> <p>FLORIDA P.E. NAME & NUMBER</p>	<p>SHEET</p> <p style="font-size: 2em;">B-29</p> <p>PROJECT NO. 05-609B</p>
NO.	REVISION	DATE	BY																				

TABLE OF BEAM VARIABLES

Location		Concrete Properties			Std. Ptn. Type	End Elev. Cond.	Plan View Case		Brg. PLate Mark ***		End of Beam & Bearing Dimensions **				Beam Dimensions *		Reinforcing Steel														
Span No.	Beam No.	Class	Strengths (psi)				End 1	End 2	End 1	End 2	End 1	End 2	Angle ϕ		Dim P	Dim J	Dim K1	Dim K2	Dim L	Dim R	3D1		3D2		No. of Spaces Bars 4K				Spacing Bars 4K *		
			28 Day	Release	End 1	End 2							End 1	End 2							B	Length	B	Length	No.	S1	S2	S3	S4	V1	V2
1,2,3	1	IV	6,000	4,500	1	2	2	2	B	B	70°	70°		7 1/2"	10 1/2"		43'-6"	1/2"	2'-6"	4'-10"	2'-6"	4'-10"	24	56	9			6	18		
1,2,3	2	IV	6,000	4,500	2	2	2	2	B	B	70°	70°		7 1/2"	10 1/2"		43'-6"	1/2"	2'-6"	4'-10"	2'-6"	4'-10"	24	56	9			6	18		
1,2,3	3	IV	6,000	4,500	3	2	2	2	B	B	70°	70°		7 1/2"	10 1/2"		43'-6"	1/2"	2'-6"	4'-10"	2'-6"	4'-10"	24	56	9			6	18		
1,2,3	4	IV	6,000	4,500	4	2	2	2	B	B	70°	70°		7 1/2"	10 1/2"		43'-6"	1/2"	2'-6"	4'-10"	2'-6"	4'-10"	24	56	9			6	18		
1,2,3	5	IV	6,000	4,500	5	2	2	2	B	B	70°	70°		7 1/2"	10 1/2"		43'-6"	1/2"	2'-6"	4'-10"	2'-6"	4'-10"	24	56	9			6	18		
1,2,3	6	IV	6,000	4,500	6	2	2	2	B	B	70°	70°		7 1/2"	10 1/2"		43'-6"	1/2"	2'-6"	4'-10"	2'-6"	4'-10"	24	56	9			6	18		

STRAND DEBONDING LEGEND

- - Fully bonded strands.
- ▲ - Reduce pull 22.7 k/strand.
- ◻ - Reduce pull 24.8 k/strand.

NOTE: On beams with skewed ends the debonded length shall be measured along the debonded strand.

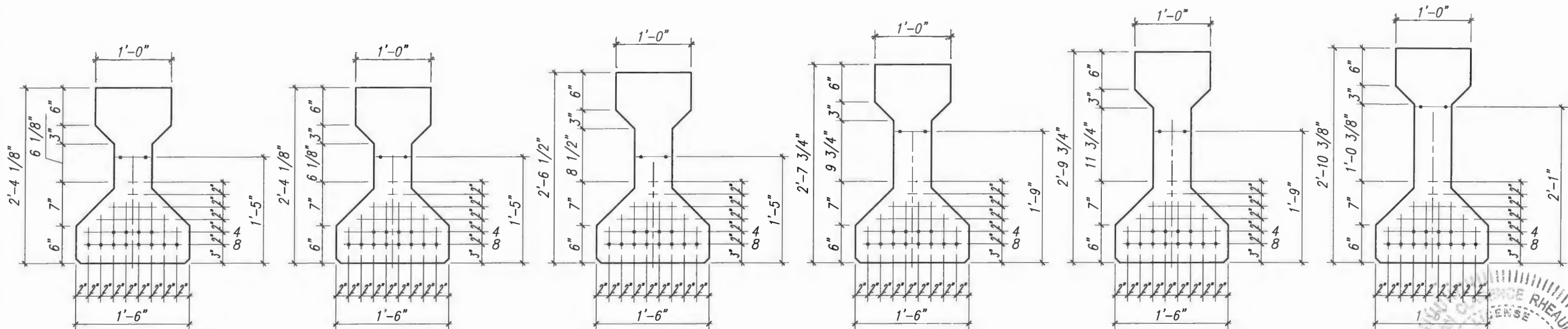
NOTE: Work this sheet with the following drawings:
 Index No. 20110 - Typical Beam Details and Notes
 Index No. 20120 - Standard Details

DIMENSION NOTES

- * All longitudinal beam dimensions shown on this sheet with a single asterisk (*) are measured along the top of beam at the centerline of beam.
- ** End of beam bearing dimensions "J" and "K" are measured along the bottom of the beam.

BEARING PLATES

*** Mark indicates tapered bearing plate and insert plate required. See Index No. 20511 for details.



TYPE ① 14 STRANDS

TYPE ② 14 STRANDS

TYPE ③ 14 STRANDS

TYPE ④ 14 STRANDS

TYPE ⑤ 14 STRANDS

TYPE ⑥ 14 STRANDS

STRAND DESCRIPTION: Use 0.5" Diameter, Grade 270 ksi, Lo-Lax Strands stressed at 31.0 kips each. Area per strand equals 0.153 sq. in.

STRAND PATTERNS

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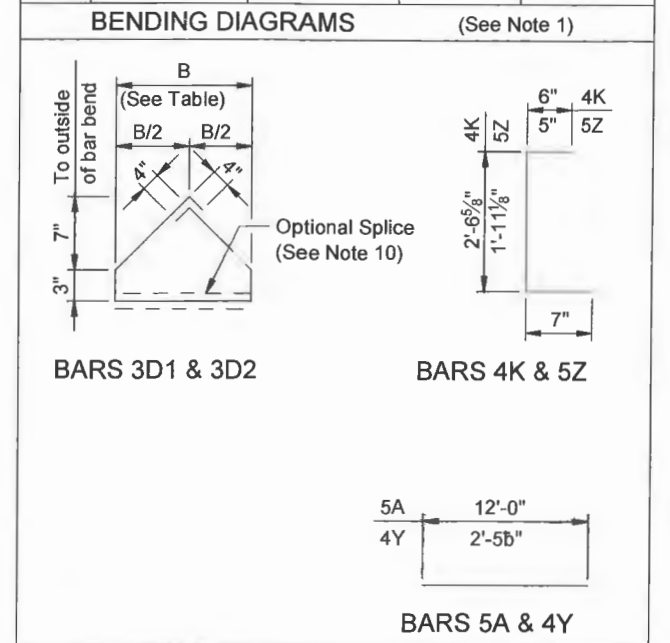
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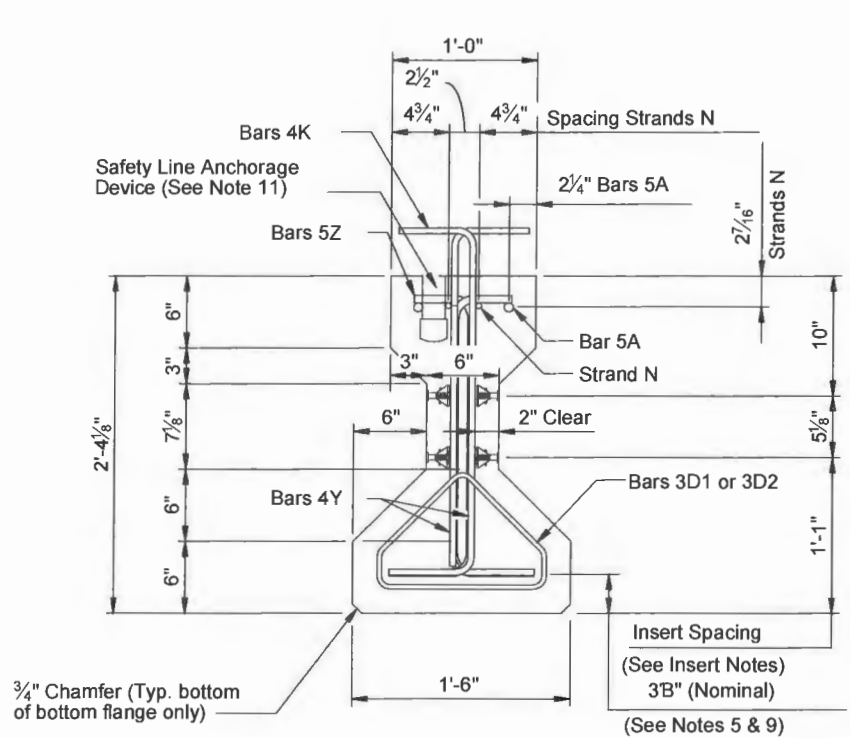
PROJECT NO.
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BEAM NUMBER 1

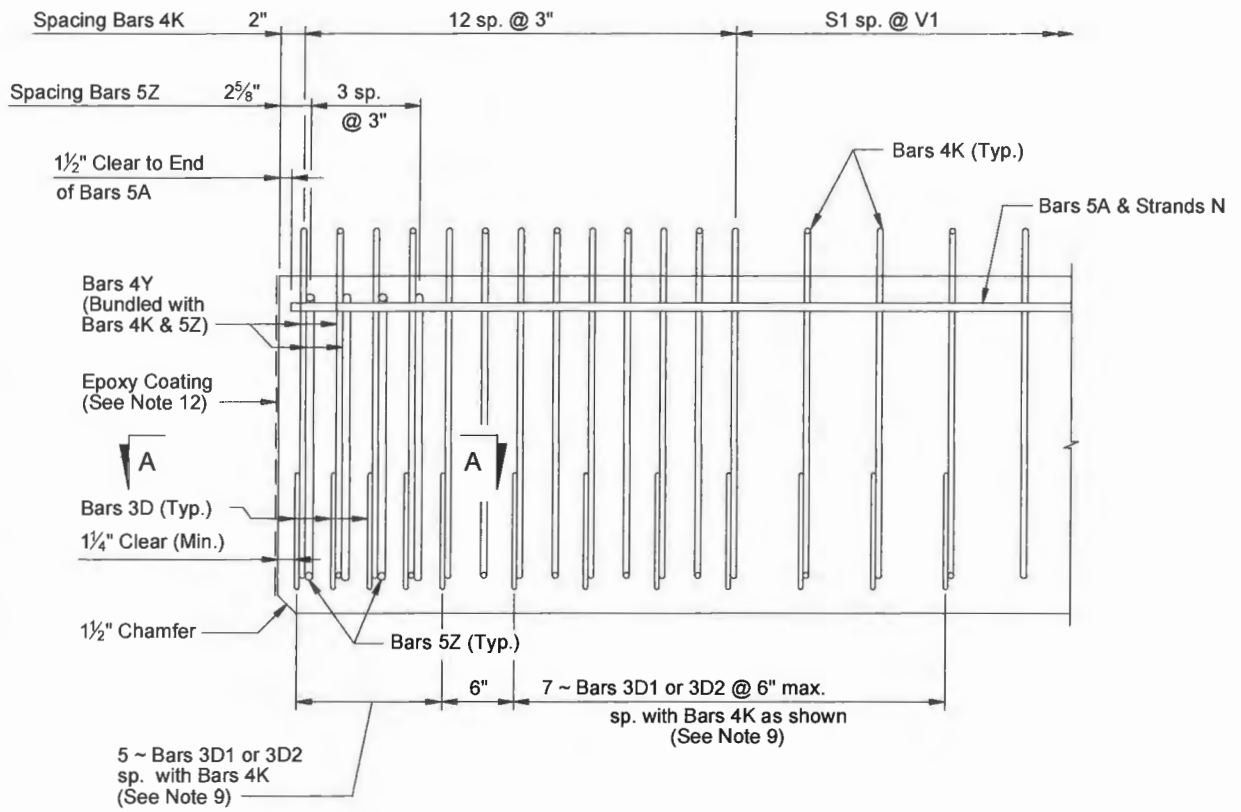
BILL OF REINFORCING STEEL FOR ONE BEAM ONLY				
MARK	NOTE NUMBERS	SIZE	NUMBER REQUIRED	LENGTH (NOTE 1)
A	—	5	4	12'-0"
D1	9, 11 & 14	3	12	See Table
D2	9, 11 & 14	3	12	See Table
K	2, 9, 11 & 13	4	See Table	3'-8 1/8"
N	3 & 5	3/8" Ø Strand	2	DIM L+5"
Y	9 & 11	4	8	2'-6"
Z	2, 9, 11 & 13	5	8	3'-7"



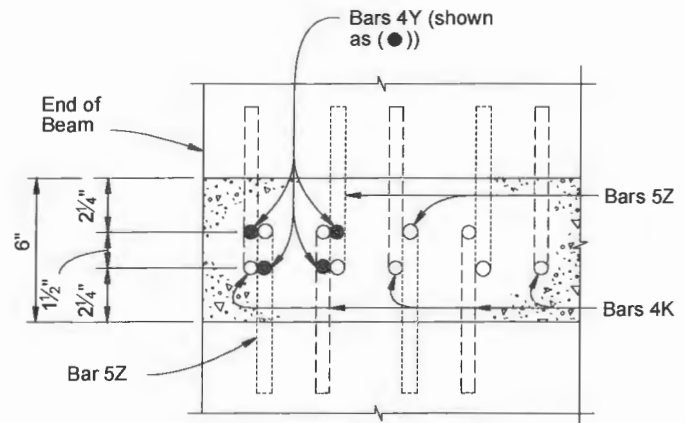
NOTES:
 Work this Index with the AASHTO Type II Beam - Table of Beam Variables in Structures Plans.
 For referenced notes, see Sheet 1.
 For Dimensions L, R, V1 thru V4 and number of spaces S1 thru S4, see AASHTO Type II Beam - Table of Beam Variables.



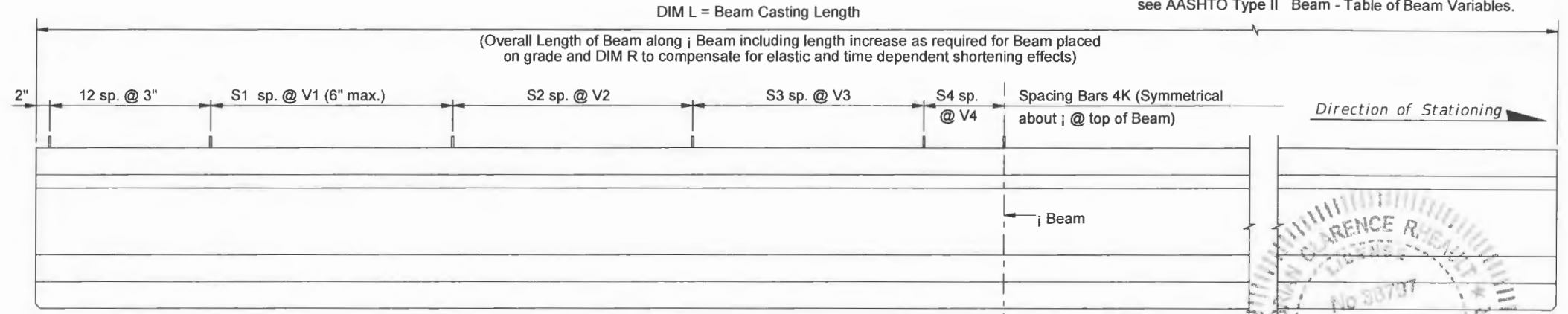
END VIEW



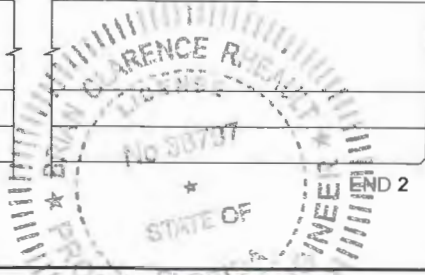
ELEVATION AT END OF BEAM (Flanges Not Shown For Clarity)



SECTION A-A (Showing Bars 4K, 4Y & 5Z Only)



ELEVATION



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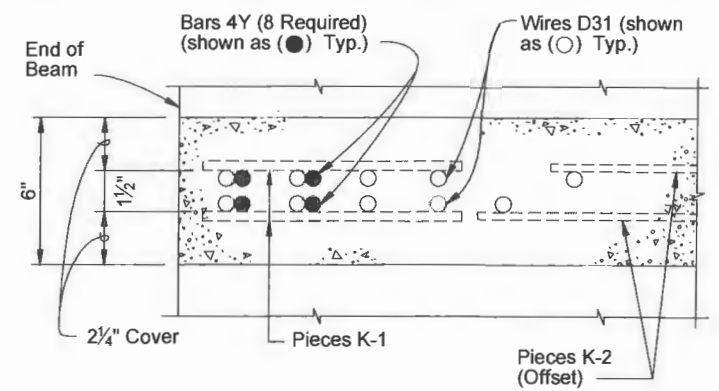
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Indian River County, Florida

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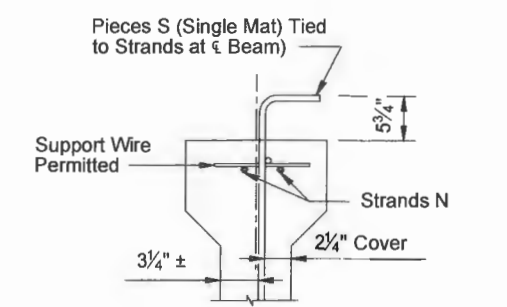
SHEET
B-31
 PROJECT NO.
05-609B

ALTERNATE REINFORCING STEEL WWR DETAILS

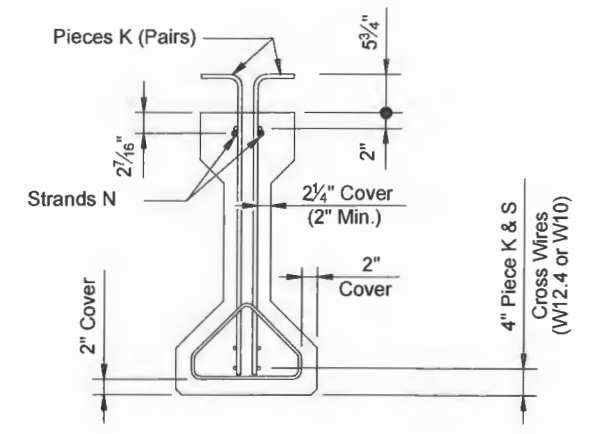
BEAM NUMBER 1



SECTION A-A
FOR WELDED WIRE REINFORCEMENT

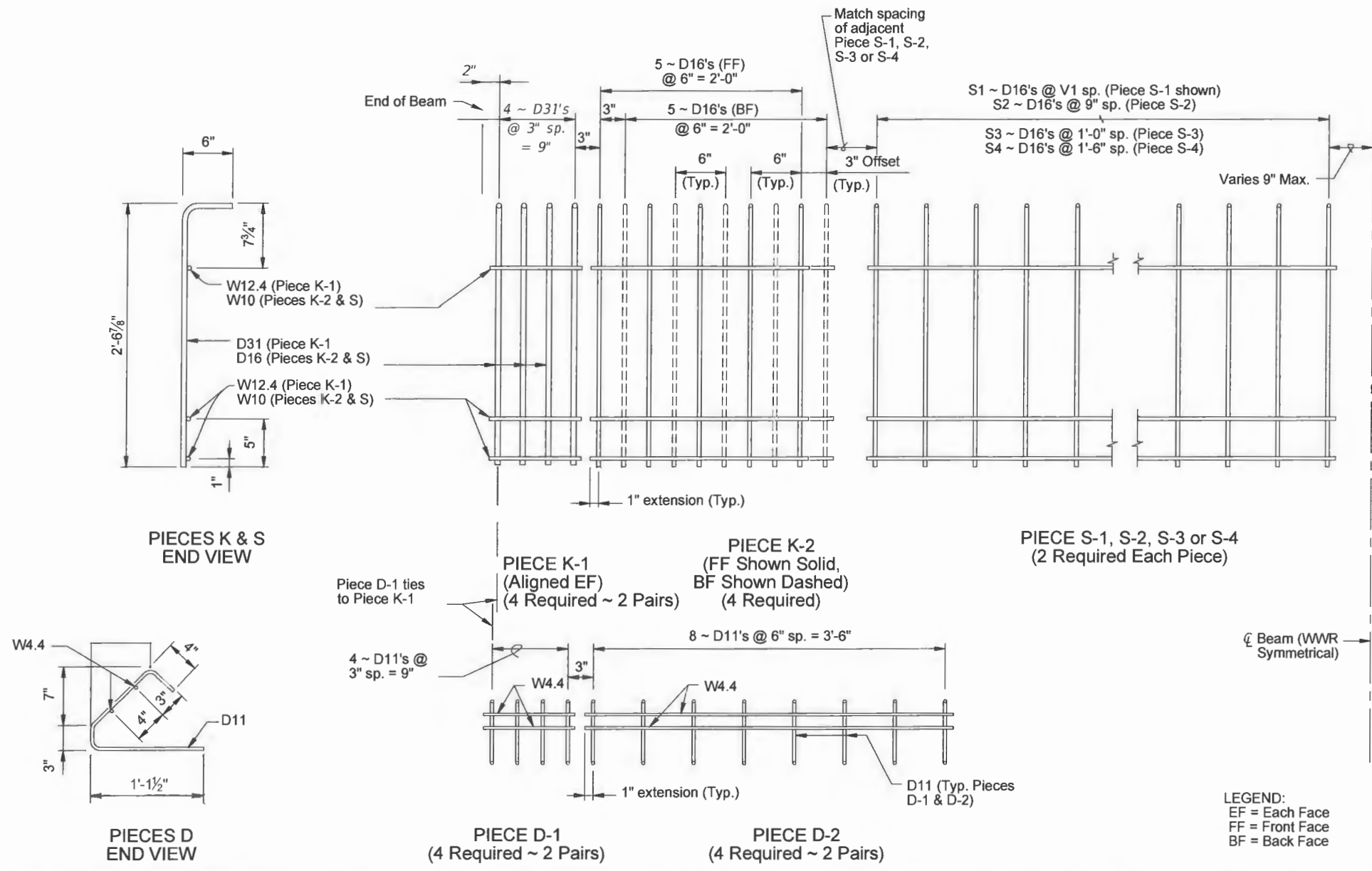


PARTIAL SECTION AT CENTER BEAM



PARTIAL BEAM END VIEW
(Conventional Reinforcing Bars A, Y and Bottom Strands not shown for clarity)

- NOTES:
- See Sheet 3 for placement details & Table of Beam Variables in Structures Plans for variables S1, S2, S3, S4 & V1.
 - Place Conventional Reinforcement Bars 5A as shown on Sheet 3. Place additional Bars 4Y as shown in Section A-A for WWR. Bars 5Z will not be used with the WWR Option.
 - Pieces may be fabricated in multiple length sections.
 - For beams with skewed end conditions, Pieces D-1 & D-2 shall not be used. Conventional Reinforcement Bars D1 & D2 shall be used. See Sheet 2 Skewed Details and Sheet 1, Note 9 for placement details. Shift Pieces K & Bars 4Y to accommodate skewed end conditions and align with Bars D.



LEGEND:
EF = Each Face
FF = Front Face
BF = Back Face

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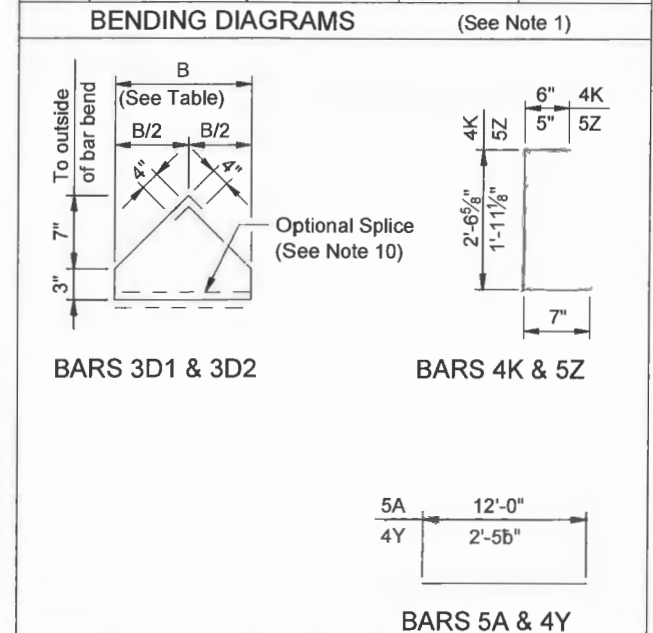
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SEAL
5/10/2019
Brian C. Rheault - 38797
FLORIDA P.E. NAME & NUMBER

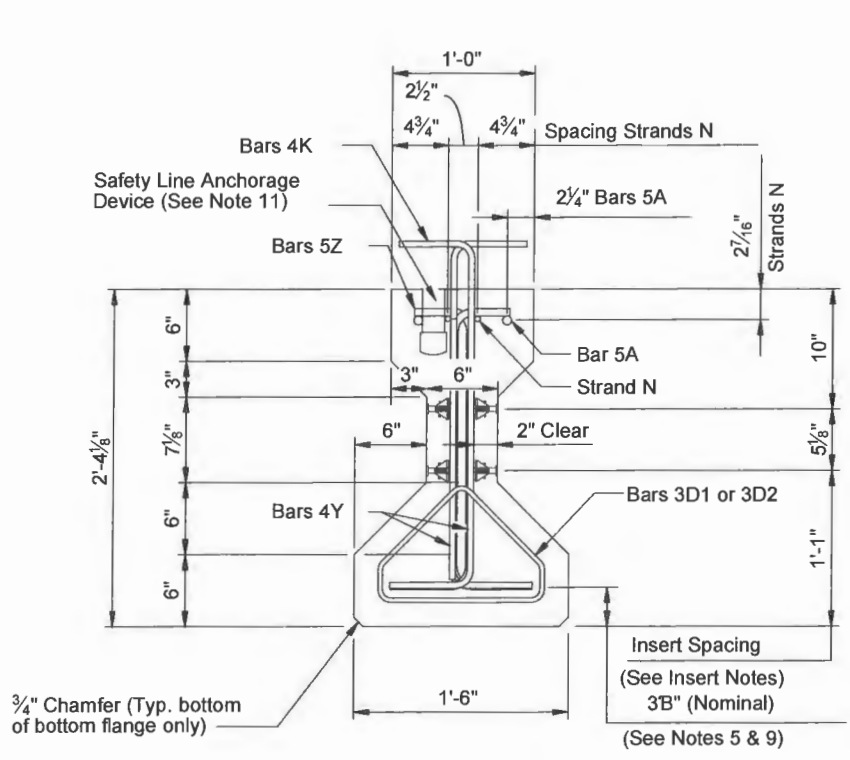
SHEET
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PROJECT NO.
05-609B

BEAM NUMBER 2

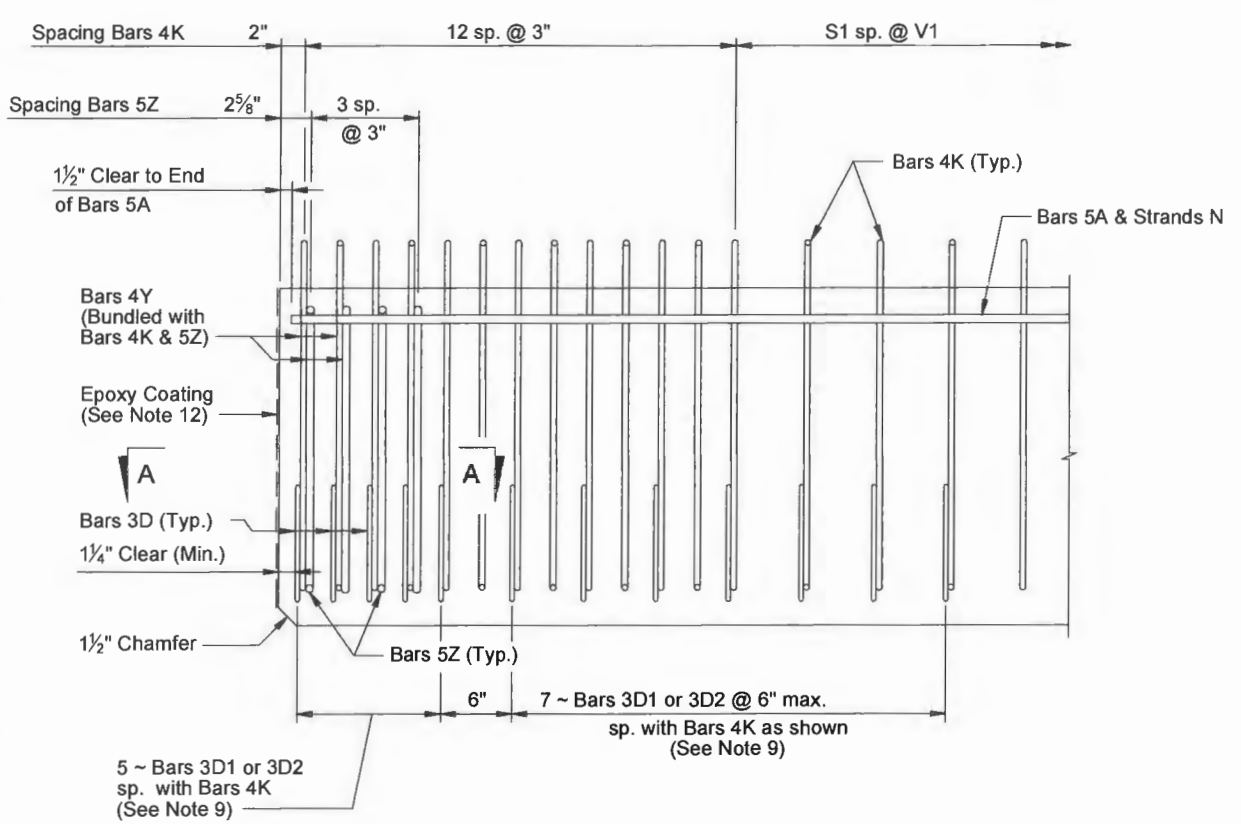
BILL OF REINFORCING STEEL FOR ONE BEAM ONLY				
MARK	NOTE NUMBERS	SIZE	NUMBER REQUIRED	LENGTH (NOTE 1)
A	—	5	4	12'-0"
D1	9, 11 & 14	3	12	See Table
D2	9, 11 & 14	3	12	See Table
K	2, 9, 11 & 13	4	See Table	3'-8 1/8"
N	3 & 5	3/8" Ø Strand	2	DIM L+5"
Y	9 & 11	4	8	2'-6"
Z	2, 9, 11 & 13	5	8	3'-7"



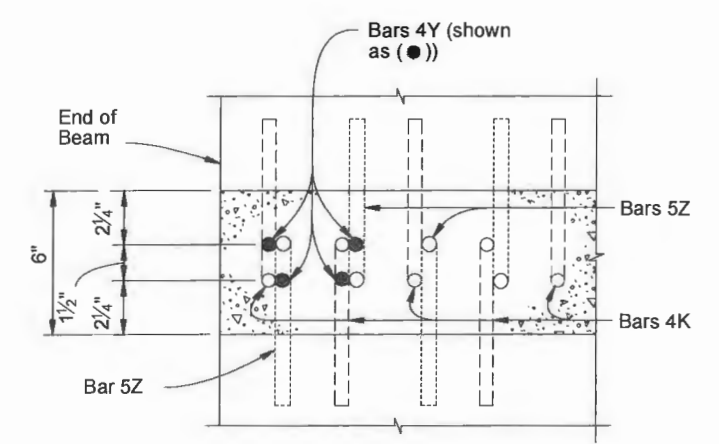
NOTES:
 Work this Index with the AASHTO Type II Beam - Table of Beam Variables in Structures Plans.
 For referenced notes, see Sheet 1.
 For Dimensions L, R, V1 thru V4 and number of spaces S1 thru S4, see AASHTO Type II Beam - Table of Beam Variables.



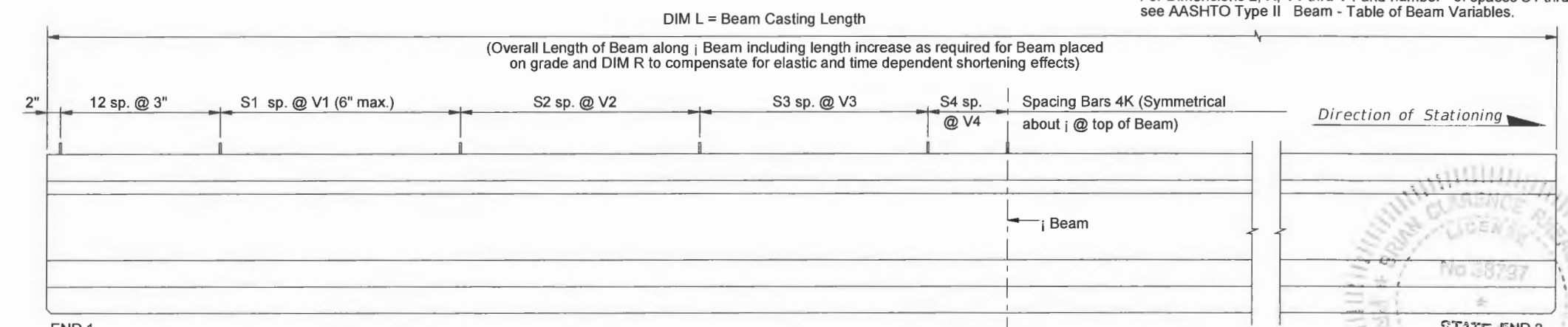
END VIEW



ELEVATION AT END OF BEAM
(Flanges Not Shown For Clarity)



SECTION A-A
(Showing Bars 4K, 4Y & 5Z Only)



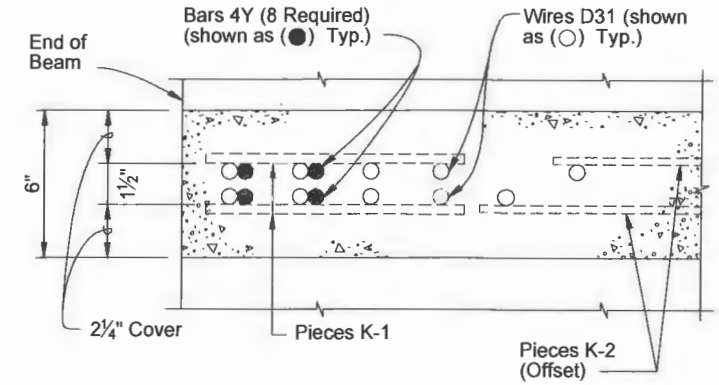
ELEVATION

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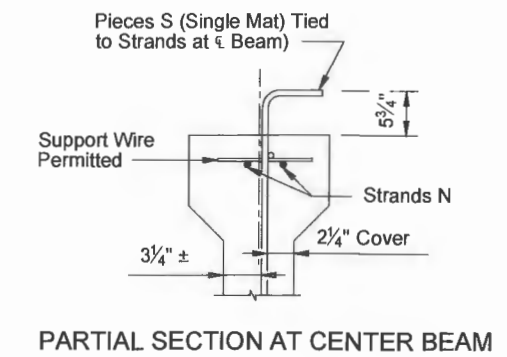
<p>VERIFY SCALE</p> <p>BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.</p>	<p>BRIDGE DESIGN ASSOCIATES, INC. 1407 Royal Palm Beach Blvd., Bldg. 200, Royal Palm Beach, FL 33411 Tel: (561) 686-3680 Fax: (561) 731-1925 CONSULTING ENGINEERS FLORIDA E.C. NO. 4952</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NO.</th> <th>REVISION</th> <th>DATE</th> <th>BY</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	NO.	REVISION	DATE	BY													<p>Department of Public Works Engineering Division</p>	<p>Scale: AS NOTED Approved: Drawn: C.A.B. Checked: B.C.R. Date: APRIL 2019 Field Book No:</p>	<p>PROJECT: Proposed Concrete Bridge for: 43rd Avenue over Main Relief Canal Indian River County, Florida</p>	<p>SEAL Brian C. Rheault - 38737 FLORIDA P.E. NAME & NUMBER</p>	<p>SHEET B-33 PROJECT NO. 05-609B</p>
NO.	REVISION	DATE	BY																				

ALTERNATE REINFORCING STEEL WWR DETAILS

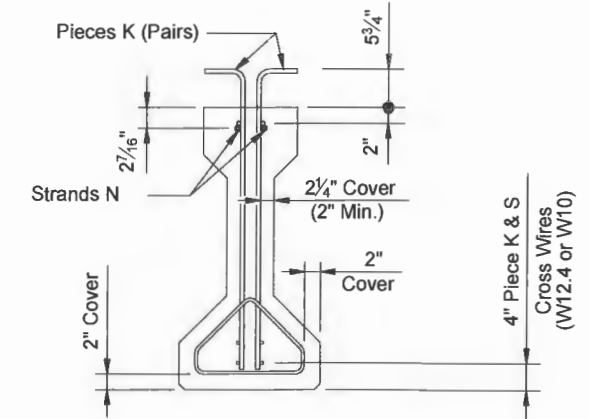
BEAM NUMBER 2



SECTION A-A FOR WELDED WIRE REINFORCEMENT



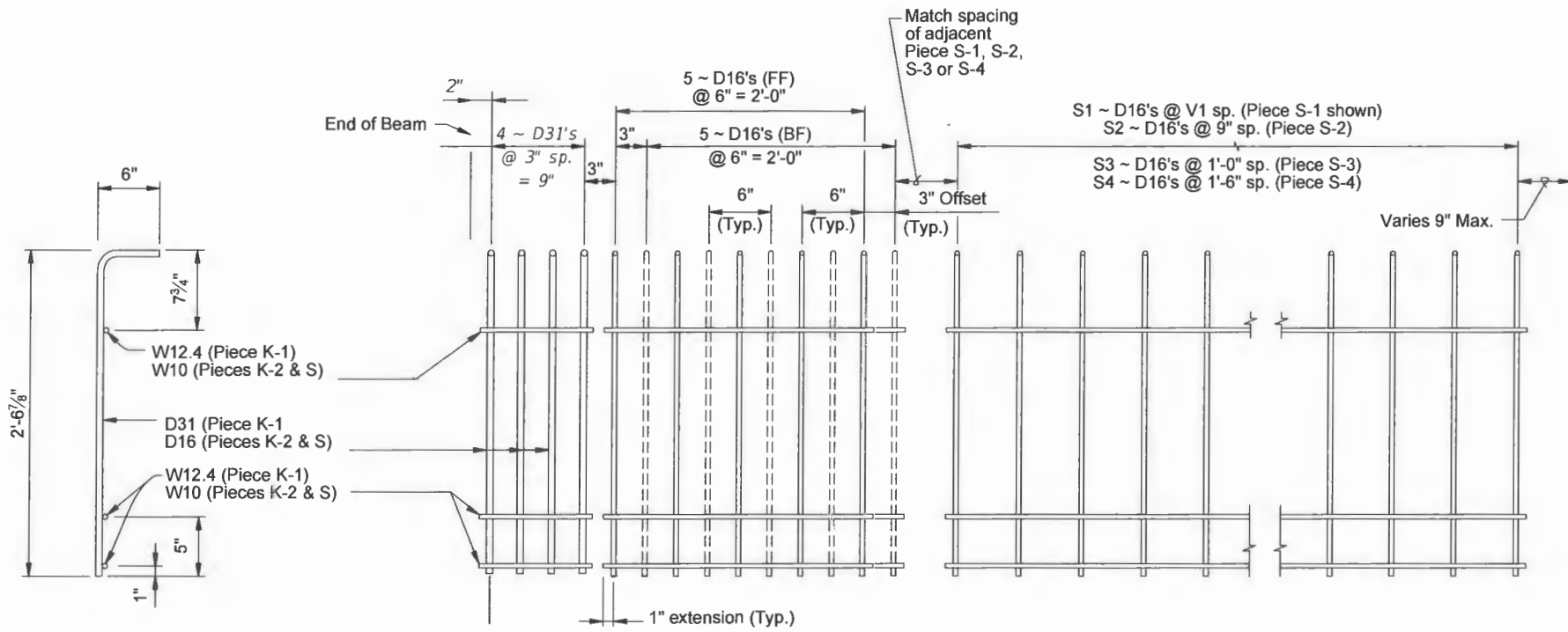
PARTIAL SECTION AT CENTER BEAM



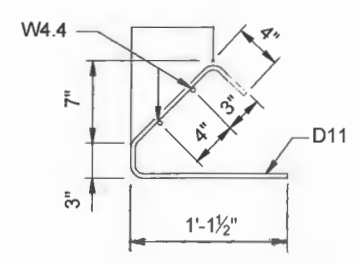
PARTIAL BEAM END VIEW (Conventional Reinforcing Bars A, Y and Bottom Strands not shown for clarity)

- NOTES:
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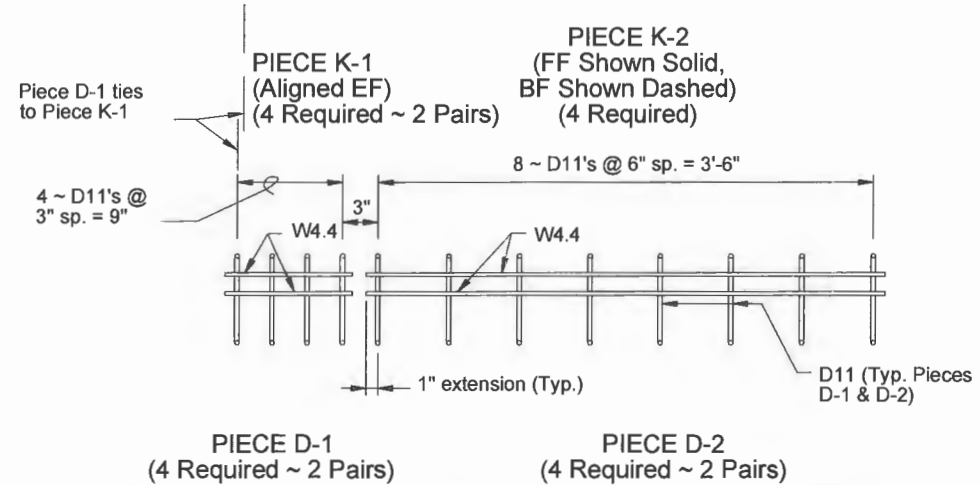
LEGEND:
 EF = Each Face
 FF = Front Face
 BF = Back Face



PIECES K & S END VIEW



PIECES D END VIEW



PIECE D-1 (4 Required ~ 2 Pairs)

PIECE D-2 (4 Required ~ 2 Pairs)

DATE: May 09, 2019 - 10:46am S:\2005-jobs\05-609b\43rd avenue at main relief canal\07_structural.dwg FOOT Modified Type II Beams.B34 - ASSHTO TYPE II MODIFIED TYPE (2).dwg

VERIFY SCALE

BRIDGE DESIGN ASSOCIATES, INC.
 1682 Royal Palm Beach Blvd., Suite 200, Royal Palm Beach, FL 33411
 Tel. (561) 686-3660 Fax (561) 791-1995
 CONSULTING ENGINEERS
 FLORIDA P.E. NO. 4952

NO.	REVISION	DATE	BY

Department of Public Works
 Engineering Division

Scale: AS NOTED
 Approved:
 Drawn: C.A.B.
 Checked: B.C.R.
 Date: APRIL 2019
 Field Book No:

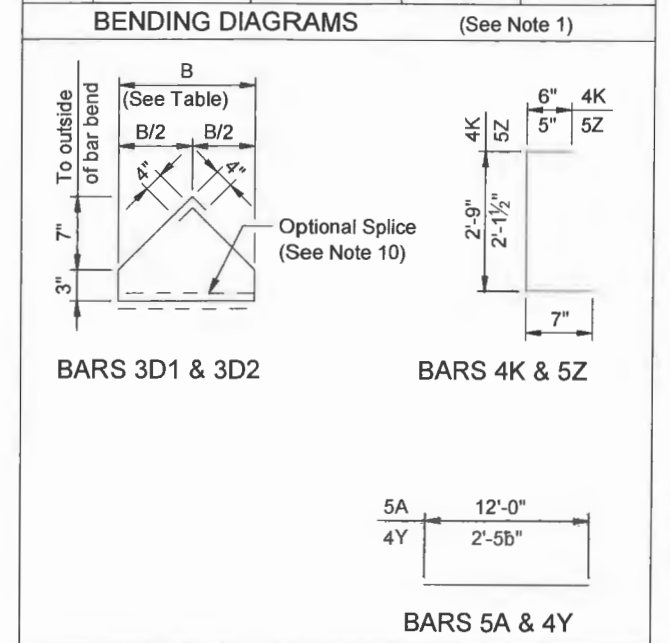
PROJECT:
 Proposed Concrete Bridge for:
 43rd Avenue over Main Relief Canal
 Indian River County, Florida

SEAL
 5/10/2019
 Brian C. Rheault - 38797
 FLORIDA P.E. NAME & NUMBER

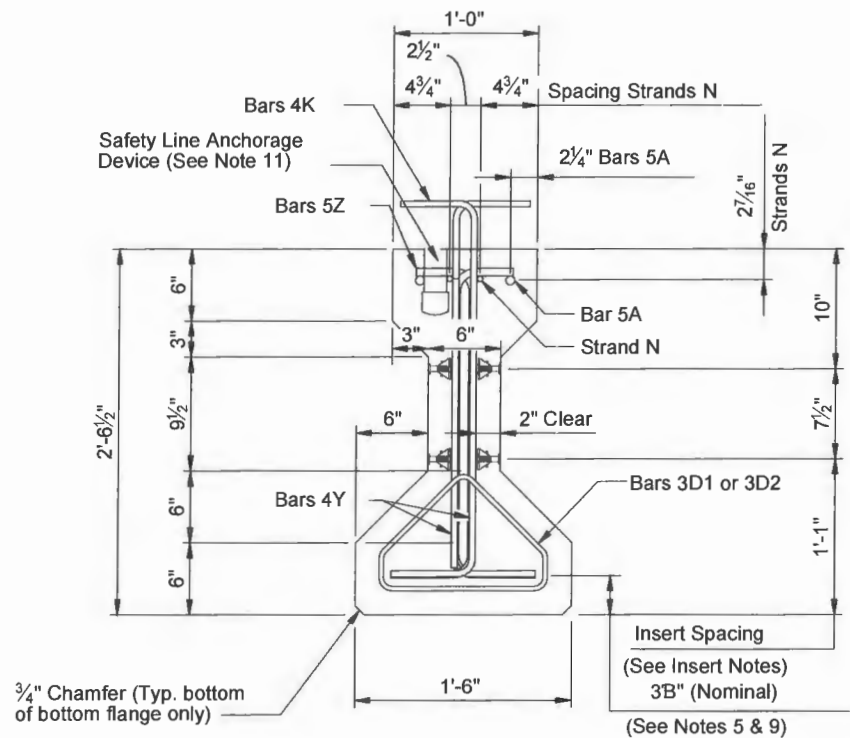
SHEET
 B34
 PROJECT NO.
 05-609B

BEAM NUMBER 3

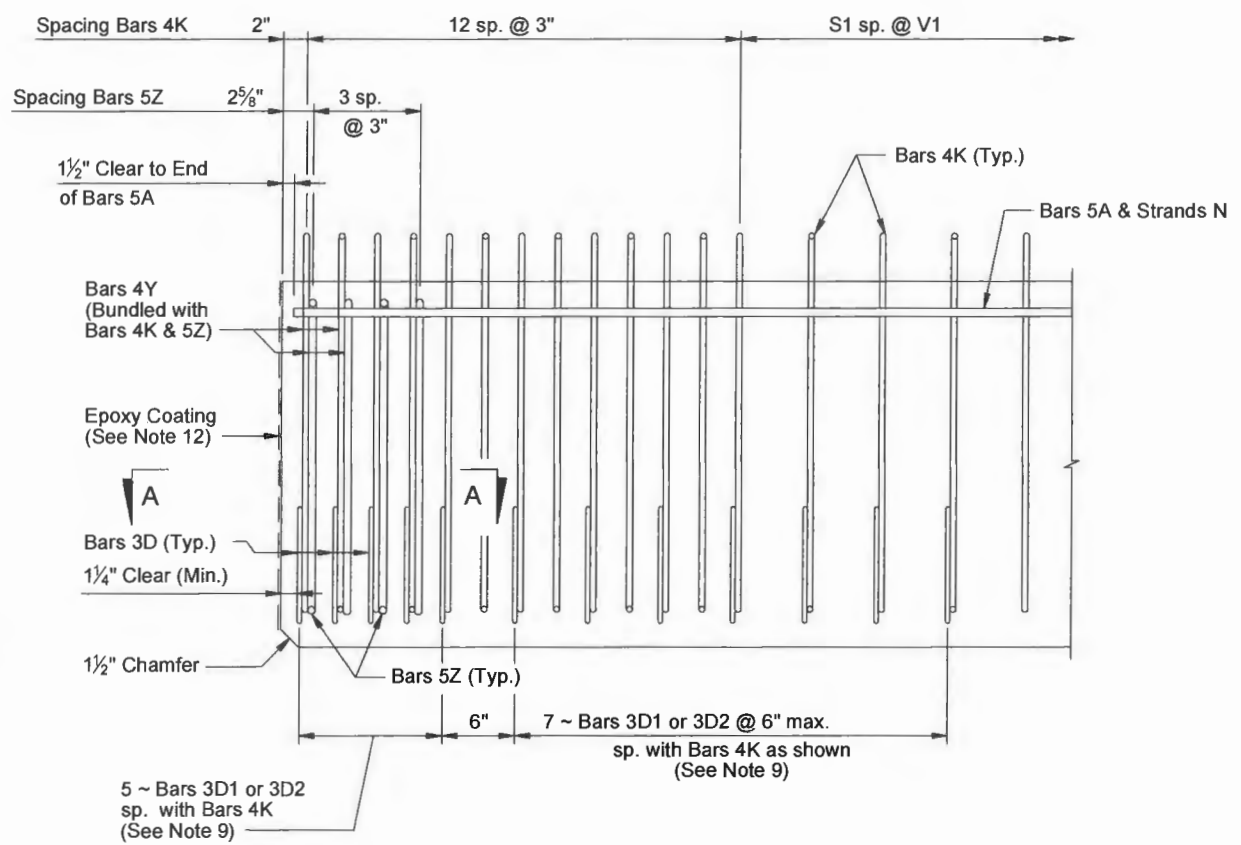
BILL OF REINFORCING STEEL FOR ONE BEAM ONLY				
MARK	NOTE NUMBERS	SIZE	NUMBER REQUIRED	LENGTH (NOTE 1)
A	—	5	4	12'-0"
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K	2, 9, 11 & 13	4	See Table	3'-10 1/2"
N	3 & 5	3/8" Ø Strand	2	DIM L+5"
Y	9 & 11	4	8	2'-6"
Z	2, 9, 11 & 13	5	8	3'-7"



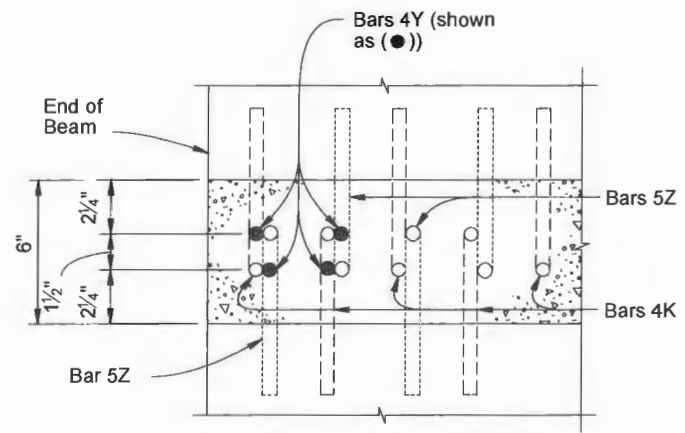
NOTES:
 Work this Index with the AASHTO Type II Beam - Table of Beam Variables in Structures Plans.
 For referenced notes, see Sheet 1.
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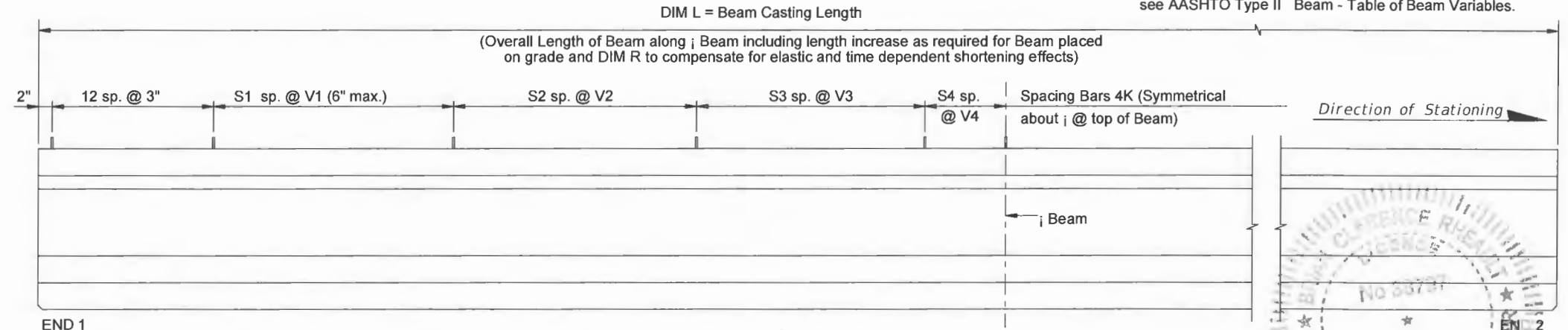
END VIEW



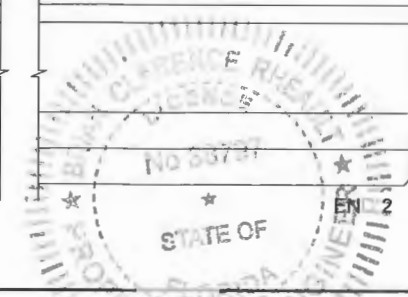
ELEVATION AT END OF BEAM (Flanges Not Shown For Clarity)



SECTION A-A (Showing Bars 4K, 4Y & 5Z Only)



ELEVATION

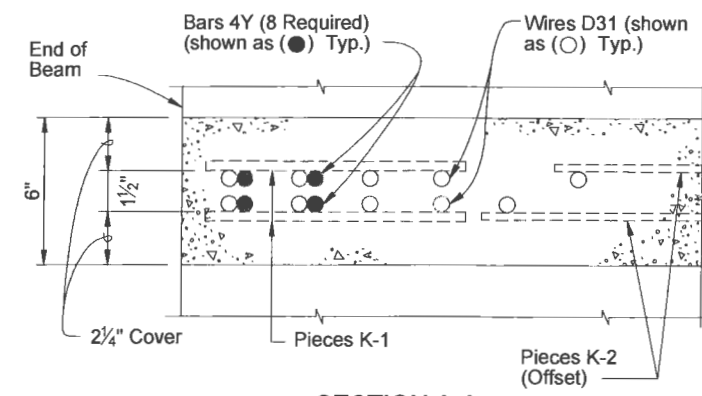


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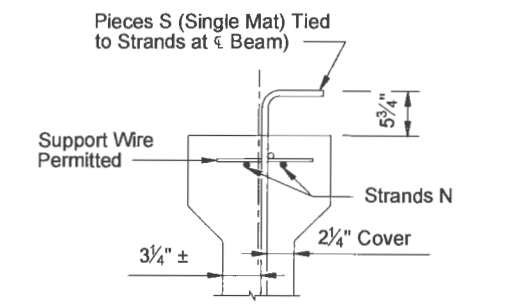
<p>VERIFY SCALE</p> <p>BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.</p>	<p>BRIDGE DESIGN ASSOCIATES, INC. 1402 Royal Palm Beach Blvd., Suite 200, Royal Palm Beach, FL 33411 Tel: (561) 886-3460 Fax: (561) 721-1995 CONSULTING ENGINEERS FLORIDA E.C. NO. 4952</p>	NO.	REVISION	DATE	BY	<p>Department of Public Works Engineering Division</p>	Scale: AS NOTED Approved: Drawn: C.A.B. Checked: B.C.R. Date: APRIL 2019 Field Book No:	PROJECT: Proposed Concrete Bridge for: 43rd Avenue over Main Relief Canal Indian River County, Florida	<p>Brian C. Rheault - 38797 FLORIDA P.E. NAME & NUMBER</p>	SHEET B-35 PROJECT NO. 05-609B

ALTERNATE REINFORCING STEEL WWR DETAILS

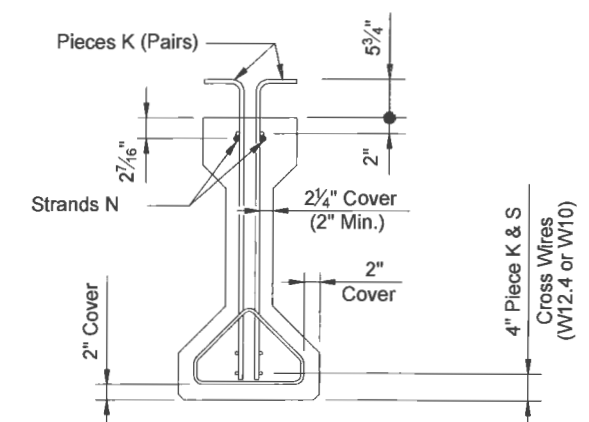
BEAM NUMBER 3



SECTION A-A FOR WELDED WIRE REINFORCEMENT



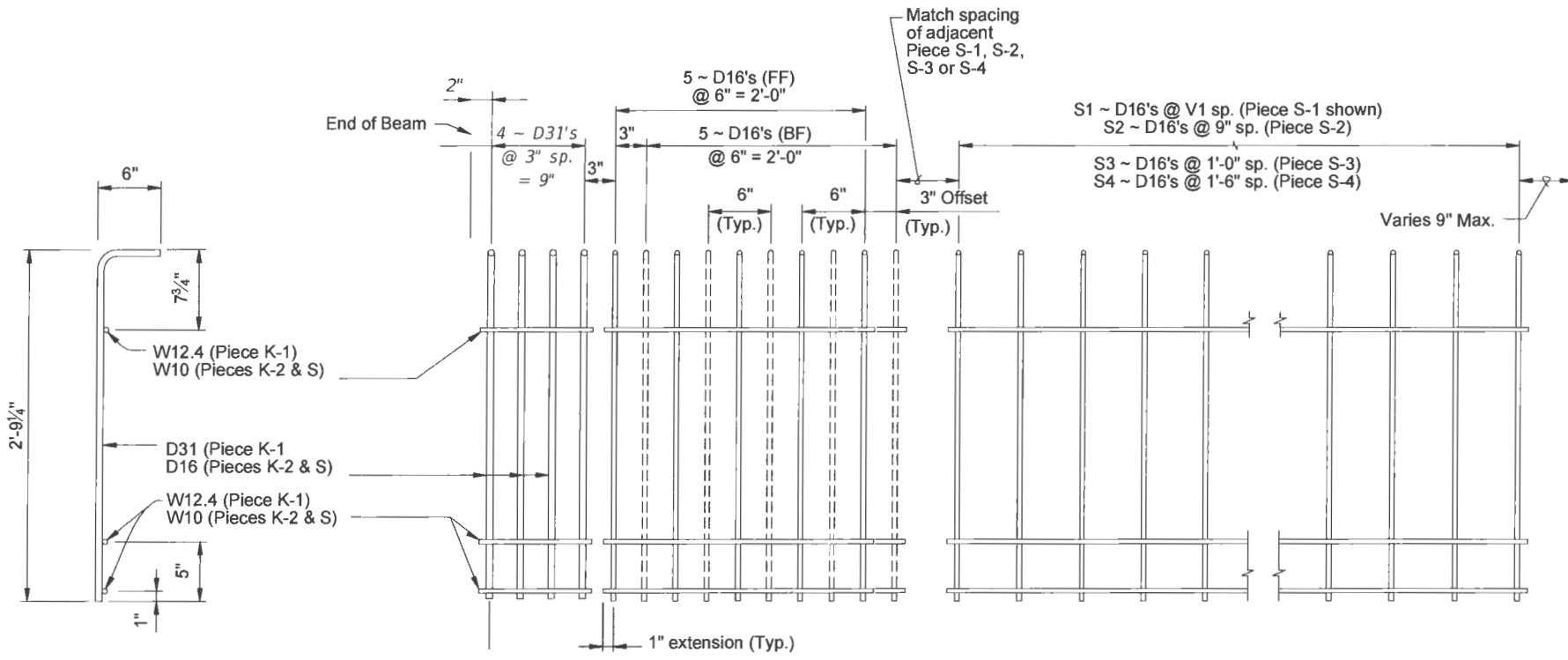
PARTIAL SECTION AT CENTER BEAM



PARTIAL BEAM END VIEW (Conventional Reinforcing Bars A, Y and Bottom Strands not Shown for Clarity)

- NOTES:
- See Sheet 3 for placement details & Table of Beam Variables in Structures Plans for variables S1, S2, S3, S4 & V1.
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LEGEND:
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 BF = Back Face

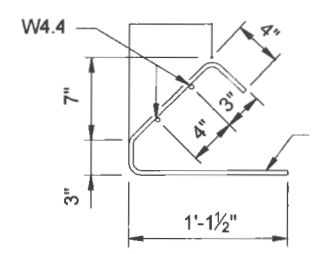


PIECES K & S END VIEW

PIECE D-1 (4 Required ~ 2 Pairs)

PIECE D-2 (4 Required ~ 2 Pairs)

PIECE S-1, S-2, S-3 or S-4 (2 Required Each Piece)



PIECES D END VIEW

DATE: May 09, 2019 - 10:50am S:\2005-jobs\05-6099_43rd_ave_at_main_relief_canal\07_structural_dwg\FDOT Modified Type II Beams\B36 - ASSHTO TYPE II MODIFIED TYPE (3).dwg

VERIFY SCALE

 BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.

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NO.	REVISION	DATE	BY

Department of Public Works
Engineering Division

Scale: AS NOTED
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 Drawn: C.A.B.
 Checked: B.C.R.
 Date: APRIL 2019
 Field Book No:

PROJECT:
Proposed Concrete Bridge for:
43rd Avenue over Main Relief Canal
Indian River County, Florida

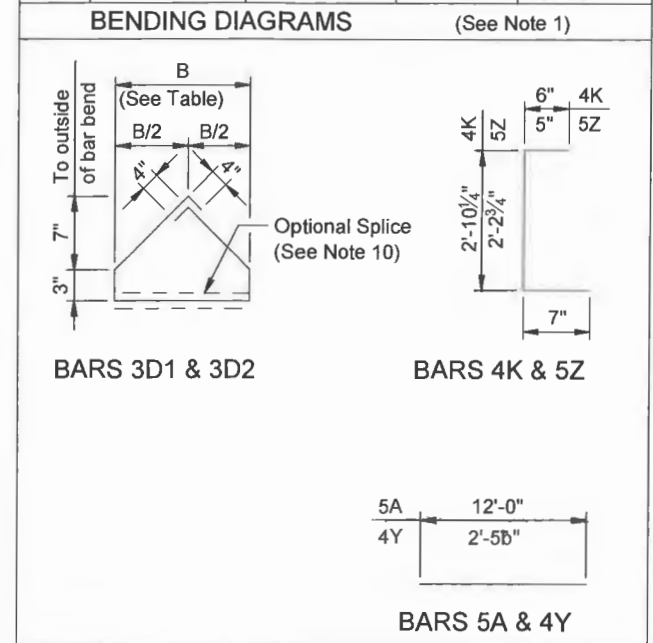
SEAL

 Brian C. Rheault - 38797
 FLORIDA P.E. NAME & NUMBER

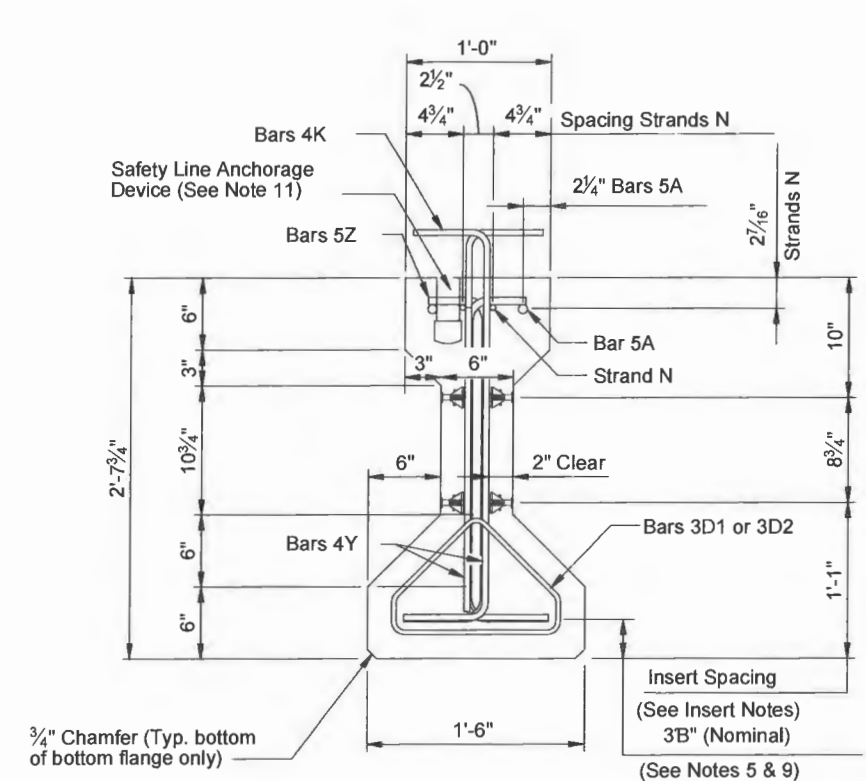
SHEET
B-36
 PROJECT NO.
05-609B

BEAM NUMBER 4

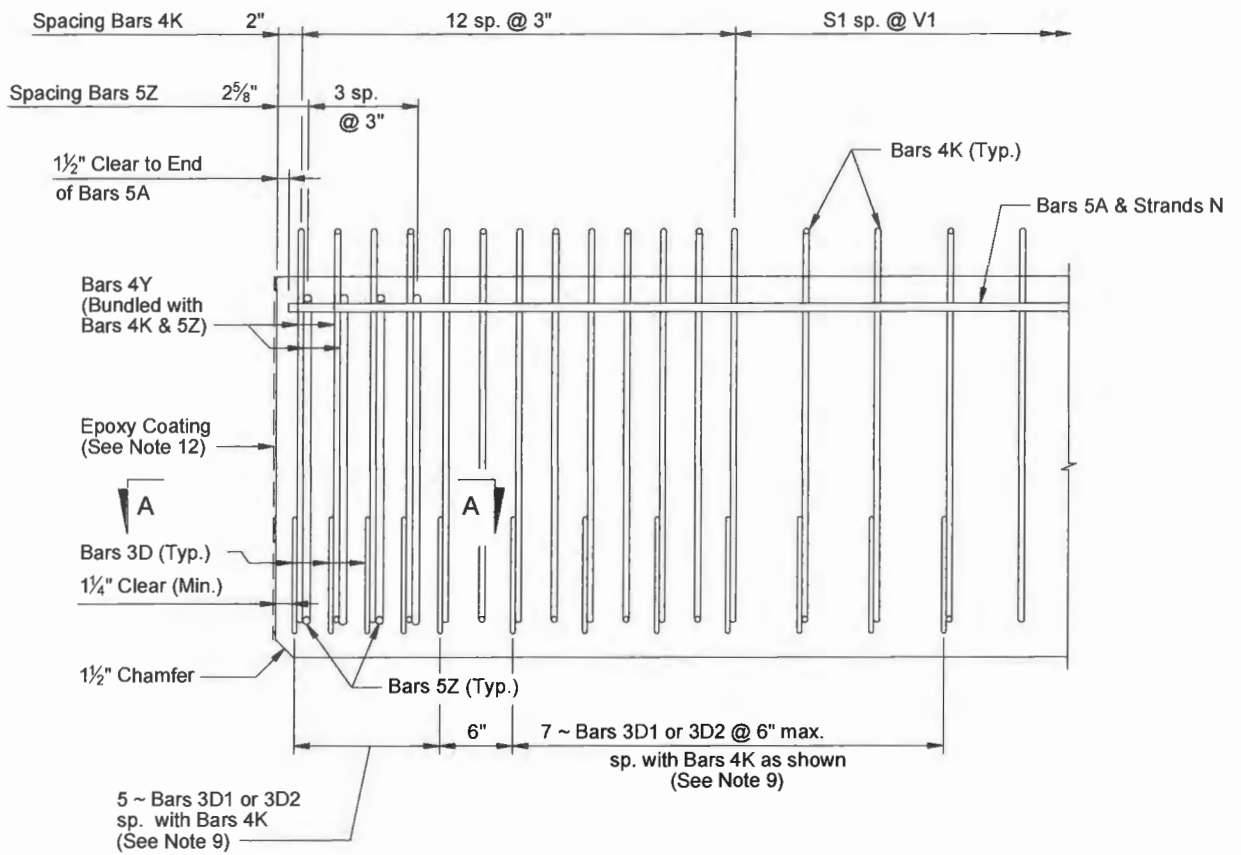
BILL OF REINFORCING STEEL FOR ONE BEAM ONLY				
MARK	NOTE NUMBERS	SIZE	NUMBER REQUIRED	LENGTH (NOTE 1)
A	—	5	4	12'-0"
D1	9, 11 & 14	3	12	See Table
D2	9, 11 & 14	3	12	See Table
K	2, 9, 11 & 13	4	See Table	3'-11 3/4"
N	3 & 5	3/8" Ø Strand	2	DIM L+5"
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Z	2, 9, 11 & 13	5	8	3'-7"



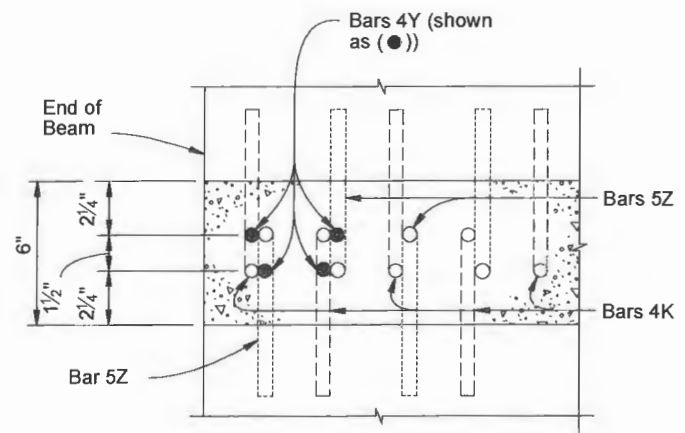
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 For referenced notes, see Sheet 1.
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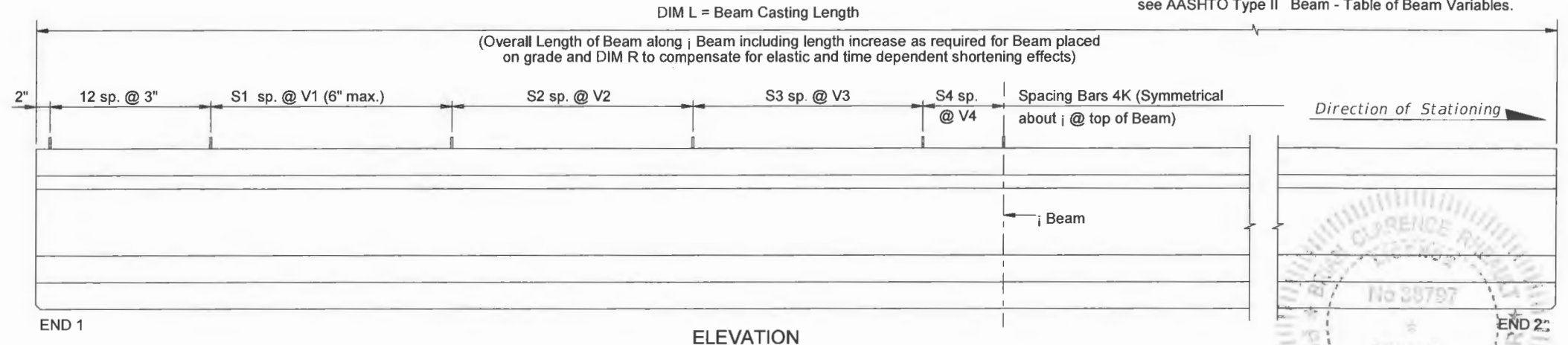
END VIEW



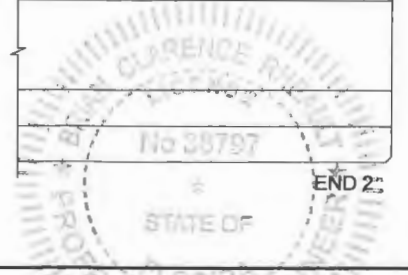
ELEVATION AT END OF BEAM (Flanges Not Shown For Clarity)



SECTION A-A (Showing Bars 4K, 4Y & 5Z Only)



ELEVATION

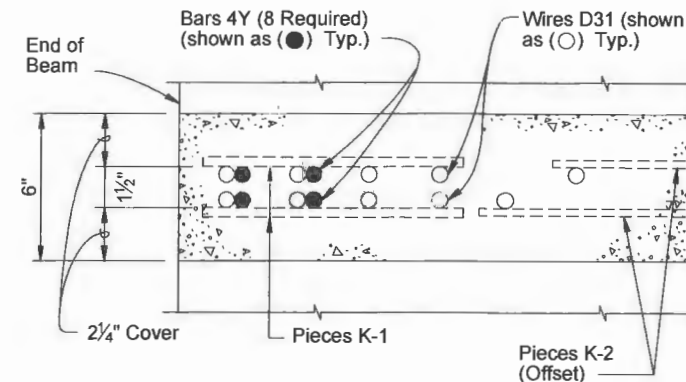


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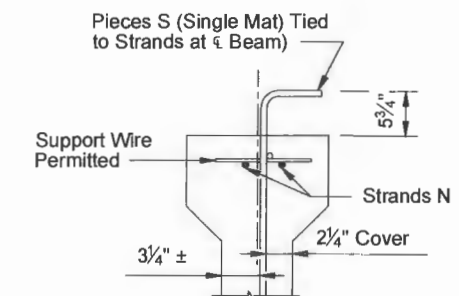
<p>VERIFY SCALE</p> <p>BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.</p>	<p>BRIDGE DESIGN ASSOCIATES, INC. 1402 Royal Palm Beach Blvd., Bldg. 200, Royal Palm Beach, FL 33411 Tel: (561) 688-2665 Fax: (561) 721-1995 CONSULTING ENGINEERS FLORIDA E.C. NO. 4852</p>	<table border="1"> <thead> <tr> <th>NO.</th> <th>REVISION</th> <th>DATE</th> <th>BY</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	REVISION	DATE	BY					<p>Department of Public Works Engineering Division</p>	<p>Scale: AS NOTED Approved: _____ Drawn: C.A.B. Checked: B.C.R. Date: APRIL 2019 Field Book No: _____</p>	<p>PROJECT: Proposed Concrete Bridge for: 43rd Avenue over Main Relief Canal Indian River County, Florida</p>	<p>SEAL</p> <p>FLORIDA P.E. NAME & NUMBER</p>	<p>SHEET</p> <p style="font-size: 2em;">B-37</p> <p>PROJECT NO. 05-609B</p>
NO.	REVISION	DATE	BY												

ALTERNATE REINFORCING STEEL WWR DETAILS

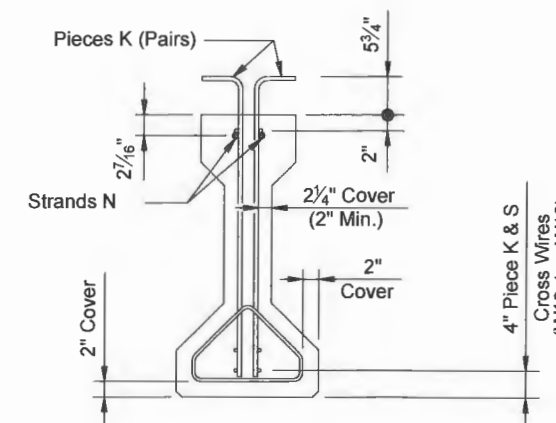
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SECTION A-A
FOR WELDED WIRE REINFORCEMENT

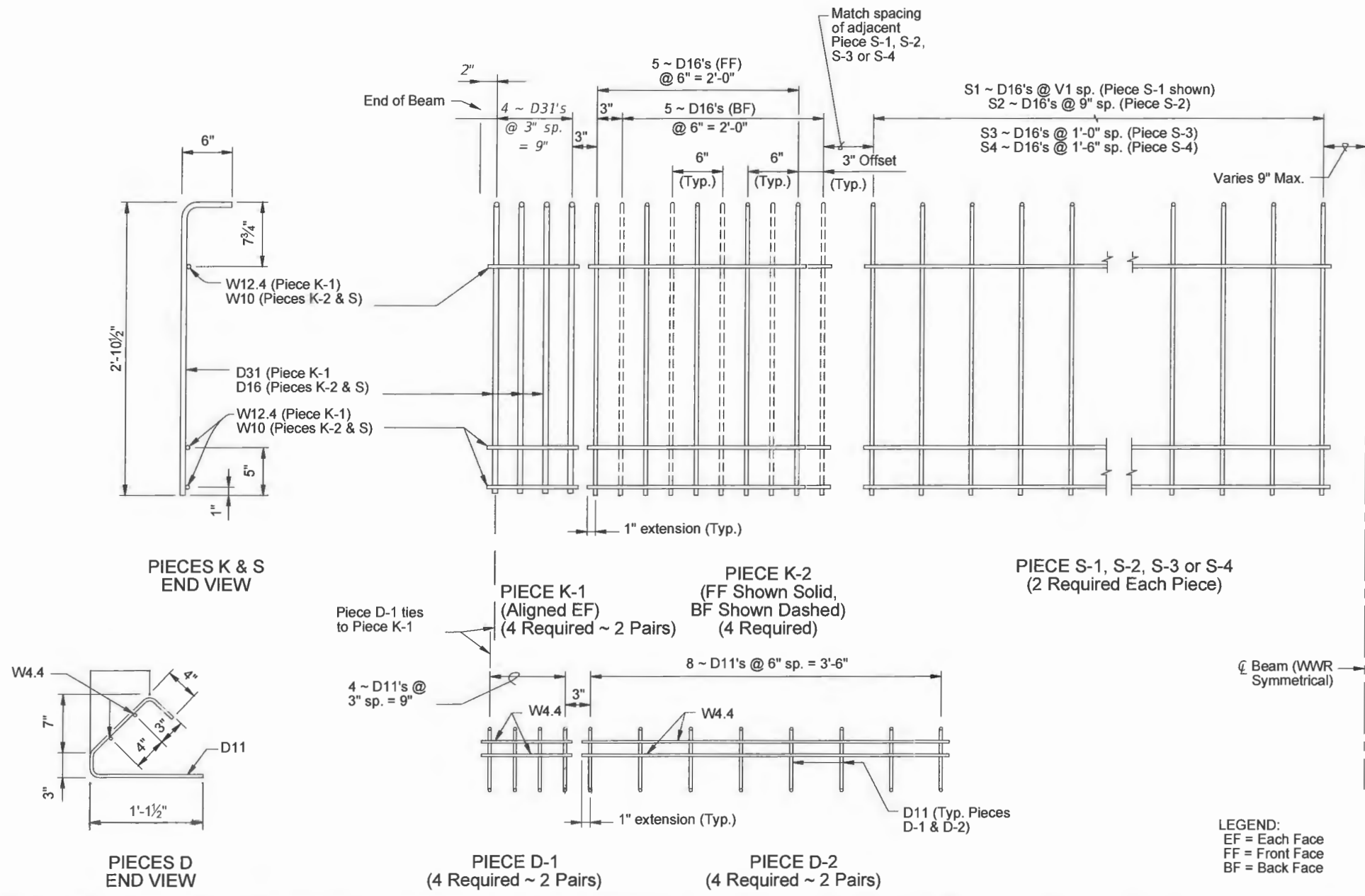


PARTIAL SECTION AT CENTER BEAM



PARTIAL BEAM END VIEW
(Conventional Reinforcing Bars A, Y and Bottom Strands not shown for clarity)

- NOTES:
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LEGEND:
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BF = Back Face

DATE: May 09, 2019 - 10:50am S:\2005-jobs\05-609b-43rd avenue at main relief canal\07 structural dwgs\DOT Modified Type II Beams\B38 - ASSHTD TYPE II MODIFIED TYPE (4).dwg

VERIFY SCALE

BRIDGE DESIGN ASSOCIATES, INC.
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Tel: (561) 886-3800 Fax: (561) 751-1995
CONSULTING ENGINEERS
FLORIDA E.C. NO. 4952

NO.	REVISION	DATE	BY

Department of Public Works
Engineering Division

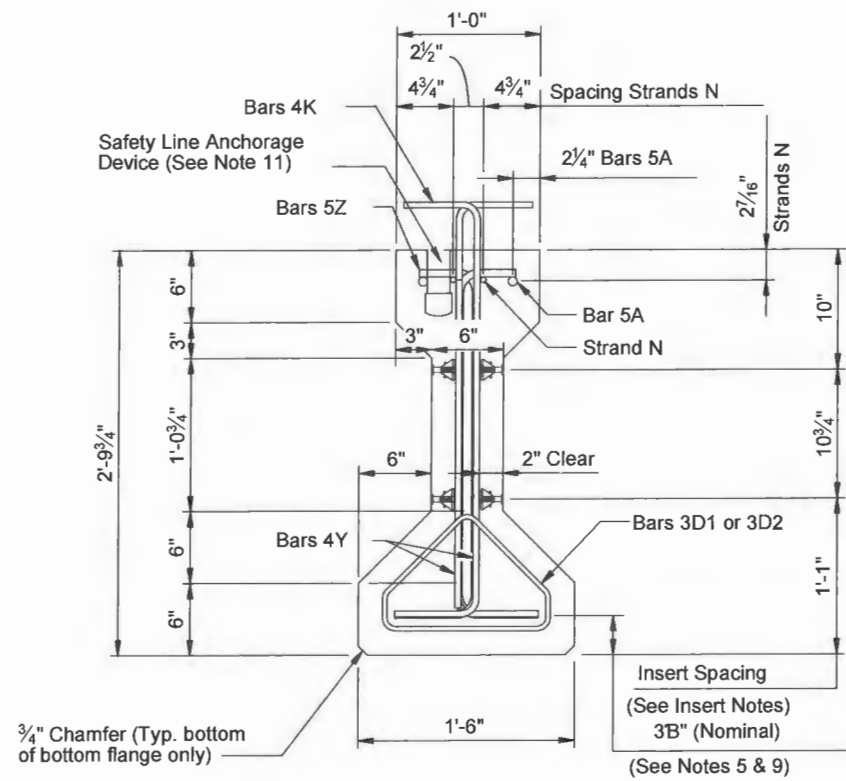
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Approved:
Drawn: C.A.B.
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Date: APRIL 2019
Field Book No:

PROJECT:
Proposed Concrete Bridge for:
43rd Avenue over Main Relief Canal
Indian River County, Florida

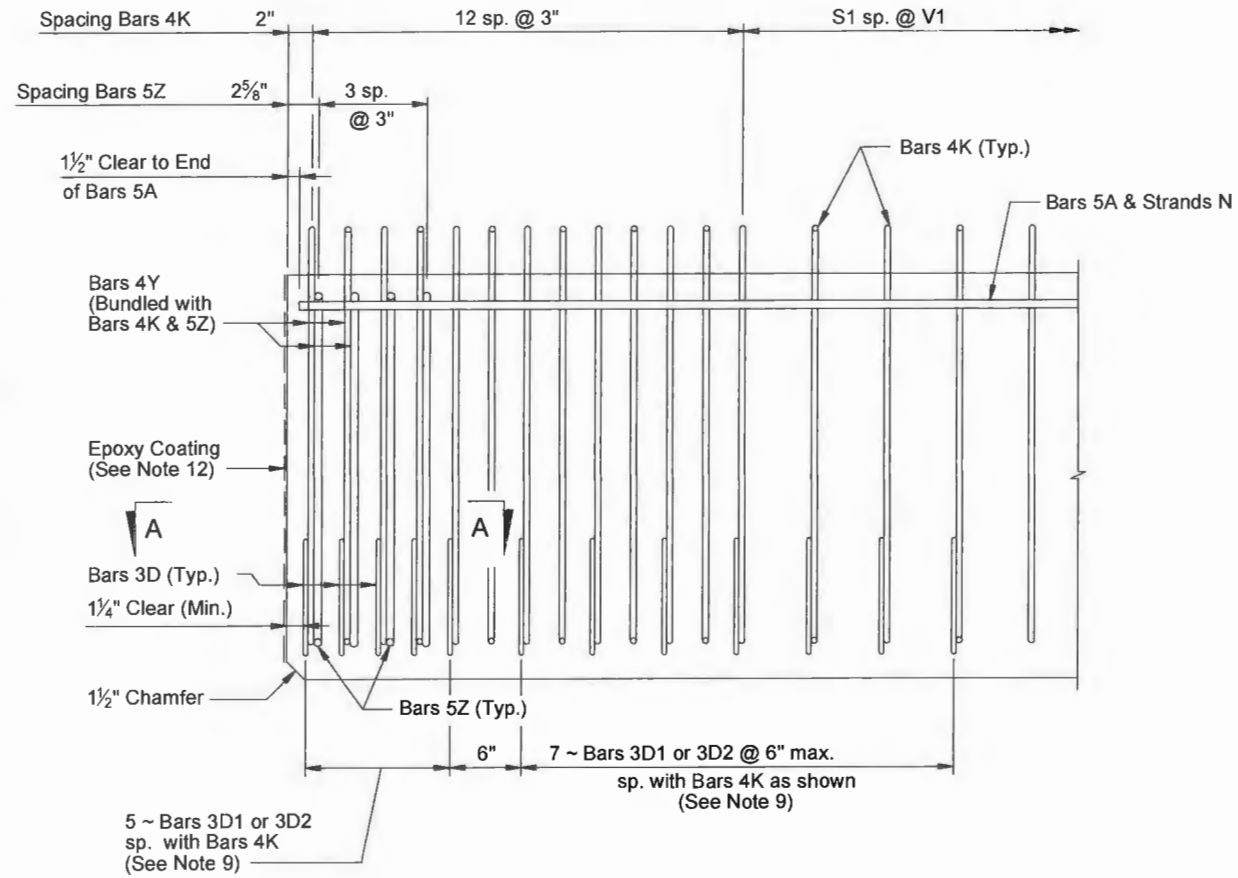
SEAL
Brian C. Rheault - 38797
FLORIDA P.E. NAME & NUMBER

B-38
PROJECT NO.
05-609B

BEAM NUMBER 5



END VIEW



ELEVATION AT END OF BEAM
(Flanges Not Shown For Clarity)

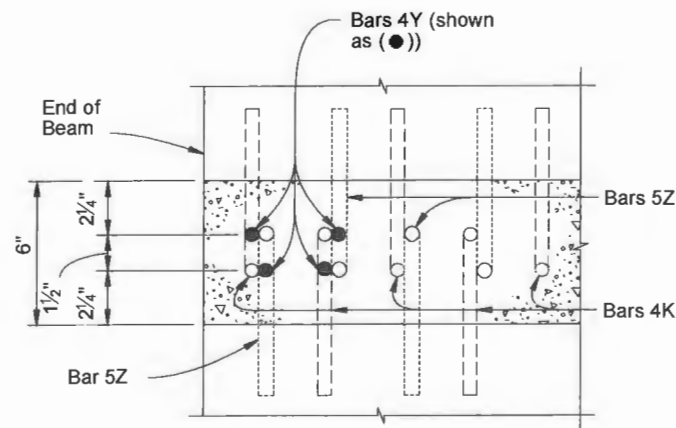
BILL OF REINFORCING STEEL FOR ONE BEAM ONLY				
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K	2, 9, 11 & 13	4	See Table	4'-1 3/4"
N	3 & 5	3/8" Ø Strand	2	DIM L+5"
Y	9 & 11	4	8	2'-6"
Z	2, 9, 11 & 13	5	8	3'-7"

BENDING DIAGRAMS (See Note 1)	
<p>BARS 3D1 & 3D2</p>	<p>BARS 4K & 5Z</p>
<p>BARS 5A & 4Y</p>	

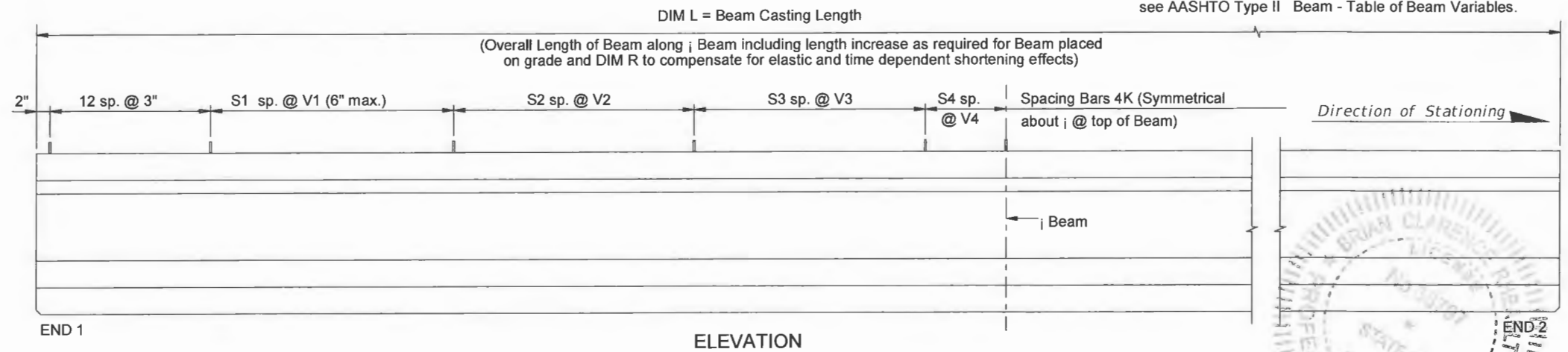
NOTES:
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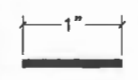


SECTION A-A
(Showing Bars 4K, 4Y & 5Z Only)



ELEVATION

VERIFY SCALE



BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.

BRIDGE DESIGN ASSOCIATES, INC.
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CONSULTING ENGINEERS
FLORIDA E.S. NO. 4952

NO.	REVISION	DATE	BY



Department of Public Works
Engineering Division

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Approved:
Drawn: C.A.B.
Checked: B.C.R.
Date: APRIL 2019
Field Book No:

PROJECT:
Proposed Concrete Bridge for:
43rd Avenue over Main Relief Canal
Indian River County, Florida

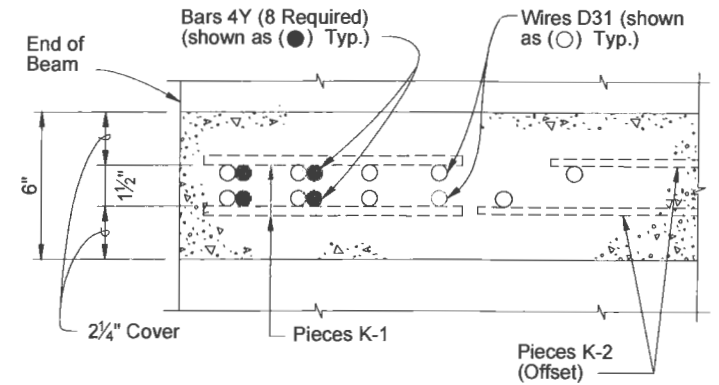
SEAL
BRUCE L. RYAN
PROFESSIONAL ENGINEER
STATE OF FLORIDA
EXPIRES 12/31/2021
FLORIDA P.E. NAME & NUMBER

SHEET
B-39
PROJECT NO.
05-609B

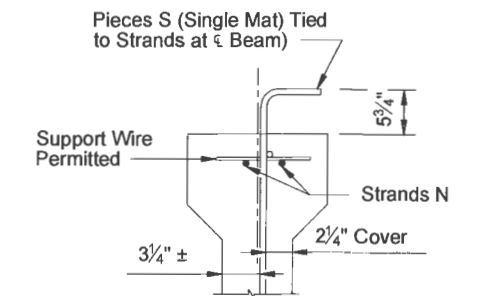
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ALTERNATE REINFORCING STEEL WWR DETAILS

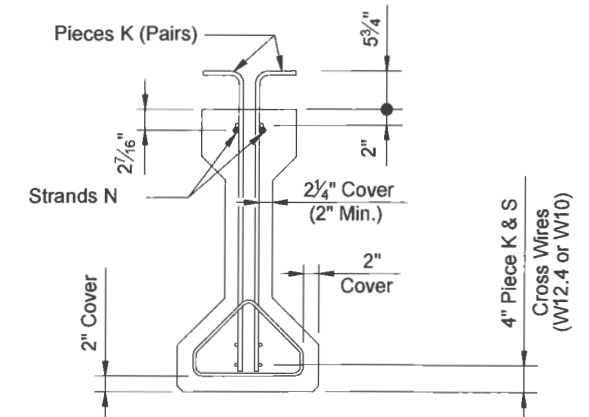
BEAM NUMBER 5



SECTION A-A
FOR WELDED WIRE REINFORCEMENT

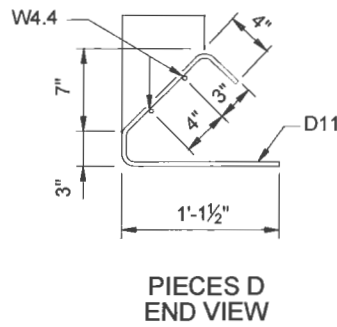
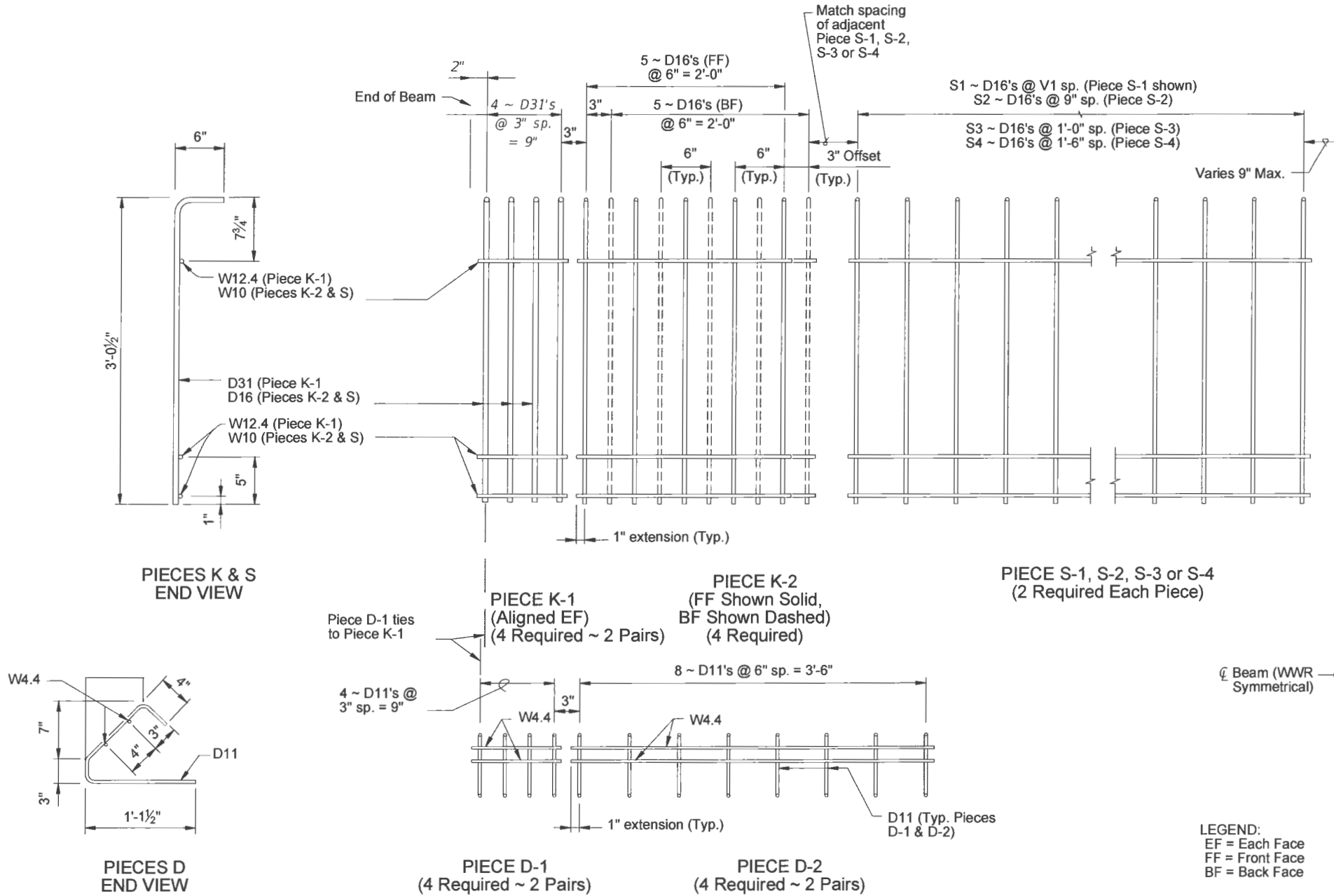


PARTIAL SECTION AT CENTER BEAM



PARTIAL BEAM END VIEW
(Conventional Reinforcing Bars A, Y and Bottom Strands not shown for clarity)

- NOTES:
- See Sheet 3 for placement details & Table of Beam Variables in Structures Plans for variables S1, S2, S3, S4 & V1.
 - Place Conventional Reinforcement Bars 5A as shown on Sheet 3. Place additional Bars 4Y as shown in Section A-A for WWR. Bars 5Z will not be used with the WWR Option.
 - Pieces may be fabricated in multiple length sections.
 - For beams with skewed end conditions, Pieces D-1 & D-2 shall not be used; Conventional Reinforcement Bars D1 & D2 shall be used. See Sheet 2 Skew Details and Sheet 1, Note 9 for placement details. Shift Pieces K & Bars 4Y to accommodate skewed end conditions and align with Bars D.



PIECES K & S
END VIEW

PIECE D-1
(4 Required ~ 2 Pairs)

PIECE D-2
(4 Required ~ 2 Pairs)

PIECE K-1
(Aligned EF)
(4 Required ~ 2 Pairs)

PIECE K-2
(FF Shown Solid,
BF Shown Dashed)
(4 Required)

PIECE S-1, S-2, S-3 or S-4
(2 Required Each Piece)

LEGEND:
EF = Each Face
FF = Front Face
BF = Back Face

DATE: May 09, 2019 - 10:50am s:\2005-jobs\05-609b 43rd avenue at main relief canal\07 structural dwgs\FDOT Modified Type II Beams (B40 - ASSHTO TYPE II MODIFIED TYPE (S).dwg

VERIFY SCALE

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CONSULTING ENGINEERS
FLORIDA E.C. NO. 4952

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Department of Public Works
Engineering Division

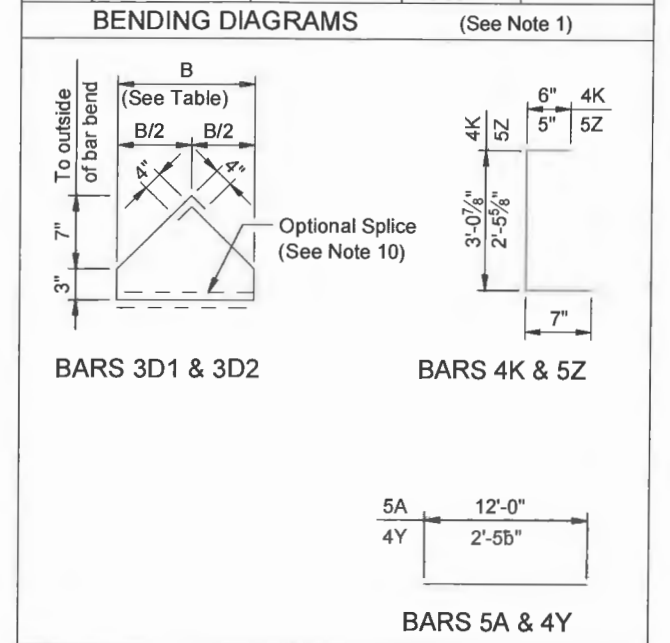
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Drawn: C.A.B.
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Field Book No:

PROJECT:
Proposed Concrete Bridge for:
43rd Avenue over Main Relief Canal
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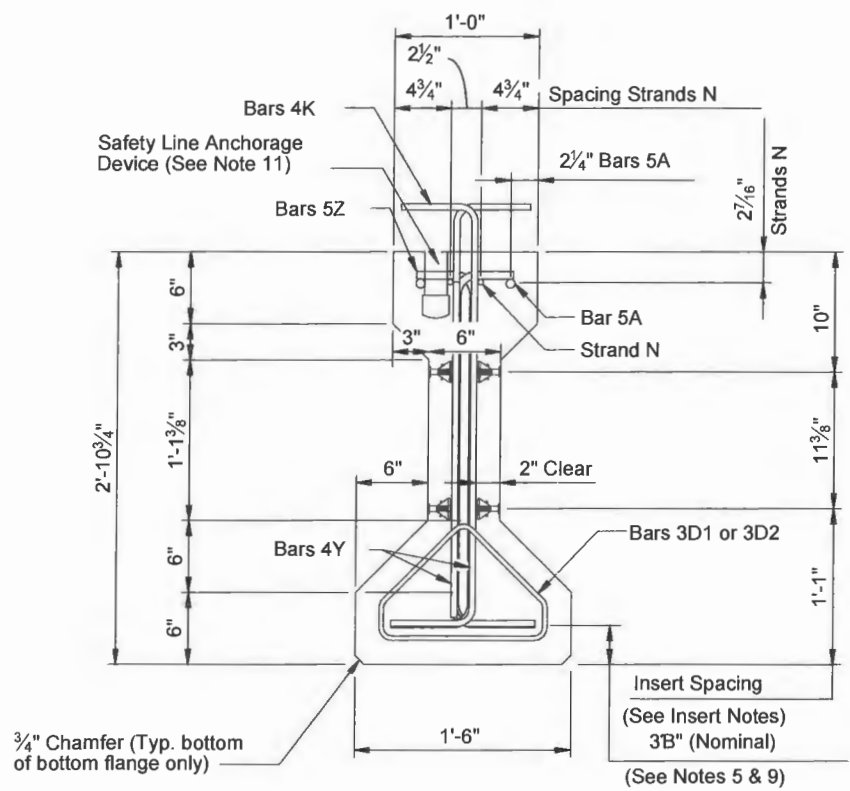
SEAL
SHEET
B-40
PROJECT NO.
05-609B
FLORIDA P.E. NAME & NUMBER
Brian C. Rheault - 38797

BEAM NUMBER 6

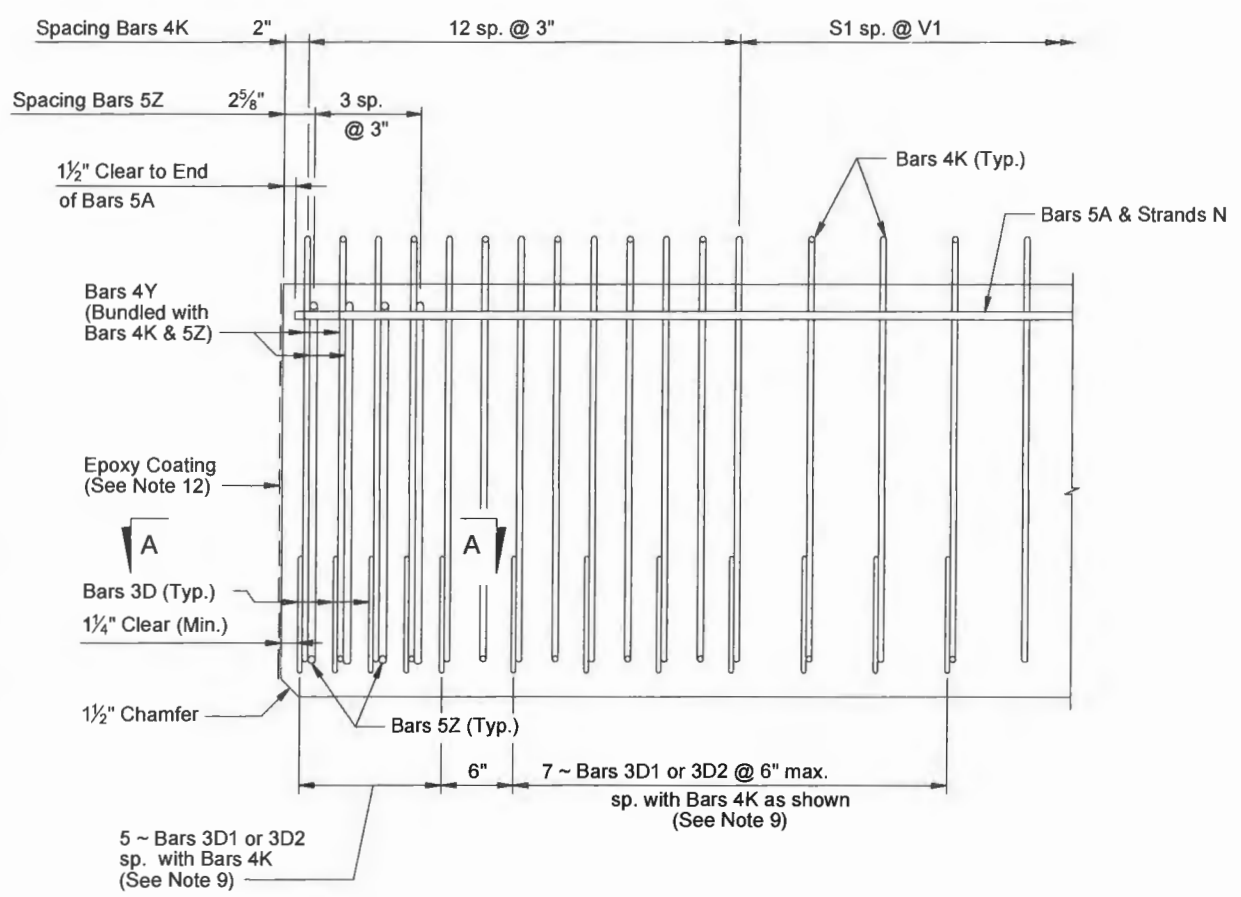
BILL OF REINFORCING STEEL FOR ONE BEAM ONLY				
MARK	NOTE NUMBERS	SIZE	NUMBER REQUIRED	LENGTH (NOTE 1)
A	—	5	4	12'-0"
D1	9, 11 & 14	3	12	See Table
D2	9, 11 & 14	3	12	See Table
K	2, 9, 11 & 13	4	See Table	4'-2 3/8"
N	3 & 5	3/8" Ø Strand	2	DIM L+5"
Y	9 & 11	4	8	2'-6"
Z	2, 9, 11 & 13	5	8	3'-7"



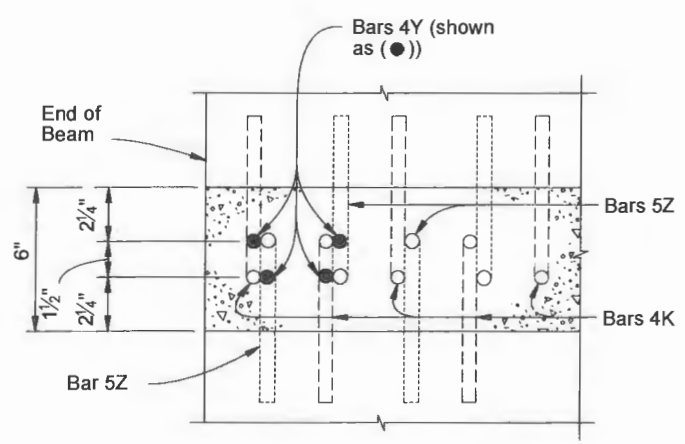
NOTES:
 Work this Index with the AASHTO Type II Beam - Table of Beam Variables in Structures Plans.
 For referenced notes, see Sheet 1.
 For Dimensions L, R, V1 thru V4 and number of spaces S1 thru S4, see AASHTO Type II Beam - Table of Beam Variables.



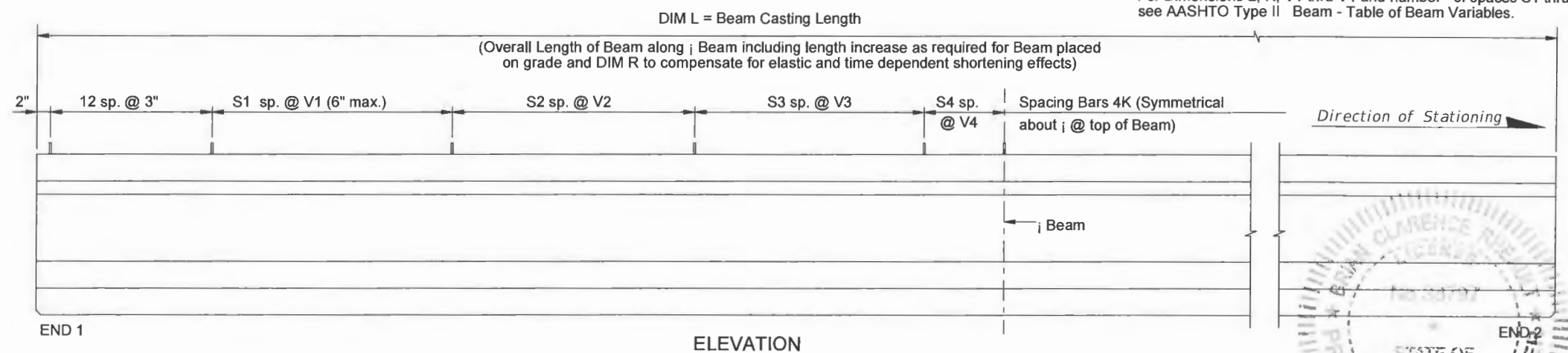
END VIEW



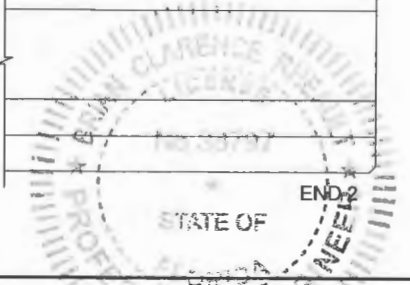
ELEVATION AT END OF BEAM (Flanges Not Shown For Clarity)



SECTION A-A (Showing Bars 4K, 4Y & 5Z Only)



ELEVATION

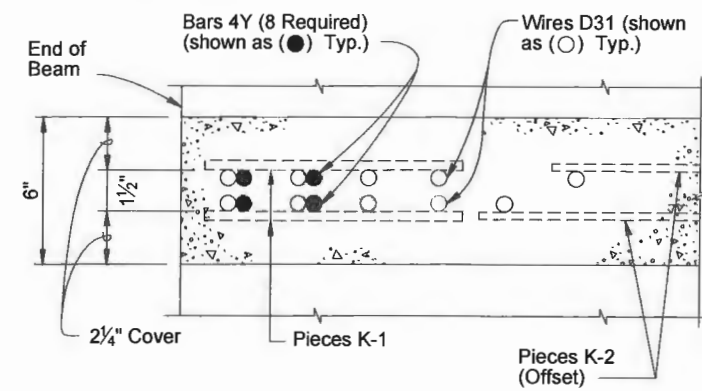


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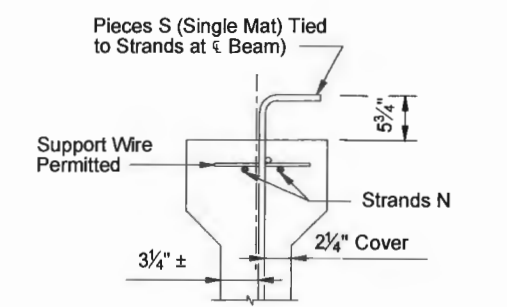
<p>VERIFY SCALE</p> <p>BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.</p>	<p>BRIDGE DESIGN ASSOCIATES, INC. 1422 Royal Palm Beach Blvd., Bldg. 200, Royal Palm Beach, FL 33411 Tel. (561) 686-3660 Fax (561) 791-1995 CONSULTING ENGINEERS FLORIDA E.C. NO. 4952</p>	<table border="1"> <thead> <tr> <th>NO.</th> <th>REVISION</th> <th>DATE</th> <th>BY</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	REVISION	DATE	BY					<p>Department of Public Works Engineering Division</p>	<p>Scale: AS NOTED Approved: Drawn: C.A.B. Checked: B.C.R. Date: APRIL 2019 Field Book No:</p>	<p>PROJECT: Proposed Concrete Bridge for: 43rd Avenue over Main Relief Canal Indian River County, Florida</p>	<p>SEAL</p> <p>Brian C. Rheault - 38797 FLORIDA P.E. NAME & NUMBER</p>	<p>SHEET B-41 PROJECT NO. 05-609B</p>
NO.	REVISION	DATE	BY												

ALTERNATE REINFORCING STEEL WWR DETAILS

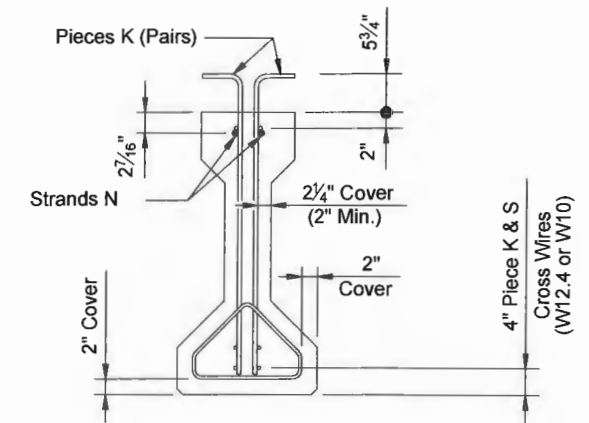
BEAM NUMBER 6



SECTION A-A FOR WELDED WIRE REINFORCEMENT



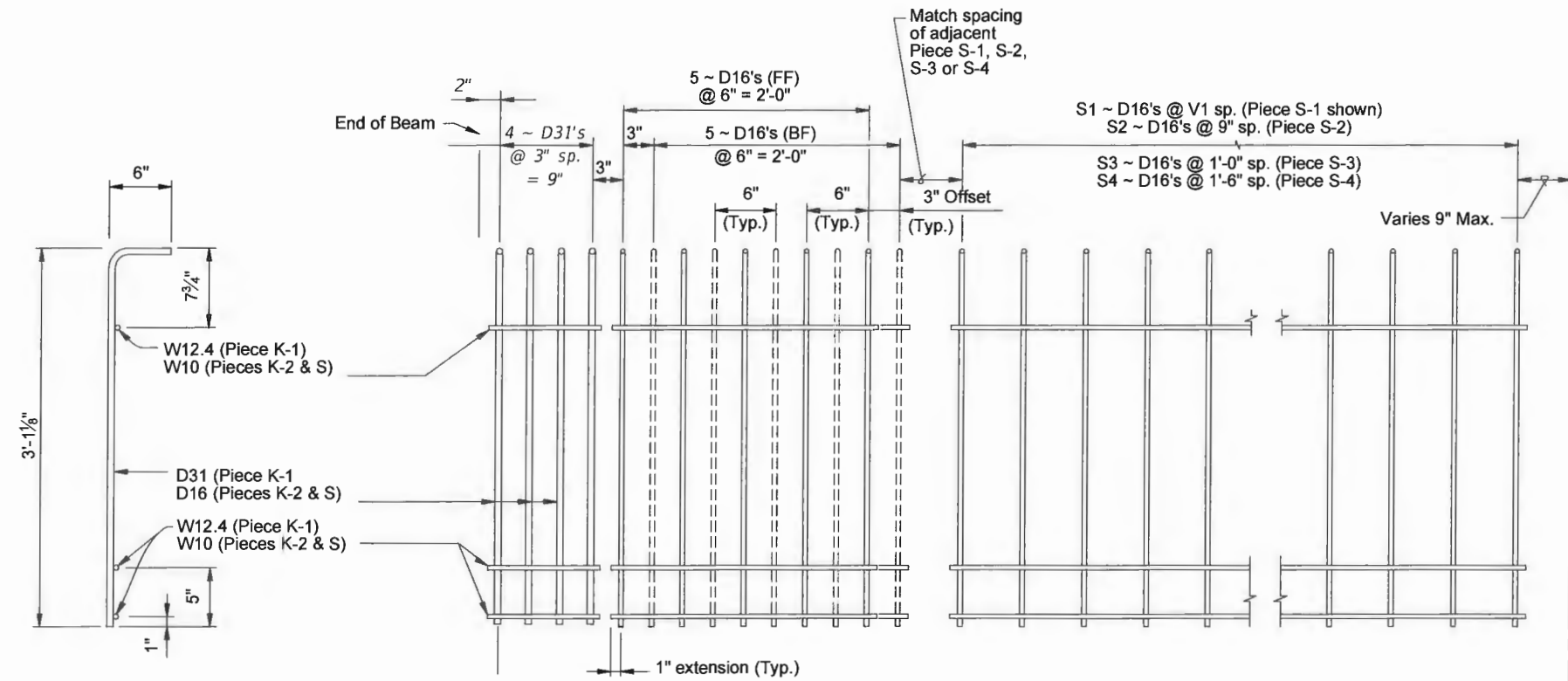
PARTIAL SECTION AT CENTER BEAM



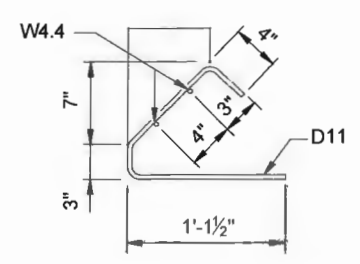
PARTIAL BEAM END VIEW (Conventional Reinforcing Bars A, Y and Bottom Strands not shown for clarity)

- NOTES:
- See Sheet 3 for placement details & Table of Beam Variables in Structures Plans for variables S1, S2, S3, S4 & V1.
 - Place Conventional Reinforcement Bars 5A as shown on Sheet 3. Place additional Bars 4Y as shown in Section A-A for WWR. Bars 5Z will not be used with the WWR Option.
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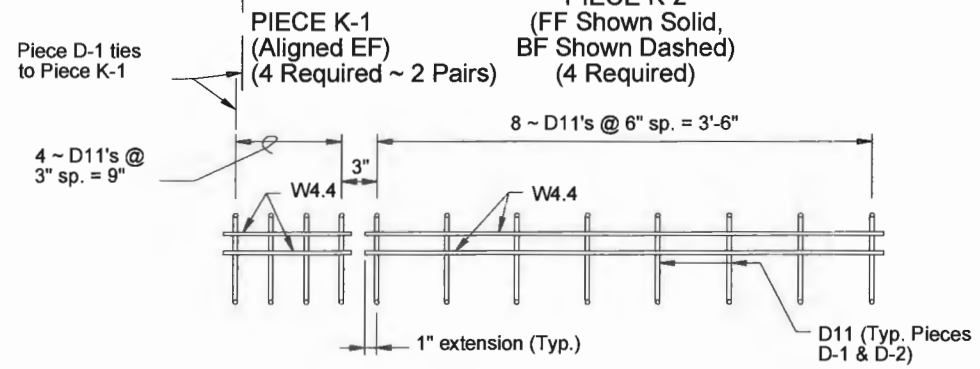
LEGEND:
 EF = Each Face
 FF = Front Face
 BF = Back Face



PIECES K & S END VIEW



PIECES D END VIEW



PIECE D-1 (4 Required ~ 2 Pairs)

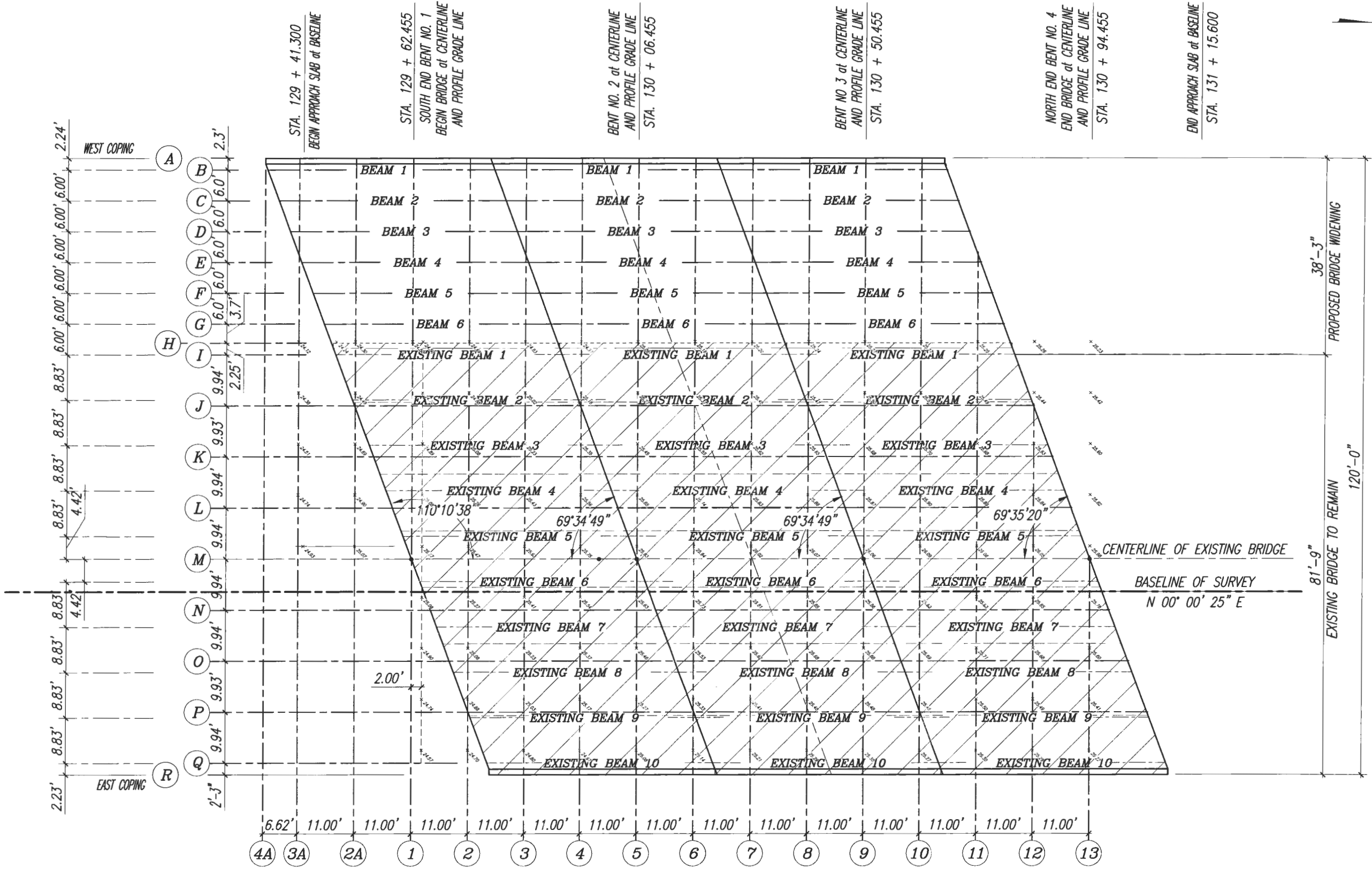
PIECE D-2 (4 Required ~ 2 Pairs)

PIECE S-1, S-2, S-3 or S-4 (2 Required Each Piece)

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<p>VERIFY SCALE</p> <p>BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.</p>	<p>BRIDGE DESIGN ASSOCIATES, INC. 1483 Royal Palm Beach Blvd., Suite 200, Royal Palm Beach, FL 33411 Tel. (561) 686-3660 Fax (561) 791-1995 CONSULTING ENGINEERS FLORIDA E.C. NO. 4952</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NO.</th> <th>REVISION</th> <th>DATE</th> <th>BY</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	REVISION	DATE	BY					<p>Department of Public Works Engineering Division</p>	<p>Scale: AS NOTED Approved: Drawn: C.A.B. Checked: B.C.R. Date: APRIL 2019 Field Book No:</p>	<p>PROJECT: Proposed Concrete Bridge for: 43rd Avenue over Main Relief Canal Indian River County, Florida</p>	<p>SEAL</p> <p>FLORIDA P.E. NAME & NUMBER</p>	<p>SHEET B-42 PROJECT NO. 05-609B</p>
NO.	REVISION	DATE	BY												

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PROPOSED FINISH GRADE PLAN
3/16" = 1'-0"

VERIFY SCALE

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FLORIDA E.C. NO. 4952

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Engineering Division

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Date: APRIL 2019
Field Book No:

PROJECT:
Proposed Concrete Bridge for:
43rd Avenue over Main Relief Canal
Indian River County, Florida

SEAL

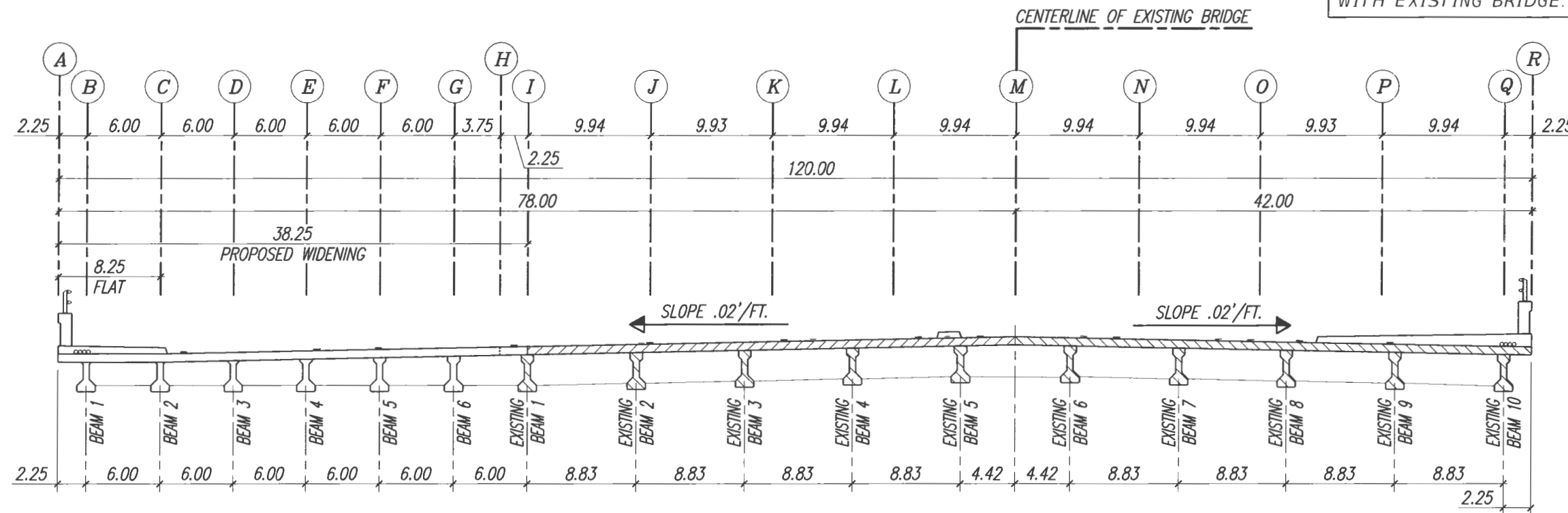
Brian C. Rheault - 38797
FLORIDA P.E. NAME & NUMBER

SHEET
B-43
PROJECT NO.
05-609B

Finish Grade Elevations

Points	Begin Bridge Bent No. 1 Sta. 129+62.455			Span 1				Bent No. 2 Sta. 130+06.455	Span 2			Bent No. 3 Sta. 130+50.455	Span 3			End Bridge Bent No. 4 Sta. 130+94.455
	4A 129+33.835	3A 129+40.455	2A 129+51.455	1	2 129+73.455	3 129+84.455	4 129+95.455	5	6 130+17.455	7 130+28.455	8 130+39.455	9	10 130+61.455	11 130+72.455	12 130+83.455	13
A WEST COPING	23.33	23.52	23.70	23.90	24.09	24.23	24.37	24.46	24.56	24.60	24.64	24.67	24.67			
B ε BEAM 1		23.52	23.70	23.90	24.09	24.23	24.37	24.46	24.56	24.60	24.64	24.67	24.67			
C ε BEAM 2		23.52	23.70	23.90	24.09	24.23	24.37	24.46	24.56	24.60	24.64	24.67	24.67			
D ε BEAM 3		23.64	23.82	24.02	24.21	24.35	24.49	24.58	24.68	24.72	24.76	24.79	24.79			
E ε BEAM 4		23.76	23.94	24.14	24.33	24.47	24.61	24.70	24.80	24.84	24.88	24.91	24.91	24.89		
F ε BEAM 5			24.06	24.26	24.45	24.59	24.73	24.82	24.92	24.96	25.00	25.03	25.03	25.01		
G ε BEAM 6			24.18	24.38	24.57	24.71	24.85	24.94	25.04	25.08	25.12	25.15	25.15	25.13		
H			24.26	24.46	24.65	24.79	24.93	25.02	25.12	25.16	25.20	25.23	25.23	25.21		
I		24.12	24.30	24.50	24.69	24.83	24.97	25.06	25.16	25.20	25.24	25.27	25.27	25.25	25.26	25.23
J		24.38	24.49	24.70	24.88	25.02	25.16	25.27	25.37	25.45	25.47	25.50	25.51	25.49	25.44	25.42
K		24.51	24.69	24.89	25.08	25.23	25.35	25.45	25.55	25.62	25.65	25.68	25.70	25.68	25.63	25.60
L		24.74	24.90	25.08	25.26	25.43	25.56	25.65	25.74	25.83	25.86	25.87	25.90	25.89	25.86	25.82
M ε CONSTRUCTION		24.94	25.07	25.27	25.47	25.63	25.75	25.83	25.94	26.02	26.07	26.06	26.09	26.08	26.05	25.98
N				25.08	25.27	25.41	25.54	25.63	25.73	25.81	25.85	25.86	25.88	25.88	25.85	25.78
O				24.90	25.08	25.23	25.37	25.46	25.53	25.62	25.68	25.68	25.69	25.71	25.68	25.60
P				24.74	24.88	25.03	25.17	25.27	25.33	25.41	25.48	25.48	25.48	25.50	25.49	25.41
Q				24.57	24.70	24.80	24.97	25.08	25.14	25.21	25.29	25.30	25.27	25.30	25.29	25.22
R EAST COPING				24.53	24.65	24.77	24.93	25.04	25.09	25.17	25.25	25.26	25.23	25.26		

NOTE:
CONTRACTOR TO VERIFY EXISTING BRIDGE ELEVATIONS AND MATCH PROPOSED BRIDGE WITH EXISTING BRIDGE.



DATE: May 09, 2019 - 10:50am S:\2005-jobs\05-609b-43rd avenue at main relief canal\07_structural\dwgs\CADD\B44-FINORD_PL-SECT_BEAM_PLACEMENT.dwg

VERIFY SCALE

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FLORIDA E.C. NO. 4952

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FLORIDA

Department of Public Works
Engineering Division

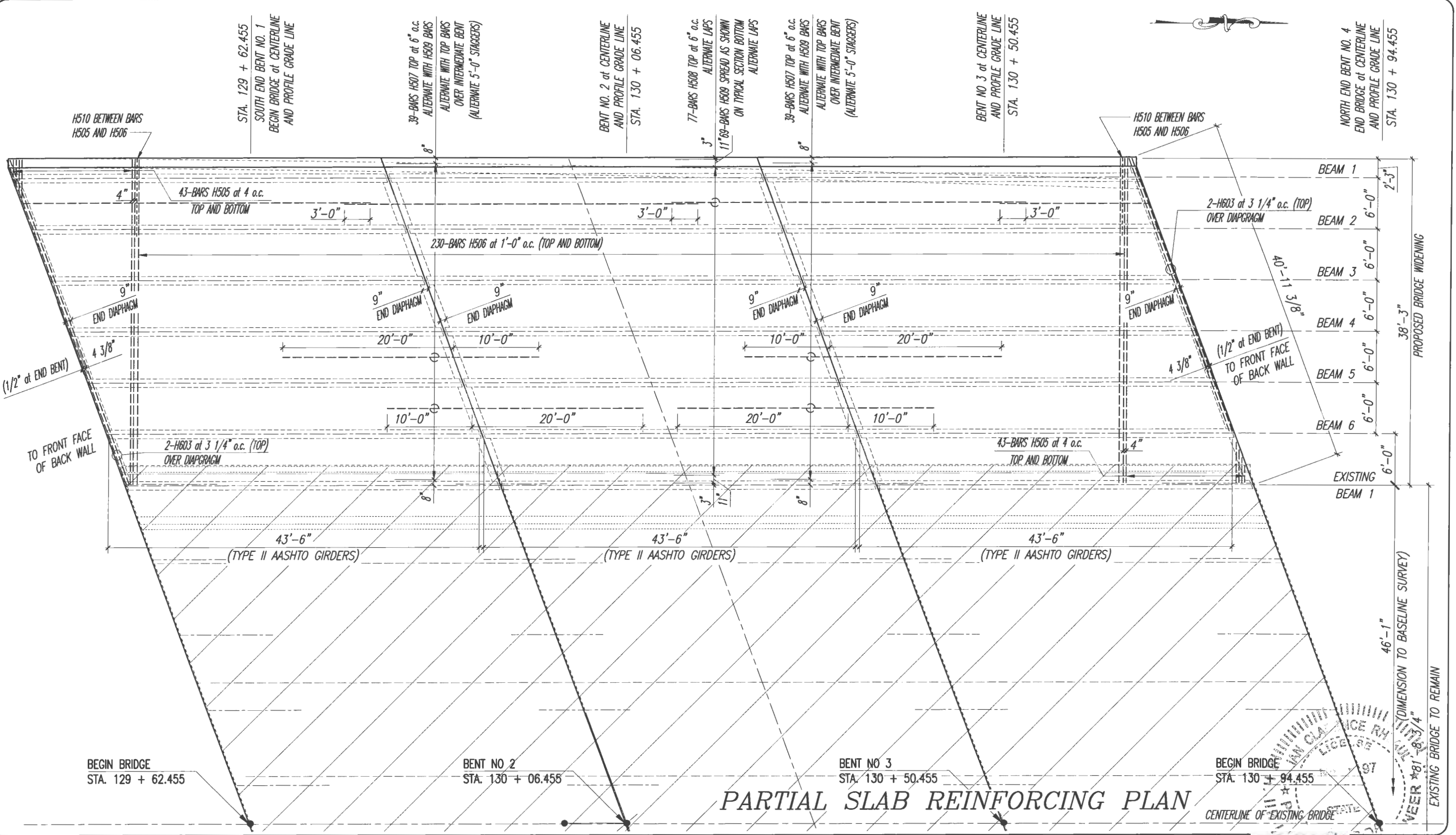
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Drawn: C.A.B.
Checked: B.C.R.
Date: APRIL 2019
Field Book No: _____

PROJECT:
Proposed Concrete Bridge for:
43rd Avenue over Main Relief Canal
Indian River County, Florida

SEAL
Brian C. Rheault
Brian C. Rheault - 38797
FLORIDA P.E. NAME & NUMBER

SHEET
B-44
PROJECT NO.
05-609B

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BEGIN BRIDGE
STA. 129 + 62.455

BENT NO 2
STA. 130 + 06.455

BENT NO 3
STA. 130 + 50.455

BEGIN BRIDGE
STA. 130 + 94.455

PARTIAL SLAB REINFORCING PLAN

CENTERLINE OF EXISTING BRIDGE

VERIFY SCALE
1" = 10'-0"
BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.

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Department of Public Works
Engineering Division

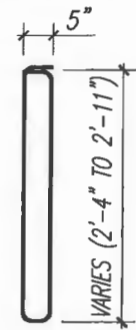
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Drawn: C.A.B.
Checked: B.C.R.
Date: APRIL 2019
Field Book No:

PROJECT:
Proposed Concrete Bridge for:
43rd Avenue over Main Relief Canal
Indian River County, Florida

SEAL
5/10/2019
DRIVER'S LICENSE
FLORIDA P.E. NAME & NUMBER

SHEET
B-45
PROJECT NO.
05-609B

Bending Diagram

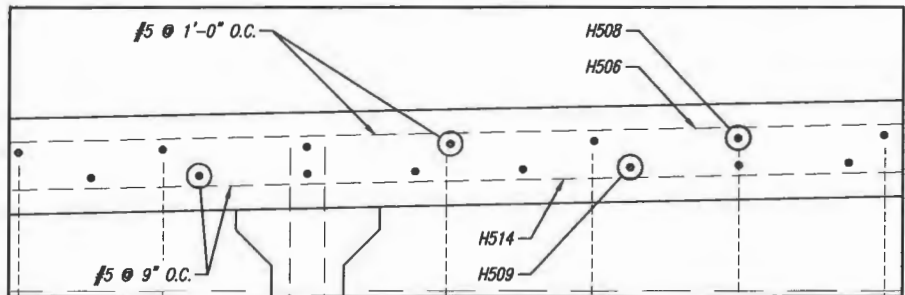


BARS S416

Estimated Slab and Diaphragm Quantities

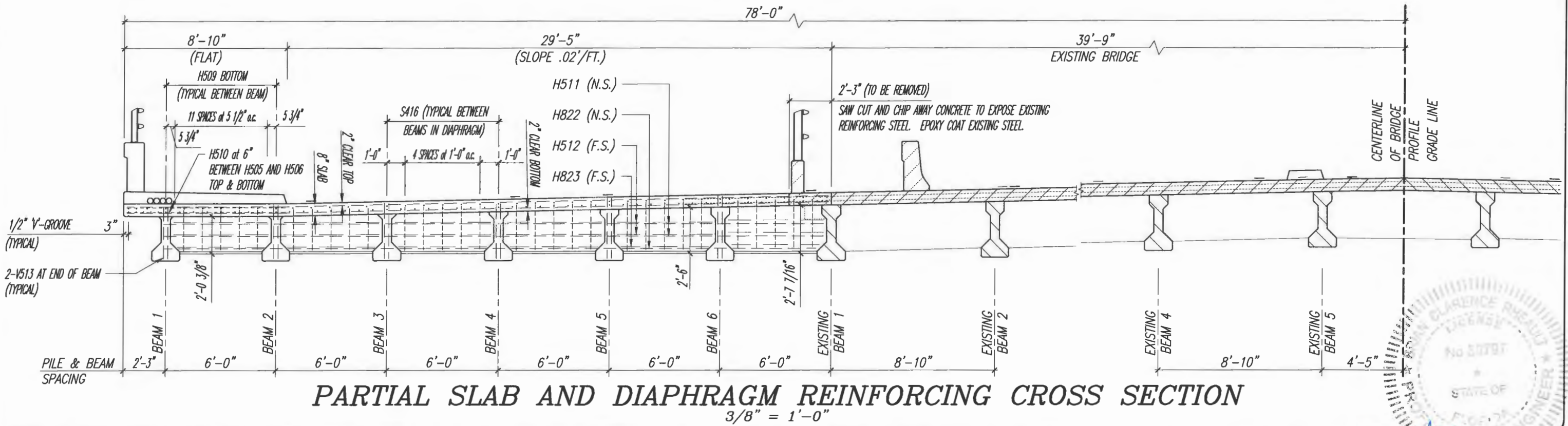
Item	Unit	Quantity
Class II Concrete (Slab-Total)	Cu. Yds.	125.0
Reinforcing Steel (Slab-Total)	lbs.	34,938
Class II Concrete (Diaphragm-Total) (36 Required)	Cu. Yds.	12.5
Reinforcing Steel (Diaphragm-Total) (36 Required)	lbs.	2,762

Bill of Reinforcing Steel and Estimated Quantities are for all diaphragms on all spans and total for slab.



Bill of Reinforcing Steel

Mark	Size	Number Required	Length + Lap	Total Length	Bending	Weight (lbs.)
Slab						
H505	5	150	VARIES 32'-6 TO 0'-8"	16'-6"	Straight (Average)	2581.4
H506	5	116		37'-9"	Straight	4567.3
H507	5	64		30'-0"	Straight	2002.6
H508	5	39	132'-0" + 9'-0"	141'-0"	Straight - 3 Laps	5735.5
H509	5	52	132'-0" + 9'-0"	141'-0"	Straight - 3 Laps	7647.3
H510	5	630		9'-0"	Straight	5913.8
H514	5	154		37'-9"	Straight	6063.5
H603	6	12		34'-1"	Straight	426.6
Diaphragm						
S416	4	150	VARIES 6'-9" TO 7'-8 1/2"	7'-2 3/4"	Bar S416 (Average)	724.4
H511	5	60		5'-2"	Straight	323.3
H512	5	12		40'-3"	Straight	503.8
H513	5	60	VARIES 2'-9" TO 3'-2"	2'-11 1/2"	Straight (Average)	185.1
H822	8	30		4'-9"	Straight	380.5
H823	8	6		40'-3"	Straight	644.8



PARTIAL SLAB AND DIAPHRAGM REINFORCING CROSS SECTION

3/8" = 1'-0"



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VERIFY SCALE
1" = 10'-0"

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FLORIDA E.C. NO. 4852

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FLORIDA

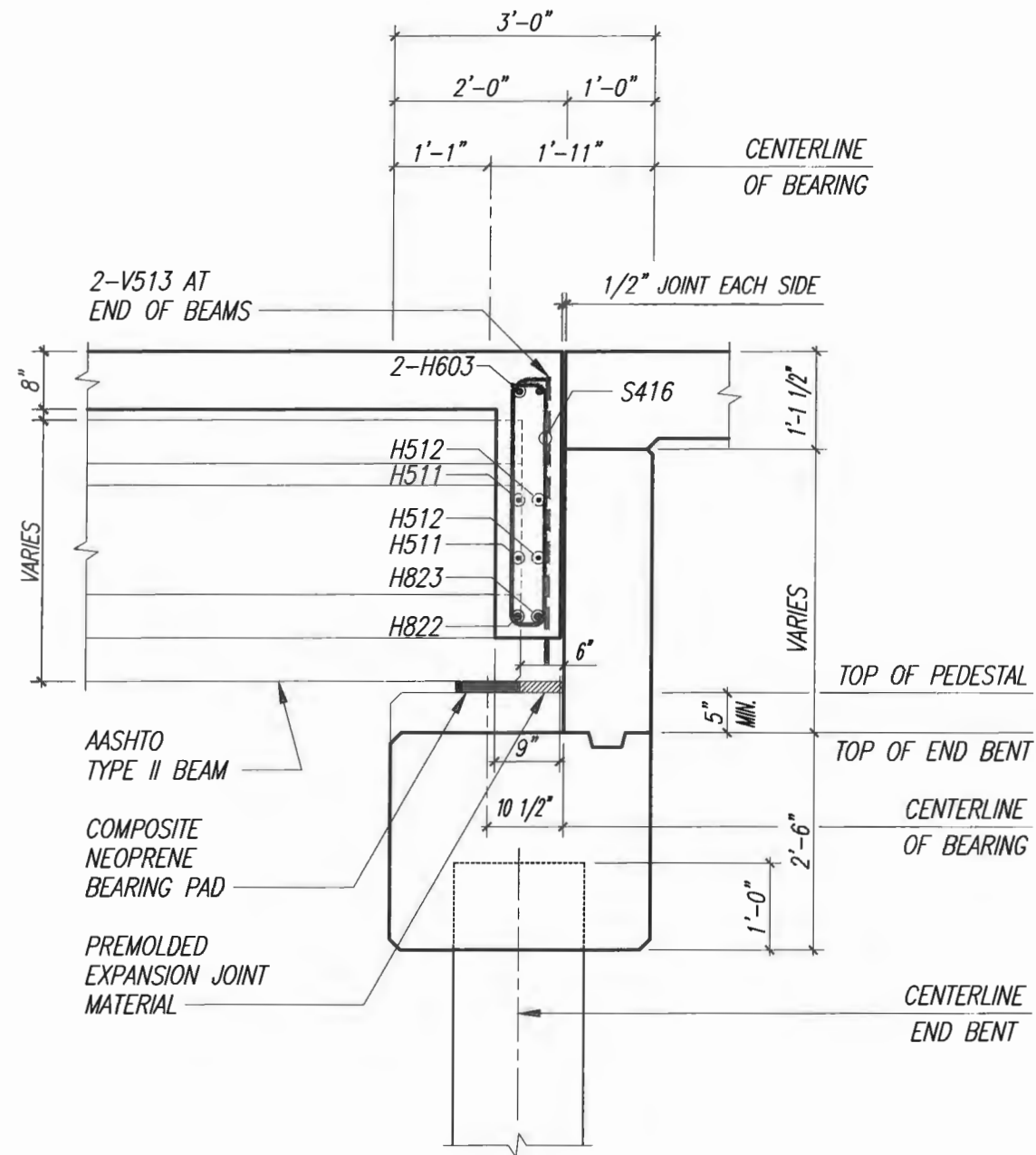
Department of Public Works
Engineering Division

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Approved:
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Field Book No:

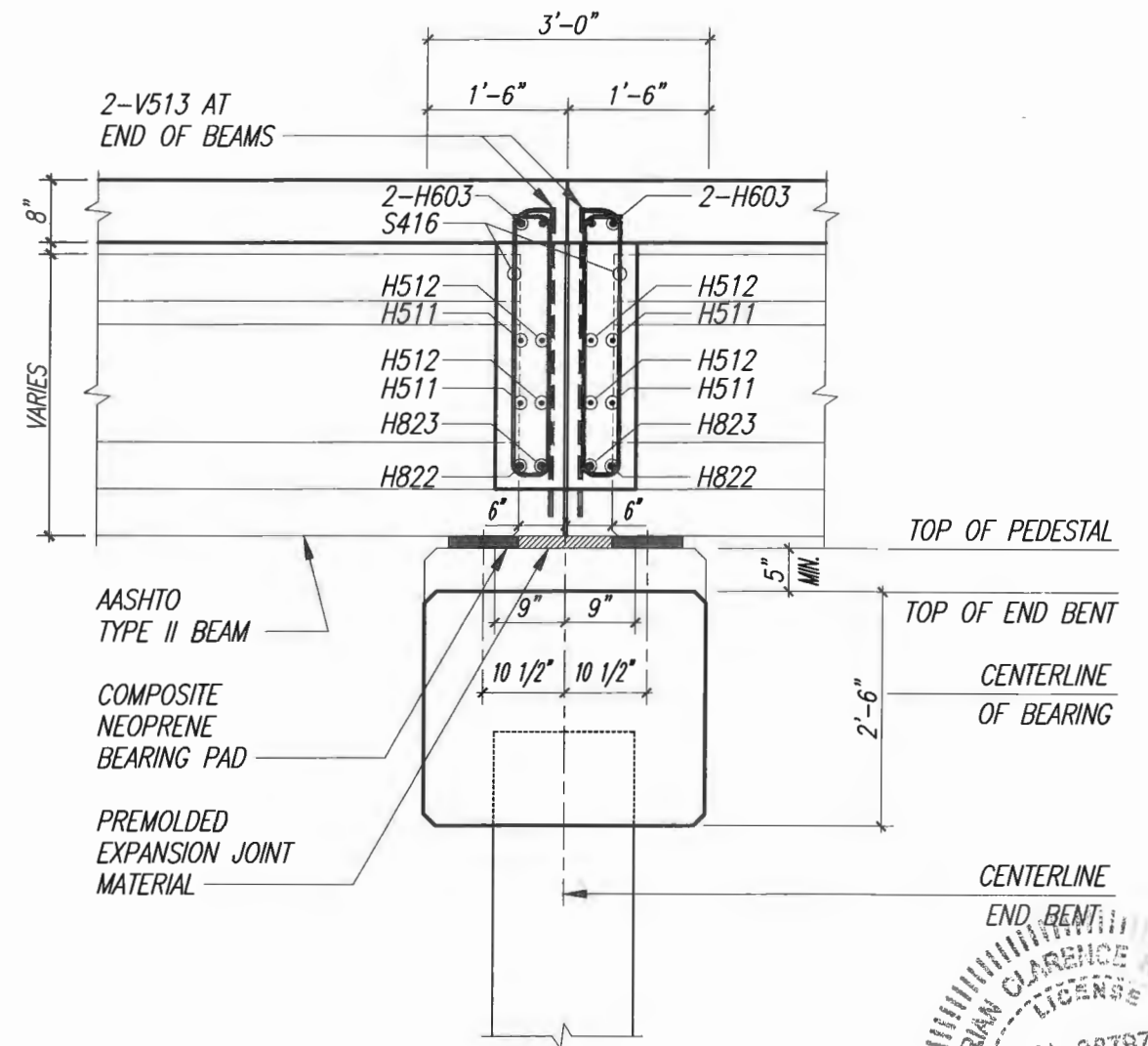
PROJECT:
Proposed Concrete Bridge for:
43rd Avenue over Main Relief Canal
Indian River County, Florida

SEAL
Brian C. Rheault - 38797
FLORIDA P.E. NAME & NUMBER

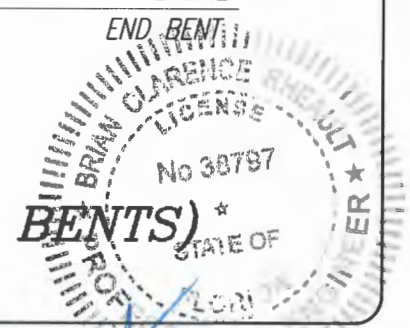
SHEET
B-46
PROJECT NO.
05-609B



**END DIAPHRAGM (END BENTS)
SECTION A - A**



**END DIAPHRAGM (INTERMEDIATE BENTS)
SECTION B - B**



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VERIFY SCALE

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Drawn: C.A.B.
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43rd Avenue over Main Relief Canal
Indian River County, Florida**

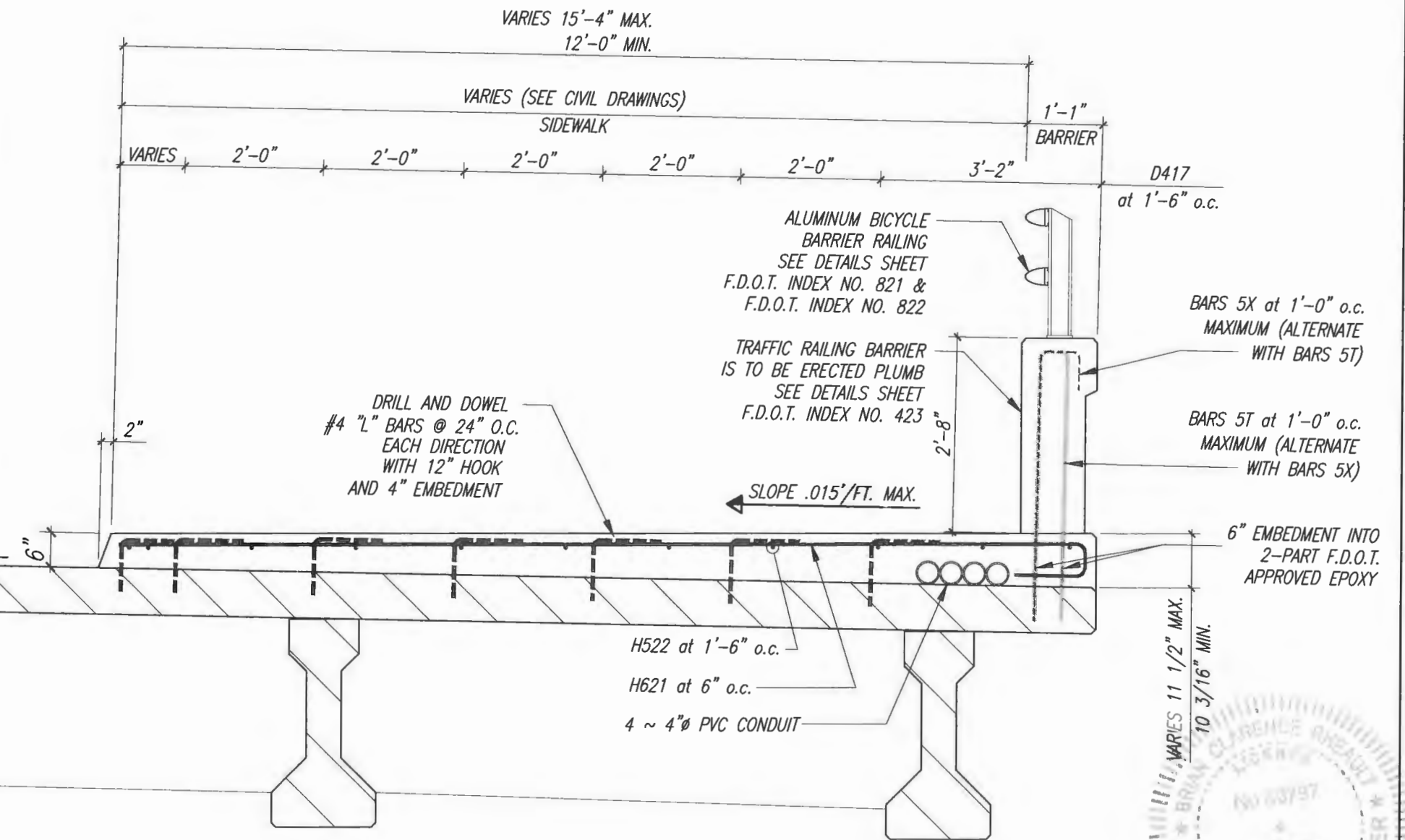
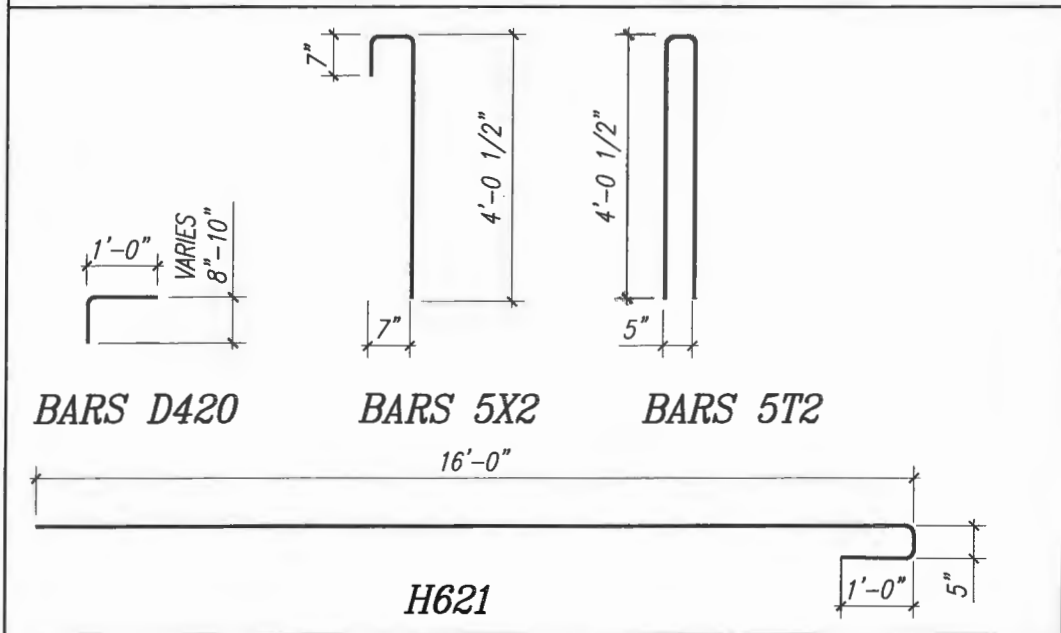
SEAL
Brian C. Rheault - 38797
FLORIDA P.E. NAME & NUMBER

SHEET
B-47
PROJECT NO.
05-609B

Bill of Reinforcing Steel

Mark	Size	Number Required	Length + Lap	Total Length	Bending	Weight (lbs.)
Sidewalk						
D420	4	530		2'-0"	Bar D420	708.1
H621	4	264	Varies	17'-5"	Bar H621	6906.2
H522	5	12		187'-0"	Straight	2340.5
5X2	5	188		5'-2 1/2"	Bar 5X1	1021.3
5T2	5	188		8'-6"	Bar 5T1	1666.7

Bending Diagram



SIDEWALK DETAIL

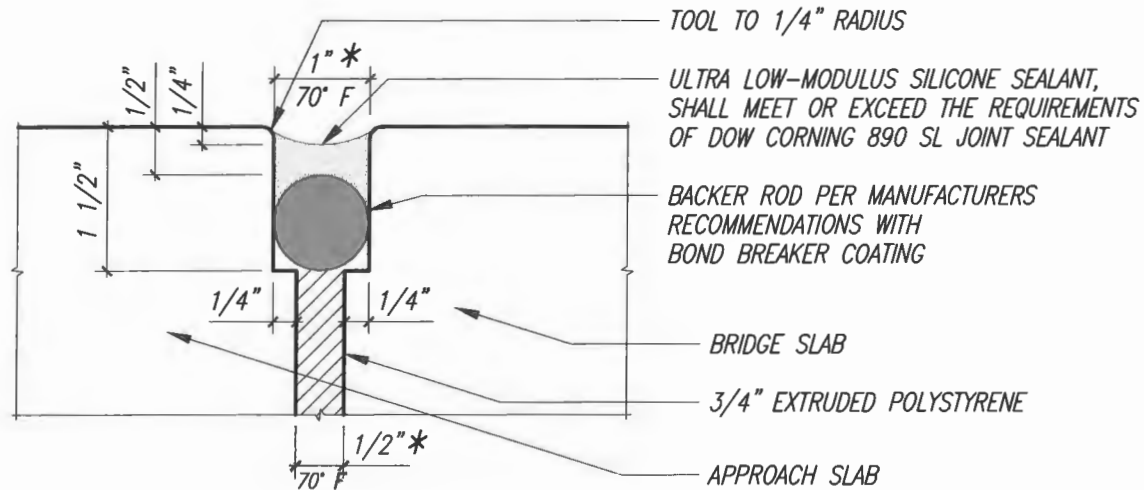


DATE: May 09, 2019 - 10:51am S:\2005-jobs\05-609b 43rd Avenue at main relief canal\07 structural dwgs\0001849- SIDEWALK DETAIL.dwg

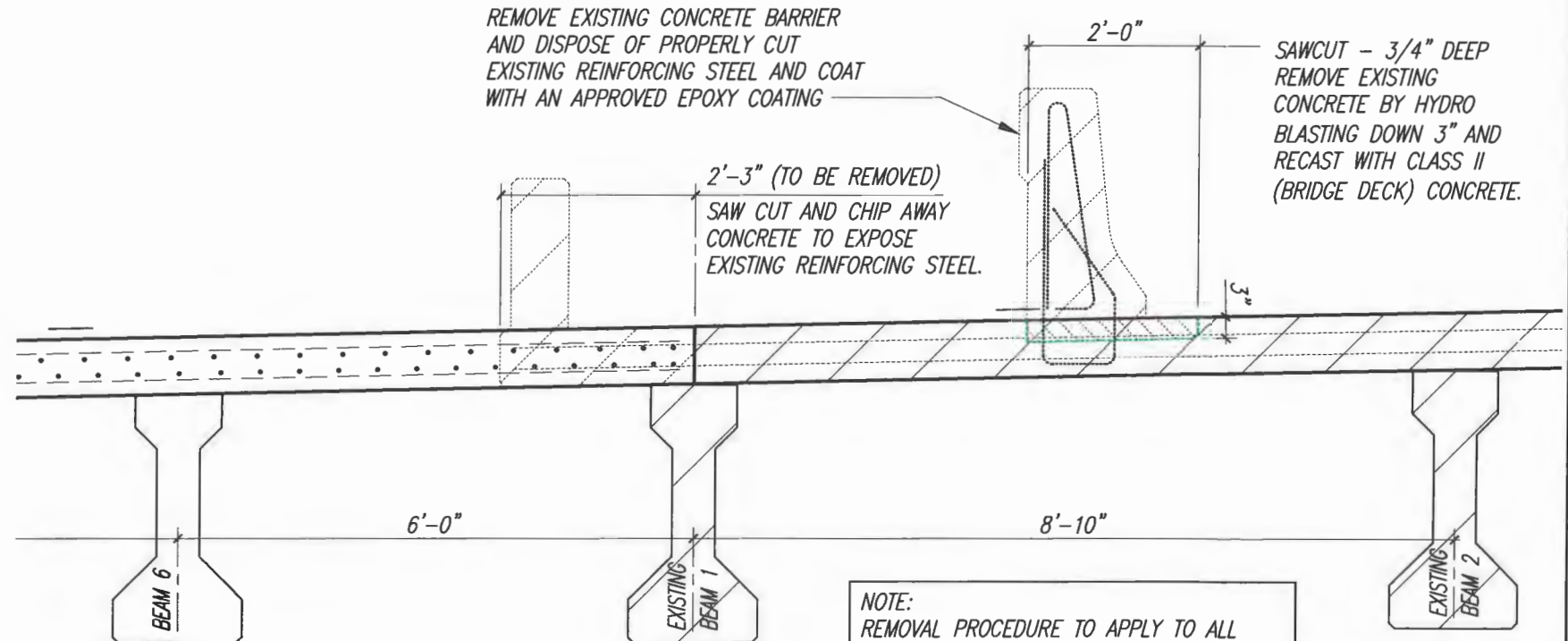
VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.	BRIDGE DESIGN ASSOCIATES, INC. 1462 Royal Palm Beach Blvd., Bldg. 200, Royal Palm Beach, FL 33411 Tel: (561) 688-3660 Fax: (561) 731-1995 CONSULTING ENGINEERS FLORIDA E.B. NO. 4952	NO. REVISION DATE BY	Department of Public Works Engineering Division	Scale: AS NOTED Approved: Drawn: C.A.B. Checked: B.C.R. Date: APRIL 2019 Field Book No:	PROJECT: Proposed Concrete Bridge for: 43rd Avenue over Main Relief Canal Indian River County, Florida	SEAL Brian C. Rheault - 38797 FLORIDA P.E. NAME & NUMBER	SHEET B-49 PROJECT NO. 05-609B
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*** NOTE:**

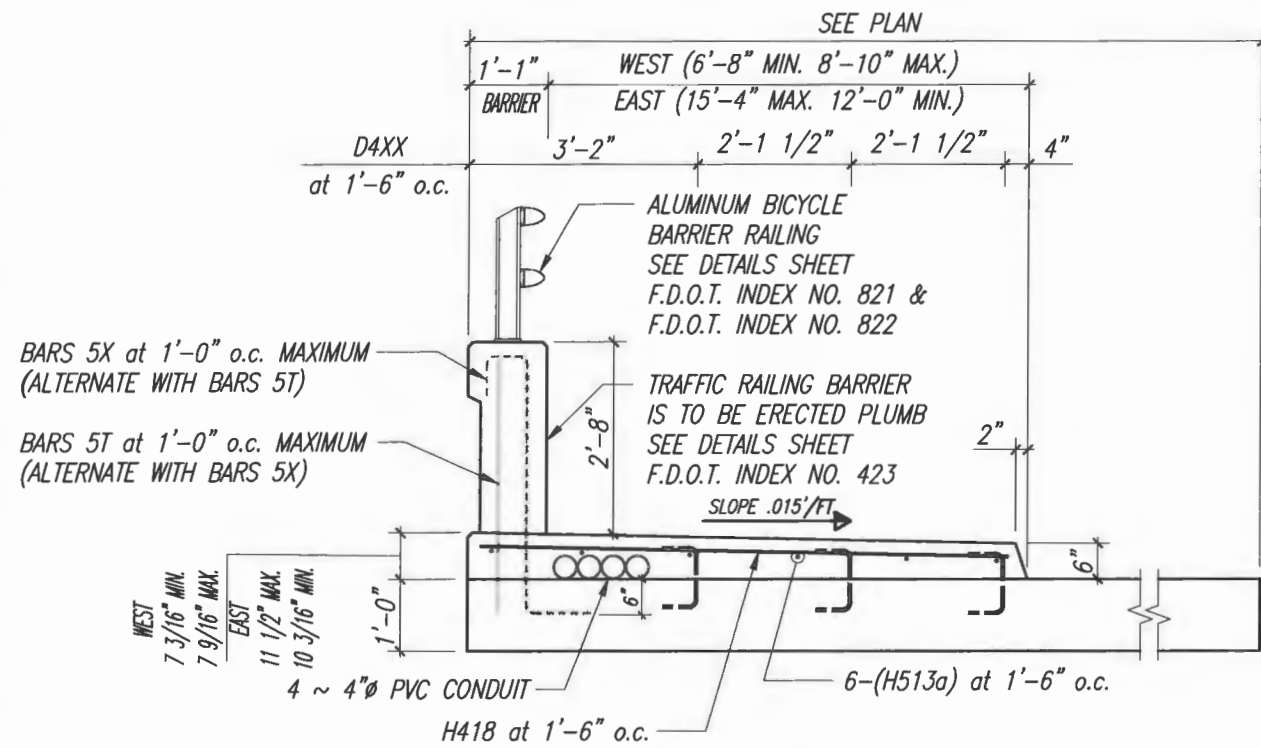
For temperatures other than 70°F adjust opening "E" inches per degree difference between 70° add the temperature at the time the Joint is constructed. For temperatures above 70°F diminish the opening and for temperatures below 70° increase opening.



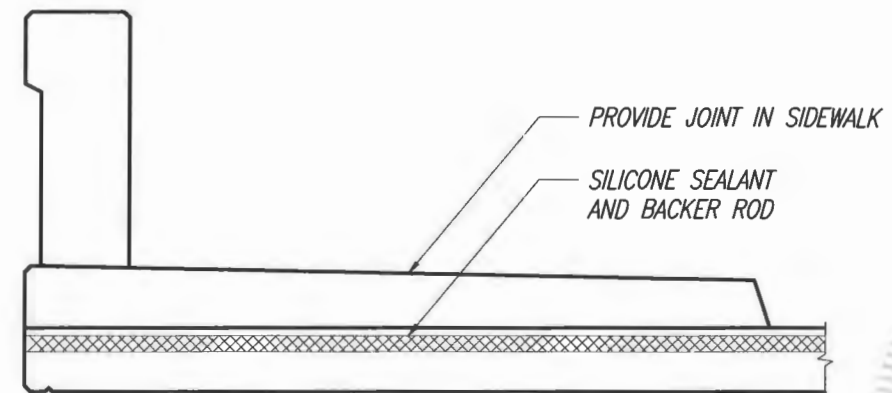
EXPANSION JOINT DETAIL
(AT END BENTS ONLY)



TYPICAL SECTION AT PROPOSED TO EXISTING SLAB



SIDEWALK at APPROACH SLAB DETAIL

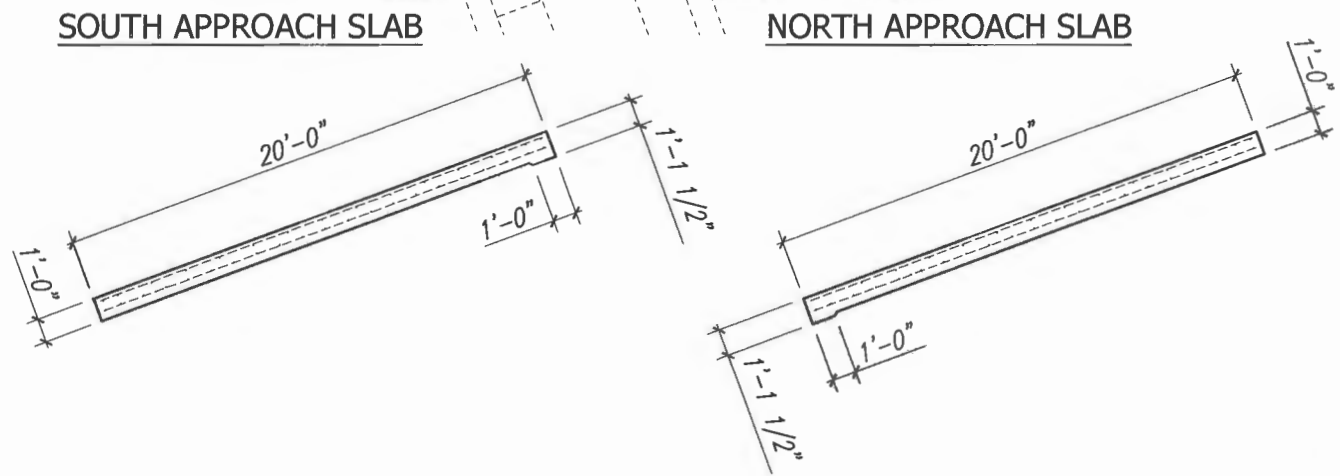
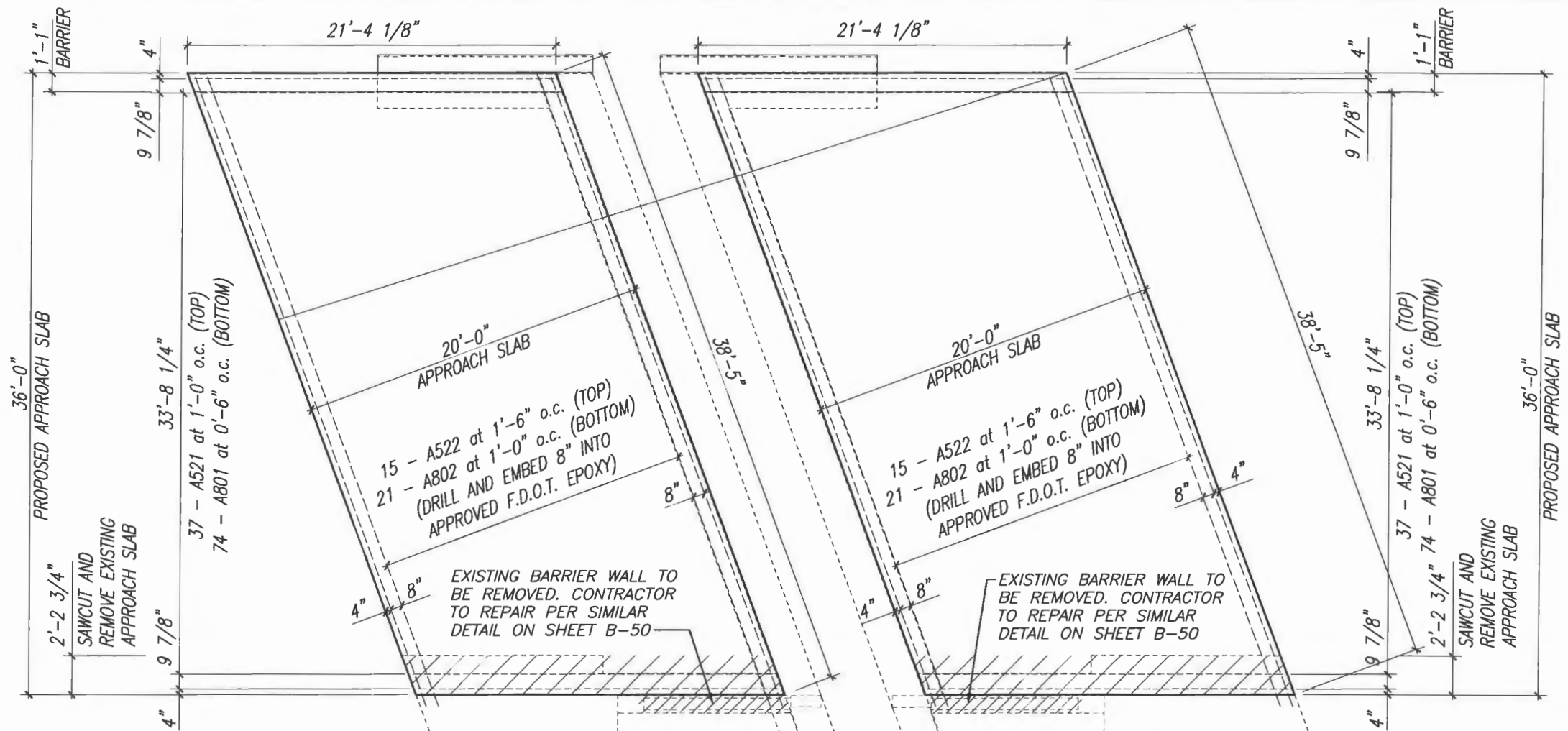


TYPICAL SECTION AT JOINT



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<p>VERIFY SCALE</p> <p>BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.</p>	<p>BRIDGE DESIGN ASSOCIATES, INC. 1402 Royal Palm Beach Blvd., Bldg. 200, Royal Palm Beach, FL 33411 Tel: (561) 686-3500 Fax: (561) 791-1995 CONSULTING ENGINEERS FLORIDA E.R. NO. 4952</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NO.</th> <th>REVISION</th> <th>DATE</th> <th>BY</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	NO.	REVISION	DATE	BY													<p>Department of Public Works Engineering Division</p>	<p>Scale: AS NOTED Approved: _____ Drawn: C.A.B. Checked: B.C.R. Date: APRIL 2019 Field Book No: _____</p>	<p>PROJECT: Proposed Concrete Bridge for: 43rd Avenue over Main Relief Canal Indian River County, Florida</p>	<p>SEAL Brian C. Rheault - 38797 5/10/2019</p>	<p>SHEET B-50 PROJECT NO. 05-609B</p>
NO.	REVISION	DATE	BY																				



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 FLORIDA E.B. NO. 4952

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Department of Public Works
Engineering Division

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 Checked: B.C.R.
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PROJECT:
Proposed Concrete Bridge for:
43rd Avenue over Main Relief Canal
Indian River County, Florida

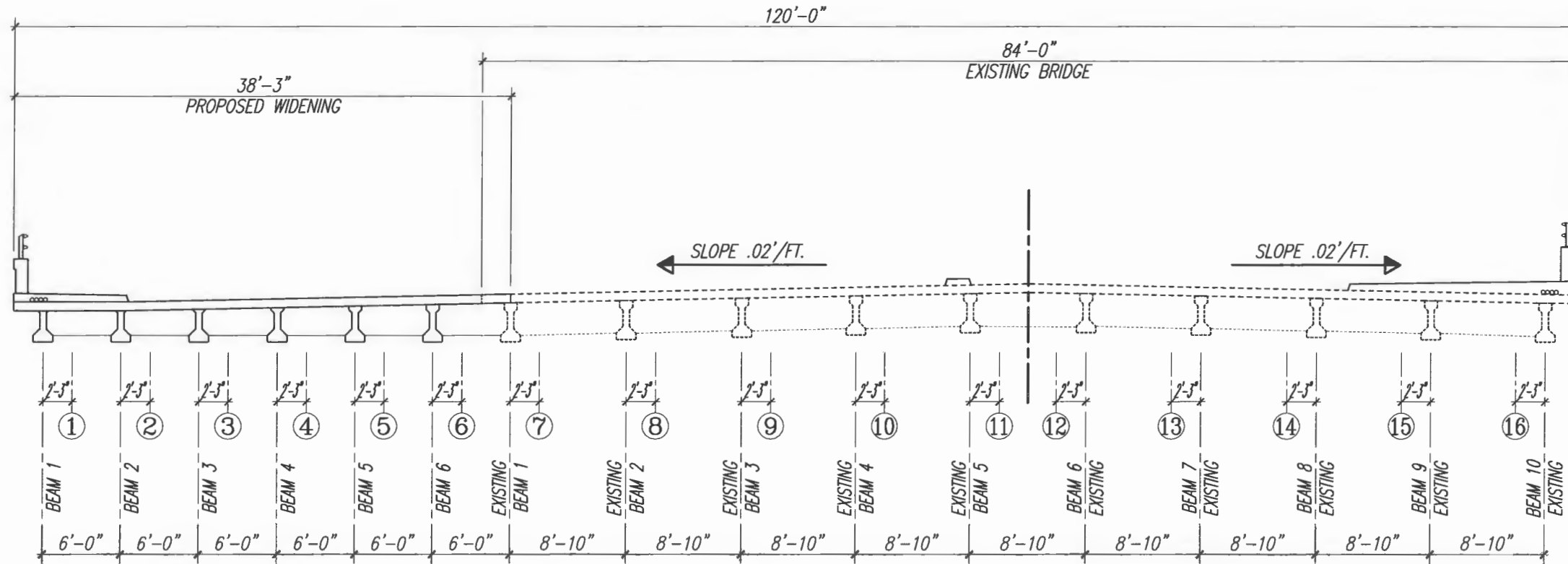
SEAL
 Brian C. Rheault - 3/19/19
 FLORIDA P.E. NAME & NUMBER

SHEET
B-51
 PROJECT NO.
05-609B

JACKING NOTES:

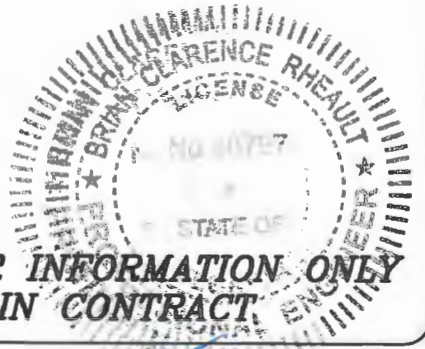
1. To replace any one bearing pad at any bent, all girders at that bent must be jacked simultaneously. Jacking operation shall continue until pads are freed, but in no case shall the clear space between the bearing pad and concrete surface exceed 3/16".
2. One Jack with a distribution plate may be used in lieu of two Jacks at an intermediate bent. Particular attention shall be given to keeping concrete bearing stresses within the limiting values as given by AASHTO, Section 8.16.7.
3. Jacks loads shown are based on dead load.
4. Jacks shall be equipped with a locking ring which will prevent movement in case hydraulic pressure is lost. Jacks shall be locked off prior to removal of any bearing pads.
5. Jacking Details are shown for reference only and shall be used when replacing bearing in the future Jack Systems are not to be included in this contract.

Jacking Requirements																
Jacking Load Location	1	2	3	4	5	6		7	8	9	10	11	12	13	14	15
End Bent No. 1 Loads (Tons)	24.86	18.50	14.40	14.70	14.90	19.60		27.20	19.20	19.20	19.20	19.20	19.20	19.20	19.20	19.20
Intermediate Bent No. 2 Loads (Tons)	49.70	37.00	28.80	29.30	29.80	39.10		52.40	38.50	38.50	38.50	38.50	38.50	38.50	38.50	38.50
Intermediate Bent No. 3 Loads (Tons)	49.70	37.00	28.80	29.30	29.80	39.10		52.40	38.50	38.50	38.50	38.50	38.50	38.50	38.50	38.50
End Bent No. 4 Loads (Tons)	24.86	18.50	14.40	14.70	14.90	19.60		27.20	19.20	19.20	19.20	19.20	19.20	19.20	19.20	19.20



JACKING LOCATIONS
3/16" = 1'-0"

JACKING FOR INFORMATION ONLY
NOT IN CONTRACT



DATE: May 09, 2019 - 10:51am s:\2005-jobs\05-609b-43rd avenue at main relief canal\07 structural dwgs\07 JACKING DETAILS.dwg

VERIFY SCALE
1" = 1'-0"

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INDIAN RIVER COUNTY FLORIDA

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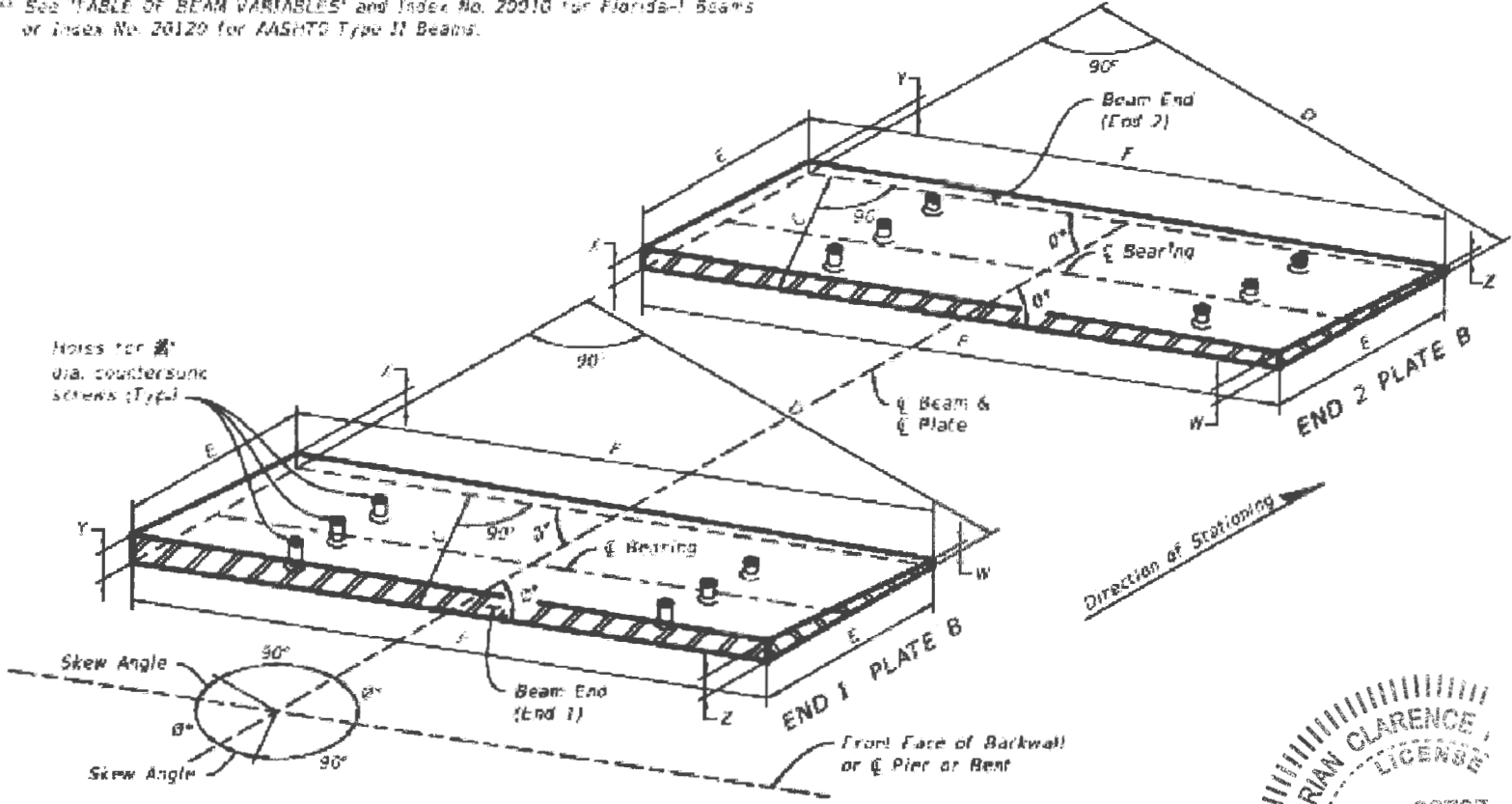
PROJECT:
Proposed Concrete Bridge for:
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Indian River County, Florida

SEAL
Brian C. Rheaull - 38797
FLORIDA P.E. NAME & NUMBER

SHEET
B-52
PROJECT NO.
05-609B

BEARING PLATE DATA TABLE TYPE 1											Table Date 7-07-13							
GENERAL BEARING PLATE DATA								EMBEDDED PLATE DIMENSIONS (PLATE A) (Inches)		BEVELED PLATE REQUIRED (Yes/No)	BEVELED PLATE DIMENSIONS (PLATE B) (Inches)							
BRG. PLATE MARK ***	SPAN NO(s)	BEAM NO(s)	PAD TYPE	BEAM END	PLAN VIEW CASE	SLOPE (%) **	ANGLE θ °	G	F		C	U	E	F	W	X	Y	Z
A	1-3	1-6	AB				21	10"	1'-2"	NO								

NOTES:
 See Index No. 20511 for additional notes and details.
 * θ - Acute angle ($\geq 50^\circ$) measured from left or right side of \bar{c} Beam as required.
 ** Slope measured along \bar{c} of Beam at \bar{c} of Bearing.
 *** See "TABLE OF BEAM VARIABLES" and Index No. 20010 for Florida-I Beams or Index No. 20120 for AASHTO Type II Beams.



ISOMETRIC VIEW OF BEVELED BEARING PLATES (TYPE I) FOR FLORIDA I-BEAMS (SKEWED PLATES SHOWN, NON-SKEWED PLATES AND AASHTO TYPE II BEAMS SIMILAR)

BRIAN CLARENCE
 LICENSE
 No 38797

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SEAL

 Brian C. Rheault - 38797
 FLORIDA P.E. NAME & NUMBER

SHEET
B-53
 PROJECT NO.
05-609B

Load Rating Summary Details for Prestressed Concrete Bridges (Flat Slab and Deck/Girder)

Table Date 04-29-19

Table 2 - LRFR using Part A³

Level	Limit State	Vehicle	Weight (tons)	Load Factors			Moment (Strength) or Stress (Service)					Shear (Strength)					Comments:
				LL	DC	DW	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension	
Design Load Rating	Strength I (Inv)	HL-93	-	1.75	1.25	1.50	0.67	1.20	-	0.5L	21.00	0.72	1.95	-	0.6L	25.30	Interior/exterior beam DF Method if other than LRFD. Other appropriate comments
	Strength I (Op)	HL-93	-	1.35	1.25	1.50	0.67	1.56	-	0.5L	21.00	0.72	2.84	-	CRITICAL	2.94	
	Service III (Inv)	HL-93	-	0.80	1.00	1.00	0.67	1.04	-	0.5L	21.00	-	-	-	-	-	
	Service III (Op)	HL-93	-	0.80	1.00	1.00	0.67	1.37	-	0.5L	21.00	-	-	-	-	-	
Legal Load Rating	Strength I	C5	40.00	1.35	1.25	1.50	0.67	2.07	82.95	0.5L	21.00	0.72	3.76	150.26	CRITICAL	38.72	
	Strength I	ST5	40.00	1.35	1.25	1.50	0.67	2.14	85.79	0.5L	21.00	0.72	4.13	165.12	CRITICAL	38.72	
	Strength I	SU4	35.00	1.35	1.25	1.50	0.67	1.61	56.26	0.5L	21.00	0.72	3.20	112.01	CRITICAL	3.24	
	Service III	C5	40.00	0.80	1.00	1.00	0.67	1.82	72.66	0.5L	21.00	-	-	-	-	-	
	Service III	ST5	40.00	0.80	1.00	1.00	0.67	1.88	75.15	0.5L	21.00	-	-	-	-	-	
	Service III	SU4	35.00	0.80	1.00	1.00	0.67	1.41	49.28	0.5L	21.00	-	-	-	-	-	
Permit Load Rating	Strength II	FL120	60.00	1.60	1.25	1.50	0.38	1.71	102.78	0.5L	21.00	0.72	1.36	81.71	0.4L	16.70	
	Service I	FL120	60.00	0.70	1.00	1.00	0.38	2.26	136.58	0.5L	21.00	-	-	-	-	-	

Abbreviations:
Inv - Inventory
Op - Operating

General Notes:

- This table is based on the requirements established in the January 2011 "Structures Manual".

Table 2 Notes:

- Permit capacity is determined by using the permit vehicle in all lanes.
- If the Design Operating Load Rating is greater than 1.4, Load Rating using Legal Vehicles SU4, C5, and ST5 is not required.
- Service III Design Inventory tensile stress limits = $6\sqrt{f'c}$, Service III Design Operating, Legal, and Permit tensile stress limits = $7.5\sqrt{f'c}$.
- Has the AASHTO LRFD Specifications Article 5.8.3.5 longitudinal reinforcement been satisfied? Yes No

Controlling Load Rating

Limit State	Vehicle	Weight (Tons)	Rating Factor
Service III (Inv)	HL-93	-	1.05

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VERIFY SCALE

1" = 1"

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