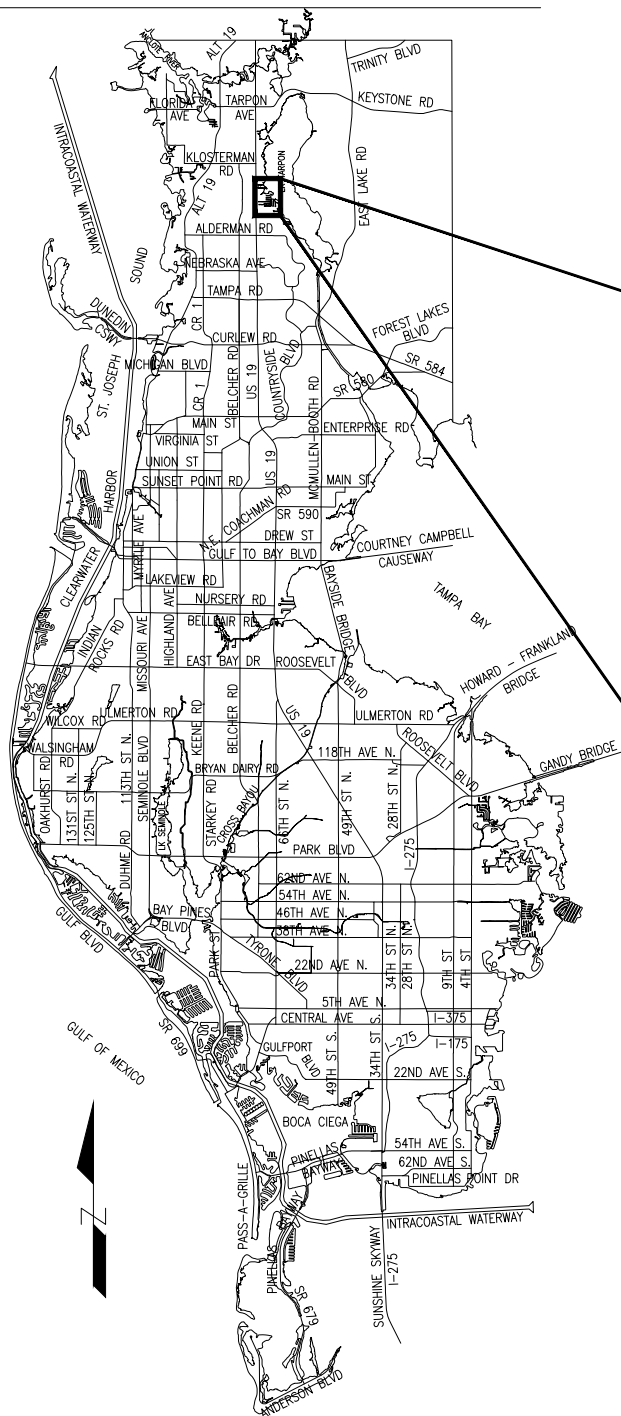


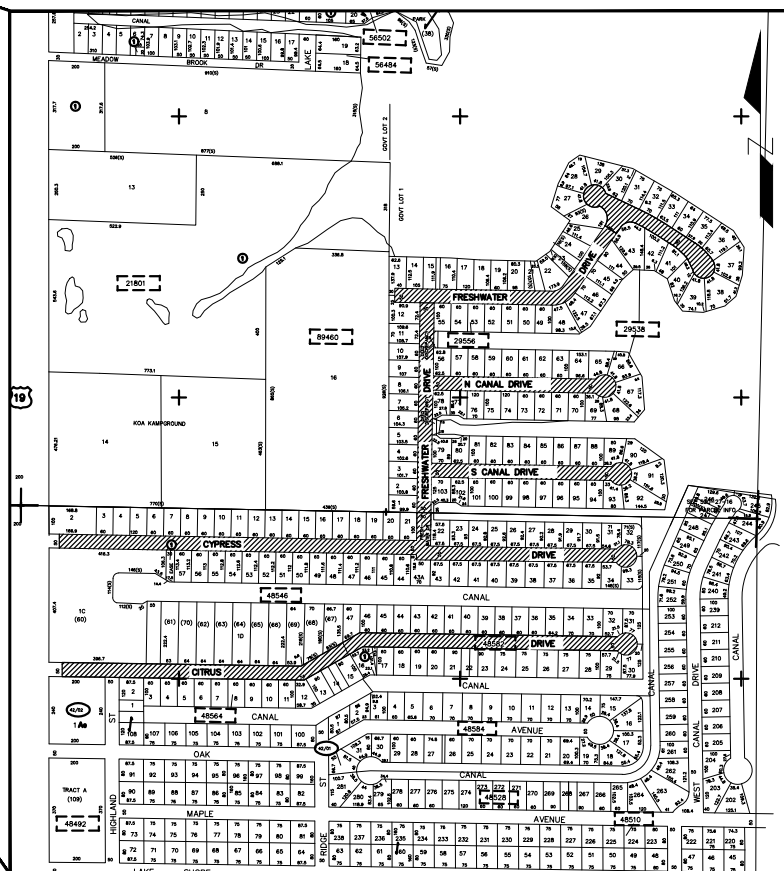
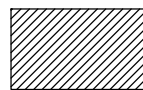
LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS

PINELLAS COUNTY LOCATION MAP



PID 001177A FINANCIAL PID 001177A

PROJECT LOCATION



SECTION 30, TOWNSHIP 27 SOUTH, RANGE 16 EAST

KEY MAP

NOT TO SCALE

INDEX OF PLANS

SHEET NO.	SHEET TITLE
1	KEY SHEET
2	GENERAL NOTES
3-4	TYPICAL SECTIONS
5	TYPICAL SECTION DETAILS
6	LAYOUT PLAN
7-23	PLAN & PROFILES
24	SOIL PROFILES
25-45	CROSS SECTIONS
46-52	DRAINAGE STRUCTURES
53-54	STORMWATER POLLUTION PREVENTION PLAN (SWPPP)
55	EROSION CONTROL NOTES
56	EROSION CONTROL DETAILS
57	TEMPORARY TRAFFIC CONTROL PLAN
58	SIGNING AND PAVEMENT MARKING PLAN
59	SIGNING AND PAVEMENT MARKING DETAIL
60-68	UTILITY RELOCATION PLAN
	REFERENCE DRAWINGS
R-1	TOPOGRAPHIC SURVEY
	PROVIDED BY PINELLAS COUNTY
1	FY18-FY20 COUNTYWIDE PAVEMENT PRESERVATION LOCAL GROUP 05 (US HIGHWAY 19 & LAKESHORE) PID 003139A-001698A FINANCIAL PID 000192A
2	LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS FROM FRESHWATER DRIVE TO CYPRESS DRIVE PID 00831A UTILITIES

PROJECT MANAGER: BRUCE WIRTH, P.E.
(727) 453-3469

PINELLAS COUNTY

14 SOUTH FORT HARRISON AVENUE
CLEARWATER, FL 33756
PHONE: (727) 464-3588

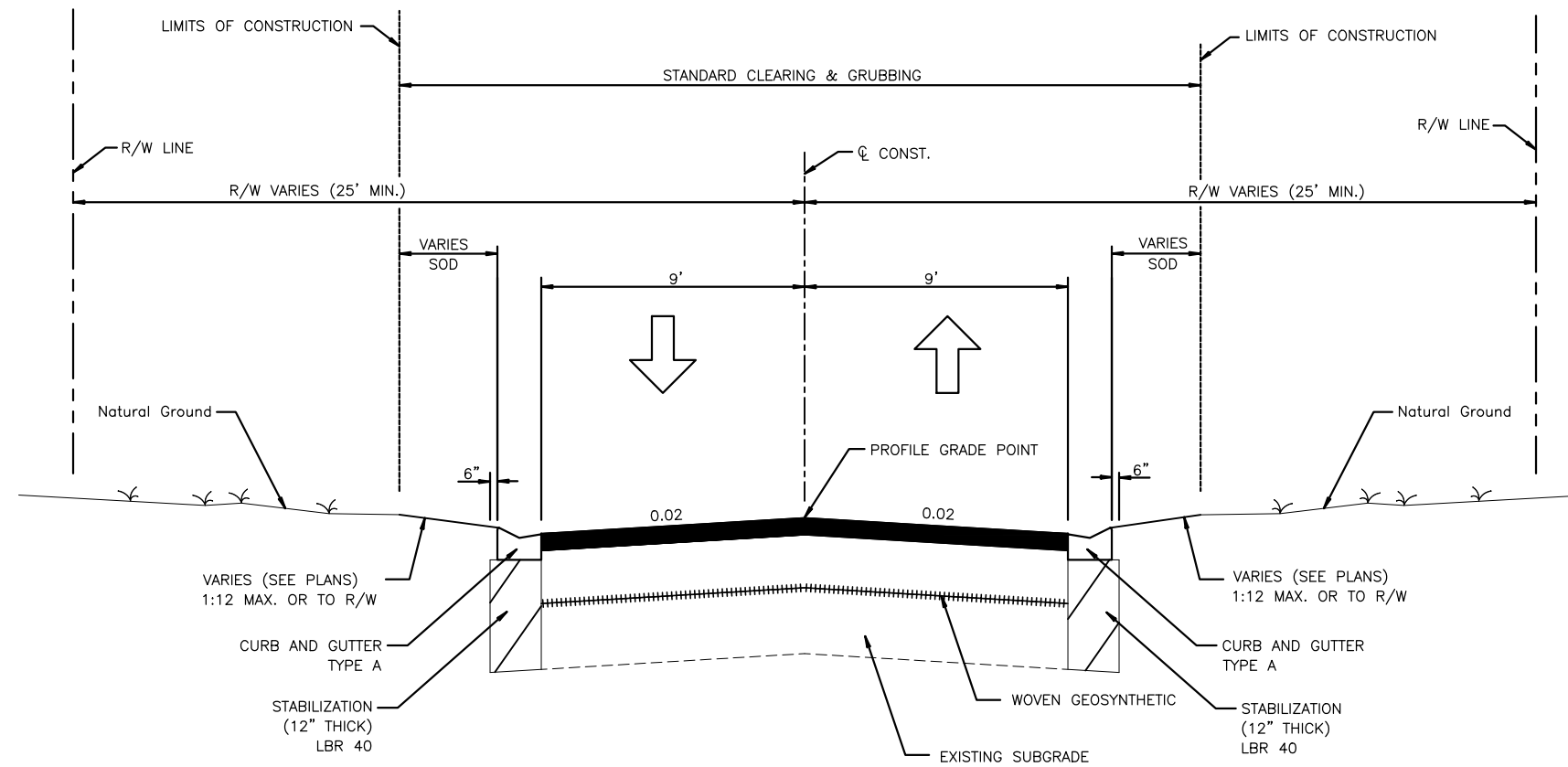
PREPARED BY:

HDR ENGINEERING, INC.
5426 BAY CENTER DRIVE
SUITE 400
TAMPA, FL 33609
CERTIFICATE OF AUTHORIZATION 4213

KENT L. McWATERS, P.E. No. 45443
ENGINEER OF RECORD

DATE

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TYPICAL SECTION
NTS

CITRUS DR. STA. 113+00.00 TO STA. 121+11.33,
 CYPRESS DR. STA. 203+30.00 TO STA. 220+82.72,
 S. CANAL DR. STA. 300+12.00 TO STA. 307+00.00,
 N. CANAL DR. STA. 400+12.00 TO STA. 406+34.41,
 FRESHWATER DR. STA. 500+12.04 TO STA. 508+88.88,
 STA. 600+00.00 TO STA. 609+60.64,
 STA. 700+00.00 TO STA. 704+74.93

NOTES:

- CURB AND GUTTER ENDINGS SHALL BE STRAIGHT END TYPE PER FDOT INDEX 300.

TRAFFIC DATA

DESIGN SPEED = 30 MPH
 POSTED SPEED = 25 MPH

NEW CONSTRUCTION

8" CRUSHED CONCRETE BASE WITH
 TYPE SP-9.5 STRUCTURAL COURSE (TRAFFIC C)
 (2" TO BE DONE IN 1" LIFTS)

ASPHALT DRIVEWAY

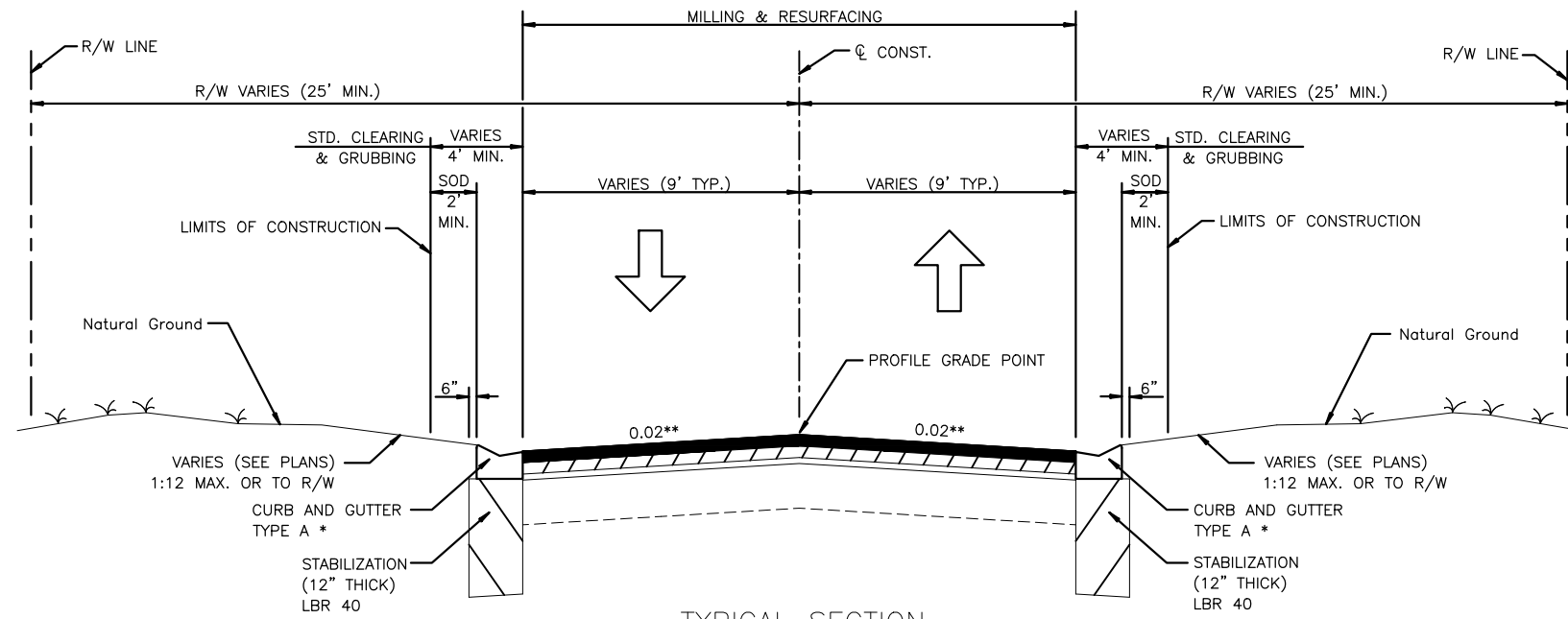
7-1/2" CRUSHED CONCRETE BASE WITH
 TYPE SP-9.5 STRUCTURAL COURSE (TRAFFIC C) (1")

CONCRETE DRIVEWAY

6" CONCRETE PAVEMENT

DESIGNED	PJS		PROJECT:	LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS		HDR ENGINEERING, INC. 5426 BAY CENTER DRIVE, SUITE 400 TAMPA, FL 33609-3444 CERTIFICATE OF AUTHORIZATION 4213	APPROVED BY:	KENT L. McWATERS, P.E. FLA. LIC. NO 45443	DATE	2018
DRAWN	JHP		DESCRIPTION:	TYPICAL SECTION (1)		PROJECT NO.	1177A			
CHECKED	KLM		REV. NO.	DATE		DESCRIPTION	REV. BY	DATE	SHEET:	3 OF 68

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TYPICAL SECTION
NTS

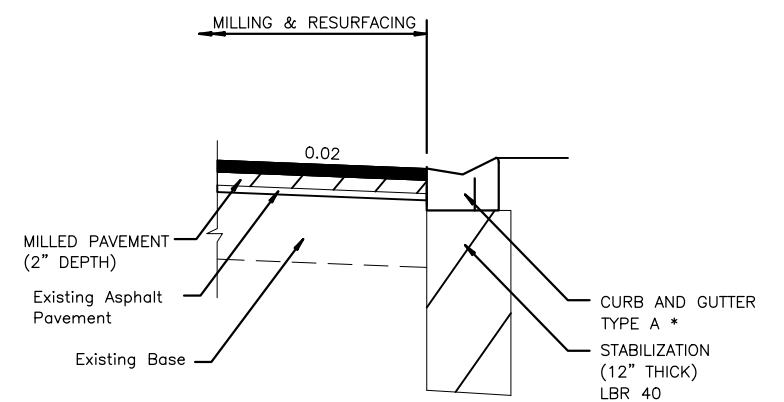
- * CURB AND GUTTER TYPE A REPLACEMENT VARIES. SEE PLANS FOR DETAILS.
- ** MATCH EXISTING CROSS SLOPE ON CITRUS DRIVE STA. 100+62.21 TO STA. 104+70.00

CITRUS DR.
STA. 100+62.21 TO STA. 104+70.00

MILLING
MILL EXISTING ASPHALT PAVEMENT FOR DEPTH (2")
RESURFACING
TYPE SP-9.5 STRUCTURAL COURSE (TRAFFIC C) (2" TO BE DONE IN 1" LIFTS)

CITRUS DR.
STA. 104+70.00 TO STA. 113+00.00
CYPRESS DR.
STA. 200+35.86 TO STA. 203+30.00

MILLING
MILL EXISTING ASPHALT PAVEMENT FOR DEPTH (2")
OVERBUILD
TYPE SP-9.5 STRUCTURAL COURSE (TRAFFIC C) THICKNESS VARIES (0" TO 3")
RESURFACING
TYPE SP-9.5 STRUCTURAL COURSE (TRAFFIC C) (2" TO BE DONE IN 1" LIFTS)



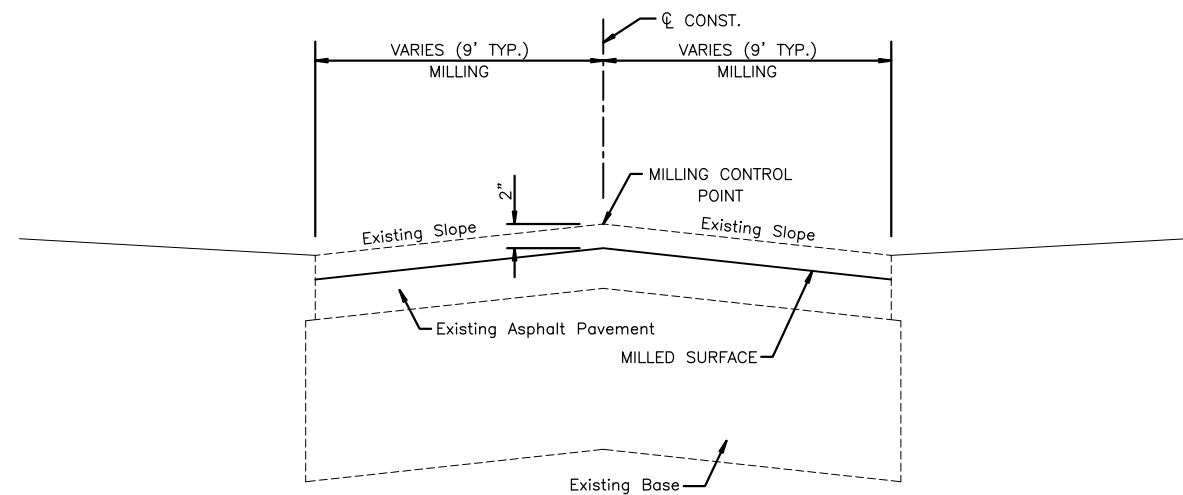
DETAIL AT CURB
NTS

- NOTES:
1. SEE TYPICAL SECTION DETAILS FOR OVERBUILD.
 2. CURB AND GUTTER ENDINGS SHALL BE STRAIGHT END TYPE PER FDOT INDEX 300.

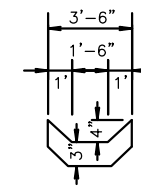
TRAFFIC DATA

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POSTED SPEED = 25 MPH

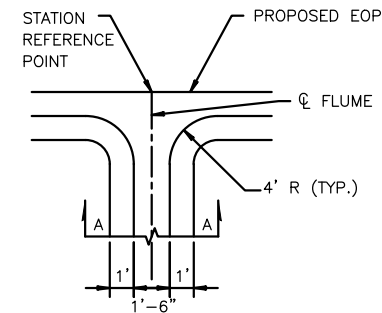
DESIGNED	PJS		PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS	DESCRIPTION: TYPICAL SECTION (2)	HDR ENGINEERING, INC. 5426 BAY CENTER DRIVE, SUITE 400 TAMPA, FL 33609-3444 CERTIFICATE OF AUTHORIZATION 4213	APPROVED BY:	DATE:
DRAWN	JHP					KENT L. McWATERS, P.E.	2018
CHECKED	KLM					FLA. LIC. NO 45443	1177A
REV. NO.	DATE	DESCRIPTION	REV. BY				SHEET: 4 OF 68



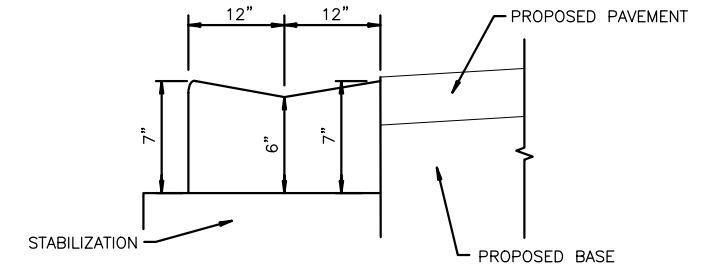
CONSTANT DEPTH MILLING DETAIL
NTS



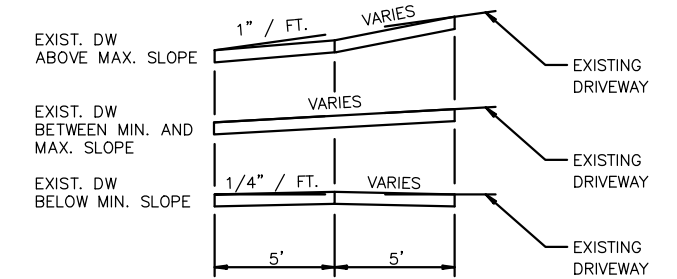
SECTION AA
NTS



CONCRETE FLUME DETAIL
NTS

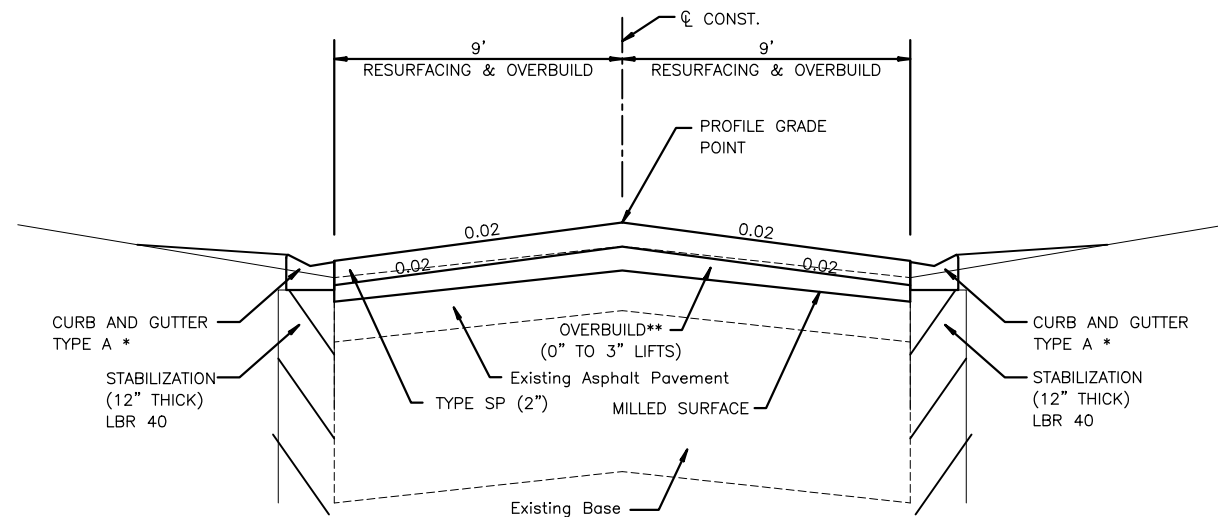


MODIFIED TYPE A CURB & GUTTER DETAIL
NTS



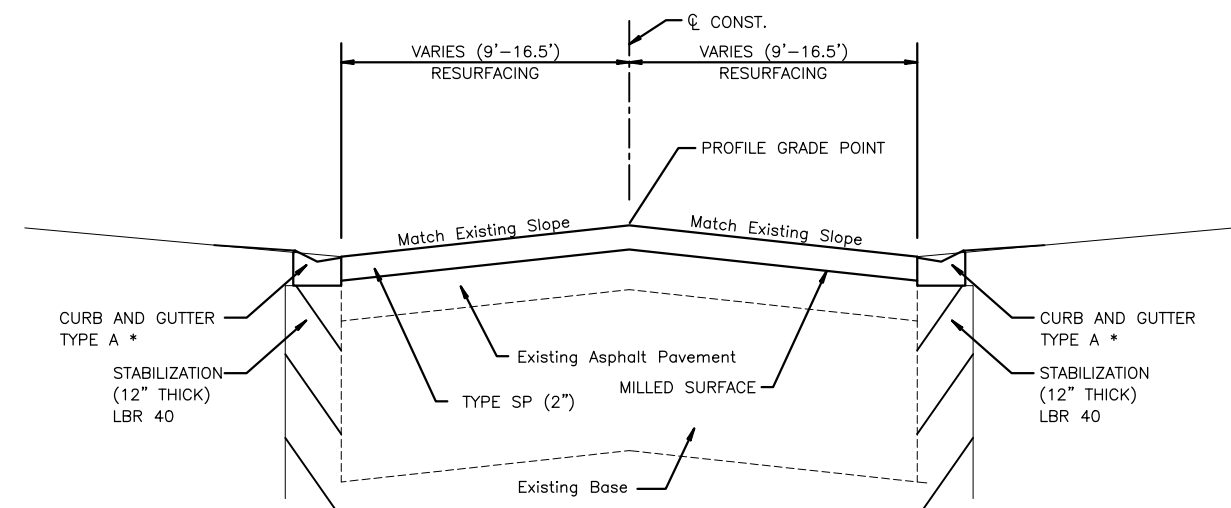
TYPICAL DRIVEWAY DETAIL
NTS

NOTE: MIN. AND MAX. SLOPE PER
PCSD INDEX I.D.:1340



RESURFACING DETAIL A
NTS

CITRUS DR.
STA. 104+70.00 TO STA. 113+00.00
CYPRESS DR.
STA. 200+35.86 TO STA. 203+30.00



RESURFACING DETAIL B
NTS

CITRUS DR.
STA. 100+62.21 TO STA. 104+70.00

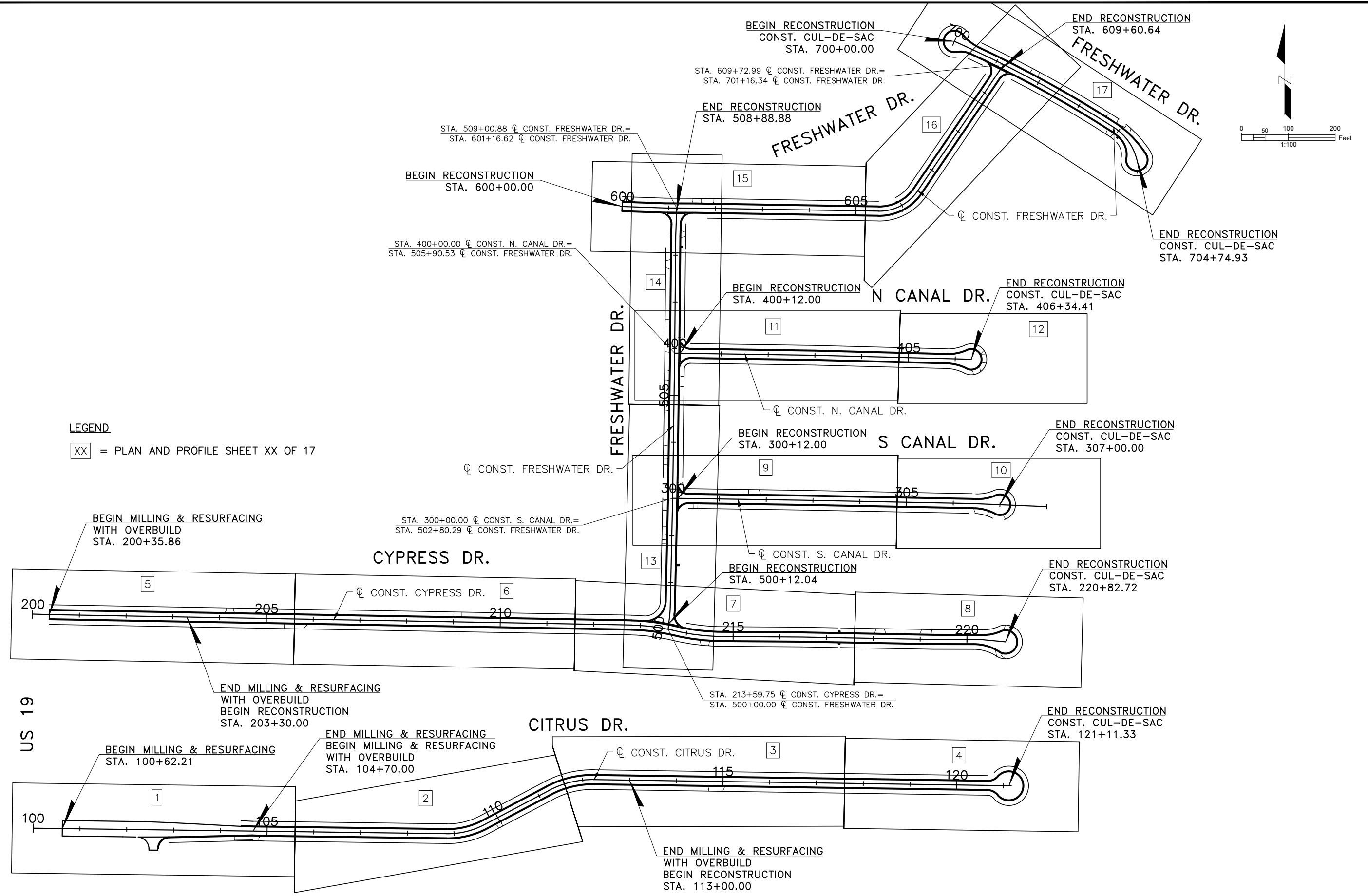
* CURB AND GUTTER TYPE A REPLACEMENT VARIES.
SEE PLANS FOR DETAILS.

** TYPE SP OVERBUILD THICKNESSES
(PER FDOT SPECIFICATION 334)

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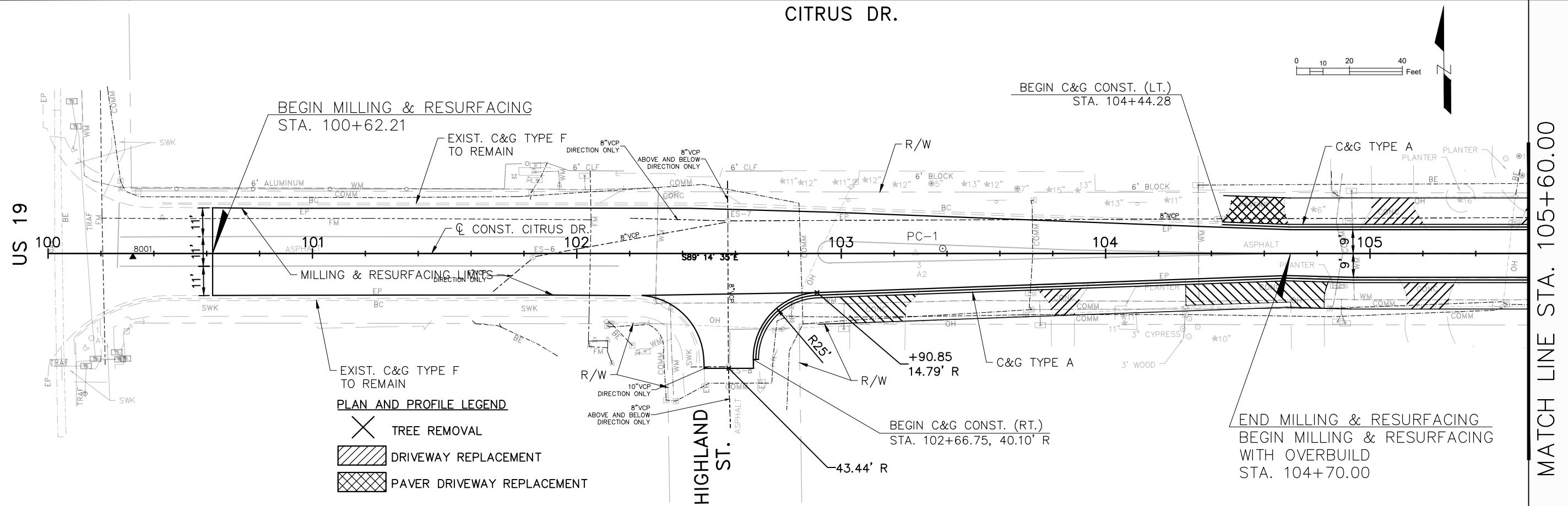
DESIGNED	PJS		PROJECT:	LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS		HDR ENGINEERING, INC. 5426 BAY CENTER DRIVE, SUITE 400 TAMPA, FL 33609-3444 CERTIFICATE OF AUTHORIZATION 4213	APPROVED BY:	KENT L. McWATERS, P.E. FLA. LIC. NO 45443	DATE	2018
DRAWN	JHP		DESCRIPTION:	TYPICAL SECTION DETAILS				PROJECT NO.	1177A	
CHECKED	KLM							SHEET:	5 OF 68	
REV. NO.	DATE	DESCRIPTION	REV. BY							

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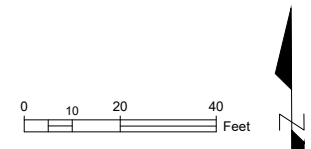


DESIGNED	PJS		PROJECT:	LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS		HDR ENGINEERING, INC. 5426 BAY CENTER DRIVE, SUITE 400 TAMPA, FL 33609-3444 CERTIFICATE OF AUTHORIZATION 4213	APPROVED BY:	KENT L. McWATERS, P.E. FLA. LIC. NO 45443	DATE	2018	
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CHECKED	KLM										SHEET:
REV. NO.	DATE	DESCRIPTION	REV. BY								

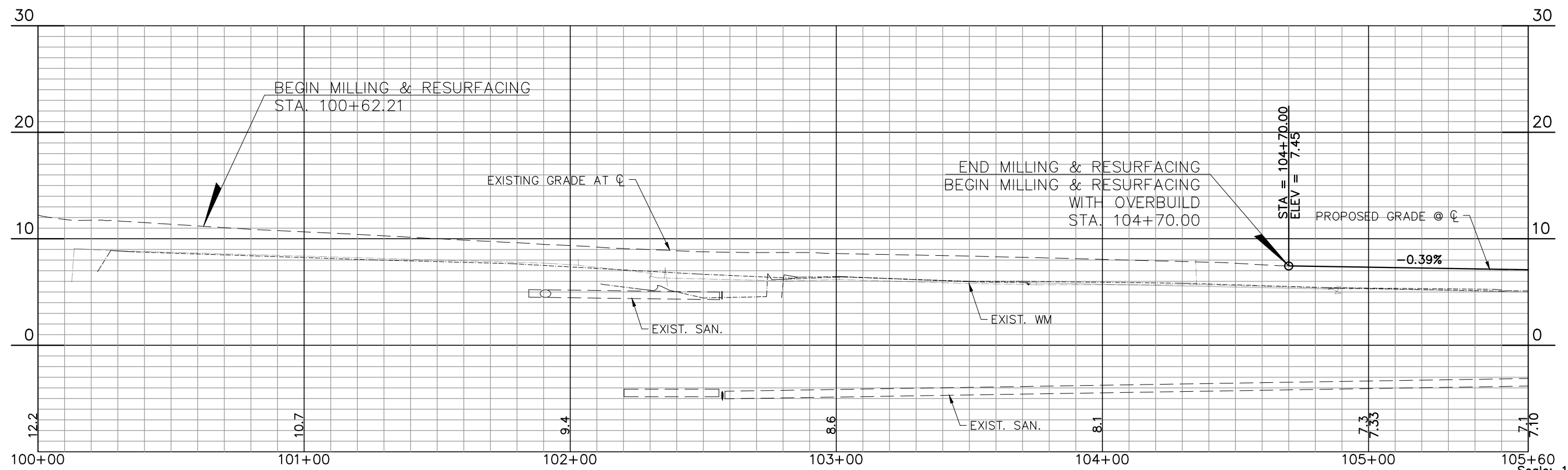
CITRUS DR.



- PLAN AND PROFILE LEGEND**
- TREE REMOVAL
 - DRIVEWAY REPLACEMENT
 - PAVER DRIVEWAY REPLACEMENT



MATCH LINE STA. 105+60.00



Scale: 1"=40' Horiz.
1"=10' Vert.

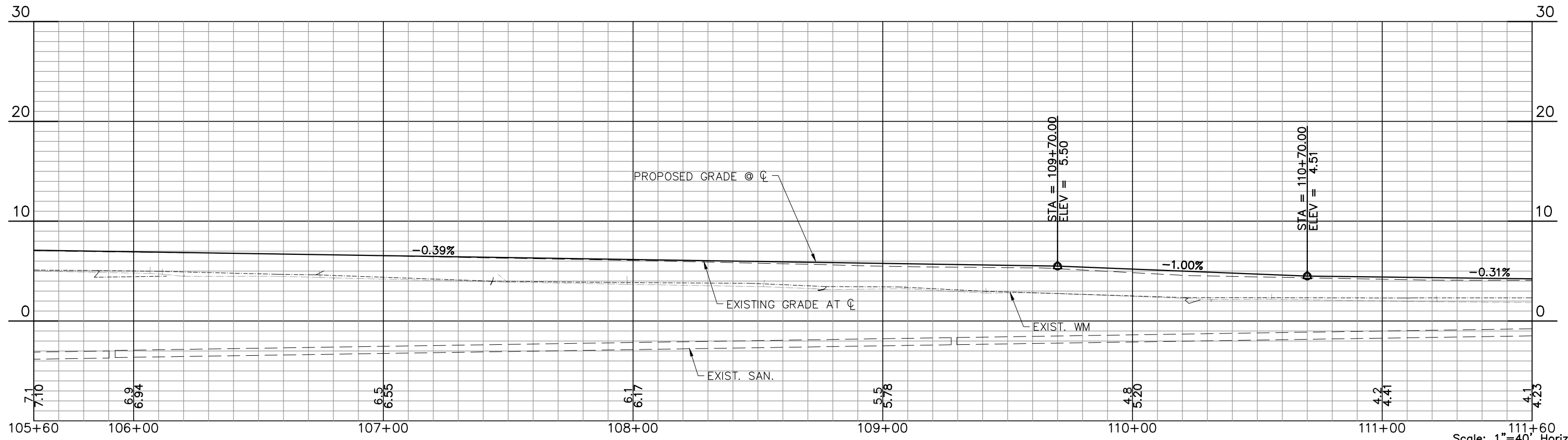
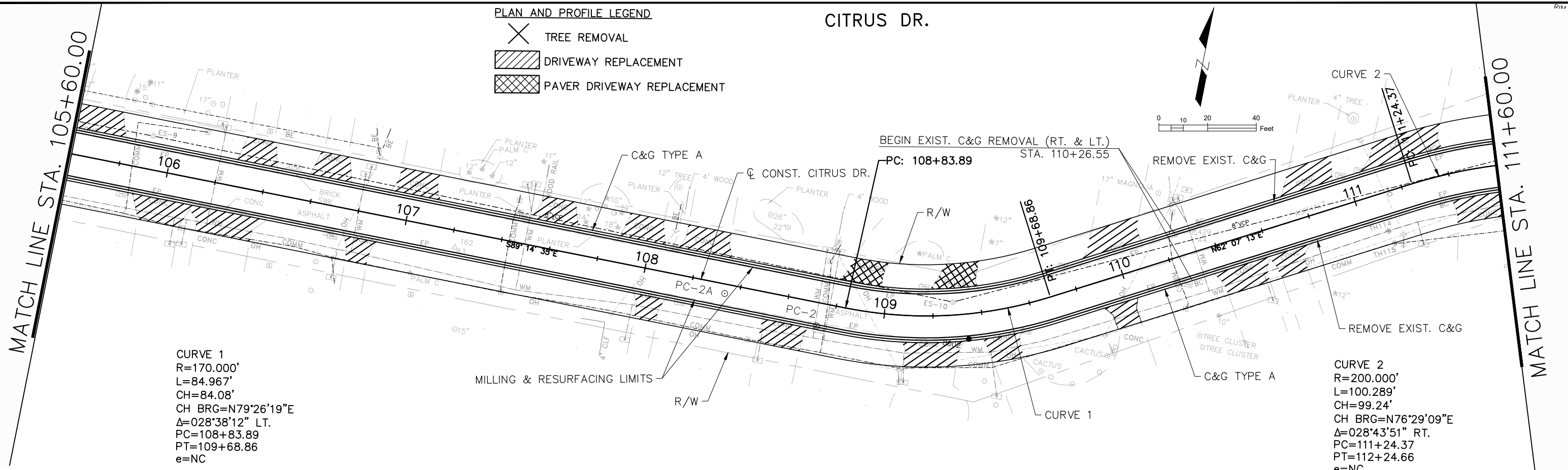
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		DESIGNED: PJS DRAWN: JHP CHECKED: KLM		PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS	DESCRIPTION: PLAN AND PROFILE (1) CITRUS DR.		HDR ENGINEERING, INC. 5426 BAY CENTER DRIVE, SUITE 400 TAMPA, FL 33609-3444 CERTIFICATE OF AUTHORIZATION 4213	APPROVED BY: KENT L. McWATERS, P.E. FLA. LIC. NO 45443	DATE: 2018 PROJECT NO. 1177A SHEET: 7 OF 68
REV. NO.	DATE	DESCRIPTION	REV. BY						

PLAN AND PROFILE LEGEND

- TREE REMOVAL
- DRIVEWAY REPLACEMENT
- PAVER DRIVEWAY REPLACEMENT

CITRUS DR.

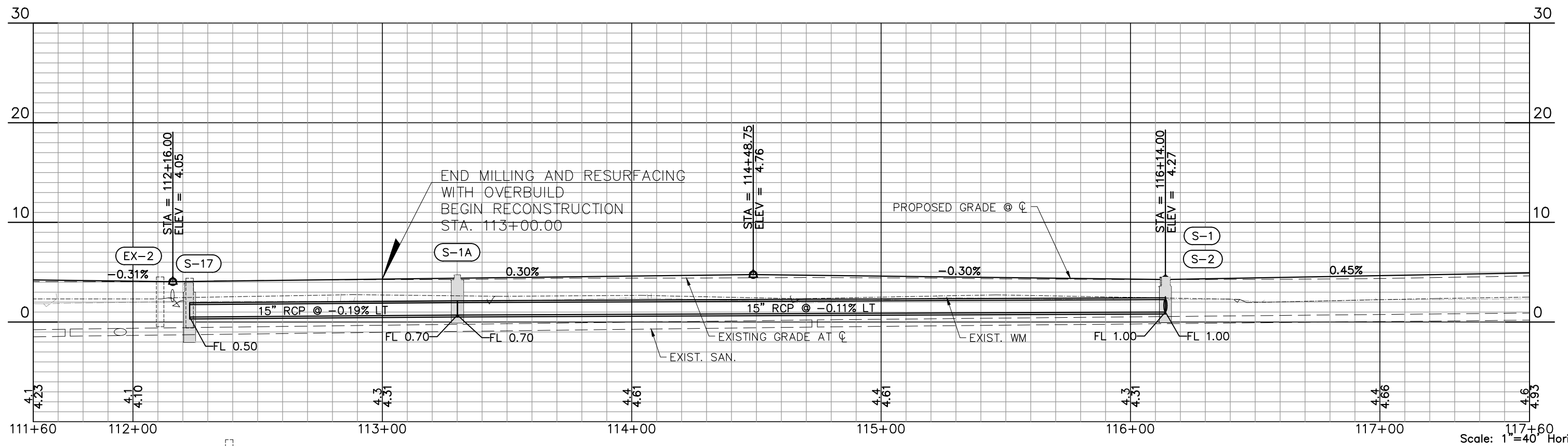
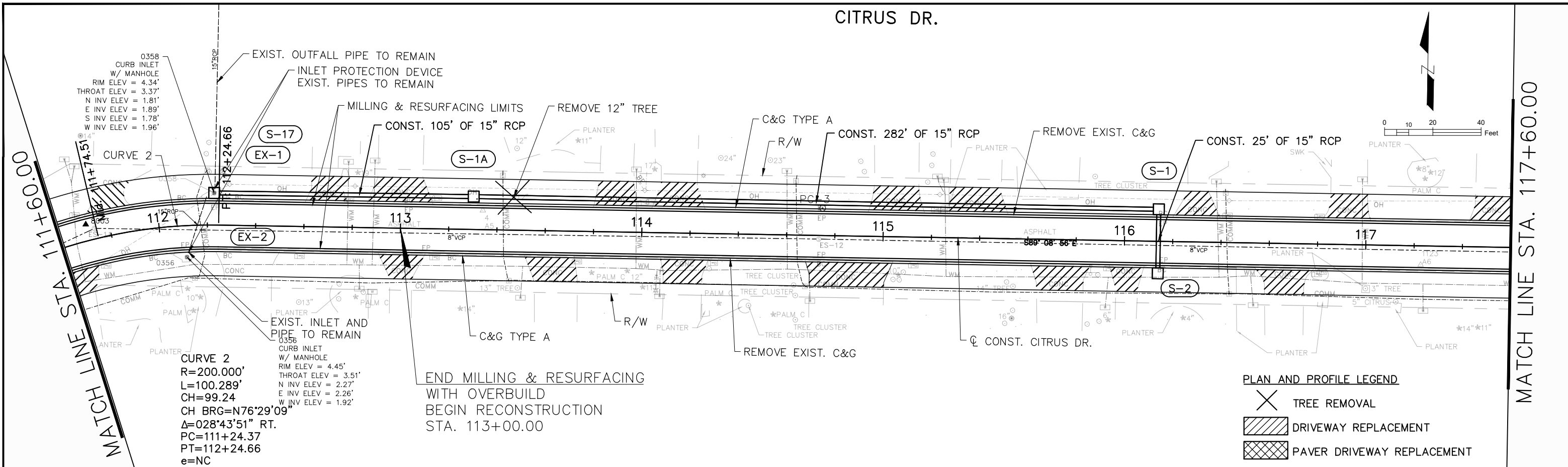


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REV. NO.	DATE	DESCRIPTION	REV. BY						

Scale: 1"=40' Horiz.
1"=10' Vert.

CITRUS DR.

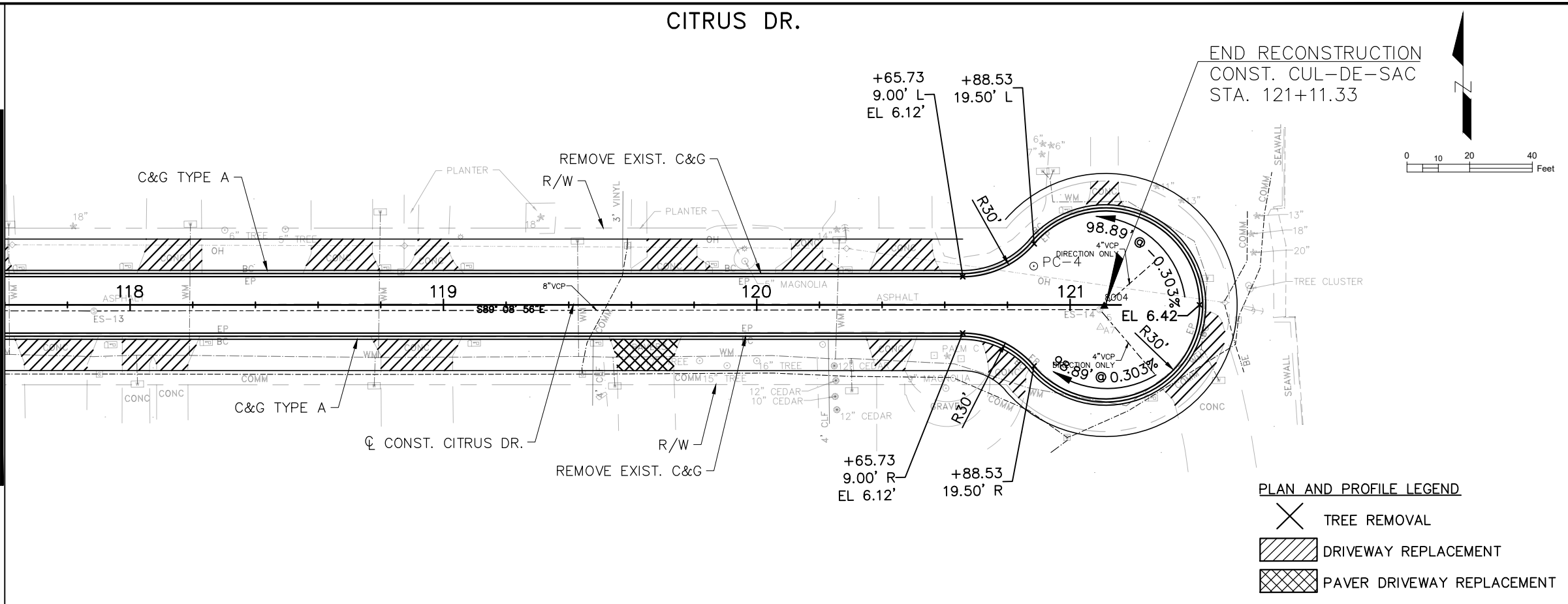


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DESIGNED	PJS		PROJECT:	LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS		HDR ENGINEERING, INC. 5426 BAY CENTER DRIVE, SUITE 400 TAMPA, FL 33609-3444 CERTIFICATE OF AUTHORIZATION 4213	APPROVED BY:	KENT L. McWATERS, P.E. FLA. LIC. NO 45443	DATE	2018
DRAWN	JHP		DESCRIPTION:	PLAN AND PROFILE (3) CITRUS DR.		PROJECT NO.	1177A			
CHECKED	KLM		DATE			SHEET:	9 OF 68			

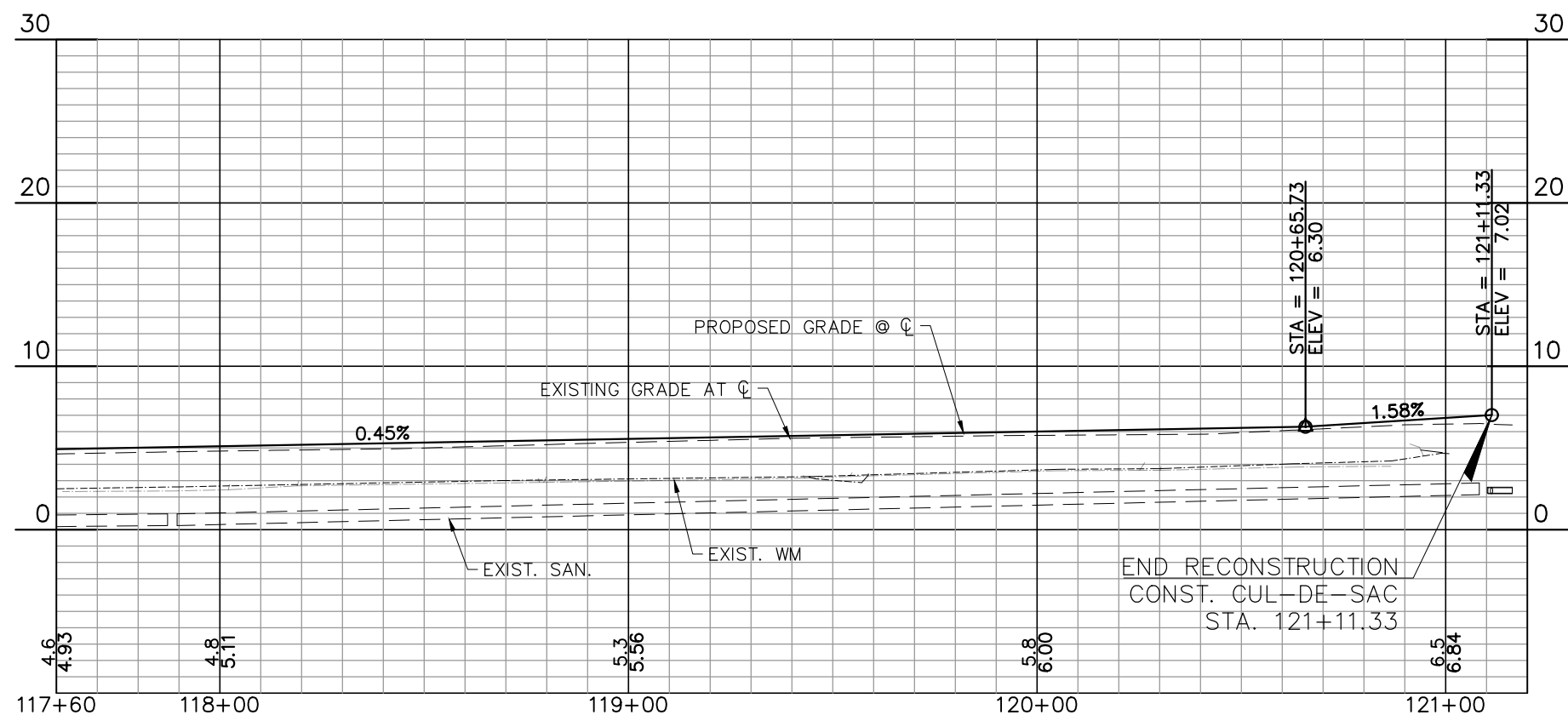
CITRUS DR.

MATCH LINE STA. 117+60.00



PLAN AND PROFILE LEGEND

- TREE REMOVAL
- DRIVEWAY REPLACEMENT
- PAVER DRIVEWAY REPLACEMENT

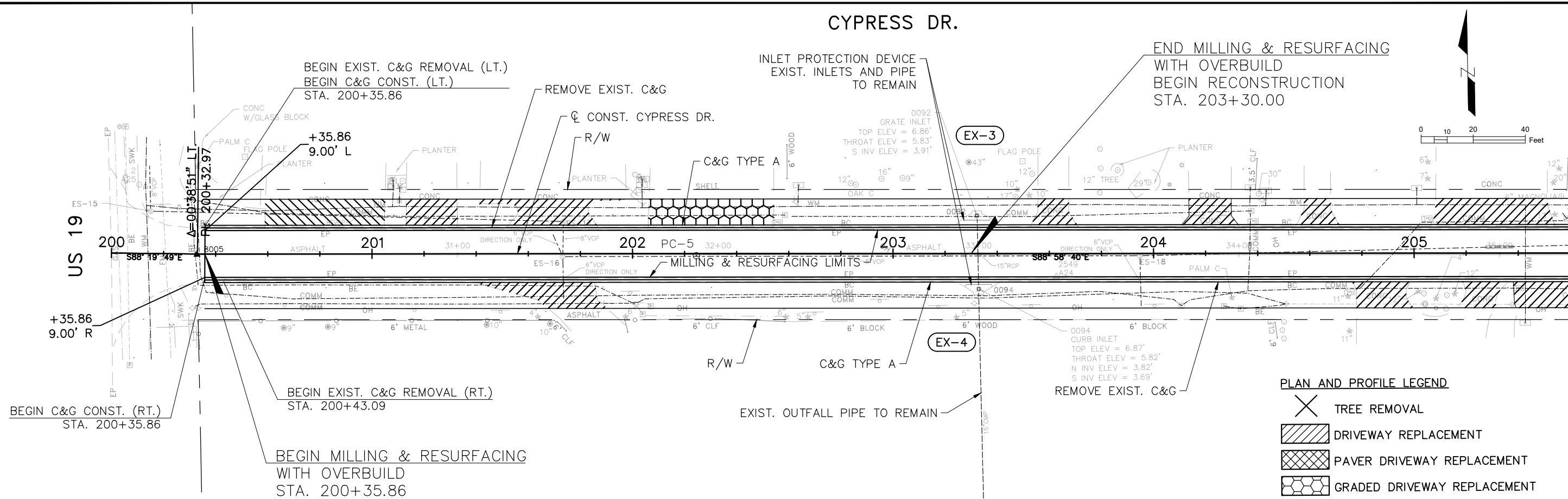


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REV. NO.	DATE	DESCRIPTION	REV. BY								

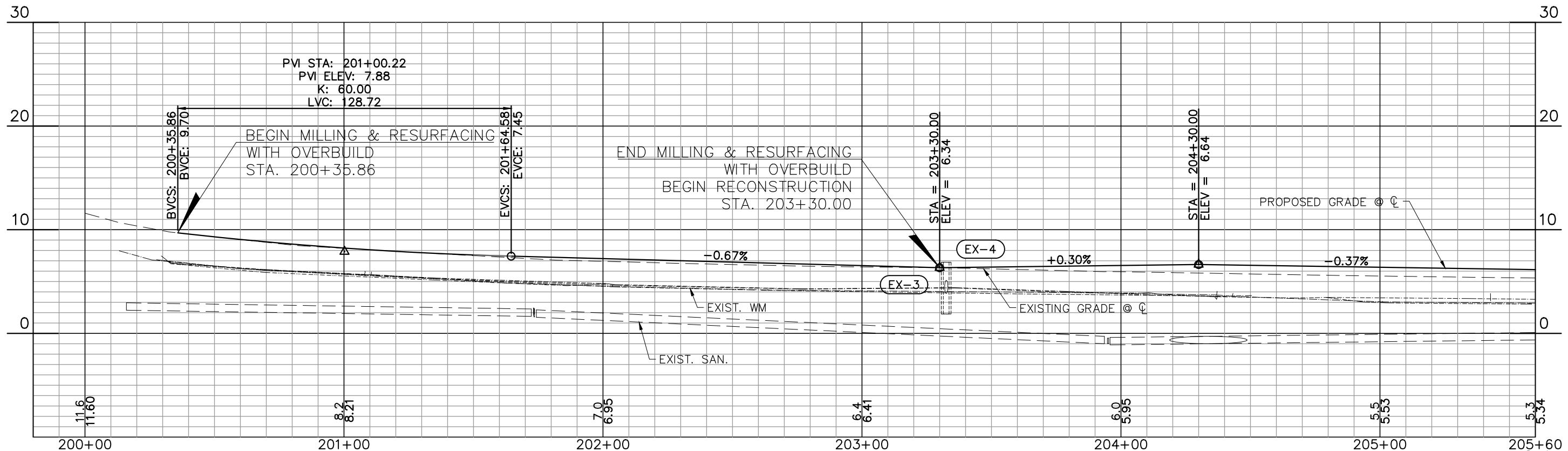
CYPRESS DR.



PLAN AND PROFILE LEGEND

- TREE REMOVAL
- DRIVEWAY REPLACEMENT
- PAVER DRIVEWAY REPLACEMENT
- GRADED DRIVEWAY REPLACEMENT

MATCH LINE STA. 205+60.00

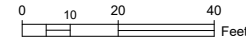


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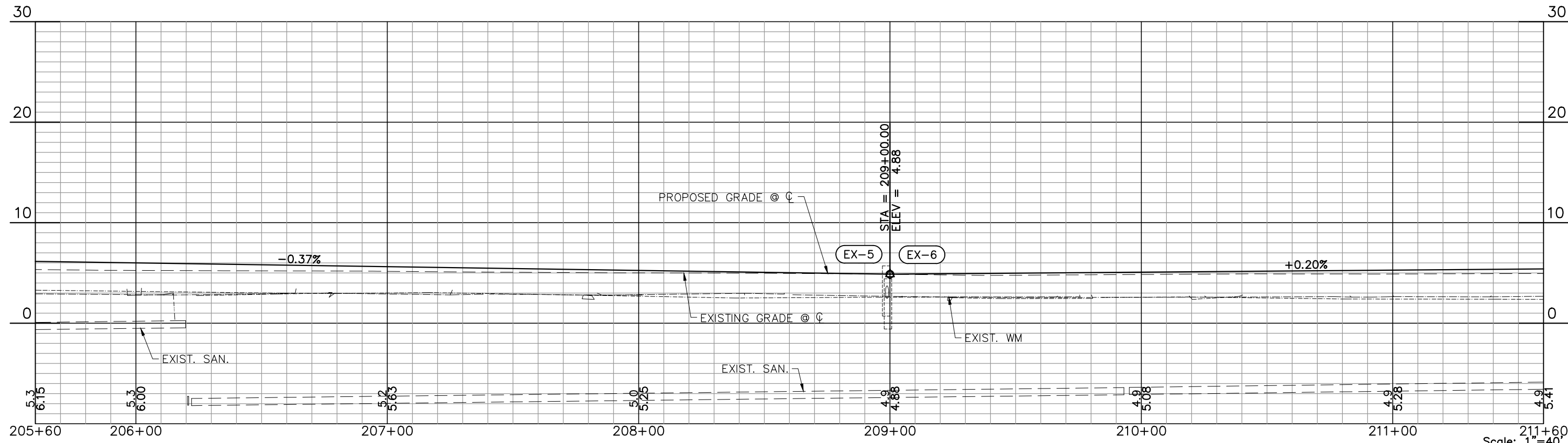
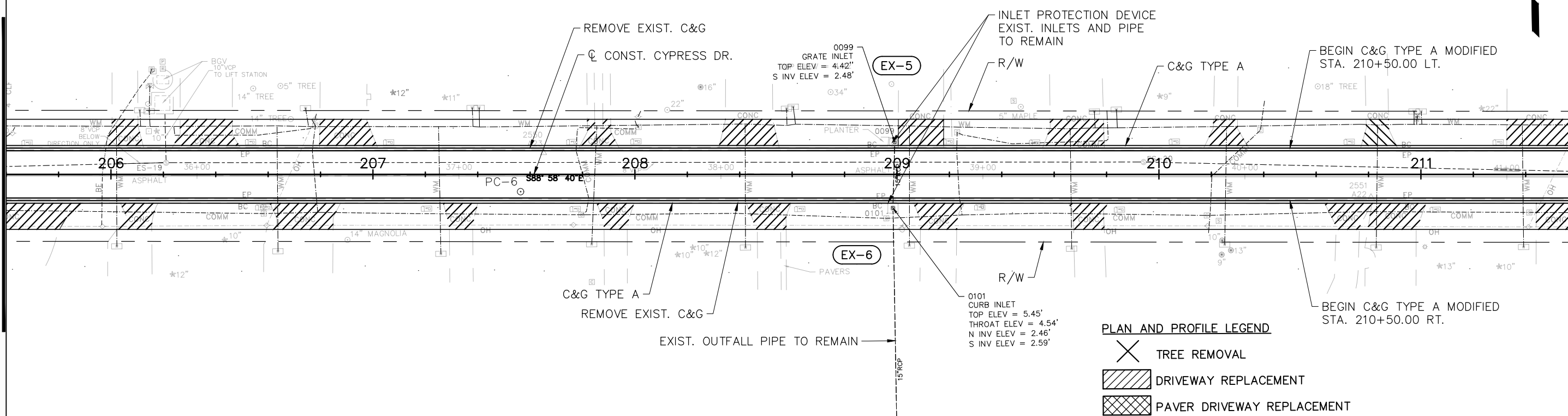
DESIGNED	PJS		PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS	DESCRIPTION: PLAN AND PROFILE (5) CYPRESS DR.	HDR ENGINEERING, INC. 5426 BAY CENTER DRIVE, SUITE 400 TAMPA, FL 33609-3444 CERTIFICATE OF AUTHORIZATION 4213	APPROVED BY:	DATE:
DRAWN	JHP					KENT L. McWATERS, P.E.	2018
CHECKED	KLM					FLA. LIC. NO 45443	PROJECT NO. 1177A
REV. NO.	DATE	DESCRIPTION	REV. BY				SHEET: 11 OF 68

CYPRESS DR.



MATCH LINE STA. 205+60.00

MATCH LINE STA. 211+60.00



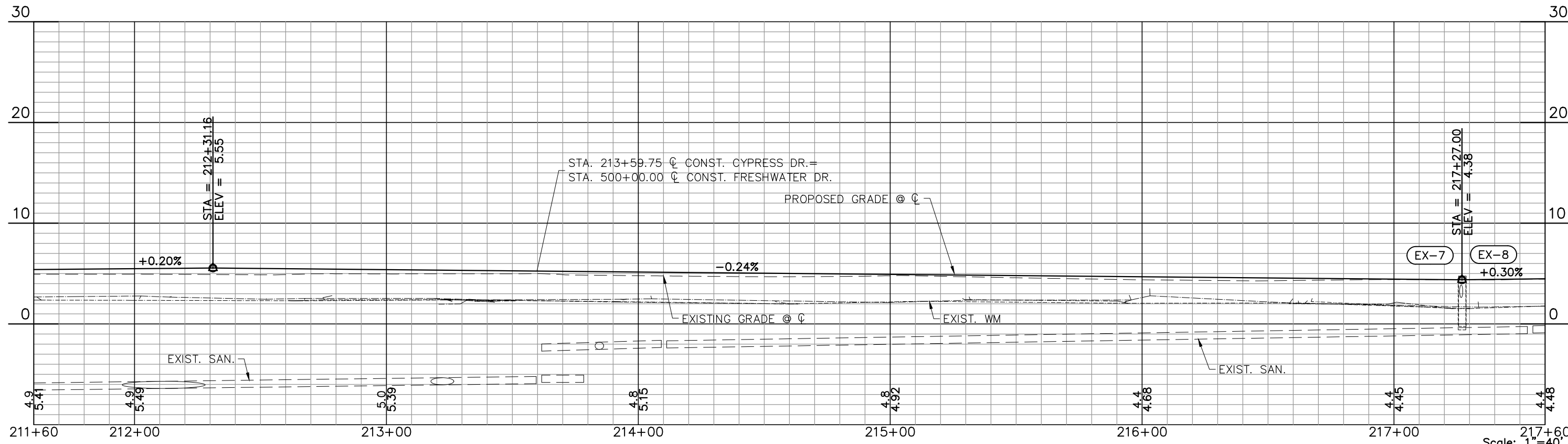
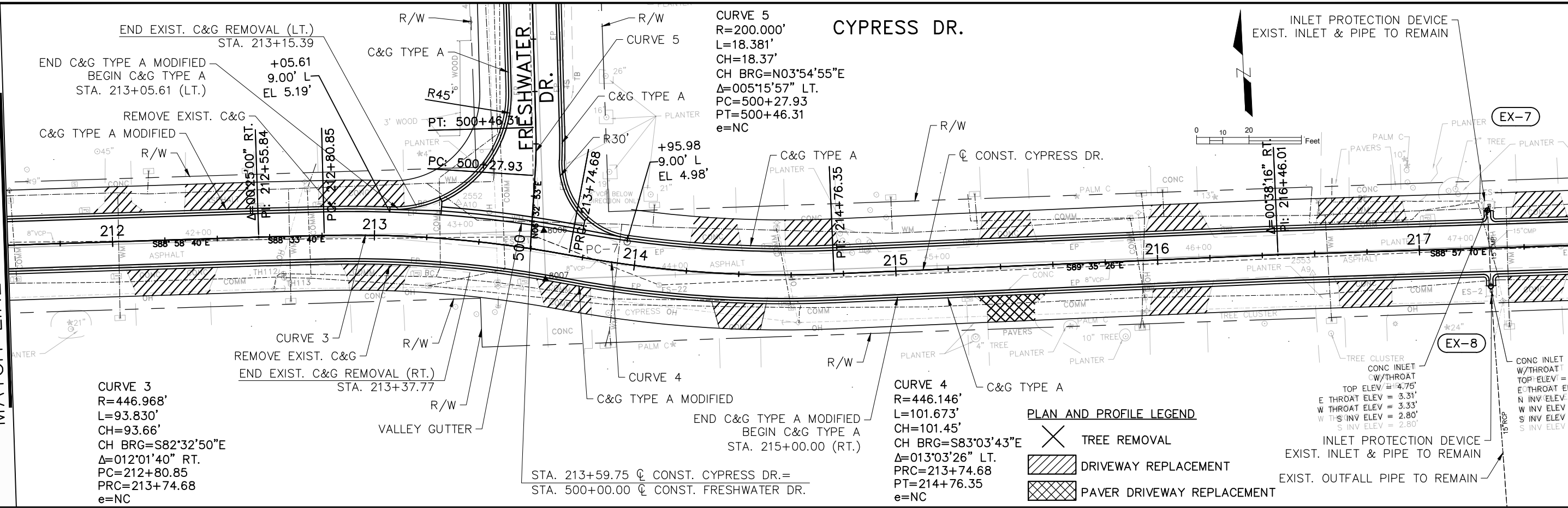
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DRAWN	JHP					KENT L. McWATERS, P.E.	2018
CHECKED	KLM					FLA. LIC. NO 45443	1177A
REV. NO.	DATE	DESCRIPTION	REV. BY			SHEET:	12 OF 68

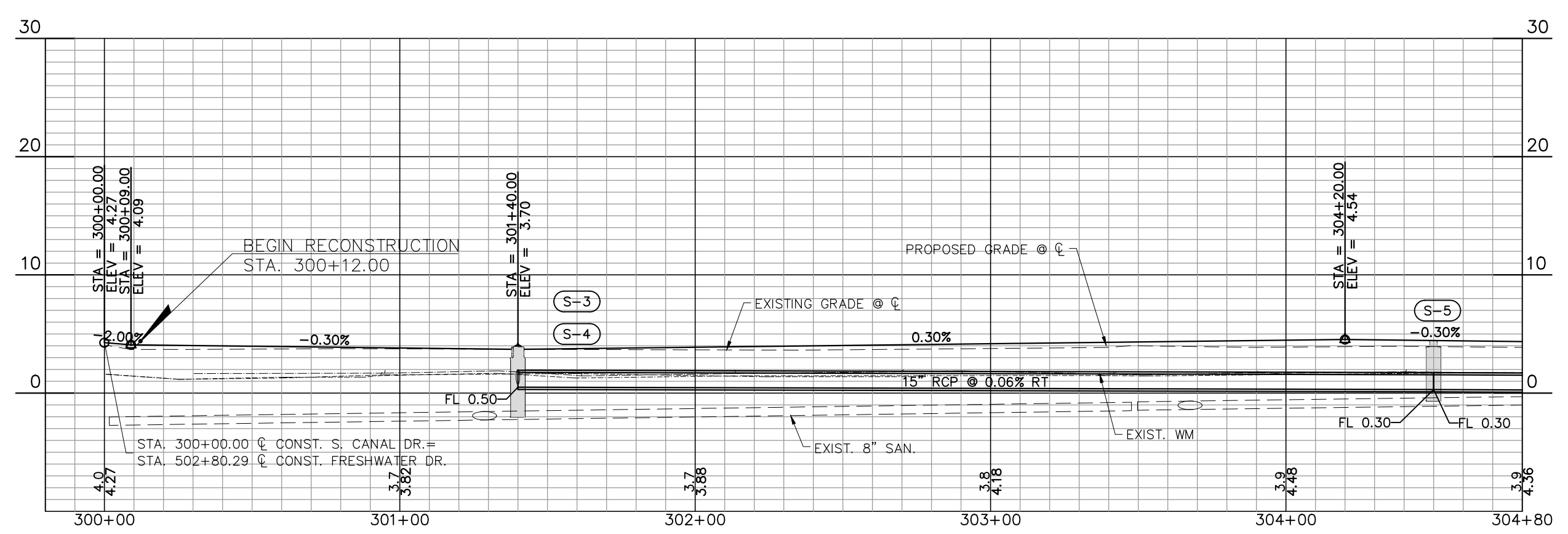
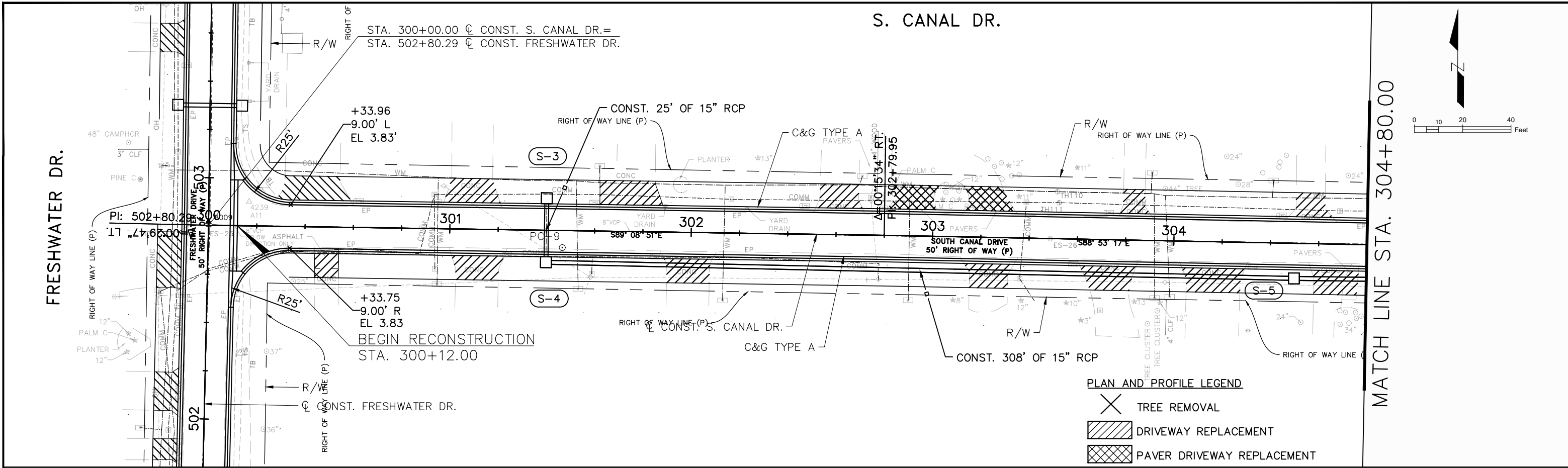
MATCH LINE STA. 211+60.00

MATCH LINE STA. 217+60.00



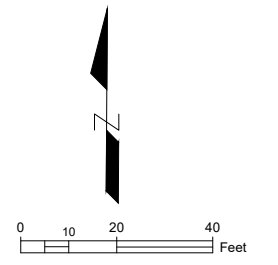
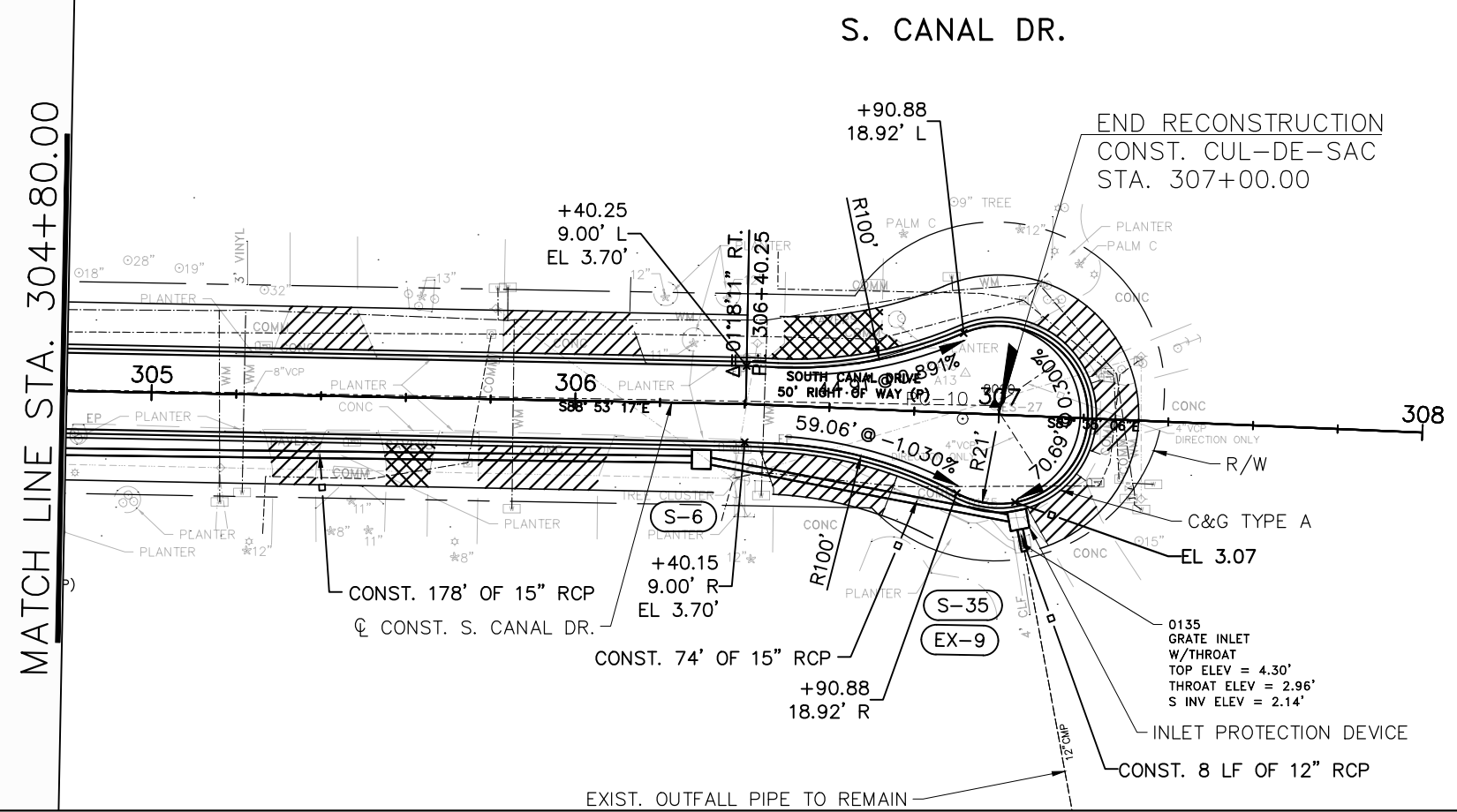
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DESIGNED	PJS		PROJECT:	LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS		HDR ENGINEERING, INC. 5426 BAY CENTER DRIVE, SUITE 400 TAMPA, FL 33609-3444 CERTIFICATE OF AUTHORIZATION 4213	APPROVED BY:	KENT L. McWATERS, P.E. FLA. LIC. NO 45443	DATE	2018
DRAWN	JHP		DESCRIPTION:	PLAN AND PROFILE (7) CYPRESS DR.		PROJECT NO.	1177A			
CHECKED	KLM		DATE			SHEET:	13 OF 68			



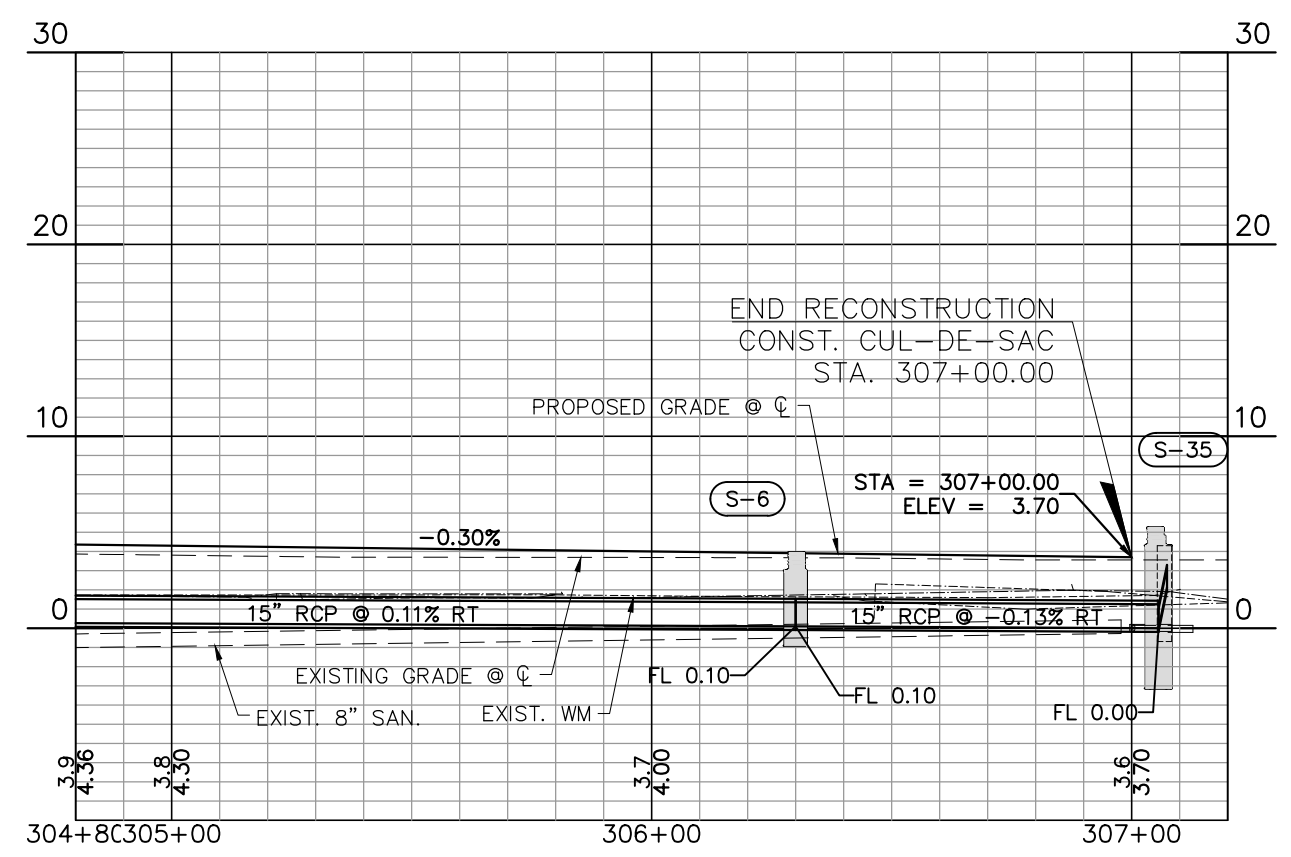
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		DRAWN: JHP							PROJECT NO. 1177A
REV. NO.	DATE	DESCRIPTION		REV. BY	CHECKED: KLM				DATE



PLAN AND PROFILE LEGEND

- TREE REMOVAL
- DRIVEWAY REPLACEMENT
- PAVER DRIVEWAY REPLACEMENT



Scale: 1"=40' Horiz.
1"=10' Vert.

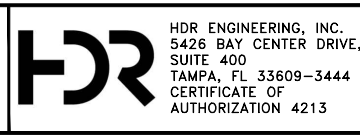
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REV. NO.	DATE	DESCRIPTION	REV. BY



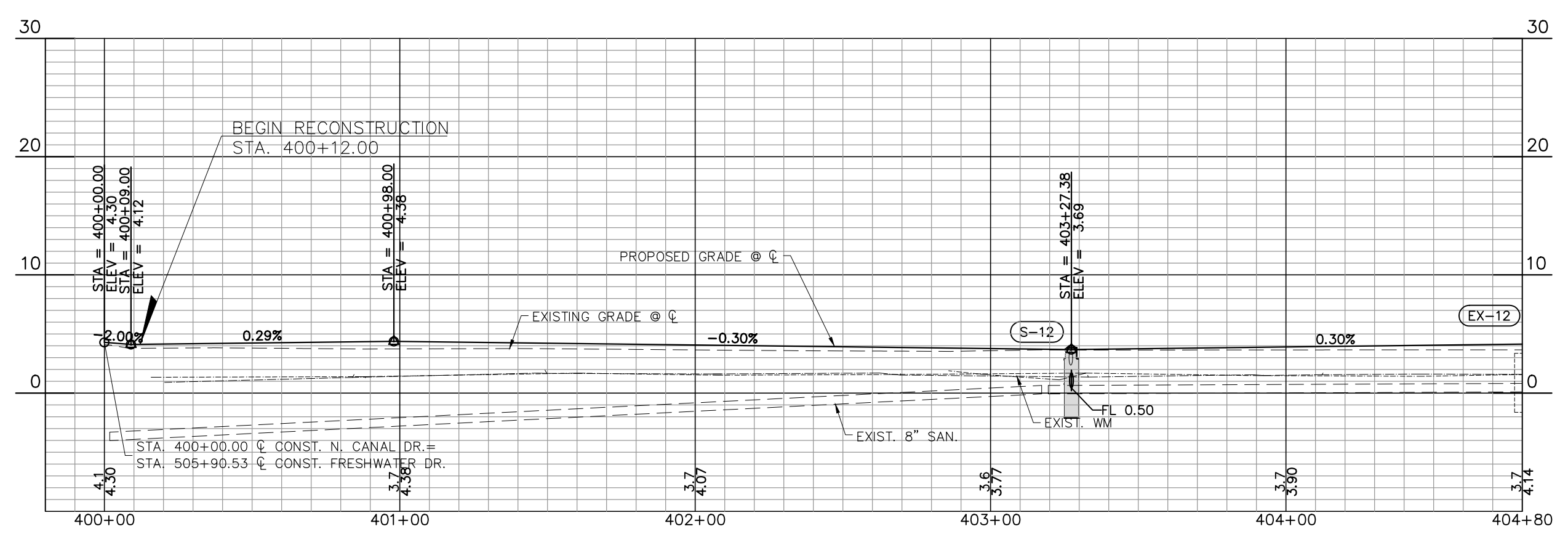
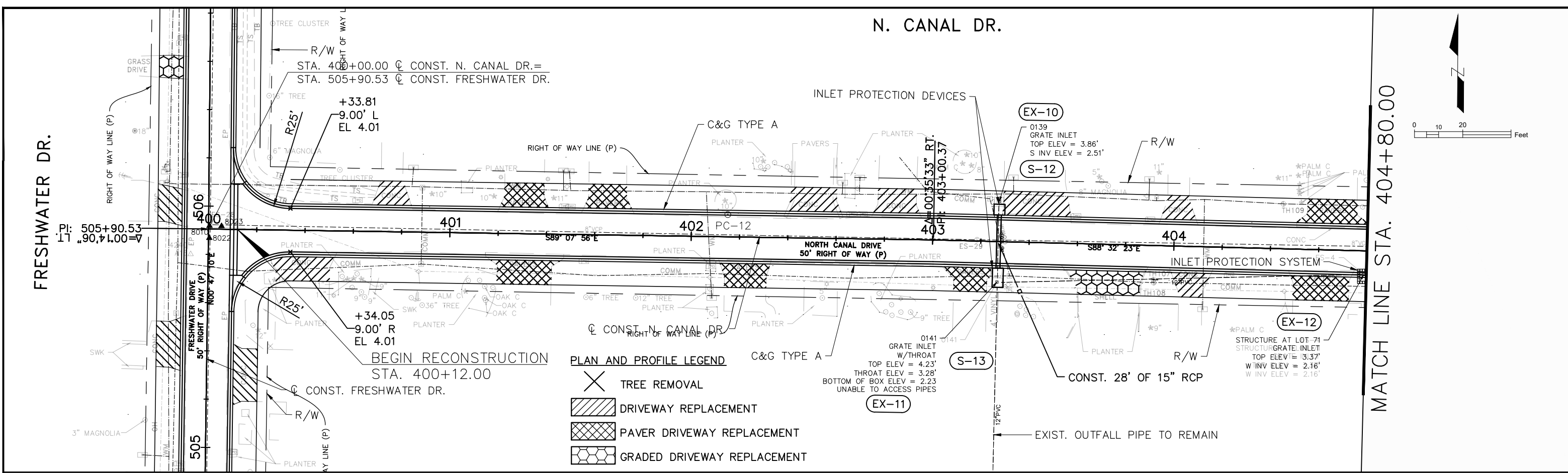
PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS

DESCRIPTION: PLAN & PROFILE (10) S. CANAL DR.



APPROVED BY: KENT L. McWATERS, P.E. DATE: _____
FLA. LIC. NO 45443

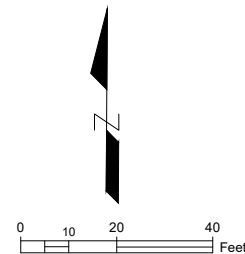
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PROJECT NO. 1177A
SHEET: 16 OF 68



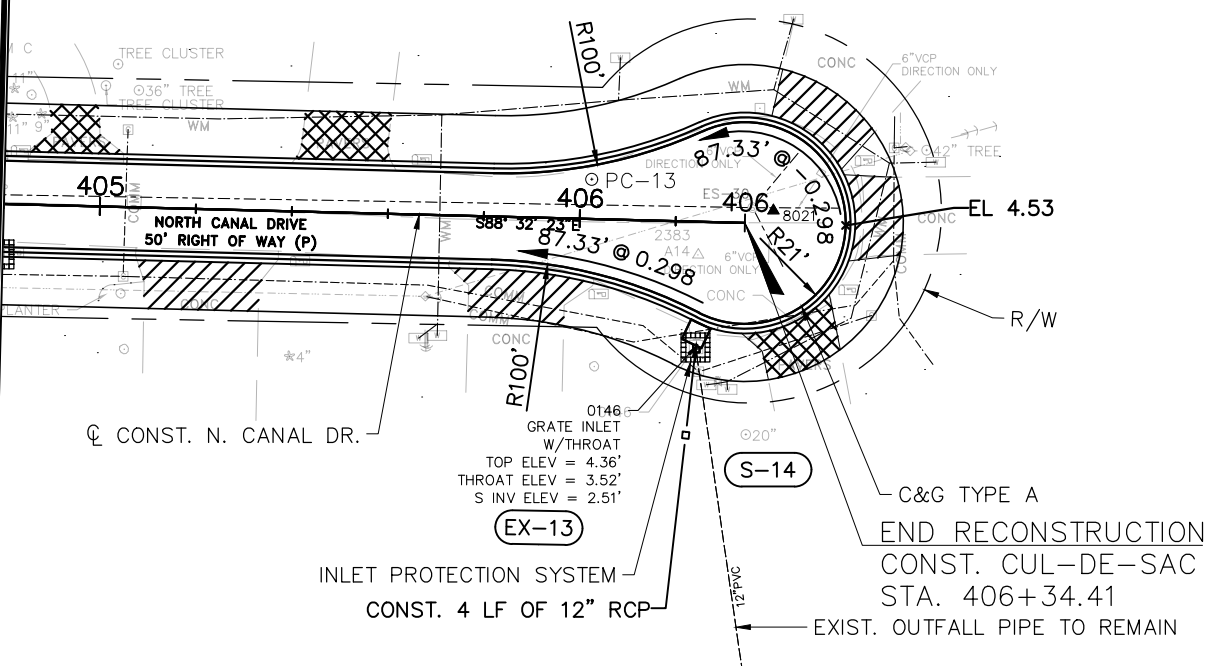
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		DESIGNED: PJS		PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS	DESCRIPTION: PLAN & PROFILE (11) N. CANAL DR.		APPROVED BY: KENT L. McWATERS, P.E. FLA. LIC. NO 45443	DATE: 2018	
		DRAWN: JHP							PROJECT NO. 1177A
REV. NO. DATE DESCRIPTION	REV. BY	CHECKED: KLM							SHEET: 17 OF 68

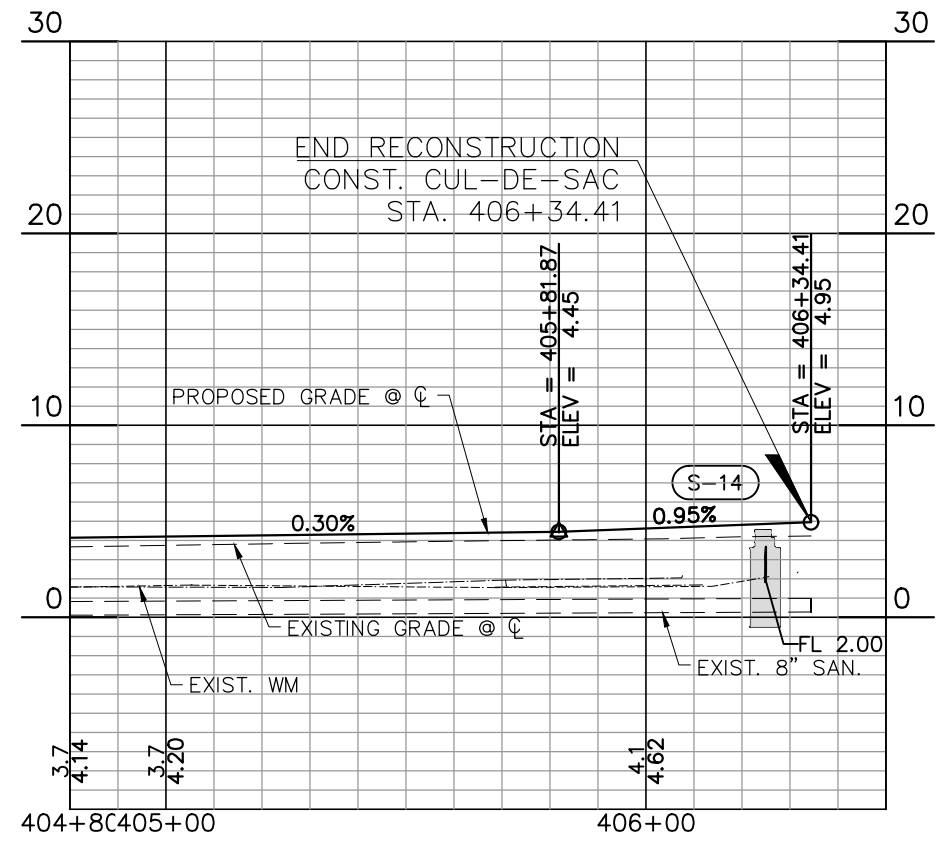
N. CANAL DR.



MATCH LINE STA. 404+80.00



- PLAN AND PROFILE LEGEND**
- TREE REMOVAL
 - DRIVEWAY REPLACEMENT
 - PAVER DRIVEWAY REPLACEMENT



Scale: 1"=40' Horiz.
1"=10' Vert.

C:\pwworking\tpo\d0909660\1177A-PLPR03.dwg, Feb 13, 2018 - 6:53pm

REV. NO.	DATE	DESCRIPTION	REV. BY



PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS

DESCRIPTION: PLAN & PROFILE (12) N. CANAL DR.



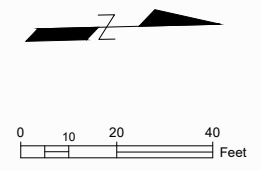
APPROVED BY: KENT L. McWATERS, P.E. DATE: _____
FLA. LIC. NO 45443

DATE:	2018
PROJECT NO.	1177A
SHEET:	18 OF 68

CURVE 5
 R=200.00'
 L=18.381'
 CH=18.37'
 CH BRG=N03°54'55"E
 Δ=005°15'57" RT.
 PC=500+27.93
 PT=500+46.31
 e=NC

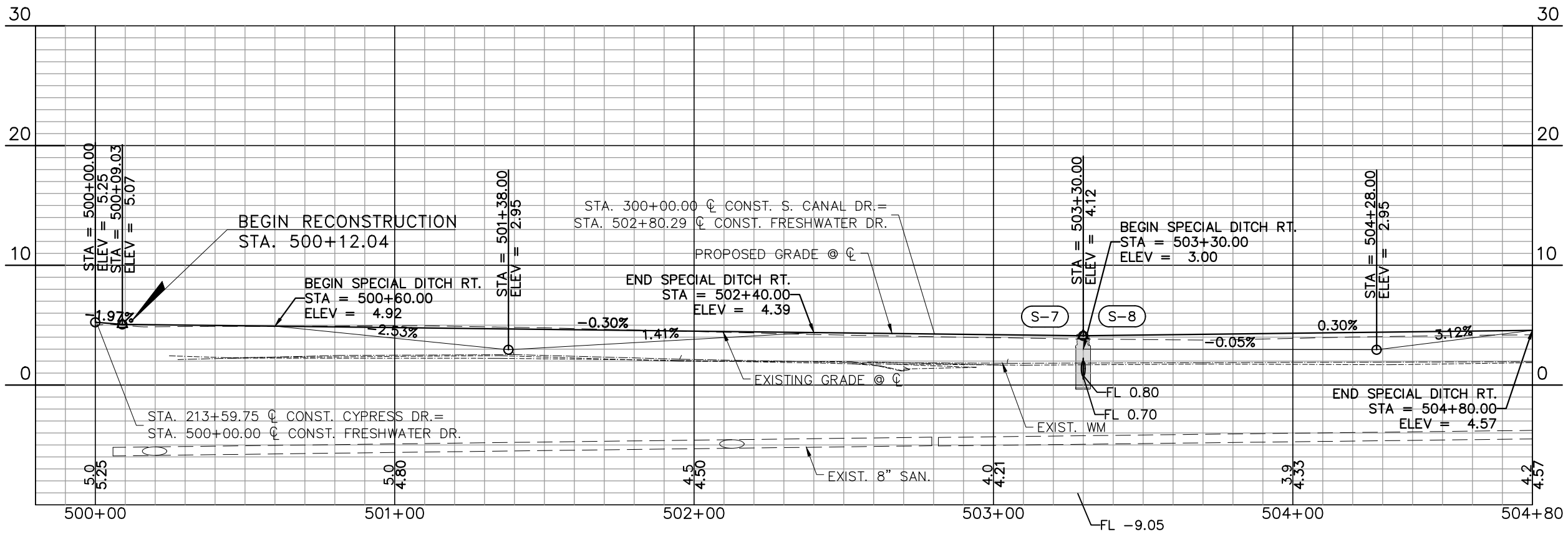
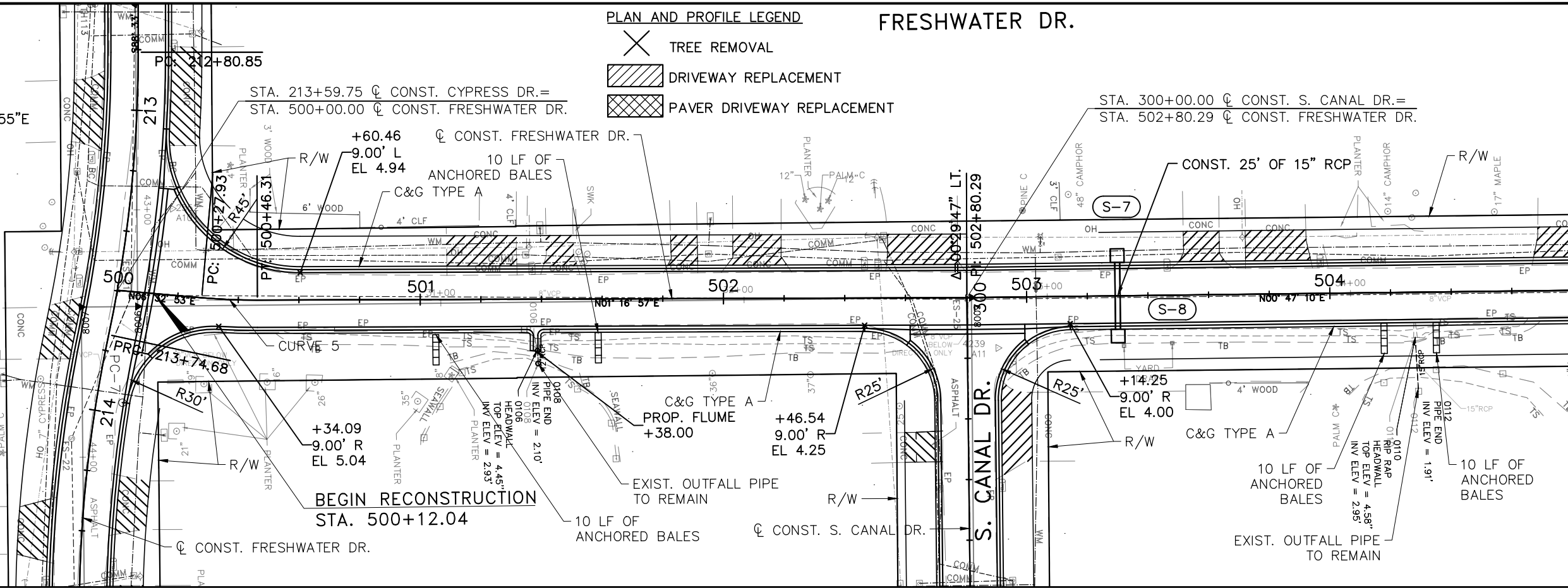
PLAN AND PROFILE LEGEND
 X TREE REMOVAL
 [Hatched Box] DRIVEWAY REPLACEMENT
 [Cross-hatched Box] PAVER DRIVEWAY REPLACEMENT

FRESHWATER DR.



CYPRESS DR.

MATCH LINE STA. 504+80.00



Scale: 1"=40' Horiz.
 1"=10' Vert.

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DESIGNED: PJS		PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS		DESCRIPTION: PLAN & PROFILE (13) FRESHWATER DR.	APPROVED BY: KENT L. McWATERS, P.E. FLA. LIC. NO 45443	DATE: 2018
DRAWN: JHP		CHECKED: KLM		CERTIFICATE OF AUTHORIZATION 4213		PROJECT NO. 1177A
REV. NO. DATE DESCRIPTION		REV. BY		DATE		SHEET: 19 OF 68

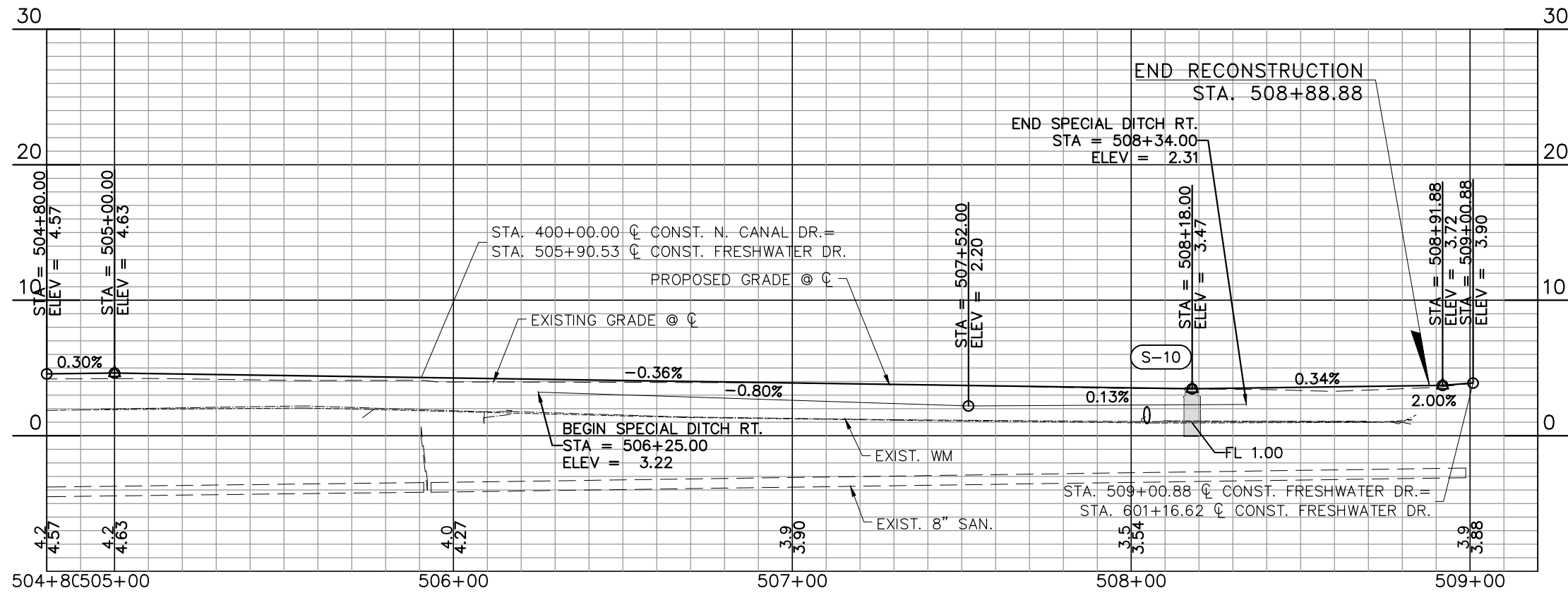
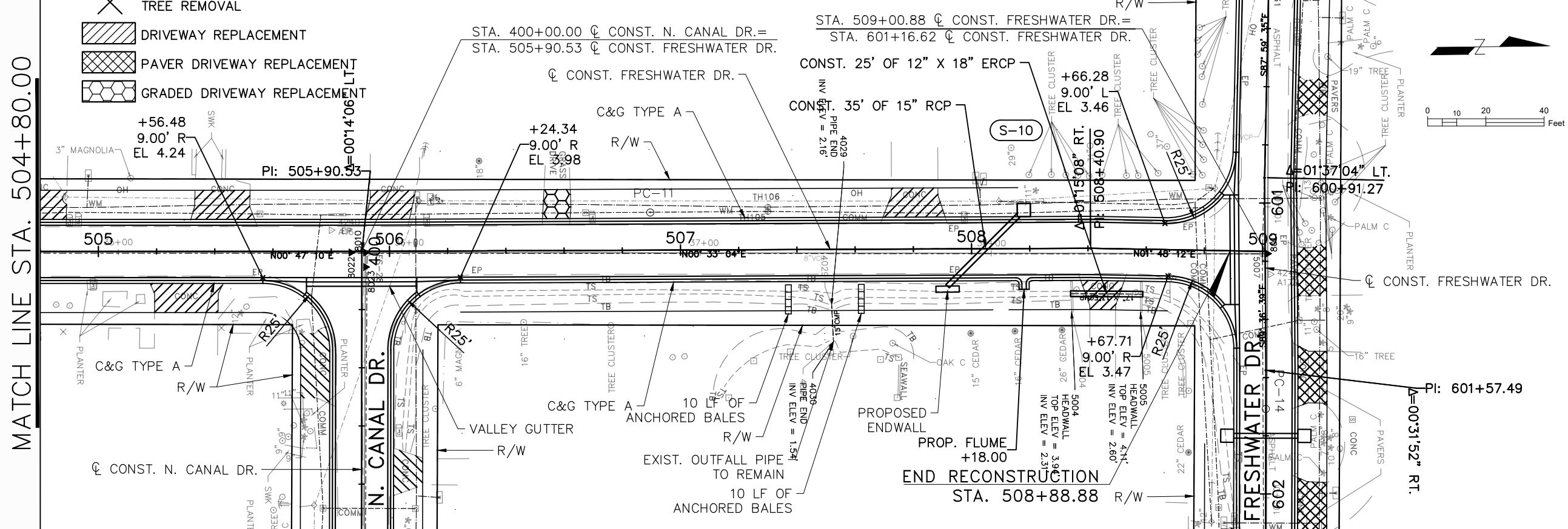
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PLAN AND PROFILE LEGEND

- TREE REMOVAL
- DRIVEWAY REPLACEMENT
- PAVER DRIVEWAY REPLACEMENT
- GRADED DRIVEWAY REPLACEMENT

MATCH LINE STA. 504+80.00

FRESHWATER DR.



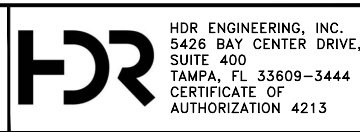
Scale: 1"=40' Horiz.
1"=10' Vert.

DESIGNED	PJS		
DRAWN	JHP		
CHECKED	KLM		
REV. NO.	DATE	DESCRIPTION	REV. BY



PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS

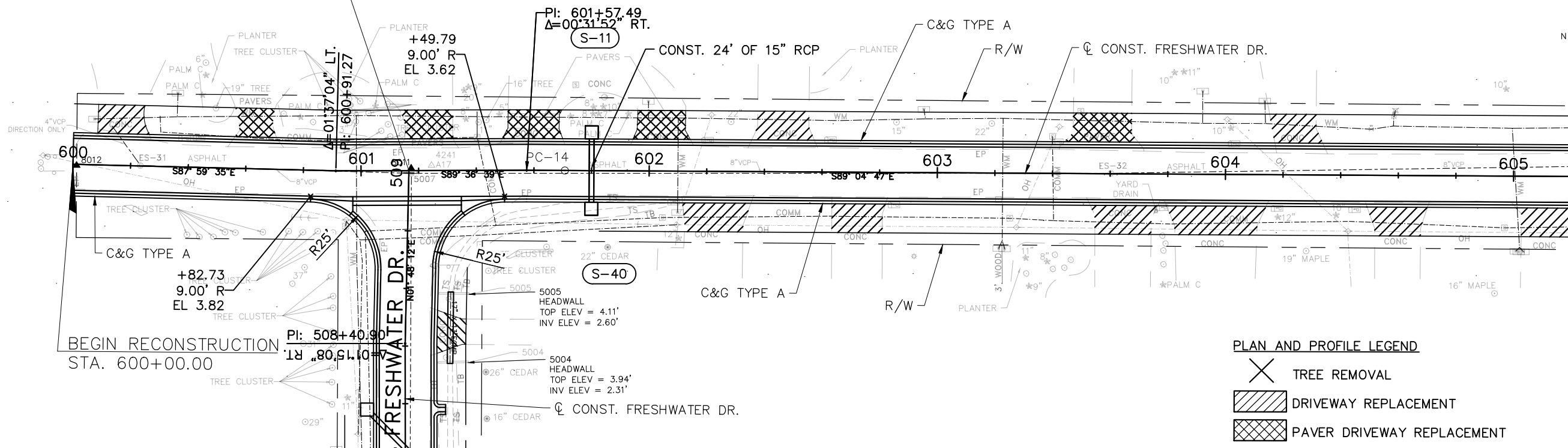
DESCRIPTION: PLAN & PROFILE (14) FRESHWATER DR.



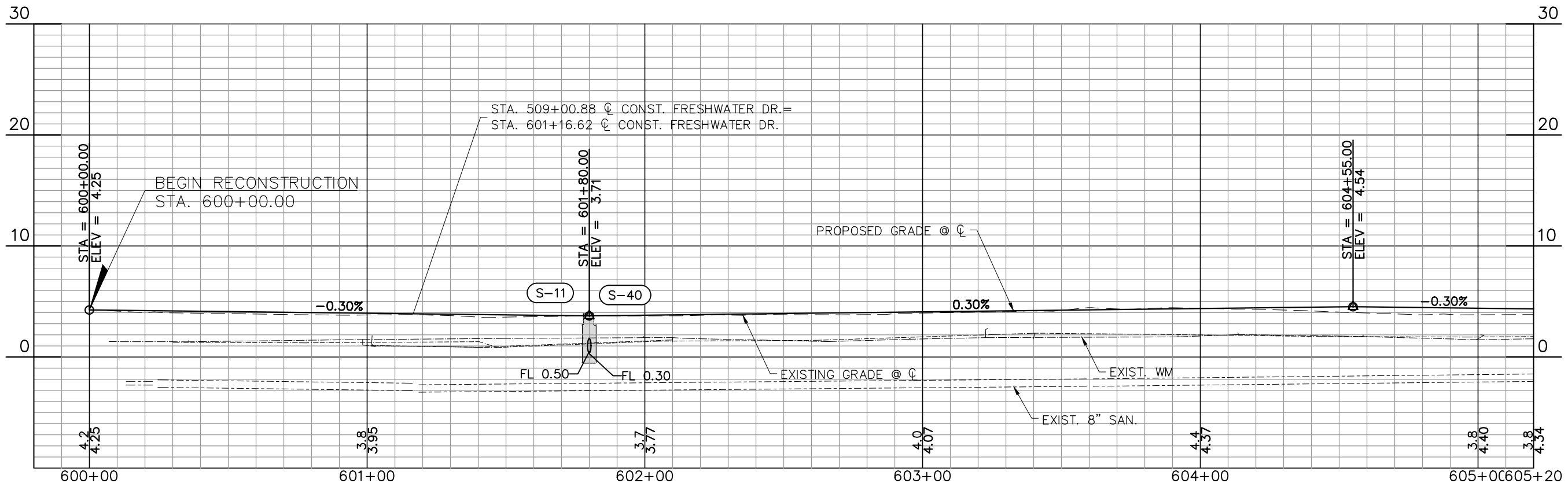
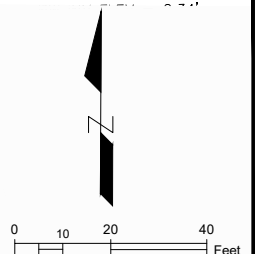
HDR ENGINEERING, INC. 5426 BAY CENTER DRIVE, SUITE 400 TAMPA, FL 33609-3444 CERTIFICATE OF AUTHORIZATION 4213	APPROVED BY: KENT L. McWATERS, P.E. FLA. LIC. NO 45443	DATE	2018
		PROJECT NO.	1177A
		SHEET:	20 OF 68

FRESHWATER DR.

STA. 509+00.88 @ CONST. FRESHWATER DR. =
STA. 601+16.62 @ CONST. FRESHWATER DR.



MATCH LINE STA. 605+20.00

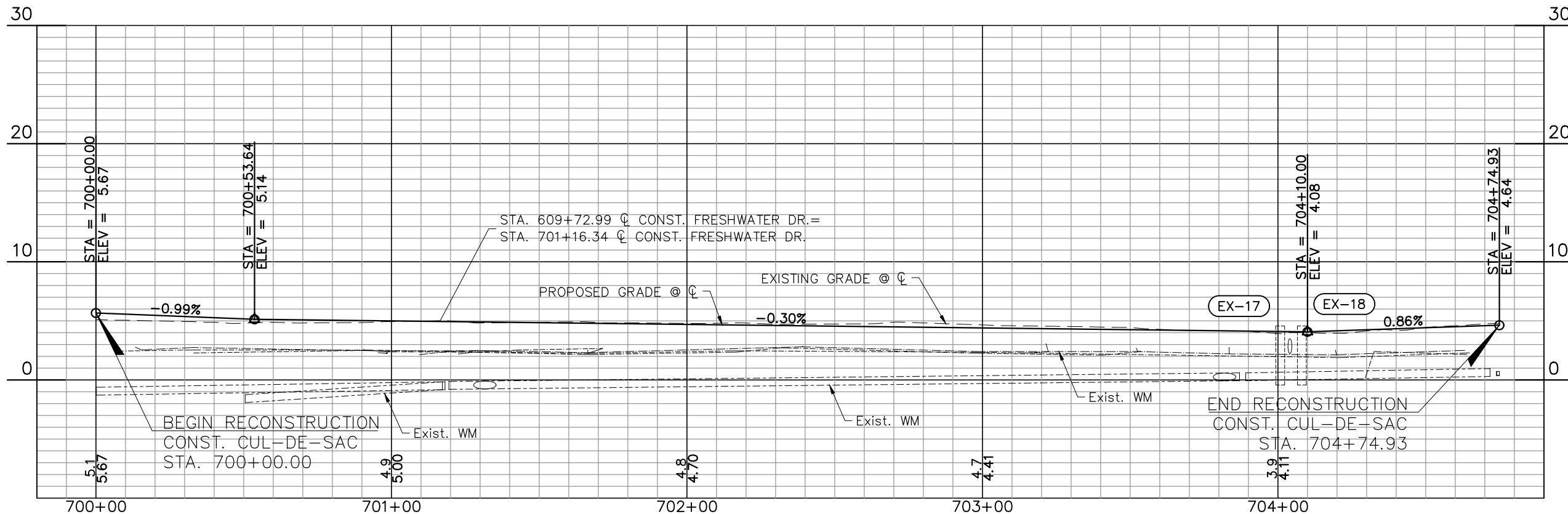
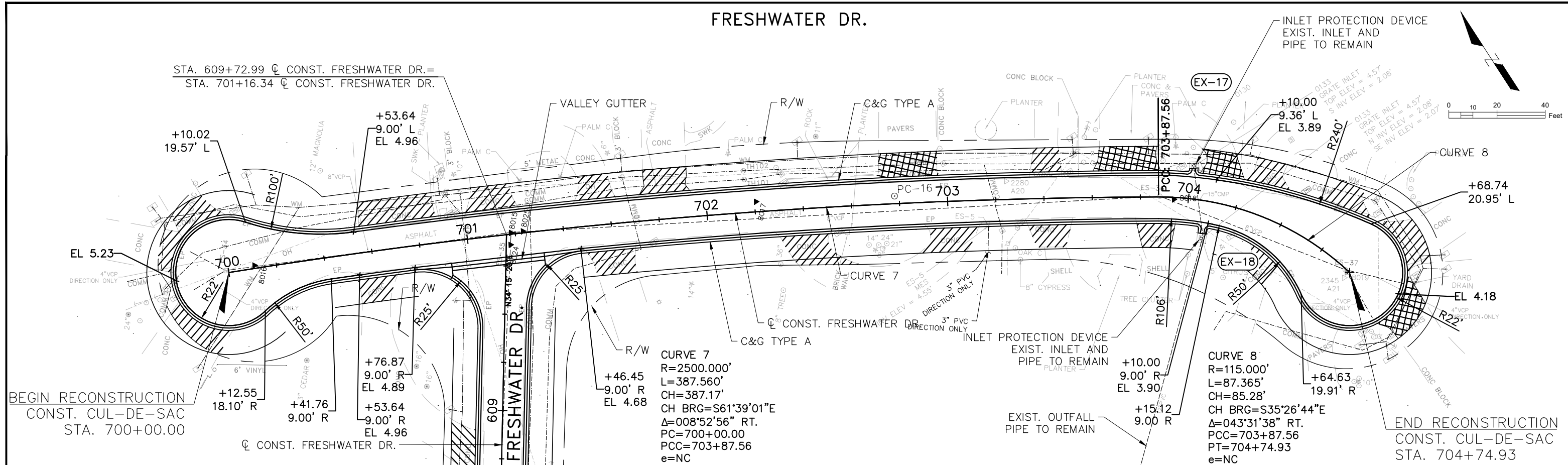


Scale: 1"=40' Horiz.
1"=10' Vert.

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DESIGNED	PJS		PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS	DESCRIPTION: PLAN & PROFILE (15) FRESHWATER DR.		HDR ENGINEERING, INC. 5426 BAY CENTER DRIVE, SUITE 400 TAMPA, FL 33609-3444 CERTIFICATE OF AUTHORIZATION 4213	APPROVED BY:	DATE:
DRAWN	JHP						KENT L. McWATERS, P.E.	2018
CHECKED	KLM						FLA. LIC. NO 45443	1177A
REV. NO.	DATE	DESCRIPTION	REV. BY			DATE		SHEET:
								21 OF 68

FRESHWATER DR.



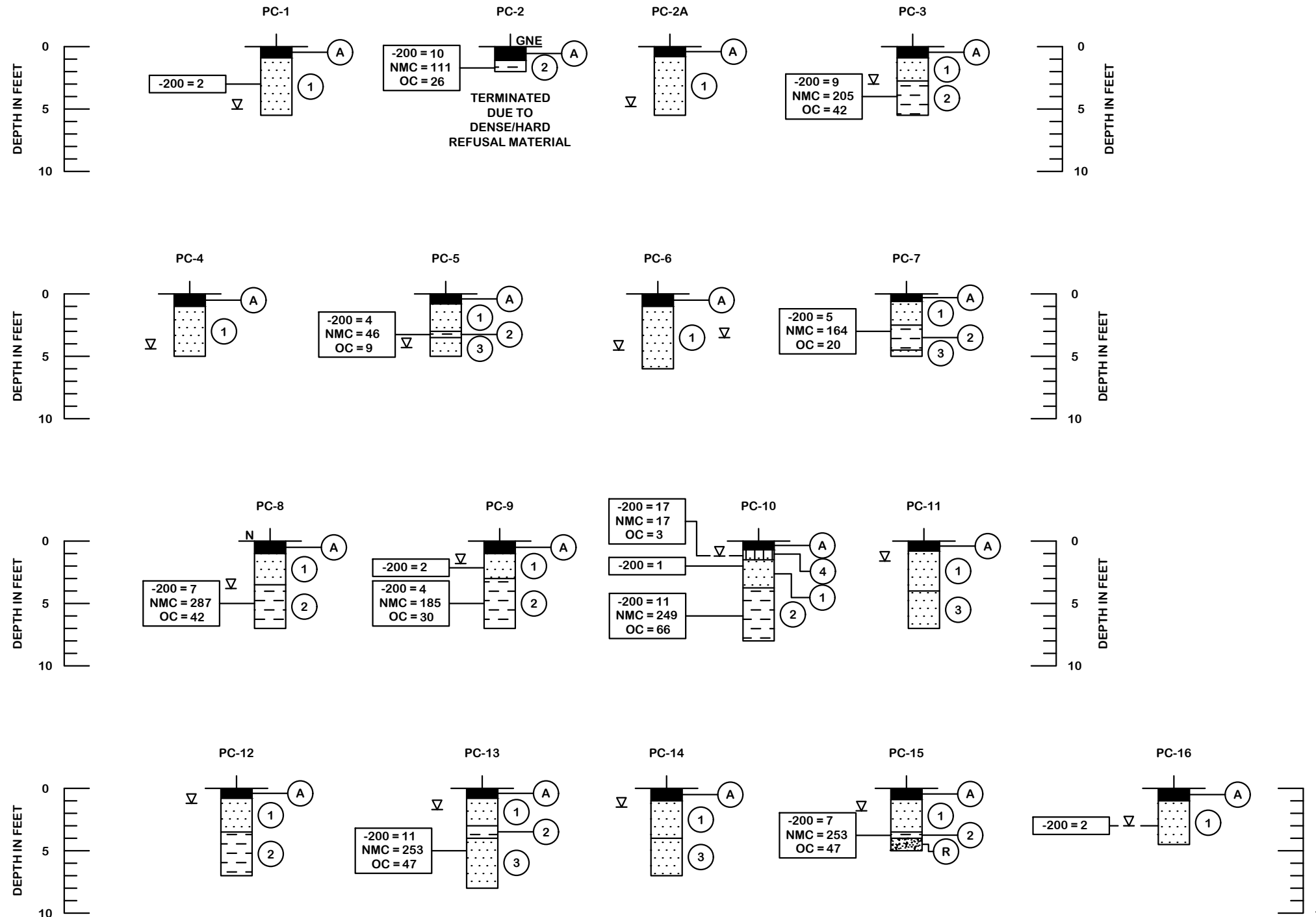
Scale: 1"=40' Horiz.
1"=10' Vert.

C:\pwworking\tpo\d0909660\1177A-PLPR06.dwg, Feb 13, 2018 - 7:01pm

DESIGNED	PJS		PROJECT:	LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS		HDR ENGINEERING, INC. 5426 BAY CENTER DRIVE, SUITE 400 TAMPA, FL 33609-3444 CERTIFICATE OF AUTHORIZATION 4213	APPROVED BY:	KENT L. McWATERS, P.E. FLA. LIC. NO 45443	DATE	2018
DRAWN	JHP		DESCRIPTION:	PLAN & PROFILE (17) FRESHWATER DR.		PROJECT NO.	1177A			
CHECKED	KLM		DATE			SHEET:	23 OF 68			
REV. NO.	DATE	DESCRIPTION	REV. BY							

SOIL PROFILES

LEGEND

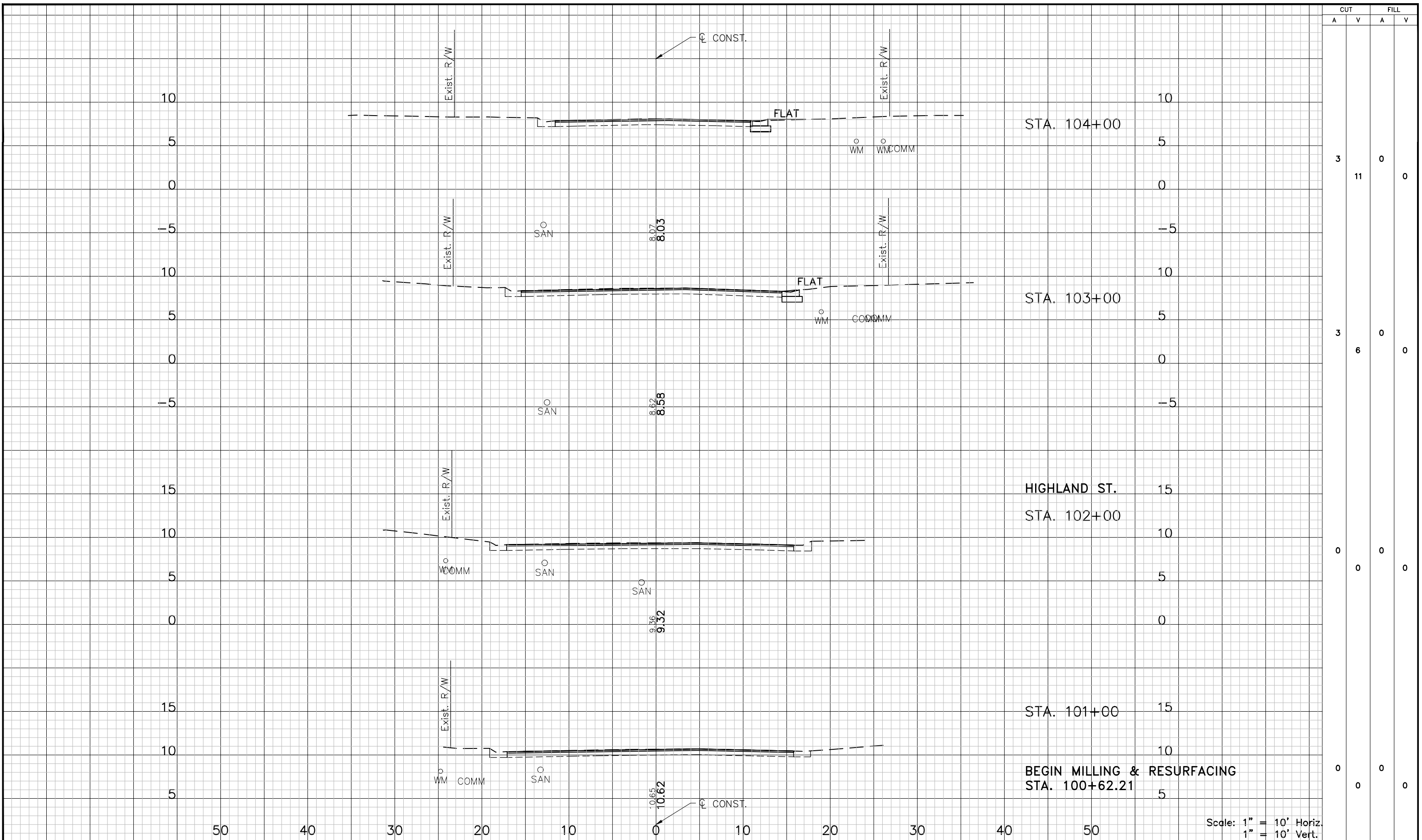


- ① LIGHT BROWN, GRAY SAND OCCASIONALLY WITH SHELL, LIMEROCK, OR WOOD DEBRIS (A-3)
- ② DARK BROWN TO VERY DARK BROWN ORGANIC SAND WITH SILT TO ORGANIC SILTY SAND (A-8)
- ③ LIGHT BROWN TO LIGHT GRAY SAND (A-3)
- ④ LIGHT BROWN TO LIGHT GRAY SILTY SAND (A-2-4)
- Ⓐ ASPHALT
- Ⓡ ROCK/CONCRETE DEBRIS
- ∇ GROUNDWATER LEVEL ENCOUNTERED DURING INVESTIGATION
- GNE GROUNDWATER TABLE NOT ENCOUNTERED
- 200 PERCENT PASSING #200 SIEVE
- NMC NATURAL MOISTURE CONTENT (%)
- OC ORGANIC CONTENT (%)

C:\pwworking\tpo\d0909660\1177A-GEO.dwg, Feb 13, 2018, 7:01pm

DESIGNED	PJS		PROJECT:	LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS	HDR ENGINEERING, INC. 5426 BAY CENTER DRIVE, SUITE 400 TAMPA, FL 33609-3444 CERTIFICATE OF AUTHORIZATION 4213	APPROVED BY:	KENT L. McWATERS, P.E. FLA. LIC. NO 45443	DATE:	2018
DRAWN	JHP		DESCRIPTION:	SOIL PROFILES		PROJECT NO.	1177A		
CHECKED	KLM		REV. BY:			SHEET:	24 OF 68		
REV. NO.	DATE	DESCRIPTION							

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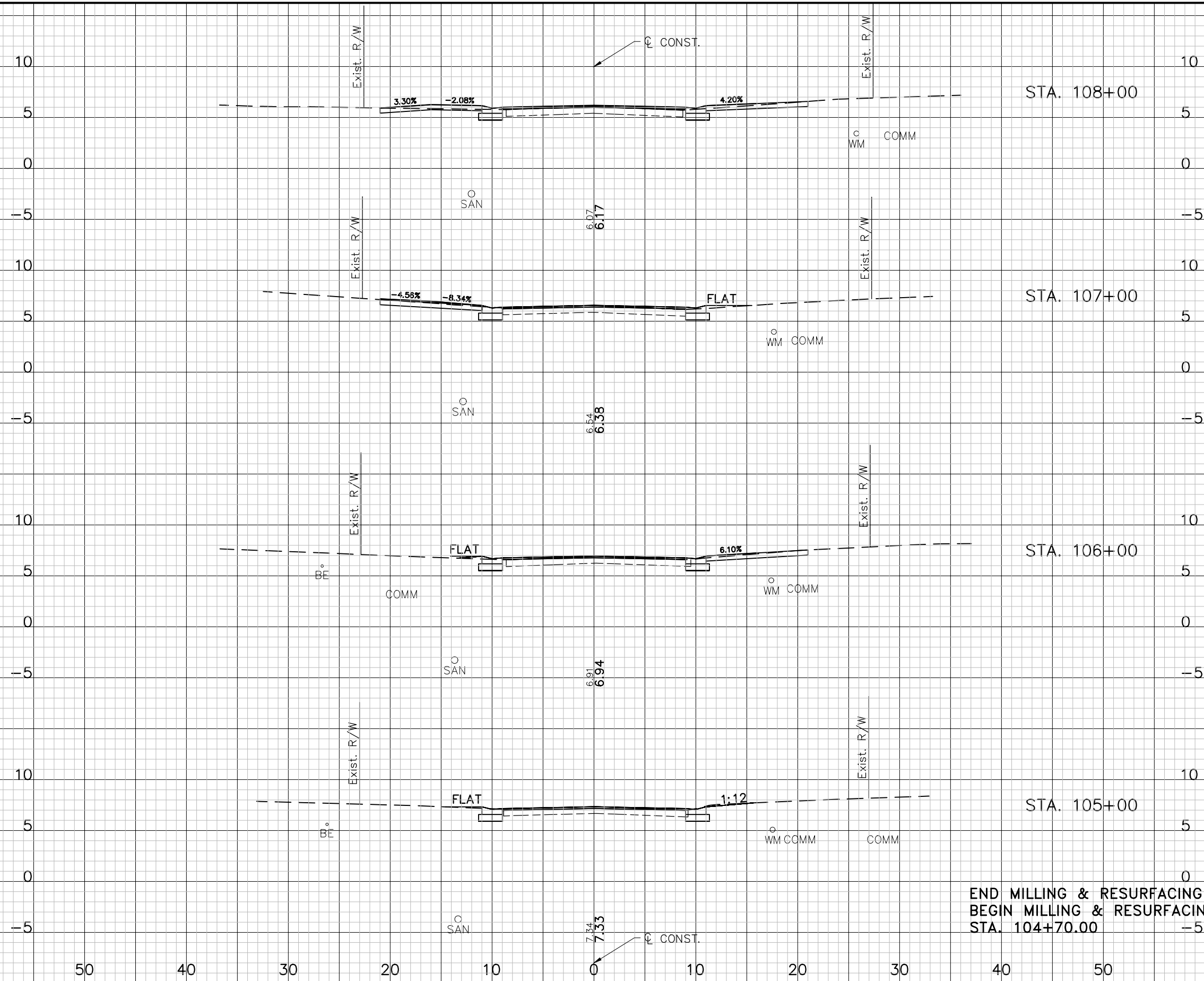
CUT		FILL	
A	V	A	V
3	11	0	0
3	6	0	0
0	0	0	0
0	0	0	0

Scale: 1" = 10' Horiz.
1" = 10' Vert.

DESIGNED: PJS		PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS		DESCRIPTION: CROSS SECTIONS (1) CITRUS DR.	APPROVED BY: KENT L. McWATERS, P.E. FLA. LIC. NO 45443	DATE: 2018
DRAWN: JHP		PROJECT NO. 1177A				
CHECKED: KLM		SHEET: 25 OF 68				

REV. NO.	DATE	DESCRIPTION	REV. BY

C:\pwworking\top\d0909660\1177A-XS01.dwg, Feb 13, 2018 - 7:02pm



CUT		FILL	
A	V	A	V
10	37	3	7
10	35	1	4
9	28	1	2
6	16.7	0	0

END MILLING & RESURFACING
 BEGIN MILLING & RESURFACING WITH OVERBUILD
 STA. 104+70.00

Scale: 1" = 10' Horiz.
 1" = 10' Vert.

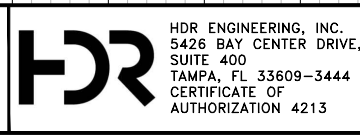
REV. NO.	DATE	DESCRIPTION	REV. BY

DESIGNED	PJS
DRAWN	JHP
CHECKED	KLM



PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS

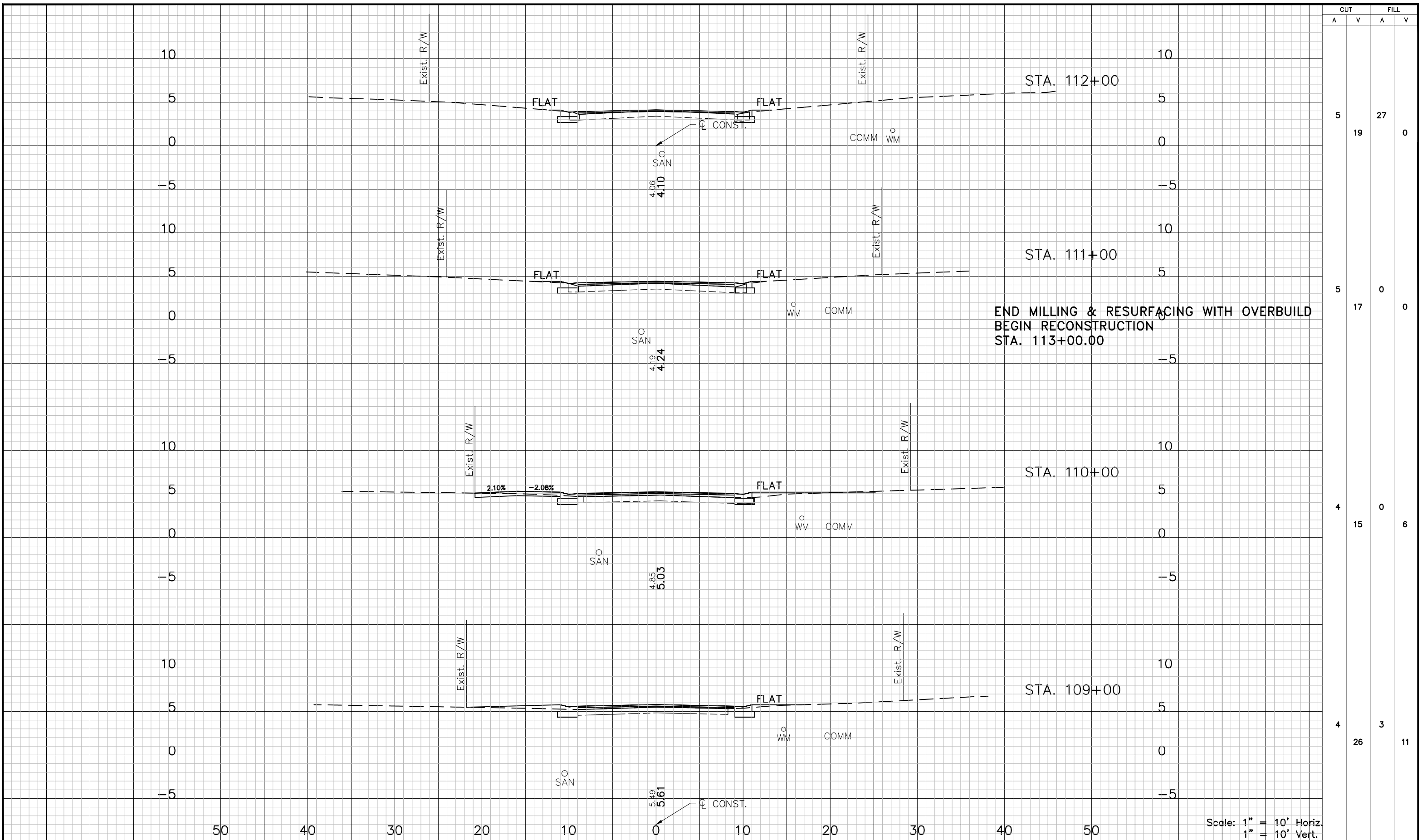
DESCRIPTION: CROSS SECTIONS (2) CITRUS DR.



APPROVED BY: KENT L. McWATERS, P.E.
 DATE: _____
 FLA. LIC. NO. 45443

DATE:	2018
PROJECT NO.:	1177A
SHEET:	26 OF 68

C:\pwworking\top\0909660\1177A-XS01.dwg, Feb 13, 2018 - 7:03pm



CUT		FILL	
A	V	A	V
5	19	27	0
5	17	0	0
4	15	0	6
4	26	3	11

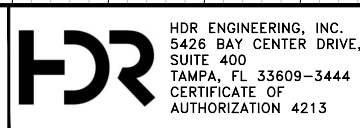
REV. NO.	DATE	DESCRIPTION	REV. BY

DESIGNED	PJS
DRAWN	JHP
CHECKED	KLM



PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS

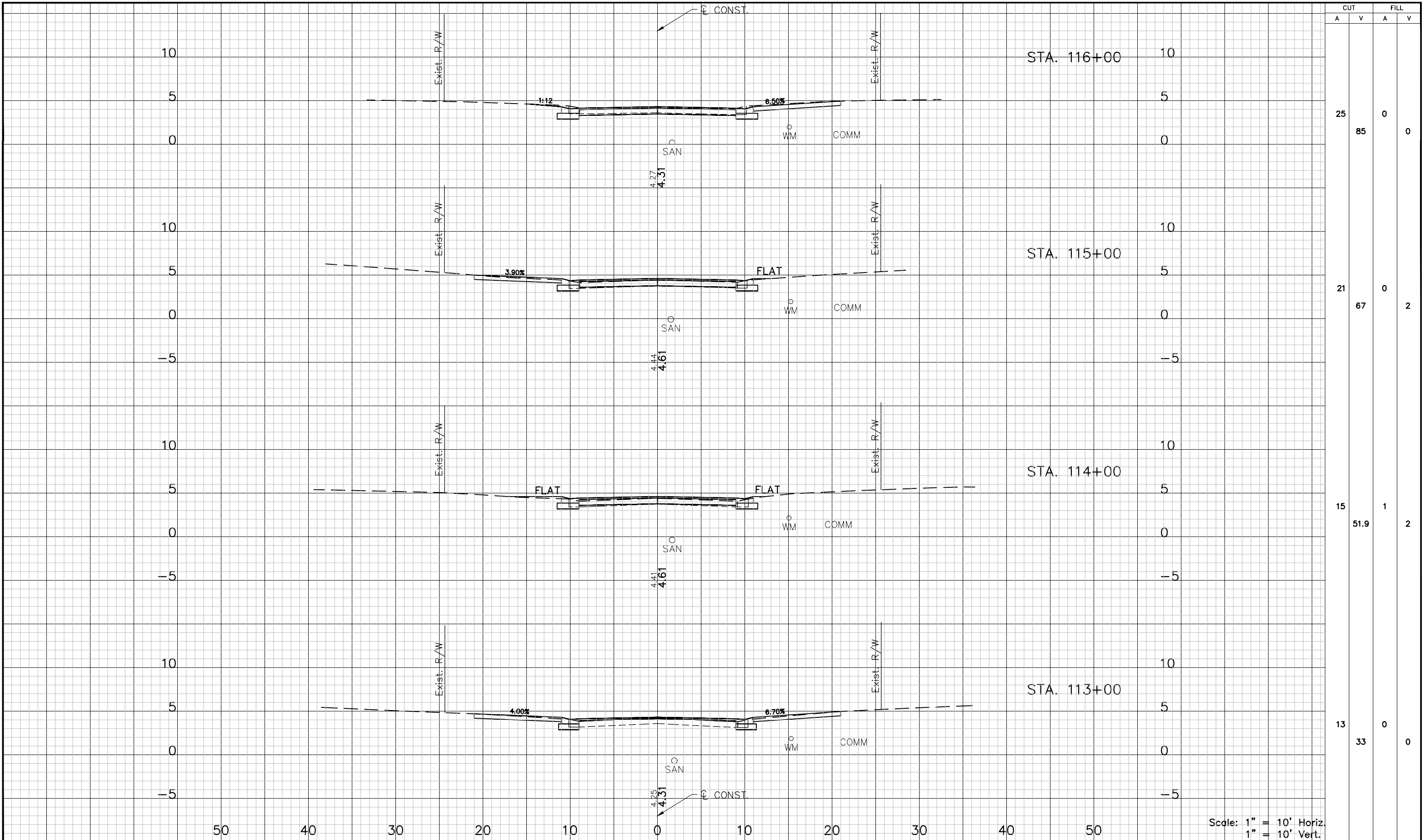
DESCRIPTION: CROSS SECTIONS (3) CITRUS DR.



APPROVED BY: KENT L. McWATERS, P.E.
FLA. LIC. NO 45443

DATE:	2018
PROJECT NO.:	1177A
SHEET:	27 OF 68

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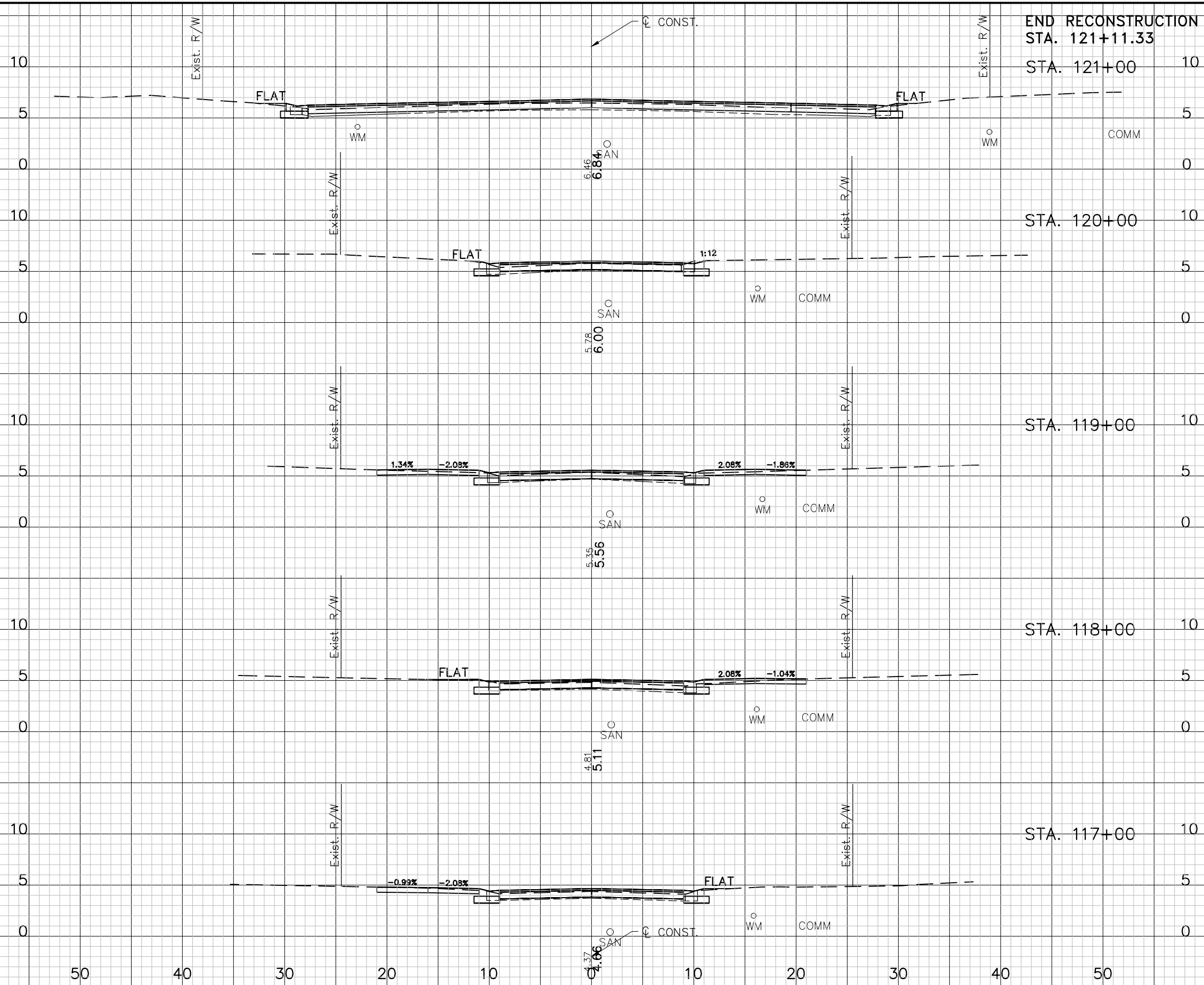


CUT		FILL	
A	V	A	V
25	85	0	0
21	67	0	2
15	51.9	1	2
13	33	0	0

Scale: 1" = 10' Horiz.
1" = 10' Vert.

DESIGNED: PJS		PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS		DESCRIPTION: CROSS SECTIONS (4) CITRUS DR.	APPROVED BY: KENT L. McWATERS, P.E. FLA. LIC. NO 45443 DATE:	DATE: 2018
DRAWN: JHP		PROJECT NO. 1177A				
CHECKED: KLM		SHEET: 28 OF 68				
REV. NO. DATE DESCRIPTION	REV. BY					

C:\pwworking\top\d0909660\1177A-XS01.dwg, Feb 13, 2018 - 7:03pm

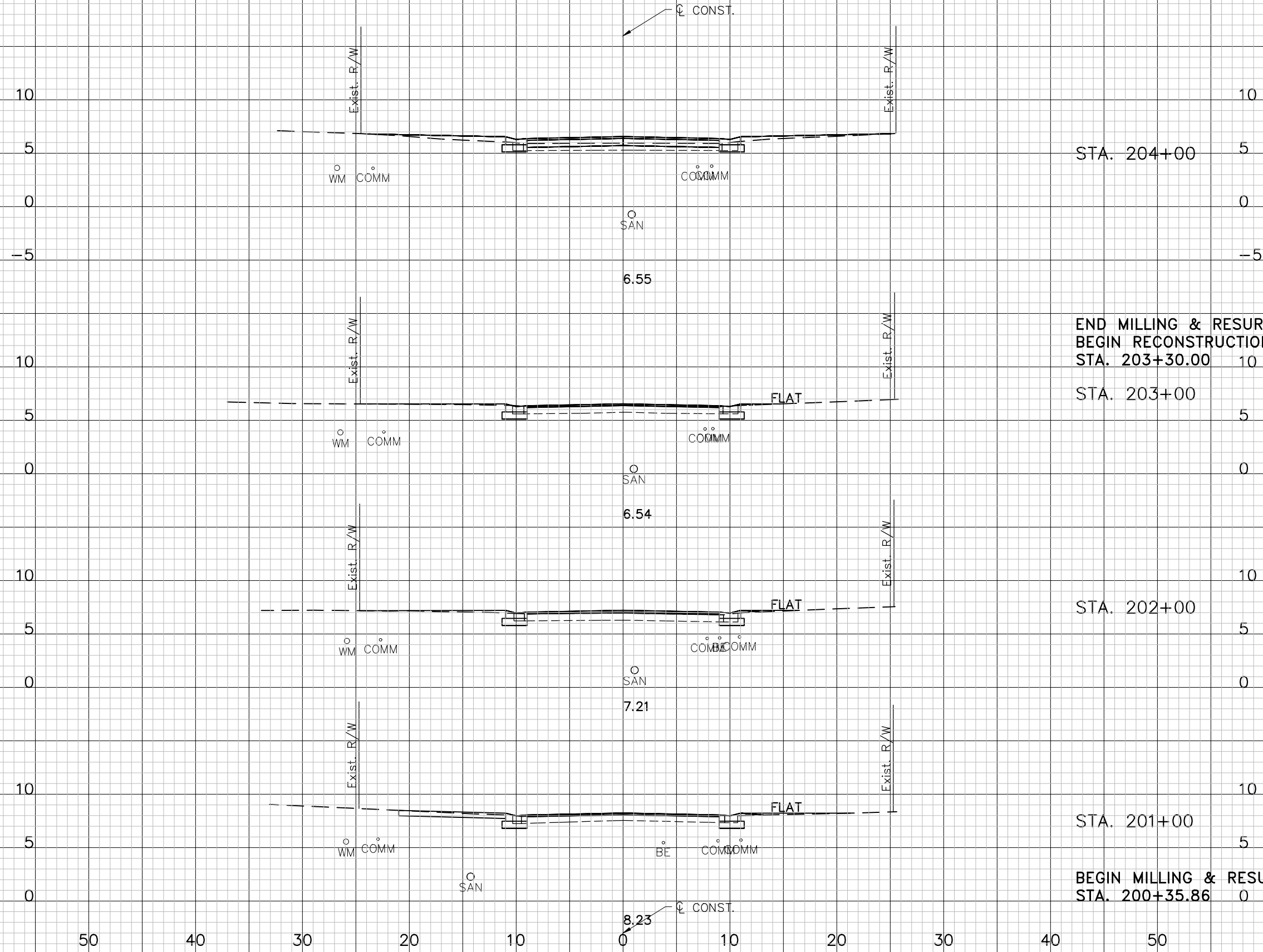


CUT	FILL	
	A	V
0	0	1
42	1	2
120	0	0
23	0	0
20	0	0
21	0	0

Scale: 1" = 10' Horiz.
1" = 10' Vert.

DESIGNED: PJS		PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS		DESCRIPTION: CROSS SECTIONS (5) CITRUS DR.	APPROVED BY: KENT L. McWATERS, P.E. DATE: 2018
DRAWN: JHP		PROJECT NO. 1177A			
CHECKED: KLM		SHEET: 29 OF 68			

C:\pwworking\lpo\d0909660\1177A-XS02.dwg, Feb 13, 2018 - 7:04pm



STA. 204+00

END MILLING & RESURFACING
BEGIN RECONSTRUCTION
STA. 203+30.00

STA. 203+00

STA. 202+00

STA. 201+00

BEGIN MILLING & RESURFACING
STA. 200+35.86

CUT		FILL	
A	V	A	V
16	6	6	13
39	13	19	6
5	1	5	7
26	2	26	2
9	2	11	2
0	0	0	0

Scale: 1" = 10' Horiz.
1" = 10' Vert.

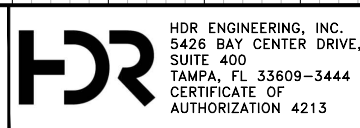
REV. NO.	DATE	DESCRIPTION	REV. BY

DESIGNED	PJS
DRAWN	JHP
CHECKED	KLM



PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS

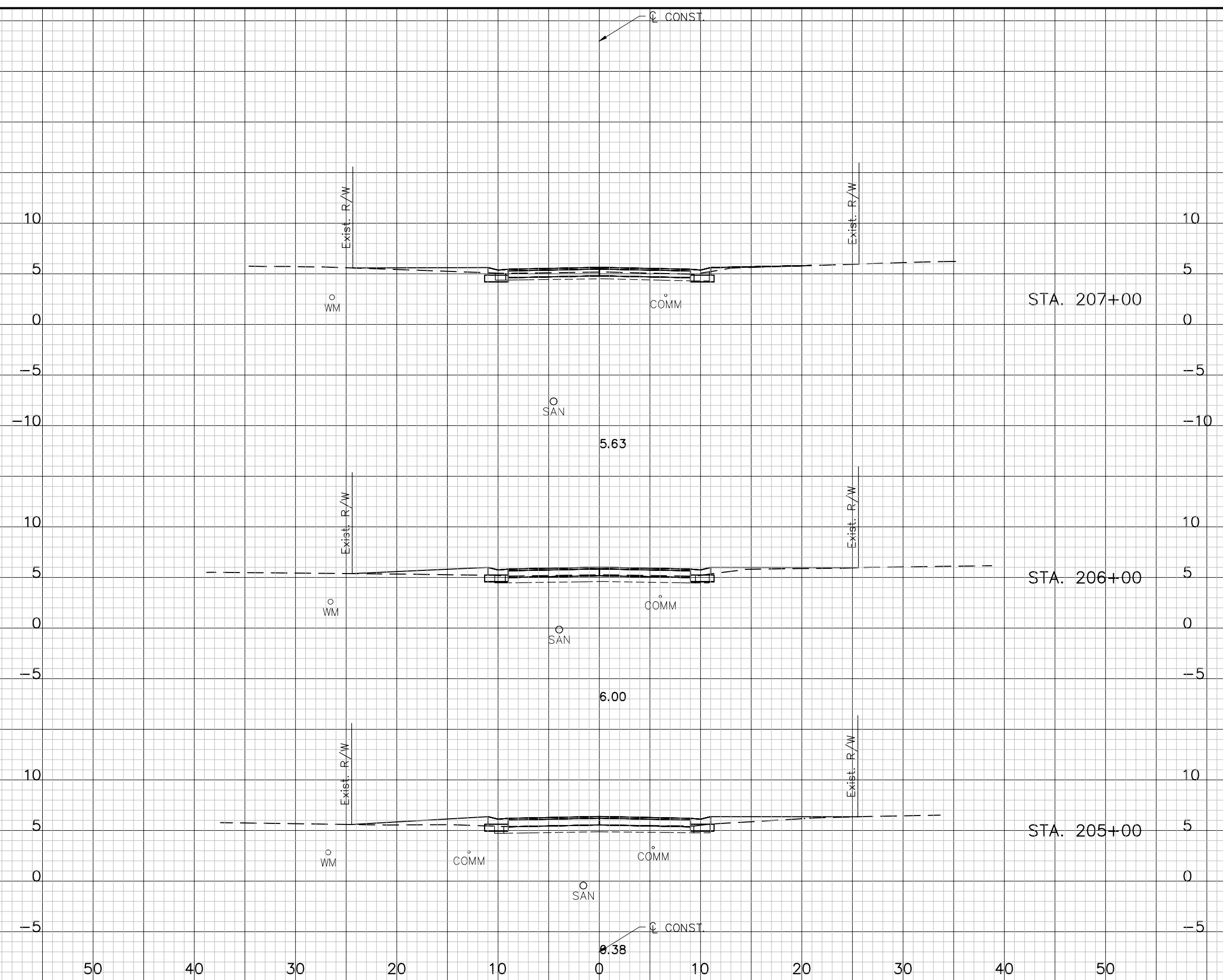
DESCRIPTION: CROSS SECTIONS (6) CYPRESS DR.



APPROVED BY: KENT L. McWATERS, P.E.
FLA. LIC. NO. 45443

DATE: 2018
PROJECT NO. 1177A
SHEET: 30 OF 68

C:\pwworking\tpo\0909660\1177A-XS02.dwg, Feb 13, 2018 - 7:05pm



CUT	FILL				
		A	V	A	V
16	4	39	22		
5	8	15	33		
3	10	35	30		

Scale: 1" = 10' Horiz.
1" = 10' Vert.

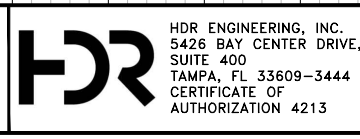
REV. NO.	DATE	DESCRIPTION	REV. BY

DESIGNED	PJS
DRAWN	JHP
CHECKED	KLM



PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS

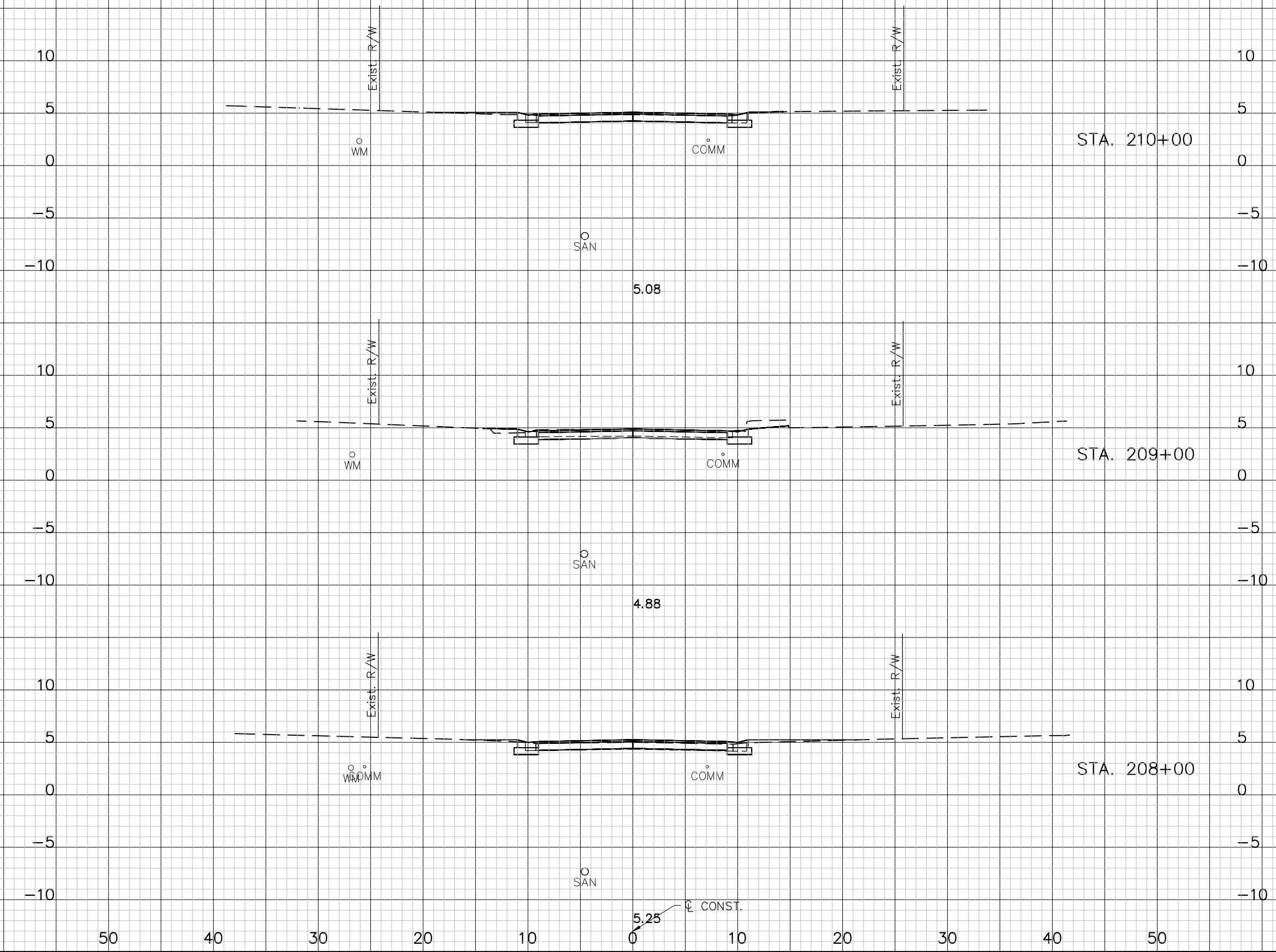
DESCRIPTION: CROSS SECTIONS (7) CYPRESS DR.



APPROVED BY: KENT L. McWATERS, P.E. DATE: 2018

PROJECT NO. 1177A
SHEET: 31 OF 68

FRESHWATER DR.



CUT		FILL	
A	V	A	V
17	94	1	4
34	93	1	6
16	59	2	11

Scale: 1" = 10' Horiz.
1" = 10' Vert.

C:\pwworking\top\d0909660\1177A-XS02.dwg, Feb 13, 2018 - 7:05pm

DESIGNED	PJS		
DRAWN	JHP		
CHECKED	KLM		
REV. NO.	DATE	DESCRIPTION	REV. BY



PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS

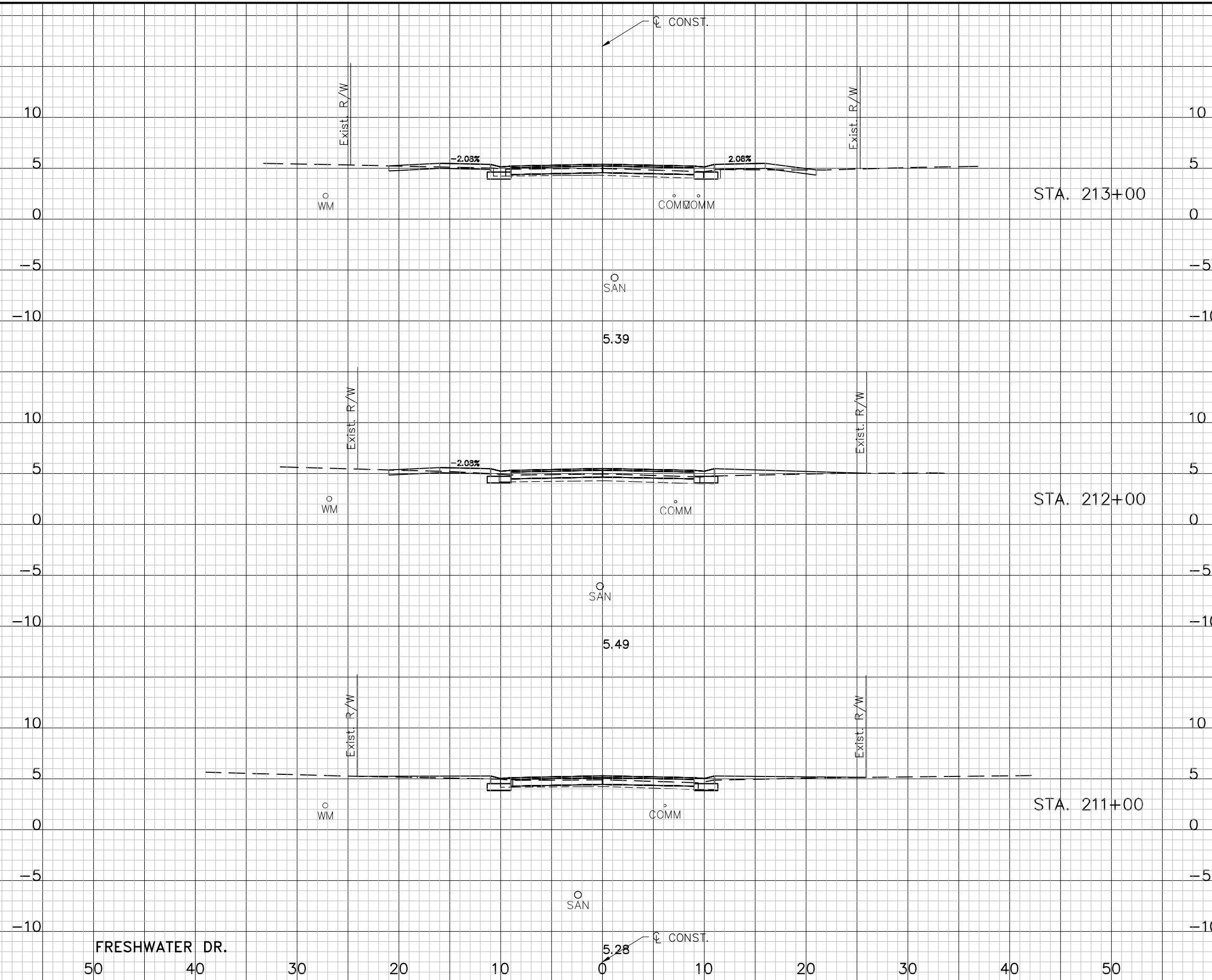
DESCRIPTION: CROSS SECTIONS (8) CYPRESS DR.



APPROVED BY: KENT L. McWATERS, P.E.
FLA. LIC. NO 45443

DATE: 2018
PROJECT NO. 1177A
SHEET: 32 OF 68

C:\pwworking\lpo\d0909660\1177A-XS02.dwg, Feb 13, 2018 - 7:06pm



CUT		FILL	
A	V	A	V
15	48	0	9
11	44	5	19
13	56	5	11

FRESHWATER DR.
50 40 30 20 10 0 10 20 30 40 50

Scale: 1" = 10' Horiz.
1" = 10' Vert.

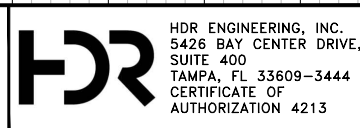
REV. NO.	DATE	DESCRIPTION	REV. BY

DESIGNED	PJS
DRAWN	JHP
CHECKED	KLM



PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS

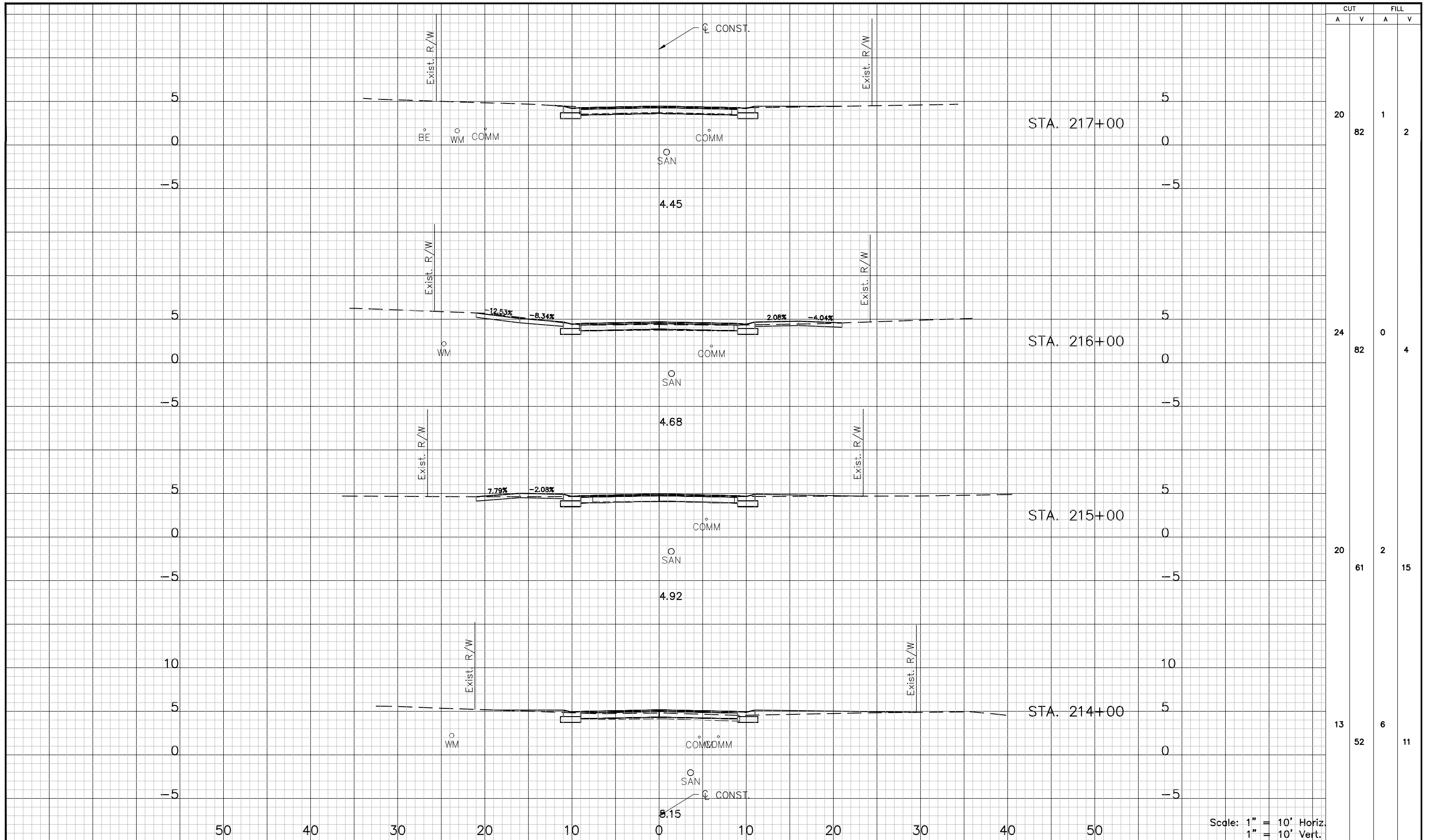
DESCRIPTION: CROSS SECTIONS (9) CYPRESS DR.



APPROVED BY: KENT L. McWATERS, P.E. DATE: 2018

PROJECT NO. 1177A
SHEET: 33 OF 68

C:\pwworking\tpo\0909660\1177A-XS02.dwg, Feb 13, 2018 - 7:06pm

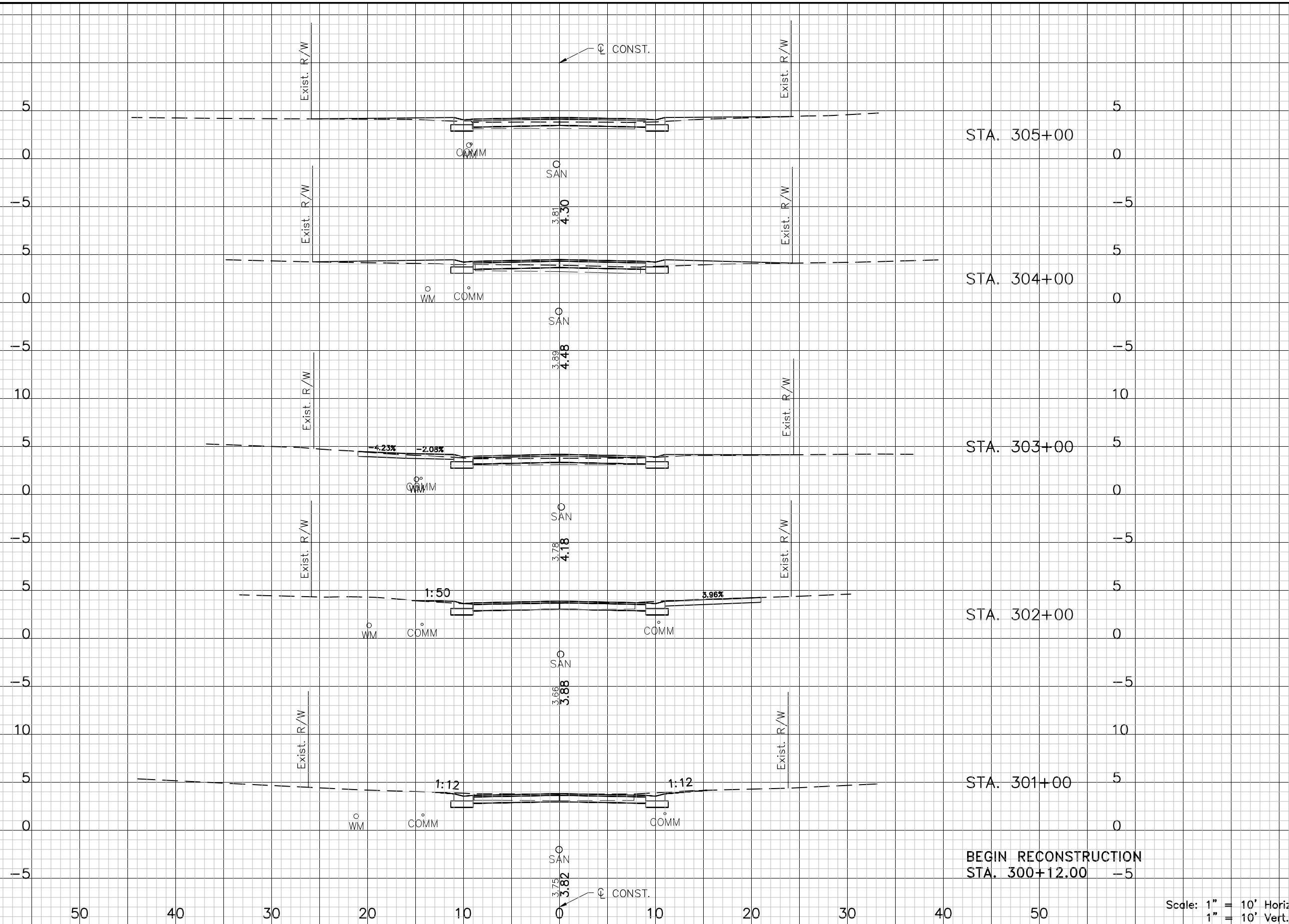


CUT		FILL	
A	V	A	V
20	82	1	2
24	82	0	4
20	61	2	15
13	52	6	11

Scale: 1" = 10' Horiz.
1" = 10' Vert.

DESIGNED: PJS		PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS		HDR ENGINEERING, INC. 5426 BAY CENTER DRIVE, SUITE 400 TAMPA, FL 33609-3444 CERTIFICATE OF AUTHORIZATION 4213	APPROVED BY: _____	DATE: 2018
DRAWN: JHP		DESCRIPTION: CROSS SECTIONS (10) CYPRESS DR.			KENT L. McWATERS, P.E.	DATE
CHECKED: KLM					FLA. LIC. NO 45443	
REV. NO.	DATE	DESCRIPTION	REV. BY			SHEET: 34 OF 68

C:\pwworking\top\d0909660\1177A-XS03.dwg, Feb 13, 2018 - 7:08pm



CUT		FILL	
A	V	A	V
12	39	4	20
9	50	7	15
18	76	1	2
23	85	0	0
23	38	0	0
0	0	0	0

BEGIN RECONSTRUCTION
STA. 300+12.00

Scale: 1" = 10' Horiz.
1" = 10' Vert.

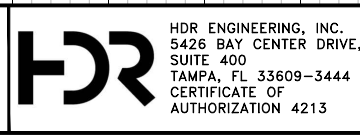
REV. NO.	DATE	DESCRIPTION	REV. BY

DESIGNED	PJS
DRAWN	JHP
CHECKED	KLM



PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS

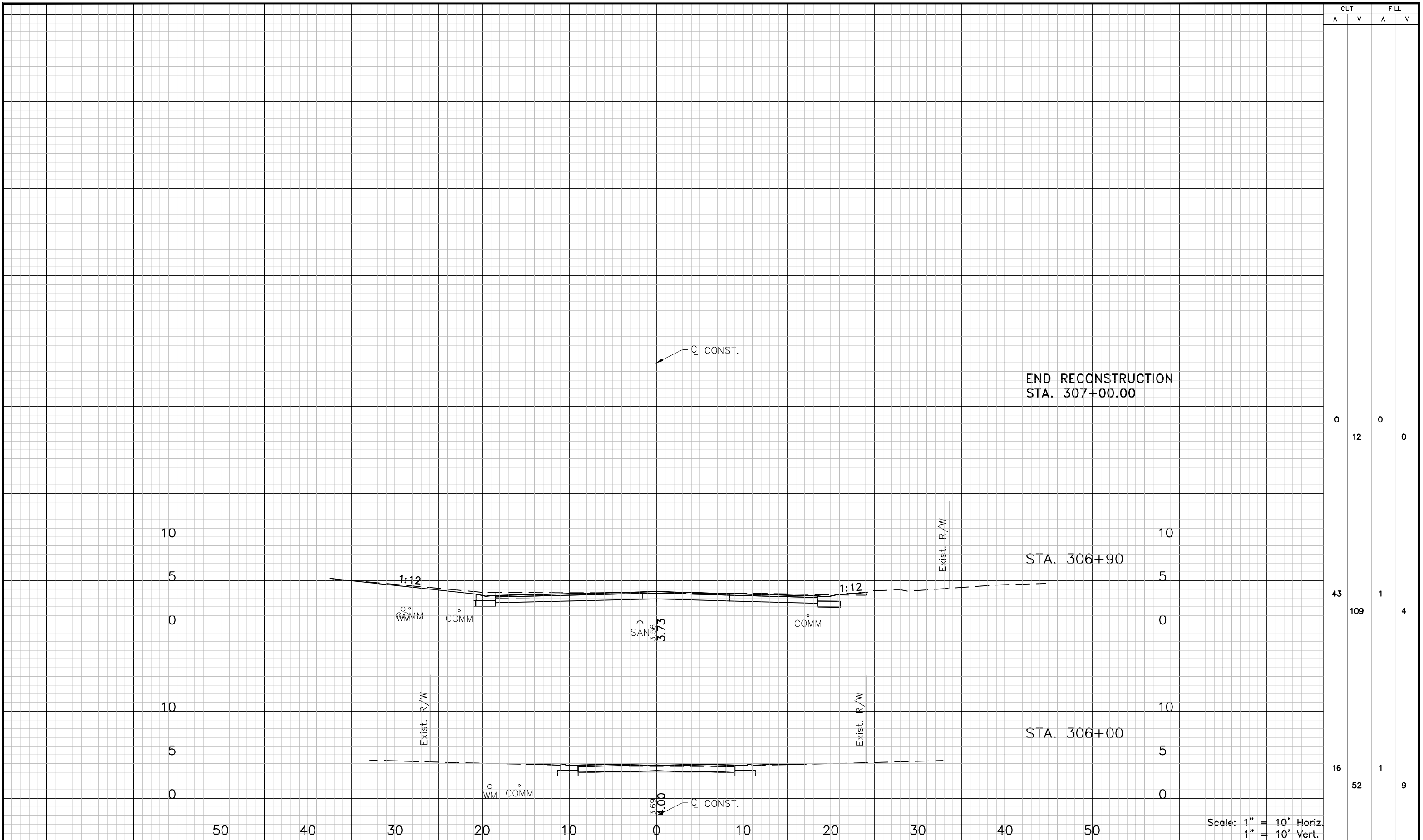
DESCRIPTION: CROSS SECTIONS (12) S. CANAL DR.



APPROVED BY: KENT L. McWATERS, P.E. DATE: 2018

PROJECT NO. 1177A
SHEET: 36 OF 68

C:\pwworking\lpo\d0909660\1177A-XS03.dwg, Feb 13, 2018 - 7:08pm



CUT		FILL	
A	V	A	V
0	12	0	0
43	109	1	4
16	52	1	9

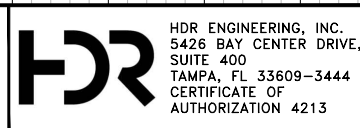
REV. NO.	DATE	DESCRIPTION	REV. BY

DESIGNED	PJS
DRAWN	JHP
CHECKED	KLM



PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS

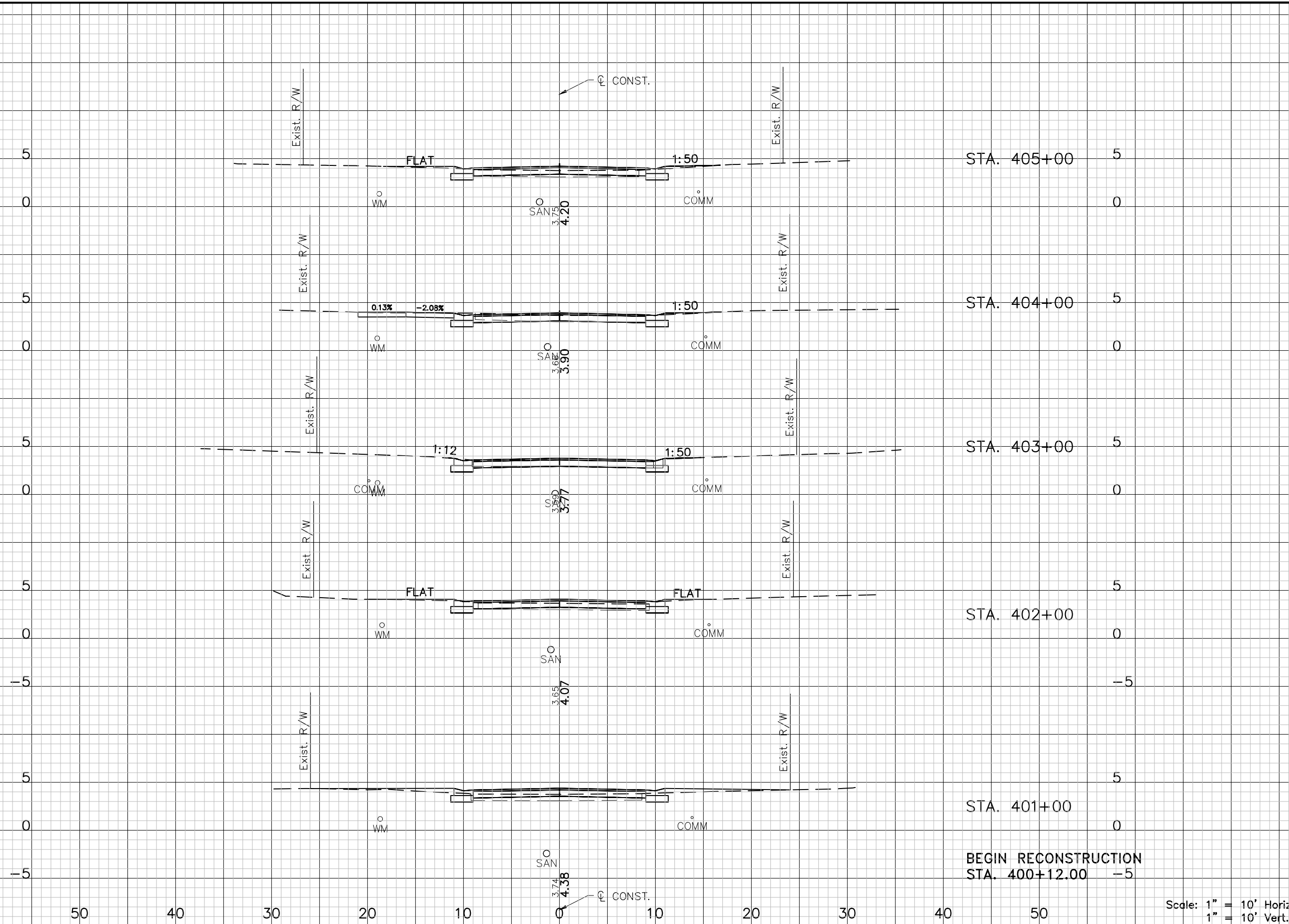
DESCRIPTION: CROSS SECTIONS (13) S. CANAL DR.



APPROVED BY: KENT L. McWATERS, P.E. DATE: 2018

PROJECT NO. 1177A
SHEET: 37 OF 68

C:\pwworking\top\d0909660\1177A-XS03.dwg, Feb 13, 2018 - 7:08pm



CUT		FILL	
A	V	A	V
14	69	2	6
23	76	1	2
18	59	0	2
14	44	1	13
10	16	6	10
0	0	0	0

Scale: 1" = 10' Horiz.
1" = 10' Vert.

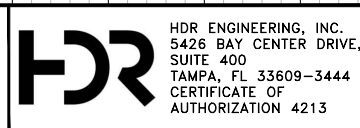
REV. NO.	DATE	DESCRIPTION	REV. BY

DESIGNED	PJS
DRAWN	JHP
CHECKED	KLM



PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS

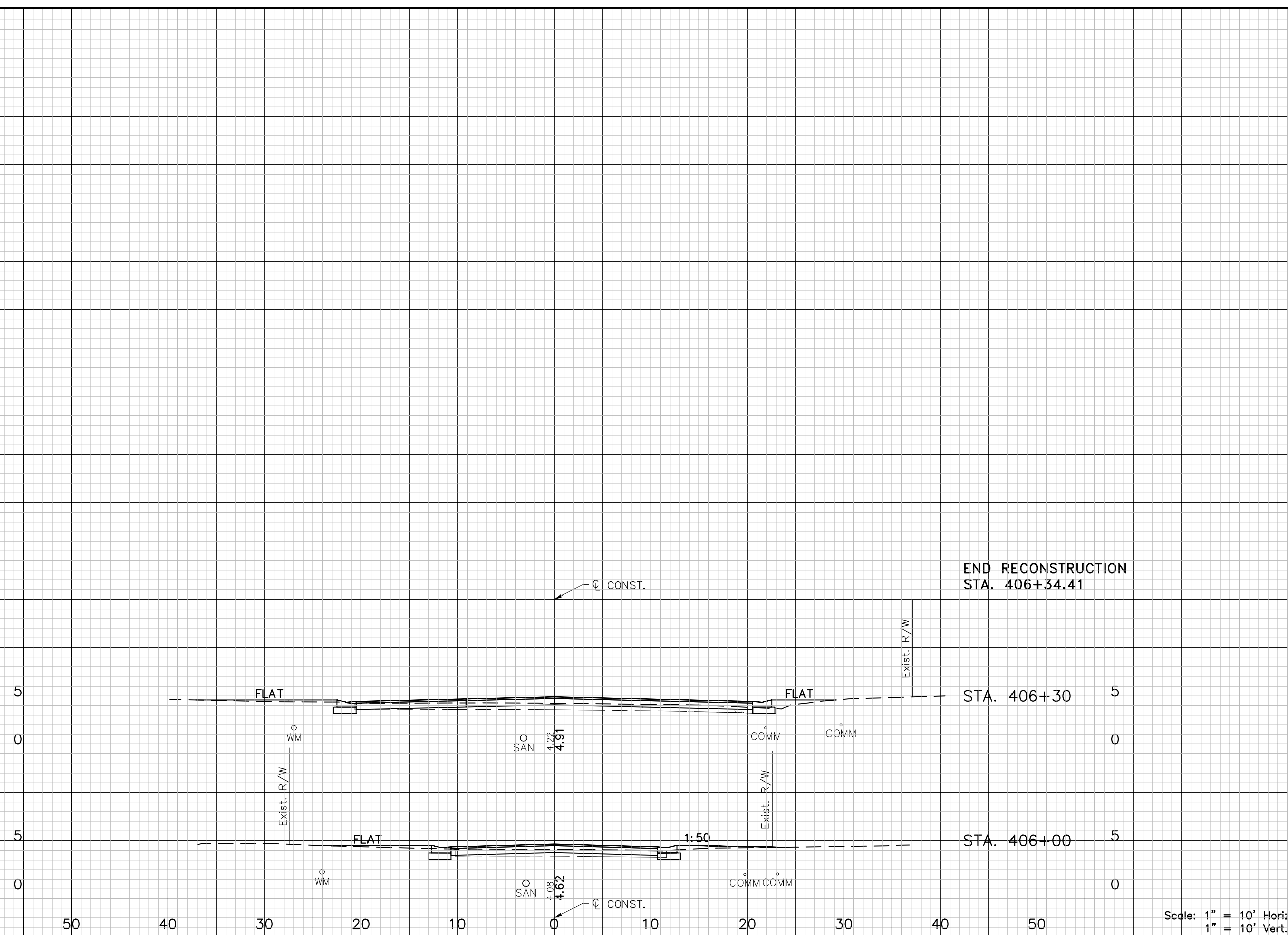
DESCRIPTION: CROSS SECTIONS (14) N. CANAL DR.



APPROVED BY: KENT L. McWATERS, P.E. DATE: 2018

PROJECT NO. 1177A
SHEET: 38 OF 68

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CUT		FILL	
A	V	A	V
0	6	0	2
18	17	5	5
13	50	4	11

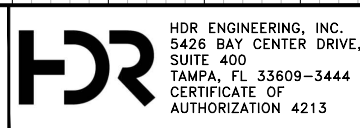
REV. NO.	DATE	DESCRIPTION	REV. BY

DESIGNED	PJS
DRAWN	JHP
CHECKED	KLM



PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS

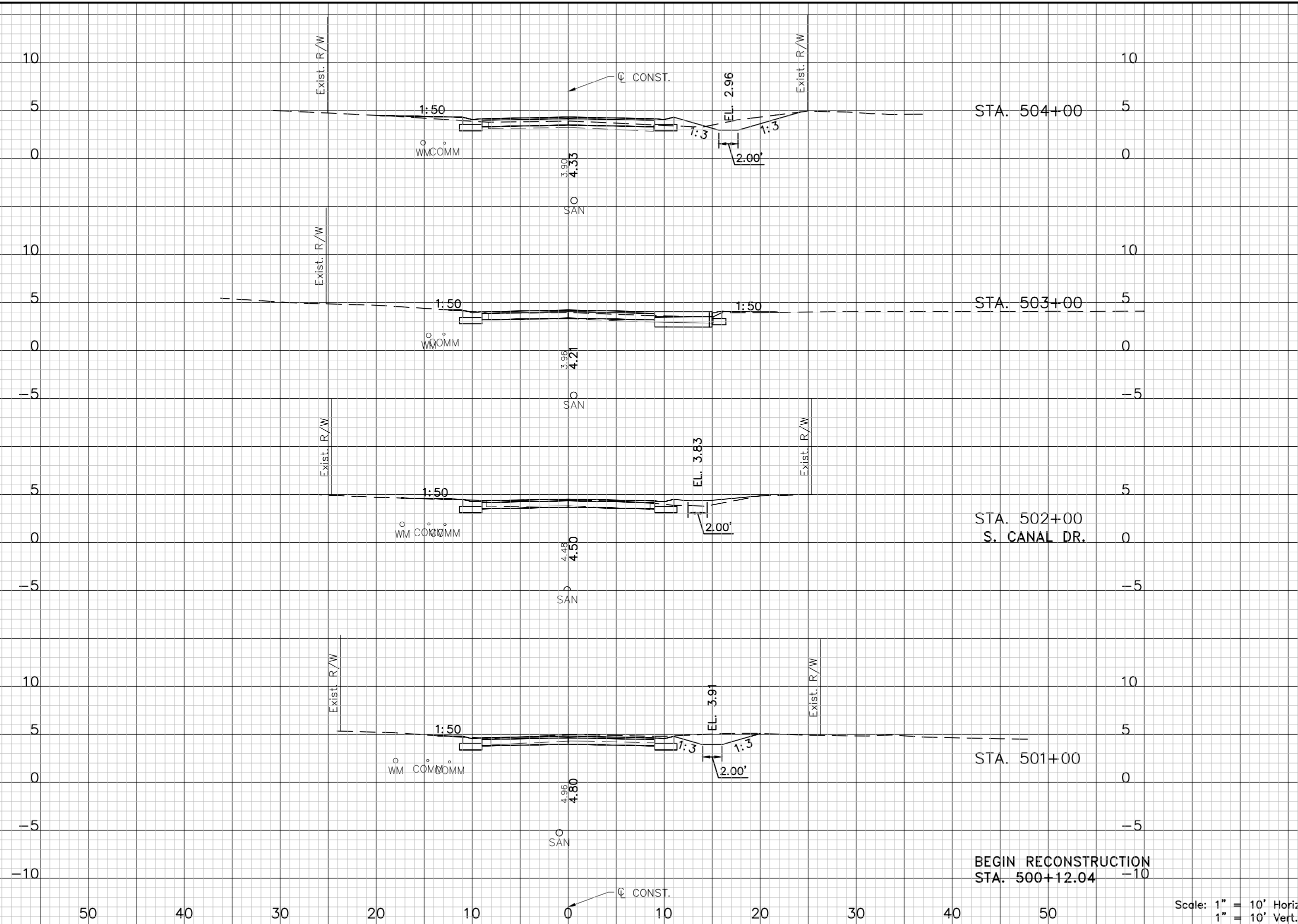
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APPROVED BY: KENT L. McWATERS, P.E. DATE: _____
 5426 BAY CENTER DRIVE, SUITE 400, TAMPA, FL 33609-3444
 CERTIFICATE OF AUTHORIZATION 4213
 FLA. LIC. NO 45443

DATE:	2018
PROJECT NO.:	1177A
SHEET:	39 OF 68

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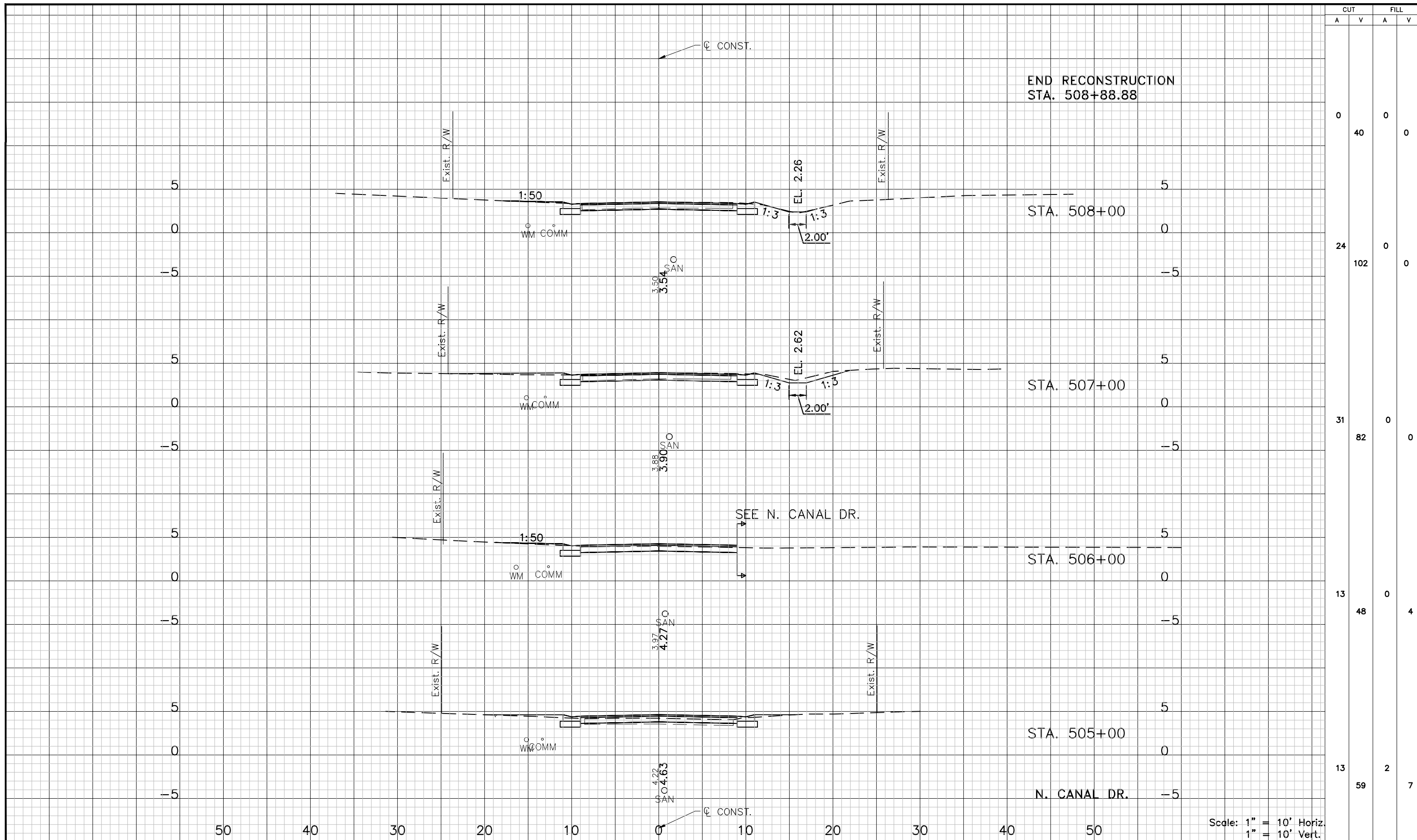


CUT		FILL	
A	V	A	V
19	74	2	4
21	74	0	2
19	78	1	2
23	38	0	0
0	0	0	0

Scale: 1" = 10' Horiz.
1" = 10' Vert.

DESIGNED: PJS		PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS		HDR ENGINEERING, INC. 5426 BAY CENTER DRIVE, SUITE 400 TAMPA, FL 33609-3444 CERTIFICATE OF AUTHORIZATION 4213	APPROVED BY: _____	DATE: 2018
DRAWN: JHP		DESCRIPTION: CROSS SECTIONS (16) FRESHWATER DR.			KENT L. McWATERS, P.E.	DATE
CHECKED: KLM					FLA. LIC. NO 45443	
REV. NO.	DATE	DESCRIPTION	REV. BY			SHEET: 40 OF 68

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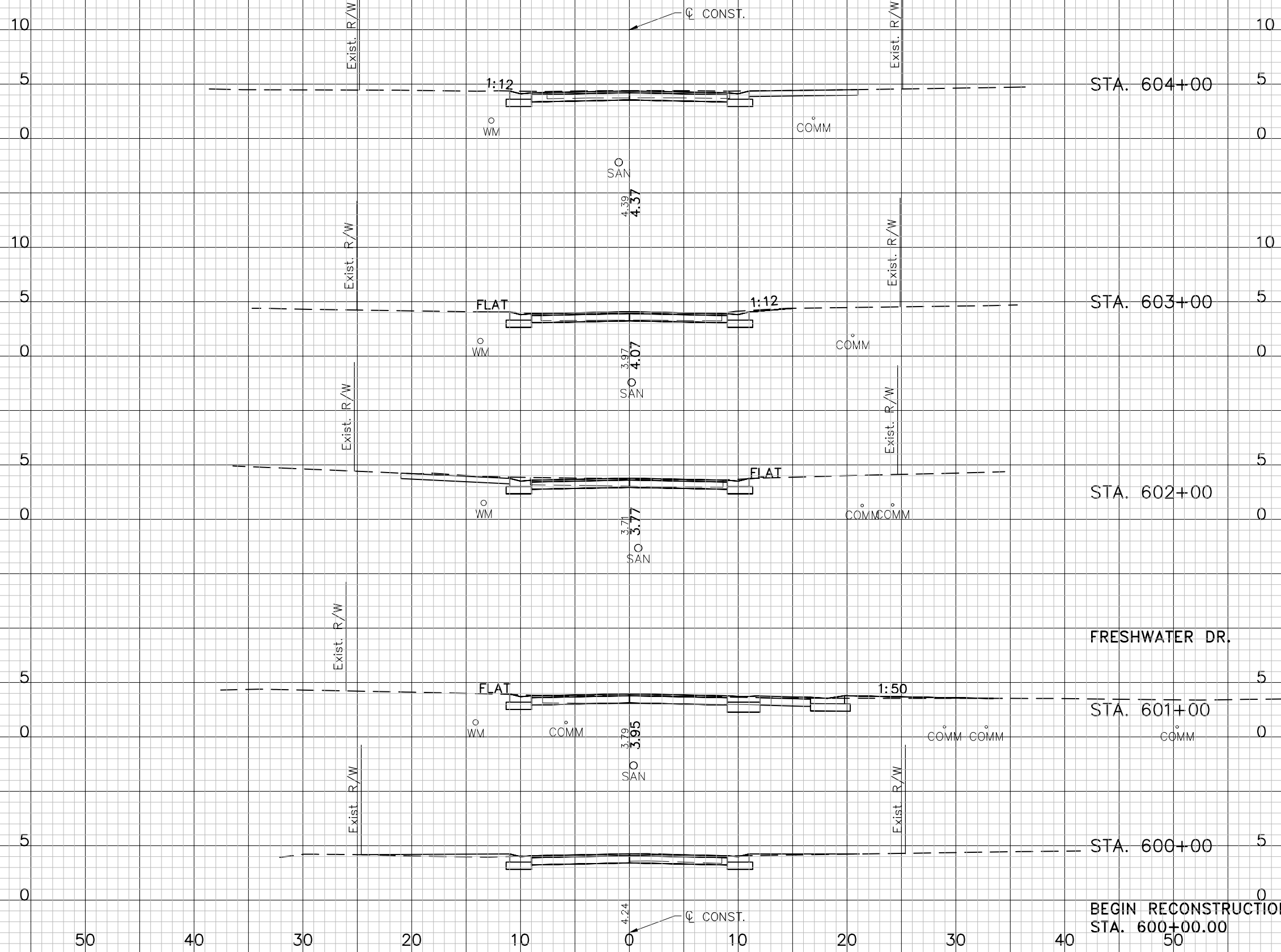
CUT		FILL	
A	V	A	V
0	40	0	0
24	102	0	0
31	82	0	0
13	48	0	4
13	59	2	7

Scale: 1" = 10' Horiz.
1" = 10' Vert.

DESIGNED: PJS		PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS		DESCRIPTION: CROSS SECTIONS (17) FRESHWATER DR.	APPROVED BY: KENT L. McWATERS, P.E. FLA. LIC. NO 45443 DATE:	DATE: 2018
DRAWN: JHP		PROJECT NO. 1177A				
CHECKED: KLM		SHEET: 41 OF 68				

REV. NO.	DATE	DESCRIPTION	REV. BY

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CUT		FILL	
A	V	A	V
28	91	0	0
21	89	0	0
27	100	0	2
27	87	1	7
20	0	3	0

BEGIN RECONSTRUCTION
STA. 600+00.00

Scale: 1" = 10' Horiz.
1" = 10' Vert.

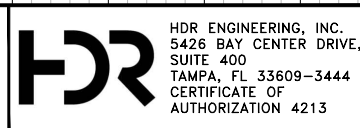
REV. NO.	DATE	DESCRIPTION	REV. BY

DESIGNED	PJS
DRAWN	JHP
CHECKED	KLM



PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS

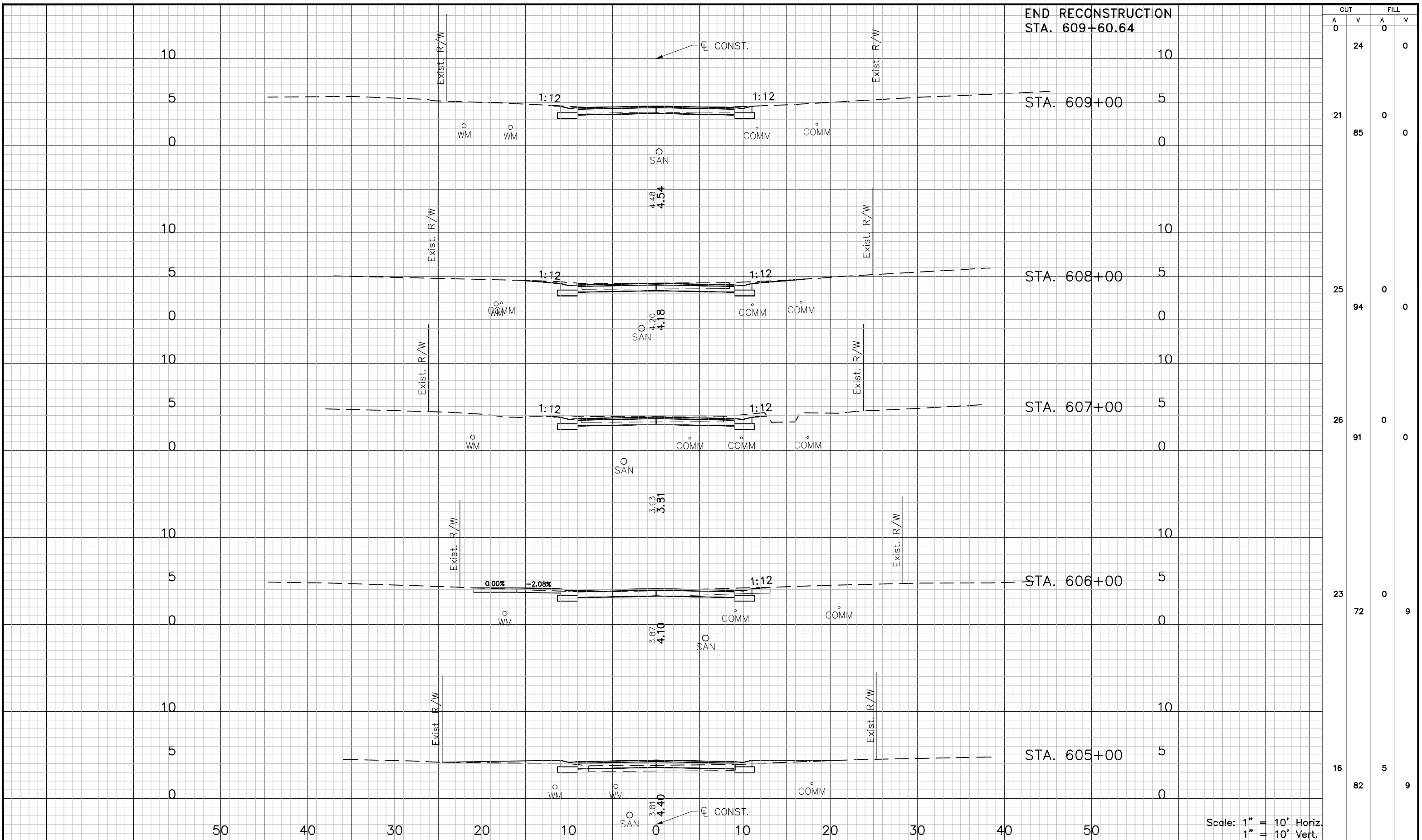
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APPROVED BY: KENT L. McWATERS, P.E.
FLA. LIC. NO 45443

DATE:	2018
PROJECT NO.:	1177A
SHEET:	42 OF 68

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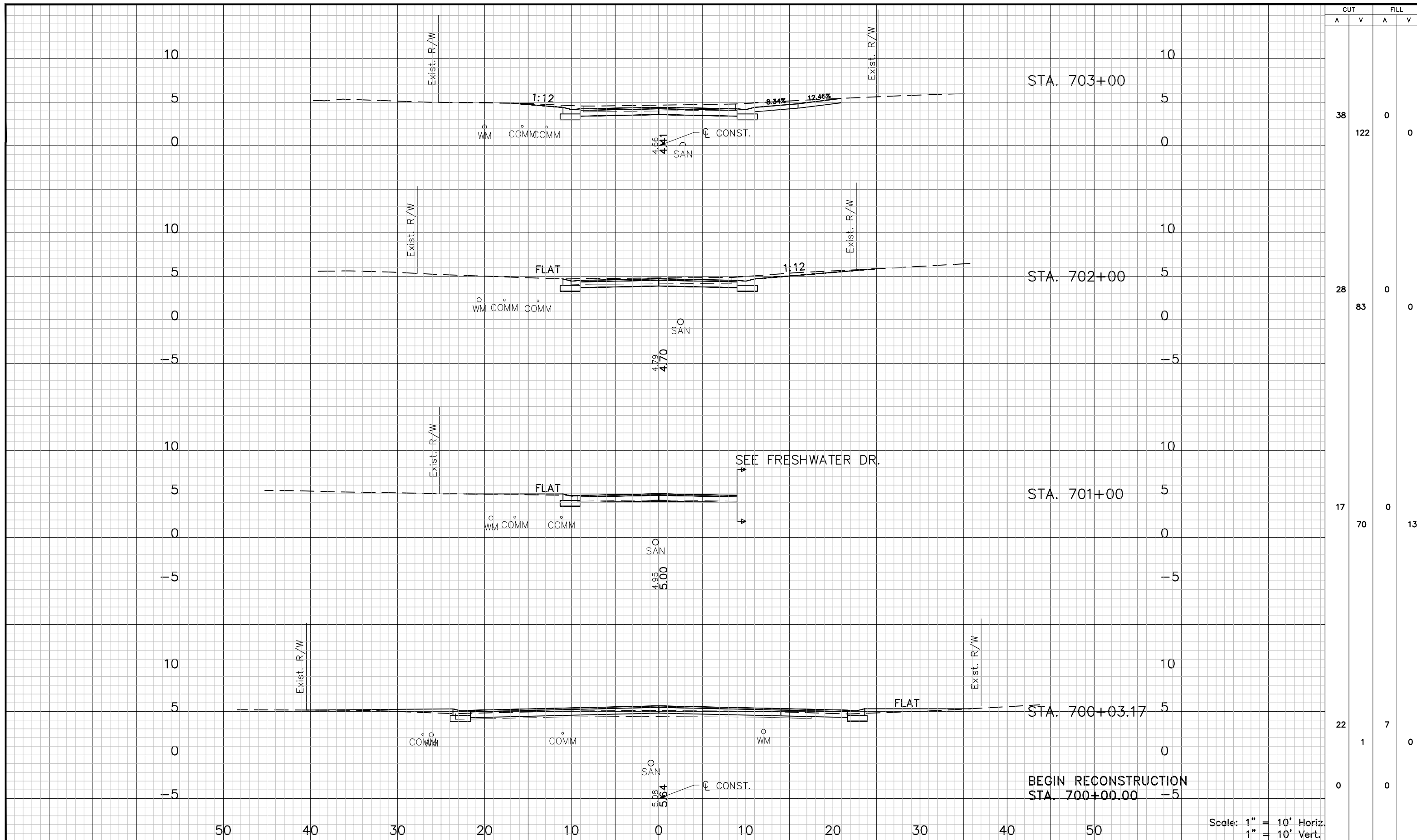


CUT		FILL	
A	V	A	V
0	24	0	0
21	85	0	0
25	94	0	0
26	91	0	0
23	72	0	9
16	82	5	9

Scale: 1" = 10' Horiz.
1" = 10' Vert.

DESIGNED: PJS		PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS		DESCRIPTION: CROSS SECTIONS (19) FRESHWATER DR.	APPROVED BY: KENT L. McWATERS, P.E. FLA. LIC. NO 45443	DATE: 2018
DRAWN: JHP		PROJECT NO. 1177A				
CHECKED: KLM		SHEET: 43 OF 68				

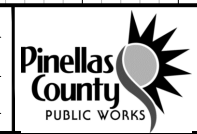
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CUT		FILL	
A	V	A	V
38	122	0	0
28	83	0	0
17	70	0	13
22	1	7	0
0	0	0	0

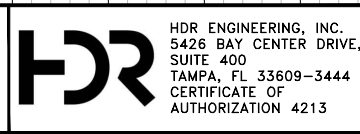
REV. NO.	DATE	DESCRIPTION	REV. BY

DESIGNED	PJS
DRAWN	JHP
CHECKED	KLM



PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS

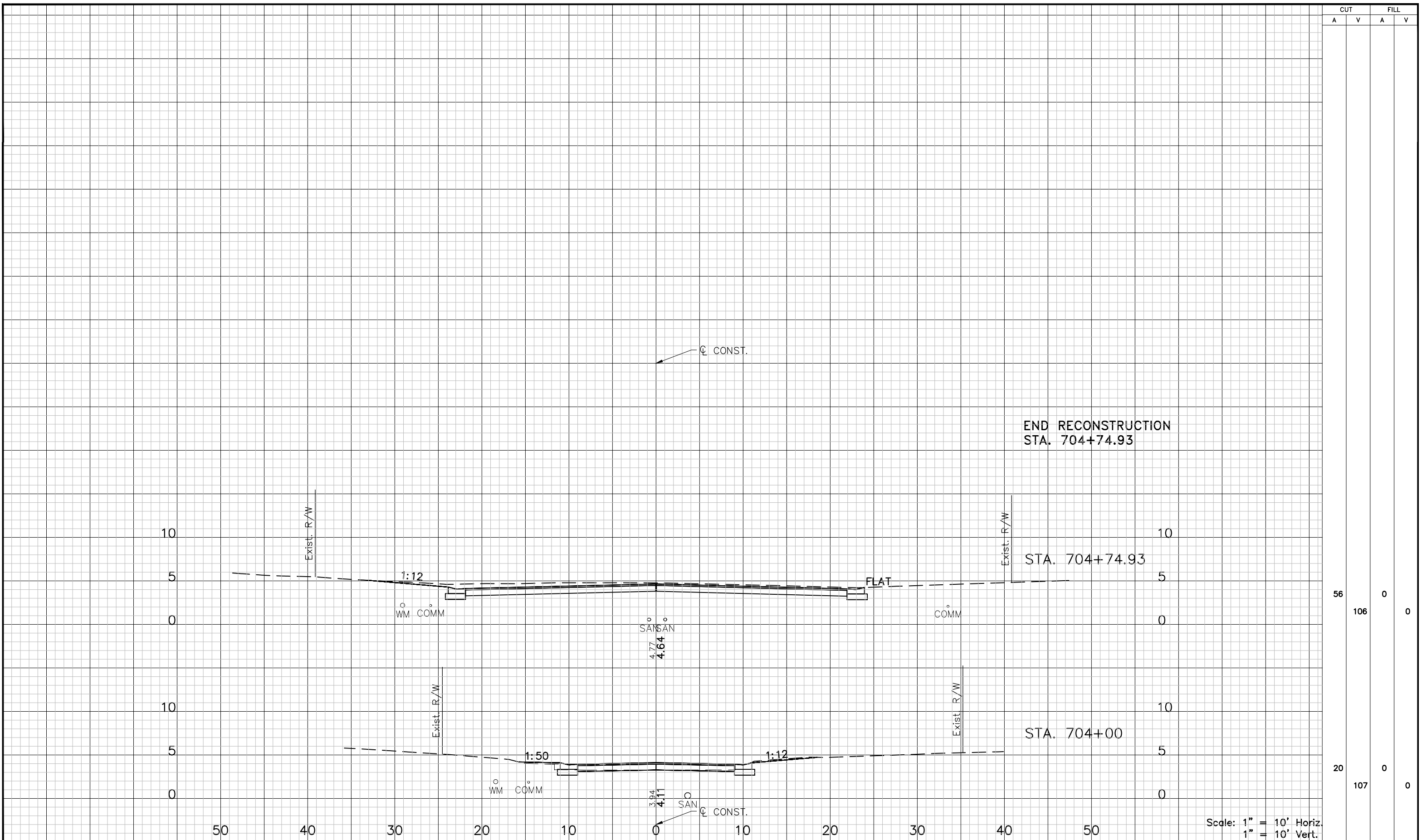
DESCRIPTION: CROSS SECTIONS (20) FRESHWATER DR.



APPROVED BY: KENT L. McWATERS, P.E. DATE: 2018

PROJECT NO. 1177A SHEET: 44 OF 68

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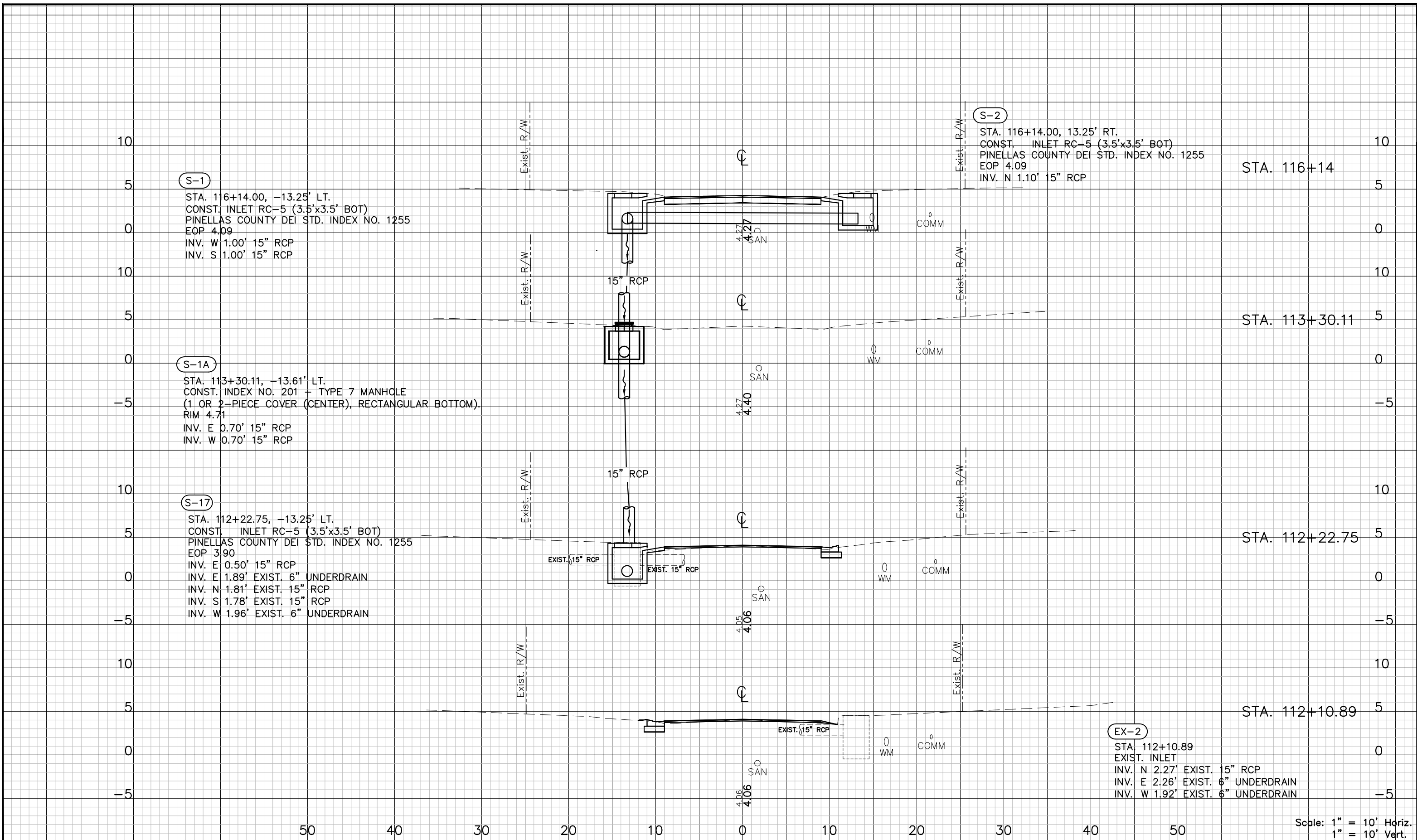


CUT		FILL	
A	V	A	V
56	106	0	0
20	107	0	0

Scale: 1" = 10' Horiz.
1" = 10' Vert.

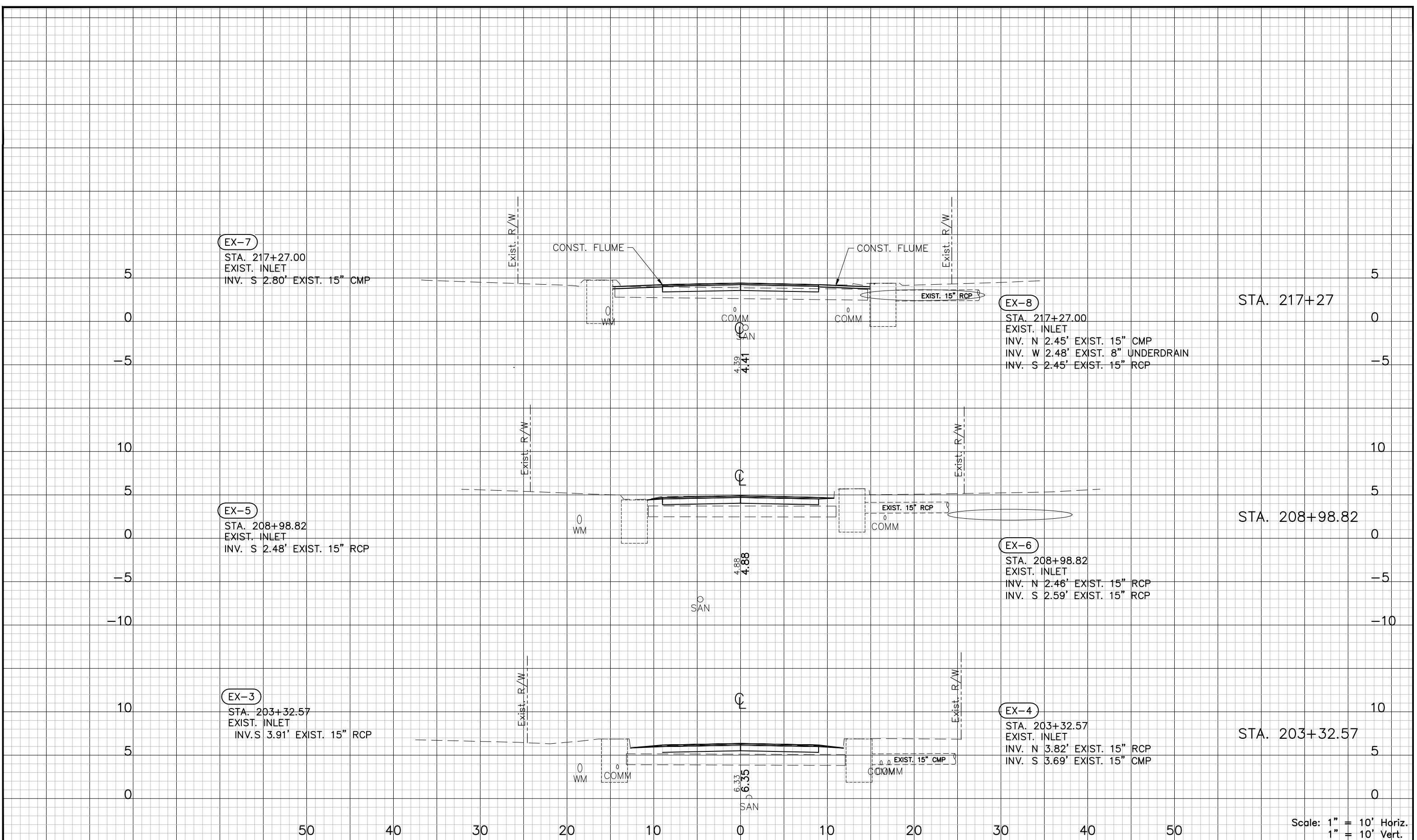
DESIGNED: PJS		PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS		DESCRIPTION: CROSS SECTIONS (21) FRESHWATER DR.	APPROVED BY: KENT L. McWATERS, P.E. FLA. LIC. NO 45443	DATE: 2018
DRAWN: JHP		PROJECT NO. 1177A				
CHECKED: KLM		SHEET: 45 OF 68				
REV. NO.	DATE	DESCRIPTION	REV. BY	DATE	DESCRIPTION	

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DESIGNED	PJS		PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS	DESCRIPTION: DRAINAGE STRUCTURES (1)	HDR ENGINEERING, INC. 5426 BAY CENTER DRIVE, SUITE 400 TAMPA, FL 33609-3444 CERTIFICATE OF AUTHORIZATION 4213	APPROVED BY:	DATE:
DRAWN	JHP					KENT L. McWATERS, P.E.	2018
CHECKED	KLM					FLA. LIC. NO 45443	1177A
REV. NO.	DATE	DESCRIPTION	REV. BY			SHEET:	46 OF 68

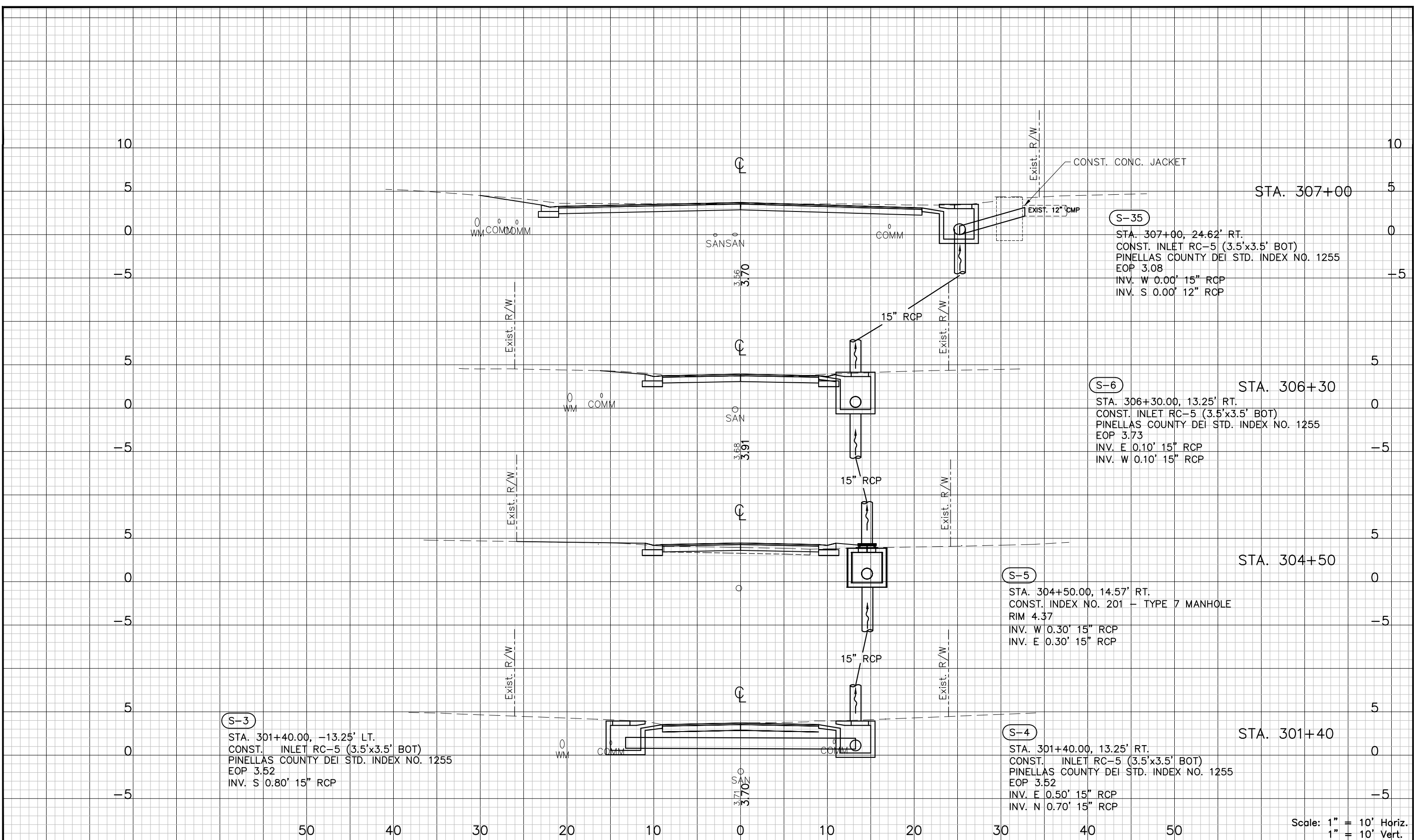
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Scale: 1" = 10' Horiz.
1" = 10' Vert.

DESIGNED: PJS DRAWN: JHP CHECKED: KLM			PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS	DESCRIPTION: DRAINAGE STRUCTURES (2)	HDR ENGINEERING, INC. 5426 BAY CENTER DRIVE, SUITE 400 TAMPA, FL 33609-3444 CERTIFICATE OF AUTHORIZATION 4213	APPROVED BY: KENT L. McWATERS, P.E. FLA. LIC. NO 45443	DATE: 2018
REV. NO. DATE DESCRIPTION	REV. BY		SHEET: 47 OF 68				

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S-3
 STA. 301+40.00, -13.25' LT.
 CONST. INLET RC-5 (3.5'x3.5' BOT)
 PINELLAS COUNTY DEI STD. INDEX NO. 1255
 EOP 3.52
 INV. S 0.80' 15" RCP

S-5
 STA. 304+50.00, 14.57' RT.
 CONST. INDEX NO. 201 - TYPE 7 MANHOLE
 RIM 4.37
 INV. W 0.30' 15" RCP
 INV. E 0.30' 15" RCP

S-4
 STA. 301+40.00, 13.25' RT.
 CONST. INLET RC-5 (3.5'x3.5' BOT)
 PINELLAS COUNTY DEI STD. INDEX NO. 1255
 EOP 3.52
 INV. E 0.50' 15" RCP
 INV. N 0.70' 15" RCP

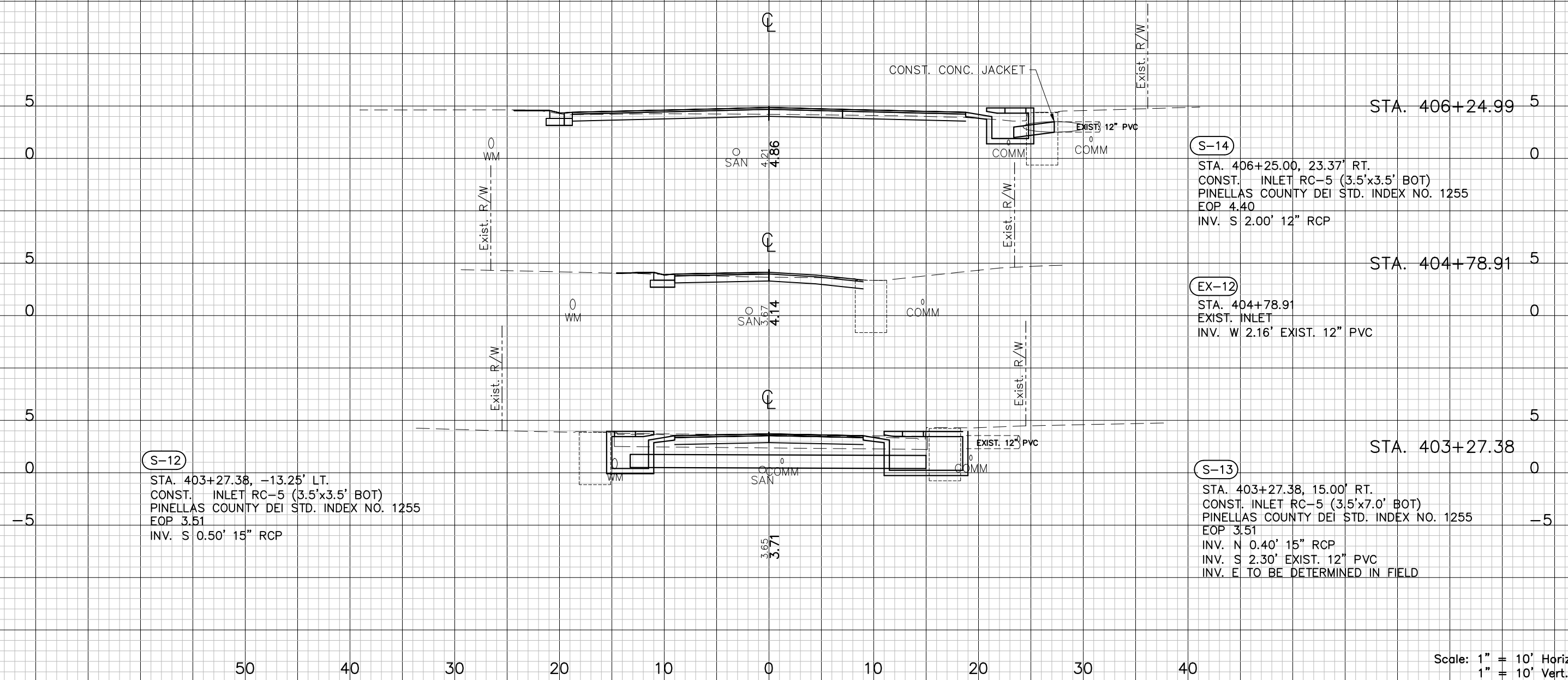
S-6 STA. 306+30
 STA. 306+30.00, 13.25' RT.
 CONST. INLET RC-5 (3.5'x3.5' BOT)
 PINELLAS COUNTY DEI STD. INDEX NO. 1255
 EOP 3.73
 INV. E 0.10' 15" RCP
 INV. W 0.10' 15" RCP

S-35
 STA. 307+00, 24.62' RT.
 CONST. INLET RC-5 (3.5'x3.5' BOT)
 PINELLAS COUNTY DEI STD. INDEX NO. 1255
 EOP 3.08
 INV. W 0.00' 15" RCP
 INV. S 0.00' 12" RCP

Scale: 1" = 10' Horiz.
 1" = 10' Vert.

DESIGNED: PJS			PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS	DESCRIPTION: DRAINAGE STRUCTURES (3)		HDR ENGINEERING, INC. 5426 BAY CENTER DRIVE, SUITE 400 TAMPA, FL 33609-3444 CERTIFICATE OF AUTHORIZATION 4213	APPROVED BY: KENT L. McWATERS, P.E. FLA. LIC. NO 45443	DATE: 2018	
DRAWN: JHP			REV. BY						PROJECT NO. 1177A
CHECKED: KLM									SHEET: 48 OF 68
REV. NO.	DATE		DESCRIPTION						

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S-12
 STA. 403+27.38, -13.25' LT.
 CONST. INLET RC-5 (3.5'x3.5' BOT)
 PINELLAS COUNTY DEI STD. INDEX NO. 1255
 EOP 3.51
 INV. S 0.50' 15" RCP

S-13
 STA. 403+27.38, 15.00' RT.
 CONST. INLET RC-5 (3.5'x7.0' BOT)
 PINELLAS COUNTY DEI STD. INDEX NO. 1255
 EOP 3.51
 INV. N 0.40' 15" RCP
 INV. S 2.30' EXIST. 12" PVC
 INV. E TO BE DETERMINED IN FIELD

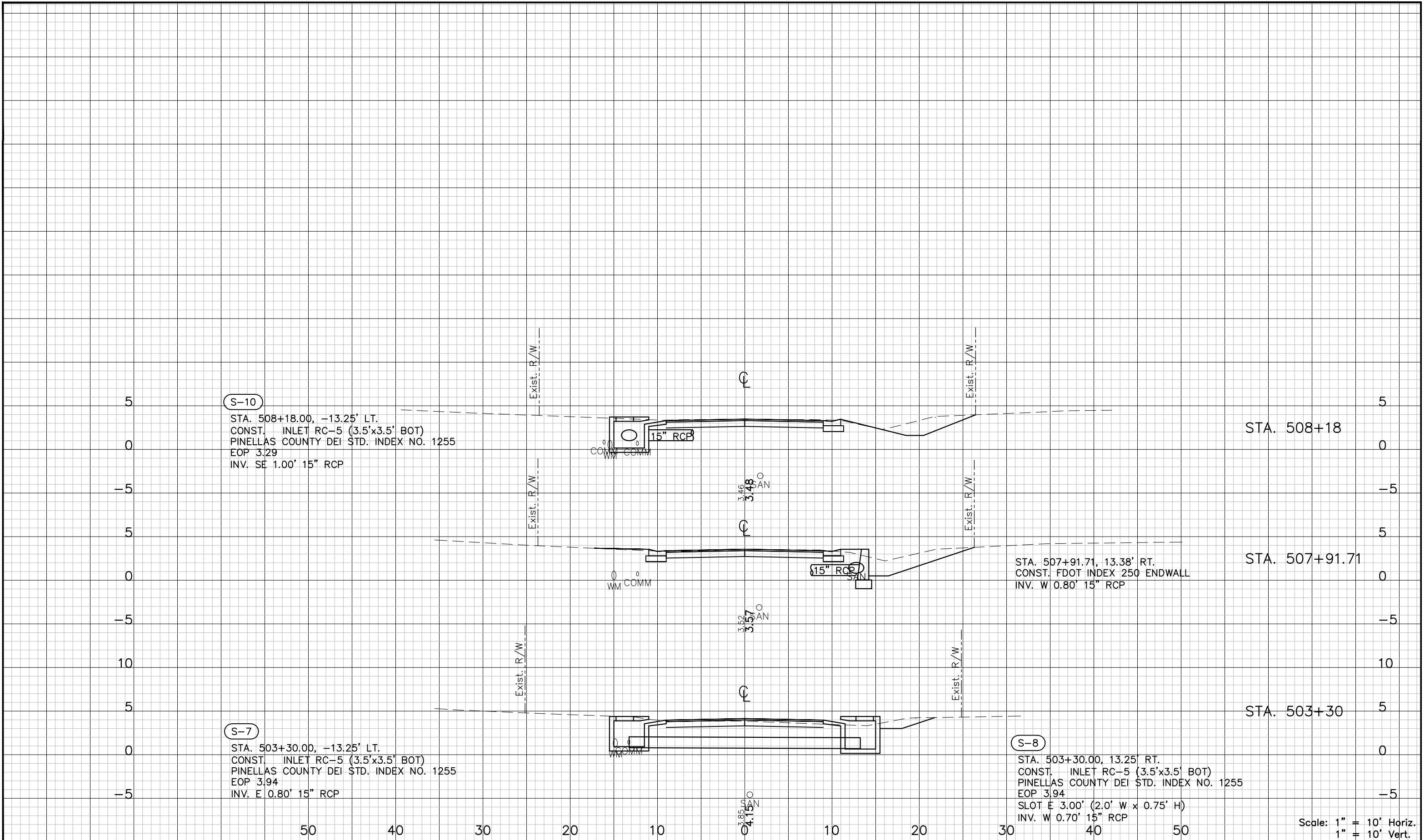
S-14
 STA. 406+25.00, 23.37' RT.
 CONST. INLET RC-5 (3.5'x3.5' BOT)
 PINELLAS COUNTY DEI STD. INDEX NO. 1255
 EOP 4.40
 INV. S 2.00' 12" RCP

EX-12
 STA. 404+78.91
 EXIST. INLET
 INV. W 2.16' EXIST. 12" PVC

Scale: 1" = 10' Horiz.
 1" = 10' Vert.

DESIGNED: PJS			PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS	DESCRIPTION: DRAINAGE STRUCTURES (4)		HDR ENGINEERING, INC. 5426 BAY CENTER DRIVE, SUITE 400 TAMPA, FL 33609-3444 CERTIFICATE OF AUTHORIZATION 4213	APPROVED BY: KENT L. McWATERS, P.E. FLA. LIC. NO. 45443	DATE: 2018
DRAWN: JHP			REV. NO.	REV. BY		DATE	PROJECT NO. 1177A	
CHECKED: KLM			DESCRIPTION	DATE		DATE	SHEET: 49 OF 68	

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S-10
 STA. 508+18.00, -13.25' LT.
 CONST. INLET RC-5 (3.5'x3.5' BOT)
 PINELLAS COUNTY DEI STD. INDEX NO. 1255
 EOP 3.29
 INV. SE 1.00' 15" RCP

S-7
 STA. 503+30.00, -13.25' LT.
 CONST. INLET RC-5 (3.5'x3.5' BOT)
 PINELLAS COUNTY DEI STD. INDEX NO. 1255
 EOP 3.94
 INV. E 0.80' 15" RCP

STA. 507+91.71, 13.38' RT.
 CONST. FDOT INDEX 250 ENDWALL
 INV. W 0.80' 15" RCP

S-8
 STA. 503+30.00, 13.25' RT.
 CONST. INLET RC-5 (3.5'x3.5' BOT)
 PINELLAS COUNTY DEI STD. INDEX NO. 1255
 EOP 3.94
 SLOT E 3.00' (2.0' W x 0.75' H)
 INV. W 0.70' 15" RCP

STA. 508+18

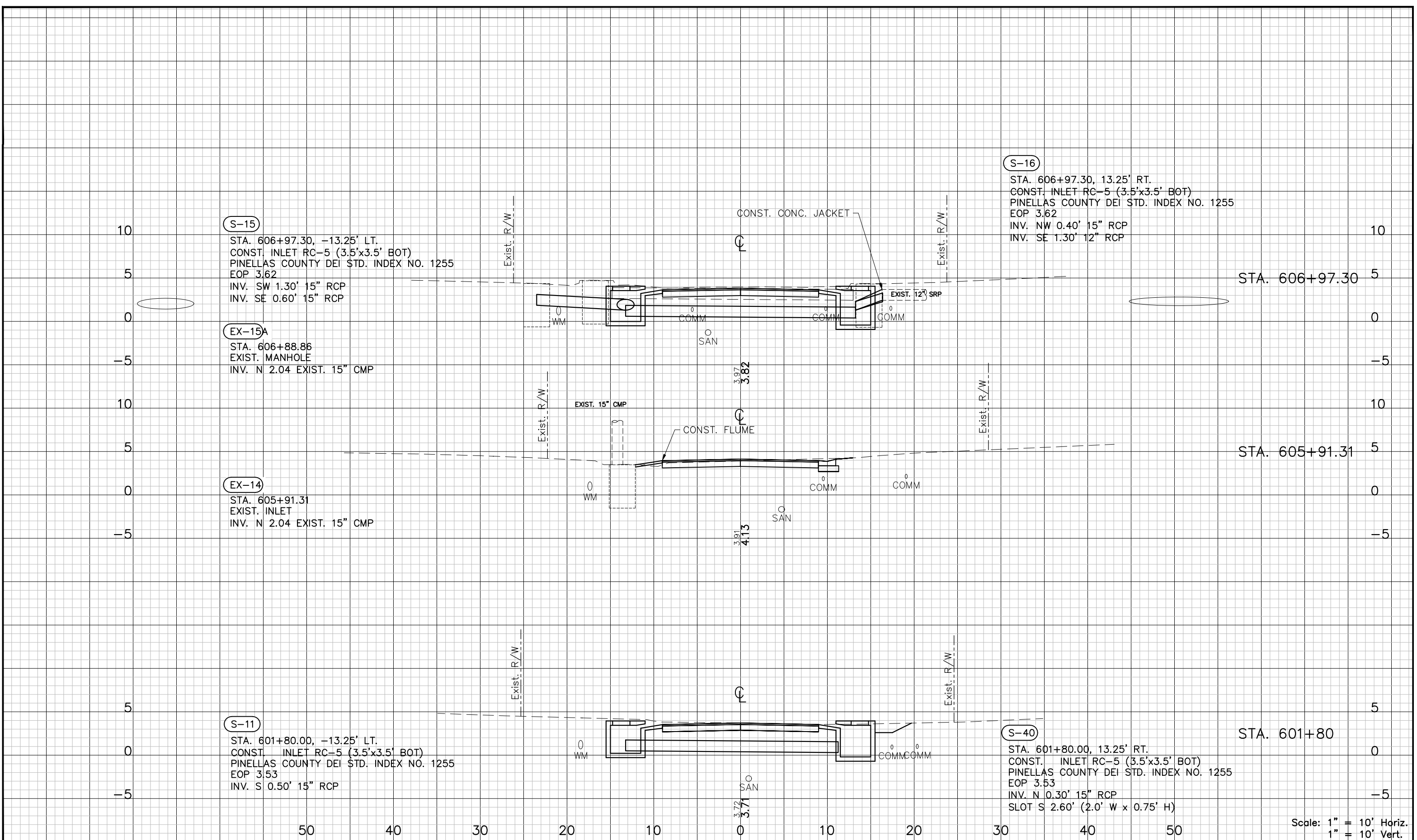
STA. 507+91.71

STA. 503+30

Scale: 1" = 10' Horiz.
 1" = 10' Vert.

DESIGNED: PJS			PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS	DESCRIPTION: DRAINAGE STRUCTURES (5)		HDR ENGINEERING, INC. 5426 BAY CENTER DRIVE, SUITE 400 TAMPA, FL 33609-3444 CERTIFICATE OF AUTHORIZATION 4213	APPROVED BY: KENT L. McWATERS, P.E. FLA. LIC. NO. 45443	DATE: 2018	
DRAWN: JHP			REV. BY					DATE	PROJECT NO. 1177A
CHECKED: KLM									SHEET: 50 OF 68
REV. NO.	DATE	DESCRIPTION							

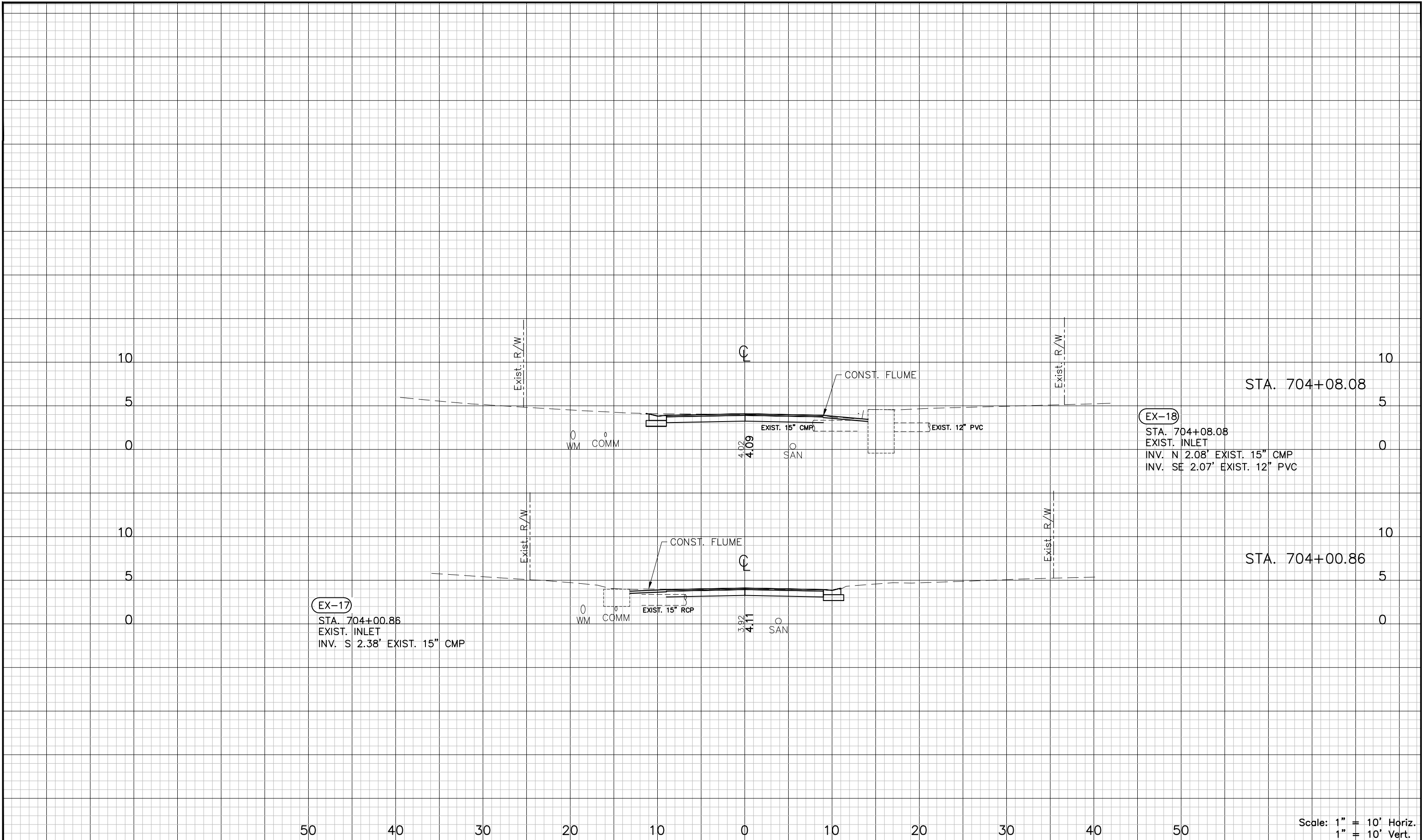
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Scale: 1" = 10' Horiz.
1" = 10' Vert.

DESIGNED: PJS			PROJECT:	DESCRIPTION:			APPROVED BY:		DATE:
DRAWN: JHP			LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS	DRAINAGE STRUCTURES (6)			KENT L. McWATERS, P.E. FLA. LIC. NO 45443		2018
CHECKED: KLM							DATE		PROJECT NO. 1177A
REV. NO.	DATE	DESCRIPTION	REV. BY					SHEET:	51 OF 68

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EX-17
 STA. 704+00.86
 EXIST. INLET
 INV. S 2.38' EXIST. 15" CMP

EX-18
 STA. 704+08.08
 EXIST. INLET
 INV. N 2.08' EXIST. 15" CMP
 INV. SE 2.07' EXIST. 12" PVC

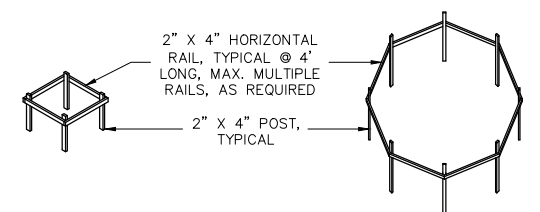
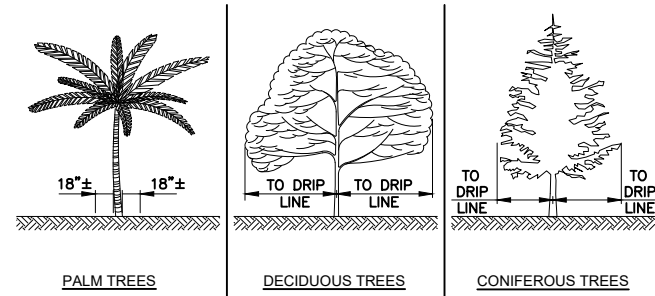
Scale: 1" = 10' Horiz.
 1" = 10' Vert.

DESIGNED	PJS		PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS	DESCRIPTION: DRAINAGE STRUCTURES (7)	 HDR ENGINEERING, INC. 5426 BAY CENTER DRIVE, SUITE 400 TAMPA, FL 33609-3444 CERTIFICATE OF AUTHORIZATION 4213	APPROVED BY:	DATE:	
DRAWN	JHP					KENT L. McWATERS, P.E.	2018	
CHECKED	KLM					FLA. LIC. NO 45443	DATE	
REV. NO.	DATE	DESCRIPTION	REV. BY					PROJECT NO. 1177A
							SHEET:	52 OF 68

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1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTROL AND PREVENT EROSION AND THE TRANSPORTATION OF SEDIMENT TO SURFACE DRAINS AND OUTFALLS USING BEST MANAGEMENT PRACTICES. REFER TO CONSTRUCTION PLANS, DETAILS, SPECIFICATIONS AND APPROVED PERMITS FOR DETAILS. SEDIMENT DEPOSITS SHALL BE REMOVED WHEN THEY REACH ONE HALF THE HEIGHT ON AN EROSION DEVICE OR AS DIRECTED BY THE ENGINEER.
2. DURING THE CONSTRUCTION OF DRAINAGE STRUCTURES, AND OTHER STRUCTURES REQUIRING EXCAVATION, THE CONTRACTOR SHALL PLACE APPROVED BARRIERS OR OTHER APPROVED DEVICES AROUND SUCH STRUCTURES TO PREVENT EROSION AND THE MIGRATION OF SEDIMENT TO POINTS OUTSIDE THE CONSTRUCTION AREA. THE APPROVED BARRIERS OR OTHER APPROVED DEVICES SHALL BE PLACED IN ACCORDANCE WITH REQUIREMENTS OF FLORIDA STORMWATER EROSION AND SEDIMENTATION CONTROL INSPECTOR'S MANUAL, 2008, STATE OF FLORIDA EROSION AND SEDIMENT CONTROL DESIGNER AND REVIEWER MANUAL, LATEST EDITION OR AS DIRECTED BY THE ENGINEER.
3. REQUIRED EROSION CONTROL MEASURES MUST REMAIN INTACT THROUGHOUT CONSTRUCTION. FAILURE TO INSTALL OR PROPERLY MAINTAIN REQUIRED EROSION CONTROL WILL RESULT IN ENFORCEMENT ACTION. ALL EROSION CONTROL MEASURES, SAND, SILT, AND DEBRIS SHALL BE REMOVED FROM ALL DRAINAGE PIPES AND STRUCTURES AFTER CONSTRUCTION HAS BEEN COMPLETED AND PRIOR TO COUNTY FINAL WALK-THROUGH.
4. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SILT/TURBIDITY BARRIERS TO CONTROL EROSION AND SEDIMENT FROM TAKING PLACE OUTSIDE THE PROJECT LIMITS. THE SILT/TURBIDITY BARRIERS SHALL BE PLACED IN ACCORDANCE WITH REQUIREMENTS OF FLORIDA STORMWATER EROSION AND SEDIMENTATION CONTROL INSPECTOR'S MANUAL, 2008, STATE OF FLORIDA EROSION AND SEDIMENT CONTROL DESIGNER AND REVIEWER MANUAL, LATEST EDITION AND "PINELLAS COUNTY STANDARD TECHNICAL SPECIFICATIONS FOR ROADWAY RELATED CONSTRUCTION" SECTION 104, THROUGHOUT THE DURATION OF THE PROJECT AND ALL ASPECTS OF CONSTRUCTION. ALL DAMAGED OR INEFFECTIVE EROSION CONTROL DEVICES SHALL BE REPLACED AT NO ADDITIONAL COST TO THE COUNTY.
5. EROSION CONTROL PLAN - ANY MODIFICATIONS TO THIS PLAN MUST BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REPRESENTING THE CONTRACTOR. THESE MODIFICATIONS MUST BE APPROVED BY THE COUNTY AND THE PERMITTING AGENCY. NO CONTRACT DELAYS WILL BE ALLOWED FOR SUCH MODIFICATIONS OR APPROVALS.
6. OUTFALL PROTECTION - PROJECT PIPE OR DITCH DISCHARGES INTO OFF-SITE OUTFALLS SHALL BE INSPECTED DAILY FOR POSSIBLE SEDIMENT BUILDUP OR TRANSPORT. OUTFALLS SHALL BE PROTECTED THROUGH USE OF EROSION CONTROL FEATURES AS NECESSARY TO CONTAIN ANY SEDIMENT LOSS TO THE IMMEDIATE AREA OF THE PROJECT. ANY SEDIMENT BUILDUP OR TRANSPORT OFF-SITE SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REMEDY. THE CONTRACTOR SHALL USE APPROPRIATE MEASURES AS DIRECTED BY THE PROJECT ENGINEER FOR OUTFALL PROTECTION.
7. APPROVED BARRIERS (OR OTHER APPROVED SEDIMENT CONTROL DEVICES) - THESE SHALL BE PLACED AT THE BASE OF ANY SLOPE WHERE A RAINFALL EVENT COULD ERODE A SLOPE AND TRANSPORT SEDIMENTS OFF-SITE. APPROVED BARRIERS SHALL BE DOUBLE STAKED IN ACCORDANCE WITH FLORIDA STORMWATER EROSION AND SEDIMENTATION CONTROL INSPECTOR'S MANUAL, 2008, AND STATE OF FLORIDA EROSION AND SEDIMENT CONTROL DESIGNER AND REVIEWER MANUAL, LATEST EDITION. ANY DAMAGED OR INEFFECTIVE APPROVED BARRIERS ARE TO BE REPLACED WITH NEW ONES. THE LOCATION AND INSTALLATION OF APPROVED BARRIERS SHALL BE AS DIRECTED BY THE PROJECT ENGINEER.
8. BACK OF SIDEWALK INLETS OR MEDIAN INLETS - THESE SHALL BE PROTECTED FROM SEDIMENT INTAKE UNTIL PROJECT IS COMPLETE. ELEVATION OF GROUND OUTSIDE INLET TOP SHALL NOT BE HIGHER THAN INLET TOP WITHOUT EROSION PROTECTION. APPROVED BARRIERS OR OTHER APPROVED SEDIMENT CONTROL DEVICES SHALL BE INSTALLED AROUND INLET TOP. A SECOND ROW OF APPROVED BARRIERS OR OTHER APPROVED SEDIMENT CONTROL DEVICES SHALL BE PLACED AROUND INLET APPROXIMATELY 24" OUTSIDE FIRST ROW. BETWEEN ROWS THERE SHALL BE A DEPRESSION TO ACT AS A SEDIMENT BASIN. COMPLETED INLETS IN PAVED AREAS SHALL ALSO BE PROTECTED WITH A SINGLE LINE OF APPROVED BARRIERS OR OTHER APPROVED SEDIMENT CONTROL DEVICES TO PREVENT SEDIMENT INTAKE FROM OTHER AREAS.
9. STOCKPILED MATERIALS SHALL BE PROTECTED BY COVER, APPROVED BARRIERS OR OTHER APPROVED SEDIMENT CONTROL DEVICES.
10. ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 3 DAYS AFTER ½" RAIN EVENT DISTURBANCE.
11. SEDIMENT TRAPPING MEASURES: SEDIMENT BASINS AND TRAPS, PERIMETER BERMS, FILTER FENCES, BERMS, SEDIMENT BARRIERS, VEGETATIVE BUFFERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT AND/OR PREVENT THE TRANSPORT OF SEDIMENT INTO WATERS OF THE STATE OR NEIGHBORING PROPERTIES SHALL BE INSTALLED, CONSTRUCTED OR, IN THE CASE OF VEGETATIVE BUFFERS, PROTECTED FROM DISTURBANCE, AS A FIRST STEP IN THE LAND ALTERATION PROCESS.
12. CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE NECESSARY DEWATERING PERMITS FROM THE LOCAL WATER MANAGEMENT DISTRICT OR OTHER REGULATORY AGENCY.
13. A DEWATERING PLAN MUST BE SUBMITTED AND APPROVED BY THE ENGINEER PRIOR TO DISCHARGE.
14. WHERE PUMPS ARE TO BE USED TO REMOVE TURBID WATER FROM THE CONSTRUCTION AREA, THE WATER SHALL BE TREATED TO REDUCE TURBIDITY TO STATE WATER QUALITY STANDARDS PRIOR TO DISCHARGE TO THE WETLANDS. TREATMENT METHODS INCLUDE, FOR EXAMPLE, TURBID WATER BEING PUMPED INTO GRASSED SWALES OR APPROPRIATE VEGETATED AREAS (OTHER THAN UPLAND PRESERVATION AREAS AND WETLAND BUFFERS), SEDIMENTS BASINS, OR AREAS CONFINED BY AN APPROPRIATE ENCLOSURE SUCH AS TURBIDITY BARRIERS, AND KEPT CONFINED UNTIL ITS TURBIDITY LEVEL MEETS STATE WATER QUALITY STANDARDS.
15. IF WIND EROSION BECOMES SIGNIFICANT DURING CONSTRUCTION, THE CONTRACTOR SHALL STABILIZE THE AFFECTED AREA USING SPRINKLING, IRRIGATION, OR OTHER ACCEPTABLE METHODS.
16. WHERE APPLICABLE, SOIL TRACKING PREVENTION DEVICES SHALL BE PROVIDED AND MAINTAINED PER PINELLAS COUNTY EROSION & SEDIMENT CONTROL DETAILS.
17. THE EROSION CONTROL DEVICE QUANTITIES SHOWN ON THE BID FORMS ARE ESTIMATES OF THE ACTUAL QUANTITIES THAT MAY BE ENCOUNTERED DURING CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SPECIFY ACTUAL QUANTITIES AND COSTS ASSOCIATED WITH THIS SPECIFIC EROSION CONTROL IMPLEMENTATION SCHEDULE. EROSION CONTROL ITEMS MAY BE ADDED OR DELETED FROM THE PAY ITEM LIST AS THE EROSION CONTROL IMPLEMENTATION SCHEDULE PROVIDED BY THE CONTRACTOR IS MODIFIED TO MEET SITE SPECIFIC CONDITIONS.
18. ALL EROSION CONTROL FENCES, BARRIERS, AND SILTATION DEVICES SHALL BE ERECTED PRIOR TO ANY LAND ALTERATIONS, SHALL BE MAINTAINED IN GOOD WORKING ORDER DURING CONSTRUCTION, AND REMOVED FOLLOWING SOIL STABILIZATION AND FINAL DRESSING. STOCKPILE AREAS SHALL INCLUDE SILT FENCING AROUND THE PERIMETER.
19. THE CONTRACTOR SHALL NOT RESTRICT OR BLOCK THE EXISTING DRAINAGE FLOW OVERLAND OR WITHIN RESHAPED SWALES. FLOW WITHIN EXISTING DRAINAGE PIPES SHALL BE MAINTAINED AT ALL TIMES. STORMWATER WILL BE CONVEYED VIA EXISTING SWALES, DITCHES, OR PROPOSED DITCHES, EXISTING AND PROPOSED STORM SEWERS.
20. THERE IS TO BE NO DISCHARGE (I.E. PUMPING, SHEET FLOW, SWALE, DITCH, ETC.) INTO EXISTING DITCHES OR CANALS WITHOUT THE USE OF SETTLING PONDS. IF THE CONTRACTOR DESIRES TO DISCHARGE INTO EXISTING DITCHES OR CANALS A SETTLING POND PLAN PREPARED BY THE CONTRACTOR MUST BE SUBMITTED TO AND APPROVED BY THE ENGINEER OF RECORD AND LOCAL REGULATORY AGENCY PRIOR TO CONSTRUCTION.
21. DURING DEWATERING OPERATIONS, THE CONTRACTOR SHALL NOT DISCHARGE DIRECTLY TO RECEIVING WATERS, EXISTING CONVEYANCES TO RECEIVING WATERS, OR WETLAND SYSTEMS. TEMPORARY SEDIMENT BASINS, TRAPS, OR SILTATION REDUCTION DEVICES SHALL BE UTILIZED TO COLLECT THE DISCHARGE FROM DEWATERING ACTIVITIES TO ELIMINATE THE POTENTIAL FOR OFF-SITE SEDIMENT TRANSPORT AND TO INSURE THAT DIRECT DISCHARGE DOES NOT OCCUR.
22. BANKS SHALL BE PROTECTED FROM EROSION OR COLLAPSE DURING CONSTRUCTION. BANK PROTECTION MATERIAL SHALL BE CAREFULLY PLACED FROM THE BANK AND NOT DUMPED FROM ABOVE IN AN UNCONTROLLED MANNER. EROSION CONTROL FABRIC SHALL BE USED FOR EROSION PROTECTION WHERE SOD WILL NOT HOLD OR BECOME ESTABLISHED IN TIME TO PROTECT THE BANKS. UNLESS OTHERWISE SPECIFIED IN THE PLANS, UPON COMPLETION OF CONSTRUCTION, ALL BANKS AND WATERWAYS SHALL BE RESTORED TO THEIR PRE-CONSTRUCTION CONFIGURATION AND PROTECTED FROM EROSION.
23. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING POND FILTRATION SYSTEMS FROM BEING CLOGGED UNTIL PINELLAS COUNTY DETERMINES THE CONSTRUCTION IS COMPLETE. IF FILTER MATERIAL IS CONTAMINATED, IT SHALL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR.

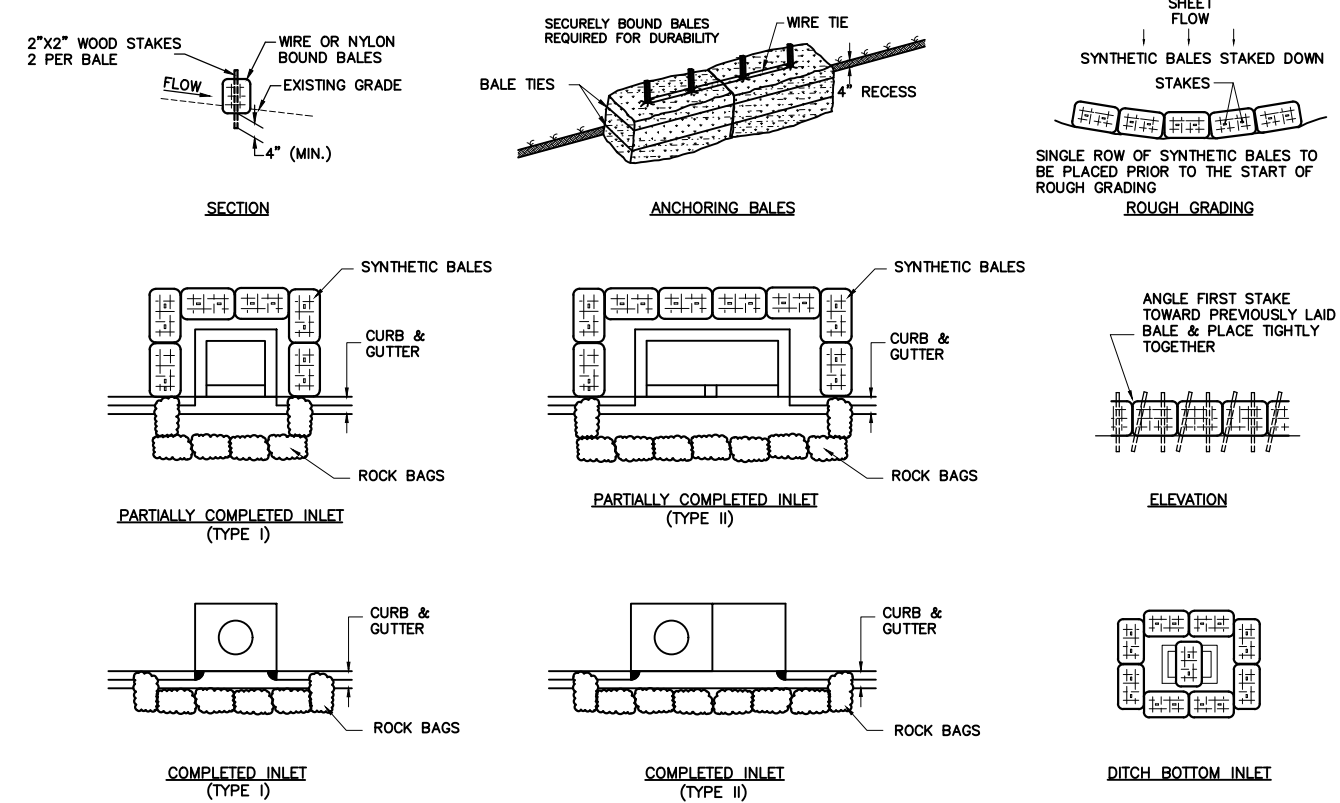
DESIGNED	PJS		PROJECT:	LAKESHORE ESTATES		HDR ENGINEERING, INC.	APPROVED BY:	KENT L. McWATERS, P.E.	DATE	2018	
DRAWN	JHP		DESCRIPTION:	EROSION CONTROL NOTES		5426 BAY CENTER DRIVE, SUITE 400 TAMPA, FL 33609-3444	KENT L. McWATERS, P.E.			PROJECT NO.	1177A
CHECKED	KLM		FLA. LIC. NO 45443							SHEET:	55 OF 68
REV. NO.	DATE	DESCRIPTION	REV. BY								



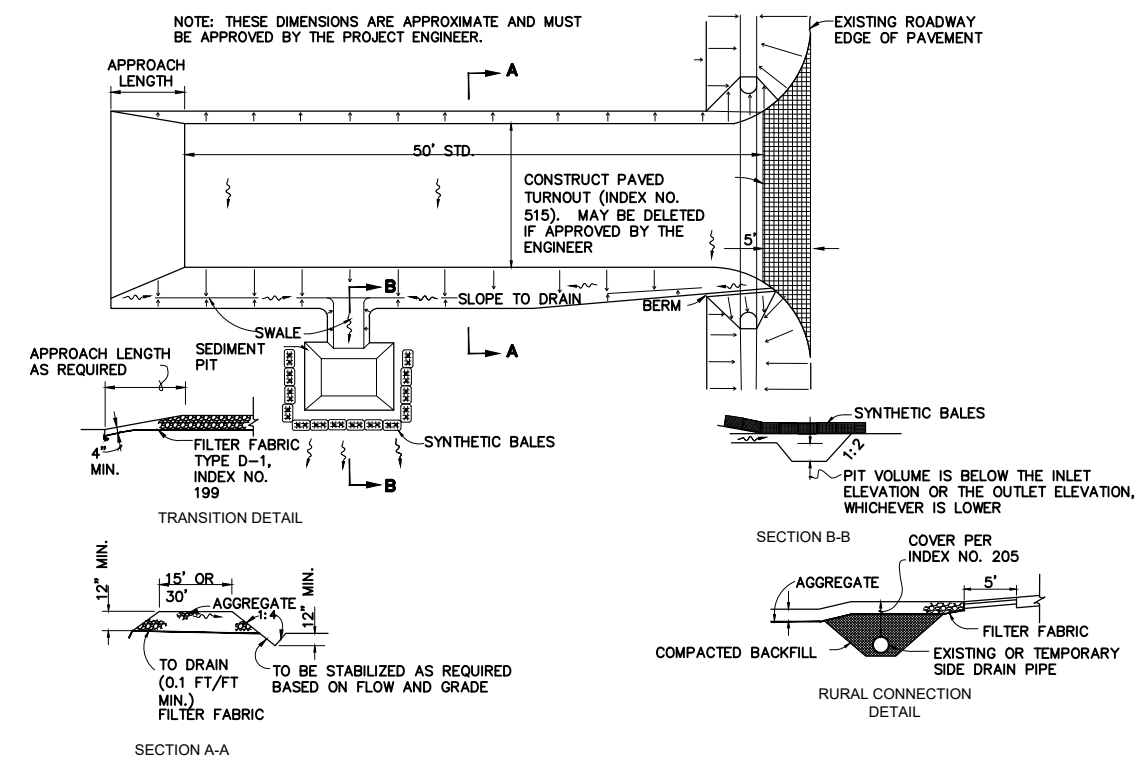
PALMS AND SMALL TREES LARGE TREES AND BUSHES

- NOTES:**
1. NO TRUCKS OR HEAVY EQUIPMENT ALLOWED WITHIN BARRIERS, ONLY HAND LABOR ALLOWED.
 2. NO CONSTRUCTION MATERIALS, SOIL DEPOSITS, OR SOLVENTS SHALL BE ALLOWED WITHIN BARRIERS.
 3. BARRIERS ARE TO BE IN PLACE PRIOR TO ANY CONSTRUCTION ACTIVITIES WITHIN TREE AREA.
 4. BARRIERS ARE TO STAY IN PLACE UNTIL ALL PAVING, CONSTRUCTION, AND HEAVY EQUIPMENT IS REMOVED FROM THE AREA.

TREE PROTECTION BARRIERS DETAIL
NTS



SYNTHETIC BALES OR APPROVED BARRIERS
NTS



SOIL TRACKING PREVENTION DEVICE TYPE A
NTS

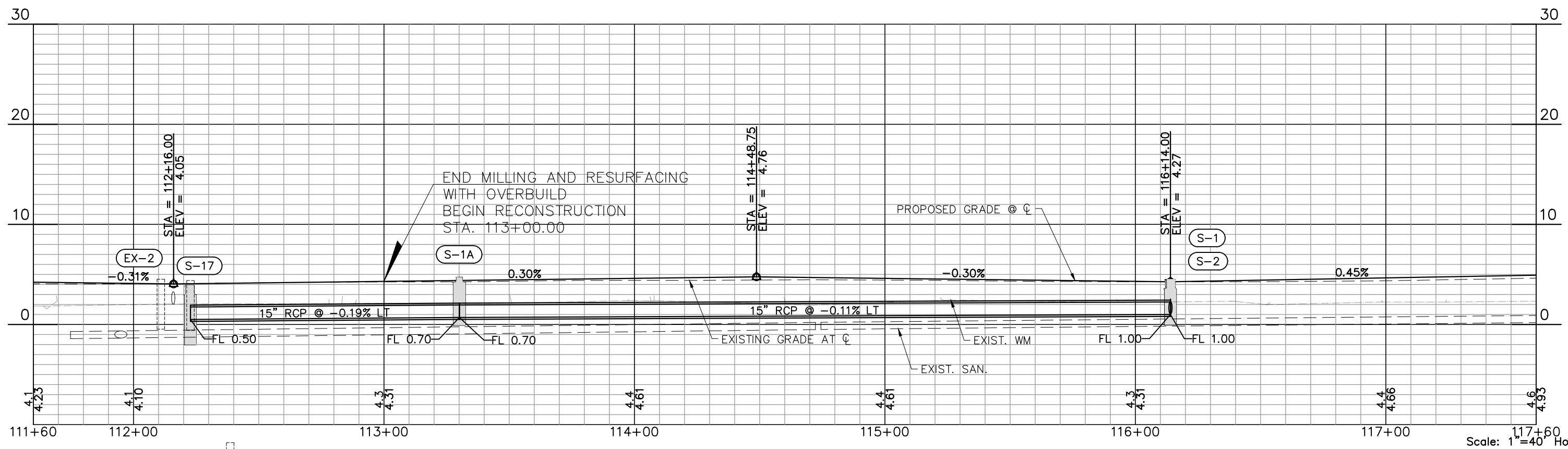
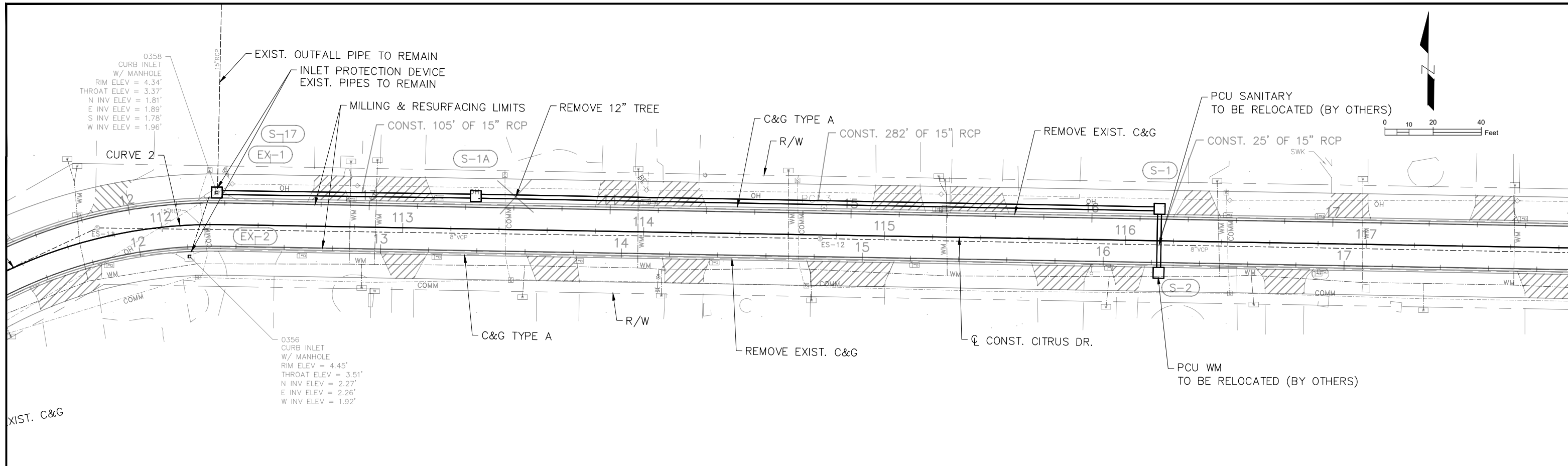
SOIL TRACKING PREVENTION DEVICE NOTES

1. A SOIL TRACKING PREVENTION DEVICE (STPD) SHALL BE CONSTRUCTED AT LOCATIONS DESIGNATED BY THE ENGINEER FOR POINTS OF EGRESS FROM UNSTABILIZED AREAS OF THE PROJECT TO PUBLIC ROADS WHERE OFF SITE TRACKING OF MUD COULD OCCUR. TRAFFIC FROM UNSTABILIZED AREAS OF THE CONSTRUCTION PROJECT SHALL BE DIRECTED THROUGH STPD BARRIERS, FLAGGING, OR OTHER POSITIVE MEANS SHALL BE USED AS REQUIRED TO LIMIT AND DIRECT VEHICULAR EGRESS ACROSS THE STPD.
2. THE CONTRACTOR MAY PROPOSE AN ALTERNATIVE TECHNIQUE TO MINIMIZE OFF SITE TRACKING OF SEDIMENT. THE ALTERNATIVE MUST BE REVIEWED AND APPROVED BY THE ENGINEER PRIOR TO ITS USE.
3. ALL MATERIALS SPILLED, DROPPED, OR TRACKED ONTO PUBLIC ROADS (INCLUDING THE STPD AGGREGATE AND CONSTRUCTION MUD) SHALL BE REMOVED DAILY, OR MORE FREQUENTLY IF SO DIRECTED BY THE ENGINEER.
4. AGGREGATES SHALL BE DESCRIBED IN SECTION 901 EXCLUDING 901-2.3. AGGREGATES SHALL BE FDOT SIZE #1. IF THIS SIZE IS NOT AVAILABLE, THE NEXT AVAILABLE SMALLER SIZE AGGREGATE MAY BE SUBSTITUTED WITH THE APPROVAL OF THE ENGINEER. SIZES CONTAINING EXCESSIVE SMALL AGGREGATE WILL TRACK OFF THE PROJECT AND ARE NOT SUITABLE.
5. THE SEDIMENT PIT SHOULD PROVIDE A RETENTION VOLUME OF 3600 CUBIC FEET/ACRE OF SURFACE AREA DRAINING TO THE PIT. WHEN THE STPD IS ISOLATED FROM OTHER DRAINAGE AREAS, THE FOLLOWING PIT VOLUMES WILL SATISFY THIS REQUIREMENT:
 15'x50'=100 FT³
 30'x50'=200 FT³
 AS AN OPTION TO THE SEDIMENT PIT, THE WIDTH OF THE SWALE BOTTOM CAN BE INCREASED TO OBTAIN THE VOLUME. WHEN THE SEDIMENT PIT OR SWALE VOLUME HAS BEEN REDUCED TO ONE HALF, IT SHALL BE CLEANED. WHEN A SWALE IS USED, SYNTHETIC BALES OR SILT FENCE SHALL BE PLACED ALONG THE ENTIRE LENGTH.
6. THE SWALE DITCH DRAINING THE STPD SHALL HAVE A 0.2% MINIMUM AND A 1.0% MAXIMUM GRADE ALONG THE STPD AND TO THE SEDIMENT PIT.
7. MITERED END SECTIONS ARE NOT REQUIRED WHEN THE SIDE DRAIN PIPE SATISFIES THE CLEAR ZONE REQUIREMENTS.
8. THE STPD SHALL BE MAINTAINED IN A CONDITION THAT WILL ALLOW IT TO PERFORM ITS FUNCTION. TO PREVENT OFFSET TRACKING, THE STPD SHALL BE RINSED (DAILY WHEN IN USE) TO MOVE ACCUMULATED MUD DOWNWARD THROUGH THE STONE. ADDITIONAL STABILIZATION OF THE VEHICULAR ROUTE LEADING TO THE STPD MAY BE REQUIRED TO LIMIT MUD TRACKED.
9. A STPD SHALL BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR SOIL TRACKING PREVENTION DEVICE, EA. THE UNIT PRICE SHALL CONSTITUTE FULL COMPENSATION FOR CONSTRUCTION, MAINTENANCE, REPLACEMENT OF MATERIALS, REMOVAL, AND RESTORATION OF THE AREA UTILIZED FOR THE STPD; INCLUDING BUT NOT LIMITED TO EXCAVATION, GRADING, TEMPORARY PIPE (INCLUDING M.E.S. WHEN REQUIRED), FILTER FABRIC, AGGREGATE, PAVED TURNOUT (INCLUDING ASPHALT AND BASE CONSTRUCTION), DITCH STABILIZATION, APPROACH ROUTE STABILIZATION, SEDIMENT REMOVAL AND DISPOSAL, WATER, RINSING AND CLEANING OF THE STPD AND CLEANING OF PUBLIC ROADS, GRASSING AND SOD. SYNTHETIC BALES SHALL BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR HAY OR STRAW BALED, EA. SILT FENCE SHALL BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR STAKED SILT FENCE, LF.
10. THE NOMINAL SIZE OF A STANDARD STPD IS 15'x50' UNLESS OTHERWISE SHOWN IN THE PLANS. IF THE VOLUME OF ENTERING AND EXITING VEHICLES WARRANT, A 30' WIDTH STPD MAY BE USED IF APPROVED BY THE ENGINEER. WHEN A DOUBLE WIDTH (30') STPD IS USED, THE PAY QUANTITY SHALL BE 2 FOR EACH LOCATION.

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DESIGNED	PJS		PROJECT:	LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS	DESCRIPTION:	EROSION CONTROL DETAILS		HDR ENGINEERING, INC. 5426 BAY CENTER DRIVE, SUITE 400 TAMPA, FL 33609-3444 CERTIFICATE OF AUTHORIZATION 4213	APPROVED BY:	KENT L. McWATERS, P.E. FLA. LIC. NO 45443	DATE	
DRAWN	JHP		REV. NO.	DATE	DESCRIPTION	REV. BY		DATE				
CHECKED	KLM		DATE	DESCRIPTION	REV. BY	DATE		DESCRIPTION				

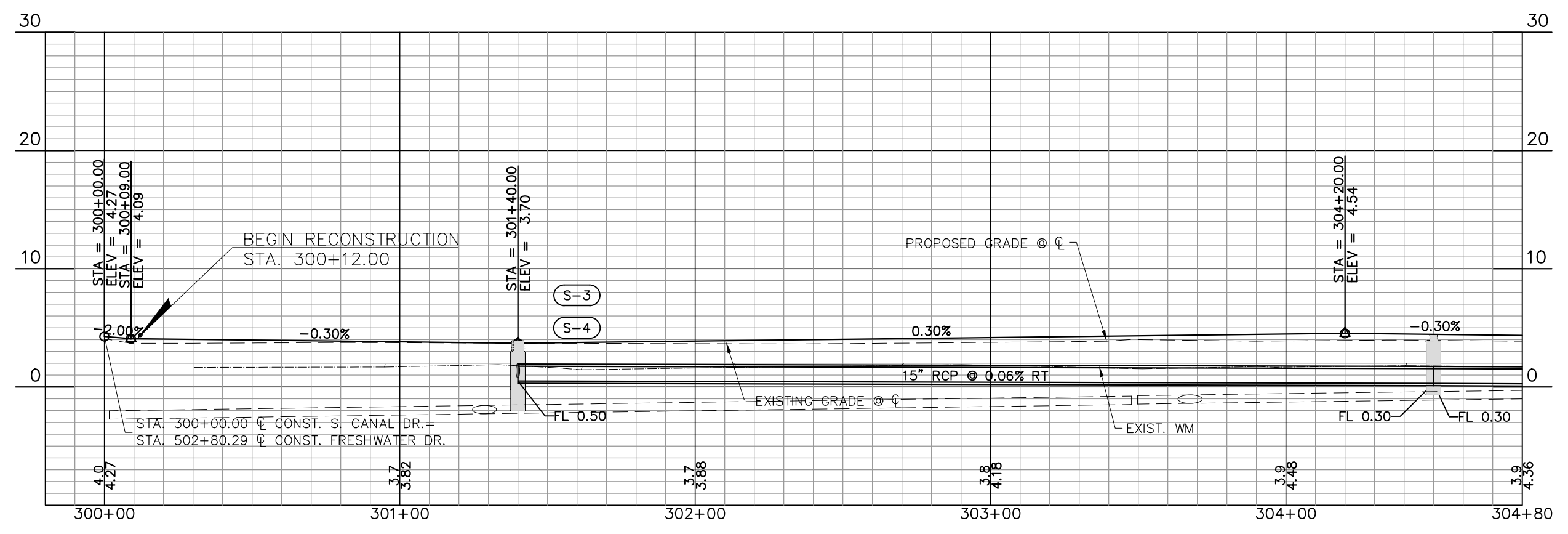
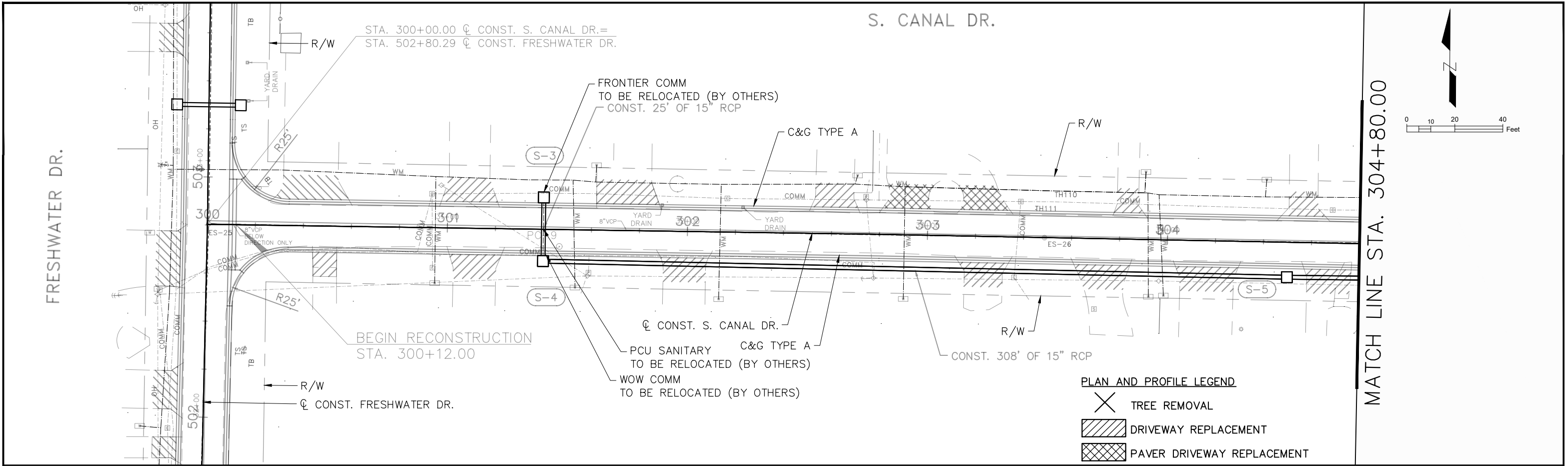
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PROJECT NO.	1177A
SHEET:	56 OF 68



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		DESIGNED: PJS DRAWN: JHP CHECKED: KLM		PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS	DESCRIPTION: UTILITY RELOCATION PLAN (1) CITRUS DR.		HDR ENGINEERING, INC. 5426 BAY CENTER DRIVE, SUITE 400 TAMPA, FL 33609-3444 CERTIFICATE OF AUTHORIZATION 4213	APPROVED BY: KENT L. McWATERS, P.E. FLA. LIC. NO 45443	DATE: 2018 PROJECT NO. 1177A SHEET: 60 OF 68
REV. NO.	DATE	DESCRIPTION	REV. BY						

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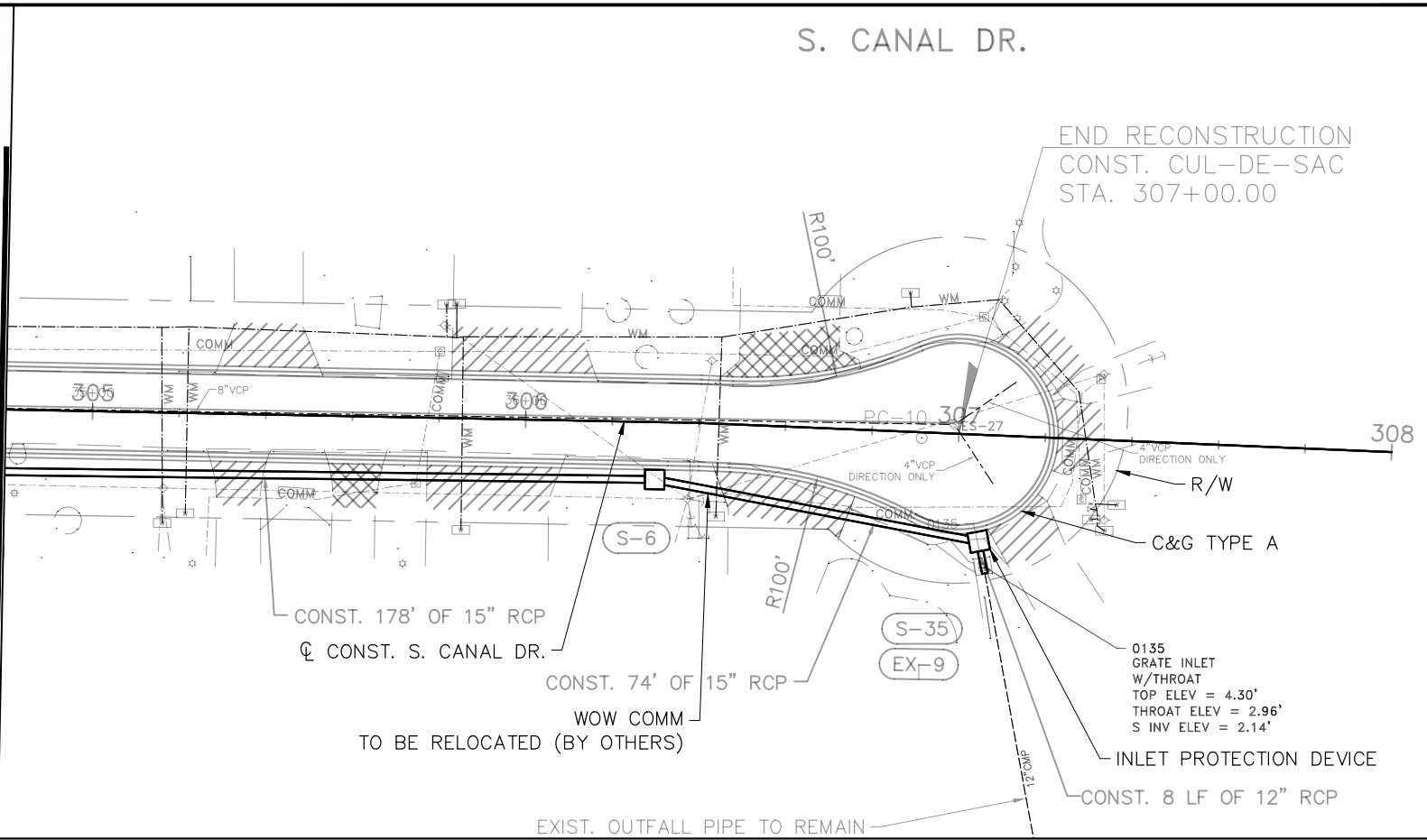


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1"=10' Vert.

DESIGNED	PJS		PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS	DESCRIPTION: UTILITY RELOCATION PLAN (2) S. CANAL DR.	HDR ENGINEERING, INC. 5426 BAY CENTER DRIVE, SUITE 400 TAMPA, FL 33609-3444 CERTIFICATE OF AUTHORIZATION 4213	APPROVED BY:	DATE:
DRAWN	JHP					KENT L. McWATERS, P.E.	2018
CHECKED	KLM					FLA. LIC. NO 45443	PROJECT NO. 1177A
REV. NO.	DATE	DESCRIPTION	REV. BY				SHEET: 61 OF 68

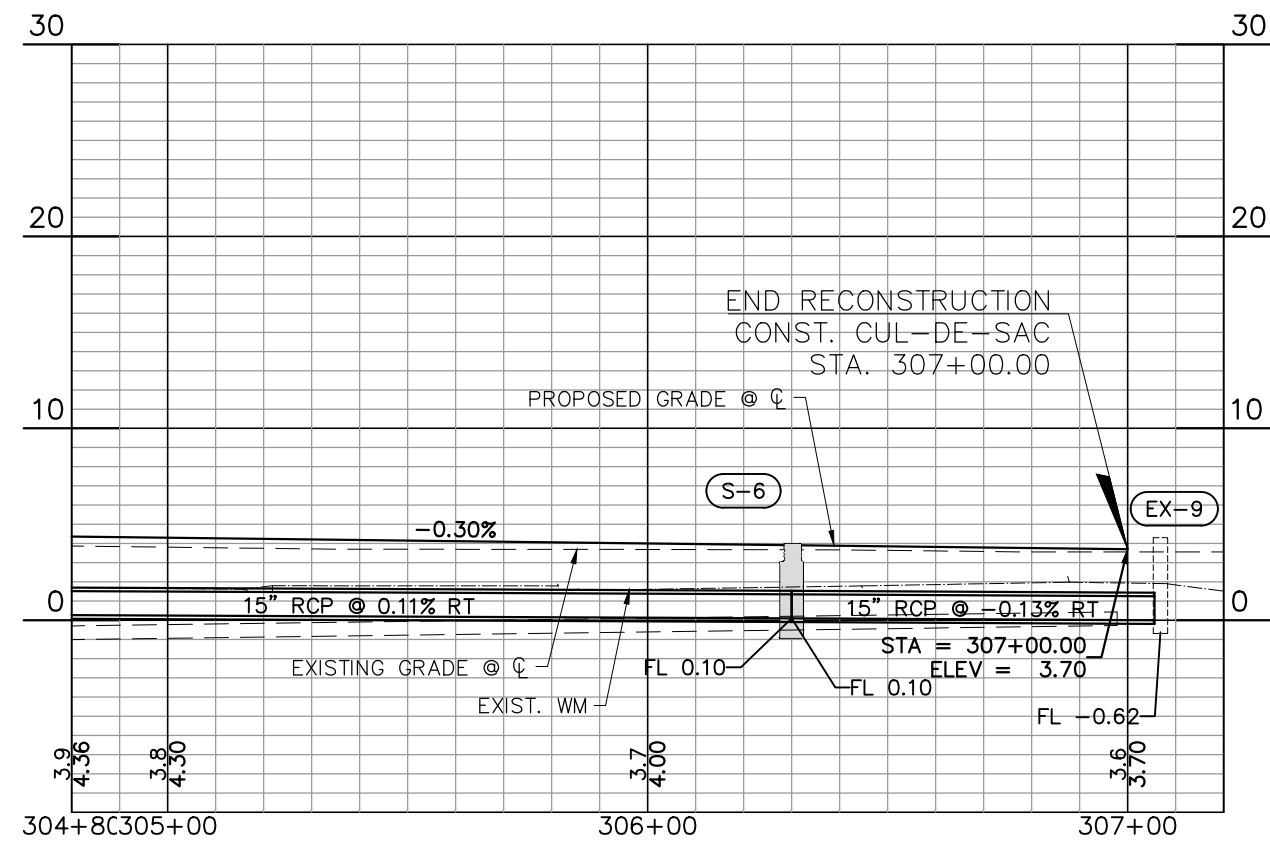
S. CANAL DR.

MATCH LINE STA. 304+80.00



PLAN AND PROFILE LEGEND

	TREE REMOVAL
	DRIVEWAY REPLACEMENT
	PAVER DRIVEWAY REPLACEMENT



Scale: 1"=40' Horiz.
1"=10' Vert.

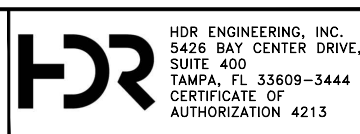
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PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS

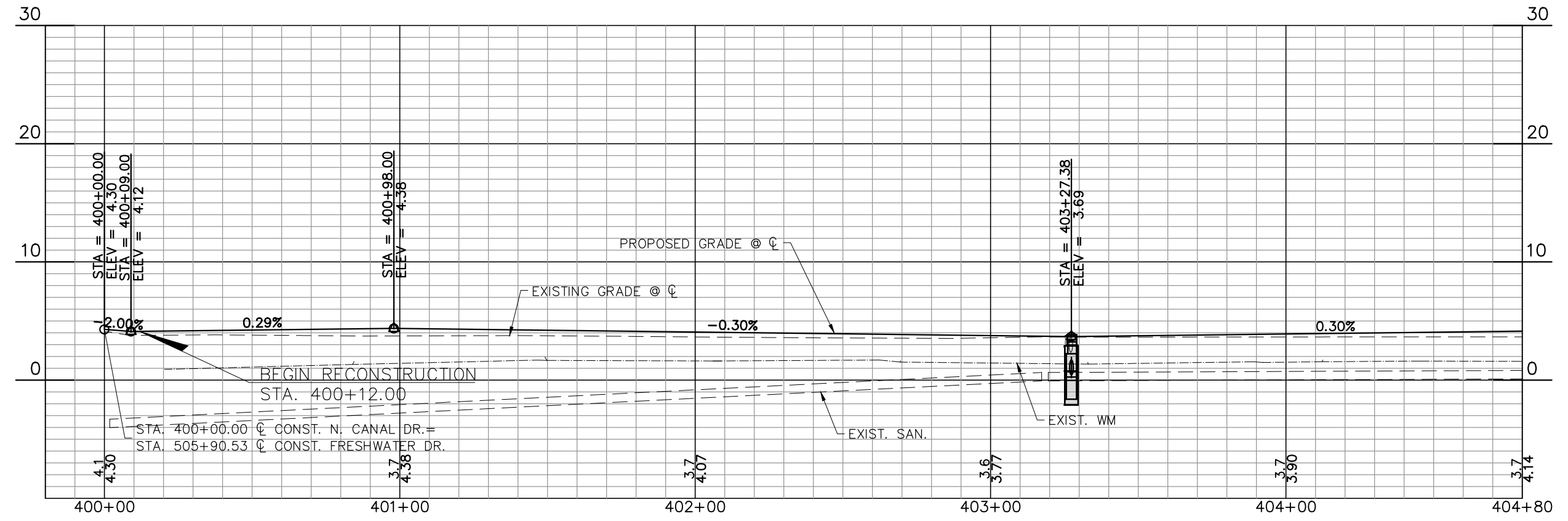
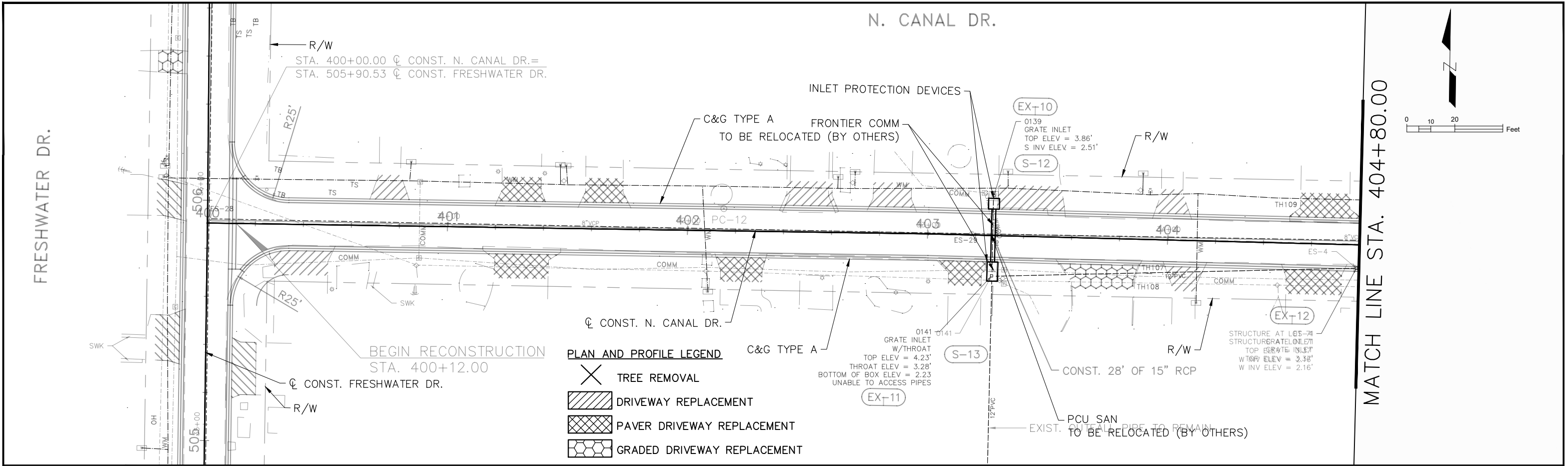
DESCRIPTION: UTILITY RELOCATION PLAN (3) S. CANAL DR.



APPROVED BY: KENT L. McWATERS, P.E. FLA. LIC. NO 45443

DATE:	2018
PROJECT NO.:	1177A
SHEET:	62 OF 68

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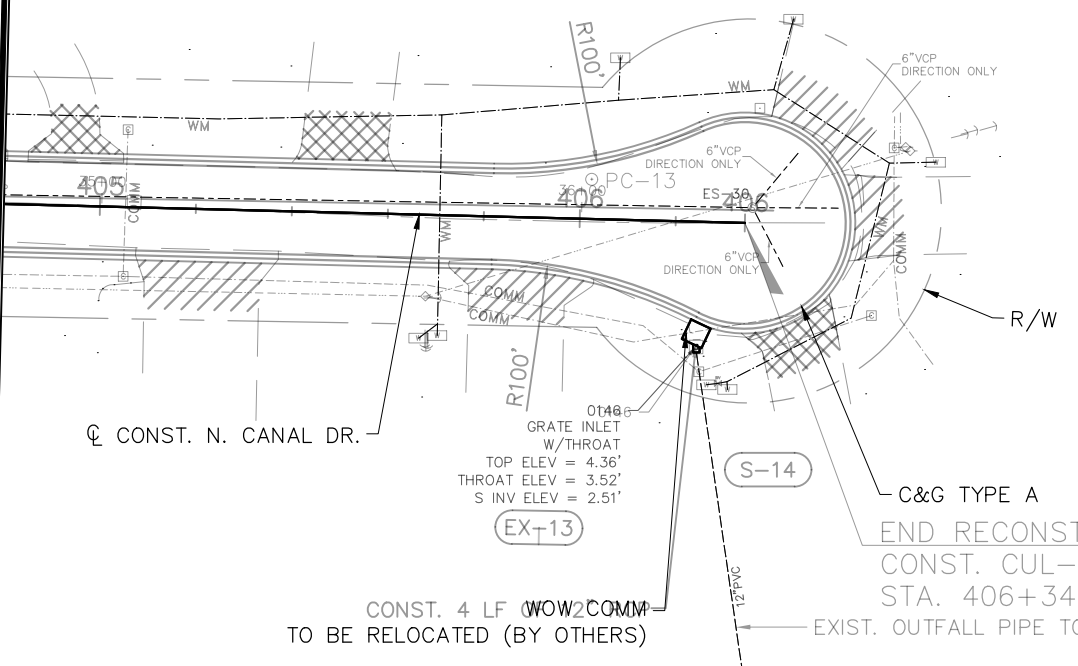
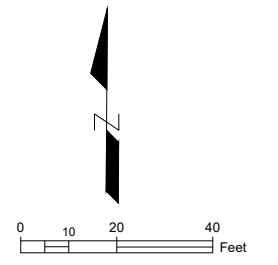
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DESIGNED	PJS		PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS	DESCRIPTION: UTILITY RELOCATION PLAN (4) N. CANAL DR.		HDR ENGINEERING, INC. 5426 BAY CENTER DRIVE, SUITE 400 TAMPA, FL 33609-3444 CERTIFICATE OF AUTHORIZATION 4213	APPROVED BY:	DATE:
DRAWN	JHP						KENT L. McWATERS, P.E.	2018
CHECKED	KLM						FLA. LIC. NO 45443	1177A
REV. NO.	DATE	DESCRIPTION	REV. BY	DATE	SHEET:	63 OF 68		

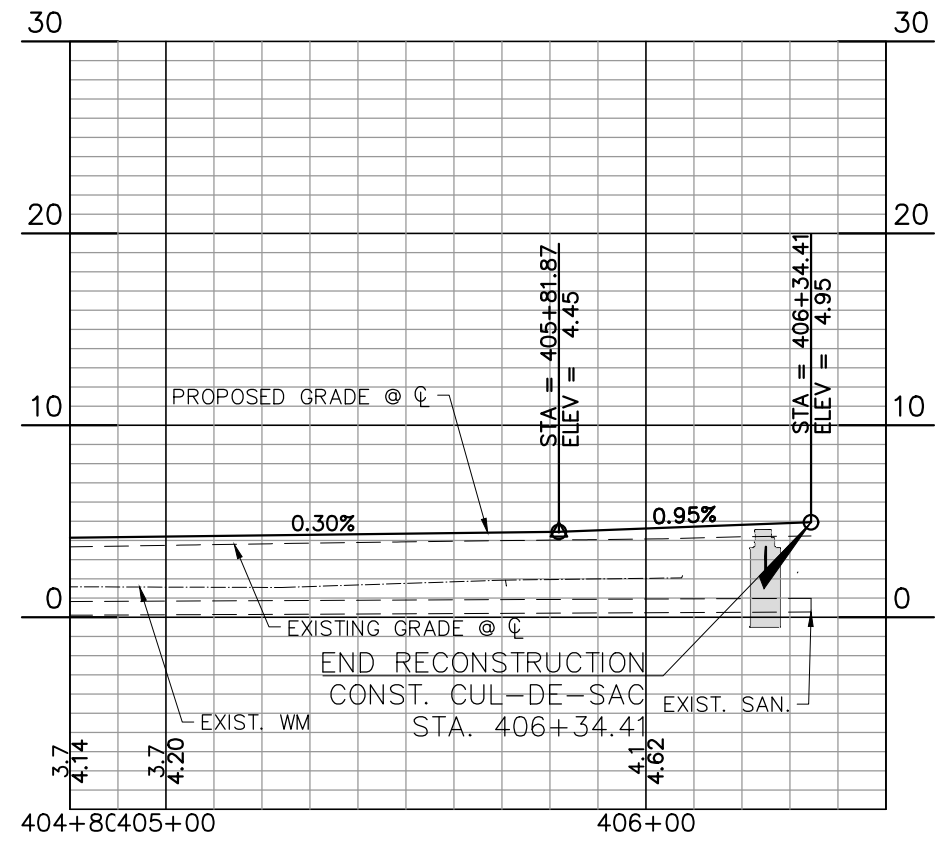
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MATCH LINE STA. 404+80.00

N. CANAL DR.



- PLAN AND PROFILE LEGEND**
- TREE REMOVAL
 - DRIVEWAY REPLACEMENT
 - PAVER DRIVEWAY REPLACEMENT



Scale: 1"=40' Horiz.
1"=10' Vert.

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PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS

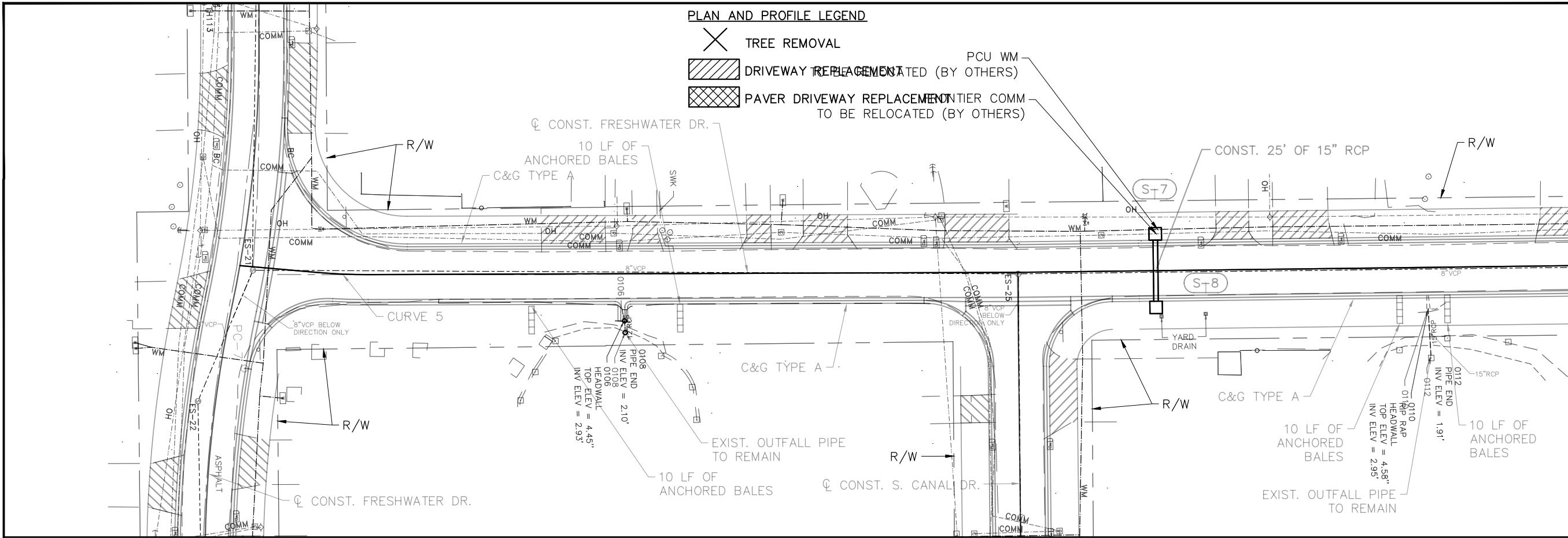
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APPROVED BY: KENT L. McWATERS, P.E. DATE: _____
FLA. LIC. NO 45443

DATE: 2018
PROJECT NO. 1177A
SHEET: 64 OF 68

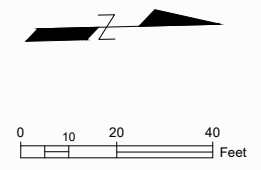
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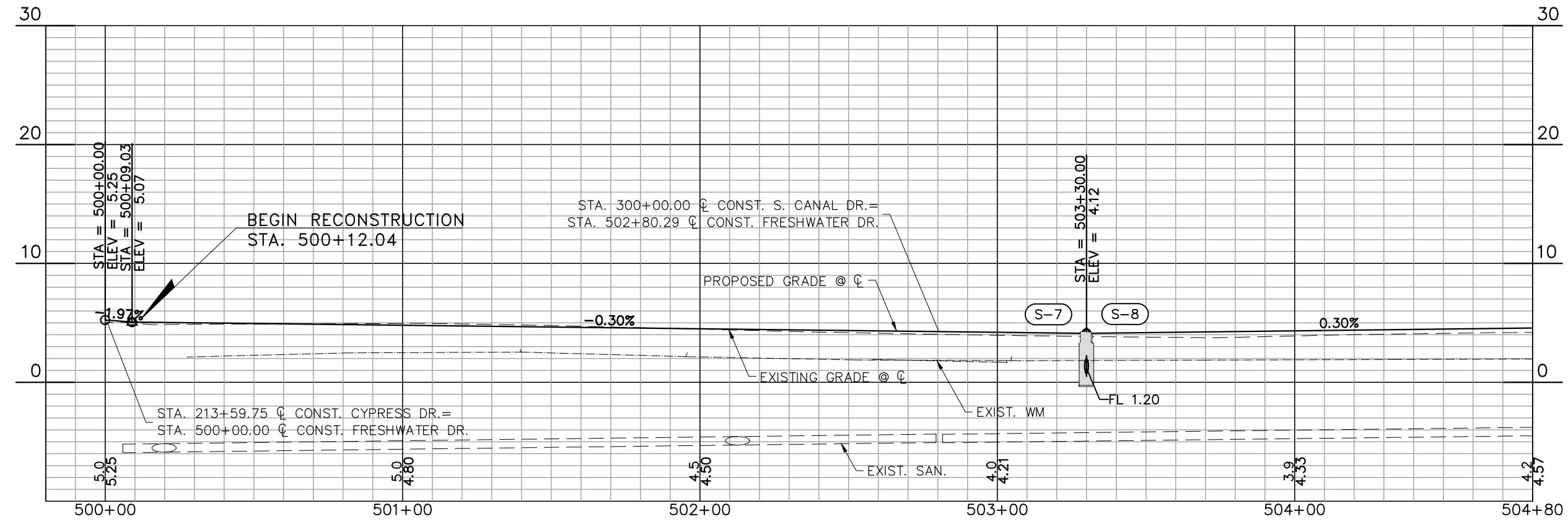
PLAN AND PROFILE LEGEND

- TREE REMOVAL
- DRIVEWAY REPLACEMENT
- PAVER DRIVEWAY REPLACEMENT

PCU WM
 TO BE RELOCATED (BY OTHERS)
 FRONTIER COMM
 TO BE RELOCATED (BY OTHERS)



MATCH LINE STA. 504+80.00



Scale: 1"=40' Horiz.
 1"=10' Vert.

REV. NO.	DATE	DESCRIPTION	REV. BY

DESIGNED: PJS
 DRAWN: JHP
 CHECKED: KLM

PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS

DESCRIPTION: UTILITY RELOCATION PLAN (6) FRESHWATER DR.

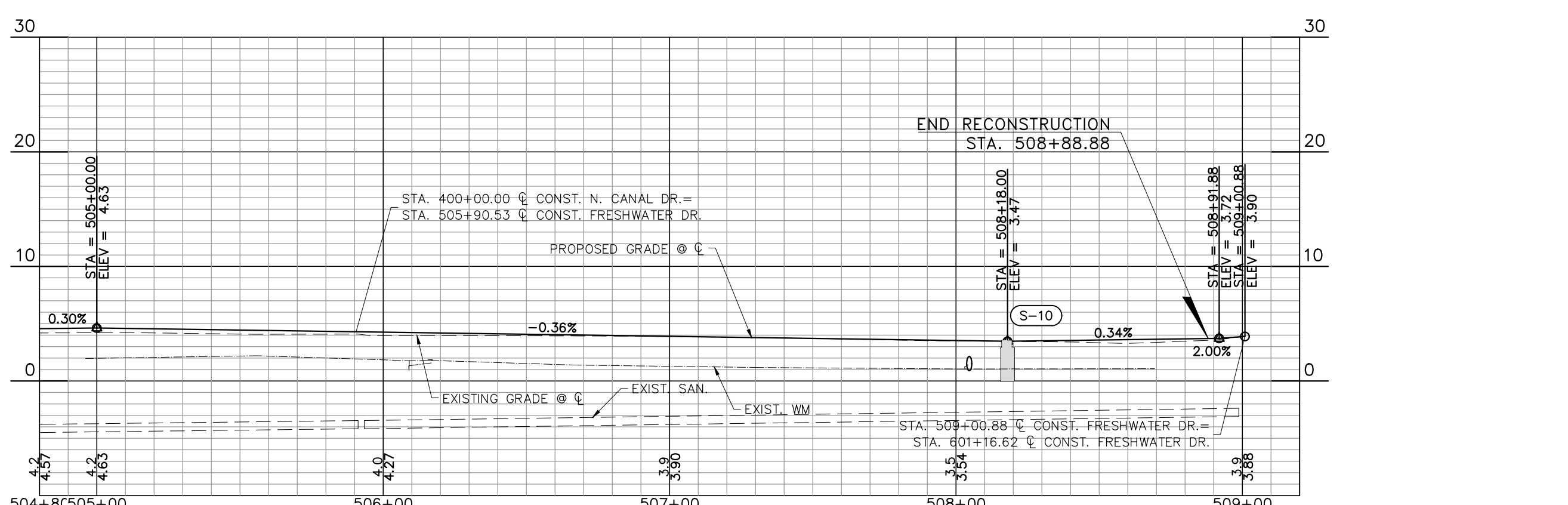
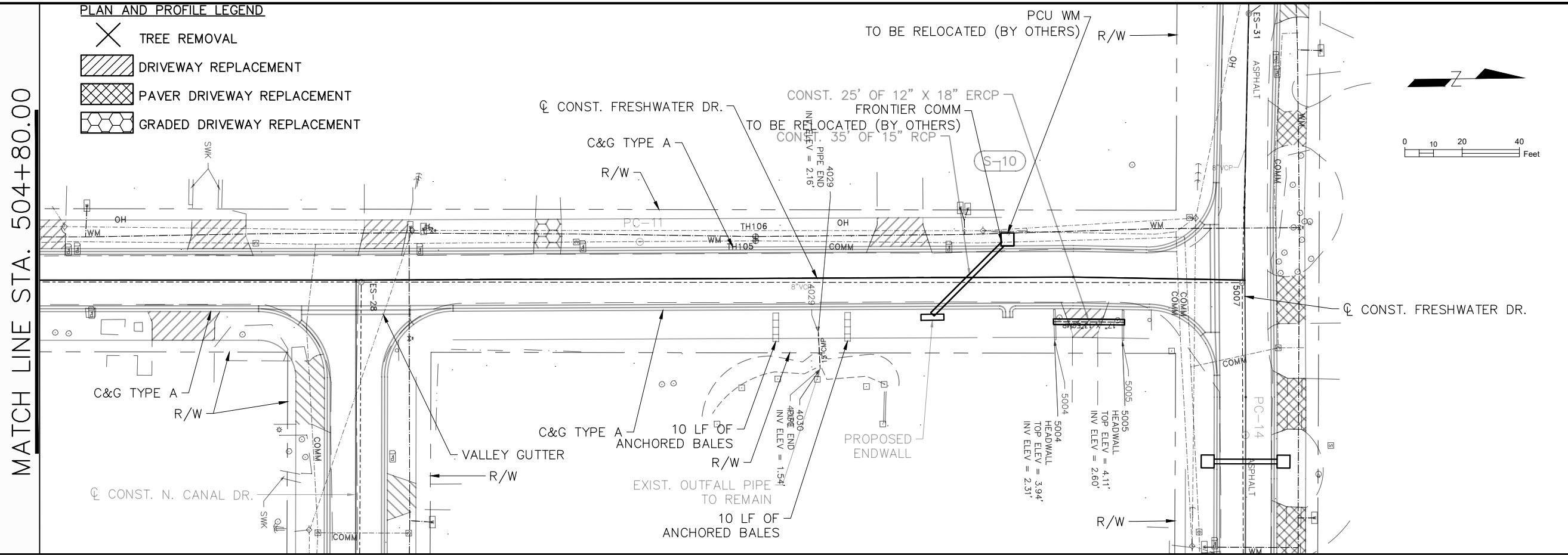
HDR ENGINEERING, INC.
 5426 BAY CENTER DRIVE,
 SUITE 400
 TAMPA, FL 33609-3444
 CERTIFICATE OF AUTHORIZATION 4213

APPROVED BY: KENT L. McWATERS, P.E.
 FLA. LIC. NO 45443

DATE: _____

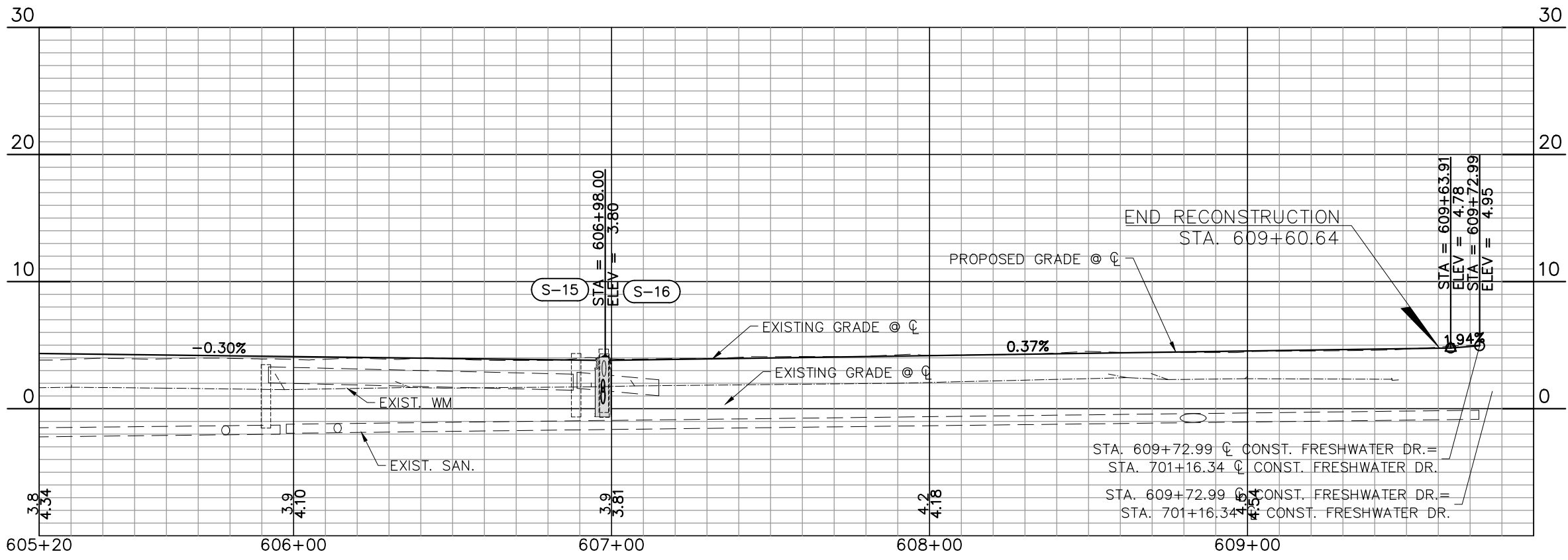
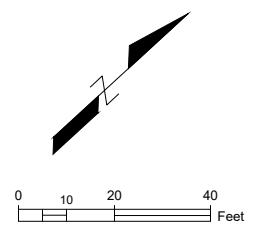
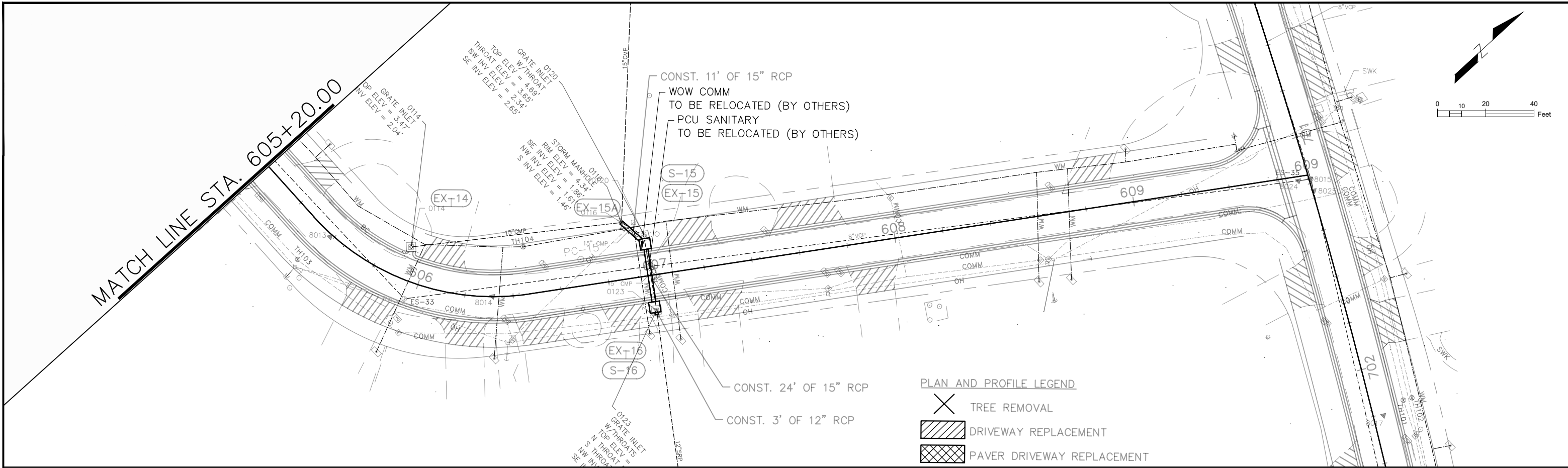
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Scale: 1"=40' Horiz.
1"=10' Vert.

DESIGNED	PJS		PROJECT: LAKESHORE ESTATES ROADWAY AND DRAINAGE IMPROVEMENTS	DESCRIPTION: UTILITY RELOCATION PLAN (7) FRESHWATER DR.		HDR ENGINEERING, INC. 5426 BAY CENTER DRIVE, SUITE 400 TAMPA, FL 33609-3444 CERTIFICATE OF AUTHORIZATION 4213	APPROVED BY:	DATE:
DRAWN	JHP						KENT L. McWATERS, P.E.	2018
CHECKED	KLM						FLA. LIC. NO 45443	1177A
REV. NO.	DATE						DESCRIPTION	DATE



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		DRAWN: JHP		5426 BAY CENTER DRIVE, SUITE 400 TAMPA, FL 33609-3444 CERTIFICATE OF AUTHORIZATION 4213					PROJECT NO. 1177A
REV. NO.	DATE	DESCRIPTION		REV. BY	CHECKED: KLM				DATE