

The current permit includes impacts to the existing Big Sky Subdivision pond (Pond 3) caused by the side slopes from the proposed roadway. After the permit was issued, the roadway side slopes have been replaced with a vertical retaining wall reducing the impacts to the Big Sky Pond. This letter modification is to document these changes.

As documented in the current permit, there is still no runoff from the Hancock Road entering the Big Sky Pond

Fee Receipt

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

P. O. Box 1429

Palatka, FL 32178-1429

| | | | |
|----------------|--------------------|-------|------------------|
| RECEIPT #: | 56533 | Date: | May 9, 2013 |
| RECEIVED FROM: | Online Transaction | By: | System Generated |
| THE SUM OF: | \$ 160.00 | | |

FOR: Application Fee

FEE DETAIL INFORMATION

| | | |
|--------|-------------------------|-----------|
| Online | OnLine-151492813-260597 | \$ 160.00 |
|--------|-------------------------|-----------|

| | |
|-----------|--|
| APPLICANT | Lake County Department of Public Works 123 N Sinclair Avenue Deer Island, FL 32778 |
|-----------|--|

| | |
|-------|---|
| OWNER | Lake County Board of County Commissioners 315 W Main St Tavares, FL 32778 |
|-------|---|



May 1, 2013

St. Johns River Water Management District
P.O. Box 1429
Palatka, FL 32178

RE: **Permit No. 40-069-50126-4 , Hancock Road - Pond 3 (Big Sky) Modification**

To Whom It May Concern:

Please allow this letter to serve as authorization for TLP Engineering Consultants, Inc. to act on behalf of Lake County during the review of the above mentioned Environmental Resource Permit.

If I can help further with any type of information, please contact me at 352.483.9043.

Respectfully,

Lake County Public Works

Alan Kirkland, PE
Engineer IV, Special Projects Manager

PUBLIC WORKS DEPARTMENT
437 ARDICE AVE. ♦ EUSTIS, FL 32726 ♦ P 352.483.9000 ♦ F 352.483.9025
Board of County Commissioners • www.lakecountyfl.gov

TIMOTHY I. SULLIVAN
District 1

SEAN M. PARKS, AICP, QEP
District 2

JIMMY CONNER
District 3

LESLIE CAMPIONE
District 4

WELTON G. CADWELL
District 5

Application Attachments

File Name: DrawdownCalcs.pdf

Description: Revised Drawdown Calculations

Size: 2228576 bytes

SHA Number: B194CD3A1F95CDD55A7471658D48DCE89BB4DB82

File Name: HancockPlans.pdf

Description: Revised Construction Plans 3,27,28,141-143,194,195

Size: 4009220 bytes

SHA Number: 0145E76AA6EA7444BF5BE831A59B13D532471CEA

File Name: LakeCounty_Authorization.pdf

Description: Authorization Letter from Lake County

Size: 145160 bytes

SHA Number: 7995582017B528559E0C295FFE932624C18591A2

File Name: StormwaterCalcs.pdf

Description: Revised Stormwater Calculations

Size: 232962 bytes

SHA Number: 989A0594A4B8D0FD9821582A53CCB863D63D472D

PONDS Version 3.2.0265
Retention Pond Recovery - Refined Method
Copyright 2012
Devo Seereeram, Ph.D., P.E.

Project Data

Project Name: Hancock Road - Pond 3 - Big Sky Subdivision
Simulation Description: Revised Stormwater Calculations due to Existing Power Line Constraints.
Project Number:
Engineer : Mandee Brandt, PE
Supervising Engineer: Jim Myers, PE
Date: 05-06-2013

Aquifer Data

Base Of Aquifer Elevation, [B] (ft datum): 92.00
Water Table Elevation, [WT] (ft datum): 93.00
Horizontal Saturated Hydraulic Conductivity, [Kh] (ft/day): 20.00
Fillable Porosity, [n] (%): 25.00
Unsaturated Vertical Infiltration Rate, [Iv] (ft/day): 13.0
Maximum Area For Unsaturated Infiltration, [Av] (ft²): 15112.0

Geometry Data

Equivalent Pond Length, [L] (ft): 750.0
Equivalent Pond Width, [W] (ft): 20.0
Ground water mound is expected to intersect the pond bottom

Stage vs Area Data

| <u>Stage (ft datum)</u> | <u>Area (ft²)</u> |
|-----------------------------|----------------------------------|
| 124.00 | 3978.0 |
| 125.00 | 6138.0 |
| 126.00 | 7911.0 |
| 127.00 | 9693.0 |
| 128.00 | 11308.0 |
| 129.00 | 16252.0 |
| 130.00 | 21196.0 |
| 131.00 | 26247.0 |

PONDS Version 3.2.0265
Retention Pond Recovery - Refined Method
Copyright 2012
Devo Seereeram, Ph.D., P.E.

Scenario Input Data

Scenario 1 :: 33541.2 ft³ slug load - Treatment Volume (0.77 ac-ft)

Hydrograph Type: Slug Load
 Modflow Routing: Routed with infiltration

Treatment Volume (ft³) 33541.2

Initial ground water level (ft datum) 93.00 (default)

| Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) |
|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| 0.100 | 2.000 | 5.000 | 10.000 |
| 0.250 | 2.500 | 6.000 | 11.000 |
| 0.500 | 3.000 | 7.000 | 12.000 |
| 1.000 | 3.500 | 8.000 | 13.000 |
| 1.500 | 4.000 | 9.000 | 14.000 |

Scenario 2 :: 87120 ft³ slug load - 25yr/96hr

Hydrograph Type: Slug Load
 Modflow Routing: Routed with infiltration

Treatment Volume (ft³) 87120

Initial ground water level (ft datum) 93.00 (default)

| Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) |
|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| 0.100 | 2.000 | 5.000 | 10.000 |
| 0.250 | 2.500 | 6.000 | 11.000 |
| 0.500 | 3.000 | 7.000 | 12.000 |
| 1.000 | 3.500 | 8.000 | 13.000 |
| 1.500 | 4.000 | 9.000 | 14.000 |

PONDS Version 3.2.0265
Retention Pond Recovery - Refined Method
Copyright 2012
Devo Seereeram, Ph.D., P.E.

Detailed Results :: Scenario 1 :: 33541.2 ft³ slug load - Treatment Volume (0.77 ac-ft)

| Elapsed Time | Instantaneous Inflow Rate | Outside Recharge | Stage Elevation | Infiltration Rate | Combined Instantaneous Discharge | Cumulative Inflow | Cumulative Infiltration | Combined Cumulative | |
|--------------|---------------------------|------------------|-----------------|-------------------|----------------------------------|-------------------|-------------------------|---------------------|------|
| 0.000 | 5590.2000 | 0.00000 | 93.00000 | 0.00000 | 0 | 0.000 | 0.00000 | 0 | N.A. |
| 0.002 | 5590.2000 | 0.00000 | 128.18240 | 1.83765 | 0 | 33541.200 | 11.02688 | 0 | U/P |
| 2.400 | 0.0000 | 0.00000 | 126.87640 | 1.42917 | 0 | 33541.200 | 13841.43000 | 0 | U/P |
| 6.000 | 0.0000 | 0.00000 | 124.91380 | 0.73123 | 0 | 33541.200 | 29004.23000 | 0 | U/P |
| 12.000 | 0.0000 | 0.00000 | --- | --- | --- | 33541.200 | 33541.20000 | 0 | dry |
| 24.000 | 0.0000 | 0.00000 | --- | --- | --- | 33541.200 | 33541.20000 | 0 | dry |
| 36.000 | 0.0000 | 0.00000 | --- | --- | --- | 33541.200 | 33541.20000 | 0 | dry |
| 48.000 | 0.0000 | 0.00000 | --- | --- | --- | 33541.200 | 33541.20000 | 0 | dry |
| 60.000 | 0.0000 | 0.00000 | --- | --- | --- | 33541.200 | 33541.20000 | 0 | dry |
| 72.000 | 0.0000 | 0.00000 | --- | --- | --- | 33541.200 | 33541.20000 | 0 | dry |
| 84.000 | 0.0000 | 0.00000 | --- | --- | --- | 33541.200 | 33541.20000 | 0 | dry |
| 96.000 | 0.0000 | 0.00000 | --- | --- | --- | 33541.200 | 33541.20000 | 0 | dry |
| 120.000 | 0.0000 | 0.00000 | --- | --- | --- | 33541.200 | 33541.20000 | 0 | dry |
| 144.000 | 0.0000 | 0.00000 | --- | --- | --- | 33541.200 | 33541.20000 | 0 | dry |
| 168.000 | 0.0000 | 0.00000 | --- | --- | --- | 33541.200 | 33541.20000 | 0 | dry |
| 192.000 | 0.0000 | 0.00000 | --- | --- | --- | 33541.200 | 33541.20000 | 0 | dry |
| 216.000 | 0.0000 | 0.00000 | --- | --- | --- | 33541.200 | 33541.20000 | 0 | dry |
| 240.000 | 0.0000 | 0.00000 | --- | --- | --- | 33541.200 | 33541.20000 | 0 | dry |
| 264.000 | 0.0000 | 0.00000 | --- | --- | --- | 33541.200 | 33541.20000 | 0 | dry |
| 288.000 | 0.0000 | 0.00000 | --- | --- | --- | 33541.200 | 33541.20000 | 0 | dry |
| 312.000 | 0.0000 | 0.00000 | --- | --- | --- | 33541.200 | 33541.20000 | 0 | dry |
| 336.000 | 0.0000 | 0.00000 | --- | --- | --- | 33541.200 | 33541.20000 | 0 | dry |

PONDS Version 3.2.0265
Retention Pond Recovery - Refined Method
Copyright 2012
Devo Seereeram, Ph.D., P.E.

Detailed Results :: Scenario 2 :: 87120 ft³ slug load - 25yr/96hr

| Elapsed Time | Instantaneous Inflow Rate | Outside Recharge | Stage Elevation | Infiltration Rate | Combined Instantaneous Discharge | Cumulative Inflow | Cumulative Infiltration | Combined Cumulative | |
|--------------|---------------------------|------------------|-----------------|-------------------|----------------------------------|-------------------|-------------------------|---------------------|------|
| 0.000 | 14520.0000 | 0.00000 | 93.00000 | 0.00000 | 0 | 0.000 | 0.00000 | 0 | N.A. |
| 0.002 | 14520.0000 | 0.00000 | 130.98080 | 2.27380 | 0 | 87120.000 | 13.64278 | 0 | U/P |
| 2.400 | 0.00000 | 0.00000 | 130.16590 | 2.27050 | 0 | 87120.000 | 19645.60000 | 0 | U/P |
| 6.000 | 0.00000 | 0.00000 | 128.53290 | 1.96080 | 0 | 87120.000 | 49007.06000 | 0 | U/P |
| 12.000 | 0.00000 | 0.00000 | 125.26260 | 0.96859 | 0 | 87120.000 | 80389.23000 | 0 | U/P |
| 24.000 | 0.00000 | 0.00000 | ---- | ---- | ---- | 87120.000 | 87120.00000 | 0 | dry |
| 36.000 | 0.00000 | 0.00000 | ---- | ---- | ---- | 87120.000 | 87120.00000 | 0 | dry |
| 48.000 | 0.00000 | 0.00000 | ---- | ---- | ---- | 87120.000 | 87120.00000 | 0 | dry |
| 60.000 | 0.00000 | 0.00000 | ---- | ---- | ---- | 87120.000 | 87120.00000 | 0 | dry |
| 72.000 | 0.00000 | 0.00000 | ---- | ---- | ---- | 87120.000 | 87120.00000 | 0 | dry |
| 84.000 | 0.00000 | 0.00000 | ---- | ---- | ---- | 87120.000 | 87120.00000 | 0 | dry |
| 96.000 | 0.00000 | 0.00000 | ---- | ---- | ---- | 87120.000 | 87120.00000 | 0 | dry |
| 120.000 | 0.00000 | 0.00000 | ---- | ---- | ---- | 87120.000 | 87120.00000 | 0 | dry |
| 144.000 | 0.00000 | 0.00000 | ---- | ---- | ---- | 87120.000 | 87120.00000 | 0 | dry |
| 168.000 | 0.00000 | 0.00000 | ---- | ---- | ---- | 87120.000 | 87120.00000 | 0 | dry |
| 192.000 | 0.00000 | 0.00000 | ---- | ---- | ---- | 87120.000 | 87120.00000 | 0 | dry |
| 216.000 | 0.00000 | 0.00000 | ---- | ---- | ---- | 87120.000 | 87120.00000 | 0 | dry |
| 240.000 | 0.00000 | 0.00000 | ---- | ---- | ---- | 87120.000 | 87120.00000 | 0 | dry |
| 264.000 | 0.00000 | 0.00000 | ---- | ---- | ---- | 87120.000 | 87120.00000 | 0 | dry |
| 288.000 | 0.00000 | 0.00000 | ---- | ---- | ---- | 87120.000 | 87120.00000 | 0 | dry |
| 312.000 | 0.00000 | 0.00000 | ---- | ---- | ---- | 87120.000 | 87120.00000 | 0 | dry |
| 336.000 | 0.00000 | 0.00000 | ---- | ---- | ---- | 87120.000 | 87120.00000 | 0 | dry |



Stormwater Management Report
N. Hancock Road - Segment A
 Lake County Engineering Department
 Lake County, Florida

Basin No. 3 (Big Sky Subdivision)
Basin Area Summary

Calculated By: MEB Date: March 5, 2013
 Checked By: JEM Date: May 6, 2013

Big Sky Subdivision Pre Development Condition:

From Permit Number: 42-069-101701-1

Area Breakdown:

| | |
|------------------------------|----------|
| Open Space | 9.88 ac |
| Wood-Grass Combo (Offsite 1) | 0.90 ac |
| Total | 10.78 ac |

Limits of Big Sky Subdivision located within Hancock Road ROW:

| Station to | Station | Length (ft) | Right of Way Width (ft) | Area (ac) | Remarks |
|--|-----------|-------------|-------------------------|-----------|---|
| 234+60.00 | 238+55.15 | 395.15 | 120 | 1.14 | Big Sky Subdivision Completely located within ROW |
| 238+55.15 | 240+60.00 | 204.85 | 133 to 81 | 0.50 | Big Sky Subdivision partially located within ROW |
| Total Area Removed from Big Sky Subdivision for Hancock Road Project = | | | | 1.65 | |

Revised Pre-Development Total Area Breakdown:

| | |
|------------------------------|---------|
| Open Space | 8.30 ac |
| Wood-Grass Combo (Offsite 1) | 0.83 ac |
| Total | 9.13 ac |

Big Sky Subdivision Post Development Condition:

From Permit Number: 42-069-101701-1

Area Breakdown:

| | |
|------------------------------|----------|
| Open Space | 6.91 ac |
| Impervious | 2.97 ac |
| Wood-Grass Combo (Offsite 1) | 0.90 ac |
| Total | 10.78 ac |

Limits of Big Sky Subdivision located within Hancock Road ROW:

| Station to | Station | Length (ft) | Right of Way Width (ft) | Area (ac) | Remarks |
|--|-----------|-------------|-------------------------|-----------|---|
| 234+60.00 | 238+55.15 | 395.15 | 120 | 1.14 | Big Sky Subdivision Completely located within ROW |
| 238+55.15 | 240+60.00 | 204.85 | 133 to 81 | 0.50 | Big Sky Subdivision partially located within ROW |
| Total Area Removed from Big Sky Subdivision for Hancock Road Project = | | | | 1.65 | |

Impervious Area to be Removed within Big Sky Subdivision as part of the Hancock Road Project:

Big Sky Subdivision Impervious Area = 2.97 ac
 Removal of Bison Trail: 0.21 ac
 Total Impervious Area = 2.76 ac

Revised Post Development Total Area Breakdown:

| | |
|------------------------------|---------|
| Open Space | 5.54 ac |
| Impervious | 2.76 ac |
| Wood-Grass Combo (Offsite 1) | 0.83 ac |
| Total | 9.13 ac |



Stormwater Management Report
N. Hancock Road - Segment A
 Lake County Engineering Department
 Lake County, Florida

Basin No. 3 (Big Sky Subdivision)

Calculated By: MEB Date: March 5, 2013

Pre-Developed CN and SCS Runoff Volume Calculation

Checked By: JEM Date: May 6, 2013

Pre Condition

BASIN DESIGNATION Ponds 1, 2, and 3 interconnected
 TYPE EVALUATION Pre-Developed, 25yr/96hr storm
 BASIN SIZE 9.13 Acres
 RAINFALL DEPTH 11 Inches

| SOIL LAND USE DESCRIPTION | NAME | SOIL GROUP | CN | AREA | PRODUCT |
|-----------------------------------|------|---------------|--------------|-------------|--------------|
| Open Space, good condition | | A | 39 | 8.30 | 323.8 |
| Woods-Grass Combo, good condition | | A | 32 | 0.83 | 26.57 |
| | | | TOTAL | 9.13 | 350.4 |

$$\text{WEIGHTED, CN} = \frac{\text{PRODUCT}}{\text{AREA OR \%}} = \underline{\underline{38.4}}$$

$$\text{SOIL STORAGE, S} = \frac{1000}{\text{CN} - 10} = \underline{\underline{16.07}} \text{ INCHES}$$

$$\text{RUNOFF, R} = \frac{(P-0.2S)^2}{(P+0.8S)} = \underline{\underline{2.54}} \text{ INCHES}$$

$$\text{RUNOFF VOLUME, V} = \frac{R}{12} \times \text{AREA} = \underline{\underline{1.93}} \text{ ACRE-FT}$$

Pre Developed Volume = 1.93 ACRE-FT
 Pre Developed Volume = 84300 CUBIC FEET



Stormwater Management Report
N. Hancock Road - Segment A
 Lake County Engineering Department
 Lake County, Florida

Basin No. 3 (Big Sky Subdivision)

Calculated By: MEB Date: March 5, 2013

Post-Developed CN and SCS Runoff Volume Calculation

Checked By: JEM Date: May 6, 2013

Proposed Condition

BASIN DESIGNATION

Ponds 1, 2, and 3 interconnected

TYPE EVALUATION

Post-Developed, 25yr/96hr storm

BASIN SIZE

9.13 Acres

RAINFALL DEPTH

11 Inches

| SOIL LAND USE DESCRIPTION | NAME | SOIL GROUP | CN | AREA | PRODUCT |
|-----------------------------------|------|---------------|--------------|-------------|---------------|
| Open Space, good condition (30%) | | A | 39 | 5.54 | 216.17 |
| Impervious (70%) | | | 98 | 2.76 | 270.48 |
| Woods-Grass Combo, good condition | | A | 32 | 0.83 | 26.571 |
| | | | TOTAL | 9.13 | 513.23 |

WEIGHTED, CN = $\frac{\text{PRODUCT}}{\text{AREA OR \%}} = \underline{56.2}$

SOIL STORAGE, S = $\frac{1000}{\text{CN}} - 10 = \underline{7.80}$ INCHES

RUNOFF, R = $\frac{(P-0.2S)^2}{(P+0.8S)} = \underline{5.17}$ INCHES

RUNOFF VOLUME, V = $\frac{R}{12} \times \text{AREA} = \underline{3.94}$ ACRE-FT

Post Developed Volume = 3.94 ACRE-FT
 Post Developed Volume = 171400 CUBIC FEET



Stormwater Management Report
N. Hancock Road - Segment A
Lake County Engineering Department
Lake County, Florida

Basin No. 3 (Big Sky Subdivision)
Treatment Volume Calculation

Calculated By: MEB Date: May 9, 2013

Checked By: JEM Date: May 6, 2013

SJRWMD Treatment Volume Requirement

Water Quality Volume for a Dry Retention System is based upon the greater of (1) 1.0 inch of runoff over the basin area or (2) 1.25 inches of runoff over the impervious area plus an additional 0.5 inches over the entire basin area.

Vt(1) = One inch of runoff from the basin area

$$Vt(1) = (9.13 \text{ ac.}) * 1.0 \text{ in.} / 12$$

$$Vt(1) = \underline{0.76} \text{ acre-ft}$$

Vt(2) = 1.5 inches of runoff over the impervious area + 0.5 inches over the entire basin

$$Vt(2) = ((2.76 \text{ ac.} * 1.25 \text{ in.}) + (0.5 \text{ in.} * 9.13 \text{ ac.})) / 12$$

$$Vt(2) = \underline{0.67} \text{ acre-ft}$$

Therefore 0.76 Acre-ft for the required treatment volume

Is Basin part of an OFW (yes or no)?

no

Add an additional 50%

TOTAL BASIN REQUIRED TREATMENT VOLUME = 0.76 acre-ft



Stormwater Management Report
N. Hancock Road - Segment A
 Lake County Engineering Department
 Lake County, Florida

Basin No. 3 (Big Sky Subdivision)
Pond Stage-Storage Relationship

Calculated By: MEB

Date: May 9, 2013

Checked By: JEM

Date: May 9, 2013

STAGE vs. STORAGE CALCULATIONS
Ponds 1, 2, and 3 interconnected

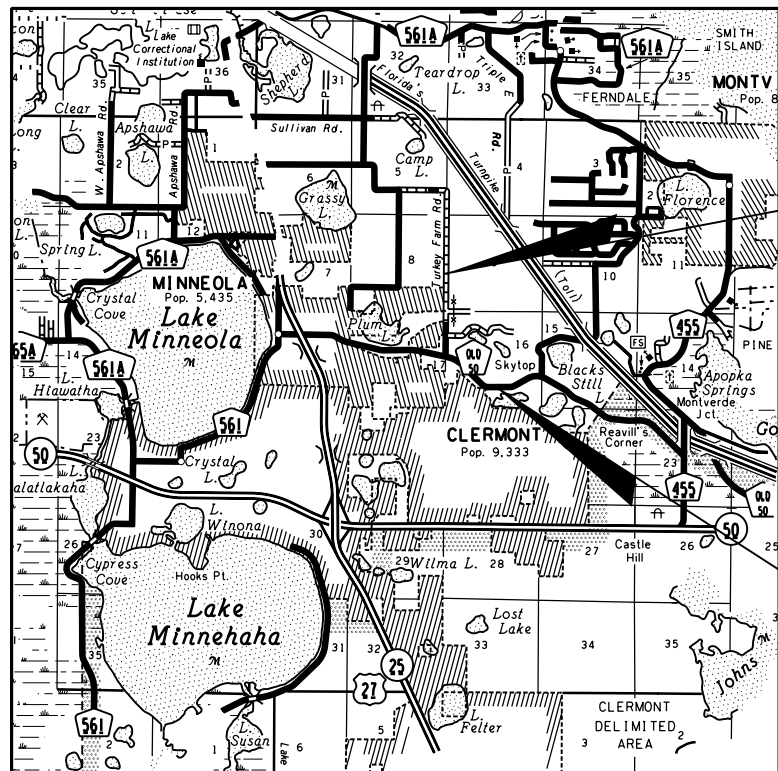
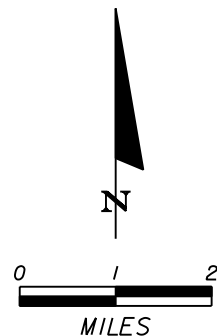
| Stage (ft NGVD 1929) | Surface Area (sf) | Surface Area (Ac) | Average Area (Ac) | Incremental Depth (ft.) | Incremental Volume (Ac-Ft) | Total Volume (Ac-Ft) |
|---------------------------------|----------------------------------|----------------------------------|----------------------------------|--|---|-------------------------------------|
| 124.00 | 3,978 | 0.091 | 0.000 | 0.000 | 0.000 | 0.000 |
| 125.00 | 6,138 | 0.141 | 0.116 | 1.000 | 0.116 | 0.116 |
| 126.00 | 7,911 | 0.182 | 0.161 | 1.000 | 0.161 | 0.277 |
| 127.00 | 9,693 | 0.223 | 0.202 | 1.000 | 0.202 | 0.479 |
| 128.00 | 11,308 | 0.260 | 0.241 | 1.000 | 0.241 | 0.721 |
| 129.00 | 16,252 | 0.373 | 0.316 | 1.000 | 0.316 | 1.037 |
| 130.00 | 21,196 | 0.487 | 0.430 | 1.000 | 0.430 | 1.467 |
| 131.00 | 26,247 | 0.603 | 0.545 | 1.000 | 0.545 | 2.011 |
| | | | | | | |

Required Water Quality Volume = 0.76 ac-ft
 Required Treatment Stage = 128.11 ft
 Provided Treatment Stage = 128.15 ft
 Provided Treatment Volume = 0.77 ac-ft

Total Required Retention Volume = 2.00 ac-ft
 Total Retention Stage = 130.89 ft

NORTH HANCOCK ROAD

LAKE COUNTY, FLORIDA



VINCINITY / LOCATION MAP
1" = 2 MILES

END PROJECT
STA. 263+54.13

BEGIN PROJECT
STA. 188+50.00

SHEET INDEX

| <u>NO.</u> | <u>DESCRIPTION</u> |
|------------|--|
| 1 | KEY SHEET |
| 2 - 5 | DRAINAGE MAP |
| 6 - 17 | TYPICAL SECTION |
| 18 | GENERAL NOTES |
| 18A | PROJECT LAYOUT |
| 19 - 40 | ROADWAY PLAN |
| 41 - 61 | ROADWAY PROFILE |
| 62 - 68 | SPECIAL PROFILES |
| 69 - 71 | DRAINAGE STRUCTURE DATA |
| 72 - 75 | POND DETAIL |
| 76 - 86 | POND CROSS SECTIONS |
| 86A | CROSS SECTION PATTERN |
| 87 - 190 | ROADWAY CROSS SECTIONS |
| 191 - 198 | EROSION CONTROL SHEETS |
| 199 - 200 | STORMWATER POLLUTION PREVENTION PLAN |
| 201 - 242 | TRAFFIC CONTROL PLAN (NOT INCLUDED) |
| 243 - 262 | UTILITY ADJUSTMENT PLAN (NOT INCLUDED) |
| 263 - 283 | SIGNING AND PAVEMENT MARKING PLAN |
| 284 - 287 | SIGNALIZATION PLAN |

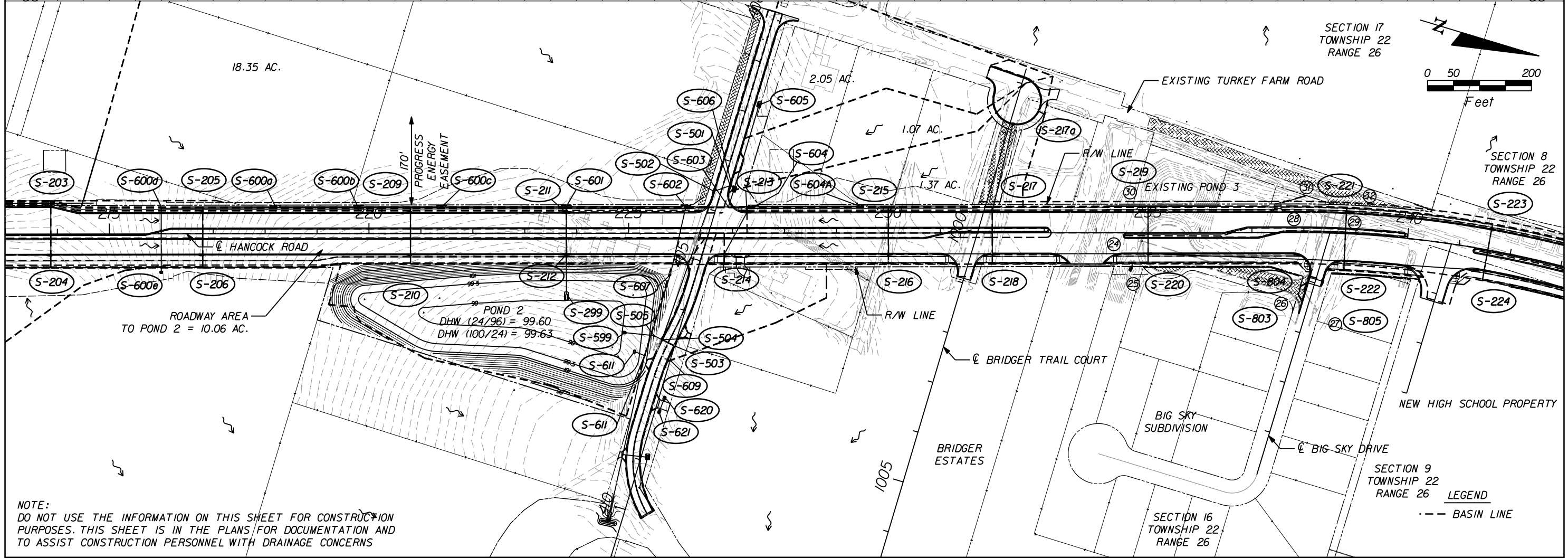
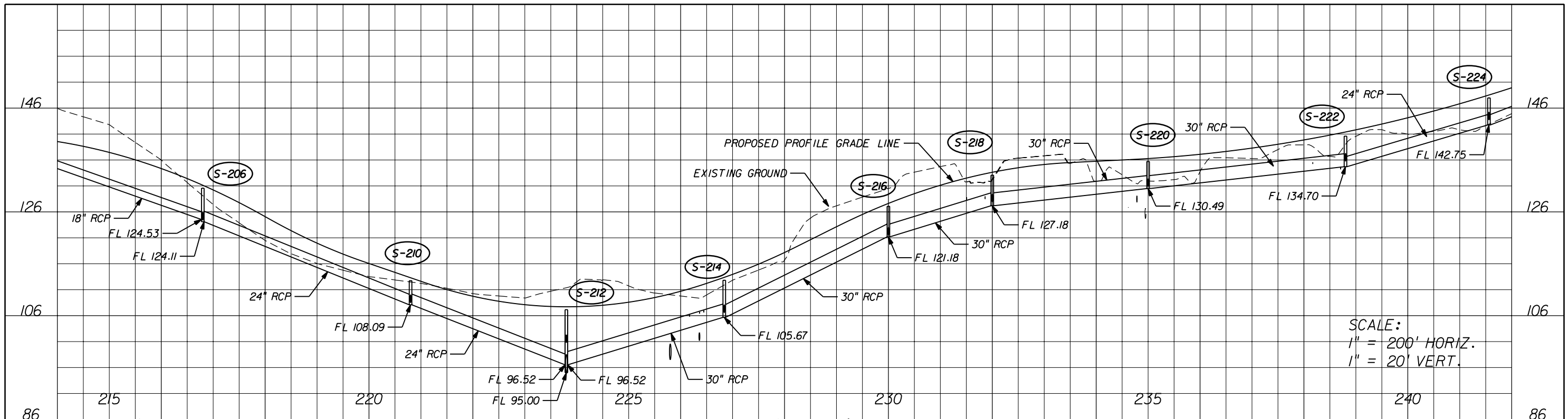
THE ENGINEER OF RECORD CERTIFIES THAT THIS DESIGN IS IN SUBSTANTIAL CONFORMANCE WITH THE STANDARDS ESTABLISHED PURSUANT TO THE FLORIDA DEPARTMENT OF TRANSPORTATION "MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE FOR STREETS AND HIGHWAYS" COMMONLY KNOWN AS THE "FLORIDA GREENBOOK."

LAKE COUNTY DEPARTMENT OF
PUBLIC WORKS
ENGINEERING DIVISION

437 ARDICE AVENUE
EUSTIS, FLORIDA 32726
PHONE: (352) 483-9040

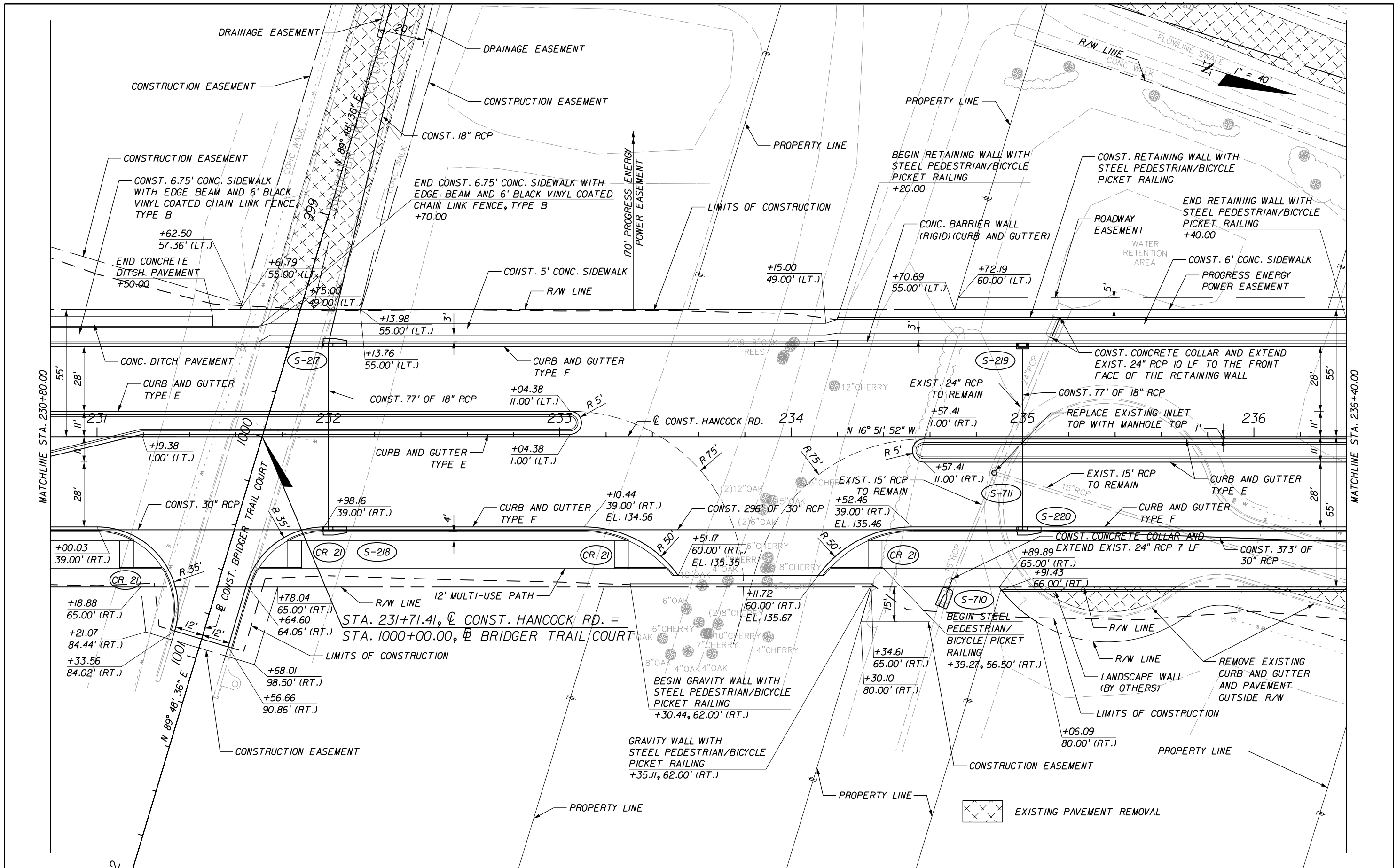
60% PLAN SET
WITH RIGHT OF WAY

| REVISIONS | DATE | TYLIN INTERNATIONAL 225 E. ROBINSON STREET, SUITE 490 ORLANDO, FLORIDA 32801 P 407.563.7101 F 407.999.5228 CERTIFICATE OF AUTHORIZATION 00002017 | SIGNATURE | KEY SHEET | SHEET NO. |
|-----------|------|---|-----------------------------------|------------------|-----------|
| | | | | | |
| | | | | | |
| | | | DINO E. LUCARELLI, P.E. NO. 39556 | | 1 |



NOTE:
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

| | | | | | | | |
|-----------|------|---|-----------------------------------|---|-----------|---------------------|----------------|
| REVISIONS | DATE | TYLIN INTERNATIONAL 225 E. ROBINSON STREET, SUITE 490 ORLANDO, FLORIDA 32801 P 407.563.7101 F 407.999.5228 CERTIFICATE OF AUTHORIZATION 00002017 | LAKE COUNTY FLORIDA | LAKE COUNTY DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION 437 ARDICE AVENUE EUSTIS, FLORIDA 32726 | SIGNATURE | DRAINAGE MAP | SHEET NO. 3 |
| | | | | | DATE | | |



| REVISIONS | DATE |
|-----------|------|
| | |
| | |
| | |
| | |

TYLIN INTERNATIONAL
 225 E. ROBINSON STREET, SUITE 490
 ORLANDO, FLORIDA 32801
 P 407.563.7101 F 407.999.5228
 CERTIFICATE OF AUTHORIZATION 00002017



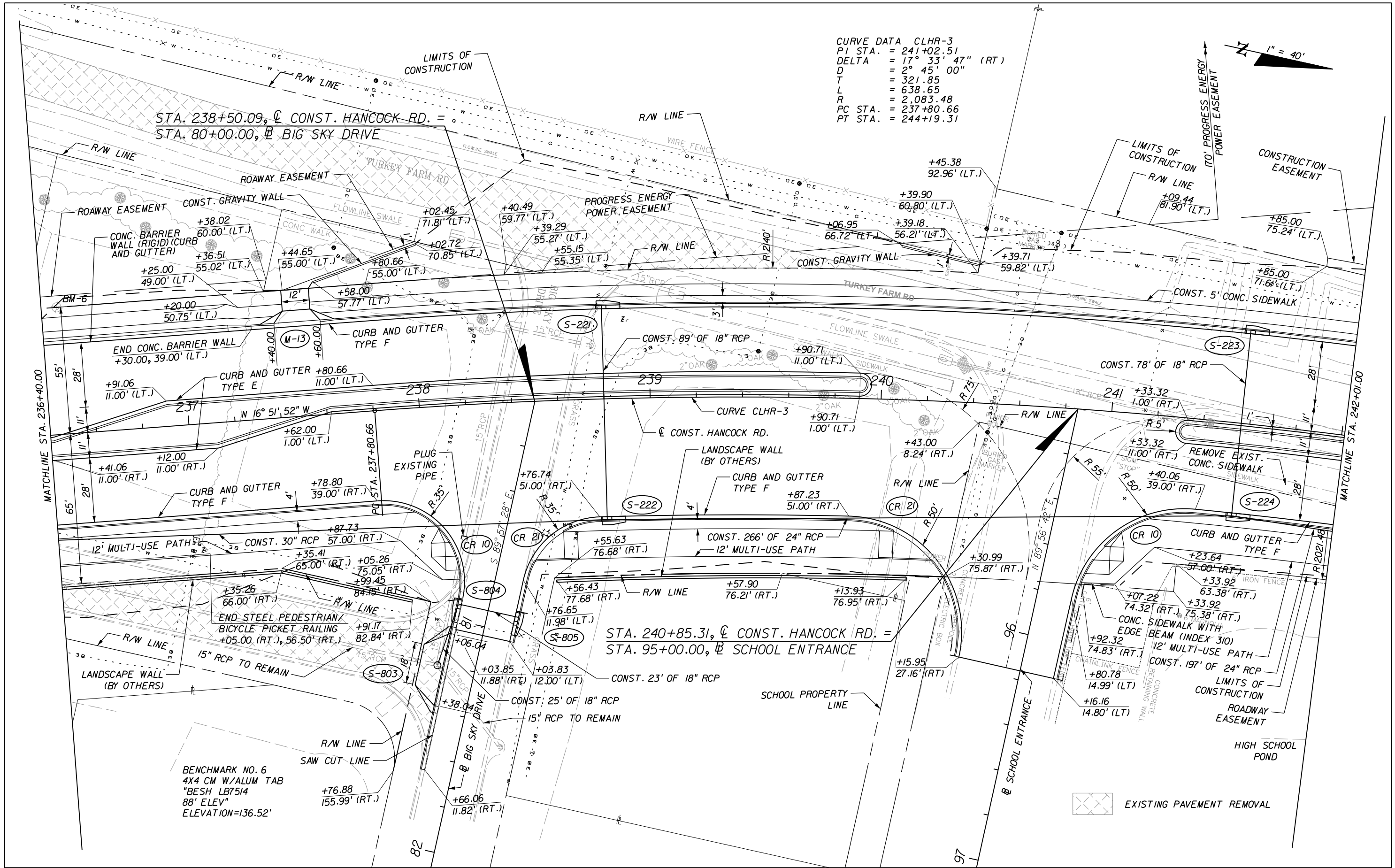
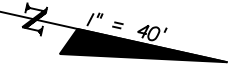
LAKE COUNTY
 DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
 437 ARDICE AVENUE
 EUSTIS, FLORIDA 32726

| |
|-----------------------------------|
| SIGNATURE |
| DATE |
| DINO E. LUCARELLI, P.E. NO. 39556 |

PLAN
NORTH HANCOCK ROAD

SHEET NO.
 27

CURVE DATA CLHR-3
 PI STA. = 241+02.51
 DELTA = 17° 33' 47" (RT)
 D = 2° 45' 00"
 T = 321.85
 L = 638.65
 R = 2,083.48
 PC STA. = 237+80.66
 PT STA. = 244+19.31



| REVISIONS | DATE |
|-----------|------|
| | |
| | |
| | |

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 P 407.563.7101 F 407.999.5228
 CERTIFICATE OF AUTHORIZATION 00002017

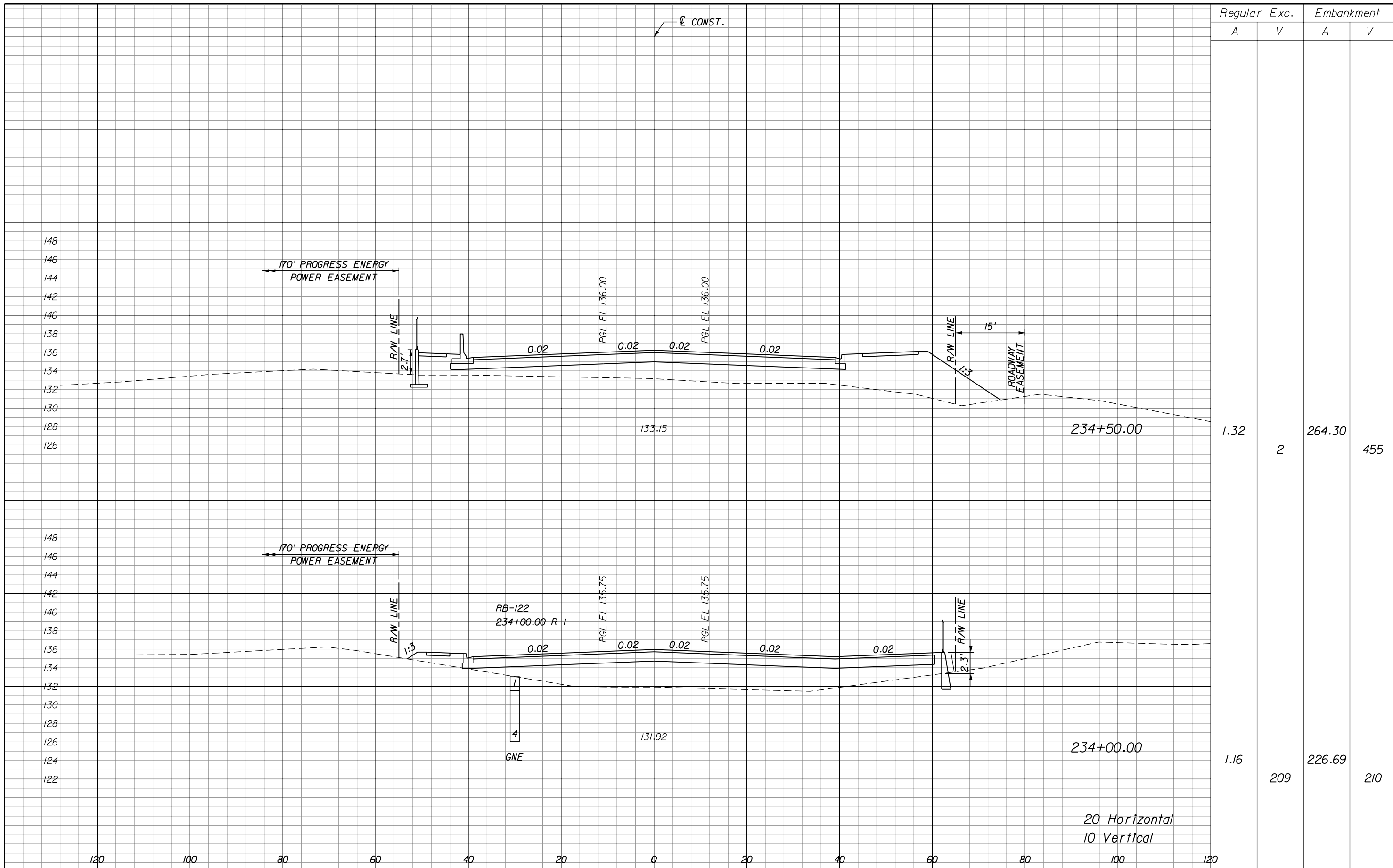


LAKE COUNTY
 DEPARTMENT OF PUBLIC WORKS
 ENGINEERING DIVISION
 437 ARDICE AVENUE
 EUSTIS, FLORIDA 32726

SIGNATURE
 DATE
 DINO E. LUCARELLI, P.E. NO. 39556

PLAN
NORTH HANCOCK ROAD

SHEET NO.
 28



Regular Exc. Embankment

A V A V

1.32 264.30

2 455

1.16 226.69

209 210

20 Horizontal
10 Vertical

| REVISIONS | DATE |
|-----------|------|
| | |
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| DATE |
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TYLIN INTERNATIONAL
 225 E. ROBINSON STREET, SUITE 490
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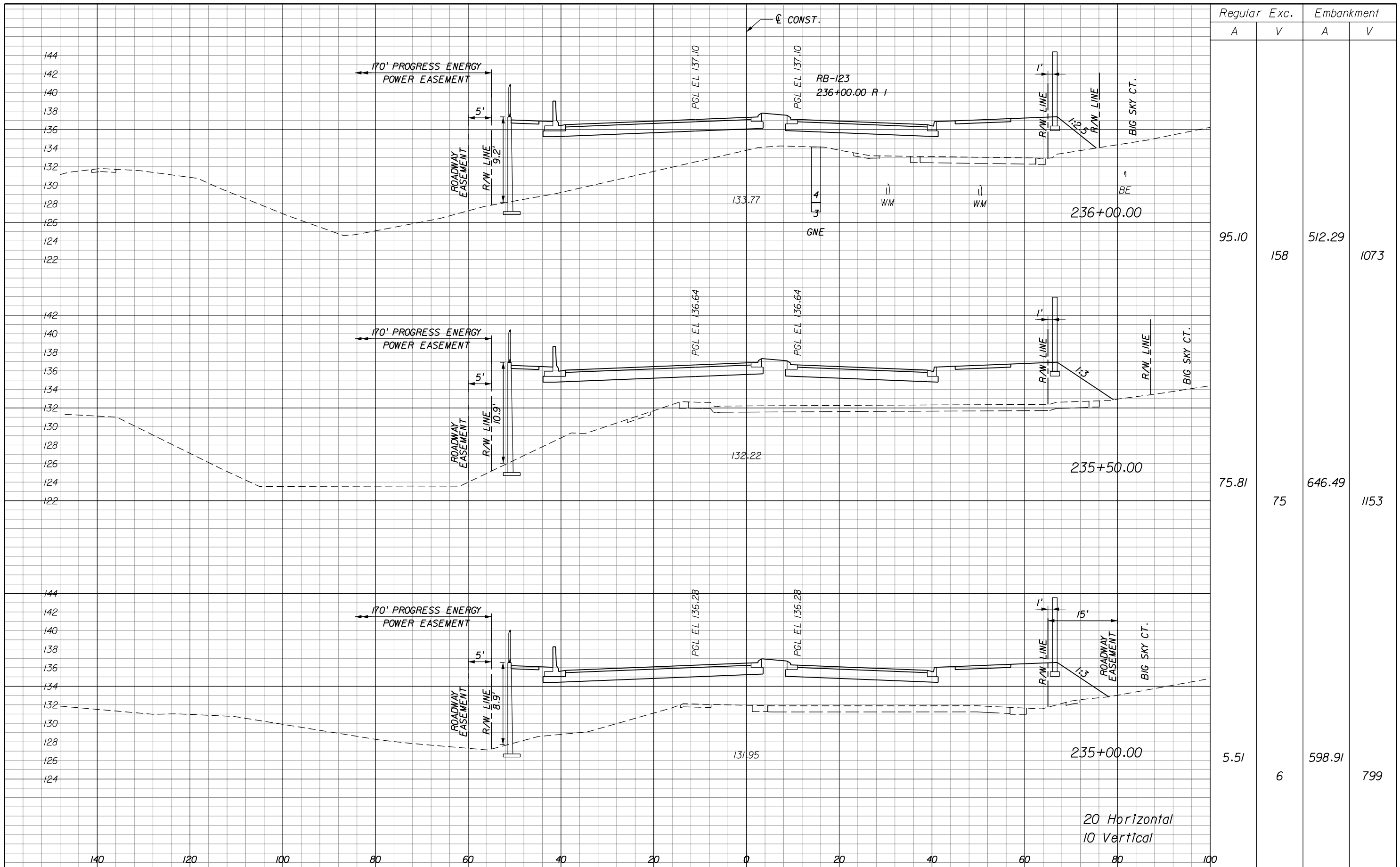


LAKE COUNTY
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ENGINEERING DIVISION
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 EUSTIS, FLORIDA 32726

SIGNATURE
 DATE
 DINO E. LUCARELLI, P.E. NO. 39556

CROSS SECTIONS
NORTH HANCOCK ROAD

SHEET NO.
 141



| Regular | | Exc. | | Embankment | |
|---------|-----|--------|------|------------|---|
| A | V | A | V | A | V |
| 95.10 | 158 | 512.29 | 1073 | | |
| 75.81 | 75 | 646.49 | 1153 | | |
| 5.51 | 6 | 598.91 | 799 | | |

| REVISIONS | DATE |
|-----------|------|
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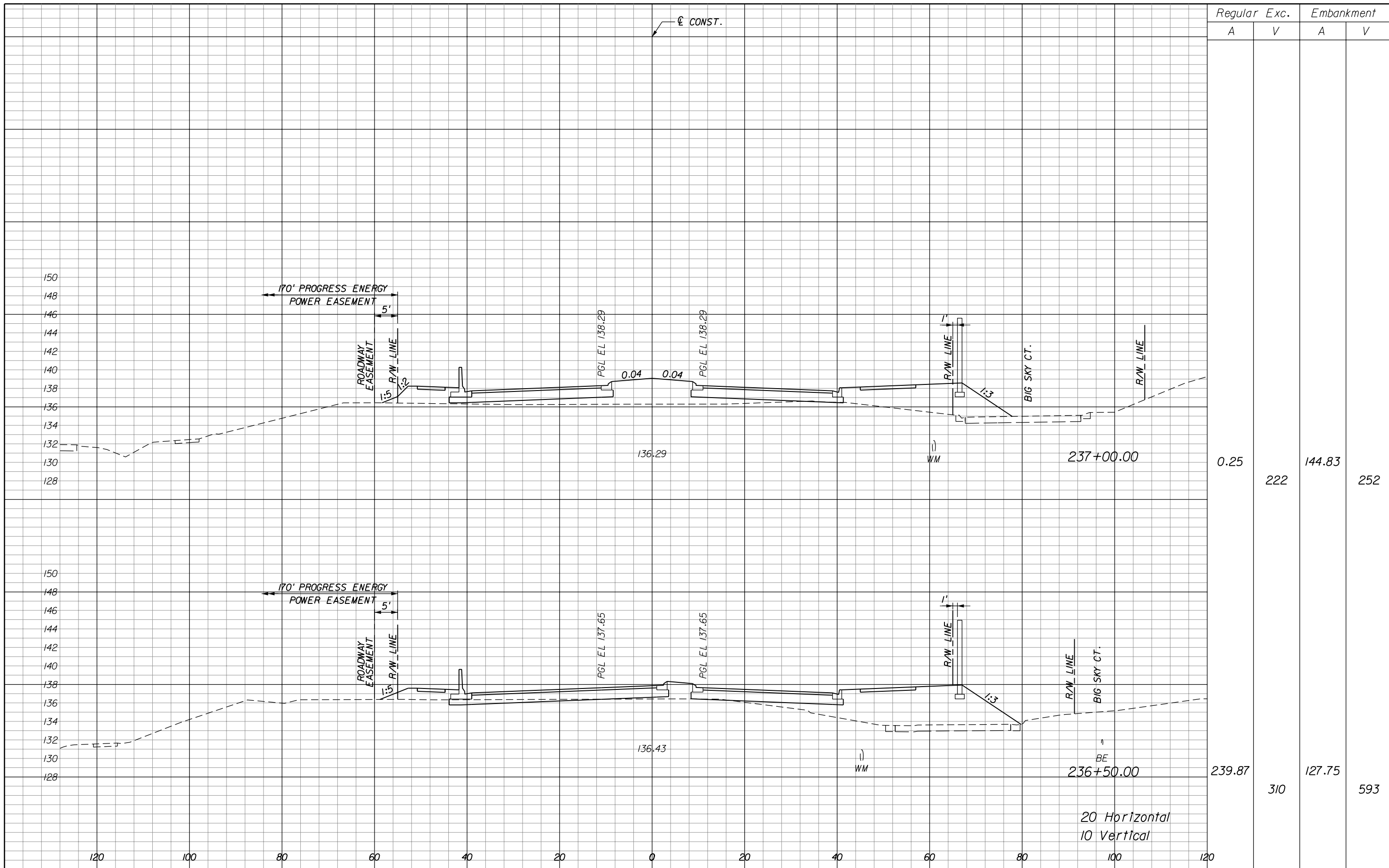


LAKE COUNTY
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 ENGINEERING DIVISION
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 EUSTIS, FLORIDA 32726

SIGNATURE
 DATE
 DINO E. LUCARELLI, P.E. NO. 39556

CROSS SECTIONS
NORTH HANCOCK ROAD

SHEET NO.
 142



Regular Exc. Embankment

| Regular | Exc. | Embankment | |
|---------|------|------------|-----|
| A | V | A | V |
| 0.25 | 222 | 144.83 | 252 |
| 239.87 | 310 | 127.75 | 593 |

| REVISIONS | DATE |
|-----------|------|
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 P 407.563.7101 F 407.999.5228
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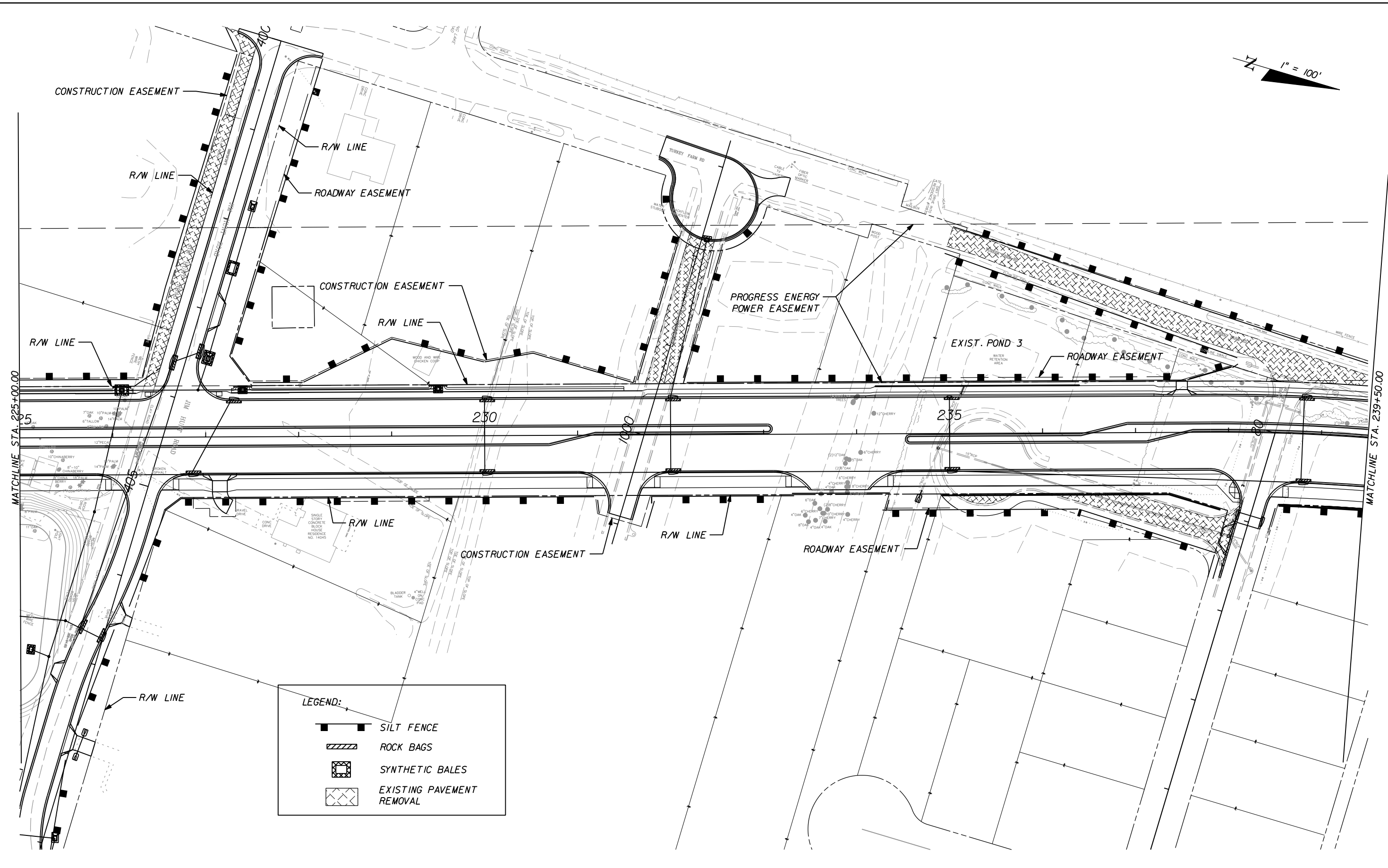


LAKE COUNTY
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CROSS SECTIONS
NORTH HANCOCK ROAD

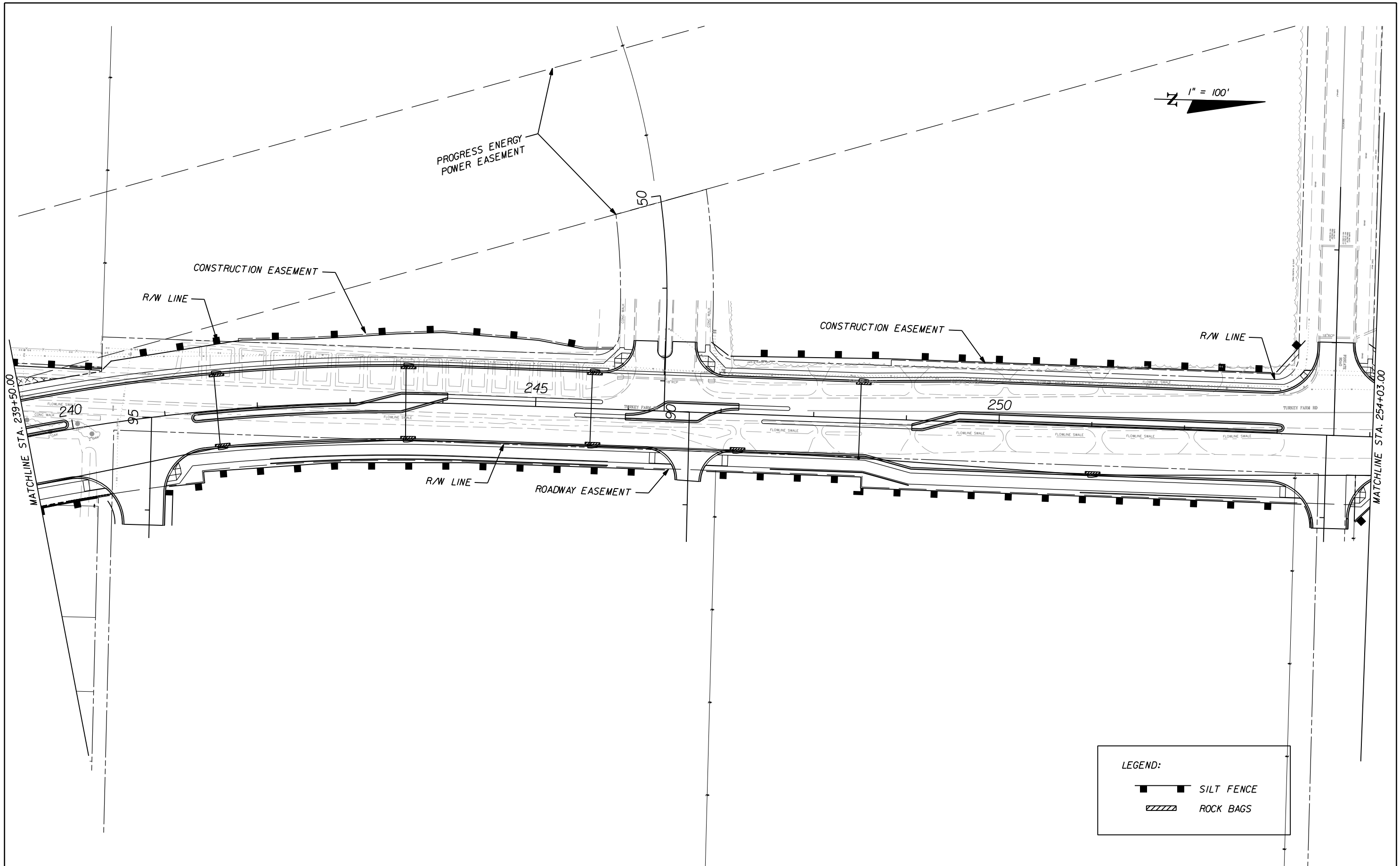
SHEET NO.
 143



LEGEND:

| | |
|--|---------------------------|
| | SILT FENCE |
| | ROCK BAGS |
| | SYNTHETIC BALES |
| | EXISTING PAVEMENT REMOVAL |

| <table border="1"> <thead> <tr> <th>REVISIONS</th> <th>DATE</th> </tr> </thead> <tbody> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table> | REVISIONS | DATE | | | | | | | | | <p>TYLIN INTERNATIONAL 225 E. ROBINSON STREET, SUITE 490 ORLANDO, FLORIDA 32801 P 407.563.7101 F 407.999.5228 CERTIFICATE OF AUTHORIZATION 00002017</p> | <p>LAKE COUNTY FLORIDA</p> | <p>LAKE COUNTY DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION 437 ARDICE AVENUE EUSTIS, FLORIDA 32726</p> | SIGNATURE _____ | <p>EROSION CONTROL SHEETS</p> | SHEET NO. 194 |
|---|---|------|--|--|--|--|--|--|--|--|--|---|---|--------------------|--------------------------------------|------------------|
| | REVISIONS | DATE | | | | | | | | | | | | | | |
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| DATE _____ DINO E. LUCARELLI, P.E. NO. 39556 | 11/5/2012 1:21:07 PM D:\e\projects\5700\300000\roadway\SWPPRD05.dgn | | | | | | | | | | | | | | | |



LEGEND:

| | |
|--|------------|
| | SILT FENCE |
| | ROCK BAGS |

| REVISIONS | DATE |
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| DATE |
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EROSION CONTROL SHEETS

SHEET NO.
195