# HANCOCK ROAD GUARDRAIL IMPROVEMENTS



# TOWN OF SOUTHWEST RANCHES P.O. NO. 20-0030 BROWARD COUNTY, FLORIDA

# **TOWN COUNCIL**

MAYOR - DOUG McKAY

COUNCIL MEMBER - GARY JABLONSKI

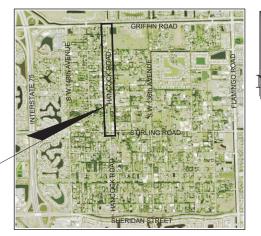
COUNCIL MEMBER - DELSA WINSLOW AMUNDSON

COUNCIL MEMBER - BOB HARTMAN

COUNCIL MEMBER - DENISE "DEE" SCHROEDEI

TOWN ADMINISTRATOR - ANDREW BERNS

**UTILITY CONTACTS:** 



PROJECT LOCATION

COMCAST CABLE - LEONARD MAXWELL-NEWBOLD (954) 447-8405

FLORIDA POWER & LIGHT - JOEL BRAY Joel.Bray@fpl.com

CITY OF SUNRISE - GLADYS (KATHY) CRISCI (954) 746-3277

AT & T / DISTRIBUTION - DINO FARRUGGIO (561) 997-0240

MASTEC INC. - RICKIE QUINN rickie.quinn@mastec.com

CROWN CASTLE - NICK BELINSKY (724) 416-2449

# LOCATION MAP

SECTIONS 27 & 34, TOWNSHIP 50 SOUTH, RANGE 40 EAST

PREPARED FOR

# TOWN OF SOUTHWEST RANCHES

Philip P. Joseph Florida P.E. No. 50825

CBWCD PERMIT SUBMITTAL
DATE: JANUARY 18, 2021
CTA PROJECT NUMBER: 20-013-001-01

SHEET INDEX

GUARDRAII INSTALLATION STA 3+00 - 12+55 26

GUARDRAII INSTALLATION STA 22+55 26 - 32+55 26

GUARDRAIL INSTALLATION STA. 32+55.26 - 42+55.26
GUARDRAIL INSTALLATION STA. 42+55.26 - 52+55.26

GUARDRAIL INSTALLATION STA 52+55 26 - 62+55 26

GUARDRAIL INSTALLATION STA. 62+55.26 - 71+77.28

CANAL RESTORATION DETAILS & NOTES

FROSION & SEDIMENT CONTROL GUIDE PLAN

FROSION & SEDIMENT CONTROL GUIDE PLAN

DATE

GENERAL NOTES & SPECIFICATIONS

CANAL CROSS SECTIONS

GUARDRAIL DETAILS

DESCRIPTION

SHEET NO.

G-02

C-01

C-02

C-03

C-04

C-05

C-07

CS-03 DET-1

DET-2

FCP-1

FCP-2

VERTICAL INFORMATION HEREON IS RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88). NAVD88 ELEV. +1.56' = NGVD 29 ELEVATION DESCRIPTION

RFV

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CRAVEN • THOMPSON AND ASSOCIATES, INC. ENGINEERS • PLANNERS • SURVEYORS 3563 N.W. 53RD STREET, FORT LAUDERDALE, FLORIDA 33309 FAX: (954) 739-6409 [EL: (954) 739-6409

FLORIDA LICENSED ENGINEERING, SURVEYING & MAPPING BUSINESS No. 271
FLORIDA LICENSED LANDSCAPE ARCHITECTURE BUSINESS No. C000114

Always call 811 two full business days before you dig to have underground utilities located and marked.

Sunshine 811.com

MATERIAL SHOWN HEREON IS THE PROPERTY OF CRAVEN THOMPSON & ASSOCIATES, INC. AND SHALL NOT BE REPRODUCED IN WHOLE OR IN PART WITHOUT WRITTEN PERMISSION OF CRAVEN+THOMPSON & ASSOCIATES, INC.

- C. ALL ELEVATIONS SHOWN ON THE CONSTRUCTION DRAWINGS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988, (NAVD 88), UNLESS OTHERWISE NOTED.
- D. WITHIN THE TOWN OF SOUTHWEST RANCHES JURISDICTIONAL RIGHT-OF-WAY, ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH TOWN CONSTRUCTION SHALL CONFORM WITH TOWN CONSTRUCTION SOUTHWEST RANCHES AND/OR BROWARD COUNTY "MINIMUM STANDARDS" SOUTHWEST RAN REQUIREMENTS.

### II. PRECONSTRUCTION RESPONSIBILITIES

- A. FOR WORK WITHIN TOWN OF SOUTHWEST RANCHES OR CBWCD JURISDICTIONAL RIGHT-OF-WAY, PLAN APPROVAL AND PERMIT ISSUANCE ARE REQUIRED PRIOR TO SCHEDULING PRE-CONSTRUCTION CONFERENCE.
- B. UPON THE RECEIPT OF THE "NOTICE TO PROCEED". THE CONTRACTOR SHALL CONTACT THE ENGINEER OF RECORD AND ARRANGE A PRECONSTRUCTION COMPRENCE TO INCLUDE ALL INVOLVED GOVERNMENTAL AGENCIES, UTILITY OWNERS AND THE ENGINEER OF RECORD.
- C. THE CONTRACTOR SHALL OBTAIN A SUNSHINE STATE ONE CALL CERTIFICATION NUMBER AND FIELD MARKINGS AT LEAST 48 HOURS PRIOR TO BEGINNING ANY EXCAVATION, CALL 811.
- D. LOCATION OF EXERTION FACULTIES AS SHOWN ON CONSTRUCTION DRAWNINGS ARE DRAWN FROM VANUALES RECORDED THE BROWNERS ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE EXISTING CONTRACTOR OF ALL VERBY THOUGH VACANUE ACCUMATION AS THE THE ACCUMATION AS THE ACCUMATION

### III INSPECTIONS

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  A THE CONTRACTOR SHALL NOTIFY THE TOWN OF SOUTHWEST BRANCES PUBLIC WORKS EPPERHENT, THE ENGINEER OWN OF SOUTHWEST BRANCES PUBLIC WORKS OF SOUTHWEST OF THE STATE OF THE STATE

A. PRIOR TO THEIR CONSTRUCTION OR INSTALLATION, SHOP DRAWINGS SHALL BE SUBMITTED TO AND APPROVED BY THE ENGNIERE OF RECORD FOR ALL MATERIAL AND ACCESSORIES USED FOR THE PROJECT. IT IS THE RESPONSIBILITY OF THE CONTRACTION TO OBTAIN ALL OTHER ACENCY APPROVALS AS

## A CENERAL.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE FOR OR SUPPLY TEMPORARY WATER SERVICE, SANITARY FACILITIES AND ELECTRICITY.

## B. TRAFFIC REGULATION:

- MAINTENANCE OF TRAFFIC IN THE PUBLIC RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.). A MAINTENANCE OF TRAFFIC PLAN MUST BE APPROVED BY THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) AND/OR STARTING WORK IN THE PUBLIC RIGHT-OF-WAY.
- ALL OPEN TRENCHES AND HOLES ADJACENT TO ROADWAYS OR WALKWAYS SHALL BE PROPERLY MARKED AND BARRICADED TO ASSURE THE AFFEY OF BOTH VEHICULAR AND PEDESTRIAN TRAFFIC.
- NO TRENCHES OR HOLES NEAR WALKWAYS, IN ROADWAYS OR THEIR SHOULDERS ARE TO BE LEFT ACCORDANCE WITH METHODS APPROVED BY THE ENGINEER OF RECORD AND THE TOWN OF SOUTHWEST RANCHES PUBLIC WORKS DEPARMENT.
- THE SAFE WALK ROUTE FOR ALL SCHOOLS WITHIN THE VICINITY OF THE CONSTRUCTION ZONE SHALL BE MAINTAINED DURING THE ARRIVAL AND DISMISSAL OF SCHOOL.
- 5. THIRTY (30) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION THE GENERAL CONTRACTOR SHALL NOTIFY THE "S-CHOOL SAFETY COORDINATOR" AT RROWARD COUNTY TRAFFIC ENGINEERING DIVISION, (94) 484-9600, TO SET UP A "PRE-CONSTRUCTION S-AETTY MEETING.
- IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR FOR ANY NECESSARY CONSTRUCTION, PAVEMENT MARKING AND SIGNAGE OR ANY PEDESTRAN SIGNALIZATION AND/OR SIGNAL MODIFICATION TO ACCOMMODATE AN ALTERNATE SAFE WALK ROUTE.
- IN THE CASE THAT A DESIGNATED CROSSING OR ANY PORTION OF THE DESIGNATED WALK ROUTE CAN NOT THE DESIGNATED WALK ROUTE CAN NOT THE DESIGNATION WALK ROUTE CAN NOT THE STATE OF THE COORDINATOR AT BEOWARD COUNTY TRAFFIC ENGINEERING OF THE STATE OF THE STATE

8. IT SHALL BE THE CONTRACTOR'S RESPONSEBILTY TO MAINTAIN ALL IRRAFFOCONTROL BONNES DEBROW CONSTRUCTION, ANY DEWOYS DAMAGED DURING CONSTRUCTION, SHALL BE BENEFOCK AND THE CONTRACTOR'S DEPOSES, ALL REAFFIC CONTROL DEVOCKS SHALL BE RESTORED IN ACCOGNICACE WITH ELORGIA DEPARTMENT OF TRANSPORTATION (FIGOT) STANDAMOS AND/OR THE CUTY OF HOLL INDOOR PUBLIC UTILITIES DEPARTMENT INFRAMENT STANDAMOS.

- DURING CONSTRUCTION, THE PROJECT SITE AND ALL ADJACENT AREAS SHALL BE MANITAMED IN A NEAT AND CLEAN MANNER, AND UPON FINAL CLEAN-UP, THE PROJECT SITE SHALL BE LEFT CLEAR OF ALL SURPLUS MATERIAL OR TICKS. THE PAYED AREAS SHALL BE BROOM SWEPT CLEAN.
- THE CONTRACTOR SHALL RESTORE OR REPLACE, MEN AND AS DIRECTED BY THE BENGNEER OF RECORD, ANY THE USE OF THE CONTRACT OF THE ORDER ORDER OF THE ORDER ORDER
- WHERE MATERIAL OR DEBRIS HAS WASHED OR FLOWED INTO OR HAS BEEN FLACED IN WATER COURSES, DISCUSSION OF THE COURSES OF THE WORK, AND THE AREA KEPT IN A CLEAN AND NEAT CONDITION.
- ALL PROPERTY MONUMENTS OR PERMANENT REFERENCES, REMOVED OR DESTROYED BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE RESTORED BY A STATE OF FLORIDA REGISTERED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE.
- C. ALL UNPAVED SURFACES DISTURBED AS A RESULT OF CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THAT WHICH EXISTED BEFORE THE CONSTRUCTION.

- DURING THE DAILY PROGRESS OF THE JOB, THE CONTRACTOR SHALL RECORD ON HIS SET OF CONSTRUCTION DRAMINGS THE EXACT LOCATION, LENGTH, MATERIAL AND ELEVATION OF ANY FACILITY NOT BUILT EXACTLY ACCORDING TO PLANS.
- UPON COMPLETION OF ANY DRAINAGE IMPROVEMENTS AND LIMBROOK BASE CONSTRUCTION (AND BETOME PLACING MANUAL PROPERTY OF THE PLACING AND AND ANY OF THE PLACING AND ANY OF THE PLACING AND ANY OF THE PLACING AND THE PLACING AND THE PLACING AND THE PLACING AND THE PRINSHED ROOK GRADES OF THE ROAD CROWN AND ERRISHED PRANCHES THE ROAD CROWN AND EDGES OF PANAGENT AT SO FOOT INTERVAL.
- 3. UPON COMPLETION OF CONSTRUCTION OF ANY POPRIONS THE CONTRACTOR IS SERING CERTIFICATION OF A PPROVIAL ON AND PROVIDED TO FINLE, PARMIN, THE CONTRACTOR SHALL OF ANY PARMIN, THE CONTRACTOR SHALL OF ANY PARMIN, THE CONTRACT OF ANY PARMIN OF THE CONTRACT DEVANINGS. THESE DRAWINGS SHALL BE WARRED TO SHOW TAS—BUILT CONTRUCTION CHAIRES AND DIMENSIONS, LOCATIONS, AND EXEMINIOR OF ALL IMPROVEMENTS.
- "AS-BUILT" INFORMATION OF GUARDRAIL MUST CONTAIN ALL INFORMATION AS REQUIRED PER FDOT STANDARD PLAN INCLUDING STATION AND OFFSET OF BEGIN/END OF GUARDRAIL, END TERMINALS, AND RELEVANT GRADING INFORMATION.
- 5. "AS-BUILT" INFORMATION OF CANAL BANK RESTORATION MUST CONTAIN ALL INFORMATION AS REQUIRED PER CBWCD INCLUDING ELEVATIONS FOR TOP OF BANK, TOE OF BANK, WATER LEVEL, AND CANAL BOTTOM EVERY 25 FT FOR THE RECONSTRUCTED BANK.
- 6. ANY LITHITIES LINCOVERED OR RELOCATED SHALL BE AS-BUILT.
- ALL "AS-BUILT" INFORMATION SHALL BE CERTIFIED BY A FLORIDA REGISTERED LAND SURVEYOR AND SUBMITTED ON AUTOCAD VERSION 2019 OR LATER EDITION.

## A. GENERAL:

- ALL UNDERGROUND UTILITIES SHALL BE COMPLETED AND TESTED PRIOR TO FINISHED GRADING AND COMPACTION OF SUBGROUND.

  ALL EXISTING PAVEMENT, CUT OR DAMAGED BY CONSTRUCTION, SHALL BE PROPERLY RESTORED AT THE CONTRACTOR'S EXPENSE.
- WHERE ANY PROPOSED PAVEMENT IS TO BE CONNECTED TO EXISTING PAVEMENT, THE EXISTING EDGE OF PAVEMENT SHALL BE CLEANLY SAW CUT TO ENSURE A PROPER JOINT.

## B. MATERIALS:

- ILENIALS:

  LIMEROCK BASE MATERIAL SHALL BE CRUSHED LIMEROCK MIAMI
  OOLITE WITH A MINIMUM OF 70% CARBONATES OF
  CALCIUM AND MAGNESIUM (80% FOR LOCAL STREETS,
  DRIVEMATS AND PARKING AREAS).
- ASPHALT SURFACES FOR ROADWAYS SHALL CONFORM TO PAVEMENT RESTORATION DETAILS
- REINFORCED CONCRETE SLABS SHALL BE CONSTRUCTED OF CLASS I CONCRETE WITH A MINIMUM STRENGTH OF 3,000 PSI EXCEPT WHERE OTHERWISE SHOWN ON THE PLANS.

## C. INSTALLATION:

- SUBGRADE FOR ROADWAY SHALL BE COMPACTED AND SHALL HAVE A MINIMUM LBR 40.
- 2. LIMEROCK BASE MATERIAL FOR PAVED AREAS SHALL BE:

A MINIMUM THICKNESS OF 8" & SHALL BE CONSTRUCTED IN TWO FOUR INCH LIFTS. LOCAL:

COLLECTOR (SR A1A): A MINIMUM THICKNESS OF 12" & SHALL BE CONSTRUCTED IN TWO SIX INCH LIFTS.

- LIMEROCK BASE MATERIAL SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS PER AASHTO T-180 AND SHALL HAVE A MINUM LBR 100, UNLESS OTHERWISE INDICATED.
- INSTALLATION OF THE ASPHALT BASE COURSE AND ASPHALT WEARING COURSE SHALL COMFORM WITH THE REQUIREMENTS OF THE F.D.O.T. STANDARD SPECIFICATIONS FOR TYPE "S" ASPHALTIC CONCRETE OR THE LATEST REVISION.

- 1. THE FINISHED SURFACE OF THE ASPHALT BASE COURSE AND THAT OF THE ASPHALT WEARING SURFACE SHALL NOT VARY SHEED AND THAT OF THE ASPHALT WEARING SURFACE SHALL NOT VARY SHEED ASPHALT SHALL BE CORRECTED.

  2. DENISTY TESTS SHALL BE TRANS BY AN INDEPENDENT TESTING LABORATORY CERTIFIED BY THE STATE OF FLORIDA, WHEN DEPOCHED THE STATE OF FLORIDA, WHEN DEPOCHED THE BROWNER.
- 3. ALL TESTING COSTS (PAVING) SHALL BE PAID FOR BY THE OWNER EXCEPT THOSE TESTS FAILING TO MEET THE SPECIFICED REQUIREMENTS WHICH ARE TO BE PAID BY THE CONTRACTOR.
- DENSITY TESTS ON THE STABILIZED SUBGRADE SHALL BE SUPPLIED TO THE ENGINEER OF RECORD, AND APPROVED BEFORE ANY LIMEROCK BASE IS CONSTRUCTED.
- DENSITY TESTS AND AS-BUILTS ON THE FINISHED LIMEROCK BASE SHALL BE SUPPLIED TO THE ENGINEER OF RECORD, AND APPROVED BEFORE ANY ASPHALT PAVEMENT IS CONSTRUCTED. INCLUDING AS-BUILTS ON PAVED SWALES AND DRIVEWAYS.

- A. ALL PAVEMENT MARKINGS AND SIGNAGE SHALL BE IN ACCORDANCE WITH THE "MANUAL ON UNFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, LATEST EDITION; AND BROWARD COLUNTY TRAFFIC ENGINEERING STANDARDS, LATEST EDITION.

### IX. ENGINEER'S AS-BUILT REQUIREMENTS

AS-BUILTS OF WATER/FORCE MAINS SHALL INCLUDE THE FOLLOWING INFORMATION:

- 1. TOP OF PIPE ELEVATIONS EVERY 100 LF.
- LOCATIONS AND ELEVATIONS OF ALL FITTINGS INCLUDING BENDS, TEES, VALVES, CHECK VALVES, FIRE HYDRANTS, ETC.
- 3. ALL TIE INS TO EXISTING LINES SHALL BE AS-BUILT.
- THE ENDS OF ALL WATER SERVICES AT THE BUILDINGS OR HOMES SHALL BE AS-BUILT OR WHERE THE WATER SERVICE TERMINATES.

AS-BUILTS OF ALL DRAINAGE LINES SHALL INCLUDE THE FOLLOWING INFORMATION:

- RIMS, INVERTS AND LENGTH OF PIPING BETWEEN STRUCTURES AND WEIR ELEVATIONS IF APPLICABLE.
- THE SIZE OF THE PIPING SHALL BE VERIFIED BY THE SURVEY CREW AT THE TIME OF AS-BUILT.
- DRAINAGE WELL STRUCTURE AS—BUILTS SHALL INCLUDE, BUT NOT BE LIMITED TO, TOP OF CASING ELEVATION, TOP AND BOTTOM ELEVATIONS OF THE BAFFLE WALLS, RIM ELEVATIONS AND INVERTS OF PIPING.

## ALL ROCK AS-BUILTS FOR ROADWAYS AND PARKING LOT AREAS SHALL CONSIST OF THE FOLLOWING:

- ROCK ELEVATIONS AT ALL HIGH AND LOW POINTS, AND AT ENOUGH INTERMEDIATE POINTS TO CONFIRM SLOPE CONSISTENCY.
- ROCK AS-BUILTS SHALL BE TAKEN AT ALL LOCATIONS WHERE THERE IS A FINISH GRADE ELEVATION SHOWN ON THE DESIGN
- 3. ALL CATCH BASIN AND MANHOLE RIM ELEVATIONS SHALL BE
- 4 FLEVATIONS AROUND ISLAND AREAS WILL ALSO BE REQUIRED
- WHERE CONCRETE IS TO BE USED AS A FINISHED PRODUCT FOR THE ROADWAY OR PARKING LOT ROCK AS-BUILTS WILL BE REQUIRED AS INDICATED ABOVE AS WELL AS AS-BUILTS ON THE FINISHED CONCRETE AT LOCATIONS WHERE THERE IS A FINISH ORDER ELEVATION SHOWN ON THE DESION PLANS.
- AS-BUILTS SHALL BE TAKEN ON ALL PAYED AND UNPAYED SWALES, PRIOR TO PLACEMENT OF ASPHALT OR TOPSOIL/SOO, AT ENOUGH INTERMEDIATE POINTS TO CONFIRM SLOPE CONSISTENCY AND CONFORMANCE TO THE PLAN DETAILS.

LAKE AND CAMAL BANK AS-BUILTS SHALL INCLUDE A KEY SHEET OF THE LAKE FOR THE LOCATION OF CROSS SECTIONS SLACE AND CAMAL BANK GOOS SECTIONS SHALL BE PLOTTED AT A MANUMAN SHALL CONSIST OF THE LOCATION AND DELYATION OF THE EDGE OF PAPEMENT, TOP OF BANK, EDGE OF WATER, SLOPE CHANGE, AND THE DESTAND OF THE DISTANCE BETWEEN EACH SHOWN ON THE DESTAND OF THE PRANKING.

RETENTION AREA AS-BUILT ELEVATIONS SHALL BE TAKEN AT THE BOTTOM OF THE RETENTION AREA AND AT THE TOP OF BANK. IF THERE ARE CONTOURS INDICATED ON THE DESIGN PLANS, THEN THEY SHALL BE AS-BUILT AS WELL.

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UNPOK COMPLETION OF THE WORK, THE CONTRACTOR SHALL

PREPARE RECORD DRAWNICK, "AS-BULTS", ON PILL SIZE, 24" X

FERFORDING BEATHERM. AL RECORD DRAWNICK, "AS-BULT",

INFORMATION (NOLLINION WATER, SERRE, "PAVINC, DIRRAMSE,

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SUBMITTO ALONG WHITE BOARD PROPERTIES OF PILL OR BULLOT BY ALLOH

FLORIDA RECORDER PROFESSIONAL LAND SURVEYION

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"AS-BULTS", SHALL BE SUBMITTO TO THE EMPERIES OF PROFESSIONAL

TANDOLOGY, WEST ONLY OF THE EMPERIES OF PROFESSIONAL PARTICIPATION OF THE SERVENCE PARTICIPATION, OF THE SERVENC

FINAL DELIVERABLES SHALL INCLUDE AN AUTOCAD-COMPATIBLE DIGITAL FILE CONTAINING ALL PERTINENT AS-BUILT INFORMATION (INCLUDING WATER, SEWER, PAVING, DRAINAGE, GUARDERAL, WHO CANAL BANK RESTORATION). FILE TO BE SPATIALLY LOCATED WITHIN STATE PLANE COORDINATES.

AT LEAST 100 (2) DAYS PROR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL SUBBIT A COP "NOTICE OF INITIA" (NO.1). TO USE COMPERED FROM TO STORMWARTE DECOMPAGE FORM OF COLONIO "FORM COPE FORM COP CONTRACTOR WITH THE CONTRACTOR WILL BE RESPONSIBLE FOR (AT THE PROPERTY OF THE PROPERTY

### X1. GENERAL NOTES

- THE GUARDRAIL INSTALLATION SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF THE FLORIDA DEPARTMENT OF TRANSPORTATION IN EFFECT ON THE DATE OF BIDDING.
- THE CANAL BANK RESTORATION SHALL COMPLY WITH LATEST FOOT STANDARDS AND SPECIFICATIONS FOR EMBANKMENT CONSTRUCTION.
- CONTRACTOR SHALL ENSURE THAT ALL EXISTING UTILITIES ARE PROTECTED AGAINST DAMAGE.
- CONTRACTOR SHALL VERIFY THE PRESENCE OF EXISTING UTILITIES WA SOFT DIGS.
- CONTRACTOR SHALL FIELD ADJUST ACTUAL LOCATION OF PROPOSED WORK TO MEET THE MINIMUM SEPARATION

CRAVEN - THOMPSON AND ASSOCIATES, INC.

ENGINEERS - PLANNERS - SURVEYORS

FAX: (84-5) 738-4409 ST. (194-1) 739-4409

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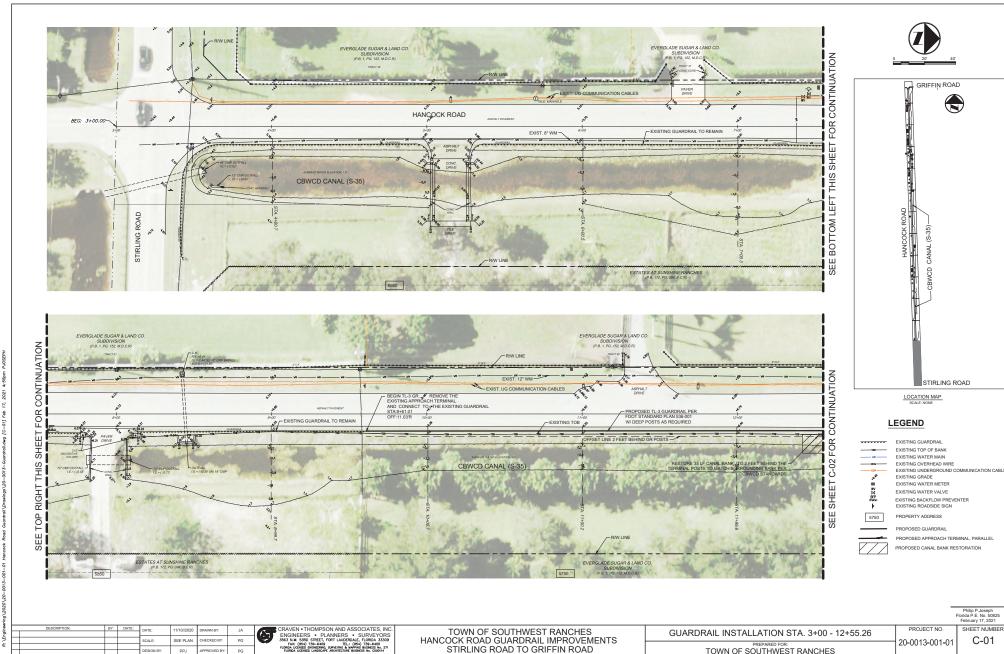
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FAX: (84-7) 739-4409 ST. (194-1) 739-4409

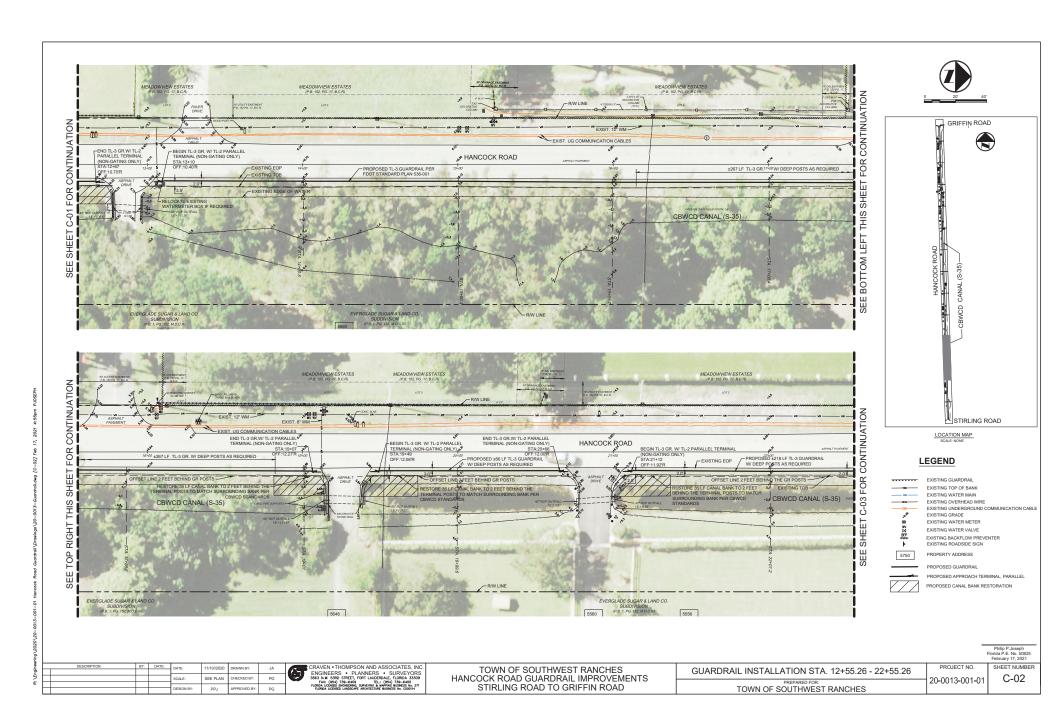
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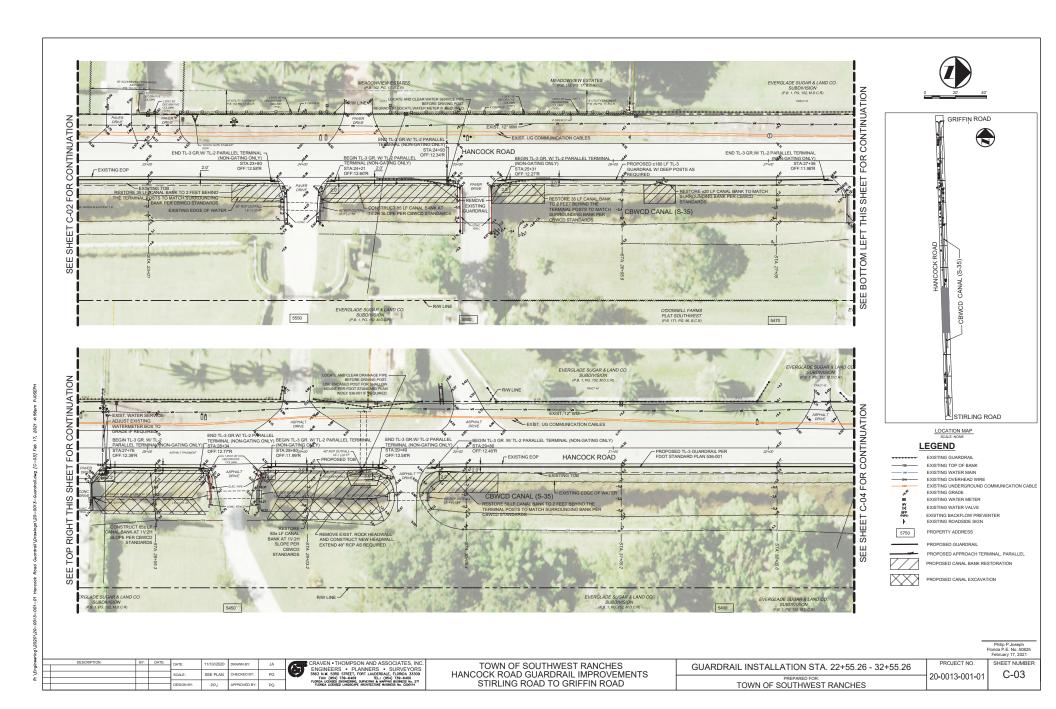
FAX: (84-7) 739-4409 DESCRIPTION: BY: DATE: DATE: PROJECT NO. SHEET NUMBER 11/10//2020 DRAWN BY: JA TOWN OF SOUTHWEST RANCHES **GENERAL NOTES & SPECIFICATIONS** CHECKED BY: PG HANCOCK ROAD GUARDRAIL IMPROVEMENTS G-02 20-0013-001-01 STIRLING ROAD TO GRIFFIN ROAD TOWN OF SOUTHWEST RANCHES

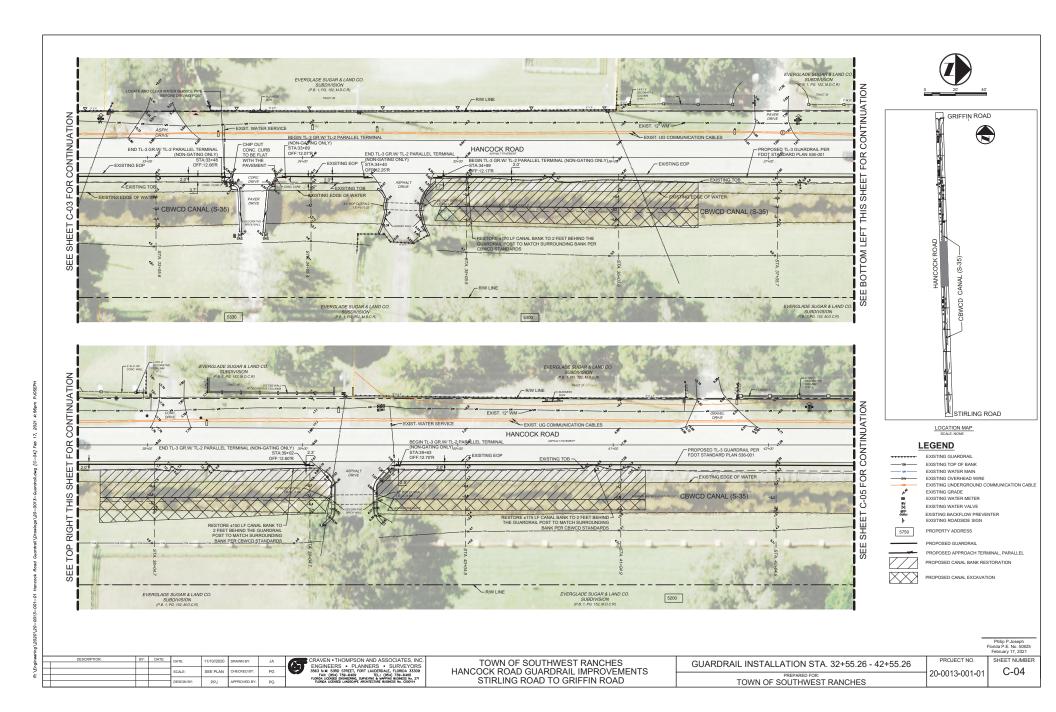


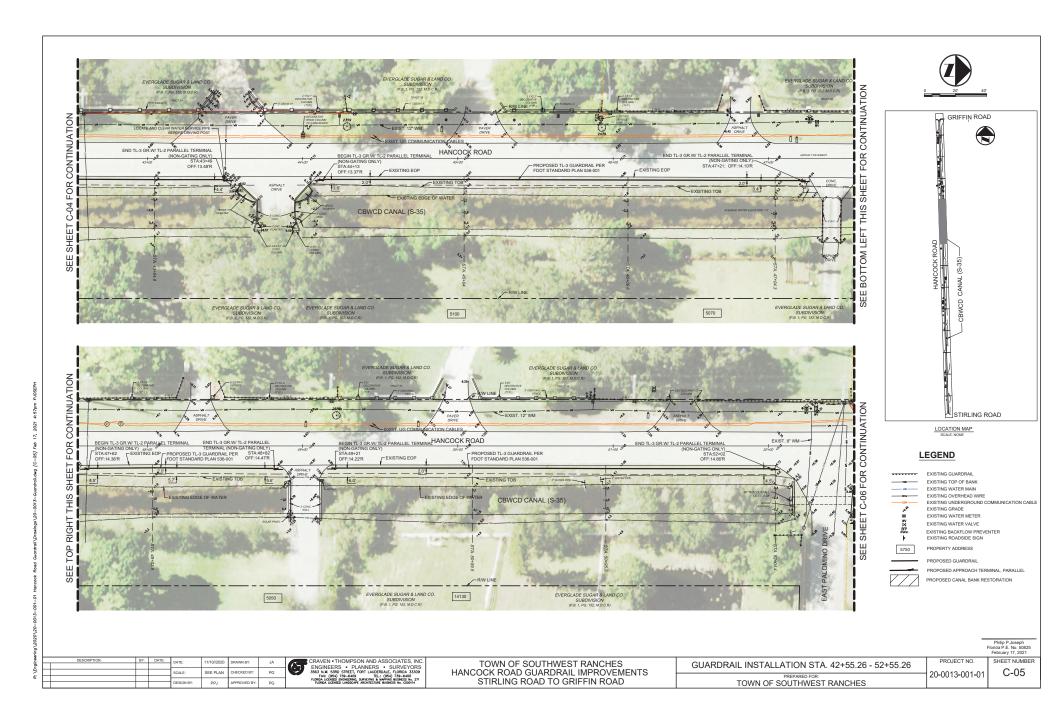
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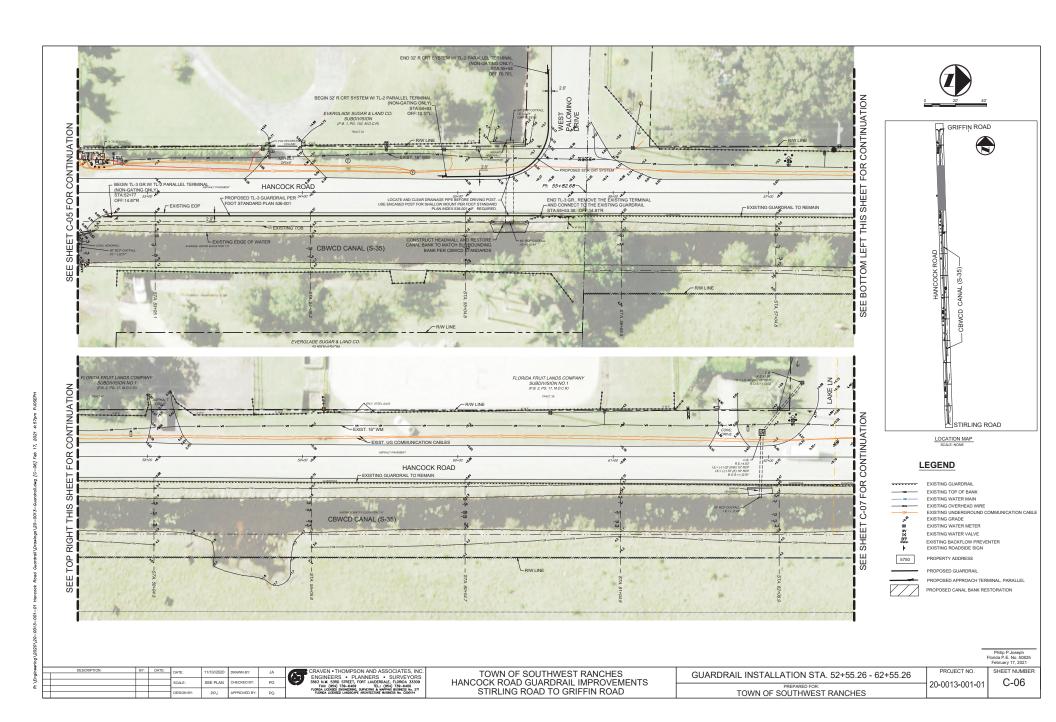
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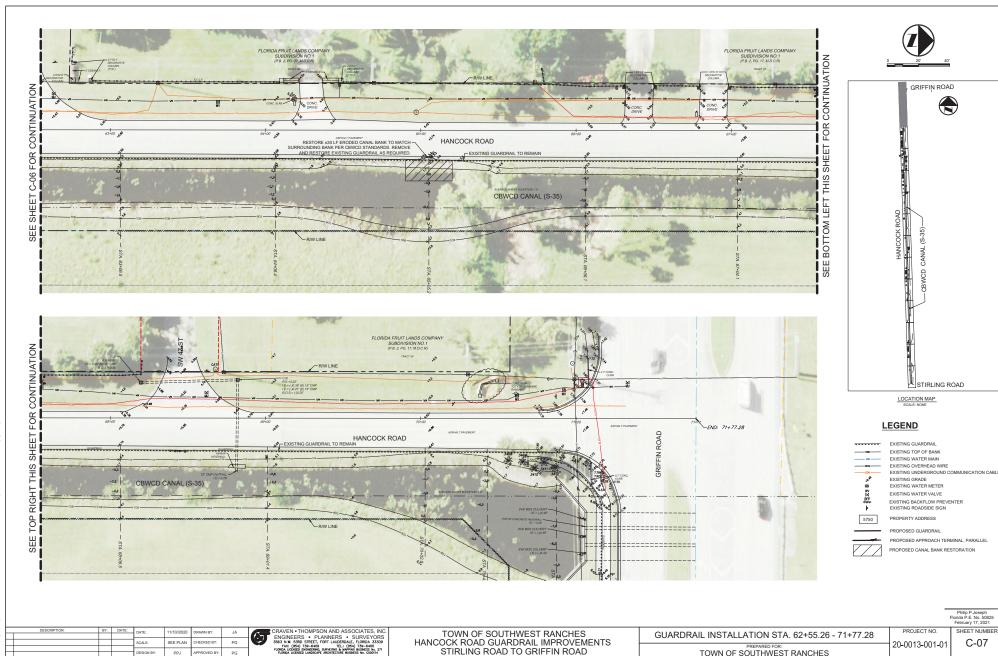












TOWN OF SOUTHWEST RANCHES

HANCOCK ROAD GUARDRAIL IMPROVEMENTS

STIRLING ROAD TO GRIFFIN ROAD

PROJECT NO.

20-0013-001-01

GUARDRAIL INSTALLATION STA. 62+55.26 - 71+77.28

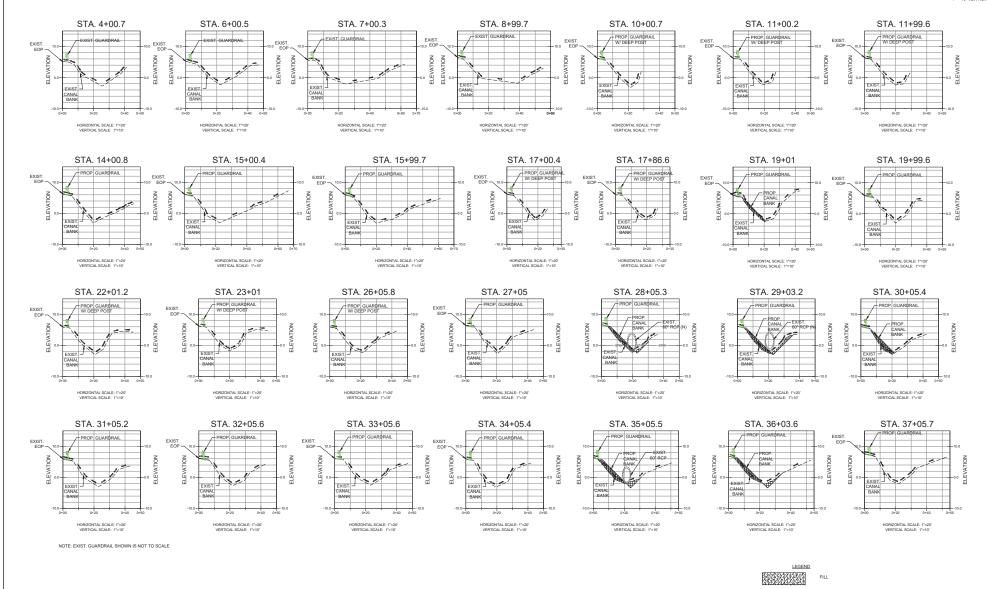
TOWN OF SOUTHWEST RANCHES

SHEET NUMBER

C-07

PG





DESCRIPTION BY DATE DATE 11/10/2020 DRAWN BY. JA

SCALE SEE PLAN CHECKED BY: PG

DESIGN BY: PPL APPROVED BY: PG

DESCRIPTION BY: PG

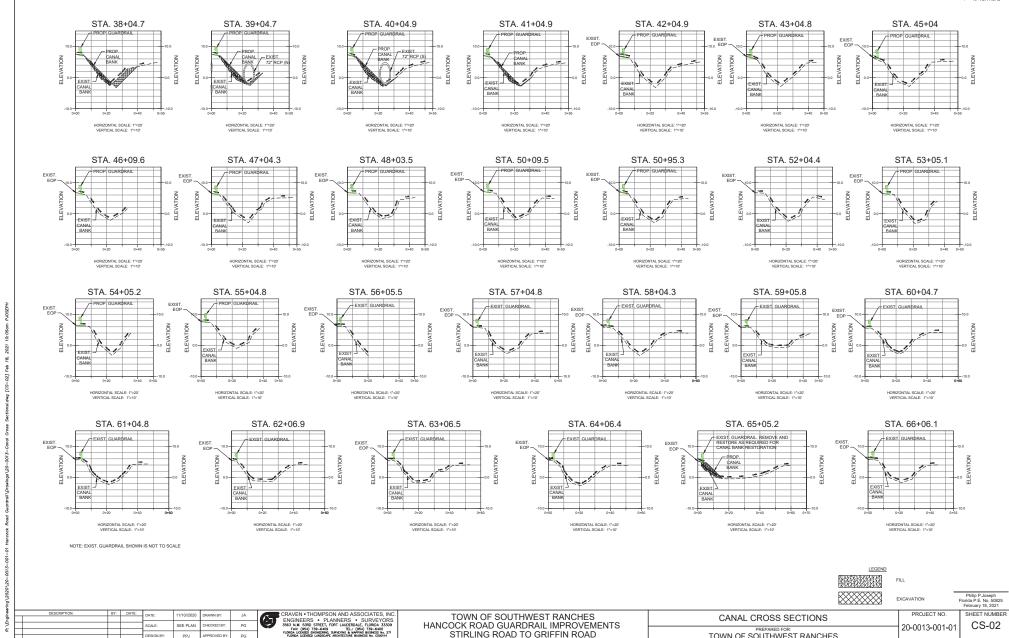
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TOWN OF SOUTHWEST RANCHES HANCOCK ROAD GUARDRAIL IMPROVEMENTS STIRLING ROAD TO GRIFFIN ROAD CANAL CROSS SECTIONS
PREPARED FOR:
TOWN OF SOUTHWEST RANCHES
PROJECT NO.
20-0013-001-01

EXCAVATION

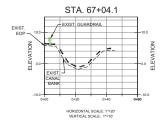
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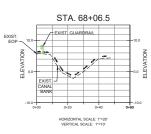


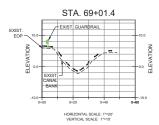


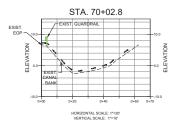
STIRLING ROAD TO GRIFFIN ROAD

TOWN OF SOUTHWEST RANCHES













NOTE: EXIST. GUARDRAIL SHOWN IS NOT TO SCALE

Philip P.Joseph Florida P.E. No. 50825 February 18, 2021

$\vdash$	DESCRIPTION:	BY:	DATE:	DATE:	11/10//2020	DRAMAL BY:	IA.	CRAVEN • THOMPSON AND ASSOCIATES INC	TOWN OF COULTWIFFOT DANIGUES		PROJECT NO.	SHEET NUMBER
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$\perp$				SCALE:	SEE PLAN	APPROVED BY:	PG	3563 N.W. 53RD STREET, FORT LAUDERDALE, FLORIDA 33309 FAX: (954) 739-6409 TEL: (954) 739-6400	HANCOCK ROAD GUARDRAIL IMPROVEMENTS STIRLING ROAD TO GRIFFIN ROAD	PREPARED FOR:	20-0013-001-01	CS-03
$\vdash$		$\vdash$		DESIGN BY:			pro.	FLORIDA LICENSED ENGINEERING, SURVEYING & MAPPING BUSINESS No. 271 FLORIDA LICENSED LANDSCAPE ARCHITECTURE RUSINESS No. CO00114		TOWN OF SOLITHWEST BANCHES		
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## **CBWCD GENERAL NOTES**

- 1) The following General Notes are required by Central Broward Water Control District. They are not meant to be all inclusive, and it is the Engineer of Records' responsibility to add any notes which will inform the Owner and the Contractor of any additional requirement of the Central Broward Water Control District.
- 2) Any revisions to these plans must be approved by the Central Broward Water Control District prior to construction.
- 3) Bonds: Upon District Board of Commissioners approval of plans, but before construction can commence, the following items must be complied with
  - A) Bond (cash or surety), in the District's favor, must be posted in the amount of 110 percent of the developer's Engineer of Record's estimate of cost of construction of the paving and drainage works. (Subject to approval of the cost estimate by the District Secretary/Manager or District Engineer.)
  - B) Swales, lake/bond banks, slopes, canals and other excavations shall be bonded separately from other drainage improvements and will be held by the District until successful completion. The arount of this separate bond will be determined by the District Board of Commissioners and by recommendation of the District Secretary/Manager.
  - C) The District's Bond Form is the only form approved for use, and it shall be a recorded instrument. Release or reduction from the recorded instrument shall be the responsibility of the applicant
  - D) Bonds shall be provided by the principals of development only. Contractor or Sub-Contractor bonds are not acceptable
  - E) Upon successful completion of construction and acceptance of "As-Builts/Record Drawings" by the District Board of Commissioners, a percentage of the performance bond as determined by the District may be released. The balance of bond shall remain in full force and effect for an additional twelve (12) months after final inspection and approval, unless supplemented by new bond forms in the required amounts and approved by the District Attorney
- 4) Inspections: When construction is in progress, the District's Inspector will inspect the installation of drainage works, according to an inspection schedule established by the Board of Commissioners. Inspection must be made by District personnel before backfilling of any storm drain structures, pipes, exfiltration trenches, work in District canals, and before placement of asphalt or concrete pavement. Call (954) 432-5110 for an inspection appointment a minimum of twenty-four (24) hours in advance. All costs of periodic inspections of construction by the District shall be borne by the
- 5) Limerock base course shall conform to the requirements of Section 911 of Florida Department of Transportation Standard Specifications except the minimum percentage of carborates of calcium and magnesium shall be sixty percent (60 %).
- 6) All muck and deleterous soils shall be removed from the top of bank to top of bank limits of dry detention/retention areas, and exfiltration trenches down to a minimum of five feet (5') below the water control elevation and replaced with suitable well-
- All nuisance vegetation shall be removed from within the project limits and within the
  portion of the CBWCO canal that falls within the property boundary. This also applies when the property abuts a roadway and the District canal is located on the opposite side of the road with respect to the property. In this case, nuisance vegetation shall he removed from the canal bank nearest the property line
- 8) Existing storm sewers shall be cleaned from the point of connection with new storm sewers or drainage structures to the first existing structure upstream and downstream of the point of connection. Television inspection of the pipes shall be reviewed and certified that they are clean by the Engineer of Record prior to submittal of as-built crawings to the District.
- 9) The limits of any easement to be dedicated to the District shall be staked pror to installing trees to be located within three (3) feet of a District easement. The slakes shall remain in place until the site or landscape contractor verifies the intended plant location does not encroach into a District easement
- 10)The District Secretary/Manager and District Engineer shall be notified prior to the submittal of as-built/record drawings of any encroachment within a District easement not expressly approved by the District Board of Commissioners.
- 11) As-Built Survey and Record Drawing: "As-Built" dans from the Surveyor of Record must be certified as 'Record Drawings' by the Engineer of Record. The Surveyor's certification shall include the last date of field data acquisition. The Engineer's certification shall include the CBWCD permit compliance statement. As-Builts shall

CBWCD - August 12 2020 EXHIBIT ".I" - CRWCD GENERAL NOTES

CBWCD GENERAL NOTES CONT'D be provided as an overlay on the approved construction drawings at the same scale for comparison purposes. All references to "proposed" shall be struck through and replaced with the as-built condition. As-Built submittals shall follow the same format of general review as described in the Central Broward Water Control District's rmwater Management Regulations, Standards Procedures, and Design Criteria

- 12)Lake/pond, canal, and dry detention/retention area as-builts will be cross-sectioned showing the designed section as dashed, as-built section as solid, and have the top of bank reference to the Lake/Canal Maintenance Easement. Spacing between each cross-section shall be such as to provide enough data to determine if the lake/pond/canal/dry detention/retention area was constructed as designed. The maximum spacing between cross sections shall be 100'.
- 13)The contractor shall provide stable and permanent elevation benchmarks on the top of each headwall cap for pipes discharging into District canals and driveway culverts along District canals. The benchmark elevation shall be based on North American Vertical Datum of 1988 (NAVD88) and include the datum reference using National Geodetic Survey benchmarks or Florida Department of Transportation benchmarks in NAVD88 and only converted back to National Geodetic Vertical Datum of 1929 (NGVD29). The other shall be based on NGVD29 and include the datum reference. Each headwall shall have one (1) NAVD88 and one (1) NGVD29 benchmark. Culverts connecting District canals only require one (1) bencamark per each pair of
- 14) The Surveyor of Record shall annotate the benchmark elevations on the as-built drawing in the format provided by the District Engineer. The benchmark data shall also include a Northing/Easting coordinate at the center of each headwall. The horizontal datum shall be based on State Plane, Florida East Zone, North American Datum of 1983/1990 (NAD83/90)

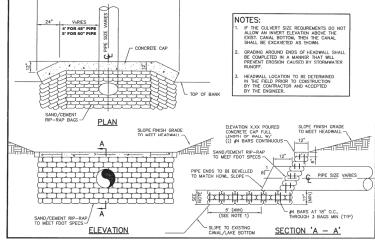
### CONSTRUCTION NOTES

- 1. GUARDRAIL SHALL BE INSTALLED IN ACCORDANCE WITH FDOT FY2020-21 STANDARD PLANS INDEX 536-001 AND FDOT STANDARD SPECIFICATION 538. THE ACTUAL NUMBER AND SPACING OF POSTS SHALL BE IN ACCORDANCE WITH THE INDEX. DEEP POSTS OR SPECIAL POSTS SHALL BE REQUIRED AS SHOWN ON THE PLANS OR WHERE THE FIELD CONDITIONS DICTATE AS APPROVED BY THE ENGINEER.
- 2. EVEN THOUGH THE POSTED SPEED LIMIT OF THE ROADWAY IS ONLY 25 MPH. TL-3 GUARDRAIL IS PROPOSED
- 2. CONSERVATIVELY OUR TO THE LIBERTO SET BACK CONTACT OF THE THE ADMINISTRAL ADMINISTRAL OF THE SET OF THE SET
- AND WILL AVOID DISTURBANCE TO THE CANAL BANK EXCEPT AS PROPOSED BY PLANS TO RESTORE/RECONSTRUCT THE
- CANAL BANK.

  5. CONTRACTOR SHALL NOT STOCKPILE MATERIAL IN THE PUBLIC RIGHT-OF-WAY NOR ON PRIVATE PROPERTY AND WILL
- INDEPENDENTLY SECURE AN ACCEPTABLE LOCATION.
  AT THE END OF EACH WORK DAY, CONTRACTOR SHALL THOROUGHLY CLEAR RIGHT-OF-WAY, OPEN LANES FOR NORMAL TRAFFIC AND SHIELD UNFINISHED WORK PRODUCT TO PROVIDE VEHICULAR SAFETY.
- CONTRACTOR SHALL REPAIR STRIPING DAMAGED DURING CONSTRUCTION.
- CONTRACTOR SHALL PROTECT OR REMOVE/REINSTALL ALL ROAD SIGNS AND STRUCTURES DURING CONSTRUCTION
- INCLUDING SIGNAGE, MAILBOXES, FENCES, ETC. TO ENSURE CONSISTENT LINE AND GRADE GUARDRAIL INSTALLATION.
  CONTRACTOR SHALL OBTAIN ANY REQUIRED NPDES PERMITS AND WILL PROVIDE ALL SEDIMENT AND TURBIDITY CONTROL DEVICES USING BEST MANAGEMENT PRACTICES (BMP'S).

  10.CONTRACTOR SHALL PREPARE A TRAFFIC CONTROL PLAN IN ACCORDANCE WITH FDOT STANDARD PLANS INDEX 102-600
- SERIES TO BE APPROVED BY THE TOWN OF SOUTHWEST RANCHES AND THE PROJECT CEI TEAM.
- 11. CONTRACTOR SHALL PROTECT ALL UTILITIES WITHIN PROJECT LIMITS WHETHER SHOWN OR NOT ON PLANS AND SHALL ASSUME RESPONSIBILITY FOR ANY DAMAGED DURING CONSTRUCTION.
- 12 CONTRACTOR SHALL NOTIFY ALL AGENCIES WITH JURISDICTION PRIOR TO CONSTRUCTION TO INCLUDE ALL UTILITIES. SHERIFF, SCHOOL BOARD, TOWN OF SOUTHWEST RANCHES, ETC.

  13. SELECT CANAL CROSS-SECTIONS ARE SHOWN FOR CONTRACTOR TO DETERMINE NEED FOR SPECIAL POST LENGTH AND
- CANAL BANK RESTORATION/EXCAVATION QUANTITY ESTIMATE AS APPLICABLE. 14. CONTRACTOR SHALL PROVIDE ALL SHOP DRAWINGS TO ENGINEER FOR APPROVAL



## RIP-RAP HEADWALL DETAIL

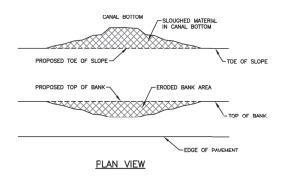
(TOWN OF DAVIE DRAINAGE DETAIL D-6 SEE NOTE 3

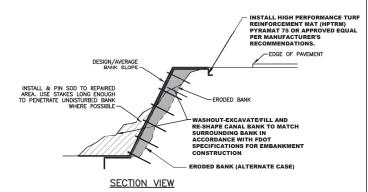
VARIES

- 1. OWNER SHALL RETAIN A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE STATE OF FLORIDA TO INSPECT AND CERTIFY THE
- 2. CONTRACTOR SHALL SUPPLY AS-BUILT DRAWINGS SHOWING THE INVERT(S), TOP OF HEADWALL, AND UPSTREAM AND DOWNSTREAM
- CONTRACTOR SHALL SUPPLY AS-BUILT DRAWINGS SHOWING THE INVERTIS, TOP OF HEADWALL, AND UPSTREAM AND DOWNSTREA
  CROSS SECTIONS OF EXCAVATED CANAL CERTIFIED BY A FLORIDA LICENSE SURVEYOR.
   HEADWALLS SHALL INCLUDE WINGED ENDWALLS SIMILAR TO THE FOOT "WINGED CONCRETE ENDWALLS" DETAIL IFOOT STANDARD
  PLANS INDEX NO. 430-040, LATEST EDITION FOR PRECAST HEADWALLS OR THE TOWN OF DAVIE "RIP RAP HEADWALL" DETAIL [TOD
  STANDARD PAVING AND DRAINAGE DETAIL D-6, LATEST EDITION] FOR RIP RAP HEADWALLS SHOWN ABOVE.
- OF TRAINING AND UNMINAGE DEFINED. SET ATTEST EDITION FOR RIP RAP HEADWALLS SHOWN ABOVE.

  4. PRECAST OR CAST-IN-PLACE CONCRETE HEADWALL MAY BE INSTALLED AS AN ALTERNATIVE TO A RIPPAP HEADWALL. CONTRACTOR SHALL PROVIDE SIGNED/SEALED DESIGN DRAWINGS BY A FLORIDA LICENSED ENGINEER FOR THE APPROPRIATE INSTALLATION TYPE.

  5. FOR HEADWALLS INSTALLED IN LAXESLAKES, THE MAXIMUM CROWN OF PIPE SHALL BE THE DISTRICT PATE CONTROL.
- 6. FOR HEADWALLS INSTALLED IN DISTRICT CANALS, THE TOP OF HEADWALL SHALL BE SET AT 1' ABOVE THE DISTRICT'S WATER
- CONTROL ELEVATION.
  7. PROVIDE STABLE AND PERMANENT BENCHMARK SHOWING BOTH NAVD88 AND NGVD29 ELEVATIONS AT EACH HEADWALL IN A DISTRICT CANAL REFER TO THE CRUCO CRITERIA MANUAL FOR PEGUIRED INFORMATION





## TYPICAL BANK REPAIR DETAIL

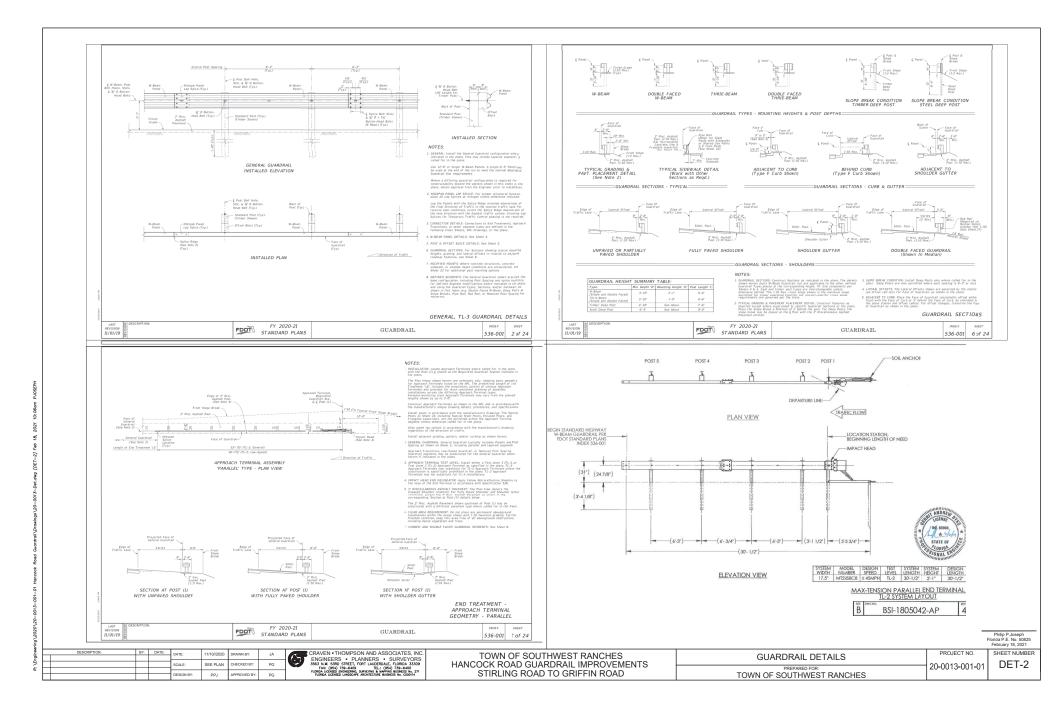
N. T. S.

CRAVEN • THOMPSON AND ASSOCIATES, INC CHAVEN \* I HOMPSON AND ASSOCIAL ES, INC.
ENGINEERS \* PLANNERS \* SURVEYORS
3563 N.W. 5380 STREET, FORT LAUDERDALE, FLORIDA 33309
FAX: 6947 739-6409
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FLORIDA LICHARD LICHARDER, SAVEYING & MAPPING BUSINESS No. 2021
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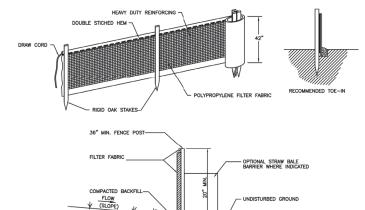
TOWN OF SOUTHWEST RANCHES HANCOCK ROAD GUARDRAIL IMPROVEMENTS STIRLING ROAD TO GRIFFIN ROAD

PROJECT NO CANAL BANK RESTORATION DETAILS & NOTES 20-0013-001-01 TOWN OF SOUTHWEST RANCHES

SHEET NUMBER DET-1



TYPE III SILT FENCE



EMBED FILTER CLOTH MIN. 4" INTO GROUND

## SILT FENCE NOTES:

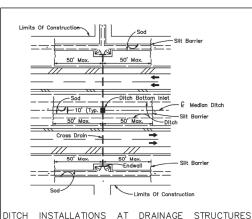
- FILTER FABRIC FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
- FILTER CLOTH TO BE FASTENED SECURELY TO POSTS WITH TIES SPACED EVERY 24 INCHES AT TOP AND MID. SECTION.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
- 4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE OR DEPTH OF ACCUMULATED SEDIMENT REACHES 6 INCHES.
- 5. SILT FENCE SHALL BE INSTALLED PER MANUFACTURES SPECIFICATIONS PRIOR TO THE START OF CONSTRUCTION AND SHALL NOT BE REMOVED UNTIL CONSTRUCTION IS COMPLETE.
- THE CONTRACTOR SHALL INSPECT AND REPAIR THE SILT FENCE AFTER EACH RAIN EVENT AND REMOVE SEDIMENT WHEN NECESSARY.
- 7. REMOVED SEDIMENT SHALL BE DEPOSITED IN AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFFSITE AND CAN BE PERMANENTLY STABALIZED.
- THE SILT FENCE SHALL BE PLACED ON SLOPE CONTOUR TO MAXIMIZE ITS PONDING EFFICIENCY.
- IF DITCH LEVEL IS DEEPER THAN 30", THEN A FLOATING SILT SCREEN SHALL BE USED

PROJECT NO. SHEET NUMBER TOWN OF SOUTHWEST RANCHES EROSION & SEDIMENT CONTROL GUIDE PLAN ECP-1 20-0013-001-01 TOWN OF SOUTHWEST RANCHES

SILT FENCE INSTALLATION

HANCOCK ROAD GUARDRAIL IMPROVEMENTS STIRLING ROAD TO GRIFFIN ROAD

Philip P.Joseph Florida P.E. No. 50825 February 18, 2021

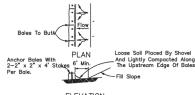


6' Max

-50' On Centers ( Typ. ) PLAN

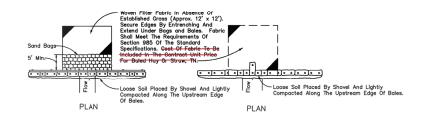
Anchor Bales With 2 - 2" x 2" x 4" Overlap Ends THEFT

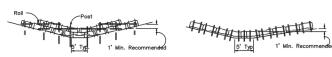
**ELEVATION** TO BE USED AT SELECTED SITES WHERE THE NATURAL GROUND SLOPES TOWARD THE TOE OF SLOPE



ELEVATION TO BE USED AT SELECTED SITES WHERE THE NATURAL GROUND SLOPES AWAY FROM THE TOE OF THE SLOPE.

BARRIERS FOR FILL SLOPES





Anchor Lower Bales With  $2-2" \times 2" \times 4'$  Stakes Per Bale.

Anchor Top Bales To Lower Bales With  $2-2" \times 2" \times 4'$  Stakes Per Bales With

**ELEVATION ELEVATION** 

Application and Spacing: The use of Types\_T & II bale barriers should be limited to the conditions outlined in Chart I, Sheet 1 of 3, Index No. 102

TYPE I

18 Oz. Nylon Reinforced PVC Fabric (300 psi Test) With Lacing Grommo

TYPE II

ង្ហឹ/inyl Sheathed EAW Steel Cable (9800 Lbs. Breaking Strength) With Galvanized Connectors (Tool Free Disconnect)

- 5"Galvanized Chain

 $D_1 = 5$ ' Std. (Single Panel For Depths 5' or Less).

5] =5 Std. (Additional Panel For Depths 5].
Curtain To Reach Bottom Up To Depths 6] 10 Feet.
Two(2) Panels To Be Used For Depths Greater Than
10 Feet Unless Special Depth Curtains Specifically Called
For In The Plans Or As Determined By The Engineer.

NOTICE: COMPONENTS OF TYPES | AND || MAY BE SIMILAR OR IDENTICAL

FLOATING TURBIDITY BARRIERS

TO PROPRIETARY DESIGNS. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES ~ AND ~~ SHALL BE AS

Closed Cell Solid Plastic Foam Flotation (8" Dia. Equiv.) (17 lbs.

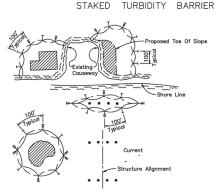
APPROVED BY THE ENGINEER.

Per Ft. Buoyancy

Stress Plate

TYPE II

BARRIER FOR UNPAVED DITCHES

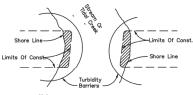


## LEGEND

Post (Options: 2" x 4" Or 2½" Min. Dia. Wood; Steel 1.33 Lbs/Ft. Min.)

18 Oz. Nylon Reinforced PVC Fabric (300 psi Test)

- Pile Locations
- Dredge Or Fill Area
- Mooring Buoy w/Anchor
- Anchor
- Barrier Movement Due To Current Action



1. Turbidity barriers are to be used in all permanent bodies of water regardless of water depth.

- 4. Navigation may require segmenting barrier during construction operations
- 5. For additional information see Section 104 of the Standard Specifications

Turbidity barriers for flowing streams and tidal creeks may be either floating, or staked types or any combinations of types that will suit site or any combinations of types that will suit site conditions and meet erosion control and water quality requirements. The barrier type(a) will be at the Contractors option unless otherwise specified in the plans, however payment will be under the pay Item(a) established in the plans for Floating Turbidity Servier and/or Staked-Turbidity Servier - Posts in staked turbidity barriers to be installed in vertical position unless otherwise directed by the Engineer.



Slotted PVC Connector Pine

18 Oz. Nylon Reinforced PVC Fabric (300 psi Test)

# TURBIDITY BARRIER APPLICATIONS

Closed Cell Solid Plastic Foam Flotation (6" Dia. Equiv.) (12 Lbs. Per Ft. Buoyancy)

₹Polypro Rope (600 lb. Breakin

1"Galvanized Chai

TYPE I

CRAVEN • THOMPSON AND ASSOCIATES, INC
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3653 NW. 5380 STREET, FORT LAUDERDALE, FLORIDA 33309
FAX: (964) 739–6409
FLORIDA LICHSED LANGEMER AND TELL (1964) 1739–6400
FLORIDA LICHSED LANGEMER AND TELL (1964) 1839–1839 NA. 200714 PROJECT NO SHEET NUMBER TOWN OF SOUTHWEST RANCHES **EROSION & SEDIMENT CONTROL GUIDE PLAN** PG HANCOCK ROAD GUARDRAIL IMPROVEMENTS ECP-2 20-0013-001-01 STIRLING ROAD TO GRIFFIN ROAD TOWN OF SOUTHWEST RANCHES

NOTES

2. Number and spacing of anchors dependent on current velocities