

January 29, 2021

Carlos M Herdocia, PE  
Project Manager  
Stantec Inc.  
901 Ponce de Leon Boulevard,  
Suite 900 Coral Gables FL 33134-3070

Subject: Report of a Geotechnical Exploration – Roadway Soils Survey  
**Franjo Road, from Old Cutler Road to SW 184<sup>th</sup> Street**  
Town of Cutler Bay  
Department of Public Works  
Miami-Dade County, Florida  
HRES Project No. HR19-1573R

Dear Carlos:

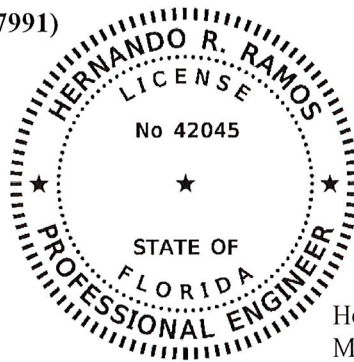
HR Engineering Services, Inc. (HRES) is pleased to provide this Report of a Geotechnical Exploration - Roadway Soils Survey for the subject project. This report presents our understanding of the project, outlines our exploratory procedures, and documents the field test data.

We have enjoyed assisting you on this project and look forward to serving as your geotechnical consultant on the remainder of this project and on future projects. If you have any questions concerning this report, please call our office at (305) 888-8880.

Sincerely,

**HR ENGINEERING SERVICES, INC.**  
**(Certificate of Authorization No. 7991)**

  
Chollada Soonyakanit, E.I.  
MAT Staff Geotechnical Engineer



THIS ITEM HAS BEEN DIGITALLY SIGNED  
AND SEALED BY

**Hernando R Ramos**

**2021.02.09 14:05:11 -05'00'**

ON THE DATE ADJACENT TO THE SEAL

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Hernando R. Ramos, P.E.  
MAT Chief Geotechnical Engineer  
Florida Registration 42045

Distribution: Addressee (1)  
File (1)

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## **1.0 INTRODUCTION**

The purpose of this geotechnical exploration was to obtain information concerning the site and subsurface conditions along the proposed project. The project consists of the construction of the roadway widening of Franjo Road. This report discusses our exploratory and testing procedures, presents our findings and includes the following items:

### **Field Services - HRES**

- Performed two (2) auger borings for the proposed roadway widening, each to a depth of 10.0 feet, measured from the existing ground surface. The borings subsurface information is presented on the Report of Core Borings and Soils Information Table in Appendix A.
- Forty-two (42) SPT borings performed along the proposed roadway widening, each to a depth of 10 feet. The test borings subsurface information is presented on the Report of Core Borings and Soils Information Table in Appendix A.
- Performed a total of nine (9) SFWMD usual open-hole constant head percolation tests. The tests were conducted at one depth interval, from 0 to 15 feet. The percolation test results are presented in Appendix A. The subsurface information is presented on the Soils Information Table in Appendix A.
- A brief description of our field testing procedures.

### **Evaluation**

- Review of Miami-Dade County USDA Soil Survey Maps.
- Review of Miami-Dade County USGS Water Level Maps.
- Review of USGS Quadrangle Map.
- A general review of existing surface features and site conditions.
- Report of Core Borings and Soils Information Table.
- Roadway Soils Survey.
- Roadway construction recommendations.

### **Laboratory Testing**

- The results of laboratory tests performed on selected soil samples obtained from the test borings.
- A brief description of our laboratory testing procedures.



## **2.0 PROJECT INFORMATION**

### **2.1 GENERAL**

Project information for this subsurface exploration has been provided to us by various members of the design team. Additional information has been provided during telephone conversations.

During our geotechnical study, we have been furnished with the following project-related plans and information:

- Plans: Franjo Road, from Old Cutler Road to SW184 Street– Map of Topographic Survey  
Prepared by: N/A  
Dated: 11/03/2020

### **2.2 PROJECT DESCRIPTION**

The project consists of the roadway widening along Franjo Road, from Old Cutler Road to SW 184th Street. The project is located in Miami-Dade County Florida. This report provides recommendations for the construction of the roadway widening.

### **3.0 FIELD EXPLORATION AND LABORATORY TESTING**

#### **3.1 FIELD EXPLORATION**

The field exploration was conducted by HRES. The locations of the test borings are provided in the Summary of Test Boring Locations in Appendix A. The Report of Core Borings and the Soils Information Table in Appendix A summarize the approximate boundary between soil types. In some instances, the transition between material types may be gradual. A brief description of the exploratory sampling techniques used is presented in the Field Testing Procedures section in Appendix A. A discussion of the subsurface conditions encountered along the project alignment is provided in Section 4.2 of this report.

#### **3.2 PERCOLATION TESTING**

HRES completed nine (9) South Florida Water Management District (SFWMD) usual open-hole constant head percolation tests for the subject project. The percolation tests were conducted at one depth interval: from 0 to 15 feet. The hydraulic conductivity values were then calculated and reported in units of cubic feet per second, per square foot, per foot of head (cfs/ft<sup>2</sup>-ft of head). The calculated hydraulic conductivity values ranged as follows:

- From 0 to 15 ft.: 1.4E-04 cfs/ft<sup>2</sup>-ft to 8.2E-04 cfs/ft<sup>2</sup>-ft of head

The conductivity values are ultimate values. An appropriate factor of safety should be employed in any storm water or other subsurface drainage design computations. The percolation test results are presented in Appendix A.

#### **3.3 LABORATORY TESTING**

##### **3.3.1 Soil Testing**

In order to aid in classifying and estimate engineering characteristics of the subsurface materials encountered, laboratory classification tests were performed on representative soil samples obtained from the test borings. The laboratory testing program included the following:

- 6 Sieve Analyses
- 17 Fines Content Tests
- 2 Organic Content Tests
- 24 Moisture Content Tests

The soil laboratory test results were classified following the AASHTO Classification System. The test results are presented in Appendix B.

## 4.0 SITE AND SUBSURFACE CONDITIONS

### 4.1 SITE CONDITIONS

The site conditions were observed by a Geotechnical Engineer during the months of November and December, 2020.

### 4.2 SUBSURFACE CONDITIONS

#### 4.2.1 Miami-Dade County Soil Survey Map

The Soil Map of Miami-Dade County Area, Florida, published by the United States Department of Agriculture (USDA) was reviewed for general near-surface soil information within the general project vicinity. This information indicates that there is four (4) mapping unit in the vicinity of the project. The map soil unit encountered is:

**Table 4.2.1 Miami-Dade Soil Survey**

Map Unit Symbol	Map Unit Name	Typical Profile
7	Krome very gravelly loam (4.7% of AOI)	Ap - 0 to 7 inches: very gravelly loam R - 7 to 11 inches: unweathered bedrock
10	Udorthents, limestone (65.5% of AOI)	C - 0 to 55 inches: extremely gravelly loam 2R - 55 to 59 inches: unweathered bedrock
11	Udorthents, marl substratum- Urban land complex (29.5% of AOI)	C1 - 0 to 12 inches: very gravelly loam C2 - 12 to 41 inches: gravelly sandy loam Cg - 41 to 80 inches: marly silt loam 2R - 80 to 90 inches: unweathered bedrock
99	Water (0.4% of AOI)	Water: 100 percent

A reproduction of the USDA map for the project area is included in Appendix A.

#### 4.2.2 USGS Quadrangle Map

The Perrine Quadrangle, Florida-Miami-Dade Topographic Map (1999) published by the United States Geological Survey (USGS) was reviewed for general existing ground surface elevations in

the project area. Based on the map, the existing ground elevations in the project vicinity is 10.0 feet, NGVD29. A reproduction of the USGS Quadrangle Map for the project area is included in Appendix A.

#### **4.2.3 Generalized Subsurface Conditions Encountered Along the Alignment**

A total of seven different layers of materials were observed during the performance of the boreholes. Stratum 1a is asphalt. Stratum 1b is topsoil. Stratum 2 consists of limerock with silty fine sand. Stratum 3 consists of silty fine sand with traces limerock fragments. Stratum 4 consists of sandy silt/ slightly organic sandy silt with traces of limerock fragments. Stratum 5 consists of fine sand with traces limerock fragments. Stratum 6 consists of the natural limestone. For a detailed subsurface condition at a particular borehole location, please refer to the Report of Core Borings and the Soils Information Table in Appendix A.

#### **4.2.4 Groundwater Conditions**

The groundwater levels in the borings were measured at the time of drilling. Groundwater levels were encountered at depths ranging from 4.0 to 10.8 feet.

The average October Water Level was 3.0 feet, NGVD29 (1.5 feet, NAVD88) and the Seasonal High Ground Water Table is about 4.0 feet, NGVD29 (2.5 feet, NAVD88) were found for the project area based on U.S. Geological Survey (2002), "Average Altitude of the Water Table (1990-99) and Frequency Analysis of Water Levels (1974-99) in Biscayne Aquifer, Miami-Dade County, Florida" included in Appendix A.

Fluctuation in the observed groundwater levels should be expected due to seasonal climatic changes, construction activity, rainfall variations, a storm surge, surface water runoff and water level variations in the nearby lakes. Since groundwater level variations are anticipated, design drawings and specifications should accommodate such possibilities and construction planning should be based on the assumption that variations will occur.

## **5.0 ROADWAY CONSTRUCTION RECOMMENDATIONS**

### **5.1 BASIS FOR RECOMMENDATIONS**

The following construction recommendations are based upon our understanding of the conceptual design information available at the writing of this report and the data gathered during our subsurface exploration. The stratification of the subsurface materials underlying the site may vary within even short lateral distances; therefore, any subsurface condition encountered which differs from those documented in this study should be reported to us so that our recommendations can be reviewed.

### **5.2 SUITABILITY OF IN-SITU MATERIALS**

The following is a summary of the subsurface information provided by the borings and their suitability.

Stratum 1a – This Stratum consists of asphalt.

Stratum 1b – This Stratum consists of dark brown organic silty fine sand (topsoil, A-8). No laboratory testing was conducted on this material. This material is unsuitable for use as stabilized subgrade or fill material and should be removed.

Stratum 2 – This Stratum consists of brown to light brown limerock fragments with silty fine sand (fill, A-1-b). Laboratory testing on this material consisted of 3 sieve analyses and 3 moisture content tests. The fines content ranged from 15 to 21 percent and the moisture content ranged from 11 to 18 percent. This material appears suitable for use as a general fill when utilized in accordance with FDOT Index 120-001. It cannot be used as base material.

Stratum 3 – This stratum consists of brown silty fine sand with traces of limerock fragments (A-2-4). Laboratory testing on this material consisted of 3 sieve analyses, 3 fines content tests and 6 moisture content tests. The fines content ranged from 23 to 35 percent and the moisture content ranged from 11 to 36 percent. This material appears suitable for use in the embankment when utilized in accordance with FDOT Standard Plan Index 120-001. However, this material is likely to retain excess moisture and be difficult to dry and compact. It should be used in the embankment above the water level existing at the time of construction. It cannot be used as stabilized subgrade or base material.

Stratum 4 – This Stratum consists of brown sandy silt or slightly organic sandy silt with traces of limerock fragments (A-4). Laboratory testing on this material consisted of 2 organic content tests, 13 fines content tests and 14 moisture content tests. The organic content ranged from 4 to 5, the fines content ranged from 50 to 98 percent and the moisture content ranged from 32 to 75 percent. This material is unsuitable for use in the embankment and as stabilized subgrade and shall be removed in accordance with FDOT Standard Plan Index 120-002. It should be removed if encountered within 2 feet below the bottom of the base.

This material was encountered within 2 feet below the bottom of the base at the following borehole locations: RB-28, RB-32, RB-36, RB-39, RB-40 and Percolations Tests P-7, P-8 and P-9.

Stratum 5 – This Stratum consists of brown fine sand with traces of limerock fragments (A-3). Laboratory testing on this material consisted of 1 fines content test and 1 moisture content test. The fines content was 8 percent and the moisture content was 25 percent. This material appears suitable for use in the embankment when utilized in accordance with FDOT Standard Index 120-001. It cannot be used as stabilized subgrade or base material.

Stratum 6 – This stratum consists of the natural limestone. This material appears suitable for use as general fill when utilized in accordance with FDOT Standard Plan Index 120-001. This material typically offers a high resistance to excavation. Special equipment and breaking tools may be required to excavate it. This material is also difficult to dewater due to its high porosity and permeability.

### **5.3 CONSTRUCTION PLANS AND SPECIFICATIONS REVIEW**

It is recommended that this office be provided the opportunity to make a general review of the earthwork plans and special provisions prepared from the recommendations presented in this report. We would then suggest any modifications so that our recommendations are properly interpreted and implemented.

### **5.4 SETTLEMENT AND VIBRATION MONITORING**

Construction vibrations associated compaction equipment may occur. Settlement and vibration monitoring should be performed in accordance with Section 108 of FDOT Standard Specifications.

## **6.0 REPORT LIMITATIONS**

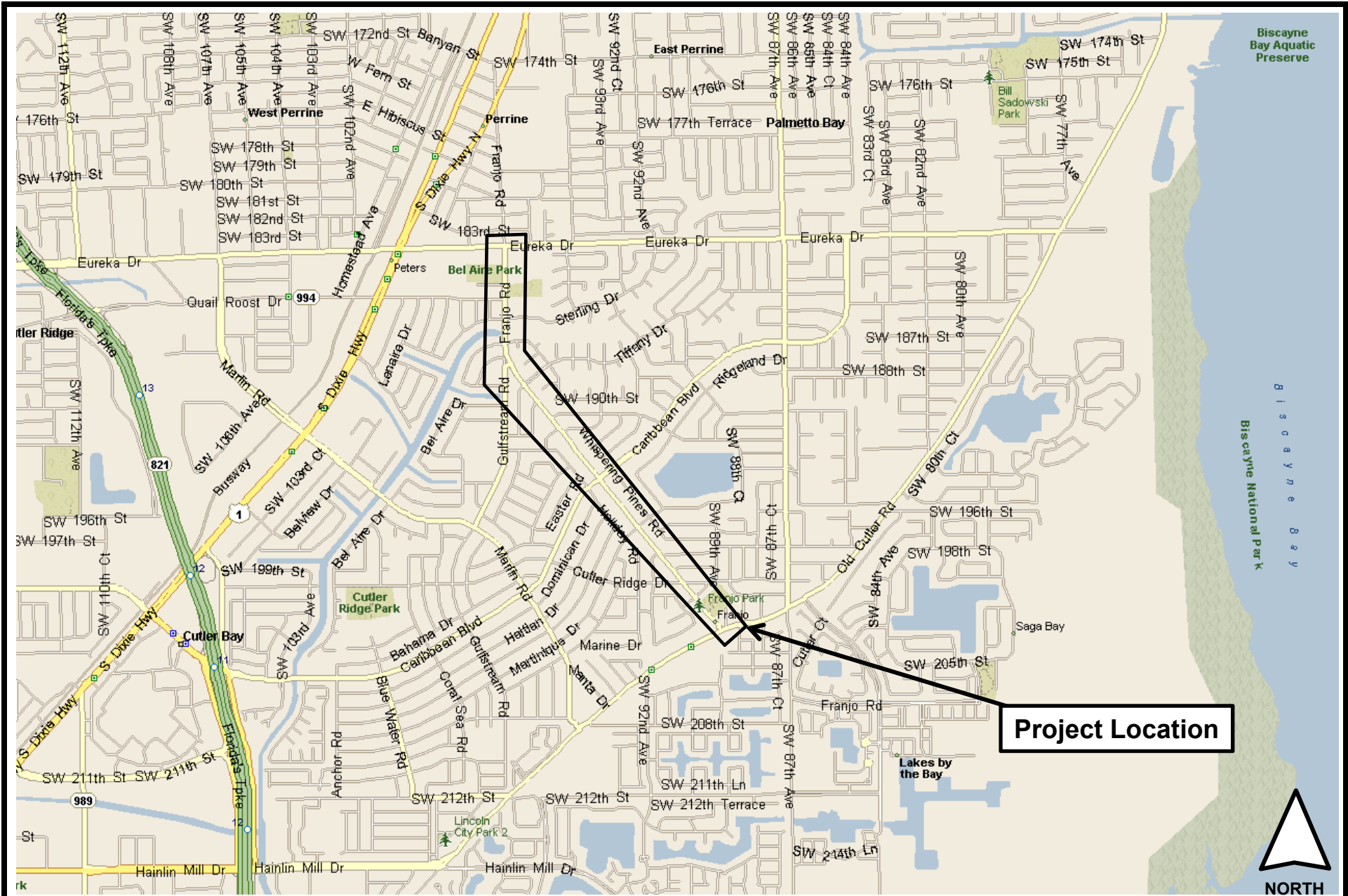
The scope of the investigation was intended to evaluate the subsurface conditions along the proposed roadway improvements. The analyses and recommendations submitted in this report are based upon the data obtained from the test borings performed at the locations indicated. The applicability of the report should also be reviewed in the event significant changes occur in the design, nature or location of the proposed improvement.

The scope of our services does not include any environmental assessment or investigation for the presence or absence of hazardous or toxic material in the soil, groundwater, or surface water within or beyond the site studied.

## **APPENDIX A**

<b>SITE LOCATION MAP</b>	<b>A-1</b>
<b>FIELD EXPLORATION PLANS</b>	<b>A-2 THRU A-14</b>
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<b>USGS AVERAGE OCTOBER WATER LEVELS MAP</b>	<b>A-18</b>
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<b>SUMMARY OF PERCOLATION TEST RESULTS</b>	<b>A-21</b>
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<b>SOILS INFORMATION TABLE</b>	<b>A-26 THRU A-31</b>
<b>FIELD TESTING PROCEDURES</b>	<b>A-32</b>





**FRANJO ROAD, FROM OLD CUTLER ROAD  
TO SW 184<sup>TH</sup> STREET  
TOWN CUTLER BAY, MIAMI-DADE COUNTY, FLORIDA  
DEPARTMENT OF PUBLIC WORKS**

**HRES**  
HR Engineering Services, Inc.

**SITE LOCATION PLAN A-1**

DRAWN BY: CS

DATE: 01/29/21

PROJECT No: HR19-1573R

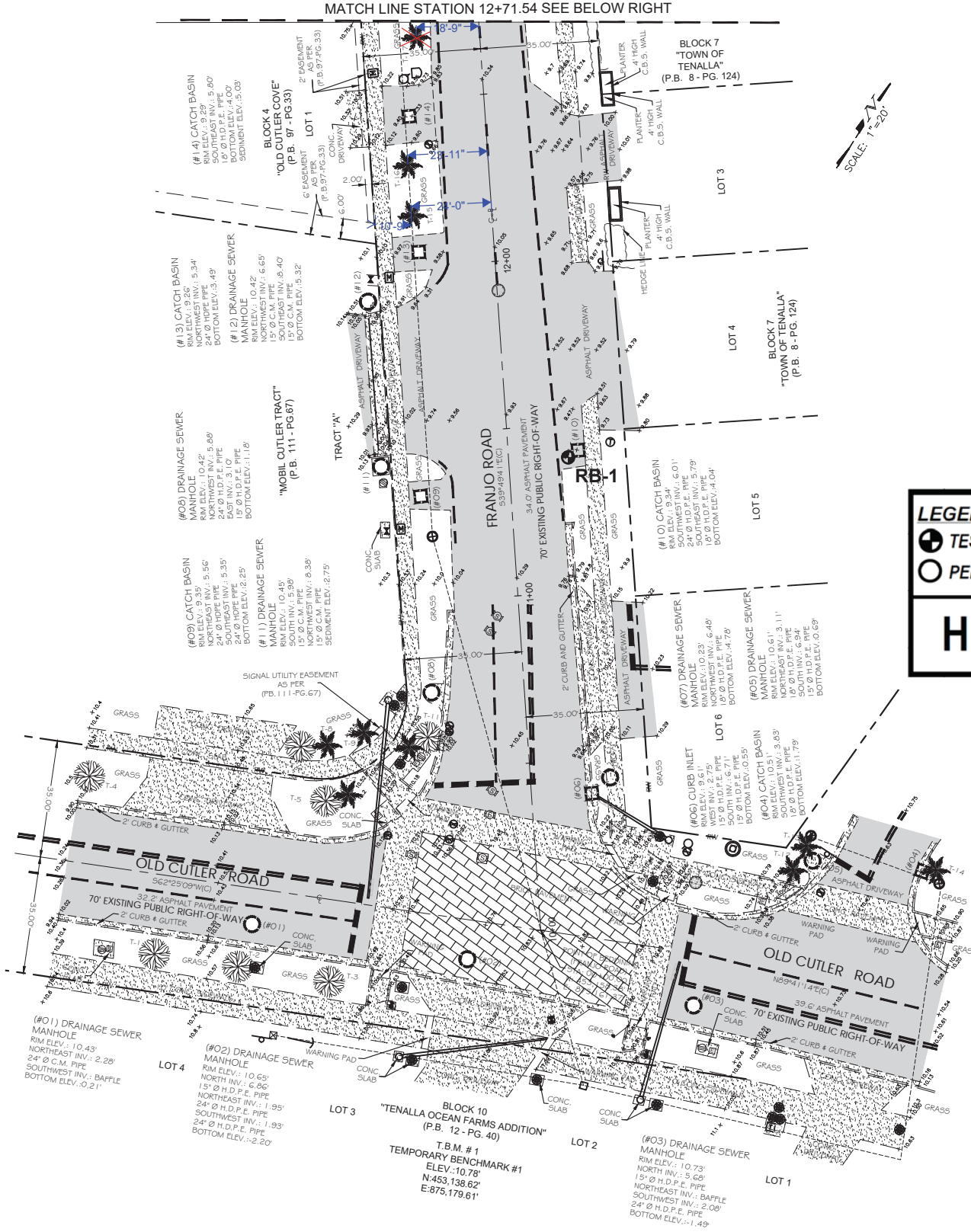
SCALE: NTS

LEGEND AND ABBREVIATIONS:

- ELEV = ELEVATION
- T.B.M. = TEMPORARY BENCHMARK
- CC(C) = CONCRETE
- ASPH = ASPHALT
- GRASS = GRASS
- P.B. = PLAT BOOK
- OH = MEASURES
- BY = BY
- FOUND = FOUND
- CONC. = CONCRETE
- PK NAIL FOUND = CONCRETE NAIL & DISK FOUND
- CNC = CONCRETE NAIL CUT
- DRF = DRILL HOLE FOUND
- PKNF = NAIL FOUND
- R/V = RAIL NAIL & DISK FOUND
- RBAC = RIGHT OF WAY
- R/L = ROCK BASE ASPHALT COMPOUND
- R = RADIUS
- C = CENTER LINE
- L = LENGTH OF CURVE
- C&G = CURB & GUTTER
- VG = VALLEY GUTTER
- E/P = EDGE OF PAVEMENT
- T/B = TOP OF BANK
- E/W = EDGE OF WATER
- PCP = PERMANENT CONTROL POINT
- RLS = REGISTERED LAND SURVEYOR
- PLS = PROFESSIONAL LAND SURVEYOR
- S = STREET SIGN
- ALUM. FLASHING SCHOOL LIGHT = ALUM. FLASHING SCHOOL LIGHT
- MALBOX = MALBOX
- DECORATIVE LIGHT POLE = DECORATIVE LIGHT POLE
- METAL LIGHT POLE = METAL LIGHT POLE
- METAL TRAFFIC LIGHT POLE = METAL TRAFFIC LIGHT POLE
- METAL POWER POLE = METAL POWER POLE
- CONCRETE LIGHT POLE = CONCRETE LIGHT POLE
- CONCRETE POWER POLE = CONCRETE POWER POLE
- WOOD LIGHT POLE = WOOD LIGHT POLE
- WOOD POWER POLE = WOOD POWER POLE
- FIBERGLASS LIGHT POLE = FIBERGLASS LIGHT POLE
- WATER MANHOLE = WATER MANHOLE
- SANITARY MANHOLE = SANITARY MANHOLE
- SANITARY SEWER VALVE (FM) = SANITARY SEWER VALVE (FM)
- CABLE TV PEDESTRIAN = CABLE TV PEDESTRIAN
- TV CABLE RISER BOX = TV CABLE RISER BOX
- TV CONTROL BOX = TV CONTROL BOX
- CABLE BOX = CABLE BOX
- TELEPHONE HANDHOLE = TELEPHONE HANDHOLE
- TELEPHONE MANHOLE = TELEPHONE MANHOLE
- TELEPHONE UTILITY BOX = TELEPHONE UTILITY BOX
- TELEPHONE RISER BOX = TELEPHONE RISER BOX
- TELEPHONE RISER CONTROL BOX = TELEPHONE RISER CONTROL BOX
- TELEPHONE CONTROL BOX = TELEPHONE CONTROL BOX
- BOX = BOX
- CROSSING SIGN = CROSSING SIGN
- POST = POST
- INTERCOM = INTERCOM
- GAS VALVE = GAS VALVE
- PVC ROST = PVC ROST
- GUT WIRE = GUT WIRE
- SPRINKLE HEAD = SPRINKLE HEAD
- CENTRAL ANGLE OF CURVE = CENTRAL ANGLE OF CURVE
- MONITORING WELL = MONITORING WELL
- PETROLEUM PIPELINE = PETROLEUM PIPELINE
- ELECTRIC HANDHOLE = ELECTRIC HANDHOLE
- ELECTRIC MANHOLE = ELECTRIC MANHOLE
- FIRE HYDRANT = FIRE HYDRANT
- WATER VALVE = WATER VALVE
- WATER METER = WATER METER
- R/W EXISTING = R/W EXISTING
- SECTION LINE = SECTION LINE
- QUARTER SECTION LINE = QUARTER SECTION LINE
- EASEMENT LINE = EASEMENT LINE
- BARBIRE FENCE = BARBIRE FENCE
- EDGE OF THE PAVEMENT = EDGE OF THE PAVEMENT
- PROPERTY LINE = PROPERTY LINE
- SECTION = SECTION
- MONUMENT LINE = MONUMENT LINE
- P.W.M. = PAVEMENT
- ASPH. = ASPHALT
- (R) = RADIUS
- (L) = LENGTH
- (CA) = CENTRAL ANGLE OF THE CURVE
- (PT) = POINT OF TANGENCY
- (PI) = POINT OF INTERSECTION
- (PC) = POINT OF CURVATURE
- (TR) = TRAFFIC SIGN MANHOLE
- (TS) = TRAFFIC SIGN HANDHOLE
- (TC) = TRAFFIC CONTROL BOX
- (TR) = TRAFFIC SIGNAL BOX
- (EC) = ELECTRICAL CONTROL BOX
- (R) = RAIL ROAD CROSSING
- (L) = FIBER OPTIC MARKER SIGN
- (F) = FIBER OPTIC BOX
- (C) = CONCRETE
- (A) = ASPHALT
- (U) = UNIMPROVED DRIVEWAY
- (G) = GRAVEL
- (B) = BRICK
- (T) = TILE
- (S) = STAMPED CONCRETE
- (C) = CONCRETE BLOCK FENCE
- (D) = TREE DIAMETER
- (E) = EXISTING CATCH BASIN
- (S) = EXISTING STORMWATER MANHOLE
- (E) = ELECTRIC METER
- (P) = ELECTRIC PANEL
- (B) = BACKFLOW PREVENTER
- (F) = FIRE DEPARTMENT CONNECTION
- (T) = TRAFFIC
- (V) = VALVE COVER SUGAR
- (P) = PEDESTRIAN SIGN
- (G) = GAS METER
- (C) = CLEAN OUT
- (W) = WOOD FENCE
- (I) = IRON FENCE
- (E) = EXISTING SIDEWALK
- (F.P.L.) = F.P.L. OVERHEAD
- (U.G.) = F.P.L. UNDERGROUND
- (W) = WATER LINE MAIN
- (G) = GAS MAIN
- (F) = FORCE MAIN
- (C) = CABLE TV
- (B) = BELL SOUTH TELEPHONE COND.
- (B) = BASELINE
- (S) = SANITARY SEWER
- (E) = ELECTRIC EXISTING OVERHEAD
- (U) = UNKNOWN UTILITY UNDERGROUND
- (R) = ROCK
- (B) = BENCH
- (F) = FLOW LIGHT
- (D.I.P.) = DUCTILE IRON PIPE
- (P) = PALM
- (T) = TREE

# MAP OF TOPOGRAPHIC SURVEY

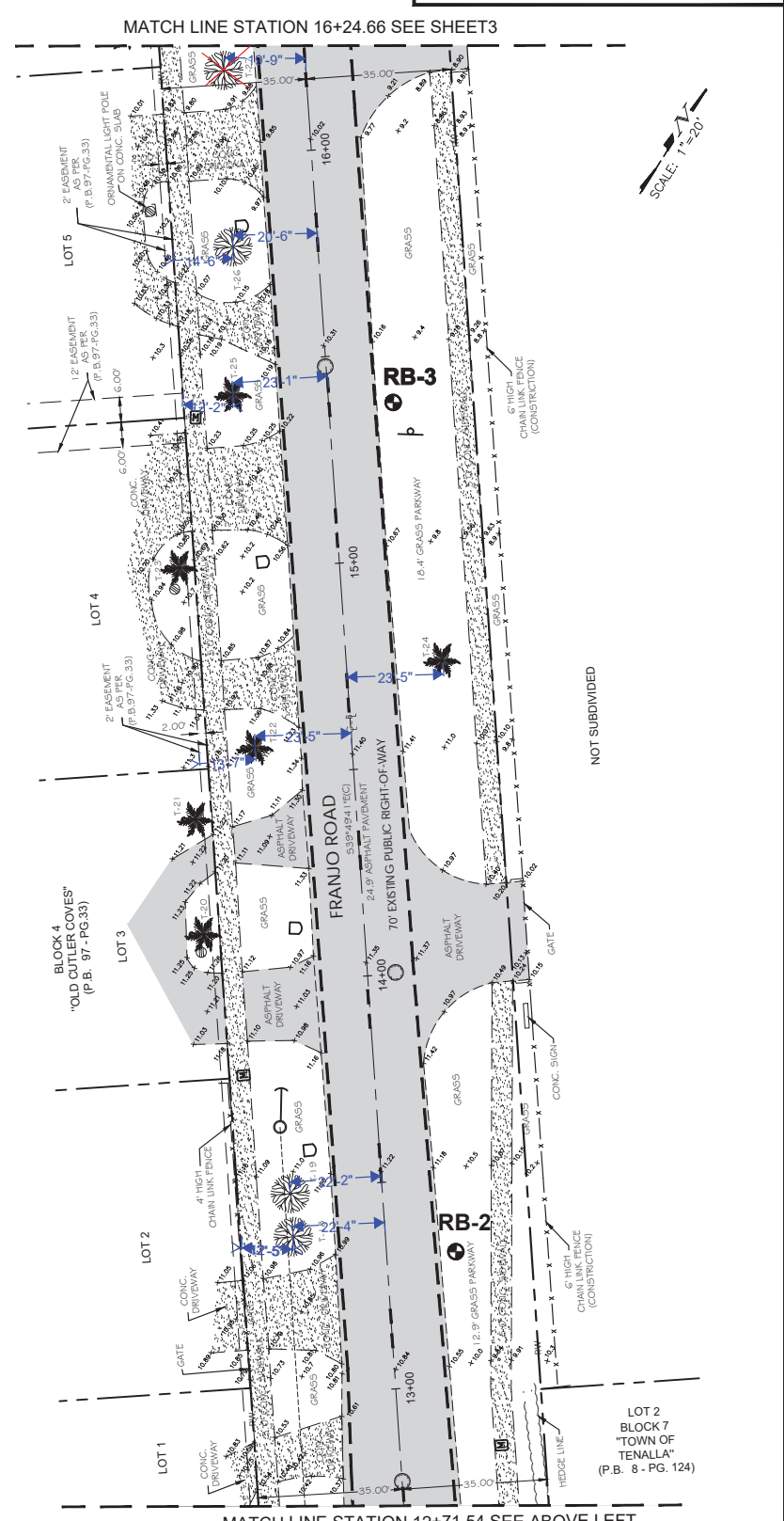
FRANJO ROAD BETWEEN SW 184 STREET AND OLD CUTLER ROAD  
PROJECT NO. SHEET 2 OF 15



**LEGEND:**

- ⊕ TEST BORING LOCATION
- PERCOLATION TEST LOCATION

**HRES** HR ENGINEERING SERVICES, INC.  
7815 NW 72nd Avenue  
Medley, Florida 33155  
Ph: 305-888-8880/305-888-8770 Fax  
Cert. of Authorization No. 7991



REVISIONS					
DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY

TOPOGRAPHIC SURVEY

DESIGNED BY	NAME	DATE	DRAWN BY	NAME	DATE
XX			SF		10-13-2020
XX			GS		10-18-2020

MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS  
ROADWAY ENGINEERING AND RIGHT OF WAY DIVISION

LEGEND, ABBREVIATION AND MAP OF TOPOGRAPHIC SURVEY

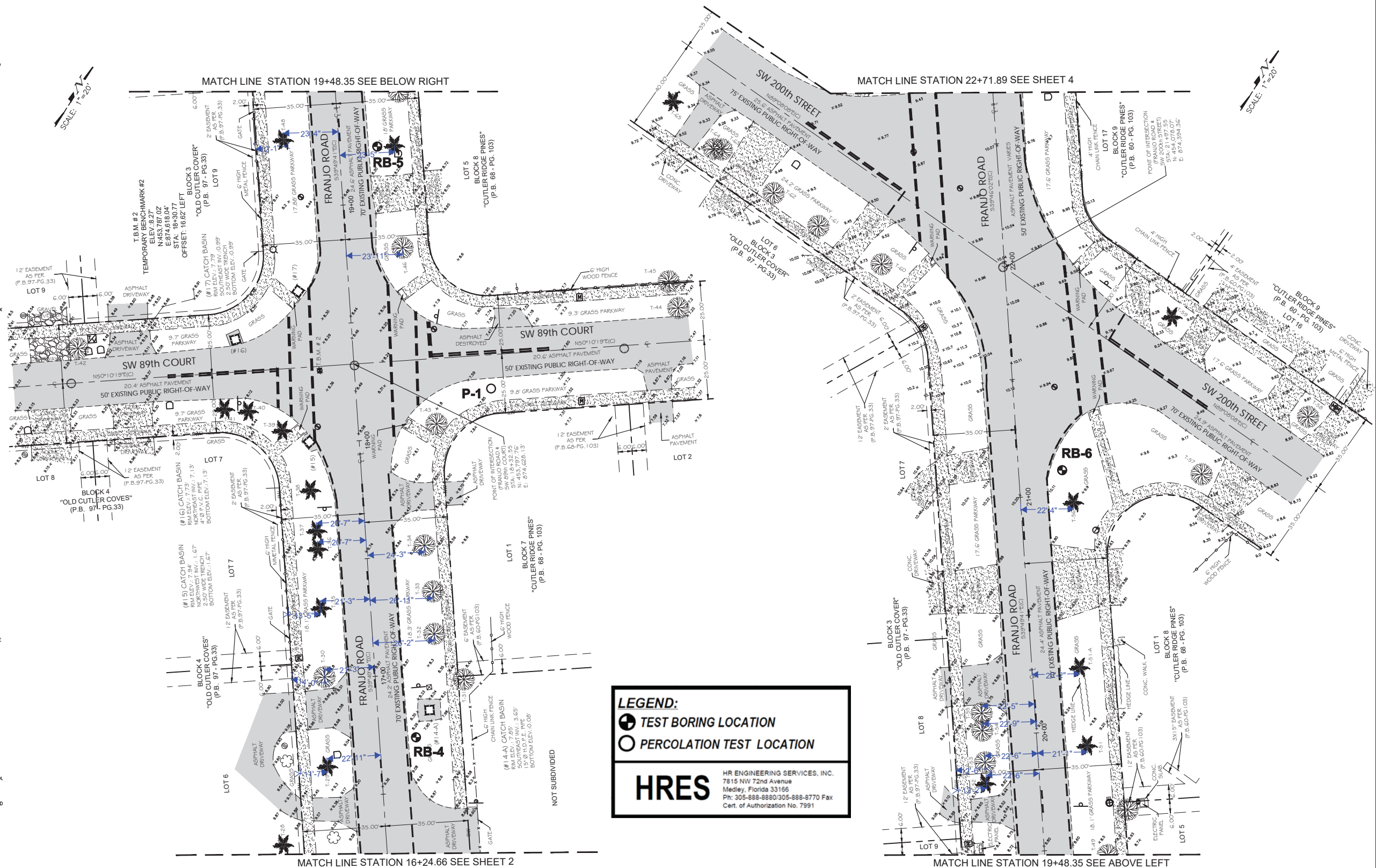


LEGEND AND ABBREVIATIONS:

# MAP OF TOPOGRAPHIC SURVEY

FRANJO ROAD BETWEEN SW 184 STREET AND OLD CUTLER ROAD  
PROJECT NO. SHEET 3 OF 15

- ELEV = ELEVATION
- CLM = CONCRETE
- PG = PAGE
- GP = GRASS
- OD = ODDS
- BY = BY
- F, F# = FOUND
- CONC = CONCRETE
- PK NAL = PK NAIL FOUND
- CONC NAL & DISK = CONCRETE NAIL & DISK FOUND
- CNC = CONCRETE NAIL CUT
- DRILL HOLE = DRILL HOLE FOUND
- NAL = NAIL FOUND
- PK NAL & DISK = PK NAIL & DISK FOUND
- R/W = RIGHT OF WAY
- RBAC = ROCK BASE ASPHALT COMPOUND
- RL = RISE LINE
- CL = CENTER LINE
- R = RADIUS
- L = LENGTH OF CURVE
- C&G = CURB & GUTTER
- VG = VALLEY GUTTER
- E/P = EDGE OF PAVEMENT
- T/B = TOP OF BANK
- E/W = EDGE OF WATER
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- MALBOX = MALBOX
- DECORATIVE LIGHT POLE = DECORATIVE LIGHT POLE
- METAL LIGHT POLE = METAL LIGHT POLE
- METAL TRAFFIC LIGHT POLE = METAL TRAFFIC LIGHT POLE
- METAL POWER POLE = METAL POWER POLE
- CONCRETE LIGHT POLE = CONCRETE LIGHT POLE
- CONCRETE POWER POLE = CONCRETE POWER POLE
- WOOD LIGHT POLE = WOOD LIGHT POLE
- WOOD POWER POLE = WOOD POWER POLE
- WOOD TELEPHONE POLE = WOOD TELEPHONE POLE
- FIBERGLASS LIGHT POLE = FIBERGLASS LIGHT POLE
- WATER MANHOLE = WATER MANHOLE
- SANITARY SEWER VALVE (SM) = SANITARY SEWER VALVE (SM)
- CABLE TV PEDESTAL = CABLE TV PEDESTAL
- TV CABLE RISER BOX = TV CABLE RISER BOX
- TV CONTROL BOX = TV CONTROL BOX
- CABLE BOX = CABLE BOX
- TELEPHONE MANHOLE = TELEPHONE MANHOLE
- TELEPHONE DRIVEWAY = TELEPHONE DRIVEWAY
- TELEPHONE UTILITY BOX = TELEPHONE UTILITY BOX
- TELEPHONE RISER BOX = TELEPHONE RISER BOX
- TELEPHONE RISER CONTROL BOX = TELEPHONE RISER CONTROL BOX
- TELEPHONE CONTROL BOX = TELEPHONE CONTROL BOX
- BOX = BOX
- CROSSING SIGN = CROSSING SIGN
- POST = POST
- INTERCOM = INTERCOM
- GAS VALVE = GAS VALVE
- POC POST = POC POST
- GUY WIRE = GUY WIRE
- SPRINKLE HEAD = SPRINKLE HEAD
- CENTRAL ANGLE OF CURVE = CENTRAL ANGLE OF CURVE
- MONITORING WELL = MONITORING WELL
- PETROLEUM PIPELINE = PETROLEUM PIPELINE
- ELECTRIC MANHOLE = ELECTRIC MANHOLE
- ELECTRIC MANHOLE = ELECTRIC MANHOLE
- FIRE HYDRANT = FIRE HYDRANT
- WATER VALVE = WATER VALVE
- WATER METER = WATER METER
- R/W EXISTING = R/W EXISTING
- SECTION LINE = SECTION LINE
- QUARTER SECTION LINE = QUARTER SECTION LINE
- EASEMENT LINE = EASEMENT LINE
- BARBECUE FENCE = BARBECUE FENCE
- EDGE OF THE PAVEMENT = EDGE OF THE PAVEMENT
- PROPERTY LINE = PROPERTY LINE
- SECTION = SECTION
- MONUMENT LINE = MONUMENT LINE
- PAVEMENT = PAVEMENT
- ASPHALT = ASPHALT
- RADIUS = RADIUS
- LENGTH = LENGTH
- CENTRAL ANGLE OF THE CURVE = CENTRAL ANGLE OF THE CURVE
- POINT OF TANGENCY = POINT OF TANGENCY
- POINT OF INTERSECTION = POINT OF INTERSECTION
- POINT OF CURVATURE = POINT OF CURVATURE
- TRAFFIC SIGN MANHOLE = TRAFFIC SIGN MANHOLE
- TRAFFIC SIGNAL BOX = TRAFFIC SIGNAL BOX
- ELECTRICAL CONTROL BOX = ELECTRICAL CONTROL BOX
- RAIL ROAD CROSSING (LIGHT) = RAIL ROAD CROSSING (LIGHT)
- FIBER OPTIC MARKER SIGN = FIBER OPTIC MARKER SIGN
- FIBER OPTIC BOX = FIBER OPTIC BOX
- CONCRETE = CONCRETE
- ASPHALT = ASPHALT
- UNIMPROVED DRIVEWAY = UNIMPROVED DRIVEWAY
- GRAVEL = GRAVEL
- BRICK = BRICK
- TILE = TILE
- STAMPED CONCRETE = STAMPED CONCRETE
- CONCRETE BLOCK FENCE = CONCRETE BLOCK FENCE
- TREE DIAMETER = TREE DIAMETER
- EXISTING CATCH BASIN = EXISTING CATCH BASIN
- EXISTING STORMWATER MANHOLE = EXISTING STORMWATER MANHOLE
- BOLLARD = BOLLARD
- ELECTRIC METER = ELECTRIC METER
- ELECTRIC PANEL = ELECTRIC PANEL
- BACKFLOW PREVENTER = BACKFLOW PREVENTER
- FIRE DEPARTMENT CONNECTION = FIRE DEPARTMENT CONNECTION
- TRAFFIC = TRAFFIC
- WALK COVER SUGAR = WALK COVER SUGAR
- PEDESTRIAN SIGN = PEDESTRIAN SIGN
- GAS METER = GAS METER
- CLEAN OUT = CLEAN OUT
- WOOD FENCE = WOOD FENCE
- CHAIN LINK FENCE = CHAIN LINK FENCE
- IRON FENCE = IRON FENCE
- EXISTING SIDEWALK = EXISTING SIDEWALK
- F.P.L. OVERHEAD = F.P.L. OVERHEAD
- F.P.L. UNDERGROUND = F.P.L. UNDERGROUND
- WATER LINE MAIN = WATER LINE MAIN
- GAS MAIN = GAS MAIN
- FORCE MAIN = FORCE MAIN
- CABLE TV = CABLE TV
- BELL SOUTH TELEPHONE CONDUIT = BELL SOUTH TELEPHONE CONDUIT
- BASLINE = BASLINE
- SANITARY SEWER = SANITARY SEWER
- ELECTRIC EXISTING OVERHEAD = ELECTRIC EXISTING OVERHEAD
- UNKNOWN UTILITY UNDERGROUND = UNKNOWN UTILITY UNDERGROUND
- TRASH = TRASH
- ROCK = ROCK
- BENCH = BENCH
- FLOW LIGHT = FLOW LIGHT
- DUCTILE IRON PIPE = DUCTILE IRON PIPE
- PALM = PALM
- TREE = TREE



**LEGEND:**

- ⊕ TEST BORING LOCATION
- PERCOLATION TEST CATCH

**HRES**

HR ENGINEERING SERVICES, INC.  
7615 NW 72nd Avenue  
Medley, Florida 33156  
Ph: 305-888-8880/305-888-8770 Fax  
Cert. of Authorization No. 7991

REVISIONS					
DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY

TOPOGRAPHIC SURVEY					
DESIGNED BY	NAME	DATE	DRAWN BY	NAME	DATE

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS  
ROADWAY ENGINEERING AND RIGHT OF WAY DIVISION

MIAMI-DADE COUNTY

LEGEND, ABBREVIATION AND MAP OF TOPOGRAPHIC SURVEY

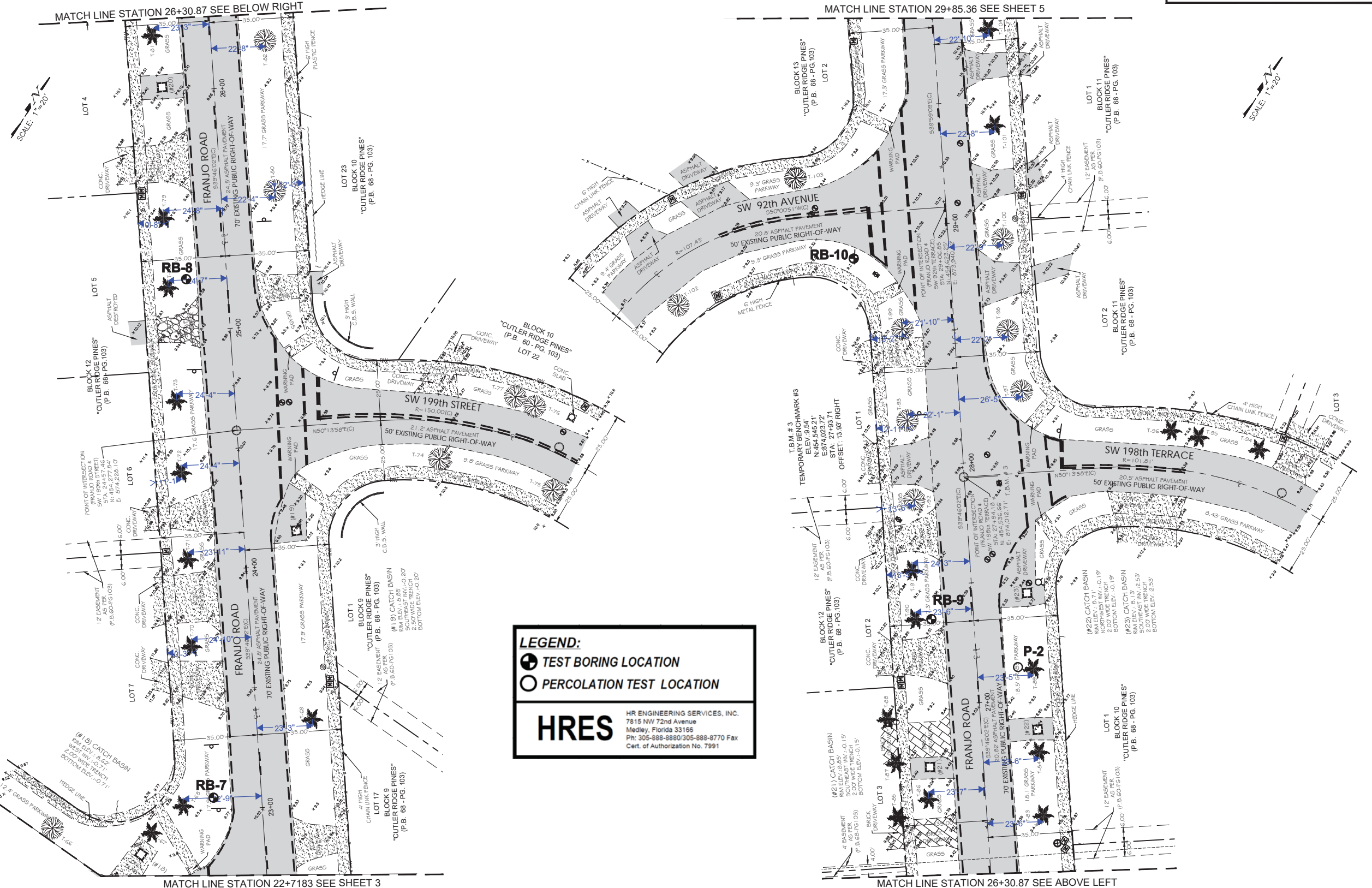


LEGEND AND ABBREVIATIONS:

# MAP OF TOPOGRAPHIC SURVEY

FRANJO ROAD BETWEEN SW 184 STREET AND OLD CUTLER ROAD  
PROJECT NO. SHEET 4 OF 15

- ELEV = ELEVATION
- (T.B.M.) = TEMPORARY BENCHMARK
- (C.B.M.) = CONCRETE BENCHMARK
- (P.G.) = PAGE
- (F.B.) = FIELD BOOK
- (M) = MEASURES
- (F) = FOUND
- (F.F.) = FOUND FOUND
- (C.N.D.) = CONCRETE NAIL & DISK
- (C.N.F.) = CONCRETE NAIL & DISK FOUND
- (C.N.C.) = CONCRETE NAIL CUT
- (D.H.F.) = DRILL HOLE FOUND
- (N.F.) = NAIL FOUND
- (P.K.F.) = P.K. NAIL & DISK FOUND
- (R/W) = RIGHT OF WAY
- (R.B.A.C.) = ROCK BASE ASPHALT COMPOUND
- (L) = CENTER LINE
- (R) = RADIUS
- (L.C.) = LENGTH OF CURVE
- (C.G.) = CURB & GUTTER
- (V.G.) = VALLEY GUTTER
- (E.P.) = EDGE OF PAVEMENT
- (T/B) = TOP OF BANK
- (E/W) = EDGE OF WATER
- (P.P.) = PERMANENT CONTROL POINT
- (R.L.S.) = REGISTERED LAND SURVEYOR
- (P.L.S.) = PROFESSIONAL LAND SURVEYOR
- (S) = STREET SIGN
- (A.L.S.) = ALUM. FLASHING SCHOOL LIGHT
- (M) = MAILBOX
- (D.L.P.) = DECORATIVE LIGHT POLE
- (M.L.P.) = METAL LIGHT POLE
- (M.P.P.) = METAL POWER POLE
- (C.L.P.) = CONCRETE LIGHT POLE
- (C.P.P.) = CONCRETE POWER POLE
- (W.L.P.) = WOOD LIGHT POLE
- (W.P.P.) = WOOD POWER POLE
- (W.T.P.) = WOOD TELEPHONE POLE
- (F.L.P.) = FIBERGLASS LIGHT POLE
- (W.M.) = WATER MANHOLE
- (S.M.) = SANITARY MANHOLE
- (S.S.V.) = SANITARY SEWER VALVE (FM)
- (C.T.V.) = CABLE TV TELESTRAN
- (T.V.R.) = TV CABLE RISER BOX
- (T.V.C.) = TV CONTROL BOX
- (C.B.) = CABLE BOX
- (T.H.) = TELEPHONE HANDHOLE
- (T.M.H.) = TELEPHONE MANHOLE
- (T.U.B.) = TELEPHONE UTILITY BOX
- (T.R.B.) = TELEPHONE RISER BOX
- (T.R.C.B.) = TELEPHONE RISER CONTROL BOX
- (T.C.B.) = TELEPHONE CONTROL BOX
- (C.S.) = CROSSING SIGN
- (P) = POST
- (I) = INTERCOM
- (G.V.) = GAS VALVE
- (P.V.C.) = PVC POST
- (O.W.) = OUT WIRE
- (S.H.) = SPRINKLE HEAD
- (C.A.C.) = CENTRAL ANGLE OF CURVE
- (M.W.) = MONITORING WELL
- (P.P.) = PETROLEUM PIPELINE
- (E.H.) = ELECTRIC HANDHOLE
- (E.M.) = ELECTRIC MANHOLE
- (F.H.) = FIRE HYDRANT
- (W.V.) = WATER VALVE
- (W.M.) = WATER METER
- (R/W) = R/W EXISTING
- (S.L.) = SECTION LINE
- (Q.S.L.) = QUARTER SECTION LINE
- (E.L.) = EASEMENT LINE
- (B.F.) = BARRIQUADE FENCE
- (E.O.P.) = EDGE OF THE PAVEMENT
- (P.L.) = PROPERTY LINE
- (S.E.) = SECTION
- (M.L.) = MONUMENT LINE
- (P.V.M.) = PAVEMENT
- (A) = ASPHALT
- (R) = RADIUS
- (L) = LENGTH
- (C.A.) = CENTRAL ANGLE OF THE CURVE
- (P.T.) = POINT OF TANGENCY
- (P.I.) = POINT OF INTERSECTION
- (P.C.) = POINT OF CURVATURE
- (T.S.M.) = TRAFFIC SIGN MANHOLE
- (T.S.H.) = TRAFFIC SIGN HANDHOLE
- (T.C.B.) = TRAFFIC CONTROL BOX
- (T.S.B.) = TRAFFIC SIGNAL BOX
- (E.C.B.) = ELECTRICAL CONTROL BOX
- (R.R.C.S.) = RAIL ROAD CROSSING (LIGHT)
- (F.O.S.) = FIBER OPTIC MARKER SIGN
- (F.O.B.) = FIBER OPTIC BOX
- (C) = CONCRETE
- (A) = ASPHALT
- (U.D.) = UNIMPROVED DRIVEWAY
- (G) = GRAVEL
- (B) = BRICK
- (T) = TILE
- (S.C.) = STAMPED CONCRETE
- (C.B.F.) = CONCRETE BLOCK FENCE
- (T.D.) = TREE DIAMETER
- (E.C.B.) = EXISTING CATCH BASIN
- (E.S.M.) = EXISTING STORMWATER MANHOLE
- (B) = BOLLARD
- (E.M.) = ELECTRIC METER
- (E.P.) = ELECTRIC PANEL
- (B.P.P.) = BACKFLOW PREVENTER
- (F.D.C.) = FIRE DEPARTMENT CONNECTION
- (T) = TRAFFIC
- (V.C.S.) = VALVE COVER SUGAR
- (P.S.) = PEDESTRIAN SIGN
- (G.M.) = GAS METER
- (C.O.) = CLEAN OUT
- (W.F.) = WOOD FENCE
- (C.L.F.) = CHAIN LINK FENCE
- (R.W.F.) = IRON FENCE
- (E.S.) = EXISTING SIDEWALK
- (F.P.L.) = F.P.L. OVERHEAD
- (U.G.) = F.P.L. UNDERGROUND
- (W.L.M.) = WATER LINE MAIN
- (G.M.) = GAS MAIN
- (F.M.) = FORCE MAIN
- (C.T.V.) = CABLE TV
- (B.S.T.C.) = BELL SOUTH TELEPHONE CONDUIT
- (B.L.) = BASELINE
- (S.S.) = SANITARY SEWER
- (E.E.O.) = ELECTRIC EXISTING OVERHEAD
- (U.U.) = UNKNOWN UTILITY UNDERGROUND
- (T) = TRASH
- (R) = ROCK
- (B) = BRUSH
- (F.L.) = FLOW LIGHT
- (D.I.P.) = DUCTILE IRON PIPE



**LEGEND:**

- ⊕ TEST BORING LOCATION
- PERCOLATION TEST LOCATION

**HRES** HR ENGINEERING SERVICES, INC.  
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Ph: 305-888-8880/305-888-8770 Fax  
Cert. of Authorization No. 7991

REVISIONS					
DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY

TOPOGRAPHIC SURVEY	DESIGNED BY: X.X.	NAME: X.X.	DATE: 10-13-2020		LEGEND, ABBREVIATION AND MAP OF TOPOGRAPHIC SURVEY
	CHECKED BY: X.X.	NAME: X.X.	DATE: 10-16-2020		
	SUPERVISED BY:	NAME: GS	DATE: 10-16-2020		

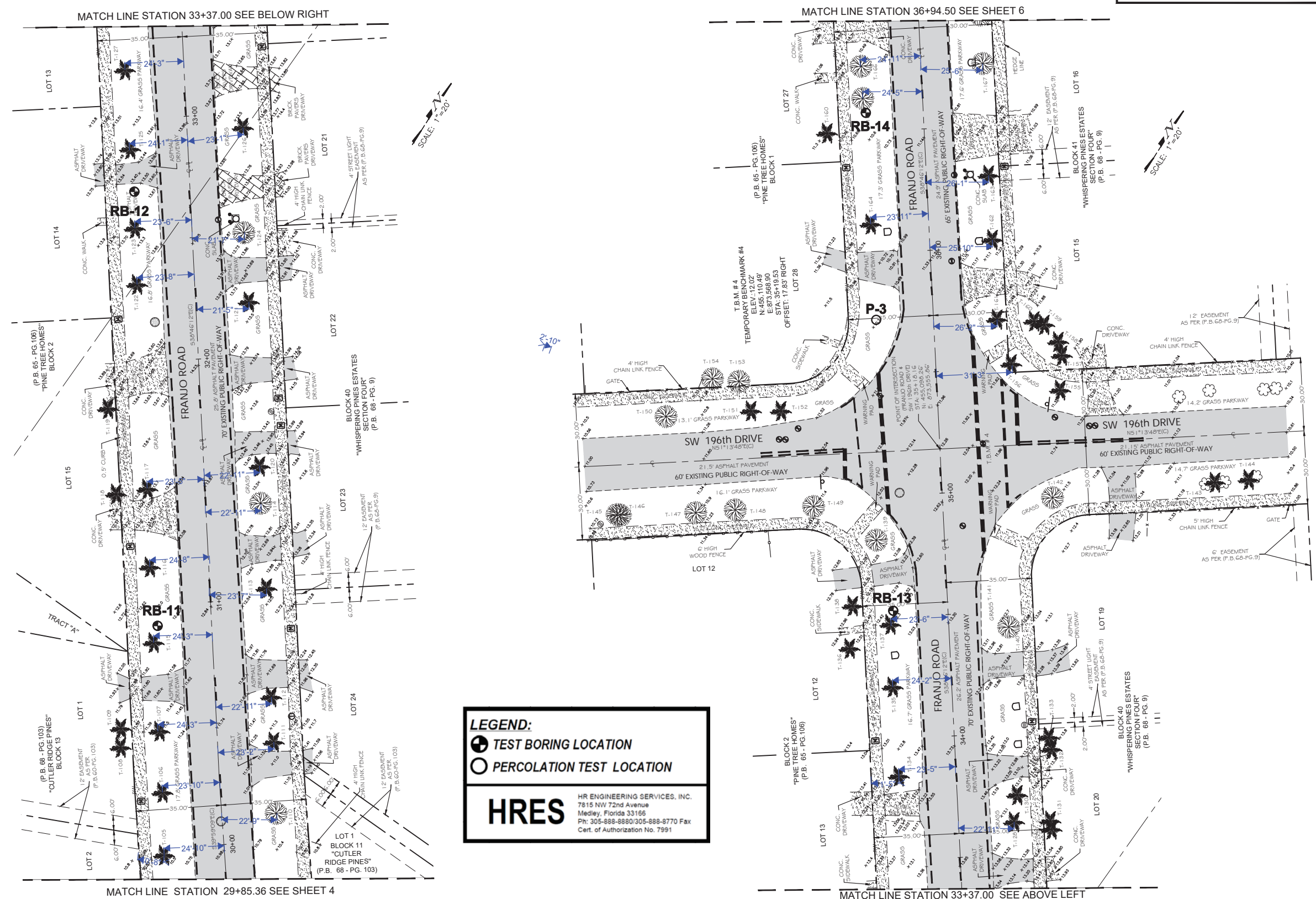


LEGEND AND ABBREVIATIONS:

- ELEV = ELEVATION
- T.B.M. = TEMPORARY BENCHMARK
- CC(C) = CONCRETE
- ASPH = ASPHALT
- GRASS = GRASS
- PLAT BOOK = PLAT BOOK
- MEASURES = MEASURES
- BY FLAT = BY FLAT
- FOUND = FOUND
- CONCRETE NAIL & DISK = CONCRETE NAIL & DISK
- PK NAIL FOUND = PK NAIL FOUND
- CONCRETE NAIL & DISK FOUND = CONCRETE NAIL & DISK FOUND
- CONCRETE NAIL CUT = CONCRETE NAIL CUT
- DRILL HOLE FOUND = DRILL HOLE FOUND
- NAIL FOUND = NAIL FOUND
- PK NAIL & DISK FOUND = PK NAIL & DISK FOUND
- R/V = RIGHT OF WAY
- RBAC = ROCK BASE ASPHALT COMPOUND
- BASE LINE = BASE LINE
- CENTER LINE = CENTER LINE
- RADIUS = RADIUS
- LENGTH OF CURVE = LENGTH OF CURVE
- CURB & GUTTER = CURB & GUTTER
- VG = VALLEY GUTTER
- E/P = EDGE OF PAVEMENT
- T/B = TOP OF BANK
- E/W = EDGE OF WATER
- PCP = PERMANENT CONTROL POINT
- RLS = REGISTERED LAND SURVEYOR
- PLS = PROFESSIONAL LAND SURVEYOR
- STREET SIGN = STREET SIGN
- ALUM. FLASHING SCHOOL LIGHT = ALUM. FLASHING SCHOOL LIGHT
- MALBOX = MALBOX
- DECORATIVE LIGHT POLE = DECORATIVE LIGHT POLE
- METAL LIGHT POLE = METAL LIGHT POLE
- METAL TRAFFIC LIGHT POLE = METAL TRAFFIC LIGHT POLE
- METAL POWER POLE = METAL POWER POLE
- CONCRETE LIGHT POLE = CONCRETE LIGHT POLE
- CONCRETE POWER POLE = CONCRETE POWER POLE
- WOOD LIGHT POLE = WOOD LIGHT POLE
- WOOD POWER POLE = WOOD POWER POLE
- WOOD TELEPHONE POLE = WOOD TELEPHONE POLE
- FIBERGLASS LIGHT POLE = FIBERGLASS LIGHT POLE
- WATER MANHOLE = WATER MANHOLE
- SANITARY MANHOLE = SANITARY MANHOLE
- SANITARY SEWER VALVE (FM) = SANITARY SEWER VALVE (FM)
- CABLE TV PEDESTRIAN = CABLE TV PEDESTRIAN
- TV CABLE RISER BOX = TV CABLE RISER BOX
- TV CONTROL BOX = TV CONTROL BOX
- CABLE BOX = CABLE BOX
- TELEPHONE HANDHOLE = TELEPHONE HANDHOLE
- TELEPHONE MANHOLE = TELEPHONE MANHOLE
- TELEPHONE UTILITY BOX = TELEPHONE UTILITY BOX
- TELEPHONE RISER BOX = TELEPHONE RISER BOX
- TELEPHONE RISER CONTROL BOX = TELEPHONE RISER CONTROL BOX
- TELEPHONE CONTROL BOX = TELEPHONE CONTROL BOX
- BOX = BOX
- CROSSING SIGN = CROSSING SIGN
- POST = POST
- INTERCOM = INTERCOM
- GAS VALVE = GAS VALVE
- PVC ROST = PVC ROST
- GUY WIRE = GUY WIRE
- SPRINKLE HEAD = SPRINKLE HEAD
- CENTRAL ANGLE OF CURVE = CENTRAL ANGLE OF CURVE
- MONITORING WELL = MONITORING WELL
- PETROLEUM PIPELINE = PETROLEUM PIPELINE
- ELECTRIC HANDHOLE = ELECTRIC HANDHOLE
- ELECTRIC MANHOLE = ELECTRIC MANHOLE
- FIRE HYDRANT = FIRE HYDRANT
- WATER VALVE = WATER VALVE
- WATER METER = WATER METER
- R/W EXISTING = R/W EXISTING
- STREET LINE = STREET LINE
- QUARTER SECTION LINE = QUARTER SECTION LINE
- EASEMENT LINE = EASEMENT LINE
- BARBWIRE FENCE = BARBWIRE FENCE
- EDGE OF THE PAVEMENT = EDGE OF THE PAVEMENT
- PROPERTY LINE = PROPERTY LINE
- SECTION = SECTION
- MONUMENT LINE = MONUMENT LINE
- P.W.M. = PAVEMENT
- ASPH = ASPHALT
- (R) = RADIUS
- (L) = LENGTH
- (CA) = CENTRAL ANGLE OF THE CURVE
- (PT) = POINT OF TANGENCY
- (PI) = POINT OF INTERSECTION
- (PC) = POINT OF CURVATURE
- (T) = TRAFFIC SIGN MANHOLE
- (T) = TRAFFIC SIGN HANDHOLE
- (T) = TRAFFIC CONTROL BOX
- (T) = TRAFFIC SIGNAL BOX
- (T) = ELECTRICAL CONTROL BOX
- (T) = RAIL ROAD CROSSING (LIGHT)
- (T) = FIBER OPTIC MARKER SIGN
- (T) = FIBER OPTIC BOX
- (T) = CONCRETE
- (T) = ASPHALT
- (T) = UNIMPROVED DRIVEWAY
- (T) = GRAVEL
- (T) = BRICK
- (T) = TILE
- (T) = STAMPED CONCRETE
- (T) = CONCRETE BLOCK FENCE
- (T) = TREE DIAMETER
- (T) = EXISTING CATCH BASIN
- (T) = EXISTING STORMWATER MANHOLE
- (T) = BOLLARD
- (T) = ELECTRIC METER
- (T) = ELECTRIC PANEL
- (T) = BACKFLOW PREVENTER
- (T) = FIRE DEPARTMENT CONNECTION
- (T) = TRAFFIC
- (T) = VALVE COVER SUGAR
- (T) = PEDESTRIAN SIGN
- (T) = GAS METER
- (T) = CLEAN OUT
- (T) = WOOD FENCE
- (T) = CHAIN LINK FENCE
- (T) = IRON FENCE
- (T) = EXISTING SIDEWALK
- (T) = F.P.L. OVERHEAD
- (T) = F.P.L. UNDERGROUND
- (T) = WATER LINE MAIN
- (T) = GAS MAIN
- (T) = FORCE MAIN
- (T) = CABLE TV
- (T) = BELL SOUTH TELEPHONE COND.
- (T) = BASELINE
- (T) = SANITARY SEWER
- (T) = ELECTRIC EXISTING OVERHEAD
- (T) = UNKNOWN UTILITY UNDERGROUND
- (T) = ROCK
- (T) = BENCH
- (T) = FLOW LIGHT
- (T) = DUCTILE IRON PIPE
- (T) = PALM
- (T) = TREE

# MAP OF TOPOGRAPHIC SURVEY

FRANJO ROAD BETWEEN SW 184 STREET AND OLD CUTLER ROAD  
PROJECT NO. SHEET 5 OF 15



**LEGEND:**

- ⊕ TEST BORING LOCATION
- PERCOLATION TEST LOCATION

**HRES**

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Ph: 305-888-8880/305-888-8770 Fax  
Cert. of Authorization No. 7991

REVISIONS

DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

TOPOGRAPHIC SURVEY

DESIGNED BY	NAME	DATE	DRAWN BY	NAME	DATE
CHECKED BY			CHECKED BY		
SUPERVISED BY:					



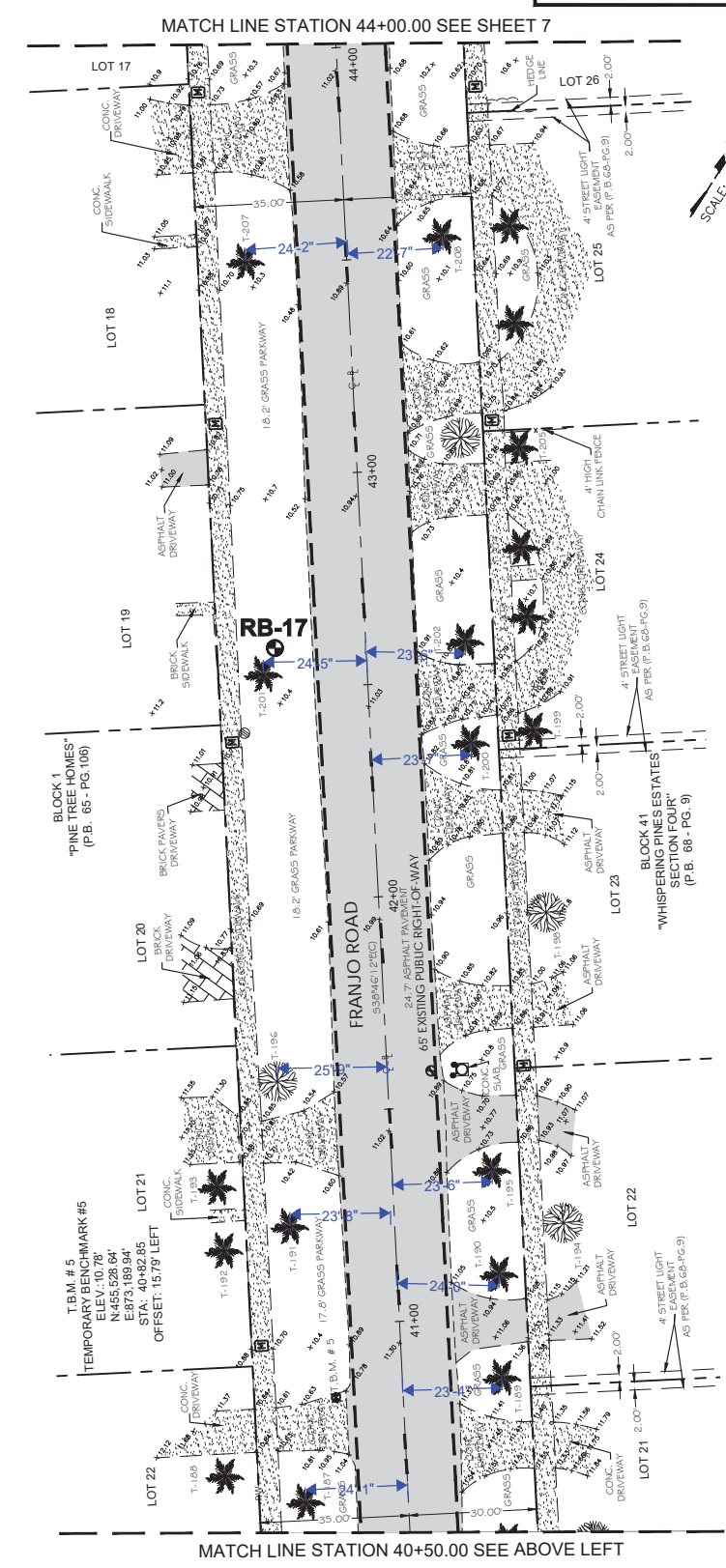
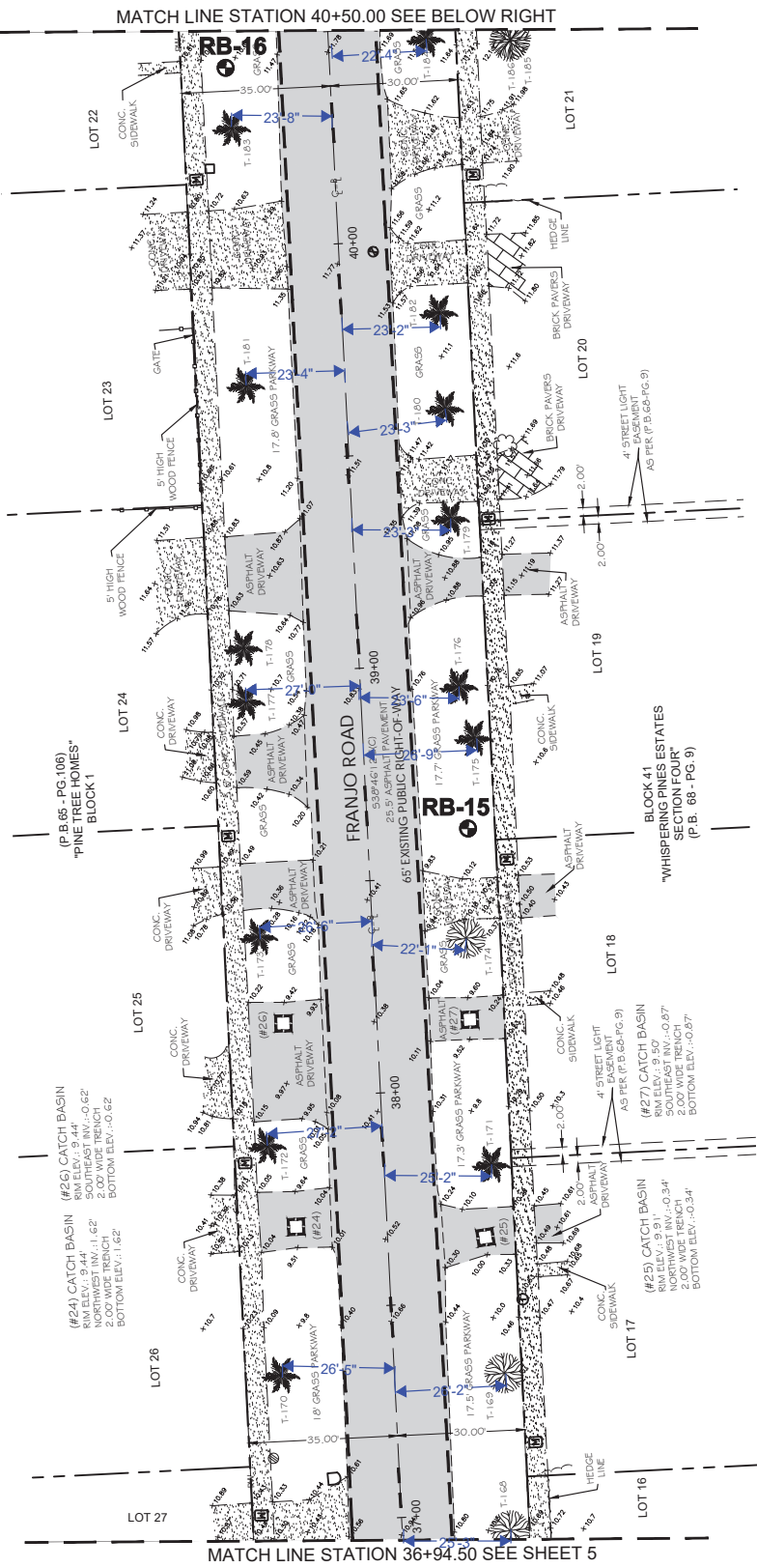
LEGEND, ABBREVIATION AND MAP OF TOPOGRAPHIC SURVEY

LEGEND AND ABBREVIATIONS:

# MAP OF TOPOGRAPHIC SURVEY

FRANJO ROAD BETWEEN SW 184 STREET AND OLD CUTLER ROAD  
PROJECT NO. SHEET 6 OF 15

- ELEV = ELEVATION
- (T.B.M.) = TEMPORARY BENCHMARK
- (CONC) = CONCRETE
- (PG) = PAGE
- (P.B.) = PLAT BOOK
- (M) = MEASURES
- (P) = BY PLAT
- (F) = FOUND
- (CND) = CONCRETE NAIL & DISK FOUND
- (PK) = PK NAIL FOUND
- (CNF) = CONCRETE NAIL & DISK FOUND
- (DHF) = DRILL HOLE FOUND
- (NF) = NAIL FOUND
- (PKDF) = PK NAIL & DISK FOUND
- (R/W) = RIGHT-OF-WAY
- (R/BAC) = ROCK BASE ASPHALT COMPOUND
- (L) = CENTER LINE
- (R) = RADIUS
- (L) = LENGTH OF CURVE
- (C&G) = CURBS & GUTTER
- (VG) = VALLEY GUTTER
- (E/P) = EDGE OF PAVEMENT
- (T/B) = TOP OF BANK
- (E/W) = EDGE OF WATER
- (P.P.) = PERMANENT CONTROL POINT
- (R.L.S.) = REGISTERED LAND SURVEYOR
- (P.L.S.) = PROFESSIONAL LAND SURVEYOR
- (S) = STREET SIGN
- (A.S.) = ALUM. FLASHING SCHOOL LIGHT
- (M) = MAILBOX
- (D) = DECORATIVE LIGHT POLE
- (M) = METAL LIGHT POLE
- (M) = METAL TRAFFIC LIGHT POLE
- (M) = METAL POWER POLE
- (C) = CONCRETE LIGHT POLE
- (C) = CONCRETE POWER POLE
- (W) = WOOD LIGHT POLE
- (W) = WOOD POWER POLE
- (W) = WOOD TELEPHONE POLE
- (F) = FIBERGLASS LIGHT POLE
- (W) = WATER MANHOLE
- (S) = SANITARY MANHOLE
- (S) = SANITARY SEWER VALVE (TM)
- (C) = CABLE TV PEDESTRIAN
- (C) = TV CABLE RISER BOX
- (C) = TV CONTROL BOX
- (C) = CABLE BOX
- (H) = TELEPHONE HANDHOLE
- (H) = TELEPHONE MANHOLE
- (U) = TELEPHONE UTILITY BOX
- (R) = TELEPHONE RISER BOX
- (R) = TELEPHONE RISER CONTROL BOX
- (C) = TELEPHONE CONTROL BOX
- (B) = BOX
- (S) = CROSSING SIGN
- (P) = POST
- (I) = INTERCOM
- (G) = GAS VALVE
- (P) = PVC POST
- (W) = OUT WIRE
- (S) = SPRINKLE HEAD
- (C) = CENTRAL ANGLE OF CURVE
- (M) = MONITORING WELL
- (P) = PETROLEUM PIPELINE
- (E) = ELECTRIC HANDHOLE
- (M) = ELECTRIC MANHOLE
- (F) = FIRE HYDRANT
- (W) = WATER VALVE
- (M) = WATER METER
- (R/W) = R/W EXISTING
- (S) = SECTION LINE
- (Q) = QUARTER SECTION LINE
- (E) = EASEMENT LINE
- (S) = SHORELINE FENCE
- (E) = EDGE OF THE PAVEMENT
- (P) = PROPERTY LINE
- (S) = SECTION
- (M) = MONUMENT LINE
- (P) = PAVEMENT
- (A) = ASPHALT
- (R) = RADIUS
- (L) = LENGTH
- (C) = CENTRAL ANGLE OF THE CURVE
- (P) = POINT OF TANGENCY
- (P) = POINT OF INTERSECTION
- (P) = POINT OF CURVATURE
- (M) = TRAFFIC SIGN MANHOLE
- (M) = TRAFFIC SIGN HANDHOLE
- (M) = TRAFFIC CONTROL BOX
- (M) = TRAFFIC SIGNAL BOX
- (M) = ELECTRICAL CONTROL BOX
- (M) = RAIL ROAD CROSSING (LIGHT)
- (M) = FIBER OPTIC MARKER SIGN
- (M) = FIBER OPTIC BOX
- (C) = CONCRETE
- (A) = ASPHALT
- (U) = UNIMPROVED DRIVEWAY
- (G) = GRAVEL
- (B) = BRICK
- (T) = TILE
- (S) = STAMPED CONCRETE
- (C) = CONCRETE BLOCK FENCE
- (T) = TREE DIAMETER
- (E) = EXISTING CATCH BASIN
- (E) = EXISTING STORMWATER MANHOLE
- (B) = BOLLARD
- (E) = ELECTRIC METER
- (E) = ELECTRIC PANEL
- (P) = BACKFLOW PREVENTER
- (C) = FIRE DEPARTMENT CONNECTION
- (T) = TRAFFIC
- (V) = VALVE COVER SUGAR
- (P) = PEDESTRIAN SIGN
- (G) = GAS METER
- (C) = CLEAN OUT
- (W) = WOOD FENCE
- (C) = CHAIN LINK FENCE
- (R) = IRON FENCE
- (S) = EXISTING SIDEWALK
- (F) = F.P.L. OVERHEAD
- (U) = F.P.L. UNDERGROUND
- (W) = WATER LINE MAIN
- (G) = GAS MAIN
- (F) = FORCE MAIN
- (C) = CABLE TV
- (B) = BELL SOUTH TELEPHONE CONDUIT
- (B) = BASELINE
- (S) = SANITARY SEWER
- (E) = ELECTRIC EXISTING OVERHEAD
- (U) = UNKNOWN UTILITY UNDERGROUND
- (T) = TRASH
- (R) = ROCK
- (B) = BENCH
- (F) = FLOW LIGHT
- (D) = DUCTILE IRON PIPE



**LEGEND:**

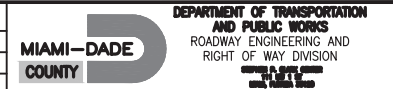
- ⊕ TEST BORING LOCATION
- PERCOLATION TEST LOCATION

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Medley, Florida 33166  
Ph: 305-888-8880/305-888-8770 Fax  
Cert. of Authorization No. 7991

REVISIONS					
DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY

TOPOGRAPHIC SURVEY

DESIGNED BY	NAME	DATE	DRAWN BY	NAME	DATE
XX			SF		10-13-2020
XX			GS		10-16-2020



LEGEND, ABBREVIATION AND MAP OF TOPOGRAPHIC SURVEY

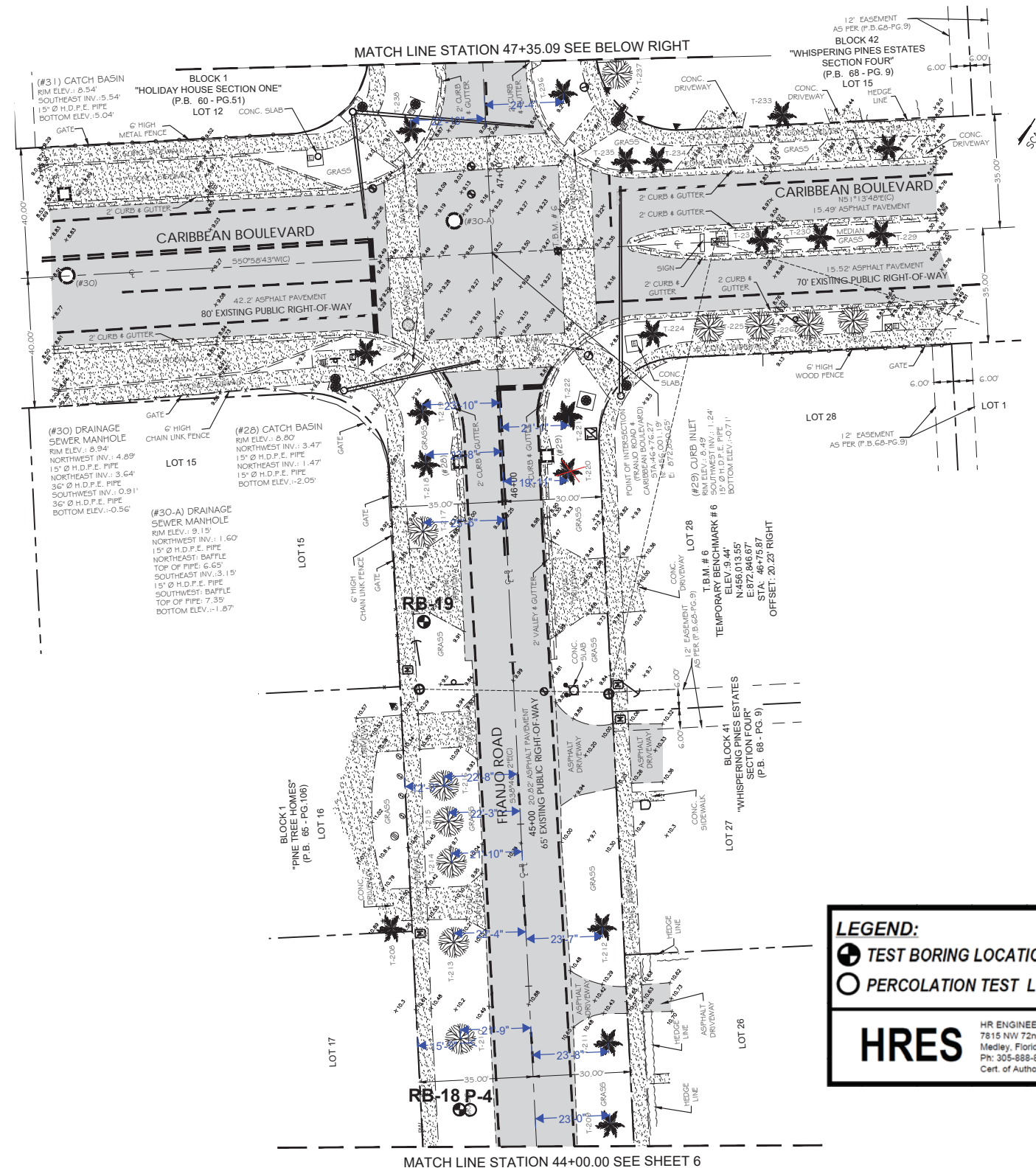


LEGEND AND ABBREVIATIONS:

# MAP OF TOPOGRAPHIC SURVEY

FRANJO ROAD BETWEEN SW 184 STREET AND OLD CUTLER ROAD  
PROJECT NO. SHEET 7 OF 15

- ELEV = ELEVATION
- CTBM = TEMPORARY BENCHMARK
- CONC = CONCRETE
- PG = PAGE
- FB = FIELD BOOK
- MEAS = MEASUREMENTS
- PLAT = PLAT
- FOUND = FOUND
- CONC. NAIL & DISK = CONCRETE NAIL & DISK
- PK NAIL FOUND = PK NAIL FOUND
- CONC. NAIL & DISK FOUND = CONCRETE NAIL & DISK FOUND
- CNC = CONCRETE NAIL CUT
- DRILL HOLE FOUND = DRILL HOLE FOUND
- NAIL FOUND = NAIL FOUND
- PK NAIL & DISK FOUND = PK NAIL & DISK FOUND
- RIGHT OF WAY = RIGHT OF WAY
- R/W = ROCK BASE ASPHALT COMPOUND
- R/C = ROCK
- BASE LINE = BASE LINE
- C = CENTER LINE
- R = RADIUS
- L = LENGTH OF CURVE
- C&G = CURB & GUTTER
- VG = VALLEY GUTTER
- E/P = EDGE OF PAVEMENT
- T/B = TOP OF BANK
- E/W = EDGE OF WATER
- PCP = PERMANENT CONTROL POINT
- RLS = REGISTERED LAND SURVEYOR
- PLS = PROFESSIONAL LAND SURVEYOR
- STREET SIGN = STREET SIGN
- ALUM. FLASHING SCHOOL LIGHT = ALUM. FLASHING SCHOOL LIGHT
- MALBOX = MALBOX
- DECORATIVE LIGHT POLE = DECORATIVE LIGHT POLE
- METAL LIGHT POLE = METAL LIGHT POLE
- METAL TRAFFIC LIGHT POLE = METAL TRAFFIC LIGHT POLE
- METAL POWER POLE = METAL POWER POLE
- CONCRETE LIGHT POLE = CONCRETE LIGHT POLE
- WOOD LIGHT POLE = WOOD LIGHT POLE
- WOOD POWER POLE = WOOD POWER POLE
- WOOD TELEPHONE POLE = WOOD TELEPHONE POLE
- FIBERGLASS LIGHT POLE = FIBERGLASS LIGHT POLE
- WATER MANHOLE = WATER MANHOLE
- SANITARY MANHOLE = SANITARY MANHOLE
- SANITARY SEWER VALVE (SW) = SANITARY SEWER VALVE (SW)
- CABLE TV PEDESTRIAN = CABLE TV PEDESTRIAN
- TV CABLE RISER BOX = TV CABLE RISER BOX
- TV CONTROL BOX = TV CONTROL BOX
- CABLE BOX = CABLE BOX
- TELEPHONE HANDHOLE = TELEPHONE HANDHOLE
- TELEPHONE MANHOLE = TELEPHONE MANHOLE
- TELEPHONE UTILITY BOX = TELEPHONE UTILITY BOX
- TELEPHONE RISER BOX = TELEPHONE RISER BOX
- TELEPHONE RISER CONTROL BOX = TELEPHONE RISER CONTROL BOX
- TELEPHONE CONTROL BOX = TELEPHONE CONTROL BOX
- BOX = BOX
- CROSSING SIGN = CROSSING SIGN
- POST = POST
- INTERCOM = INTERCOM
- GAS VALVE = GAS VALVE
- PVC POST = PVC POST
- GUY WIRE = GUY WIRE
- SPRINKLE HEAD = SPRINKLE HEAD
- CENTRAL ANGLE OF CURVE = CENTRAL ANGLE OF CURVE
- MONITORING WELL = MONITORING WELL
- PETROLEUM PIPELINE = PETROLEUM PIPELINE
- ELECTRIC HANDHOLE = ELECTRIC HANDHOLE
- ELECTRIC MANHOLE = ELECTRIC MANHOLE
- FIRE HYDRANT = FIRE HYDRANT
- WATER VALVE = WATER VALVE
- WATER METER = WATER METER
- R/W EXISTING = R/W EXISTING
- SECTION LINE = SECTION LINE
- QUARTER SECTION LINE = QUARTER SECTION LINE
- EASEMENT LINE = EASEMENT LINE
- BARBWARE FENCE = BARBWARE FENCE
- EDGE OF THE PAVEMENT = EDGE OF THE PAVEMENT
- PROPERTY LINE = PROPERTY LINE
- SECTION = SECTION
- MONUMENT LINE = MONUMENT LINE
- PAVEMENT = PAVEMENT
- ASPH. = ASPHALT
- RADIUS = RADIUS
- LENGTH = LENGTH
- CENTRAL ANGLE OF THE CURVE = CENTRAL ANGLE OF THE CURVE
- POINT OF TANGENCY = POINT OF TANGENCY
- POINT OF INTERSECTION = POINT OF INTERSECTION
- TRAFFIC SIGN MANHOLE = TRAFFIC SIGN MANHOLE
- TRAFFIC SIGN HANDHOLE = TRAFFIC SIGN HANDHOLE
- TRAFFIC CONTROL BOX = TRAFFIC CONTROL BOX
- TRAFFIC SIGNAL BOX = TRAFFIC SIGNAL BOX
- ELECTRICAL CONTROL BOX = ELECTRICAL CONTROL BOX
- RAIL ROAD CROSSING (LIGHT) = RAIL ROAD CROSSING (LIGHT)
- FIBER OPTIC MARKER SIGN = FIBER OPTIC MARKER SIGN
- FIBER OPTIC BOX = FIBER OPTIC BOX
- CONCRETE = CONCRETE
- ASPHALT = ASPHALT
- UNIMPROVED DRIVEWAY = UNIMPROVED DRIVEWAY
- GRAVEL = GRAVEL
- BRICK = BRICK
- TILE = TILE
- STAMPED CONCRETE = STAMPED CONCRETE
- CONCRETE BLOCK FENCE = CONCRETE BLOCK FENCE
- TREE DIAMETER = TREE DIAMETER
- EXISTING CATCH BASIN = EXISTING CATCH BASIN
- EXISTING STORMWATER MANHOLE = EXISTING STORMWATER MANHOLE
- BOLLARD = BOLLARD
- ELECTRIC METER = ELECTRIC METER
- ELECTRIC PANEL = ELECTRIC PANEL
- BACKFLOW PREVENTER = BACKFLOW PREVENTER
- FIRE DEPARTMENT CONNECTION = FIRE DEPARTMENT CONNECTION
- TRAFFIC = TRAFFIC
- WALK COVER SUGAR = WALK COVER SUGAR
- PEDESTRIAN SIGN = PEDESTRIAN SIGN
- GAS METER = GAS METER
- CLEAN OUT = CLEAN OUT
- WOOD FENCE = WOOD FENCE
- CHAIN LINK FENCE = CHAIN LINK FENCE
- BOLLARD = BOLLARD
- IRON FENCE = IRON FENCE
- EXISTING SIDEWALK = EXISTING SIDEWALK
- F.P.L. OVERHEAD = F.P.L. OVERHEAD
- F.P.L. UNDERGROUND = F.P.L. UNDERGROUND
- WATER LINE MAIN = WATER LINE MAIN
- GAS MAIN = GAS MAIN
- FORCE MAIN = FORCE MAIN
- CABLE TV = CABLE TV
- BELL SOUTH TELEPHONE CONDUIT = BELL SOUTH TELEPHONE CONDUIT
- BASELINE = BASELINE
- SANITARY SEWER = SANITARY SEWER
- ELECTRIC EXISTING OVERHEAD = ELECTRIC EXISTING OVERHEAD
- UNKNOWN UTILITY UNDERGROUND = UNKNOWN UTILITY UNDERGROUND
- TRASH = TRASH
- ROCK = ROCK
- BENCH = BENCH
- FLOW LIGHT = FLOW LIGHT
- DUCTILE IRON PIPE = DUCTILE IRON PIPE
- PALM = PALM
- TREE = TREE



**LEGEND:**

- ⊕ TEST BORING LOCATION
- PERCOLATION TEST LOCATION

**HRES**

HR ENGINEERING SERVICES, INC.  
7815 NW 72nd Avenue  
Medley, Florida 33166  
Ph: 305-888-8880/305-888-8770 Fax  
Cert. of Authorization No. 7991

REVISIONS					
DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY

TOPOGRAPHIC SURVEY

DESIGNED BY	NAME	DATE	DRAWN BY	NAME	DATE
CHECKED BY			CHECKED BY		
SUPERVISED BY:					

MIAMI-DADE COUNTY

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS  
ROADWAY ENGINEERING AND RIGHT OF WAY DIVISION

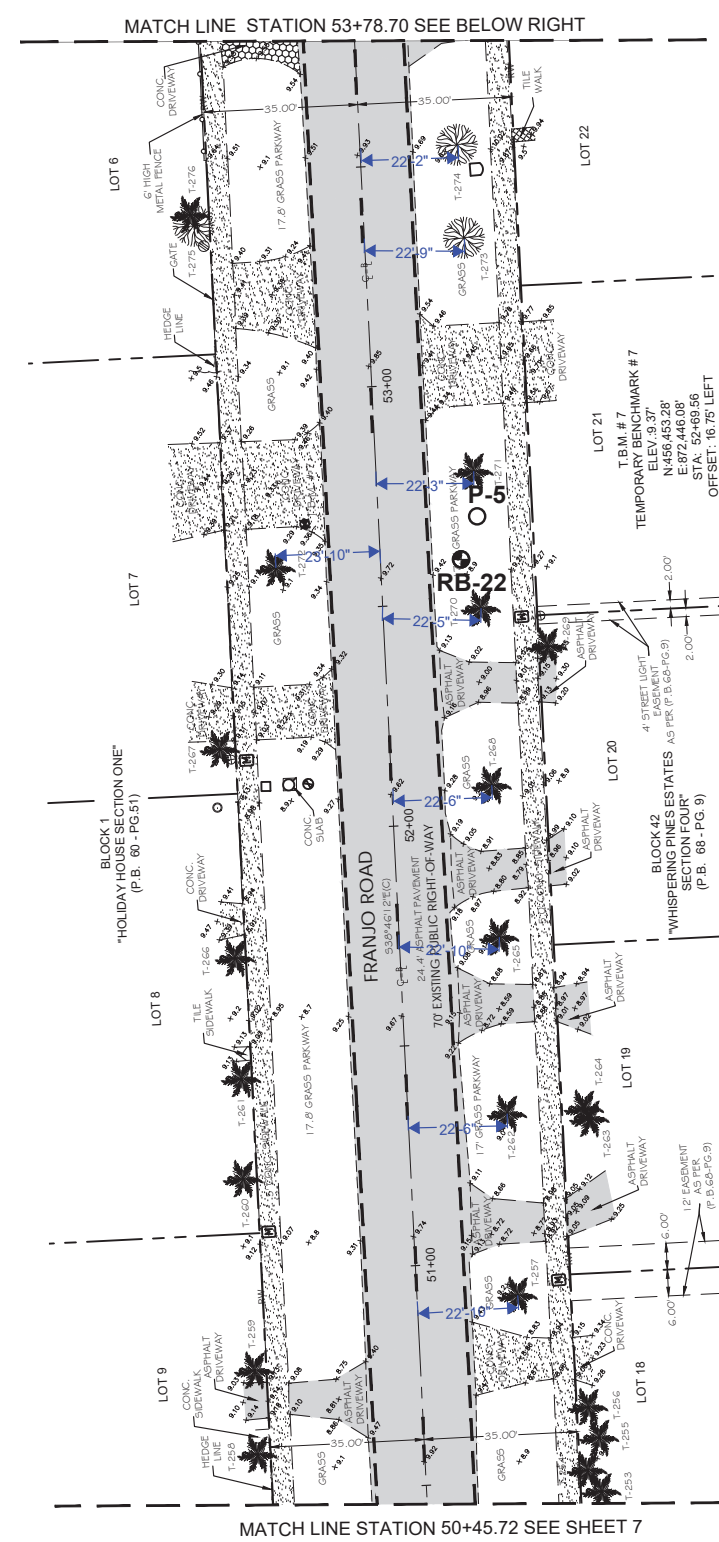
LEGEND, ABBREVIATION AND MAP OF TOPOGRAPHIC SURVEY

LEGEND AND ABBREVIATIONS:

# MAP OF TOPOGRAPHIC SURVEY

FRANJO ROAD BETWEEN SW 184 STREET AND OLD CUTLER ROAD  
PROJECT NO. SHEET 8 OF 15

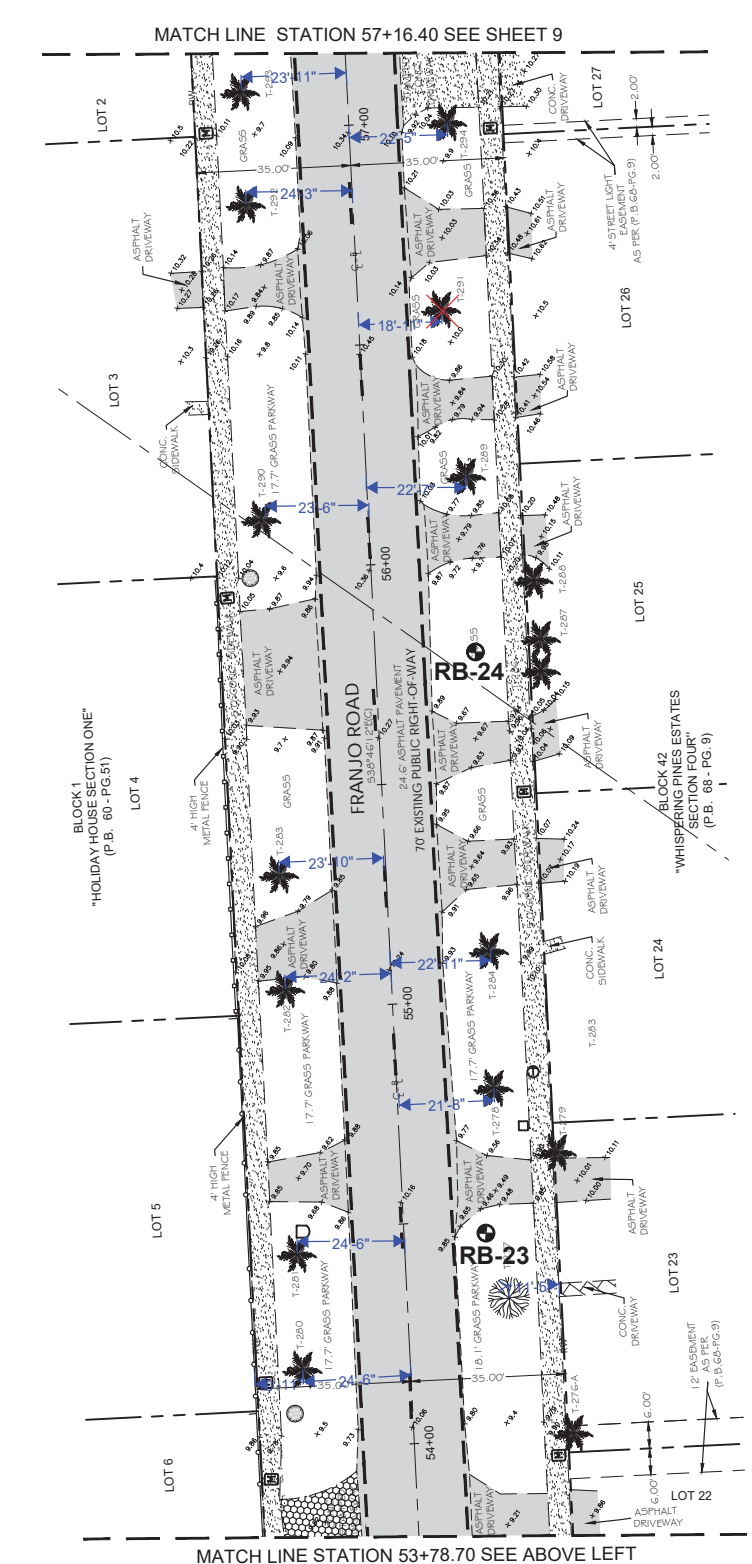
- ELEV = ELEVATION
- TLBM = TEMPORARY BENCHMARK
- CCNC = CONCRETE
- SPC = SLAB
- GP.B = PLAT BOOK
- MD = MEASURES
- CP = BY PLAT
- F = FOUND
- CND = CONCRETE NAIL & DISK
- PK NAIL FOUND
- CNF = CONCRETE NAIL & DISK FOUND
- CNF = CONCRETE NAIL FOUND
- DHF = DRILL HOLE FOUND
- NF = NAIL FOUND
- PK NAIL & DISK FOUND
- R/W = RIGHT OF WAY
- R/MC = ROCK BASE ASPHALT COMPOUND
- B = BASE LINE
- CL = CENTER LINE
- R = RADIUS
- L = LENGTH OF CURVE
- C&G = CURB & GUTTER
- VG = VALLEY GUTTER
- E/P = EDGE OF PAVEMENT
- T/B = TOP OF BANK
- E/W = EDGE OF WATER
- PCP = PERMANENT CONTROL POINT
- RLS = REGISTERED LAND SURVEYOR
- PLS = PROFESSIONAL LAND SURVEYOR
- S = STREET SIGN
- ALLM = FLASHING SCHOOL LIGHT
- M = MAILBOX
- D = DECORATIVE LIGHT POLE
- M = METAL LIGHT POLE
- M = METAL TRAFFIC LIGHT POLE
- M = METAL POWER POLE
- C = CONCRETE LIGHT POLE
- C = CONCRETE POWER POLE
- W = WOOD LIGHT POLE
- W = WOOD POWER POLE
- W = WOOD TELEPHONE POLE
- F = FIBERGLASS LIGHT POLE
- W = WATER MANHOLE
- S = SANITARY MANHOLE
- S = SANITARY SEWER VALVE (FM)
- C = CABLE TV PEDESTRIAN
- T = TV CABLE RISER BOX
- T = TV CONTROL BOX
- C = CABLE BOX
- H = TELEPHONE HANDHOLE
- M = TELEPHONE MANHOLE
- M = TELEPHONE UTILITY BOX
- R = TELEPHONE RISER BOX
- C = TELEPHONE RISER CONTROL BOX
- C = TELEPHONE CONTROL BOX
- B = BOX
- C = CROSSING SIGN
- P = POST
- I = INTERCOM
- G = GAS VALVE
- P = PVC POST
- G = GUY WIRE
- S = SPRINKLE HEAD
- C = CENTRAL ANGLE OF CURVE
- M = MONITORING WELL
- P = PETROLEUM PIPELINE
- E = ELECTRIC HANDHOLE
- E = ELECTRIC MANHOLE
- F = FIRE HYDRANT
- W = WATER VALVE
- W = WATER METER
- R/W = R/W EXISTING
- S = SECTION LINE
- Q = QUARTER SECTION LINE
- E = EASEMENT LINE
- R = BARBWARE FENCE
- E = EDGE OF THE PAVEMENT
- P = PROPERTY LINE
- S = SECTION
- M = MONUMENT LINE
- P = PAVEMENT
- A = ASPHALT
- (R) = RADIUS
- (L) = LENGTH
- (CA) = CENTRAL ANGLE OF THE CURVE
- (PT) = POINT OF TANGENCY
- (PI) = POINT OF INTERSECTION
- (PC) = POINT OF CURVATURE
- T = TRAFFIC SIGH MANHOLE
- T = TRAFFIC SIGH HANDHOLE
- T = TRAFFIC CONTROL BOX
- T = TRAFFIC SIGNAL BOX
- E = ELECTRICAL CONTROL BOX
- R = RAIL ROAD CROSSING (LIGHT)
- F = FIBER OPTIC MARKER SIGN
- C = CONCRETE
- A = ASPHALT
- U = UNIMPROVED DRIVEWAY
- G = GRAVEL
- B = BRICK
- T = TILE
- S = STAMPED CONCRETE
- C = CONCRETE BLOCK FENCE
- T = TREE DIAMETER
- E = EXISTING CATCH BASIN
- E = EXISTING STORMWATER MANHOLE
- B = BOLLARD
- E = ELECTRIC METER
- E = ELECTRIC PANEL
- B = BACKFLOW PREVENTER
- F = FIRE DEPARTMENT CONNECTION
- T = TRAFFIC
- V = VALVE COVER SUGAR
- P = PEDESTRIAN SIGN
- G = GAS METER
- C = CLEAN OUT
- W = WOOD FENCE
- C = CHAIN LINK FENCE
- I = IRON FENCE
- E = EXISTING SIDEWALK
- F.P.L. = OVERHEAD
- F.P.L. = UNDERGROUND
- W = WATER LINE MAIN
- G = GAS MAIN
- F = FORCE MAIN
- C = CABLE TV
- B = BELL SOUTH TELEPHONE CONDUIT
- B = BASELINE
- S = SANITARY SEWER
- E = ELECTRIC EXISTING OVERHEAD
- U = UNKNOWN UTILITY UNDERGROUND
- T = TRASH
- R = ROCK
- B = BENCH
- F = FLOW LIGHT
- D = DUCTILE IRON PIPE
- P = PALM
- T = TREE
- O = ORNAMENTAL TREE



**LEGEND:**

- ⊕ TEST BORING LOCATION
- PERCOLATION TEST LOCATION

**HRES** HR ENGINEERING SERVICES, INC.  
7815 NW 72nd Avenue  
Medley, Florida 33166  
Ph: 305-888-8880/305-888-8770 Fax  
Cert. of Authorization No. 7991



REVISIONS					
DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY

TOPOGRAPHIC SURVEY					
DESIGNED BY	NAME	DATE	DRAWN BY	NAME	DATE
CHECKED BY	XX		CHECKED BY	SF	10-13-2020
SUPERVISED BY	XX		SUPERVISED BY	GS	10-18-2020



LEGEND, ABBREVIATION AND MAP OF TOPOGRAPHIC SURVEY

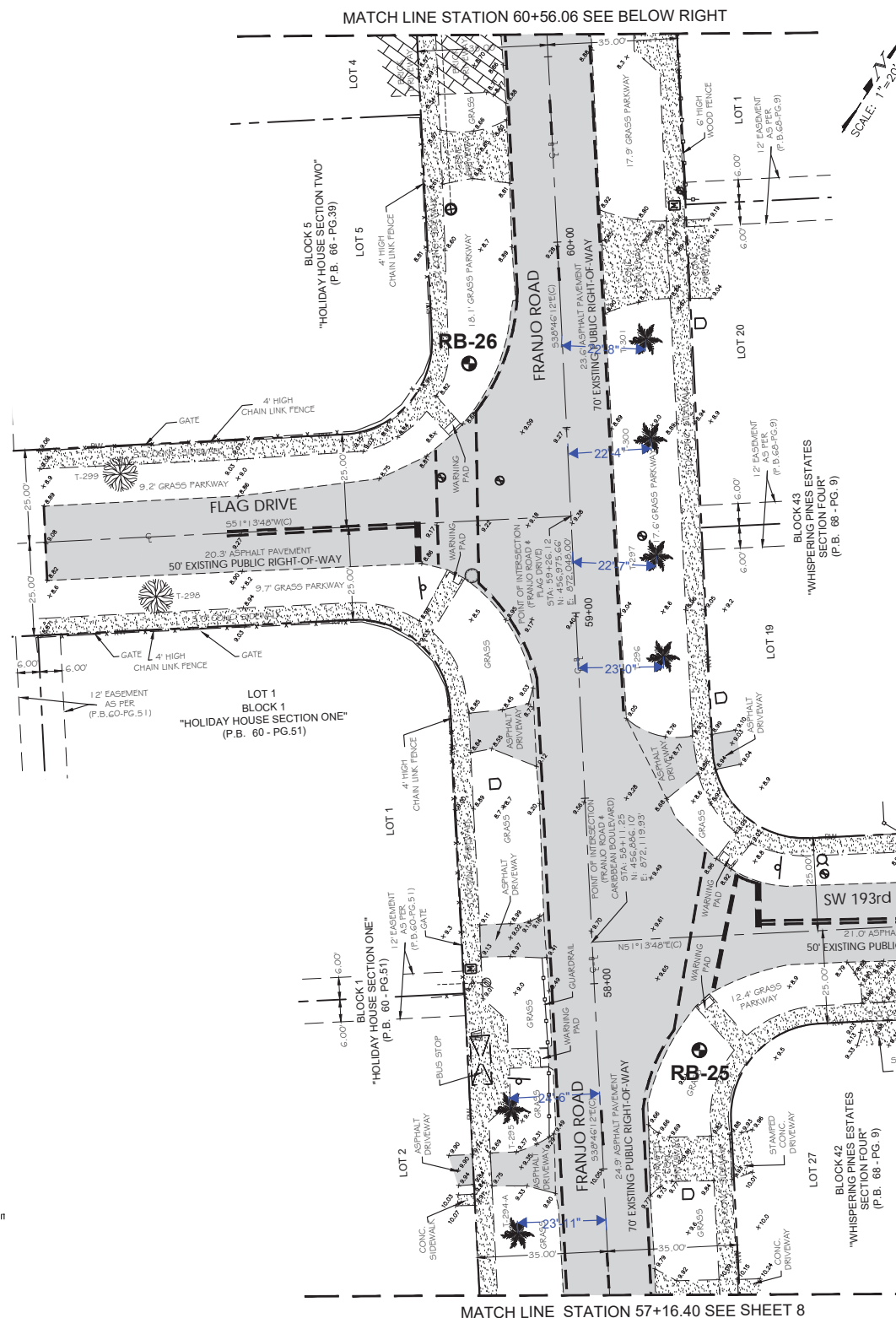


LEGEND AND ABBREVIATIONS:

# MAP OF TOPOGRAPHIC SURVEY

FRANJO ROAD BETWEEN SW 184 STREET AND OLD CUTLER ROAD  
PROJECT NO. SHEET 9 OF 15

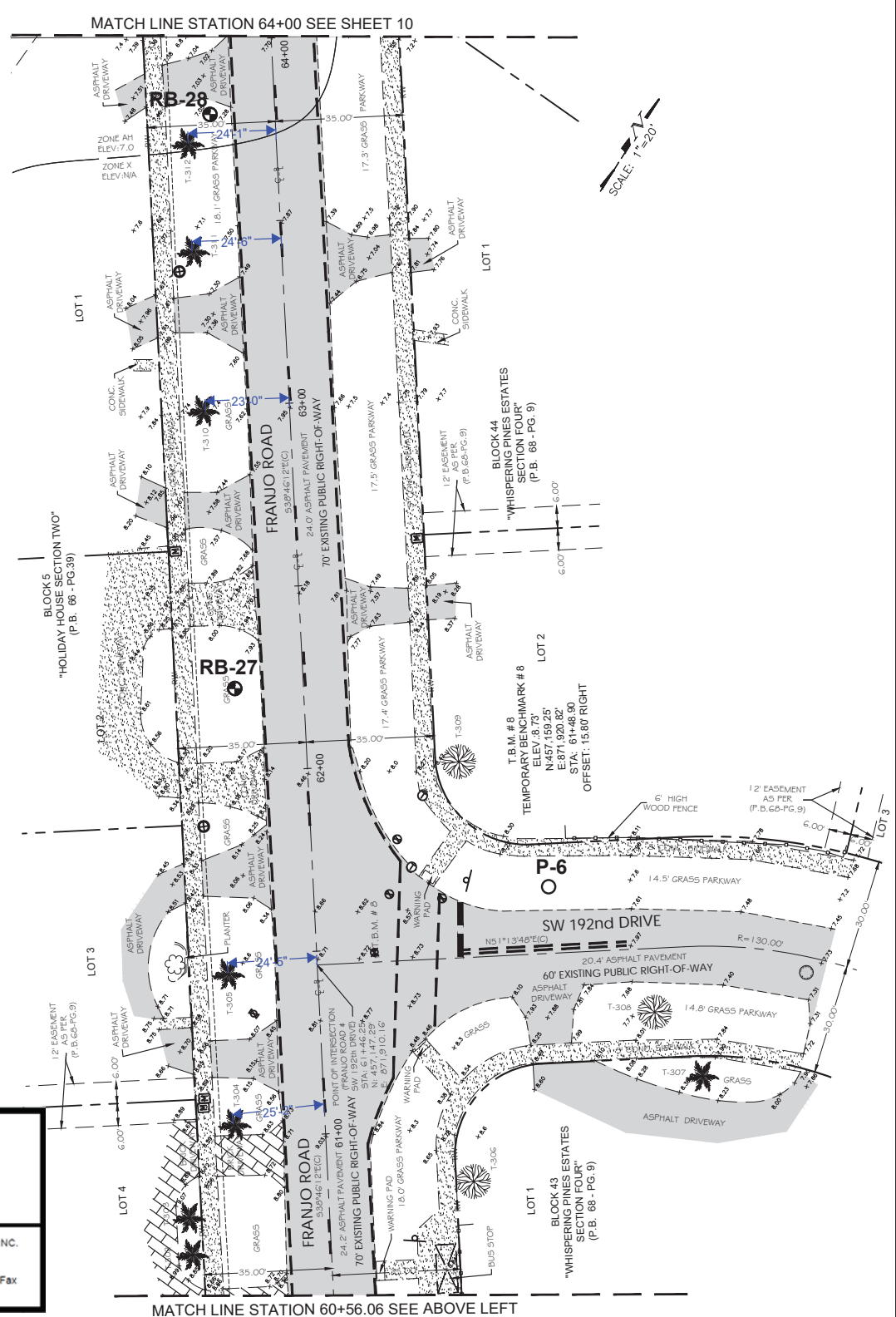
- ELEV = ELEVATION
- (T.B.M.) = TEMPORARY BENCHMARK
- (C.N.C.) = CONCRETE
- (P.B.) = PLAT BOOK
- (M) = MEASURES
- (F) = FOUND
- (F.F.) = FOUND
- (C.N.B.) = CONCRETE NAIL & DISK
- (C.N.F.) = CONCRETE NAIL & DISK FOUND
- (C.N.C.) = CONCRETE NAIL CUT
- (D.H.F.) = DRILL HOLE FOUND
- (N.F.) = NAIL FOUND
- (P.K.D.F.) = PK NAIL & DISK FOUND
- (R/W) = RIGHT OF WAY
- (R.B.A.C.) = ROCK BASE ASPHALT COMPOUND
- (L) = BASE LINE
- (C.L.) = CENTER LINE
- (R) = RADIUS
- (L) = LENGTH OF CURVE
- (C&G) = CURB & GUTTER
- (V.G.) = VALLEY GUTTER
- (E.P.) = EDGE OF PAVEMENT
- (T/B) = TOP OF BANK
- (E/W) = EDGE OF WATER
- (P.C.P.) = PERMANENT CONTROL POINT
- (R.L.S.) = REGISTERED LAND SURVEYOR
- (P.L.S.) = PROFESSIONAL LAND SURVEYOR
- (S) = STREET SIGN
- (A.S.L.) = ALUM. FLASHING SCHOOL LIGHT
- (M) = MAILBOX
- (D) = DECORATIVE LIGHT POLE
- (M) = METAL LIGHT POLE
- (M) = METAL TRAFFIC LIGHT POLE
- (M) = METAL POWER POLE
- (C) = CONCRETE LIGHT POLE
- (C) = CONCRETE POWER POLE
- (W) = WOOD LIGHT POLE
- (W) = WOOD POWER POLE
- (W) = WOOD TELEPHONE POLE
- (F) = FIBERGLASS LIGHT POLE
- (W) = WATER MANHOLE
- (S) = SANITARY MANHOLE
- (S) = SANITARY SEWER VALVE (FM)
- (C) = CABLE TV PEDESTAL
- (R) = TV CABLE RISER BOX
- (C) = TV CONTROL BOX
- (C) = CABLE BOX
- (T) = TELEPHONE HANDBOLE
- (T) = TELEPHONE MANHOLE
- (T) = TELEPHONE UTILITY BOX
- (T) = TELEPHONE RISER BOX
- (T) = TELEPHONE RISER CONTROL BOX
- (T) = TELEPHONE CONTROL BOX
- (B) = BOX
- (S) = CROSSING SIGN
- (P) = POST
- (I) = INTERCOM
- (G) = GAS VALVE
- (P) = PVC POST
- (O) = OUT WIRE
- (S) = SPRINKLE HEAD
- (C) = CENTRAL ANGLE OF CURVE
- (M) = MONITORING WELL
- (P) = PETROLEUM PIPELINE
- (E) = ELECTRIC HANDHOLE
- (E) = ELECTRIC MANHOLE
- (F) = FIRE HYDRANT
- (W) = WATER VALVE
- (W) = WATER METER
- (R/W) = R/W EXISTING
- (S) = SECTION LINE
- (Q) = QUARTER SECTION LINE
- (E) = EASEMENT LINE
- (B) = BARRIÈRE FENCE
- (E) = EDGE OF THE PAVEMENT
- (P) = PROPERTY LINE
- (S) = SECTION
- (M) = MONUMENT LINE
- (P) = PAVEMENT
- (A) = ASPHALT
- (R) = RADII
- (L) = LENGTH
- (C) = CENTRAL ANGLE OF THE CURVE
- (T) = POINT OF TANGENCY
- (P) = POINT OF INTERSECTION
- (P) = POINT OF CURVATURE
- (T) = TRAFFIC SIGN MANHOLE
- (T) = TRAFFIC SIGN HANDBOLE
- (T) = TRAFFIC CONTROL BOX
- (T) = TRAFFIC SIGNAL BOX
- (E) = ELECTRICAL CONTROL BOX
- (R) = RAIL ROAD CROSSING (LIGHT)
- (F) = FIBER OPTIC MARKER SIGN
- (F) = FIBER OPTIC BOX
- (C) = CONCRETE
- (A) = ASPHALT
- (U) = UNIMPROVED DRIVEWAY
- (G) = GRAVEL
- (B) = BRICK
- (T) = TILE
- (S) = STAMPED CONCRETE
- (C) = CONCRETE BLOCK FENCE
- (T) = TREE DIAMETER
- (E) = EXISTING CATCH BASIN
- (E) = EXISTING STORMWATER MANHOLE
- (B) = BOLLARD
- (E) = ELECTRIC METER
- (E) = ELECTRIC PANEL
- (B) = BACKFLOW PREVENTER
- (F) = FIRE DEPARTMENT CONNECTION
- (T) = TRAFFIC
- (V) = VALVE COVER SUGAR
- (P) = PEDESTRIAN SIGN
- (G) = GAS METER
- (C) = CLEAN OUT
- (W) = WOOD FENCE
- (C) = CHAIN LINK FENCE
- (I) = IRON FENCE
- (E) = EXISTING SIDEWALK
- (F) = F.P.L. OVERHEAD
- (U) = F.P.L. UNDERGROUND
- (W) = WATER LINE MARK
- (G) = GAS MAIN
- (F) = FORCE MAIN
- (C) = CABLE TV
- (B) = BELL SOUTH TELEPHONE CONDUIT
- (B) = BASELINE
- (S) = SANITARY SEWER
- (E) = ELECTRIC EXISTING OVERHEAD
- (U) = UNKNOWN UTILITY UNDERGROUND
- (T) = TRASH
- (R) = ROCK
- (B) = BENCH
- (F) = FLOW LIGHT
- (D) = DUCTILE IRON PIPE
- (P) = PALM
- (T) = TREE



**LEGEND:**

- TEST BORING LOCATION
- PERCOLATION TEST LOCATION

**HRES** HR ENGINEERING SERVICES, INC.  
7815 NW 72nd Avenue  
Medley, Florida 33156  
Ph: 305-888-8880/305-888-8770 Fax  
Cert. of Authorization No. 7991



REVISIONS					
DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY

TOPOGRAPHIC SURVEY					
DESIGNED BY	NAME	DATE	DRAWN BY	NAME	DATE

**MIAMI-DADE COUNTY**

**DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS**  
ROADWAY ENGINEERING AND RIGHT OF WAY DIVISION

LEGEND, ABBREVIATION AND MAP OF TOPOGRAPHIC SURVEY

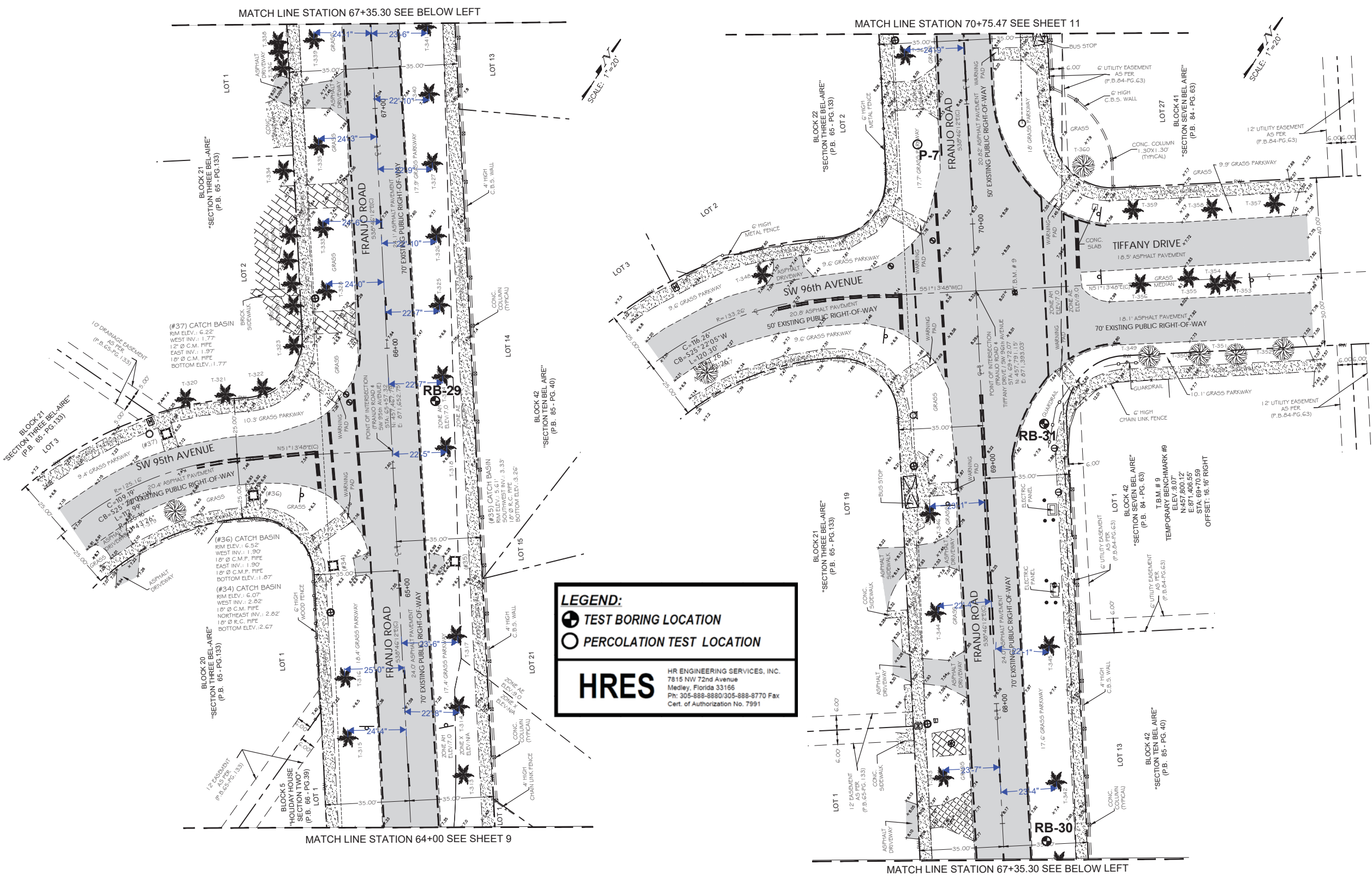


LEGEND AND ABBREVIATIONS:

# MAP OF TOPOGRAPHIC SURVEY

FRANJO ROAD BETWEEN SW 184 STREET AND OLD CUTLER ROAD  
PROJECT NO. SHEET 10 OF 15

- ELEV = ELEVATION
- (T.B.M) = TEMPORARY BENCHMARK
- (C.C.N.C) = CONCRETE
- (P.B.) = PLAT BOOK
- (M) = MEASURES
- (P) = BY PLAT
- (F) = FOUND
- (C.N.D) = CONCRETE NAIL & DISK
- (C.N.F) = CONCRETE NAIL & DISK FOUND
- (C.N.C) = CONCRETE NAIL CUT
- (D.H.F) = DRILL HOLE FOUND
- (N.F) = NAIL FOUND
- (P.K.N) = PICK NAIL & DISK FOUND
- (R/V) = RIGHT OF WAY
- (R.B.A.C) = ROCK BASE ASPHALT COMPOUND
- (L) = BASE LINE
- (C.L) = CENTER LINE
- (R) = RADIUS
- (L) = LENGTH OF CURVE
- (C.G) = CURB & GUTTER
- (V.G) = VALLEY GUTTER
- (E.P) = EDGE OF PAVEMENT
- (T.B) = TOP OF BANK
- (E.W) = EDGE OF WATER
- (P.C.P) = PERMANENT CONTROL POINT
- (R.L.S) = REGISTERED LAND SURVEYOR
- (P.L.S) = PROFESSIONAL LAND SURVEYOR
- (S) = STREET SIGN
- (A.L.S) = ALUM. FLASHING SCHOOL LIGHT
- (M.A.S) = MALL SIGN
- (D.L.P) = DECORATIVE LIGHT POLE
- (M.L.P) = METAL LIGHT POLE
- (M.T.L.P) = METAL TRAFFIC LIGHT POLE
- (M.P.P) = METAL POWER POLE
- (C.L.P) = CONCRETE LIGHT POLE
- (C.P.P) = CONCRETE POWER POLE
- (W.L.P) = WOOD LIGHT POLE
- (W.P.P) = WOOD POWER POLE
- (W.T.P) = WOOD TELEPHONE POLE
- (F.L.P) = FIBERGLASS LIGHT POLE
- (W.M) = WATER MANHOLE
- (S.M) = SANITARY MANHOLE
- (S.S.V) = SANITARY SEWER VALVE (FM)
- (C.T.P) = CABLE TV PEDESTRIAN
- (C.R.B) = CABLE RISER BOX
- (T.C.B) = TV CONTROL BOX
- (C.B) = CABLE BOX
- (T.H) = TELEPHONE HANDHOLE
- (T.M) = TELEPHONE MANHOLE
- (T.U.B) = TELEPHONE UTILITY BOX
- (T.R.B) = TELEPHONE RISER BOX
- (T.R.C.B) = TELEPHONE RISER CONTROL BOX
- (T.C.B) = TELEPHONE CONTROL BOX
- (B) = BOX
- (C.S) = CROSSING SIGN
- (P) = POST
- (I) = INTERCOM
- (G.V) = GAS VALVE
- (P.V.P) = PVC POST
- (G.W) = GUY WIRE
- (S.H) = SPRINKLER HEAD
- (C.A.C) = CENTRAL ANGLE OF CURVE
- (M.W) = MONITORING WELL
- (P.P) = PETROLEUM PIPELINE
- (E.H) = ELECTRIC HANDHOLE
- (E.M) = ELECTRIC MANHOLE
- (F.H) = FIRE HYDRANT
- (W.V) = WATER VALVE
- (W.M) = WATER METER
- (P.W) = P.W. EXISTING
- (S.L) = SECTION LINE
- (Q.S.L) = QUARTER SECTION LINE
- (E.L) = EASEMENT LINE
- (B.F) = BARBIRE FENCE
- (E.P) = EDGE OF THE PAVEMENT
- (P.L) = PROPERTY LINE
- (S) = SECTION
- (M.L) = MONUMENT LINE
- (P) = PAVEMENT
- (A) = ASPHALT
- (R) = RADIUS
- (L) = LENGTH
- (C.A) = CENTRAL ANGLE OF THE CURVE
- (P.T) = POINT OF TANGENCY
- (P) = POINT OF INTERSECTION
- (P.C) = POINT OF CURVATURE
- (T.S.M) = TRAFFIC SIGN MANHOLE
- (T.S.H) = TRAFFIC SIGN HANDHOLE
- (T.C.B) = TRAFFIC CONTROL BOX
- (T.S.B) = TRAFFIC SIGNAL BOX
- (E.C.B) = ELECTRICAL CONTROL BOX
- (P.R.C) = RAIL ROAD CROSSING (LIGHT)
- (F.M.S) = FIBER OPTIC MARKER SIGN
- (F.O.B) = FIBER OPTIC BOX
- (C) = CONCRETE
- (A) = ASPHALT
- (U.D) = UNIMPROVED DRIVEWAY
- (G) = GRAVEL
- (B) = BRICK
- (T) = TILE
- (S.C) = STAMPED CONCRETE
- (C.B.F) = CONCRETE BLOCK FENCE
- (T.D) = TREE DIAMETER
- (E.C.B) = EXISTING CATCH BASIN
- (E.S.M) = EXISTING STORMWATER MANHOLE
- (B) = BOLLARD
- (E.M) = ELECTRIC METER
- (E.P) = ELECTRIC PANEL
- (B.P.P) = BACKFLOW PREVENTER
- (F.D.C) = FIRE DEPARTMENT CONNECTION
- (T) = TRAFFIC
- (V.C.S) = VALVE COVER SUGAR
- (P.S) = PEDESTRIAN SIGN
- (G.M) = GAS METER
- (C.O) = CLEAN OUT
- (W.F) = WOOD FENCE
- (C.L.F) = CHAIN LINK FENCE
- (I.F) = IRON FENCE
- (E.S) = EXISTING SIDEWALK
- (F.P.L) = F.P.L. OVERHEAD
- (F.P.L.U) = F.P.L. UNDERGROUND
- (W.L.M) = WATER LINE MAIN
- (G.M) = GAS MAIN
- (F.M) = FORCE MAIN
- (C) = CABLE TV
- (B) = BELL SOUTH TELEPHONE CONDUIT
- (B) = BASELINE
- (S) = SANITARY SEWER
- (E.O) = ELECTRIC EXISTING OVERHEAD
- (U.U) = UNKNOWN UTILITY UNDERGROUND
- (T) = TRASH
- (R) = ROCK
- (B) = BENCH
- (F.L) = FLOW LIGHT
- (D.I.P) = DUCTILE IRON PIPE
- (P) = PALM
- (T) = TREE
- (O.T) = ORNAMENTAL TREE



**LEGEND:**

- TEST BORING LOCATION
- PERCOLATION TEST LOCATION

**HRES** HR ENGINEERING SERVICES, INC.  
7815 NW 72nd Avenue  
Medley, Florida 33165  
Ph: 305-888-8880/305-888-8770 Fax  
Cert. of Authorization No. 7991

REVISIONS					
DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY

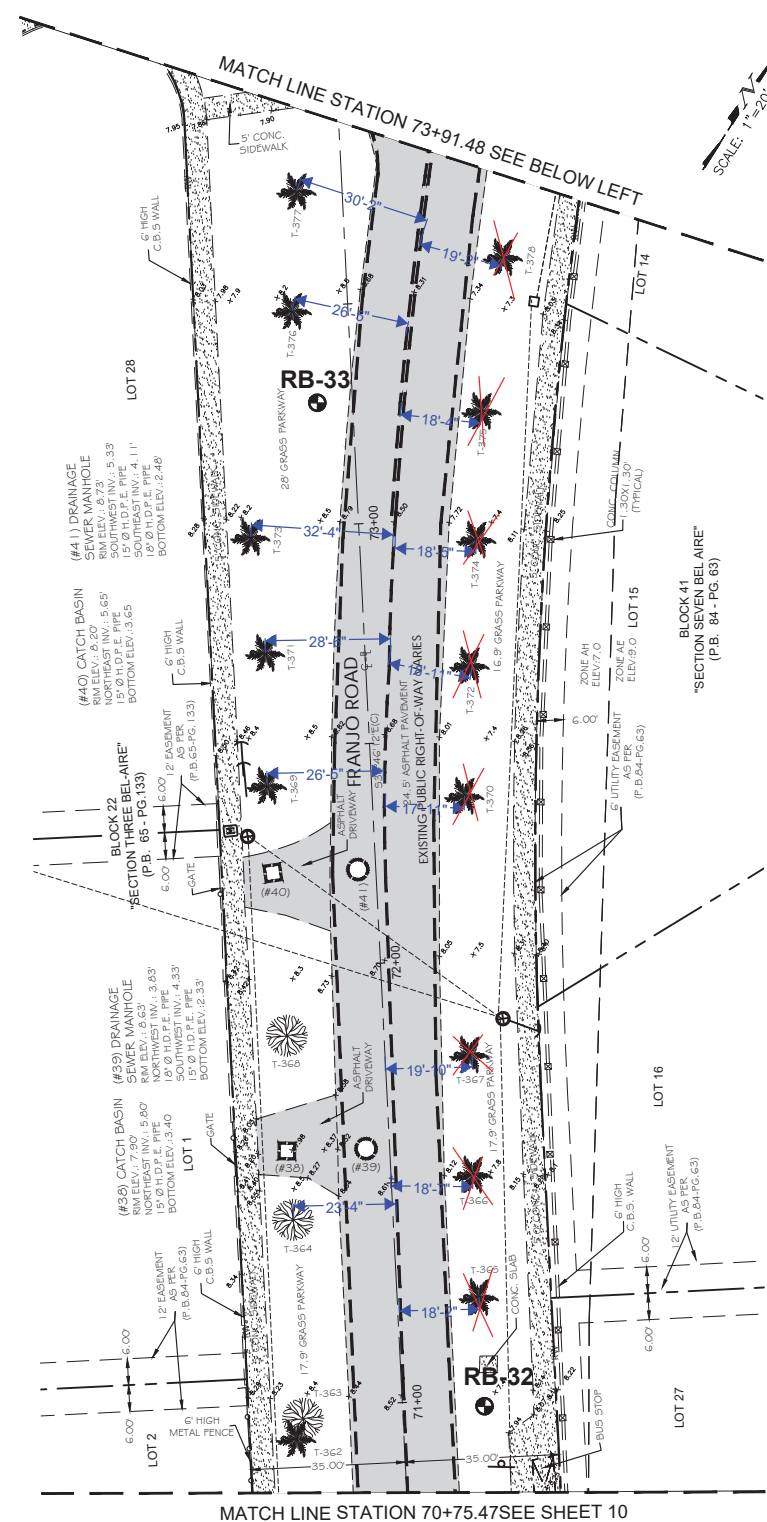
TOPOGRAPHIC SURVEY	DESIGNED BY: X.X.	NAME: X.X.	DATE: 10-13-2020		DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS ROADWAY ENGINEERING AND RIGHT OF WAY DIVISION	
	CHECKED BY: X.X.	NAME: X.X.	DATE: 10-16-2020			
	SUPERVISED BY:	NAME: GS	DATE: 10-16-2020			
					LEGEND, ABBREVIATION AND MAP OF TOPOGRAPHIC SURVEY	

LEGEND AND ABBREVIATIONS:

# MAP OF TOPOGRAPHIC SURVEY

FRANJO ROAD BETWEEN SW 184 STREET AND OLD CUTLER ROAD  
PROJECT NO. SHEET 11 OF 15

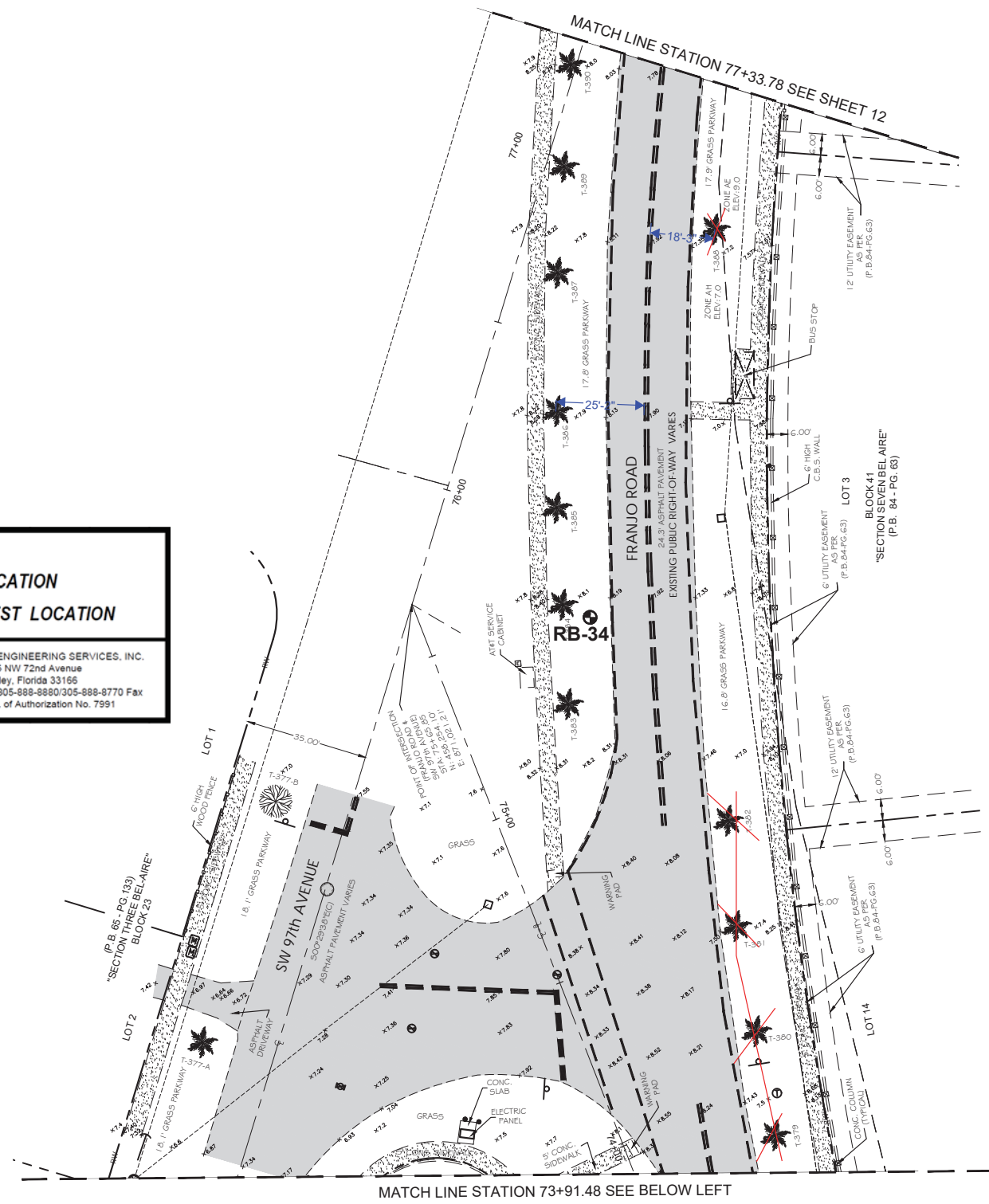
- ELEV = ELEVATION
- (T.B.M.) = TEMPORARY BENCHMARK
- (C.C.N.C.) = CONCRETE
- (P.C.) = PAGE
- (P.B.) = PLAT BOOK
- (M) = MEASURES
- (F) = FOUND
- (F.F.) = CONCRETE NAIL & DISK
- (C.N.F.) = CONCRETE NAIL & DISK FOUND
- (C.N.C.) = CONCRETE NAIL & DISK CUT
- (D.H.F.) = DRILL HOLE FOUND
- (N.F.) = NAIL FOUND
- (P.K.F.) = PK NAIL & DISK FOUND
- (R.V.) = RIGHT OF WAY
- (R.B.A.C.) = ROCK BASE ASPHALT COMPOUND
- (L) = BASE LINE
- (C.L.) = CENTER LINE
- (R) = RADIUS
- (L) = LENGTH OF CURVE
- (C&G) = CURB & GUTTER
- (V.G.) = VALLEY GUTTER
- (E.P.) = EDGE OF PAVEMENT
- (T/B) = TOP OF BANK
- (E.W.) = EDGE OF WATER
- (P.C.P.) = PERMANENT CONTROL POINT
- (R.L.S.) = REGISTERED LAND SURVEYOR
- (P.L.S.) = PROFESSIONAL LAND SURVEYOR
- (S) = STREET SIGN
- (A.L.M.) = ALUM. FLASHING SCHOOL LIGHT
- (M) = MAILBOX
- (D) = DECORATIVE LIGHT POLE
- (M) = METAL LIGHT POLE
- (M) = METAL TRAFFIC LIGHT POLE
- (M) = METAL POWER POLE
- (C) = CONCRETE LIGHT POLE
- (C) = CONCRETE POWER POLE
- (W) = WOOD LIGHT POLE
- (W) = WOOD POWER POLE
- (W) = WOOD TELEPHONE POLE
- (F) = FIBERGLASS LIGHT POLE
- (W) = WATER MANHOLE
- (S) = SANITARY MANHOLE
- (S) = SANITARY RISER VALVE (FM)
- (C) = CABLE TV FEEDSTRAN
- (T) = TV CABLE RISER BOX
- (C) = TV CONTROL BOX
- (C) = CABLE BOX
- (T) = TELEPHONE HANDHOLE
- (T) = TELEPHONE MANHOLE
- (T) = TELEPHONE UTILITY BOX
- (T) = TELEPHONE RISER BOX
- (T) = TELEPHONE RISER CONTROL BOX
- (T) = TELEPHONE CONTROL BOX
- (B) = BOX
- (C) = CROSSING SIGN
- (P) = POST
- (I) = INTERCOM
- (G) = GAS VALVE
- (P) = PFC POST
- (G) = GUY WIRE
- (S) = SPRINKLE HEAD
- (C) = CENTRAL ANGLE OF CURVE
- (M) = MONITORING WELL
- (P) = PETROLEUM PIPELINE
- (E) = ELECTRIC MANHOLE
- (E) = ELECTRIC MANHOLE
- (F) = FIRE HYDRANT
- (W) = WATER VALVE
- (W) = WATER METER
- (R/W) = R/W EXISTING
- (S) = SECTION LINE
- (Q) = QUARTER SECTION LINE
- (E) = EASEMENT LINE
- (B) = BARB WIRE FENCE
- (E) = EDGE OF THE PAVEMENT
- (P) = PROPERTY LINE
- (S) = SECTION
- (M) = MONUMENT LINE
- (P) = PAVEMENT
- (A) = ASPHALT
- (R) = RADIUS
- (L) = LENGTH
- (C) = CENTRAL ANGLE OF THE CURVE
- (T) = POINT OF TANGENCY
- (P) = POINT OF INTERSECTION
- (C) = POINT OF CURVATURE
- (T) = TRAFFIC SIGN MANHOLE
- (T) = TRAFFIC SIGN HANDHOLE
- (T) = TRAFFIC CONTROL BOX
- (T) = TRAFFIC SIGN BOX
- (E) = ELECTRICAL CONTROL BOX
- (R) = RAIL ROAD CROSSING (LIGHT)
- (F) = FIBER OPTIC MARKER SIGN
- (F) = FIBER OPTIC BOX
- (C) = CONCRETE
- (A) = ASPHALT
- (U) = UNIMPROVED DRIVEWAY
- (G) = GRAVEL
- (B) = BRICK
- (T) = TILE
- (S) = STAMPED CONCRETE
- (C) = CONCRETE BLOCK FENCE
- (T) = TREE DIAMETER
- (E) = EXISTING CATCH BASIN
- (E) = EXISTING STORMWATER MANHOLE
- (B) = BOLLARD
- (E) = ELECTRIC METER
- (E) = ELECTRIC PANEL
- (B) = BACKFLOW PREVENTER
- (F) = FIRE DEPARTMENT CONNECTION
- (T) = TRAFFIC
- (V) = VALVE COVER SUGAR
- (P) = PEDESTRIAN SIGN
- (G) = GAS METER
- (C) = CLEAN OUT
- (W) = WOOD FENCE
- (C) = CHAIN LINK FENCE
- (I) = IRON FENCE
- (S) = EXISTING SIDEWALK
- (F) = F.P.L. OVERHEAD
- (U) = F.P.L. UNDERGROUND
- (W) = WATER LINE MAN
- (G) = GAS MAIN
- (F) = FORCE MAIN
- (C) = CABLE TV
- (B) = BELL SOUTH TELEPHONE CONDUIT
- (B) = BASELINE
- (S) = SANITARY SEWER
- (E) = ELECTRIC EXISTING OVERHEAD
- (U) = UNKNOWN UTILITY UNDERGROUND
- (T) = TRASH
- (R) = ROCK
- (B) = BENCH
- (F) = FLOW LIGHT
- (D) = DUCTILE IRON PIPE
- (P) = PALM
- (T) = TREE



**LEGEND:**

- TEST BORING LOCATION
- PERCOLATION TEST LOCATION

**HRES** HR ENGINEERING SERVICES, INC.  
7815 NW 72nd Avenue  
Medley, Florida 33166  
Ph: 305-888-8880/305-888-8770 Fax  
Cert. of Authorization No. 7991



REVISIONS					
DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY

DESIGNED BY	NAME	DATE	DRAWN BY	NAME	DATE
CHECKED BY	XX		CHECKED BY	SF	10-13-2020
SUPERVISED BY:	XX		CHECKED BY	GS	10-16-2020

MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS  
ROADWAY ENGINEERING AND RIGHT OF WAY DIVISION

LEGEND, ABBREVIATION AND MAP OF TOPOGRAPHIC SURVEY

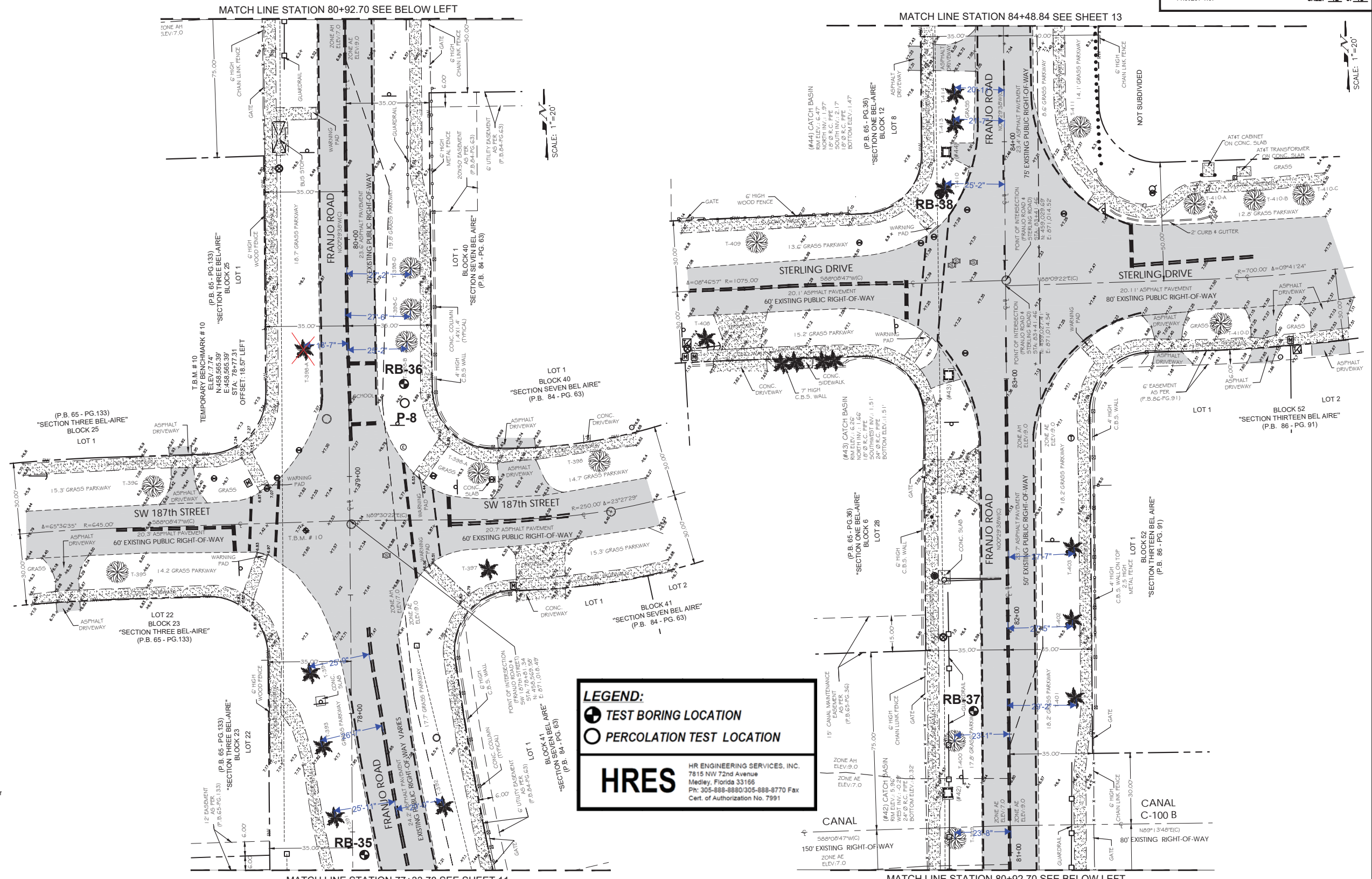


LEGEND AND ABBREVIATIONS:

# MAP OF TOPOGRAPHIC SURVEY

FRANJO ROAD BETWEEN SW 184 STREET AND OLD CUTLER ROAD  
PROJECT NO. SHEET 12 OF 15

- ELEV = ELEVATION
- T.B.M. = TEMPORARY BENCHMARK
- CC(C) = CONCRETE
- ASPH = ASPHALT
- GRASS = GRASS
- PLAT BOOK = PLAT BOOK
- OH = MEASURES
- BY = BY
- CONCRETE NAIL & DISK FOUND
- CONCRETE NAIL & DISK FOUND
- CONCRETE NAIL CUT
- DRILL HOLE FOUND
- NAIL FOUND
- PK NAIL & DISK FOUND
- R/W = RIGHT OF WAY
- ROCK BASE ASPHALT COMPOUND
- BASE LINE
- CENTER LINE
- RADIUS
- LENGTH OF CURVE
- CURB & GUTTER
- VALLEY GUTTER
- E/P = EDGE OF PAVEMENT
- T/B = TOP OF BANK
- E/W = EDGE OF WATER
- PCP = PERMANENT CONTROL POINT
- RLS = REGISTERED LAND SURVEYOR
- PLS = PROFESSIONAL LAND SURVEYOR
- STREET SIGN
- ALUM. FLASHING SCHOOL LIGHT
- MALBOX
- DECORATIVE LIGHT POLE
- METAL LIGHT POLE
- METAL TRAFFIC LIGHT POLE
- METAL POWER POLE
- CONCRETE LIGHT POLE
- CONCRETE POWER POLE
- WOOD LIGHT POLE
- WOOD POWER POLE
- WOOD TELEPHONE POLE
- FIBERGLASS LIGHT POLE
- WATER MANHOLE
- SANITARY MANHOLE
- SANITARY SEWER VALVE (FM)
- CABLE TV PEDESTRIAN
- TV CABLE RISER BOX
- TV CONTROL BOX
- CABLE BOX
- TELEPHONE HANDHOLE
- TELEPHONE MANHOLE
- TELEPHONE UTILITY BOX
- TELEPHONE RISER BOX
- TELEPHONE RISER CONTROL BOX
- TELEPHONE CONTROL BOX
- BOX
- CROSSING SIGN
- POST
- INTERCOM
- GAS VALVE
- PG ROOST
- GUY WIRE
- SPRINKLE HEAD
- CENTRAL ANGLE OF CURVE
- MONITORING WELL
- PETROLEUM PIPELINE
- ELECTRIC HANDHOLE
- ELECTRIC MANHOLE
- FIRE HYDRANT
- WATER VALVE
- WATER METER
- R/W EXISTING
- SECTION LINE
- QUARTER SECTION LINE
- EASEMENT LINE
- BARBIRE FENCE
- EDGE OF THE PAVEMENT
- PROPERTY LINE
- SECTION
- MONUMENT LINE
- P.W.M. = PAVEMENT
- ASPH = ASPHALT
- (R) = RADIUS
- (L) = LENGTH
- (CA) = CENTRAL ANGLE OF THE CURVE
- (PT) = POINT OF TANGENCY
- (PI) = POINT OF INTERSECTION
- (PC) = POINT OF CURVATURE
- (TR) = TRAFFIC SIGN MANHOLE
- (TS) = TRAFFIC SIGN HANDHOLE
- (TC) = TRAFFIC CONTROL BOX
- (TSB) = TRAFFIC SIGNAL BOX
- (E) = ELECTRICAL CONTROL BOX
- (R) = RAIL ROAD CROSSING (LIGHT)
- (F) = FIBER OPTIC MARKER SIGN
- (F) = FIBER OPTIC BOX
- (C) = CONCRETE
- (A) = ASPHALT
- (U) = UNIMPROVED DRIVEWAY
- (G) = GRAVEL
- (B) = BRICK
- (T) = TILE
- (S) = STAMPED CONCRETE
- (C) = CONCRETE BLOCK FENCE
- (D) = TREE DIAMETER
- (E) = EXISTING CATCH BASIN
- (S) = EXISTING STORMWATER MANHOLE
- (B) = BOLLARD
- (E) = ELECTRIC METER
- (E) = ELECTRIC PANEL
- (P) = BACKFLOW PREVENTER
- (F) = FIRE DEPARTMENT CONNECTION
- (T) = TRAFFIC
- (V) = VALVE COVER SUGAR
- (P) = PEDESTRIAN SIGN
- (G) = GAS METER
- (C) = CLEAN OUT
- (W) = WOOD FENCE
- (C) = CHAIN LINK FENCE
- (I) = IRON FENCE
- (E) = EXISTING SIDEWALK
- (O) = F.P.L. OVERHEAD
- (U) = F.P.L. UNDERGROUND
- (W) = WATER LINE MAIN
- (G) = GAS MAIN
- (F) = FORCE MAIN
- (C) = CABLE TV
- (S) = BELL SOUTH TELEPHONE CONDUIT
- (B) = BASELINE
- (S) = SANITARY SEWER
- (E) = ELECTRIC EXISTING OVERHEAD
- (U) = UNKNOWN UTILITY UNDERGROUND
- (R) = ROCK
- (B) = BENCH
- (F) = FLOW LIGHT
- (D) = DUCTILE IRON PIPE
- (P) = PALM
- (T) = TREE



**LEGEND:**

- ⊕ TEST BORING LOCATION
- PERCOLATION TEST LOCATION

**HRES** HR ENGINEERING SERVICES, INC.  
7815 NW 72nd Avenue  
Medley, Florida 33166  
Ph: 305-898-8880/305-888-8770 Fax  
Cert. of Authorization No. 7991

REVISIONS					
DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY

TOPOGRAPHIC SURVEY

DESIGNED BY	NAME	DATE	DRAWN BY	NAME	DATE
XX			SF		10-13-2020
XX			DH-GS		10-16-2020

MIAMI-DADE COUNTY  
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS  
ROADWAY ENGINEERING AND RIGHT OF WAY DIVISION

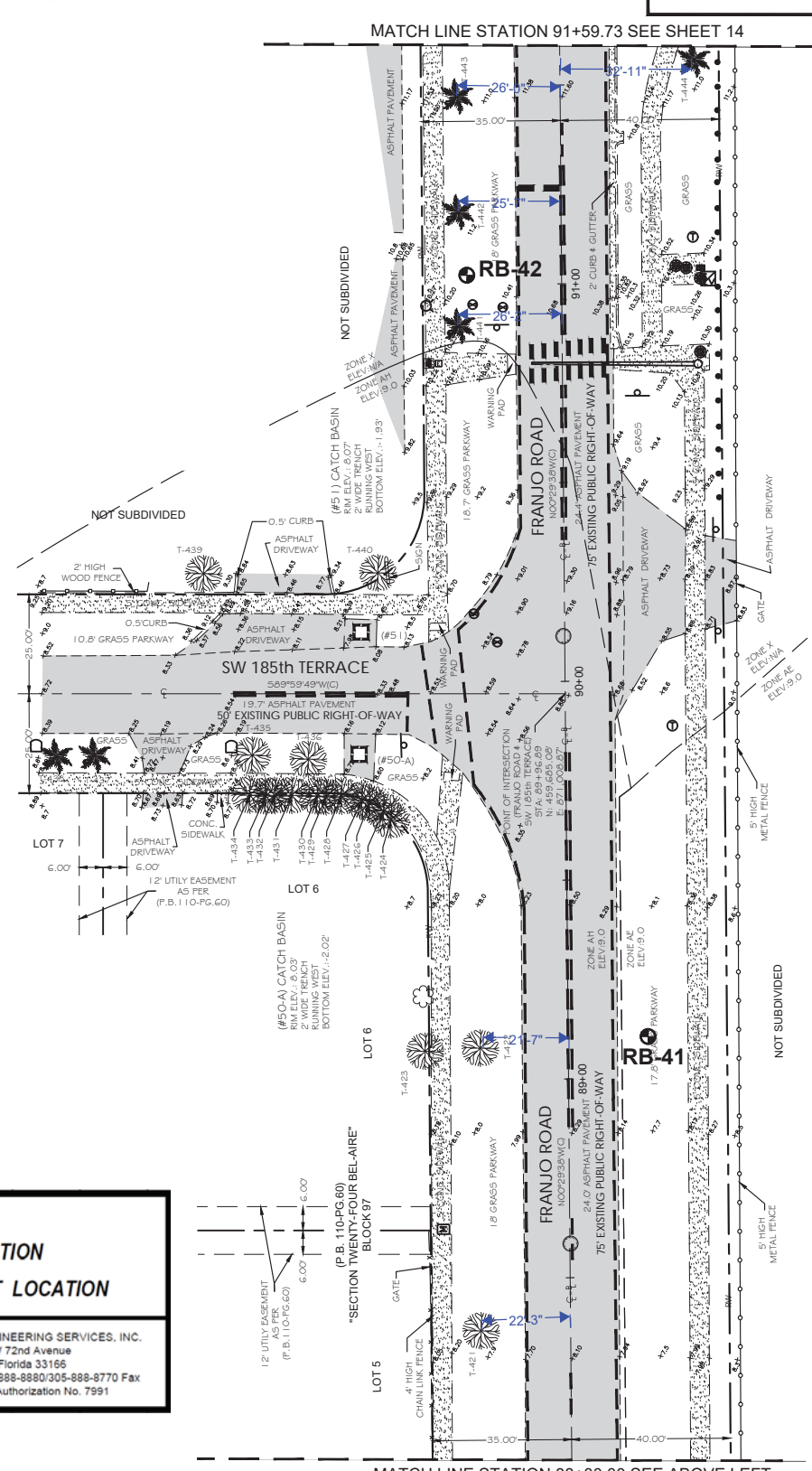
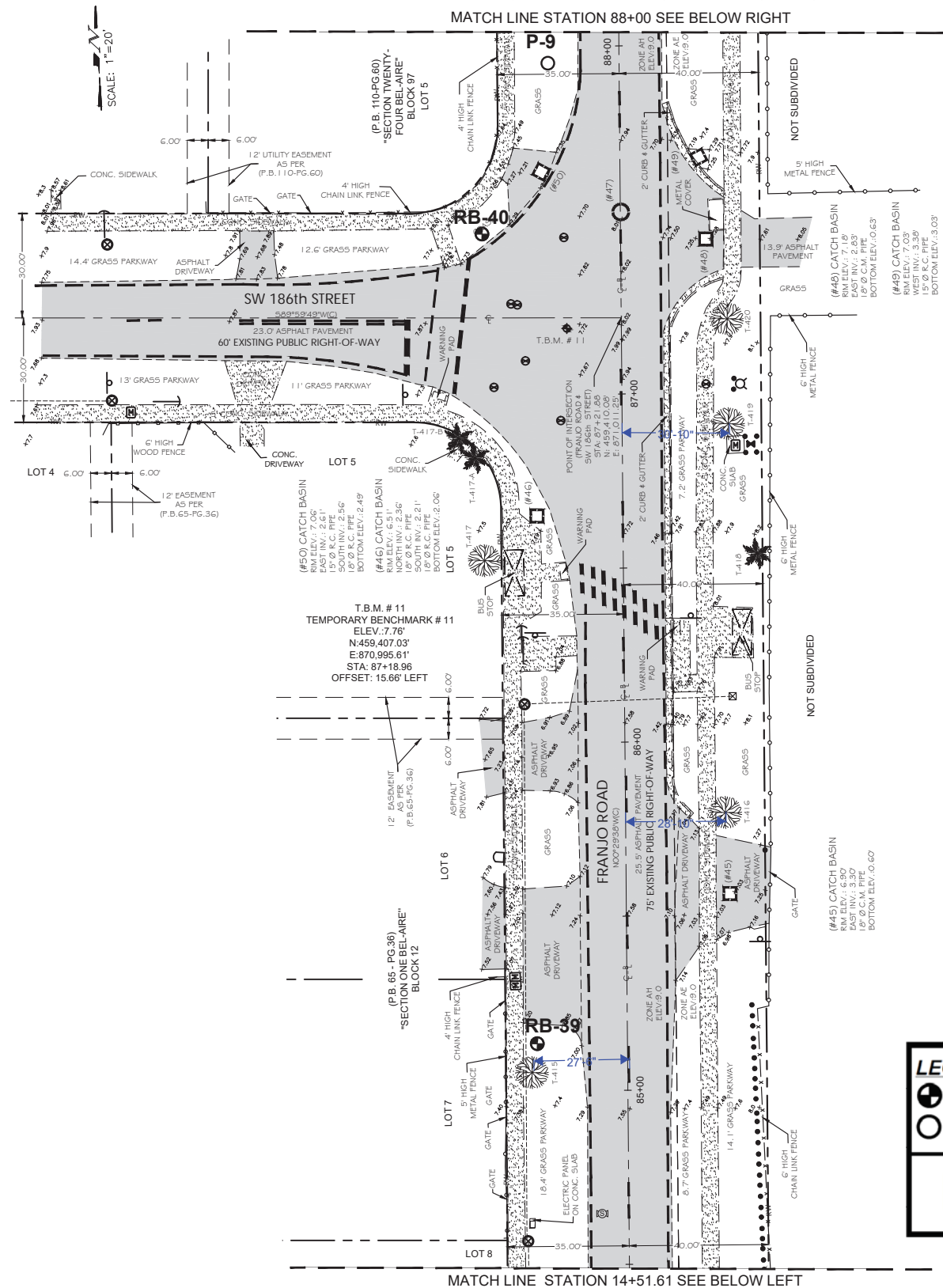
LEGEND, ABBREVIATION AND MAP OF TOPOGRAPHIC SURVEY

LEGEND AND ABBREVIATIONS:

# MAP OF TOPOGRAPHIC SURVEY

FRANJO ROAD BETWEEN SW 184 STREET AND OLD CUTLER ROAD  
PROJECT NO. SHEET 13 OF 15

- ELEV. = ELEVATION
- (T.B.M.) = TEMPORARY BENCHMARK
- (C.D.N.C.) = CONCRETE
- (P.B.) = PINE
- (P.B.) = PLANT BOOK
- (M) = MEASURES
- (P) = BY PLAT
- (F) = FOUND
- (C.N.D.) = CONCRETE NAIL & DISK
- (F.N.F.) = F.N. FOUND
- (C.N.F.) = CONCRETE NAIL & DISK FOUND
- (C.N.F.) = CONCRETE NAIL FOUND
- (D.H.F.) = DRILL HOLE FOUND
- (D.H.F.) = DRILL HOLE FOUND
- (N.F.) = NAIL FOUND
- (F.N.F.) = F.N. FOUND
- (R.V.) = RIGHT OF WAY
- (R.B.A.C.) = ROCK BASE ASPHALT COMPOUND
- (B.L.) = BASE LINE
- (C.L.) = CENTER LINE
- (R) = RADIUS
- (L) = LENGTH OF CURVE
- (C) = CURB & GUTTER
- (V.G.) = VALLEY GUTTER
- (E.P.) = EDGE OF PAVEMENT
- (T.B.) = TOP OF BANK
- (E.W.) = EDGE OF WATER
- (P.C.P.) = PERMANENT CONTROL POINT
- (R.L.S.) = REGISTERED LAND SURVEYOR
- (P.L.S.) = PROFESSIONAL LAND SURVEYOR
- (S.S.) = STREET SIGN
- (A.L.M.) = ALUM. FLASHING SCHOOL LIGHT
- (M.B.) = MANHOLE
- (D.L.P.) = DECORATIVE LIGHT POLE
- (M.L.P.) = METAL LIGHT POLE
- (M.T.L.P.) = METAL TRAFFIC LIGHT POLE
- (M.P.P.) = METAL POWER POLE
- (C.L.P.) = CONCRETE LIGHT POLE
- (C.P.P.) = CONCRETE POWER POLE
- (W.L.P.) = WOOD LIGHT POLE
- (W.P.P.) = WOOD POWER POLE
- (F.L.P.) = FIBERGLASS LIGHT POLE
- (W.M.) = WATER MANHOLE
- (S.M.) = SANITARY MANHOLE
- (S.S.V.) = SANITARY SEWER VALVE (FM)
- (C.P.E.) = CABLE TV PEDESTRIAN
- (C.R.B.) = CABLE RISER BOX
- (C.C.B.) = CABLE CONTROL BOX
- (C.B.) = CABLE BOX
- (T.H.) = TELEPHONE HANDHOLE
- (T.M.) = TELEPHONE MANHOLE
- (T.U.B.) = TELEPHONE UTILITY BOX
- (T.R.B.) = TELEPHONE RISER BOX
- (T.C.B.) = TELEPHONE RISER CONTROL BOX
- (T.C.B.) = TELEPHONE CONTROL BOX
- (B.) = BOX
- (C.S.) = CROSSING SIGN
- (P.) = POST
- (I.) = INTERCOM
- (G.V.) = GAS VALVE
- (P.V.C.) = PVC POST
- (D.W.) = DUT WIRE
- (S.H.) = SPRINKLE HEAD
- (C.A.C.) = CENTRAL ANGLE OF CURVE
- (M.W.) = MONITORING WELL
- (P.F.) = PETROLEUM PIPELINE
- (E.H.) = ELECTRIC HANDHOLE
- (E.M.) = ELECTRIC MANHOLE
- (F.H.) = FIRE HYDRANT
- (W.V.) = WATER VALVE
- (W.M.) = WATER METER
- (E.W.) = E/W EXISTING
- (S.L.) = SECTION LINE
- (Q.S.L.) = QUARTER SECTION LINE
- (E.L.) = EASEMENT LINE
- (B.F.) = BAREWIRE FENCE
- (E.P.) = EDGE OF THE PAVEMENT
- (P.L.) = PROPERTY LINE
- (S.) = SECTION
- (M.L.) = MONUMENT LINE
- (P.M.) = PAVEMENT
- (A.S.) = ASPHALT
- (R.) = RADIUS
- (L.) = LENGTH
- (C.A.) = CENTRAL ANGLE OF THE CURVE
- (P.T.) = POINT OF TANGENCY
- (P.I.) = POINT OF INTERSECTION
- (P.C.) = POINT OF CURVATURE
- (T.S.M.) = TRAFFIC SIGN MANHOLE
- (T.S.H.) = TRAFFIC SIGN HANDHOLE
- (T.C.B.) = TRAFFIC CONTROL BOX
- (T.S.B.) = TRAFFIC SIGNAL BOX
- (E.C.B.) = ELECTRICAL CONTROL BOX
- (R.R.C.) = RAIL ROAD CROSSING (LIGHT)
- (F.O.M.) = FIBER OPTIC MARKER SIGN
- (F.O.B.) = FIBER OPTIC BOX
- (C.) = CONCRETE
- (A.) = ASPHALT
- (U.D.) = UNIMPROVED DRIVEWAY
- (G.) = GRAVEL
- (B.) = BRICK
- (T.) = TILE
- (S.C.) = STAMPED CONCRETE
- (C.B.F.) = CONCRETE BLOCK FENCE
- (T.D.) = TREE DIAMETER
- (C.B.) = EXISTING CATCH BASIN
- (S.M.) = EXISTING STORMWATER MANHOLE
- (B.) = BOLLARD
- (E.M.) = ELECTRIC METER
- (E.P.) = ELECTRIC PANEL
- (B.P.) = BACKFLOW PREVENTER
- (F.D.C.) = FIRE DEPARTMENT CONNECTION
- (T.) = TRAFFIC
- (V.C.S.) = VALVE COVER SUGAR
- (P.S.) = PEDESTRIAN SIGN
- (G.M.) = GAS METER
- (C.O.) = CLEAN OUT
- (W.F.) = WOOD FENCE
- (C.L.F.) = CHAIN LINK FENCE
- (I.F.) = IRON FENCE
- (E.S.) = EXISTING SIDEWALK
- (F.P.L.) = F.P.L. OVERHEAD
- (F.P.L.) = F.P.L. UNDERGROUND
- (W.L.M.) = WATER LINE MAIN
- (G.S.M.) = GAS MAIN
- (F.M.) = FORCE MAIN
- (C.T.V.) = CABLE TV
- (B.S.T.) = BELL SOUTH TELEPHONE CONDUIT
- (B.L.) = BASELINE
- (S.S.) = SANITARY SEWER
- (E.E.O.) = ELECTRIC EXISTING OVERHEAD
- (U.U.) = UNKNOWN UTILITY UNDERGROUND
- (T.) = TRASH
- (R.) = ROCK
- (B.) = BENCH
- (F.L.) = FLOW LIGHT
- (D.I.P.) = DISTRIE IRON PIPE
- (P.) = PALM
- (T.) = TREE



**LEGEND:**

- ⊕ TEST BORING LOCATION
- PERCOLATION TEST LOCATION

**HRES**

HR ENGINEERING SERVICES, INC.  
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Ph: 305-888-8880/305-888-8770 Fax  
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REVISIONS					
DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY

TOPOGRAPHIC SURVEY

DESIGNED BY	NAME	DATE	DRAWN BY	NAME	DATE
XX			SF		10-13-2020
XX			GS		10-16-2020

SUPERVISED BY:



LEGEND, ABBREVIATION AND MAP OF TOPOGRAPHIC SURVEY

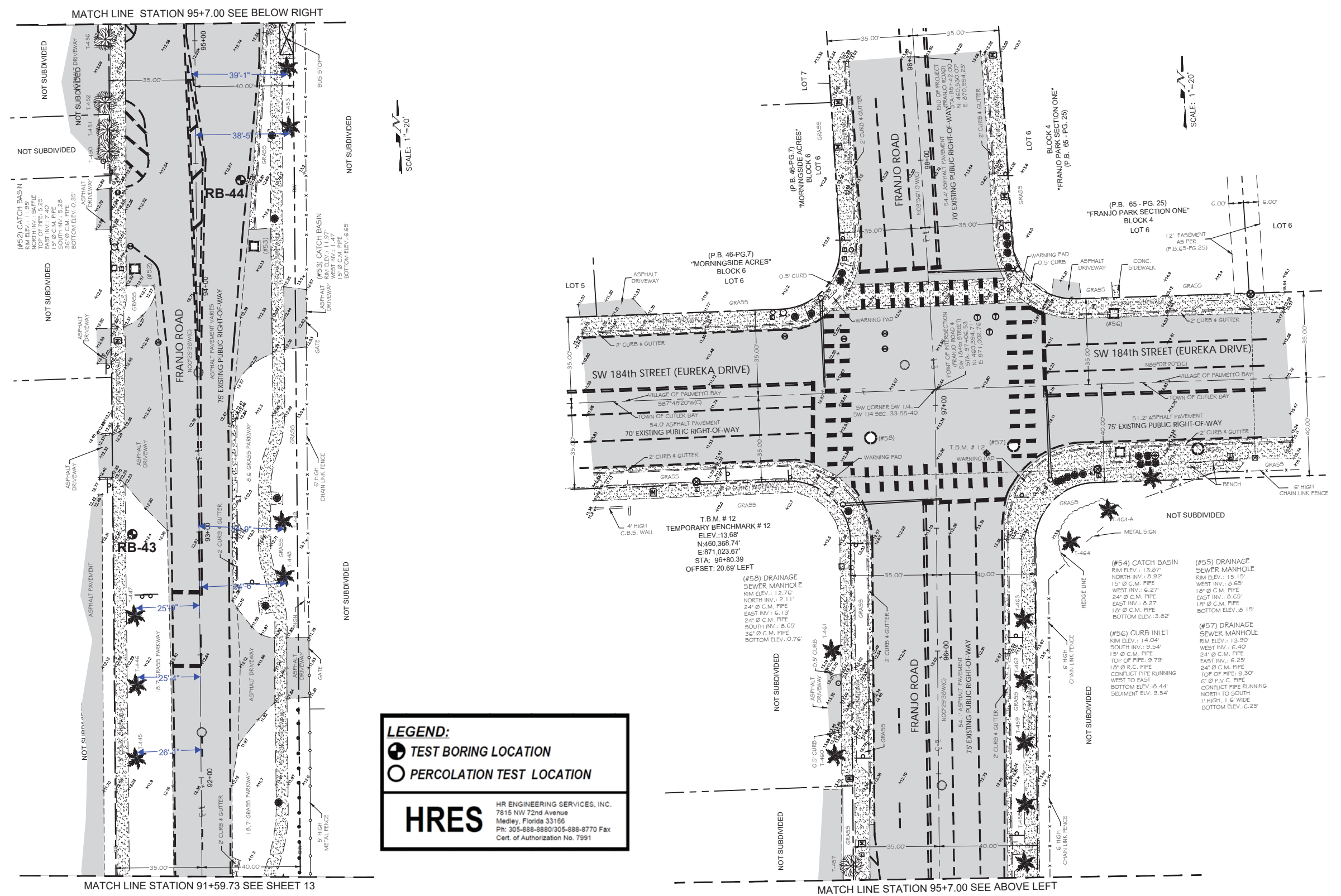


LEGEND AND ABBREVIATIONS:

- ELEV = ELEVATION
- T.B.M. = TEMPORARY BENCHMARK
- CONC = CONCRETE
- ASPH = ASPHALT
- GRASS = GRASS
- PLAT BOOK = PLAT BOOK
- OH = MEASURES
- BY FLAT = BY FLAT
- FOUND = FOUND
- CONCRETE NAIL & DISK = CONCRETE NAIL & DISK
- PK NAIL FOUND = PK NAIL FOUND
- CONCRETE NAIL & DISK FOUND = CONCRETE NAIL & DISK FOUND
- CNC = CONCRETE NAIL CUT
- DRILL HOLE FOUND = DRILL HOLE FOUND
- NAIL FOUND = NAIL FOUND
- PK NAIL & DISK FOUND = PK NAIL & DISK FOUND
- R/W = RIGHT OF WAY
- R/BAC = ROCK BASE ASPHALT COMPOUND
- BASE LINE = BASE LINE
- CENTER LINE = CENTER LINE
- RADIUS = RADIUS
- LENGTH OF CURVE = LENGTH OF CURVE
- CURB & GUTTER = CURB & GUTTER
- VG = VALLEY GUTTER
- E/P = EDGE OF PAVEMENT
- T/B = TOP OF BANK
- E/W = EDGE OF WATER
- PCP = PERMANENT CONTROL POINT
- RLS = REGISTERED LAND SURVEYOR
- PLS = PROFESSIONAL LAND SURVEYOR
- STREET SIGN = STREET SIGN
- ALUM. FLASHING SCHOOL LIGHT = ALUM. FLASHING SCHOOL LIGHT
- MALBOX = MALBOX
- DECORATIVE LIGHT POLE = DECORATIVE LIGHT POLE
- METAL LIGHT POLE = METAL LIGHT POLE
- METAL TRAFFIC LIGHT POLE = METAL TRAFFIC LIGHT POLE
- METAL POWER POLE = METAL POWER POLE
- CONCRETE LIGHT POLE = CONCRETE LIGHT POLE
- CONCRETE POWER POLE = CONCRETE POWER POLE
- WOOD LIGHT POLE = WOOD LIGHT POLE
- WOOD POWER POLE = WOOD POWER POLE
- FIBERGLASS LIGHT POLE = FIBERGLASS LIGHT POLE
- WATER MANHOLE = WATER MANHOLE
- SANITARY MANHOLE = SANITARY MANHOLE
- SANITARY SEWER VALVE (FM) = SANITARY SEWER VALVE (FM)
- CABLE TV PEDESTRIAN = CABLE TV PEDESTRIAN
- TV CABLE RISER BOX = TV CABLE RISER BOX
- TV CONTROL BOX = TV CONTROL BOX
- CABLE BOX = CABLE BOX
- TELEPHONE HANDHOLE = TELEPHONE HANDHOLE
- TELEPHONE MANHOLE = TELEPHONE MANHOLE
- TELEPHONE UTILITY BOX = TELEPHONE UTILITY BOX
- TELEPHONE RISER BOX = TELEPHONE RISER BOX
- TELEPHONE RISER CONTROL BOX = TELEPHONE RISER CONTROL BOX
- TELEPHONE CONTROL BOX = TELEPHONE CONTROL BOX
- BOX = BOX
- CROSSING SIGN = CROSSING SIGN
- POST = POST
- INTERCOM = INTERCOM
- GAS VALVE = GAS VALVE
- PVC POST = PVC POST
- GUY WIRE = GUY WIRE
- SPRINKLE HEAD = SPRINKLE HEAD
- CENTRAL ANGLE OF CURVE = CENTRAL ANGLE OF CURVE
- MONITORING WELL = MONITORING WELL
- PETROLEUM PIPELINE = PETROLEUM PIPELINE
- ELECTRIC HANDHOLE = ELECTRIC HANDHOLE
- ELECTRIC MANHOLE = ELECTRIC MANHOLE
- FIRE HYDRANT = FIRE HYDRANT
- WATER VALVE = WATER VALVE
- WATER METER = WATER METER
- R/W EXISTING = R/W EXISTING
- SECTION LINE = SECTION LINE
- QUARTER SECTION LINE = QUARTER SECTION LINE
- EASEMENT LINE = EASEMENT LINE
- BARB WIRE FENCE = BARB WIRE FENCE
- EDGE OF THE PAVEMENT = EDGE OF THE PAVEMENT
- PRIORITY LINE = PRIORITY LINE
- SECTION = SECTION
- MONUMENT LINE = MONUMENT LINE
- PVMT = PAVEMENT
- ASPH = ASPHALT
- (R) = RADIUS
- (L) = LENGTH
- (CA) = CENTRAL ANGLE OF THE CURVE
- (PT) = POINT OF TANGENCY
- (PI) = POINT OF INTERSECTION
- (PC) = POINT OF CURVATURE
- (IC) = TRAFFIC SIGN MANHOLE
- (IC) = TRAFFIC SIGN HANDHOLE
- (IC) = TRAFFIC CONTROL BOX
- (IC) = TRAFFIC SIGNAL BOX
- (IC) = ELECTRICAL CONTROL BOX
- (IC) = RAIL ROAD CROSSING (LIGHT)
- (IC) = FIBER OPTIC MARKER SIGN
- (IC) = FIBER OPTIC BOX
- (IC) = CONCRETE
- (IC) = ASPHALT
- (IC) = UNIMPROVED DRIVEWAY
- (IC) = GRAVEL
- (IC) = BRICK
- (IC) = TILE
- (IC) = STAMPED CONCRETE
- (IC) = CONCRETE BLOCK FENCE
- (IC) = TREE DIAMETER
- (IC) = EXISTING CATCH BASIN
- (IC) = EXISTING STORMWATER MANHOLE
- (IC) = BOLLARD
- (IC) = ELECTRIC METER
- (IC) = ELECTRIC PANEL
- (IC) = BACKFLOW PREVENTER
- (IC) = FIRE DEPARTMENT CONNECTION
- (IC) = TRAFFIC
- (IC) = VALVE COVER SIGN
- (IC) = PEDESTRIAN SIGN
- (IC) = GAS METER
- (IC) = CLEAN OUT
- (IC) = WOOD FENCE
- (IC) = CHAIN LINK FENCE
- (IC) = IRON FENCE
- (IC) = EXISTING SIDEWALK
- (IC) = F.P.L. OVERHEAD
- (IC) = F.P.L. UNDERGROUND
- (IC) = WATER LINE MAIN
- (IC) = GAS MAIN
- (IC) = FORCE MAIN
- (IC) = CABLE TV
- (IC) = BELL SOUTH TELEPHONE CONDUIT
- (IC) = BASELINE
- (IC) = SANITARY SEWER
- (IC) = ELECTRIC EXISTING OVERHEAD
- (IC) = UNKNOWN UTILITY UNDERGROUND
- (IC) = TRASH
- (IC) = ROCK
- (IC) = BENCH
- (IC) = FLOW LIGHT
- (IC) = DUCTILE IRON PIPE
- (IC) = PALM
- (IC) = TREE
- (IC) = ORNAMENTAL TREE

# MAP OF TOPOGRAPHIC SURVEY

FRANJO ROAD BETWEEN SW 184 STREET AND OLD CUTLER ROAD  
PROJECT NO. SHEET 14 OF 15



**LEGEND:**

- ⊕ TEST BORING LOCATION
- PERCOLATION TEST LOCATION

**HRES**

HR ENGINEERING SERVICES, INC.  
7815 NW 72nd Avenue  
Medley, Florida 33165  
Ph: 305-888-8880/305-888-8770 Fax  
Cert. of Authorization No. 7991

REVISIONS					
DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY

TOPOGRAPHIC SURVEY					
DESIGNED BY	NAME	DATE	DRAWN BY	NAME	DATE
CHECKED BY			CHECKED BY		
SUPERVISED BY:					

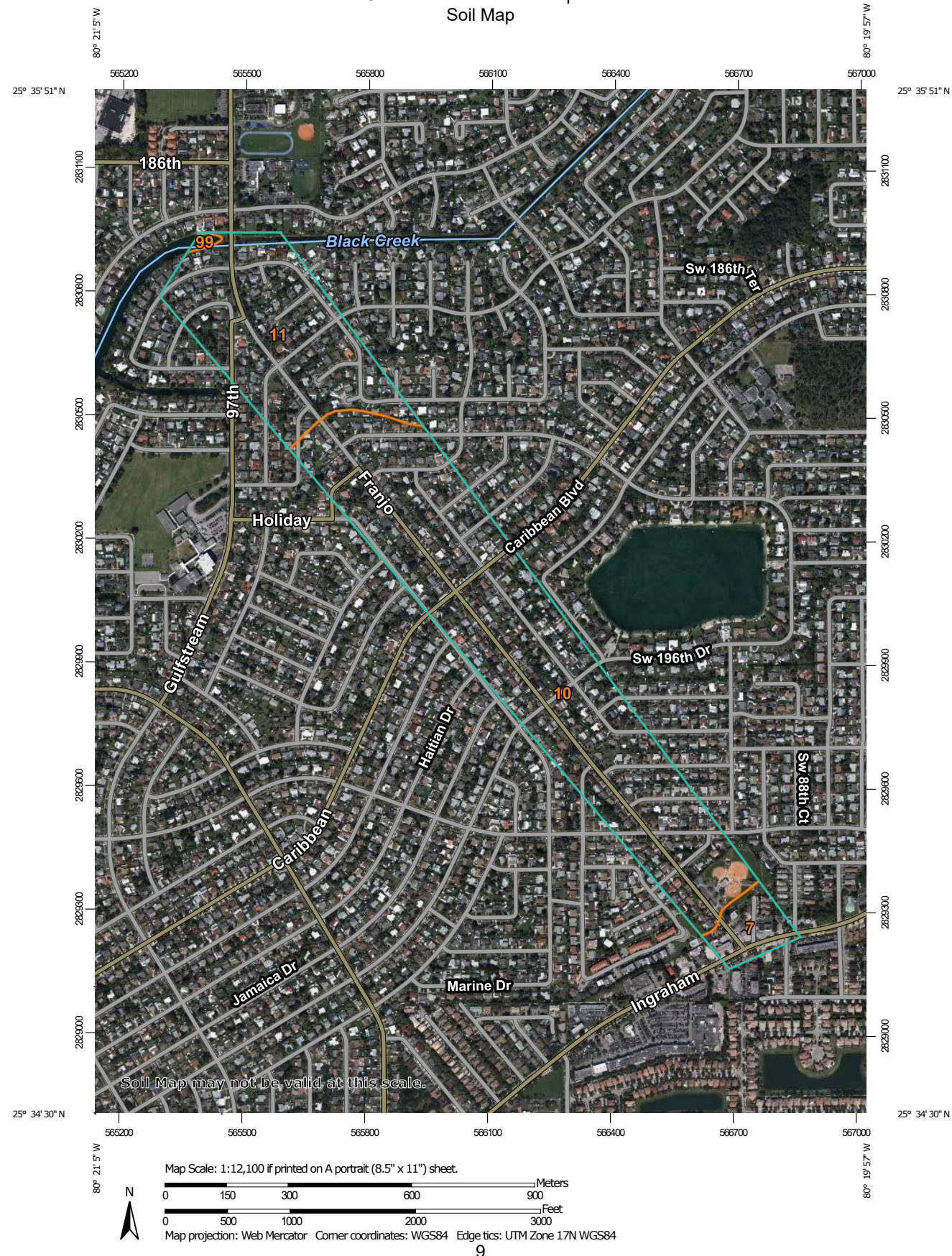
MIAMI-DADE COUNTY

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS  
ROADWAY ENGINEERING AND RIGHT OF WAY DIVISION

LEGEND, ABBREVIATION AND MAP OF TOPOGRAPHIC SURVEY

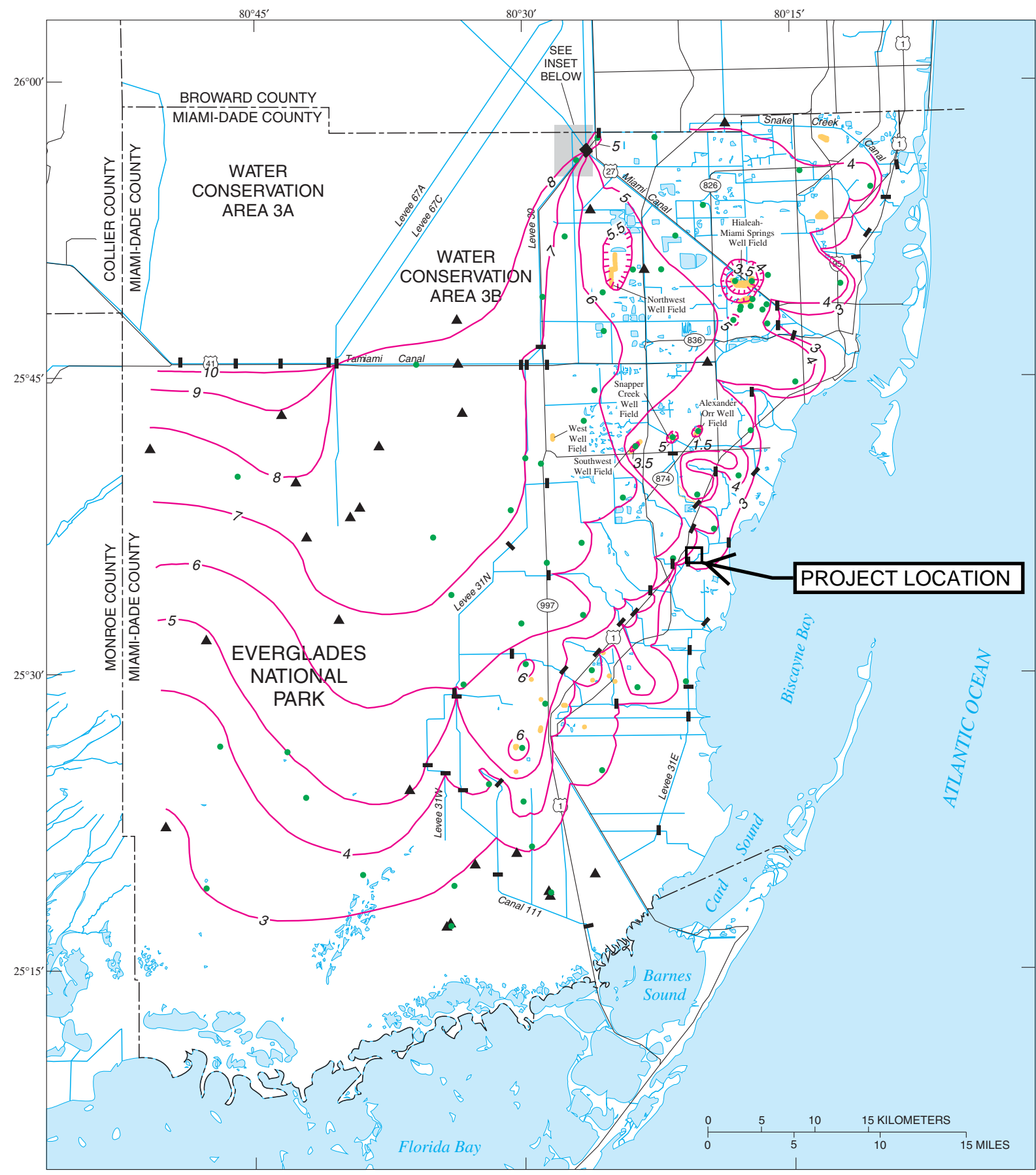


Custom Soil Resource Report  
Soil Map



REVISIONS						DRAWN BY: CS 01-21	TOWN OF CUTLER BAY DEPARTMENT OF PUBLIC WORKS			SHEET TITLE:	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	MIAMI DADE COUNTY AREA SOIL SURVEY MAP	
							MIAMI-DADE		FRANJO ROAD, FROM OLD CUTLER ROAD TO SW 184 STREET		
										SHEET NO.	<b>A-15</b>

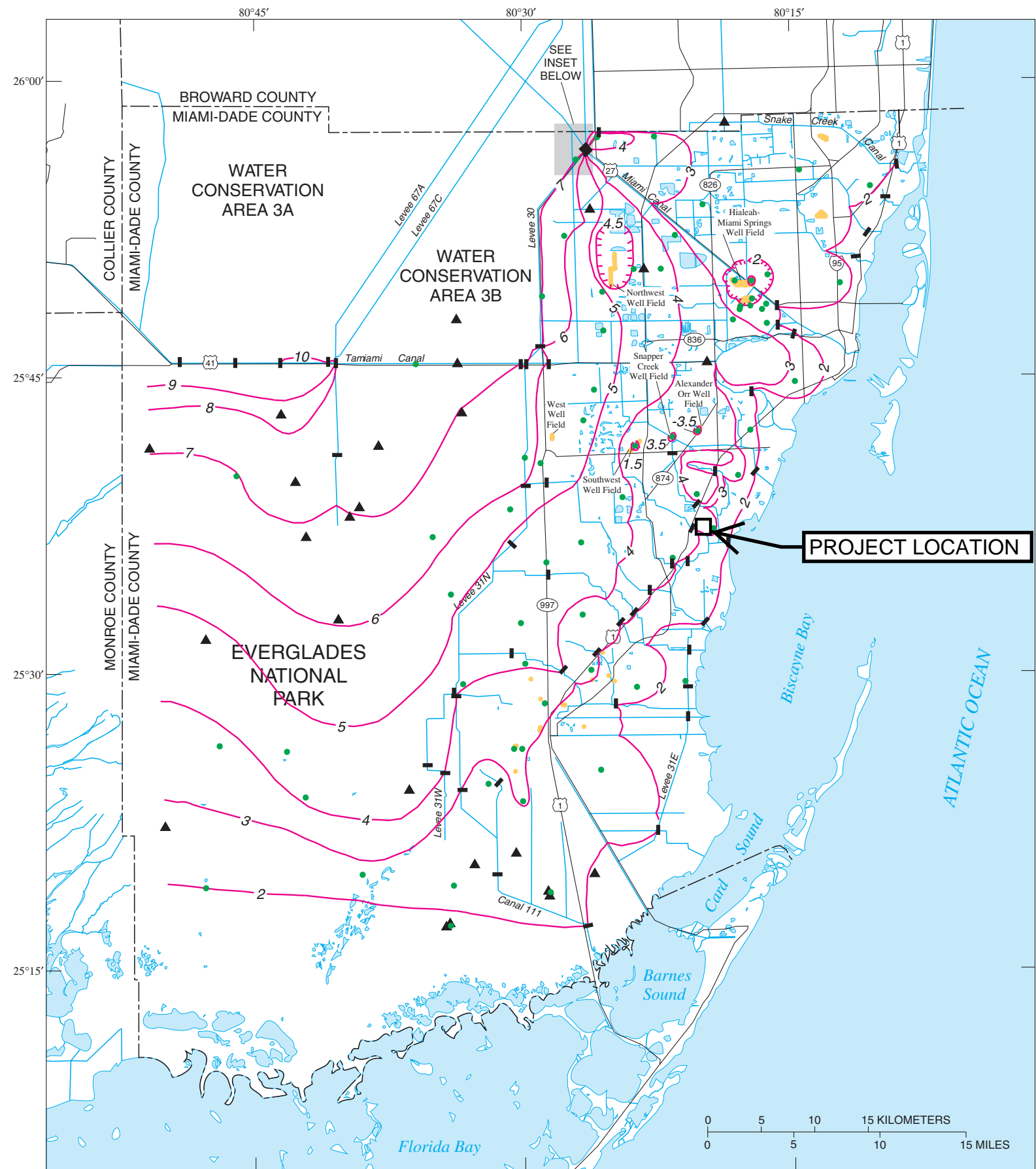




AVERAGE YEARLY HIGH WATER LEVELS 1990-99

REVISIONS						DRAWN BY: CS 01-21	TOWN OF CUTLER BAY DEPARTMENT OF PUBLIC WORKS			SHEET TITLE: <i>USGS AVERAGE YEARLY HIGH WATER LEVELS (1990-1999)</i>		REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	PROJECT NAME: <i>FRANJO ROAD, FROM OLD CUTLER ROAD TO SW 184 STREET</i>		SHEET NO.
							-	MIAMI-DADE	-			<b>A-16</b>

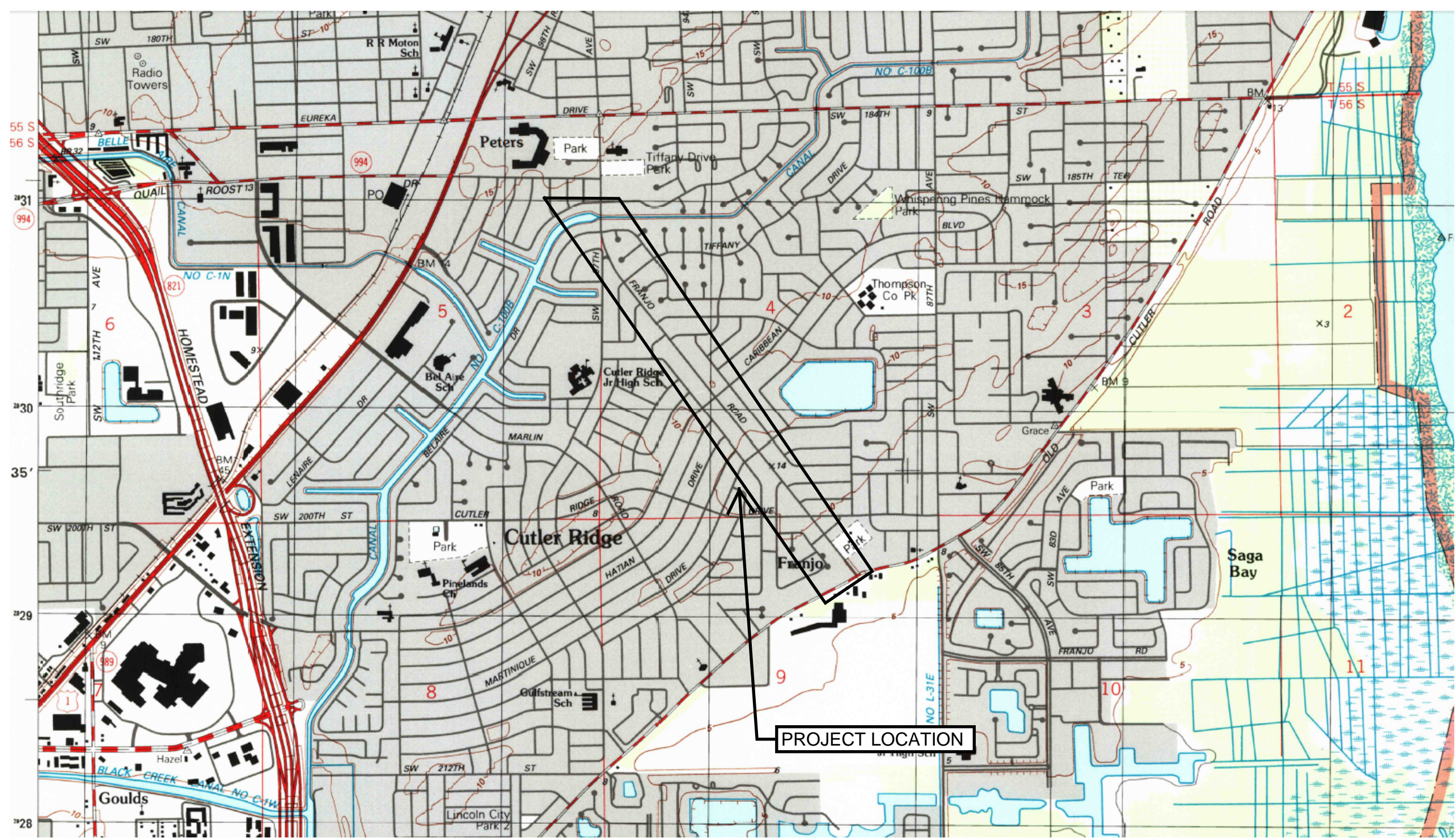




AVERAGE OCTOBER WATER LEVELS 1990-99

REVISIONS						DRAWN BY: CS 01-21	TOWN OF CUTLER BAY DEPARTMENT OF PUBLIC WORKS			SHEET TITLE: USGS AVERAGE OCTOBER WATER LEVELS (1990-1999)	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
HERNANDO R. RAMOS, P.E. P.E. LICENSE NUMBER 42045 HR ENGINEERING SERVICES, INC 7815 NW 72ND AVENUE MEDLEY, FLORIDA 33166							MIAMI-DADE		FRANJO ROAD, FROM OLD CUTLER ROAD TO SW 184 STREET	<b>A-17</b>	





**PROJECT LOCATION**

REVISIONS						DRAWN BY: CS 01-21	TOWN OF CUTLER BAY DEPARTMENT OF PUBLIC WORKS			SHEET TITLE:  USGS QUADRANGLE ELEVATION MAP	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							MIAMI-DADE		FRANJO ROAD, FROM OLD CUTLER ROAD TO SW 184 STREET	A-18	

HERNANDO R. RAMOS, P.E.  
P.E. LICENSE NUMBER 42045  
HR ENGINEERING SERVICES, INC  
7815 NW 72ND AVENUE  
MEDLEY, FLORIDA 33166

CHECKED BY:  
HRR 01-21  
DESIGNED BY:  
CS 01-21  
CHECKED BY:  
HRR 01-21



**SUMMARY OF BORINGS LOCATIONS**  
**FRANJO ROAD, FROM OLD CUTLER ROAD TO SW 184<sup>TH</sup> STREET**  
**TOWN OF CUTLER BAY**  
**MIAMI-DADE COUNTY, FLORIDA**  
**DEPARTMENT OF PUBLIC WORKS**  
**HR ENGINEERING SERVICES, INC.**  
**HRES PROJECT No. HR19-1573R**  
**JANUARY 29, 2021**

Boring No.	Plane coordinates		Station	Offset ft.
	Latitude	Longitude		
RB-1	25.57913	-80.33584	11+40	18.0 R
RB-2	25.57955	-80.33621	13+30	17.0 R
RB-3	25.57999	-80.33663	15+40	15.0 R
RB-4	25.58028	-80.33689	16+75	15.0 R
P-1	25.58065	-80.33706	18+17	58.0 R
RB-5	25.58080	-80.33736	19+24	16.0 R
RB-6	25.58120	-80.33771	21+10	18.0 R
RB-7	25.58155	-80.33818	23+05	21.0 L
RB-8	25.58202	-80.33860	25+22	18.0 L
P-2	25.58248	-80.33888	27+15	18.0 L
RB-9	25.58246	-80.33900	27+35	18.0 L
RB-10	25.58276	-80.33935	28+88	43.0 L
RB-11	25.58321	-80.33970	30+90	22.0 L
RB-12	25.58361	-80.34004	32+70	22.0 L
RB-13	25.58400	-80.34038	34+53	22.0 L
P-3	25.58425	-80.34061	35+71	23.0 L
RB-14	25.58443	-80.34077	36+56	24.0 L
RB-15	25.58495	-80.34104	38+62	23.0 R
RB-16	25.58527	-80.34150	40+42	24.0 L
RB-17	25.58573	-80.34191	42+59	23.0 L
RB-18	25.58606	-80.34220	44+13	26.0 L
P-4	25.58607	-80.34221	44+16	26.0 L
RB-19	25.58638	-80.34248	45+61	26.0 L
RB-20	25.58708	-80.34293	48+54	18.0 R
RB-21	25.58748	-80.34329	50+41	17.0 R
RB-22	25.58795	-80.34369	52+58	18.0 R
P-5	25.58797	-80.34371	52+68	18.0 R
RB-23	25.58836	-80.34405	54+59	19.0 R

**SUMMARY OF BORINGS LOCATIONS  
FRANJO ROAD, FROM OLD CUTLER ROAD TO SW 184<sup>TH</sup> STREET  
TOWN OF CUTLER BAY  
MIAMI-DADE COUNTY, FLORIDA  
DEPARTMENT OF PUBLIC WORKS  
HR ENGINEERING SERVICES, INC.  
HRES PROJECT No. HR19-1573R  
JANUARY 29, 2021**

Boring No.	Plane coordinates		Station	Offset ft.
	Latitude	Longitude		
RB-24	25.58865	-80.34430	55+79	23.0 R
RB-25	25.58909	-80.34466	57+80	28.0 R
RB-26	25.58940	-80.34514	59+68	25.0 L
P-6	25.58998	-80.34531	61+65	64.0 R
RB-27	25.58996	-80.34560	62+21	18.0 L
RB-28	25.59031	-80.34589	63+78	17.0 L
RB-29	25.59079	-80.34619	65+77	19.0 R
RB-30	25.59115	-80.34651	67+42	19.0 R
RB-31	25.59154	-80.34682	69+14	24.0 R
P-7	25.59171	-80.34715	70+34	23.0 L
RB-32	25.59191	-80.34717	70+99	18.0 R
RB-33	25.59236	-80.34766	73+27	8.0 L
RB-34	25.59292	-80.34795	75+80	50.0 R
RB-35	25.59337	-80.34808	77+40	4.0 R
P-8	25.59390	-80.34804	79+30	23.0 R
RB-36	25.59392	-80.34804	79+38	23.0 R
RB-37	25.59453	-80.34815	81+59	15.0 L
RB-38	25.59591	-80.34819	83+77	28.0 L
RB-39	25.59556	-80.34818	85+12	26.0 L
RB-40	25.59616	-80.34822	87+45	38.0 L
P-9	25.59627	-80.34817	87+95	20.0 L
RB-41	25.59659	-80.34805	89+10	20.0 R
RB-42	25.59712	-80.34818	91+02	23.0 L
RB-43	25.59766	-80.34820	93+00	25.0 L
RB-44	25.59805	-80.34807	94+42	19.0 R

**Notes:**

Plane coordinates were taken using a hand-held GPS and are approximate within 10 feet.

**SUMMARY OF PERCOLATION TEST RESULTS  
USUAL-OPEN HOLE PERCOLATION RESULTS  
FRANJO ROAD, FROM OLD CUTLER ROAD TO SW 184 STREET  
TOWN OF CUTLER BAY, DEPARTMENT OF PUBLIC WORKS**

**MIAMI-DADE COUNTY, FLORIDA  
HR ENGINEERING SERVICES, INC.  
HRES PROJECT NO. HR19-1573R  
JANUARY 29, 2021**

TEST No.	TEST DATE	LATITUDE	LONGITUDE	DEPTH TO WATER BEFORE TEST, H ft.	DEPTH TO WATER DURING TEST, ft.	HEAD, Du ft.	HOLE DEPTH, ft.	HOLE DIAMETER, d inches	RATE OF FLOW, P		k, HYDRAULIC CONDUCTIVITY cfs/ft <sup>2</sup> -ft. Head
									gpm	cfs	
P-1	12/01/20	25.58065	-80.33706	5.8	0.0	5.8	15.0	6.0	35.0	0.07799	7.1E-04
P-2	12/01/20	25.58248	-80.33888	7.5	0.0	7.5	15.0	6.0	33.2	0.07398	5.6E-04
P-3	12/01/20	25.58425	-80.34061	9.2	0.0	9.2	15.0	6.0	2.0	0.00446	3.0E-05
P-4	12/02/20	25.58607	-80.34219	10.8	0.0	10.8	15.0	6.0	1.0	0.00223	1.4E-05
P-5	12/02/20	25.58797	-80.34371	7.5	0.0	7.5	15.0	6.0	1.0	0.00223	1.7E-05
P-6	12/02/20	25.58998	-80.34531	5.7	0.0	5.7	15.0	6.0	34.0	0.07576	7.0E-04
P-7	12/02/20	25.59171	-80.34715	6.2	0.0	6.2	15.0	6.0	19.3	0.04300	3.7E-04
P-8	12/03/20	25.59390	-80.34804	4.8	0.0	4.8	15.0	6.0	34.9	0.07776	8.2E-04
P-9	12/03/20	25.59627	-80.34817	5.8	0.0	5.8	15.0	6.0	20.0	0.04456	4.0E-04

for 0 to 15 ft.,  $K_{15} = P / 3.1416 * d * Du \{ Du/2 + D_s \}$ , where  $D_s$  = Hole Depth - H

BOR # RB-1  
 STA. 11+40  
 OFF. 18.0 RT  
 DATE 11/11/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.57913  
 LONGITUDE -80.33584

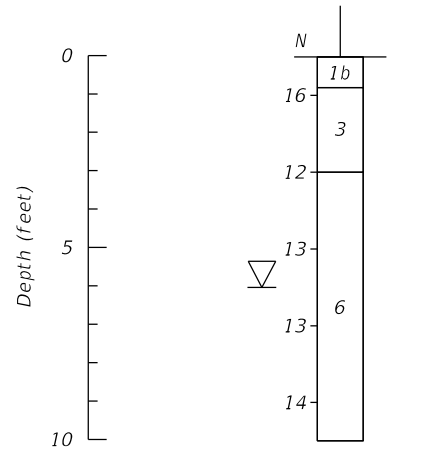
BOR # RB-2  
 STA. 13+30  
 OFF. 17.0 RT  
 DATE 11/11/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.57955  
 LONGITUDE -80.33621

BOR # RB-3  
 STA. 15+40  
 OFF. 15.0 RT  
 DATE 11/11/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.57999  
 LONGITUDE -80.33663

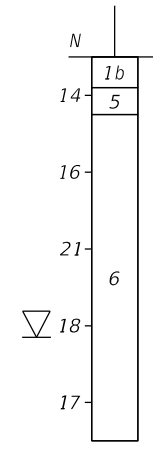
BOR # RB-4  
 STA. 16+75  
 OFF. 15.0 RT  
 DATE 11/11/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.58028  
 LONGITUDE -80.33689

BOR # RB-5  
 STA. 19+24  
 OFF. 16.0 RT  
 DATE 11/11/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.58080  
 LONGITUDE -80.33736

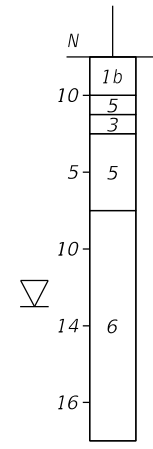
BOR # RB-6  
 STA. 21+10  
 OFF. 18.0 RT  
 DATE 11/11/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.58120  
 LONGITUDE -80.33771



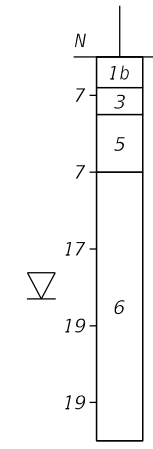
Boring Terminated at Depth of 10ft



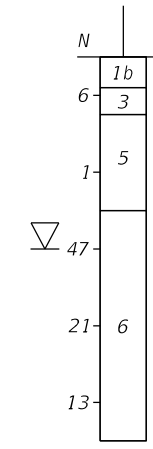
Boring Terminated at Depth of 10ft



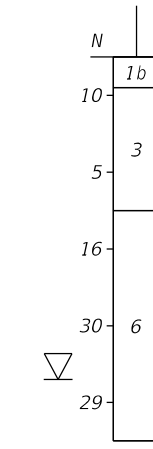
Boring Terminated at Depth of 10ft



Boring Terminated at Depth of 10ft



Boring Terminated at Depth of 10ft



Boring Terminated at Depth of 10ft

BOR # RB-7  
 STA. 23+05  
 OFF. 21.0 LT  
 DATE 11/11/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.58155  
 LONGITUDE -80.33818

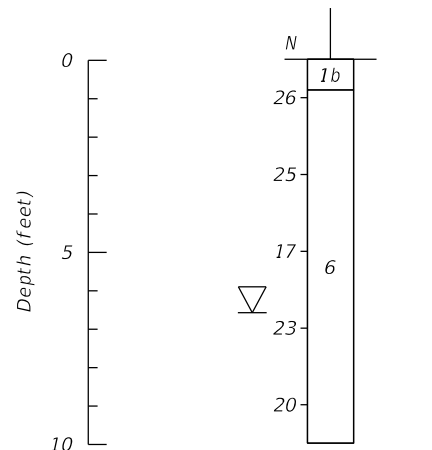
BOR # RB-8  
 STA. 25+22  
 OFF. 18.0 LT  
 DATE 11/11/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.58202  
 LONGITUDE -80.33860

BOR # RB-9  
 STA. 27+35  
 OFF. 18.0 LT  
 DATE 11/11/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.58246  
 LONGITUDE -80.33900

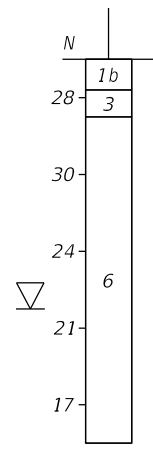
BOR # RB-10  
 STA. 28+88  
 OFF. 43.0 LT  
 DATE 11/17/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.58276  
 LONGITUDE -80.33935

BOR # RB-11  
 STA. 30+90  
 OFF. 22.0 LT  
 DATE 11/17/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.58321  
 LONGITUDE -80.33970

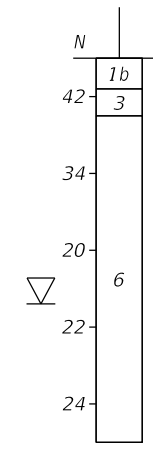
BOR # RB-12  
 STA. 32+70  
 OFF. 22.0 LT  
 DATE 11/17/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.58361  
 LONGITUDE -80.34004



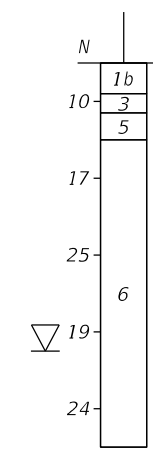
Boring Terminated at Depth of 10ft



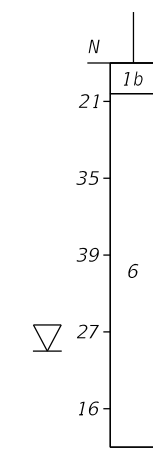
Boring Terminated at Depth of 10ft



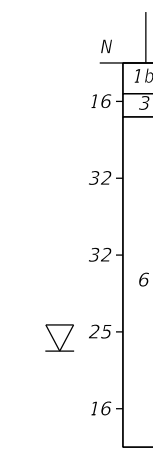
Boring Terminated at Depth of 10ft



Boring Terminated at Depth of 10ft



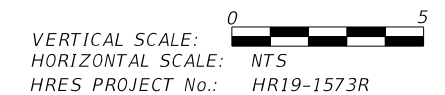
Boring Terminated at Depth of 10ft



Boring Terminated at Depth of 10ft

LEGEND

- 1a. ASPHALT
- 1b. ORGANIC SILTY FINE SAND (TOPSOIL), A-8
- 2. LIMEROCK WITH SILTY FINE SAND, A-1-b
- 3. SILTY FINE SAND, A-2-4
- 4. SANDY SILT/SLIGHTLY ORGANIC SANDY SILT, A-4
- 5. FINE SAND, A-3
- 6. POROUS SANDY LIMESTONE AND CALCAREOUS FINE SAND



REVISIONS						DRAWN BY: CS 01-21	TOWN OF CUTLER BAY DEPARTMENT OF PUBLIC WORKS			SHEET TITLE:  SOIL PROFILES	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
HERNANDO R. RAMOS, P.E. P.E. LICENSE NUMBER 42045 HR ENGINEERING SERVICES, INC. 7815 NW 72ND AVENUE MEDLEY, FLORIDA 33166									FRANJO ROAD, FROM OLD CUTLER ROAD TO SW 184 STREET	<b>A-22</b>	

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

BOR # RB-13  
 STA. 34+53  
 OFF. 22.0 LT  
 DATE 11/17/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.58400  
 LONGITUDE -80.34038

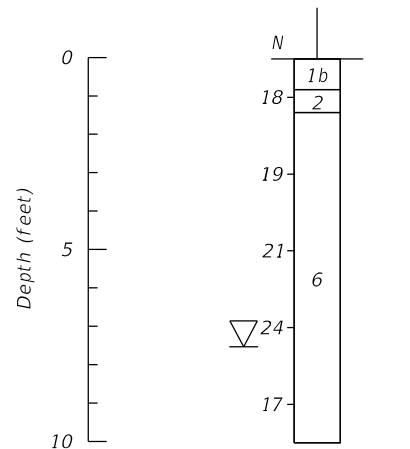
BOR # RB-14  
 STA. 36+56  
 OFF. 24.0 LT  
 DATE 11/17/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.58443  
 LONGITUDE -80.34077

BOR # RB-15  
 STA. 38+62  
 OFF. 23.0 RT  
 DATE 11/17/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.58495  
 LONGITUDE -80.34104

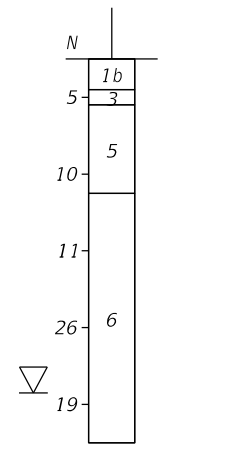
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 STA. 40+42  
 OFF. 24.0 LT  
 DATE 11/17/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.58527  
 LONGITUDE -80.34150

BOR # RB-17  
 STA. 42+59  
 OFF. 23.0 LT  
 DATE 11/17/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.58573  
 LONGITUDE -80.34191

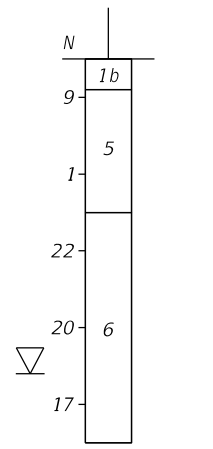
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 STA. 44+13  
 OFF. 26.0 LT  
 DATE 11/17/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.58606  
 LONGITUDE -80.34220



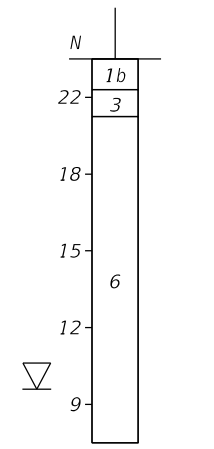
Boring Terminated at Depth of 10ft



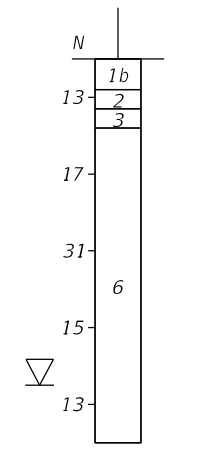
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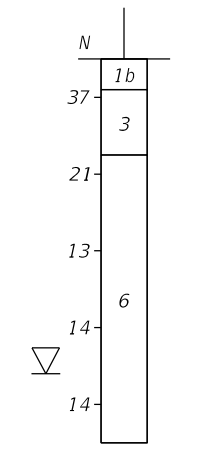
Boring Terminated at Depth of 10ft



Boring Terminated at Depth of 10ft



Boring Terminated at Depth of 10ft



Boring Terminated at Depth of 10ft

BOR # RB-19  
 STA. 45+61  
 OFF. 26.0 LT  
 DATE 11/17/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.58638  
 LONGITUDE -80.34248

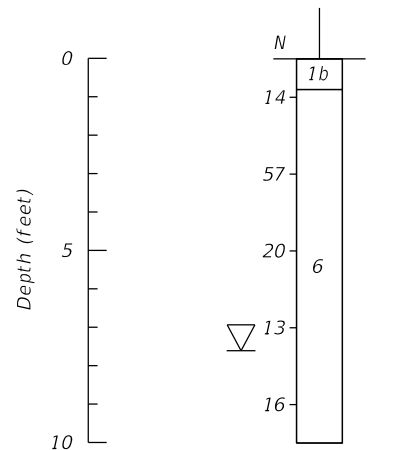
BOR # RB-20  
 STA. 48+54  
 OFF. 18.0 RT  
 DATE 11/18/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.58708  
 LONGITUDE -80.34293

BOR # RB-21  
 STA. 50+41  
 OFF. 17.0 RT  
 DATE 11/18/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.58748  
 LONGITUDE -80.34329

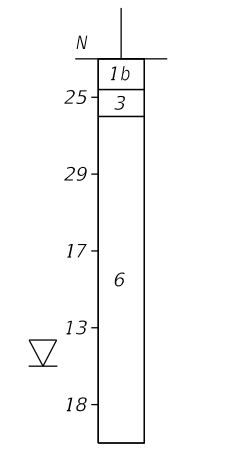
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 STA. 52+58  
 OFF. 18.0 RT  
 DATE 11/18/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.58795  
 LONGITUDE -80.34369

BOR # RB-23  
 STA. 54+59  
 OFF. 19.0 RT  
 DATE 11/18/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.58836  
 LONGITUDE -80.34405

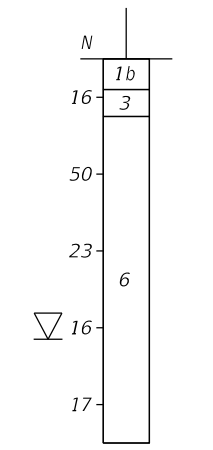
BOR # RB-24  
 STA. 55+79  
 OFF. 23.0 RT  
 DATE 11/18/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.58865  
 LONGITUDE -80.34430



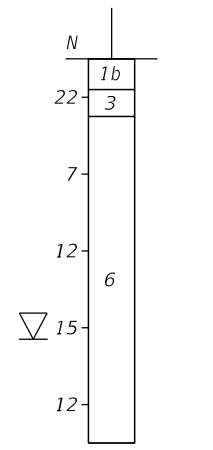
Boring Terminated at Depth of 10ft



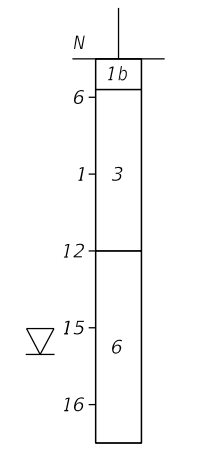
Boring Terminated at Depth of 10ft



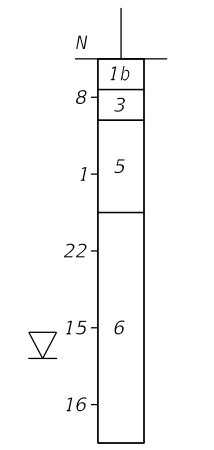
Boring Terminated at Depth of 10ft



Boring Terminated at Depth of 10ft



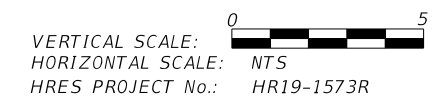
Boring Terminated at Depth of 10ft



Boring Terminated at Depth of 10ft

LEGEND

- 1a. ASPHALT
- 1b. ORGANIC SILTY FINE SAND (TOPSOIL), A-8
- 2. LIMEROCK WITH SILTY FINE SAND, A-1-b
- 3. SILTY FINE SAND, A-2-4
- 4. SANDY SILT/SLIGHTLY ORGANIC SANDY SILT, A-4
- 5. FINE SAND, A-3
- 6. POROUS SANDY LIMESTONE AND CALCAREOUS FINE SAND



REVISIONS						DRAWN BY: CS 01-21	TOWN OF CUTLER BAY DEPARTMENT OF PUBLIC WORKS			SHEET TITLE:  SOIL PROFILES	REF. DWG. NO.	
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID			
						HERNANDO R. RAMOS, P.E. P.E. LICENSE NUMBER 42045 HR ENGINEERING SERVICES, INC. 7815 NW 72ND AVENUE MEDLEY, FLORIDA 33166			PROJECT NAME: FRANJO ROAD, FROM OLD CUTLER ROAD TO SW 184 STREET			SHEET NO. <b>A-23</b>

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

BOR # RB-25  
 STA. 57+80  
 OFF. 28.0 RT  
 DATE 11/18/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.58909  
 LONGITUDE -80.34466

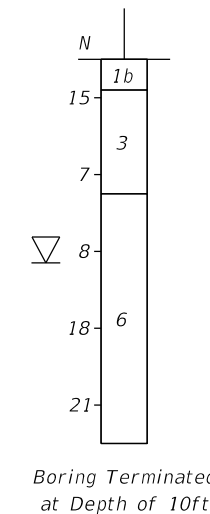
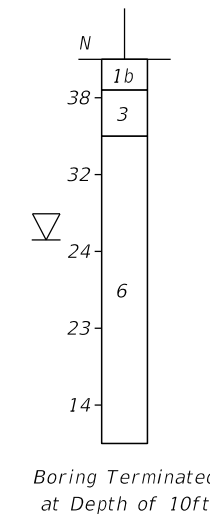
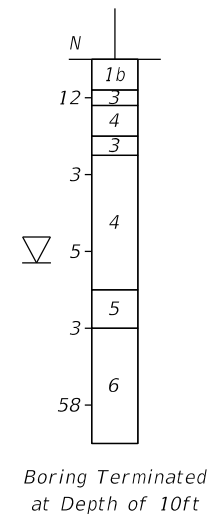
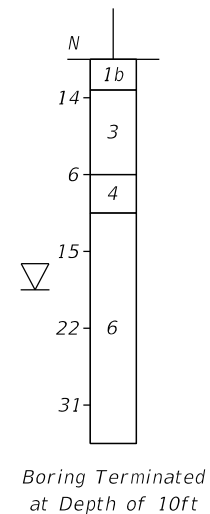
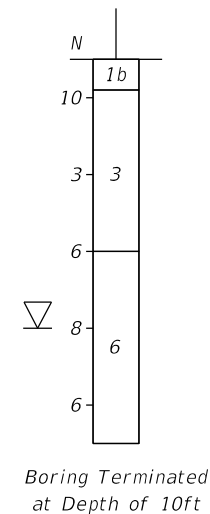
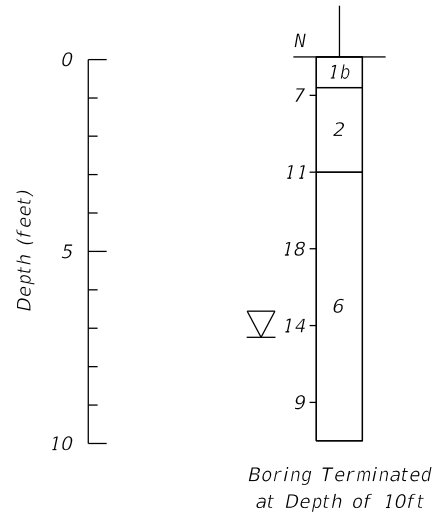
BOR # RB-26  
 STA. 59+68  
 OFF. 25.0 LT  
 DATE 11/18/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.58940  
 LONGITUDE -80.34514

BOR # RB-27  
 STA. 62+21  
 OFF. 18.0 LT  
 DATE 11/18/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.58996  
 LONGITUDE -80.34560

BOR # RB-28  
 STA. 63+78  
 OFF. 17.0 LT  
 DATE 11/18/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.59031  
 LONGITUDE -80.34589

BOR # RB-29  
 STA. 65+77  
 OFF. 19.0 RT  
 DATE 11/18/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.59079  
 LONGITUDE -80.34619

BOR # RB-30  
 STA. 67+42  
 OFF. 19.0 RT  
 DATE 11/19/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.59115  
 LONGITUDE -80.34651



BOR # RB-31  
 STA. 69+14  
 OFF. 24.0 RT  
 DATE 11/19/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.59154  
 LONGITUDE -80.34682

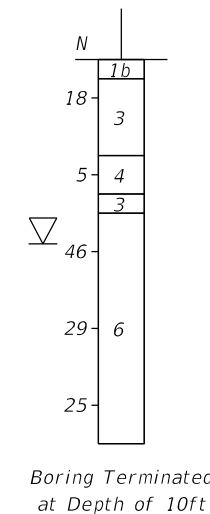
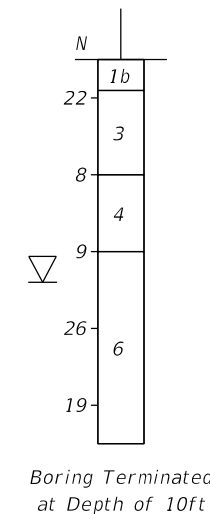
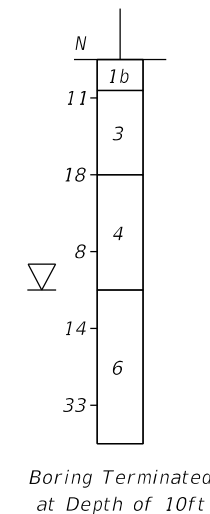
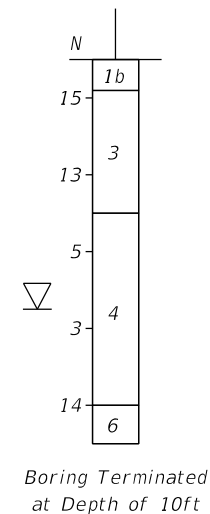
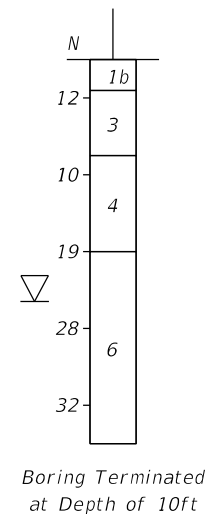
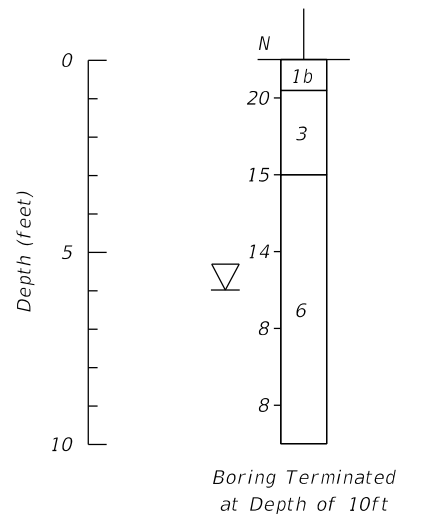
BOR # RB-32  
 STA. 70+99  
 OFF. 18.0 RT  
 DATE 11/19/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.59191  
 LONGITUDE -80.34717

BOR # RB-33  
 STA. 73+27  
 OFF. 8.0 LT  
 DATE 11/18/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.59236  
 LONGITUDE -80.34766

BOR # RB-34  
 STA. 75+80  
 OFF. 50.0 RT  
 DATE 11/19/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.59292  
 LONGITUDE -80.34795

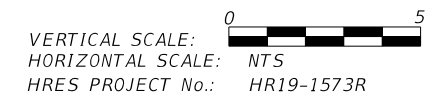
BOR # RB-35  
 STA. 77+40  
 OFF. 4.0 RT  
 DATE 11/19/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.59337  
 LONGITUDE -80.34808

BOR # RB-36  
 STA. 79+38  
 OFF. 23.0 RT  
 DATE 12/3/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.59392  
 LONGITUDE -80.34804



LEGEND

- 1a. ASPHALT
- 1b. ORGANIC SILTY FINE SAND (TOPSOIL), A-8
- 2. LIMEROCK WITH SILTY FINE SAND, A-1-b
- 3. SILTY FINE SAND, A-2-4
- 4. SANDY SILT/SLIGHTLY ORGANIC SANDY SILT, A-4
- 5. FINE SAND, A-3
- 6. POROUS SANDY LIMESTONE AND CALCAREOUS FINE SAND



REVISIONS						DRAWN BY: CS 01-21	TOWN OF CUTLER BAY DEPARTMENT OF PUBLIC WORKS			SHEET TITLE: SOIL PROFILES		REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	PROJECT NAME:	SHEET NO.	
							MIAMI-DADE		FRANJO ROAD, FROM OLD CUTLER ROAD TO SW 184 STREET		<b>A-24</b>	

HERNANDO R. RAMOS, P.E.  
 P.E. LICENSE NUMBER 42045  
 HR ENGINEERING SERVICES, INC.  
 7815 NW 72ND AVENUE  
 MEDLEY, FLORIDA 33166

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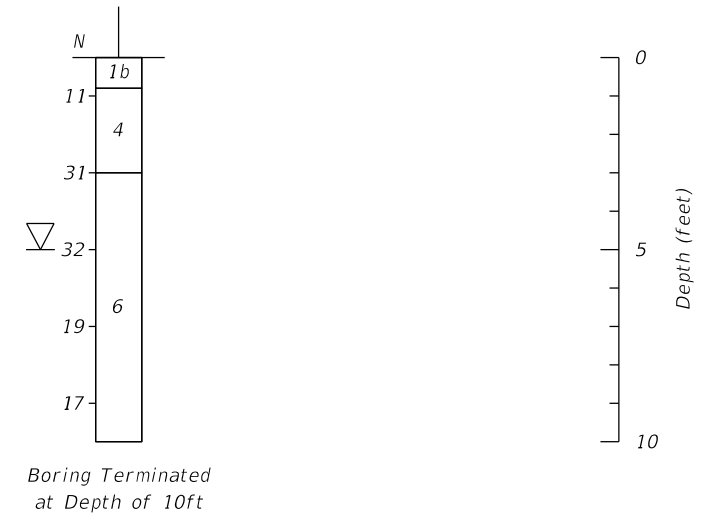
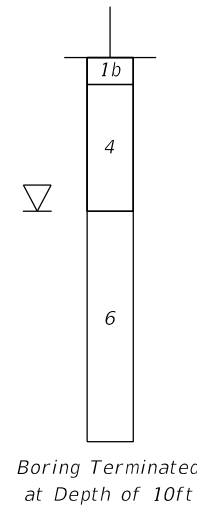
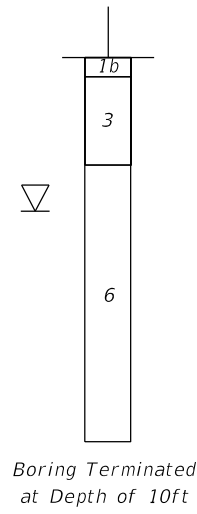
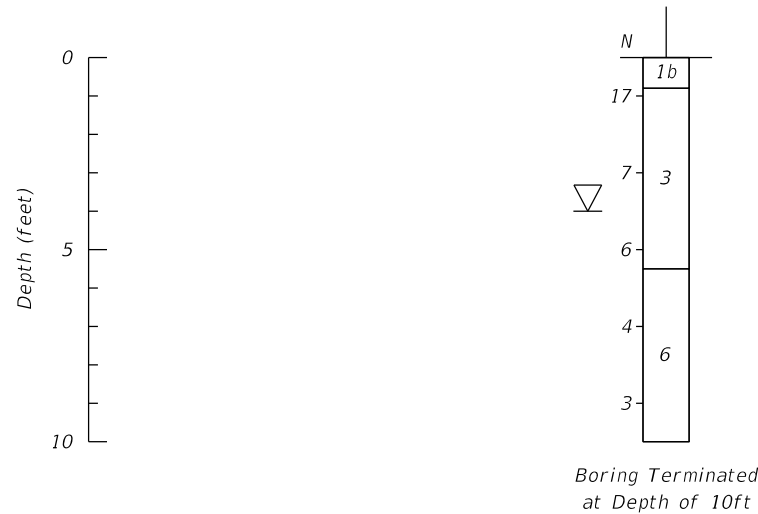


BOR # RB-37  
 STA. 81+59  
 OFF. 15.0 LT  
 DATE 11/19/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.59453  
 LONGITUDE -80.34815

BOR # RB-38  
 STA. 83+77  
 OFF. 28.0 LT  
 DATE 11/30/2020  
 DRILLER O. Mejias  
 LATITUDE 25.595912  
 LONGITUDE -80.34819

BOR # RB-39  
 STA. 85+12  
 OFF. 26.0 LT  
 DATE 11/30/2020  
 DRILLER O. Mejias  
 LATITUDE 25.59556  
 LONGITUDE -80.34818

BOR # RB-40  
 STA. 87+45  
 OFF. 38.0 LT  
 DATE 11/19/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.59616  
 LONGITUDE -80.34822

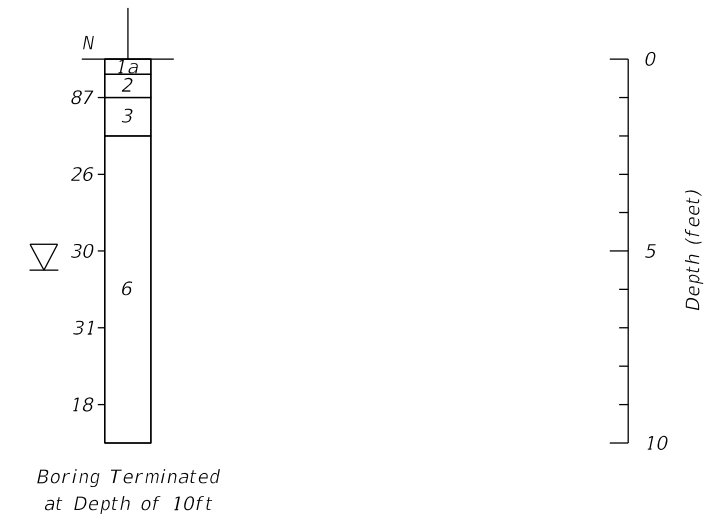
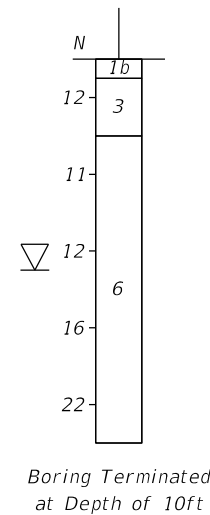
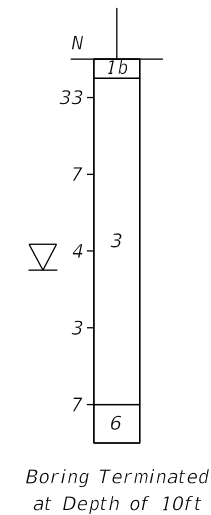
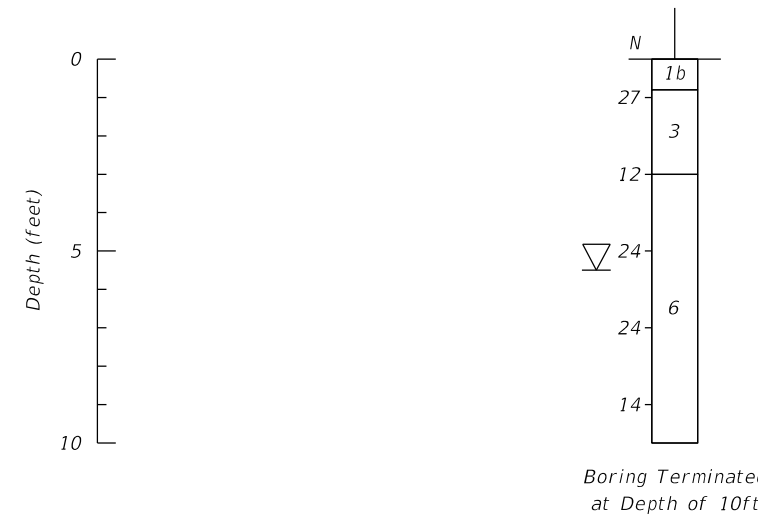


BOR # RB-41  
 STA. 89+10  
 OFF. 20.0 RT  
 DATE 11/19/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.59659  
 LONGITUDE -80.34805

BOR # RB-42  
 STA. 91+02  
 OFF. 23.0 LT  
 DATE 11/30/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.59712  
 LONGITUDE -80.34818

BOR # RB-43  
 STA. 93+00  
 OFF. 25.0 LT  
 DATE 11/30/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.59766  
 LONGITUDE -80.34820

BOR # RB-44  
 STA. 94+42  
 OFF. 19.0 RT  
 DATE 11/30/2020  
 DRILLER O. Mejias  
 HAMMER Auto  
 RIG CME-55  
 LATITUDE 25.59805  
 LONGITUDE -80.34807



LEGEND

- 1a. ASPHALT
- 1b. ORGANIC SILTY FINE SAND (TOPSOIL), A-8
- 2. LIMEROCK WITH SILTY FINE SAND, A-1-b
- 3. SILTY FINE SAND, A-2-4
- 4. SANDY SILT/SLIGHTLY ORGANIC SANDY SILT, A-4
- 5. FINE SAND, A-3
- 6. POROUS SANDY LIMESTONE AND CALCAREOUS FINE SAND

VERTICAL SCALE:   
 HORIZONTAL SCALE: NTS  
 HRES PROJECT No.: HR19-1573R

REVISIONS						DRAWN BY: CS 01-21	TOWN OF CUTLER BAY DEPARTMENT OF PUBLIC WORKS			SHEET TITLE:  SOIL PROFILES	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
HERNANDO R. RAMOS, P.E. P.E. LICENSE NUMBER 42045 HR ENGINEERING SERVICES, INC. 7815 NW 72ND AVENUE MEDLEY, FLORIDA 33166							MIAMI-DADE		FRANJO ROAD, FROM OLD CUTLER ROAD TO SW 184 STREET	<b>A-25</b>	

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**SOILS INFORMATION TABLE**  
**FRANJO ROAD, FROM OLD CUTLER ROAD TO SW 184<sup>TH</sup> STREET**  
**TOWN OF CUTLER BAY**  
**DEPARTMENT OF PUBLIC WORKS**  
**MIAMI-DADE COUNTY, FLORIDA**  
**HR ENGINEERING SERVICES, INC.**  
**HRES PROJECT No. HR19-1573R**  
**JANUARY 29, 2021**

TEST BORING No.	STATION	OFFSET ft.	RANGE IN DEPTH ft.	STRATUM	APPROXIMATE GROUNDWATER DEPTH ft.
RB-1	11+40	18.0 R	0.0-0.8	1b	6.0
			0.8-3.0	3	
			3.0-10.0	6	
RB-2	13+30	17.0 R	0.0-0.8	1b	7.3
			0.8-1.5	5	
			1.5-10.0	6	
RB-3	15+40	15.0 R	0.0-1.0	1b	6.5
			1.0-1.5	5	
			1.5-2.0	3	
			2.0-4.0	5	
			4.0-10.0	6	
RB-4	16+75	15.0 R	0.0-0.8	1b	6.3
			0.8-1.5	3	
			1.5-3.0	5	
			3.0-10.0	6	
P-1	18+17	58.0 R	0.0-0.5	1b	5.7
			0.5-3.0	3	
			3.0-15.0	6	
RB-5	19+24	16.0 R	0.0-0.8	1b	5.0
			0.8-1.5	3	
			1.5-4.0	5	
			4.0-10.0	6	
RB-6	21+10	18.0 R	0.0-0.8	1b	8.4
			0.8-4.0	3	
			4.0-10.0	6	
RB-7	23+05	21.0 L	0.0-0.8	1b	6.6
			0.8-10.0	6	
RB-8	25+22	18.0 L	0.0-0.8	1b	6.5
			0.8-1.5	3	
			1.5-10.0	6	
P-2	27+15	18.0 L	0.0-0.5	1b	7.5
			0.5-1.5	3	
			1.5-15.0	6	

**SOILS INFORMATION TABLE**  
**FRANJO ROAD, FROM OLD CUTLER ROAD TO SW 184<sup>TH</sup> STREET**  
**TOWN OF CUTLER BAY**  
**DEPARTMENT OF PUBLIC WORKS**  
**MIAMI-DADE COUNTY, FLORIDA**  
**HR ENGINEERING SERVICES, INC.**  
**HRES PROJECT No. HR19-1573R**  
**JANUARY 29, 2021**

TEST BORING No.	STATION	OFFSET ft.	RANGE IN DEPTH ft.	STRATUM	APPROXIMATE GROUNDWATER DEPTH ft.
RB-9	27+35	18.0 L	0.0-0.8	1b	6.4
			0.8-1.5	3	
			1.5-10.0	6	
RB-10	28+88	43.0 L	0.0-0.8	1b	7.5
			0.8-1.3	3	
			1.3-2.0	5	
			2.0-10.0	6	
RB-11	30+90	22.0 L	0.0-1.0	1b	7.5
			1.0-1.5	6	
RB-12	32+70	22.0 L	0.0-0.8	1b	7.5
			0.8-1.4	3	
			1.4-10.0	6	
RB-13	34+53	22.0 L	0.0-0.8	1b	7.5
			0.8-1.4	2	
			1.4-10.0	6	
P-3	35+71	23.0 L	0.0-0.5	1b	7.5
			0.5-2.5	3	
			2.5-15.0	6	
RB-14	36+56	24.0 L	0.0-0.8	1b	8.7
			0.5-1.2	3	
			1.2-3.5	5	
			3.5-10.0	6	
RB-15	38+62	23.0 R	0.0-0.8	1b	8.2
			0.8-4.0	5	
			4.0-10.0	6	
RB-16	40+42	24.0 L	0.0-0.8	1b	8.6
			0.8-1.5	3	
			1.5-10.0	6	
RB-17	42+59	23.0 L	0.0-0.8	1b	8.5
			0.8-1.3	2	
			1.3-1.8	3	
			1.8-10.0	6	
RB-18	44+13	26.0 L	0.0-0.8	1b	8.2
			0.8-2.5	3	
			2.5-10.0	6	

**SOILS INFORMATION TABLE**  
**FRANJO ROAD, FROM OLD CUTLER ROAD TO SW 184<sup>TH</sup> STREET**  
**TOWN OF CUTLER BAY**  
**DEPARTMENT OF PUBLIC WORKS**  
**MIAMI-DADE COUNTY, FLORIDA**  
**HR ENGINEERING SERVICES, INC.**  
**HRES PROJECT No. HR19-1573R**  
**JANUARY 29, 2021**

TEST BORING No.	STATION	OFFSET ft.	RANGE IN DEPTH ft.	STRATUM	APPROXIMATE GROUNDWATER DEPTH ft.
P-4	44+16	26.0 L	0.0-0.5	1b	10.8
			0.5-2.5	3	
			2.5-15.0	6	
RB-19	45+61	26.0 L	0.0-0.8	1b	7.6
			0.8-10.0	6	
RB-20	48+54	18.0 R	0.0-0.8	1b	8.0
			0.8-1.5	3	
			1.5-10.0	6	
RB-21	50+41	17.0 R	0.0-0.8	1b	7.3
			0.8-1.5	3	
			1.5-10.0	6	
RB-22	52+58	18.0 R	0.0-0.8	1b	7.3
			0.8-1.5	3	
			1.5-10.0	6	
P-5	52+68	18.0 R	0.0-0.5	1b	7.5
			0.5-4.0	3	
			4.0-6.0	5	
			6.0-15.0	6	
RB-23	54+59	19.0 R	0.0-0.8	1b	7.7
			0.8-2.0	3	
			2.0-5.0	3	
			5.0-10.0	6	
RB-24	55+79	23.0 R	0.0-0.8	1b	7.8
			0.8-1.6	3	
			1.6-4.0	5	
			4.0-10.0	6	
RB-25	57+80	28.0 R	0.0-0.8	1b	7.3
			0.8-3.0	2	
			3.0-10.0	6	
RB-26	59+68	25.0 L	0.0-0.8	1b	7.0
			0.8-5.0	3	
			5.0-10.0	6	

**SOILS INFORMATION TABLE**  
**FRANJO ROAD, FROM OLD CUTLER ROAD TO SW 184<sup>TH</sup> STREET**  
**TOWN OF CUTLER BAY**  
**DEPARTMENT OF PUBLIC WORKS**  
**MIAMI-DADE COUNTY, FLORIDA**  
**HR ENGINEERING SERVICES, INC.**  
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**JANUARY 29, 2021**

TEST BORING No.	STATION	OFFSET ft.	RANGE IN DEPTH ft.	STRATUM	APPROXIMATE GROUNDWATER DEPTH ft.
P-6	61+65	64.0 R	0.0-0.5	1b	5.7
			0.5-5.5	3	
			5.5-15.0	6	
RB-27	65+21	18.0 L	0.0-0.8	1b	6.0
			0.8-3.0	3	
			3.0-4.0	4	
			4.0-10.0	6	
RB-28	63+78	17.0 L	0.0-0.8	1b	5.3
			0.8-1.2	3	
			1.2-2.0	4	
			2.0-2.5	3	
			2.5-6.0	4	
			6.0-7.0	5	
RB-29	65+77	19.0 R	0.0-0.8	1b	4.7
			0.8-2.0	3	
			2.0-10.0	6	
RB-30	67+42	19.0 R	0.0-0.8	1b	5.3
			0.8-3.5	3	
			3.5-10.0	6	
RB-31	69+14	24.0 R	0.0-0.8	1b	6.0
			0.8-3.0	3	
			3.0-10.0	6	
P-7	70+34	23.0 L	0.0-0.5	1b	6.2
			0.5-3.5	4	
			3.5-15.0	6	
RB-32	70+99	18.0 R	0.0-0.8	1b	6.3
			0.8-2.5	3	
			2.5-5.0	4	
			5.0-10.0	6	
RB-33	73+27	8.0 L	0.0-0.8	1b	6.5
			0.8-4.0	3	
			4.0-9.0	4	
			9.0-10.0	6	

**SOILS INFORMATION TABLE**  
**FRANJO ROAD, FROM OLD CUTLER ROAD TO SW 184<sup>TH</sup> STREET**  
**TOWN OF CUTLER BAY**  
**DEPARTMENT OF PUBLIC WORKS**  
**MIAMI-DADE COUNTY, FLORIDA**  
**HR ENGINEERING SERVICES, INC.**  
**HRES PROJECT No. HR19-1573R**  
**JANUARY 29, 2021**

TEST BORING No.	STATION	OFFSET ft.	RANGE IN DEPTH ft.	STRATUM	APPROXIMATE GROUNDWATER DEPTH ft.
RB-34	75+80	50.0 R	0.0-0.8	1b	6.0
			0.8-3.0	3	
			3.0-6.0	4	
			6.0-10.0	6	
RB-35	77+40	4.0 R	0.0-0.8	1b	5.8
			0.8-3.0	3	
			3.0-5.0	4	
			5.0-10.0	6	
P-8	79+30	23.0 R	0.0-0.5	1b	4.8
			0.5-2.5	3	
			2.5-3.5	4	
			3.5-4.0	3	
			4.0-15.0	6	
RB-36	79+38	23.0 R	0.0-0.5	1b	4.8
			0.5-2.5	3	
			2.5-3.5	4	
			3.5-4.0	3	
			4.0-10.0	6	
RB-37	81+59	15.0 L	0.0-0.8	1b	4.0
			0.8-5.5	3	
			5.5-10.0	6	
RB-38	83+77	28.0 L	0.0-0.5	1b	4.0
			0.5-2.8	3	
			2.8-10.0	6	
RB-39	85+12	26.0 L	0.0-0.7	1b	4.0
			0.7-4.0	4	
			4.0-10.0	6	
RB-40	87+45	38.0 L	0.0-0.8	1b	5.0
			0.8-3.0	4	
			3.0-10.0	6	
P-9	87+95	20.0 L	0.0-0.7	1b	5.8
			0.7-2.5	3	
			2.5-3.7	4	
			3.7-15.0	6	

**SOILS INFORMATION TABLE**  
**FRANJO ROAD, FROM OLD CUTLER ROAD TO SW 184<sup>TH</sup> STREET**  
**TOWN OF CUTLER BAY**  
**DEPARTMENT OF PUBLIC WORKS**  
**MIAMI-DADE COUNTY, FLORIDA**  
**HR ENGINEERING SERVICES, INC.**  
**HRES PROJECT No. HR19-1573R**  
**JANUARY 29, 2021**

TEST BORING No.	STATION	OFFSET ft.	RANGE IN DEPTH ft.	STRATUM	APPROXIMATE GROUNDWATER DEPTH ft.
RB-41	89+10	20.0 R	0.0-0.8	1b	5.5
			0.8-3.0	3	
			3.0-10.0	6	
RB-42	91+02	23.0 L	0.0-0.5	1b	5.5
			0.5-9.0	3	
			9.0-10.0	6	
RB-43	93+00	25.0 L	0.0-0.5	1b	5.5
			0.5-2.0	3	
			2.0-10.0	6	
RB-44	94+42	19.0 R	0.0-0.4	1a	5.5
			0.4-1.0	2	
			1.0-2.0	3	
			2.0-10.0	6	

**SOILS INFORMATION LEGEND**

<b>STRATUM : 1a</b>	Asphalt
<b>STRATUM : 1b</b>	Organic silty fine sand (topsoil), A-8
<b>STRATUM : 2</b>	Limerock with silty fine sand, A-1-b
<b>STRATUM : 3</b>	Silty fine Sand, A-2-4
<b>STRATUM : 4</b>	Sandy Silt/ Slightly organic sandy Silt, A-4
<b>STRATUM : 5</b>	Fine Sand, A-3
<b>STRATUM : 6</b>	Porous sandy Limestone and calcareous fine sand

## **FIELD TESTING PROCEDURES**

**Test Borings** - The test borings were made in general accordance with ASTM-D-1586, "Penetration Test and Split-Barrel Sampling of Soils." The borings were advanced using a 3-inch ID casing and a rotary drilling process. At regular intervals, the drilling tools were removed and soil samples were obtained with a standard 1.4-inch I.D., 2-inch O.D., split-tube sampler. The sampler was first seated six inches and then driven an additional foot with blows of a 140-lb hammer falling 30 inches. The number of hammer blows required to drive the sampler the final foot is designated the "Penetration Resistance". The penetration resistance, when properly interpreted, is an index to the soil strength and density.

Representative portions of the soil samples, obtained from the sampler, were placed in glass jars and transported to our laboratory. An engineer then examined the samples in order to confirm the field classifications.

**Auger Borings** – Auger borings were mechanically advanced. The soils encountered were identified in the field from cuttings brought to the surface by the augering process.

**Percolation Testing** - The percolation tests were performed in order to estimate the hydraulic conductivity of the materials encountered. The usual open-hole Constant Head method was used. The general procedures outlined in the South Florida Water Management District (SFWD) were followed. Each test was performed in a 6.0-inch outside diameter hole initially pre-drilled to a depth of 15 feet below the existing ground surface, using a hollow stem auger. Each borehole was then filled with water and the water level maintained as close as possible to the ground surface. Once the inflow stabilized or came into equilibrium with the outflow rate or seepage, the amount of water added for a period of 10 minutes was recorded and the percolation rate calculated and reported in units of cfs/ft.<sup>2</sup>-ft. of head.



## **APPENDIX B**

**SUMMARY OF LABORATORY TEST RESULTS  
ROADWAY SOILS SURVEY  
LABORATORY TESTING PROCEDURES  
LABORATORY TEST RESULTS  
– SOIL TESTING**

**B-1 AND B-2  
B-3  
B-4**

**B-5 THRU B-29**

**SUMMARY OF LABORATORY TEST RESULTS**  
**FRANJO ROAD, FROM OLD CUTLER ROAD TO SW 184 STREET**  
**TOWN OF CUTLER BAY**  
**DEPARTMENT OF PUBLIC WORKS**  
**MIAMI-DADE COUNTY, FLORIDA**  
**HR ENGINEERING SERVICES, INC.**  
**HRES PROJECT No. HR19-1573R**  
**JANUARY 29, 2021**

Test Boring No.	AASHTO Class.	Stratum No.	Sample Depth (ft)	Grain Size Distribution - Percent Passing										Organic Loss of Ignition, %	Moisture Content %	Material in Sample		
				1"	3/4"	3/8"	No. 4	No. 10	No. 40	No. 60	No. 100	No. 200	Gravel			Sand	Fines	
RB-1	A-2-4	3	0.8-1.5	100	93	75	62	53	43	38	31	27	-	12	38	35	27	
RB-9	A-2-4	3	0.8-1.5	100	100	90	74	65	56	47	32	28	-	16	26	46	28	
RB-13	A-1-b	2	0.8-1.4	100	100	76	62	54	45	36	22	18	-	18	38	44	18	
RB-17	A-1-b	2	0.8-1.3	100	77	71	60	53	44	35	25	21	-	11	40	39	21	
RB-20	A-2-4	3	0.8-1.5	100	100	92	77	67	53	41	27	23	-	11	23	54	23	
RB-25	A-1-b	2	0.8-2.0	100	91	77	68	61	50	36	19	15	-	14	32	53	15	
RB-26	A-2-4	3	2.0-3.0	-	-	-	-	-	-	-	-	23	-	20	-	-	23	
RB-26	A-2-4	3	3.0-4.0	-	-	-	-	-	-	-	-	30	-	36	-	-	30	
RB-26	A-2-4	3	4.0-5.0	-	-	-	-	-	-	-	-	35	-	33	-	-	35	
RB-27	A-4	4	3.0-4.0	-	-	-	-	-	-	-	-	60	-	42	-	-	60	
RB-28	A-4	4	1.2-2.0	-	-	-	-	-	-	-	-	64	-	38	-	-	64	
RB-28	A-4	4	2.5-4.0	-	-	-	-	-	-	-	-	87	-	53	-	-	87	
RB-28	A-4	4	4.0-6.0	-	-	-	-	-	-	-	-	94	-	53	-	-	94	
RB-28	A-3	5	6.0-7.0	-	-	-	-	-	-	-	-	8	-	25	-	-	8	

**SUMMARY OF LABORATORY TEST RESULTS**  
**FRANJO ROAD, FROM OLD CUTLER ROAD TO SW 184 STREET**  
**TOWN OF CUTLER BAY**  
**DEPARTMENT OF PUBLIC WORKS**  
**MIAMI-DADE COUNTY, FLORIDA**  
**HR ENGINEERING SERVICES, INC.**  
**HRES PROJECT No. HR19-1573R**  
**JANUARY 29, 2021**

Test Boring No.	AASHTO Class.	Stratum No.	Sample Depth (ft)	Grain Size Distribution - Percent Passing										Organic Loss of Ignition, %	Moisture Content %	Material in Sample, %						
				1"	3/4"	3/8"	No. 4	No. 10	No. 40	No. 60	No. 100	No. 200	Gravel			Sand	Fines					
RB-32	A-4	4	2.5-4.0	-	-	-	-	-	-	-	-	-	-	-	95	-	-	-	42	-	-	95
RB-32	A-4	4	4.0-5.0	-	-	-	-	-	-	-	-	-	-	-	94	-	-	-	38	-	-	94
RB-33	A-4	4	4.0-6.0	-	-	-	-	-	-	-	-	-	-	-	98	-	-	-	54	-	-	98
RB-33	A-4	4	6.0-8.0	-	-	-	-	-	-	-	-	-	-	-	95	-	-	-	63	-	-	95
RB-33	A-4	4	8.0-9.0	-	-	-	-	-	-	-	-	-	-	-	50	5	-	-	75	-	-	50
RB-34	A-4	4	3.0-4.0	-	-	-	-	-	-	-	-	-	-	-	98	-	-	-	39	-	-	98
RB-34	A-4	4	4.0-6.0	-	-	-	-	-	-	-	-	-	-	-	94	-	-	-	41	-	-	94
RB-35	A-4	4	3.0-4.0	-	-	-	-	-	-	-	-	-	-	-	95	-	-	-	38	-	-	95
RB-35	A-4	4	4.0-5.0	-	-	-	-	-	-	-	-	-	-	-	92	-	-	-	38	-	-	92
RB-40	A-4	4	0.8-2.0	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	32	-	-	-

DATE OF SURVEY: NOVEMBER AND DECEMBER, 2020  
 SURVEY MADE BY: HR Engineering Services, Inc.  
 SUBMITTED BY: HERNANDO RAMOS, P.E.

TOWN OF CUTLER BAY  
 DEPARTMENT OF PUBLIC WORKS

DISTRICT: --  
 ROAD NO.: --  
 COUNTY: MIAMI-DADE

PROJECT NO. : --  
 PROJECT NAME: FRANJO ROAD, FROM OLD CUTLER ROAD TO SW 184TH STREET

CROSS SECTION SOIL SURVEY FOR THE DESIGN OF ROADS

SURVEY BEGINS STA. : 12+71.54 SURVEY ENDS STA. : 95+7.00

REFERENCE: FRANJO ROAD

STRATUM NO.	ORGANIC CONTENT		MOISTURE CONTENT		SIEVE ANALYSIS RESULTS PERCENT PASS (%)					ATTERBERG LIMITS (%)				DESCRIPTION	CORROSION TEST RESULTS					
	NO. OF TESTS	% ORGANIC	NO. OF TESTS	MOISTURE CONTENT	NO. OF TESTS	10 MESH	40 MESH	60 MESH	100 MESH	200 MESH	NO. OF TESTS	LIQUID LIMIT	PLASTIC INDEX		AASHTO GROUP	NO. OF TESTS	RESISTIVITY ohm-cm	CHLORIDE ppm	SULFATES ppm	pH
1a	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ASPHALTIC CONCRETE	--	--	--	--	--
1b	--	--	--	--	--	--	--	--	--	--	--	--	--	A-8	ORGANIC SILTY FINE SAND (TOPSOIL)	--	--	--	--	--
2	--	--	3	18-11	3	61-53	50-44	36-35	25-19	21-15	--	--	--	A-1-b	LIMEROCK WITH SILTY FINE SAND (FILL)	--	--	--	--	--
3	--	--	6	36-11	6	67-53	56-43	47-38	32-27	35-23	--	--	--	A-2-4	SILTY FINE SAND WITH TRACES OF LIMEROCK FRAGMENTS	--	--	--	--	--
4	2	5-4	14	75-32	13	--	--	--	--	98-50	--	--	--	A-4	SANDY SILT/ SLIGHTLY ORGANIC SANDY SILT	--	--	--	--	--
5	--	--	1	25	1	--	--	--	--	8	--	--	--	A-3	FINE SAND WITH TRACES OF LIMEROCK FRAGMENTS	--	--	--	--	--
6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	POROUS SANDY LIMESTONE AND CALCAREOUS FINE SAND	--	--	--	--	--

EMBANKMENT AND SUBGRADE MATERIAL

STRATA BOUNDARIES ARE APPROXIMATE. MAKE FINAL CHECK AFTER GRADING.

∇ - WATER TABLE ENCOUNTERED

GNE - GROUNDWATER NOT ENCOUNTERED

THE MATERIAL FROM STRATUM NUMBER 1a IS ASPHALTIC CONCRETE.

THE MATERIAL FROM STRATUM NUMBER 1b A-8 MATERIAL (TOPSOIL) AND IS UNSUITABLE FOR USE AS STABILIZED SUBGRADE OR FILL MATERIAL AND SHALL BE REMOVED.

THE MATERIAL FROM STRATUM NUMBER 2 IS A-1-b MATERIAL AND IS SUITABLE FOR USE AS GENERAL FILL WHEN UTILIZED IN ACCORDANCE WITH INDEX 120-001. IT CANNOT BE USED AS BASE MATERIAL.

THE MATERIAL FROM STRATUM NUMBER 3 IS A-2-4 MATERIAL AND IS SUITABLE FOR USE IN THE EMBANKMENT WHEN UTILIZED IN ACCORDANCE WITH INDEX 120-001. HOWEVER, THIS MATERIAL IS LIKELY TO RETAIN EXCESS MOISTURE AND BE DIFFICULT TO DRY AND COMPACT. IT SHALL BE USED IN THE EMBANKMENT ABOVE THE WATER LEVEL EXISTING AT THE TIME OF CONSTRUCTION.

THE MATERIAL FROM STRATUM NUMBER 4 IS A-4 MATERIAL. THIS MATERIAL IS UNSUITABLE FOR USE IN THE EMBANKMENT AND AS STABILIZED SUBGRADE AND SHALL BE REMOVED IN ACCORDANCE WITH STANDARD PLAN INDEX 120-002, IT SHALL BE REMOVED IF ENCOUNTERED WITHIN 2 FEET BELOW THE BOTTOM OF THE BASE. THIS MATERIAL WAS FOUND BY BORINGS RB-28, RB-32, RB-36, RB-39, RB-40 AND PERCOLATION TESTS P-7, P-8 AND P-9 AT DEPTHS WITHIN 2 FEET BELOW THE BOTTOM OF THE NEW BASE.

THE MATERIAL FROM STRATUM NUMBER 5 IS A-3 MATERIAL AND APPEARS SATISFACTORY FOR USE IN THE EMBANKMENT WHEN UTILIZED IN ACCORDANCE WITH INDEX 120-001.

THE MATERIAL FROM STRATUM NUMBER 6 IS THE NATURAL LIMESTONE. THIS MATERIAL APPEARS SUITABLE FOR USE AS GENERAL FILL AND AS STABILIZED SUBGRADE WHEN UTILIZED IN ACCORDANCE WITH FDOT INDEX 120-001. THIS MATERIAL TYPICALLY OFFERS A HIGH RESISTANCE TO EXCAVATION. SPECIAL EQUIPMENT AND BREAKING TOOLS MAY BE REQUIRED TO EXCAVATE IT. THIS MATERIAL IS ALSO DIFFICULT TO DEWATER DUE TO ITS HIGH POROSITY AND PERMEABILITY.

THE SYMBOL "--" REPRESENTS NO TESTING PERFORMED.

REVISIONS				HERNANDO R. RAMOS, P.E. P.E. LICENSE NUMBER 42045 HR ENGINEERING SERVICES, INC. 7815 NW 72ND AVENUE MEDLEY, FLORIDA 33166	TOWN OF MIAMI LAKES			ROADWAY SOILS SURVEY	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	PROJECT NO.		
					--	MIAMI-DADE	--		

## **LABORATORY TESTING PROCEDURES**

**Organic Content (Organic Loss on Ignition)** – The amount of organic material in the sample was determined in this test, by measuring the loss due to ignition. The sample was first dried and weighed, then ignited and reweighed. The amount of organic material is expressed as a percentage of the soil weight. The test was conducted in general accordance with ASTM D-2974.

**Percent Fines Content** – In this test, the sample was dried and then washed over a # 200 mesh sieve. The percentage of soil by weight passing the sieve is the percentage of fines or portion of the sample in the silt and clay size range. This test was conducted in general accordance with ASTM D-1140.

**Moisture Content** – The moisture content (water content) is the ratio, expressed as a percentage of the weight of water in a given mass of soil to the weight of the soil particles. This test was conducted in general accordance with ASTM D-2216.

**Sieve Analysis** – The sieve analyses were performed to determine the particle size and distribution of sample tested. Each sample was dried, weighed, and washed over a # 200 mesh sieve. The dried sample was then passed through a standard set nested sieves to determine the grain size distribution of the soil particles coarser than the # 200 sieves. This test was conducted in general accordance with ASTM C-136.

**GRAIN SIZE DATA SHEET**

Project Name: _____		Project No.: <u>HR19-1573R</u>				
Boring No.: <u>RB-1</u>		Sample No.: <u>1B</u>				
Date: <u>11/18/2020</u>		Depth: <u>0.8-1.5</u>				
		Tested By: <u>E.M.</u>				
Sieve Size	Particle Size, mm.	Weight on Sieve, gr.	Accumulated Weight, gr.	Percent Retained	Percent Passing	REMARKS
1	25.70	0.00	0.00	0	100	
3/4"	19.00	24.20	24.20	7	93	
3/8"	9.51	64.30	88.50	25	75	
4	4.76	46.80	135.30	38	62	AASHTO Classification:
10	2.00	32.20	167.50	47	53	
40	0.420	33.70	201.20	57	43	
60	0.250	19.30	220.50	62	38	
100	0.149	25.50	246.00	69	31	
200	0.074	13.80	259.80	73	27	A-2-4
PAN						

Total Dry Weight Before Wash, (gr) =	<b>354.10</b>
Percent Finer than No. 200 Sieve by Wash Method=	<b>27%</b>

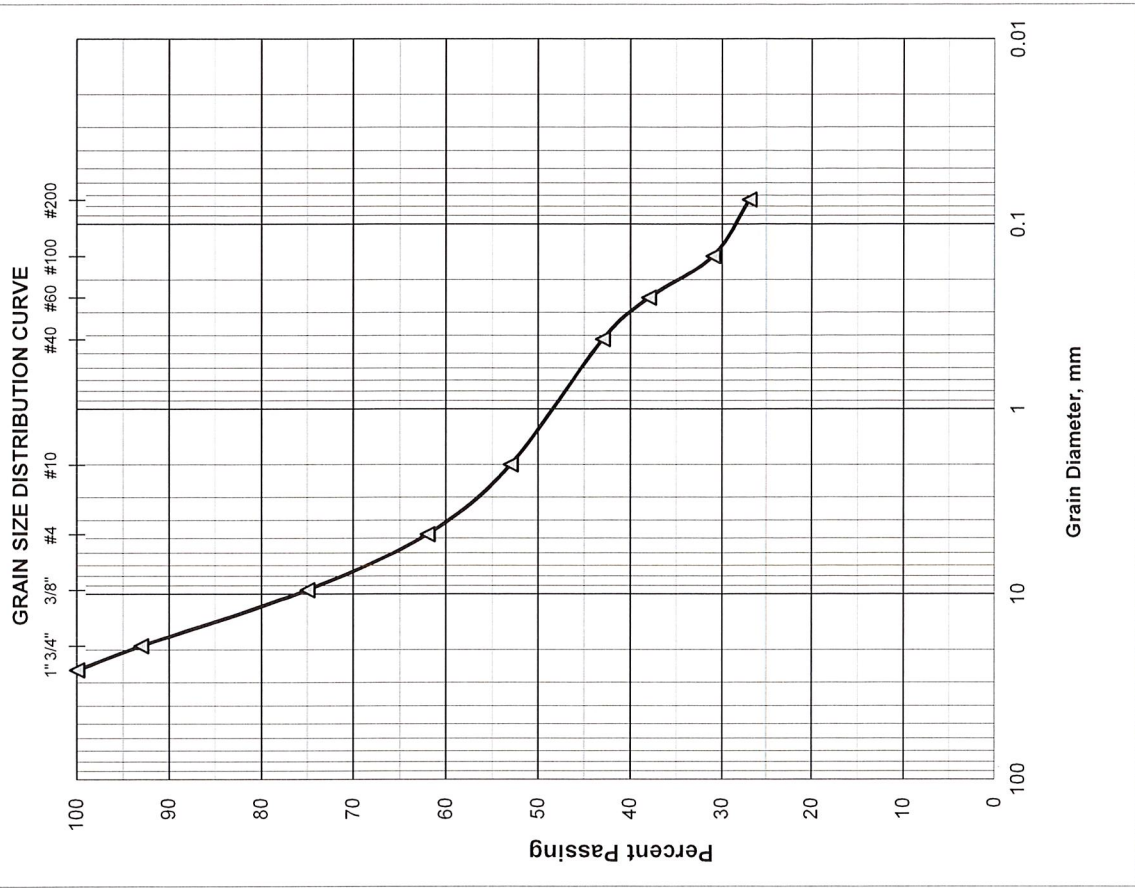
Sieve Analysis Test performed in general accordance with ASTM C 136 (AASHTO T 27 or T 311)  
 Moisture Content Test performed in general accordance with ASTM D 2216 (AASHTO T 265)

Material in Sample (%)	
Gravel	≤ No. 4 38
Coarse Sand	>No. 4-≤ No. 40 19
Fine Sand	>No. 40-≤ No. 200 16
Silt and Clays	>No. 200 27
Water Content	12%

Respectfully Submitted,  
**HR Engineering Services, Inc.**



Hernando R. Ramos, P.E.  
 Florida Registration No. 42045







**GRAIN SIZE DATA SHEET**

Project Name: <u>                    </u>		Project No.: <u>HR19-1573R</u>				
Boring No.: <u>RB-13</u>		Sample No.: <u>1B</u>				
Date: <u>11/18/2020</u>		Depth: <u>0.8-1.4</u>				
		Tested By: <u>E.M.</u>				
Sieve Size	Particle Size, mm.	Weight on Sieve, gr.	Accumulated Weight, gr.	Percent Retained	Percent Passing	REMARKS
1	25.70	0.00	0.00	0	100	
3/4"	19.00	0.00	0.00	0	100	
3/8"	9.51	23.30	23.30	24	76	
4	4.76	14.50	37.80	38	62	AASHTO Classification:
10	2.00	7.70	45.50	46	54	
40	0.420	8.40	53.90	55	45	A-1-b
60	0.250	8.90	62.80	64	36	
100	0.149	14.60	77.40	78	22	
200	0.074	3.90	81.30	82	18	
PAN						

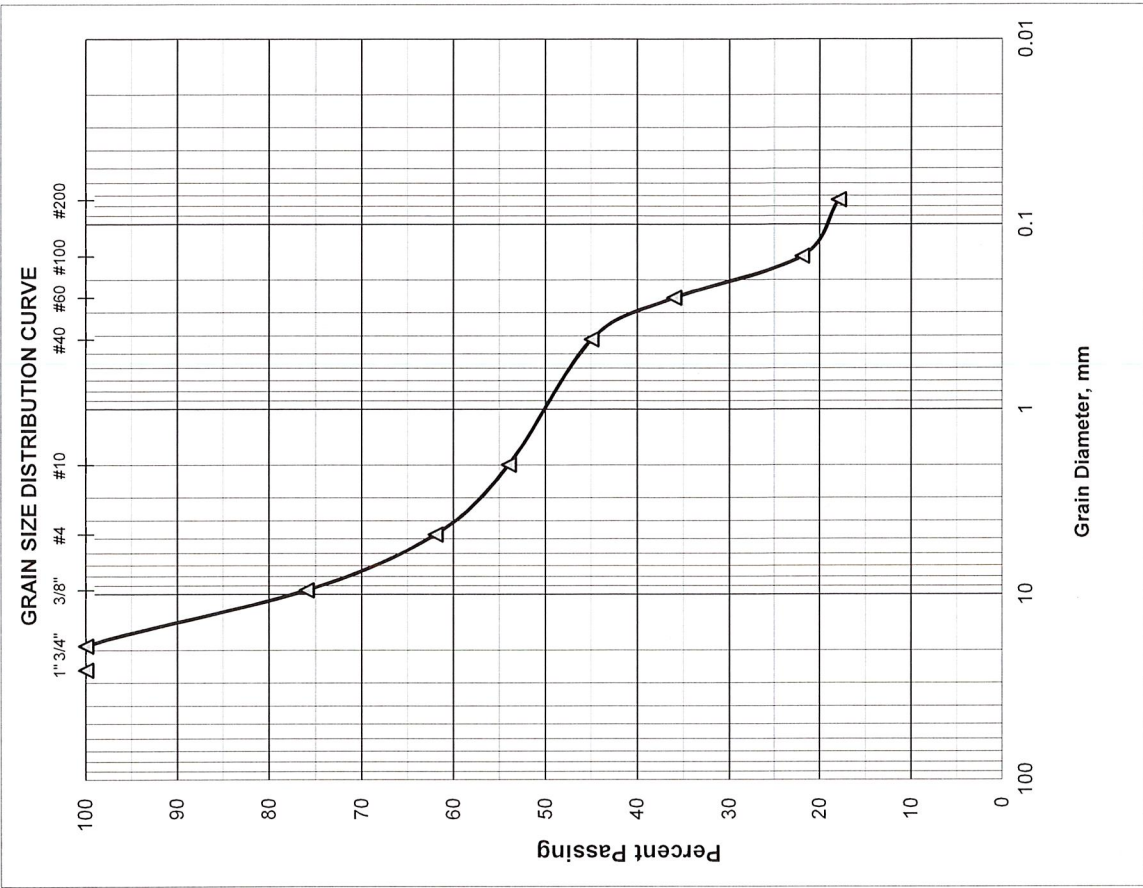
Total Dry Weight Before Wash, (gr) =	<b>98.70</b>
Percent Finer than No. 200 Sieve by Wash Method=	<b>18%</b>

Sieve Analysis Test performed in general accordance with ASTM C 136 (AASHTO T 27 or T 311)  
 Moisture Content Test performed in general accordance with ASTM D 2216 (ASSHTO T 265)

Material in Sample (%)	
Gravel	≤ No. 4 38
Coarse Sand	>No. 4-≤ No. 40 17
Fine Sand	>No. 40-≤ No. 200 27
Silt and Clays	>No. 200 18
Water Content	18%

Respectfully Submitted,  
  
**HR Engineering Services, Inc.**

Hernando R. Ramos, P.E.  
 Florida Registration No. 42045





**GRAIN SIZE DATA SHEET**

Project Name: _____		Franjo Road		Project No.: HR19-1573R		
Boring No.: RB-17		Sample No.: 1B		Depth: 0.8-1.3		
Date: 11/27/2020		Tested By: E.M.				
Sieve Size	Particle Size, mm.	Weight on Sieve, gr.	Accumulated Weight, gr.	Percent Retained	Percent Passing	REMARKS
1	25.70	0.00	0.00	0	100	
3/4"	19.00	52.90	52.90	23	77	
3/8"	9.51	14.40	67.30	29	71	
4	4.76	25.20	92.50	40	60	AASHTO Classification:
10	2.00	14.70	107.20	47	53	
40	0.420	20.20	127.40	56	44	
60	0.250	21.20	148.60	65	35	A-1-b
100	0.149	23.90	172.50	75	25	
200	0.074	7.50	180.00	79	21	
PAN						

Total Dry Weight Before Wash, (gr) = **229.00**  
 Percent Finer than No. 200 Sieve by Wash Method = **21%**

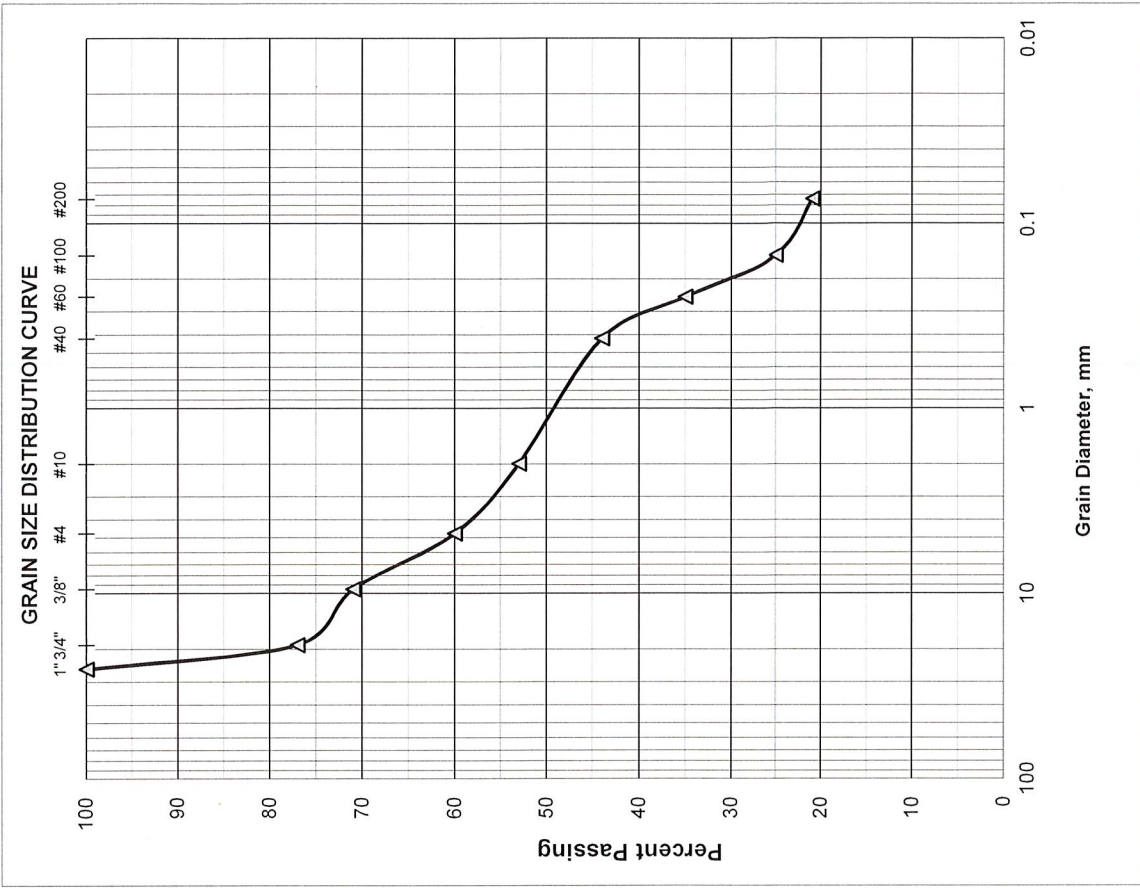
Sieve Analysis Test performed in general accordance with ASTM C 136 (AASHTO T 27 or T 311)  
 Moisture Content Test performed in general accordance with ASTM D 2216 (ASSHTO T 265)

Material in Sample (%)	
Gravel	≤ No. 4 40
Coarse Sand	>No. 4-≤ No. 40 16
Fine Sand	>No. 40-≤ No. 200 23
Silt and Clays	>No. 200 21
Water Content	11%

Respectfully Submitted,  
**HR Engineering Services, Inc.**



Hernando R. Ramos, P.E.  
 Florida Registration No. 42045



**GRAIN SIZE DATA SHEET**

Project Name: _____		Project No.: <u>HR19-1573R</u>	
Boring No.: <u>RB-20</u>		Sample No.: <u>1B</u>	
Date: <u>12/3/2020</u>		Depth: <u>0.8-1.5</u>	
		Tested By: <u>E.M.</u>	
Project Location: <u>Franjo Road</u>			

Sieve Size	Particle Size, mm.	Weight on Sieve, gr.	Accumulated Weight, gr.	Percent Retained	Percent Passing	REMARKS
1	25.70	0.00	0.00	0	100	
3/4"	19.00	0.00	0.00	0	100	
3/8"	9.51	17.20	17.20	8	92	
4	4.76	31.90	49.10	23	77	AASHTO Classification:
10	2.00	21.70	70.80	33	67	
40	0.420	30.40	101.20	47	53	A-2-4
60	0.250	25.70	126.90	59	41	
100	0.149	30.70	157.60	73	27	
200	0.074	10.20	167.80	77	23	
PAN						

Total Dry Weight Before Wash, (gr) =	<b>216.90</b>
Percent Finer than No. 200 Sieve by Wash Method=	<b>23%</b>

Total Dry Weight Before Wash, (gr) =  
 Percent Finer than No. 200 Sieve by Wash Method=

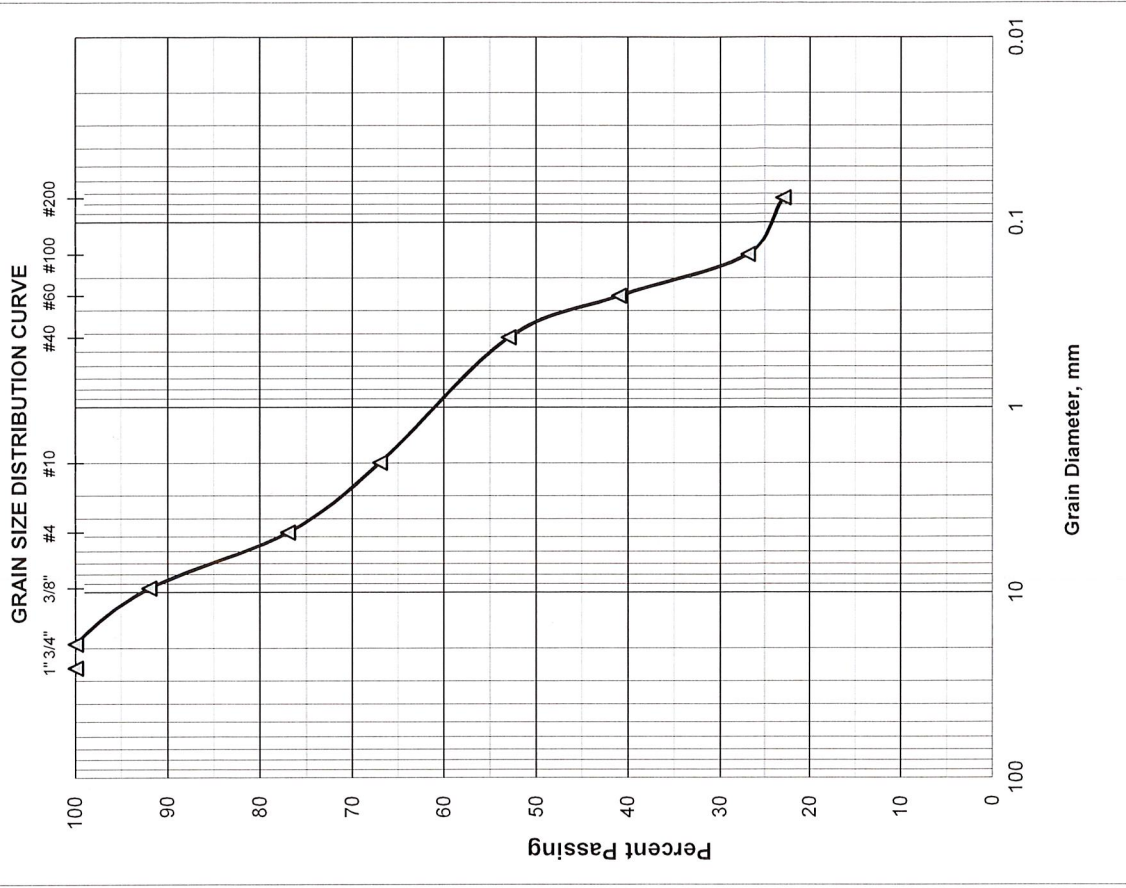
Sieve Analysis Test performed in general accordance with ASTM C 136 (AASHTO T 27 or T 311)  
 Moisture Content Test performed in general accordance with ASTM D 2216 (AASHTO T 265)

Material in Sample (%)		
Gravel	≤ No. 4	23
Coarse Sand	>No. 4-≤ No. 40	24
Fine Sand	>No. 40-≤ No. 200	30
Silt and Clays	>No. 200	23
Water Content		11%

Respectfully Submitted,  
**HR Engineering Services, Inc.**



Hernando R. Ramos, P.E.  
 Florida Registration No. 42045









# HR ENGINEERING SERVICES, INC.

7815 N.W. 72nd Avenue - Medley, Florida 33166

Phone (305) 888-8880, Fax (305) 888-8770

## REPORT OF MOISTURE AND PERCENT PASSING THE No. 200 SIEVE

Project Name: Franjo Road Project No.: HR19-1573R  
Boring No.: RB-26 Sample No.: 2B Depth: 3.0-4.0  
Date: 11/30/20

Technician:	E.M
Date Sample Placed in Oven:	11/30/2020
Time in / Out of Oven :	11/30/20 9:00 AM TO 12/01/20 9:00 AM
Wt. of Wet Soil + Can, grams	149.40
Wt. of Dry Soil + Can, grams	112.00
Wt. of Can, grams No. 504	8.80
Wt. of Dry Soil, grams	103.20
Wt. of Moisture, grams	37.40
Water Content, w%	36%
Wt. of Dry Soil + Can Before Wash, grams	112.00
Wt. of Can, grams No. 504	8.80
Wt. of Dry Soil Before Wash, grams	103.20
Time in / Out of Oven :	12/02/20 9:30 AM TO 12/03/20 9:30 AM
Wt. of Dry Soil + Can After Wash, grams	81.50
Wt. of Dry Soil After Wash, grams	72.70
Total Loss, grams	30.50
Percent Finer Than No. 200 Sieve	30%

Moisture Content Test was performed in general accordance with ASTM D 2216 (AASHTO T 265)

Fines Content Test was performed in general accordance with ASTM C 136 (AASHTO T 27 or T 311)

Respectfully Submitted,

HR Engineering Services, Inc.



Hernando R. Ramos, P.E.

Florida Registration No. 42045

AASHTO Classification:

A-2-4

# HR ENGINEERING SERVICES, INC.

7815 N.W. 72nd Avenue - Medley, Florida 33166  
Phone (305) 888-8880, Fax (305) 888-8770

## REPORT OF MOISTURE AND PERCENT PASSING THE No. 200 SIEVE

Project Name: Franjo Road Project No.: HR19-1573R  
Boring No.: RB-26 Sample No.: 3A Depth: 4.0-5.0  
Date: 11/30/20

Technician:	E.M
Date Sample Placed in Oven:	11/30/2020
Time in / Out of Oven :	11/30/20 9:00 AM TO 12/01/20 9:00 AM
Wt. of Wet Soil + Can, grams	158.60
Wt. of Dry Soil + Can, grams	121.20
Wt. of Can, grams No. 505	8.80
Wt. of Dry Soil, grams	112.40
Wt. of Moisture, grams	37.40
Water Content, w%	33%
Wt. of Dry Soil + Can Before Wash, grams	121.20
Wt. of Can, grams No. 505	8.80
Wt. of Dry Soil Before Wash, grams	112.40
Time in / Out of Oven :	12/02/20 9:30 AM TO 12/03/20 9:30 AM
Wt. of Dry Soil + Can After Wash, grams	81.70
Wt. of Dry Soil After Wash, grams	72.90
Total Loss, grams	39.50
Percent Finer Than No. 200 Sieve	35%

Moisture Content Test was performed in general accordance with ASTM D 2216 (AASHTO T 265)

Fines Content Test was performed in general accordance with ASTM C 136 (AASHTO T 27 or T 311)

Respectfully Submitted,

HR Engineering Services, Inc.



Hernando R. Ramos, P.E.  
Florida Registration No. 42045

AASHTO Classification:

A-2-4















































# **APPENDIX C**

**GTR REVIEW CHECKLIST**

**C-1 AND C-2**

## GTR REVIEW CHECKLIST FOR SITE INVESTIGATION

### A. Site Investigation Information

Since the most important step in the geotechnical design process is to conduct an adequate site investigation, presentation of the subsurface information in the geotechnical report and on the plans deserves careful attention.

<u>Geotechnical Report Text</u> (Introduction) (Pgs. 10-1 to 10-4)	<u>Yes</u>	<u>No</u>	<u>Unknown or N/A</u>
1. Is the general location of the investigation described and/or a vicinity map included?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Is scope and purpose of the investigation summarized?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Is concise description given of geologic setting and topography of area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Are the field explorations and laboratory tests on which the report is based listed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Is the general description of subsurface soil, rock, and groundwater conditions given?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
*6. Is the following information included with the geotechnical report (typically included in the report appendices):			
a. Test hole logs? (Pgs. 2-24 to 2-32)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Field test data?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Laboratory test data? (Pgs. 4-22 to 4-23)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Photographs (if pertinent)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<u>Plan and Subsurface Profile</u> (Pgs. 2-19, 3-9 to 3-12, 10-13)			
*7. Is a plan and subsurface profile of the investigation site provided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Are the field explorations located on the plan view?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

\*A response other than (yes) or (N/A) for any of these checklist questions is cause to contact the appropriate geotechnical engineer for a clarification and/or to discuss the project.



A.	<u>Site Investigation Information</u> (Cont.)	<u>Yes</u>	<u>No</u>	<u>Unknown or N/A</u>
*9.	Does the conducted site investigation meet minimum criteria outlined in Table 2?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.	Are the explorations plotted and correctly numbered on the profile at their true elevation and location?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.	Does the subsurface profile contain a word description and/or graphic depiction of soil and rock types?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.	Are groundwater levels and date measured shown on the subsurface profile?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>Subsurface Profile or Field Boring Log</u> (Pgs. 2-14, 2-15, 2-24 to 2-31)				
13.	Are sample types and depths recorded?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
*14.	Are SPT blow count, percent core recovery, and RQD values shown?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.	If cone penetration tests were made, are plots of cone resistance and friction ratio shown with depth?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>Laboratory Test Data</u> (Pgs. 4-6, 4-22, 4-23)				
*16.	Were lab soil classification tests such as natural moisture content, gradation, Atterberg limits, performed on selected representative samples to verify field visual soil identification?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
17.	Are laboratory test results such as shear strength (Pg. 4-14), consolidation (Pg. 4-9), etc., included and/or summarized?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

\*A response other than (yes) or (N/A) for any of these checklist questions is cause to contact the appropriate geotechnical engineer for a clarification and/or to discuss the project.