

TASK ORDER TO THE AGREEMENT

In accordance with the Miscellaneous Maintenance for Roads, Right-of-Ways, and Stormwater Maintenance Agreement, approved by the Board of County Commissioners on July 6, 2022 (the "Agreement") for work within the scope of Solicitation 22Q-141-TO-02 DRA 3127 Erosion Repair - Maintenance Project, this Task Order to the Agreement (this "Amendment") is made and entered into between Hartman Civil Construction Company, Inc. whose Principal address 7379 N Whippoorwill Terrace, Hernando, FL 34442, with a mailing address of 9200 SW HWY 484, Ocala, FL 34481 and possessing FEIN# 46-5262082 ("CONTRACTOR") and Marion County, a political subdivision of the State of Florida, 601 SE 25th Avenue, Ocala, FL, 34471 ("COUNTY").

WITNESSETH

WHEREAS the parties wish to amend the Agreement as set forth below; and;

IN CONSIDERATION of the mutual covenants and conditions contained herein, the parties do hereby agree as follows:

1. This Amendment shall be deemed to amend and become a part of the Agreement in accordance with the original Solicitation and Agreement for Miscellaneous Maintenance for Roads, Right-of-Ways, and Stormwater Maintenance under 22Q-141.

2. CONTRACTOR's services and performance will be in accordance with the Scope of Service, Exhibit A hereto, and Schedule of Values, Exhibit B hereto. The total cost for the Project will not exceed One Hundred Six Thousand Two Hundred Eighty Eight Dollars (\$106,288). The Project shall reach substantial completion within 30 calendar days with an additional 7 calendar days to reach final completion. All Work shall proceed in a timely manner without delays. **TIME IS OF THE ESSENCE.** All limitations of time set forth in the Contract Documents are of the essence for all performance obligations of CONTRACTOR.

3. All provisions of the Agreement not specifically amended herein shall remain in full force and effect.

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IN WITNESS WHEREOF the parties have entered into this Amendment, as approved by the Marion County Board of County Commissioners, on the date of the last signature below.

ATTEST:

MARION COUNTY, A POLITICAL SUB-DIVISION OF THE STATE OF FLORIDA

GREGORY C. HARRELL, DATE
MARION COUNTY CLERK OF COURT

MICHELLE STONE DATE
CHAIRMAN

FOR USE AND RELIANCE OF MARION COUNTY ONLY, APPROVED AS TO FORM AND LEGAL SUFFICIENCY

BCC APPROVED: March 19, 2024
22Q-141-TO-02 DRA 3127 Erosion Repair - Maintenance Project

MATTHEW G. MINTER, DATE
MARION COUNTY ATTORNEY

HARTMAN CIVIL CONSTRUCTION CO., INC.

WITNESS:

SIGNATURE

BY: DATE

PRINTED NAME

PRINTED:

WITNESS:

ITS: (TITLE)

SIGNATURE

PRINTED NAME

**EXHIBIT A
SCOPE OF WORK**

PROJECT LOCATION: DRA 3127 is located just north of the intersection of SW 103rd Street RD and SW 71st CT.

DESCRIPTION OF PROJECT

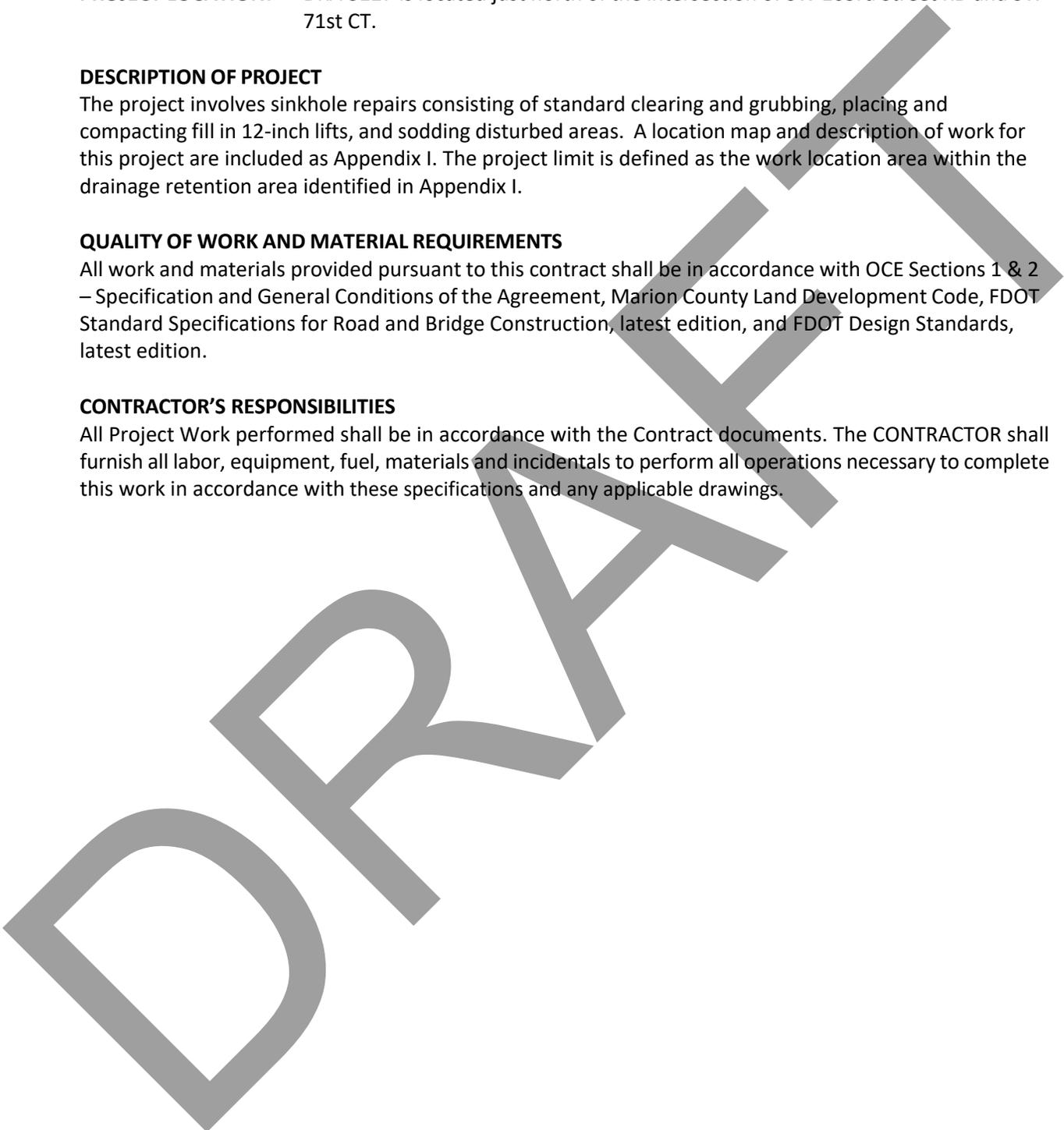
The project involves sinkhole repairs consisting of standard clearing and grubbing, placing and compacting fill in 12-inch lifts, and sodding disturbed areas. A location map and description of work for this project are included as Appendix I. The project limit is defined as the work location area within the drainage retention area identified in Appendix I.

QUALITY OF WORK AND MATERIAL REQUIREMENTS

All work and materials provided pursuant to this contract shall be in accordance with OCE Sections 1 & 2 – Specification and General Conditions of the Agreement, Marion County Land Development Code, FDOT Standard Specifications for Road and Bridge Construction, latest edition, and FDOT Design Standards, latest edition.

CONTRACTOR'S RESPONSIBILITIES

All Project Work performed shall be in accordance with the Contract documents. The CONTRACTOR shall furnish all labor, equipment, fuel, materials and incidentals to perform all operations necessary to complete this work in accordance with these specifications and any applicable drawings.



SPECIAL PROVISIONS

SP-1. SPECIFICATIONS AND COORDINATION OF DOCUMENTS

Work shall be in accordance with the Marion County Land Development Code, FDOT Standard Specification for Road and Bridge Construction, latest edition, and FDOT Design Standards, latest edition. In case of a discrepancy or conflict, the specification to follow will be the strictest/most conservative as determined by the COUNTY ENGINEER or his designee.

Order of Precedence:

- Contract
- Special Provisions
- General Conditions
- Specifications
- Details on Drawings
- Plan Drawings

SP-2. LIQUIDATED DAMAGES: Liquidated damages shall be assessed at a rate of \$250 per day.

SP-3. CONTRACTOR must provide a supervisor on-site in the day to day activities.

SP-4. PROJECT MANAGEMENT: The CONTRACTOR shall appoint one individual to act as the CONTRACTOR's representative in regard to the contract. Contact numbers for this individual and for a secondary, or backup, person shall be provided to the COUNTY. Daily Reports (DR) or Weekly Progress Reports shall be completed by the Project Manager or authorized representative and must be signed by the CONTRACTOR. Quantities identified on the DRs shall be compared to invoices submitted by the CONTRACTOR for accuracy prior to payment being made to the CONTRACTOR.

SP-5. HOURS OF OPERATION AND OVERTIME: For overtime purposes, the COUNTY's working schedule is from 8:00 A.M. to 5:00 P.M., Monday through Friday, eight (8) hours per day/forty (40) hours per week except on holidays. Work during other times, on weekends, or on Holidays must be requested and pre-approved by the County at least 48 hours in advance.

SP-6. TEMPORARY FACILITIES: The CONTRACTOR will not be required to maintain a Field Office.

SP-7. DEWATERING: Minor water may be encountered during repair and dewatering will be considered incidental as area percolates and is workable within 24 hours.

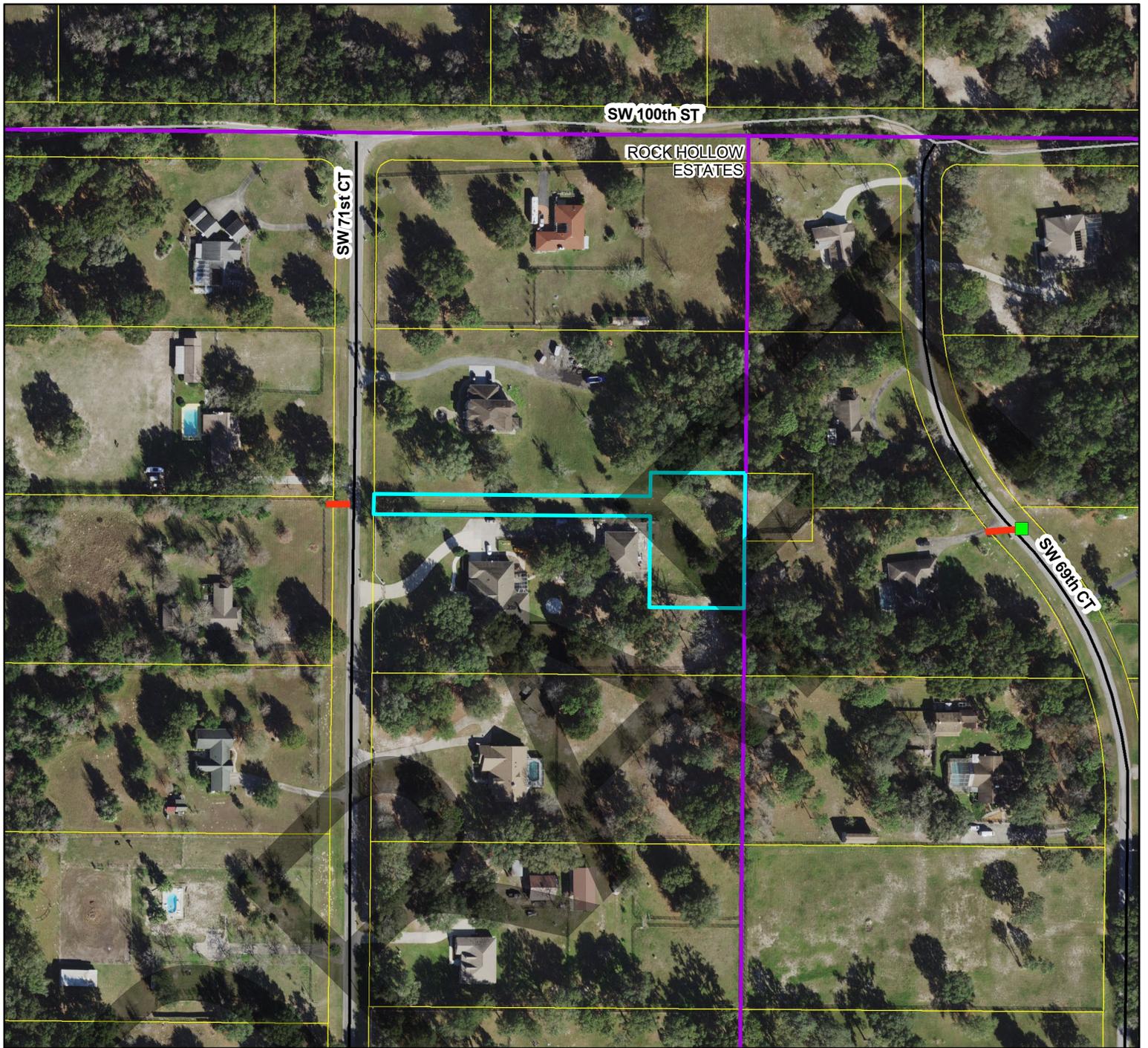
SP-9. DEWATERING: Activities to address/control a substantial volume of water due to heavy or multiple rainfall events will require the use of berms/dams and a large pump to eliminate accumulated water from the excavated project area. This activity shall be paid lump sum through ALT1. Dewatering activities must be initiated within 24 hours of the end of said rainfall event(s). Only one recovery day maximum will accompany a major rainfall event or multiple rainfall events occurring in sequential days.

SP-10. IMPLEMENTATION OF EROSION CONTROL BEST MANAGEMENT PRACTICES (BMPs): Implementation of all erosion control BMPs are considered incidental to this project unless identified in Appendix I for a specific Work Location. BMPs specified at work locations shall be paid as per Section 2.2.

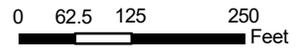
SP-11. MAINTENANCE OF TRAFFIC: The CONTRACTOR shall submit a Maintenance of Traffic Plan at the pre-construction meeting for performing the prescribed work as identified in Appendix I. Maintenance of Traffic shall be per Section 2.1 of these specifications.

- SP-12. MOBILIZATION: The CONTRACTOR shall submit mobilization cost as part of the Fee schedule. Payment shall be made for all work in this activity, verified, inspected and accepted, in accordance with this Contract and Task Order.
- SP-13. METHOD OF MEASUREMENT and BASIS OF PAYMENT: Except for items noted in the Bid Form to be paid in Lump Sum, the Method of Measurement shall be per work location and the Basis of Payment shall be per unit price for each item identified in the Quote Form for each work location completed, inspected and accepted by the COUNTY.
- SP-14. TREE PROTECTION: This item is included in the pay item for Clearing and Grubbing and no extra compensation will be allowed. Pruning and maintenance may be necessary when branches must be removed. Make smooth cuts, as flush to the trunk as possible. Treat trees immediately with pruning paint unless they are pine trees. The sap from the Pine Tree will seal them. Removal of trees as shown on the construction plans shall be removed in a manner that will protect adjacent tree root structure. Protection from machinery and equipment is the responsibility of the CONTRACTOR. Any trees not labeled on the construction plans for removal will not be damaged, destroyed or removed. The CONTRACTOR will be subject to a penalty of Two Thousand Five Hundred Dollars (\$2,500) per damaged tree. No machinery or equipment shall be parked under or near any trees for any period of time.
- SP-15. SELECTIVE CLEARING AND GRUBBING: The limits are shown on the plans. Specifications shall follow FDOT Spec 110-3. Prior to bid, CONTRACTOR shall evaluate these areas and all dead, dying, invasive/exotic, and trees less than 4" DBH shall be removed. All vines shall be removed, not just cut, but completely removed in a manner that will not damage the tree, including mobilizing a tree surgeon with specialized equipment to remove the vines if necessary. All trees shall be limbed up to a height of 12 feet. In the event of tree removal with remaining stumps, the stumps shall be removed from the project, any voids filled with suitable material, and stabilized with sod. Final grades shall match existing grades and be level.
- SP-16. STANDARD CLEARING AND GRUBBING: The CONTRACTOR shall fill all holes created from the clearing and grubbing effort with clean fill (AASHTO Soil A-2-4, A-2-5, A-2-6, A-4 or A-5 or material matching insitu soil) and compacted in place until firm and unyielding. Borrow material used to fill hole is considered incidental and shall be included in the Clearing and Grubbing price. All areas shall be stabilized with sod within seven (7) days or as soon as all earth disturbing activities are complete for the work location. Hauling and disposal of materials from the clearing and grubbing effort is considered incidental and shall be included in the price for standard clearing and grubbing.

END OF SPECIAL PROVISIONS



- Legend**
- ▭ Subdivisions
 - ▬ Storm Pipes
 - ▭ Storm Inlets
 - Storm Manholes

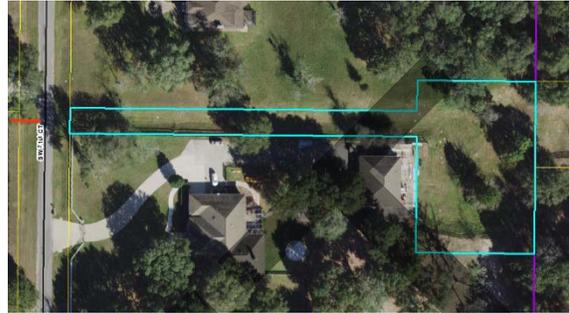


DRA 3127
Parcel 35682+001-02

Marion County
 Office of the County Engineer
 Stormwater Program
 412 SE 25th Avenue
 Ocala, FL 34471

**DRA 3127 Major Maintenance Project
Appendix I**

DRA # 3127
Parcel ID # 35682+001-02
Area in Acres 0.98
Type Dry
Const. Type Constructed
Fencing Type NA
Side Slope 4:1
Subdivision Rock Hollow Estates
Estimated Address SW 71st CT
Latitude N 29° 4'33.2"
Longitude W 82° 14'10.8"



Quantity	Work Description
1 LS	01 West side of DRA: Construction Entrance

The logistics of utilizing this area to access the DRA is considered part of this pay item, which includes placement of material to construct a construction entrance that enables vehicles to enter and exit the DRA. Refer to Construction Entrance Detail or Construction Entrance with Pipe Detail. The Contractor will be responsible for repairs to any damage to the asphalt roadway where trucks and equipment are entering and exiting the DRA. Submit the location of the construction entrance and a detailed plan showing how the Contractor plans to maintain drainage flow from the FES to the drainage right of way (DROW). At the conclusion of the project, this entrance must be removed and area restored. Sod is to be used to permanently stabilize the construction entrance area, which is included in pay item 2.4 of the bid form (400 SY).

If private property is utilized for the construction entrance, the Contractor will need to provide a TCE agreement between the Contractor and the Property Owner. At the end of construction, the Contractor will need to provide a satisfaction letter from the Property Owner stating that the Property Owner is satisfied with the restoration of the construction entrance performed by the Contractor.

Appendix I

There is an existing drainage right of way into the DRA. The Contractor will be responsible for repairs to any damage to the DROW where trucks and equipment are entering and exiting the DRA. Sod is to be used to repair any damages to the DROW, which is included in pay item 2.4 of the bid form (556 SY).

Sweeping of the county road is to be conducted by the Contractor to ensure sediment is removed from the road and the right-of-way at the end of each work day. These activities are part of the Construction Entrance pay item.

- 133 SY 02 South side of DRA: Perform standard clearing and grubbing in area of construction activity. See Construction Drawing Figure 1.
- 1 LS 03 South end of DRA: Earthwork including Sinkhole repair in DRA bottom and tree removal. The removal of trees within the standard clearing and grubbing area for the sinkhole will fall under pay item 2.3 of the bid form. See Construction Drawing Figure 1 and refer to Special Provisions SP-16.
1. Vegetative and soil material removed from this area shall be properly disposed. Removed topsoil can be reused by the Contractor as part of the Earthwork pay item. If other material is reused, the material must be raked for removal of roots and other debris prior to placement. Removal of this material from the reused topsoil is considered incidental.
 2. It is the Contractor's responsibility to locate all potential conflicts: utility, electrical, etc.
 3. Repair of sinkhole/erosion areas in DRA bottom.
 - a. The construction limits of the sinkhole areas impact a volume of 667 cubic yards (CY) (does not include volume impacted by trench slopes). The construction limits of the sinkhole area is 133 square yards (SY) with a maximum depth of 15 feet from DRA bottom. The sinkhole repair area is approximately 30 feet x 40 feet with a maximum depth of 15 feet below the DRA bottom.
 - b. The Contractor shall over-excavate minimally three (3) feet in all directions to expose solution tubes (included in dimensions and depths above), solution tubes shall then be crushed and backfilled with suitable material.
 - c. Suitable material must be used to backfill the sinkhole. The Contractor shall utilize either onsite material or clean borrow material. Using the AASHTO Soil Classification System, the material used will need to be classified as A-2-4, A-2-5, A-2-6, A-4 or A-5 to backfill the sinkhole area to match existing elevations. When using on-site material, limerock/rock/boulders larger than two (2) inches in diameter must be removed from excavated material prior to backfill of sinkhole. Each 12-inch lift must consist of homogeneous (same source) material (In Place Quantity: 667 CY).

- d. During the repair of sinkhole/significant erosion, it may become necessary to go outside of the construction limits. This additional work will be addressed for payment in either of two ways, as determined by the COUNTY ENGINEER or his designee:
 1. Prorated at a cubic yard price, which will be determined by dividing the Earthwork pay item by the construction limit volume; or
 2. Time and materials based on labor and equipment rates.
- e. Note: The existing onsite material is A-3. It is the Contractor's responsibility to utilize means and methods to ensure that the material is worked such that, even if excavated wet, the material can be placed, compacted, and meet density requirements (90% of modified proctor). Failed density tests will be back charged to the Contractor.
- f. Note: The Contractor is responsible for utilizing shoring or a trench slope to meet OSHA requirements. This work is considered incidental in the cost of the Earthwork pay item.

1,423 SY

04 South end of DRA: Bahia sod sinkhole repair area (surface area to be sodded within the construction limits = 133 SY, additional sod quantity is estimated utilizing a 1:1 trench slope area = 334 SY, construction entrance (400 SY), DROW repairs (556 SY). Pallet sod only.

If a trench slope is not utilized, sod for that area will not be paid. If a gentler slope is used for the trench slope, the additional area will be considered as means and methods and the additional sod considered incidental to pay item sinkhole repair/earthwork.

1 LS

05 Pipe running underneath SW 71st CT: Desilt existing stormwater pipe (30" CMP). See Construction Drawing Figure 3.



167 SY

06 Figure 3 Location A: Finish grade and sod with Bahia (2) 15 feet x 50 feet areas. Pallet sod only. Ensure swales in the west ROW are graded to create positive flow to the upstream FES. Ensure swales in the east ROW are graded to create positive flow to the conveyance swale leading to DRA 3127.

292 SY

07 Figures 2-6 Locations D-F: Select clear and grub in the DROW, pond bottom, and along the fence line. Refer to Special Provisions SP-15.

Figures 2-6 Locations D-F: Finish grade and sod with Bahia. Pallet sod only.

Location D:



Location E:



Location F:



200 LF

08 Figures 2-6 Locations B, C, and G: Limb up trees on County side of the fence per ANSI A300 and Special Provisions SP-14. All trees shall be limbed up to a height of 12 feet.

Location B:



Location C:



Location G:

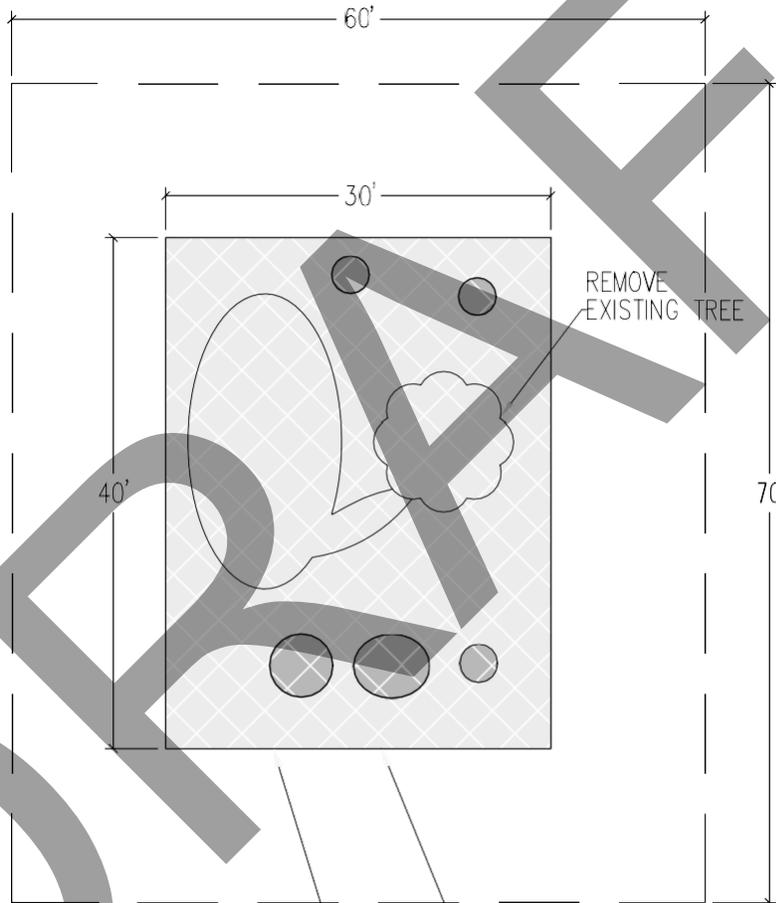


LEGEND

-  STANDARD CLEAR & GRUB (TYP)
-  LIMB UP TREES ALONG FENCE LINE (TYP)
-  SELECTIVE CLEAR & GRUB (TYP)
-  FLARED END SECTION (FES)
-  FINISH GRADE & SOD AREA (TYP)



DRA 3127



LIMITS OF CLEARING AND GRUBBING (133 SY)
 LIMITS OF SINKHOLE REPAIR (ESTIMATED 667 CY)
 LIMITS OF 1:1 TRENCH SLOPE
 (ESTIMATED 833 CY IN ADDITION TO REPAIR ESTIMATES)
 (ESTIMATED 467 SY AREA INCLUDING TRENCH SLOPE)



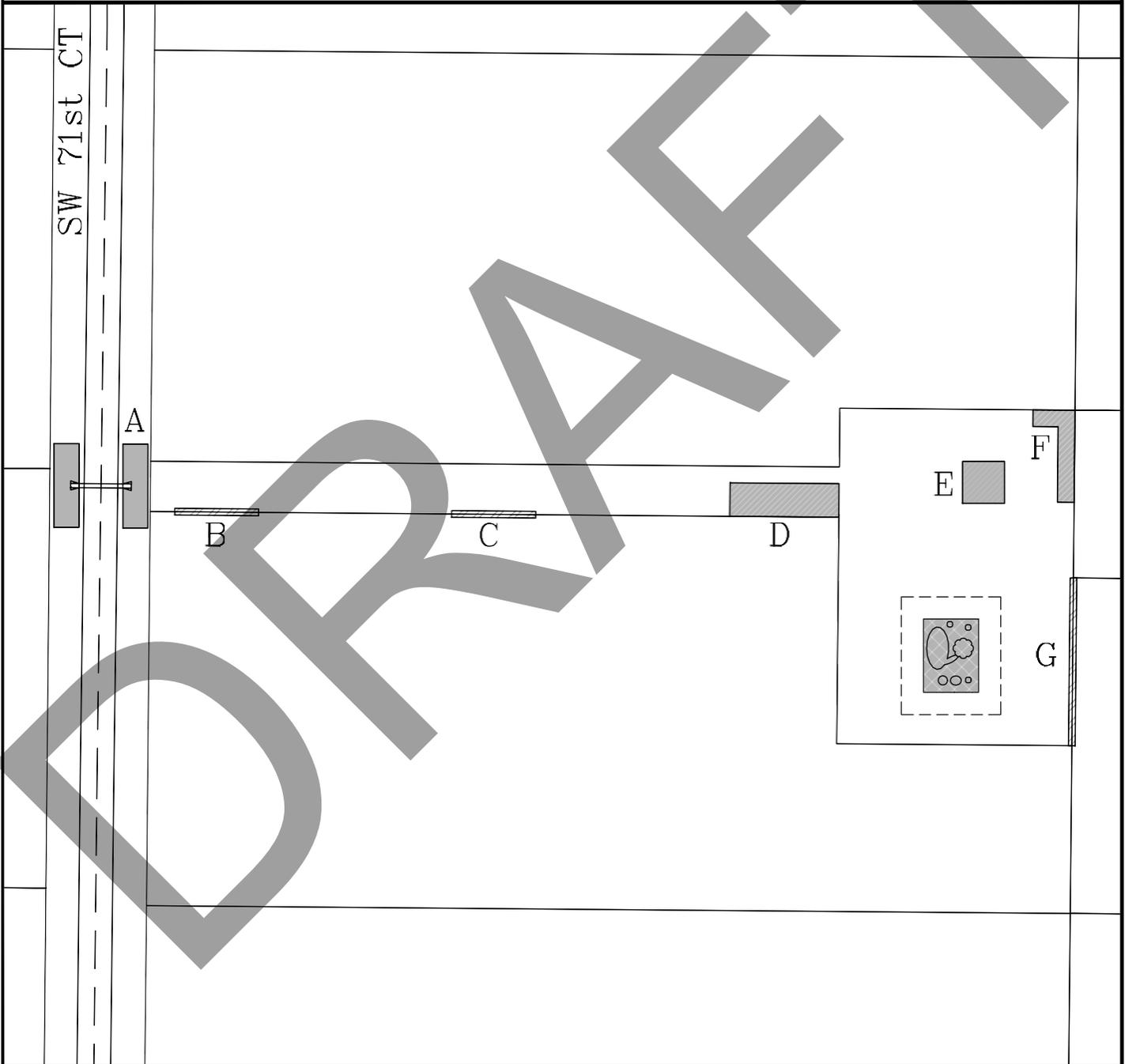
Marion County
 Office of the County Engineer
 412 SE 25th Ave. Ocala, FL 34471

FIGURE 1
 DRA 3127
 S.W. 71ST CT

SCALE: N.T.S.
 DATE: TBD
 FILE: DRA 3127.DWG

LEGEND

-  STANDARD CLEAR & GRUB (TYP)
-  LIMB UP TREES ALONG FENCE LINE (TYP)
-  SELECTIVE CLEAR & GRUB (TYP)
-  FLARED END SECTION (FES)
-  FINISH GRADE & SOD AREA (TYP)



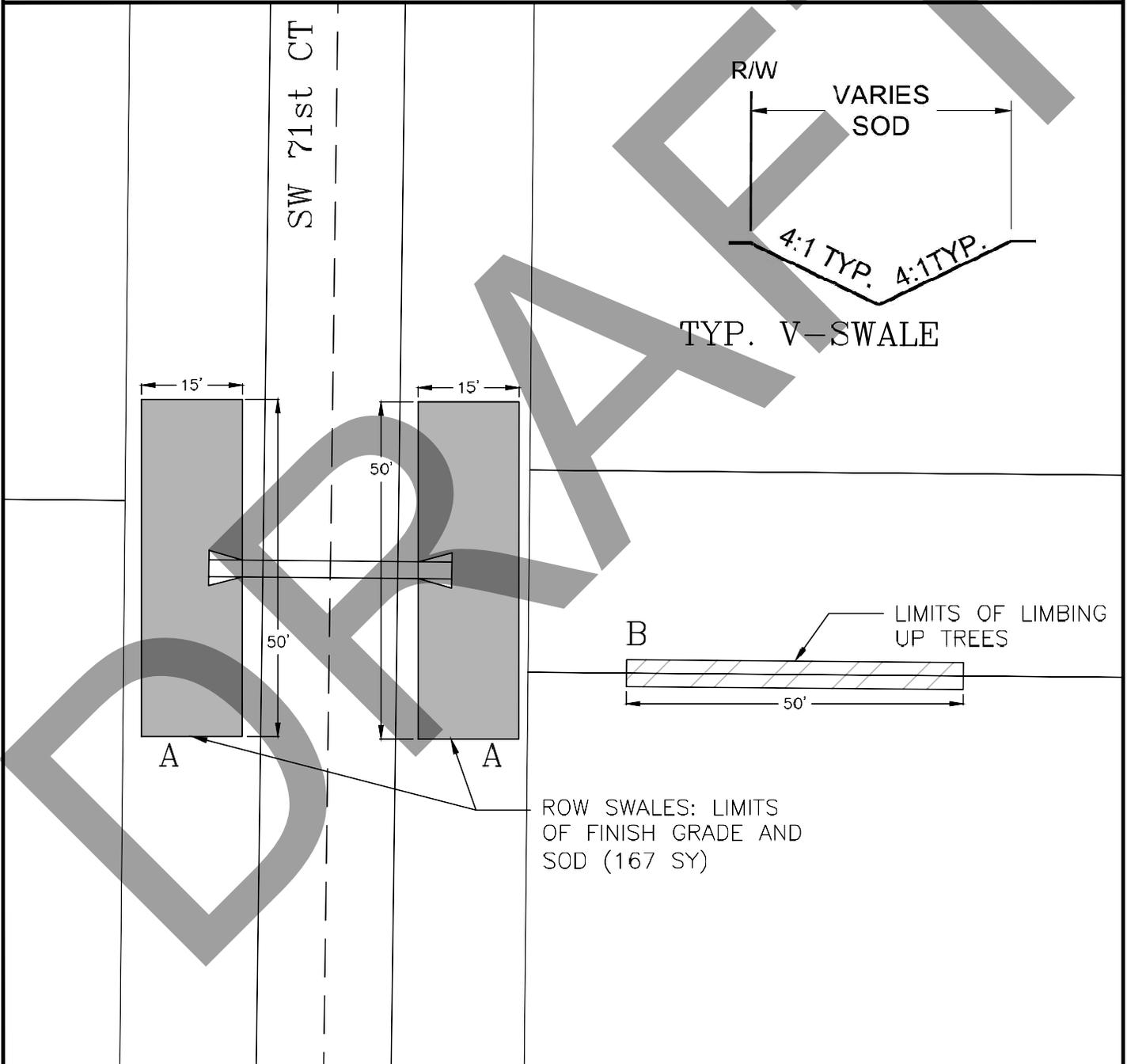
Marion County
Office of the County Engineer
412 SE 25th Ave. Ocala, FL 34471

FIGURE 2
DRA 3127
S.W. 71ST CT

SCALE: N.T.S
DATE: 11/10/2023
FILE: DRA 3127.DWG

LEGEND

-  STANDARD CLEAR & GRUB (TYP)
-  LIMB UP TREES ALONG FENCE LINE (TYP)
-  SELECTIVE CLEAR & GRUB (TYP)
-  FLARED END SECTION (FES)
-  FINISH GRADE & SOD AREA (TYP)



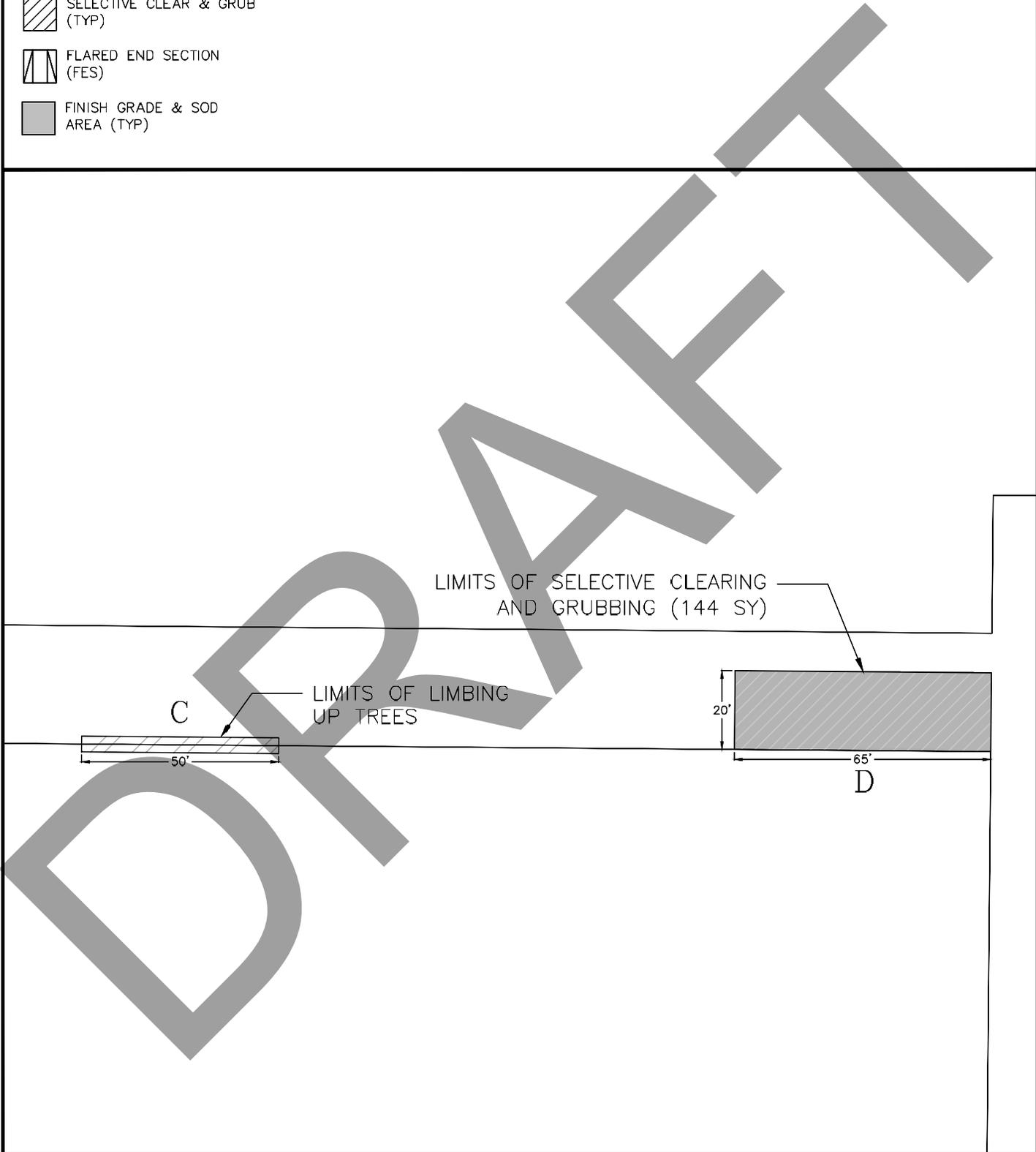
Marion County
Office of the County Engineer
412 SE 25th Ave. Ocala, FL 34471

FIGURE 3
DRA 3127
S.W. 71ST CT

SCALE:	N.T.S
DATE:	TBD
FILE:	DRA 3127.DWG

LEGEND

-  STANDARD CLEAR & GRUB (TYP)
-  LIMB UP TREES ALONG FENCE LINE (TYP)
-  SELECTIVE CLEAR & GRUB (TYP)
-  FLARED END SECTION (FES)
-  FINISH GRADE & SOD AREA (TYP)





 Marion County

 Office of the County Engineer

 412 SE 25th Ave. Ocala, FL 34471

FIGURE 4

 DRA 3127

 S.W. 71ST CT

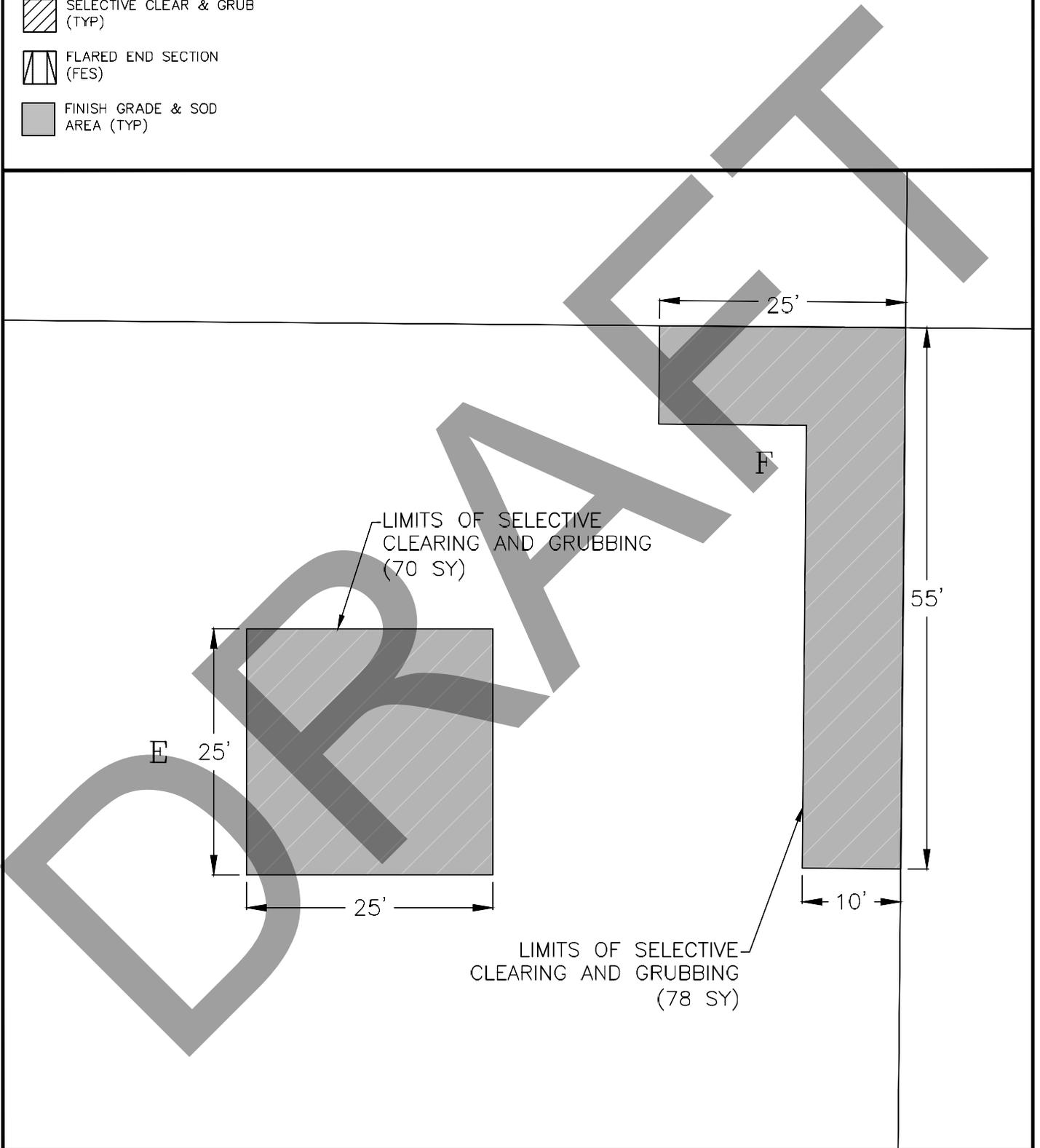
SCALE: N.T.S

 DATE: 11/10/2023

 FILE: DRA 3127.DWG

LEGEND

-  STANDARD CLEAR & GRUB (TYP)
-  LIMB UP TREES ALONG FENCE LINE (TYP)
-  SELECTIVE CLEAR & GRUB (TYP)
-  FLARED END SECTION (FES)
-  FINISH GRADE & SOD AREA (TYP)



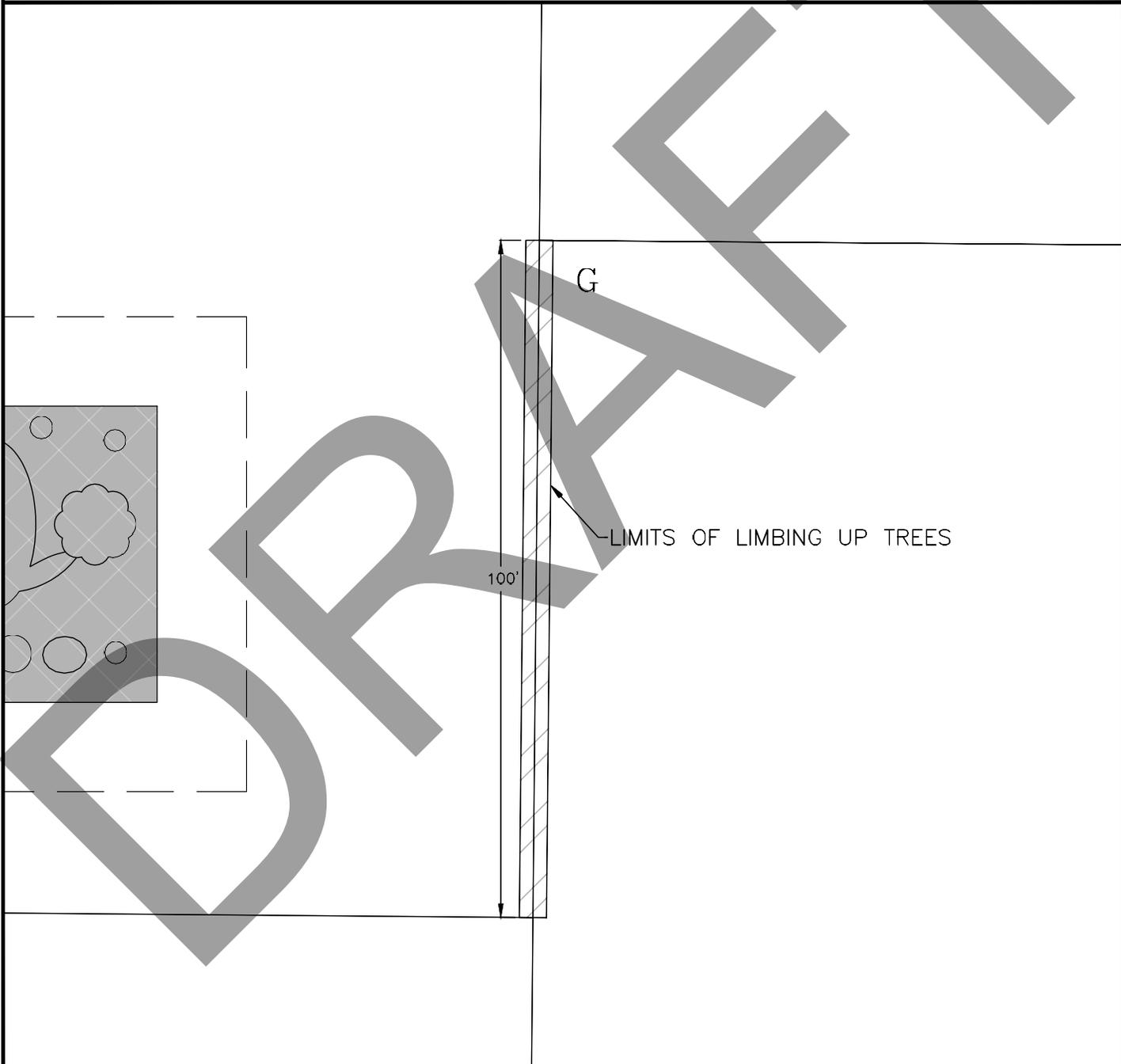
Marion County
Office of the County Engineer
412 SE 25th Ave. Ocala, FL 34471

FIGURE 5
DRA 3127
S.W. 71ST CT

SCALE: N.T.S
DATE: 11/10/2023
FILE: DRA 3127.DWG

LEGEND

-  STANDARD CLEAR & GRUB (TYP)
-  LIMB UP TREES ALONG FENCE LINE (TYP)
-  SELECTIVE CLEAR & GRUB (TYP)
-  FLARED END SECTION (FES)
-  FINISH GRADE & SOD AREA (TYP)



Marion County
Office of the County Engineer
412 SE 25th Ave. Ocala, FL 34471

FIGURE 6
DRA 3127
S.W. 71ST CT

SCALE:	N.T.S
DATE:	11/10/2023
FILE:	DRA 3127.DWG

**Modified Proctor Test (AASHTO T180; ASTM D-1557)
 Atterberg Limits (AASHTO T89 & T90; ASTM D-4318)
 No. -200 Sieve Analysis (ASTM D-1140)**

Client: Marion County Storm Water
 412 SE 25th Avenue
 Ocala, FL 34471

Date: September 27, 2023
 Project No.: 23-4175.127
 Project Name: DRA 3127 Sinkhole
 Material Used For: Backfill

Modified Proctor Results
 (T180 / D-1557)

Atterberg Limits Results
 (T87, T89, and T90)

Location: Next to Property Line
 Maximum Density (pcf): 109.4
 Optimum Moisture(%): 10.3
 Sample Description: Tan Slightly Clayey Sand
 Sample Number: 2
 Sample Date: September 25, 2023
 Method: B

LL = N/A
 PL = N/A
 PI = N/A

No. -200 Sieve Analysis Results
 (D-1140 or T88 wash only)

Passing -200 Sieve: 5.1%

The above tests were performed and reported in accordance with the referenced specifications.

Craig A. Hampy, P.E.
 Florida Registration No. 83240

CAH/aw

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PARTICLE SIZE DISTRIBUTION/ -200 SIEVE WASH

CLIENT: Marion County Storm Water
 412 SE 25th Avenue
 Ocala, FL 34471

PROJECT NO.: 23-4175.127

DATE TESTED: September 27, 2023

PROJECT NAME: DRA 3127 Sinkhole

DATE SAMPLED: September 25, 2023

SAMPLE DESCRIPTION: Light Tan Sand

SAMPLED BY: N/A

SAMPLE LOCATION: Next to Property Line

SAMPLE NO.: 2

LAB TECH: AW

SIEVE SIZE	PERCENT FINER
3/4	--
1/2	--
3/4	--
#4	--
#10	--
#40	91.33
#60	57.53
#100	21.34
#200	5.08

No.200 Sieve Wash	
Before Wash	After Wash
100.3	95.2
-200 Sieve= 5.1%	

ATTERBERG LIMITS
PL= NP
LL= NP
PI =NP

CLASSIFICATION
uses= A-3
AASHTO = SP-SC

CRAIG A. HAMPY
 LICENSE
 No. 83277
 STATE OF FLORIDA
 Craig A. Hampy, P.E.
 Florida Registered Professional Engineer
 CAH/aw

Modified Proctor Test (AASHTO T180; ASTM D-1557) Atterberg Limits (AASHTO T89 & T90; ASTM D-4318) No. -200 Sieve Analysis (ASTM D-1140)

Client: Marion County Storm Water
412 SE 25th Avenue
Ocala, FL 34471

Date: September 27, 2023
Project No.: 23-4175.127
Project Name: DRA 3127 Sinkhole
Material Used For: Backfill

Modified Proctor Results (TISO / D-1557)

Location: Next to Sinkhole
Maximum Density (pcf): 107.1
Optimum Moisture(%): 9.9
Sample Description: Tan Sand
Sample Number: 1
Sample Date: September 25, 2023
Method: B

Atterberg Limits Results {T87, T89, and T90}

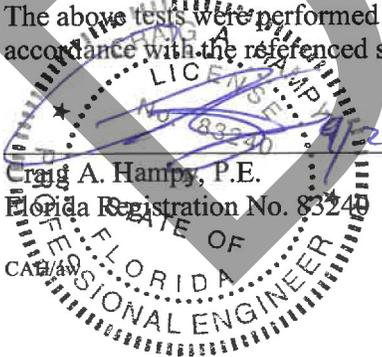
LL = *NIA*
PL = *NIA*
PI = *NIA*

No. -200 Sieve Analysis Results (D-1140 or T88 wash only)

Passing -200 Sieve: 4.1%

The above tests were performed and reported in accordance with the referenced specifications.

Craig A. Hampy, P.E.
Florida Registration No. 83240



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PARTICLE SIZE DISTRIBUTION/ -200 SIEVE WASH

CLIENT: Marion County Storm Water
 412 SE 25th Avenue
 Ocala, FL 34471

PROJECT NO.: 23-4175.127

DATE TESTED: September 27, 2023

PROJECT NAME: DRA 3127 Sinkhole

DATE SAMPLED: September 25, 2023

SAMPLE DESCRIPTION: Light Tan Sand

SAMPLED BY: N/A

SAMPLE LOCATION: Next to Sinkhole

SAMPLE NO.: 1

LAB TECH: AW

SIEVE SIZE	PERCENT FINER
3/4	--
1/2	--
3/4	-
#4	-
#10	-
#40	89.86
#60	54.33
#100	18.70
#200	4.13

No.200 Sieve Wash	
Before Wash	After Wash
101.6	97.4
-200 Sieve= 4.1%	

ATTERBERG LIMITS
PL= NP
LL= NP
PI=NP

CLASSIFICATION
uses= A-3
MSHTO=SP



August 17, 2023
Project No. 23-347.136.1

Christine Vrabic, P.E.
Office of the County Engineer
Marion County Board of County Commissioners
412 SE 25th Avenue
Ocala, Florida 34471

Reference: Surface Depressions, Existing Drainage Retention Area (DRA) 3127
Rock Hollow Subdivision, Parcel No. 35682+001, SW 7th Court, Ocala, Florida
Geotechnical Site Exploration

Dear Mrs. Vrabic:

Geo-Technologies, Inc. (Geo-Tech) performed a site exploration at the subject site per your request. Services were conducted in accordance with our Proposal No. 13577 dated June 2, 2023.

Our findings, evaluations and recommendations are presented in the following report. Generally accepted soils and foundation engineering practices were employed in the preparation of this report.

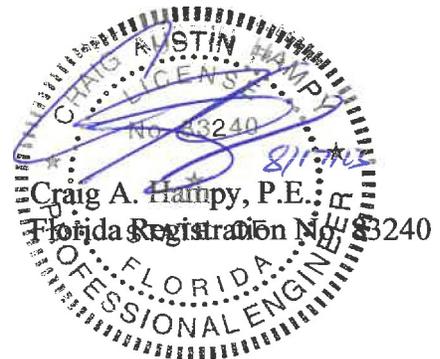
Geo-Tech appreciates the opportunity to provide our services for this project. Should you have any questions regarding the contents of this report or if we may be of further assistance, please do not hesitate to contact the undersigned.

Sincerely,



Gerald W. Green, Jr.
Soil & Water Scientist

GWG/CAH/lso



Purposes of Exploration

Purposes of this exploration were to characterize subsurface conditions adjacent to the observed depressions and to provide remediation recommendations.

Site Description

The existing DRA is located within the Rock Hollow Subdivision at Parcel No. 35682+001 on the east side of SW 71st Court in Ocala, Florida.

Geo-Tech observed several surface depressions within the existing DRA ranging from approximately three (3) to twenty-one (21) feet long, three (3) to six-teen (16) feet wide and two (2) to twelve (12) feet deep during our initial site visit. Geo-Tech also observed exposed utilities within the surface depressions.

Exploration Program

Field exploration services for this geotechnical site exploration consisted of the following:

- Ground Penetrating Radar (GPR) survey around the observed surface depressions within the existing DRA. Our GPR survey was performed on July 7, 2023.
- Two (2) Standard Penetration Test (SPT) borings to depths ranging from approximately twenty-nine (29) to thirty (30) feet below site grade in the west area of the existing DRA. SPT borings were performed on August 10, 2023.

Sampling and Testing Descriptions

GPR is an electromagnetic geophysical method that detects interfaces between subsurface materials with differing dielectric constants. The GPR system consists of an antenna which houses the transmitter and receiver; a profiling recorder which processes the received signal and produces a graphic display of the data; and a video display unit which processes and transmits the output signal to a color video display unit that records the data in a file base in a portable computer.

The transmitter radiates repetitive short-duration electromagnetic waves into the earth from an antenna moving across the ground surface. These radar waves are reflected back to the receiver by interfaces between materials with different dielectric constants. Travel times of the signal are used to estimate the depth of signal penetration. Intensity of the reflected signal is a function of the contrast in the dielectric constant between the materials, the conductivity of the material through which the wave is traveling, and the frequency of the signal. Subsurface features which commonly cause such reflections are: 1) natural geology such as changes in sediment composition, bedding and cementation horizons, voids, and water content; 2) unnatural changes to the subsurface such as disturbed soils, soil backfill, buried debris, tanks, pipelines and utilities. Moisture contents of underlying soils will limit the depth of the transmitted signal. The profiling recorder processes the signal from the receiver and produces a continuous cross-section of the subsurface interface reflections referred to as reflectors. GPR data output from the recorder is presents data as a continuous profile.

A GPR survey is conducted along transects which are measured paths along which the GPR antenna is moved. Calibrated survey wheel measurements are used to determine the antenna position during the survey.

Normal geologic conditions in the subsurface, as viewed on a GPR profile, are frequently characterized by the occurrence of relatively continuous and horizontal GPR reflectors, representing soil horizons. Anomalous subsurface features, such as sinkholes, exhibit GPR reflectors, which, in the area of the sinkhole, dip down toward the center of the sinkhole. In the center of the sinkhole, the GPR reflectors associated with the suspected soil horizons either dip sharply downward or are discontinuous. Subsurface features such as water or air-filled voids are typically characterized by: 1) a relatively high-amplitude reflection of the GPR signals, and 2) a hyperbolic shape of the GPR signals. Fractures are typically characterized by an abrupt increase in the depth of penetration of the GPR signal and the occurrence of relatively high-angle reflectors near the boundaries of the suspected fracture.

GPR signal penetration is highly site-specific and is limited by signal attenuation (absorption) in the subsurface materials. Signal attenuation is dependent upon the electrical conductivity and moisture content of the subsurface materials. Signal attenuation is greatest in materials with relatively high electrical conductivities such as clays and brackish groundwater and lowest in relatively low-conductivity materials such as dry sand or rock. GPR signal penetration is also dependent on the antenna's transmitting frequency. GPR signal penetration generally increases as transmitting frequency decreases; however, the ability to resolve smaller subsurface features is diminished as frequency is decreased.

GPR antennas are internally shielded from above ground interference sources. Accordingly, the GPR response is minimally affected by overhead power lines, metallic buildings or nearby objects.

Standard Penetration Testing Description

A Standard Penetration Test (SPT) boring (ASTM D-1586) is defined as a standard split-barrel sampler driven into the soil by a one hundred and forty (140) pound hammer falling thirty (30) inches. The number of blows required to drive the sampler one (1) foot, after seating six (6) inches, is designated resistance, or "N"-Value is an index to soil strength and consistency.

Samples recovered during performance of our SPT borings were visually classified in the field and representative portions of the samples were placed in containers and transported to our laboratory for further analysis.

Findings

GPR Survey

The GPR survey was performed utilizing a shielded one hundred sixty (160) MHz antenna and the GX HOR monitor manufactured by Mala Geoscience of Mala, Vasterbotten Municipality, Sweden.

Data from the GPR survey was transferred from the GX HOR monitor to a desktop computer where processing was performed utilizing MALA Object Mapper Version 2.0.1804.1 02 software produced by Mala Geoscience of Mala, Vasterbotten Municipality, Sweden.

Preliminary GPR transects were performed on random areas of the project site to calibrate the GPR equipment and to characterize overall site conditions. Preliminary GPR survey data indicated that a shielded one hundred sixty (160) MHz antenna provided optimum penetration and resolution of the GPR data to identify potential subsurface karst features at the project site.

GPR transects were constructed by Geo-Tech in accessible areas around the observed surface depressions. We refer the reader to the Surface Depression, GPR Survey and Boring Location Map presented in Appendix III.

The GPR investigation was performed by towing the antenna along each transect line. The location of the antenna along a transect line is electronically marked on the GPR data to allow correlation of the data to actual ground locations.

Our GPR survey data indicated a maximum signal penetration depth of approximately forty-two (42) feet below existing site grade. The depth of investigation was based upon two-way travel times of the GPR signal traveling through unsaturated and saturated soils underlying the site. The depth was limited by attenuation of the GPR signal due to existing soil conditions at the site. Subsurface features located below the maximum depth of penetration would not have been detected by the GPR.

Review of the GPR survey data presented indications of downwarping, discontinuous strata and/or localized areas of deeper signal penetration in several areas within the existing DRA. SPT borings were later performed in two (2) of these areas between the existing ORA and the existing structure located on an adjacent property.

SPT Borings

General subsurface conditions found in our soil borings are graphically presented on the soil profiles in Appendix II. Horizontal lines designating the interface between differing materials found represent approximate boundaries. Transition between soil layers is typically gradual.

Soils found in boring B-1 generally consisted of a surficial layer of loose fine sand approximately seven (7) feet thick underlain by loose clayey sand, hard slightly sandy clay and limestone to the depth drilled.

Soils found in boring B-2 generally consisted of a surficial layer of loose to medium dense fine sand approximately eighteen and one-half (18 ½) feet thick underlain by medium dense to loose clayey sand and limestone to the depth drilled.

Groundwater was not found within ten (10) feet below existing site grade in our borings at the time of drilling.

Evaluations

Geo-Tech did not observe indications of subsurface sinkhole type activity in the SPT soil borings performed. In Geo-Tech's opinion, the surface depressions are isolated to the affected area based on our findings from the SPT soil borings performed.

Remediation Recommendations

Geo-Tech recommends excavating each surface depression until firm soils are found and backfilling of the aforementioned excavations.

Backfill soils should consist of sandy clay soil with a minimum Plasticity Index of twenty-five (25) and a minimum of fifty (50) percent passing a U.S. Standard No. 200 sieve to within four (4) feet of final site grade. Compaction of these sandy clay soils should obtain a minimum of ninety (90) percent of the Modified Proctor (ASTM D-1557) maximum dry density value. Uncompacted lifts shall be no thicker than six (6) inches.

Shallow limestone observed within three (3) feet of the ground surface should be removed and capped over with sandy clay soils. We refer you to the Remediation Detail presented in Appendix IV.

Closure/General Qualifications

Evaluations and recommendations stated within this report are based upon our findings from the GPR survey data and soil borings performed. Variations may be adjacent to or between the GPR transects and borings which were not apparent in the GPR survey data and/or soil borings performed. If variations are encountered during remedial construction, it will be necessary to evaluate the recommendations made in this report. Generally accepted soil and foundation engineering practices were employed in the preparation of this report.

DRAFT

APPENDIX II
SOIL PROFILES

Log of Borehole: B-1

GEO-TECH...

ENGINEERING CONSULTANTS

1016 SE 3rd Avenue
Ocala, Florida
352.694.7711
WWW.GEOTECHFL.COM

Project: SURFACE DEPRESSIONS, ORA 3127, ROCK HOLLOW S/D

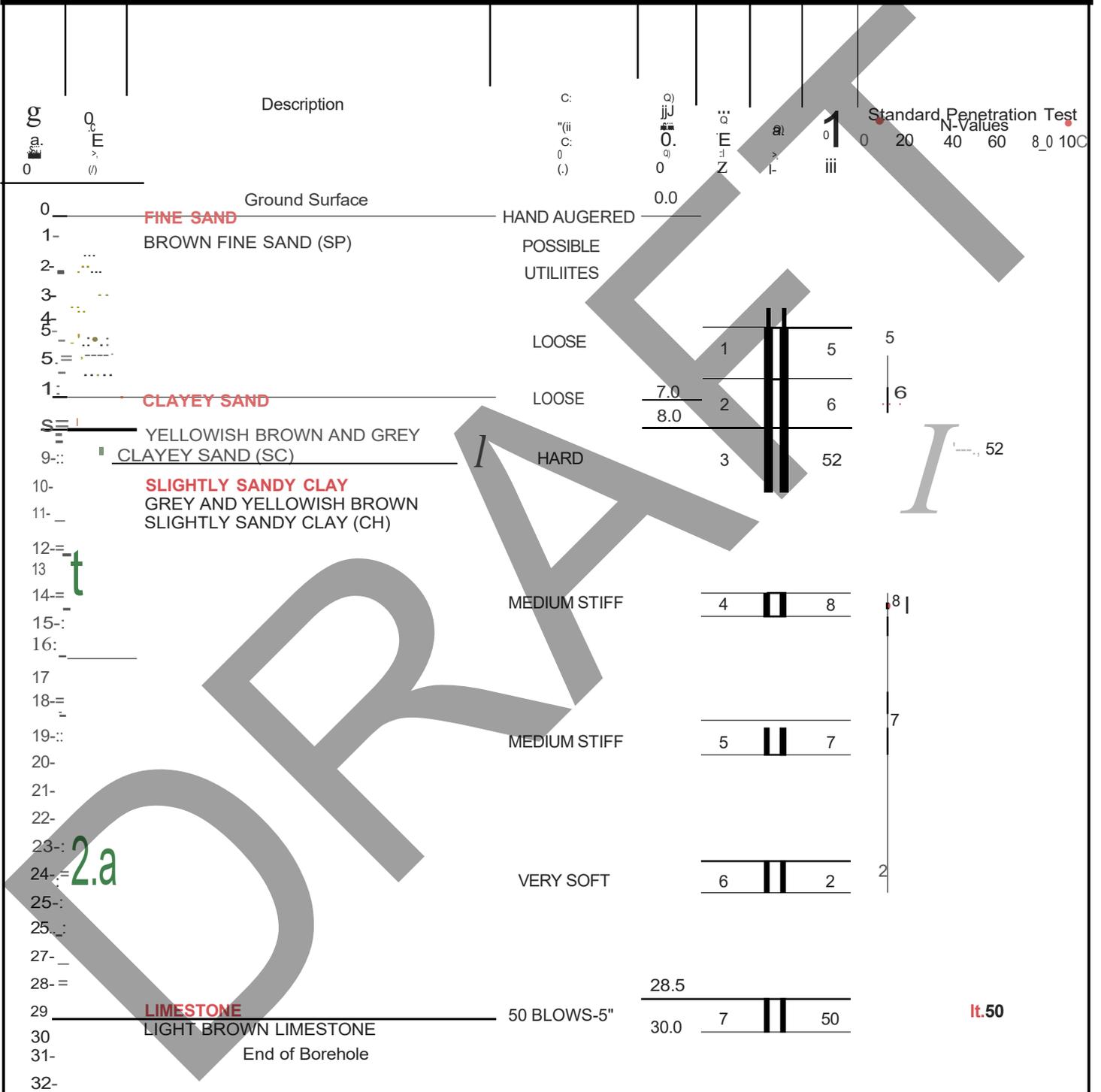
Project No: 23-347.136.1

Boring Location: (SEE BORING LOCATION MAP)

Engineer: NJH/CAH

Client: OFFICE OF THE COUNTY ENGINEER, MCBCC

Enclosure: BORING MAP



Ground Water Depth: GREATER THAN 10.0 FEET

Drill Date: AUGUST 10, 2023

Drilled By: WH/CM/ZC

Drill Method: ASTM D-1586

Remarks: (SP) UNIFIED SOIL CLASSIFICATION SYMBOL AS DETERMINED BY VISUAL REVIEW

Soil Profile : 1 OF 2

Log of Borehole: B-2

GEO-TECH,ac.

ENGINEERING CONSULTANTS

1016 SE 3rd Avenue
Ocala, Florida
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WWW.GEOTECHFL.COM

Project: SURFACE DEPRESSIONS, DRA 3127, ROCK HOLLOW S/D

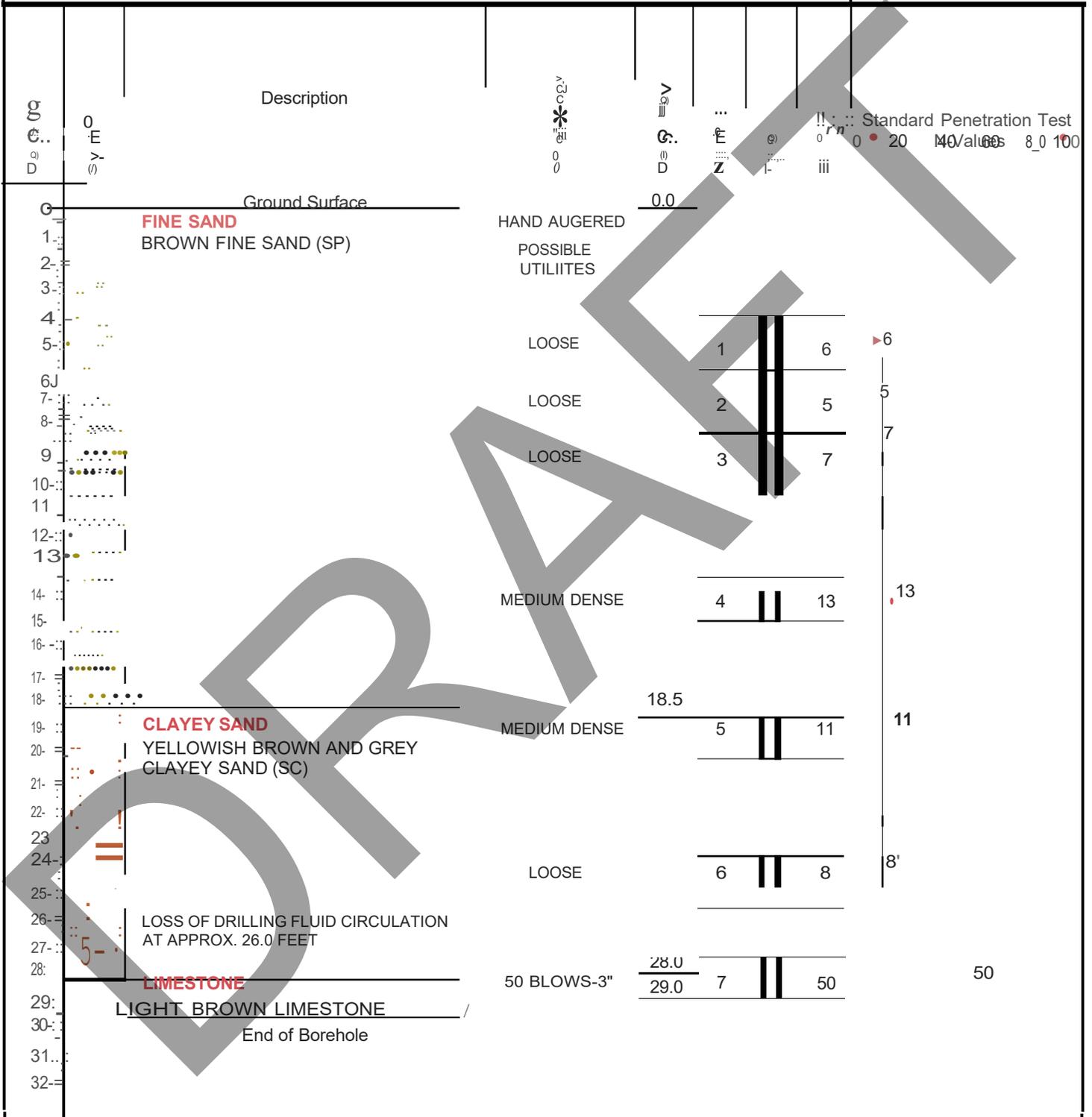
Project No: 23-347.136.1

Boring Location: (SEE BORING LOCATION MAP)

Engineer: NJH/CAH

Client: OFFICE OF THE COUNTY ENGINEER, MCBCC

Enclosure: BORING MAP



Ground Water Depth: GREATER THAN 10.0 FEET

Drill Date: AUGUST 10, 2023

Drilled By: WH/CM/ZC

Drill Method: ASTM D-1586

Remarks: (SP) UNIFIED SOIL CLASSIFICATION SYMBOL AS DETERMINED BY VISUAL REVIEW

Soil Profile : 2 OF 2

APPENDIX III
SURFACE DEPRESSION, GPR SURVEY AND
BORING LOCATION MAP

DRAFT



OFFICE OF THE COUNTY ENGINEER, MARION COUNTY BOARD OF COUNTY COMMISSIONERS
 SURFACE DEPRESSIONS, EXISTING DRAINAGE RETENTION AREA (DRA) 3127
 ROCK HOLLOW SUBDIVISION, PARCEL NO. 35682+001-02
 SW 71ST COURT, OCALA, FLORIDA

SURFACE DEPRESSIONS, GPR SURVEY AND BORING LOCATION MAP

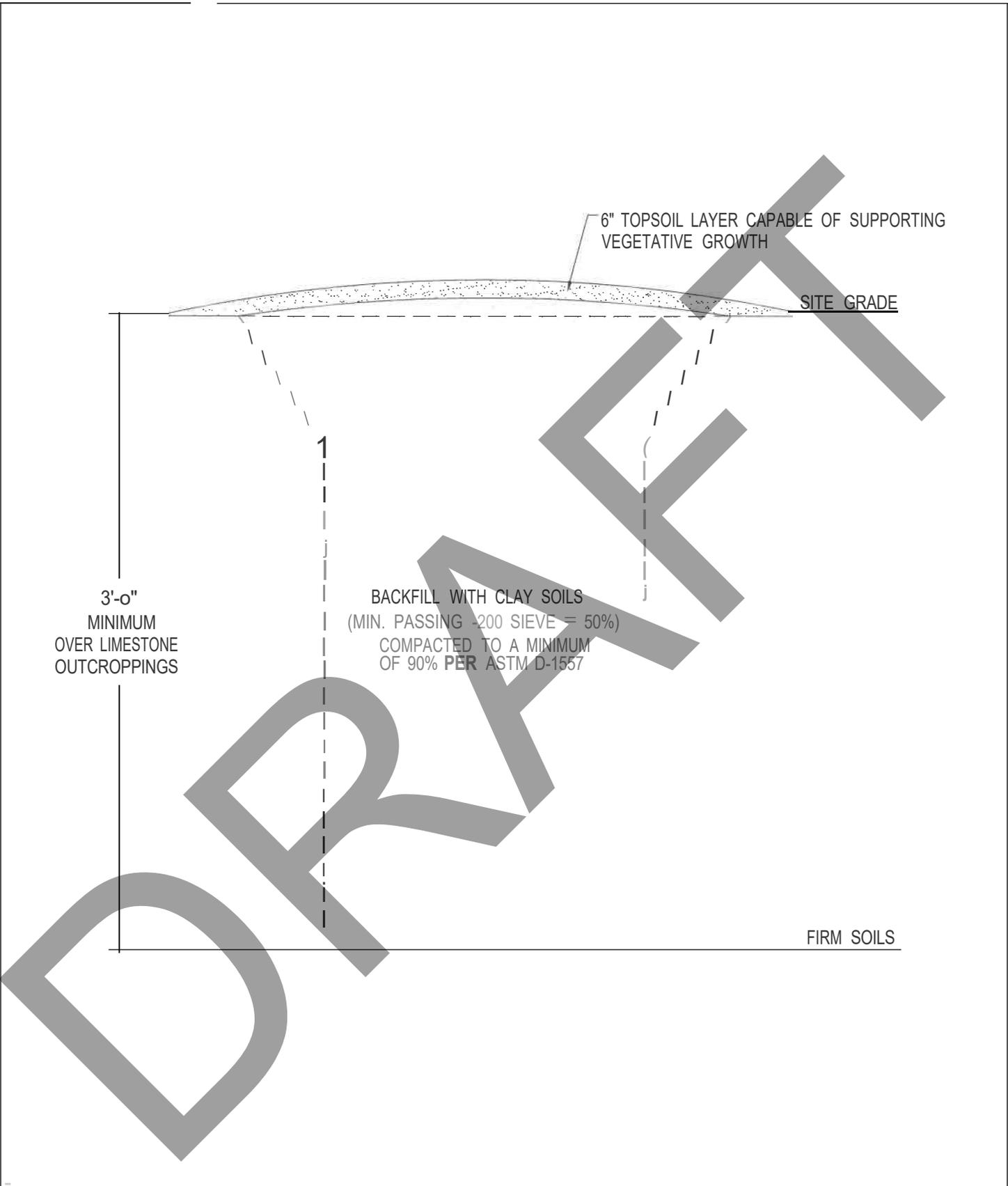
GEO-TECH, INC.

■ GEOTECHNICAL ■ ENVIRONMENTAL
 ■ CONSTRUCTION MATERIALS TESTING ■ GEOPHYSICAL EXPLORATION
 1016 SE 3rd AVENUE, OCALA, FLORIDA 34-471 ... (352) 694-7711

PROJECT NO. 22Q-141-TO-02
 DATE: 08/2024
 SCALE: AS SHOWN
 DRAWN BY: J. [unreadable]
 CHECKED BY: [unreadable]
 APPROVED BY: [unreadable]

DRAFT

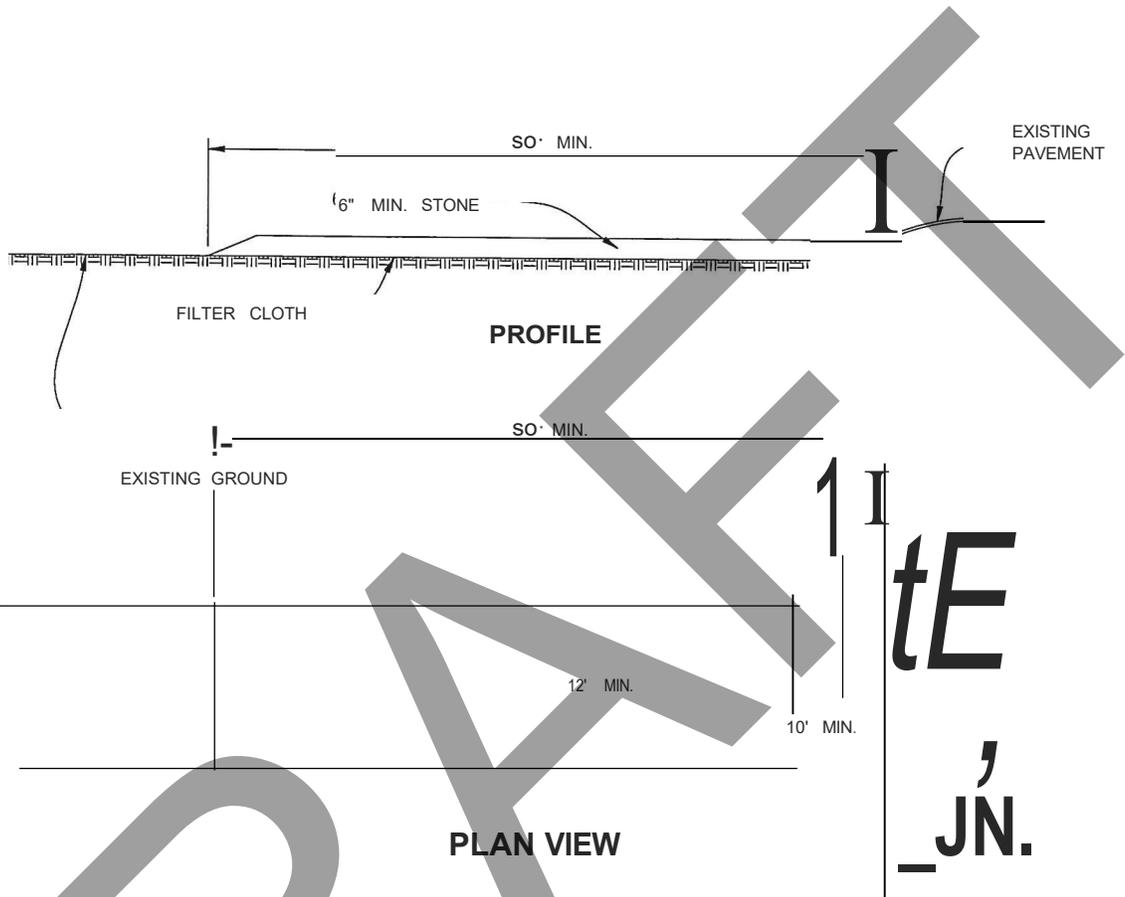
APPENDIX IV
REMEDICATION DETAIL



REMEDICATION DETAIL

GEO-TECH, INC.
 ■ GEOTECHNICAL ■ ENVIRONMENTAL
 ■ CONSTRUCTION MATERIALS TESTING ■ GEOPHYSICAL EXPLORATION
 1016 SE 3rd AVENUE, OCALA, FLORIDA 34471 ~ (352) 694-7711

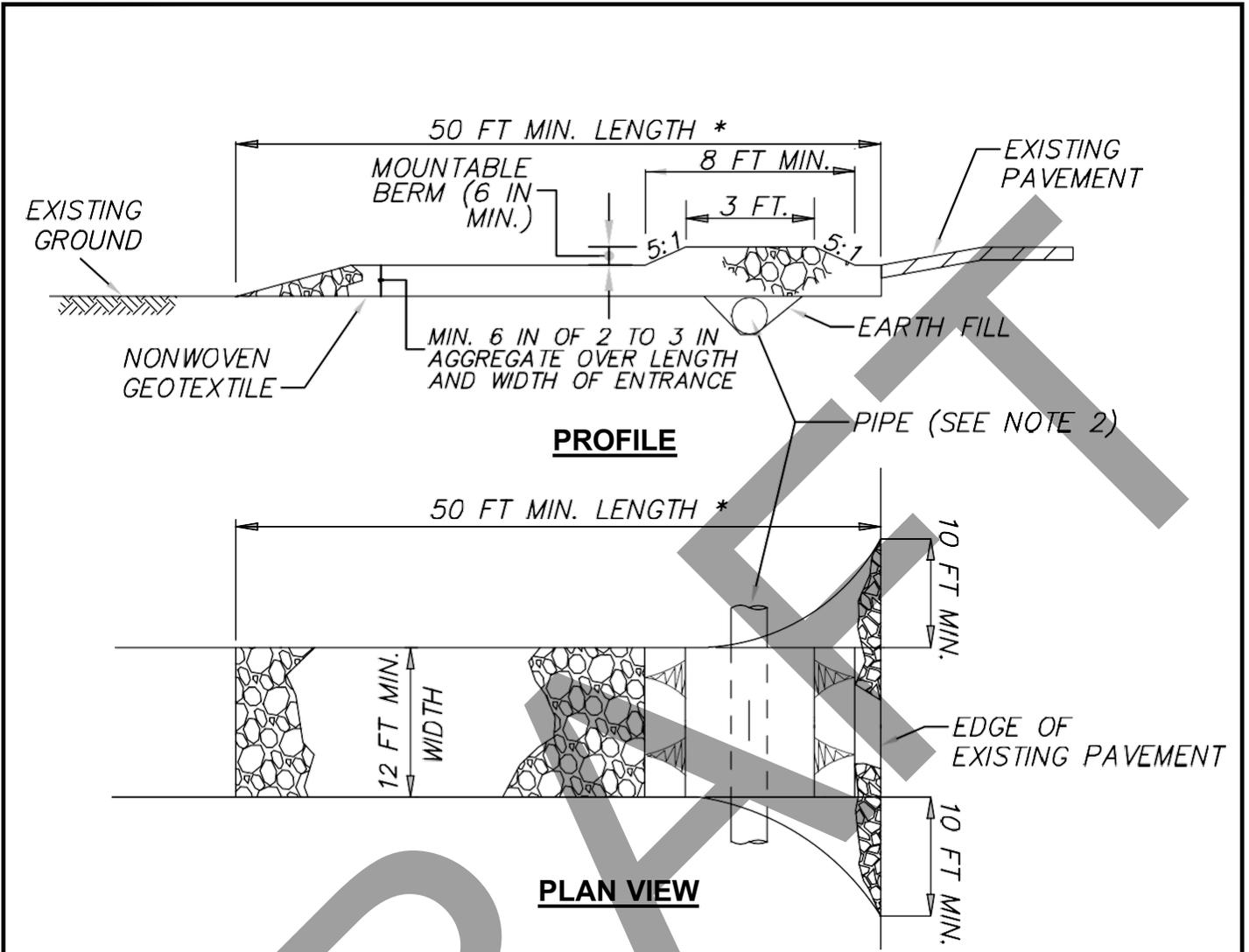
Figure
2



STABILIZED CONSTRUCTION ENTRANCE

1. STONE SIZE - USE 2" STONE, GRANITE OR HARD ROCK.
2. GEOTEXTILE - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.

STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

1. PLACE THE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE A MINIMUM LENGTH OF 50 FEET AND A MINIMUM WIDTH OF 12 FEET. FLARE THE SCE AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE (MAINTAIN POSITIVE DRAINAGE). PROVIDE PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN THE SCE IS NOT LOCATED AT A HIGH SPOT.
3. PREPARE SUBGRADE AND PLACE GEOTEXTILE OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE.
4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE. USE 2-3 INCH STONE, GRANITE, OR HARD ROCK.
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. SWEEPING OF THE COUNTY ROAD IS TO BE CONDUCTED BY THE CONTRACTOR TO ENSURE SEDIMENT IS REMOVED FROM THE ROAD AND THE RIGHT-OF-WAY AT THE END OF EACH WORK DAY.



Marion County
Office of the County Engineer
412 SE 25th Ave. Ocala, FL 34471

TYPICAL CONSTRUCTION ENTRANCE
DETAIL WITH TEMPORARY PIPE

SCALE: NTS
DATE: 1/18/2024
FILE: Construction Detail
with Pipe.DWG

Exhibit B

Schedule of Values

DRA 3127 Erosion Repair - Major Maintenance Project					
Item No.	Description of Services	Bid Quantity	Unit of Measure	Unit Price	Total Price
1 General					
1.1	Mobilization/Demobilization	1	LS	\$3,544	\$3,544.00
1.2	Maintenance of Traffic	1	LS	\$2,400	\$2,400.00
2 DRA 7576					
2.1	Construction Entrance	1	LS	\$7,000	\$7,000.00
2.2	Clearing and Grubbing - Standard	133	SY	\$50	\$6,650.00
2.3	Earthwork - Sinkhole Repair	1	LS	\$5,000	\$45,000
2.4	Bahia Sod	1882	SY	\$9	\$16,938
2.5	Selective Clearing and Grubbing - Standard	292	SY	\$18	\$5,256
2.6	Limb Up Trees - Fence Line	200	LF	\$10	\$2,000
2.7	Desilt Stormwater Pipe	1	LS	\$5,000	\$5,000
Total Project Cost					\$93,788
Add Alternate					
ALT1	Dewatering	1	LS	\$500	\$500
ALT 2	Gopher Tortoise Relocation	6	EA	\$2,000	\$12,000
					\$106,288