

Southeastern Surveying & Mapping Corp.
6500 All American Boulevard
Orlando, Florida 32810
Ph.(407) 292-8580
Fax (407) 292-0141



Southeastern's Utility Division

Date 4 / 19 /
Time _____ AM / PM
Sheet 1 of _____

TEST HOLE DATA REPORT

Project Name: SEA 6-PAIRK WAY SHILOH BLVD TO TOWN CENTER PKWY County: DUVAL

Project Limits: _____

SSMC Job# 60856 W.O.# 98061 Client: J COLLINS ENGINEERING INC
Fin.Mgmt.# N/A Contract # N/A Task W.O.# N/A Field Bk.# N/A

Name of Utility Co.: NO TICKETS Crew Initials: C.O.P. DONT Test Hole # 1

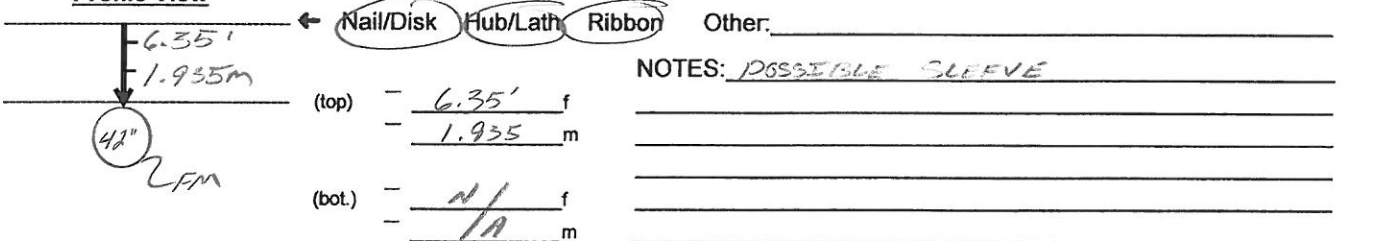
(Project Units) Feet ☒ Metric ☒

(Method Of Location) Station: N/A + N/A Offset: N/A f N/A m

(Utility Notes) Size (OD) 42" f _____ m Line Type: FM Material: MET

Utility Condition: Good ☒ Fair ☐ Poor ☐ Other: _____

Profile View



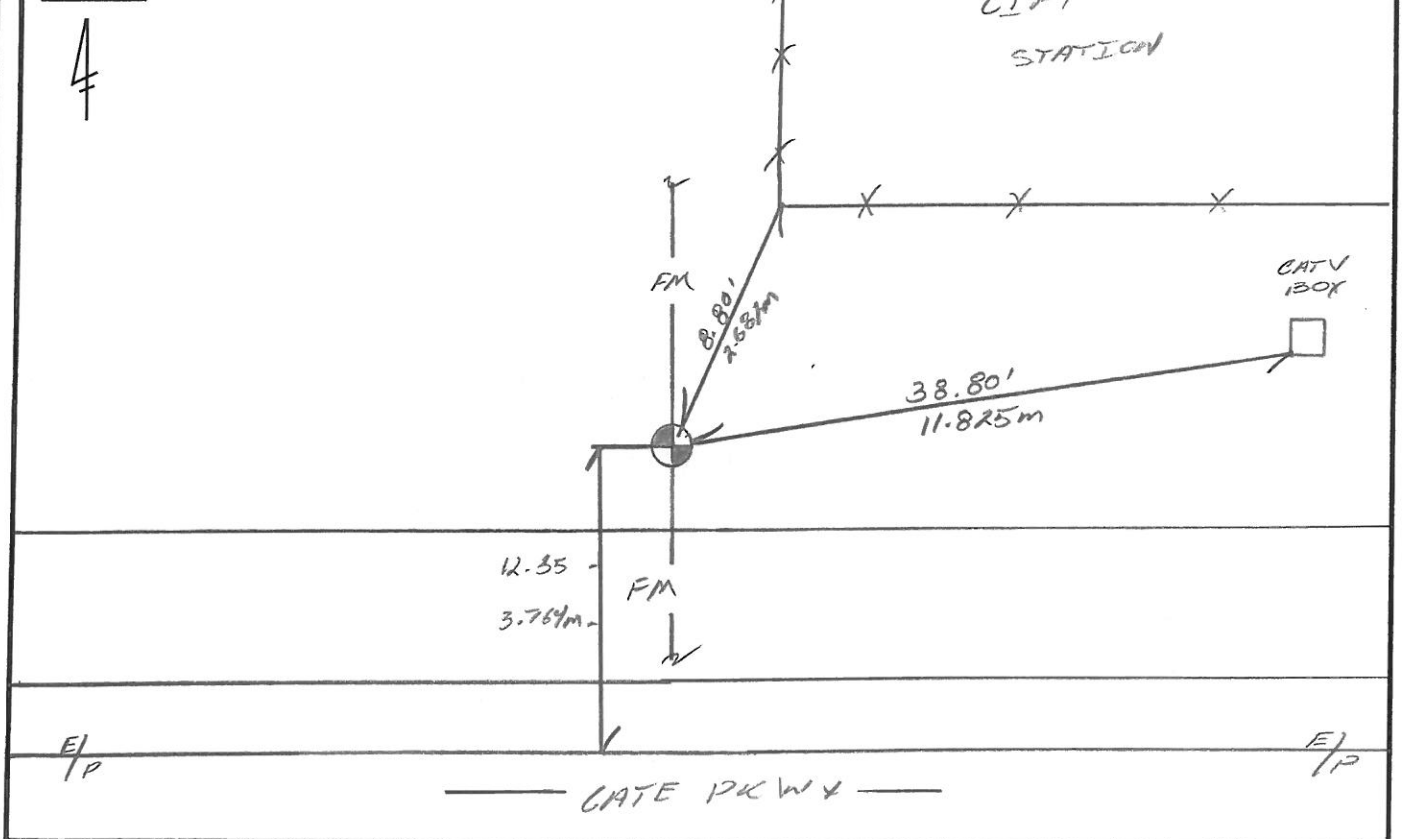
NOTES: POSSIBLE SLEEVE

Elev.Survey Marker: N/A CAICE or EFB Point ID: N/A (for cadd tech. & EFB use only)

Grade Elev.: N/A Utility Elev.: N/A (Weather) Rainy ☒ Dry ☐

(Soil Condition) Hard ☐ Soft ☒ Wet ☐ Dry ☐ Loam ☐ Sand ☐ Dirt ☐ Clay ☐ Rocky ☐ (Ground Cover) Asphalt ☐ Concrete ☐ Dirt ☒ Other ☐

Plan View



(See back for Legend, Line Types, Materials, etc.)

Report Reviewed By: _____ Date: _____

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Southeastern's Utility Division

Date 4/1/19
Time _____ AM / PM
Sheet 2 of _____

TEST HOLE DATA REPORT

Project Name: SEA - 6 PKWY SHILOH BLVD TO TOWN CENTER County: DUVAL

Project Limits: _____

SSMC Job# 60856 W.O.# 98061 Client: _____

Fin.Mgmt.# N/A Contract # N/A Task W.O.# N/A Field Bk.# N/A

Name of Utility Co.: SEA Crew Initials: CAR. DOWNT Test Hole # 3

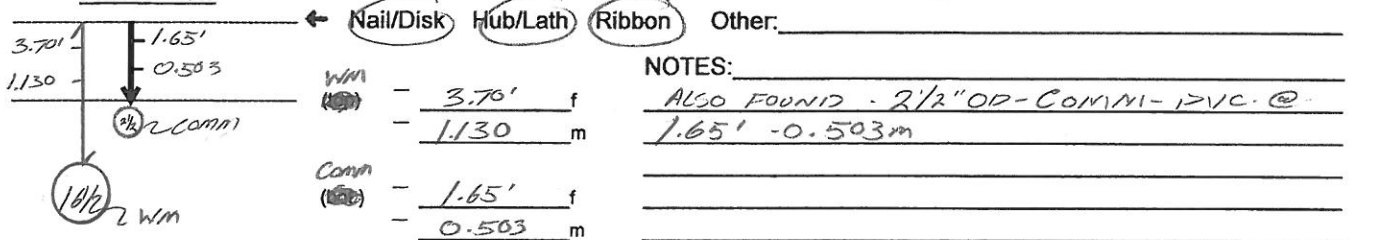
(Project Units) Feet ☒ Metric ☒

(Method Of Location) Station: N/A + N/A Offset: N/A f N/A m

(Utility Notes) Size (OD) 16 1/2 f _____ m Line Type: WM Material: PVC

Utility Condition: Good ☒ Fair ☒ Poor _____ Other: _____

Profile View

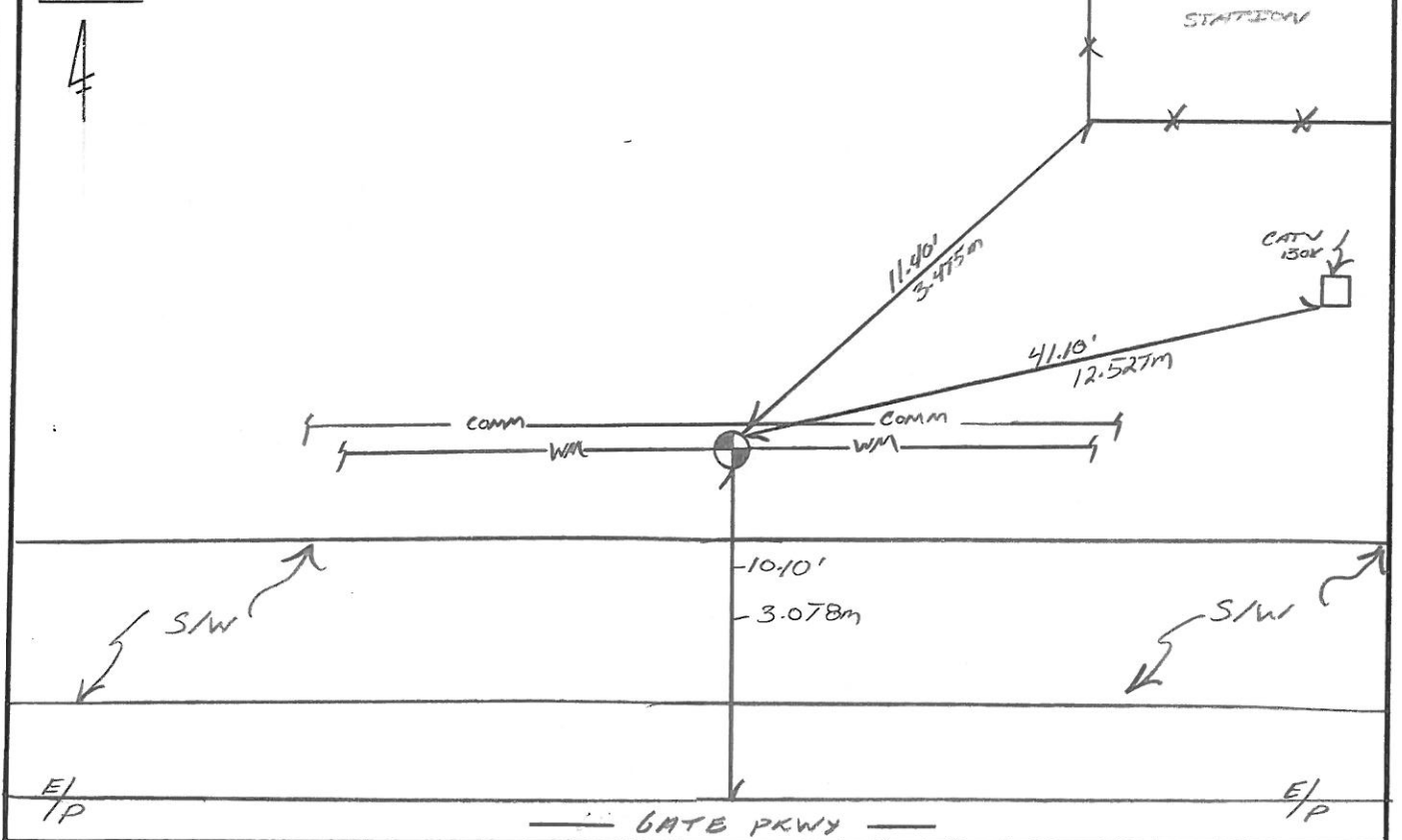


Elev.Survey Marker: N/A CAICE or EFB Point ID: N/A (for cadd tech. & EFB use only)

Grade Elev.: N/A Utility Elev.: N/A (Weather) ☒ Rainy ☒ Dry ☒

(Soil Condition) Hard ☐ Soft ☒ Wet ☐ Dry ☐ Loam ☐ Sand ☒ Dirt ☒ Clay ☐ Rocky ☐ (Ground Cover) Asphalt ☐ Concrete ☐ Dirt ☒ Other ☐

Plan View



(See back for Legend, Line Types, Materials, etc.)

Report Reviewed By: _____ Date: _____

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Southeastern's Utility Division

Date 4/19/17
Time _____ AM / PM
Sheet B of _____

TEST HOLE DATA REPORT

Project Name: SEA-6-PKWAY SHILTON BLVD TO TOWN CENTER County: DUVAL
Project Limits: _____

SSMC Job# 60856 W.O.# 98061 Client: _____
Fin.Mgmt.# N/A Contract # N/A Task W.O.# N/A Field Bk.# N/A

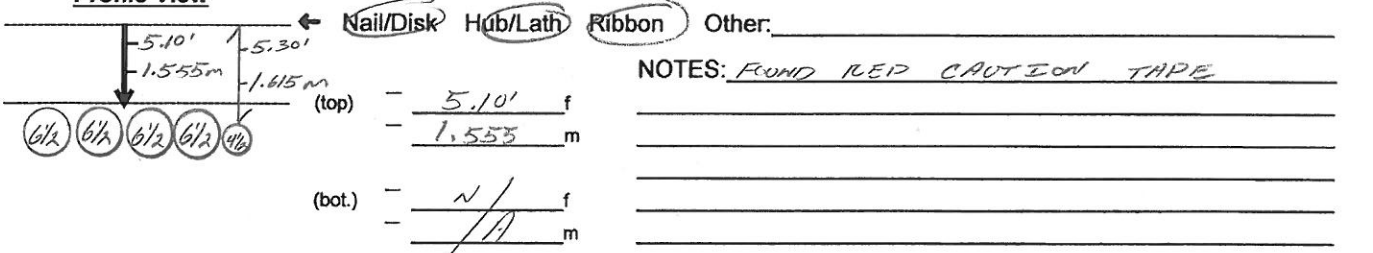
Name of Utility Co.: NO TICKETS Crew Initials: CLD, DOWNT Test Hole # B

(Project Units) Feet ☒ Metric ☒

(Method Of Location) Station: N/A + N/A Offset: N/A f N/A m

(Utility Notes) Size (OD) 4X6 1/2" OP f m Line Type: BE DUCT Material: PVC
+ 1X 4 1/2" OP Utility Condition: Good ☒ Fair ☐ Poor ☐ Other: _____

Profile View



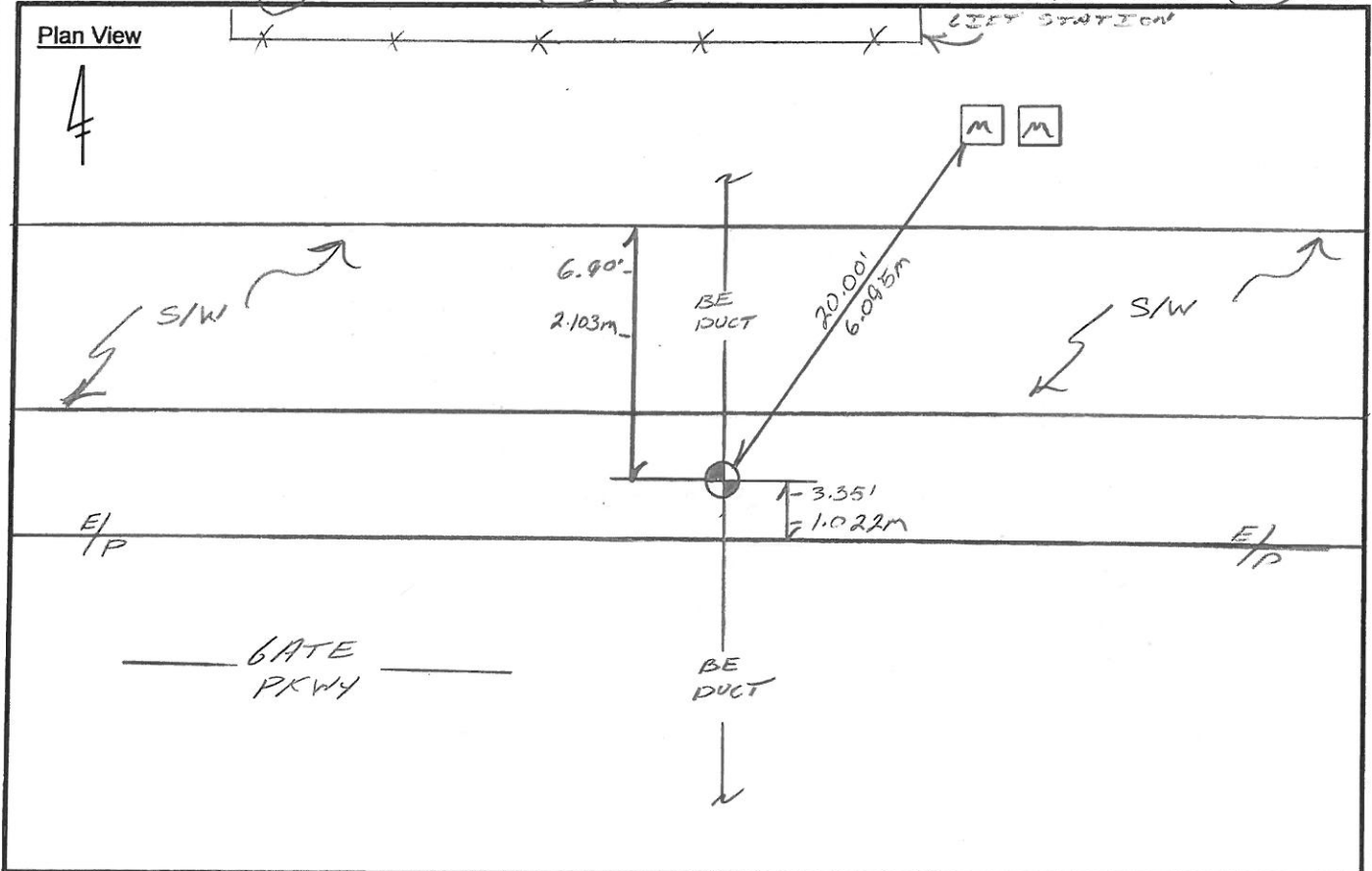
NOTES: FOUND RED CAUTION TAPE

Elev.Survey Marker: N/A CAICE or EFB Point ID: N/A (for cadd tech. & EFB use only)

Grade Elev.: N/A Utility Elev.: N/A (Weather) Dry ☒ Rainy ☐

(Soil Condition) Hard ☐ Soft ☒ Wet ☐ Dry ☐ Loam ☐ Sand ☐ Dirt ☐ Clay ☐ Rocky ☐ (Ground Cover) Asphalt ☐ Concrete ☐ Dirt ☐ Other ☐

Plan View



(See back for Legend, Line Types, Materials, etc.)

Report Reviewed By: _____ Date: _____

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Southeastern's Utility Division

Date 4/20/17
Time _____ AM / PM
Sheet 4 of _____

TEST HOLE DATA REPORT

Project Name: JEA - GATE PKWY SHOWN TO TOWN CENTER County: DUVAL

Project Limits: _____

SSMC Job# 60856 W.O.# 98061 Client: _____

Fin.Mgmt.# N/A Contract # N/A Task W.O.# N/A Field Bk.# N/A

Name of Utility Co.: JEA Crew Initials: CED. DONIT Test Hole # 4

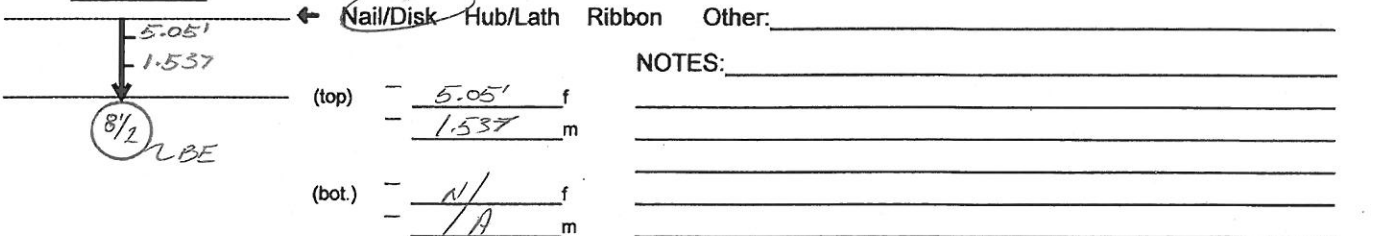
(Project Units) Feet ☒ Metric ☒

(Method Of Location) Station: N/A + N/A Offset: N/A f N/A m

(Utility Notes) Size (OD) 8 1/2" f _____ m Line Type: ISE Material: PVC

Utility Condition: Good ☒ Fair ☐ Poor ☐ Other: _____

Profile View

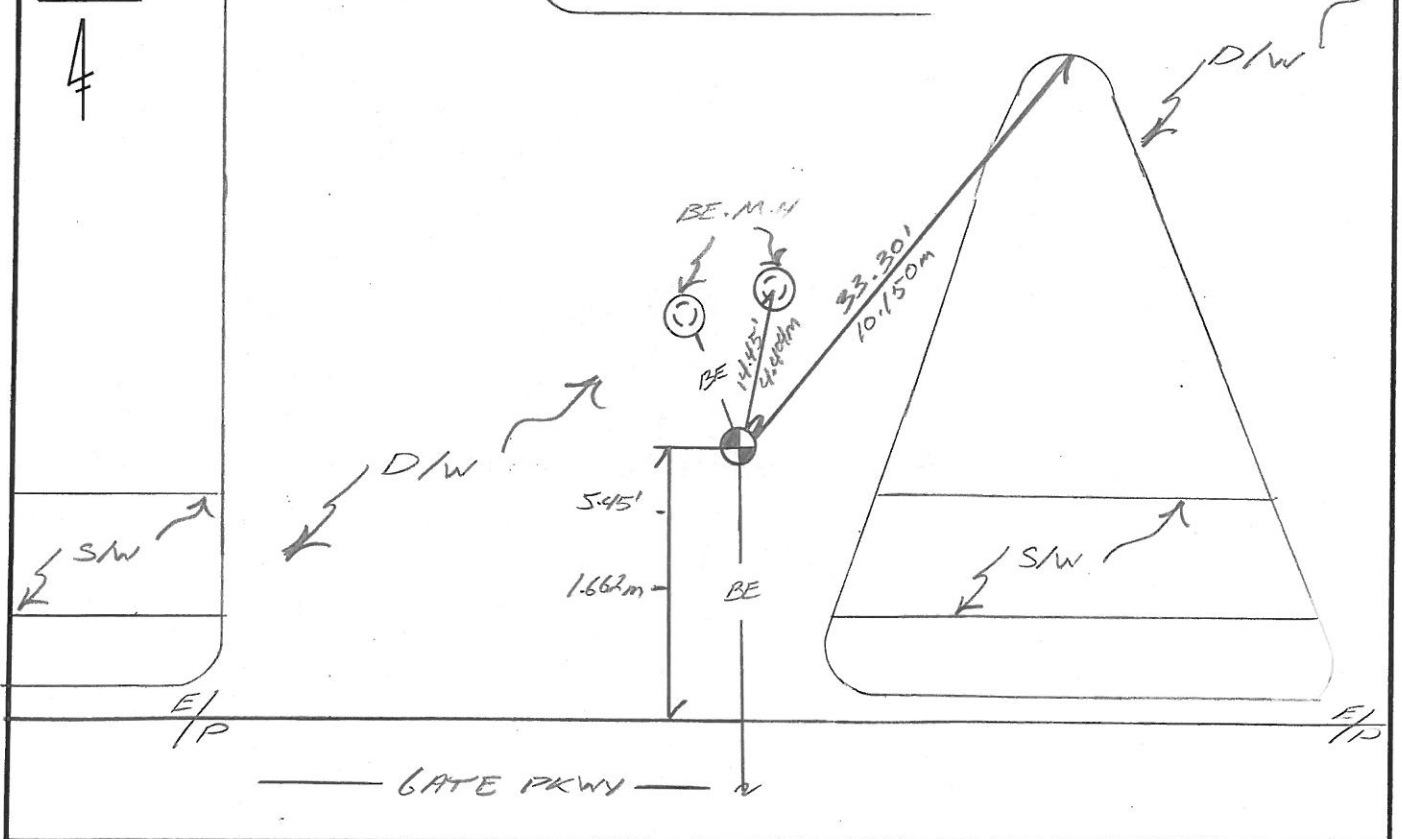


Elev.Survey Marker: N/A CAICE or EFB Point ID: N/A (for cadd tech. & EFB use only)

Grade Elev.: N/A Utility Elev.: N/A (Weather) Rainy ☒ Dry ☐

(Soil Condition) Hard ☐ Soft ☐ Wet ☐ Dry ☒ Loam ☐ Sand ☐ Dirt ☒ Clay ☐ Rocky ☐ (Ground Cover) Asphalt ☒ Concrete ☐ Dirt ☐ Other ☐

Plan View



(See back for Legend, Line Types, Materials, etc.)

Report Reviewed By: _____ Date: _____

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Southeastern's Utility Division

Date 4/19/1
Time _____ AM / PM
Sheet 5 of _____

TEST HOLE DATA REPORT

Project Name: JEA - 6 PARK WAY SHIELD BLVD TO TOWN CENTER County: DUVAL

Project Limits: _____

SSMC Job# 10556 W.O.# 93661 Client: J COLLINS ENGINEERING
Fin.Mgmt.# N/A Contract # N/A Task W.O.# N/A Field Bk.# N/A

Name of Utility Co.: _____ Crew Initials: COLP, DAWIT Test Hole # 5

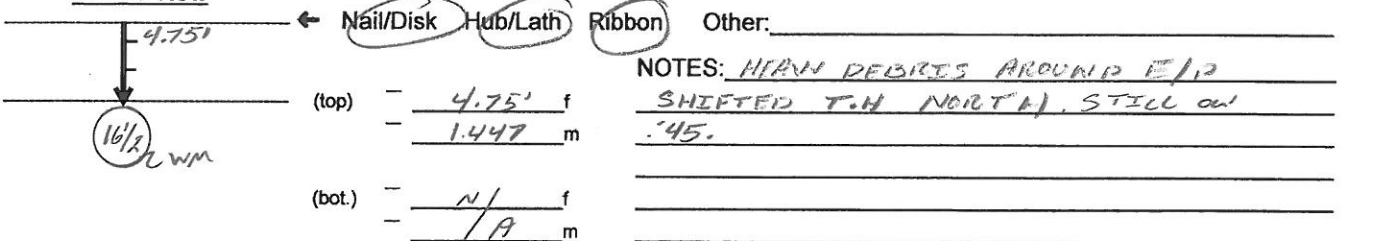
(Project Units) Feet ☒ Metric ☒

(Method Of Location) Station: N/A + N/A Offset: N/A f N/A m

(Utility Notes) Size (OD) 16 1/2 f _____ m Line Type: WMI Material: PVC

Utility Condition: Good ☒ Fair ☐ Poor ☐ Other: _____

Profile View

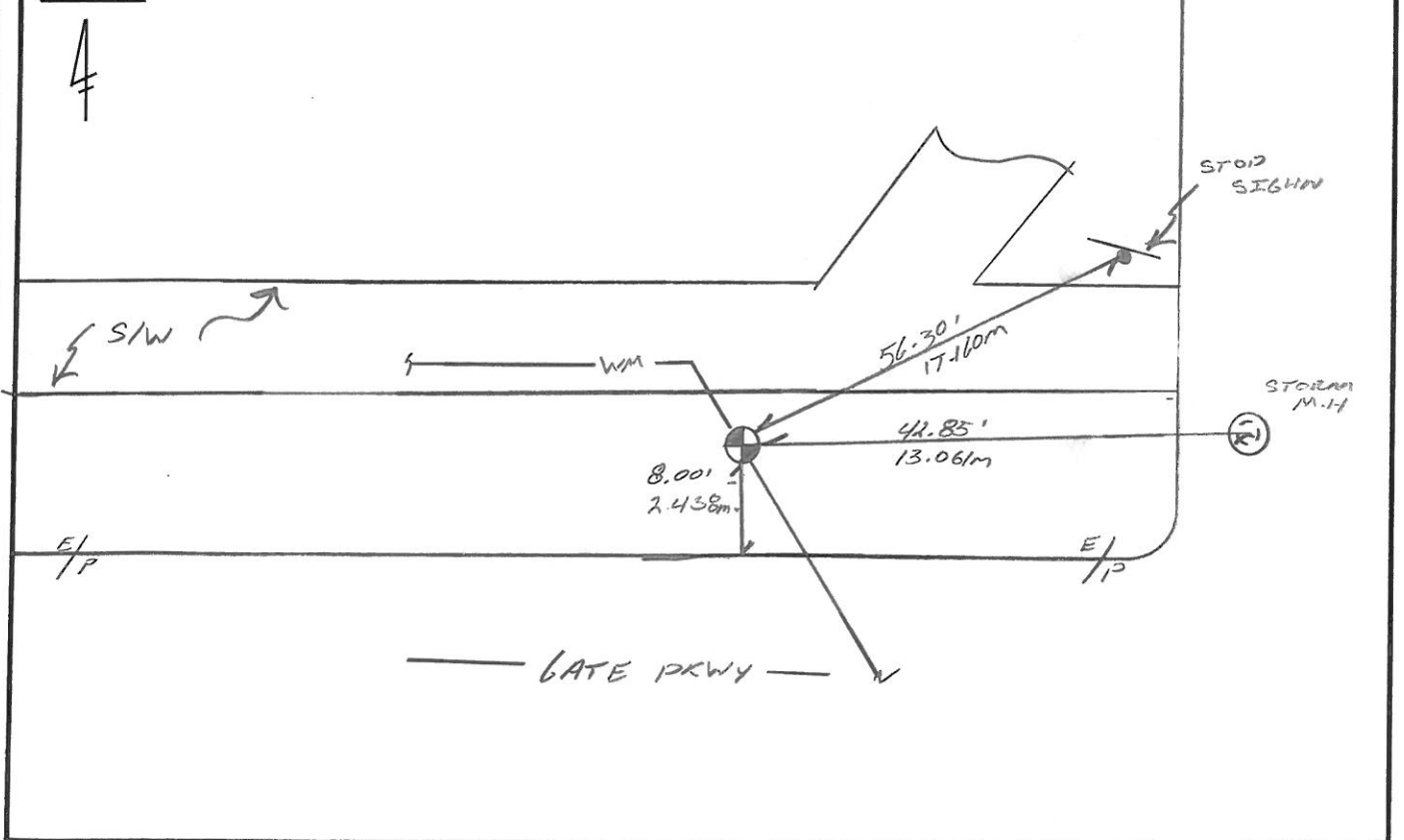


Elev.Survey Marker: N/A CAICE or EFB Point ID: N/A (for cadd tech. & EFB use only)

Grade Elev.: N/A Utility Elev.: N/A (Weather) ☒ Rainy ☒ Dry

(Soil Condition) Hard ☐ Soft ☒ Wet ☐ Dry ☐ Loam ☐ Sand ☒ Dirt ☐ Clay ☐ Rocky ☐ (Ground Cover) Asphalt ☐ Concrete ☐ Dirt ☒ Other ☐

Plan View



(See back for Legend, Line Types, Materials, etc.)

Report Reviewed By: _____ Date: _____

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Southeastern's Utility Division

Date 4/20/17
Time _____ AM / PM
Sheet 6 of _____

TEST HOLE DATA REPORT

Project Name: SEA 6-PKWAY SUTLOW TO TOWN CENTER County: DUVAL

Project Limits: _____

SSMC Job# 60856 W.O.# 98061 Client: J COLLINS ENGINEERING
Fin.Mgmt.# N/A Contract # N/A Task W.O.# N/A Field Bk.# N/A

Name of Utility Co.: _____ Crew Initials: CLP, POWIT Test Hole # 6

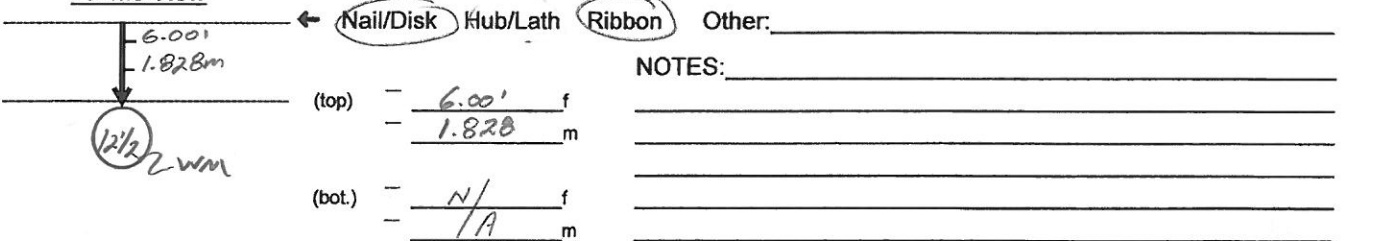
(Project Units) Feet ☒ Metric ☒

(Method Of Location) Station: N/A + N/A Offset: N/A f N/A m

(Utility Notes) Size (OD) 12 1/2 f _____ m Line Type: WM Material: _____

Utility Condition: Good ☒ Fair ☐ Poor ☐ Other: _____

Profile View

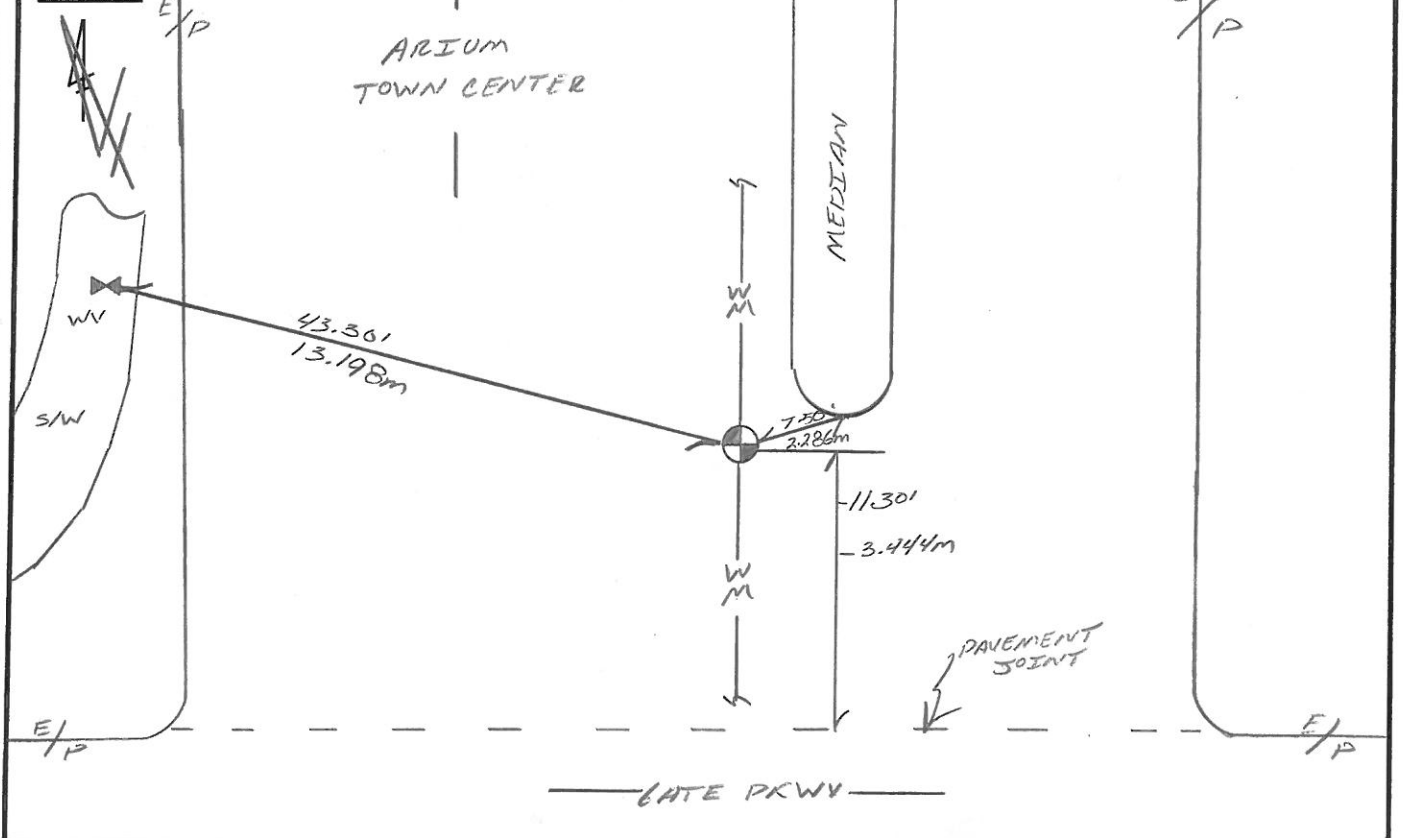


Elev.Survey Marker: N/A CAICE or EFB Point ID: N/A (for cadd tech. & EFB use only)

Grade Elev.: N/A Utility Elev.: N/A (Weather) Rainy ☒ Dry ☐

(Soil Condition) Hard ☐ Soft ☒ Wet ☐ Dry ☐ Loam Sand ☒ Dirt ☐ Clay Rocky (Ground Cover) Asphalt ☒ Concrete Dirt Other

Plan View



(See back for Legend, Line Types, Materials, etc.)

Report Reviewed By: _____ Date: _____

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Southeastern's Utility Division

Date 4/20/17
Time _____ AM / PM
Sheet 7 of _____

TEST HOLE DATA REPORT

Project Name: SEA 6 - PKWY SHILOH TO TOWNCENTR County: DUVAL

Project Limits: _____

SSMC Job# 60856 W.O.# 98061 Client: J COLLINS ENGINEERING

Fin.Mgmt.# N/A Contract # N/A Task W.O.# N/A Field Bk.# N/A

Name of Utility Co.: _____ Crew Initials: CLP, DONT Test Hole # 7

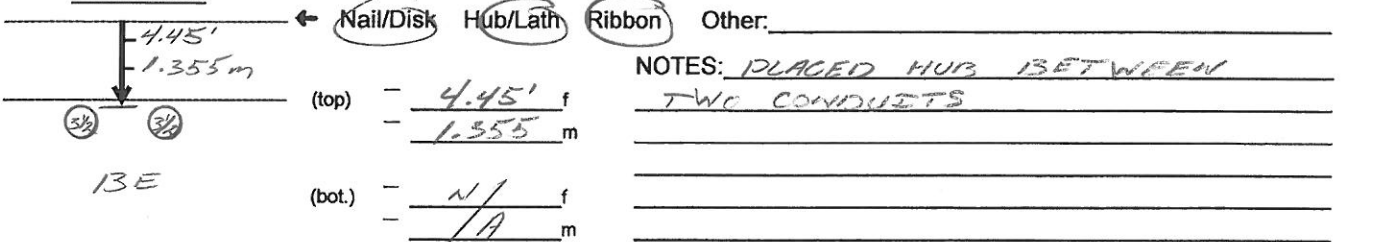
(Project Units) Feet ☒ Metric ☒

(Method Of Location) Station: N/A + N/A Offset: N/A f N/A m

(Utility Notes) Size (OD) 2X3/4 f _____ m Line Type: 13E Material: DVC

Utility Condition: Good ☒ Fair ☐ Poor ☐ Other: _____

Profile View

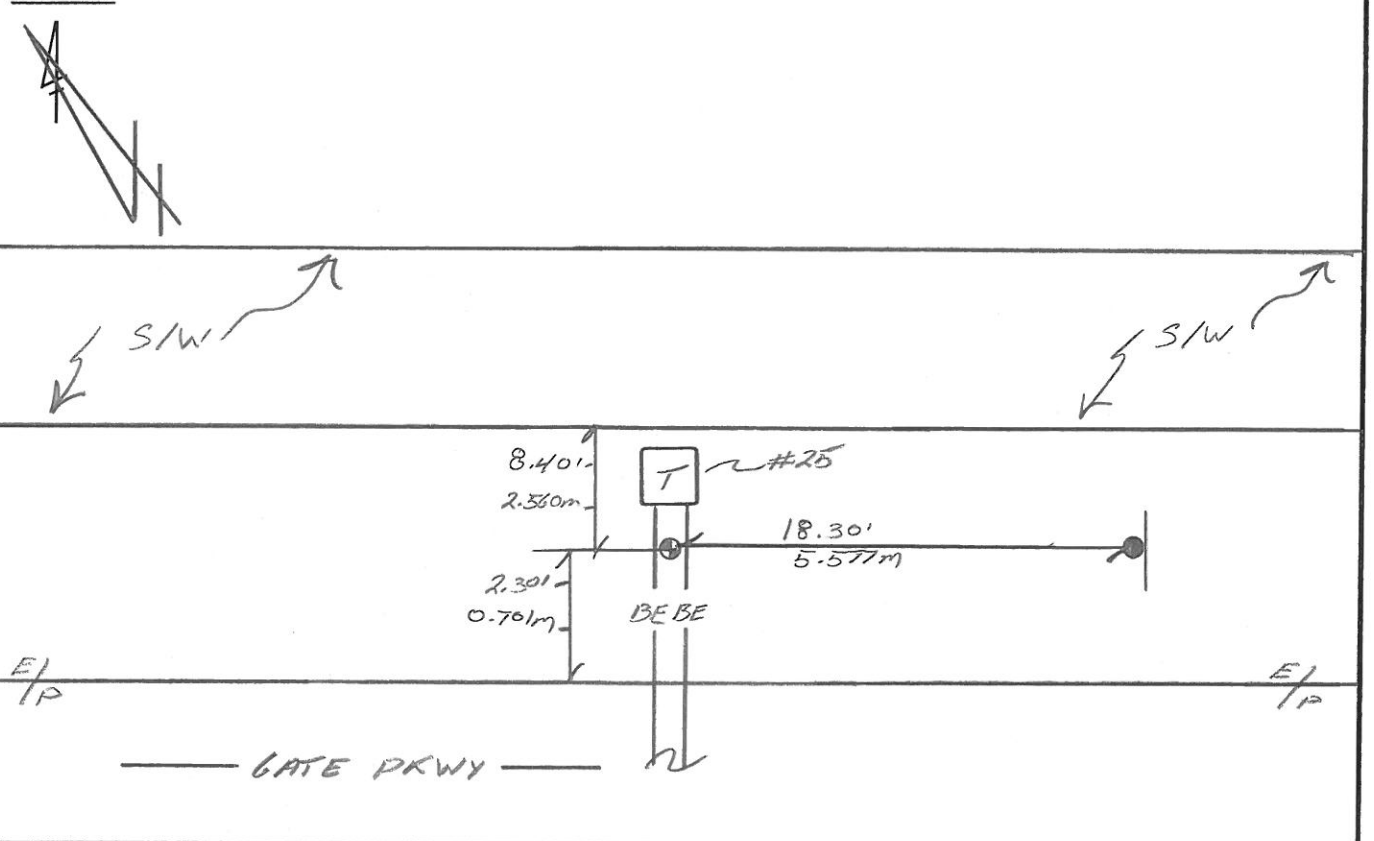


Elev.Survey Marker: N/A CAICE or EFB Point ID: N/A (for cadd tech. & EFB use only)

Grade Elev.: N/A Utility Elev.: N/A (Weather) Rainy Dry

(Soil Condition) Hard ☐ Soft ☒ Wet ☐ Dry ☒ Loam ☐ Sand ☐ Dirt ☒ Clay ☐ Rocky ☐ (Ground Cover) Asphalt ☐ Concrete ☐ Dirt ☒ Other ☐

Plan View



(See back for Legend, Line Types, Materials, etc.)

Report Reviewed By: _____ Date: _____

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Southeastern's Utility Division

Date 4/1/2017
Time _____ AM / PM
Sheet 8 of _____

TEST HOLE DATA REPORT

Project Name: SEA-6 PARKWAY SHILOH BLVD TO TOWN CENTER County: DUVAL

Project Limits:

SSMC Job# 60856 W.O.# 98061 Client: J COLLINS ENGINEERING

Fin.Mgmt.# N/A Contract # N/A Task W.O.# N/A Field Bk.# N/A

Name of Utility Co.: _____ Crew Initials: CAD, DONT Test Hole # 8

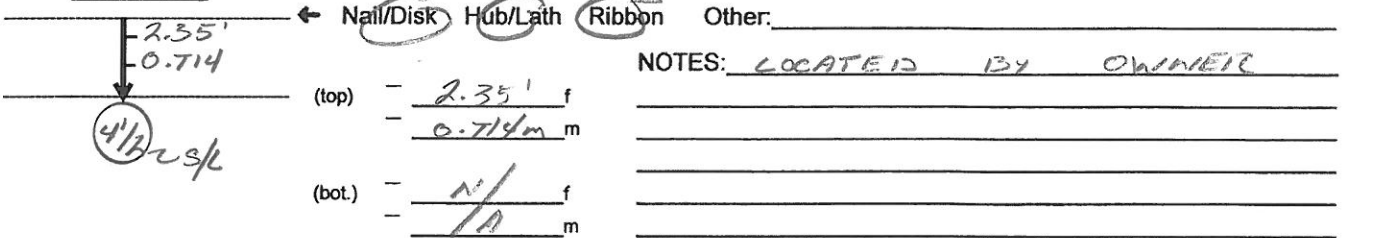
(Project Units) Feet ☒ Metric ☒

(Method Of Location) Station: N/A + N/A Offset: N/A f N/A m

(Utility Notes) Size (OD) 4 1/2" f _____ m Line Type: S/L Material: PVC

Utility Condition: Good ☒ Fair ☒ Poor Other: _____

Profile View



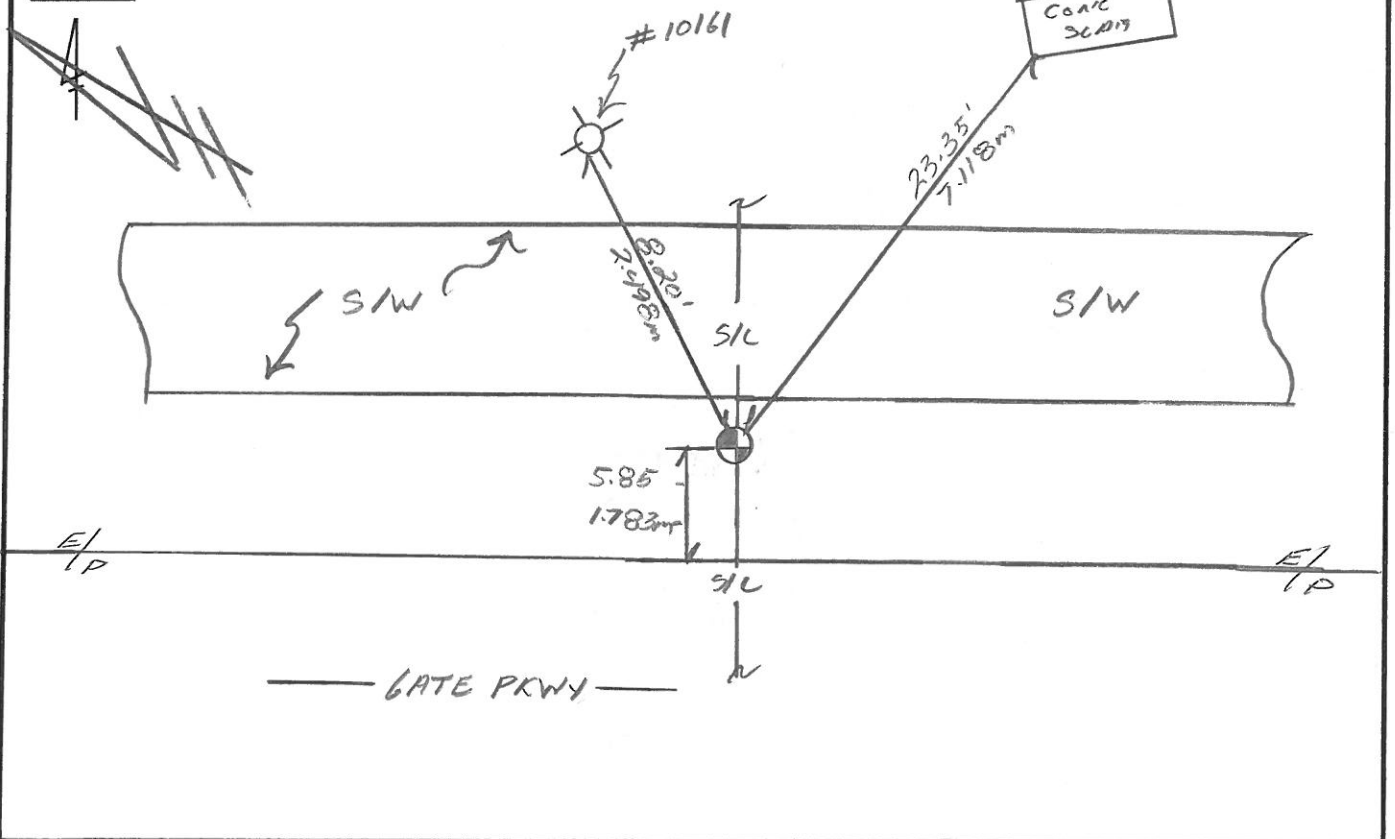
NOTES: LOCATED BY OWNER

Elev.Survey Marker: N/A CAICE or EFB Point ID: N/A (for cadd tech. & EFB use only)

Grade Elev.: N/A Utility Elev.: N/A (Weather) Rainy ☒ Dry ☒

(Soil Condition) Hard ☐ Soft ☒ Wet ☐ Dry ☒ Loam ☐ Sand ☐ Dirt ☒ Clay ☐ Rocky ☐ (Ground Cover) Asphalt ☐ Concrete ☐ Dirt ☒ Other ☐

Plan View



(See back for Legend, Line Types, Materials, etc.)

Report Reviewed By: _____ Date: _____

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Date 4/1/2017
Time _____ AM / PM
Sheet 9 of _____

TEST HOLE DATA REPORT

Project Name: SEA-6 PARKWAY BRIDGE TO TWIN CTR County: DUVAL

Project Limits: _____

SSMC Job# 60856 W.O.# 98661 Client: J COLLINS ENGINEERING
Fin.Mgmt.# N/A Contract # N/A Task W.O.# N/A Field Bk.# N/A

Name of Utility Co.: _____ Crew Initials: CLD, DONT Test Hole # 9

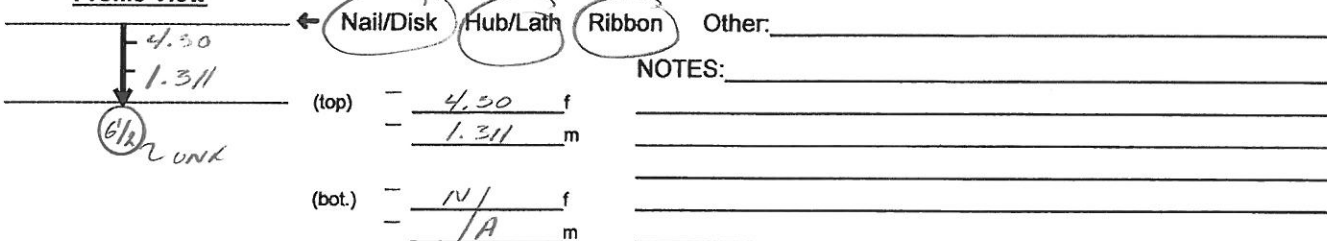
(Project Units) Feet ☒ Metric ☒

(Method Of Location) Station: N/A + N/A Offset: N/A f N/A m

(Utility Notes) Size (OD) 6 1/2" f _____ m Line Type: UNK Material: PVC

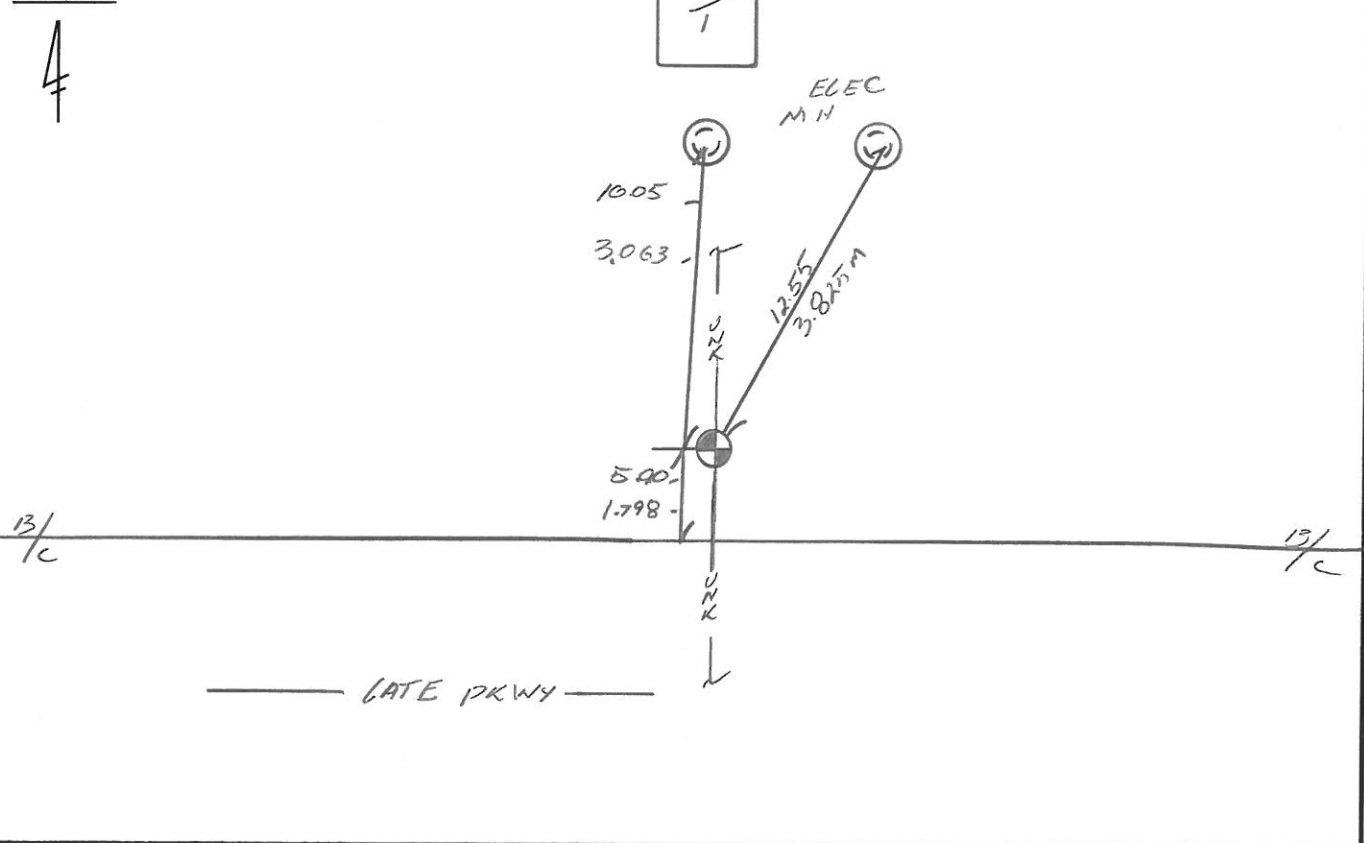
Utility Condition: Good ☒ Fair ☐ Poor ☐ Other: _____

Profile View



Elev.Survey Marker: N/A CAICE or EFB Point ID: N/A (for cadd tech. & EFB use only) ☒
Grade Elev.: N/A Utility Elev.: N/A (Weather) ☒ Rainy ☒ Dry ☒
(Soil Condition) Hard ☐ Soft ☒ Wet ☐ Dry ☐ Loam ☐ Sand ☐ Dirt ☐ Clay ☐ Rocky ☐ (Ground Cover) Asphalt ☐ Concrete ☐ Dirt ☐ Other ☐

Plan View



(See back for Legend, Line Types, Materials, etc.)

Report Reviewed By: _____ Date: _____

Southwestern Surveying & Mapping Corp.
6500 All American Boulevard
Orlando, Florida 32810
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Fax (407) 292-0141



Southwestern's Utility Division

Date 4/1/2017

Time _____ AM / PM

Sheet 11 of _____

TEST HOLE DATA REPORT

Project Name: JEA 16 PARKWAY GROUND TO TOWN CENTER County: DUVAL

Project Limits: _____

SSMC Job# 60856 W.O.# 98061 Client: J COLLINS ENGINEERING

Fin.Mgmt.# N/A Contract # N/A Task W.O.# N/A Field Bk.# N/A

Name of Utility Co.: _____ Crew Initials: P. LIT, DOUT Test Hole # 11

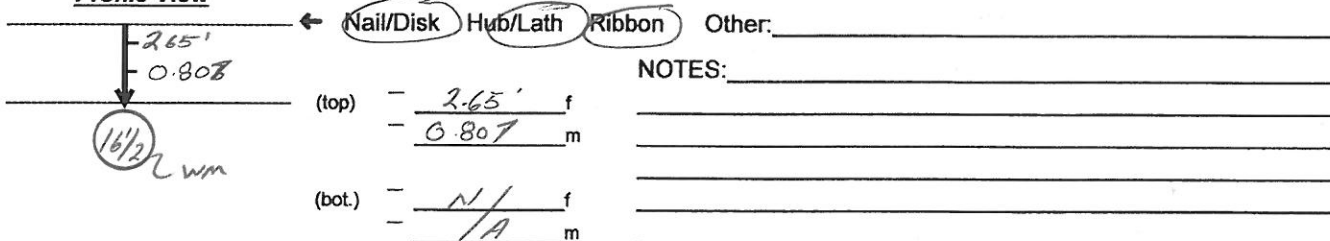
(Project Units) Feet ☒ Metric ☒

(Method Of Location) Station: N/A + N/A Offset: N/A f N/A m

(Utility Notes) Size (OD) 16 1/2" f _____ m Line Type: WM Material: PVC

Utility Condition: Good ☒ Fair ☐ Poor ☐ Other: _____

Profile View

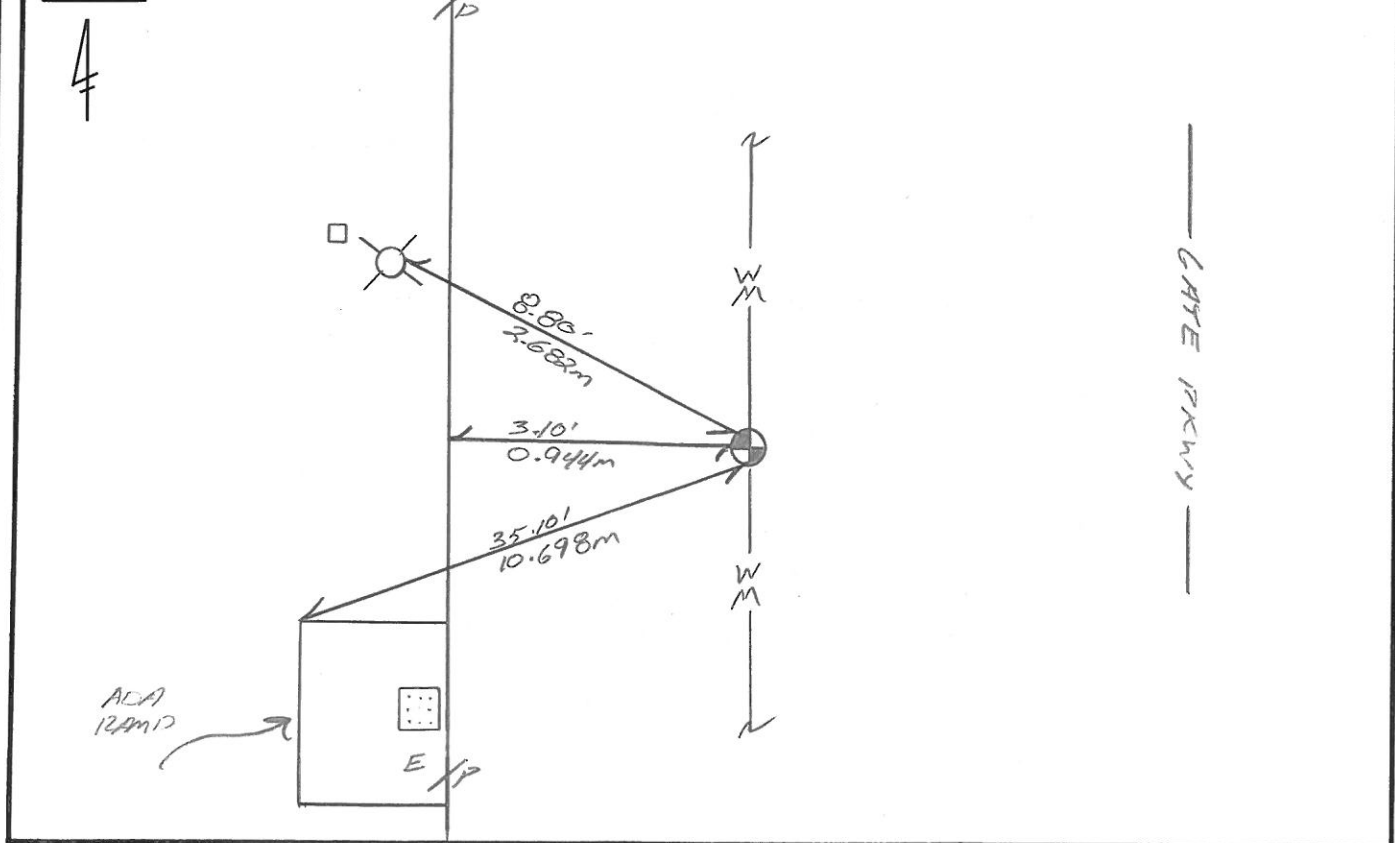


Elev.Survey Marker: N/A CAICE or EFB Point ID: N/A (for cadd tech. & EFB use only)

Grade Elev.: N/A Utility Elev.: N/A

(Soil Condition) Hard ☐ Soft ☒ Wet ☐ Dry ☐ Loam ☐ Sand ☐ Dirt ☒ Clay ☐ Rocky ☐ (Ground Cover) Asphalt ☐ Concrete ☐ Dirt ☐ Other ☒

Plan View



(See back for Legend, Line Types, Materials, etc.)

Report Reviewed By: _____ Date: _____

**REPORT OF
GEOTECHNICAL EXPLORATION
JEA GATE PARKWAY RECLAIMED WATER MAIN
JACKSONVILLE, FLORIDA
E&A PROJECT NO. 35-25223
CLIENT ID: 3581**

Prepared for:

J. Collins Engineering Associates, LLC
11516-3 San Jose Boulevard
Jacksonville, Florida 32223

Prepared by:

Ellis & Associates, Inc.
7064 Davis Creek Road
Jacksonville, Florida 32256

May 2, 2017

May 2, 2017

Mr. John Collins, P.E.
J. Collins Engineering Associates, LLC
11516-3 San Jose Boulevard
Jacksonville, Florida 32223

Reference: Report of Geotechnical Exploration
JEA Gate Parkway Reclaimed Water Main
Jacksonville, Florida
E&A Project No. 35-25223
Client ID: 3581

Dear Mr. Collins:

Ellis & Associates, Inc. has completed a geotechnical exploration for the subject project in accordance with our proposal last revised September 1, 2016. The exploration was conducted to evaluate the general subsurface conditions within the proposed pipeline areas and to provide recommendations for site preparation and support of the pipelines.

We appreciate this opportunity to be of service as your geotechnical consultant on this phase of the project and look forward to providing the materials testing and observation that will be required during the construction phase. If you have any questions, or if we may be of any further service, please contact us.

Very truly yours,

ELLIS & ASSOCIATES, INC.

Colin A. Shaw, E.I.
Staff Engineer

David W. Spangler, P.E.
Senior Project Engineer
Registered, Florida No. 58770

Distribution: Mr. John Collins, P.E. – J. Collins Engineering Associates, LLC

1 pdf

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2.1 SPT Borings.....	1
3.0 VISUAL CLASSIFICATION	1
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FIGURES

Figure 1	Site Location Plan
Figure 2	Field Exploration Plan
Figure 3	Generalized Subsurface Profiles

APPENDICES

Appendix A	Soil Boring Logs
	Field Exploration Procedures
	Key to Soil Classification

1.0 PROJECT INFORMATION

1.1 Site Location and Description

The project site is located along Gate Parkway from its intersection with Town Center Boulevard to approximately 375 feet west of its intersection with Shiloh Mill Boulevard in Jacksonville, Florida. The general site location is shown as Figure 1. The site is developed with several existing buildings and associated asphalt roadways.

1.2 Project Description

Project information has been provided to us in discussions with you. We have been provided with a copy of a plan and profile file for the subject site prepared by J. Collins Engineering Associates, last dated December 2016. This plan shows the boundary limits for the project, the existing roadways adjacent to the site, and the layout of the proposed pipeline.

We understand that an 8-inch reclaimed water main is proposed to be installed using open cut methods along the westbound side of Gate Parkway from Town Center Boulevard to just east of Shiloh Mill Boulevard. Based on the provided profiles, the pipeline will be installed at depths ranging between approximately 3 and 8 feet below existing grade.

If the project information above is incorrect, then the recommendations in this report may need to be re-evaluated. Any changes in these conditions should be provided so the need for re-evaluation of our recommendations can be assessed.

2.0 FIELD EXPLORATION

A field exploration was performed on April 12, 2017. The approximate boring locations are shown on the Field Exploration Plan, Figure 2. The approximate boring locations were determined in the field by our personnel using paced measurements from existing site features, and should be considered accurate only to the degree implied by the method of measurement used.

2.1 SPT Borings

To explore the subsurface conditions within the areas of the proposed pipeline, we located and performed 4 Standard Penetration Test (SPT) borings drilled to depths of approximately 15 feet below the existing asphalt surface. The borings were performed in general accordance with the methodology outlined in ASTM D 1586. Split-spoon soil samples recovered during performance of the borings were visually classified in the field and representative portions of the samples were transported to our laboratory for further evaluation. A summary of the field procedures is included in Appendix A.

3.0 VISUAL CLASSIFICATION

A geotechnical engineer classified representative soil samples obtained during our field exploration using the Unified Soil Classification System (USCS) in general accordance with ASTM D 2488. A Key to the Soil Classification System is included in Appendix A.

4.0 GENERAL SUBSURFACE CONDITIONS

4.1 General Soil Profile

Graphical presentations of the generalized subsurface conditions are presented on Figure 3. Detailed boring records are included in Appendix A. When reviewing these records it should be understood that the soil conditions will vary between the boring locations. The following paragraph summarizes the soil conditions encountered.

In general, the borings encountered a surficial asphalt layer, underlain by limerock base, followed by layers of loose to very dense fine sand (SP) and fine sand with silt (SP-SM), and to a lesser extent silty fine sand (SM).

4.2 Groundwater Level

The groundwater level was encountered at both boring locations and measured, at the time of drilling, at depths varying from 7.8 to 10.3 feet below the existing asphalt surface. The depth to the groundwater level at most boring location is noted on the Generalized Subsurface Profiles and on the Log of Boring records. However, it should be anticipated the groundwater level will fluctuate due to seasonal climatic variations, surface water runoff patterns, construction operations, and other interrelated factors.

4.3 Normal Seasonal High Groundwater Level

The normal seasonal high groundwater level is affected by a number of factors. The drainage characteristics of the soils, land surface elevation, relief points such as drainage ditches, lakes, rivers, swamp areas, etc., and distance to relief points are some of the more important factors influencing the seasonal high groundwater level.

Based on our interpretation of the site conditions, including the boring logs and Duval County Soil Survey, we estimate the normal seasonal high groundwater level at the boring locations to be approximately 3 feet above the groundwater levels measured at the time of our field exploration. It is possible that groundwater levels may exceed the estimated normal seasonal high groundwater level as a result of significant or prolonged rains.

5.0 DESIGN RECOMMENDATIONS

5.1 General

Our geotechnical engineering evaluation of the site and subsurface conditions with respect to the planned construction and our recommendations for site preparation and pipeline support are based on (1) our site observations, (2) the field test data obtained, and (3) our understanding of the project information as presented in this report.

Should the location of the reclaimed water main be significantly changed, please contact us so that we can review our recommendations. Also, the discovery of any site or subsurface conditions during construction which deviate from the data obtained during this geotechnical exploration should also be reported to us for our evaluation.

The recommendations presented in the subsequent sections of this report present design and construction techniques which are appropriate for the planned construction. We recommend that we be provided the opportunity to review the final plans and earthwork specifications to verify that our recommendations have been properly interpreted and implemented.

5.2 Pipelines and Manhole Support Recommendations

We consider the subsurface conditions at the site capable of supporting the proposed pipeline structure when constructed upon properly prepared subgrade soils. Provided the site preparation and earthwork construction recommendations outlined in Section 6.0 of this report are performed, the following parameters may be used for design.

6.0 EARTHWORK RECOMMENDATIONS

Earthwork as outlined in this section should be performed to provide more uniform foundation bearing conditions and to reduce the potential for post-construction settlements of the planned structures.

6.1 Clearing

Prior to construction, the location of existing underground utility lines within the construction area should be established. Provisions should then be made to relocate interfering utilities to appropriate locations. It should be noted that if underground pipes are not properly removed or plugged, they may serve as conduits for subsurface erosion which may subsequently lead to excessive settlement of overlying pavement.

6.2 Temporary Groundwater Control

The groundwater level was encountered by the borings at depths varying from 7.8 to 10.3 feet below the existing asphalt surface at the time of our exploration. Because of the need for excavation to the pipeline bearing levels, it may be necessary to install temporary groundwater control measures to dewater the area to facilitate the excavation and compaction processes for the deeper portions of the pipeline and during wet periods. The groundwater control measures should be determined by the contractor. The water table should be maintained at least 2 feet below the required depth of excavation. The dewatering system should not be decommissioned until backfilling has reached a height of 2 feet above the groundwater level at the time of construction.

6.3 Preparation of Foundation Soils

For the connections to the existing pipelines which are anticipated to bear in sandy soils (SP, SP-SM, SM), the soils should be excavated to the proposed bearing elevation and the exposed excavation surface should be compacted as outlined in Section 6.5. Once the pipe is installed, the trench should be backfilled with compacted structural backfill to final grade.

6.4 Excavation Protection

Excavation work will be required to meet OSHA Excavation Standard Subpart P regulations, Type C Soils. A trench box or braced sheet pile structure may be needed for excavation support. The support structure should be designed according to OSHA sheeting and bracing requirements. We recommend a Florida registered Professional Engineer design the sheeting/bracing system

6.5 Compaction of Bottom of Excavation

After installing the temporary groundwater control measures, and achieving the required depth of excavation, the exposed surface of sandy soils should be compacted by the use of hand-operated equipment. If organic soils are at the exposed surface, it is recommended that the organic soils be removed in their entirety and replaced with suitable backfill in controlled lifts. Typically, the material should exhibit moisture contents within ± 2 percent of the Modified Proctor optimum moisture content (AASHTO T-180) during the compaction operations. Compaction should continue until densities of at least 95 percent of the Modified Proctor maximum dry density (AASHTO T-180) have been achieved within the upper one foot below the exposed surface within the pipeline excavation and in each lift of backfill.

Should the bearing level soils experience pumping and soil strength loss during the compaction operations, compaction work should be immediately terminated and (1) the disturbed soils removed and backfilled with dry structural fill soils which are then compacted, or (2) the excess moisture content within the disturbed soils allowed to dissipate before recompacting.

6.6 Structural Backfill and Compaction of Structural Backfill

Structural backfill within the pipeline excavation should be placed in loose lifts not exceeding six inches in thickness and compacted by the use of hand-operated compaction equipment. Structural backfill is defined as a non-plastic, inorganic, granular soil having less than 10 percent material passing the No. 200 mesh sieve and containing less than 4.0 percent organic material. The organic soils are not recommended for use as structural backfill due to their compressible nature. Typically, the backfill material should exhibit moisture contents within ± 2 percent of the Modified Proctor optimum moisture content (AASHTO T-180) during the compaction operations. Compaction should continue until densities of at least 95 percent of the Modified Proctor maximum dry density (AASHTO T-180) have been achieved within each 6-inch thick lift of the compacted structural backfill.

7.0 QUALITY CONTROL

A representative number of field in-place density tests should be performed in each 6-inch thick lift of compacted backfill. The density tests are considered necessary to verify that satisfactory compaction operations have been performed. We recommend density testing be performed at one location for every 300 feet of pipeline.

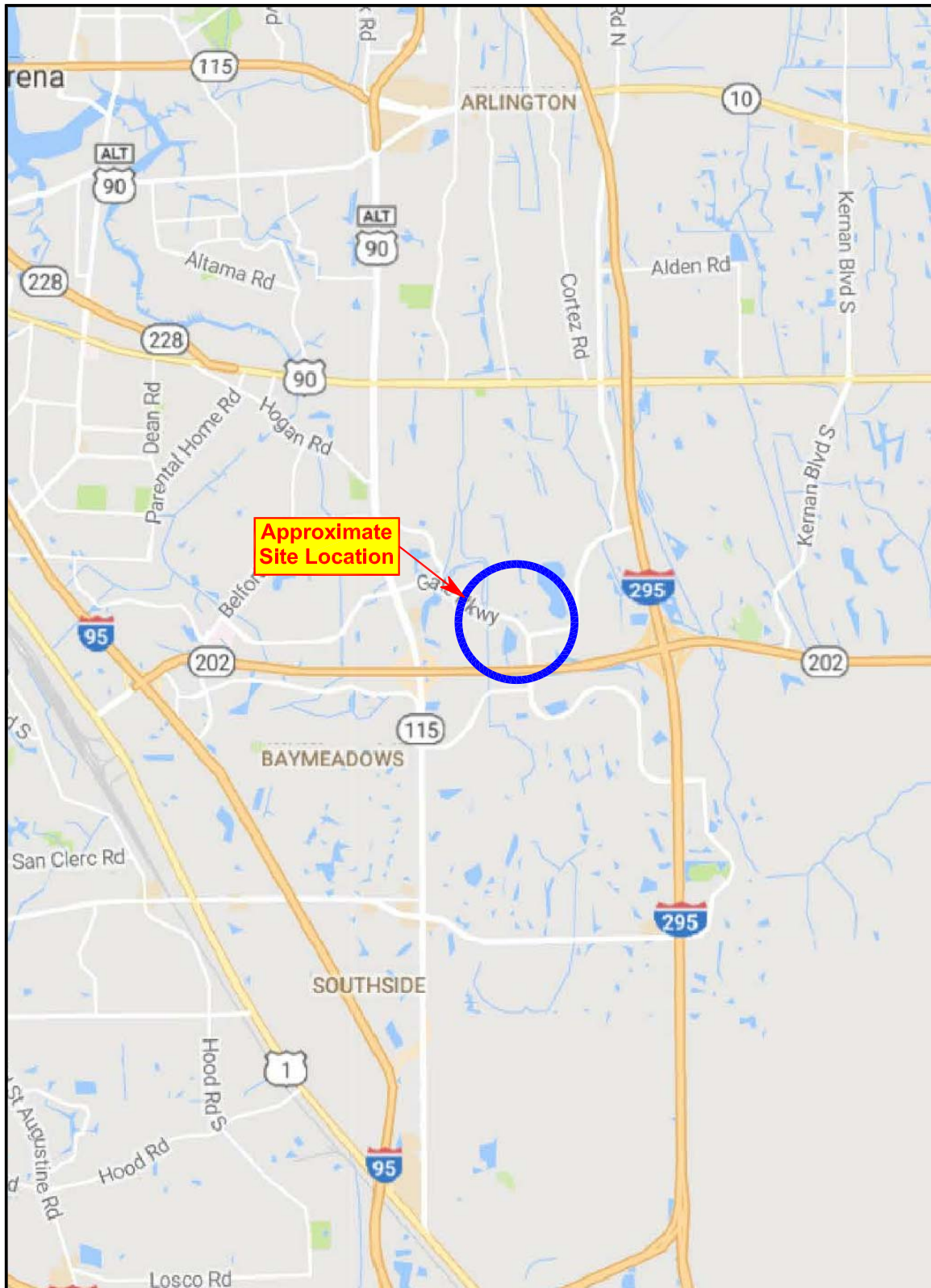
8.0 REPORT LIMITATIONS

Our geotechnical exploration has been performed, our findings obtained, and our recommendations prepared in accordance with generally accepted geotechnical engineering principles and practices. Ellis & Associates, Inc. is not responsible for any independent conclusions, interpretation, opinions or recommendations made by others based on the data contained in this report.

Our scope of services was intended to evaluate the soil conditions within the zone of soil influenced by the pipeline and manhole bearing conditions. Our scope of services does not address geologic conditions such as sinkholes or soil conditions existing below the depth of the soil borings.

This report does not reflect any variations which may occur adjacent to or between soil borings. The discovery of any site or subsurface condition during construction which deviate from the data obtained during this geotechnical exploration should be reported to us for our evaluation. Also, in the event of any change to the location of the pipeline alignment, please contact us so that we can review our recommendations. We recommend that we be provided the opportunity to review the earthwork specifications to verify that our recommendations have been properly interpreted and implemented.

FIGURES



E&A Ellis & Associates Inc.
ECS Group of Companies

Geotechnical ■ Construction Materials ■ Environmental ■ Facilities

7064 Davis Creek Road, Jacksonville, FL 32256
 p: (904) 880-0960 & (800) 273-0960 / f: (904) 880-0970
 Offices: Jacksonville, FL ■ Daytona, FL ■ Brunswick, GA
www.ellis@ellisassoc.com

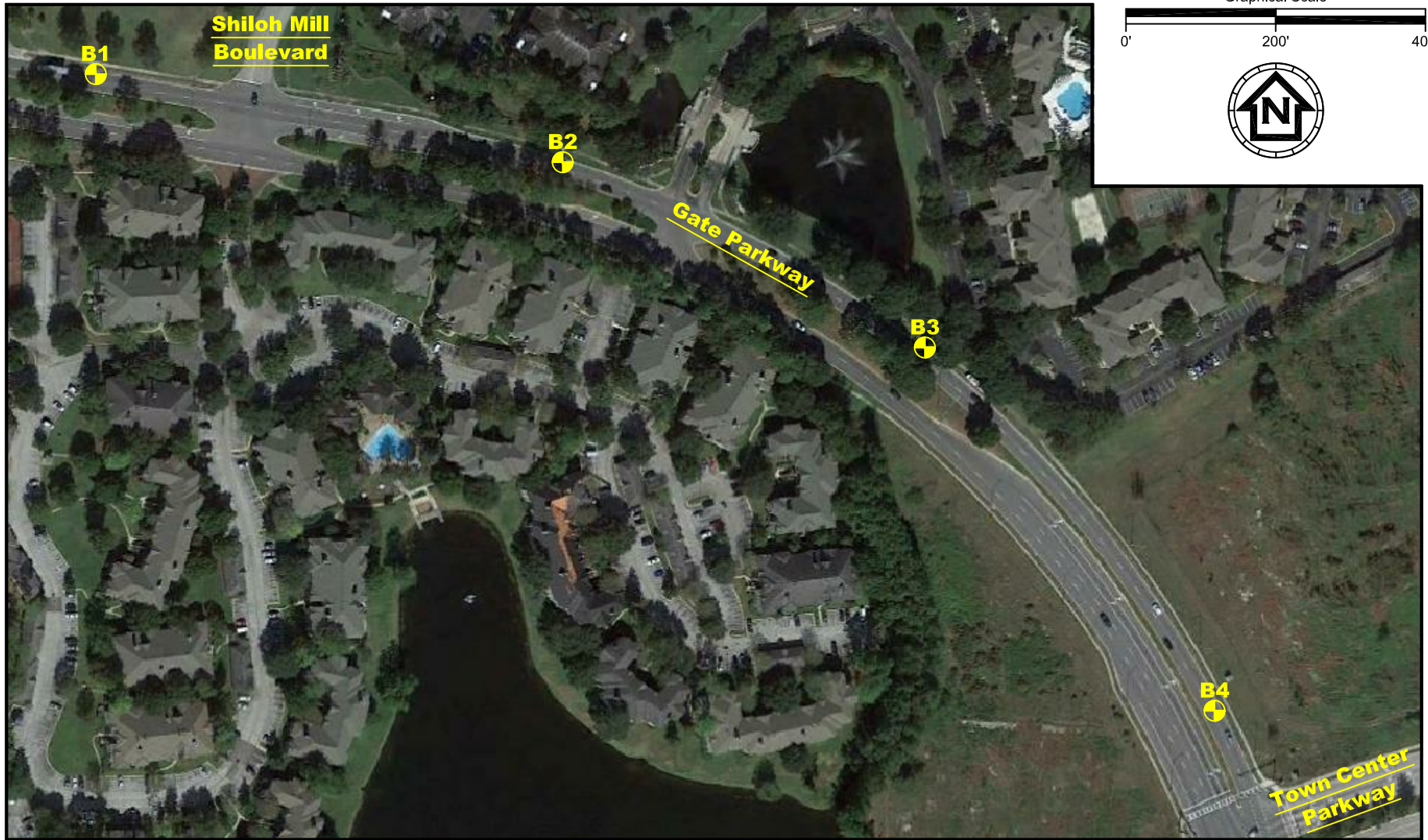
Site Location Plan
JEA Gate Parkway
 Jacksonville, Florida



Date: 04/20/17

Project No.: 35-25223

Figure 1



LEGEND



Approximate Location of Standard Penetration Test (SPT) Boring



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 Offices: Jacksonville, FL ■ Daytona, FL ■ Brunswick, GA
www.ellis@ellisassoc.com

Field Exploration Plan

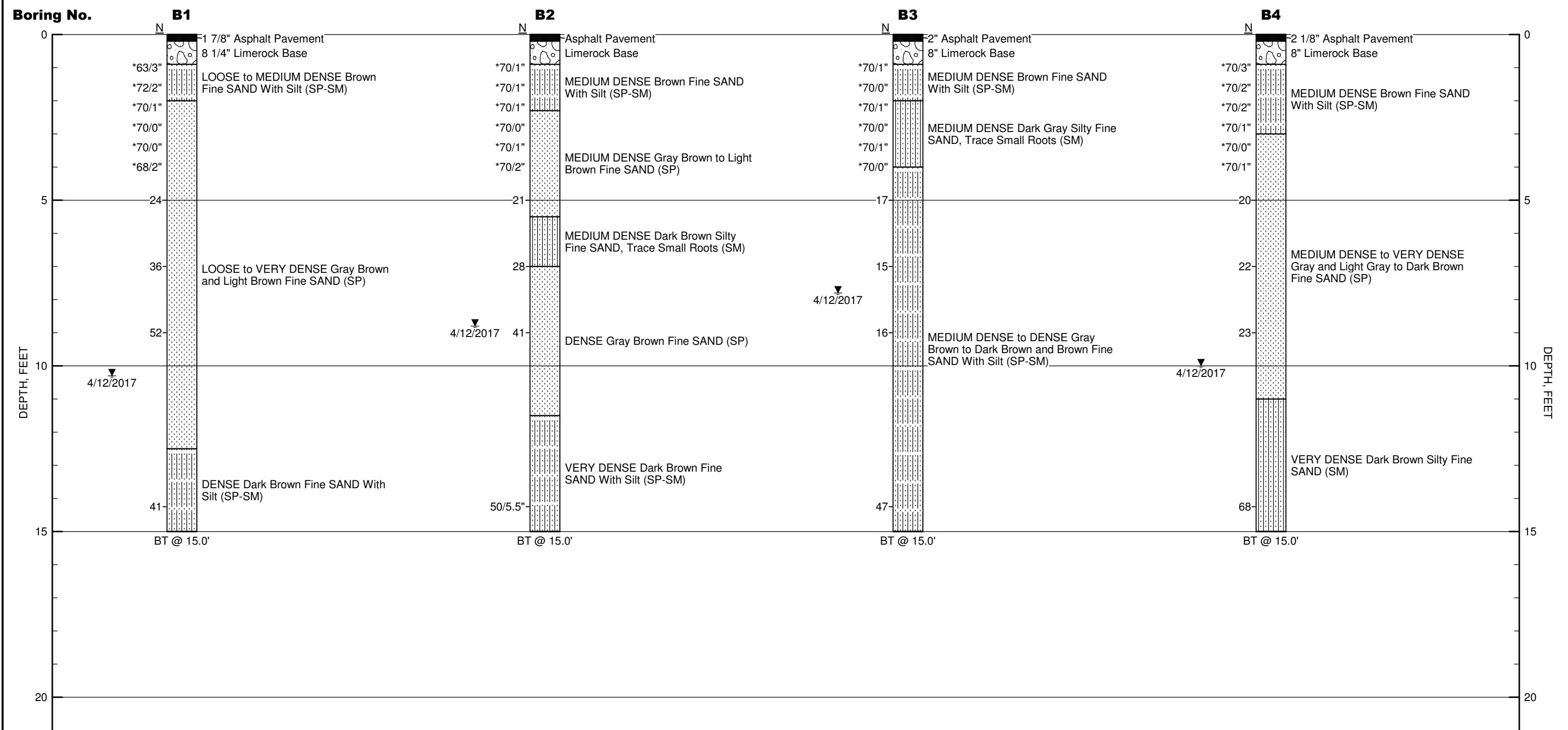
JEA Gate Parkway

Jacksonville, Florida












Date: 04/20/17

Project No.: 35-25223

Figure 2



LEGEND

	Fine SAND (SP)		Asphalt Pavement		Standard Penetration Resistance, Blows/Foot		Static Hand Cone Penetrometer Value
	Fine SAND With Silt (SP-SM)		Limerock Base		Unified Soil Classification System		Number of Blows to Drive Split Spoon Sample in Inches
	Silty Fine SAND (SM)				Groundwater Level at Time of Drilling		Boring Terminated at Depth Below Grade

Generalized Subsurface Profiles

JEA Gate Parkway

Jacksonville, Florida



DATE: 4/27/17

PROJ. NO.: 35-25223

Figure 3

APPENDIX A

SOIL BORING LOGS
FIELD EXPLORATION PROCEDURES
KEY TO SOIL CLASSIFICATION



LOG OF BORING

Project: JEA Gate Parkway Client: J. Collins Engineering Associates, LLC
Boring Location: See Field Exploration Plan Drill Rig: BK 51 Driller: D. Francis
Groundwater Depth: 10.3 ft Time: Drilling Date: 4/12/17 Casing Size: Drill Rod: AWJ Drill Mud: Super Gel-X
Boring Begun: 4/12/17 Boring Completed: 4/12/17

SAMPLE NO.	DEPTH, FEET	SAMPLE TYPE	DESCRIPTION	BLOWS PER 6 IN.	N Value	PERCENT ORGANIC MATERIAL	PERCENT PASSING NO. 200 SIEVE	PLASTIC LIMIT	MOISTURE CONTENT (%)	LIQUID LIMIT	SHEAR STRENGTH (ksf)
1	0		1 7/8" Asphalt Pavement								
			8 1/4" Limerock Base								
2			LOOSE to MEDIUM DENSE Brown Fine SAND With Silt (SP-SM)	*63/3"							
				*72/2"							
			MEDIUM DENSE to LOOSE Gray Brown Fine SAND (SP)	*70/1"							
				*70/0"							
				*70/0"							
3	5		MEDIUM DENSE to DENSE Light Brown Fine SAND (SP)	*68/2"							
				9							
				11	24						
				13							
				16							
4				15							
				17							
				19	36						
				26							
				18							
5			VERY DENSE Gray Brown Fine SAND (SP)	19							
				33	52						
	10										
6			DENSE Dark Brown Fine SAND With Silt (SP-SM)								
				11							
				18							
				23	41						
	15		Boring Terminated @ 15 ft.								

Remarks * = Static Hand Cone Penetrometer Value.



Project No.: 35-25223
Boring No.: B2
Sheet 1 of 1

LOG OF BORING

Project: JEA Gate Parkway Client: J. Collins Engineering Associates, LLC
Boring Location: See Field Exploration Plan Drill Rig: BK 51 Driller: D. Francis
Groundwater Depth: 8.8 ft Time: Drilling Date: 4/12/17 Casing Size: Drill Rod: AWJ Drill Mud: Super Gel-X
Boring Begun: 4/12/17 Boring Completed: 4/12/17

SAMPLE NO.	DEPTH, FEET	SAMPLE TYPE	DESCRIPTION	BLOWS PER 6 IN.	N Value	PERCENT ORGANIC MATERIAL	PERCENT PASSING NO. 200 SIEVE	PLASTIC LIMIT	MOISTURE CONTENT (%)	LIQUID LIMIT	SHEAR STRENGTH (ksf)
1	0		Asphalt Pavement								
			Limerock Base								
2			MEDIUM DENSE Brown Fine SAND With Silt (SP-SM)	*70/1"							
				*70/1"							
			MEDIUM DENSE Gray Brown Fine SAND (SP)	*70/1"							
				*70/0"							
3				*70/1"							
				*70/2"							
			MEDIUM DENSE Light Brown Fine SAND (SP)	7							
				11							
4	5			10	21						
			MEDIUM DENSE Dark Brown Silty Fine SAND, Trace Small Roots (SM)	16							
				11							
				14							
5			DENSE Gray Brown Fine SAND (SP)	14	28						
				15							
				13							
				18							
6				23	41						
	10										
			VERY DENSE Dark Brown Fine SAND With Silt (SP-SM)								
				27							
6				50/5.5"							
				50/5.5"							
	15		Boring Terminated @ 15 ft.								
	20										

Remarks * = Static Hand Cone Penetrometer Value.



Project No.: 35-25223
Boring No.: B3
Sheet 1 of 1

LOG OF BORING

Project: JEA Gate Parkway Client: J. Collins Engineering Associates, LLC
Boring Location: See Field Exploration Plan Drill Rig: BK 51 Driller: D. Francis
Groundwater Depth: 7.8 ft Time: Drilling Date: 4/12/17 Drill Rod: AWJ Drill Mud: Super Gel-X
Casing Size: Length of Casing:
Boring Begun: 4/12/17 Boring Completed: 4/12/17

SAMPLE NO.	DEPTH, FEET	SAMPLE TYPE	DESCRIPTION	BLOWS PER 6 IN.	N Value	PERCENT ORGANIC MATERIAL	PERCENT PASSING NO. 200 SIEVE	PLASTIC LIMIT	MOISTURE CONTENT (%)	LIQUID LIMIT	SHEAR STRENGTH (ksf)
1	0		2" Asphalt Pavement								
			8" Limerock Base								
2			MEDIUM DENSE Brown Fine SAND With Silt (SP-SM)	*70/1"							
				*70/0"							
			MEDIUM DENSE Dark Gray Silty Fine SAND, Trace Small Roots (SM)	*70/1"							
				*70/0"							
3	5		MEDIUM DENSE Gray Brown Fine SAND With Silt (SP-SM)	6	17						
				8							
				9							
				10							
4			MEDIUM DENSE Dark Gray Brown Fine SAND With Silt (SP-SM)	6	15						
				7							
				8							
				8							
5			MEDIUM DENSE Dark Brown Fine SAND With Silt (SP-SM)	6	16						
				7							
				9							
				11							
6	10										
			DENSE Brown Fine SAND With Silt (SP-SM)								
				16							
				21							
	15		Boring Terminated @ 15 ft.	26	47						
	20										

Remarks * = Static Hand Cone Penetrometer Value.



Sheet 1 of 1

Boring Completed: 4/12/17

Remarks * = Static Hand Cone Penetrometer Value.

FIELD EXPLORATION PROCEDURES

Standard Penetration Test (SPT) Borings

The Standard Penetration Test (SPT) borings were made in general accordance with the latest revision of ASTM D 1586, "Penetration Test and Split-Barrel Sampling of Soils". The borings were advanced by rotary (or "wash-n-chop") drilling techniques. At 2 ½ to 5 foot intervals, a split-barrel sampler inserted to the borehole bottom and driven 18 inches into the soil using a 140 pound hammer falling on the average 30 inches per hammer blow. The number of hammer blows for the final 12 inches of penetration is termed the "penetration resistance, blow count, or N-value". This value is an index to several in-place geotechnical properties of the material tested, such as relative density and Young's Modulus.

After driving the sampler 18 inches (or less if in hard rock-like material), the sampler was retrieved from the borehole and representative samples of the material within the split-barrel were containerized and sealed. After completing the drilling operations, the samples for each boring were transported to our laboratory where they were examined by our engineer in order to verify the driller's field classification. The retrieved samples will be kept in our facility for a period of six (6) months unless directed otherwise.

KEY TO SOIL CLASSIFICATION

Description of Compactness or Consistency in Relation
To Standard Penetration Resistance

Granular Materials		
Relative Density	Safety Hammer SPT N-Value (Blow/Foot)	Automatic Hammer SPT N-Value (Blow/Foot)
Very Loose	Less than 4	Less than 3
Loose	4 – 10	3 – 8
Medium Dense	10 – 30	8 – 24
Dense	30 – 50	24 – 40
Very Dense	Greater than 50	Greater than 40

Silts and Clays		
Consistency	Safety Hammer SPT N-Value (Blow/Foot)	Automatic Hammer SPT N-Value (Blow/Foot)
Very Soft	Less than 2	Less than 1
Soft	2 – 4	1 – 3
Firm	4 – 8	3 – 6
Stiff	8 – 15	6 – 12
Very Stiff	15 – 30	12 – 24
Hard	Greater than 30	Greater than 24

DESCRIPTION OF SOIL COMPOSITION**

(Unified Soil Classification System)

MAJOR DIVISION		Group Symbol	LABORATORY CLASSIFICATION CRITERIA		SOIL DESCRIPTION
			FINER THAN 200 SIEVE %	SUPPLEMENTARY REQUIREMENTS	
Coarse grained (over 50% by weight coarser than No. 200 sieve)	Gravelly soils (over half of coarse fraction larger than No. 4)	GW	<5*	D_{60}/D_{10} greater than 4, $D_{30}^2 / (D_{60} \times D_{10})$ between 1 & 3	Well graded gravels, sandy gravels
		GP	<5*	Not meeting above gradation for GW	Gap graded or uniform gravels, sandy gravels
		GM	>12*	PI less than 4 or below A-line	Silty gravels, silty sandy gravels
		GC	>12*	PI over 7 above A-line	Clayey gravels, clayey sandy gravels
	Sandy soils (over half of coarse fraction finer than No. 4)	SW	<5*	D_{60}/D_{10} greater than 6, $D_{30}^2 / (D_{60} \times D_{10})$ between 1 & 3	Well graded sands, gravelly sands
		SP	<5*	Not meeting above gradation requirements	Gap graded or uniform sands, gravelly sands
		SM	>12*	PI less than 4 or below A-line	Silty sands, silty gravelly sands
		SC	>12*	PI over 7 and above A-line	Clayey sands, clayey gravelly sands
Fine grained (over 50% by weight finer than No. 200 sieve)	Low compressibility (liquid limit less than 50)	ML	Plasticity chart		Silts, very fine sands, silty or clayey fine sands, micaceous silts
		CL	Plasticity chart		Low plasticity clays, sandy or silty clays
		OL	Plasticity chart, organic odor or color		Organic silts and clays of low plasticity
	High compressibility (liquid limit more than 50)	MH	Plasticity chart		Micaceous silts, diatomaceous silts, volcanic ash
		CH	Plasticity chart		Highly plastic clays and sandy clays
		OH	Plasticity chart, organic odor or color		Organic silts and clays of high plasticity
Soils with fibrous organic matter		PT	Fibrous organic matter; will char, burn or glow		Peat, sandy peats, and clayey peat

* For soils having 5 to 12 percent passing the No. 200 sieve, use a dual symbol such as SP-SM.

** Standard Classification of Soils for Engineering Purposes (ASTM D 2487)

SAND/GRAVEL DESCRIPTION MODIFIERS	
Modifier	Sand/Gravel Content
Trace	<15%
With	15% to 29%
Sandy/Gravelly	>29%

ORGANIC MATERIAL MODIFIERS	
Modifier	Organic Content
Trace	1% to 2%
Few	2% to 4%
Some	4% to 8%
Many	>8%

SILT/CLAY DESCRIPTION MODIFIERS	
Modifier	Silt/Clay Content
Trace	<5%
With	5% to 12%
Silty/Clayey	13% to 35%
Very	>35%

APPENDIX A-TECHNICAL SPECIFICATIONS

026-18 Gate Parkway – Shiloh Mill Blvd to Town Center Pkwy - Reclaimed Water Main Project

1. SCOPE OF WORK

The scope of work specified herein includes all work and materials necessary for the installation of approximately 2300 LF of 8" PVC Reclaimed Water Main by open cut within the COJ Right-of-Way of Gate Parkway. All work is to be installed per the requirements set forth in the latest edition of the JEA Water & Sewer Standards.

The following is a link to the JEA Water and Sewer Standards:

https://www.jea.com/Working_With_JEA/Engineering_and_Construction/Reference_Materials/Water_and_Sewer_Standards.aspx

2. BID DRAWINGS TITLED “GATE_JCEA-JEA_100-Percent_24x36_2017-10-23” prepared by JCEA, Inc. are attached.

3. GEOTECHNICAL REPORT TITLED “Geotechnical Report 35-25223_digi” prepared by Ellis and Associates are attached.

4. SOFT DIG REPORTS TITLED “Gate PW RWM Test Hole Sheets” prepared by Southeastern Surveying and Mapping, Inc.

5. SURVEYING

In addition to the Surveying requirements set forth **in section 2.14.19 of this** solicitation, the Contractor shall be responsible for staking the project stationing, easements and/or right-of-way boundaries. The survey datum used for this project is N.A.V.D 1988.

6. COORDINATION OF CONSTRUCTION WITH EXISTING UTILITIES

The Company shall establish liaison with and coordinate work with JEA, BellSouth / AT&T, TECO/Peoples Gas, and Comcast to prevent interference with overhead and buried electrical, telephone, and television cables. BellSouth, TECO/Peoples Gas, and Comcast may need time to relocate their facilities.

The Company shall at all times conduct its operation so as to interfere as little as possible with the existing utilities. The Company shall develop a program in cooperation with the JEA and interested representatives of Utilities and City agencies, which shall provide for the construction of, and putting into service, the new work in the most orderly manner possible. This program shall be adhered to, except as deviations therefrom are expressly permitted. All work of connecting with, cutting into, and reconstructing existing pipes and structures shall be planned so as not to interfere with the operation of the existing utility.

7. LOCATION AND PROTECTION OF EXISTING PROPERTY - ON NON-RIGHT OF WAY ISSUES

When working in areas outside the normal City, County and/or State right-of-ways, the Company shall be responsible for location and protection of all property shown or not shown on the drawings, including maintenance and repair of any damaged utility service. Utility locates shall be provided in accordance with local and state requirements. If the drawings indicate abandonment or removal of property or utility service

by the Company, the Company shall proceed after it has determined that all services have been de-energized and/or decommissioned. The Company shall coordinate with the owner of the property (Owner) and the appropriate utility company to determine status of the existing utility service prior to starting work in the area. All property and utility services that are to remain shall be appropriately protected and maintenance during the construction activity. Should there be additional cost to the Company for protection or maintenance of property or utility services not shown on the drawings, the Company shall justify and document this cost in writing to the JEA Contract Administrator. A Supplemental Work Authorization (SWA) will be negotiated and approved prior to starting work. Should property or utility services be damaged by the Company, the Company shall notify the JEA Inspector, the Owner and the utility company immediately. Should the damage interrupt service, the Company shall be responsible for restoring service as soon as possible. However, the Company shall not make repairs without approval of the Owner or the utility company and should the Owner or a particular licensed Company be required to make the repairs the Company shall be responsible for coordinating this effort as well as any cost associated with the repair. JEA reserves the right to deduct any unsettled claim amount from monthly progress payments until such time as the claim is satisfactorily resolved. This paragraph is intended to stress the importance of customer relations and the maintenance of all services to the customer.

8. PERMIT COORDINATION MEETING

Company shall be responsible for being thoroughly familiar with all permit requirements prior to mobilizing and starting work associated with a particular permit. If a permit requires a notification or meeting with the issuing agency prior to starting work, Company shall be responsible for arranging said meeting and informing the JEA Representative. The following shall be attended by, but not limited to, the Company's Project Manager, Company's Site Superintendent, Permitting Agency Representative, JEA Project Engineer and JEA Inspector.

9. SHORING PLAN AND REQUIRED PERMITS

The measurement and payment for this item shall be in accordance with JEA's Water and Sewer Standard as specified in Section 429.1. In addition to these requirements, the following conditions apply:

- The Contractor shall provide a signed, sealed, and dated plan with calculations prepared by a State of Florida Registered Professional Engineer detailing the Contractor's trench shoring plan where applicable.
- The Contractor shall utilize the geotechnical report completed for the project and propose a shoring system throughout the project's limits. The Contractor shall provide a plan that conforms to the requirements set forth in JEA Water & Sewer Standard Section 408 and Contractor Safe Work Practices Manual.
- The Contractor shall apply for and secure a Notice General Construction Dewatering Permit from the SJRWMD as required for construction of the sewer piping. The Contractor shall pay all fees associated with the permit and respond to any SJRWMD request for additional information to include but not limited to water sample testing to determine groundwater contamination. Once the permit is secured, the Contractor shall forward the permit to JEA.
- The Contractor shall prepare the signed, sealed, and dated dewatering plan and apply for the Notice General Construction Dewatering Permit following Notice of Award. The dewatering permit shall be submitted to JEA on or before the pre-construction meeting.
- The Contractor shall prepare the signed, sealed, and dated stormwater pollution prevention plan (SWPPP) and apply for the Notice General Construction Dewatering Permit following Notice of Award.

The SWPPP and dewatering permit shall be submitted to JEA on or before the pre-construction meeting. The Contractor will be required to respond to all requests for additional information from SJRWMD and/or JEA related to these items until the permit is issued.

- It is the Contractor's responsibility to complete these items and secure the COJ Permit. The Contractor shall abide by all the conditions and instructions on the COJ permit.

No additional payment will be provided for work associated with obtaining stated permits, but all tasks shall be incorporated with the item of work as shown on the bid form.

10. NPDES PERMIT CONFORMANCE

Company shall comply with the State of Florida Department of Environmental Protection (FDEP) Document No. 62-621-300(4)(a). A copy may be downloaded via internet at http://www.dep.state.fl.us/water/stormwater/npdes/permits_forms.htm and is also attached to this section.

The NPDES permit program requires that if the construction activities disturb an acre or greater of land, then the Company must submit the Notice of Intent (NOI) to use the Generic Permit for Stormwater Discharge from Large and Small Construction Activities, FDEP Form No. 62-621.300(4)(b). By applying for the Generic Permit, the Company is certifying that it will develop and implement a Stormwater Pollution Prevention Plan (SWPPP) specifically designed for each construction site. Also involved are certain certifications, notifications, inspections and record keeping activities. The SWPPP and the weekly inspection reports are required to be kept at the project site and available for review upon request.

The SWPPP must be prepared and certified by the Company prior to commencement of construction. The NOI will be initiated by the Company (DEP Document No. 62-621.300(4)(b)) and forwarded to the FDEP and related fee with courtesy copy to JEA (attention: Environmental Services, 21 W. Church Street, Tower 8).

The Company shall also comply with the City of Jacksonville Ordinance 98-994-E. A SWPPP plan that meets the minimum erosion and sedimentation control measures required by the City of Jacksonville may be included in the Construction Drawings. However, the Company is responsible for providing a SWPPP that will adhere to the requirements delineated in DEP Document No. 62-621.300(4)(a). This may require amendment or provision of additional information and controls to the SWPPP included in the Drawings. No separate payment shall be made for a SWPPP and its implementation, but all associated costs shall be included in the associated item of work in the Bid Form.

The Company shall obtain all other applicable local, state, and federal permits. It is unlawful to have any discharges that are not composed entirely of stormwater (except discharges pursuant to a NPDES permit) to the Municipal Separate Stormwater System (MS4). Only non-contaminated water/non-turbid water shall be transported through the MS4. Groundwater discharge (approved by the Florida Department of Environmental Protection pursuant to 62-621.300(2)) from dewatering activities may be routed into the stormwater system, drainage ditch, creek, river or wetland providing that erosion, and transportation of suspended solids to the system is prevented. If contaminated soil or contaminated groundwater is encountered, the dewatering activity shall cease immediately, and the Company shall contact the JEA Project Manager and FDEP.

Company must complete Notice of Termination (NOT) (DEP Doc. No. 62-621.300(6), F.A.C.) within one (1) week of final site stabilization with courtesy copy to JEA (attention: Environmental Services, 21 W. Church Street, Tower 8). Company shall also provide copies of NOT to JEA Project Manager with final payment and construction close-out documents.

A copy of NPDES Forms and Checklist are attached to this section.

JEA will reject any and all invoices and Application for Payments unless JEA receives a copy of the Company's NOI and NOT that were forwarded to the FDEP. In addition, if the above requirements are not followed, the Company shall be held liable for any fines and/or violations incurred by JEA.

11. MAINTENANCE OF TRAFFIC

The Company shall create the Maintenance of Traffic (MOT) Plans to be submitted and approved by the City of Jacksonville (COJ) and shall provide certified flaggers to direct traffic during work hours and “Off-Hours” as required.

The Company shall submit its maintenance of traffic plans, including construction zone signing, pavement marking, barricades, barriers, etc. at the pre-construction conference as required by Traffic Engineer, 1007 Superior Street, Jacksonville, Florida 32205, Phone (904) 387-8861. The Company shall provide written approval from Traffic Engineer of the proposed alternate MOT plan to JEA prior to starting work in area of alternate MOT plan.

Temporary closure of business entrances must be approved and coordinated with JEA. The affected business shall be given at least 48 hours’ notice prior to the closure. Any deviation from the contract documents or the requirements of the FDOT Roadway and Traffic Design Standards, such as construction zone signing, barricades, warning devices, temporary striping, flagmen, etc., must be approved by the JEA and the City Traffic Engineer. The Traffic Engineer shall be notified and approval shall be obtained 48 hours in advance of such deviation.

Payment for all work required for maintenance of traffic, not provided for as a specific pay item, including, but not limited to, Temporary Pavement, Flagmen, off-duty police officers, lighting, etc., shall be included in the General Conditions line item in the Bid Form.

See Section 510 of the City Standard Specifications for additional maintenance of traffic information.

12. REMOVE AND REINSTALL WATER AND SEWER SERVICES AS REQUIRED

The Company shall furnish all labor and materials necessary to remove and reinstall any water and/or sewer service in conflict with the installation of the new 8” Reclaimed Water Main. The Company shall get approval from the JEA Representative prior to removing a service line out of service. Payment will be per the contract lump sum price as shown in the Bid Document.

13. REMOVAL OF VALVE BOXES

Where Work calls for removal of existing valve boxes and covers in grassed areas, the Company shall furnish and install all fill replacement and new sod. Costs associated with removing the existing valve boxes in paved areas shall include removal and disposal of cover and grout fill for valve jacket, and furnishing and installing new fill and pavement.

14. VALVE AND LOCATE WIRE BOX IDENTIFICATION MARKERS

The Company shall furnish and install fiberglass identification markers at all gate valve and locate wire box locations as directed by the JEA Representative. All costs associated with this work shall be included in the associated line item in the Bid Document.

15. EARTHWORK

It shall be the sole responsibility of the Company to evaluate the geotechnical findings and recommendations along with the construction drawings to determine the quantity of soil to be managed or

removed/disposed and replaced in order to meet the requirements of the Contract Documents. No separate payment shall be made for stockpiling, managing, mixing, and/or removal, disposal, importation and placement of A-3 sand required for backfill and/or over-excavation (bedding) material for the pipeline(s) and structures, but all costs shall be merged with the associated item of work shown in the Bid Form. Excess and/or unsuitable material shall not be stock piled within the right-of-way. Excess and/or unsuitable material shall become the property of the Company and shall be disposed of outside of the right-of-way.

16. DEWATERING

If the Company encounters groundwater, the Company shall be responsible for utilizing a dewatering system(s) to remove water from the excavations. Prior to beginning any dewatering, the Company shall submit a dewatering plan to the Contract Administrator for review and approval. The Company shall comply with all sampling requirements listed in Florida Department of Environmental Protection (FDEP) Dewatering Regulations (62-621.300(2) F.A.C.) before any dewatering can begin.

Once the sampling analysis is complete, the sample(s) results shall be submitted to the Contract Administrator for review and submittal to FDEP. If the sample analysis fails to meet FDEP water quality standards, no dewatering can proceed without further instruction from the Construction Administrator. Additionally, prior to any dewatering, the Company shall apply for a St. Johns River Water Management District (SJRWMD) Generic Permit for Short Term Dewatering, and comply with all SJRWMD requirements.

If the above requirements are not followed, the Company shall be held liable for any fines and/or violations incurred by JEA.

17. DRAINAGE ALONG RIGHT OF WAY

The Company shall so conduct its operations and maintain the Work in such condition that adequate drainage shall be in effect at all times. The Company shall not obstruct existing gutters, ditches and other runoff facilities.

18. PREVENTION, CONTROL AND ABATEMENT OF EROSION AND SILTATION

The Company shall take steps and make suitable provisions to minimize siltation and erosion of waterways that may result from its operation during the course of construction.

The Company shall make suitable arrangements, which may require the temporary construction of flumes, boxes, or some other device(s), at the Work Location for the drainage and disposal of water. The Company shall be responsible for protecting adjacent property to the Work Location from damage by water resulting from its operations. The Work Location shall be returned to its original condition to the satisfaction of JEA.

The Company is cautioned that execution or maintenance that creates turbidity and that directly or indirectly affects the water quality of any waterway into which storm water is discharged in such a manner as to exceed the limitations prescribed in the Florida Administrative Code, is a violation of the water quality standards of the State of Florida.

Turbidity shall not exceed 29 NTU's, above background level within 100' of the construction activity. Costs incurred by the Company for compliance to the restrictions outlined above shall be included in the cost of the items for which the turbidity control is required, unless a separate line item is included in the Bid Document for turbidity control. Silt barriers shall be used at all waterway crossings or at any time

during construction that siltation or erosion may occur. The Company shall submit to the JEA Engineer, for written approval prior to construction, the method to be used to control the turbidity. The JEA Engineer's approval of the method to be used in no way relieves the Company of the liability in case of a citation against JEA.

19. JEA FURNISHED MATERIAL

The Company understands and agrees that it shall be solely responsible for providing everything necessary to perform the Work and to be in full compliance with the Contract Documents, except for those items specifically listed herein as being provided by JEA.

Any use of JEA furnished items on non-JEA work is a breach of the Contract and a violation of the law. All JEA furnished items are the property of JEA when issued, stored by Company, and used in performance of the Work. The Company agrees that it shall use all JEA furnished items in a manner consistent with industry practice, codes, laws, considering the condition of the JEA furnished item, the skills of the individuals using the JEA furnished item, and all environmental conditions. The Company understands and agrees that where JEA and the Company shall share JEA furnished items, JEA usage shall always have priority over Company usage, and the Contract Administrator shall have sole authority to resolve any usage dispute and such resolution shall not result in any claim by Company.

The Company agrees to return to JEA, and to the location as established by a JEA Representative, any unused or salvageable items prior to final payment. The Company agrees that JEA has the right to audit and investigate the Company at any time how the Company is using JEA furnished items. JEA will bill the Company for unaccountable JEA furnished material at the current JEA cost.

The Company shall provide all labor and incidental materials to install JEA furnished material indicated. Payment shall be per the contract Unit Price as shown in the Bid Document.

20. RESPONSIBLE BIDDERS LIST (RBL) GC-11 LOCATE LINE VERIFICATION

Upon request by JEA, Company shall identify which subcontractor on JEA's RBL GC-11 Locate Line Verification listing will be utilized for the installation of locate wire on PVC piping. Company may obtain a list of prequalified persons and/or companies by contacting the JEA Procurement Bid Section, 21 W. Church Street, Suite 103, Jacksonville, FL 32202, (904) 665-6740, or by fax (904) 665-7294, or online at JEA.com.

21. TRAFFIC SIGNAGE

Costs incurred by the Contractor to provide new signage and pavement markers, or remove and replace existing signage as necessary to accomplish the work shall not be paid for separately but shall be merged with the cost of the associated item of work. Damaged signage shall be replaced with new signage. All signage and pavement markers shall be in accordance with the drawings, FDOT requirements and City Traffic Engineer's requirements.

22. PAVEMENT MARKING REQUIREMENTS

Pavement markings should be placed as shown on the plans and detail sheets. If no specific striping comments are noted on the drawings, the Contractor shall replace damaged/removed striping due to construction activities with like striping and/or reflectors.

- a. Any required temporary markings must be in place before opening lanes of traffic. Pay items for temporary pavement markings are to be included in the tabulation of quantities.
- b. The removal of existing pavement markings will be considered an incidental item with no additional compensation provided.
- c. All permanent pavement markings shall be extruded thermoplastic and meet current FDOT standard specifications, latest edition.
- d. Thermoplastic pavement markings are to be placed no sooner than 30 calendar days after the completion of the final pavement layer.
- e. A bituminous reflective pavement marker (RPM) adhesive meeting current City of Jacksonville and/or FDOT specifications shall be used on asphalt roadways.
- f. The contractor shall use 4" x4" CLASS –B reflective pavement markers (RPMs) installed to meet current FDOT standard specifications. Acceptable examples are: Ennis Paint co., Model 911; Ray-O-Lite, Model AA-ARCII-FH; Apex, 921AR.
- g. Reflective pavement markers that do not conflict with permanent (thermoplastic) markings shall be placed on all final asphaltic concrete surfaces immediately after the temporary permanent striping is in place.
- h. The contractor SHALL contact the FDOT Inspector 48 hours PRIOR to installing any pavement markings on any FDOT roadway or street.

Appendix B - Minimum Qualification Form
026-18 Gate Pkwy – Shiloh Mill Blvd To Town Ctr Pkwy - RWM

GENERAL

THE MINIMUM QUALIFICATIONS SHALL BE SUBMITTED ON THIS FORM. IN ORDER TO BE CONSIDERED A QUALIFIED RESPONDENT BY JEA YOU MUST MEET THE MINIMUM QUALIFICATIONS LISTED BELOW, AND BE ABLE TO PROVIDE ALL THE SERVICES LISTED IN THIS SOLICITATION/TECHNICAL SPECIFICATION.

THE RESPONDENT MUST COMPLETE THE RESPONDENT INFORMATION SECTION BELOW AND PROVIDE ANY OTHER INFORMATION OR REFERENCE REQUESTED. THE RESPONDENT MUST ALSO PROVIDE ANY ATTACHMENTS REQUESTED WITH THIS MINIMUM QUALIFICATIONS FORM.

PLEASE SUBMIT THE ORIGINAL AND THREE (3) COPIES AND ONE (1) CD OF THIS FORM AND ANY REQUESTED ADDITIONAL DOCUMENTATION WITH THE BID SUBMISSION.

RESPONDENT INFORMATION

COMPANY NAME: _____

BUSINESS ADDRESS: _____

CITY, STATE, ZIP CODE: _____

TELEPHONE: _____

FAX: _____

E-MAIL: _____

PRINT NAME OF AUTHORIZED REPRESENTATIVE: _____

SIGNATURE OF AUTHORIZED REPRESENTATIVE: _____

NAME AND TITLE OF AUTHORIZED REPRESENTATIVE: _____

MINIMUM QUALIFICATIONS:

- Bidder shall have completed one (1) water main, sewer main, or reclaimed water main project consisting of at least 1,000 LF of 8" or greater PVC pressure pipe within the past five (5) years, ending November 1st 2017.

Bidder shall provide solicited information where indicated below.

PROJECT 1:

Client Name: _____

Client Contact Name: _____

Client Contact Phone Number: _____

Client Contact Email Address: _____

Date of Contract Completion: _____

Appendix B - Minimum Qualification Form
026-18 Gate Pkwy – Shiloh Mill Blvd To Town Ctr Pkwy - RWM

Linear Feet (LF) of 8" or greater PVC pressure pipe: _____

Project Type: Water Main ☐ Sewer Main ☐ Reclaimed Water Main ☐

Description of Project: _____

APPENDIX B - LIST OF SUBCONTRACTORS FORM

026-18 Gate Pkwy – Shiloh Mill Blvd To Town Ctr Pkwy - RWM

JEA Solicitation Number 026-18 requires certain major Subcontractors be listed on this form, unless the work will be self-performed by the Company.

The undersigned understands that failure to submit the required Subcontractor information on this form will result in bid rejection, and the Company agrees to employ the Subcontractors specified below: (Use additional sheets as necessary)

Note: This list of Subcontractors shall not be modified subsequent to bid opening, without a showing of good cause and the written consent of JEA.

Type of Work	Corporate Name of Subcontractor	Subcontractor Primary Contact Person & Telephone Number	Subcontractor's License Number (if applicable)	Percentage of Work or Dollar Amount
MOT				
Asphalt				

Signed:_____

Company:_____

Address:_____

Date:_____

APPENDIX B
BID FORM FOR SOLICITATION # 026-18
Gate Pkwy – Shiloh Mill Blvd To Town Ctr Pkwy - RWM

Submit an **original, two (2) copies and one (1) CD** along with other required forms in a sealed envelope to: JEA Procurement Dept., 21 W. Church St., Bid Office, Customer Center, 1st Floor, Room 002, Jacksonville, FL 32202-3139.

Company Name: _____

Company's Address _____

License Number _____

Phone Number: _____ FAX No: _____ Email Address: _____

BID SECURITY REQUIREMENTS

- ☐ None required
☒ Certified Check or Bond Five Percent (5%)

TERM OF CONTRACT

- ☐ One Time Purchase
☐ Annual Requirements
☒ Other, Specify- Project Completion

SAMPLE REQUIREMENTS

- ☒ None required
☐ Samples required prior to Bid Opening
☐ Samples may be required subsequent to Bid Opening

SECTION 255.05, FLORIDA STATUTES CONTRACT BOND

- ☐ None required
☒ Bond required 100% of Bid Award

QUANTITIES

- ☐ Quantities indicated are exacting
☒ Quantities indicated reflect the approximate quantities to be purchased Throughout the Contract period and are subject to fluctuation in accordance with actual requirements.

INSURANCE REQUIREMENTS

Insurance required

PAYMENT DISCOUNTS

- ☐ 1% 20, net 30
☐ 2% 10, net 30
☐ Other _____
☐ None Offered

Item No.	ENTER YOUR BID FOR THE FOLLOWING DESCRIBED ARTICLES OR SERVICES: Gate Pkwy – Shiloh Mill Blvd To Town Ctr Pkwy - RWM	TOTAL BID PRICE
28	Enter TOTAL BID PRICE from Appendix B- Bid Workbook	\$ _____

☐ **I have read and understood the Sunshine Law/Public Records clauses contained within this solicitation. I understand that in the absence of a redacted copy my proposal will be disclosed to the public “as-is”.**

BIDDER'S CERTIFICATION

By submitting this Bid, the Bidder certifies that it has read and reviewed all of the documents pertaining to this Solicitation, that the person signing below is an authorized representative of the Bidder's Company, that the Company is legally authorized to do business in the State of Florida, and that the Company maintains in active status an appropriate contractor's license for the work (if applicable). The Bidder also certifies that it complies with all sections (including but not limited to Conflict Of Interest and Ethics) of this Solicitation, and that the Bidder is an authorized distributor or manufacturer of the equipment that meets the Technical Specifications stated herein.

We have received addenda _____

_____ through _____

Handwritten Signature of Authorized Officer of Company or Agent Date

Printed Name and Title