SUBJECT: **RFQ FOR DESIGN-BUILD SVCS FOR VERTICAL/ARCHITECTURAL PROJECTS**

BID # **CDB-0007-16** OPEN DATE: **10/21/2015**

# COMPETITIVE SEALED PROPOSAL EVALUATION COMMITTEE

KIND AND BASIS OF CONTRACT:
**CONSTRUCTION – DESIGN/BUILD**

AGENCY: **DEPARTMENT OF PUBLIC WORKS**

BASIS OF AWARD: **QUALIFICATIONS BASED**

NUMBER OF BIDS INVITED: - NUMBER RECEIVED: - OTHER: -

## SUMMARY OF BIDS AND RECOMMENDED ACTIONS:

The Department of Public Works has completed negotiations with Auld & White Constructors, LLC, for the Fire Station No. 73 Project in accordance with subject bid.

Recommend approval of award to Auld & White Constructors, LLC, for the Guaranteed Maximum Price in the amount of $163,264.00 for Fire Station No. 73 for 60% Design Development, per "Exhibit A" and allowing for the completion of work 97 days from notice to proceed .

Funding for this project to be executed by Amendment 2A for contract # 9182-03 and encumbered by account: FRCP32EFS-069505-FR0051-01

Attachments: Recommendation Memo, Exhibit "A", Previous Award(s)

BUYER _____
MARILYN LAIDLER

RESPECTFULLY SUBMITTED _____
GREGORY PEASE, CHIEF
PROCUREMENT DIVISION

CONCURRENCE BY: **Tom Fallin, P.E., Chief-Engineering & Construction Management Division**

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**(ALL AWARD ACTIONS SUBJECT TO LAWFULLY APPROPRIATED FUNDS)**
ACTION OF CSPEC COMMITTEE ON RECOMMENDATIONS ABOVE

MEMBERS APPROVING_____ MEMBERS DISAPPROVING_____ DATE:_____

_____ _____ OTHER_____

_____ _____

_____ _____

_____ _____

_____ _____

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ACTION OF AWARDING AUTHORITY DATE _____

APPROVED_____ DISAPPROVED: _____

OTHER: _____

SIGNATURE OF AUTHENTICATION _____

# City of Jacksonville, Florida

*Lenny Curry, Mayor*

Department of Public Works
Engineering & Construction Management Division
214 N. Hogan Street, 10th Floor
Jacksonville, FL 32202
(904) 255-8762
www.coj.net

ONE CITY. ONE JACKSONVILLE


October 3, 2017

TO: Gregory W. Pease
Chief of Procurement

THRU: John P. Pappas, P.E.
Director

FROM: Tom Fallin, PE
Chief, Engineering and Construction Management Division

Kurtis Wilson
Director of Fire and Rescue

**SUBJECT: CDB-0007-16 – Design-Build Services –Vertical/Architectural Projects – Fire Station No. 73 – 60% Design Proposal AMENDMENT 2A FRCP32EFS-069505-FR0051-01 $163,264.00**

Based on the Design Criteria Package developed by City engineers, the Department of Public Works, in accordance with Design/Build CDB-0007-16, Contract 9182-03 has completed negotiations with Auld & White Constructors, LLC., for the 60% design of Fire Station No. 73. Negotiations have resulted in the GMP amount of $163,264.00 to provide the 60% Design Development and the Guarantee Maximum Price (GMP) for the Fire Station, as indicated on the attached Scope & Fee Summary, Exhibit A. The work is to be completed 97 days from the Confirmation of Programing, Site and Building Layout (NTP).

Accordingly, this is to recommend that Contract No #9182-03, originally executed July 14, 2016, between the City and Auld & White Constructors, LLC. for Design-Build Services-Vertical/Architectural Projects, be amended to incorporate the attached Scope and Fee Summary, Exhibit A for the 60% Design for Fire Station No. 73 for the amount of $163,264.00, known as Amendment 2A.

TF/lw

Attachment: Exhibit A - Scope & Fee Summary

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EXHIBIT A

AULD & WHITE
CONSTRUCTORS • LLC

October 2, 2017

Re: RFQ-CDB-008-16
Fire Station No. 73
60% Design Fee Proposal

Ms. Maria Williams, PE.
City of Jacksonville Engineering Department
214 N. Hogan Street
Jacksonville, Florida 32202

Dear Ms. Williams:

Auld & White Constructors, LLC (AWC) is pleased to submit our **revised** proposal for 60% Design and Preconstruction Services for Fire Station No. 73.

The project consists of a four-bay station with living quarters to accommodate up to fifteen (15) personnel designed to meet all local and state code requirements along with achieving one of the approved Energy Efficiency Rating Systems outlined by the City of Jacksonville. We also understand this facility is to be designed for a Category 4 Storm (exact criteria yet to be determined). Scope includes an extractor building, generator building, dumpster enclosure, site work, fencing and landscaping.

Deliverables include:

1. Civil and landscape design in the form of (30%) schematic and (60%) design development.
2. Architectural, structural, plumbing, fire protection, mechanical and electrical design in the form of (30%) schematic and (60%) design development.
3. Price estimate at schematic stage of documents.
4. A Guaranteed Maximum Price (GMP) at (60%) Design Development.
5. Preconstruction and Construction Schedule Development.

Your investment for these services is $163,264.

If you have any questions or need further clarification, please feel free to contact me at (904) 296-2555 or (904) 759-1048. Thank you for this opportunity and we look forward to working with the City of Jacksonville and the Jacksonville Fire & Rescue Department on another successful project.

Nathaniel T. Mas
CEO & President

attachments

## CONTRACT FEE SUMMARY FORMAT FOR ENGINEERING DIVISION
## CITY OF JACKSONVILLE, FLORIDA

### PART I - GENERAL

| | |
|---|---|
| **1. Project**<br>**City of Jacksonville Fire Station No. 73**<br>**Preconstruction & 60°/o Design Fees** | **2. Proposal Number**<br>CDB-0008-16 |
| **3. Name of Consultant**<br>**Auld & White Constructors, LLC.** | **4. Date of Proposal**<br>**9/27/2017** |

### PART II - LABOR RELATED COSTS

| **5. Direct Labor** | Hourly Rate | Estimated Hours | Estimated Cost | TOTAL |
|---|---|---|---|---|
| Project Executive | $ 93.33 | 12 | $ 1,119.96 | |
| Project Manager | $ 83.33 | 54 | $ 4,499.82 | |
| Director of Preconstruction Services | $ 86.67 | 60 | $ 5,200.20 | |
| Constructability Review Specialist | $ 60.00 | 16 | $ 960.00 | |
| **TOTAL DIRECT LABOR** | **$ 82.96** | **142** | | **$ 11,780.00** |
| **6. Overhead (Combined Fringe Benefit & Administrative)** | | | | |
| Overhead Rate | 150 % x Total Direct Labor | | | $ 17,670.00 |
| **7. SUBTOTAL: Labor + Overhead (Items 5 & 6)** | | | | $ 29,450.00 |
| **8. PROFIT: Labor Related Costs (Item 7)** | | x | 7.5% | $ 2,209.00 |
| **9. SUBCONSULTANT COORDINATION: Items 11** | | | 7.5% | $ 8,898.00 |

### PART III - OTHER COSTS

| | | |
|---|---|---|
| **10. Miscellaneous Direct Costs** | | |
| Original Media | $ 435.00 | |
| Courier Fees | $ 225.00 | |
| Parking Fees | $ 65.00 | |
| Transportation | $ 0.00 | |
| MISCELLANEOUS DIRECT COSTS SUB-TOTAL | | $ 725.00 |
| **11. SUBCONTRACTS (Lump Sum)** | | |
| Goodson Nevin & Associates | $ 30,603.00 | |
| Ebert Norman & Brady Architects | $ 71,169.00 | |
| Dasher Hurst Architects (Reimbursement for Design Fees Ir | $ 16,865.00 | |
| SUB-CONTRACT SUB-TOTAL | | $ 118,637.00 |
| TOTAL LUMP SUM AMOUNT (Items 5, 6, 8, 9 and 10) | | $ 159,919.00 |
| **12. Reimbursable Costs - Limiting Amount** | | |
| Reproduction | $ 3,345.00 | |
| SUB-TOTAL REIMBURSABLES | | 3345.00 |

### PART IV - SUMMARY

| | |
|---|---|
| TOTAL AMOUNT OF CONTRACT (Lump Sum Plus Reimbursables)<br>(Items 5, 6, 8, 9, 10, 11 and 12) | $ **163,264.00** |

**RFQ-CDB-008-16 NEW FIRE STATION #73 DESIGN BUILD**
**ARCHITECTURE AND ENGINEERING FEES**
**EXHIBIT "I"**

## PART I - GENERAL

| | |
|---|---|
| **1. Project**<br>**NEW FIRE STATION #73 (60%/o level design)** | **2. Proposal Number**<br>**RFQ-CBD-008-15** |
| **3. Name of Consultant**<br>**Goodson Nevin & Associates** | **4. Date of Proposal**<br>**10/2/2017** |

## PART II - LABOR RELATED COSTS

| **5. Direct Labor** | Hourly Rate | Estimated Hours | Estimated Cost | TOTAL |
|---|---|---|---|---|
| Principal | $ 57.67 | 22 | $ 1,268.74 | |
| Project Manager | $ 45.67 | 49 | $ 2,237.83 | |
| Project Engineer | $ 40.59 | 91 | $ 3,693.69 | |
| Cadd Technician | $ 22.00 | 87 | $ 1,914.00 | |
| Contract Admin. | $ 40.49 | 5 | $ 202.45 | |
| Clerical Admin. | $ 22.00 | 8 | 176.00 | |
| **TOTAL DIRECT LABOR** | **$ 36.23** | **262** | | $ 9,492.71 |
| **6. Overhead (Combined Fringe Benefit & Administrative)** | | | | |
| Overhead Rate | 150 % x Total Direct Labor | | | $ 14,239.00 |
| **7. SUBTOTAL: Labor + Overhead (Items 5 & 6)** | | | | $ 23,731.71 |
| **8. PROFIT: Labor Related Costs (Item 7)** | | x | 10% | $ 2,373.00 |
| **9. SUBCONSULTANT COORDINATION: Items 11** | | | 5% | $ 175.00 |

## PART III - OTHER COSTS

| | | |
|---|---|---|
| **10. Miscellaneous Direct Costs** | | |
| Original Media | $ 0.00 | |
| Reproduction | $ 482.50 | |
| Transportation | $ 295.34 | |
| Shipping | $ 45.00 | |
| MISCELLANEOUS DIRECT COSTS SUB-TOTAL | $ | $ 822.84 |
| **11. SUBCONTRACTS (Lump Sum)** | | |
| Janet 0. Whitmill. LA (Landscape) | $ 3,500.00 | |
| | $ | |
| | $ | |
| SUB-CONTRACT SUB-TOTAL | $ | $ 3,500.00 |
| TOTAL LUMP SUM AMOUNT (Items 5, 6, 8, 9 and 10) | | $ 30,602.55 |
| **12. Reimbursable Costs - Limiting Amount** | | |
| | $ 0.00 | |
| | $ 0.00 | |
| | $ 0.00 | |
| SUB-TOTAL REIMBURSABLES | | $ - |

## PART IV - SUMMARY

| | |
|---|---|
| TOTAL AMOUNT OF CONTRACT (Lump Sum Plus Reimbursables) (Items 5, 6, 8, 9, 10, 11 and 12) | **$ 30,603.00** |

## CONTRACT FEE SUMMARY FORMAT FOR ENGINEERING DIVISION
## CITY OF JACKSONVILLE, FLORIDA

### PART I - GENERAL

| | |
|---|---|
| **1. Project**<br>**City of Jacksonville Fire Station No. 73**<br>**Preconstruction & 60o/o Design Fees** | **2 Proposal Number**<br>CDB-0008-16 |
| **3. Name of Consultant**<br>Ebert Norman Brady Architects | **4. Date of Proposal**<br>**9/25/2017** |

### PART II - LABOR RELATED COSTS

| **5. Direct Labor** | Hourly Rate | Estimatec Hours | Estimated Cost | TOTAL |
|---|---|---|---|---|
| Principal | $ 52.88 | 24 | $ 1,269.12 | |
| Project Manager | $ 43.27 | 92 | $ 3,980.84 | |
| Architect | $ 34.13 | 24 | $ 819.12 | |
| Architectural Technician | $ 27.00 | 100 | $ 2,700.00 | |
| Interior Designer | $ 34.13 | 16 | $ 546.08 | |
| Clerical | $ 17.00 | 8 | $ 136.00 | |
| **TOTAL DIRECT LABOR** | **$ 38.71** | **264** | | $ 10,220.36 |
| **6. Overhead (Combined Fringe Benefit & Administrative)** | | | | |
| Overhead Rate | 165 % x Total Direct Labor | | | $ 16,864.00 |
| **7. SUBTOTAL: Labor + Overhead (Items 5 & 6)** | | | | $ 27,084.36 |
| **8. PROFIT: Labor Related Costs (Item 7)** | | x | 10% | $ 2,708.00 |
| **9. SUBCONSULTANT COORDINATION: Items 11** | | | 5% | $ 1,959.58 |

### PART III - OTHER COSTS

| | | |
|---|---|---|
| **10. Miscellaneous Direct Costs** | | |
| Original Media | $ 0.00 | |
| Reproduction | $ 0.00 | |
| Transportation | $ 125.40 | |
| Shipping | $ 100.00 | |
| MISCELLANEOUS DIRECT COSTS SUB-TOTAL | $ | $ 225.40 |
| **11. SUBCONTRACTS (Lump Sum)** | | |
| Structural Engineering - Atlantic Engineering Services | $ 12,672.00 | |
| Mechanical & Plumbing Engineering - Simes & Rosch | $ 17,799.44 | |
| Electrical Engineering - Ohmega Group | $ 7,720.08 | |
| Fire Sprinkler Engineering - TBD | $ 1,000.00 | |
| | $ | |
| | $ | |
| | $ | |
| SUB-CONTRACT SUB-TOTAL | $ | $ 39,191.52 |
| TOTAL LUMP SUM AMOUNT (Items 5, 6, 8, 9 and 10) | | $ 71,168.86 |
| **12. Reimbursable Costs - Limiting Amount** | | |
| | $ 0.00 | |
| | $ | |
| | $ | |
| SUB-TOTAL REIMBURSABLES | | $ - |

### PART IV - SUMMARY

| | |
|---|---|
| TOTAL AMOUNT OF CONTRACT (Lump Sum Plus Reimbursables)<br>(Items 5, 6, 8, 9, 10, 11 and 12) | **$ 71,168.86** |

# ESTIMATE OF WORK EFFORT AND FEE FOR CONSTRUCTION PLANS

Project Name: **City of Jacksonville Fire Station No. 73** — **Preconstruction & 60% Design Fees**
Consultant: Ebert Norman Brady Architects
RFP NO.: CDB-0008-16
Prepared by: Bill Ebert
Date: ####/##/##
A W C Job No. E 09-019-01

| No. / ACTIVITY | Principal Rate = $52.88 | | Project Manager Rate = $43.27 | | Architect Rate = $34.13 | | Cadd Technician Rate = $27.00 | | Interior Designer Rate = $34.13 | | Clerical / Admin Rate = $17.00 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Man Hours | Labor Cost | Man Hours | Labor Cost | Man Hours | Labor Cost | Man Hours | Labor Cost | Man Hours | Labor Cost | Man Hours | Labor Cost |
| 1 Conceptual Design (30%) | 16 | $846.08 | 40 | $1,730.80 | 0 | $0.00 | 40 | $1,080.00 | 0 | $0.00 | 4 | $68.00 |
| 2 Design Development (60%) | 16 | $846.08 | 60 | $2,596.20 | 24 | $819.12 | 60 | $1,620.00 | 16 | $546.08 | 4 | $68.00 |
| 3 Construction Docs (100%) | 0 | $0.00 | 0 | $0.00 | 0 | $0.00 | 0 | $0.00 | 0 | $0.00 | 0 | $0.00 |
| 4 Bid/Permit | 0 | $0.00 | 0 | $0.00 | 0 | $0.00 | 0 | $0.00 | 0 | $0.00 | 0 | $0.00 |
| 5 Construction Administration | 0 | $0.00 | 0 | $0.00 | 0 | $0.00 | 0 | $0.00 | 0 | $0.00 | 0 | $0.00 |
| 6 | | | | | | | | | | | | |
| TOTAL | 32 | $1,692.16 | 100 | $4,327.00 | 24 | $819.12 | 100 | $2,700.00 | 16 | $546.08 | 8 | $136.00 |

| No. / ACTIVITY | | | | | | | | | Total by Activity | Summary Cost of Activity | Avg Hourly Cost | % Dist. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 Conceptual Design (30%) | | $0.00 | | $0.00 | | | | | 100 | $3,724.88 | $37.25 | 36.4 |
| 2 Design Development (60%) | | $0.00 | | $0.00 | | | | | 180 | $6,495.48 | $36.09 | 63.6 |
| 3 Construction Docs (100%) | | $0.00 | | $0.00 | | | | | 0 | $0.00 | $0.00 | 0.0 |
| 4 Bid/Permit | | $0.00 | | $0.00 | | | | | 0 | $0.00 | $0.00 | 0.0 |
| 5 Construction Administration | | $0.00 | | $0.00 | | | | | 0 | $0.00 | $0.00 | 0.0 |
| 6 | | | | | | | | | | | | |
| TOTAL | 0 | $0.00 | 0 | $0.00 | | | | | 280 | $10,220.36 | $36.50 | 100.0 |

# MISCELLANEOUS DIRECT COST

| | | | |
|---|---|---|---|
| Project Name: | **City of Jacksonville Fire Station No. 73** | | **Preconstruction & 60% Design Fees** |
| Consultant | Ebert Norman Brady Architects | | |
| RFP NO | CDB-0008-16 | | |
| Prepared by: | Bill Ebert | | |
| Date: | 09/25/17 | Job No | E 09-019-01 |

| ITEM DESCRIPTION | | | | | | | ITEM TOTAL | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| Original Mylar Reproducibles | | | Sheets@ | | $0 00 | Per Sheet | | Not in scope |
| Project Electronic Files on CD | | | 0 CD's@ | | $100 00 | Per CD | $0 00 | |
| Reproduction (Black Lines and Photocopies) | | | | | | | | All reprographics by Auld & White |
| | | Black Line | | Photoco y | | | | |
| | Sets | 22 X34 | 11"x17" | 8 1/2" x 11" | | | | |
| Conceptual Design | | | | | | Sheets | | |
| 30% Submittal | | | | | | Sheets | | |
| SJRWMD 1st Review | | | | | | Sheets | | |
| SJRWMDRAI | | | | | | Sheets | | |
| COJ 10 Set Review | | | | | | Sheets | | |
| COJ Final Review | | | | | | Sheets | | |
| COJ Clearing Plans | | | | | | Sheets | | |
| Final Submittal | | | | | | Sheets | | |
| | **Total Sheets** | 0 | 0 | 0 | | | | |
| Cost | **22 x 34** | 0 | Sheets @ | $ | 0 72 | $0 00 | | |
| | **11"x17"** | 0 | Sheets @ | $ | 0 20 | $0 00 | | |
| | **8 1/2" X11"** | 0 | Sheets @ | $ | 0 10 | $0 00 | **$0.00** | |
| Travel From Consultant Office Location to Destination (Round Trip Miles) | | | | | | | | |
| Destination | # Trips | | | Per Mile | | | | |
| Project Site | 1 | x 76 | miles | x | $0 57 | $43.32 | | Round Trip |
| City of Jacksonville | 2 | x 44 | miles | x | $0 57 | $50 16 | | Round Trip |
| Coord Meetings | 2 | x 28 | miles | x | $0 57 | $31 92 | | Round Trip |
| | | | | | | | **$125.40** | |
| Shipping | | | 4 Deliveries | | $25 00 Each | | **$100.00** | |
| TOTAL COST | | | | | | | **$225.40** | |

## CONTRACT FEE SUMMARY FORMAT FOR ENGINEERING DIVISION
## CITY OF JACKSONVILLE, FLORIDA

### PART I - GENERAL

| | |
|---|---|
| **1. Project**<br>**City of Jacksonville Fire Station No. 73**<br>**Preconstruction & 60 % Design Fees** | **2. Proposal Number**<br>CDB-0008-16 |
| **3. Name of Consultant**<br>**Atlantic En2ineerin2 Services** | **4. Date of Proposal**<br>**9/25/2017** |

### PART II - LABOR RELATED COSTS

| **5. Direct Labor** | Hourly Rate | Estimated Hours | Estimated Cost | TOTAL |
|---|---|---|---|---|
| Principal | $ 65.00 | 8 | $ 520.00 | |
| Project Engineer | $ 55.00 | 24 | $ 1,320.00 | |
| Design Engineer | $ 48.00 | 24 | $ 1,152.00 | |
| BIM Technician | $ 36.00 | 40 | $ 1,440.00 | |
| Clerical | $ 22.00 | 8 | $ 176.00 | |
| | | | | |
| **TOTAL DIRECT LABOR** | **$ 44.31** | **104** | | **$ 4,608.00** |
| **6. Overhead (Combined Fringe Benefit & Administrative)** | | | | |
| Overhead Rate | 150 % x Total Direct Labor | | | $ 6,912.00 |
| **7. SUBTOTAL: Labor + Overhead (Items 5 & 6)** | | | | $ 11,520.00 |
| **8. PROFIT: Labor Related Costs (Item 7)** | | x | 10% | $ 1,152.00 |
| **9. SUBCONSULTANT COORDINATION: Items 11** | | | 0% | $ - |

### PART III - OTHER COSTS

| | | | |
|---|---|---|---|
| **10. Miscellaneous Direct Costs** | | | |
| Original Media | $ | 0.00 | |
| Reproduction | $ | 0.00 | |
| Transportation | $ | 0.00 | |
| Shipping | $ | 0.00 | |
| MISCELLANEOUS DIRECT COSTS SUB-TOTAL | $ | | $ - |
| **11. SUBCONTRACTS (Lump Sum)** | | | |
| | $ | 0.00 | |
| | $ | 0.00 | |
| | $ | 0.00 | |
| | $ | | |
| | $ | | |
| | $ | | |
| | $ | | |
| | $ | | |
| SUB-CONTRACT SUB-TOTAL | $ | | $ - |
| TOTAL LUMP SUM AMOUNT (Items 5, 6, 8, 9 and 10) | | | $ 12,672.00 |
| **12. Reimbursable Costs - Limiting Amount** | | | |
| | $ | 0.00 | |
| | $ | | |
| | $ | | |
| SUB-TOTAL REIMBURSABLES | | | $ - |

### PART IV - SUMMARY

| | |
|---|---|
| TOTAL AMOUNT OF CONTRACT (Lump Sum Plus Reimbursables)<br>(Items 5, 6, & 9, 10, 11 and 12) | $ **12,672.00** |

# ESTIMATE OF WORK EFFORT AND FEE FOR CONSTRUCTION PLANS

Project Name: **City of Jacksonville Fire Station No. 73** — **Preconstruction & 60% Design Fees**
Consultant: Atlantic Engineering Services
RFP NO: CBD-0008-16
Prepared by: David Webb
Date: ##-#####
AWC Job No. E 09-019-01

| No. / ACTIVITY | Principal Rate * $65.00 | | Project Engineer Rate * $55.00 | | Design Engineer Rate * $48.00 | | BIM Technician Rate * $36.00 | | Clerical / Admin Rate * $22.00 | | Rate * | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Man Hours | Labor Cost | Man Hours | Labor Cost | Man Hours | Labor Cost | Man Hours | Labor Cost | Man Hours | Labor Cost | Man Hours | Labor Cost |
| 1 Concept Design (30%) | 4 | $260.00 | 12 | $660.00 | 12 | $576.00 | 20 | $720.00 | 4 | $88.00 | | $0.00 |
| 2 Design Develepment (60%) | 4 | $260.00 | 12 | $660.00 | 12 | $576.00 | 20 | $720.00 | 4 | $88.00 | | $0.00 |
| 3 | 0 | $0.00 | 0 | $0.00 | 0 | $0.00 | | $0.00 | 0 | $0.00 | | $0.00 |
| 4 | | $0.00 | | $0.00 | | $0.00 | | $0.00 | | $0.00 | | $0.00 |
| 5 | | $0.00 | | $0.00 | | $0.00 | | $0.00 | | $0.00 | | $0.00 |
| 6 | | $0.00 | 0 | $0.00 | | $0.00 | | $0.00 | | $0.00 | | $0.00 |
| TOTAL | 8 | $520.00 | 24 | $1,320.00 | 24 | $1,152.00 | 40 | $1,440.00 | 4 | $176.00 | 0 | $0.00 |

| No. / ACTIVITY | Rate * | | Rate * | | | | | | Man Hours by Activity | Salary Cost by Activity | Avg. Hourly Cost | Salary Cost Dist. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Man Hours | Labor Cost | Man Hours | Labor Cost | | | | | | | | |
| 1 | | $0.00 | | $0.00 | | | | | 52 | $2,304.00 | $44.31 | 50.0 |
| 2 | | $0.00 | | $0.00 | | | | | 52 | $2,304.00 | $44.31 | 50.0 |
| 3 | | $0.00 | | $0.00 | | | | | 0 | $0.00 | $0.00 | 0.0 |
| 4 | | $0.00 | | $0.00 | | | | | 0 | $0.00 | $0.00 | 0.0 |
| 5 | | $0.00 | | $0.00 | | | | | 0 | $0.00 | $0.00 | 0.0 |
| 6 | | $0.00 | | $0.00 | | | | | 0 | $0.00 | $0.00 | 0.0 |
| TOTAL | 0 | $0.00 | 0 | $0.00 | | | | | 104 | $4,608.00 | $44.31 | 100.0 |

## CONTRACT FEE SUMMARY FORMAT FOR ENGINEERING DIVISION
## CITY OF JACKSONVILLE, FLORIDA

### PART I - GENERAL

| | |
|---|---|
| **1. Project**<br>**City of Jacksonville Fire Station No. 73**<br>**Preconstruction & 60 %o Design Fees** | **2. Proposal Number**<br>CDB-0008-16 |
| **3. Name of Consultant**<br>Simes and Rosch Engineering | **4. Date of Proposal**<br>**9/21/2017** |

### PART II - LABOR RELATED COSTS

| **5. Direct Labor** | Hourly Rate | Estimated Hours | Estimated Cost | TOTAL |
|---|---|---|---|---|
| Principal | $62.50 | 6 | $ 375.00 | |
| Senior Engineer | $54.93 | 24 | $ 1,318.32 | |
| Engineer | $51.14 | 40 | $ 2,045.60 | |
| Engineering Tech. | $26.52 | 100 | $ 2,652.00 | |
| Clerical / Admin | $21.97 | 16 | $ 351.52 | |
| **TOTAL DIRECT LABOR** | **$ 36.25** | **186** | | $ 6,742.44 |
| **6. Overhead (Combined Fringe Benefit & Administrative)** | | | | |
| Overhead Rate | 140 % x Total Direct Labor | | | $ 9,439.00 |
| **7. SUBTOTAL: Labor + Overhead (Items 5 & 6)** | | | | $ 16,181.44 |
| **8. PROFIT: Labor Related Costs (Item 7)** | | x | 10% | $ 1,618.00 |
| **9. SUBCONSULTANT COORDINATION: Items 11** | | | 0% | $ - |

### PART III - OTHER COSTS

| | | |
|---|---|---|
| **10. Miscellaneous Direct Costs** | | |
| Original Media | $ 0.00 | |
| Reproduction | $ 0.00 | |
| Transportation | $ 0.00 | |
| Shipping | $ 0.00 | |
| MISCELLANEOUS *DIRECT* COSTS SUB-TOTAL | $ | $ - |
| **11. SUBCONTRACTS (Lump Sum)** | | |
| | $ 0.00 | |
| | $ 0.00 | |
| | $ 0.00 | |
| | $ | |
| | $ | |
| | $ | |
| | $ | |
| | $ | |
| SUB-CONTRACT SUB-TOTAL | $ | $ - |
| TOTAL LUMP SUM AMOUNT (Items 5, 6, 8, 9 and 10) | | $ 17,799.44 |
| **12. Reimbursable Costs - Limiting Amount** | | |
| | $ 0.00 | |
| | $ | |
| | $ | |
| SUB-TOTAL REIMBURSABLES | | $ - |

### PART IV - SUMMARY

| | |
|---|---|
| TOTAL AMOUNT OF CONTRACT (Lump Sum Plus Reimbursables)<br>(Items 5, 6, 8, 9, 10, 11 and 12) | $ **17,799.44** |

# ESTIMATE OF WORK EFFORT AND FEE FOR CONSTRUCTION PLANS

Project Name: **City of Jacksonville Fire Station No. 73** — **Preconstruction & 60% Design Fees**
Consultant: Simes and Rosch Engineering
RFP NO.
Prepared by: Artur B. Hill
Date: ########  A W C Job No. E 09-019-01

| No. / ACTIVITY | Principal Rate $62.50 | | Senior Engineer Rate $54.93 | | Engineer Rate $51.14 | | Engineering Tech. Rate= $26.52 | | Clerical /Admin Rate= $21.97 | | Rate | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Man Hours | Labor Cost | Man Hours | Labor Cost | Man Hours | Labor Cost | Man Hours | Labor Cost | Man Hours | Labor Cost | Man Hours | Labor Cost |
| 1 60% Design Drawings | 4 | $250.00 | 16 | $878.88 | 40 | $2,045.60 | 100 | $2,652.00 | 12 | $263.64 | | $0.00 |
| 2 60% Design Specifications | 2 | $125.00 | 8 | $439.44 | | $0.00 | | $0.00 | 4 | $87.88 | | $0.00 |
| 3 | | $0.00 | | $0.00 | | $0.00 | | $0.00 | | $0.00 | | $0.00 |
| 4 | | $0.00 | | $0.00 | | $0.00 | | $0.00 | | $0.00 | | $0.00 |
| 5 | | $0.00 | | $0.00 | | $0.00 | | $0.00 | | $0.00 | | $0.00 |
| 6 | | $0.00 | | $0.00 | | $0.00 | | $0.00 | | $0.00 | | $0.00 |
| TOTAL | 6 | $375.00 | 24 | $1,318.32 | 40 | $2,045.60 | 100 | $2,652.00 | 16 | $351.52 | 0 | $0.00 |

| No. / ACTIVITY | Activity | Activity | Cost | % |
|---|---|---|---|---|
| 1 60% Design Drawings | 172 | $6,090.12 | $35.41 | 90.3 |
| 2 60% Design Specifications | 14 | $652.32 | $46.59 | 9.7 |
| 3 0 | 0 | $0.00 | $0.00 | 0.0 |
| 4 0 | 0 | $0.00 | $0.00 | 0.0 |
| 5 0 | 0 | $0.00 | $0.00 | 0.0 |
| 6 0 | 0 | $0.00 | $0.00 | 0.0 |
| TOTAL | 186 | $6,742.44 | $36.25 | 100.0 |

OHMEGA
The Ohmego Gmup, LIC I

1756 Silver Street Jacksonville, Florida 32206
T 904 807 6512 e-Fax 904 807 6550
W OhmegaGroup.com

September 25, 2017

Bill Ebert, AIA
Ebert Norman Brady Architects
1361 13th Avenue South, Suite 230
Jacksonville Beach, Florida 32250

**City of Jacksonville, New Fire Station No. 73, Jacksonville, Florida**
*Proposal for Electrical Engineering Consulting* Services

Dear Bill,

In response to your request on September 25, 20 t7, and in response to your immediate needs, we are pleased to submit this proposal for electrical engineering consulting services for the subject project. Please review the scope of work for compliance with your objectives. If the scope, schedule and fee are satisfactory, please sign and return a copy of this document to OHMEGA. Receipt of this signed document from the Client and frozen architectural background templates will constitute a notice-to-proceed for the production of engineering drawings and specifications under the terms of this proposal. Work will not commence without this signed proposal.

## I Scope of Work

Provide electrical engineering design, bidding and construction phase services for the construction of an approximately 14,794 square feet fire station facility which includes detached utility shed, a 6-bay apparatus parking area, living areas, kitchen, office areas and sleeping quarters. The building electrical systems will be designed to withstand Category 4 rated hurricane wind speeds.

As we understand it the project will consist of Florida Green Building Coalition criteria design in accordance with the Florida Green Commercial Building Standard Reference Guide, Version 2 rating criteria **(Category 2: Ene,gy, Category 4: Site, Category 5: Health)** in attempt to obtain a minimum certification. The architect will provide all CAD background drawings and other pertinent information as required to complete the scope. CAD drawings and specifications will be provided as project deliverables

The following tasks will be performed under the terms of this proposal.

A. Initial Site Investigation
B. Project Kick-off and Review Meetings
C. lighting design including:
   1. Interior lighting
   2. Photometric calculations based on the requirements of FBC, COJ and the Illuminating Engineering Society of North America (IESNA.)

Oh
Be Brilliant.

3. Lighting controls for energy-efficient use of lighting
4. Review Lighting Submittals

D. Power distribution system including:
1. Service entrance and utility coordination
2. Electrical circuiting, risers and panel schedules
3. Electrical load calculations

E. Fire Alarm System, as required by Code

F. Voice & Data communications infrastructure (cabling & outlets only)

G. Security/CCTV Design (cabling & outlets only)

H. Lightning Protection System Design

I. Code Compliance:
1. National Electric Code (**NFPA** 70), latest version
2. Florida Building Code (FBC), latest version
3. County Building Department
4. National Fire Alarm Code (NFPA 72), latest version
5. Florida Green Building Coalition (FGBC)

J. Technical Specifications

K. Professional Engineer Sign & Seal of permit documents

L. Bidding

M. Estimates of Probable Construction Cost (Cost Opinion)
1. In providing estimates of probable construction cost, the Client understands that the Consultant has no control over the cost or availability of labor, equipment or materials, or over market conditions or the Contractor's method of pricing, and that the Consultant's estimates of probable construction costs are made on the basis of the Consultant's professional judgment and experience. The Consultant makes no warranty, express or implied, that the bids or the negotiated cost of the Work will not vary from the Consultant's estimate of probable construction cost This Consultant suggest that the Client should consider retaining an independent cost estimator at the Client's expense:
   a. A cost estimator can be more precise than this Consultant, and
   b. If the Client declines to do this, he or she acknowledges that any estimate of probable cost provided by this Consultant is subject to revision and ref,nement throughout the design and construction process and will not be construed as a guaranteed maximum price

N. Construction Administration Services, including:
1. Response to contractor RFIs
2. Construction site visits (10 each)
3. Attend construction meetings (20 each)
4. Shop drawing review
5. Final inspection & punch list

## II. Exclusions /Additional Services

The following items are not included in the base Scope of Work:

A. Client Changes after Final Documents

## III. Fee

OHMEGA proposes to furnish the aforementioned professional consulting services in accordance with the above conditions for the sum of Twenty-Three Thousand Nine Hundred Eighty-Six Dollars **(US$ 23,986.00)** for design, FGBC, bidding, and construction phase services. This fee shall include all necessary plan modifications, due to authority having jurisdiction (AHJ) review comments, as required to obtain a permit. The fee breakdown is as follows:

[Proposal 2017-55 - COJ FS#73]

| PHASE | FEE |
|---|---|
| 60% Desiin Development | $7,720.08 |
| 100% Construction Docs | $2,035.29 |
| Biddini / Permittini | $795.17 |
| FGBC | $4,281.81 |
| CA Services | $8,689.14 |
| TOTAL | **$23,986.00** |

This proposed fee shall be valid for a period of **30** days from the date of this Agreement. After 30 days, the fee will be evaluated to compensate for direct labor cost escalations.

TERMS & CONDITIONS

**OHHEGA** (hereafter referred to as Consultant) shall perform the services outlined in this proposal letter agreement for the stated fee.

**IV. Additional Services**

Any required work not covered under the Scope of Work is not covered in this Proposal. All Additional Services incurred as a result of Client changes will be charged on an hourly basis not to exceed those indicated in the table below. Additional Services will not be performed by OHMEGA without prior written authorization from the Client.

| Classification | Hourly Rate |
|---|---|
| Principal Engineer / Project Director | $ 206.97 |
| Sr. Engineer / Project Manager | $ 171.66 |
| Project Em ineer | $ 143.04 |
| CADD Technician | $ 103.17 |
| Clerical / Admin Asst | $ 74.05 |

**V. Reimbursable Expenses**

All reimbursable expenses incurred during the performance of the Scope of Work will be invoiced as charged at a multiplier of 1.1 during the first 30 days of the invoice. After 30 days, this shall be subject to the 1.5% late payment charge as outlined in **Section** XII. These expenses may include reproducibles such as blueprints, copies, photographs, large format plots as well as courier, mail, etc. Reimbursable expenses include actual expenses incurred by OHMEGA directly or indirectly in connection with the project.

**VI. Standard of Care**

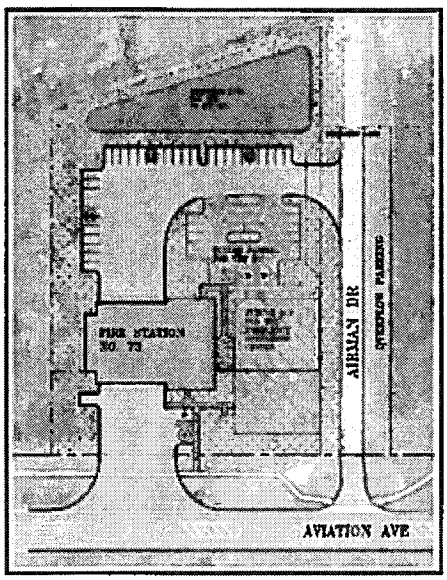
The Consultant's services shall be performed in a manner consistent with that degree of skill and care ordinarily exercised by practicing design professional performing similar services in the same locality, at the same site and under the same or similar circumstances and conditions. The Consultant makes no other warranties, expressed or implied, with respect to the services rendered hereunder.

# REQUEST FOR PROPOSALS

**FOR**

**DESIGN & CONSTRUCTION OF**

**NEW FIRE STATION No. 73**
**CECIL COMMERCE CENTER - 5845 AVIATION AVENUE**
**NE Corner of Aviation Avenue and Airman Drive - RE # 002249.0005**




**DESIGN – BUILD CONSTRUCTION DELIVERY METHOD**

**CITY / COUNTY WIDE CONSTRUCTION IMPROVEMENT PROJECTS**

**RFQ-CDB-008-16**

**DESIGN CRITERIA PACKAGE**

**PROCUREMENT DIVISION**

**JACKSONVILLE FIRE & RESCUE DEPARTMENT**

**PUBLIC WORKS DEPARTMENT**
**RELEASE DATE: AUGUST 30th, 2017**

**PREPARED BY ENGINEERING & CONSTRUCTION MANAGEMENT DIVISION**

# CITY OF JACKSONVILLE, FLORIDA

## NEW FIRE STATION No. 73

## RFQ – CDB–0008-16
## RELEASE DATE – August 30, 2017

### 1. INTRODUCTION AND LOCATION:

This DCP specifies performance-based criteria for the design and construction of New Fire Station No.73 to be located at the Cecil Commerce Center. The purpose of this design criteria package is to furnish sufficient information to allow a Design Build Firm to prepare a response to the City's request for proposal (RFP) and to permit the City to enter into a negotiated design build contract.

The Jacksonville Aviation Authority (JAA) has identified real property at the Cecil Airport for Fire Station 73 in the NE Corner of Aviation Avenue and Airman Drive and has agreed to enter into a lease agreement with the City for the construction and operation of Fire Station 73. The address assigned to the Fire Station is 5845 Aviation Avenue. It does not have a separate Real Estate number yet. The RE # for the total area is 002249.0005.

JAA owns and operates Cecil Airport and has aviation tenants, which must provide Aircraft Rescue and Firefighting (ARFF) services. The City leases from JAA certain real property and building improvements at Cecil Airport and desires to construct a new fire station at Cecil Airport ("Fire Station 73") to provide ARFF services to JAA's aviation tenants and fire and rescue services to the surrounding community outside of Cecil Airport.

### 2. GENERAL:

The Design-Build firm is responsible for design and plans production. The plans and specifications included in this "The Design Criteria Package (The DCP)" are provided for the purpose of allowing the Design Build Firm to prepare the fee proposal for the 60% design of Fire Station No. 73, within twenty one (21) calendar days from the release date of the DCP. **Therefore, the fee proposal shall be submitted no later than 5:00 P.M. on September 20, 2017 to Maria Williams, P.E., at 214 N. Hogan Street, Ed Ball Building, 10th Floor, Jacksonville, Florida 32202.**

The Design Builder shall request a meeting (if needed) to discuss items pertaining to the design of Fire Station # 73 within one week of the DCP issued date. The fee proposal must include the proposed schedule for the 60% submittal.

The provisions of the DCP represent the technical, material, and quality requirements for the foregoing project. The Design Build Firm is bound by these requirements during the design (and future permitting and construction if applicable) of the New Fire Station # 73.

With the Technical Proposal (60% Design), Auld and White shall provide the Guaranteed Maximum Price ("The GMP") and the Guaranteed Completion Date ("The GCD"). No more than one week after receiving the Technical Proposal (TP), the GMP & the GMC from Auld & White,

the City shall commence negotiations to reach an agreement on terms of the GMP & GCD for the 100% design, permitting and construction of the New Fire Station # 73.

A DCP amendment for the design of the construction plans and for the construction completion of the proposed Fire Station No. 73 may be issued at the City's initiative or at the request of the Design Build Firm, upon the approval by the Fire & Rescue Department, if the amendment is in the best interest of the City.

The Design Criteria Professional (Maria Williams, P.E.) may amend the provisions of the Design Criteria Package after it has been released to the Design Build Firm, but before the expiration of the 21-day period designated for submittal of the Fee Proposal.

## 3. PROCEDURES FOR THE ADOPTION OF ANOTHER'S WORK:

The plans and specifications for the New Fire Station # 62 described in Appendix "1" and "2" respectively, had been prepared by Auld & White and its Engineering Consultants. The City is the Sole Owner of these design documents. Therefore, the City has the right to utilize these plans for the preparation of contract documents for the New Fire Stations # 73. However, each Designer of Record preparing the contract documents for Auld & White shall comply with the applicable provisions of the Florida Administrative Code pertaining to a successor architect / landscape architect / engineer adopting as his / her own the work of another architect / landscape architect / engineer as follows: (1) Chapter 61G1-18 for Architects; (2) Chapter 61G10-15.004 for Landscape Architects; and (3) Chapter 61G15-27 for Engineers.

## 4. COST DISCOUNT FOR UTILIZING PLANS AND SPECIFICATIONS FROM FIRE STATION No. 62 IN THE PREPARATION OF CONSTRUCTION CONTRACT DOCUMENTS FOR THE NEW FIRE STATION # 73:

Auld and White shall provide the City with an appropriate cost discount for utilizing in the design, permitting & construction of the New Fire Station # 73 the prototype plans and specifications already prepared by Auld & White for the Fire Station # 62.

## 5. SCOPE OF WORK:

The DB firm shall deliver the 60% design plans of the New Fire Station # 73, based on the DCP and the plans and specifications prepared for the New Fire Station # 62 by Auld and White Company as incorporated in Appendix "1" As-Built Plans, and Appendix "2" Specs. The 60% plans shall include all the information needed for the first DMG and Permit review submittals.
The work consists of a new fire station with a bunk room, bathrooms, locker rooms, storage rooms, dining room, kitchen, day room. chief room with bathroom, utilities, laundry room, linen closet, janitorial area, review counseling room, med storage, 4 bay apparatus bay, covered entry, covered patio, fitness room, bunker gear room, storage, utility shed, dumpster enclosure, emergency generator, sidewalks, parking with striping, fence, signage, flagpole, bike hitch, LP gas tank and concrete pad, project sign, driveways, landscape, drainage, stormwater pond, indoor and outdoor electrical work, mechanical, fire protection, fire alarm, telecommunication, plumbing and all other work required to complete the work in accordance with the DCP.

The Design Build Firm shall be responsible to comply with the changes and modifications to the 2014 Florida Building Code and Supplement. The following site elements shall be designed, permitted and constructed in accordance with site development conditions in compliance with applicable design criteria, standards, codes and specifications promulgated by but not limited to

the following: the City, the State of Florida, ACI, ANSI, ASCE, ASTM, AWPA, EPA, FDEP, NFPA, OSHA, UL, NEC, NEMA:

a. **Fire Station Building:** The fire station building for the New Fire Station # 73 shall have four (4) bays in the Apparatus Bay with a minimum finish floor elevation based on the existing groundwater conditions as well as providing minimum 6" vertical distance from the finish floor elevation to the finish grade at the exterior walls and minimum 5% slope of ground immediately adjacent to the building foundation for a minimum distance of 10 feet away from the building. The Finish Floor Elevation (FFE) shall be **84**. The fire station building shall be constructed using reinforced concrete (foundation, slab-on-grade, beams) and standard split face reinforced CMU (walls). The vehicular live loads in the Apparatus Bay shall be AASHTO H20-44 and HS20-44. Wind loads shall be no less than those associated with the FBC Edition 5th for Risk Category IV and shown in the City Infrastructure as one hundred thirty (135) mph - 3 sec peak gust wind velocity (see Appendix "J"). Roof shall be constructed of pre-engineered wood trusses and roofing system as specified for the prototype. All CMU walls shall be water resistant Grace Dry-block System.

b. **Recent Modifications to the Fire Station Building Design:** Although the design of the New Fire Station # 73 is based on a prototypical design of the recently constructed New Fire Station # 62, the Design Build Firm shall include in the plans and specifications the most recent conceptual design, Sheet No. A101, Exhibit "A". The Design Build Firm may propose minor changes to the floor plan and any changes to materials and systems shown in Exhibit "A" if the proposed materials and systems are equal or better to those specified in Appendix "1" Fire Station No, 62-Specs and offer tangible benefits to the City. The Design Build Firm shall submit to the City requests for approval of equal or better materials and systems at least 10-days before the deadline for submitting the Technical Proposal. The procedure for submitting these requests shall be substantially the same as Section 20.16 Substitutions of Appendix "3" (Division III, Section 20 – General Conditions, City Standard Contract Documents).

c. **Apparatus Bay:** The Apparatus Bay shall have four 17'-4" bays with 14'x14' overhead door openings. The slab-on-grade minimum requirements are: 10" thick and #5 @ 8" reinforcement each way minimum. A vapor barrier shall be 15" mil. Stego. For all architectural, structural and finish details as well as technical requirements pertaining to mechanical, electrical, telecommunication, plumbing and fire protection systems in the Apparatus Bay see Appendix "1" and appendix "2" unless modified and / or supplemented by the DCP.

d. **Drainage and Stormwater Management System:** The New Fire Station # 73 shall have appropriate stormwater management system modifications to comply with the soil and groundwater conditions at the proposed location. The stormwater pond shall be designed, permitted and constructed in compliance with the City Land Development Manual and regulations promulgated by the St Johns River Water Management District. Also, since the proposed Fire Station and the EOC buildings are critical facilities, compliance with FEMA publication 543, Design Guide for improving critical facility safety from flooding and high winds shall be considered. The GMP submittal format includes an additive alternate for the construction of pond bank retaining walls.

e. **Project Site:** The Design Build Firm shall utilize the preliminary site plan concept depicted in Exhibit "C" (Auld and White conceptual layout). All other functional elements of the project site shall be consistent with the Fire Station # 62 project.

f. **Pavement – Driveways – Parking:** The Design Build Firm shall provide convenient exit and return access to the fire station building by fire and rescue apparatus. The fire station building

shall have a minimum 40-foot long and 8" thick reinforced concrete approach slab spanning the entire width of the Apparatus Bay in the front and in the rear of the fire station building. There shall be an expansion joint between the concrete approach slab and the fire station building with ¾" x 18" dowels spaced at 18" O.C. and a silicon sealant seal constructed as required by ACI. The approach slab shall be reinforced with one layer of #5 @ 12" O.C. EW minimum. All concrete pavements shall be $f'_c$ =4,000 psi Portland cement concrete meeting the requirements of the City Standard Specification Section 130. Other driveways and parking areas shall have asphalt pavement as specified for the Fire Station # 62.

All driveways and parking areas shall have curbing (curb and gutter). Turning radii for driveways are minimum 30'. The emergency exit for fire trucks on right turns shall be 35' minimum. Pavement shall be designed and constructed as subjected to AASHTO H20-44 and HS20-44 vehicular live loading.

All driveway and parking concrete pavement shall be placed on 8" crush-crete base. No limerock shall be allowed. Airman Drive needs to be widened to 24'. A black base (asphalt) shall be used for the widening areas. Mill and resurface the existing pavement.

The visitor parking shall consist of two regular and one HC parking space. It shall meet the ADA accessibility requirements (2% maximum slope both ways) and include required striping wheel stops and signs.

The employee parking lot shall include 32 regular parking spaces; a bicycle hitch; a 3'x6' outdoor mop basin (wash basin with a 3" floor drain) adjacent to the Apparatus Bay and with an extended roof cover, an oil-water interceptor for the Apparatus Bay floor drains, a grease trap for the kitchen waste, pavement markings, and traffic signs.

g. **Sidewalks:** 6-foot wide and 5" thick plain concrete $f'_c$ =3,000 psi sidewalks are required. It is required the main public entrance to the fire station building to be accessible via a sidewalk from the public right of way (public sidewalks). The Design Build Firm shall coordinate this issue as necessary with FAA. Expansion and control joints shall be provided as recommended by ACI. Sidewalks shall meet the ADA accessibility requirements. Sidewalk intersections shall have a 5' radii.

h. **Building Address Number:** 5845 Aviation Avenue – 6" high vinyl white address numbers shall be attached to the exterior face of store front glazing of the fire station building public entrance, lobby 100 at the top of glazing.

i. **Trash Enclosure:** A free standing on-site trash enclose meeting the requirements of the Zoning Code shall be provided in the vicinity of the employee parking lot. Construction shall be reinforced concrete, reinforced CMU walls with concrete cap, wooden gate on a hot-dip galvanized steel frame, and two 8" Standard steel pipe bollards filled with concrete, painted "fire engine red".

j. **Flagpole.** A 30-foot flagpole with a 5'x8' U.S. flag shall be provided. The flagpole shall be designed for 135 mph wind, 3 second wind gust.

k. **Bike Hitch.** A Dero bike hitch in-ground mounted (2-bike hitch) shall be provided in the proximity to the visitor's parking.

l. **Front Wall letters:** A wall sign is not required. Illuminated 10" high dimensional letters sign reading, "Fire & Rescue Department Station # 73" with the Fire & Rescue Department's 32" Logo Plaque equal to A.R.K. Ramos shall be provided. See Exhibit "C" for an illustration of the letters installed on Fire Station No. 62. Final color of the letters to be selected by the Fire & Rescue Department.

m. **LP Gas Tank & Concrete Pad:** The Fire & Rescue Department uses LP (Propane) Gas for water heaters, cooking stove, BBQ grill, and Apparatus Bay space heaters. The City has an agreement with AmeriGas for the LP gas service. Per the agreement, AmeriGas does not charge tank rent to the city, and they don't charge the city to install the tank and gas line to the building. See exhibit "D" for additional information.
The Design Build Firm shall request from and coordinate with and pay AmeriGas for the following LP gas services:
(1) Installation of a 500 Gallon LP gas tank.
(2) Two Regulators and
(3) An initial LP gas tank fill. The price per gallon is currently $3.03.

Please contact AmeriGas for coordination and installation requirements.

The LP gas tank shall be placed above ground on a 6" reinforced concrete pad (#4 @ 12" O.C., f'c=3,000 psi) adequate to the size of the LP Gas tank, with sleeves for piping and fire alarm shut-off valve control wires, and it shall be properly anchored to withstand wind load generated by 135 mph (3-second gust wind).
The aboveground LP gas tank shall be protected with 2-guard posts. The LP gas tank shall have a 24V/AC Solenoid Valve supervised by the fire alarm system.

n. **Emergency Power Generator:** A 100 KW emergency power generator shall be provided. The emergency generator shall meet the following requirements: (1) Tradewinds Power Corp. 100 KW Standby Diesel Engine Generator with electronic isochronous governor, 0.25% regulation; (2) "E" control panel; 20 lamp remote enunciator panel, surface mount; (3) 500 gallon double wall, sub-base, fuel tank; (4) 600 Amp automatic transfer switch; (5) 4 hour resistive load bank, per NFPA 110 requirements; (6) 5 year comprehensive warranty; (7) 2 sets of operators manuals; (8) vibration insulators; and (9) emergency light. The Design Build Firm shall be responsible for the design and complete installation of the emergency generator system including its housing. The emergency generator shall be designed to withstand the 135 mph (3 second gust wind gust).

o. **Traffic Signs and Pavement Marking.** The Design Builder shall provide traffic signs and pavement marking as it may be required at each Project Site. In addition, "Do Not Enter" signs shall be installed at the emergency access driveway and the City right-of-way.

p. **Utilities.** The Design Build Firm shall be required to coordinate and secure approvals from the public utility companies and pay all required connection and permit / approval fees as required by the said public utility companies. See design ticket in Exhibit "E".
   1. **Water Service:** The Design Build Firm shall provide domestic, fire, and landscape irrigation water service and pay all development and permit / approval fees as required by JEA. The landscape irrigation shall have a separate water meter and it shall have an additional 2.5" PVC piping for the 2.5" Fire Hose Bib w/ 3.5'x3.5'x0.5' concrete pad. There is an existing 16" water pipe on the east side Aviation Avenue fronting the property. Also, there is an existing 6" in CI water on the south side of Airman Drive (See JEA availability letter and GIS infrastructure in Exhibit "F").

2. **Sanitary Sewer Service:** The Design Build Firm shall provide sanitary sewer service adequate for twelve (12) firefighters per shift and the number of fixtures required for the fire station. There is an existing 10" gravity sewer line in Aviation Avenue fronting the property. Also, there is a 6" gravity sewer line continuing from an 8" sewer line on the south side of Airman Drive (See Exhibit "F").
3. **Telephone and Comcast Services:** The Design Build Firm shall obtain a T-1 Service from AT&T. In addition, a cable TV service from Comcast is required. Refer to Section 2. In addition, the Design Build Firm shall make provisions for accepting future fiber optic cables by installing an appropriate three (3) – 3" Schedule 40 PVC conduits from the JAA right-of-way to the telecommunication room in the fire station building. Contact Comcast at 545-3665 to arrange these services (Comcast may be free of charge due to a settlement agreement with the City).
4. **Electrical and telecommunication:** The New Fire Station # 73 shall comply with the electrical and telecommunications shown in the Plans & Specifications for the New Fire Station # 62 (Appendix "1" and "2"). The Design Build Firm will be required to secure a 600 amp. electric power service through the installation of a ground mounted transformer with the secondary pull box issued by JEA and installed by Auld & White.
5. **Electrical Site Lighting:** Provide site illumination similar to what has been shown and specified for Fire Station # 62. The site illumination shall include flood lights for a flagpole and wall sign. The site illumination shall be controlled by photocells and manual switches provided in the Dispatch Room of the fire Station building as applicable.
6. **Apparatus Bay Lighting:** Provide similar exterior apparatus bay door lighting as Fire Station # 62. Provide interior commercial LED-illuminated safety kits at each side of the apparatus bay doors as shown on Exhibit "G" or approved As-Equal.

q. **Hot Water Heating System:** Standard hot water heating system based on the A.O. Smith Cyclone LP Gas hot water heating systems specified for Fire Station No. 62 (Appendix "1 and Appendix "2").

r. **Fire Hydrants:** Three Fire Hydrants on Aviation Avenue and another Fire Hydrant on Airman drive. The Fire Hydrant flow test application and documentation is included in Exhibit H. The Fire Hydrant flow test results will be provided to Auld & White as soon as JEA submits it to the City.

s. **Mechanical, fire protection, fire alarm, plumbing and other building systems:** The New Fire Station # 73 shall be fully equipped in mechanical, fire protection, fire alarm, plumbing and other building systems to the same extent required in the Plans & Specifications for the New Fire Station # 62 (Appendix "1" and "2"), unless otherwise specifically modified in this Design Criteria Package. Exterior components of building system shall be designed to withstand 135 mph, 3 second wind gust.

t. **Living Quarters and Bunker Gear Room:** See modifications on Exhibit "A". All other details of the living quarters, the bunker gear, the storage room, and the cabinets see Fire Station # 62 drawings (Appendix "1").

u. **Fences and Gates:** The property is located in PBF-1 Zoning District. There are no limitations for a fence. An 8-foot chain link fence, galvanized, with black vinyl coating and a two-leaf vehicular entrance automatic cantilever sliding 24-foot gate are required for the employee parking area. This fence shall be tied to the fire station building in substantially the same fashion as it has been shown in Fire station # 62. Provide a concrete pad / trough under the roller spans of the cantilever gate leaves to prevent soil or water build up and allow grass mowing. The gate

shall have key pad controls for personal cars and fire trucks and a remote control for fire trucks as well as a push button in the Dispatch Room.

6. **ZONING:**

The property follows the PBF-1 Zoning District Standards. The set backs are:
Front Yard - 0'
Side Yard - 0'
Rear Yard - 0'
Minimum Lot Width and Area - None
Maximum Height - None
Maximum Lot Coverage – None

7. **BUDGET:**

A Jacksonville Aviation Authority (JAA) and Florida Department of Transportation grant in the amount of $1,631,513.00 and $2,150,000.00 of the City funds appropriated in the CIP, were amended and enacted to Ordinance 2017-400-E for the Fire Station No. 73 and Fire Station No. 56 projects. Of the $3,781,513 appropriated from B.T. 17-075, $350,000.00 will remain in the Fire Station 56 project for needed repairs, so that Fire Station 56 can remain open and operational. Also we need to deduct approximately 12% for the Construction Engineering and Inspection Company, $12,000 for the survey, $7,000 for the geotechnical, 8% contingency & Fire Station interior items, and $30,000 for the City to oversee the project. Therefore, the current maximum available budget is $2,818,760.

8. **PERMITS:**

If after the 60% submittal, the DCP amendment for the design of the construction plans and for the construction completion of the proposed Fire Station No. 73 is issued, Auld and White will be responsible for all required permits. The Design Build Firm shall secure driveway permits and coordinate through the City's Project Manager the final design and location of proposed driveways.

The Design Build Firm shall apply on behalf of the City, pay required application and permit fees and secure all approvals and permits from the City and the State regulatory agencies as required by law. Specifically, permits and approvals are required, from but not limited to, the St Johns River Water Management District, the Florida Department of Environmental Protection / the City Environment Resources Management Department, JEA, AT&T, Comcast, the City – Development Management Group, the Building Inspection Division and any others as may be required for this project.

In addition, the Design Build Firm shall coordinate with all applicable utility companies as required and pay all applicable fees.

The Design Build Firm shall provide the Engineer the review and approval of all plans and specifications at 60%, 90% and 100% project development phases. The Engineer may, at the request of the Design Build Firm waive the requirement for 90% Submittal Review if it is determined to be in the best interest of the City. For the purpose of the foregoing reviews and approvals, the Design Build Firm shall provide the Engineer with 5 sets of drawings, specifications and engineering calculations.

The Design Build Firm shall provide the Engineer with five (5) sets of final plans, specifications and engineering calculations prior to the Preconstruction Conference and the issuance of the Notice to Proceed. In addition, at the same time the Design Build Firm shall provide the Engineer with two (2) copies of CDs with the electronic version of all contract documents (drawings, specifications, engineering calculations, permits and approvals).

**9. MATERIALS:**

**The City has stockpile soil areas at the Cecil Commerce Center (Lake Frettwell excavation) that can be used as fill dirt by Auld and White free of charge. The distance from the stockpile area to Fire station No. 73 is less than 2 miles.** The location and the geotechnical exploration reports are included in Exhibit "I". The GMP shall include both prices, with and without using this fill material.

All building materials shall match the materials approved for Fire Station No. 62.

**10. SIGN FOR THE DURATION OF THE PROJECT ONLY:**

The Design Build Firm shall provide one on-site construction sign for the project. A construction sign shown in Section 20 (Appendix "C", DCP) shall be 4'x4' instead of 4'x8' and it shall have two 2"x4" brace posts instead of three brace posts. All wood and plywood shall be pressure treated for in ground and weather exposure as applicable. The face of the required construction sign shall be as shown in Exhibit "K" hereby incorporated in the DCP.

**11. SOIL CONDITIONS – GEOTECHNICAL EXPLORATION REPORT:**

The City will provide the Geotechnical exploration consisting of three (3) SPT borings B-1, B-2, and B-3 drilled to the depth of 40 feet each below the existing ground surface within the footprint of the proposed fire station building six (6) auger borings within the proposed pavement area and four (4) borings in the pond area (see Exhibit "L"). This information will be provided to Auld & White as soon as we receive it from the Geotechnical Company. An additional geotechnical testing and analysis requested by Auld and White was added to the Geotechnical Company request for proposal.

**12. ENVIRONMENTAL SITE ASSESSMENT:**

The Fire Station # 73 site is currently vacant. The City's Environmental Programs Manager reviewed the Fire Station No. 73 proposed site and does not have any concerns with the site (see Exhibit "M"). The Design Build Firm may request testing and / or environmental investigation before providing the City the GMP if deemed necessary.

**13. TOPOGRAPHICAL SURVEY MAP:**

The City will provide the Topographical and Tree Survey Map with the contract amendment. This survey will be an integral part of the Design Criteria Package ("the DCP"). The Topographical survey was requested (See exhibit "N") and the information will be provided to Auld and White as soon as we receive it from the Surveyors Company.

**14. COMPLETION AND DEDICATION OF IMPROVEMENTS WITHIN NEW FIRE STATION # 73'S PROPERTY LINE:**

Auld and White will construct all improvements included in the GMP and dedicate them to the City and public utility companies before completion of construction of the New Fire Station # 73.

**15. FLOODPLAIN CONDITIONS:**

The property is not in the Flood Zone.

**16. CONTROL OF THE WORK AND OF MATERIALS:**

Provisions of Division III, Section 20, Subsection 20.29 – General Conditions, Tests and Inspections, City Standard Contract Documents (Appendix "3") are fully applicable to this Project.

**17. MEASUREMENT AND PAYMENT:**

Provisions of Division III, Section 20, Subsection 20.39 (Appendix "3") – General Conditions, Progress Payments, City Standard Contract Documents shall be applicable in establishing provisions of the Contract for measuring work progress and making progress payments to Auld & White.

**18. COMPLIANCE WITH CHAPTER 327, ORDINANCE CODE, CITY OF JACKSONVILLE, FLORIDA SUSTAINABLE BUILDING PROGRAM:**

The Design Build Firm shall implement the provisions of Ordinance 2009-211-E as they relate to meeting and obtaining the sustainable building certification based on one of the recognized sustainable building certification systems such as U.S. Green Building Council's LEED Rating System, GBI'S Green Globe, or the Florida Green Building Coalition. The Design Build Firm shall select the least expensive certification system, which satisfies the requirements of Ordinance 2009-122-E. A copy of the Ordinance 2009-211-E is incorporated herewith as Exhibit "O".

**19. GMP SUBMITTAL FORMAT:**

Auld and White shall submit to the City (with the 60% design plans), paper & electronic copies of the GMP in the Excel spreadsheet format as shown in Exhibit "P" hereby incorporated into the DCP.

**20. AS-BUILT PLANS:**

The text of Section 20.62 "As-built" Drawings in Section 20, General Conditions shall be modified as follows:

20.62.5 The Design-Builder shall maintain, on a daily basis, a complete set of plans with "as-built" information noted in red ink. This "as-built" information shall include, but shall not be limited to: the location of all utilities installed and/or encountered all changes in design and/or layout of the project, all dimensional changes, and all changes in equipment and/or materials. This set of drawings shall be maintained on the job site and shall be available for review by the City. The Contractor shall transfer the "as-built" information contained in the drawings to a permanent record set of "as-built" drawings.

The permanent record set of "as-built" drawings shall become the property of the CITY prior to final payment and after the review and acceptance by the ENGINEER.

In addition, the Design-Builder shall provide the City with the electronic version (AutoCAD) of all As-Built plans on a CD. The AutoCAD files shall comply with the following requirements: (1) All drawings shall be 100% AutoCAD files, 2011 Version or newer; (2) Use standard layer system; (3) All AutoCAD files shall be transferred to CD including all the references (4) Use standard AutoCAD fonts/text files only, no third party application.

**END OF THE DESIGN CRITERIA PACKAGE**

## List of Exhibits


Exhibit "A".....Recent Modification to the Fire Station Design

Exhibit "B".....Preliminary Site Plan Concept

Exhibit "C".....Fire Station N$^{\underline{o}}$ 62 Front Wall Letters

Exhibit "D".....LP Gas-Amerigas

Exhibit "E".....Sunshine One Call Design Ticket

Exhibit "F".....Utilities

Exhibit "G".....Apparatus Bay Doors, Inside Doors, Lighting

Exhibit "H".....Fire Flow Test Information

Exhibit "I".....Lake Fretweel Fill Dirt
(Stockpiled by the City of Jacksonville)

Exhibit "J".....Wind Zone – FCB 5th Edition – COJ Website

Exhibit "K".....Sign for the Duration of the Project

Exhibit "L".....Geotechnical Exploration Information

Exhibit "M".....Environmental Site Assessment Information

Exhibit "N".....Topographical Survey Map

Exhibit "O".....Florida Sustainability Building Program

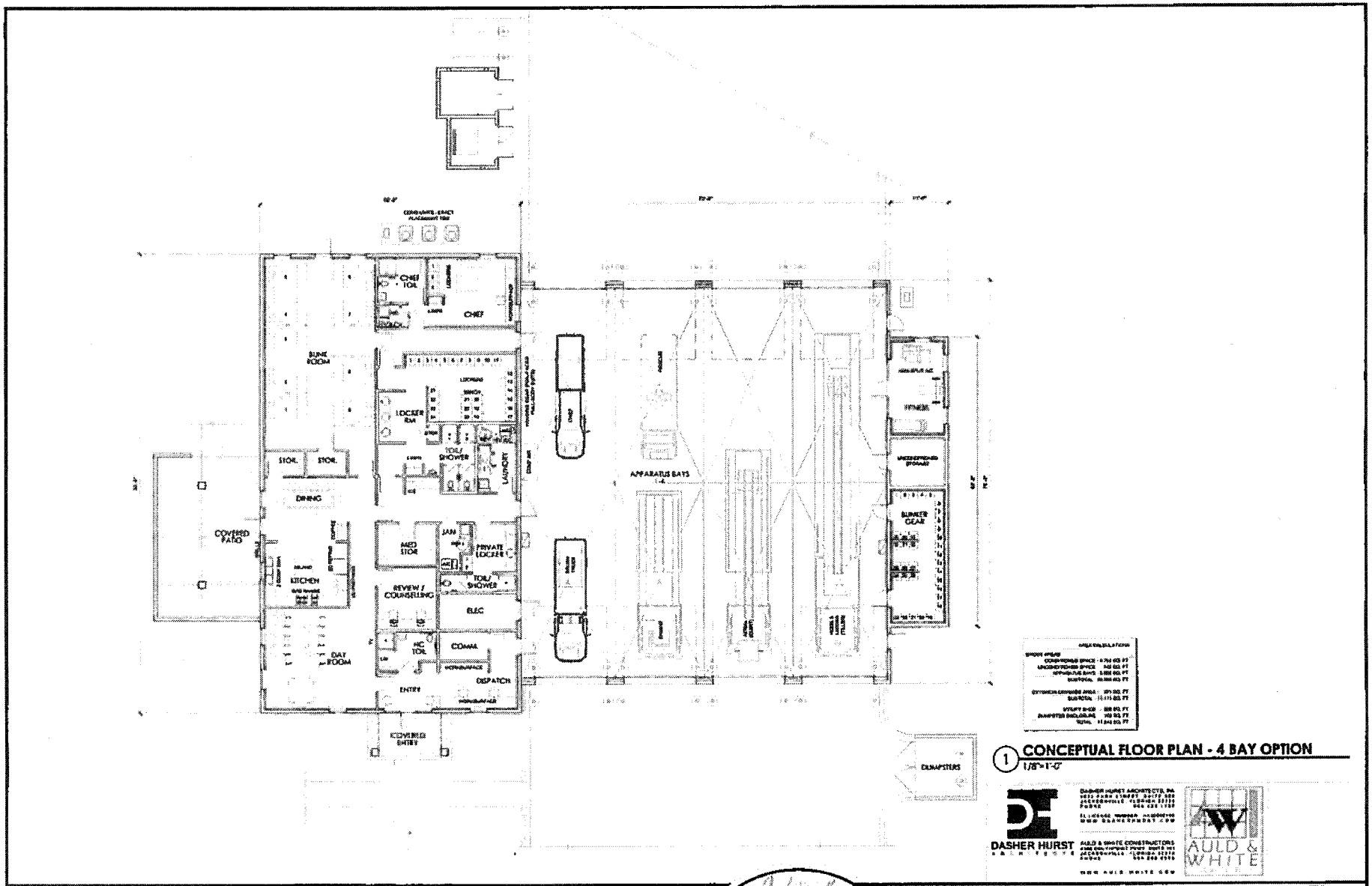
Exhibit "P".....GMP Format

## List of Appendices

Appendix "1".....Fire Station Nº 62 Plans

Appendix "2".....Fire Station Nº 62 Specifications

Appendix "3".....Division III, Section 20 – General Conditions
City Standard Contract Documents




1 CONCEPTUAL FLOOR PLAN - 4 BAY OPTION
1/8"=1'-0"

DASHER HURST

AULD & WHITE

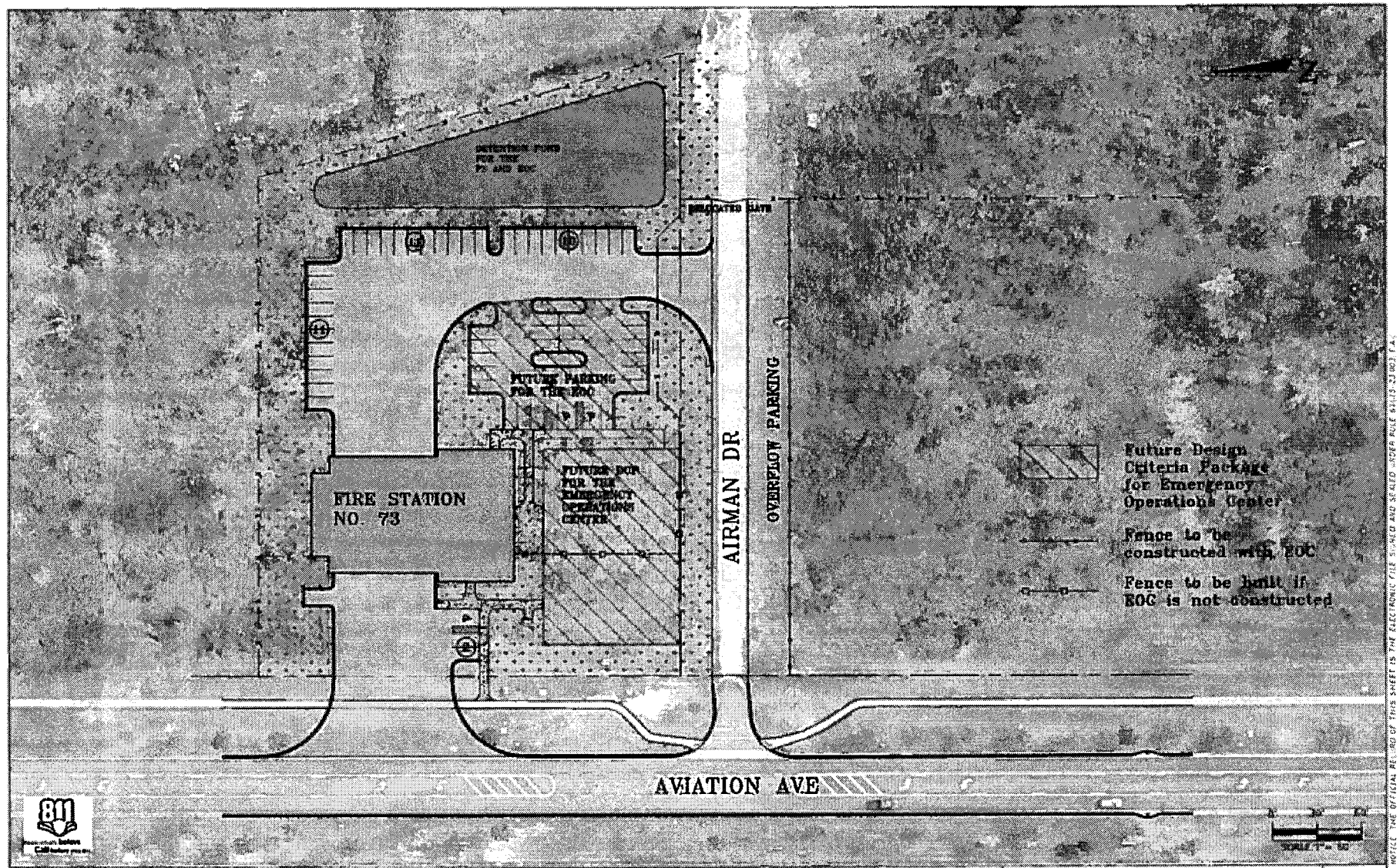
CITY OF JACKSONVILLE, FLORIDA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

PROJECT NO. 16007
DATE JANUARY 24, 2017
SCALE

FIRE STATION #56
FLOOR PLAN - 4 BAY OPTION

A101
SCHEMATIC DESIGN

Exhibit A




REVISIONS

| DATE | DESCRIPTION |
|---|---|

CITY OF JACKSONVILLE, FLORIDA
DEPARTMENT OF PUBLIC WORKS

| DATE | DRAWN BY | FILE # |
|---|---|---|
| 7/20/2017 | AMT | |

**FIRE STATION NO. 73**

SHEET NO 1

Exhibit B

Exhibit C

**EXHIBIT "D"**
AmeriGas -LP Gas

**From:** Burchell, Chris [mailto:Chris.Burchell@amerigas.com]
**Sent:** Wednesday, August 23, 2017 12:46 PM
**To:** DeMasi, James
**Cc:** Williams, Maria
**Subject:** Re: LP Gas - Cecil Field

Good afternoon Maria,

We currently have agreement with the City, and service several fire stations in Duval County.

Per our agreement, we do not charge tank rent to the city, nor do we charge the city to install the tank and gas line to the building.

The price per gallon is currently $3.03

Please let me know Maria if I can be of further service.

Best regards,

Chris Burchell
Commercial Account Manager
904/465-4248
chris.burchell@amerigas.com

Sent from my iPhone

On Aug 23, 2017, at 11:24 AM, DeMasi, James <James.DeMasi@amerigas.com> wrote:

Hello Maria!!

Thanks for sending the information.
I do believe I was the Account Manager for the one at Bartram Park.

I've copied Chris Burchell who is our Commercial Account Manager.
He will be more than happy to assist and facilitate.
We appreciate another opportunity!

Thanks again...
Jamie DeMasi

Sent from my iPhone

On Aug 22, 2017, at 4:58 PM, Williams, Maria <MariaCW@coj.net> wrote:

---

WARNING:This message came from an external source. Please exercise caution when opening any attachments or clicking on links.

---

Jamie,

Per our phone conversation, we are intending to design and construct a new Fire Station on the NE quadrant of the Aviation Avenue and Airman Drive intersection (Cecil Field). I believe you remember the process completed for the Fire Station No. 62 in Bartram Park. We need to use the same process for this new fire Station.. The Fire Stations use LP (Propane) Gas for water heaters, cooking stove, BBQ grill, and Apparatus Bay space heaters.

For the Fire Station in Bartram Park we rented a 500 Gallon LP gas tank and two Regulators. It appears the City has a contract with AmeriGAS (SC-342-05), do you know if we still have that contract? How the City, the Fire Department or the contractor paid you for the original rental and the LP gas tank fill?

Please let us know. Thanks for your help, Maria

Maria C. Williams, P.E.
City of Jacksonville I Department of Public Works
214 N. Hogan Street – 10th Floor
Jacksonville, FL 32202
Office Phone: (904) 255-8789
www.coj.net

Exhibit E

**Williams, Maria**

**From:** irth_host@callsunshine.com
**Sent:** Monday, August 21, 2017 2:42 PM
**To:** Williams, Maria
**Subject:** SSOCOF CONFRM 2017/08/21 #00000 233708701-000 NORM DSGN NEW

CONFRM 00000 CALL SUNSHINE 08/21/17 14:42:04ET 233708701-000 DESIGN GRID Ticket : 233708701 Rev:000 Taken: 08/21/17 14:32ET

State: FL Cnty: DUVAL GeoPlace: JACKSONVILLE
CallerPlace: JACKSONVILLE
Subdivision: CECIL FIELD

Address : 5845
Street : AVIATION AVE
Cross 1 : AIRMAN DR
Within 1/4 mile: Y

Locat: DESIGN - THE EAST SIDE OF AVIATION AVENUE FROM 700 FT NORTH TO 400 FT SOUTH OF AIRMAN DRIVE IN FRONT OF 5845 AVIATION AVENUE
:
Remarks : IN RESPONSE TO RECEIPT OF A DESIGN TICKET, SSOCOF PROVIDES THE ORIGINATOR OF THE DESIGN TICKET WITH A LIST OF SSOCOF MEMBERS IN THE VICINITY OF THE DESIGN PROJECT. SSOCOF DOES NOT NOTIFY SSOCOF MEMBERS OF THE RECEIPT BY SSOCOF OF A DESIGN TICKET. IT IS THE SOLE RESPONSIBILITY OF THE DESIGN ENGINEER TO CONTACT SSOCOF MEMBERS TO REQUEST INFORMATION ABOUT THE LOCATION OF SSOCOF MEMBERS' UNDERGROUND FACILITIES. SUBMISSION OF A DESIGN TICKET WILL NOT SATISFY THE REQUIREMENT OF CHAPTER 556, FLORIDA STATUTES, TO NOTIFY SSOCOF OF AN INTENT TO EXCAVATE OR DEMOLISH. THAT INTENT MUST BE MADE KNOWN SPECIFICALLY TO SSOCOF IN THE MANNER REQUIRED BY LAW. IN AN EFFORT TO SAVE TIME ON FUTURE CALLS, SAVE YOUR DESIGN TICKET NUMBER IF YOU INTEND TO BEGIN EXCAVATION WITHIN 90 DAYS OF YOUR DESIGN REQUEST. THE DESIGN TICKET CAN BE REFERENCED , AND THE INFORMATION ON IT CAN BE USED TO SAVE TIME WHEN YOU CALL IN THE EXCAVATION REQUEST.
*** LOOKUP BY MANUAL ***
:
Grids : 3014A8152A 3014A8153D 3014B8152A 3014B8153D 3014C8152A
Grids : 3014C8153D

Work date: 08/21/17 Time: 14:32ET Hrs notc: 000 Category: 6 Duration: UNKNOWN Due Date : 08/23/17 Time: 23:59ET
Exp Date : 09/20/17 Time: 23:59ET Work type: DESIGN Boring: N White-lined: N
Ug/Oh/Both: U Machinery: N Depth: UNK Permits: N N/A Done for : DESIGN

Company : CITY OF JACKSONVILLE Type: CONT Co addr : 214 N HOGAN ST
City : JACKSONVILLE State: FL Zip: 32202
Caller : MARIA WILLIAMS Phone: 904-255-8789 Contact : DESIGN Phone:
BestTime: 8-5 M-F
Fax : 904-255-8926

3 4 id id x 3
Email : MARIACW@COJ.NET

Submitted: 08/21/17 14:32ET Oper: JUD
Mbrs :
CCTV03 LARRY K. WINBURN** 904-380-7574
COMCAST CABLE COMMUNICATIONS, INC.
5934 RICHARD ST
JACKSONVILLE, FL 32216
Level 1: SERVICES NOT PRVIDED BY MEMBER
Level 2: SERVICES NOT PRVIDED BY MEMBER
Level 3: SERVICES NOT PRVIDED BY MEMBER
Level 4: SERVICES NOT PRVIDED BY MEMBER
JE1359 BRENDA FORBES 904-665-4465
JACKSONVILLE ELECTRIC AUTHORITY
210W CHURCH STREET
CC-6
JACKSONVILLE, FL 00000
Level 1:
Level 2:
Level 3:
Level 4:
JEA BRENDA FORBES 904-665-4465
JACKSONVILLE ELECTRIC AUTHORITY
210W CHURCH STREET
CC-6
JACKSONVILLE, FL 00000
Level 1: 8 1/2x11 = $2 11x17 = $3 ANY SIZE 18 OR 24 = $4 ANY SIZE
30 = $5
Level 2: SERVICES NOT PROVIDED BY MEMBER
Level 3: SERVICES NOT PROVIDED BY MEMBER
Level 4: SERVICES NOT PROVIDED BY MEMBER
JEA773 BRENDA FORBES 904-665-4465
JACKSONVILLE ELECTRIC AUTHORITY
210W CHURCH STREET
CC-6
JACKSONVILLE, FL 00000
Level 1: 8 1/2x11 = $2 11x17 = $3 ANY SIZE 18 OR 24 = $4 ANY SIZE
30 = $5
Level 2: SERVICES NOT PROVIDED BY MEMBER
Level 3: SERVICES NOT PROVIDED BY MEMBER
Level 4: SERVICES NOT PROVIDED BY MEMBER
PGSJAX DEBORAH FRAZIER ** 407-420-6609
TECO PEOPLES GAS- JACKSONVILLE
600 W ROBINSON ST
ORLANDO, FL 32801
Level 1: TECO PEOPLES GAS WILL PROVIDE THE FIRST HOUR FREE OF CHARGE. THIS WILL ENTAIL AREVIEWING OF RECORDS, AS BUILTS, COPIES, ECT PER PROJECT. IF PROJECT REQUIRES MORE TIME THAN AN HOUR ADDITIONAL CHARGE OF $45 PER HOUR WILL APPLY
Level 2: SERVICES NOT PROVIDED BY MEMBER
Level 3: SERVICES NOT PROVIDED BY MEMBER
Level 4: SERVICES NOT PROVIDED BY MEMBER

SB2186

SBF02 DINO FARRUGGIO 561-997-0240

AT & T/ DISTRIBUTION

1120 S ROGERS CIR

BOCA RATON, FL 33487

Level 1: FEE TO BE DETERMINED

Level 2: NOT PROVIDED BY MEMBER

Level 3: FEE TO BE DETERMINED

Level 4: NOT PROVIDED BY MEMBER

21 West Church Street
Jacksonville, Florida 32202-3139

ELECTRIC WATER SEWER RECLAIMED

Maria Williams
City of Jacksonville
1219 S Kyle Way
Jacksonville, Florida, 32202

August 22, 2017

Project Name: Fire Station No. 73
Availability#: 2017-1549

Dear Mr/Mrs Maria Williams,

Thank you for your inquiry regarding the availability of electric, potable water, sanitary sewer and reclaimed water (WS&R) service. The eight digit availability number referenced in this letter will be the number JEA uses to track your project. Please reference this number when making inquiries and submitting related documents. This availability letter will expire one year from the date above.

**Point of Connection:**

A summary of connection points for WS&R services are identified on the following page. JEA recognizes Connection Point #1 as the primary point of connection (POC); however, a secondary, conditional POC will be listed if available. JEA assumes no responsibility for the inaccuracy of any service connection portrayed on a JEA utility system record drawing. JEA strongly recommends field verification of all POCs prior to any construction to ensure connection availability. Please note the Special Conditions stated in each section contain pertinent information and additional requirements as well as further instructions.

**Offsite Improvements:**

For all utilities located in the public Right of Way or JEA easement, the new WS&R utilities shall be dedicated to JEA upon completion and final inspection, unless otherwise noted. It shall be the applicant's responsibility to engage the services of a professional engineer, licensed in the State of Florida. All WS&R construction shall conform to current JEA Water, Sewer & Reuse Design Guidelines which may be found on jea.com.

**Reservation of Capacity:**

This availability response does not represent JEA's commitment for or reservation of WS&R capacity. In accordance with JEA's policies and procedures, commitment to serve is made only upon JEA's approval of your application for service and receipt of your payment of all applicable fees.

A detailed overview of the process can be found at JEA.com. This document along with other important forms and submittal processes can be found at the subsequent link, JEA Stages of a Project or by following the steps below:

- Visit www.jea.com
  - Select Working with JEA
    - Select Stages of a Project

Sincerely,

Mollie Price
Water/Wastewater System Planning
(904) 904-665-7710

Exhibit F

21 West Church Street
Jacksonville, Florida 32202-3139

ELECTRIC WATER SEWER RECLAIMED

| | |
|---|---|
| Availability#: | 2017-1549 |
| Request Received On: | 8/8/2017 |
| Availability Response: | 8/22/2017 |
| Prepared by: | Mollie Price |

**Project Information**

| | |
|---|---|
| Name: | Fire Station No. 73 |
| Type: | OTHER |
| Requested Flow: | 1,450 gpd |
| Location: | NE Corner of Aviation Avenue and Airman DriveNew Address: 5845 Aviation Drive |
| Parcel ID No.: | 002249.0005 |
| Description: | New Fire Station No. 73 |

**Potable Water Connection**

| | |
|---|---|
| Water Treatment Grid: | NORTH GRID |
| Connection Point #1: | Existing 6-in CI water line on the south side of Airman Drive |
| Connection Point #2: | Existing 16-in water main on the east side of Aviation Ave |
| Special Conditions: | For the estimated cost of connecting to the JEA system, please call the Pre-service Counter at 904-665-5260. Copies of As-Built records can be requested from JEA As-Built & Record section at 665-4403. |

**Sewer Connection**

| | |
|---|---|
| Sewer Treatment Plant: | SOUTHWEST |
| Connection Point #1: | Existing 6-in gravity sewer line on the south side of Airman Drive |
| Connection Point #2: | Existing 10-in gravity sewer line in Aviation Ave |
| Special Conditions: | For the estimated cost of connecting to the JEA system, please call the Pre-service Counter at 904-665-5260. Copies of As-Built records can be requested from JEA As-Built & Record section at 665-4403. |

**Reclaimed Water Connection**

| | |
|---|---|
| Sewer Region/Plant: | North Grid |
| Connection Point #1: | No reclaim in the foreseeable future |
| Connection Point #2: | NA |
| Special Conditions: | No reclaim in the foreseeable future. |

**General Comments:**

Electric Availability: The subject property lies within the geographic area legally served by JEA. JEA will provide electric service as per JEA"s most current Rules and Regulations.

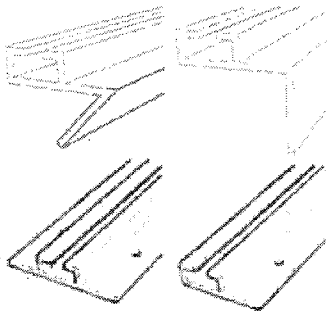
# COMMERCIAL DOOR SAFETY KITS

**Advanced safety kits feature bright LED strips which intelligently change color**

| Solid Green<br>Safe to Go | Flashing Red<br>Door in Motion<br>or Power Loss | Solid Red<br>Door Closed | Flashing White<br>Door Blocked<br>Can't Close |
|---|---|---|---|

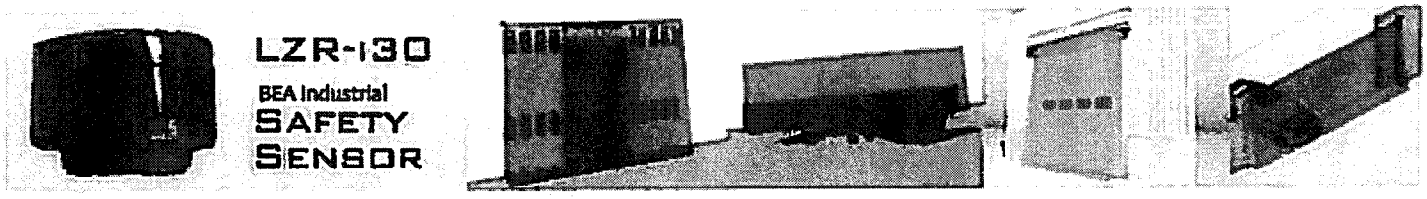
- User-configurable - can display any color including flashing
- LEDs are IP-68 rated, waterproof, UV protected, and daylight visible

# PREVENT COSTLY DOOR STRIKES



- Highly cost-effective safety enhancement
- Works with virtually any CDO
- Easy to install
- LEDs flash if CDO power loss is detected
- Bright LEDs light up entire truck bay
- Aluminum track available in 4 different styles

# MISSION-CRITICAL DOOR SAFETY ADD-ONS




- Our LED Controller integrates with most safety sensors including LZR-i30
  - Provides power supply to the safety sensor
  - LEDs flash white when an alert is received
- LZR-i30 scans complete doorways up to 30' x 30'

**CONTROLLED PRODUCTS SYSTEMS GROUP**

The Destination Company for Perimeter Access Solutions

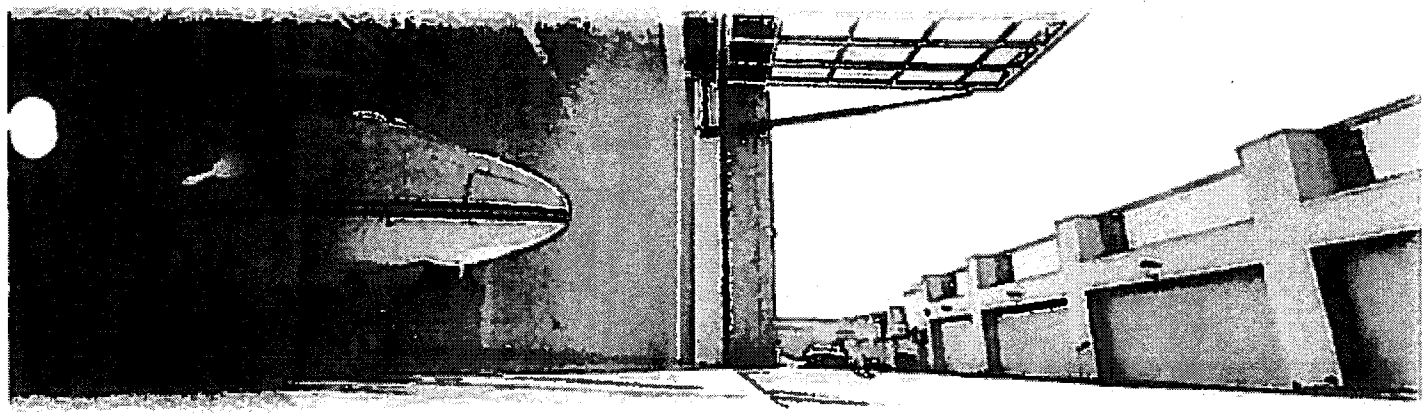
National Sales: 1-877-531-6122

www.ControlledProducts.com

Exhibit G

# LED-ILLUMINATED DOOR SAFETY KITS

Prevent Door Strikes and Damage



Protect Lives and Equipment

Save Money and Downtime

JEA

Mail Applications with payment to:
JEA Pre Service CC-1
21 W. Church St, Jacksonville, FL 32202

# FLOW TEST APPLICATION

**COMPANY NAME:** City of Jacksonville **ACCOUNT#:**

**FEDERAL ID#:** 596000343 **SOCIAL SECURITY#:**

**MAILING ADDRESS:** 214 N. Hogan Street, 10th Floor

**CITY / STATE:** Jacksonville Florida **ZIP CODE:** 32202

**LOCATION ::** North side of Airman Drive and Aviation Avenue intersection (see attached). 5845 Aviation Avenue. There is not a separate Real estate number yet, the RE # for the area is 002249 0005

**USE PURPOSE:** Water for Fire station № 73

**CONTACT PERSON:** Maria Williams **PHONE#:** 255-8789 **BUSINESS#:** 255-8789 **EMAIL:** mariacw@co.net

**SPECIAL REMARKS:** There are three Fire Hydrants that need the static pressure and the residual pressure. The first Fire Hydrant (FH #1) is Located in front of the proposed Fire station # 73 The other two fire hydrants are located North and South of Fire Hydrant # 1.

**COST PER FLOW TEST:** **$ 82.00**

**SIGNATURE:** Maria C. Williams **DATE:** 8/15/17

**OFFICE USE ONLY**

**DATE RECEIVED:** **DATE ENTERED:** **COMPLETED BY:** **CHECK NU#:**

Exhibit H

## Williams, Maria

**From:** Stevens, Gregory S. <StevGS@jea.com>
**Sent:** Tuesday, October 03, 2017 4:02 PM
**To:** Williams, Maria
**Cc:** Brown, Joshua M.; Chascin, Kenneth J. - Mgr W/WW Reuse Delivery&Coll Maint Plan&Eng; Davis, Jack G. Jr.; Reichart, Chris D. - Manager, W/WW System Assets & Performance
**Subject:** AVIATION AV 1,106' S OF 103RD ST (345058)

JEA
2434 North Pearl Street
Jacksonville Florida
32206-3518

CITY OF JACKSONVILLE
MARIA WILLIAMS
214 N. HOGAN ST, 10th Fl.
JAX, FL
32202

**10/3/2017**
Dear Customer,
A flow test was conducted on 10/3/17 at 1:54 PM at your request.

**The flow hydrant location :**
AVIATION AV 1,106' S OF 103RD ST (345058)

**The static residual hydrant location:**
AVIATION AV 611' S OF 103RD ST (345059)

| | |
|---|---|
| **Number of ports** | **2** |
| **Diameter of ports (inch)** | **2.5** |
| **Pitot Pressure (psi)** | **39** |
| **Static Pressure (psi)** | **75** |
| **Residual Pressure (psi)** | **64** |

The following computational results based on the above variables and NFPA section 291 (2002 edition) are as follows:

**Flow at Test (gpm): 2,108**
**Flow at 20 psi (gpm): 5,026**

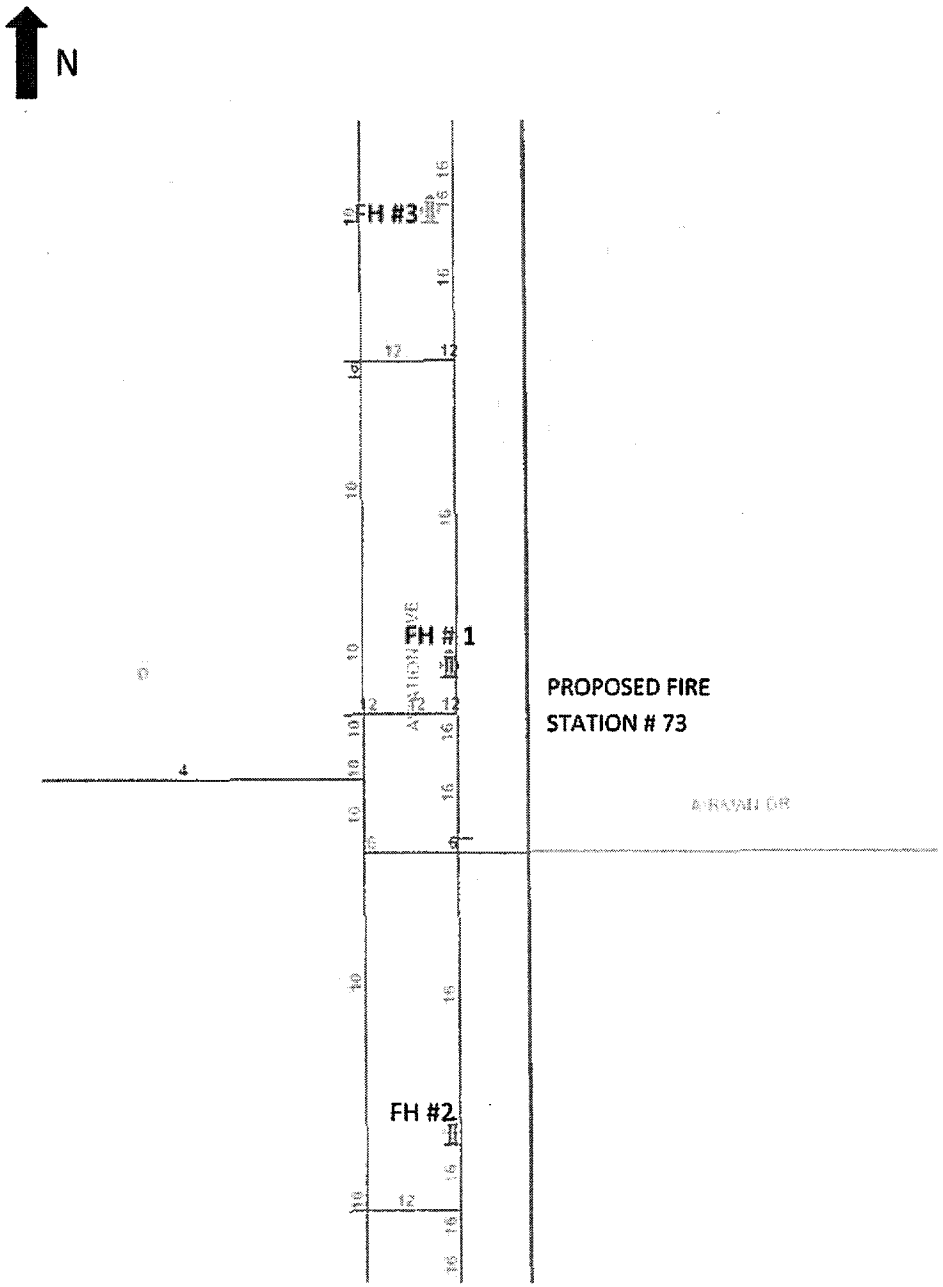
If you have any questions concerning this matter, contact me via e-mail at: STEVGS@JEA.COM.

Thank you,
Scott Stevens

Office: 904-665-5237
Cell: 904-424-7314

---

Florida has a very broad Public Records Law. Virtually all written communications to or from State and Local Officials and employees are public records available to the public and media upon request. Any email sent to or from JEA's system may be considered a public record and subject to disclosure under Florida's Public Records Laws. Any information deemed confidential and exempt from Florida's Public Records Laws should be clearly marked. Under Florida law, e-mail addresses are public records. If you do not want your e-mail address released in response to a public-records request, do not send electronic mail to this entity. Instead, contact JEA by phone or in writing.


N
FH #3
FH # 1
PROPOSED FIRE
STATION # 73
FH #2

| | |
|---|---|
| RE # | [illegible] |
| Name | CITY OF JACKSONVILLE |
| Address | 0 AUTHORITY AVE JACKSONVILLE [illegible] |
| Transaction Price | $120 |
| Acres | 10.23 |
| Book-Page | [illegible] |
| Map Panel | 4019 |
| Legal Descriptions | 16-3S-24E 10.22 PT SE1/4 OF SE 4 PT NE 4 OF NE SEC 21-3S-24E REC OR [illegible] |
| Flood Zone | NOT IN FLOOD ZONE |
| Airfield | Not in Airfield Zone |
| JEDC Zone | Not in Enterprise Zone |
| BrownFields | Not in BrownField Zone |
| Evacuation Zone | NA |
| CPAC | Southwest - Planning Dist - 4 |
| Noise Zone | NA |
| ARZ | NA |
| Civ HH Zone | Cost/Parking Height .150 |
| Mil HH Zone | NA |
| Civ School Reg | NA |
| Mil School Reg | NA |
| Lighting Reg | NA |
| Civ Notice Zone | NA |
| Mil Notice Zone | NA |

My Neighborhood

Active Layer: Parcels

Visible Active

City Buildings

Parcels

Exhibit I

CSI Geo

Geotechnical · CMT · CEI

# Geotechnical Exploratory Test Pits
# Lake Frettwell stockpiled soils

# Northern Stockpile at Cecil Commerce Center
# Jacksonville, Florida

**CSI Geo Project No.: 71-13-152-05**

***Prepared for:***

**England-Thims & Miller, Inc.**

**November 26, 2013**

CSI Geo

Geotechnical • CMT • CEI

November 26, 2013

Mr. Duane Kent, P.E.
England-Thims & Miller, Inc.
14775 Old St. Augustine Road
Jacksonville, Florida 32258

RE: Northern Stockpile at Cecil Commerce Center
Jacksonville, Florida

Subject: Geotechnical Exploratory Test Pits
Lake Frettwell Stockpiled Soils
CSI Geo Project No.: 71-13-152-05

Dear Mr. Kent:

CSI Geo, Inc. has performed the authorized geotechnical exploration and laboratory testing for the stockpile soils at Cecil Commerce Center in Jacksonville, Florida. The purpose of the investigation was to evaluate the Lake Frettwell stockpiled soils in order to determine the suitability of the soils for use as select material.

This report describes the field activities and presents the findings. Our evaluation required the collection of site and subsurface data and performance of geotechnical engineering review of the collected data. Information regarding this project was provided to CSI Geo, Inc. by Duane Kent, P.E. of England-Thims & Miller, Inc.

**Existing Site Conditions**

The subject site is located west of Cecil Commerce Center Parkway and south of SR 8 (I-10) in the western portion of Jacksonville in Duval County, Florida. The "Stockpile Area" as shown in figure No. 1 consists of two soil stockpiles approximately 7-9 feet in height. The "West Stockpile" is the larger and more extensive stockpile, covering the western portion of the boxed Stockpile Area. The "East Stockpile" is much less extensive and isolated in the eastern portion of the Stockpile Area. Our visual observations of the Stockpile Area indicate that much of land around the East Stockpile consists

of wetlands with no stockpiled soils of any significant height. Additionally, small Pine trees and varying grass cover were present on both areas of stockpiles. Areas of erosion channels were encountered throughout the stockpiles.

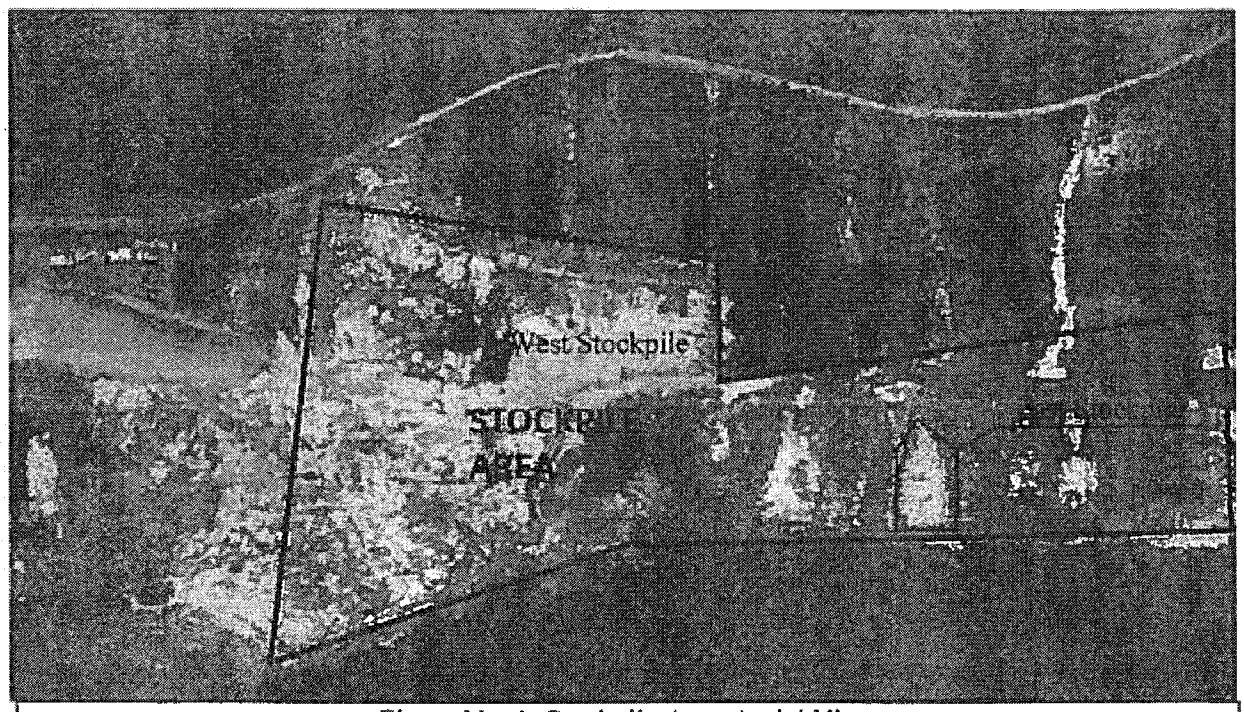
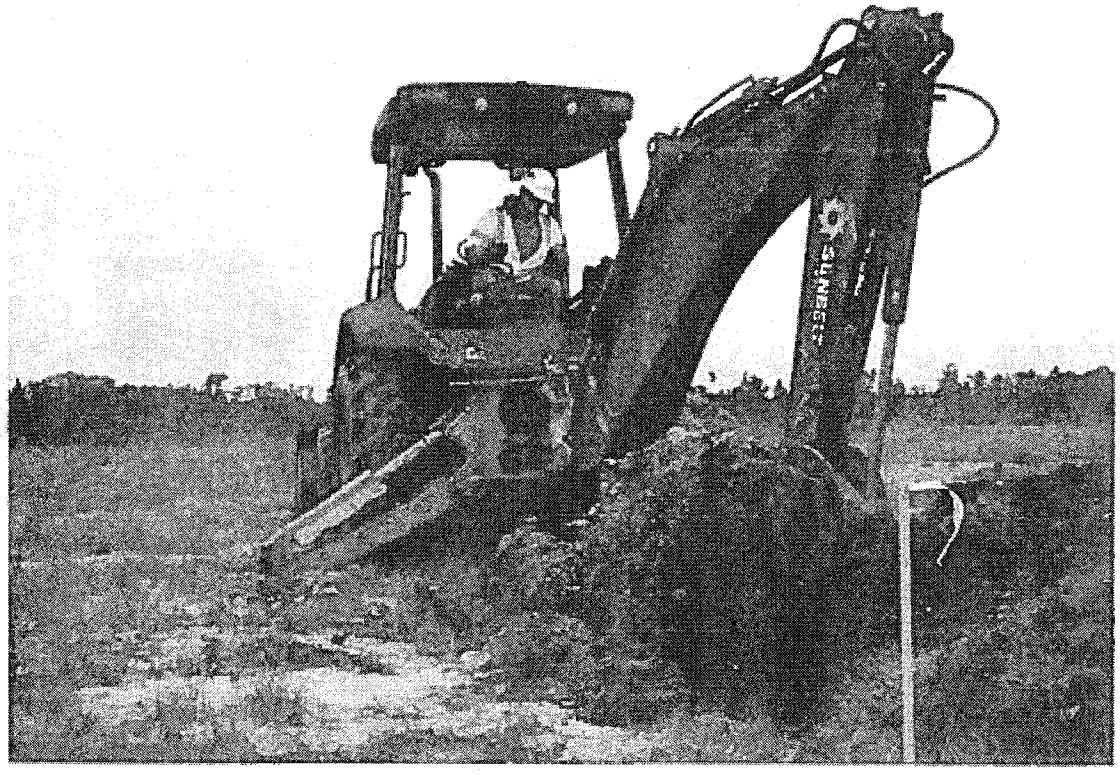



Figure No. 1: Stockpile Area Aerial View

**Field Exploration**

On November 5th, 2013, a total of twenty exploratory test pits (P-1 through P-20) were conducted at the Stockpile Area by means of a backhoe. Eighteen test pits P-3 through P-20 were performed on the west stockpile; and the east stockpile was explored by means of two test pits TP-1 through TP-2. The test pits were excavated to approximately 7-9 feet below the existing grades. The test pits were conducted and extended beyond the bottom of the stockpiled soils into the natural ground. The locations of the test pits are shown on the Field Exploration Plan presented in the Attachments.



## Laboratory Testing

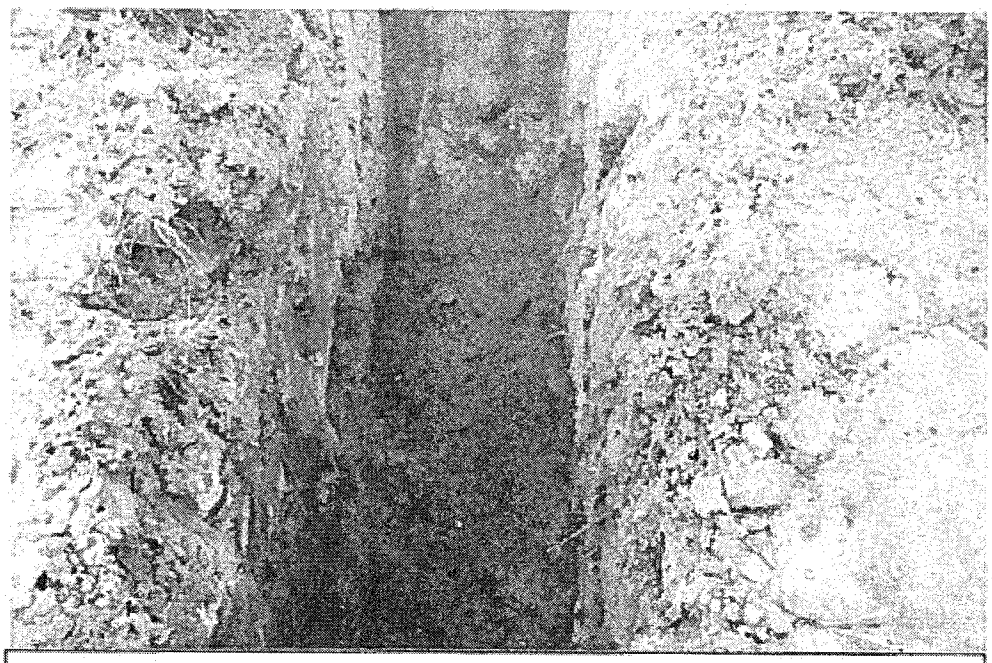
Quantitative laboratory testing was performed on representative soil samples recovered from the field exploration. These tests were performed to better define the physical properties of the soils encountered. The laboratory tests were performed to determine percent fines (-200 sieve), percent organics, grain size distribution, and natural moisture content of the soil samples. Results of laboratory tests are presented in the Summary of Laboratory Test Results included in the Attachments. Grain Size Distribution Curves are also included in the Attachments.

## Soil Conditions

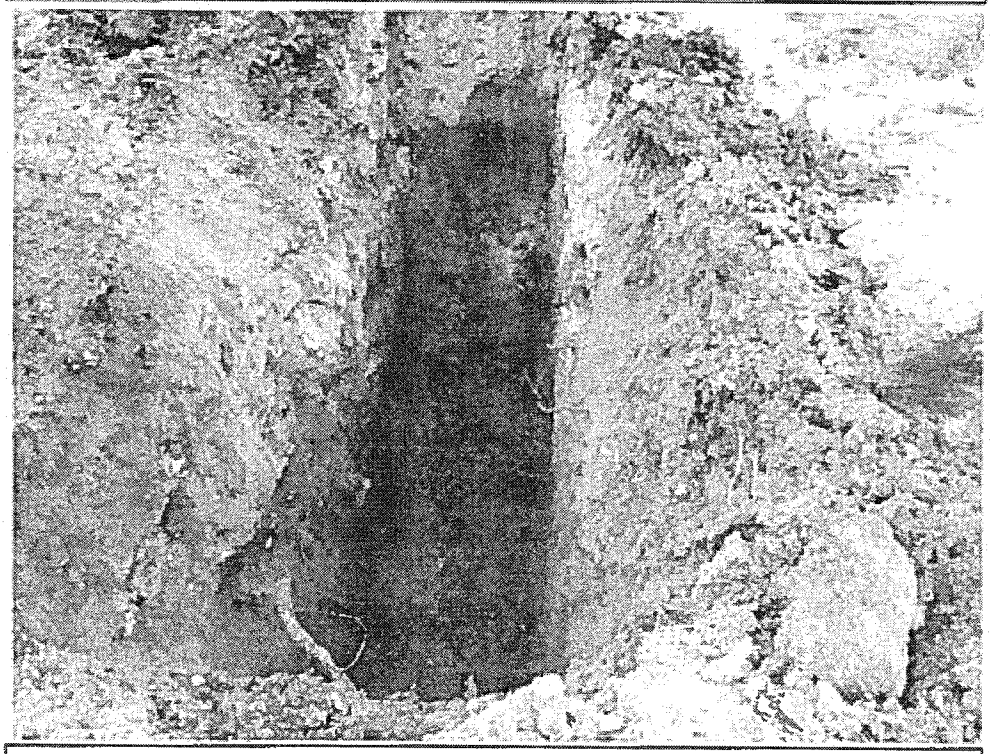
The results of our field investigation indicates that the two stockpiles generally consist of suitable soils with the majority being fine sands (A-3 ASHTO Soil Classification) and silty sands (A-2-4) with trace of roots and tree limbs.

Small Lumps of plastic clayey (A-2-6) soils were randomly encountered in certain test pits, but not predominant. An isolated layer of sandy clay (A-6) was encountered in one test pit. Isolated roots and tree limbs were generally encountered throughout the project at both stockpiles. In certain areas these suitable stockpile soils were generally underlain by unsuitable soils consisting of topsoils or organic (A-8) soils until the test pit termination depths.

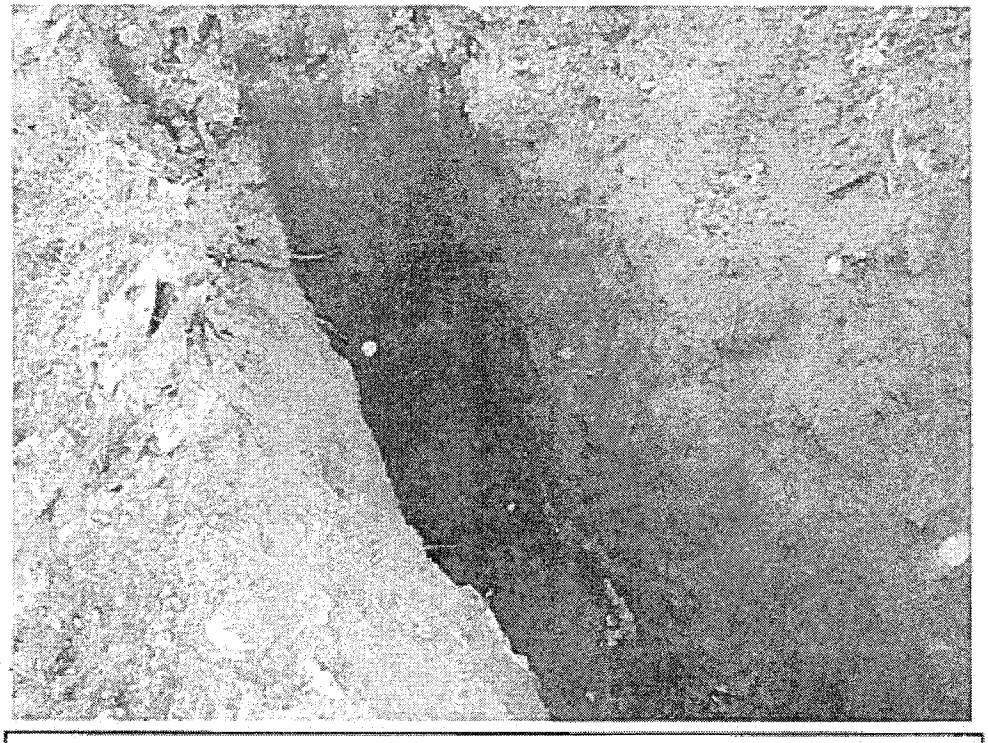
A Summary of Test Pit Encountered Soils is included in the Attachments. The following are photos of the test pits as they were being excavated.



**Test Pit No. P-1**



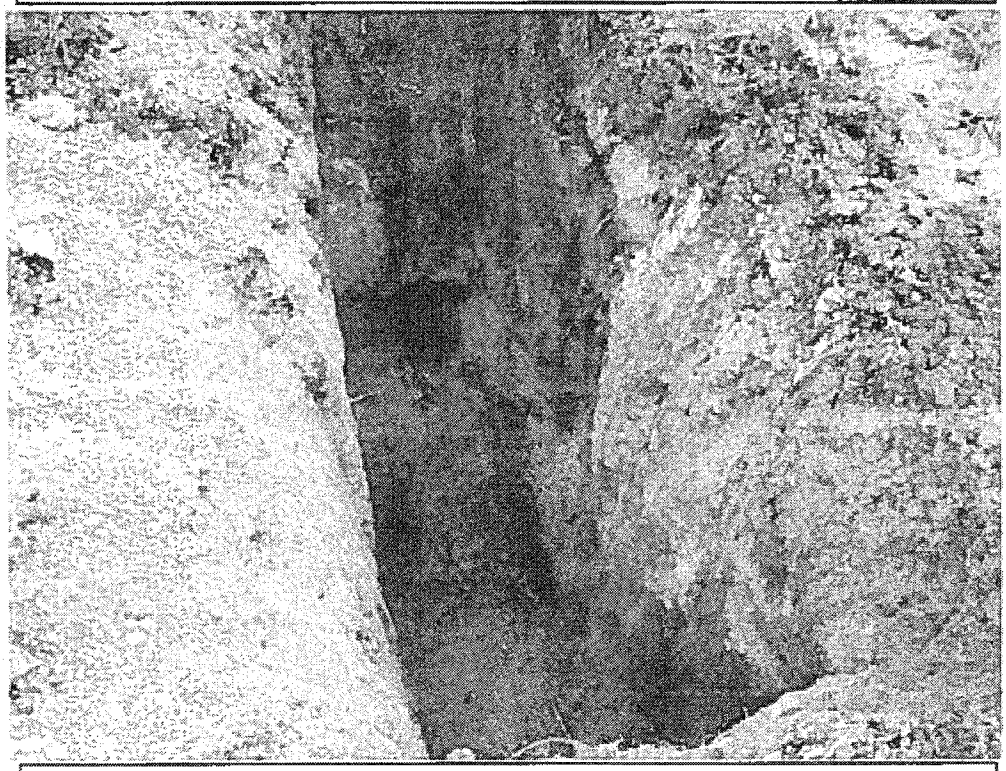
**Test Pit No. P-2**



**Test Pit No. P-3**

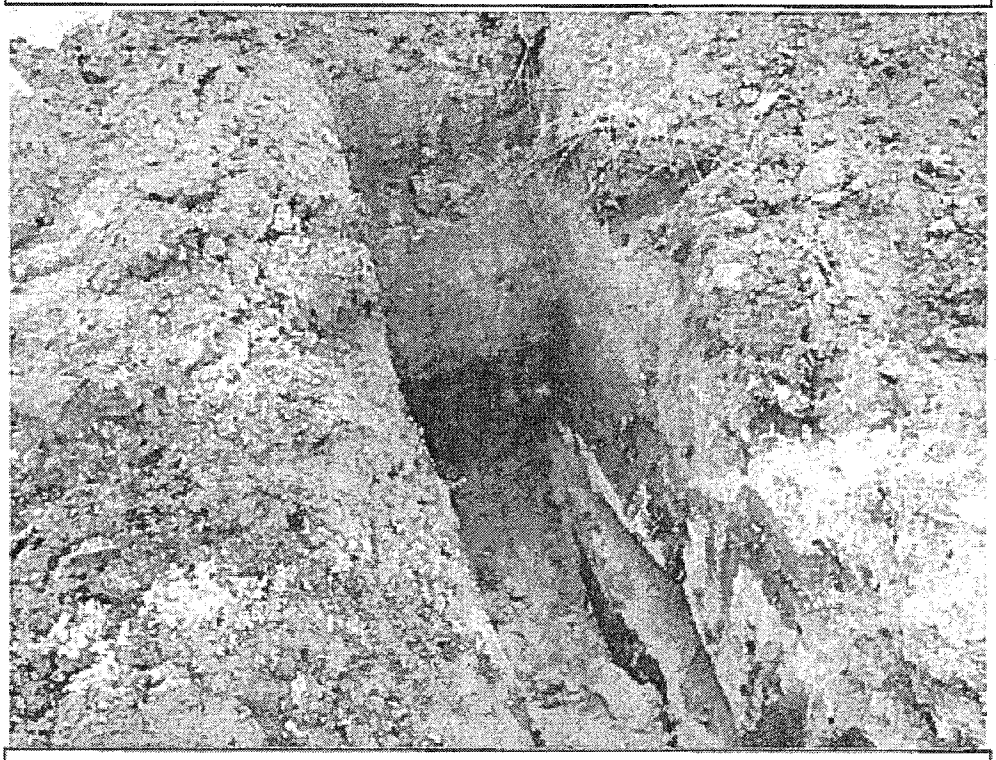
**Test Pit No. P-4**

Test Pit No. P-5



Test Pit No. P-6

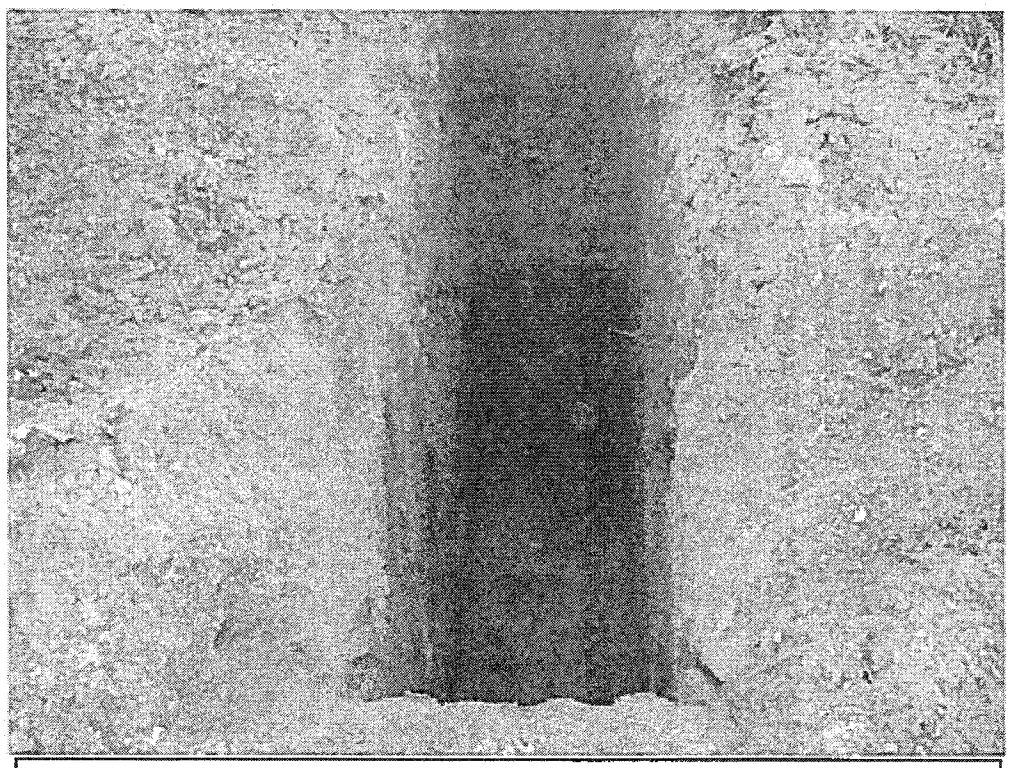
**Test Pit No. P-7**



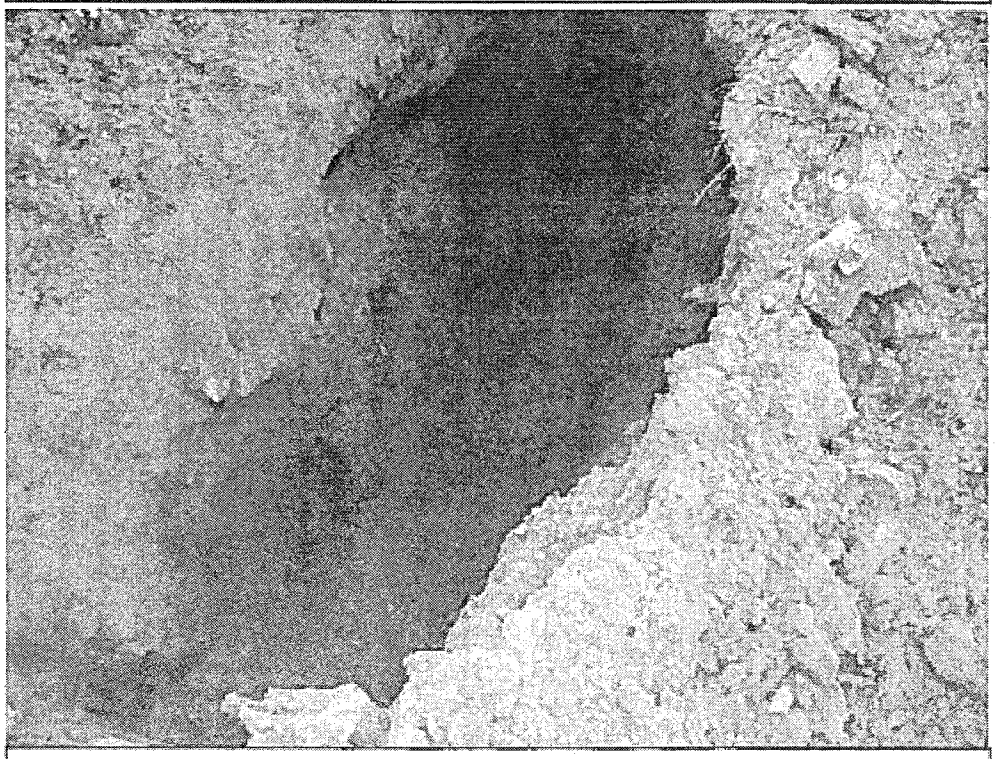
**Test Pit No. P-8**

**Test Pit No. P-9**

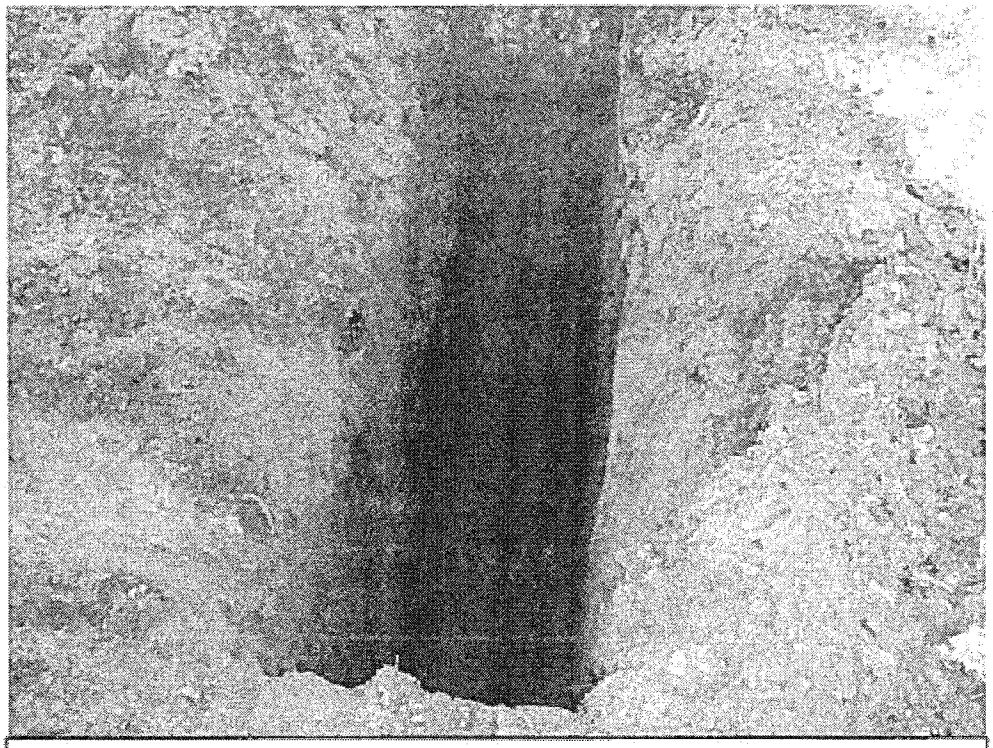
**Test Pit No. P-10**



**Test Pit No. P-11**



**Test Pit No. P-12**



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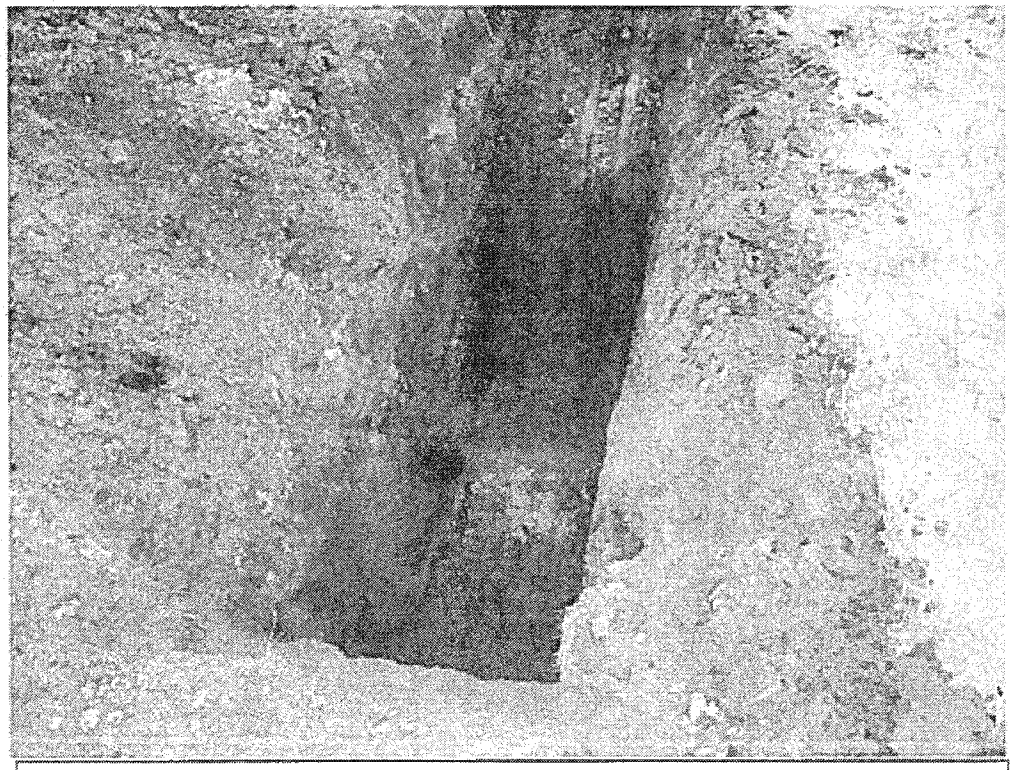
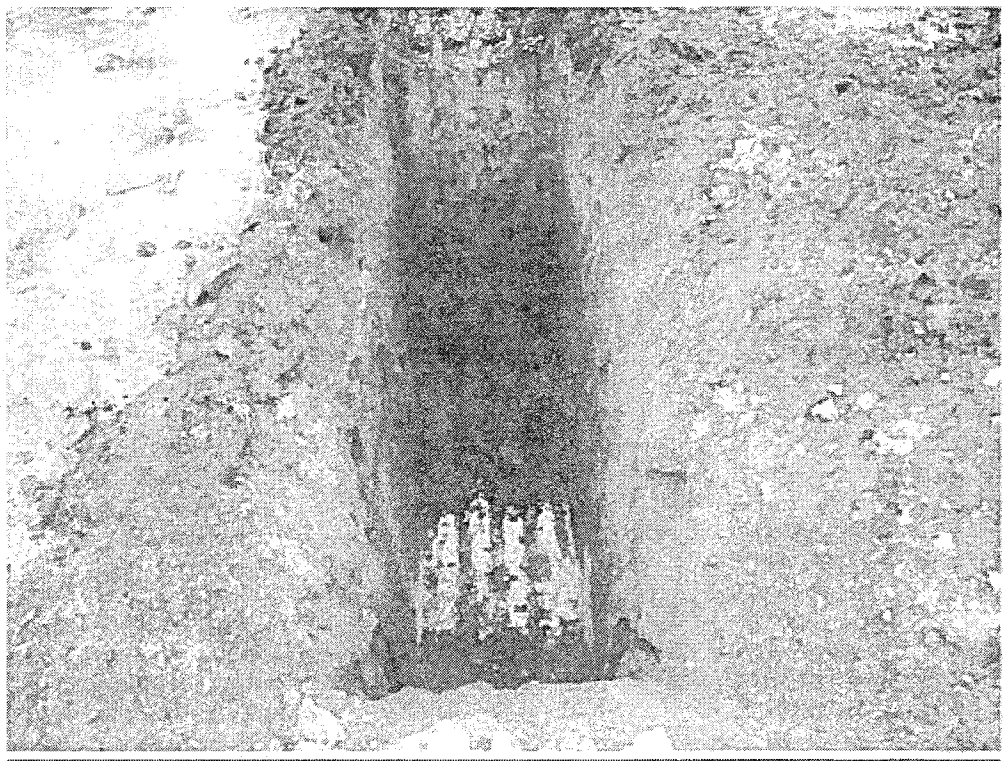
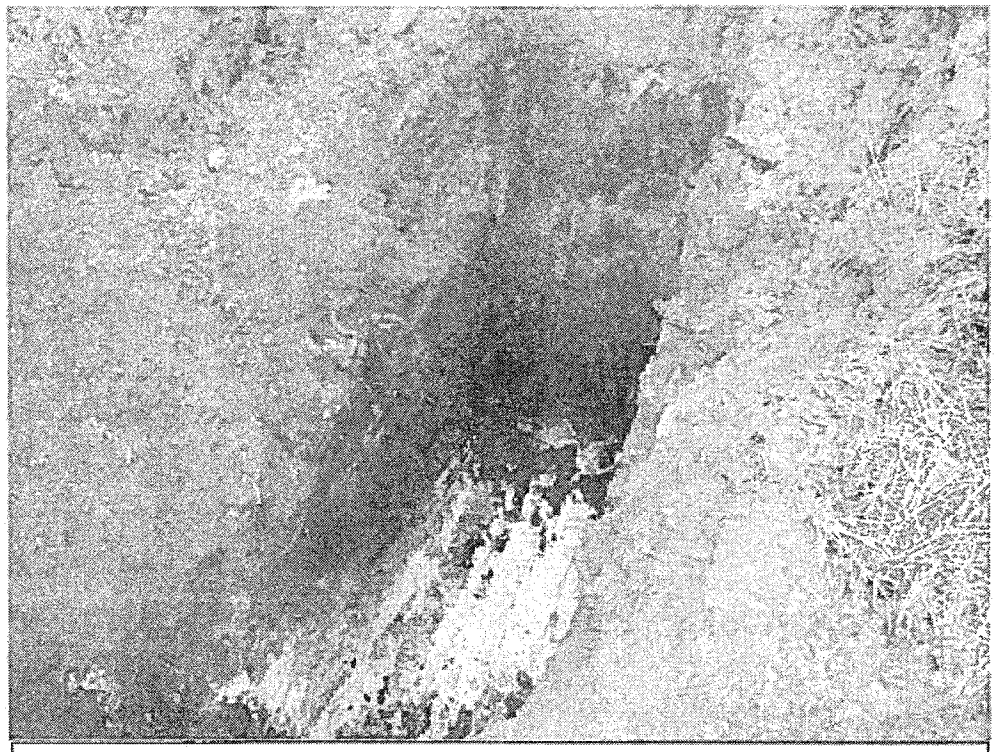


**Test Pit No. P-14**

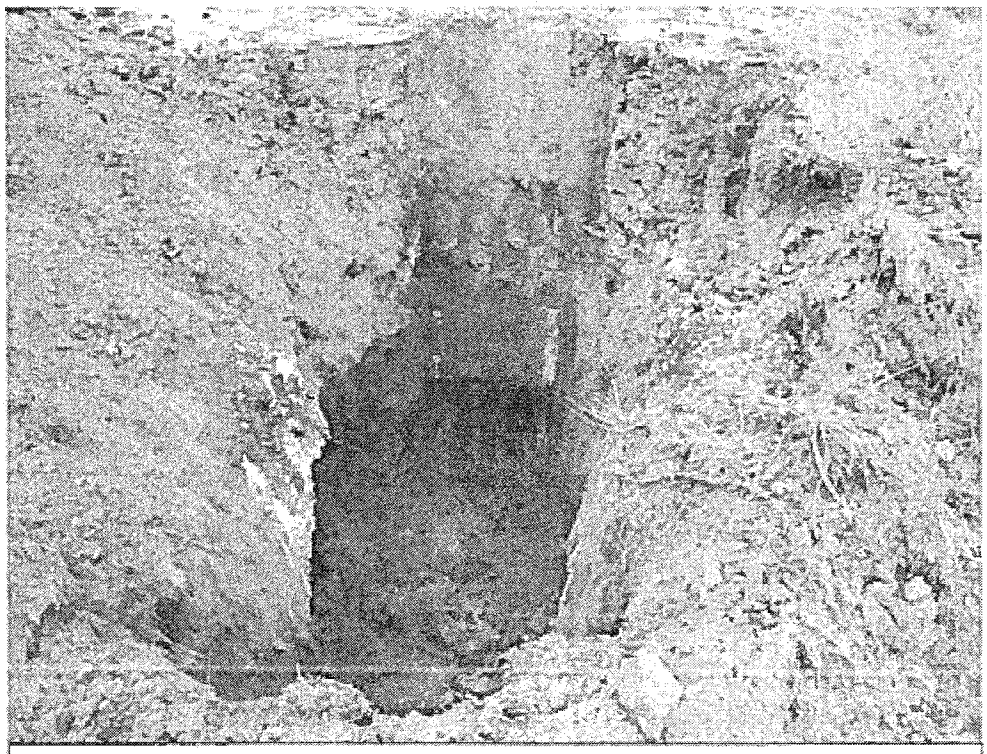
**Test Pit No. P-15**



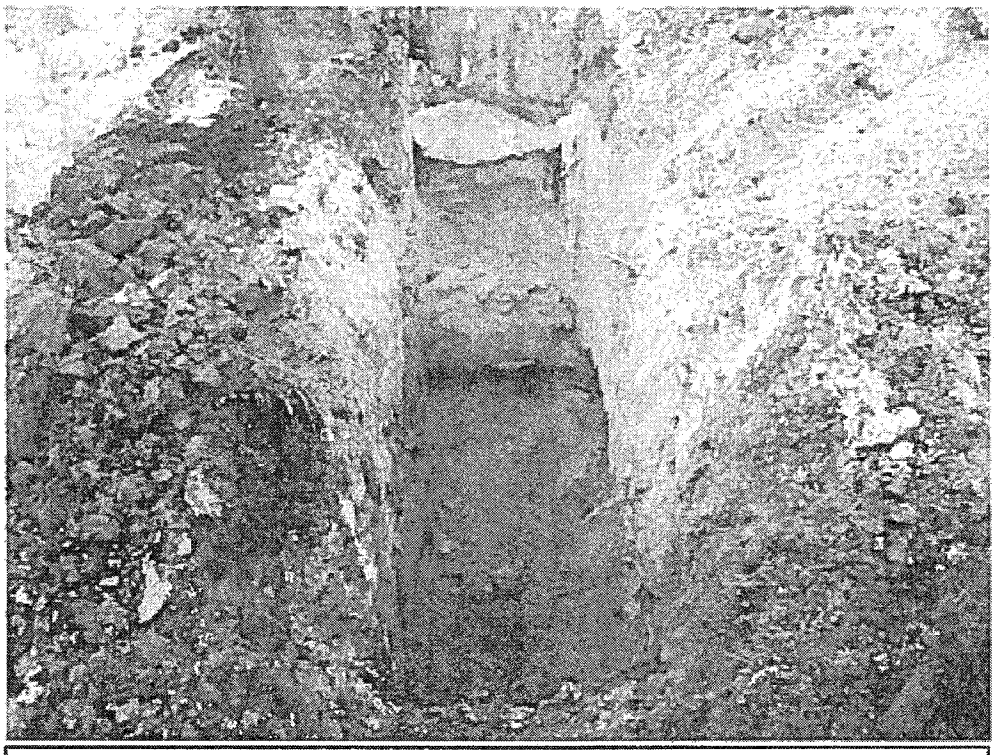
**Test Pit No. P-16**



**Test Pit No. P-17**



**Test Pit No. P-18**



**Test Pit No. P-19**

**Test Pit No. P-20**

**Suitability of Stockpiled Soils**

Based on our findings, the majority of the explored stockpiled soils generally consist of suitable fine sands and slightly silty sands (A-3) and silty sands (A-2-4) which are considered as select soils. However it is cautioned that small lumps of plastic clayey (A-2-6) soils and sandy clays (A-6) were randomly encountered in certain areas, but not predominant. Isolated roots and tree limbs were generally encountered throughout the project at both stockpiles.

Fine sands and slightly silty sands classified as A-3 are considered as select material. Silty sands (A-2-4), is select material, however, it may retain excess moisture and may be difficult to dry and compact. Clayey sands (A-2-6) and sandy clays (A-6), if encountered during borrow activities, should be regarded as plastic materials. Organic material (A-8) is regarded as muck which is considered unsuitable for construction.

We recommend that certain quality control measures be implemented in order to enable the earthwork contractor to efficiently use the select material from the stockpiles site. We recommend that unsuitable soils, large roots and tree limbs should be separated from the stockpile soils, such that the excavated material from the stockpiles can be used for structural backfill purposes.

We have enjoyed working with you on this project and look forward to continued association with you on future projects. If you have any questions concerning this report, please contact our office.

Sincerely,

**CSI Geo, Inc.**

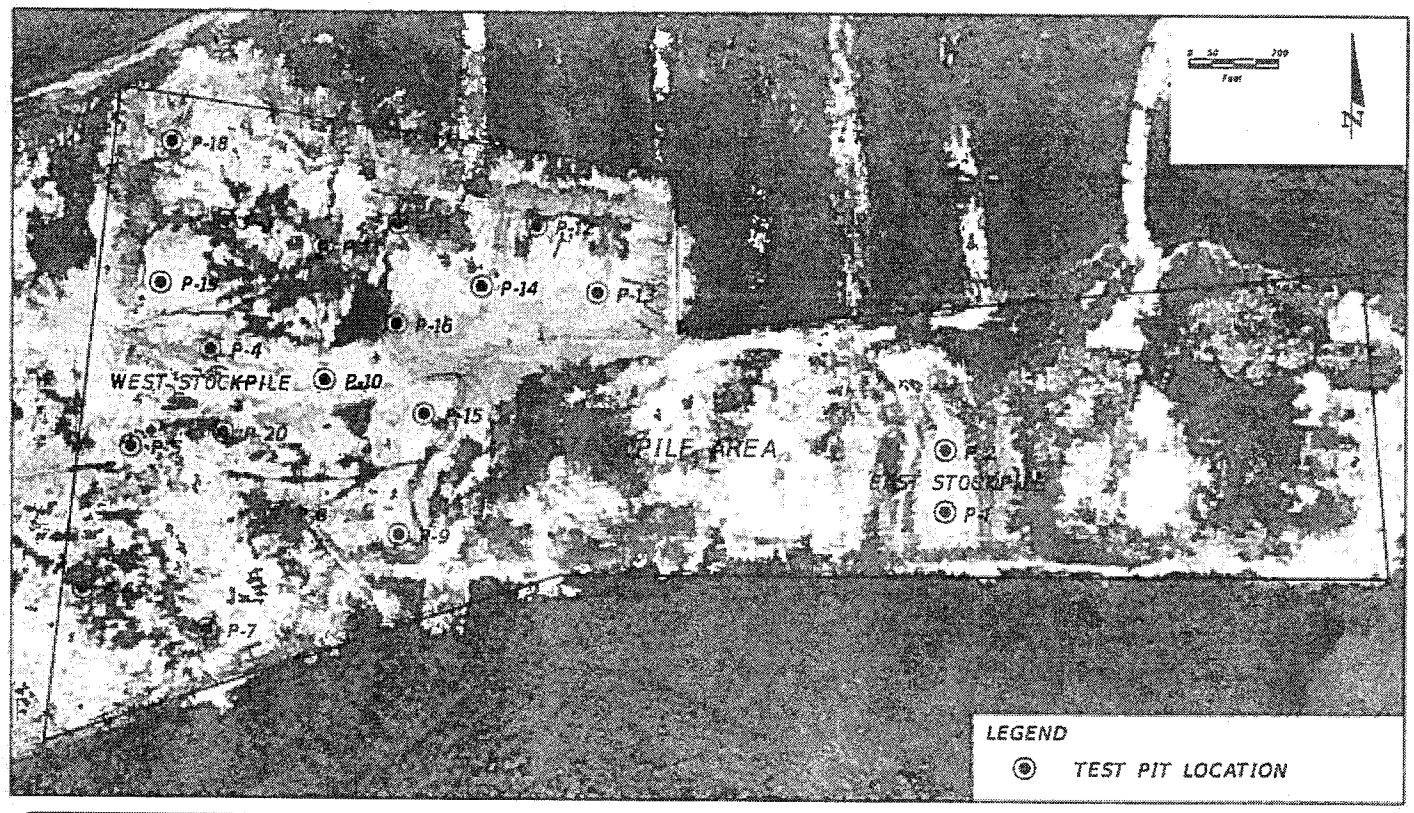
John A. Iya, P.E.,
Senior Geotechnical Engineer

Bruce Khosrozadeh, P.E.
Senior Geotechnical and Materials Engineer

Attachments:

# Attachments

Field Exploration Plan
Summary of Test Pit Encountered Soils
Summary of Laboratory Test Results
Grain Size Distribution Curves

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GEOTECHNICAL ENGINEERING
CONSTRUCTION MATERIAL TESTING
CONSTRUCTION ENGINEERING INSPECTION

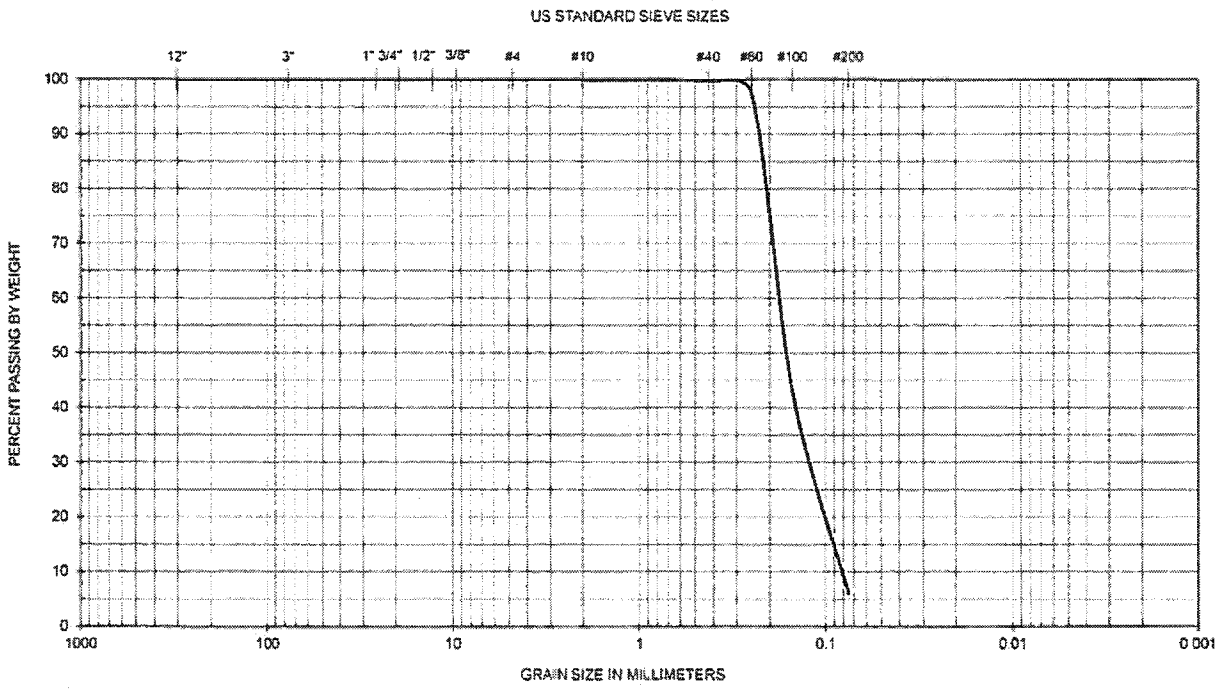
FIELD EXPLORATION PLAN
NORTHERN STOCKPILE AT
CECIL COMMERCE CENTER
JACKSONVILLE, FLORIDA

| Summary of Test Pit Encountered Soils | | | |
|---|---|---|---|
| Northern Stockpile at Cecil Commerce Center, Jacksonville, Florida | | | |
| Test Pit No. | AASHTO Soil Classification | Soil Description | Depth Range (ft) |
| P-1 | A-2-4 | Silty Fine Sand | 0.0 - 8.0 |
| P-2 | A-2-4 | Silty Fine Sand | 0.0 - 7.5 |
| P-3 | A-2-4 | Silty Fine Sand | 0.0 - 8.0 |
| P-4 | A-2-4 | Silty Fine Sand | 0.0 - 7.5 |
| P-5 | A-2-4 | Silty Fine Sand | 0.0 - 4.0 |
| | A-3 | Slightly Silty Fine Sand | 4.0 - 8.0 |
| P-6 | A-2-4 | Silty Fine Sand | 0.0 - 7.0 |
| P-7 | A-2-4 | Silty Fine Sand | 0.0 - 8.0 |
| P-8 | A-2-4 | Silty Fine Sand | 0.0 - 8.5 |
| P-9 | A-2-4 | Silty Fine Sand | 0.0 - 7.5 |
| P-10 | A-2-4 | Silty Fine Sand | 0.0 - 2.0 |
| | A-3 | Slightly Silty Fine Sand | 2.0 - 8.0 |
| P-11 | A-2-4 | Silty Fine Sand | 0.0 - 8.0 |
| P-12 | A-2-4 | Silty Fine Sand | 0.0 - 7.5 |
| P-13 | A-2-4 | Silty Fine Sand | 0.0 - 9.0 |
| P-14 | A-2-4 | Silty Fine Sand | 0.0 - 7.5 |
| P-15 | A-2-4 | Silty Fine Sand | 0.0 - 8.0 |
| P-16 | A-3 | Slightly Silty Fine Sand | 0.0 - 7.0 |
| P-17 | A-2-4 | Silty Fine Sand | 0.0 - 5.0 |
| | A-3 | Slightly Silty Fine Sand | 5.0 - 7.0 |
| P-18 | A-3 | Fine Sand | 0.0 - 4.0 |
| | A-2-4 | Silty Fine Sand | 4.0 - 8.0 |
| P-19 | A-2-4 | Silty Fine Sand | 0.0 - 6.0 |
| | A-6 | Sandy Clay | 6.0 - 8.0 |
| P-20 | A-2-4 | Silty Fine Sand | 0.0 - 7.5 |

## SUMMARY OF LABORATORY TEST RESULTS

**Northern Stockpiles at Cecil Commerce Center**
**Jacksonville, Florida**
**PROJECT NUMBER: 71-13-152-05**

| Boring No. | Sample No. | Approximate Depth (ft) | Natural Moisture Content (%) | Organic Content (%) | Percent Passing Sieve Size (%) | | | | | | Atterberg Limits | | Soil Classification Symbol |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | #4 | #10 | #40 | #60 | #100 | #200 | LL | PI | |
| P-1 | 2 | 6.0 - 7.0 | 13 | | | | | | | 16 | | | A-2-4 |
| P-2 | 1 | 2.0 - 3.0 | 13 | 3 | | | | | | 13 | | | A-2-4 |
| P-3 | 2 | 7.0 - 8.0 | 18 | 3 | | | | | | 12 | | | A-2-4 |
| P-4 | 2 | 7.0 - 8.0 | 12 | | | | | | | 14 | | | A-2-4 |
| P-5 | 1 | 2.0 - 3.0 | 14 | 2 | | | | | | 15 | | | A-2-4 |
| P-6 | 2 | 4.0 - 5.0 | 13 | | | | | | | 12 | | | A-2-4 |
| P-7 | 1 | 3.0 - 4.0 | 15 | | | | | | | 15 | | | A-2-4 |
| P-8 | 1 | 1.0 - 2.0 | 14 | 3 | | | | | | 11 | | | A-2-4 |
| P-9 | 1 | 3.0 - 4.0 | 14 | | | | | | | 13 | | | A-2-4 |
| P-10 | 2 | 7.0 - 8.0 | 16 | | 100 | 100 | 100 | 97 | 43 | 6 | | | A-3 |
| P-11 | 1 | 3.0 - 4.0 | 12 | 2 | | | | | | 13 | | | A-2-4 |
| P-12 | 2 | 7.0 - 8.0 | 17 | | | | | | | 11 | | | A-2-4 |
| P-13 | 1 | 3.0 - 4.0 | 13 | | | | | | | 12 | | | A-2-4 |
| P-14 | 2 | 6.0 - 7.0 | 17 | 2 | | | | | | 15 | | | A-2-4 |
| P-15 | 1 | 0.0 - 1.0 | 12 | | | | | | | 17 | | | A-2-4 |
| P-16 | 1 | 3.0 - 4.0 | 15 | | 100 | 100 | 90 | 67 | 26 | 9 | | | A-3 |
| P-17 | 1 | 1.0 - 2.0 | 12 | 2 | | | | | | 14 | | | A-2-4 |
| P-18 | 1 | 3.0 - 4.0 | 15 | | 100 | 100 | 100 | 94 | 37 | 4 | | | A-3 |
| P-19 | 2 | 7.0 - 8.0 | 14 | | | | | | | 42 | | | A-6 |
| P-20 | 2 | 7.0 - 8.0 | 16 | 2 | | | | | | 24 | | | A-2-4 |




| BOULDERS | COBBLES | GRAVEL | | SAND | | | FINES | |
|---|---|---|---|---|---|---|---|---|
| | | COARSE | FINE | COARSE | MEDIUM | FINE | SILT | CLAY |

| BORING NO. | SAMPLE NO. | DEPTH (FT) | W (%) | LL | PL | PI | SOIL DESCRIPTION / CLASSIFICATION | GRAIN SIZE DISTRIBUTION |
|---|---|---|---|---|---|---|---|---|
| P-10 | 2 | 7.0-8.0 | 16 | - | - | - | Slightly Silty Fine SAND<br>A-3 | Project Name: Northern Stockpiles at Cecil Commerce Center |

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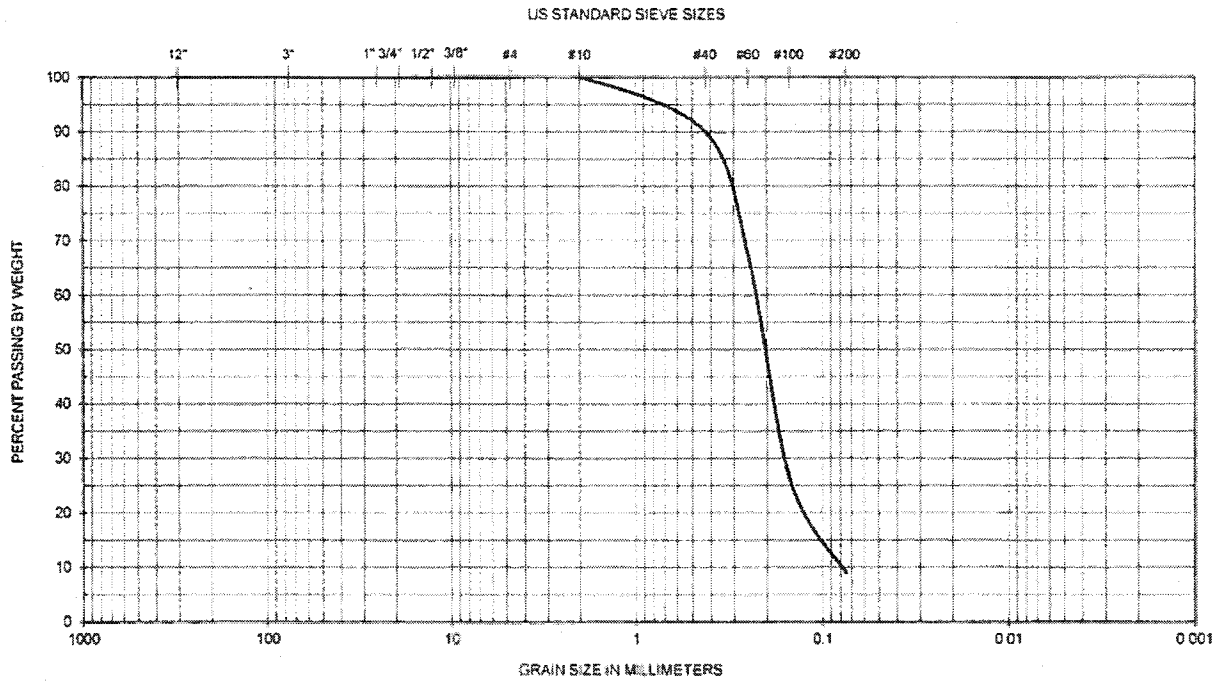


| BOULDERS | COBBLES | GRAVEL | | SAND | | | FINES | |
|---|---|---|---|---|---|---|---|---|
| | | COARSE | FINE | COARSE | MEDIUM | FINE | SILT | CLAY |

| BORING NO. | SAMPLE NO. | DEPTH (FT) | W (%) | LL | PL | PI | SOIL DESCRIPTION / CLASSIFICATION |
|---|---|---|---|---|---|---|---|
| P-16 | 1 | 3.0-4.0 | 15 | - | - | - | Slightly Silty Fine SAND<br>A-3 |

## GRAIN SIZE DISTRIBUTION

Project Name: Northen Stockpiles at Cecil Commerce Center

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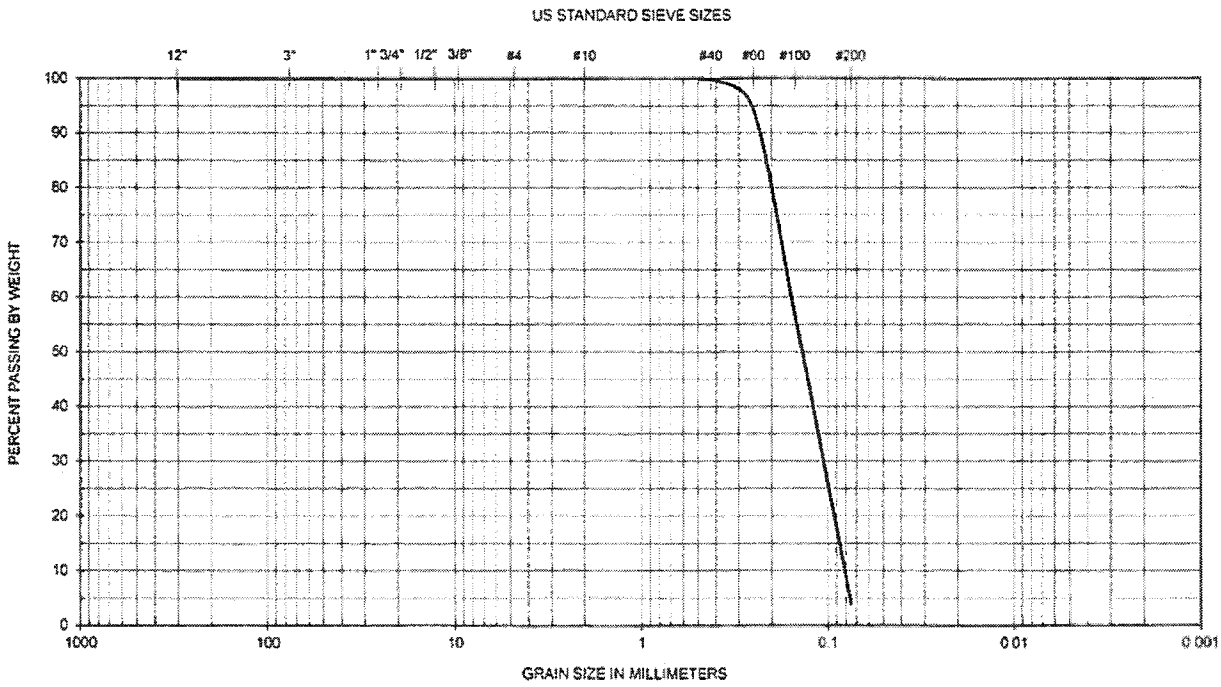


| BOULDERS | COBBLES | GRAVEL | | SAND | | | FINES | |
|---|---|---|---|---|---|---|---|---|
| | | COARSE | FINE | COARSE | MEDIUM | FINE | SILT | CLAY |

| BORING NO. | SAMPLE NO. | DEPTH (FT) | W (%) | LL | PL | PI | SOIL DESCRIPTION / CLASSIFICATION |
|---|---|---|---|---|---|---|---|
| P-18 | 1 | 3.0-4.0 | 15.0 | - | - | - | Fine SAND<br>A-3 |

## GRAIN SIZE DISTRIBUTION

Project Name: Northen Stockpiles at Cecil Commerce Center

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**REPORT OF**
**GEOTECHNICAL EXPLORATION**
**LAKE FRETWELL EXPANSION**
**DUVAL COUNTY, FLORIDA**
**E&A PROJECT NO. 1728-0006**

**Prepared for:**

V.T. Griffin
6112 New World Avenue
Jacksonville, Florida 32221

**Prepared by:**

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

October 26, 2010

Ellis & Associates inc.
Environmental ▪ Geotechnical ▪ Materials Testing
*Integrated Engineering Services*

October 26, 2010

V.T. Griffin
6112 New World Avenue
Jacksonville, Florida 32221

Attention: Mr. James Jelsma

Reference: Report of Geotechnical Exploration
Lake Fretwell Expansion
Jacksonville, Florida
E&A Project No. 1728-0006

Dear Mr. Jelsma:

Ellis & Associates, Inc. (E&A) has completed the requested geotechnical exploration in general accordance with our proposal dated August 17, 2010. The exploration was performed to evaluate the general subsurface conditions within the proposed Lake Fretwell expansion and to discuss the soil suitability for structural fill. Also, to provide the viability and method of mixing any unsuitable materials with suitable soil to provide suitable structural fill. This letter-report presents the results of our field exploration.

## PROJECT INFORMATION

The project site is located west of the existing lake Fretwell south of Lake Newman Street in Jacksonville, Florida. The general site location is presented on Figure 1, attached.

The topography of the site is currently relatively level to gently sloping to the east toward the existing lake. The site is cleared with grass cover. Lake Fretwell is located to the east and wooded areas surround the site from the west.

You provided site information through our discussions. We were provided with an aerial photo showing the expansion area and the requested boring locations. Based on the provided information we understand the existing lake will be expanded.

## FIELD EXPLORATION

A field exploration was performed on October 15, 2010. A copy of the aerial photo which shows the approximate boring locations is attached as Figure 2. The boring locations were determined in the field using our handheld Global Positioning System (GPS) receiver and should be considered accurate only to the degree implied by the method of measurement used. A summary of the field procedures, discussed below, is attached.

Five (5) Standard Penetration Test (SPT) borings were drilled to depths of approximately 25 feet below the existing ground surface to explore the subsurface conditions within proposed pond expansion area. The borings were performed in general accordance with the methodology outlined in ASTM D 1586. Representative soil samples were recovered from the borings and returned to our laboratory for classification and testing.

## LABORATORY TESTING

Representative soil samples obtained from the borings were visually classified by a geotechnical engineer using the Unified Soil Classification System in general accordance with ASTM D 2488. A summary of the soil classification system is attached. Quantitative laboratory testing was performed on selected samples of the soils encountered during the field exploration to better define the composition of the soils. The laboratory testing determined the percent fines, organic and natural moisture contents, and Atterberg limits of selected soil samples. The results of the laboratory testing are shown in the Summary of Laboratory Test Results (attached). Also, these results are shown on the Generalized Subsurface Profiles on Figure 3. A summary of the laboratory test procedures is attached.

## GENERAL SUBSURFACE CONDITIONS

Graphical presentation of the generalized subsurface conditions is presented on Figure 3. When reviewing these records, it should be understood that the soil conditions could vary between the boring locations. Generally, the borings encountered a surficial layer of topsoil, approximately 0.5 feet thick, underlain by varying layers of fine sand (SP), fine sand with silt (SP-SM), fine sand with clay (SP-SC), silty fine sand (SM), and clayey fine sand (SC) extending to the boring termination depths of 25 feet below the existing ground surface. As exceptions, Boring B4 encountered a layer of silty fine sand with many wood fragments (PT) extending from the ground surface to approximately 2.5 feet below the existing ground surface. The relative density of the sands encountered at the boring locations ranged from very loose to very dense.

Groundwater was encountered and measured at the boring locations at depths ranging from approximately 4.7 and 11.5 feet below the existing ground surface at the time of our field exploration. It should be anticipated the groundwater level will fluctuate due to seasonal climatic variations, surface water runoff patterns, construction operations, and other interrelated factors. The depth to the groundwater level at each boring location is noted on the Generalized Subsurface Profiles and on the Log of Boring records.

## BORROW SUITABILITY

As mentioned earlier, the soils retrieved from the borings were evaluated for suitability with respect to use as structural fill. Based on the boring results and classification of the soil samples, the fine sands, fine sands with silt, and fine sand with clay (SP, SP-SM, SP-SC), and silty fine sands (SM) as encountered at the boring locations, are considered suitable for use as fill soil. We note that SM soils (i.e., soils with more than 12 percent passing the No. 200 sieve) were encountered in two of the borings above the groundwater level. It should be noted that the SM soils will be more difficult to compact due to their natural tendency to retain moisture and may require drying dependent upon the season of construction. Blending of the SM soils with SP soils will reduce the moisture sensitivity and lessen drying efforts. The clayey fine sands (SC) are not considered suitable for use as fill soil due to their plasticity characteristics and affinity for moisture. If the SC soils are mixed with fine sand such that the percent fines is less than 12 percent, it will be suitable to be used as a structural fill material. The soils containing surficial organic material (topsoil) and the encountered silty fine sand with many wood fragments (PT) will require removal and are considered unsuitable for use as structural fill. The organic soils could be used in landscape berms.

It should be anticipated the soils in the proposed pond area that are below the groundwater level will have moisture contents in excess of the modified Proctor optimum moisture content and will require stockpiling or spreading to bring the moisture content within 2 percent of the soil's optimum moisture content corresponding to the required degree of compaction.

## CLOSURE

Our exploration has been performed and our findings obtained 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.

This report does not reflect any variations, which may occur adjacent to the tested locations. 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 pond area, please contact us so that we can review our recommendations.

We appreciate this opportunity to be of continued service as your geotechnical consultant on this phase of the project. If you have any questions, or if we may be of any further service, please contact us.

Respectfully Submitted,

**ELLIS & ASSOCIATES, INC.**

| | |
|---|---|
| Raoaa Farah, E.I.<br>Staff Engineer | Joey Broussard, P.E.<br>Senior Project Engineer<br>Registered, Florida No. 58233 |

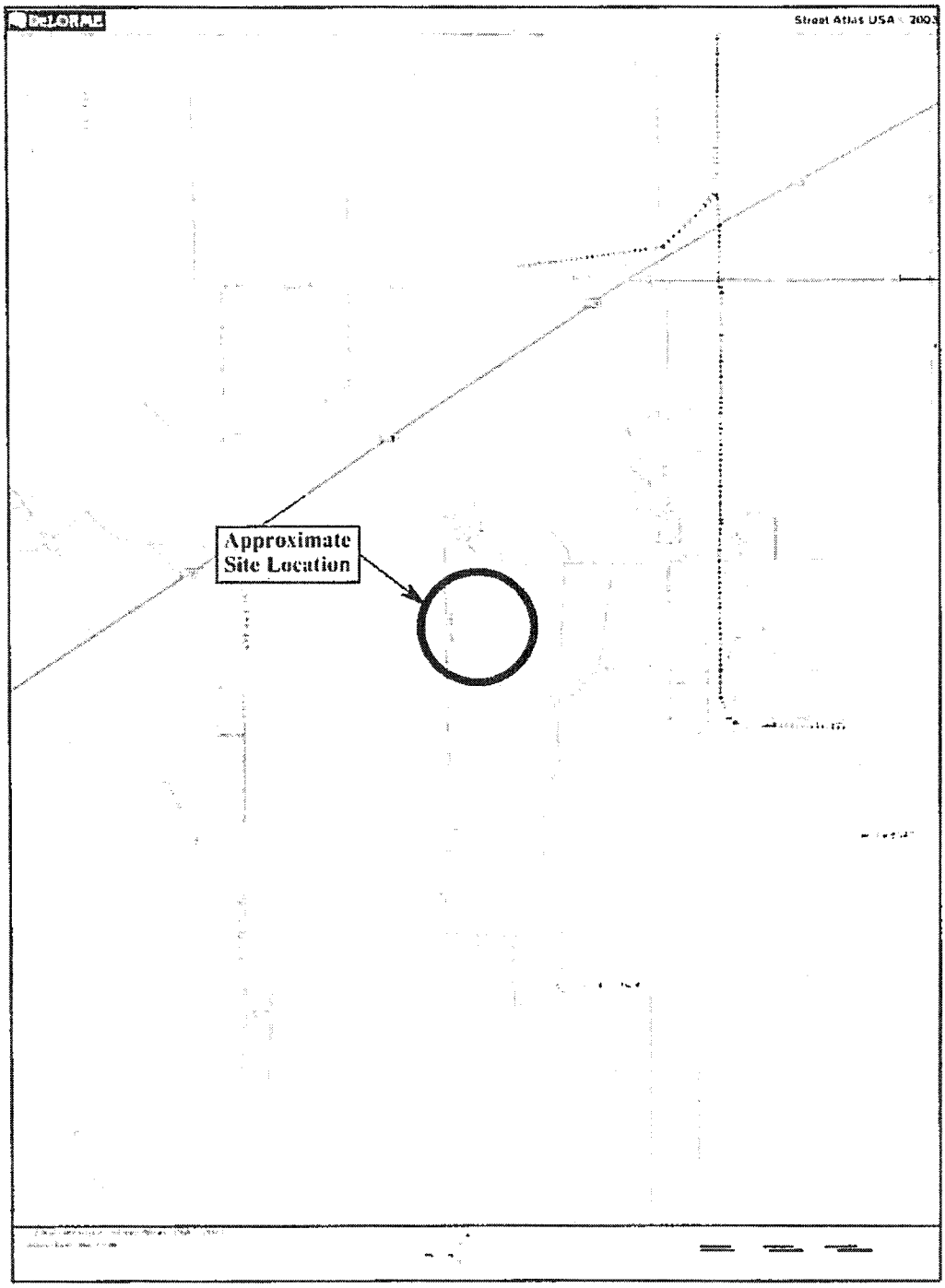
Distribution: Mr. James Jelsma – V.T. Griffin 1 pdf

ATTACHMENTS:

| | | |
|---|---|---|
| FIGURES: | Figure 1. | Site Location Plan |
| | Figure 2. | Field Exploration Plan |
| | Figure 3. | Generalized Subsurface Profiles |
| APPENDIX A: | Soil Boring Logs | |
| | Field Exploration Procedures | |
| | Key to Soil Classification | |
| APPENDIX B: | Laboratory Data | |
| | Laboratory Test Procedures | |

Signer: Joey J. Broussard, P.E. Licensed, Florida No. 58233
Date: Tuesday, October 26, 2010 17:54:36 Greenwich Mean Time
Reason: E&A Electronic Document Signature
Location: Jacksonville, Florida 32226

FIGURES

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*Integrated Engineering Services* EB: 998

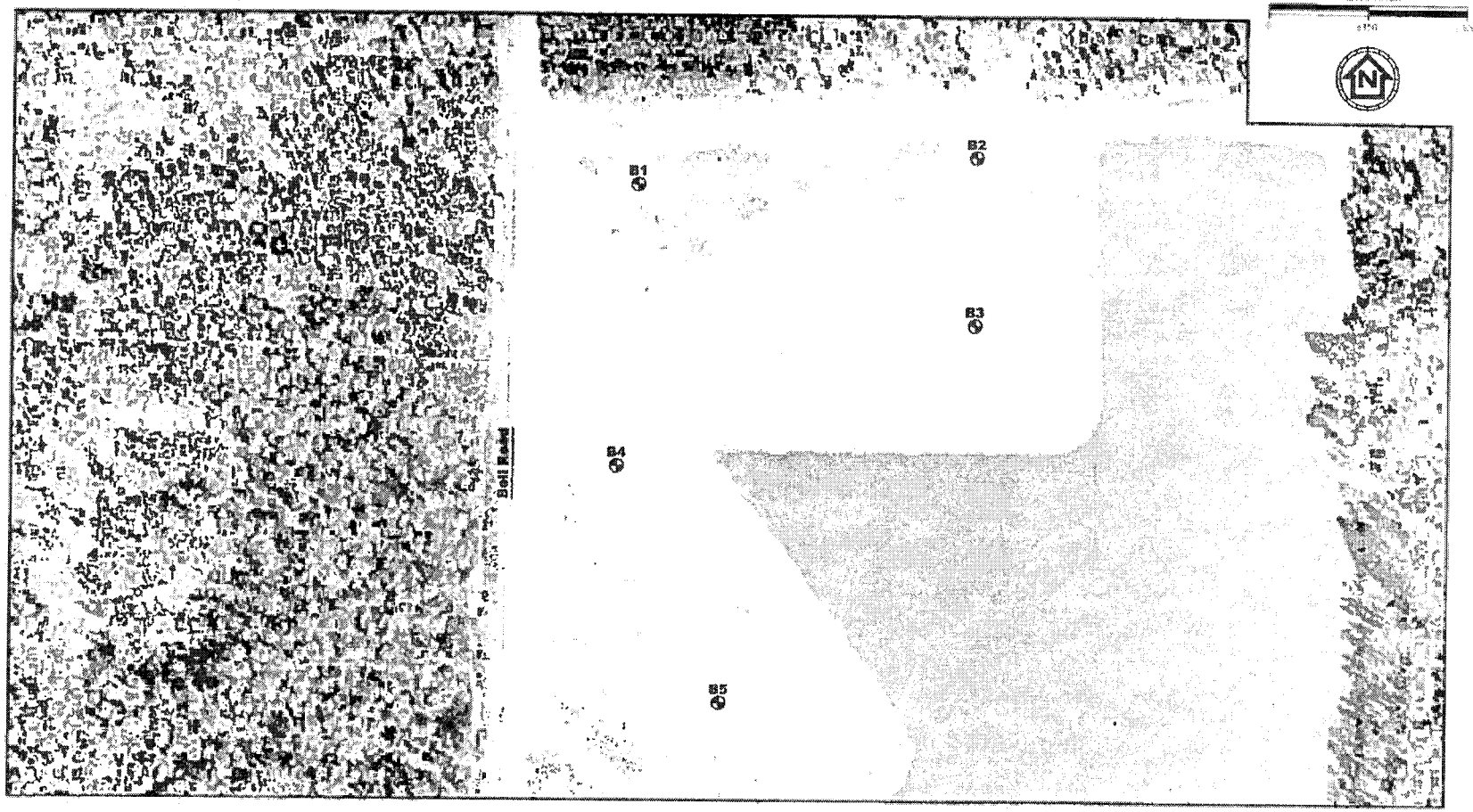
Site Location Plan

**Lake Fretwell Expansion**

Jacksonville, Florida

| Date: 10/21/10 | Project No.: 1728-0006 | Figure 1 |
|---|---|---|

JAS - 1728-0006




## LEGEND

Approximate Location of Standard Penetration Test (SPT) Boring

**Ellis & Associates Inc.**

Environmental ■ Geotechnical ■ Materials Testing

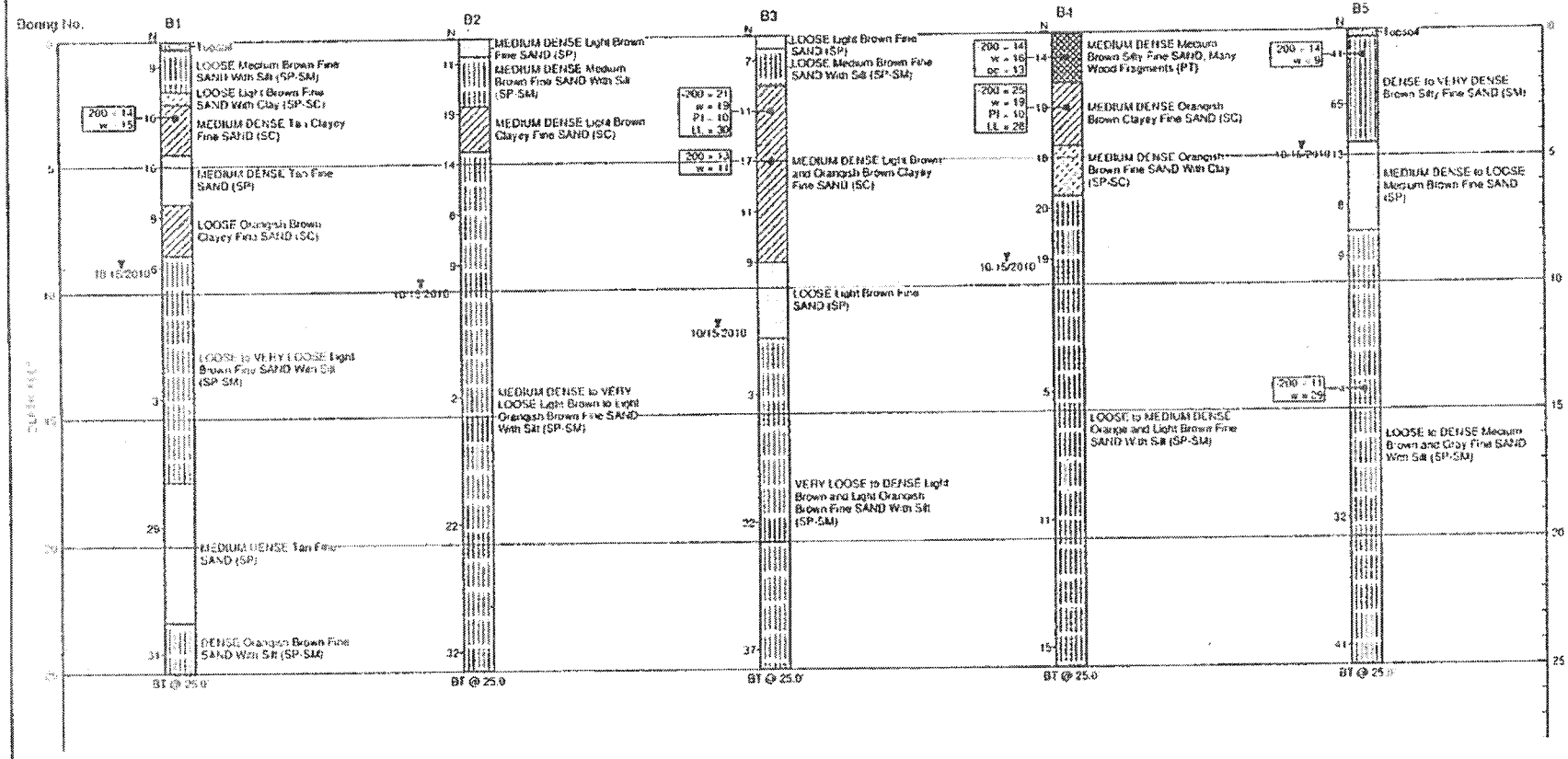
*Integrated Engineering Services EB: 999*

Field Exploration Plan

**Lake Fretwell Expansion**

Jacksonville, Florida

| Date: 10/21/10 | Project No 1728-0006 | Figure |
|---|---|---|




## LEGEND

- Topsoil
- Fine SAND With Clay (SP-SC)
- Fine SAND (SP)
- Silty Fine SAND (SM)
- Fine SAND With Silt (SP-SM)
- Clayey Fine SAND (SC)
- Fine SAND, Many Wood Fragments (PT)

| | | | |
|---|---|---|---|
| N | Standard Penetration Resistance, Blows/Foot | w | Natural Moisture Content (%) |
| SP | Unified Soil Classification System | oc | Organic Content (%) |
| ▼ | Groundwater Level at Time of Drilling | PI | Plasticity Index |
| BT | Boring Terminated at Depth Below Grade | PL | Plastic Limit |
| -200 | % Passing No. 200 U.S. Standard Sieve | LL | Liquid Limit |

Generalized Subsurface Profiles

Lake Fretwell Expansion

Jacksonville, Florida

Ellis & Associates, Inc.

DATE 10/21/10 | PROJ NO. 1728-0006 | Figure 3

# APPENDIX A

SOIL BORING LOGS
FIELD EXPLORATION PROCEDURES
KEY TO SOIL CLASSIFICATION

**Ellis & Associates Inc.**

Project No.: 1728-0006
Boring No.: B1
Sheet 1 of 1

# LOG OF BORING

Project: Lake Fretwell Expansion
Client: V T Griffin
Drill Rig: ATV
Driller: B. Truitt
Boring Location: See Field Exploration Plan
Drill Rod: AWJ
Drill Mud: Super Gel-X
Casing Size:
Length of Casing:
Groundwater Depth: 8.9 ft Time: Drilling Date: 10/15/10
Boring Begun: 10/15/10
Boring Completed: 10/15/10

| 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | | Topsoil | 2 | | | | | | | |
| 1 | | | LOOSE Medium Brown Fine SAND With Silt (SP-SM) | 3 6 6 | 9 | | | | | | |
| 2 | | | LOOSE Light Brown Fine SAND With Clay (SP-SC) | 10 9 | | | | | | | |
| | | | MEDIUM DENSE Tan Clayey Fine SAND (SC) | 7 7 8 | 16 | | 14 | | + | | |
| 3 | 5 | | MEDIUM DENSE Tan Fine SAND (SP) | 8 8 8 | 16 | | | | | | |
| 4 | | | LOOSE Orangish Brown Clayey Fine SAND (SC) | 5 5 4 5 | 9 | | | | | | |
| 5 | | | LOOSE to VERY LOOSE Light Brown Fine SAND With Silt (SP-SM) | 4 3 3 3 | 6 | | | | | | |
| 6 | 10 | | | 2 1 2 | 3 | | | | | | |
| 7 | 15 | | MEDIUM DENSE Tan Fine SAND (SP) | 7 11 18 | 29 | | | | | | |
| 8 | 20 | | DENSE Orangish Brown Fine SAND With Silt (SP-SM) | 8 13 18 | 31 | | | | | | |
| | 25 | | | | | | | | | | |

Boring Terminated @ 25 ft.

Remarks

SHEAR STRENGTH (ksf): Pocket Penetrometer Undisturbed Sample; Pocket Penetrometer Disturbed Sample; Torvane; Unconfined Compression; Triaxial Compression

LOG OF BORING 1728006.GPJ ELLIS ASSOCIATES.GDT 10.22.10

**Ellis & Associates Inc.**

Project No.: 1728-0006
Boring No.: B2
Sheet 1 of 1

# LOG OF BORING

Project: Lake Fretwell Expansion
Client: V T Griffin
Boring Location: See Field Exploration Plan
Drill Rig: ATV
Driller: B. Truitt
Drill Rod: AWJ
Drill Mud: Super Gel-X
Casing Size:
Length of Casing:
Groundwater Depth: 9.8 ft Time: Drilling Date: 10/15/10
Boring Begun: 10/15/10
Boring Completed: 10/15/10

| 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | | MEDIUM DENSE Light Brown Fine SAND (SP) | 2 | | | | | | | |
| 1 | | | MEDIUM DENSE Medium Brown Fine SAND With Silt (SP-SM) | 4<br>7<br>7<br>9 | 11 | | | | | | |
| 2 | | | MEDIUM DENSE Light Brown Clayey Fine SAND (SC) | 11<br>8<br>11<br>8 | 19 | | | | | | |
| 3 | 5 | | MEDIUM DENSE to VERY LOOSE Light Brown Fine SAND With Silt (SP-SM) | 7<br>7<br>7<br>5 | 14 | | | | | | |
| 4 | | | | 4<br>4<br>4<br>5 | 8 | | | | | | |
| 5 | | | | 4<br>5<br>4 | 9 | | | | | | |
| | 10 | | | | | | | | | | |
| 6 | | | | 1<br>1<br>1 | 2 | | | | | | |
| | 15 | | | | | | | | | | |
| 7 | | | | 7<br>11 | | | | | | | |
| | 20 | | MEDIUM DENSE to DENSE Light Orangish Brown Fine SAND With Silt (SP-SM) | 11 | 22 | | | | | | |
| 8 | | | | 10<br>11<br>21 | 32 | | | | | | |
| | 25 | | | | | | | | | | |

Boring Terminated @ 25 ft.

Remarks

SHEAR STRENGTH (ksf): Pocket Penetrometer Undisturbed Sample; Pocket Penetrometer Disturbed Sample; Torvane; Unconfined Compression; Triaxial Compression

LOG OF BORING 1728B006.GPJ ELLIS ASSOCIATES.GDT 10-22-10

**Ellis & Associates Inc.**

Project No.: 1728-0006
Boring No.: B3
Sheet 1 of 1

# LOG OF BORING

Project: Lake Fretwell Expansion
Client: V T Griffin
Drill Rig: ATV
Driller: B. Truitt
Boring Location: See Field Exploration Plan
Drill Rod: AWJ
Drill Mud: Super Gel-X
Casing Size:
Length of Casing:
Groundwater Depth: 11.5 ft Time: Drilling Date: 10/15/10
Boring Begun: 10/15/10
Boring Completed: 10/15/10

| 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | | LOOSE Light Brown Fine SAND (SP) | 2 | | | | | | | |
| 1 | | | LOOSE Medium Brown Fine SAND With Silt (SP-SM) | 3 4 6 | 7 | | | | | | |
| 2 | | | MEDIUM DENSE Light Brown Clayey Fine SAND (SC) | 4 5 6 7 7 | 11 | | 21 | | | | |
| 3 | 5 | | MEDIUM DENSE Orangish Brown Clayey Fine SAND (SC) | 8 9 9 6 6 | 17 | | 13 | | | | |
| 4 | | | | 5 6 4 5 | 11 | | | | | | |
| 5 | | | LOOSE Light Brown Fine SAND (SP) | 4 4 | 9 | | | | | | |
| | 10 | | | | | | | | | | |
| | | | VERY LOOSE Light Brown Fine SAND With Silt (SP-SM) | | | | | | | | |
| 6 | | | | 3 2 1 | 3 | | | | | | |
| | 15 | | | | | | | | | | |
| 7 | | | | 6 9 | | | | | | | |
| | 20 | | MEDIUM DENSE Light Brownish Orange Fine SAND With Silt (SP-SM) | 13 | 22 | | | | | | |
| | | | DENSE Light Brown Fine SAND With Silt (SP-SM) | | | | | | | | |
| 8 | | | | 11 16 21 | 37 | | | | | | |
| | 25 | | | | | | | | | | |

Boring Terminated @ 25 ft

Remarks

SHEAR STRENGTH (ksf): Pocket Penetrometer Undisturbed Sample; Pocket Penetrometer Disturbed Sample; Torvane; Unconfined Compression; Triaxial Compression

LOG OF BORING 1728\0006.GPJ ELLIS ASSOCIATES.GDT 10.22.10

**Ellis & Associates Inc.**

# LOG OF BORING

Project No.: 1728-0006
Boring No.: B4
Sheet 1 of 1

Project: Lake Fretwell Expansion
Client: V T Griffin
Boring Location: See Field Exploration Plan
Drill Rig: ATV
Driller: B. Truitt
Drill Rod: AWJ
Drill Mud: Super Gel-X
Casing Size:
Length of Casing:
Groundwater Depth: 9 ft Time: Drilling Date: 10/15/10
Boring Begun: 10/15/10
Boring Completed: 10/15/10

| 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 | | MEDIUM DENSE Medium Brown Silty Fine SAND, Many Wood Fragments (PT) | 1 5 9 13 | 14 | 13 | 14 | | + | | |
| 2 | | | MEDIUM DENSE Orangish Brown Clayey Fine SAND (SC) | 6 8 11 10 | 19 | | 25 | | | ◇ | |
| 3 | 5 | | MEDIUM DENSE Orangish Brown Fine SAND With Clay (SP-SC) | 9 8 10 9 | 18 | | | | | | |
| 4 | | | MEDIUM DENSE Orange Fine SAND With Silt (SP-SM) | 8 10 10 9 | 20 | | | | | | |
| 5 | 10 | | | 8 9 10 10 | 19 | | | | | | |
| | | | LOOSE to MEDIUM DENSE Light Brown Fine SAND With Silt (SP-SM) | | | | | | | | |
| 6 | 15 | | | 2 2 3 | 5 | | | | | | |
| 7 | 20 | | | 3 5 6 | 11 | | | | | | |
| | | | MEDIUM DENSE Orange Fine SAND With Silt (SP-SM) | | | | | | | | |
| 8 | 25 | | | 7 7 8 | 15 | | | | | | |

Boring Terminated @ 25 ft.

Remarks

SHEAR STRENGTH (ksf)
- Pocket Penetrometer Undisturbed Sample
- Pocket Penetrometer Disturbed Sample
- Torvane
- Unconfined Compression
- Triaxial Compression

LOG OF BORING 1728-0006.GPJ ELLIS ASSOCIATES.GDT 10-22-10

**Ellis & Associates Inc.**

Project No.: 1728-0006
Boring No.: B5
Sheet 1 of 1

# LOG OF BORING

Project: Lake Fretwell Expansion
Client: V T Griffin
Boring Location: See Field Exploration Plan
Drill Rig: ATV
Driller: B. Truitt
Drill Rod: AWJ
Drill Mud: Super Gel-X
Casing Size:
Length of Casing:
Groundwater Depth: 4.7 ft Time: Drilling Date: 10/15/10
Boring Begun: 10/15/10
Boring Completed: 10/15/10

| 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | | Topsoil | 4 | | | | | | | |
| 1 | | | DENSE to VERY DENSE Brown Silty Fine SAND (SM) | 16, 25, 37 | 41 | | 14 | | + | | |
| 2 | | | | 16, 25, 40, 46 | 65 | | | | | | |
| 3 | 5 | | MEDIUM DENSE to LOOSE Medium Brown Fine SAND (SP) | 7, 7, 6, 7 | 13 | | | | | | |
| 4 | | | | 4, 4, 4, 5 | 8 | | | | | | |
| 5 | | | LOOSE Medium Brown Fine SAND With Silt (SP-SM) | 3, 4, 5, 5 | 9 | | | | | | |
| | 10 | | | | | | | | | | |
| 6 | | | LOOSE Gray Fine SAND With Silt (SP-SM) | 2, 2, 2 | 4 | | 11 | | + | | |
| | 15 | | | | | | | | | | |
| 7 | | | DENSE Gray Fine SAND With Silt (SP-SM) | 11, 15, 17 | 32 | | | | | | |
| | 20 | | | | | | | | | | |
| 8 | | | | 12, 17, 24 | 41 | | | | | | |
| | 25 | | Boring Terminated @ 25 ft | | | | | | | | |

SHEAR STRENGTH (ksf): Pocket Penetrometer Undisturbed Sample; Pocket Penetrometer Disturbed Sample; Torvane; Unconfined Compression; Triaxial Compression

Remarks

LOG OF BORING 1728-0006.GPJ ELLIS ASSOCIATES.GDT 10-22-10

# 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.

Ellis & Associates Inc.

# KEY TO SOIL CLASSIFICATION

## Description of Compactness or Consistency in Relation To Standard Penetration Resistance

| COARSE GRAINED SOILS (Sands and Gravels) | |
|---|---|
| N-Value | Compactness |
| 0 – 3 | Very Loose |
| 4 – 10 | Loose |
| 11 – 30 | Medium Dense |
| 31 – 50 | Dense |
| 51 and Greater | Very Dense |

| FINE GRAINED SOILS (Silts and Clays) | |
|---|---|
| N-Value | Consistency |
| 0 – 1 | Very Soft |
| 2 – 4 | Soft |
| 5 – 8 | Firm |
| 9 – 15 | Stiff |
| 16 – 30 | Very Stiff |
| 31 and Greater | Hard |

## DESCRIPTION OF SOIL COMPOSITION**

### (Unified Soil Classification System)

| MAJOR DIVISION | | Group Symbol | LABORATORY CLASSIFICATION CRITERIA: FINER THAN 200 SIEVE % | LABORATORY CLASSIFICATION CRITERIA: SUPPLEMENTARY REQUIREMENTS | SOIL DESCRIPTION |
|---|---|---|---|---|---|
| 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% to12% |
| Silty/Clayey | 13% to 35% |
| Very | >35% |

# APPENDIX B

LABORATORY DATA
LABORATORY TEST PROCEDURES

Ellis & Associates inc.

# SUMMARY OF LABORATORY TEST RESULTS

**Project:** Lake Fretwell Expansion
**Client:** VT Griffin
**Project No.:** 1728-0006

| Boring/ Sample No. | Sample Depth (ft.) | Organic Content % | Fines Content % | Natural Moisture Content % | Atterberg Limits | | | Pocket Pen. (tsf) |
|---|---|---|---|---|---|---|---|---|
| | | | | | Liquid Limit % | Plastic Limit % | Plasticity Index | |
| B1/2 | 3.5-4 | | 14 | 15 | | | | |
| B3/2 | 3.5-4 | | 21 | 19 | 30 | 20 | 10 | |
| B3/3 | 5.5-6 | | 13 | 11 | | | | |
| B4/1 | 1.5-2 | 13 | 14 | 16 | | | | |
| B4/2 | 3.5-4 | | 25 | 19 | 28 | 18 | 10 | |
| B5/1 | 1.5-2 | | 14 | 9 | | | | |
| B5/6 | 14.5-15 | | 11 | 29 | | | | |

# LABORATORY TEST PROCEDURES

## Percent Fines Content

The percent fines or material passing the No. 200 mesh sieve of the sample tested was determined in general accordance with the latest revision of ASTM D 1140. The percent fines are the soil particles in the silt and clay size range.

## Natural Moisture Content

The water content of the sample tests was determined in general accordance with the latest revision of ASTM D 2216. The water content is defined as the ratio of "pore" or "free" water in a given mass of material to the mass of solid material particles.

## Atterberg Limits

The Atterberg Limits consist of the Liquid Limit (LL) and the Plastic Limit (PL). The LL and PL were determined in general accordance with the latest revision of ASTM D 4318. The LL is the water content of the material denoting the boundary between the liquid and plastic states. The PL is the water content denoting the boundary between the plastic and semi-solid states. The Plasticity Index (PI) is the range of water content over which a soil behaves plastically and is denoted numerically by the difference between the LL and the PL. The water content of the sample tested was determined in general accordance with the latest revision of ASTM D 2216. The water content is defined as the ration of "pore" or "free" water in a given mass of material to the mass of solid material particles.

## Organic Loss on Ignition (Percent Organics)

The organic loss on ignition or percent organic material in the sample tested was determined in general accordance with ASTM D 2974. The percent organics is the material, expressed as a percentage, which is burned off in a muffle furnace at 455±10 degrees Celsius.

## Williams, Maria

**From:** Nathan Marty <nmarty@auld-white.com>
**Sent:** Monday, August 21, 2017 11:07 AM
**To:** Williams, Maria
**Subject:** RE: Fire Station # 73 - Geotechnical Exploration
**Attachments:** fs73_geotechnical_20170818 Boring Locations 8-21-17.pdf

Maria:

Good morning, I have reviewed the proposed boring locations and added one (1) more in the parking lot – see attached mark-up.

Also, do you have an ETA on when you think the Design Criteria Package will be issued along with the anticipated construction start? Just trying to look ahead and plan for our resources.

Thanks,
Nate

**Nathan Marty** | *CEO & President, LEED®AP BD+C*

**Auld & White Constructors, LLC | BUILD** WITH US.
p. 904.296.2555
**Celebrating 30 Years!**

---

**From:** Williams, Maria [mailto:MariaCW@coj.net]
**Sent:** Friday, August 18, 2017 4:23 PM
**To:** Nathan Marty <nmarty@auld-white.com>
**Subject:** FW: Fire Station # 73 - Geotechnical Exploration

Nate,

Please take a look at the attached soil borings requested from Meskel and Engineering and let us know if you would like additional testing. Thanks, Maria

---

**From:** Williams, Maria
**Sent:** Friday, August 18, 2017 4:20 PM
**To:** 'suzannecortina@meskelengineering.com'
**Subject:** Fire Station # 73 - Geotechnical Exploration

Suzanne,

Thanks for calling me back. Attached is a copy of the conceptual sketch for a new Fire Station (# 73), that will be located in the North side of the intersection of Aviation Avenue and Airman Drive (Cecil Field). The address was assigned as: 5845 Aviation Avenue. It doesn't have a separate Real Estate number yet, but the RE # for the area is 002249.0005.

This is a 4-bay Fire Station and the apparatus bay floor (garage floor) will be subject to AASHTO H20-44 and HS20-44 vehicular live loading.

We need a proposal for the following services:

1. Field Exploration, which shall consist of:
    a. Three (3) SPT soil test borings to a depth of min. 30' performed at locations shown in the site plan sketch (test borings "B" under a footprint of the proposed building).
    b. Five (5) auger borings to a depth of approximately 10 feet, borings may be reduced or added upon your recommendation.
    c. Three (3) permeability "K" tests @ 5' to 8' feet below the soil surface at locations shown in the site plan sketch (test borings "P").
2. Laboratory testing as necessary.
3. Report of Geo-technical Exploration, including foundation recommendations for the fire station building.

We are attaching a pdf and the AutoCAD drawing. Please provide us with your fee proposal for the above geo-technical services at your earliest convenience.

Please let me know at 255-8789 if you need any additional information.

Thanks, Maria

Maria C. Williams, P.E.
City of Jacksonville I Department of Public Works
214 N. Hogan Street – 10th Floor
Jacksonville, FL 32202
Office Phone: (904) 255-8789
www.coj.net

## Williams, Maria

**From:** Fuller, Eric
**Sent:** Tuesday, August 22, 2017 6:10 PM
**To:** Kent, Duane; Williams, Maria
**Subject:** Aerials for Fire Station 73 site
**Attachments:** 1952 Aerial.pdf; 1960 Aerial.pdf; 1969 Aerial.docx; 1973 Aerial.docx; 1975 Aerial.docx; 1982 Aerial.docx; 1984 Aerial.docx

See attached aerials for the Fire Station 73 site. The 1952 and 1960 aerials will need to be rotated counterclockwise to face due north. I did not note any concerns for the site itself. Site appeared to be wooded or undeveloped land since at least 1952. Looks like a wetland is likely to be at the northern portion or adjoining to the north of the site. Aerials also reviewed via Google Earth between 1994 and 2017 – site was wooded or undeveloped. Looked to have been timbered in 2008/2009.

Eric B. Fuller
Environmental Programs Manager
City of Jacksonville
214 North Hogan Street, 10th Floor
Jacksonville, Florida 32202
Phone: (904) 255-7513
efuller@coj.net

## Williams, Maria

**From:** Bill Faust <CFaust@drmp.com>
**Sent:** Monday, August 21, 2017 6:14 PM
**To:** Williams, Maria
**Cc:** Glenn Lusink
**Subject:** RE: Fire Station No. 73
**Attachments:** image004.jpg; image001.jpg

Yes, I include Airman road in the survey area.

Sent from my Verizon Wireless 4G LTE smartphone

-------- Original message --------
From: "Williams, Maria" <MariaCW@coj.net>
Date: 08/21/2017 5:50 PM (GMT-05:00)
To: Bill Faust <CFaust@drmp.com>
Cc: Glenn Lusink <glusink@drmp.com>
Subject: RE: Fire Station No. 73

Thank you so much Bill. Just to clarify: Are we including Airman Drive in the fee? Airman Drive needs to be wider, so we need the pavement elevations (with the adjacent grass elevations). Also, we need the survey to show the proposed fence line for the overflow parking (see below):

[cid:image004.jpg@01D31AA6.0085AC10]

Please advise. Thanks, Maria
From: Bill Faust [mailto:CFaust@drmp.com]
Sent: Monday, August 21, 2017 3:47 PM
To: Williams, Maria
Cc: Glenn Lusink
Subject: RE: Fire Station No. 73

Maria,

Attached is our proposal for Fire Station No. 73. Let me know if you have any questions.

Thanks

Bill

Sincerely,
Bill Faust, PLS | Jacksonville Survey Manager
Main: 904.641.0123 | Fax: 904.641.8858
CFaust@drmp.com<mailto:CFaust@drmp.com>
DRMP, Inc. | Engineers. Surveyors. Planners. Scientists.
8001 Belfort Parkway, Suite 200, Jacksonville, FL 32256 | www.drmp.com<http://drmp.com>

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Facebook<https://www.facebook.com/pages/DRMP-Inc/291245692343> |
Google+<https://plus.google.com/104797251664485560868/posts> |
LinkedIn<http://www.linkedin.com/company/46447?trk=tyah> | Twitter<https://twitter.com/DRMPInc> |
YouTube<http://www.youtube.com/user/DRMPengineering>

From: Williams, Maria [mailto:MariaCW@coj.net]
Sent: Monday, August 21, 2017 11:32 AM
To: Bill Faust <CFaust@drmp.com<mailto:CFaust@drmp.com>>
Subject: FW: Fire Station No. 73

Bill,

We are preparing a DCP for this project, and the following are the Florida Statues requirements:

[cid:image001.jpg@01D31AA4.273108C0]

Please provide a separate price for the Topographical Survey and for the Boundary Survey Map and Description.

Thanks so much, Maria

Maria C. Williams, P.E.
City of Jacksonville I Department of Public Works
214 N. Hogan Street – 10th Floor
Jacksonville, FL 32202
Office Phone: (904) 255-8789
www.coj.net<http://www.coj.net>

From: Bill Faust [mailto:CFaust@drmp.com]
Sent: Monday, August 21, 2017 10:26 AM
To: Williams, Maria
Subject: RE: Fire Station No. 73

Maria,

Do you need a Boundary Survey Map and Description or just a description of the property from DRMP?

Thanks

Sincerely,
Bill Faust, PLS | Jacksonville Survey Manager
Main: 904.641.0123 | Fax: 904.641.8858
CFaust@drmp.com<mailto:CFaust@drmp.com>
DRMP, Inc. | Engineers. Surveyors. Planners. Scientists.
8001 Belfort Parkway, Suite 200, Jacksonville, FL 32256 | www.drmp.com<http://drmp.com>

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Google+<https://plus.google.com/104797251664485560868/posts> |

LinkedIn<http://www.linkedin.com/company/46447?trk=tyah> | Twitter<https://twitter.com/DRMPInc> | YouTube<http://www.youtube.com/user/DRMPengineering>
From: Williams, Maria [mailto:MariaCW@coj.net]
Sent: Monday, August 21, 2017 8:56 AM
To: Bill Faust <CFaust@drmp.com<mailto:CFaust@drmp.com>>
Cc: Glenn Lusink <glusink@drmp.com<mailto:glusink@drmp.com>>
Subject: RE: Fire Station No. 73

Bill,

I believe you already received from Danny Wheeler the information needed.

Please let me know if you need additional information. Thanks, Maria

Maria C. Williams, P.E.
City of Jacksonville I Department of Public Works
214 N. Hogan Street – 10th Floor
Jacksonville, FL 32202
Office Phone: (904) 255-8789
www.coj.net<http://www.coj.net>

From: Bill Faust [mailto:CFaust@drmp.com]
Sent: Saturday, August 19, 2017 10:30 AM
To: Williams, Maria
Cc: Glenn Lusink
Subject: Fire Station No. 73

Maria,

I am working on our fee proposal for Fire Station No. 73 and I have a few questions regarding the Legal Description you are requesting.

Do you need a boundary survey of the parcel?

What will the legal description be based on, a survey by others or geometry provided to DRMP by the city?

Give me a call Monday to discuss.

Thanks

Bill

Sincerely,
Bill Faust, PLS | Jacksonville Survey Manager
Main: 904.641.0123 | Fax: 904.641.8858
CFaust@drmp.com<mailto:CFaust@drmp.com>
DRMP, Inc. | Engineers. Surveyors. Planners. Scientists.
8001 Belfort Parkway, Suite 200, Jacksonville, FL 32256 | www.drmp.com<http://drmp.com>

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Google+<https://plus.google.com/104797251664485560868/posts> |
LinkedIn<http://www.linkedin.com/company/46447?trk=tyah> | Twitter<https://twitter.com/DRMPInc> |
YouTube<http://www.youtube.com/user/DRMPengineering>

Wind speed: Risk category IV: 135 mph

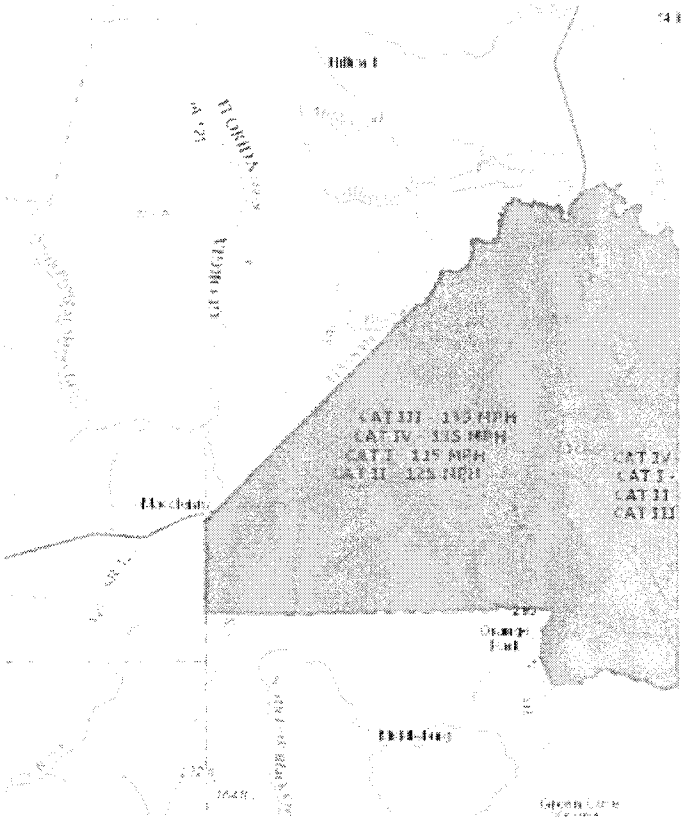



Exhibit J

**PROJECT SIGN DETAILS:**

Delete the sign indicated in Section 20.57, Appendix A (Pages 1 and 2) and substitute with the sign indicated in Appendix H (Pages 1 and 2). All logos for this sign are available on the City's Website http://www.coj.net/departments/administration+and+finance/public+information/graphic %20archive.htm. Additionally, the contractor needs to submit a fact sheet for this project at least five business days before the sign is posted on site. A sample fact sheet is attached hereto as APPENDIX 31.23 "B". A project sign is required for each senior center (Wallace Small, Riverview and Charlie Joseph Senior Centers).

Exhibit K

Appendix H – PAGE 1

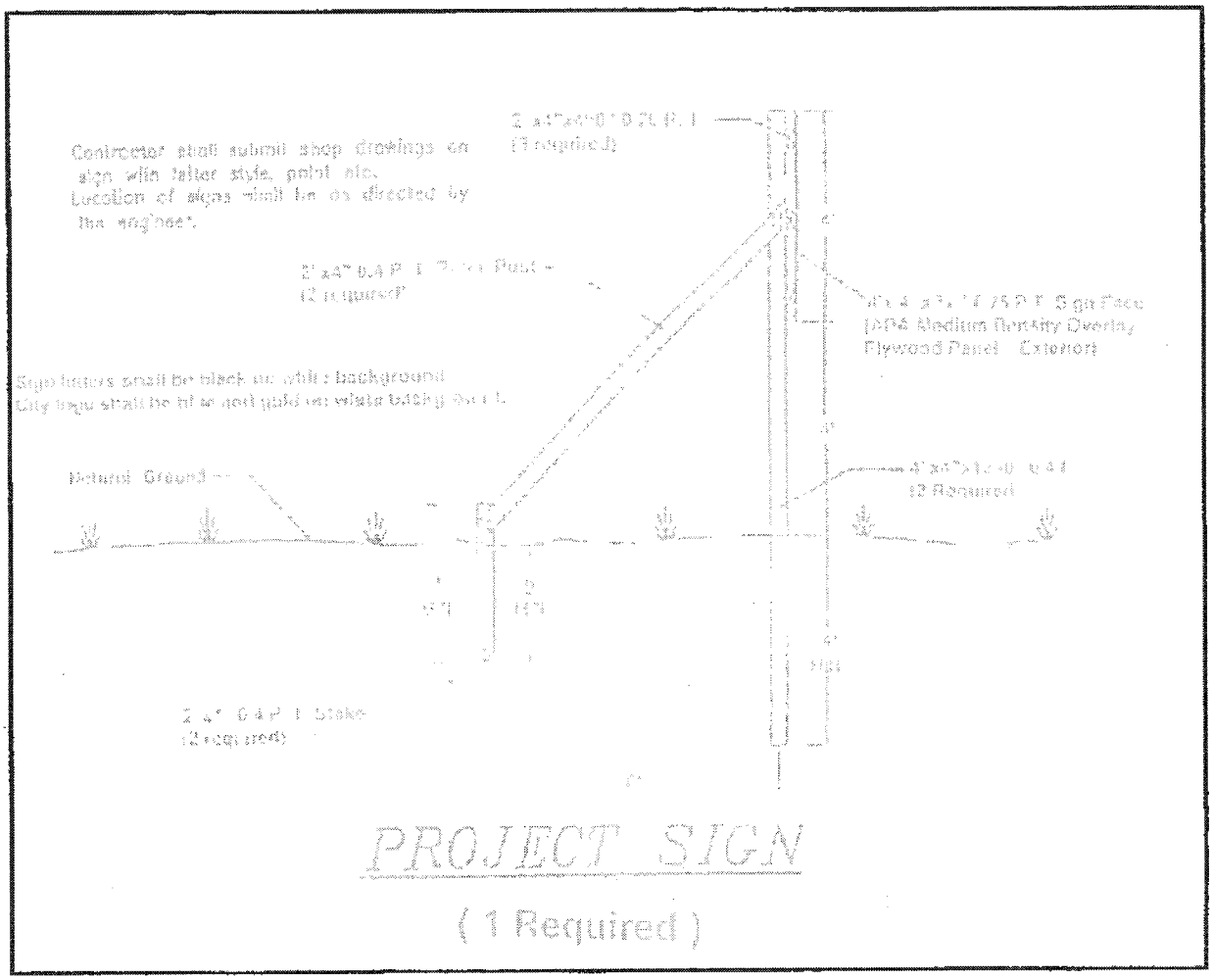
NEW DEPARTMENT OF PUBLIC WORKS SIGN (STANDARD)

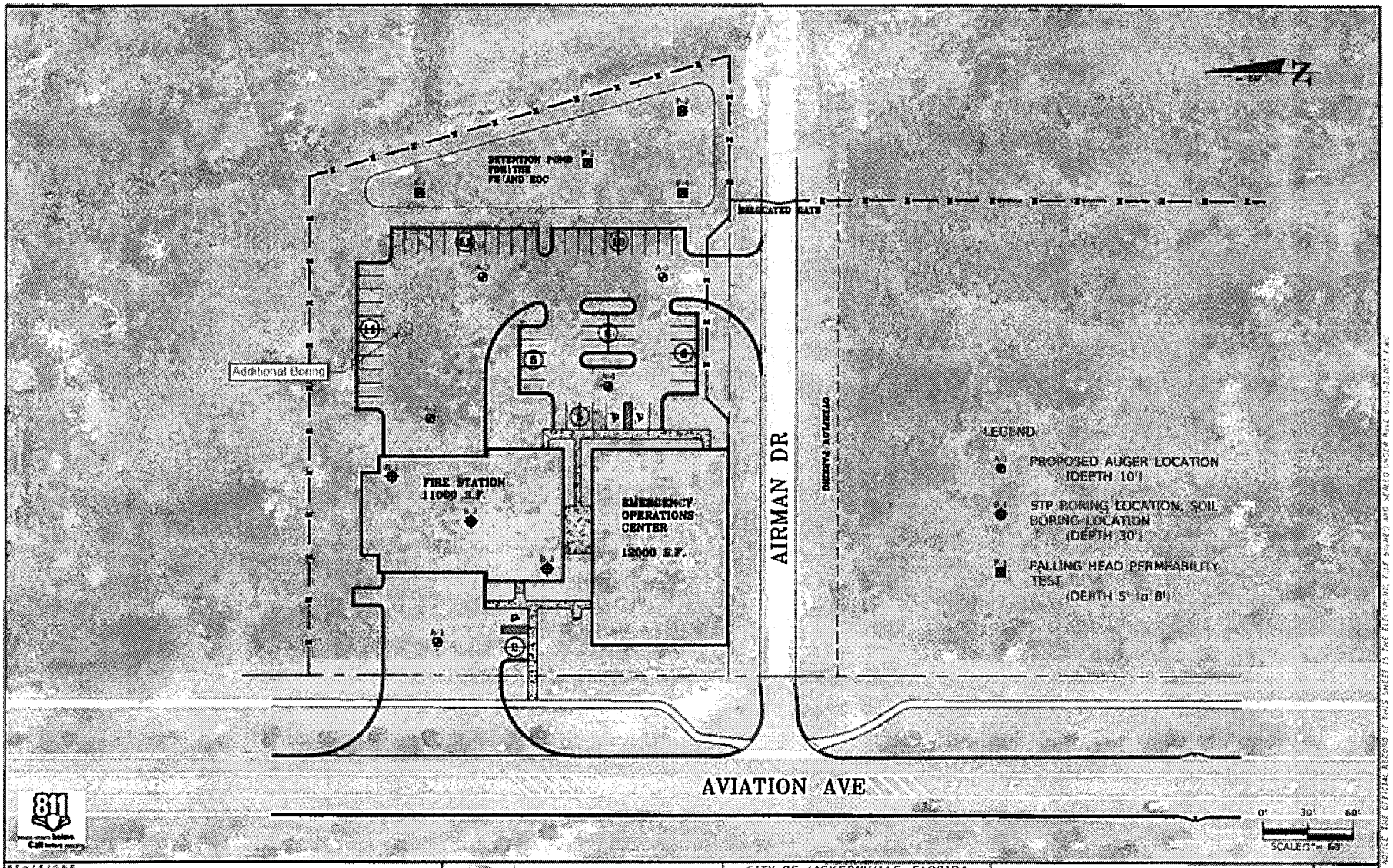
STANDARD
Public Works Project Site Sign
VERSION APPROVED 8 1 2006

Scale: .125" = 1"
Yellow: RGB 252 177 49
Blue: RGB 0 125 185
Black: RGB 0 0 0
Font: Sans Serif – Arial or similar

Exhib. 1 K

**Appendix H" – PAGE 2**






| REVISIONS | | | CITY OF JACKSONVILLE, FLORIDA<br>DEPARTMENT OF PUBLIC WORKS | | FIRE STATION NO. 73<br>GEOTECHNICAL EXPLORATION | SHEET NO. |
|---|---|---|---|---|---|---|
| | | | DATE | DRAWN BY | | |
| | | | 7/20/2017 | AHT | | 1 |

Exhibit L

Meskel & Associates Engineering
Geotechnical r Environmental r Inspection r Testing

August 21, 2017

Ms. Maria Williams, P.E.
City of Jacksonville Engineering Division Section, Department of Public Works
214 N. Hogan Street, 10th Floor
Jacksonville, Florida 32202

Subject: Proposal for Geotechnical Exploration and Engineering Services
Fire Station No. 73
Jacksonville, Florida
MAE Contract No. 10192-01

Dear Ms. Williams:

**MESKEL & ASSOCIATES ENGINEERING, PLLC (MAE)** is pleased to present this proposal to provide geotechnical exploration and engineering services for the proposed Fire Station at the subject project site.

You provided project information via an email dated August 21, 2017. You also provided us with a drawing entitled "Geotechnical Exploration" that indicated the requested scope of field services. As requested, three Standard Penetration Test (SPT) borings will be located within the proposed building area. The boring will be advanced to a depth of approximately 30 feet below existing grade in general accordance with ASTM D 1586. Additionally, six 6 feet deep auger borings will be located and advanced within the planned parking areas, and four 8 feet deep auger borings will be located and advanced within the planned pond area. As requested, a total of 4 field permeability tests will be performed; one test in each of the pond area borings. Once the borings are completed, they will be backfilled a cementitious grout. We will take all reasonable precautions to prevent damage to property and will reasonably restore the site to the condition existing prior to the start of our fieldwork. In accordance with Florida law, we will attempt to locate existing underground utilities at the site by utilizing the Sunshine State One-Call (SSOC) system. Once the utilities have been located and marked, the final boring location may need to be adjusted to avoid any conflicts.

The recovered soil samples will be described in the field by the field crew. The field logs and samples will be delivered to our laboratory where the logs will be reviewed and the samples classified by a geotechnical engineer. Laboratory classification and index property tests will be performed as necessary on selected soil samples to confirm the soil classification.

A geotechnical engineer, licensed in the State of Florida, will direct the geotechnical exploration and provide an engineering evaluation of the subsurface conditions encountered at the boring locations.

8936 Western Way, Suite 12
Jacksonville, Florida 32256
Phone: (904)519-6990 Fax: (904)519-6992

The results of the exploration and engineering evaluation will be documented in a report that will include the following:

- Our understanding of the planned construction
- The observed site conditions, such as topography, surface vegetation, etc. as it relates to the anticipated construction
- Field and laboratory test procedures used and results obtained
- The encountered subsurface conditions, including subsurface profiles, measured groundwater levels, and estimated geotechnical engineering properties, as necessary
- A geotechnical engineering evaluation of the site and subsurface conditions with respect to the anticipated construction
- Recommendations for foundation support of the planned structure
- Recommendations for design and construction of the planned pavements

Based on the scope of the services outlined above, we propose to complete our work for a fee of **$6,835.74.** A breakdown of this fee is shown on the attached Fee Estimate sheet. The fee will include one electronic plus two bound, signed and sealed reports. We will contact you immediately if we encounter subsurface conditions that could require the borings to be advanced to deeper depths, and/or if additional engineering analysis/evaluation outside the scope of this proposal is necessary.

Once authorization is received, a utility locate request will be submitted. Utility locates will typically take 48 hours to complete after the request is made. Once the utilities have been located, the field work will begin and will take two to three days to complete. Verbal results can be provided within 3 days after completion of the field work, if needed. We anticipate that our engineering analysis and report can be submitted within two weeks of completing the field work.

We appreciate this opportunity to provide this proposal for your project. If you have any questions concerning this proposal, or if we can serve you in any other way, please contact me.

Sincerely,
**MESKEL & ASSOCIATES ENGINEERING, LLC**

Joey Broussard

Joey Broussard, P.E.
Director of Geotechnical Engineering

Distribution: Ms. Maria Williams, P.E., City of Jacksonville One (1) e-mail copy
Attachment



8936 Western Way, Suite 12
Jacksonville, Florida 32256
Phone: (904)519-6990 Fax: (904)519-6992

# FEE ESTIMATE

## Geotechnical Exploration and Engineering Services

## Fire Station No. 73
## Jacksonville, Florida

| DESCRIPTION | Units | Quantity | Rate | Total |
|---|---|---|---|---|
| **I. FIELD EXPLORATION** | | | | |
| A. Mobilization and Demobilization of Drill Crew and ATV Drill Equipment, Local, Lump Sum | Ea | 1 | $450.00 | $450.00 |
| B. Soil Borings (ASTM D1586), 0-30-foot depth | LF | 90 | $11.00 | $990.00 |
| C. Auger Borings - 6 to 6 feet and 4 to 8 feet | LF | 68 | $8.75 | $595.00 |
| D. Grouting of Boreholes | LF | 158 | $6.50 | $1,027.00 |
| E. Field Technician ( Layout and Permeability Tests) | Hr | 22 | $72.60 | $1,597.20 |
| | | | **Total Field Work:** | **$4,659.20** |
| **II. LABORATORY TESTING** | | | | |
| A. Natural Moisture Content | Ea | 6 | $10.00 | $60.00 |
| B. Grain Size Wash -#200 Sieve | Ea | 6 | $35.00 | $210.00 |
| | | | **Total Laboratory Work:** | **$270.00** |
| **III. ENGINEERING SERVICES** | | | | |
| A. Senior Engineer, P.E. | Hr | 2 | $134.87 | $269.74 |
| B. Staff Engineer, E.I. | Hr | 12 | $94.05 | $1,128.60 |
| C. Administrative | Hr | 2 | $56.10 | $112.20 |
| D. Drafter/CADD | Hr | 6 | $66.00 | $396.00 |
| | | | **Total Engineering Work:** | **$1,906.54** |
| | | | **GRAND TOTAL:** | **$6,835.74** |

Meskel & Associates Engineering
Geotechnical ▸ Environmental ▸ Inspection ▸ Testing

# Report of Geotechnical Exploration
For
COJ Fire Station #73
Jacksonville, FL

***MAE Project No. 0124-01.006***
***September 29, 2017***

**Prepared for:**

*City of Jacksonville*
*117 W. Duval Street*
*Jacksonville, FL*

**Prepared by:**

Meskel & Associates Engineering
Geotechnical • Environmental • Inspection • Testing

8936 Western Way, Suite 12
Jacksonville, Florida 32256
Phone (904) 519-6990
Fax (904) 519-6992

Meskel & Associates Engineering
Geotechnical • Environmental • Inspection • Testing

September 29, 2017

Joey Broussard, State of Florida, Professional Engineer, License No. 58233. This item has been electronically signed and sealed by Joey Broussard, P.E on 09/29/17 using a Digital Signature. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

City of Jacksonville Engineering Division Section
Department of Public Works
214 N. Hogan Street, 10th Floor
Jacksonville, Florida 32202

Attention: Ms. Maria Williams, P.E.

Reference: Report of Geotechnical Exploration
COJ Fire Station #73
Jacksonville, Florida
MAE Project No. 0124-01.006

Dear Ms. Williams:

**Meskel & Associates Engineering, LLC** has completed a geotechnical exploration for the subject project. Our work was performed in general accordance with our proposal dated August 21, 2017. The geotechnical exploration was performed to evaluate the general subsurface conditions within the proposed Fire Station #73 construction area, and to provide recommendations for foundation support and design, and site preparation. A summary of our findings is presented below for your convenience; however, we recommend that this report be considered in its entirety.

As further discussed in this report, the boring encountered very loose to dense fine sands (USCS SP), fine sands with silt and/or clay (USCS SP-SM and SP-SC, respectively), clayey fine sands (USCS SC) and silty fine sands (USCS SM) to their termination depths of up to 30 feet below the existing ground surface. Groundwater was encountered in the boring between 4-inches and 3-foot 2-inches below the existing ground surface, at the time of drilling. Based on the provided construction information and our field exploration, it is our opinion that the proposed structure can be supported on conventional shallow foundation systems with conventional site preparation techniques.

We appreciate this opportunity to be of service as your geotechnical consultant on this phase of the project. If you have any questions, or if we may be of any further service, please contact us.

Sincerely,
**MESKEL & ASSOCIATES ENGINEERING, LLC**
MAE FL Certificate of Authorization No. 28142

Joey J Broussard
Digitally signed by Joey J Broussard
Date: 2017.09.29 14:32:37 -04'00'

W. Josh Mele, E.I.
Staff Engineer

Joey Broussard, P.E.
Director of Geotechnical Engineering
Registered, Florida No. 58233

Distribution: Ms. Maria Williams, P.E. – COJ Engineering Division 1 pdf

8936 Western Way, Suite 12
Jacksonville, Florida 32256
Phone: (904)519-6990 Fax: (904)519-6992

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| | |
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| | Key to Soil Classification |
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# *1.0 PROJECT INFORMATION*

## 1.1 General

You provided project information via several emails and telephone conversations. We were provided with a drawing entitled "Geotechnical Exploration" that indicated the requested scope of field services.

## 1.2 Project Description

The site for the subject project is located within the northeastern quadrant of the intersection of Aviation Avenue and Airman Drive, in Jacksonville, Florida. The general site location is shown on Figure 1.

Based on the provided information and our discussions with you, it is our understanding that the proposed project includes the construction of a new Fire Station and an Emergency Operations Center consisting of 11,000 square feet and 12,000 square feet, respectively, in "footprint" plan dimensions. Although detailed information has not been provided, we have assumed the column, wall, and floor loads will not exceed 50 kips, 3 kips per linear foot (klf) and 150 pounds per square foot (psf), respectively. Grading plans were not provided at the time of our evaluation; however, we have assumed the building and pavement areas will be supported on less than 2 to 3 feet of fill above the presently existing ground surface.

We also understand that a stormwater detention pond with an approximate area of 8,500 square feet is planned for the eastern portion of the project site.

If actual project information varies from these conditions, 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 prior to final design.

# *2.0 FIELD EXPLORATION*

A field exploration was performed during the period of September 14 through 18, 2017. A copy of the plan provided to us, which shows the approximate boring locations, is included as the *Boring Location Plan*, Figure 2. GPS coordinates for the boring locations were obtained by overlaying the provided plan in Google Earth. Our field personnel then located each boring location using a Garmin GPSMAP 78 handheld GPS receiver in the field.

## 2.1 SPT and Auger Borings

To explore the subsurface conditions within the area of the proposed Fire Station structure, we located and performed 3 Standard Penetration Test (SPT) borings, drilled to depths of approximately 30 feet below the existing ground surface, in general accordance with the methodology outlined in ASTM D 1586. Split-spoon soil samples recovered during performance of the borings were visually described in the field and representative portions of the samples were transported to our laboratory for further evaluation.

To determine the subsurface conditions within the proposed pavement and pond areas, we located and performed 8 auger borings, drilled to depths of approximately 6 and 8 feet, respectively, below the existing ground surface in general accordance with the methodology outlined in ASTM D 1452. Representative soil samples also were recovered from the auger borings and returned to our

laboratory for further evaluation. A summary of the field procedures is included in Appendix A.

## 2.2 Field Permeability Test

Four field permeability tests were performed adjacent to the auger boring locations conducted within the proposed pond. The field permeability tests were performed by installing a solid-walled, open-bottom PVC casing snugly fit into a 4-inch diameter, 5 to 8-foot deep auger boreholes. The bottom 1.5 feet of the pipe was filled with silica sand or gravel, and the pipe was then raised one foot above the bottom of the borehole. The pipe was filled to the top with water. The test was conducted as a "constant head" test in which the amount of water added to keep the water level at the top of the pipe was recorded at 3-minute intervals over a 36-minute period.

# *3.0 LABORATORY TESTING*

Representative soil samples obtained during our field exploration were visually classified by a geotechnical engineer 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.

Quantitative laboratory testing was performed on selected samples of the soils encountered during the field exploration to better define the composition of the soils encountered and to provide data for correlation to their anticipated strength and compressibility characteristics. The laboratory testing determined the percent of fines passing a U.S. No. 200 sieve (percent fines), moisture and organic contents of selected soil samples. The results of the laboratory testing are shown in the *Summary of Laboratory Test Data* included in Appendix B. Also, these results are shown on the *Generalized Soil Profiles* on Figures 3 through 6, and on the *Log of Boring* records at the respective depths from which the tested samples were recovered.

# *4.0 GENERAL SUBSURFACE CONDITIONS*

## 4.1 General Soil Profile

Graphical presentation of the generalized subsurface conditions is presented on Figures 3 through 6. 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.

### 4.1.1 Fire Station Structure Area

The SPT borings within the Fire House structure area generally encountered very loose fine sands (USCS SP) and fine sands with silt (USCS SP-SM) to depths of approximately 2 to 4-feet below the existing ground surface, followed by medium dense fine sands (USCS SP) and fine sands with silt and/or clay (USCS SP-SM and SP-SC, respectively) to about 6 feet beneath existing grade. Below the slightly silty/clayey fine sands, the borings encountered medium dense silty fine sands (USCS SM) to their termination depths of 30 feet below existing ground surface. As exceptions, boring B-1 terminated within dense fine sands with silt (USCS SP-SM) from 29 to 30-feet of depth, and boring B-3 encountered medium dense clayey fine sands (USCS SC) between approximately 4 and 6 feet of depth.


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Jacksonville, Florida 32256
Phone: (904)519-6990 Fax: (904)519-6992

### 4.1.2 Pavement Areas

The auger borings within the pavement area generally encountered a surficial topsoil layer measuring about 6 inches in thickness, underlain by fine sands with silt and/or clay to the boring termination depth of 6 feet beneath existing grade.

### 4.1.3 Pond Area

The auger borings within the pond area generally encountered a surficial topsoil layer measuring about 6 inches in thickness, followed by fine sands with silt (USCS SP-SM) to about 4 to 7-feet of depth, and then followed by silty fine sands (USCS SM) to their termination depths of 8 feet below the existing ground surface. As an exception, boring P-2 did not encounter a surficial topsoil layer.

## 4.2 Groundwater Level

The groundwater level was encountered at each of the boring locations and recorded at the time of drilling at depths varying from 4-inches to 3-feet 2-inches below the existing ground surface. However, it should be anticipated that the groundwater levels will fluctuate seasonally and with changes in climate. As such, we recommend that the water table be verified prior to construction. Measured groundwater levels are shown the boring profiles and boring logs.

## 4.3 Review of the USDA Web Soil Survey Map

The results of a review of the USDA Soil Survey Conservation Service (SSCS) Web Soil Survey of Duval County are shown in the table below. There are two predominant soil map units at the project sight: Boulogne fine sand and Evergreen-Wesconnett complex. The soil drainage class, hydrological group, and estimated seasonal high groundwater levels reported in the Soil Survey are as follows:

| Map Unit Symbol | Map Unit Name | Drainage Class | Hydrologic Group | Depth to the Water Table[1] (inches) |
|---|---|---|---|---|
| 14 | Boulogne fine sand, 0 to 2 percent slopes | Poorly Drained | C/D | 6 to 18 |
| 22 | Evergreen-Wesconnett complex[2], depressional, 0 to 2 percent slopes | Very Poorly Drained | A/D | 0 |

[1] The "Water table" above refers to a saturated zone in the soil which occurs during specified months, typically the summer wet season. Estimates of the upper limit shown in the Web Soil Survey are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

[2] The term "complex", as defined by the USDA, refers to a map unit consisting of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the map.

## 4.4 Seasonal High Groundwater Level

In estimating seasonal high groundwater level, a number of factors are taken into consideration


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Jacksonville, Florida 32256
Phone: (904)519-6990 Fax: (904)519-6992

including antecedent rainfall, soil redoximorphic features (i.e., soil mottling), stratigraphy (including presence of hydraulically restrictive layers), vegetative indicators, effects of development, and relief points such as drainage ditches, low-lying areas, etc.

Based on our interpretation of the current site conditions, including the boring logs and review of published data, we estimate the seasonal high groundwater levels at the site to be generally 0.5 to 1 feet above the water levels measured at the time of our field work.

It is possible that higher groundwater levels may exceed the estimated seasonal high groundwater level as a result of significant or prolonged rains. Therefore, we recommend that design drawings and specifications account for the possibility of groundwater level variations, and construction planning should be based on the assumption that such variations will occur.

# *5.0 DESIGN RECOMMENDATIONS*

## 5.1 General

The following evaluation and recommendations are based on the provided project information as presented in this report, results of the field exploration and laboratory testing performed, and the construction techniques recommended in Section 6.0 below. If the described project conditions are incorrect or changed after this report, or subsurface conditions encountered during construction are different from those reported, MAE should be notified so these recommendations can be re-evaluated and revised, if necessary. We recommend that MAE review the foundation plans and earthwork specifications to verify that the recommendations in this report have been properly interpreted and implemented.

## 5.2 Foundation Design Recommendations

Based on the results of our exploration, we consider the subsurface conditions at the site adaptable for support of the proposed Fire Station structure and its associated pavement areas when constructed on a properly designed shallow foundation system. 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 foundation design.

### 5.2.1 Bearing Pressure

The maximum allowable net soil bearing pressure for use in shallow foundation design should not exceed 3,000 psf. Net bearing pressure is defined as the soil bearing pressure at the foundation bearing level in excess of the natural overburden pressure at that level. The foundations should be designed based on the maximum load that could be imposed by all loading conditions.

### 5.2.2 Foundation Size

The minimum widths recommended for any isolated column footings and continuous wall footings are 24 inches and 18 inches, respectively. Even though the maximum allowable soil bearing pressure may not be achieved, these width recommendations should control the size of the foundations.

### 5.2.3 Bearing Depth

The exterior foundations should bear at a depth of at least 18 inches below the exterior final grades, and the interior foundations should bear at a depth of at least 12 inches below the finish floor elevation to provide confinement to the bearing level soils. It is recommended that stormwater be

diverted away from the building exterior to reduce the possibility of erosion beneath the exterior footings.

### 5.2.4 Bearing Material

The foundations may bear in either the compacted suitable natural soils or compacted structural fill. The bearing level soils, after compaction, should exhibit densities equivalent to 95 percent of the modified Proctor maximum dry density (ASTM D 1557), to a depth of at least one foot below the foundation bearing levels.

### 5.2.5 Settlement Estimates

Post-construction settlements of the structure will be influenced by several interrelated factors, such as (1) subsurface stratification and strength/compressibility characteristics; (2) footing size, bearing level, applied loads, and resulting bearing pressures beneath the foundations; and (3) site preparation and earthwork construction techniques used by the contractor. Our settlement estimates for the structure are based on the use of site preparation/earthwork construction techniques as recommended in Section 6.0 of this report. Any deviation from these recommendations could result in an increase in the estimated post-construction settlements of the structure.

Due to the sandy nature of the near-surface soils, we expect the majority of settlement to occur in an elastic manner and fairly rapidly during construction. Using the recommended maximum bearing pressure, the supplied/assumed maximum structural loads, and the field and laboratory test data that we have correlated to geotechnical strength and compressibility characteristics of the subsurface soils, we estimate that total settlements of the structure could be on the order of one inch or less.

Differential settlements result from differences in applied bearing pressures and variations in the compressibility characteristics of the subsurface soils. Because of the general uniformity of the subsurface conditions and the recommended site preparation and earthwork construction techniques outlined in Section 6.0, we anticipate that differential settlements of the structure should be within tolerable magnitudes.

### 5.2.6 Floor Slab

The floor slab can be constructed as a slab-on-ground, provided unsuitable material is removed and replaced with compacted structural fill as outlined in Section 6.0. It is recommended that the floor slab bearing soils be covered with an impervious membrane to reduce moisture entry and floor dampness. A 6-mil thick plastic membrane is commonly used for this purpose. Care should be exercised not to tear large sections of the membrane during placement of reinforcing steel and concrete. In addition, we recommend that a minimum separation of 2 feet be maintained between the finished floor levels and the estimated normal seasonal high groundwater level.

## 5.3 Pavement Considerations

Based on the results of our exploration, we consider the subsurface conditions at the site favorable for support of a flexible pavement section, when constructed on properly prepared subgrade soils as outlined in Section 6.0 of this report. Typical pavement sections used in northeast Florida are shown on the following table. If requested, we can prepare a project-specific pavement design if specific traffic data is provided.

| TYPICAL PAVEMENT SECTION | | |
|---|---|---|
| **Pavement Layer** | **Auto Parking & Traffic Lanes** | **Truck Areas** |
| Asphaltic Concrete Wearing Surface | 1.5" | 2.0" |
| Limerock Base (1) | 6.0" | 8.0" |
| Stabilized Subgrade (1) | 12.0" | 12.0" |
| (1) Groundwater should be maintained at least 2.5 feet below the pavement surface. | | |

| CONCRETE TYPICAL PAVEMENT SECTION | | |
|---|---|---|
| **Pavement Layer** | **Auto Parking & Traffic Lanes** | **Truck Areas** |
| Concrete Wearing Surface | 5" | 6" |
| Stabilized Subgrade (1) | 4.0" | 6.0" |
| (1) Groundwater should be maintained at least 2.5 feet below the pavement surface. | | |

### 5.3.1 Wearing Surface

The wearing surface should consist of Florida Department of Transportation (FDOT) Type S asphaltic concrete having a minimum Marshall Stability of 1,500 lbs. Concrete pavement should have a minimum 28-day strength of 3,000 psi. Specific requirements for Type S asphaltic concrete wearing surface are outlined in the latest edition of the *Florida Department of Transportation, Standard Specifications for Road and Bridge Construction.*

### 5.3.2 Base and Subgrade

The limerock base course should have a minimum Limerock Bearing Ratio (LBR) of 100 and should be compacted to 100 percent of the modified Proctor maximum dry density (ASTM D 1557, AASHTO T-180) value.

The subgrade material should have a minimum LBR of 40 and be compacted to 98 percent of the modified Proctor maximum dry density (ASTM D 1557, AASHTO T-180) value.

Satisfactory pavement life is dependent on dry/strong pavement support provided by the base and subgrade courses. Accordingly, a minimum clearance of 2 feet must be maintained between the estimated seasonal high groundwater table and the bottom of the base layer, or 2.5 feet below the pavement surface. Depending on final pavement grades, subsurface drains may be required to maintain dry base and subgrade materials. Once the final paving and drainage plans are prepared, we would be pleased to review them and the need for underdrains.

## 5.4 Pond Considerations

### 5.4.1 Soil Permeability

The results of the permeability tests indicated the following vertical permeabilities:


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| Test Location | Test Depth (feet) | Measured Permeability (centimeters/seconds) |
|---|---|---|
| P-1 | 5 | $7.5 \times 10^{-4}$ cm/sec |
| P-2 | 6 | $5.3 \times 10^{-4}$ cm/sec |
| P-3 | 7 | $3.9 \times 10^{-4}$ cm/sec |
| P-4 | 8 | $7.2 \times 10^{-5}$ cm/sec |

### 5.4.2 Borrow Suitability

Based on the boring results and classification of the soil samples, the fine sands, fine sands with silt, silty fine sands as encountered at the boring locations, are considered suitable for use as fill soil. However, it should be noted that the USCS SM soils (i.e., soils with more than 12 percent passing the No. 200 sieve) will be more difficult to compact due to their natural tendency to retain soil moisture and will require drying. It should be anticipated that if the USCS SM soils are not properly dewatered prior to excavation, drying of these soils to obtain the proper moisture content for compaction may take approximately 2 to 3 weeks, if weather permits. Depending on the anticipated time for completing the site work portion of the project and the drying time required to preclude pumping and yielding of these soils during placement and compaction operations, these soils may be considered unsuitable for use as fill material. The surficial organic materials will require removal and are considered unsuitable for use as structural fill. The organic soils could be used in landscape berms.

It should be anticipated the soils in the proposed pond area that are below the groundwater level will have moisture contents in excess of the modified Proctor optimum moisture content and will require stockpiling or spreading to bring the moisture content within 2 percent of the soil's optimum moisture content corresponding to the required degree of compaction.

## *6.0 SITE PREPARATION AND EARTHWORK RECOMMENDATIONS*

Site preparation as outlined in this section should be performed to provide more uniform foundation bearing conditions, to reduce the potential for post-construction settlements of the planned structures and to maintain the integrity of a flexible pavement section.

### 6.1 Clearing and Stripping

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 structures.

The "footprint" of the proposed building plus a minimum additional margin of 5 feet, and of the hardscape areas (parking/driveway) plus a minimum additional margin of 3 feet, should be stripped of all surface vegetation, stumps, debris, organic topsoil, or other deleterious materials. During grubbing operations, roots with a diameter greater than 0.5-inch, stumps, or small roots in a concentrated state, should be grubbed and completely removed.

Based on the results of our field exploration, it should be anticipated that 6 to 12 inches of topsoil

and soils containing significant amounts of organic materials may be encountered across the site. The actual depths of unsuitable soils and materials should be determined by Meskel & Associates Engineering using visual observation and judgment during earthwork operations. Any topsoils removed from the building and parking/drive areas can be stockpiled and used subsequently in areas to be grassed.

## 6.2 Temporary Groundwater Control

Because of the need for densification of the soils within the upper 2 feet below the stripped surface, temporary groundwater control measures may be required if the groundwater level is within 2 feet below the stripped and grubbed surface at the time of construction. Should groundwater control measures become necessary, dewatering methods should be determined by the contractor. We recommend the groundwater control measures, if necessary, remain in place until compaction of the existing soils is completed. The dewatering method should be maintained until backfilling has reached a height of 2 feet above the groundwater level at the time of construction. The site should be graded to direct surface water runoff from the construction area.

Note that discharge of produced groundwater to surface waters of the state from dewatering operations or other site activities is regulated and requires a permit from the State of Florida Department of Environmental Protection (FDEP). This permit is termed a *Generic Permit for the Discharge of Produced Groundwater From Any Non-Contaminated Site Activity*. If discharge of produced groundwater is anticipated, we recommend sampling and testing of the groundwater early in the site design phase to prevent project delays during construction. MAE can provide the sampling, testing, and professional consulting required to evaluate compliance with the regulations.

## 6.3 Compaction

After completing the clearing and stripping operations and installing the temporary groundwater control measures (if required), the exposed surface area should be compacted with a vibratory drum roller having a minimum static, at-drum weight, on the order of 4 to 6 tons. Typically, the material should exhibit moisture contents within ±2 percent of the modified Proctor optimum moisture content (ASTM D 1557) during the compaction operations. Compaction should continue until densities of at least 95 percent of the modified Proctor maximum dry density (ASTM D 1557) have been achieved within the upper 2 feet of the compacted natural soils at the site. Prior to compaction, proof-rolling of the site with a loaded dump truck is recommended to locate any unforeseen soft areas or unsuitable surface or near-surface soils.

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

Care should be exercised to avoid damaging any nearby structures while the compaction operation is underway. Prior to commencing compaction, occupants of adjacent structures should be notified, and the existing conditions of the structures should be documented with photographs and survey (if deemed necessary). Compaction should cease if deemed detrimental to adjacent structures, and Meskel & Associates Engineering should be contacted immediately. It is recommended that the vibratory roller remain a minimum of 50 feet from existing structures. Within this zone, use of a track-mounted bulldozer or a vibratory roller, operating in the static mode, is recommended.


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## 6.4 Structural Backfill and Fill Soils

Any structural backfill or fill required for site development should be placed in loose lifts not exceeding 12 inches in thickness and compacted by the use of the above described vibratory drum roller. The lift thickness should be reduced to 8 inches if the roller operates in the static mode or if track-mounted compaction equipment is used. If hand-held compaction equipment is used, the lift thickness should be further reduced to 6 inches.

Structural fill 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 percent organic material. The fine sand and slightly silty or clayey fine sand, without roots, as encountered in the borings, are suitable as fill materials and, with proper moisture control, should densify using conventional compaction methods. It should be noted that soils with more than 10 to 12 percent passing the No. 200 sieve will be more difficult to compact, due to their nature to retain soil moisture, and may require drying. Typically, the material should exhibit moisture contents within ±2 percent of the modified Proctor optimum moisture content (ASTM D 1557) during the compaction operations. Compaction should continue until densities of at least 95 percent of the modified Proctor maximum dry density (ASTM D 1557) have been achieved within each lift of the compacted structural fill.

## 6.5 Foundation Areas

After satisfactory placement and compaction of the required structural fill, the foundation areas may be excavated to the planned bearing levels. The foundation bearing level soils, after compaction, should exhibit densities equivalent to 95 percent of the modified Proctor maximum dry density (ASTM D 1557), to a depth of one foot below the bearing level. For confined areas, such as the footing excavations, any additional compaction operations can probably best be performed by the use of a lightweight vibratory sled or roller having a total weight on the order of 500 to 2000 pounds.

## 6.6 Pavement Areas

After completing the clearing/stripping operations in the pavement areas, any underlying clayey sands and sandy clays that are within 2 feet of the bottom of the pavement base should be over-excavated from within the pavement areas. Structural backfill and fill required to achieve the finish pavement grades then can be placed and compacted as described Section 6.3 above. As an exception, densities of at least 98 percent of the modified Proctor maximum dry density (ASTM D1557) should be obtained within the upper one foot of the materials immediately below the proposed base course.

# *7.0 QUALITY CONTROL TESTING*

A representative number of field in-place density tests should be made in the upper 2 feet of compacted natural soils, in each lift of compacted backfill and fill, and in the upper 12 inches below the bearing levels in the footing excavations. The density tests are considered necessary to verify that satisfactory compaction operations have been performed. We recommend density testing be performed as listed below:

- one location for every 5,000 square feet of building area
- 25 percent of any isolated column footing locations
- one location for every 100 linear feet of continuous wall footings
- one location for every 10,000 square feet of pavement area


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## *8.0 REPORT LIMITATIONS*

This report has been prepared for the exclusive use of The City of Jacksonville (COJ) for specific application to the design and construction of the Fire Station #73 project. An electronically signed and sealed version, and a version of our report that is signed and sealed in blue ink, may be considered an original of the report. Copies of an original should not be relied on unless specifically allowed by MAE in writing. Our work for this project was performed in accordance with generally accepted geotechnical engineering practice. No warranty, express or implied, is made.

The analyses and recommendations contained in this report are based on the data obtained from this project. This testing indicates subsurface conditions only at the specific locations and times, and only to the depths explored. These results do not reflect subsurface variations that may exist away from the boring locations and/or at depths below the boring termination depths. Subsurface conditions and water levels at other locations may differ from conditions occurring at the tested locations. In addition, it should be understood that the passage of time may result in a change in the conditions at the tested locations. If variations in subsurface conditions from those described in this report are observed during construction, the recommendations in this report must be re-evaluated.

The scope of our services did not include any environmental assessment or testing for the presence or absence of hazardous or toxic materials in the soil, groundwater, or surface water within or beyond the subject site. Any statements made in this report, and/or notations made on the generalized soil profiles or boring logs, regarding odors or other potential environmental concerns are based on observations made during execution of our scope of services and as such are strictly for the information of our client. No opinion of any environmental concern of such observations is made or implied. Unless complete environmental information regarding the site is already available, an environmental assessment is recommended.

If changes in the design or location of the structures, pavement areas and/or pond occur, the conclusions and recommendations contained in this report may need to be modified. We recommend that these changes be provided to us for our consideration. MAE is not responsible for conclusions, interpretations, opinions or recommendations made by others based on the data contained in this report.


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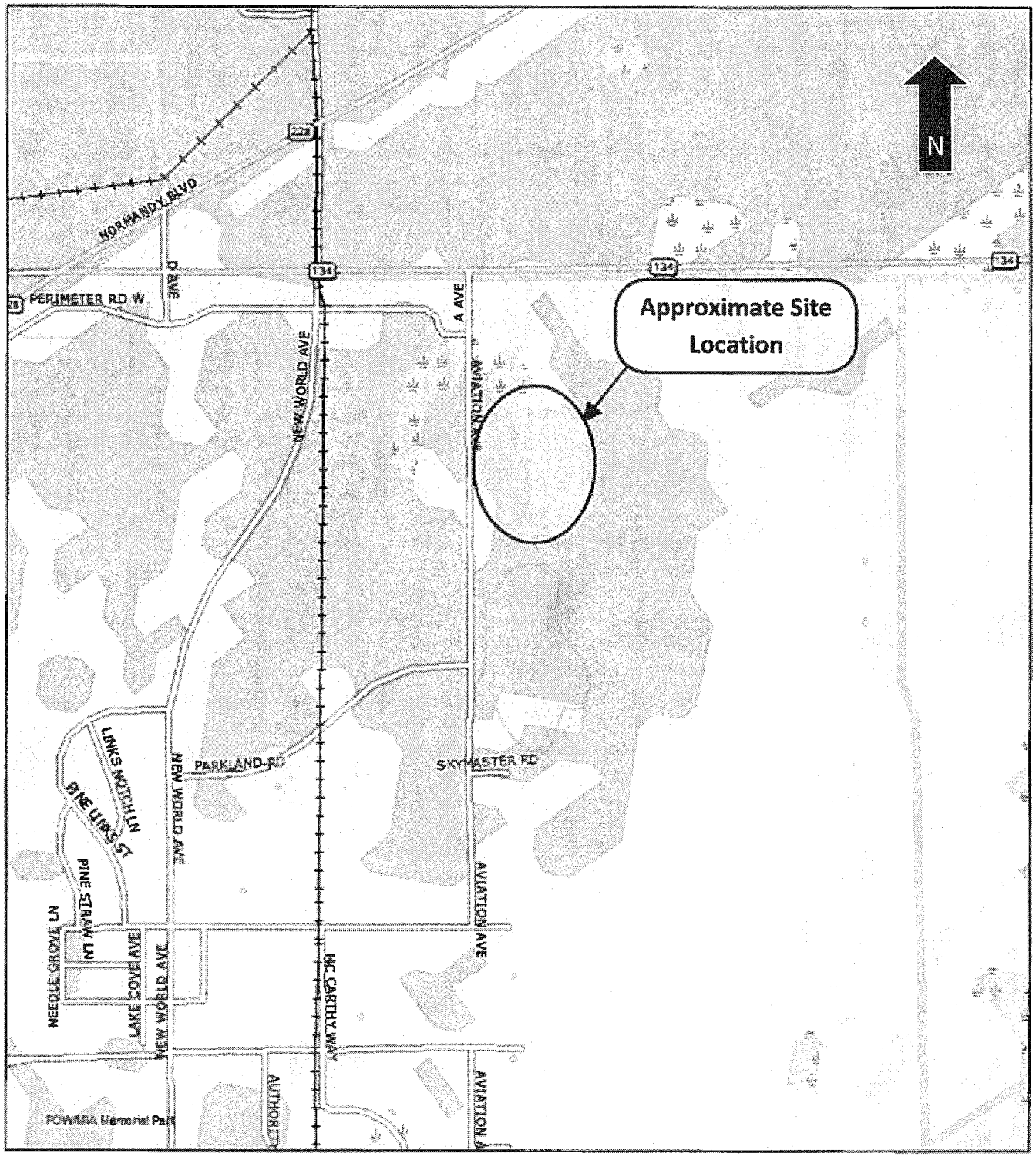
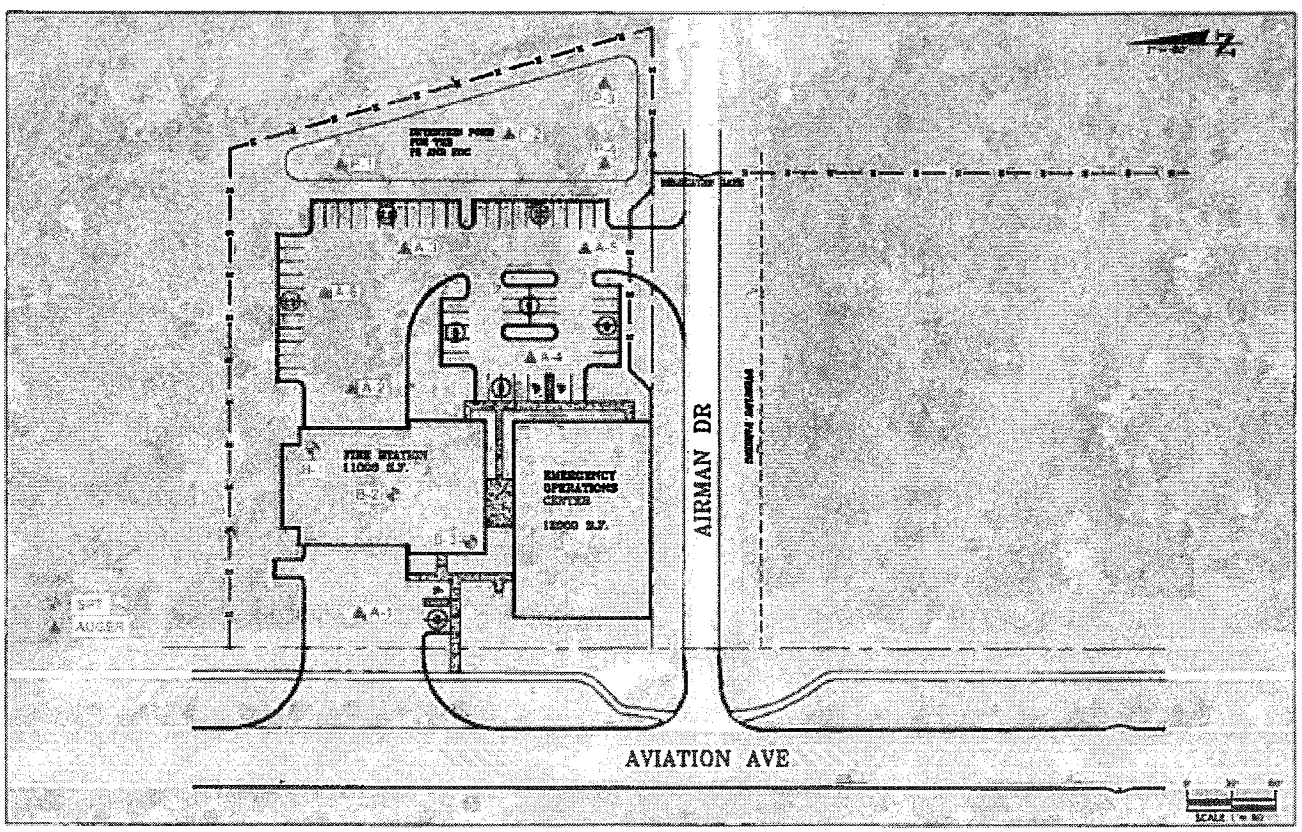
*Figures*



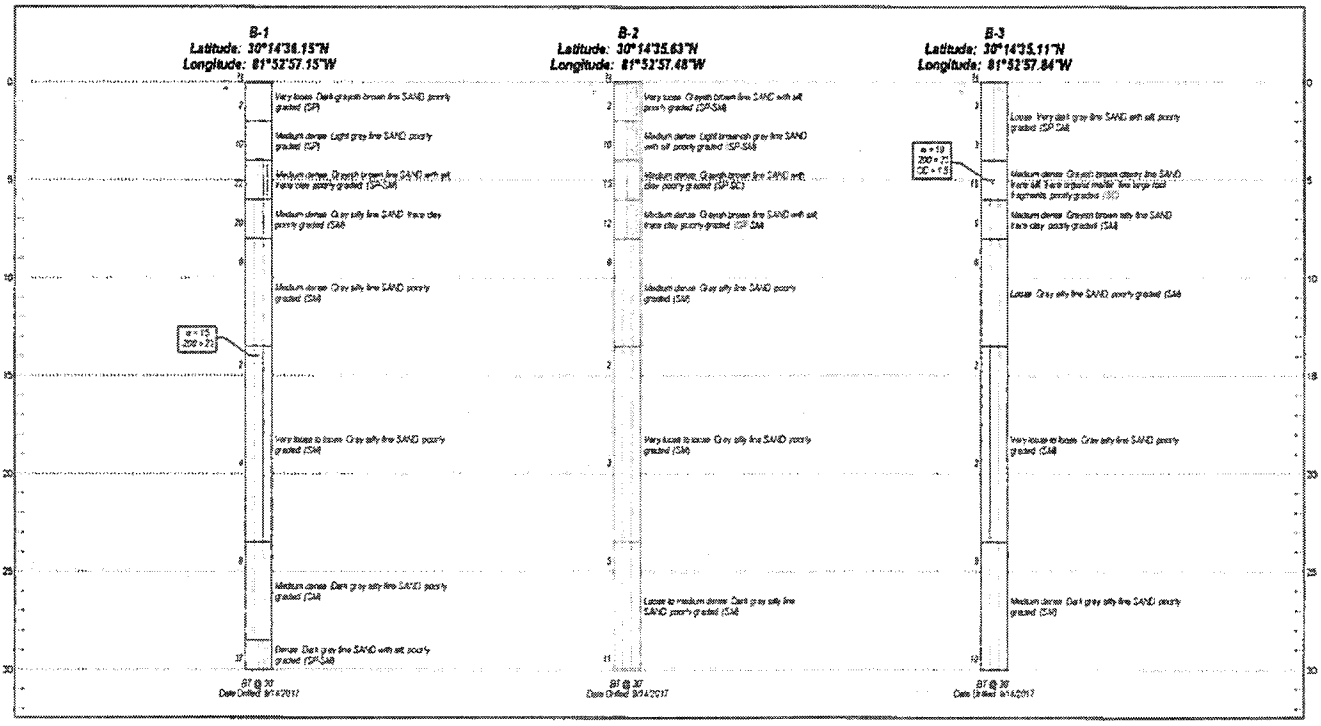

## Site Location Map

| PREPARED BY | PROJECT NAME | |
|---|---|---|
| MAE Meskel & Associates Engineering | Fire Station No. 73<br>Jacksonville, Florida | |
| | REFERENCE | SCALE |
| | Delorme XMap 7.0 | NTS |
| PREPARED FOR | MAE PROJECT NO. | FIGURE NO. |
| City of Jacksonville | 0124-01.006 | 1 |




NOTE. Geotechnical Exploration Plan dated July 20, 2017 was provided by City of Jacksonville.

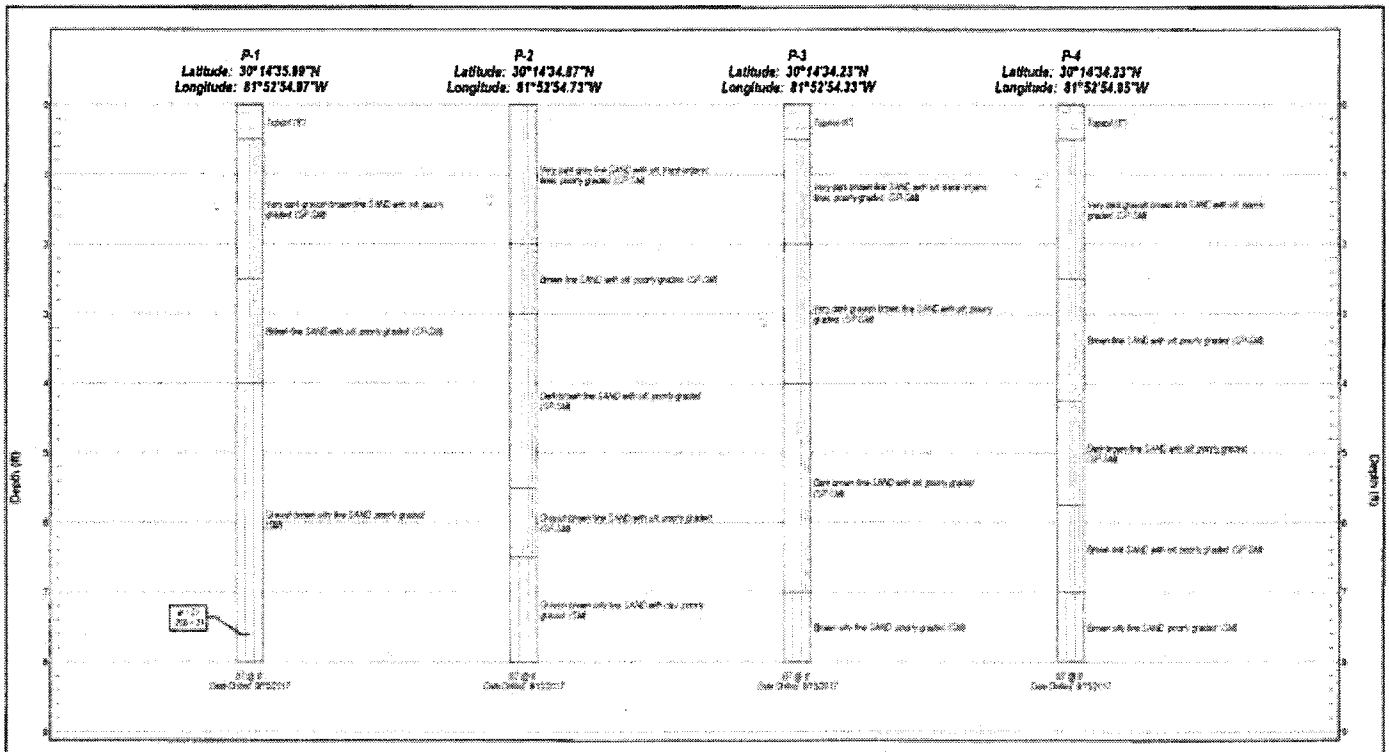
| REVISIONS | | | | | | MAE | CLIENT: City of Jacksonville | | SHEET TITLE: BORING LOCATION PLAN | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 9/28/2017 | 7124-01008 | Fire Station No. 73<br>Jacksonville, Florida | 2 |



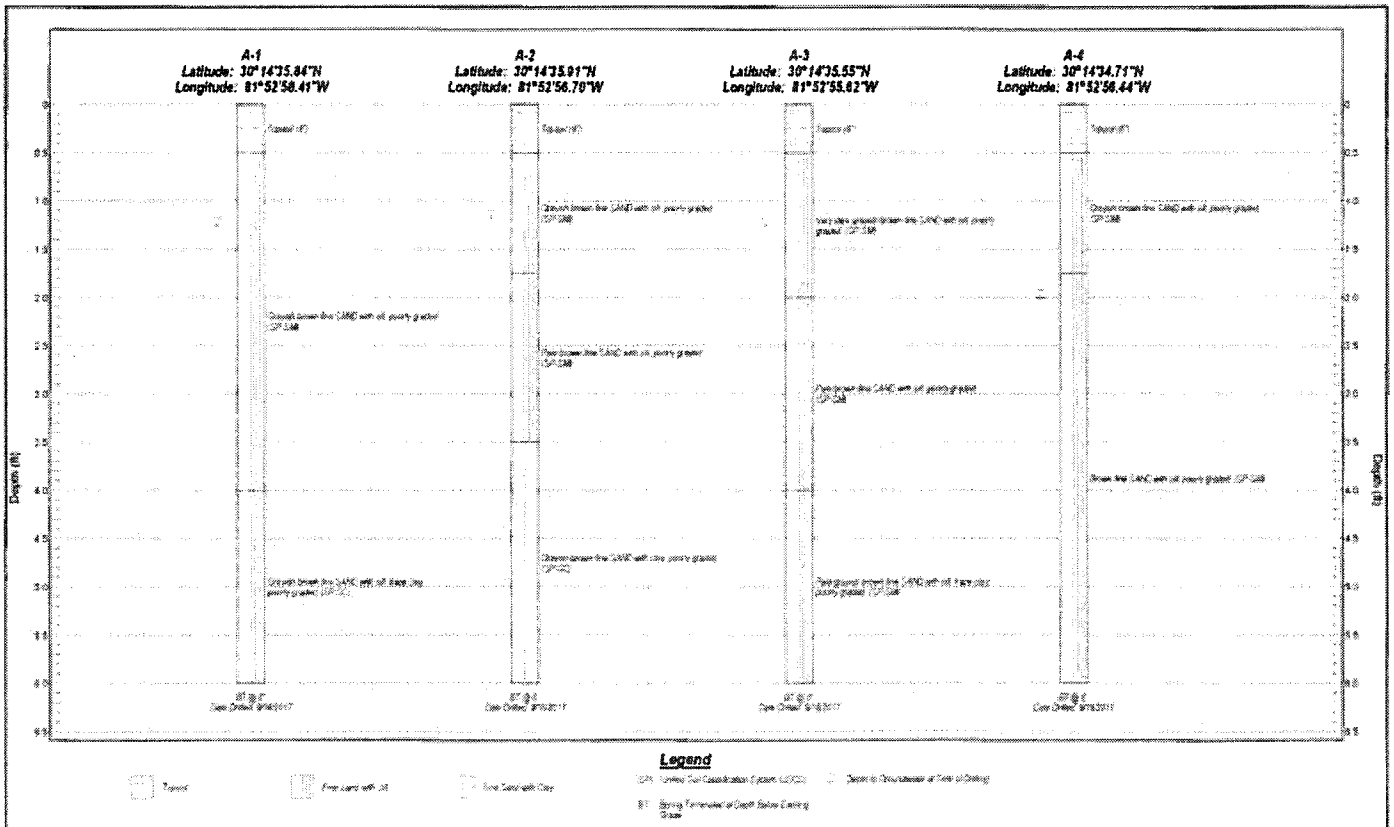

## Legend

- Fine Sand
- Fine Sand with Clay
- Fine Sand with Silt
- Clayey Fine Sand
- Silty Fine Sand
- Br Standard Penetration Resistance (Blows/Foot)
- BT Boring Terminated at Depth Below Existing Grade
- USCS Unified Soil Classification System (USCS)
- Depth to Groundwater at Time of Drilling
- w Natural Moisture Content (%)
- 200 % Passing No. 200 U.S. Standard Sieve
- OC Organic Content (%)

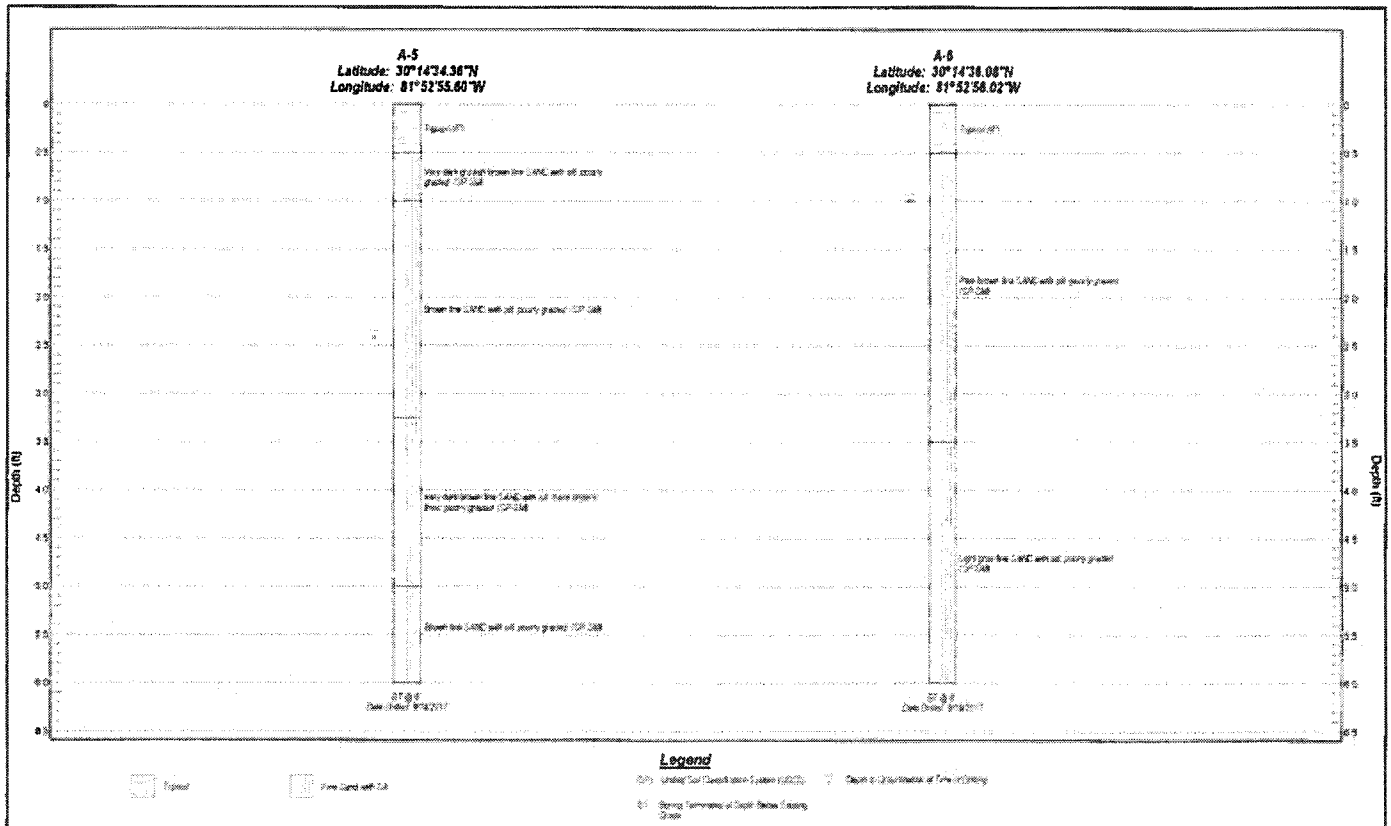
| | | | |
|---|---|---|---|
| MAE | City of Jacksonville | | Generalized Soil Profiles |
| | Date: 9/25/2017 | MAE Project No.: 01(A-D)-006 | Fire Station No. 73<br>Jacksonville, Florida |
| | | | Sheet No. 3 |




| | | | |
|---|---|---|---|
| MAE | City of Jacksonville | | Generalized Soil Profiles |
| | 8/25/2017 | 0124-01-008 | Fire Station No. 73<br>Jacksonville, Florida |
| | | | 4 |




| | | | |
|---|---|---|---|
| | MAE | City of Jacksonville | Generalized Soil Profiles |
| | | 8/23/2017 | Fire Station No. 71<br>Jacksonville, Florida |
| | | | 5 |




| | | | |
|---|---|---|---|
| | City of Jacksonville | Generalized Soil Profiles | |
| | | Fire Station No. 73<br>Jacksonville, Florida | 6 |

*Appendix A*

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Meskel & Associates Engineering

# BORING B-1



**PROJECT NO.** 0124-01.006

**PROJECT NAME** Fire Station No. 73
**PROJECT LOCATION** Jacksonville, Florida
**CLIENT** City of Jacksonville
**DATE STARTED** 9/14/17 **COMPLETED** 9/14/17
**LATITUDE** 30°14'36.15"N **LONGITUDE** 81°52'57.15"W
**DRILLING CONTRACTOR** MAE, LLC
**DRILLING METHOD** Standard Penetration Test
**LOGGED BY** C.Morgan **CHECKED BY** W. Josh Mele
**GROUND ELEVATION** — **HAMMER TYPE** Automatic

| DEPTH (ft) | SAMPLE DEPTH NUMBER | MATERIAL DESCRIPTION | USCS | GRAPHIC LOG | BLOW COUNTS | N-VALUE | MOISTURE CONTENT (%) | FINES CONTENT (%) | ORGANIC CONTENT (%) | LIQUID LIMIT | PLASTICITY INDEX | POCKET PEN. (tsf) | RECOVERY % (RQD) | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 1 | Very loose, Dark grayish brown fine SAND, poorly graded. | SP | | WOH↓ 2 2 | 2 | | | | | | | | |
| | 2 | Medium dense, Light gray fine SAND, poorly graded. | SP | | 2 4 6 7 | 10 | | | | | | | | |
| 5 | 3 | Medium dense, Grayish brown fine SAND with silt, trace clay, poorly graded. | SP-SM | | 6 11 11 12 | 22 | | | | | | | | |
| | 4 | Medium dense, Gray silty fine SAND, trace clay, poorly graded. | SM | | 7 10 10 13 | 20 | | | | | | | | |
| 10 | 5 | Medium dense, Gray silty fine SAND, poorly graded. | SM | | 3 4 4 3 | 8 | | | | | | | | |
| 15 | 6 | | | | 1 1 1 | 2 | 15 | 23 | | | | | | |
| | | Very loose to loose, Gray silty fine SAND, poorly graded. | SM | | | | | | | | | | | |
| 20 | 7 | | | | 2 2 2 | 4 | | | | | | | | |

**NOTES** WOH-Sampler advanced by weight of hammer only.

**GROUND WATER LEVELS**

▽ **AT TIME OF DRILLING** 0 ft 4 in ▽ **END OF DAY** --

*(Continued Next Page)*

NEW MAE LOG LAT/LONG-EOD - NEW TEMPLATE 7-30-12.GDT - 9/26/17 08:24 - F:\GINT\GINT FILES\PROJECTS\0124-01 006\FIRESTATION # 73.GPJ

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Meskel & Associates Engineering

# BORING B-1



**PROJECT NO.** 0124-01.006

**PROJECT NAME** Fire Station No. 73

**PROJECT LOCATION** Jacksonville, Florida **CLIENT** City of Jacksonville

| DEPTH (ft) | SAMPLE DEPTH NUMBER | MATERIAL DESCRIPTION | USCS | GRAPHIC LOG | BLOW COUNTS | N-VALUE | MOISTURE CONTENT (%) | FINES CONTENT (%) | ORGANIC CONTENT (%) | LIQUID LIMIT | PLASTICITY INDEX | POCKET PEN. (tsf) | RECOVERY % (RQD) | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | | Very loose to loose, Gray silty fine SAND, poorly graded. *(continued)* | SM | | | | | | | | | | | |
| 25 | 8 | | | | 4<br>4<br>4 | 8 | | | | | | | | |
| | | Medium dense, Dark gray silty fine SAND, poorly graded. | SM | | | | | | | | | | | |
| 30 | 9 | Dense, Dark gray fine SAND with silt, poorly graded. | SP-SM | | 6<br>17<br>20 | 37 | | | | | | | | |
| | | Bottom of borehole at 30 feet. | | | | | | | | | | | | |

**NOTES**

**GROUND WATER LEVELS**

AT TIME OF DRILLING 0 ft 4 in END OF DAY ---

NEW MAE LOG LAT/LONG-EOD - NEW TEMPLATE 7-30-12.GDT - 9/28/17 08:24 - F:\GINT\GINT FILES\PROJECTS\0124-01.006\FIRESTATION # 73.GPJ

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Meskel & Associates Engineering

# BORING B-2



**PROJECT NO.** 0124-01.006

**PROJECT NAME** Fire Station No. 73
**PROJECT LOCATION** Jacksonville, Florida
**CLIENT** City of Jacksonville
**DATE STARTED** 9/14/17 **COMPLETED** 9/14/17
**LATITUDE** 30°14'35.63"N **LONGITUDE** 81°52'57.48"W
**DRILLING CONTRACTOR** MAE, LLC
**DRILLING METHOD** Standard Penetration Test
**LOGGED BY** C.Morgan **CHECKED BY** W. Josh Mele
**GROUND ELEVATION** — **HAMMER TYPE** Automatic

| DEPTH (ft) | SAMPLE DEPTH NUMBER | MATERIAL DESCRIPTION | USCS | GRAPHIC LOG | BLOW COUNTS | N-VALUE | MOISTURE CONTENT (%) | FINES CONTENT (%) | ORGANIC CONTENT (%) | LIQUID LIMIT | PLASTICITY INDEX | POCKET PEN. (tsf) | RECOVERY % (RQD) | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 1 | Very loose, Grayish brown fine SAND with silt, poorly graded. | SP-SM | | WOH 1 1 3 | 2 | | | | | | | | |
| | 2 | Medium dense, Light brownish gray fine SAND with silt, poorly graded. | SP-SM | | 2 5 5 4 | 10 | | | | | | | | |
| 5 | 3 | Medium dense, Grayish brown fine SAND with clay, poorly graded. | SP-SC | | 3 6 9 12 | 15 | | | | | | | | |
| | 4 | Medium dense, Grayish brown fine SAND with silt, trace clay, poorly graded. | SP-SM | | 3 4 8 9 | 12 | | | | | | | | |
| 10 | 5 | Medium dense, Gray silty fine SAND, poorly graded. | SM | | 3 4 4 5 | 8 | | | | | | | | |
| 15 | 6 | Very loose to loose, Gray silty fine SAND, poorly graded. | SM | | 1 1 1 | 2 | | | | | | | | |
| 20 | 7 | | | | 1 2 1 | 3 | | | | | | | | |

**NOTES** WOH-Sampler advanced by weight of hammer only.

**GROUND WATER LEVELS**

AT TIME OF DRILLING 0 ft 6 in * END OF DAY —

*(Continued Next Page)*

NEW MAE LOG LATLONG-EOD - NEW TEMPLATE 7-30-12.GDT - 9/26/17 08:24 - F:\GINT\GINT FILES\PROJECTS\0124-01 006\FIRESTATION # 73.GPJ

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Meskel & Associates Engineering

# BORING B-2



**PROJECT NO.** 0124-01.006

**PROJECT NAME** Fire Station No. 73

**PROJECT LOCATION** Jacksonville, Florida

**CLIENT** City of Jacksonville

| DEPTH (ft) | SAMPLE DEPTH NUMBER | MATERIAL DESCRIPTION | USCS | GRAPHIC LOG | BLOW COUNTS | N-VALUE | MOISTURE CONTENT (%) | FINES CONTENT (%) | ORGANIC CONTENT (%) | LIQUID LIMIT | PLASTICITY INDEX | POCKET PEN. (tsf) | RECOVERY % (RQD) | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | | Very loose to loose, Gray silty fine SAND, poorly graded. *(continued)* | SM | | | | | | | | | | | |
| 25 | 8 | | | | 4<br>3<br>2 | 5 | | | | | | | | |
| | | Loose to medium dense, Dark gray silty fine SAND, poorly graded. | SM | | | | | | | | | | | |
| 30 | 9 | | | | 5<br>5<br>6 | 11 | | | | | | | | |
| | | Bottom of borehole at 30 feet. | | | | | | | | | | | | |

**NOTES**

**GROUND WATER LEVELS**

**AT TIME OF DRILLING** 0 ft 6 in **END OF DAY** ---

NEW MAE LOG LAT/LONG-EOD - NEW TEMPLATE 7-30-12.GDT - 9/26/17 08:24 - F:\GINT\GINT FILES\PROJECTS\0124-01.006\FIRESTATION # 73.GPJ

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# BORING B-3



**PROJECT NO.** 0124-01 006

**PROJECT NAME** Fire Station No. 73
**PROJECT LOCATION** Jacksonville, Florida
**CLIENT** City of Jacksonville
**DATE STARTED** 9/14/17 **COMPLETED** 9/14/17
**LATITUDE** 30°14'35.11"N **LONGITUDE** 81°52'57.84"W
**DRILLING CONTRACTOR** MAE, LLC
**DRILLING METHOD** Standard Penetration Test
**LOGGED BY** C.Morgan **CHECKED BY** W. Josh Mele
**GROUND ELEVATION** --- **HAMMER TYPE** Automatic

| DEPTH (ft) | SAMPLE DEPTH NUMBER | MATERIAL DESCRIPTION | USCS | GRAPHIC LOG | BLOW COUNTS | N-VALUE | MOISTURE CONTENT (%) | FINES CONTENT (%) | ORGANIC CONTENT (%) | LIQUID LIMIT | PLASTICITY INDEX | POCKET PEN. (tsf) | RECOVERY % (RQD) | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 1 | Loose, Very dark gray fine SAND with silt, poorly graded. | SP-SM | | 0 1 2 2 | 3 | | | | | | | | |
| | 2 | | | | 1 1 2 3 | 3 | | | | | | | | |
| 5 | 3 | Medium dense, Grayish brown clayey fine SAND, trace silt, trace organic matter, few large root fragments, poorly graded. | SC | | 5 10 6 7 | 16 | 19 | 25 | 1.5 | | | | | |
| | 4 | Medium dense, Grayish brown silty fine SAND, trace clay, poorly graded. | SM | | 3 4 5 6 | 9 | | | | | | | | |
| 10 | 5 | Loose, Gray silty fine SAND, poorly graded. | SM | | 3 3 3 3 | 6 | | | | | | | | |
| 15 | 6 | | | | 1 1 1 | 2 | | | | | | | | |
| | | Very loose to loose, Gray silty fine SAND, poorly graded. | SM | | | | | | | | | | | |
| 20 | 7 | | | | 1 1 2 | 3 | | | | | | | | |

**NOTES**

**GROUND WATER LEVELS**

**AT TIME OF DRILLING** 0 ft 6 in **END OF DAY** ---

*(Continued Next Page)*

NEW MAE LOG LAT/LONG-EOD - NEW TEMPLATE 7-30-12.GDT - 9/26/17 08:24 - F:\GINT\GINT FILES\PROJECTS\0124-01 006\FIRESTATION # 73.GPJ

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# BORING B-3



PROJECT NO. 0124-01.006

**PROJECT NAME** Fire Station No. 73

**PROJECT LOCATION** Jacksonville, Florida **CLIENT** City of Jacksonville

| DEPTH (ft) | SAMPLE DEPTH NUMBER | MATERIAL DESCRIPTION | USCS | GRAPHIC LOG | BLOW COUNTS | N-VALUE | MOISTURE CONTENT (%) | FINES CONTENT (%) | ORGANIC CONTENT (%) | LIQUID LIMIT | PLASTICITY INDEX | POCKET PEN. (tsf) | RECOVERY % (RQD) | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | | Very loose to loose, Gray silty fine SAND, poorly graded. *(continued)* | SM | | | | | | | | | | | |
| 25 | 8 | | | | 2 4 5 | 9 | | | | | | | | |
| | | Medium dense, Dark gray silty fine SAND, poorly graded. | SM | | | | | | | | | | | |
| 30 | 9 | | | | 4 4 6 | 10 | | | | | | | | |
| | | Bottom of borehole at 30 feet. | | | | | | | | | | | | |

NOTES

GROUND WATER LEVELS

AT TIME OF DRILLING 0 ft 6 in ▲ END OF DAY ---

NEW MAE LOG LAT/LONG-EOD - NEW TEMPLATE 7-30-12.GDT - 9/28/17 08:24 - F:\GINT\GINT FILES\PROJECTS\0124-01 006\FIRESTATION # 73.GPJ

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# BORING P-1



**PROJECT NO.** 0124-01.006

**PROJECT NAME** Fire Station No. 73
**PROJECT LOCATION** Jacksonville, Florida
**CLIENT** City of Jacksonville
**DATE STARTED** 9/15/17 **COMPLETED** 9/15/17
**LATITUDE** 30°14'35.99"N **LONGITUDE** 81°52'54.97"W
**DRILLING CONTRACTOR** MAE, LLC
**DRILLING METHOD** Hand Auger
**LOGGED BY** C.Morgan **CHECKED BY** W. Josh Mele
**GROUND ELEVATION** — **HAMMER TYPE** —

| DEPTH (ft) | SAMPLE DEPTH NUMBER | MATERIAL DESCRIPTION | USCS | GRAPHIC LOG | BLOW COUNTS | N-VALUE | MOISTURE CONTENT (%) | FINES CONTENT (%) | ORGANIC CONTENT (%) | LIQUID LIMIT | PLASTICITY INDEX | POCKET PEN. (tsf) | RECOVERY % (RQD) | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | | Topsoil (6") | | | | | | | | | | | | |
| | 1 | Very dark grayish brown fine SAND with silt, poorly graded. | SP-SM | | | | | | | | | | | |
| 2.5 | 2 | Brown fine SAND with silt, poorly graded. | SP-SM | | | | | | | | | | | |
| 5.0 | 3 | | | | | | | | | | | | | |
| | 4 | Grayish brown silty fine SAND, poorly graded. | SM | | | | | | | | | | | |
| 7.5 | 5 | | | | | | 21 | 21 | | | | | | |
| | | Bottom of borehole at 8 feet. | | | | | | | | | | | | |

**NOTES**

**GROUND WATER LEVELS**

AT TIME OF DRILLING 1 ft 6 in * END OF DAY --

NEW MAE LOG LAT/LONG-EOD-HA - NEW TEMPLATE 7-30-12.GDT - 9/26/17 08:48 - F:\GINT\GINT FILES\PROJECTS\0124-01.006\FIRESTATION # 73.GPJ

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# BORING P-2



**PROJECT NO.** 0124-01 006

**PROJECT NAME** Fire Station No. 73
**PROJECT LOCATION** Jacksonville, Florida
**CLIENT** City of Jacksonville
**DATE STARTED** 9/15/17 **COMPLETED** 9/15/17
**LATITUDE** 30°14'34.87"N **LONGITUDE** 81°52'54.73"W
**DRILLING CONTRACTOR** MAE, LLC
**DRILLING METHOD** Hand Auger
**LOGGED BY** C.Morgan **CHECKED BY** W. Josh Mele
**GROUND ELEVATION** — **HAMMER TYPE** —

| DEPTH (ft) | SAMPLE DEPTH NUMBER | MATERIAL DESCRIPTION | USCS | GRAPHIC LOG | BLOW COUNTS | N-VALUE | MOISTURE CONTENT (%) | FINES CONTENT (%) | ORGANIC CONTENT (%) | LIQUID LIMIT | PLASTICITY INDEX | POCKET PEN. (tsf) | RECOVERY % (RQD) | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 1 | Very dark gray fine SAND with silt, trace organic fines, poorly graded. | SP-SM | | | | | | | | | | | |
| 2.5 | 2 | Brown fine SAND with silt, poorly graded. | SP-SM | | | | | | | | | | | |
| 5.0 | 3 | Dark brown fine SAND with silt, poorly graded. | SP-SM | | | | | | | | | | | |
| | 4 | Grayish brown fine SAND with silt, poorly graded. | SP-SM | | | | | | | | | | | |
| 7.5 | 5 | Grayish brown silty fine SAND with clay, poorly graded. | SM | | | | | | | | | | | |
| | | Bottom of borehole at 8 feet. | | | | | | | | | | | | |

**NOTES**

**GROUND WATER LEVELS**

AT TIME OF DRILLING 1 ft 5 in END OF DAY —

NEW MAE LOG LAT/LONG-EOD-HA - NEW TEMPLATE 7-30-12.GDT - 9/26/17 08:48 - F:\GINTG\INT FILES\PROJECTS\0124-01 006\FIRESTATION # 73.GPJ

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# BORING P-3



**PROJECT NO.** 0124-01.006

**PROJECT NAME** Fire Station No. 73
**PROJECT LOCATION** Jacksonville, Florida
**CLIENT** City of Jacksonville
**DATE STARTED** 9/15/17 **COMPLETED** 9/15/17
**LATITUDE** 30°14'34.23"N **LONGITUDE** 81°52'54.33"W
**DRILLING CONTRACTOR** MAE, LLC
**DRILLING METHOD** Hand Auger
**LOGGED BY** C.Morgan **CHECKED BY** W. Josh Mele
**GROUND ELEVATION** — **HAMMER TYPE** —

| DEPTH (ft) | SAMPLE DEPTH NUMBER | MATERIAL DESCRIPTION | USCS | GRAPHIC LOG | BLOW COUNTS | N-VALUE | MOISTURE CONTENT (%) | FINES CONTENT (%) | ORGANIC CONTENT (%) | LIQUID LIMIT | PLASTICITY INDEX | POCKET PEN. (tsf) | RECOVERY % (RQD) | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | | Topsoil (6") | | | | | | | | | | | | |
| | 1 | Very dark brown fine SAND with silt, trace organic fines, poorly graded. | SP-SM | | | | | | | | | | | |
| 2.5 | 2 | Very dark grayish brown fine SAND with silt, poorly graded. | SP-SM | | | | | | | | | | | |
| 5.0 | 3 | Dark brown fine SAND with silt, poorly graded. | SP-SM | | | | | | | | | | | |
| 7.5 | 4 | Brown silty fine SAND, poorly graded. | SM | | | | | | | | | | | |
| | | Bottom of borehole at 8 feet. | | | | | | | | | | | | |

**NOTES**

**GROUND WATER LEVELS**

AT TIME OF DRILLING 3 ft 2 in END OF DAY —

NEW MAE LOG LAT/LONG-EOD-HA - NEW TEMPLATE 7-30-12.GDT - 9/26/17 08:46 - F:\GINTG\INT FILES\PROJECTS\0124-01.006\FIRESTATION # 73.GPJ

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# BORING P-4



**PROJECT NO.** 0124-01.006

**PROJECT NAME** Fire Station No. 73
**PROJECT LOCATION** Jacksonville, Florida
**CLIENT** City of Jacksonville
**DATE STARTED** 9/15/17 **COMPLETED** 9/15/17
**LATITUDE** 30°14'34.23"N **LONGITUDE** 81°52'54.95"W
**DRILLING CONTRACTOR** MAE, LLC
**DRILLING METHOD** Hand Auger
**LOGGED BY** C.Morgan **CHECKED BY** W. Josh Mele
**GROUND ELEVATION** — **HAMMER TYPE** —

| DEPTH (ft) | SAMPLE DEPTH NUMBER | MATERIAL DESCRIPTION | USCS | GRAPHIC LOG | BLOW COUNTS | N-VALUE | MOISTURE CONTENT (%) | FINES CONTENT (%) | ORGANIC CONTENT (%) | LIQUID LIMIT | PLASTICITY INDEX | POCKET PEN. (tsf) | RECOVERY % (RQD) | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | | Topsoil (6") | | | | | | | | | | | | |
| | 1 | Very dark grayish brown fine SAND with silt, poorly graded. | SP-SM | | | | | | | | | | | |
| 2.5 | 2 | Brown fine SAND with silt, poorly graded. | SP-SM | | | | | | | | | | | |
| 5.0 | 3 | Dark brown fine SAND with silt, poorly graded. | SP-SM | | | | | | | | | | | |
| | 4 | Brown fine SAND with silt, poorly graded. | SP-SM | | | | | | | | | | | |
| 7.5 | 5 | Brown silty fine SAND, poorly graded. | SM | | | | | | | | | | | |
| | | Bottom of borehole at 8 feet. | | | | | | | | | | | | |

**NOTES**

**GROUND WATER LEVELS**

**AT TIME OF DRILLING** 1 ft 2 in **END OF DAY** ---

NEW MAE LOG LAT/LONG-EOD-HA - NEW TEMPLATE 7-30-12.GDT - 9/26/17 08:48 - F:\GINT\GINT FILES\PROJECTS\0124-01.006\FIRESTATION # 73.GPJ

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# BORING A-1



**PROJECT NO.** 0124-01.006

**PROJECT NAME** Fire Station No. 73
**PROJECT LOCATION** Jacksonville, Florida
**CLIENT** City of Jacksonville
**DATE STARTED** 9/18/17 **COMPLETED** 9/18/17
**LATITUDE** 30°14'35.84"N **LONGITUDE** 81°52'58.41"W
**DRILLING CONTRACTOR** MAE, LLC
**DRILLING METHOD** Hand Auger
**LOGGED BY** C.Morgan **CHECKED BY** W. Josh Mele
**GROUND ELEVATION** — **HAMMER TYPE** —

| DEPTH (ft) | SAMPLE DEPTH NUMBER | MATERIAL DESCRIPTION | USCS | GRAPHIC LOG | BLOW COUNTS | N-VALUE | MOISTURE CONTENT (%) | FINES CONTENT (%) | ORGANIC CONTENT (%) | LIQUID LIMIT | PLASTICITY INDEX | POCKET PEN (tsf) | RECOVERY % (RQD) | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | | Topsoil (6") | | | | | | | | | | | | |
| | 1 | Grayish brown fine SAND with silt, poorly graded. | SP-SM | | | | | | | | | | | |
| 2.5 | 2 | | | | | | | | | | | | | |
| 5.0 | 3 | Grayish brown fine SAND with silt, trace clay, poorly graded. | SP-SC | | | | | | | | | | | |
| | | Bottom of borehole at 6 feet. | | | | | | | | | | | | |

**NOTES**

**GROUND WATER LEVELS**

AT TIME OF DRILLING 1 ft 3 in END OF DAY —

NEW MAE LOG LAT&LONG-EOD-HA - NEW TEMPLATE 7-30-12.GDT - 9/26/17 08:47 - F:\GINT\GINT FILES\PROJECTS\0124-01.006\FIRESTATION # 73.GPJ

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# BORING A-2



**PROJECT NO.** 0124-01.006

**PROJECT NAME** Fire Station No. 73
**PROJECT LOCATION** Jacksonville, Florida
**CLIENT** City of Jacksonville
**DATE STARTED** 9/18/17 **COMPLETED** 9/18/17
**LATITUDE** 30°14'35.91"N **LONGITUDE** 81°52'56.70"W
**DRILLING CONTRACTOR** MAE, LLC
**DRILLING METHOD** Hand Auger
**LOGGED BY** C.Morgan **CHECKED BY** W. Josh Mele
**GROUND ELEVATION** — **HAMMER TYPE** —

| DEPTH (ft) | SAMPLE DEPTH NUMBER | MATERIAL DESCRIPTION | USCS | GRAPHIC LOG | BLOW COUNTS | N-VALUE | MOISTURE CONTENT (%) | FINES CONTENT (%) | ORGANIC CONTENT (%) | LIQUID LIMIT | PLASTICITY INDEX | POCKET PEN. (tsf) | RECOVERY % (RQD) | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | | Topsoil (6") | | | | | | | | | | | | |
| | 1 | Grayish brown fine SAND with silt, poorly graded. | SP-SM | | | | | | | | | | | |
| 2.5 | 2 | Pale brown fine SAND with silt, poorly graded. | SP-SM | | | | | | | | | | | |
| 5.0 | 3 | Grayish brown fine SAND with clay, poorly graded. | SP-SC | | | | | | | | | | | |
| | | Bottom of borehole at 6 feet. | | | | | | | | | | | | |

**NOTES**

**GROUND WATER LEVELS**

AT TIME OF DRILLING 1 ft 2 in END OF DAY ---

NEW MAE LOG LAT/LONG-EOD-HA - NEW TEMPLATE 7-30-12.GDT - 9/26/17 08:47 - F:\GINTI\GINT FILES\PROJECTS\0124-01 006\FIRESTATION #73.GPJ

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# BORING A-3



**PROJECT NO.** 0124-01.006

**PROJECT NAME** Fire Station No. 73
**PROJECT LOCATION** Jacksonville, Florida
**CLIENT** City of Jacksonville
**DATE STARTED** 9/18/17 **COMPLETED** 9/18/17
**LATITUDE** 30°14'35.55"N **LONGITUDE** 81°52'55.62"W
**DRILLING CONTRACTOR** MAE, LLC
**DRILLING METHOD** Hand Auger
**LOGGED BY** C.Morgan **CHECKED BY** W. Josh Mele
**GROUND ELEVATION** — **HAMMER TYPE** —

| DEPTH (ft) | SAMPLE DEPTH NUMBER | MATERIAL DESCRIPTION | USCS | GRAPHIC LOG | BLOW COUNTS | N-VALUE | MOISTURE CONTENT (%) | FINES CONTENT (%) | ORGANIC CONTENT (%) | LIQUID LIMIT | PLASTICITY INDEX | POCKET PEN. (tsf) | RECOVERY % (RQD) | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | | Topsoil (6") | | | | | | | | | | | | |
| | 1 | Very dark grayish brown fine SAND with silt, poorly graded. | SP-SM | | | | | | | | | | | |
| 2.5 | 2 | Pale brown fine SAND with silt, poorly graded. | SP-SM | | | | | | | | | | | |
| 5.0 | 3 | Pale grayish brown fine SAND with silt, trace clay, poorly graded. | SP-SM | | | | | | | | | | | |
| | | Bottom of borehole at 6 feet. | | | | | | | | | | | | |

**NOTES**

**GROUND WATER LEVELS**

**AT TIME OF DRILLING** 1 ft 3 in **END OF DAY** —

NEW MAE LOG LAT/LONG-EOD-HA - NEW TEMPLATE 7-30-12.GDT - 9/26/17 08:47 - F:\GINTI\GINT FILES\PROJECTS\0124-01.006\FIRESTATION # 73.GPJ

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# BORING A-4



**PROJECT NO.** 0124-01.006

**PROJECT NAME** Fire Station No. 73
**PROJECT LOCATION** Jacksonville, Florida
**CLIENT** City of Jacksonville
**DATE STARTED** 9/18/17 **COMPLETED** 9/18/17
**LATITUDE** 30°14'34.71"N **LONGITUDE** 81°52'56.44"W
**DRILLING CONTRACTOR** MAE, LLC
**DRILLING METHOD** Hand Auger
**LOGGED BY** C.Morgan **CHECKED BY** W. Josh Mele
**GROUND ELEVATION** — **HAMMER TYPE** —

| DEPTH (ft) | SAMPLE DEPTH NUMBER | MATERIAL DESCRIPTION | USCS | GRAPHIC LOG | BLOW COUNTS | N-VALUE | MOISTURE CONTENT (%) | FINES CONTENT (%) | ORGANIC CONTENT (%) | LIQUID LIMIT | PLASTICITY INDEX | POCKET PEN. (tsf) | RECOVERY % (RQD) | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | | Topsoil (6") | | | | | | | | | | | | |
| | 1 | Grayish brown fine SAND with silt, poorly graded. | SP-SM | | | | | | | | | | | |
| 2.5 | 2 | Brown fine SAND with silt, poorly graded. | SP-SM | | | | | | | | | | | |
| | 3 | | | | | | | | | | | | | |
| 5.0 | | | | | | | | | | | | | | |
| | | Bottom of borehole at 6 feet. | | | | | | | | | | | | |

**NOTES**

**GROUND WATER LEVELS**

AT TIME OF DRILLING 2 ft 0 in * END OF DAY ---

NEW MAE LOG LAT/LONG-EOD-HA - NEW TEMPLATE 7-30-12.GDT - 9/26/17 08:47 - F:\GINT\GINT FILES\PROJECTS\0124-01.006\FIRESTATION #73.GPJ

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# BORING A-5



**PROJECT NO.** 0124-01.006

**PROJECT NAME** Fire Station No. 73
**PROJECT LOCATION** Jacksonville, Florida
**CLIENT** City of Jacksonville
**DATE STARTED** 9/18/17 **COMPLETED** 9/18/17
**LATITUDE** 30°14'34.36"N **LONGITUDE** 81°52'55.60"W
**DRILLING CONTRACTOR** MAE, LLC
**DRILLING METHOD** Hand Auger
**LOGGED BY** C.Morgan **CHECKED BY** W. Josh Mele
**GROUND ELEVATION** — **HAMMER TYPE** —

| DEPTH (ft) | SAMPLE DEPTH NUMBER | MATERIAL DESCRIPTION | USCS | GRAPHIC LOG | BLOW COUNTS | N-VALUE | MOISTURE CONTENT (%) | FINES CONTENT (%) | ORGANIC CONTENT (%) | LIQUID LIMIT | PLASTICITY INDEX | POCKET PEN. (tsf) | RECOVERY % (RQD) | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | | Topsoil (6") | | | | | | | | | | | | |
| | 1 | Very dark grayish brown fine SAND with silt, poorly graded. | SP-SM | | | | | | | | | | | |
| 2.5 | 2 | Brown fine SAND with silt, poorly graded. | SP-SM | | | | | | | | | | | |
| | 3 | Very dark brown fine SAND with silt, trace organic fines, poorly graded. | SP-SM | | | | | | | | | | | |
| 5.0 | 4 | Brown fine SAND with silt, poorly graded. | SP-SM | | | | | | | | | | | |
| | | Bottom of borehole at 6 feet. | | | | | | | | | | | | |

**NOTES**

**GROUND WATER LEVELS**

AT TIME OF DRILLING 2 ft 5 in END OF DAY —

NEW MAE LOG LAT/LONG-EOD-HA - NEW TEMPLATE 7-30-12.GDT - 9/26/17 08:47 - F:\GINT\GINT FILES\PROJECTS\0124-01 006\FIRESTATION # 73.GPJ

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# BORING A-6



**PROJECT NO.** 0124-01.006

**PROJECT NAME** Fire Station No. 73
**PROJECT LOCATION** Jacksonville, Florida
**CLIENT** City of Jacksonville
**DATE STARTED** 9/18/17 **COMPLETED** 9/18/17
**LATITUDE** 30°14'36.08"N **LONGITUDE** 81°52'56.02"W
**DRILLING CONTRACTOR** MAE, LLC
**DRILLING METHOD** Hand Auger
**LOGGED BY** C.Morgan **CHECKED BY** W. Josh Mele
**GROUND ELEVATION** — **HAMMER TYPE** —

| DEPTH (ft) | SAMPLE DEPTH NUMBER | MATERIAL DESCRIPTION | USCS | GRAPHIC LOG | BLOW COUNTS | N-VALUE | MOISTURE CONTENT (%) | FINES CONTENT (%) | ORGANIC CONTENT (%) | LIQUID LIMIT | PLASTICITY INDEX | POCKET PEN (tsf) | RECOVERY % (RQD) | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | | Topsoil (6") | | | | | | | | | | | | |
| | 1 | Pale brown fine SAND with silt, poorly graded. | SP-SM | | | | | | | | | | | |
| 2.5 | 2 | Light gray fine SAND with silt, poorly graded. | SP-SM | | | | | | | | | | | |
| 5.0 | 3 | | | | | | | | | | | | | |
| | | Bottom of borehole at 6 feet. | | | | | | | | | | | | |

**NOTES**

**GROUND WATER LEVELS**

**AT TIME OF DRILLING** 1 ft 0 in **END OF DAY** --

NEW MAE LOG LAT/LONG-EOD-HA - NEW TEMPLATE 7-30-12.GDT - 9/26/17 08:47 - F:\GINTNGINT FILES\PROJECTS\0124-01.006\FIRESTATION # 73.GPJ

## FIELD EXPLORATION PROCEDURES

### Standard Penetration Test (SPT) Borings

The Standard Penetration Test (SPT) boring(s) were performed in general accordance with the latest revision of ASTM D 1586, "Standard Test Method for Standard Penetration Test (SPT) and Split-Barrel Sampling of Soils." The borings were advanced by rotary drilling techniques. A split-barrel sampler was inserted to the borehole bottom and driven 18 to 24 inches into the soil using a 140-pound hammer falling an average of 30 inches per hammer blow. The number of hammer blows for the final 12 inches of penetration (18" sample) or for the sum of the middle 12 inches of penetration (24" sample) is termed the "penetration resistance, blow count, or N-value." This value is an index to several in-situ geotechnical properties of the material tested, such as relative density and Young's Modulus.

After driving the sampler, it 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 the laboratory where they were examined by a geotechnical engineer to verify the field descriptions and classify the soil, and to select samples for laboratory testing.

### Hand Auger Boring

The auger boring(s) were performed manually by the use of a hand-held bucket auger in general accordance with the latest revision of ASTM D 1452, "Standard Practice for Soil Exploration and Sampling by Auger Borings." Representative samples of the soils brought to the ground surface by the auger were placed in sealed containers and transported to our laboratory where they were examined by a geotechnical engineer to verify the field descriptions and classify the soil, and to select samples for laboratory testing.

# KEY TO BORING LOGS – USCS

## Soil Classification

Soil classification of samples obtained at the boring locations is based on the Unified Soil Classification System (USCS). Coarse grained soils have more than 50% of their dry weight retained on a #200 sieve. Their principal descriptors are: sand, cobbles and boulders. Fine grained soils have less than 50% of their dry weight retained on a #200 sieve. They are principally described as clays if they are plastic and silts if they are slightly to non-plastic. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size. In addition to gradation, coarse-grained soils are defined on the basis of their in-place relative density and fine-grained soils on the basis of their consistency.

**BORING LOG LEGEND**

| Symbol | Description |
|---|---|
| N | Standard Penetration Resistance, the number of blows required to advance a standard spoon sampler 12" when driven by a 140-lb hammer dropping 30". |
| WOR | Split Spoon sampler advanced under the weight of the drill rods |
| WOH | Split Spoon sampler advanced under the weight of the SPT hammer |
| 50/2" | Indicates 50 hammer blows drove the split spoon 2 inches; 50 Hammer blows for less than 6 inches of split spoon driving is considered "Refusal". |
| (SP) | Unified Soil Classification System |
| -200 | Fines content, % Passing No. 200 U.S. Standard Sieve |
| w | Natural Moisture Content (%) |
| OC | Organic Content (%) |
| LL | Liquid Limit |
| PI | Plasticity Index |
| NP | Non-Plastic |
| PP | Pocket Penetrometer in tons per square foot (tsf) |

**MODIFIERS**

| SECONDARY CONSTITUENTS (Sand, Silt or Clay) | |
|---|---|
| Trace | Less than 5% |
| With | 5% to 12% |
| Sandy, Silty or Clayey | 12% to 35% |
| Very Sandy, Very Silty or Very Clayey | 35% to 50% |

| ORGANIC CONTENT | |
|---|---|
| Trace | Less than 5% |
| Organic Soils | 5% to 20% |
| Highly Organic Soils (Muck) | 20% to 75% |
| PEAT | Greater than 75% |

| MINOR COMPONENTS (Shell, Rock, Debris, Roots, etc.) | |
|---|---|
| Trace | Less than 5% |
| Few | 5% to 10% |
| Little | 15% to 25% |
| Some | 30% to 45% |

**RELATIVE DENSITY (Coarse-Grained Soils)**

| Relative Density | N-Value * |
|---|---|
| Very Loose | Less than 3 |
| Loose | 3 to 8 |
| Medium Dense | 8 to 24 |
| Dense | 24 to 40 |
| Very Dense | Greater than 40 |

**CONSISTENCY (Fine-Grained Soils)**

| Consistency | N-Value * |
|---|---|
| Very Soft | Less than 1 |
| Soft | 1 to 3 |
| Firm | 3 to 6 |
| Stiff | 6 to 12 |
| Very Stiff | 12 to 24 |
| Hard | Greater than 24 |

**RELATIVE HARDNESS (Limestone)**

| Relative Hardness | N-Value * |
|---|---|
| Soft | Less than 50 |
| Hard | Greater than 50 |

* Using Automatic Hammer

# *Unified Soil Classification System (USCS)*
## *(from ASTM D 2487)*

| *Major Divisions* | | | *Group Symbol* | *Typical Names* |
|---|---|---|---|---|
| **Coarse-Grained Soils** More than 50% retained on the 0.075 mm (No. 200) sieve | **Gravels** 50% or more of coarse fraction retained on the 4.75 mm (No. 4) sieve | Clean Gravels | GW | Well-graded gravels and gravel-sand mixtures, little or no fines |
| | | | GP | Poorly graded gravels and gravel-sand mixtures, little or no fines |
| | | Gravels with Fines | GM | Silty gravels, gravel-sand-silt mixtures |
| | | | GC | Clayey gravels, gravel-sand-clay mixtures |
| | **Sands** 50% or more of coarse fraction passes the 4.75 (No. 4) sieve | Clean Sands | SW | Well-graded sands and gravelly sands, little or no fines |
| | | | SP | Poorly graded sands and gravelly sands, little or no fines |
| | | Sands with Fines | SM | Silty sands, sand-silt mixtures |
| | | | SC | Clayey sands, sand-clay mixtures |
| **Fine-Grained Soils** More than 50% passes the 0.075 mm (No. 200) sieve | **Silts and Clays** Liquid Limit 50% or less | | ML | Inorganic silts, very fine sands, rock four, silty or clayey fine sands |
| | | | CL | Inorganic clays of low to medium plasticity, gravelly/sandy/silty/lean clays |
| | | | OL | Organic silts and organic silty clays of low plasticity |
| | **Silts and Clays** Liquid Limit greater than 50% | | MH | Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts |
| | | | CH | Inorganic clays or high plasticity, fat clays |
| | | | OH | Organic clays of medium to high plasticity |
| **Highly Organic Soils** | | | PT | Peat, muck, and other highly organic soils |

Prefix: G = Gravel, S = Sand, M = Silt, C = Clay, O = Organic
Suffix: W = Well Graded, P = Poorly Graded, M = Silty, L = Clay, LL < 50%, H = Clay, LL > 50%

MAE
Meskel & Associates Engineering

*Appendix B*

**Meskel & Associates Engineering, LLC**
FL Certificate of Authorization No. 28142
8935 Western Way, Suite 12
Jacksonville, FL 32256
P (904)519-6990 F (904)519-6992

Meskel & Associates Engineering

# SUMMARY OF LABORATORY TEST RESULTS

**PROJECT NO.** 0124-01.006

**PROJECT NAME** Fire Station No. 73

**DATE** 9/27/2017

**PROJECT LOCATION** Jacksonville, Florida

**CLIENT** City of Jacksonville

| Borehole | Sample No. | Approx. Depth (ft) | %<#200 Sieve | Water Content (%) | Organic Content (%) | Liquid Limit | Plastic Limit | Plasticity Index | USCS Classification | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| B-1 | 6 | 15 | 23 | 29 | --- | --- | --- | --- | SM | |
| B-3 | 3 | 5 | 25 | 19 | 1.5 | --- | --- | --- | SC | |
| P-2 | 5 | 7 | 21 | 21 | --- | --- | --- | --- | SM | |

Note: "---" Untested Parameter

## LABORATORY TEST PROCEDURES

### Percent Fines Content

The percent fines or material passing the No. 200 mesh sieve of the sample tested was determined in general accordance with the latest revision of ASTM D 1140. The percent fines are the soil particles in the silt and clay size range.

### Natural Moisture Content

The water content of the tested sample was determined in general accordance with the latest revision of ASTM D 2216. The water content is defined as the ratio of "pore" or "free" water in a given mass of material to the mass of solid material particles.

### Organic Loss on Ignition (Percent Organics)

The organic loss on ignition or percent organic material in the sample tested was determined in general accordance with ASTM D 2974. The percent organics is the material, expressed as a percentage, which is burned off in a muffle furnace at 455±10 degrees Celsius.

## Williams, Maria

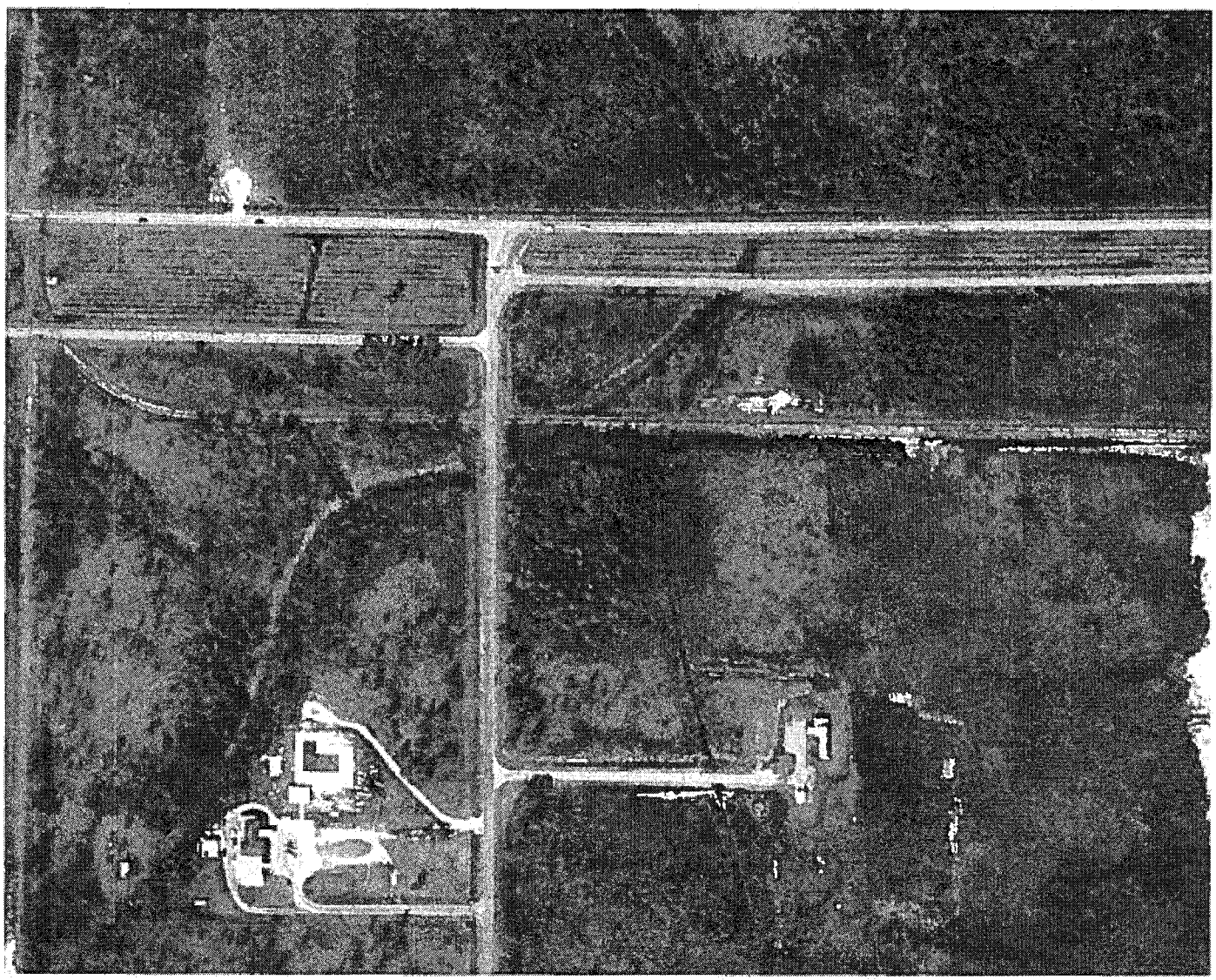
**From:** Fuller, Eric
**Sent:** Tuesday, August 22, 2017 6:10 PM
**To:** Kent, Duane; Williams, Maria
**Subject:** Aerials for Fire Station 73 site
**Attachments:** 1952 Aerial.pdf; 1960 Aerial.pdf; 1969 Aerial.docx; 1973 Aerial.docx; 1975 Aerial.docx; 1982 Aerial.docx; 1984 Aerial.docx

See attached aerials for the Fire Station 73 site. The 1952 and 1960 aerials will need to be rotated counterclockwise to face due north. I did not note any concerns for the site itself. Site appeared to be wooded or undeveloped land since at least 1952. Looks like a wetland is likely to be at the northern portion or adjoining to the north of the site. Aerials also reviewed via Google Earth between 1994 and 2017 – site was wooded or undeveloped. Looked to have been timbered in 2008/2009.

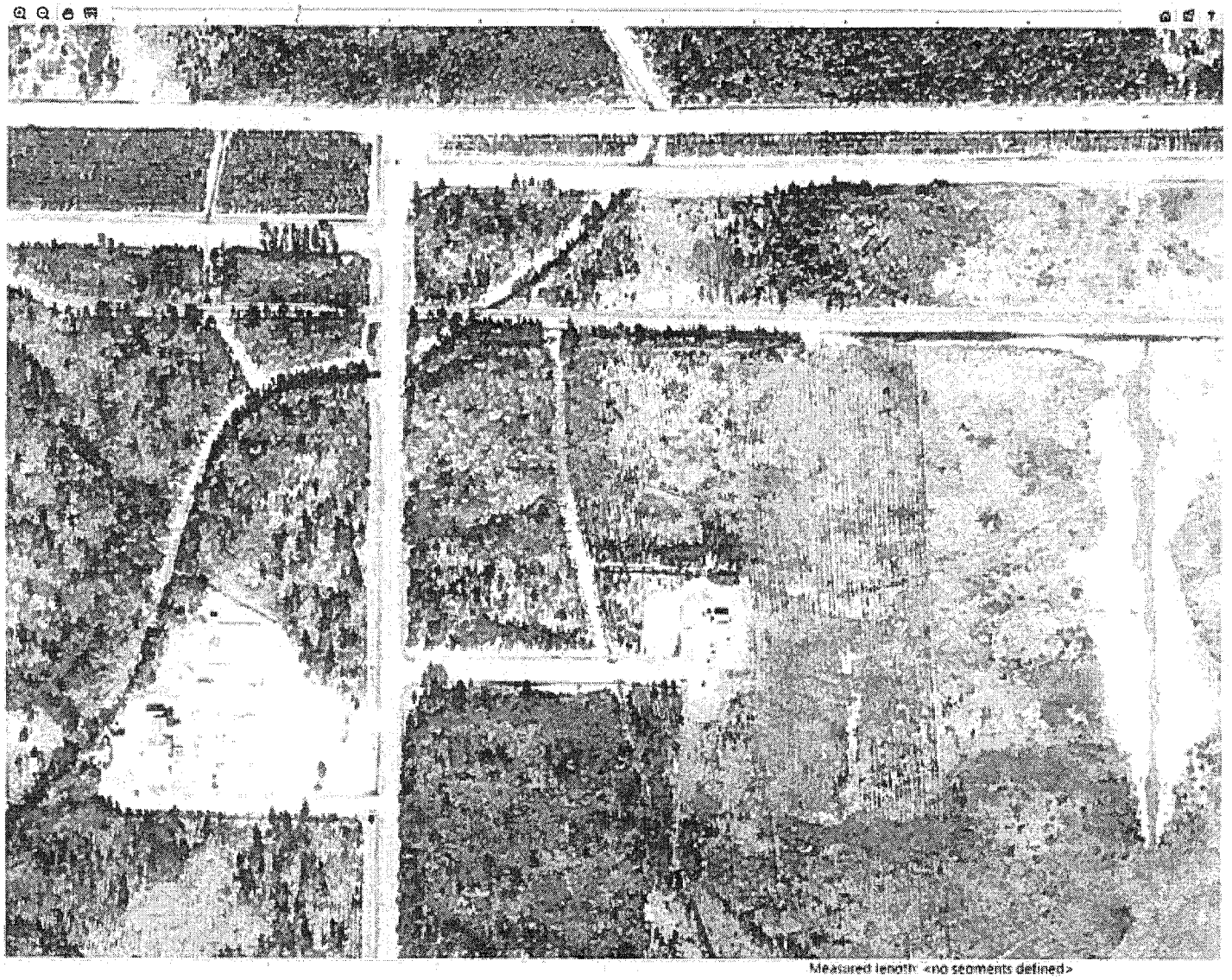
Eric B. Fuller
Environmental Programs Manager
City of Jacksonville
214 North Hogan Street, 10th Floor
Jacksonville, Florida 32202
Phone: (904) 255-7513
efuller@coj.net

Exhibit M

1952



1969 Aerial




1973 Aerial

1975 Aerial

Measured length: <no segments defined>

1982 Aerial

Measured length: <no segments defined>

1984 Aerial

**DRMP, INC.**

**Principals**
Wayne D. Chalifoux
Donaldson K. Barton, Jr
Glenn J. Lusink
Jon S. Meadows
Mark D. Prochak
Mark E. Puckett
Lawrence L. Smith, Jr

DRMP
ENGINEERS · SURVEYORS · PLANNERS · SCIENTISTS

August 21, 2017

***SENT VIA E-MAIL***

Maria C. Williams, P.E.
City of Jacksonville, Department of Public Works
Ed Ball Building
214 N. Hogan Street, 10th floor
Jacksonville, FL 32202

**Subject:** **Fire Station No. 73, Aviation Avenue at Airman Drive, Cecil Field, Topographic Survey and Subsurface Utility Engineering, Jacksonville, Florida**
**10122 – Miscellaneous Survey Services Annual Contract**

Dear Ms. Williams:

## SCOPE OF SERVICES

## PART I TOPOGRAPHIC SURVEY

DRMP will prepare a Topographic Survey of the above referenced project. Survey limits are based on an Exhibit provided to DRMP via email on August 18, 2017. Project site is about 286 feet by 417 feet and will include the adjacent Airman Drive (73 feet wide) and Aviation Avenue (93 feet wide) (East right of way line to west curb line). Topographic Survey will include existing above ground features, i.e., buildings, pavement, above ground utility appurtenances, fences, drainage structures (including pipe inverts, size and material). Topographic Survey will also include right of way lines and easements within project limits, if this information is provided to DRMP. Project control will be referenced to Florida State Plane Coordinate System, East Zone, North American Datum of 1983, Adjustment 2011 (NAD83(2011) and North American Vertical Datum of 1988 (NAVD88). The Survey will be performed in accordance with the State of Florida Standards of Practice, as set forth by the Board of Professional Surveyors and Mappers, Chapter 5J-17, Florida Administrative Code, pursuant to Section 472.027, Florida Statutes.

## PART II SUBSURFACE UTILITY ENGINEERING

DRMP will provide Subsurface Utility Engineering (Utility Designation), Level "B" for the above referenced project. This proposal assumes that there are 6 utilities within the right of way of Aviation Avenue. Total designation is about 2,400 feet. Designation flags will contain

8001 Belfort Parkway
Suite 200
Jacksonville, Florida 32256
Phone: 904.641.0123
Fax: 904.641.8858

Boca Raton, Florida
Charlotte, North Carolina
Chipley, Florida
Gainesville, Florida
Lakeland, Florida
Melbourne, Florida
Orlando, Florida
Panama City, Florida
Pensacola, Florida
Raleigh, North Carolina
Tallahassee, Florida
Tampa, Florida

1 800 375 3767
www.drmp.com



Exhibit N

detailed information on utilities such as type of facility, size, material and identification mark that will be added to the survey data collected. Efforts will be performed in accordance with Section 472.027, Florida Statutes Underground Facility Damage Prevention and Safety Act, Chapter 556, Florida Statutes. All work shall conform to ASCE C-1 38-02 utilizing quality Level "B".

## PART III SKETCH AND DESCRIPTION

DRMP will prepare a Sketch and Description of the proposed Fire Station No. 73 parcel. The legal description will be based on parcel geometry with ties to the parent tract provided to DRMP by the City of Jacksonville, Florida.

## PART IV BOUNDARY SURVEY

DRMP will prepare a Boundary Survey of the proposed Fire Station No. 73 parcel. The boundary survey will be based on information provided to DRMP and a field survey. The Survey will be performed in accordance with the State of Florida Standards of Practice, as set forth by the Board of Professional Surveyors and Mappers, Chapter 5J-17, Florida Administrative Code, pursuant to Section 472.027, Florida Statutes.

## PART V SCHEDULE

DRMP will begin work on the subject project within five (5) working days after receipt of your executed Notice to Proceed (NTP). Proposed fee and schedule shown hereon is valid for up to 45 days from the date of receipt.

## PART VI COMPENSATION SUMMARY AND TERMS

The following summarizes the fees and billing terms as proposed by DRMP for the Scope of Services as presented herein. All additional meetings and other tasks not detailed herein, as requested by the Client will be invoiced hourly. All terms will be in accordance with the **Miscellaneous Survey Services Annual Contract (10122).**

**Fee for Parts I-II**

| Item Description | Rate | Quantity | Fee |
|---|---|---|---|
| Project Manager | $132.22 per hour | 4 | $ 528.88 |
| Technician | $99.165 per hour | 20 | $ 1,983.30 |
| 2-Man Survey Crew | $140.283 per hour | 30 | $ 4,208.49 |
| 2-Man Utility Crew | $140.00 per hour | 10 | $ 1,400.00 |
| | | **Lump Sum Total** | **$ 8,120.67** |

**Fee for Part III (if approved)**

| Item Description | Rate | Quantity | Fee |
|---|---|---|---|
| Project Manager | $132.22 per hour | 2 | $ 264.44 |
| Technician | $99.165 per hour | 8 | $ 793.32 |
| | | **Lump Sum Total** | **$ 1,057.76** |

**Fee for Part IV (if approved)**

| Item Description | Rate | Quantity | Fee |
|---|---|---|---|
| Project Manager | $132.22 per hour | 4 | $ 528.88 |
| Technician | $99.165 per hour | 12 | $ 1,189.98 |
| 2-Man Survey Crew | $140.283 per hour | 12 | $ 1,683.40 |
| | | **Lump Sum Total** | **$ 3,402.26** |

***If the City of Jacksonville desires to change or expand upon these proposed services, an additional fee shall be negotiated. This renegotiation shall be accomplished prior to commencing the additional work, and may be necessary for any services which are not a part of this contract.***

We sincerely appreciate this opportunity to provide professional services for this project. Space has been provided for your acceptance of this proposal. Your signature will constitute a contract between us for the work, methods of compensation, etc. as specified herein. If you are in agreement, please sign and return two proposals to our office, we will then sign and return one to you. If you have any questions regarding this proposal, please contact our office.

Sincerely,
**DRMP, Inc.**

_____
C. William Faust, III, P.S.M. Date
Jacksonville Survey Manager

Accepted by:
**The City of Jacksonville**

| | |
|---|---|
| _____ | _____ |
| Authorized Signature Date | Witness signature Date |
| Print Name: _____ | Print Name: _____ |
| Title: _____ | Title: _____ |

- (Ord. 2009-211-E, § 1)
- **Sec. 327.103. - Definitions.**

For purposes of this Chapter, the following terms, words and phrases shall have the following meanings:

*Alternative sustainable building certification system* means a system adopted by the Environmental Protection Board for establishing sustainable building certification standards in addition to, and as an alternative to, LEED certification, GBI's Green Globes rating system, or FGBC green building standards.

*Department* means the Neighborhoods Department.

*FGBC* means the Florida Green Building Coalition.

*FSEC* means Florida Solar Energy Center, a unit of the University of Central Florida.

*GBI's Green Globes* mean the Green Building Initiative's Green Globes rating system.

*LEED* means the Leadership in Energy and Environmental Design Rating System of the U.S. Green Building Council.

*Sustainable building* means generally the resource efficient design, construction, and operation of buildings by employing environmentally sensible construction practices, systems, and materials. Sustainable building also means an office, residential or civic structure which has obtained sustainable building certification.

*Sustainable building certification* means the final designation awarded to a program participant for a particular project for satisfying all requirements associated with LEED certification, GBI's Green Globes rating system, FGBC's standards, or other certification systems approved by the Environmental Protection Board.

*Third party rater* means an independent third party certified by the USGBC, FGBC, GBI or an alternative sustainable building certification system as a sustainable building rater qualified to verify that the building project has satisfied all of the requirements associated with the standards applicable to a particular project.

*USGBC* means the U.S. Green Building Council.

(Ord. 2009-211-E, § 1; Ord. 2011-732-E; Ord. 2013-209-E, § 40; Ord. 2016-140-E, § 16)

Exhibit O

- **Sec. 327.104. - Administration.**

(a)

The Public Works Department is responsible to ensure compliance with applicable requirements of this Chapter in the construction of new City-owned buildings. The Public Works Department in consultation with the Department is also responsible for reviewing, assessing and making determinations concerning existing City owned buildings being considered for participation in the Sustainable Building Program and, in the event such buildings are so included, for ensuring compliance with the requirements of this Chapter.

(b)

The Environmental Protection Board may, through its rule-making process, adopt alternative sustainable building certification systems.

(c)

The Department shall coordinate at least one training workshop per year for the purpose of educating City staff and current and potential participants in the Jacksonville Sustainable Building Program on the program and its benefits and requirements. The Environmental Protection Fund may be utilized as a source for such training, subject to appropriation by the Council, notwithstanding the limitations of Sections 111.755 and 360.602.

(d)

The Planning and Development Department shall provide fast track development review pursuant to Section 327.106(a). The Planning and Development Department Director may, upon a showing of just cause by the aggrieved party, reconsider the administrative decision to deny persons or entities access to future fast track development review pursuant to Section 327.106(a).

(e)

The Sustainable Building Program shall be administered on either a per-unit or per-development basis, as specified at the time of permitting. "Per-unit" means each unit built, except that any multi-family dwelling or similarly clustered structure may count as one unit. "Per-development" means each Planned Use Development, subdivision, or business park.

(Ord. 2009-211-E, § 1)

- **Sec. 327.105. - Standards.**

Published LEED standards of the USGBC, FGBC green building standards, GBI's Green Globes rating system, or standards of an alternative sustainable building certification system shall be used to measure compliance of buildings participating in the Sustainable Building Program.

(Ord. 2009-211-E, § 1)

- **Sec. 327.106. - Incentives.**

The incentives contained in this Section are intended to encourage the construction of sustainable buildings. For any program participant seeking sustainable building certification for new residential or commercial construction, residential or commercial retrofitting/remodeling or new City-owned buildings, the following incentives shall be made available:

(a)

*Fast track development review:*

(1)

Development services, including preliminary site plan review (including 10-set review), submitted or resubmitted for review, for Sustainable Building Program projects shall be given priority over projects which are not Sustainable Building projects by all City departments reviewing such applications.

(2)

Applications for administrative deviations pursuant to Section 656.109, when submitted to facilitate sustainable building certification, shall be given priority over other applications which are not Sustainable Building Program projects, to the extent possible consistent with the time requirements of Section 656.109.

(3)

Applications for plat approval pursuant to Chapter 654 shall be given priority over other applications provided the developer records on the public records of Duval County covenants or other restrictions sufficient to require that all homes in the subdivision will be constructed so as to qualify for sustainable building certification.

(4)

Requests for relief from the requirements of Section 656.607(i), when submitted to facilitate sustainable building certification, shall be liberally construed to promote such certification.

(5)

Applicants who obtain priority status pursuant to this Section shall provide proof of sustainable building certification to the Department within 180 days of construction completion, as defined by Certificate of Occupancy issue date. Application forms for sustainable building certification and agreements with property owners or developers seeking priority status may provide that property owners or developers who obtain priority status but fail to obtain sustainable building certification may be denied future priority status by the Director of the Planning and Development Department.

(b)

*Designation:* The Department shall coordinate a program of recognition, on the internet or through other additional means, identifying permitted construction as a sustainable building project with benefits to the community and the environment.

(c)

*Refund of certification expenses:* Subject to, and within the limits of, funds appropriated by the Council for the purposes set forth in this subsection, owners or developers of Sustainable Building Program projects may receive a refund of the actual costs of sustainable building certification pursuant to the Sustainable Building Certification Refund Grant Program administered through the Environmental Protection Board.

(Ord. 2009-211-E, § 1)

**CDB-0037-09 DESIGN BUILD CONSTRUCTION METHOD - NEW FIRE STATION # 73**
**THE GUARANTEED MAXIMUM PRICE (GMP) IN U.S. DOLLARS**

| WORK DESCRIPTION | GMP AS DEFINED IN DESIGN CRITERIA PACKAGE Four (4) - Bay New Fire Station #73 | |
|---|---|---|
| | COST ESTIMATE | $/S.F. |
| | | |
| **A. Professional Architectural / Engineering & Permitting Services (Design)** | | |
| 1. Site Design | | |
| 2. Building Design | | |
| 3.. Permitting | | |
| 4. Civil Permit Fee | | |
| 5. COJ Building Permit Fees | | |
| 6. JEA Tap & Impact Fee Allowance | | |
| **Total Design** | | |
| | | |
| **Certifications, Insurance & Performance Bond** | | |
| 7. LEED Certification, Const Adm. | | |
| 8. Pollution Insurance | | |
| 9. Builders Risk Insurance | | |
| 10. Payment and Performance Bond | | |
| **Total Certifications, Insurance & Performance Bond** | | |
| | | |
| **III. Construction Services (Construction)** | | |
| 11. General Conditions | | |
| 12. Site Demolition | | |
| 13. Sitework | | |
| 14.. Storm Drainage System | | |
| 15. Domestic water & Fire Protection Line | | |
| 16. Sanitary Sewer | | |
| 17. Curbs & Asphaltic Paving | | |
| 18. Security Fencing and Gates | | |
| 19. Landscape & Hose Bid Irrigation | | |
| 20. Concrete: Foundation, Slab & Struct. | | |
| 21. Masonry | | |
| 22. Miscellaneous Steel | | |

**EXHIBIT "P"**

**CDB-0037-09 DESIGN BUILD CONSTRUCTION METHOD - NEW FIRE STATION # 73**
**THE GUARANTEED MAXIMUM PRICE (GMP) IN U.S. DOLLARS**

| | | |
|---|---|---|
| 23. Rough Carpentry | | |
| 24. Millwork | | |
| 25. Spray-faon Insulation | | |
| 26. Asphaltic Shingles | | |
| 27. Prefabricated Soffits | | |
| 28. Caulking & Sealants | | |
| 29. Doors and Hardware | | |
| 30. Store front and Windows | | |
| 31. Overhead Doors | | |
| 32. Drywall / Acoustic Tile Celing | | |
| 33. Flooring (Tile, Resilient Tile, Carpet, Base) | | |
| 34. Painting & Finishes | | |
| 35. Toilet Partitions & Accessories | | |
| 36. Building Specialities | | |
| 37. Lockers | | |
| 38. Flag Pole | | |
| 39. Exterior Signage | | |
| 40. Window Treatments | | |
| 41. HVAC | | |
| 42. Plumbing | | |
| 43. Fire Protection | | |
| 44. Electrical | | |
| 45. Telecommunications | | |
| 46. Fire Alarm | | |
| 47. Generator | | |
| **Total Construction** | | |
| | | |
| **TOTAL LUMP SUM GMP** | | |

**TE GUARANTEED MAXIMUM PRICE - FOUR (4) - BAY FIRE STATION # 73**

| **Four (4) BAY FS # 73 TOTAL LUMP SUM GMP** | **COST** | **$ / S.F.** |
|---|---|---|
| | | |
| **TOTAL GMP:** | | |

**ALTERNATE ADDITIVE OR DEDUCTIVE ITEMS -**

| **ITEM** | **COST** | **$ / S.F.** |
|---|---|---|
| **ADDITIVE 1. Monument Sign (Letters are included in the GMP)** | | |

**EXHIBIT "P"**

**CDB-0037-09 DESIGN BUILD CONSTRUCTION METHOD - NEW FIRE STATION # 73**
**THE GUARANTEED MAXIMUM PRICE (GMP) IN U.S. DOLLARS**

| | | |
|---|---|---|
| ADDITIVE 2. Retaining Walls Pond (deduct the design and | | |
| construction of the pond included in the GMP) | | |
| DEDUCTIVE 1. Use Free Dirt Fill from Lake Frettwell | | |
| DEDUCTIVE 2. Discount for using the Prototype plans & | | |
| Specs Prepared by Auld & White for FS # 62 | | |

CERTIFIED ON AUGUST , 2017 IN JACKSONVILLE, FLORIDA BY:

**EXHIBIT "P"**

SUBJECT: **RFQ FOR D/B SVCS OF VERTICAL/ARCHITECTURAL PROJECTS**

BID # **CDB-0007-16**

OPEN DATE: **10/21/2015**

# COMPETITIVE SEALED PROPOSAL EVALUATION COMMITTEE

KIND AND BASIS OF CONTRACT:
**CONSTRUCTION – DESIGN/BUILD**

AGENCY: **DEPARTMENT OF PUBLIC WORKS**

BASIS OF AWARD: **EVALUATION CRITERIA**

NUMBER OF BIDS INVITED: 4 NUMBER RECEIVED: 9 OTHER: 1

## SUMMARY OF BIDS AND RECOMMENDED ACTIONS:

The City had previously issued this RFP, and the evaluation committee has evaluated proposals. Subsequently, presentations were conducted and evaluated on February 4, 2016; 02/11/16 Auld & White Constructors, LLC was awarded as highest ranking firm with funding not-to-exceed $6,000,000.00 annually for a period of service for five (5) years.

Recommend approval of award to include the rate sheets as part of Exhibit A, as they were omitted from original award. No additional changes are needed.

Attachments: Recommendation Memo, Previous Award (s)

BUYER Marilyn Laidler
MARILYN LAIDLER

RESPECTFULLY SUBMITTED
GREGORY PEASE, CHIEF
PROCUREMENT DIVISION

CONCURRENCE BY: **Thomas N. Fallin, P.E., Chief, Engineering & Construction Management Division**

**(ALL AWARD ACTIONS SUBJECT TO LAWFULLY APPROPRIATED FUNDS)**
ACTION OF CSPEC COMMITTEE ON RECOMMENDATIONS ABOVE

MEMBERS APPROVING 5 MEMBERS DISAPPROVING _____ DATE: 6-16-16

Teresa R. Eichar

OTHER _____

ACTION OF AWARDING AUTHORITY DATE 6/16/16

MK APPROVED ✓ DISAPPROVED: _____

OTHER: _____

Sam E. Mousa
Chief Administrative Officer
For Mayor Lenny Curry
Under Authority of:
Executive Order No. 2015-05

SIGNATURE OF AUTHENTICATION

SUBJECT: RFQ FOR D/B SVCS OF VERTICAL/ARCHITECTURAL PROJECTS

BID # CDB-0007-16

OPEN DATE: 10/21/2015

# COMPETITIVE SEALED PROPOSAL EVALUATION COMMITTEE

KIND AND BASIS OF CONTRACT:
**CONSTRUCTION – DESIGN/BUILD**

AGENCY: DEPARTMENT OF PUBLIC WORKS

BASIS OF AWARD: EVALUATION CRITERIA

NUMBER OF BIDS INVITED: 4 NUMBER RECEIVED: 9 OTHER: 1

## SUMMARY OF BIDS AND RECOMMENDED ACTIONS:

The City had previously issued this RFP, and the evaluation committee has evaluated proposals. Subsequently, presentations were conducted and evaluated on February 4, 2016. Based upon the combination of proposal and presentation evaluations, scores and rankings are as follows (Listed in alphabetical order):

1) Auld & White Constructors, LLC (Score 116)
3) Saur, Inc. (Score 115)
2) Stellar Group, Inc. (Score 115.5)

Recommend approval of award to Auld & White Constructors, LLC, as receiving the highest score in accordance with the evaluation and ranking above. Period of Service will be five (5) years from effective date of contract with funding not-to-exceed $6,000,000.00 annually. To be executed by formal contract through Office of General Counsel.

Attachments: Recommendation Memo, Scoring Matrix, Previous Award

BUYER _____
For - MARILYN LAIDLER
SBO

RESPECTFULLY SUBMITTED _____
GREGORY PEASE, CHIEF
PROCUREMENT DIVISION

CONCURRENCE BY: Thomas N. Fallin, P.E., Acting Chief-Engineering & Construction Management Division

**(ALL AWARD ACTIONS SUBJECT TO LAWFULLY APPROPRIATED FUNDS)**

ACTION OF CSPEC COMMITTEE ON RECOMMENDATIONS ABOVE

MEMBERS APPROVING 5 MEMBERS DISAPPROVING _____ DATE: 2/11/16

_____ _____ OTHER _____

_____ _____

_____ _____

_____ _____

_____ _____

ACTION OF AWARDING AUTHORITY DATE 2/11/16

APPROVED ✓ DISAPPROVED: _____

OTHER: _____

SIGNATURE OF AUTHENTICATION _____

Kent E. Mousa
Chief Administrative Officer
For the Mayor Lenny Curry
Authority of
Ordinance 2015-05

SUBJECT: RFQ- FOR DESIGN-BUILD SERVICES OF VERTICAL/ARCHITECTURAL PROJECTS

BID # CDB-0007-16

OPEN DATE: 10/21/2015

## COMPETITIVE SEALED PROPOSAL EVALUATION COMMITTEE

KIND AND BASIS OF CONTRACT:
CONSTRUCTION – DESIGN/BUILD

AGENCY: DEPARTMENT OF PUBLIC WORKS

BASIS OF AWARD: EVALUATION CRITERIA

NUMBER OF BIDS INVITED: 4 NUMBER RECEIVED: 9 OTHER: 1

**SUMMARY OF BIDS AND RECOMMENDED ACTIONS:**

The City had previously issued this RFP, and the evaluation committee has evaluated proposals. Based upon the proposal evaluation, the average scores and rankings are as follows and two with tie scores (Listed in alphabetical order):

1) Auld & White Constructors, LLC (Score 87.5)
1) Sauer, Inc. (Score 87.5)
3) Stellar Group, Inc. (Score 86.5)

Pursuant to Section 2.6 – Award of Contract of the RFP, recommend approval to conduct formal interviews with each of the three-top ranked Firms.

Attachments: Recommendation Memo, Scoring Matrix, Bid Tabulation, Section 2.6, JSEB Letter

BUYER _____
for MARILYN LAIDLER

RESPECTFULLY SUBMITTED _____
GREGORY PEASE, CHIEF
PROCUREMENT DIVISION

CONCURRENCE BY: William J. Joyce, P.E., Chief-Engineering & Construction Management

**(ALL AWARD ACTIONS SUBJECT TO LAWFULLY APPROPRIATED FUNDS)**

ACTION OF CSPEC COMMITTEE ON RECOMMENDATIONS ABOVE

MEMBERS APPROVING 5 MEMBERS DISAPPROVING _____ DATE: 1-14-16

OTHER _____

ACTION OF AWARDING AUTHORITY DATE 1/14/16

APPROVED _____ DISAPPROVED: _____

OTHER: _____

SIGNATURE OF AUTHENTICATION _____

Sam E. Mousa
Chief Administrative Officer
For Mayor Lenny Curry
Under Authority of
Executive Order No. 2015-0

FISCAL MO/YEAR : 01 2018 CURRENCY CODE :
INDEX CODE : FRCP32EFS FIRE STATIONS CAPITAL PROJECTS
SUBOBJECT : 069505 DM-OTHER CONSTRUCTION COSTS
PROJECT : FR0051 FIRE STATION #73
PROJECT DETAIL : 01 FIRE STATION #73 CONSTRUCTION
GRANT :
GRANT DETAIL :
USER CODE :

| S | OCT 2017 | ANNUAL BALANCE | ALL YEARS BALANCE |
|---|---|---|---|
| ESTIMATED REVENUES | .00 | .00 | .00 |
| REVENUES | .00 | .00 | .00 |
| UNREALIZED REVENUES | .00 | .00 | .00 |
| BUDGET | .00 | .00 | 2,150,000.00 |
| EXPENDITURES | .00 | .00 | 3,158.15 |
| ENCUMBRANCES | .00 | .00 | 16,014.17 |
| PRE-ENCUMBRANCES | .00 | .00 | .00 |
| REMAINING BALANCE | .00 | .00 | 2,130,827.68 |

F1-HELP F2-SELECT F4-PRIOR F5-NEXT
F9-LINK F10-PRIOR-MO F11-NEXT-MO
G005 - PRIOR RECORD DISPLAYED