DRC AGENDA

1. CALL TO ORDER
2. ROLL CALL
3. APPROVAL OF MINUTES
   - DRC meeting on June 6th, 2023
4. NEW BUSINESS
   - Case # 23-04-FSP-Life Storage; First Review, Applicant is requesting approval of a Final Site Plan for the alteration of two existing indoor self-storage buildings to construct a new self-storage building.
5. ADDITIONAL BUSINESS:
6. DISCUSSION:
7. ADJOURNMENT:

DISTRIBUTION:
Technical Review Staff:
- Steven Bapp, AICP, Growth Management Director - Planning and Zoning (SBapp@DeBary.org)
- Joseph Barker, AICP Candidate, Senior Planner - Planning and Zoning (JBarke@DeBary.org)
- Kayla Burney, Planning Technician - Planning and Zoning (KBurney@DeBary.org)
- Kevin Hare, Construction Manager (KHare@DeBary.org)
- Amy Long, Deputy Public Works Director (ALong@DeBary.org)
- Chad Qualls, Public Works Superintendent (CQualls@DeBary.org)
- Robert Scott, Orange City Fire Department (RScoott@ourorangecity.com)
- Merylene Thomas, Senior Planner - Planning and Zoning (MThomas@DeBary.org)
- Richard Villasenor, City Engineer (RVillasenor@DeBary.org)
- Steve Wood, Building Inspector (Buildingofficial@DeBary.org)
- E-Sciences, Environmental Management Consultant (troberts@res.us)
- Fishback Dominick, Legal Consultant (DLangley@fishbacklaw.com)
- SurvTech Solutions, Surveying Consultant (rfowler@survtechsolutions.com)
- TEDS, Transportation Consultant (FerrellFred@stanleygroup.com)
- Volusia County Utilities, Utilities (ErinReed@volusia.org)

PLEASE NOTE: Each DRC project on the agenda will take approximately 30 minutes unless otherwise noted.

APPLICANT(S): Please plan to attend the DRC meeting to discuss your project and review the comments with reviewers. Individuals with disabilities needing assistance to participate in any of these proceedings should contact the City Clerk at least three (3) working days in advance of the meeting date and time at (386) 601-0219.
CALL TO ORDER:
The meeting of the City of DeBary Development Review Committee was called to order by Steven Bapp, Growth Management Director, at 9:30 am.

DRC MEMBERS PRESENT:
Steven Bapp, City of DeBary
Christopher Karl, Orange City Fire Department
Amy Long*, City of DeBary
Richard Villasenor, City of DeBary
Steve Wood, City of DeBary

OTHERS PRESENT:
Joseph Barker, City of DeBary
Phyllis Butlien, City of DeBary
Karen Chasez, City of DeBary
Johnny Hill, Florida Public Utilities
Christopher Karl, Orange City Fire Department
Chad Qualls, City of DeBary
Carmen Rosamonda, City of DeBary
Shari Simmans, City of DeBary
Mark Watts, Cobb-Cole
Michael Wojtuniak, EPI Engineering

APPROVAL OF MINUTES:
Steve Wood made a motion to approve the May 16, 2023 DRC Meeting Minutes, seconded by Richard Villasenor. The motion was approved by a 4-0 vote.

ADDITIONS, DELETIONS, OR AMENDMENTS TO THE AGENDA:
None

OLD BUSINESS:
None

NEW BUSINESS:

Highbanks Townhomes Overall Development Plan
Project # 23-01-ODP-Highbanks Townhomes

Chairman Steven Bapp briefly summarized the project.

Mark Watts of Cobb-Cole, a representative for the applicant, came forward to speak. He noted coordination on off-site improvements will be necessary. He stated the development agreement for the property lacks development standards appropriate for townhomes. The alternative would be traditional apartments.

Chairman Bapp suggested the best course of action for this project would be a major PUD amendment.

*Ms. Long arrived at the beginning of the discussion for Case # 23-01-ODP-Highbanks Townhomes.
Mr. Watts stated the data provided on the parking to be available did not include the off-street parking spaces for each lot. He stated they would be added to the site data.

Chairman Bapp made note of the necessary improvements to East Highbanks Road, including a center turn-lane. He also made note of the need to align one of the entrances into the development with Amigos Road. Mr. Watts stated they are already aware of this and have been working on amended plans to meet this requirement. There was also a discussion regarding a right-turn lane onto U.S. Highway 17/92 and a bike-pedestrian path on the north side of East Highbanks Road.

Chairman Bapp asked if the western side of the property near the pond would be developed in any way. Mr. Watts stated there would be no development in that area.

Christopher Karl stated the fire hydrants were not delineated on the plans and that they will need details on it. Mr. Karl stated the lengths of the dead-ends and turning radii will need to be provided. Mr. Karl stated no fire lanes have been shown on the plans. He stated the plans call for 18-foot roadways. Mr. Karl stated it needs to be at least 20 feet. Debbie of Kimley-Horn & Associates stated it should be 20 feet total. Mr. Karl stated the address layout will need to be provided.

Amy Long did not have any comments.

Richard Villasenor asked if there is going to be on-street parking control. Mr. Watts stated the designated parking areas will be the only areas for additional parking. Mr. Villasenor stated details for no-parking signs will need to be provided at the time of preliminary plat and construction plan submittal.

Mr. Villasenor noted there are some floodplain encroachments. Debbie stated there will be flood compensation. Mr. Villasenor stated there is a label indicating a proposed RV and boat parking area. Mr. Watts stated that is no longer proposed.

Steve Wood asked for clarification on a Planning & Zoning comment regarding the Land Development Code’s supplementary regulations on environmental protection. Joseph Barker, Senior Planner, stated it was an information comment.

Mr. Watts stated they will discuss with the developer the direction they want to take this project.

The item was continued.

**450 South Charles Richard Beall Boulevard Future Land Use Amendment**  
**Project # 23-01-CPA-450 South Charles Richard Beall**

Chairman Steven Bapp briefly summarized the project.

Michael Wojtuniak of EPI Engineering, a representative for the applicant, came forward to speak.

Richard Villasenor made a motion to recommend approval of the Future Land Use Map Amendment, pending staff comments being addressed, seconded by Steve Wood. The motion was approved by a 5-0 vote.

**450 South Charles Richard Beall Boulevard Zoning Map Amendment**  
**Project # 23-01-REZ-450 South Charles Richard Beall Boulevard**

Chairman Steven Bapp briefly summarized the project.
Michael Wojtuniak of EPI Engineering, a representative for the applicant, came forward to speak.

Chairman Bapp noted the discrepancy on the Zoning Map was discovered during the course of the review for the Safety Town Final Site Plan, which is located on this property.

Richard Villasenor made a motion to recommend approval of the Zoning Map amendment, seconded by Steve Wood. The motion was approved by a 5-0 vote.

**ADJOURNMENT:**

The meeting was adjourned at 9:54 AM.
DRC 6-20-2023
Subject Case # 23-04-FSP-Life Storage
Applicant: Life Storage LP

Application Summary:

The applicant is requesting approval of a Final Site Plan for the redevelopment of 3075 Enterprise Road. Parts of two existing structures would be demolished and replaced with a new structure.

Planning & Zoning
Joseph Barker, Senior Planner, AICP

Regarding Case # 23-04-FSP-Life Storage, staff offers the following comments.

Comprehensive Plan Review:

In reviewing the application (proposed project), staff has reviewed it against the policies contained within the City’s Comprehensive Plan (Plan) to determine whether the proposed project is consistent with the Plan, as required by Florida Statute 163.3194, and Section 1-2(b)(1) of the City’s Land Development Code.

Future Land Use

The goal of the City’s Future Land Use element of the Plan is to facilitate the development and use of land, including permanent open space, in an organized arrangement which supports the appropriate development of the overall community, including an efficient multi-modal transportation system that enhances the well-being of the City’s residents and businesses.

Objective 5.4 mandates that the City base land use and development decisions on the adopted Future Land Use Map (FLUM). The site’s FLUM classification is Commercial/Retail (C/R). While the use of self-storage facilities is not typically considered compatible with the C/R classification, the proposed project is merely a minor redevelopment of the existing use and does not expand any non-conformities with the Plan.
For all other elements of the Plan not discussed in this report, the project has been determined to be consistent with those elements.

**Land Development Code Review:**

The proposed project has been reviewed against the provisions of the City’s Land Development Code (LDC).

**Zoning Classification**

LDC Chapter 3, Article III, Division 3 provides for zoning classifications and development standards therein. This property is zoned B-5, Heavy Commercial. Thus, the project is subject to the zoning regulations prescribed in LDC Section 3-103. The current use of self-storage is permitted in the B-5 classification.

The maximum lot coverage for the B-5 zoning classification is 35%. **Please provide lot coverage data. Note that FAR and lot coverage are not synonymous with one another.**

**Supplementary Regulations**

In addition to the development standards of the B-5 zoning classification, LDC Chapter 3, Article III, Division 4 contains supplementary regulations that must be followed.

Section 3-129(5) provides for minimum off-street parking. **Will any existing parking be eliminated? Will any new parking spaces be added?**

**Final Site Plan Requirements**

LDC Chapter 4, Article II, Division 3, Section 4-62 provides for requirements for final site plan applications. Please provide the following site details:

- A north arrow on Sheet LS-01;
- Depiction of the intended direction of traffic flow; and
- Depiction of off-street parking, if any is being added.
Design and Construction Standards of Improvements

LDC Chapter 4, Article II, Division 4 provides for standards for improvements in terms of design and construction.

LDC Section 4-81(f) requires the area covered by structures and impervious surface to not exceed a ratio of 75%. According to the data provided, the impervious surface ratio would be 88%. **What is the current impervious surface ratio?**

If any parking is being added, please make note of the requirements prescribed by LDC Section 4-88.

Landscaping and Buffer Standards

LDC Chapter 5, Article I provides for landscaping and buffer standards.

LDC Section 5-7(a) requires continuous landscape areas to be located adjacent to all building perimeters. **The western side of the building should have landscaping too.**

LDC Section 5-8(d) requires landscape planters for vehicular use areas to be designed without any sharp corners by using a minimum three-foot transition radius between any two sides. **Please verify this on the plans.**

______________________________________________________

**Public Works Department**
Amy Long, Deputy Public Works Director

Comments are forthcoming.

______________________________________________________

**Fire Services**
Robert Scott, Fire Marshal

No comments.
Engineering
Richard Villaseñor, P.E., City Engineer

Comments are forthcoming.

Building Department
Steve Wood, Building Official

Comments are forthcoming.

Volusia County Utilities
Erin Reed, PhD, P.E., Water & Utilities Senior Engineer

There do not appear to be any new connections to VCU mains; therefore, VCU has no comments or objections.

Environmental Management
Tom Roberts, Regional Science Manager, RES

Per Sec 5-12. of the land development code, please provide an irrigation plan for the proposed landscaping associated with the retrofitting improvements of the Site.

Surveyor
Ryan Fowler, Surveyor, SurvTech Solutions

Comments are forthcoming.
Transportation
Tanya King, PE, Senior Transportation Engineer, TEDS

No comments.

***END OF COMMENTS***

A written response to each of the above comments will be required when revisions are re-submitted to the City. Please be advised that additional comments may be forthcoming after a review of the revised plan set has been completed.

If you should have any questions, please feel free to contact me at 386-601-0203.

Steven Bapp, AICP
Sbapp@debary.org
Director of Growth Management
City of DeBary
LIFE STORAGE DEBARY STORE LS 012
IMPROVEMENTS
FINAL SITE PLAN

PREPARED FOR
LIFE STORAGE
6467 MAIN STREET
WILLIAMSVILLE, NY 14221

DEBARY, FLORIDA
VCPA PARCEL ID: 80250000052

LOCATION MAP
SCALE 1" = 2000'

AERIAL MAP
SCALE 1" = 400'

SOILS MAP
SCALE 1" = 400'

FEMA FLOOD MAP
SCALE 1" = 400'

LEGAL DESCRIPTION
PER GRUSENMEYER - SCOTT & ASSOC., INC. DATE AUGUST 10, 2021

PROJECT TEAM:

LIFE STORAGE INC.
CONTACT: DREW PIATEK, PROJECT MANAGER
5400 E. COLONIAL DRIVE
ORLANDO, FL 32807
PHONE: (407) 960-5868
EMAIL: DREPIATEK@LIFESTORAGE.COM

APPIAN ENGINEERING, LLC
ENGINEER: MAJOR STACY, P.E.
2221 LEE RD, SUITE 27
WINTER PARK, FL 32789
PHONE: (407) 960-5868
EMAIL: MSTACY@APPIANFL.COM

SURVEYOR
GRUSENMEYER - SCOTT AND ASSOCIATE, INC.
SURVEYOR: JAMES W. SCOTT, P.S.M.
5400 E. COLONIAL DRIVE
ORLANDO, FL 32807
PHONE: (407) 277-3232
EMAIL: GRUSCOTT@GRUSCOTT.COM

ARCHITECT
HEAL ARCHITECT, LLC
ARCHITECT: LANCE HEAL
3549 NORTH UNIVERSITY AVENUE - SUITE 120
PROVO, UT 84604
EMAIL: LANCE@HEALARCHITECT.COM

GEOTECHNICAL ENGINEER
ESC FLORIDA, LLC
GEOLOGIST: VICTOR FALTAS, P.E.
1503 S US HWY 301
TAMPA, FL 33619-5126
PHONE: (386) 944-9588

LEGAL DESCRIPTION PER GRUSENMEYER - SCOTT & ASSOC., INC. DATED: AUGUST 10, 2021
LIFE STORAGE DEBARY STORE LS 012
IMPROVEMENTS
FINAL SITE PLAN
PREPARED FOR
LIFE STORAGE
6467 MAIN STREET
WILLIAMSVILLE, NY 14221
DEBARY, FLORIDA
VCPA PARCEL ID: 80250000052

LOCATION MAP
SCALE 1" = 2000'
AERIAL MAP
SCALE 1" = 400'
SOILS MAP
SCALE 1" = 400'
FEMA FLOOD MAP
SCALE 1" = 400'

UTILITY PROVIDERS

POWER:
DUKE ENERGY
1150 GREENWOOD BLVD.
LAKE MARY, FL 32746
PHONE: (407) 629-1010

SOILS MAP
AERIAL MAP
LOCATION MAP
FEMA FLOOD MAP

AT&T DISTRIBUTION
6628 LAKESIDE ROAD
WEST PALM BEACH, FL 33411
PHONE: (561) 683-2729

CHARTER COMMUNICATIONS
3316 BRESLAY DR.
VIERA, FL 32940
PHONE: (321) 338-1928

VOLUSIA COUNTY WATER RESOURCE & UTILITY
3151 E NEW YORK AVE
DELAND, FL 32724
PHONE: (386) 804-4561

CHARTER COMMUNICATIONS
3316 BRESLAY DR.
VIERA, FL 32940
PHONE: (321) 338-1928

PLACEMENT SHEET
C1.0
GENERAL NOTES
C1.1
SYMBOLS AND ABBREVIATIONS
C1.2
OVERALL EXISTING CONDITIONS
C1.3
EXISTING CONDITIONS
C2.0
EROSION CONTROL & DEMO PLAN - OVERALL
C2.1
EROSION CONTROL & DEMO PLAN
C2.2
EROSION CONTROL & DEMO PLAN - DETAILS
C3.0
OVERALL GEOMETRY PLAN
C3.1
GEOMETRY PLAN
C3.2
GEOMETRY CROSS SECTIONS
C4.0
OVERALL UTILITY PLAN
C4.1
OVERALL UTILITY PLAN
C4.2
UTILITY PLAN
C4.3
FIRE TRUCK ROUTE PLAN
C4.4
UTILITY DETAILS
C4.5
UTILITY DETAILS
C4.6
UTILITY DETAILS
C4.7
UTILITY DETAILS
C4.8
UTILITY DETAILS
C4.9
UTILITY DETAILS
C5.0
PAVING AND GRADING PLAN
C6.0
OVERALL DRAINAGE PLAN
C6.1
DRAINAGE PLAN
C7.0
CIVIL DETAILS
C8.0
DRAINAGE DETAILS
C8.1
DRAINAGE DETAILS
C8.2
DRAINAGE DETAILS
C9.0
UTILITY DETAILS
C10.0
LANDSCAPE SITE PLAN
C11.0
ARCHITECTURAL FLOOR PLANS
C12.0
ARCHITECTURAL EXTERIOR ELEVATIONS

Sheet List Table

LOCATION MAP
SCALE 1" = 2000'
AERIAL MAP
SCALE 1" = 400'
SOILS MAP
SCALE 1" = 400'
FEMA FLOOD MAP
SCALE 1" = 400'
<table>
<thead>
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<th>ABBREVIATIONS</th>
<th>EXISTING SYMBOLS</th>
<th>PROPOSED SYMBOLS</th>
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### SANITARY SEWER

- **Sanitary Sewer**
  - 1/2" DIA. PIPE

### POTABLE WATER

- **Potable Water**
  - 1/2" DIA. PIPE

### STORM DRAIN

- **Storm Drain**
  - 1/2" DIA. PIPE

### HIGHWAY & UTILITIES

- **Highway & Utilities**
  - 1/2" DIA. PIPE

### RECLAIMED WATER

- **Reclaimed Water**
  - 1/2" DIA. PIPE

### GENERIC UTILITIES

- **Generic Utilities**
  - 1/2" DIA. PIPE

### STORM

- **Storm**
  - 1/2" DIA. PIPE

### ROADWAY & GRADING

- **Roadway & Grading**
  - 1/2" DIA. PIPE
### SITE DATA

1. **OCPA - PARCEL ID #'s:**
   - 17-22-29-5594-00-010

2. **PROPERTY LOCATION:**
   - 3075 ENTERPRISE ROAD
   - DEBARY, FLORIDA 32713

3. **TOTAL PROPERTY AREA:**
   - 8.53 AC.

4. **LEED SITE AREA:**
   - 1.12 AC.

5. **REQUIRED FLOOR AREA RATIO (FAR):**
   - 0.70 FAR (MAX)

6. **PROPOSED FLOOR AREA RATIO (FAR):**
   - EXISTING STORAGE BUILDINGS TO REMAIN:
     - 1.89 Ac. (0.22 FAR)
   - PROPOSED STORAGE BUILDING:
     - 0.34 Ac. (0.04 FAR)
   - TOTAL:
     - 3.95 Ac. (0.26 FAR)

7. **REQUIRED IMPERVIOUS SURFACE RATIO (ISR):**
   - 0.90 ISR (MAX)

8. **PROPOSED IMPERVIOUS SURFACE RATIO (ISR):**
   - 7.48 Ac. (0.89 ISR)

9. **FEMA FLOOD INSURANCE RATE MAP FLOOD ZONE:**
   - A

10. **EXISTING FUTURE LAND USE (FLU):**
    - C/R COMMERCIAL/RETAIL

11. **ADJACENT FUTURE LAND USE (FLU):**
    - NORTH: 140 IMP LAKEFRONT
    - SOUTH: VACANT COMMERCIAL
    - EAST: 101 IMP PVD THRU
    - WEST: 1200 MIXED, STORE, AND OFFICE

12. **EXISTING ZONING:**
    - B-5 HEAVY COMMERCIAL

13. **ADJACENT ZONING:**
    - NORTH: R-1 SINGLE FAMILY
    - SOUTH: B-5
    - EAST: R-1 SINGLE FAMILY
    - WEST: B-5

14. **LEED SITE AREA SETBACKS:**
    - FRONT YARD: 0 FT (MIN)
    - BACK YARD: 10 FT
    - SIDE YARD: 0 OR 3 FT (MIN)
    - STREET YARD: 10 FT

15. **LEED SITE AREA BUFFER YARD REQUIRED:**
    - NORTH: 7.5 FT
    - SOUTH: 0 FT
    - EAST: 7.5 FT
    - WEST: 7.5 FT

16. **LEED SITE AREA BUFFER YARD PROVIDED:**
    - NORTH: 10 FT
    - SOUTH: 0 FT
    - EAST: 7.5 FT
    - WEST: 12 FT

17. **MAX BUILDING HEIGHT:**
    - 3 STORIES

18. **WATER SERVICE PROVIDED BY ORLANDO UTILITY COMMISSION**

19. **SEWER SERVICE PROVIDED BY ORLANDO UTILITY COMMISSION**

20. **ALL UTILITY LINES SHALL BE PROVIDED AND DESIGNED TO MEET ORLANDO UTILITY COMMISSION AND NFPA REQUIREMENTS**

21. **THE PROJECT DOES NOT CONTAIN ONSITE WETLANDS**

22. **PROJECT SIGNAGE SHALL COMPLY WITH THE CITY OF ORLANDO LAND DEVELOPMENT CODE**

C3.1
WATER SYSTEM TESTING REQUIREMENTS

1. All water system testing must be performed by a qualified contractor.
2. The testing must comply with the requirements of the Florida Department of Health.
3. The testing must be witnessed by a representative of the Department of Health.
4. The testing must be performed within 30 days of system installation.

SEWER UTILITY CONSTRUCTION NOTES

1. All sewer lines shall be backfilled in accordance with local regulations.
2. All sewer lines shall be tested for leaks before backfilling.
3. All sewer lines shall be tested for strength and capacity after backfilling.
4. All sewer lines shall be protected from damage during construction.

SEWER UTILITY SEPARATION REQUIREMENTS

1. All sewer separations shall comply with the requirements of the Florida Department of Health.
2. All sewer separations shall be designed and constructed by a qualified contractor.
3. All sewer separations shall be tested for leaks before backfilling.
4. All sewer separations shall be protected from damage during construction.

ADDITIONAL NOTES

1. All water tanks shall be manufactured in accordance with local regulations.
2. All water tanks shall be tested for leaks before installation.
3. All water tanks shall be tested for strength and capacity after installation.

LOCATION OF PERIODIC WATER SYSTEMS IN ACCORDANCE WITH FLA. CODE, RULE 544.3601
FIRE TRUCK ROUTE PLAN

SCALE: 1” = 40’
TRENCH BACKFILL
WITH SIZE OF PIPE VARIES
SEE NOTE 4

PIPE O.D.
COMMON FILL
12" (TYP)
FINISHED GRADE
TRENCH WIDTH
SELECT COMMON FILL
INITIAL BACKFILL
HAUNCHING 12" LIFTS MAXIMUM
UNDISTURBED EARTH (SEE NOTE 3)
FIRE FLOW
ANALYSIS REPORT FOR:
LIFE STORAGE DEBARY IMPROVEMENTS

Prepared for:
Florida Department of Environmental Protection
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803

&

City of Debary
Planning and Zoning Department
16 Columba Rd.
Debary, FL 32177

Prepared by:
Appian Engineering, LLC
2221 Lee Road Suite 17
Winter Park, FL 32789

James Palm, P.E.
Florida Registration No. 88559
Date: April 24, 2023
INTRODUCTION:

The existing Life Storage project site is ±8.53 acres. The proposed project improvements include demolition of a portion of two existing single-story storage building and construction of a three-story climate controlled storage building in its place with associated sidewalk and right-of-way configuration. The water distribution system for the site will be provided via connections to an existing private on site well via a 2” potable water line. The fire protection distribution system for the site will be provided via connection to an existing 8” fire line that is currently existing on the project site. This existing fire line ultimately connects to the City of Debar 8-inch water main that currently runs on the north-east side of Enterprise Road. The 8-inch fire line with double detector check valve and FDC will extend south-east and connect to the proposed storage building.

LOCATION:

The project site is generally located on the west side of Interstate Four, north-east of Enterprise road. The site is just north of the intersection between Interstate Four and Enterprise Road, within Section 36, Township 18 S, Range 30 E in the City of Debar. Refer to Appendix A for a location map depicting the limits of the subject project area.

PROPOSED SYSTEM IMPROVEMENTS:

Off-Site: There are no proposed improvements to the offsite conditions of the site. Refer to Appendix B for an Existing Utilities Map provided by Central Florida Locating, Inc. depicting the limits of the existing utilities located within, and adjacent to the project limits.

On-Site: Improvements will consist primarily of a stub out of an 8-inch fire line from existing on site 8-inch fire line, and a stub out of a 2-inch potable water main from an existing on
site private well. Both lines will navigate through the site and make connections to the building at the north-western corner of the building, as instructed by the architect. For the 8-inch fire line, there will be an FDC installed prior to the connection at the proposed building. This distribution system will serve the proposed building for both fire flow and potable demands. Since the potable water is being provided via a separate line from the fire line, the ADD, MDD, and PHF calculations have been excluded from this report. Refer to Appendix C for the Utility Improvements Plan sheet from the proposed construction plans.

**Required Fire Protection:**

Based on National Fire Protection Association (NFPA 1 – Fire Code 2012 Edition), the minimum required needed fire flow (NFF) to support the proposed development is determined to be 1,000 gpm for 2 hours. A copy of NFPA 1 – Fire Code 2012 Edition - Table 18.4.5.1.2 is provided within Appendix D of this report. Ultimately, final approval of the fire flow calculations and demands will be required to be provided by the City of Debary prior to development.

*Per NFPA 1 – 18.4.5.2 Buildings Other Than One- and Two-Family Dwellings. The minimum fire flow and flow duration for buildings other than one- and two-family dwellings shall be specified in Table 18.4.5.1.2.*

*Per NFPA 1 – 18.4.5.2.1 for buildings other than one- and two-family dwellings the required fire flow shall be reduced by 75 percent when the building is protected throughout by an approved automatic sprinkler system. The resulting fire flow shall not be less than 1000 gpm.*

**Computer Modeling:**

The enclosed model results were accomplished using a computer program entitled “WaterCAD V8i (Select Series 2)” developed by Bentley Systems, Inc.

The design friction losses through the mains were designed using the Hazen-Williams formula, utilizing a “C” value for friction loss of 120 for Ductile Iron pipe and 130 for PVC pipe. Minor losses at all hydrant locations were considered for the system however other minor losses were excluded.

The existing pressures used for the model are based on the field flow test performed by Wayne Automatic Fire Sprinklers, Inc. on February 22, 2023. A copy of the water flow test data sheet is provided in Appendix E of this report.
The modeling results of this analysis, for the water distribution system with needed fire flow (NFF) and the peak hourly flow, is included within Appendix F & G of this report. A node Exhibit, referencing the Water CAD model layout, is provided in Appendix H of this report.

As shown, all residual pressures for the proposed system are more than 20 psi.
APPENDIX A
LOCATION MAP
APPENDIX B
EXISTING UTILITIES MAP
Within the red clouded area, CFL will horizontally locate underground WATER Lines, IF DETECTABLE, entering/exiting Buildings B, C, D and Existing Climate Controlled Building.

NOTE: CFL’s Scope of Work does not include the horizontal locating of SANITARY SEWER LINES under buildings or within slabs.

CFL will VISUALLY follow the direction of a WATER PIPE under the eve on the SW side of Bldg D to the point where the WATER PIPE enters Bldg D.

NOTE: CFL’s Scope of Work DOES NOT include collecting of Northing & Easting Coordinates within buildings.

VERTICAL EXCAVATIONS – Dirt Soft Digs and Asphalt/Concrete Core Bores

• CFL will vertically expose horizontally located WATER & SEWER lines within grassed/dirt sites designated by Appian Engineering.

• CFL will vertically expose horizontally located WATER & SEWER lines within asphalt and/or concrete sites designated by Appian Engineering.

• If conditions allow, CFL will provide the tape measurement depth, approximate outside diameter size, and material type for each exposed utility.

• CFL will provide the elevation of each Horizontally Located WATER & SEWER line that is VERTICALLY exposed within the Geophysical Utility Mapping CAD file.

• Elevations to Pipe Inverts along with Pipe Slopes ARE NOT included in CFL’s Scope of Work.

• CFL is not responsible for damage to landscaping, etc. within designated vertical excavation sites, and if client requires repair work of asphalt or concrete core bore sites that exceeds the normal patching of small core bore holes, the client will need to contract with a licensed contractor for the specified work.
APPENDIX C
PROPOSED UTILITY IMPROVEMENTS
APPENDIX D
NFPA 18.4.5.2.1
18.4.5.1.4.4 Where multiple buildings are located on a single lot and abut a lot line, the building separation distance for determining fire flow reduction shall be the smallest of the two distances.

18.4.5.1.5 The reductions in 18.4.5.1.2, 18.4.5.1.3, and 18.4.5.1.4 shall not reduce the required fire flow to less than 500 gpm (1900 L/min).

18.4.5.2 One- and Two-Family Dwellings Exceeding 5000 ft$^2$ (464.5 m$^2$).

18.4.5.2.1 Fire flow and flow duration for dwellings having a fire flow area in excess of 5000 ft$^2$ (464.5 m$^2$) shall not be less than that specified in Table 18.4.5.2.1.

18.4.5.2.2 Required fire flow shall be reduced by 75 percent and the duration reduced to 1 hour where the one- and two-family dwelling is provided with an approved automatic sprinkler system.

18.4.5.2.3 A reduction in the required fire flow shall be permitted where a one- and two-family dwelling is separated from all lot lines in accordance with Table 18.4.5.1.4.

18.4.5.2.4 Required fire flow for one- and two-family dwellings protected by an approved automatic sprinkler system shall not exceed 2000 gpm (7571 L/min) for 1 hour.

| Table 18.4.5.2.1 Minimum Required Fire Flow and Flow Duration for Buildings |

<table>
<thead>
<tr>
<th>Fire Flow Area ft$^2$ (× 0.0925 for m$^2$)</th>
<th>Fire Flow gpm$^1$ (× 3.785 for L/min)</th>
<th>Flow Duration (hours)</th>
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<td>(II(000), III(200)*)</td>
<td>(V(000)*)</td>
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<td>0-8200</td>
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<td>12,001-17,000</td>
<td>8201-10,900</td>
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<tr>
<td>30,200-38,700</td>
<td>10,901-12,900</td>
<td>7901-9800</td>
</tr>
<tr>
<td>38,700-48,300</td>
<td>12,901-17,400</td>
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<td>48,300-59,000</td>
<td>17,401-21,300</td>
<td>12,601-15,400</td>
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<td>59,001-70,900</td>
<td>21,301-25,500</td>
<td>15,401-18,400</td>
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<td>73,301-81,100</td>
<td>32,601-36,000</td>
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<td>Greater than 191,400</td>
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<td>Greater than 85,100</td>
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$^a$ Types of construction are based on NFPA 220.

$^b$ Measured at 20 psi (139.9 kPa).

2018 Florida State Fire Codes
APPENDIX E

HYDRANT FLOW TEST FROM WAYNE FIRE DATED FEBRUARY 22, 2023
FIRE HYDRANT FLOW TEST

Owner: Appian Engineering
Owner's Address: 2221 Lee Road Suite 27
Property: Life Storage
Date: Feb 22, 2023 Time: 4:30 Inspector: ____________________________

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<th>BLD#</th>
<th>LOCATION</th>
<th>STATIC</th>
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<th>PITOT</th>
<th>DISCHARGE SIZE</th>
<th>GPM</th>
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<td>60</td>
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APPENDIX F
MDD & NFF HYDRAULIC MODEL RESULTS – HYDRANT 1
### FlexTable: Reservoir Table

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<th>Elevation (ft)</th>
<th>Flow (Out net) (gpm)</th>
<th>Hydraulic Grade (ft)</th>
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<tbody>
<tr>
<td>R-1</td>
<td>214.02</td>
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<td>214.02</td>
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<th>Elevation (ft)</th>
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<td>67</td>
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<tr>
<td>Label</td>
<td>Elevation (ft)</td>
<td>Demand (gpm)</td>
<td>Hydraulic Grade (ft)</td>
<td>Pressure (psi)</td>
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</tr>
<tr>
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<td>---------------</td>
<td>--------------</td>
<td>----------------------</td>
<td>---------------</td>
<td></td>
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<th>Start Node</th>
<th>Stop Node</th>
<th>Diameter (in)</th>
<th>Material</th>
<th>Hazen-Williams C</th>
<th>Flow (gpm)</th>
<th>Velocity (ft/s)</th>
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</thead>
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<td>J-2</td>
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<td>1,000</td>
<td>6.38</td>
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<td>J-4</td>
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APPENDIX G

MDD & NFF HYDRAULIC MODEL RESULTS – HYDRANT 2
### FlexTable: Reservoir Table

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<th>Hydraulic Grade (ft)</th>
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# FlexTable: Hydrant Table

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<th>Demand (gpm)</th>
<th>Hydraulic Grade (ft)</th>
<th>Pressure (psi)</th>
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</thead>
<tbody>
<tr>
<td>H-1</td>
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### FlexTable: Junction Table

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</thead>
<tbody>
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**Current Time: 0.000 hours**

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<th>Start Node</th>
<th>Stop Node</th>
<th>Diameter (in)</th>
<th>Material</th>
<th>Hazen-Williams C</th>
<th>Flow (gpm)</th>
<th>Velocity (ft/s)</th>
</tr>
</thead>
<tbody>
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<td>P-1</td>
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<td>R-1</td>
<td>J-1</td>
<td>8.0</td>
<td>PVC</td>
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<td>1,000</td>
<td>6.38</td>
</tr>
<tr>
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<td>J-1</td>
<td>J-2</td>
<td>8.0</td>
<td>PVC</td>
<td>130.0</td>
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<td>130.0</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>P-4</td>
<td>28</td>
<td>J-3</td>
<td>H-1</td>
<td>8.0</td>
<td>PVC</td>
<td>130.0</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
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<td>60</td>
<td>J-2</td>
<td>J-4</td>
<td>8.0</td>
<td>PVC</td>
<td>130.0</td>
<td>1,000</td>
<td>6.38</td>
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<tr>
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</tbody>
</table>
APPENDIX H

NODE EXHIBIT
Scenario: Hydrant 2
STORMWATER MANAGEMENT REPORT FOR:
LIFE STORAGE DEBARY IMPROVEMENTS

Prepared for:

City of Debary
Planning and Zoning Department
16 Columba Rd
Debary, FL 32713

&

St. Johns River Water Management District
District Headquarters
4049 Reid Street,
Palatka, FL 32177
(386) 329-4500

Prepared by:
Appian Engineering, LLC
2221 Lee Road, Suite 17
Winter Park, FL 32789
(407) 960-5868

James Palm, P.E.
Florida Registration No. 88559
Date: May 5, 2023
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2.0 Soils – Floodplain Management ............................................................................................3
3.0 Drainage Conditions ..............................................................................................................3
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6.0 Post Development Curve Number Calculations ...................................................................7
7.0 Post Development Stage Storage and Treatment Volume Calculations .................................8
8.0 ICPR Post-Development Input and Basin Summary ...............................................................9
9.0 ICPR Peak Stages, Runoff Rates, and Node Map ................................................................10

ATTACHMENTS

Attachment A Location Map
Attachment B Aerial Map
Attachment C Flood Map
Attachment D Pre Development Basin Map
Attachment E Post Development Basin Map
Attachment F Soils Map
Attachment G Topographic Map
Attachment H USGS Map
Attachment I Geotechnical Report
1.0 INTRODUCTION & LOCATION:

The purpose of this report is to show that the proposed project meets or exceed all of the City of Debary and St Johns River Water Management District Stormwater requirements.

The Life Storage project site is ± 8.53 acres and is generally located on the west side of Interstate Four, northeast of Enterprise Road. The site is just north of the intersection between Interstate Four and Enterprise Road, in the City of Debary. The existing site consists of five one-story storage container buildings, as well as a front office, and associated roadways and infrastructure.

The proposed improvements include retrofitting the south-eastern portion of two existing storage units (designated as buildings C and D) and constructing a three-story climate-controlled storage building with associated drive aisles, sidewalks, storm, and utility improvements.

Project Address:

3075 Enterprise Road
Debary, FL 32713

Volusia County Parcel Identification Number:

802500000052

Figure 1 - Project Location
2.0 Soils – Floodplain Management:

Soils

According to the Soil Survey of Orange County, Florida, prepared by the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), three (3) soil types occur within the subject property boundaries. These soil types include the following:

- Cassie Fine Sand (#13)
- Orsino Fine Sand (#37)
- Paola Fine Sand (#42)

Refer to the geotechnical report by ECS Florida, LLC for additional information (Attachment I).

FEMA – Floodplain Management

According to the FEMA Flood Insurance Rate Map for Volusia County, FL, Panel No. 12127C0620K, dated September 29, 2017, the proposed project is located within Zone X (areas determined to be outside the 500-year floodplain) & Zone A. Zone A is defined by FEMA as areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. It should be noted that all the proposed improvements are located outside of the mapped flood zone.

3.0 Drainage Conditions:

Pre-Improvements

In the Pre-Development condition, the subject property consists of one (1) on-site basins. The basin flows from south to north and east to west to the north-west corner of the property into the existing wetland area.

Refer to Attachment D of this report for the Pre-Improvement Basin Map.

Post-Improvements

In the Post-Development condition, the site was split into two (2) on-site basins. The larger basin denoted by the blue hatch and boundary was analyzed for attenuation purposes only. The smaller basin denoted by the green hatch and boundary is used for treatment and attenuation purposes. The basins flow to proposed storm inlets, which route into the proposed underground storm vaults. The underground storm vaults will discharge via a smartbox to the wetlands in the north-west corner of the property to the existing wetland area.

Refer to Attachment E of this report for the Post-Improvements Basin Map.
4.0 Stormwater Management Design Criteria:

Proposed Conditions

Per coordination with St. Johns River Water Management District staff, the post development peak rate need to be less than or equal to pre development peak rate for the Mean Annual and 25 year 24-hour storm events. Below is a table of the post rates. Please see section 8.0 and 9.0 of this report for the ICPR modeling results. Since the total impervious area was reduced in the post condition, a pre-post rate analysis was not conducted as the rates will be lower in the post than the pre condition.

<table>
<thead>
<tr>
<th>Post Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Annual</td>
</tr>
<tr>
<td>25 year/ 24 hour</td>
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</table>

Computer Modeling

The enclosed stormwater pond routing calculations for post-development conditions were accomplished using a computer program entitled “Interconnected Channel and Pond Routing Model (ICPR, Version 3.10)” developed by Streamline Technologies, Inc. The hydrograph generation module within this program utilized the SCS Unit Hydrograph Method with the 323 shape peaking factor model to compute the runoff hydrographs.

Treatment Volume

Below is a summary of the three different treatment volume calculations required for this site, whichever one is largest is the required treatment volume for the basin area of the development

- 1.25” times the impervious area
- 0.5” times the basin area of the development.

The table below is the sub basin treatment volume summary:

<table>
<thead>
<tr>
<th>Treatment Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basin</td>
</tr>
<tr>
<td>1.25” x Impervious Area</td>
</tr>
<tr>
<td>Post</td>
</tr>
</tbody>
</table>

Details of the treatment volume calculations are shown in Section 7.0 of this stormwater management report.
DESIGN STORMS

The designed storms used in the analyses include the following:

<table>
<thead>
<tr>
<th>Storm Event</th>
<th>Rainfall (Inches)</th>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Annual</td>
<td>4.50</td>
<td>Type II Modified</td>
</tr>
<tr>
<td>25 Year/24 Hour</td>
<td>8.60</td>
<td>Type II Modified</td>
</tr>
</tbody>
</table>

EROSION CONTROL

Silt fence, and a concrete washout will be used as required to control erosion (refer to the construction plan set for the Erosion Control Plan). In addition, the contractor will be required to prepare a Storm Water Pollution Prevention Plan (SWPPP) and submit a NOI (Notice of Intent) NPDES to the FDEP (Florida Department of Environmental Protection).

MAINTENANCE

The onsite stormwater management facilities will be privately owned and maintained.
## 5.0 Pre-Development Curve Number Calculations:

**APPIAN ENGINEERING, LLC.**
2221 Lee Road, Suite 17, Winter Park, FL 32789
(407) 960-5868 - FAX (866) 571-8179

**SSS-005 - LIFE STORAGE DEBARY**
Basin Designation: PRE Development

### SUB-BASIN ANALYSIS & CURVE NUMBER DETERMINATION

<table>
<thead>
<tr>
<th>Total Project Area</th>
<th>0.67 acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rainfall Depth</td>
<td>4.50 inches, (Mean Annual)</td>
</tr>
<tr>
<td></td>
<td>8.60 inches, (25 year/24 hour)</td>
</tr>
<tr>
<td></td>
<td>10.60 inches, (100 year/24 hour)</td>
</tr>
</tbody>
</table>

**Determine Basin Runoff Curve Number: CN**

**BASIN 1**

<table>
<thead>
<tr>
<th>Cover Type</th>
<th>Hydrologic Soil</th>
<th>CN</th>
<th>Acres</th>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impervious Area</td>
<td>N/A</td>
<td>98</td>
<td>0.65</td>
<td>63.86</td>
</tr>
<tr>
<td>Open Space (Good Cond.)</td>
<td>A</td>
<td>39</td>
<td>0.02</td>
<td>0.88</td>
</tr>
</tbody>
</table>

|                      | (Product Sum)   | 64.74 | |
|                      | (Total Area)    | 0.67   | |

Weighted CN = \( \frac{(64.74 \text{ acres})}{0.67 \text{ acres}} = 96 \)
### 6.0 Post Development Curve Number Calculations:

**APPIAN ENGINEERING, LLC.**

2221 Lee Road, Suite 17, Winter Park, FL 32789
(407) 960-5868 - FAX (866) 571-8179

**SSS-005 - LIFE STORAGE DEBARY**

Basin Designation: POST Development for Basin

#### SUB-Basin Analysis & Curve Number Determination

<table>
<thead>
<tr>
<th>Basin</th>
<th>Area (acres)</th>
<th>Rainfall Depth (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basin 1</td>
<td>0.67</td>
<td>4.50, Mean Annual 8.60, 25 year/24 hour 10.60</td>
</tr>
<tr>
<td>Basin 2</td>
<td>1.93</td>
<td></td>
</tr>
</tbody>
</table>

**Determine Basin Runoff Curve Number: CN**

#### BASIN 1:

<table>
<thead>
<tr>
<th>Cover Type</th>
<th>Hydrologic Soil</th>
<th>CN</th>
<th>Acres</th>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impervious Area</td>
<td>N/A</td>
<td>98</td>
<td>0.63</td>
<td>61.65</td>
</tr>
<tr>
<td>Open Soace (Good Cond.)</td>
<td>A</td>
<td>39</td>
<td>0.05</td>
<td>1.76</td>
</tr>
</tbody>
</table>

**SUB-TOTAL**

- **Weighted CN**

\[
\text{Weighted CN} = \frac{(\text{Product Sum})}{(\text{Total Area})} = \frac{63.41}{0.67} = 94
\]

#### BASIN 2:

<table>
<thead>
<tr>
<th>Cover Type</th>
<th>Hydrologic Soil</th>
<th>CN</th>
<th>Acres</th>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impervious Area</td>
<td>N/A</td>
<td>98</td>
<td>0.80</td>
<td>78.33</td>
</tr>
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<td>Open Soace (Good Cond.)</td>
<td>A</td>
<td>39</td>
<td>0.46</td>
<td>17.97</td>
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</tbody>
</table>

**SUB-TOTAL**

- **Weighted CN**

\[
\text{Weighted CN} = \frac{(\text{Product Sum})}{(\text{Total Area})} = \frac{96.29}{1.26} = 76
\]
7.0 Post Development Stage Storage and Treatment Volume Calculations:

<table>
<thead>
<tr>
<th>Elevation (ft)</th>
<th>Volume (ac-ft)</th>
<th>Treatment Volume SJRWMD (Dry Detention Off-Line)</th>
</tr>
</thead>
<tbody>
<tr>
<td>47.46</td>
<td>0.00000</td>
<td>1) 1.25&quot; X Impervious Area = 2,854.49 ft³ or 0.066 ac-ft</td>
</tr>
<tr>
<td>47.54</td>
<td>0.00167</td>
<td></td>
</tr>
<tr>
<td>47.63</td>
<td>0.00334</td>
<td>2) 0.5&quot; X Basin Area = 1,223.79 ft³ or 0.028 ac-ft</td>
</tr>
<tr>
<td>47.71</td>
<td>0.00502</td>
<td></td>
</tr>
<tr>
<td>47.79</td>
<td>0.00669</td>
<td></td>
</tr>
<tr>
<td>47.88</td>
<td>0.00836</td>
<td>Minimum Weir Elevation = 49.29 ft</td>
</tr>
<tr>
<td>47.96</td>
<td>0.01003</td>
<td>Provided Weir Elevation = 49.29 ft</td>
</tr>
<tr>
<td>48.04</td>
<td>0.01377</td>
<td></td>
</tr>
<tr>
<td>48.13</td>
<td>0.01742</td>
<td></td>
</tr>
<tr>
<td>48.21</td>
<td>0.02106</td>
<td></td>
</tr>
<tr>
<td>48.29</td>
<td>0.02468</td>
<td></td>
</tr>
<tr>
<td>48.38</td>
<td>0.02829</td>
<td></td>
</tr>
<tr>
<td>48.46</td>
<td>0.03190</td>
<td></td>
</tr>
<tr>
<td>48.54</td>
<td>0.03543</td>
<td></td>
</tr>
<tr>
<td>48.63</td>
<td>0.03895</td>
<td></td>
</tr>
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<td>48.71</td>
<td>0.04244</td>
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</tr>
<tr>
<td>48.79</td>
<td>0.04588</td>
<td></td>
</tr>
<tr>
<td>48.88</td>
<td>0.04930</td>
<td></td>
</tr>
<tr>
<td>48.96</td>
<td>0.05269</td>
<td></td>
</tr>
<tr>
<td>49.04</td>
<td>0.05605</td>
<td></td>
</tr>
<tr>
<td>49.13</td>
<td>0.05939</td>
<td></td>
</tr>
<tr>
<td>49.21</td>
<td>0.06264</td>
<td></td>
</tr>
<tr>
<td>49.29</td>
<td>0.06584</td>
<td></td>
</tr>
<tr>
<td>49.38</td>
<td>0.06898</td>
<td></td>
</tr>
<tr>
<td>49.46</td>
<td>0.07205</td>
<td></td>
</tr>
<tr>
<td>49.54</td>
<td>0.07505</td>
<td></td>
</tr>
<tr>
<td>49.63</td>
<td>0.07796</td>
<td></td>
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<tr>
<td>49.71</td>
<td>0.08076</td>
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<td>50.17</td>
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<td>50.25</td>
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</tr>
<tr>
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<tr>
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</tr>
<tr>
<td>50.67</td>
<td>0.10290</td>
<td></td>
</tr>
</tbody>
</table>
8.0 ICPR Post-Development Input and Basin Summary:
# DEBARY LIFE STORAGE INPUT SUMMARY

## Basins

<table>
<thead>
<tr>
<th>Name</th>
<th>Node</th>
<th>Status</th>
<th>Group</th>
<th>Type</th>
<th>Unit Hydrograph</th>
<th>Peaking Factor</th>
<th>Storm Duration(hrs)</th>
<th>Rainfall Amount(in)</th>
<th>Peak Stage(min)</th>
<th>Area(ac)</th>
<th>Curve Number</th>
<th>Max Allowable Q(cfs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basin 1</td>
<td>A-4</td>
<td>Onsite</td>
<td>BASE</td>
<td>SCS Unit Hydrograph CN</td>
<td>Uh323</td>
<td>323.0</td>
<td>0.00</td>
<td>0.000</td>
<td>10.00</td>
<td>0.670</td>
<td>94.00</td>
<td>999999.000</td>
</tr>
<tr>
<td>BASIN 2</td>
<td>A-1</td>
<td>Onsite</td>
<td>BASE</td>
<td>SCS Unit Hydrograph CN</td>
<td>Uh323</td>
<td>323.0</td>
<td>0.00</td>
<td>0.000</td>
<td>10.00</td>
<td>1.260</td>
<td>76.00</td>
<td>999999.000</td>
</tr>
</tbody>
</table>

## Nodes

<table>
<thead>
<tr>
<th>Name</th>
<th>Node</th>
<th>Status</th>
<th>Group</th>
<th>Type</th>
<th>Stage(ft)</th>
<th>Area(ac)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-1</td>
<td></td>
<td></td>
<td>BASE</td>
<td>Stage/Area</td>
<td>45.563</td>
<td>0.0003</td>
</tr>
<tr>
<td>A-4</td>
<td></td>
<td></td>
<td>BASE</td>
<td>Stage/Area</td>
<td>45.130</td>
<td>0.0003</td>
</tr>
<tr>
<td>A-6</td>
<td></td>
<td></td>
<td>BASE</td>
<td>Stage/Area</td>
<td>45.030</td>
<td>0.0003</td>
</tr>
</tbody>
</table>
### Name: A-7
- **Base Flow (cfs):** 0.00
- **Init Stage (ft):** 44.770
- **Group:** BASE
- **Type:** Stage/Area

<table>
<thead>
<tr>
<th>Stage (ft)</th>
<th>Area (ac)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Name: CULTECH CHAMBER
- **Base Flow (cfs):** 0.00
- **Init Stage (ft):** 47.460
- **Group:** BASE
- **Type:** Stage/Volume

<table>
<thead>
<tr>
<th>Stage (ft)</th>
<th>Volume (af)</th>
</tr>
</thead>
<tbody>
<tr>
<td>47.460</td>
<td>0.0000</td>
</tr>
<tr>
<td>47.540</td>
<td>0.0017</td>
</tr>
<tr>
<td>47.630</td>
<td>0.0033</td>
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<td>47.710</td>
<td>0.0050</td>
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<td>47.790</td>
<td>0.0067</td>
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<tr>
<td>47.880</td>
<td>0.0084</td>
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<td>47.960</td>
<td>0.0100</td>
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<tr>
<td>48.040</td>
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<td>48.210</td>
<td>0.0211</td>
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<td>48.290</td>
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<td>48.380</td>
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</tr>
<tr>
<td>48.880</td>
<td>0.0493</td>
</tr>
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<td>48.960</td>
<td>0.0527</td>
</tr>
<tr>
<td>49.040</td>
<td>0.0561</td>
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<td>49.130</td>
<td>0.0594</td>
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<td>49.210</td>
<td>0.0626</td>
</tr>
<tr>
<td>49.290</td>
<td>0.0658</td>
</tr>
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<td>49.380</td>
<td>0.0690</td>
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</tr>
<tr>
<td>49.540</td>
<td>0.0751</td>
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<td>49.630</td>
<td>0.0780</td>
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<tr>
<td>49.710</td>
<td>0.0808</td>
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<td>49.880</td>
<td>0.0860</td>
</tr>
<tr>
<td>49.960</td>
<td>0.0883</td>
</tr>
<tr>
<td>50.040</td>
<td>0.0902</td>
</tr>
<tr>
<td>50.130</td>
<td>0.0920</td>
</tr>
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<td>50.210</td>
<td>0.0929</td>
</tr>
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<td>50.290</td>
<td>0.0945</td>
</tr>
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<td>0.0979</td>
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<td>50.530</td>
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</tr>
<tr>
<td>50.610</td>
<td>0.1012</td>
</tr>
<tr>
<td>50.670</td>
<td>0.1029</td>
</tr>
</tbody>
</table>

### Name: OUTFALL
- **Base Flow (cfs):** 0.00
- **Init Stage (ft):** 47.768
- **Group:** BASE
- **Type:** Time/Stage

---

**Interconnected Channel and Pond Routing Model (ICPR) ©2002 Streamline Technologies, Inc.**
### Pipes

<table>
<thead>
<tr>
<th>Name</th>
<th>From Node: A-1</th>
<th>To Node: A-4</th>
<th>Length(ft): 217.00</th>
<th>Count: 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group: BASE</td>
<td>Friction Equation: Automatic</td>
<td>Solution Algorithm: Most Restrictive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geometry: Circular</td>
<td>UPSTREAM: Circular</td>
<td>DOWNSTREAM: Circular</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Span(in): 24.00</td>
<td>Entrance Loss Coef: 0.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rise(in): 24.00</td>
<td>Exit Loss Coef: 1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Invert(ft): 45.130</td>
<td>Bend Loss Coef: 0.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manning’s N: 0.013000</td>
<td>Outlet Ctrl Spec: Use dc or tw</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Top Clip(in): 0.000</td>
<td>Inlet Ctrl Spec: Use dc</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bot Clip(in): 0.000</td>
<td>Stabilizer Option: None</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

<table>
<thead>
<tr>
<th>Name</th>
<th>From Node: A-4</th>
<th>To Node: A-6</th>
<th>Length(ft): 51.00</th>
<th>Count: 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group: BASE</td>
<td>Friction Equation: Automatic</td>
<td>Solution Algorithm: Most Restrictive</td>
<td></td>
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</tr>
<tr>
<td>Geometry: Circular</td>
<td>UPSTREAM: Circular</td>
<td>DOWNSTREAM: Circular</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Span(in): 24.00</td>
<td>Entrance Loss Coef: 0.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rise(in): 24.00</td>
<td>Exit Loss Coef: 1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Invert(ft): 45.130</td>
<td>Bend Loss Coef: 0.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manning’s N: 0.013000</td>
<td>Outlet Ctrl Spec: Use dc or tw</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Top Clip(in): 0.000</td>
<td>Inlet Ctrl Spec: Use dc</td>
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<tr>
<td>Bot Clip(in): 0.000</td>
<td>Stabilizer Option: None</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

<table>
<thead>
<tr>
<th>Name</th>
<th>From Node: A-6</th>
<th>To Node: A-7</th>
<th>Length(ft): 133.00</th>
<th>Count: 1</th>
</tr>
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<tr>
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<td>Friction Equation: Automatic</td>
<td>Solution Algorithm: Most Restrictive</td>
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<tr>
<td>Geometry: Circular</td>
<td>UPSTREAM: Circular</td>
<td>DOWNSTREAM: Circular</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Span(in): 24.00</td>
<td>Entrance Loss Coef: 0.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rise(in): 24.00</td>
<td>Exit Loss Coef: 1.00</td>
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<td></td>
</tr>
<tr>
<td>Invert(ft): 45.030</td>
<td>Bend Loss Coef: 0.00</td>
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<td></td>
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<tr>
<td>Manning’s N: 0.013000</td>
<td>Outlet Ctrl Spec: Use dc or tw</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Top Clip(in): 0.000</td>
<td>Inlet Ctrl Spec: Use dc</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Bot Clip(in): 0.000</td>
<td>Stabilizer Option: None</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Manning’s N: 0.013000       0.013000       Outlet Ctrl Spec: Use dc or tw
Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dc
Bot Clip(in): 0.000          0.000                       Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name: CULTECH TO A-7      From Node: CULTECH CHAMBER    Length(ft): 52.00
Group: BASE                  To Node: A-7                     Count: 1
Friction Equation: Automatic
Geometry: Circular       Circular                                 Flow: Both
Span(in): 24.00          24.00                                    Entrance Loss Coef: 0.000
Rise(in): 24.00          24.00                        Exit Loss Coef: 1.000
Invert(ft): 47.960         46.920                         Exit Loss Coef: 1.00  
Manning’s N: 0.013000       0.013000                     Outlet Ctrl Spec: Use dc or tw
Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
Bot Clip(in): 0.000          0.000                       Solution Incs: 10
Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name: DS-1                From Node: A-7                Length(ft): 511.00
Group: BASE                  To Node: OUTFA LL                 Count: 1
Friction Equation: Automatic
Geometry: Circular       Circular                   Solution Algorithm: Most Restrictive
Span(in): 24.00          24.00                                    Flow: Both
Rise(in): 24.00          24.00                        Entrance Loss Coef: 0.000
Invert(ft): 46.020         45.000                         Exit Loss Coef: 1.000
Manning’s N: 0.013000       0.013000                     Outlet Ctrl Spec: Use dc or tw
Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
Bot Clip(in): 0.000          0.000                       Solution Incs: 10
Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

*** Weir 1 of 1 for Drop Structure DS-1 ***

Count: 1                       Bot Clip(in): 0.000
Type: Vertical: Mavis               Top Clip(in): 0.000

Interconnected Channel and Pond Routing Model (ICPR) ©2002 Streamline Technologies, Inc.
Flow: Both  Weir Disc Coef: 3.200
Geometry: Rectangular  Orifice Disc Coef: 0.600
Span(in): 36.00  Invert(ft): 49.290
Rise(in): 12.00  Control Elev(ft): 49.290

Name: 10 Year 24 Hour
Filename: P:\_PROJECT DRAWINGS\SSS-005 - Life Storage DeBary LS 012\Design & Engineering\Stormwater\Pond Routing - ICPR\10 Year 24 Hour.R32
Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Flmod
Rainfall Amount(in): 7.50
Time(hrs)  Print Inc(min)
------------  -------------
30.000  5.00

Name: 100 Year 24 Hou
Filename: P:\_PROJECT DRAWINGS\SSS-005 - Life Storage DeBary LS 012\Design & Engineering\Stormwater\Pond Routing - ICPR\100 Year 24 Hour.R32
Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Flmod
Rainfall Amount(in): 11.00
Time(hrs)  Print Inc(min)
------------  -------------
30.000  5.00

Name: 25 Year 24 Hour
Filename: P:\_PROJECT DRAWINGS\SSS-005 - Life Storage DeBary LS 012\Design & Engineering\Stormwater\Pond Routing - ICPR\25 Year 24 Hour.R32
Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Flmod
Rainfall Amount(in): 8.60
Time(hrs)  Print Inc(min)
------------  -------------
30.000  5.00

Name: Mean Annual
Filename: P:\_PROJECT DRAWINGS\SSS-005 - Life Storage DeBary LS 012\Design & Engineering\Stormwater\Pond Routing - ICPR\Mean Annual.R32
Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Flmod
Rainfall Amount(in): 4.50
Time(hrs)  Print Inc(min)
------------  -------------
30.000  5.00

Interconnected Channel and Pond Routing Model (ICPR) ©2002 Streamline Technologies, Inc.
SSS-005 DEBARY LIFE STORAGE INPUT SUMMARY

Name: 10 Year 24 Hour     Hydrology Sim: 1 0 Year 24 Hour
Filename: P:\_PROJECT DRAWINGS\SSS-005 - Life Storage DeBary LS 012\Design & Engineering\Stormwater\Pond Routing - ICPR\10 Year 24 Hour.I32
Execute: Yes         Restart: No            Patch: No
Alternative: No
Max Delta Z(ft): 1.00                     Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000                     End Time(hrs): 30.00
Min Calc Time(sec): 0.5000                Max Calc Time(sec): 60.0000
Boundary Stages:                          Boundary Flows:

Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         15.000

Group           Run
--------------- ----- BASE        Yes

------------------------------------------ --------------------------------------------------
Name: 100 Year 24 Hous     Hydrology Sim: 100 Year 24 Hour
Filename: P:\_PROJECT DRAWINGS\SSS-005 - Life Storage DeBary LS 012\Design & Engineering\Stormwater\Pond Routing - ICPR\100 Year 24 Hour.I32
Execute: Yes         Restart: No            Patch: No
Alternative: No
Max Delta Z(ft): 1.00                     Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000                     End Time(hrs): 30.00
Min Calc Time(sec): 0.5000                Max Calc Time(sec): 60.0000
Boundary Stages:                          Boundary Flows:

Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         15.000

Group           Run
--------------- ----- BASE        Yes

------------------------------------------ --------------------------------------------------
Name: 25 Year 24 Hour     Hydrology Sim: 25 Year 24 Hour
Filename: P:\_PROJECT DRAWINGS\SSS-005 - Life Storage DeBary LS 012\Design & Engineering\Stormwater\Pond Routing - ICPR\25 Year 24 Hour.I32
Execute: Yes         Restart: No            Patch: No
Alternative: No
Max Delta Z(ft): 1.00                     Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000                     End Time(hrs): 30.00
Min Calc Time(sec): 0.5000                Max Calc Time(sec): 60.0000
Boundary Stages:                          Boundary Flows:

Time(hrs)       Print Inc(min)
--------------- ---------------
### SSS-005 DEBARY LIFE STORAGE INPUT SUMMARY

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*Interconnected Channel and Pond Routing Model (ICPR) ©2002 Streamline Technologies, Inc.*
Basin Name: Basin 1  
Group Name: BASE  
Simulation: 10 Year 24 Hour  
Node Name: A-4  
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh323  
Peaking Factor: 323.0  
Spec Time Inc (min): 1.33  
Comp Time Inc (min): 1.33  
Rainfall File: Flmod  
Rainfall Amount (in): 7.500  
Storm Duration (hrs): 24.00  
Status: Onsite  
Time of Conc (min): 10.00  
Time Shift (hrs): 0.00  
Area (ac): 0.670  
Vol of Unit Hyd (in): 1.001  
Curve Number: 94.000  
DCIA (%): 0.000  
Time Max (hrs): 12.02  
Flow Max (cfs): 3.22  
Runoff Volume (in): 6.788  
Runoff Volume (ft3): 16509

--------------------------------------------------- 
Basin Name: BASIN 2  
Group Name: BASE  
Simulation: 10 Year 24 Hour  
Node Name: A-1  
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh323  
Peaking Factor: 323.0  
Spec Time Inc (min): 1.33  
Comp Time Inc (min): 1.33  
Rainfall File: Flmod  
Rainfall Amount (in): 7.500  
Storm Duration (hrs): 24.00  
Status: Onsite  
Time of Conc (min): 10.00  
Time Shift (hrs): 0.00  
Area (ac): 1.260  
Vol of Unit Hyd (in): 1.000  
Curve Number: 76.000  
DCIA (%): 0.000  
Time Max (hrs): 12.04  
Flow Max (cfs): 4.62  
Runoff Volume (in): 4.707  
Runoff Volume (ft3): 21529

--------------------------------------------------- 
Basin Name: Basin 1  
Group Name: BASE  
Simulation: 100 Year 24 Hour  
Node Name: A-4  
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh323
SSS-005 DEBARY LIFE STORAGE BASIN SUMMARY

---

BASIN 2
Group Name: BASE  
Simulation: 100 Year 24 Hour  
Node Name: A-1  
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh323
Peaking Factor: 323.0
Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33
Rainfall File: Flmod
Rainfall Amount (in): 11.000
Storm Duration (hrs): 24.00
Status: Onsite  
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 1.260
Vol of Unit Hyd (in): 1.000
Curve Number: 76.000
DCIA (%): 0.000
Time Max (hrs): 12.04
Flow Max (cfs): 7.66
Runoff Volume (in): 7.951
Runoff Volume (ft³): 36367

---

Basin 1
Group Name: BASE  
Simulation: 25 Year 24 Hour  
Node Name: A-4  
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh323
Peaking Factor: 323.0
Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33
Rainfall File: Flmod
Rainfall Amount (in): 8.600
Storm Duration (hrs): 24.00
Status: Onsite

---

Interconnected Channel and Pond Routing Model (ICPR) ©2002 Streamline Technologies, Inc.
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<th>Flow Max (cfs)</th>
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Interconnected Channel and Pond Routing Model (ICPR) ©2002 Streamline Technologies, Inc.
Time Max (hrs): 12.02
Flow Max (cfs): 1.87
Runoff Volume (in): 3.817
Runoff Volume (ft³): 9283

==================================================================
Basin Name: BASIN 2
Group Name: BASE
Simulation: Mean Annual
Node Name: A-1
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh323
Peaking Factor: 323.0
Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33
Rainfall File: Flmod
Rainfall Amount (in): 4.500
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 1.260
Vol of Unit Hyd (in): 1.000
Curve Number: 76.000
DCIA (%): 0.000

Time Max (hrs): 12.04
Flow Max (cfs): 2.10
Runoff Volume (in): 2.131
Runoff Volume (ft³): 9745
9.0 ICPR Post-Development Peak Stages, Runoff Rates, and Node Map:
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ATTACHMENT E – POST DEVELOPMENT BASIN MAP
<table>
<thead>
<tr>
<th>MAP Unit Symbol</th>
<th>Map Unit Name</th>
<th>Hydlogic Soil Group</th>
</tr>
</thead>
<tbody>
<tr>
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<td>A</td>
</tr>
<tr>
<td>37</td>
<td>ORSINO FINE SAND, 0 TO 5 PERCENT SLOPES</td>
<td>A</td>
</tr>
<tr>
<td>42</td>
<td>PAOLA FINE SAND, 0 TO 8 PERCENT SLOPES</td>
<td>A</td>
</tr>
<tr>
<td>61</td>
<td>ST. JOHNS FINE SAND</td>
<td>A</td>
</tr>
</tbody>
</table>
ECS Florida, LLC
Geotechnical Engineering Report
Life Storage – Debary

3075 Enterprise Road
Debary, Volusia County, FL

ECS Project Number 56:1394

July 08, 2021
Mr. Richard Pasternak  
Sr. Project Manager  
Life Storage LP  
6467 Main Street  
Williamsville, NY 14221

ECS Project No. 56:1394

Reference: Geotechnical Engineering Report  
Life Storage – Debary  
3075 Enterprise Road  
Debary, FL

Dear Mr. Pasternak:

ECS Florida, LLC. (ECS) has completed the subsurface exploration, laboratory testing, and geotechnical engineering analyses for the above-referenced project. Our services were performed in general accordance with our agreed to scope of work. This report presents our understanding of the geotechnical aspects of the project along with the results of the field exploration and laboratory testing conducted, and our foundation design and earthwork construction recommendations.

It has been our pleasure to be of service to Life Storage LP during the design phase of this project. We would appreciate the opportunity to remain involved during the continuation of the design phase, and we would like to provide our services during construction phase operations as well to verify the assumptions of subsurface conditions made for this report. Should you have any questions concerning the information contained in this report, or if we can be of further assistance to you, please contact us.

Respectfully submitted,

ECS Florida, LLC.

Vinay Kumar Arebelli  
Geotechnical Staff Project Manager  
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APPENDICES

Appendix A – Drawings & Reports
  • Figure 1 - Site Location Diagram
  • Figure 2 - Field Exploration Diagram

Appendix B – Field Operations
  • Reference Notes for Boring Logs
  • Subsurface Exploration Procedure: Standard Penetration Testing (SPT)
  • Boring Logs

Appendix C – Laboratory Results
  • Laboratory Summary
EXECUTIVE SUMMARY

This Executive Summary is intended as a very brief overview of the primary geotechnical conditions that are expected to affect design and construction. Information gleaned from the Executive Summary should not be utilized in lieu of reading the entire geotechnical report.

- We understand a proposed 3-story high, 44,775-square feet climate controlled self-storage building will be constructed in place of portions of the existing Life Storage facility. We assumed the loading would be around 100 kips for column and 7 kips per foot for wall footings. Exfiltration systems will be used for stormwater treatment.

- Based on the results of our exploration, very loose to medium dense fine SAND (SP), fine Sand with Clay (SP-SC) and Clayey fine Sand (SC) was encountered below the near surface topsoil to the termination depths of the borings at 15 to 25 feet below ground surface. The borings encountered groundwater at depths varying from 9 to 9.5 feet below the existing ground surface at the time of our exploration.

- We consider the subsurface conditions at the site adaptable for support of the proposed structure on a properly designed conventional shallow foundation system with a maximum allowable bearing pressure of 2,500 psf. Provided the site preparation and earthwork construction recommendations outlined in Section 5.0 of this report are performed, the parameters presented in Section 4.1 of this report may be used for foundation design.

- We consider the subsurface conditions at the site favorable for support of a flexible and/or rigid pavement section when constructed on properly prepared subgrade soils as outlined in Section 5.0 of this report.

- The fine sands (SP) and fine sands with clay (SP-SC) encountered from existing ground surface to depths ranging between 10 and 25 feet at Borings B1, B2 and B-3 locations and to depths of 15 feet at Borings B-4 to B-6 locations are considered suitable for use as structural fill soil. The Double Ring Infiltrometer test results are included in Section 4.4.

- We recommend that ECS be provided the opportunity to review the foundation plans and earthwork specifications to verify that our recommendations have been properly interpreted and implemented. ECS should also be retained to perform the construction material testing and observations required for this project, to verify that our recommendations have been satisfied.
1.0 INTRODUCTION

The purpose of this study was to provide geotechnical information for the design of foundations and pavements for the proposed climate-controlled storage building. The recommendations developed for this report are based on project information supplied by you.

Our services were provided in accordance with our Proposal No. 56:0958, dated March 24, 2021, as authorized by you on March 30, 2021, which includes our Terms and Conditions of Service.

This report contains the procedures and results of our subsurface exploration and laboratory testing programs, review of existing site conditions, engineering analyses, and recommendations for the foundation design and earthwork construction of the project.

The report includes the following items:

- A brief review and description of our field and laboratory test procedures and the results of testing conducted.
- A review of surface topographical features and site conditions.
- A review of area and site geologic conditions.
- A review of subsurface soil stratigraphy with pertinent available physical properties.
- Final copies of our soil boring logs.
- Recommendations for foundation design.
- General recommendations for pavement design.
- Evaluation of suitability of the explored soils for use as structural fill.
- Recommendations for site preparation and construction of compacted fills.
2.0 PROJECT INFORMATION

2.1 PROJECT LOCATION/CURRENT SITE USE

The project site is located on the east side of the developed Life Storage property at 3075 Enterprise Road in Debary, Volusia County, Florida. The site is bordered to the north by undeveloped parcel and east by Interstate 4, to the west by developed buildings and to the south by Enterprise Road. The general site location is shown on below.

Site Location

At the time of our exploration, the site was developed with the existing life storage facility. We understand portions of 3rd and 4th buildings from the south will be demolished to facilitate the construction of the proposed 3-story climate controlled building. A site survey was not available to our office at the time of this report preparation. However, based on publicly available information, site specific topography was interpreted from Google Earth and based on our review and site visit, the site appears to be relatively flat.

2.2 PROPOSED CONSTRUCTION

The following information explains our understanding of the planned development including proposed building and related infrastructure.
### SUBJECT
<table>
<thead>
<tr>
<th></th>
<th>DESIGN INFORMATION / ASSUMPTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Usage</td>
<td>3-Story Climate Controlled Storage</td>
</tr>
<tr>
<td>Framing</td>
<td>Cast-in-place concrete with minor reinforced masonry</td>
</tr>
<tr>
<td>Column Loads(^{(1)})</td>
<td>100 kips (Full Dead and Factored Live) (Assumed)</td>
</tr>
<tr>
<td>Wall Loads(^{(1)})</td>
<td>7 kips per linear foot (klf) maximum (Assumed)</td>
</tr>
<tr>
<td>Floor Loads(^{(1)})</td>
<td>300 pounds per square foot (psf) maximum</td>
</tr>
<tr>
<td>Fill and Cut Heights</td>
<td>Assumed a maximum of 2 feet of fill and only minor cuts, from existing site grades</td>
</tr>
</tbody>
</table>

\(^{(1)}\) If actual structural loads differ from these assumed loads ECS must be contacted immediately in order to revise building foundation recommendations and settlement calculations, as needed.

If actual project information varies from these conditions, then the recommendations in this report may need to be re-evaluated. We should be contacted if any of the above project information is incorrect so that we may re-evaluate our recommendations.
3.0 FIELD EXPLORATION AND LABORATORY TESTING

Our exploration procedures are explained in greater detail in Appendix B including the insert titled Subsurface Exploration Procedures. Our scope of work included drilling six (6) Standard Penetration Test (SPT) borings to depths ranging from 15 to 25 feet below the existing ground surface. Our borings were located with a handheld GPS unit. and their approximate locations are shown on the Field Exploration Diagram (Figure 2) in Appendix A.

**Double Ring Infiltrometer Testing**

We have also performed a Double-Ring Infiltrometer (DRI) test within the proposed exfiltration system areas (near boring B-1 location). The test was performed in general accordance with the procedures outlined in the latest revision of ASTMD 3385, "Infiltration Rate of Soils in Field using Double Ring Infiltrometers." The test locations were initially cleared of all surface vegetation and topsoil, excavated to the desired test depth, and then leveled. The outer ring, approximately 24 inches in diameter, was driven to a depth of 6 inches below the test depth. The inner ring, approximately 12 inches in diameter, was inserted inside the outer ring, centered, and driven to a depth of approximately 2 inches below the test depth. A thin layer of gravel was placed on the exposed soils inside the rings at the test level. The 2 rings were filled simultaneously with 4 inches of water.

The water level was maintained throughout the test period, with the required amount of water added to maintain this level in both rings recorded at time intervals of 10 minutes. After reaching a stabilized inflow volume of water, the test was continued for approximately 30 minutes. The DRI test location is shown on the Boring Location Diagram.

3.1 SUBSURFACE CHARACTERIZATION

The subsurface conditions encountered were generally consistent with published geological mapping. The following sections provide generalized characterizations of the soil strata. Please refer to the boring logs in Appendix B.

**Subsurface Stratigraphy of Standard Penetration Test Borings (SPT)**

<table>
<thead>
<tr>
<th>Approximate Depth Range (ft)</th>
<th>Stratum</th>
<th>Description</th>
<th>Ranges of SPT$^{(1)}$ N-values (bpf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 0.25 to 0.5</td>
<td>N/A</td>
<td>Topsoil and Concrete</td>
<td>---</td>
</tr>
<tr>
<td>0.25 to 0.5 - 10 to 25*</td>
<td>I</td>
<td>Very Loose to Medium Dense Fine Sand (SP) and Fine Sand with Clay (SP-SC)</td>
<td>3 to 22</td>
</tr>
<tr>
<td>10 to 20 - 15 to 25</td>
<td>II</td>
<td>Medium Dense Clayey Fine Sand (SC)</td>
<td>11 to 16</td>
</tr>
</tbody>
</table>

Notes:  
$^{(1)}$ Standard Penetration Test.  
* Termination depth of Boring B-3
3.2 GROUNDWATER OBSERVATIONS

3.2.1 Encountered Groundwater

Groundwater levels were measured during our field exploration and are presented in our boring logs in Appendix B. Groundwater depths measured at the time of drilling ranged from 9 to 9.5 feet below the ground surface. Variations in the long-term water table may occur as a result of changes in precipitation, evaporation, surface water runoff, construction activities, and other factors.

3.2.2 Estimated Seasonal High Groundwater

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

Based on our interpretation of the site conditions, including the boring logs and Web Soil Survey, we estimate the NSHGWL at the boring locations to be at the depths shown on the boring logs. It is possible that groundwater levels may exceed the estimated normal seasonal high groundwater level as a result of significant or prolonged rains.

3.3 LABORATORY TESTING

Each sample was visually classified on the basis of texture and plasticity in accordance with ASTM D2488 Standard Practice for Description and Identification of Soils (Visual-Manual Procedures) and including USCS classification symbols, and ASTM D2487 Standard Practice for Classification for Engineering Purposes (Unified Soil Classification System (USCS)). After classification, the samples were grouped in the major zones noted on the boring logs in Appendix B. The group symbols for each soil type are indicated in parentheses along with the soil descriptions. The stratification lines between strata on the logs are approximate; in situ, the transitions may be gradual.

The laboratory testing consisted of selected tests performed on samples obtained during our field exploration operations. Classification and index property tests were performed on representative soil samples. Laboratory tests performed on selected samples included fine percent tests (ASTM D1140) and moisture content tests (ASTM D2216).

We conducted a laboratory falling head permeability test in accordance with ASTM D5084-16a. The results of the permeability test are included in section 4.4. Note the permeability test was performed with a remolded sample from our soil boring samples.
4.0 DESIGN RECOMMENDATIONS

4.1 FOUNDATIONS

Provided subgrades and structural fills are prepared as recommended in this report, the proposed structure can be supported by shallow foundations including column footings and continuous wall footings. We recommend the foundation design use the following parameters:

<table>
<thead>
<tr>
<th>Design Parameter</th>
<th>Column Footing</th>
<th>Wall Footing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Width</td>
<td>24 inches</td>
<td>18 inches</td>
</tr>
<tr>
<td>Minimum Footing Embedment Depth (below slab or finished grade)</td>
<td>12 inches</td>
<td>12 inches</td>
</tr>
<tr>
<td>Estimated Maximum Total Settlement</td>
<td>1 inch</td>
<td>1 inch</td>
</tr>
<tr>
<td>Estimated Maximum Differential Settlement</td>
<td>Less than ½ inches between columns</td>
<td>Less than ½ inches over 50 feet</td>
</tr>
<tr>
<td>Net Allowable Bearing Pressure</td>
<td>2,500 psf</td>
<td></td>
</tr>
<tr>
<td>Acceptable Bearing Soil Material</td>
<td>Compacted Fine Sand (SP) – Stratum I or Compacted Fill</td>
<td></td>
</tr>
</tbody>
</table>

1. Based on assumed structural loads. If final loads are different, ECS must be contacted to update foundation recommendations and settlement calculations.
2. Based on maximum column/wall loads and variability in borings. Differential settlement can be re-evaluated once the foundation plans are more complete.
3. Net allowable bearing pressure is the applied pressure in excess of the surrounding overburden soils above the base of the foundation.

Depending on the final floor elevations of the building, we anticipate most of the soils at the foundation bearing elevation are anticipated to be suitable for support of the proposed structure, after prepared in accordance with Section 5.0 of this report. 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 foundation bearing levels.

For turn down slabs and interior wall footings the minimum width should also be 18 inches, however the sloped transition portion of the turn-down may be included when determining the footing width. Even though the maximum allowable soil bearing pressure may not be achieved, these width recommendations should control the size of the foundations.

4.2 SLABS ON GRADE

The floor slab can be constructed as a slab-on-ground, provided the site is prepared as outlined in Section 5.0. It is recommended 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 two feet be maintained between the finished floor levels and the estimated normal seasonal high groundwater level.

Subgrade Modulus: Provided the placement of structural fill per the recommendations discussed herein, the slab may be designed assuming a modulus of subgrade reaction, $k_1$ of 150 pci (lbs/cu. inch). The modulus of subgrade reaction value is based on a 1 ft by 1 ft plate load test basis.
4.3 PAVEMENTS

Based on the results of our exploration, we consider the subsurface conditions at the site favorable for support of a flexible or rigid pavement section when constructed on properly prepared subgrade soils as outlined in Section 5.0 of this report. Typical pavement sections used in east-central Florida are presented in the following sections. If requested, we can prepare a project-specific pavement design if specific traffic data is provided.

In general, heavy duty sections are areas that will be subjected to trucks, buses, or other similar vehicles including main drive lanes of the development. Light duty sections are appropriate for vehicular traffic and parking areas.

4.3.1 Flexible Pavement Recommendations

<table>
<thead>
<tr>
<th>TYPICAL PAVEMENT SECTIONS</th>
</tr>
</thead>
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<tr>
<td>MATERIAL</td>
</tr>
<tr>
<td>Asphaltic Concrete Surface Course (SP-9.5 or Type S)</td>
</tr>
<tr>
<td>Limerock Base</td>
</tr>
<tr>
<td>Stabilized Subgrade</td>
</tr>
</tbody>
</table>

**Base and Subgrade:** The limerock base course should have a minimum Limerock Bearing Ratio (LBR) of 100 and should be compacted to 98 percent of the modified Proctor maximum dry density (ASTM D 1557) 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) value.

4.3.2 Rigid Pavement Recommendations

Our recommendations for slab thickness for standard duty and heavy-duty concrete pavements are based on a) subgrade soils densified to 98 percent of the modified Proctor maximum dry density (ASTM D 1557) b) modulus of subgrade reaction (k) equal to 200 pounds per cubic inch, c) a 20-year design life.

<table>
<thead>
<tr>
<th>TYPICAL PAVEMENT SECTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIGHT DUTY</td>
</tr>
<tr>
<td>Minimum Concrete Thickness</td>
</tr>
<tr>
<td>Maximum Control Joint Spacing</td>
</tr>
<tr>
<td>Recommended Sawcut Depth</td>
</tr>
</tbody>
</table>

We recommend using concrete with a minimum 28-day compressive strength of 4,000 psi and a minimum 28-day flexural strength (modulus of rupture) of at least 600 pounds per square inch, based on 3rd point loading of concrete beam test samples. Layout of the sawcut control joints should form square panels. The joints should be sawed within six hours of concrete placement or as soon as the concrete has developed sufficient strength to support workers and equipment. We recommend allowing ECS to review and comment on the final concrete pavement design,
including section and joint details (type of joints, joint spacing, etc.), prior to the start of construction.

For further details on concrete pavement construction, please reference the “Guide to Jointing on Non-Reinforced Concrete Pavements” published by the Florida Concrete and Products Associates, Inc., and “Building Quality Concrete Parking Areas”, published by the Portland Cement Association.

### 4.4 STORMWATER MANAGEMENT FACILITIES

#### 4.4.1 Soil Permeability/Infiltration Rate

Based on the Double Ring Infiltration (DRI) and laboratory permeability tests performed, the unsaturated vertical infiltration rate and horizontal permeability are presented in the following tables below:

<table>
<thead>
<tr>
<th>Borings Location</th>
<th>Test Depth (feet)</th>
<th>Vertical Infiltration Rate (ft/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRI-1/B-1</td>
<td>1 to 2</td>
<td>14.9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Boring Location</th>
<th>Test Depth (feet)</th>
<th>Horizontal Permeability (ft/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B-1</td>
<td>6 to 8</td>
<td>31</td>
</tr>
</tbody>
</table>

The measured permeability/vertical infiltration rates should not be construed to represent the actual pond exfiltration rates. For pond design calculations, we recommend an appropriate factor of safety be applied to the above permeability/vertical infiltration rate values.

#### 4.4.2 Borrow Suitability

Based on the boring results and classification of the soil samples, the fine sands (SP) and fine sands with clay (SP-SC) encountered in the borings are considered suitable for use as fill soil. The soils containing surficial organic material will require removal and are unsuitable as structural fill. The organic soils could be used in landscape berms.

The clayey fine sand (SC) and as encountered at the boring locations may also be used as structural fill however, we recommend this material to have a fines content of less than 30 percent and a Plastic Index (PI) of less than 6. We note that these soils will be more difficult to compact due to their tendency to retain soil moisture and will require drying. Depending on the anticipated time for completing the site work portion of the project and the drying time required to reduce the potential for pumping and yielding of these soils during placement and compaction operations, these soils may not be feasible for use as fill material.
5.0 SITE CONSTRUCTION RECOMMENDATIONS

5.1 SUBGRADE PREPARATION

5.1.1 Stripping and Grubbing

Prior to construction, the location of existing underground utilities within the construction area should be established. Provisions should then be made to relocate interfering utilities to appropriate locations. Underground pipes that are not properly removed or plugged 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, construction debris from the demolition of the existing structures and pavements, stumps, debris, organic topsoil, asphalt, concrete 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.

The actual depths of unsuitable soils and materials should be determined by ECS using visual observation and judgment during earthwork operations. Any topsoil removed from the building and parking/drive areas can be stockpiled and used subsequently in non-structural areas.

5.1.2 Subgrade Evaluation

After removing all unsuitable surface materials, cutting to the proposed grade, and prior to the placement of any structural fill or other construction materials, the exposed subgrade should be evaluated by the Geotechnical Engineer or authorized representative. In the event that unstable or "pumping" subgrade is identified by the engineer, those areas should be marked for repair prior to the placement of any subsequent structural fill or other construction materials. Methods of repair of unstable subgrade, such as undercutting or moisture conditioning, should be discussed with the Geotechnical Engineer to determine the appropriate procedure with regard to the existing conditions causing the instability.

5.1.3 Subgrade Compaction

After completing the clearing and stripping operations and installing the temporary groundwater control measures (if required), the exposed surface 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 percentage points 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.

Should the bearing level soils experience pumping and soil strength loss during the compaction operations, compaction work should be immediately terminated, and (1) the disturbed soils should be removed and backfilled with compacted structural fill, or (2) 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 ECS should be contacted immediately. We recommend 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.

5.2 EARTHWORK OPERATIONS

5.2.1 Structural Backfill and Fill Soils

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 fine sand with silt or fine sand with clay, without roots, as encountered in the borings, are suitable as fill materials and, with proper moisture control, should densify using conventional compaction methods. 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.

**Structural Fill Compaction Requirements:** Materials satisfactory for use as structural fill should consist of soils with the following compaction requirements.

<table>
<thead>
<tr>
<th>Subject</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compaction Standard</td>
<td>Modified Proctor, ASTM D1557</td>
</tr>
<tr>
<td>Required Compaction</td>
<td>95% of Max. Dry Density (general structural fill)</td>
</tr>
<tr>
<td></td>
<td>98% of Max. Dry Density (upper one foot below the proposed pavement base course)</td>
</tr>
<tr>
<td>Loose Thickness prior to compaction</td>
<td>12 inches if vibratory drum roller compaction equipment is used</td>
</tr>
<tr>
<td></td>
<td>8 inches if vibratory drum roller is used in static mode</td>
</tr>
<tr>
<td></td>
<td>8 inches if track-mounted compaction equipment is used</td>
</tr>
<tr>
<td></td>
<td>6 inches if hand-held compaction equipment is used</td>
</tr>
</tbody>
</table>

Fill materials should not be placed on excessively wet soils. Excessively wet soils should be scarified, aerated, and moisture conditioned. Proper drainage should be maintained during the earthwork phases of construction to prevent ponding of water which has a tendency to degrade subgrade soils. The contractor should minimize dusting or implement dust control measures, as required.

We recommend that the grading contractor have equipment on site during earthwork for both drying and wetting fill soils. Moisture control may be difficult during extended periods of rain. The control of moisture content of soils containing more than 10% fines may be difficult when these soils become wet. Further, such soils are easily degraded by construction traffic when the moisture content is elevated.

5.2.2 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 compactive effort should be provided by a lightweight vibratory sled or roller having a total weight on the order of 500 to 2,000 pounds.

5.2.3 Flexible 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 in Sections 5.2.1.

5.3 UTILITY INSTALLATIONS

Utility Subgrades: The soil borings encountered fine sands (SP). It is our opinion that the fine sands (SP) soils will be suitable bedding soils for pipelines and utility structures.

Utility Backfilling: Backfill placed around the pipe, and to a height of 2 feet above the top of pipe, should be placed in 6-inch lifts. Each lift should be compacted with hand-held equipment to 95 percent of the soil’s Modified Proctor (ASTM D 1557) maximum dry density. Backfill placed above the 2-foot zone above the top of pipe elevation may be placed in 12-inch lifts and compacted with heavier equipment. Typically, the backfill soil should exhibit moisture contents within ±2 percent of the soil’s optimum moisture content as determined from the Proctor test. Care should be taken to avoid damaging the pipe during compaction operations.

Backfill placed around utility structures should be placed in 6-inch-thick lifts, and compacted with hand-held equipment to the same in-place soil density stated above. Heavy equipment should not be used within 5 feet of the structures to prevent overstressing of the structure walls.

Utility Excavation Dewatering: Based on the groundwater depths encountered in our borings, groundwater will likely be encountered by utility excavations which extend below 8 feet below existing grades. It is expected that removal of groundwater will be required, especially for deeper utility excavations. The contractor should submit a dewatering plan prior to installing the site utilities.

Excavation Safety: All excavations and slopes should be made and maintained in accordance with OSHA excavation safety standards. The contractor is solely responsible for designing and constructing stable, temporary excavations and slopes and should shore, slope, or bench the sides of the excavations and slopes as required to maintain stability of both the excavation sides and bottom. The contractor’s responsible person, as defined in 29 CFR Part 1926, should evaluate the soil exposed in the excavations as part of the contractor’s safety procedures. In no case should slope height, slope inclination, or excavation depth, including utility trench excavation depth, exceed those specified in local, state, and federal safety regulations. ECS is providing this information solely as a service to our client. ECS is not assuming responsibility for construction site safety or the contractor’s activities; such responsibility is not being implied and should not be inferred.

Erosion Control: The surface soils may be erodible. Therefore, the Contractor should provide and maintain good site drainage during earthwork operations to maintain the integrity of the surface soils. All erosion and sedimentation controls should be in accordance with sound engineering practices and local requirements.
6.0 CLOSING

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

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

If any of the project description information discussed in this report is inaccurate, either due to our interpretation of the documents provided or site or design changes that may occur later, ECS should be contacted immediately in order that we can review the report in light of the changes and provide additional or alternate recommendations as may be required to reflect the proposed construction.

We recommend that ECS be allowed to review the project’s plans and specifications pertaining to our work so that we may ascertain consistency of those plans/specifications with the intent of the geotechnical report.

Field observations, monitoring, and quality assurance testing during earthwork and foundation installation are an extension of and integral to the geotechnical design recommendation. We recommend that the owner retain these quality assurance services and that ECS be allowed to continue our involvement throughout these critical phases of construction to provide general consultation as issues arise.

ECS is not responsible for the conclusions, opinions, or recommendations of others based on the data in this report.
APPENDIX A – Diagrams & Reports

Figure 1 - Site Location Diagram
Figure 2 - Field Exploration Diagram
BORING LOCATION DIAGRAM

LIFE STORAGE

3075 ENTERPRISE ROAD, DEBARY, FLORIDA
APPENDIX B – Field Operations

Reference Notes for Boring Logs
Subsurface Exploration Procedure: Standard Penetration Testing (SPT)
Boring Logs B-1 through B-6
## Reference Notes for Boring Logs

### Material Classifications and Symbols

<table>
<thead>
<tr>
<th>Designation</th>
<th>Symbol</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt</td>
<td>🠓 ASF</td>
<td>-</td>
</tr>
<tr>
<td>Concrete</td>
<td>🠔 CNG</td>
<td>-</td>
</tr>
<tr>
<td>Gravel</td>
<td>🠖 GRAV</td>
<td>-</td>
</tr>
<tr>
<td>Topsoil</td>
<td>🠒 TOP</td>
<td>-</td>
</tr>
<tr>
<td>Void</td>
<td>🠉 VD</td>
<td>-</td>
</tr>
<tr>
<td>Brick</td>
<td>🠗 BCK</td>
<td>-</td>
</tr>
</tbody>
</table>

### Aggregate Base Course

<table>
<thead>
<tr>
<th>Designation</th>
<th>Symbol</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well-Graded Gravel</td>
<td>🠑 GW-GRV</td>
<td>gravel-sand mixtures, little or no fines</td>
</tr>
<tr>
<td>Poorly-Graded Gravel</td>
<td>🠑 GP-GRV</td>
<td>gravel-sand mixtures, little or no fines</td>
</tr>
<tr>
<td>Silty Gravel</td>
<td>🠑 SM-GRV</td>
<td>gravel-sand-silt mixtures</td>
</tr>
<tr>
<td>Clayey Gravel</td>
<td>🠑 SC-GRV</td>
<td>gravel-sand-clay mixtures</td>
</tr>
<tr>
<td>Clay</td>
<td>🠓 CL</td>
<td>non-plastic to medium plasticity</td>
</tr>
<tr>
<td>Elastic Clay</td>
<td>🠔 CH</td>
<td>high plasticity</td>
</tr>
<tr>
<td>Fat Clay</td>
<td>🠘 OL</td>
<td>high plasticity</td>
</tr>
<tr>
<td>Organic Silt or Clay</td>
<td>🠙 OH</td>
<td>non-plastic to low plasticity</td>
</tr>
<tr>
<td>Peat</td>
<td>🠝 PT</td>
<td>highly organic soils</td>
</tr>
</tbody>
</table>

### Classification Symbols & Abbreviations

<table>
<thead>
<tr>
<th>Designation</th>
<th>Symbol</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>Split Spoon Sampler</td>
<td>SS</td>
<td>-</td>
</tr>
<tr>
<td>Shelby Tube Sampler</td>
<td>ST</td>
<td>-</td>
</tr>
<tr>
<td>Wash Sample</td>
<td>WS</td>
<td>-</td>
</tr>
<tr>
<td>Bulk Sample of Cuttings</td>
<td>BS</td>
<td>-</td>
</tr>
<tr>
<td>Power Auger (no sample)</td>
<td>PA</td>
<td>-</td>
</tr>
<tr>
<td>Hollow Stem Auger</td>
<td>HSA</td>
<td>-</td>
</tr>
<tr>
<td>Pressuremeter Test</td>
<td>PM</td>
<td>-</td>
</tr>
<tr>
<td>Rock Bit Drilling</td>
<td>RD</td>
<td>-</td>
</tr>
<tr>
<td>Rock Core, NX, BX, AX</td>
<td>RC</td>
<td>-</td>
</tr>
<tr>
<td>Rock Sample Recovery %</td>
<td>REC</td>
<td>-</td>
</tr>
<tr>
<td>Rock Quality Designation %</td>
<td>RQD</td>
<td>-</td>
</tr>
</tbody>
</table>

### Particle Size Identification

<table>
<thead>
<tr>
<th>Designation</th>
<th>Unconfined Compressive Strength, Qp (Pf)</th>
<th>SPT (BPF)</th>
<th>Consistency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boulders</td>
<td>&lt;0.25</td>
<td>&lt;2</td>
<td>Very Soft</td>
</tr>
<tr>
<td></td>
<td>0.25 - &lt;0.50</td>
<td>3 - 4</td>
<td>Soft</td>
</tr>
<tr>
<td></td>
<td>0.50 - &lt;1.00</td>
<td>5 - 8</td>
<td>Firm</td>
</tr>
<tr>
<td></td>
<td>1.00 - &lt;2.00</td>
<td>9 - 15</td>
<td>Stiff</td>
</tr>
<tr>
<td></td>
<td>2.00 - &lt;4.00</td>
<td>16 - 30</td>
<td>Very Stiff</td>
</tr>
<tr>
<td></td>
<td>4.00 - 8.00</td>
<td>31 - 50</td>
<td>Hard</td>
</tr>
<tr>
<td></td>
<td>&gt;8.00</td>
<td>&gt;50</td>
<td>Very Hard</td>
</tr>
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</table>

### Cohesive Silts & Clays

<table>
<thead>
<tr>
<th>Relative Amount</th>
<th>Coarse Grained (%)</th>
<th>Fine Grained (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trace</td>
<td>&lt;5</td>
<td>&lt;5</td>
</tr>
<tr>
<td>With</td>
<td>10 - 20</td>
<td>10 - 25</td>
</tr>
<tr>
<td>Adjective (e.g. &quot;Silty&quot;)</td>
<td>25 - 45</td>
<td>30 - 45</td>
</tr>
</tbody>
</table>

### Drilling Sampling Symbols & Abbreviations

<table>
<thead>
<tr>
<th>Designation</th>
<th>Symbol</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Levels</td>
<td>WL</td>
<td>-</td>
</tr>
<tr>
<td>Asphalts</td>
<td>🠒 ASP</td>
<td>-</td>
</tr>
<tr>
<td>Concrete</td>
<td>🠔 CT</td>
<td>-</td>
</tr>
<tr>
<td>Gravel</td>
<td>🠖 GV</td>
<td>-</td>
</tr>
<tr>
<td>Topsoil</td>
<td>🠒 TS</td>
<td>-</td>
</tr>
<tr>
<td>Void</td>
<td>🠉 VD</td>
<td>-</td>
</tr>
<tr>
<td>Brick</td>
<td>🠗 BCK</td>
<td>-</td>
</tr>
</tbody>
</table>

### Water Levels

- WL (First Encountered)
- WL (Completion)
- WL (Seasonal High Water)
- WL (Stabilized)

### Gravels, Sands & Non-cohesive Silts

<table>
<thead>
<tr>
<th>SPT (BPF)</th>
<th>Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;5</td>
<td>Very Loose</td>
</tr>
<tr>
<td>5 - 10</td>
<td>Loose</td>
</tr>
<tr>
<td>11 - 30</td>
<td>Medium Dense</td>
</tr>
<tr>
<td>31 - 50</td>
<td>Dense</td>
</tr>
<tr>
<td>&gt;50</td>
<td>Very Dense</td>
</tr>
</tbody>
</table>

### Fill and Rock

- Fill
- Possible Fill
- Probable Fill
- Rock

---

2. To be consistent with general practice, “POORLY GRADED” has been removed from GP, GP-GM, GP-GC, SP, SP-SM, SP-SC soil types on the boring logs.
3. Non-ASTM designations are included in soil descriptions and symbols along with ASTM symbol [Ex: (SM-FILL)].
4. Typically estimated via pocket penetrometer or Torvane shear test and expressed in tons per square foot (tsf).
5. Standard Penetration Test (SPT) refers to the number of hammer blows (blow count) of a 140 lb. hammer falling 30 inches on a 2 inch OD split spoon sampler required to drive the sampler 12 inches (ASTM D 1586). “N-value” is another term for “blow count” and is expressed in blows per foot (bpf). SPT correlations per 7.4.2 Method B and need to be corrected if using an auto hammer.
6. The water levels are those levels actually measured in the borehole at the times indicated by the symbol. The measurements are relatively reliable when augering, without adding fluids, in granular soils. In clay and cohesive silts, the determination of water levels may require several days for the water level to stabilize. In such cases, additional methods of measurement are generally employed.
7. Minor deviation from ASTM D 2488-17 Note 14.
8. Percentages are estimated to the nearest 5% per ASTM D 2488-17.
Standard Penetration Testing, or SPT, is the most frequently used subsurface exploration test performed worldwide. This test provides samples for identification purposes, as well as a measure of penetration resistance, or N-value. The N-Value, or blow counts, when corrected and correlated, can approximate engineering properties of soils used for geotechnical design and engineering purposes.

**SPT Procedure:**

- Involves driving a hollow tube (split-spoon) into the ground by dropping a 140-lb hammer a height of 30-inches at desired depth

- Recording the number of hammer blows required to drive split-spoon a distance of 12 inches (in 3 or 4 Increments of 6 inches each)

- Auger is advanced* and an additional SPT is performed

- One SPT test is typically performed for every two to five feet

- Obtain two-inch diameter soil sample

*Drilling Methods May Vary— The predominant drilling methods used for SPT are open hole fluid rotary drilling and hollow-stem auger drilling.
<table>
<thead>
<tr>
<th>DEPTH (FT)</th>
<th>SAMPL NUMBER</th>
<th>SAMPLE TYPE</th>
<th>SAMPLE DIST. (IN)</th>
<th>DESCRIPTION OF MATERIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>S-1</td>
<td>SS</td>
<td>24</td>
<td>Topsoil Thickness[6.00&quot;] (SP) FINE SAND, brown, gray and tan, moist, loose</td>
</tr>
<tr>
<td>10</td>
<td>S-2</td>
<td>SS</td>
<td>24</td>
<td>(SC) CLAYEY FINE SAND, light tan, saturated, medium dense</td>
</tr>
<tr>
<td>15</td>
<td>S-3</td>
<td>SS</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>S-4</td>
<td>SS</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>S-5</td>
<td>SS</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>S-6</td>
<td>SS</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>S-7</td>
<td>SS</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>S-8</td>
<td>SS</td>
<td>18</td>
<td></td>
</tr>
</tbody>
</table>

**END OF DRILLING AT 25.0 FT**

---

**THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL**

- **WL (First Encountered)** Dry
- **WL (Completion)**
- **WL (Seasonal High Water)**
- **WL (Stabilized)**

**BORING**
- **STARTED:** Jun 18 2021
- **COMPLETED:** Jun 18 2021
- **HAMMER TYPE:** Auto
- **EQUIPMENT:** Track
- **LOGGED BY:** DRILLING METHOD: Mud-Rotary

**SURFACE ELEVATION:**

- **BOTOM OF CASING:**

---

**SITE LOCATION:**
3075 Enterprise Road, Debary, Florida 32713

---

**LOSS OF CIRCULATION**

---

**PLASTIC LIMIT / WATER CONTENT / LIQUID LIMIT**

---

**CASE CONTENT**

---

**RECOMMENDED PENETRATION**

---

**THE TECHNICAL BOREHOLE LOG**
# Geotechnical Borehole Log

## Site Location:
3075 Enterprise Road, Debary, Florida 32713

## Project Details:
- **Client:** Life Storage
- **Project Name:** Life Storage - Debary
- **Site Location:** 3075 Enterprise Road, Debary, Florida 32713
- **North:** 25621.6
- **East:** 2999277.3
- **Station:**
- **Surface Elevation:**
- **Boring Number:** B-2
- **Driller/Contractor:** Renegade Drilling, LLC

## Sample Table:

<table>
<thead>
<tr>
<th>Depth (FT)</th>
<th>Sample Number</th>
<th>Sample Type</th>
<th>Sample Dist. (IN)</th>
<th>Recovery (IN)</th>
<th>Description of Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>S-1</td>
<td>SS</td>
<td>24</td>
<td>24</td>
<td>Concrete Thickness[3.00&quot;]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(SP) FINE SAND, orange, brown and tan, moist to saturated, loose</td>
</tr>
<tr>
<td>5</td>
<td>S-2</td>
<td>SS</td>
<td>24</td>
<td>24</td>
<td>(SP-SC) FINE SAND WITH CLAY, light tan gray, saturated, loose</td>
</tr>
<tr>
<td>10</td>
<td>S-3</td>
<td>SS</td>
<td>24</td>
<td>24</td>
<td>(SC) CLAYEY FINE SAND, light tan, saturated, medium dense</td>
</tr>
<tr>
<td>15</td>
<td>S-4</td>
<td>SS</td>
<td>24</td>
<td>24</td>
<td>END OF DRILLING AT 25.0 FT</td>
</tr>
<tr>
<td>20</td>
<td>S-5</td>
<td>SS</td>
<td>24</td>
<td>24</td>
<td>END OF DRILLING AT 25.0 FT</td>
</tr>
<tr>
<td>25</td>
<td>S-6</td>
<td>SS</td>
<td>18</td>
<td>18</td>
<td>END OF DRILLING AT 25.0 FT</td>
</tr>
<tr>
<td>30</td>
<td>S-7</td>
<td>SS</td>
<td>18</td>
<td>18</td>
<td>END OF DRILLING AT 25.0 FT</td>
</tr>
</tbody>
</table>

## Log Notes:
- **Drilling Method:** Mud-Rotary
- **Equipment:** Track
- **Logged By:**
- **Hammer Type:** Auto
- **Boring Started:** Jun 18 2021
- **Boring Completed:** Jun 18 2021
- **Cave in Depth:**
- **WL (First Encountered):** 9.50
- **WL (Completion):** 10.77
- **WL (Seasonal High Water):** 8.00
- **WL (Stabilized):**

## Diagram:
- The stratification lines represent the approximate boundary lines between soil types. In-situ the transition may be gradual.

- WL (First Encountered) 9.50
- WL (Completion) 10.77
- WL (Seasonal High Water) 8.00
- WL (Stabilized)

## Analysis:
- **WL (First Encountered):** 9.50
- **WL (Completion):** 10.77
- **WL (Seasonal High Water):** 8.00
- **WL (Stabilized):**
**SITE LOCATION:**
3075 Enterprise Road, DeBary, Florida 32713

<table>
<thead>
<tr>
<th>DEPTH (FT)</th>
<th>SAMPLE NUMBER</th>
<th>SAMPLE TYPE</th>
<th>SAMPLE DIST. (IN)</th>
<th>DESCRIPTION OF MATERIAL</th>
<th>WATER LEVELS</th>
<th>BLOWS / 100</th>
<th>SURFACE ELEVATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>S-1</td>
<td>SS</td>
<td>24</td>
<td>Concrete Thickness[3.00&quot;] (SP) FINE SAND, orange, brown and tan, moist to saturated, loose to medium dense</td>
<td>4-4-4-8</td>
<td>(8)</td>
<td>-5</td>
</tr>
<tr>
<td>5</td>
<td>S-2</td>
<td>SS</td>
<td>24</td>
<td></td>
<td>4-4-4-8</td>
<td>(8)</td>
<td>-5</td>
</tr>
<tr>
<td>5</td>
<td>S-3</td>
<td>SS</td>
<td>24</td>
<td></td>
<td>4-4-4-8</td>
<td>(8)</td>
<td>-5</td>
</tr>
<tr>
<td>5</td>
<td>S-4</td>
<td>SS</td>
<td>24</td>
<td></td>
<td>4-4-4-8</td>
<td>(8)</td>
<td>-5</td>
</tr>
<tr>
<td>5</td>
<td>S-5</td>
<td>SS</td>
<td>24</td>
<td></td>
<td>4-4-4-8</td>
<td>(8)</td>
<td>-5</td>
</tr>
<tr>
<td>10</td>
<td>S-6</td>
<td>SS</td>
<td>18</td>
<td>(SP-SC) FINE SAND WITH CLAY, light tan gray, saturated, medium dense</td>
<td>3-2-2-2</td>
<td>(4)</td>
<td>-15</td>
</tr>
<tr>
<td>15</td>
<td>S-7</td>
<td>SS</td>
<td>18</td>
<td></td>
<td>5-7-7</td>
<td>(14)</td>
<td>-20</td>
</tr>
<tr>
<td>20</td>
<td>S-8</td>
<td>SS</td>
<td>18</td>
<td>END OF DRILLING AT 25.0 FT</td>
<td>9-11-11</td>
<td>(22)</td>
<td>-25</td>
</tr>
</tbody>
</table>

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

**WL (First Encountered)**
**WL (Completion)**
**WL (Seasonal High Water)**
**WL (Stabilized)**

DRILLING METHOD: Mud-Rotary
**SITE LOCATION:**
3075 Enterprise Road, DeBary, Florida 32713

**NORTHING:** -25594.9  **EASTING:** 2999329.4  **STATION:**  **SURFACE ELEVATION:**

<table>
<thead>
<tr>
<th>DEPTH (FT)</th>
<th>SAMPLE NUMBER</th>
<th>SAMPLE TYPE</th>
<th>SAMPLE DIST. (IN)</th>
<th>DESCRIPTION OF MATERIAL</th>
<th>WATER LEVELS</th>
<th>ELEVATION (FT)</th>
<th>BLOWS/6”</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>S-1</td>
<td>SS</td>
<td>24</td>
<td>Concrete Thickness[3.00”]</td>
<td></td>
<td>-5</td>
<td>3-3-3-3 (6)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(SP) FINE SAND, orange, brown and tan, moist to saturated, loose to medium dense</td>
<td></td>
<td></td>
<td>2-2-2-2 (4)</td>
</tr>
<tr>
<td>5</td>
<td>S-2</td>
<td>SS</td>
<td>24</td>
<td></td>
<td></td>
<td>-5</td>
<td>3-3-3-5 (6)</td>
</tr>
<tr>
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<td></td>
<td>RECOMMENDATION: MORE DENSIFICATION NEEDED</td>
<td></td>
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<td>3-4-4-6 (8)</td>
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<tr>
<td>10</td>
<td>S-3</td>
<td>SS</td>
<td>24</td>
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<td></td>
<td>-10</td>
<td>3-4-4-4 (8)</td>
</tr>
<tr>
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<td></td>
<td>END OF DRILLING AT 15.0 FT</td>
<td></td>
<td></td>
<td>3-4-5 (9)</td>
</tr>
<tr>
<td>15</td>
<td>S-4</td>
<td>SS</td>
<td>24</td>
<td></td>
<td></td>
<td>-15</td>
<td></td>
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<tr>
<td>20</td>
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<td>SS</td>
<td>24</td>
<td></td>
<td></td>
<td>-20</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>S-6</td>
<td>SS</td>
<td>18</td>
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<td>-25</td>
<td></td>
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**THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL**

- WL (First Encountered) 9.50  **BORING STARTED:** Jun 17 2021  **CAVE IN DEPTH:**
- WL (Completion)  **BORING COMPLETED:** Jun 17 2021  **HAMMER TYPE:** Auto
- WL (Seasonal High Water) 8.00  **EQUIPMENT:** Track  **LOGGED BY:**
- WL (Stabilized)  **DRILLING METHOD:** Mud-Rotary

**GEOTECHNICAL BOREHOLE LOG**
The stratification lines represent the approximate boundary lines between soil types. In situ the transition may be gradual.

- **WL (First Encountered)**: 9.00
- **WL (Completion)**: 8.50
- **WL (Seasonal High Water)**: 7.50
- **WL (Stabilized)**

---

**Geotechnical Borehole Log**

**WL (First Encountered)**: 9.00
**Boring Started**: Jun 17 2021
**Cave in Depth**: 0.00

**WL (Completion)**: 8.50
**Boring Completed**: Jun 17 2021
**Hammer Type**: Auto

**WL (Seasonal High Water)**: 7.50
**Equipment**: Track

**WL (Stabilized)**

**Drilling Method**: Mud-Rotary
**SITE LOCATION:**
3075 Enterprise Road, DeBary, Florida 32713

**NORTHING:**
-25836.0

**EASTING:**
2999266.6

**STATION:**

**SURFACE ELEVATION:**

<table>
<thead>
<tr>
<th>DEPTH (FT)</th>
<th>SAMPLE NUMBER</th>
<th>SAMPLE DIST (IN)</th>
<th>SAMPLE TYPE</th>
<th>DESCRIPTION OF MATERIAL</th>
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</thead>
<tbody>
<tr>
<td>5</td>
<td>S-1</td>
<td>24</td>
<td>SS</td>
<td>Concrete Thickness[4.00&quot;] (SP) FINE SAND, brown, gray and tan, moist to saturated, loose to medium dense</td>
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<tr>
<td>5</td>
<td>S-2</td>
<td>24</td>
<td>SS</td>
<td>4-4-5-5 (9)</td>
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<tr>
<td>10</td>
<td>S-3</td>
<td>24</td>
<td>SS</td>
<td>3-3-3-4 (6)</td>
</tr>
<tr>
<td>10</td>
<td>S-4</td>
<td>24</td>
<td>SS</td>
<td>2-2-2-3 (4)</td>
</tr>
<tr>
<td>15</td>
<td>S-5</td>
<td>24</td>
<td>SS</td>
<td>3-4-5-3 (9)</td>
</tr>
<tr>
<td>15</td>
<td>S-6</td>
<td>18</td>
<td>SS</td>
<td>3-3-4-6 (7)</td>
</tr>
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</table>

**END OF DRILLING AT 15.0 FT**

---

**THE Stratification LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL**

<table>
<thead>
<tr>
<th>WL (First Encountered)</th>
<th>9.50</th>
<th>BORING STARTED:</th>
<th>Jun 17 2021</th>
<th>CAVE IN DEPTH:</th>
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<td>BORING COMPLETED:</td>
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<td>8.00</td>
<td>EQUIPMENT: Track</td>
<td>LOGGED BY:</td>
<td>DRILLING METHOD: Mud-Rotary</td>
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<tr>
<td>WL (Stabilized)</td>
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Appendix C – Laboratory Testing Results

Laboratory Summary
## Laboratory Testing Summary

<table>
<thead>
<tr>
<th>Sample Source</th>
<th>Sample Number</th>
<th>Start Depth (feet)</th>
<th>End Depth (feet)</th>
<th>Sample Distance (feet)</th>
<th>MC (%)</th>
<th>Soil Type</th>
<th>Atterberg Limits</th>
<th>Percent Passing No. 200 Sieve</th>
<th>Moisture - Density (Corr.)</th>
<th>Maximum Density (pcf)</th>
<th>Optimum Moisture (%)</th>
<th>CBR Value</th>
<th>Organic Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>B-1</td>
<td>S-6</td>
<td>13.5</td>
<td>15.0</td>
<td>1.5</td>
<td>21.5</td>
<td>SC</td>
<td>21.1</td>
<td>11.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>B-3</td>
<td>S-7</td>
<td>18.5</td>
<td>20.0</td>
<td>1.5</td>
<td>27.8</td>
<td>SP-SC</td>
<td>11.5</td>
<td>11.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B-4</td>
<td>S-5</td>
<td>8.0</td>
<td>10.0</td>
<td>2.0</td>
<td>26.8</td>
<td>SP</td>
<td>3.0</td>
<td>3.0</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**

**Definitions:**
- MC: Moisture Content
- Soil Type: USCS (Unified Soil Classification System)
- LL: Liquid Limit
- PL: Plastic Limit
- PI: Plasticity Index
- CBR: California Bearing Ration
- OC: Organic Content (ASTM D 2974)

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**Project Information:**
- **Project No.:** 56:1394
- **Project Name:** Life Storage - Debary
- **PM:** Vinay Kumar Arebelli
- **PE:** David Spangler
- **Printed On:** July 6, 2021