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# BOARD OF COUNTY COMMISSIONERS • COLUMBIA COUNTY

# **Planning & Zoning Board Meeting Date:**

February 27, 2020

**SUBJECT:** Application SD 0186 - A request for a Subdivision for "Reserve @

Jewel Lake, phase 2".

**APPLICANT/AGENT:** Tim Alcorn of J. Sherman Frier & Associates, Inc.

**PROPERTY** Gary Sorensen

**OWNER(S)**:

LOCATION: North of Vacant Residential Lands; South of Cypress Lake

Subdivision and Single Family Residential; East of Vacant Residential Lands; West of Reserve at Jewel Lake, Phase 1, Grace Life Church, and SW Jewel Lake Drive; Columbia County, Florida.

**PARCEL ID** A portion of 33-3s-16-02439-000 and 4-4s-16-02745-003

**NUMBER(S):** 

**ACREAGE:** ±17.91 acres

**EXISTING FLUM** Residential, Low Density

**EXISTING ZONING** Planned Residential Development ("PRD")

**PROJECT PLANNER:** Brandon M. Stubbs

#### **SUMMARY**

The application is for phase 2 of the Reserve at Jewel Lake. The proposed subdivision will consist of 44 lots that will be provided access via private streets.

**Official Zoning Atlas** SD 0186 - Jewel Lake, Ph. 2 Subdivision Legend SW PUESCHEL DR Jewel Lake, Ph 2 Lake City Limits SW SWEETBREEZE DR DUDA Parcels ZONING CSV A-1 SW VAN ARSDALL GLN A-2 A-3 ESA-2 RSF-1 SW PINEMOUNT RSF-2 RSF-3 SW ANN PL RSF/MH-1 RSF/MH-2 RSF/MH-3 SW JEWEL LAKE DR SW MERCURY LN RMF-2 RO SW DEPUTY I DAVIS LA CN RSF/MH-3 CG CG CHI PRD ILW =1 SW CAMPHOR CT PRD PRRD MUD-1 CG SW, MAGICAL RSF/MH-2 SW/MABREY GLN Prepared By: Brandon M. Stubbs DISCLAIMER: The data is provided "as is" without warranty of any representation of accurancy timeliness, or completeness. The burden of determining accurancy, timeliness, or completeness for us Columbia County Building & Zoning Depart 250 500 1,000 1,500 Feet Prepared on February 2020

Map 1. Official Zoning Atlas with Subject Property

The Planned Residential Development ("PRD") Zone District is described as follows in Section 4.18.1 of the Land Development Regulations ("LDRs"):

"The "PRD" Planned Residential Development category includes one zone district: "PRD". The purpose of this district is to permit planned residential developments within designated urban development areas as defined within the county's comprehensive plan, which are intended to: (1) encourage the development of planned residential development of land; (2) encourage flexible and creative concepts of site planning; (3) preserve the natural amenities of the land by encouraging scenic and functional open areas; (4) accomplish a more desirable environment than would be possible through strict application of the minimum requirements of these land development regulations; (5) provide for an efficient use of land resulting in smaller networks of utilities and streets and thereby lowering development and housing costs; (6) provide a stable environmental character compatible with surrounding areas; and (7) provide direct access to a public paved road."

# **ZONING DISTRICT INFORMATION**

Zoning District:	Planned Residential Development ("PRD")
Max. Gross Density:	Varies based upon FLUM Designation
Minimum Lot Area	None
Floor Area Ratio:	0.20
Typical Uses*:	Residential dwellings, including conventional single-family dwellings, duplex dwellings, and multiple-family dwellings; Public or Private Schools; Churches and other Houses of Worship; Golf Courses, Country Clubs, and Racquet and Tennis Clubs; Public Building and Facilities

<sup>\*</sup>These uses are not meant to serve as a complete list of permitted uses within the intended Zone District. For a complete list of permitted uses, please refer to Article 4 of the Land Development Regulations.

## **SURROUNDING USES**

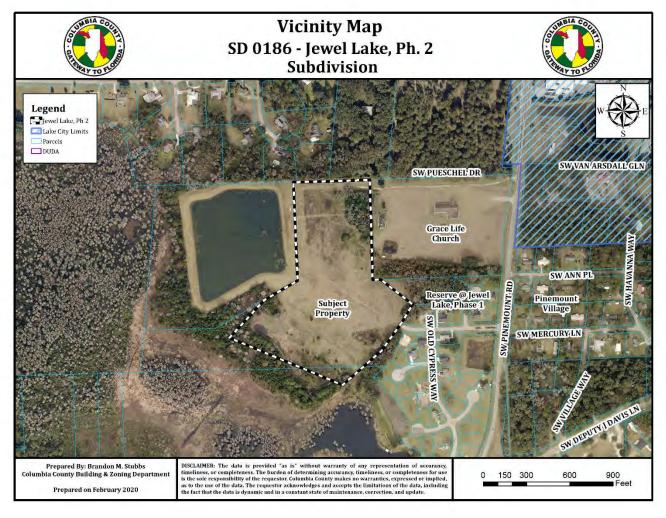
The existing uses, Future Land Use Map ("FLUM") Designations, and Zone Districts of the surrounding area are identified in Table 1. Map 2 provides an overview of the vicinity of the subject property.

**Table 1. Surrounding Land Uses** 

Direction	Existing Use(s)	FLUM Designation(s)	Zoning District(s)
North	Cypress Lake Subdivision/Single Family Residential	Residential, Low Density	Residential, Single Family-2 ("RSF-2")
South	Vacant Residential Lands	Residential, Low Density	Planning Residential Development ("PRD")
East	SW Jewel Lake Drive/Reserve at Jewel Lake, Phase 1/Grace Like Church	Residential, Low Density/Commercial	Residential, Single Family-2 ("RSF-2")/ Planning Residential Development ("PRD")
West	Vacant Residential Lands	Residential, Low Density	Residential, Single Family-2 ("RSF-2")/ Planning Residential Development ("PRD")

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Map 2. Vicinity Map



### **CONSISTENCY WITH THE COMPREHENSIVE PLAN**

The zoning designation is consistent with the underlying Future Land Use Map ("FLUM") Designation. Below is a chart of the existing FLUM Designation and the existing zoning designation.

**Table 2. Zoning Consistency with Underlying Future Land Use Map Designation** 

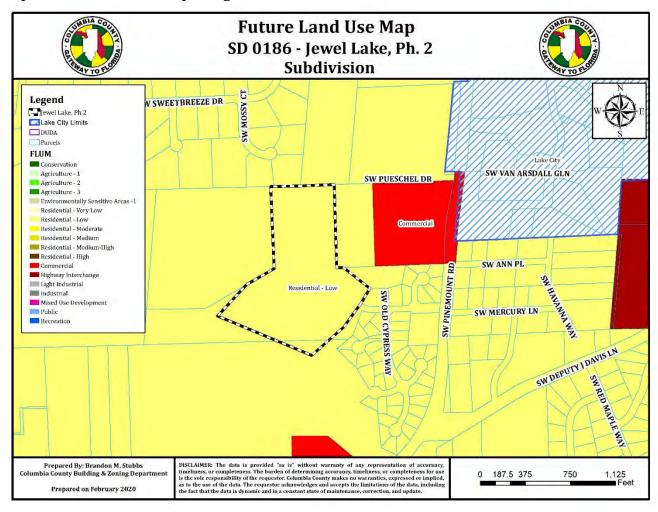
Existing FLUM Designation	Existing Zoning Designation	Consistent
Residential, Low Density	Planned Residential Development ("PRD")	√Á

The following Comprehensive Plan Elements have Goals, Objectives, and Policies (GOPs) that support the proposed Site Specific Amendment to the Official Zoning Atlas:

- Á Future Land Use Element
- Á Transportation Element
- •Á Sanitary Sewer, Solid Waste, Drainage, Potable Water, and Natural Groundwater Aquifer Recharge Element

Page **4** of **13** 

Map 3. Future Land Use Map Designation



Staff has reviewed the application for a Minor Subdivision for consistency with the Comprehensive Plan and finds the application consistent with the Comprehensive Plan and the Goals, Objectives, and Policies (GOPs) therein.

# **ENVIRONMENTAL CONDITIONS ANALYSIS**

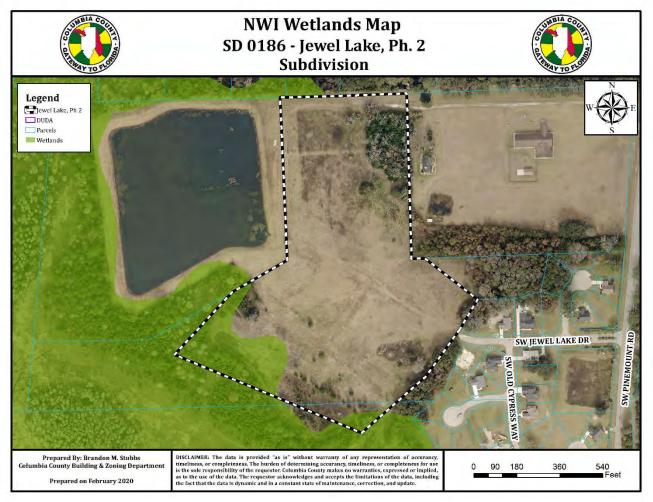
# **Wetlands**

According to Illustration A-VI of the Comprehensive Plan, entitled Wetlands Areas, which is based upon the National Wetlands Inventory, dated 1987, and the National Wetlands Reconnaissance Survey, dated 1981, there are wetlands located on the subject property.

**Evaluation:** While the NWI indicates there are wetlands on the subject property, there are no wetlands on the subject property. All wetlands are located south of the retention area which already exists. Therefore, there are no issues related to wetland protection.

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Map 4. Wetlands Map



# **Soil Survey**

Each soil type found on the subject property is identified below. The hydrologic soil group is an indicator of potential soil limitations. The hydrologic soil group, as defined for each specific soil, refers to a group of soils which have been categorized according to their runoff-producing characteristics. These hydrologic groups are defined by the Soil Survey of Columbia County, Florida, dated October 1984. The chief consideration with respect to runoff potential is the capacity of each soil to permit infiltration (the slope and kind of plant cover are not considered, but are separate factors in predicting runoff). There are four hydrologic groups: A, B, C, and D. "Group A" soils have a higher infiltration rate when thoroughly wet and therefore have a lower runoff potential. "Group D" soils have very lower infiltration rates and therefore a higher runoff potential.

There are three (3) soil types found on the subject property:

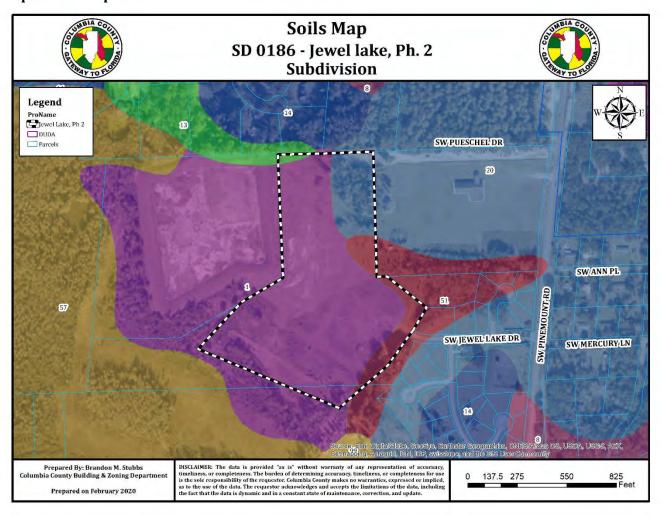
- 1)ÁAlbany fine sand soils (0 to 5 percent slope) are somewhat poorly drained, nearly level to gently sloping soils on broad flats bordering poorly defined drainageways and in undulating areas. The surface and subsurface layers are comprised of fine sand to a depth of 55 inches. The subsoil layer is comprised of sandy clay loam to a depth of 80 inches or more. Albany fine sand soils (0 to 5 percent slope) have severe limitations for building site development and for septic tank absorption fields.
- 2)ÁChipley fine sand soils (0 to 5 percent slope) are moderately well drained, nearly level to gently sloping soils in somewhat depressed areas and on flats in the uplands. The surface is comprised of fine sand to a depth of 7 inches. Fine sand extends to a depth of 80 inches. Chipley fine sand soils (0 to 5 percent slope) have moderate limitations for building site development and severe limitations for septic tank absorption fields.

Page **6** of **13** 

3)ÁPlummer fine sand soils are poorly drained, nearly level soils in broad flat areas and adjoining drainageways and ponds. The surface and subsurface layers are comprised of fine sand to a depth of 56 inches. The subsoil layer is comprised of fine sandy loam to a depth of 80 inches or more. Plummer fine sand soils have severe limitations for building site development and septic tank absorption fields.

**Evaluation:** The predominant soil type on the subject property subject to development is Albany fine sand soils (0 to 5 percent slopes). Albany fine sand soil types pose severe limitations for building development and severe limitation for septic tank absorption fields. At this time, there are no issues related to soil suitability.

Map 5. Soils Map



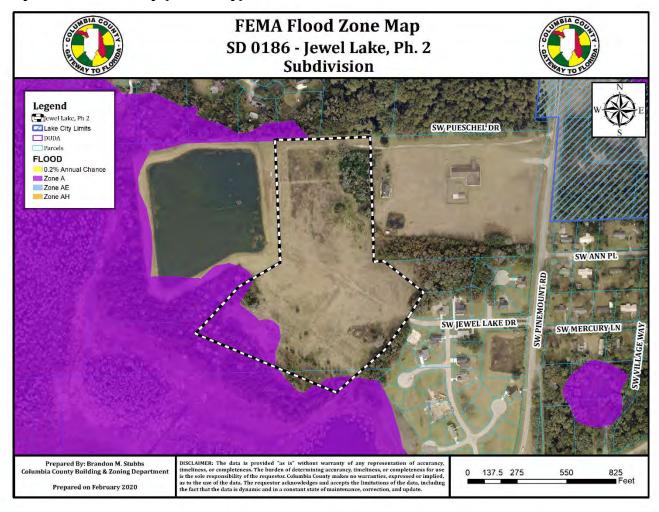
# **Flood Potential**

Panel 0360C of the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Series, dated November 2, 2018, indicates that the subject property is in Flood Zone "A" (areas within the annual one-percent change of flood) and Flood Zone "X" (areas determined to be outside of the 500-year floodplain).

**Evaluation:** The plat depicts the flood zone areas on the proposed plat. Further, minimum floor elevations have been established for all lots within the subdivision to protect flooding from a base flood event. Therefore, there is no concern of flood on the subject property.

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Map 6. FEMA FIRM Map (Flood Map)



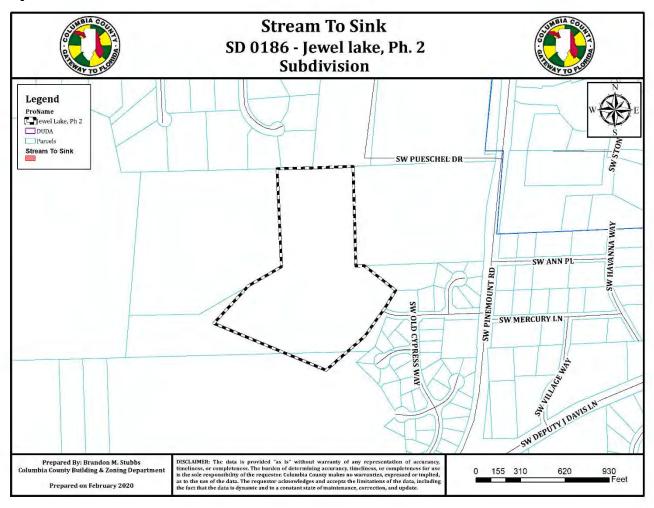
# Steam to Sink

According to the <u>Stream to Sink Watersheds</u>, prepared by the Suwannee River Water Management District and adopted by the Board of County Commissioners, dated June 2, 2001, the subject property is not located within a stream to sink area.

**Evaluation:** Given the subject property is not located in a stream to sink watershed, there is no concern related to Stream to Sink Watersheds.

Page **8** of **13** 

Map 7. Stream To Sink



# **Minerals**

According to Illustration A-VII of the Comprehensive Plan, entitled Minerals, which is based upon Natural Resources, prepared by the Florida Department of Environmental Protection, 2012, the subject property is within an area known to contain Clayey Sand.

**Evaluation:** There are no issues related to minerals.

# **Historic Resources**

According to Illustration A-II of the Comprehensive Plan, entitled Historic Resources, which is based upon the Florida Division of Historical Resources, Master Site File, dated 2013, there are no known historic resources located on the subject property.

**Evaluation:** There are no issues related to historic Resources.

# **Aquifer Vulnerability**

According to the <u>Columbia County Floridan Aquifer System Protection Zone Map</u>, prepared by the Advance GeoSpacial Inc., dated September 29, 2009, the subject property is located in a more vulnerable area.

Page 9 of 13

**Evaluation:** While the subject property is located in a more vulnerable area, there is no issue related to aquifer vulnerability.

### **Vegetative Communities/Wildlife**

According to Illustration V-I of the <u>Data and Analysis Report</u>, entitled Vegetative Communities, the subject property is located within a non-vegetative community.

**Evaluation:** There is no known wildlife habitats associated with a non-vegetative community; therefore, there is no issue related to vegetative communities or wildlife.

# COMPLIANCE WITH CHAPTER 177, FLORIDA STATUTES, AND ARTICLE 5 OF THE LAND DEVELOPMENT REGULATIONS

Chapter 177, Florida Statutes, and Article 5 of the Land Development Regulations ("LDRs") establish standards with which all subdivision plats must be found to be compliant. Tim Delbene of Donald Lee & Associates, has performed a Chapter 177, Florida Statutes, review of the proposed plat and has found the plat to be in compliance with the applicable standards established in Chapter 177, Florida Statutes. Further, County Staff has review the application for compliance with applicable standards of Article 5 of the LDRs and has found the application compliant with all the applicable standards established in Article 5 of the LDRs.

Based upon the compliance reviews, the proposed plat is in compliance with Chapter 177, Florida Statutes and Article 5 of the County's LDRs.

#### PUBLIC FACILITIES IMPACT

# **Traffic Impact**

Table 4. Affected Comprehensive Plan Roadway Segments<sup>1</sup>

Segment Number <sup>2</sup>	Segment Description	Lanes	Functional Classification	Area Type	LOS
56	County Road 252 (From County's West Boundary to U.S. 90)	2U	Minor Collector	Rural	D

<sup>1</sup>ÁSource: Columbia County Comprehensive Plan, Capital Improvements Element.

Table 5. Trip Generation<sup>1</sup>

Land Use	AADT	PM Peak Hour
Single Family (ITE Code 210)	421	45
Total	421	45
1 ASource: ITE Trip Generation, 8th Edition.		
2ÁFormula: AADT – ITE, 8th Edition – 9.57 trips per dwelling unit		
3ÁFormulas: PM Peak – ITE, 8th Edition – 1.02 trips per dwelling u	nit x 44 dwelling units = 44.88 PM Peak Trips	

Page **10** of **13** 

<sup>2</sup>ÁFDOT roadway segment number shown in parenthesis (when applicable.) For the purposes of concurrency management, Columbia County Comprehensive Plan segments that make up a portion of a larger FDOT roadway segment will be evaluated together when determining post development roadway capacity.

Table 6. Projected Impact on Affected Comprehensive Plan Roadway Segments

Traffic System Category	C.R. 252 Segment 56 <sup>1</sup>
Maximum Service Volume <sup>2</sup>	14,200
Existing Traffic <sup>3</sup>	3,800
Reserved Trips <sup>4</sup>	0
Available Capacity <sup>4</sup>	10,400
Projected Daily Trips <sup>5</sup>	421
Residual Capacity <sup>6</sup>	9,979
PM Peak Hour Traffic Analysis	C.R. 252 Segment 56 <sup>1</sup>
Maximum Service Volume <sup>2</sup>	1,350
Existing Traffic <sup>3</sup>	342
Reserved Trips <sup>4</sup>	0
Available Capacity <sup>4</sup>	1,008
Projected PM Peak Hour Trips <sup>5</sup>	45
Residual Capacity <sup>6</sup>	963

<sup>1</sup>ÁFDOT roadway segment number shown in parenthesis (when applicable.) For the purposes of concurrency management, Columbia County Comprehensive Plan segments that make up a portion of a larger FDOT roadway segment will be evaluated together when determining post development roadway capacity.

**Evaluation:** The impacts generated by the development will not adversely affect the Level of Service (LOS) of the roadway segment identified above; therefore, the demand generated by the development is acceptable.

# Potable Water Impacts

The subject property is located within a community potable water system service area. The subject property will be served potable water via City of Lake City. The City of Lake City's Potable Water System is anticipated to meet or exceed the adopted level of service standard for potable water established within the Comprehensive Plan. *Note: Calculations are based upon Chapter 64E-6.008,F.S.* 

The plat proposes 44 dwelling units. An average dwelling unit utilizes approximately 100 Gallons Per Capita Per Day. The average household in Columbia County has approximately 2.67 Person Per Household according to the 2010 U.S. Census.  $(100 \text{ GPC} \times 2.67 \text{ PPH}) \times 44 = 11,748 \text{ Gallons Per Day}$ 

**Evaluation:** The impacts generated by the development will not adversely affect the Level of Service (LOS) for potable water facilities; therefore, the demand generated by the development is acceptable.

# **Sanitary Sewer Impacts**

The subject property is located within a community centralized sanitary sewer system service area. The subject property will be served sanitary sewer via City of Lake City. The City of Lake City's Sanitary Sewer Facility is anticipated to meet or exceed the adopted level of service standard for sanitary sewer established within the Comprehensive Plan. *Note: Calculations are based upon Chapter 64E-6.008,F.S.* 

The plat proposes 44 dwelling units. An average dwelling unit utilizes approximately 300 Gallons Per Capita Per Day.  $300 \text{ GPD} \times 44 \text{ d.u.} = 13,200 \text{ Gallons Per Day}$ 

**Evaluation:** The impacts generated by the development will not adversely affect the Level of Service (LOS) for sanitary sewer facilities; therefore, the demand generated by the development is acceptable.

<sup>2</sup>ÁSource: FDOT 2013 Quality/Level of Service Handbook, Generalized Annual Average Daily Volumes and Generalized Peak Hour Two-Way Volumes for Rural
Undeveloped Areas.

<sup>3</sup>ÁFlorida Department of Transportation, District II, 2014 Annual Average Daily Traffic Report.

<sup>4</sup>ÁSource: Columbia County September 2019 Concurrency Monitoring Report Trip Distributions

<sup>5</sup>ÁThe application is for a Final Development Order. Facility capacity and concurrency will be reserved.

## **Solid Waste Impacts**

Solid waste facilities for uses to be located on the site are provided at the sanitary landfill. The level of service standard established within the Comprehensive Plan for the provision of solid waste disposal is currently being met or exceeded.

The plat proposes 44 dwelling units. An average dwelling unit utilizes approximately 0.73 tons (1,460 lbs) per year per person. The average household in Columbia County has approximately 2.67 Person Per Household according to the 2010 U.S. Census. [ $(1,460 \text{ Lbs Per Year Per Person x } 2.67 \text{ PPH}) \times 44] / <math>365 = 470$  pounds of solid waste generated per day.

Total County average solid waste disposal per day (including municipalities) = 471,300 pounds per day.

Based upon the annual projections of solid waste disposal at the landfill for 2015, solid waste facilities are anticipated to continue to meet or exceed the adopted level of service standard for solid waste facilities, as provided in the Comprehensive Plan, after adding the solid waste demand generated by a charter public school.

**Evaluation:** The impacts generated by the development will not adversely affect the Level of Service (LOS) of solid waste facilities; therefore, the demand generated by the development is acceptable.

#### **Recreation Facilities**

The level of service standards established within the Comprehensive Plan for the provision of recreation facilities are currently being met or exceeded.

The plat proposes 44 dwelling units.

Based upon 2.67 persons per single family dwelling unit:

44 (dwelling units) x 2.67 (persons per single family dwelling unit) = 117 persons.

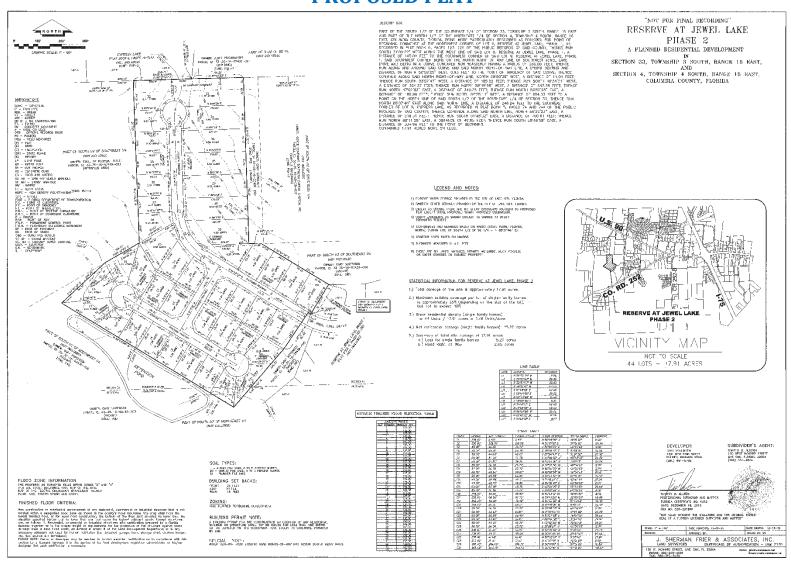
The additional population associated with the potential single family residential use of the site is not anticipated to adversely impact the current level of service provided by recreational facilities. Therefore, recreational facilities are anticipated to continue to meet or exceed the level of service standards established within the Comprehensive Plan after the development.

# **Public School Facilities**

See letter from Columbia County Public School System for capacity determination.

Page **12** of **13** ] ÉÁFÍ

# **PROPOSED PLAT**



] 莊fî Page **13** of **13** 



SUPERINTENDENT ALEX L. CARSWELL, JR

ASSISTANT SUPERINTENDENTS

HOPE JERNIGAN TODD WIDERGREN 372 West Duval Street Lake City, Florida 32055-3990 (386) 755-8003

carswella@columbiak12.com www.columbiak12.com MEMBERS OF THE BOARD

DANA BRADY-GIDDENS STEPHANIE K. FINNELL KEITH HUDSON STEVE NELSON NARRAGANSETT SMITH

February 13, 2020

#### VIA EMAIL

Columbia County Building and Zoning Department PO Box 1529 Lake City, FL 32056-1529

RE: Major Subdivision Application Filed "Reserve at Jewel Lake Phase 2"

The Columbia County School District ("District") acknowledges the intent Tim Alcorn of J. Sherman Frier & Associates, Inc., and property owner, Gary Sorensen to further develop the subdivision known as Reserve at Jewel Lake Phase 2. The District further acknowledges the construction of up to 44 residential dwellings on the 17.91 +/- acres located on SW Pinemount Road (parcels 33-3s-16-02439-000 and 04-4s-16-02745-003).

The District is committed to the economic development and growth of Columbia County and wholeheartedly supports this endeavor. We have sufficient capacity in our schools to provide education and support to the students who will eventually live here.

Sincerely,

Alex L. Carswell, Jr.

Superintendent

# SIA COUNTY

#### BOARD OF COUNTY COMMISSIONERS • COLUMBIA COUNTY

January 6, 2020

VIA ELECTRONIC MAIL

Tim Alcorn, Surveyor J. Sherman Frier & Associates, Inc. 130 West Howard Street Live Oak, Florida 32064

Re: SD 0186 "Reserve at Jewel Lake, Phase 2"

Completeness Review

Dear Mr. Alcorn,

On December 30, 2019, the Columbia County Building and Zoning Department received an application for Subdivision for Reserve at Jewel Lake, Phase 2. Upon receipt of an application, a review for completeness is conducted. The Building and Zoning Department has conducted a review of the aforementioned application for completeness. The comments below are based solely on a preliminary review of the aforementioned application for completeness. A detailed review will be preformed once all requirements of completeness have been met.

#### Please address the following:

- 1)ÁThe applicant has not provided a fire department access and water supply plan. This should be a separate plan from the construction plans. The fire department access and water supply plan must show all existing and proposed fire hydrant locations and flow data for existing hydrants.
- 2)AThe applicant has not provided a concurrency impact analysis. The applicant must provide a concurrency impact analysis.
- 3) AThe applicant has not provided stormwater calculations and proof of submittal to the water management district permit. The applicant must provide signed and sealed stormwater calculations and proof of submittal to the SRWMD.
- 4) ÅThe applicant has provided construction plans; however, the construction plans do not contain development data or symbol legend. The applicant must revise the construction plans to include relevant development data and provide a symbol legend on all pages in which symbology is utilized.

Please provide the required submittals. The application cannot be processed until all submittal requirements have been met. All submittals must be digital PDF and submitted via the County's Webportal at <a href="https://www.columbiacountyfla.com/PermitSearch/UploadLogin.aspx">https://www.columbiacountyfla.com/PermitSearch/UploadLogin.aspx</a> . If you have any questions, please do not hesitate to contact me.

Sincerely,

Brandon M. Stubbs

Bl. M. St.

Community Development Coordinator Land Development Regulation Admin.

**Building & Zoning Department** 

Ph: (386) 754-7119

bstubbs@columbiacountyfla.com

cc: Tori Humphries, N.F.P.S.

Chad Williams, County Engineer



FOR PLANN	ING USE ONLY	
Application	#SD 0186	
Application	Fee \$ 3,000.00	
Receipt No.	748461	
Filing Date	12-20-19	
Completen	ess Date 1-21-20	

# **Major Subdivision Application**

<b>1.</b>		DIECTINFORMATION							
	1.	Project Name: RESERVE AT JE							
	2.	Address of Subject Property:	SW PINE MOUNT ROAD						
	3.	Parcel ID Number(s): PARCEI		104-4S-16-02745-003					
	4.	Future Land Use Map Design	ation: RESIDENTIAL-LOW						
	5.	Zoning Designation: PRD							
	6.	Acreage: 17.91							
	7.	Existing Use of Property: PRE							
	8.	Proposed use of Property: RESIDENTIAL							
	9.	Total Number of Lots 44							
				r, require a pre-application conference rior to submittal of an application for					
3.	APP	PLICANT INFORMATION							
	1.	Applicant Status 🗆 C	wner (title holder)	■ Agent					
	2.		CORN	Title: LAND SURVEYOR					
		Company name (if applicable): J. SHERMAN FRIER & ASSOCIATES INC.							
		Mailing Address: 130 WEST HOWARD STREET							
		City: LIVE OAK	State: FL	Zip: 32064					
		Telephone: () 386-362-462	9 Fax: () 386-362-5270	Email: timalcom@windstream.net					
		or from government offi-	cials regarding governmen	rds law. Most written communications to nt business is subject to public records may be subject to public disclosure.					
	3.	If the applicant is agent for th	ne property owner*.						
		Dronorty Ourner Name (title	holder): GARY SORENSEN						
		Property Owner Name (title							
		Mailing Address: 1400 WEST 2	22nd STREET						
			22nd STREET State: NEBRASKA	Zip: 68845					
		Mailing Address: 1400 WEST 2 City: KEARNEY Telephone: () 386-984-079	State: NEBRASKA  8 Fax: () N./A	Email: N/A					
		Mailing Address: 1400 WEST 2 City: KEARNEY Telephone: () 386-984-079 PLEASE NOTE: Florida has	State: NEBRASKA  8 Fax: ( ) N./A s a very broad public recor	The state of the s					

#### C. ADDITIONAL INFORMATION

1.	Is there any additional contract for the sale of, or options to purchase, the subject property?
	If yes, list the names of all parties involved: N/A
	If yes, is the contract/option contingent or absolute: □ Contingent □ Absolute
2.	Has a previous application been made on all or part of the subject property:
	Future Land Use Map Amendment:   Yes   No
	Future Land Use Map Amendment Application No. CPA N/A
	Site Specific Amendment to the Official Zoning Atlas (Rezoning): □Yes ■No
	Site Specific Amendment to the Official Zoning Atlas (Rezoning) Application No. Z
	Variance: □Yes ■No
	Variance Application No. V
	Special Exception:
	Special Exception Application No. SE

#### D. ATTACHMENT/SUBMITTAL REQUIREMENTS

#### FOR PRELIMINARY PLATS:

- 1. Preliminary Plat containing the following information: (Note: The preliminary plat shall be drawn clearly and legibly at a scale of at least one inch equals 200 feet using a sheet size of 24 inches by 36 inches, reserving a one-half inch margin on all sides. (See appendix A.) If more than one sheet is required, an index map relating each sheet to the entire subdivision shall be shown on the first sheet. Ten (10) sets of the preliminary plat and necessary supporting material shall be submitted in accordance with the procedure outlined in section 5.16 of the land development regulations.)
  - a. Proposed name of subdivision, and existing name if resubdivision is proposed.
  - b. Name, address, and telephone number of the subdivider and agent of the subdivider.
  - c. Name, address, telephone number, and registration number of surveyor and engineer.
  - d. Date of boundary survey, north arrow, graphic scale, date of plat drawing, and space for revision dates.
  - e. Existing contours at five-foot intervals based on U.S. Coastal and Geodetic Datum for the tract to be subdivided and extending 25 feet beyond the tract boundary.
  - f. Vicinity map showing location with respect to existing roads, landmarks, section lines and quarter section lines, etc., and total acreage of the subdivision and total number of lots. The vicinity map shall be drawn to show clearly the information required, but not less than one inch to 2,000 feet. U.S. Geological Survey Maps may be used as a reference guide for the vicinity map.
  - g. Boundary line of the tract, by bearing and distance, drawn by a heavy line.
  - h. Legal description of the tract to be subdivided.
  - Names of owners of adjoining land with their approximate acreage or, if developed, names of abutting subdivisions.

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- j. Preliminary layout including streets and easements with dimensions and street names, lot lines with appropriate dimensions, land to be reserved or directed for public or common uses, and any land to be used for purposes other than single-family dwellings.
- k. Block letters and lot numbers, lot lines, lot sizes and scaled dimensions.
- l. Zoning district boundaries on and abutting the tract.
- m. Proposed method of water supply, sewage disposal, drainage, and street lighting.
- n. Natural features, including lakes, marshes or swamps, water courses, wooded areas, and land subject to the 100-year flood as defined by the Federal Emergency Management Agency official flood maps.
- o. Soil survey map.
- p. Existing and proposed covenants and restrictions, if any.
- q. Inscription stating "NOT FOR FINAL RECORDING".
- r. Any other information that may be considered necessary by either the subdivider, or the board of county commissioners for full and proper consideration of the proposed subdivision.

#### FOR CONSTRUCTION PLANS:

- 2. Construction Plans containing the following information: (Note: Construction plans must be at a scale not larger than one (1) inch per 200 feet. Seven (7) sets of construction plans and necessary supporting material shall be submitted in accordance with the procedure outlined in section 5.17 of the land development regulations.)
  - a. A topographic map of the subdivision with a maximum contour interval of one foot for all right-of-way approaches where overall slopes are zero percent to two percent, two feet where slopes are over two percent, based on U.S. Coast and Geodetic Datum.
  - b. A contour drainage map of the basins within the proposed subdivision, with the size of each basin shown in acres. The outlines and sizes, in acres, of all existing and proposed drainage areas shall be shown and related to corresponding points of flow concentration. Each drainage area shall be clearly delineated. Flow paths shall be indicated throughout, including any final outfalls from the subdivision and basins. Existing and proposed structures affecting the drainage shall be shown.
  - c. Plans showing proposed design features and typical sections of canals, swales and all other open channels, storm sewers, all drainage structures, and other proposed subdivision improvements.
  - d. Plans and profiles for all proposed streets and curbs are required. Where proposed streets intersect existing streets, elevations and other pertinent details shall be shown for existing streets for a minimum distance of 300 feet from point of intersection.
  - e. Plans of any proposed water distribution system and sanitary sewer collection system showing pipe sizes and location of valves, pumping stations and fire

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- hydrants, where the installation of such facilities are required by these land development regulations.
- f. Plans for all road and street signs and street name signs showing the location of such signage and any other traffic safety control devices which is required or proposed. In addition, the specifications for such signage shall be provided as part of this plan, which shall detail in diagram form as necessary the size, material, color, and specifications for installation of such signage.
- g. Existing streets, utilities, and easements on and adjacent to the tract, including the name, purpose, location, and size of each and the invert elevation of sewers.
- h. Surface drainage and direction of flow and method of disposition and retention indicated.
- Subsurface conditions of the tract showing subsurface soil, rock and ground water conditions, location and extent of muck pockets.
- j. Other information on the construction plans as may be required by the board of county commissioners.

#### FOR FINAL PLATS:

- 3. Final Plats containing the following information (Note: The final plat shall be drawn clearly and legibly in ink at a scale of at least one inch equals 200 feet using a sheet size of 18 inches by 24 inches. Each sheet shall be drawn with a marginal line completely around the sheet and placed so as to leave a three-inch binding margin on the left side and a one-half-inch margin on the other three sides. (See appendix A.) If more than one sheet is required, an index map relating each sheet to the entire subdivision shall be shown an the first sheet. Ten (10) sets of the final plat and necessary supporting material shall be submitted in accordance with the procedure outlined in section 5.18 of the land development regulations.)
  - a. Name of subdivision shall be shown in bold legible letters, as stated in F.S. chapter 177, as amended. The name of the subdivision shall be shown on each sheet included and shall have legible lettering of the same size and type including the words "section," "unit," "replat," "amended," etc.
  - b. Name and address of subdivider.
  - c. North arrow, graphic scale, and date of plat drawing.
  - d. Vicinity map showing location with respect to existing streets, landmarks, etc., and total acreage of the subdivision and total number of lots. The vicinity map shall be drawn to show clearly the information required, but not less than one inch to 2,000

- feet. U.S. Geological Survey Maps may be used as a reference guide for the vicinity map.
- e. Exact boundary line of the tract, determined by a field survey, giving distances to the nearest one-hundredth foot and angles to the nearest minute, shall be balanced and closed with an apparent error of closure not to exceed one in 5,000.
- f. Legal description of the tract.
- g. Location of streams, lakes and swamps, and land subject to the 100-year flood as defined by the Federal Emergency Management Agency. Where no flood elevation is determined the area shall be determined by subdivider's engineer.
- h. Bearing and distance to permanent control points on the nearest existing street lines of bench marks or other permanent reference monuments (not less than three) shall be accurately described on the plat.
- Municipal and county lines shall be accurately tied to the lines of the subdivision by distance and angles when such lines traverse or are reasonably close to the subdivision.
- j. The closest land lot corner shall be accurately tied to the lines of the subdivision by distance and angles.
- k. Location, dimensions, and purposes of any land reserved or dedicated for public use.
- l. Exact locations, width, and names of all streets within and immediately adjoining the new subdivision.
- m. Street right-of-way lines shall show bearing distance along centerline of roads, radii, and arc length.
- n. Lot lines shall be shown with dimensions to the nearest one-hundredth foot and bearings.
- o. Lots shall be numbered in numerical order and blocks lettered alphabetically.
- p. Accurate location and description of monuments and markers.
- q. Covenants and restrictions.
- r. The date the board of county commissioners approves the preliminary plat.
- s. Certificate of Surveyor
- t. Certificate of the Subdivider's Engineer.
- u. Certificate of Approval by the Attorney for the County.
- v. Certificate of Approval by the Board of County Commissioners.
- w. Dedication. A dedication to the public by the owners of the land involved of all streets, drainage easements, and other rights-of-way however designated and shown on the plat for perpetual use for public purposes, including vehicular access rights where required. If the property is encumbered by a mortgage, the owner of the mortgage shall join in the

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- dedication or in some other manner subordinate the mortgage's interest to the dedication of public right-of-way.
- x. Certificate of payment of taxes. Certification that all payable taxes have been paid and all tax sales against the land redeemed.
- y. Certificate of title and encumbrances. *Title certification as required by F.S. chapter* 177, as amended.
- 4. Fire Department Access and Water Supply Plan: The Fire Department Access and Water Supply Plan must demonstrate compliance with Chapter 18 of the Florida Fire Prevention Code, be located on a separate signed and sealed plan sheet, and must be prepared by a professional fire engineer licensed in the State of Florida. The Fire Department Access and Water Supply Plan must contain fire flow calculations in accordance with the Guide for Determination of Required Fire Flow, latest edition, as published by the Insurance Service Office ("ISO") and/or Chapter 18, Section 18.4 of the Florida Fire Prevention Code, whichever is greater.
- Concurrency Impact Analysis: Concurrency Impact Analysis of impacts to public facilities. For commercial and industrial developments, an analysis of the impacts to Transportation, Potable Water, Sanitary Sewer, and Solid Waste impacts are required.
- Comprehensive Plan Consistency Analysis: An analysis of the application's consistency with
  the Comprehensive Plan (analysis must identify specific Goals, Objectives, and Policies of the
  Comprehensive Plan and detail how the application complies with said Goals, Objectives, and
  Policies).
- 7. Legal Description with Tax Parcel Number (In Microsoft Word Format).
- 8. Proof of Ownership (i.e. deed).
- 9. Agent Authorization Form (signed and notarized).
- Proof of Payment of Taxes (can be obtained online via the Columbia County Tax Collector's Office).
- 11. Fee. The application fee for a Subdivision Application is as follows:
  - a. Major Subdivision

i.	1-15 Lots	\$2,000.00
iî.	16-29 Lots	\$2,500.00
iii.	30-49 Lots	\$3,000.00
iv.	50-Above	\$3,500.00

b. Planned Rural Development & Planned Rural Residential Development

î.	1-15 Lots	\$1,250.00
ii.	16-29 Lots	\$1,750.00
iii.	30-49 Lots	\$2,250.00
iv.	50-Above	\$2,750.00

No application shall be accepted or processed until the required application fee has been paid.

#### NOTICE TO APPLICANT

Once an application is submitted and paid for, a completeness review will be done to ensure all the requirements for a complete application have been met. If there are any deficiencies, the applicant will be notified in writing. If an application is deemed to be incomplete, it may cause a delay in the scheduling of the application before the Planning & Zoning Board.

THE APPLICANT ACKNOWLEDGES THAT THE APPLICANT OR AGENT MUST BE PRESENT AT THE PUBLIC HEARING BEFORE THE PLANNING AND ZONING BOARD, AS ADOPTED IN THE BOARD RULES AND PROCEDURES, OTHERWISE THE REQUEST MAY BE CONTINUED TO A FUTURE HEARING DATE.

I hereby certify that all of the above statements and statements contained in any documents or plans submitted herewith are true and accurate to the best of my knowledge and belief.

Applicant/Agent Name (Type or Print)

Applicant/Agent Signature

Date



# Ronnie Brannon, Tax Collector

Proudly Serving The People of Columbia County

Site Provided by... governmax.com 1,12

#### Tax Record

print | Account Number

Register for eBill

Last Update: 12/18/2019 9:44:45 AM EST

See Below

#### **Details**

Tax Record

\* Print View Legal Desc. Tax Payment

Payment History
Print Tax Bill NCW!
Change of Address

#### Searches

Account Number GEO Number Owner Name Property Address Mailing Address

#### Site Functions

Tax Search Local Business Tax Contact Us County Login Home

#### Ad Valorem Taxes and Non-Ad Valorem Assessments

The information contained herein does not constitute a title search and should not be relied on as such.

Account Number	Tax Type	Tax Year
R02439-000	REAL ESTATE	2019
Mailing Address SORENSEN GARY 1400 WEST 22ND ST	Property Address	
KEARNEY NE 68845	<b>GEO Number</b> 333S16-02439-000	
Exempt Amount	Taxable Value	

Exemption Detail	Millage Code	Escrow Code
NO EXEMPTIONS	002	
Town Tonnesintian	(click for full description)	
begar Description	(CIICK IOI LUII description)	
	27.93 Acres COMM AT SE COR OF	SEC, RUN W 74.81 FT TO

See Below

33-38-16 99007990027.93 Acres COMM AT SE COR OF SEC, RUN W 74.81 FT TO W R/W OF RELOCATED CR-252, RUN N ALONG R/W APPROX 205 FT FOR POB, CONT N ALONG R/W 406.76 FT, W 892.90 FT, N 701.77 FT, W 279.20 FT, CONT W 1199.11 FT, S 7 DG W 1304.46 FT TO S LINE SEC, E ALONG SEC See Tax Roll For Extra Legal

Taxing Authority	Rate	Assessed Value	Exemption Amount	Taxable Value	Taxes Levied
BOARD OF COUNTY COMMISSIONERS	8.0150	241,187	r)	\$241,187	\$1,933.11
COLUMBIA COUNTY SCHOOL BOARD					
DISCRETIONARY	0.7480	241,187	U	\$241,187	\$150.41
LOCAL	3.9880	241,187	O	\$241,187	\$961.85
CAPITAL OUTLAY	1.5000	241,187	O.	\$241,187	\$361.78
SUWANNEE RIVER WATER MGT DIST	0.3840	241,187	0	\$241,187	\$92.62
LAKE SHORE HOSPITAL AUTHORITY	0.9620	241,187	Q.	\$241,187	\$232.02

1	Cotal Millage	15.5970	Total	Taxes	\$3,761.79
	No	n-Ad Valorem A	ssessmer	nts	
Code	Levying Autho	rity			Amount
FFIR	FIRE ASSESSME	NTS			\$60.78

Taxes & Assessments		ts \$3,822.57
	If Paid By	Amount Due
	11/30/2019	\$3,669.67
	12/31/2019	\$3,707.89
	1/31/2020	\$3,746.12
	2/29/2020	\$3,784.34
	3/31/2020	\$3,822.57

Total Assessments

Prior Years Payment History

\$60.78

Prior Year Taxes Due
NO DELINQUENT TAXES

Click Here To Pay Now

Print | << First < Previous Next > Last >>

#### **APPLICATION AGENT AUTHORIZATION FORM**

TO: Columbia County Zoning Department 135 NE Hernando Avenue Lake City, FL 32055

#### Authority to Act as Agent

On my/our behalf, I appoint
(Name of Person to Act as my Agent)
J Sherman Frier And Associates Inc.
(Company Name for the Agent, if applicable)
to act as my/our agent in the preparation and submittal of this application
for Reserve At Jewel Lake Phase 2
(Type of Application)
I acknowledge that all responsibility for complying with the terms and conditions for approval of this application, still resides with me as the Applicant/Owner.  Applicant/Owner's Name:
Applicant/Owner's Title:
On Behalf of: 65 NS Developer's  (Company Name, if applicable)
Telephone: 308-237-1475 Date: 12-18-19
Applicant/Owner's Signature: Sorrens
Print Name: Gart SORGNSEN
STATE OF FLORIDA . COUNTY OF Columbia
The Foregoing insturment was acknoeledged before me this lot day of Leon 177 . 20 19 . by Law Sources whom is personally known by me OR produced identification
Type of Identification Produced
(Notary Signature)  (SFA) Notary Public State of Florida Jessica Roxanne Murphy My Commission GG 147537 Expires 10/01/2021

#### TO WHOM IT MAY CONCERN

PLEASE ACCEPT THIS AS MY AUTHORIZATION TO APPOINT MILTON SMITH AS MY AGENT FOR THE TRANSACTIONS NECESSARY FOR JEWEL LAKE, PHASE II.

Signed: Gary Sorensen

Date: 12-18-19

STATE OF NEBRASKA COUNTY OF BUFFALO

The foregoing instrument was acknowledged before me this 18<sup>41</sup> day of Recurrent 2019, by ARN Sorensen whom is personally known by me.

(Notary Signature)

SEAL:

Miriam D. MerriHeW General Notary State of Nebraska My Commission Expires November 28, 2022. Prepared by and return to: Adam Morrison Sellers, Taylor & Morrison, P.A 108 West Howard Street Live Oak, Florida 32064

> Inst: 201612014229 Date: 0b/36/2016 Time: 2-38PM Page 1 of 8 B: 1321 P: 753, P.DeWim Cuson, Clerk of Court Columbia, County, By: KV Deputy ClerkDuc Straup-Deed: 6573.30

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#### SPECIAL WARRANTY DEED IN LIEU OF FORECLOSURE

THIS INDENTURE, Made this 30 day of August, 2016, between GREATER SOUTHEASTERN LAND DEVELOPMENT, whose address is 10153 US Highway 90 West, Lake City. Florida 32055, party of the first part, and Gary Sorensen, whose mailing address is 1400 West 22<sup>nd</sup> Street, Kearney, Nebraska 68845 party of the second part.

#### WITNESSETH:

That the said parties of the first part, for and in consideration of TEN AND 00/100 (\$10.00) DOLLARS, and other good and valuable consideration, to them in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, has granted, bargained and sold to the said party of the second part and its successors and assigns forever, the following described land, situate, lying and being in the County of Columbia, State of Florida, to-wit:

SEE EXHIBIT "A"

Columbia County Property Appraisers I.D. 04-4S-16-02745-003 & 33-3S-16-02439-000 with all the tenements, hereditament and appurtenances, with every privilege, right, title. interest and estate, dower and right of dower, reversion, remainder and easement thereto belonging or in anywise appertaining.

TO HAVE AND TO HOLD the same in fee simple forever. And the said parties of the first part do covenant with the said party of the second part that they are lawfully seized of said premises and fully warrant the title to said land, and will defend the same against the lawful claims of all persons whomsoever claiming by, through or under the party of the first part, but against no others.

Existing Mortgage. The above described property is encumbered by a certain mortgage (the "Mortgage"). The Mortgage was given by GREATER SOUTHEASTERN LAND DEVELOPMENT to COLUMBIA BANK and is recorded at O.R. Book 1054, page 1523, of the Public Records of Columbia County, Florida. The Mortgage was later modified by a Mortgage Modification and Consolidation Agreement recorded at O.R. Book 1093, page 413, of the Public Records of Columbia County, Florida. The Mortgage was assigned by COLUMBIA BANK to RODGER D. POWELL, M.D. by written assignment which is recorded at O.R. Book 1319, page 2769, of the Public Records of Columbia County, Florida. The Mortgage was later assigned by RODGER D. POWELL, M.D. to the party of the second part by written assignment which is recorded at O.R. Book 1320, page 1249, of the Public Records of Columbia County, Florida and the corrective assignment recorded at O.R. Book 1320, page 2246, of the Public Records of Columbia County, Florida.

The Mongage was further subject to Partial Release of Mongage recorded in Official Records Book 1168, Page 1042; Partial Release of Mongage recorded in Official Records Book 1183, Page 2046; Cross-Collateralization and Cross-Default Agreement recorded in Official Records Book 1187, Page 2739, Public Records of Columbia County, Florida and Official Records Book 1573, Page 423, Public Records of Suwannec County, Florida; Modification of Mongage recorded in Official Records Book 1187, Page 2744, Public Records of Columbia

County, Florida and Official Records Book 1573. Page 428, Public Records of Suwannee County. Florida: Partial Release of Mortgage recorded in Official Records Book 1189, Page 2729; Cross-Collateralization and Cross-Default Agreement recorded in Official Records Book 1573, Page 430, Public Records of Suwannee County, Florida.

"Mortgage" shall hereafter mean the "Mortgage, as assigned as set out above."

<u>Deed Given in Lieu of Foreclosure</u>. The party of the first party is giving this deed in lieu of the party of the second part foreclosing (or completing the foreclosure of) the Mortgage on the above described property.

No Merger to Occur. It is the express intent of the party of the first part and the party of the second part that neither the Mortgage nor the promissory note(s) secured thereby shall merge with the interest of party of the second part acquired pursuant to this deed. Both the Mortgage and the promissory note(s) it secures shall remain outstanding until the recording of a separate written satisfaction thereof. The lien of the Mortgage is preserved in favor of party of the second part and the party of the second part preserves its rights as mortgagee under the Mortgage to foreclose any junior encumbrances or liens on the above described property, foreclose any other property (described in the Mortgage or otherwise) and/or to seek a deficiency judgment.

<u>Deed Not Intended as Additional Security</u>. The grant of this deed is an absolute conveyance of title to the above described property and is not intended to be as additional security for the party of the second part.

Consideration for This Deed. The party of the first part is giving this deed in consideration of the party of the second part reducing the party of the second part's indebtedness under the promissory note(s) secured by the Mortgage. Such reduction is in an amount that the party of the first part and the party of the second part believe to be reasonably equivalent to the fair market

value of the above described property.

IN WITNESS WHEREOF, the said parties of the first part have hereunto set their hands and seal the day and year first above written.

Signed, Sealed and Delivered in the Presence of:

| Compared | Barry D. Joye, Managing Member of |
| Witness (print name under signature) | Greater Southeastern Land Development, LLC

| Mara Driggers |
| Witness (print name under signature) | Witness (print name under signature) |

STATE OF FLORIDA COUNTY OF COLUMBIA

The foregoing instrument was acknowledged before me this 30 day of August, 2016 Barry D. Joye who is [Ypersonally known to me | Jor who produced \_\_\_\_\_\_ as identification and who did not take an oath.

Notary Public (print name under signature)

My Commission Expires:

MARA DRIGGERS
Commission # FF 224155
My Commission Expires
April 23, 2019

> te of Nobrasta - General Notary MIRAM D MERRINEW

My Commission Expires:

Notary Public (print name under signature)

Signed, Sealed and Delivered in the Presence of:

Witness (print name under signature)

Rodger D. Powell, M.D. Managing Member of Greater Southeastern Land Development, LLC

Danielle Wilber

Witness (print name under signature)

STATE OF FLORIDA COUNTY OF About

The foregoing instrument was acknowledged before me this day of August, 2016

Rodger D. Powell, M.D. who is [ ] personally known to me [ ]or who produced as identification and who aid not take an oath.

ABAM MORRISON

MESOMMISSION #FF039745

EXERTIFICATION

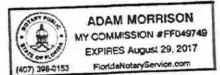
MY COMMISSION #FF039745

EXERTIFICATION

EXERTIFICATION

MY COMMISSION EXPIRES

Notary Public (print name under signature)



### EXHIBIT A

Commence at the Northeast corner of Section 4, Township 4 South, Range 16 East, Columbia County, Florica and run North 89°36'03" West along the North line of said Section 4, a distance of 74.82 feet to a point on the Westerly Right-of-Way line of Pinemount Road (County Road 252); thence Scuth 07°15'01" West along said Westerly Right-of-Way line of Pinemount Road (County Road 252) a distance of 64.97 feet to the POINT OF BEGINNING; thence continue South 07°15'01" West still along said Westerly Right-of-Way line of Pinemount Road (County Road 252) a distance of 241.92 feet to a point of curve of a curve concave to the Northwest having a radius of 1105.92 feet and a central angle of 45°36'17"; thence Southwesterly along the arc of said curve, being still said Westerly Right-of-Way line of Pinemount Road (County Road 252), a distance of 880.26 feet;

thence South 60°33'18" West along the Northwesterly Right-of-Way line of Pinemount Road (County Road 252) a distance of 534.81 feet to the point of curve of a curve concave to the Northwest having a radius of 2241.83 feet and a central angle of 00°56'58"; thence Southwesterly along the arc of said curve, being said Northwesterly Right-of-Way line of Pinemount Road (County Road 252), a distance of 37.15 feet to a point on the North line of the South 1/2 of the Northeast 1/4 of Section 4; thence North 89°35'04" West along said North line of the South 1/2 of the Northeast 1/4 of Section 4, a distance of 300.20 feet; thence South 00°04'59" East a distance of 137.52 feet to a point on the Northerly Right-of-Way line of Pinemount Road (County Road 252), said point being a point on a curve concave to the Northwest having a radius of 2241.83 feet and a central angle of 07°20'39"; thence Southwesterly along the arc of said curve, being said Northerly Right-of-Way line of Pinemount Road (County Road 252) a distance of 287.36 feet to the point of tangency of said curve; thence South 77°15'37" West still along the said Northerly Right-of-Way line of Pinemount Road (County Road 252) a distance of 499.97 feet; thence South 83°32'59" West still along said Northerly Right-of-Way line of Pinemount Road (County Road 252) a distance of 100.66 feet; thence South 76°57'21" West still along said Northerly Right-of-Way line of Pinemount Road (County Road 252) a distance of 60.19 feet to the point of curve of a curve concave to the Southeast having a radius of 2351.83 feet and a central angel of 03°29'55"; thence Southwesterly along the arc of said curve, still being said Northerly Right-of-Way line of Pinemount Road (County Road 252), a distance of 143.61 feet to the point of tangency of said curve; thence South 68°18'18" West still along said Northerly Right-of-Way line of Pinemount Road (County Road 252) a distance of 242.87 feet to the point of curve of a curve concave to the South having a radius of 2341.83 feet and a central angel of 01°08'53"; thence Southwesterly along the arc of said curve, being still said Northerly Right-of-Way line of Pinemount Road (County Road 252) a distance of 46.92 feet to a point on the West line of the Northeast 1/4 of Section 4; thence North 00°06'00" West along said West line of the Northeast 1/4 of Section 4, a distance of 507.62 feet to the Southwest corner of the North 1/2 of the Northeast 1/4 of Section 4; thence North 00°11'13" West along the West line of the Northeast 1/4 of Section 4, a distance of 1333.51 feet to the Northwest corner of the Northeast 1/4 of Section 4, being also the Southwest corner of the Southeast 1/4 of Section 33, Township 3 South, Range 16 East, Columbia County, Florida; thence South 89°36'03" East along the South line of said Section 33, a distance of 132.00 feet; thence North 07°18'13" East a distance of 1304.46 feet to a point on the North line of the South 1/2 of the Southeast 1/4 of Section 33; thence North 89°59'44" East along said North line of the South 1/2 of the Southeast 1/4 of Section 33, a distance of 1199.11 feet; thence South 89°38'39" East along said North line of the South 1/2 of the Southeast 1/4 of Section 33, a distance of 279.20 feet; thence South 00°02'45" West, a distance of 701.77 feet; thence South 89°57'14" East, a distance of 892.90 feet to a point on the Westerly Right-of-Way line of Pinemount Road (County Road 252); thence South 07°15'30" West along said Westerly Right-of-Way line of Pinemount Road (County Road 252), a distance of 406.76 feet; thence North 89°34'19" West a distance of 240.00 feet; thence South C7°13'13" West, a distance of 205.12 feet to a point on the South line of Section 33, being also the North line of Section 4, Township 4 South, Range 16 East, Columbia County, Florida; thence continue South 07°13'13" West a distance of 64.92 feet; thence South 89°35'26" East a distance of 249.96 feet to the POINT OF BEGINNING.

Inst. Number: 201612014289 Book: 1321 Page: 760 Page 8 of 8 Date: 8/30/2016 Time: 2:38 PM

P.DeWitt Cason Clerk of Courts, Columbia County, Florida Doc Deed: 6,523.30

### LESS AND EXCEPT:

A Parcel Of Land Situated in Section 33, Township 3 South, Range 16 East, in Columbia County, Florida, being more particularly described as follows:

Commence at the Southeast corner of the Southwest 1/4 Of Section 33, Township 3 South, Range 16 East, Said corner being monumented with a 4 inches Square Concrete Monument And Depicted on Florida Department Of Transportation Right of Way Map, Section 29010, F.P. No. 2083732; Thence run North 88°31'38" East, Along The South Line Of Said Section 33, a distance of 132.00 Feet; Thence North 05°26'21" East, A Distance Of 299.92 Feet to the Point of Beginning; Thence Continue North 05°26'21" East A Distance Of 1008.41 feet; Thence North 88°24'20" East, A

distance of 952.22 feet; Thence South 02°04'13" East a distance of 683.87 feet; Thence South 59°59'06" West, a distance Of 668.22 feet; Thence South 88°31'38" West, a distance of 493.70 feet To The Point Of Beginning.

### LESS AND EXCEPT:

Lots 28 and 50, RESERVE AT JEWEL LAKE PHASE 1,a Planned Residential Development, according to the plat thereof recorded in Plat Book 9, page 89 of the Public Records of Columbia County, Florida, which has now been vacated and annualled by Resolution recorded in Official Records Book 1217, Page 521, Public Records of Columbia County, Florida.

### **Columbia County Property Appraiser**

Jeff Hampton

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### NORTH FLORIDA PROFESSIONAL SERVICES, INC.

Experience. Quality. Commitment.



The Reserve at Jewel Lake – Phase II Comprehensive Plan Consistency Analysis

### **Future Land Use Element**

GOAL I - IN RECOGNITION OF THE IMPORTANCE OF CONSERVING THE NATURAL RESOURCES AND ENHANCING THE QUALITY OF LIFE, THE COUNTY SHALL DIRECT DEVELOPMENT TO THOSE AREAS WHICH HAVE IN PLACE, OR HAVE AGREEMENTS TO PROVIDE, THE LAND AND WATER RESOURCES, FISCAL ABILITIES AND SERVICE CAPACITY TO ACCOMMODATE GROWTH IN AN ENVIRONMENTALLY ACCEPTABLE MANNER.

Objective I.1 The county shall continue to direct future population growth and associated urban development to urban development areas as established within this comprehensive plan.

Consistency: The proposed development on the subject property is consistent with the types of uses allowed under the PRD Future Land Use (FLU) category. The project is Phase II of an adjacent PRD.

Policy I.1.1 The county shall limit the location of higher density residential and high intensity commercial and industrial uses to areas adjacent to arterial or collector roads where public facilities are available to support such higher density or intensity. In addition, the county shall enable private subregional centralized potable water and sanitary sewer systems to connect to public regional facilities, in accordance with the objective and policies for the urban and rural areas within this future land use element of the comprehensive plan.

Consistency: The subject property is located on CR-252 (Pinemount Road). Public facilities are available to support the high density and intensity.

Policy I.1.2 The county's future land use plan map shall allocate amounts and mixes of land uses for residential, commercial, industrial, public and recreation to meet the needs of the existing and projected future populations and to locate urban land uses in a manner where public facilities may be provided to serve such urban land uses. Urban land uses shall be herein defined as residential, commercial and industrial land use categories.

Consistency: The subject property is located within an area that currently has a mixture of Residential and Commercial FLU designations to the north along US 90, to the east along Deputy Jeff Davis Lane, and to the southwest further along Pinemount. There are public facilities provided to sufficiently serve the proposed residential development.

Policy I.1.3 The county's future land use plan map shall base the designation of residential, commercial and industrial lands depicted on the future land use plan map upon acreage which can be reasonable expected to develop by the year 2023.

Consistency: The subject property is located on CR-252 (Pinemount Road) less than one mile from US 90 intersection. This area has seen substantial development and can only be expected to continue to see

growth. Phase II of the subject property will be developed before 2023.

Policy I.1.4 The county shall continue to maintain standards for the coordination and siting of proposed urban development near agricultural or forested areas, or environ-mentally sensitive areas (including but not limited to wetlands and floodplain areas) to avoid adverse impact upon existing land uses.

Consistency: The subject property is located along CR-252 (Pinemount Road) and will have no adverse impacts on existing land uses.

Policy I.1.5 The county shall continue to regulate govern future urban development within designated urban development areas in conformance with the land topography and soil conditions, and within an area which is or will be served by public facilities and services.

Consistency: The proposed PRD development on the subject property will be designed in accordance with the design standards of the County and will be served by public facilities and services.

Policy I.1.6 The county's land development regulations shall be based on and be consistent with the following land use classifications and corresponding standards for densities and intensities within the designated urban development areas of the county. For the purpose of this policy and comprehensive plan, the phrase "other similar uses compatible with" shall mean land uses that can co-exist in relative proximity to other uses in a stable fashion over time such that no other uses within the same land use classification are negatively impacted directly or indirectly by the use.

Consistency: The proposed PRD will meet the density requirements for these types of developments, in this case the density is limited to the two dwelling units per acre requirement of the Future Land Use Map designation which is Residential, Low Density.

OBJECTIVES AND POLICIES FOR BOTH URBAN DEVELOPMENT AREAS AND RURAL AREAS

Objective I.3 The county shall include within the site plan review process to be adopted as part of the land development regulations, that adjacent land uses shall not be adversely impacted by any change in land use.

Consistency: The proposed PRD is consistent with the types of uses allowed by the PRD FLU category. The property is located on CR-252 (Pinemount Road) and the adjacent land uses shall not be adversely impacted by any change in land use.

Policy I.3.5 - The county shall continue to have provisions for drainage, stormwater management, open space, convenient on-site traffic flow and needed vehicle parking for all development.

Consistency: The proposed PRD on the subject property is designed in accordance with the design standards for the County and regulating agencies with jurisdiction during the design phase.

Objective I.7 The county shall continue to maintain regulations to protect natural resources and environmentally sensitive lands (including but not limited to high groundwater aquifer recharge areas, wetlands and floodplains).

Consistency: The proposed PRD on the subject property is designed in accordance with the design standards for the County and regulating agencies with jurisdiction during the design phase and is proposed to maintain a minimum natural buffer to any wetlands on said property. The proposed development shall have no negative impact on the natural resources and environmentally sensitive lands on or near the property.

### **Transportation Element**

- GOAL II PROVIDE FOR A TRAFFIC CIRCULATION SYSTEM WHICH SERVES EXISTING AND FUTURE LAND USES.
- Objective II.1 The county shall maintain a safe, convenient and efficient level of service standard for all roadways.

Consistency: The property Is located on CR-252 (Pinemount Road) with a Level Service D per the 2013 FDOT Quality/Level of Service (Q/LOS) Handbook and currently meets and/or exceeds the current standard for traffic circulation.

Policy II.1.1 Establish the service standards as noted below at peak hour for the following roadway segments within the County as defined within the Florida Department of Transportation Quality/Level of Service Handbook, 2013.

Consistency: The property is located on CR-252 (Pinemount Road) with a Level of Service D per the 2013 FDOT Q/LOS Handbook and currently meets and/or exceeds the current standard for traffic circulation.

Policy II.1.2 The county shall control the number and frequency of connections and access points of driveways and roads to arterial and collector roads.

Consistency: The proposed PRD on the subject property will connect to the existing connection to CR 252.

Policy II.1.3 The county shall require the provision of safe and convenient on-site traffic flow, which includes the provision for vehicle parking.

Consistency: The proposed Commercial development on the subject property is designed in accordance with the design standards of the County including required vehicle parking requirements.

Sanitary Sewer, Solid Waste, Drainage, Potatble Water and Natural Groundwater Aquifer Recharge Element

### SANITARY SEWER FACILITY SUB ELEMENT

- GOAL IV-2 ENSURE THE PROVISION OF PUBLIC SANITARY SEWER FACILITIES IN A TIMELY, ORDERLY EFFICIENT AND ENVIRONMENTALLY SOUND MANNER AT AN ACCEPTABLE LEVEL OF SERVICE FOR THE POPULATION OF THE COUNTY.
- Objective IV.2 The county shall coordinate the continued extension of, or increase in the capacity of sanitary sewer facilities by scheduling the completion of public facility improvements concurrent with projected demand.

Consistency: The proposed PRD is located near CR-252 (Pinemount Road) and is designed in accordance with the design standards of the County and regulating agencies with jurisdiction during the design phase including sanitary sewer requirements. Public utilities are available. The proposed Commercial development should not have a negative impact as the County facility currently meets and/or exceeds the level of service required by the Comprehensive Plan.

### SOLID WASTE FACILITY SUB ELEMENT

GOAL IV-3 – ENSURE THE PROVISION OF PUBLIC SOLID WASTE FACILITIES IN A TIMELY, ORDERLY EFFICIENT AND ENVIRONMENTALLY SOUND MANNER

AT AN ACCEPTABLE LEVEL OF SERVICE FOR THE POPULATION OF THE COUNTY.

Objective IV.3 The county shall continue to coordinate the continued extension of, or increase in the capacity of solid waste facilities by scheduling the completion of public facility improvements and requiring that they are concurrent with projected demand.

Consistency: The solid waste facilities for the proposed PRD will be located at the County landfill. The proposed PRD should not have a negative impact as the County facility currently meets and/or exceeds the level of service required by the Comprehensive Plan.

### DRAINAGE FACILITY SUB ELEMENT

- GOAL IV-4 ENSURE THE PROVISION OF PUBLIC DRAINAGE FACILITIES IN A TIMELY, ORDERLY EFFICIENT AND ENVIRONMENTALLY SOUND MANNER AT AN ACCEPTABLE LEVEL OF SERVICE FOR THE POPULATION OF THE COUNTY.
- Objective IV.4 The county shall continue to coordinate the continued extension of, or increase in the capacity of drainage facilities by scheduling the completion of public facility improvements and requiring that they are concurrent with projected demand.

Consistency: The proposed PRD on the subject property is designed in accordance with the design standards of the County and regulating agencies with jurisdiction during the design phase including drainage requirements.

### POTABLE WATER FACILITY SUB ELEMENT

- GOAL IV-5 ENSURE THE PROVISION OF PUBLIC POTABLE WATER FACILITIES IN A TIMELY, ORDERLY EFFICIENT AND ENVIRONMENTALLY SOUND MANNER AT AN ACCEPTABLE LEVEL OF SERVICE FOR THE POPULATION OF THE COUNTY.
- Objective IV.5 The county shall continue to coordinate the continued extension of, or increase in the capacity of potable water facilities by scheduling the completion of public facility improvements and requiring that they are concurrent with projected demand.

Consistency: The proposed PRD is located near CR-252 and is designed in accordance with the design standards of the County and regulating agencies with jurisdiction during the design phase including potable water requirements. Public utilities are available. The proposed PRD should not have a negative impact as the County facility currently meets and/or exceeds the level of service required by the Comprehensive Plan.

### NATURAL GROUND AQUIFER RECHARGE SUB ELEMENT

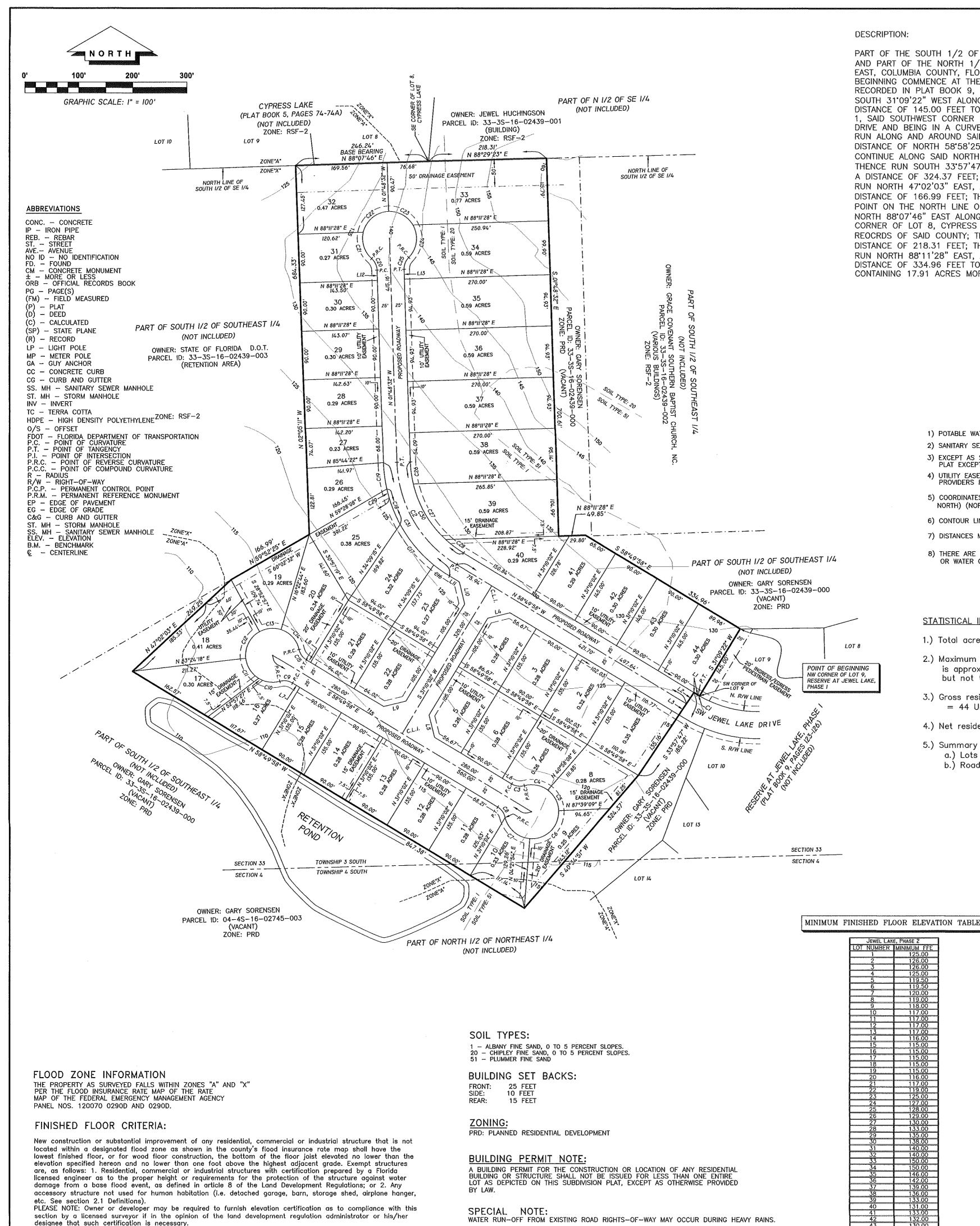
- GOAL IV-6 ENSURE THE PROTECTION OF SURFACE AND GROUNDWATER QUALITY AND QUANTITY BY ESTABLISHING PLANS AND PROGRAMS TO PROMOTE ORDERLY USE AND DEVELOPING LAND IN A MANNER WHICH WILL PROMOTE SUCH PROTECTION AND AVAILABILITY.
- Objective IV.6 The county shall continue to prohibit the discharge or spray irrigation of primary treated

effluent from any community sanitary sewer facility or any agricultural use within a high groundwater aquifer recharge area as identified within illustration A-XI of the Comprehensive Plan.

Consistency: The subject property is located near CR-252 and falls within an Area of High Recharge Potential to the Floridan Aquifer. The proposed PRD is designed in accordance with the design standards of the County and regulating agencies with jurisdiction during the design phase including groundwater protection requirements.

Lake City: P.O. Box 3823, Lake City, FL 32056 • Tallahassee: P.O. Box 180998, Tallahassee, FL 32318

Phone: 386.752.4675 • Toll Free: 877.335.1525 • Fax: 386.752.4674 • Online: NFPS.net



PART OF THE SOUTH 1/2 OF THE SOUTHEAST 1/4 OF SECTION 33, TOWNSHIP 3 SOUTH, RANGE 16 EAST AND PART OF THE NORTH 1/2 OF THE NORTHEAST 1/4 OF SECTION 4, TOWNSHIP 4 SOUTH, RANGE 16 EAST, COLUMBIA COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: FOR POINT OF BEGINNING COMMENCE AT THE NORTHWEST CORNER OF LOT 9, RESERVE AT JEWEL LAKE, PHASE 1, AS RECORDED IN PLAT BOOK 9, PAGES 123-126 OF THE PUBLIC RECORDS OF SAID COUNTY, THENCE RUN SOUTH 31'09'22" WEST ALONG THE WEST LINE OF SAID LOT 9, RESERVE AT JEWEL LAKE, PHASE 1, A DISTANCE OF 145.00 FEET TO THE SOUTHWEST CORNER OF SAID LOT 9, RESERVE AT JEWEL LAKE, PHASE 1, SAID SOUTHWEST CORNER BEING ON THE NORTH RIGHT-OF-WAY LINE OF SOUTHWEST JEWEL LAKE DRIVE AND BEING IN A CURVE CONCAVED NORTHEASTERLY HAVING A RADIUS OF 265.00 FEET; THENCE RUN ALONG AND AROUND SAID CURVE AND SAID NORTH RIGHT-OF-WAY LINE, A CHORD BEARING AND DISTANCE OF NORTH 58'58'25" WEST, 0.93 FEET TO THE POINT OF TANGENCY OF SAID CURVE; THENCE CONTINUE ALONG SAID NORTH RIGHT-OF-WAY LINE, NORTH 58'50'38" WEST, A DISTANCE OF 11.04 FEET; THENCE RUN SOUTH 33'57'47" WEST, A DISTANCE OF 185.22 FEET; THENCE RUN SOUTH 40'34'51" WEST, A DISTANCE OF 324.37 FEET; THENCE RUN NORTH 58'49'58" WEST, A DISTANCE OF 847.38 FEET; THENCE RUN NORTH 47'02'03" EAST, A DISTANCE OF 249.25 FEET; THENCE RUN NORTH 59'52'25" EAST, A DISTANCE OF 166.99 FEET; THENCE RUN NORTH 02'05'11" WEST, A DISTANCE OF 684.33 FEET TO A POINT ON THE NORTH LINE OF SAID SOUTH 1/2 OF THE SOUTHEAST 1/4 OF SECTION 33; THENCE RUN NORTH 88'07'46" EAST ALONG SAID NORTH LINE, A DISTANCE OF 246.24 FEET TO THE SOUTHEAST CORNER OF LOT 8, CYPRESS LAKE, AS RECORDED IN PLAT BOOK 5, PAGES 74 AND 74A OF THE PUBLIC REOCRDS OF SAID COUNTY; THENCE CONTINUE ALONG SAID NORTH LINE, NORTH 88'29'23" EAST, A DISTANCE OF 218.31 FEET; THENCE RUN SOUTH 01'48'32" EAST, A DISTANCE OF 700.61 FEET; THENCE RUN NORTH 88'11'28" EAST, A DISTANCE OF 49.85 FEET; THENCE RUN SOUTH 58'49'58" EAST, A DISTANCE OF 334.96 FEET TO THE POINT OF BEGINNING. CONTAINING 17.91 ACRES MORE OR LESS.

"NOT FOR FINAL RECORDING"

## RESERVE AT JEWEL LAKE PHASE 2

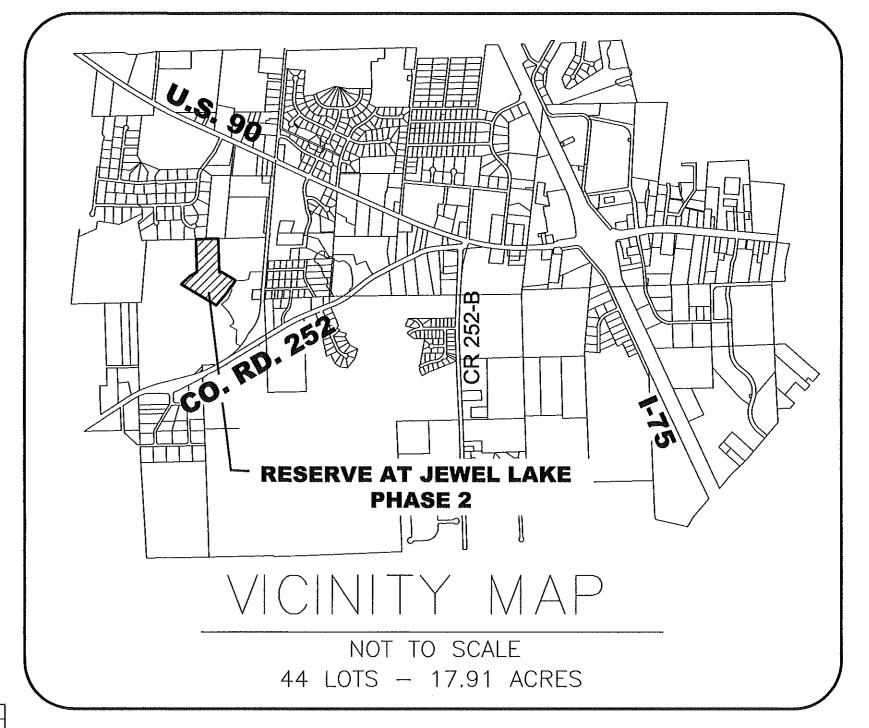
A PLANNED RESIDENTIAL DEVELOPMENT

SECTION 33, TOWNSHIP 3 SOUTH, RANGE 16 EAST,

SECTION 4, TOWNSHIP 4 SOUTH, RANGE 16 EAST, COLUMBIA COUNTY, FLORIDA

### LEGEND AND NOTES:

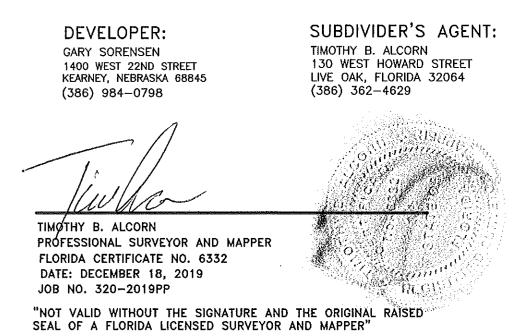
- 1) POTABLE WATER SERVICE PROVIDED BY THE CITY OF LAKE CITY, FLORIDA. 2) SANITARY SEWER SERVICES PROVIDED BY THE CITY OF LAKE CITY, FLORIDA.
- 3) EXCEPT AS SHOWN, THERE ARE NO UTILITY EASEMENTS ADJACENT TO PROPOSED PLAT EXCEPT THOSE PROPOSED WITHIN PROPOSED SUBDIVISION.
- 4) UTILITY EASEMENTS AS SHOWN SUBJECT TO CHANGE AT UTILITY PROVIDERS REQUEST.
- 5) COORDINATES AND BEARINGS BASED ON NAD83 (STATE PLANE: FLORIDA, NORTH) (NORTH LINE OF SOUTH 1/2 OF SE 1/4 - N 88'07'46" E).
- CONTOUR LINES BASED ON NAVD88.
- 7) DISTANCES MEASURED IN U.S. FEET.
- 8) THERE ARE NO LAKES, MARSHES, SWAMPS, WETLANDS, MUCK POCKETS OR WATER COURSES ON SUBJECT PROPERTY.
- STATISTICAL INFORMATION FOR RESERVE AT JEWEL LAKE, PHASE 2
- 1.) Total acreage of the site is approximately 17.91 acres.
- 2.) Maximum building coverage per lot of single-family homes is approximately 25% (depending on the size of the lot), but not to exceed 40%.
- 3.) Gross residential density (single family homes) = 44 Units / 17.91 acres = 2.46 Units/Acre.
- 4.) Net residential acreage (single family homes): 15.26 acres
- 5.) Summary of total site acreage of 17.91 acres: a.) Lots for single family homes b.) Road Right-of-Way 2.65 acres



	LINE TABL	E
LINE	BEARING	DISTANCE
LI	N 58°50'38" W	11.04'
L2	S 33°57'47" W	25.03'
L3	S 33°57'47" W	25.031
L4	S 76°10'02" W	42.43'
L5	S 13°49'58" E	42.43'
L6	S 58°49'58" E	20.23'
L7	N 58°49'58" W	15.60'
L8	S 58°49'58" E	8.87'
L9	N 76°10'02" E	42.43'
LI0	N 13°49'58" W	42.43'
LII	N 58°49'58" W	20.94'
LI2	N 01°48'32" W	19.06'
113	S 01%8'32" F	18 17'

	LINE TABLE	<u> </u>
LINE	BEARING	DISTANCE
LI	N 58°50'38" W	11.04'
L2	S 33°57'47" W	25.03
L3	S 33°57'47" W	25.03
L4	S 76°10'02" W	42.43'
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L6	S 58°49'58" E	20.23'
L7	N 58°49'58" W	15.60'
L8	S 58°49'58" E	8.87
L9	N 76°10'02" E	42.43
LI0	N 13°49'58" W	42.43'
LII	N 58°49'58" W	20.941
LI2	N 01°48'32" W	19.06'
LI3	S 01°48'32" E	18.17'

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE	TANGENT
CI	205.00'	0.93'	0.93'	N 58°58'25" W	00°15'33"	0.46'
C2	230.00'	228.91'	219.58'	N 30°19'15" E	57°01'26"	124.94'
C3	30.00'	24.38'	23.72'	S 82°06'59" E	46°34'03"	12.91'
C4	50.00'	45.31'	43.78'	S 79°26'22" E	51°55'18"	24.34'
C5	50.00'	44.62'	43.15'	S 27°54'47" E	51°07'52"	23.92'
C6	50.00'	84.40'	74.73'	S 46°00'32" W	96°42'45"	56.23'
C7	50.00'	64.03'	59.74'	N 48°57'00" W	73°22'11"	37.25'
C8	30.00'	24.38'	23.72'	N 35°32'56" W	46°34'03"	12.91'
C9	30.00'	24.38'	23.72'	N 82°06'59" W	46°34'03*	12.91'
CIO	50.00'	40.64'	39.53'	N 82°06'59" W	46°34'03"	21.52'
CII	50.00'	45.59'	44.02'	N 32°42'50" W	52°14'16"	24.52'
CI2	50.00'	59.09'	55.71'	N 27°15'41" E	67°42'45"	33.54'
CI3	50.00'	40.97'	39.83'	N 84°35'20" E	46°56'33"	21.71'
C14	50.001	52.08'	49.75	S 42°06'09" E	59°40'29"	28.68'
CI5	30.00'	24.38'	23.72'	S 35°32'56" E	46°34'03"	12.91'
C16	255.00'	36.02'	35.99'	N 54°47'12" W	08°05'32"	18.04'
C17	255.00'	98.36'	97.75'	N 39°41'26" W	22°05'59"	49.80'
CI8	255.00'	70.22'	70.00'	N 20°45'06" W	15°46'42"	35.33'
C19	255.00'	49.19'	49.12'	N 07°20'08" W	11°03'13"	24.67'
C20	30.00'	24.38'	23.72'	N 25°05'33" W	46°34'03*	12.91'
C21	50.001	53.631	51.09'	N 17°39'04" W	61°27'03"	29.72'
C22	50.00'	65.55'	60.96'	N 50°37'58" E	75°07'00"	38.45'
C23	50.00'	53.93'	51.35'	S 60°54'36" E	61°47'53°	29.92'
C24	50.00'	65.25'	60.72'	S 07°22'26" W	74°46'10"	38.21'
C25	30.00'	24.38'	23.72'	S 21°28'29" W	46°34'03"	12.91'
C26	205.00*	41.331	41.26'	N 07°35'03" W	II°33'03"	20.73'
C27	205.001	121.21'	119.46'	N 30°17'56" W	33°52'42*	62.44'
C28	205.00'	41.48'	41.41'	N 53°02'07" W	11°35'41"	20.81'
C29	255.00'	17.14'	17.14'	N 14°47'18" W	03°51'07"	8.58'
C30	205.00'	204.03'	195.71'	S 30°19'15" W	57°01'26"	111.36'
C31	255.00	253.79'	243.44'	S 30°19'15" W	57°01'26"	138.52'



SCALE: 1" = 100'	DATE SURVEYED: 11-	-05-19 DATE DRAWN: 12-18-19
REVISED:	APPROVED BY:	DRAWN BY: SH
J. SHE		& ASSOCIATES, INC. FICATE OF AUTHORIZATION - LB# 717
130 W. HOWARD ST PHONE: 386-362- FAX: 386-362-5		4 EMAIL: Jsfa⊕windstream.net timalcorn⊕windstream.ne

### NORTH FLORIDA PROFESSIONAL SERVICES, INC.

Experience. Quality. Commitment.



January 15, 2020

Brandon M. Stubbs
Community Development Coordinator
Building & Zoning Department
135 NE Hernando Ave
Lake City, FL 32055

Subject: SD 0186 Reserve at Jewel Lake, Phase 2 - Review Comments

Mr. Stubbs:

As follows are the responses to the items in your Request for Additional Information dated January 6<sup>th</sup>, 2020.

1. The applicant has not provided a fire department access and water supply plan. This should be a separate plan from the construction plans. The fire department access and water supply plan must show all existing and proposed fire hydrant locations and flow data for existing hydrants.

Please see the attached Fire Department Plan and the email from the City of Lake City for the Flow Data.

2. The applicant has not provided a concurrency impact analysis. The applicant must provide a concurrency impact analysis.

### Please see the attached Concurrency Impact Analysis.

3. The applicant has not provided stormwater calculations and proof of submittal to the water management district permit. The applicant must provide signed and sealed stormwater calculations and proof of submittal to the SRWMD.

### Please see the attached Engineering Report and the SRWMD Receipt.

4. The applicant has provided construction plans; however, the construction plans do not contain development data or symbol legend. The applicant must revise the construction plans to include relevant development data and provide a symbol legend on all pages in which symbology is utilized.

Please see sheet C-4 of the attached revised construction plans.

Lake City: P.O. Box 3823, Lake City, FL 32056 • Tallahassee: P.O. Box 180998, Tallahassee, FL 32318

Phone: 386.752.4675 • Toll Free: 877.335.1525 • Fax: 386.752.4674 • Online: NFPS.net

Please contact me if any additional information is required.

Best Regards,

Tori Humphries Project Manager

# **Tori Humphries**

Parlatti, Kevin <ParlattiK@lcfla.com> From:

Tuesday, January 14, 2020 12:24 PM To: Subject: Sent:

Tori Humphries; Scott, Brian

Fire hydrant flow in jewel lake 1-14-2020

The 7 fire hydrants in Jewel lake subdivision have a flow of between 1100 and 1150 gallons a minute.if you need the individual hydrant flow or any other information on water system feel free to let me or Brian know and we will do our best to help you out

Thank you Kevin Parlatti

Sent from my iPad

Becky Harper (NFPS) 1/9/2020, 3:11:12 PM Logout

Thank You

Your ERP application submission has been received.

Your SRWMD confirmation number is 268064

Your new permit application number is 210235-4

Please do not send us a paper copy of this electronic submittal. Sending an additional paper copy could delay the processing of the review.

.\_\_\_\_, -<del>\_\_\_\_\_</del>-

Print your completed application



Print the Payment Memo



**Document Management** 

Select "Print your completed application" to create an application report with the data supplied in the application.

Dashboard X Search X My Preference X Apply/Submit X Help

You have indicated that you prefer to pay your application fee at a later stage. You may do that online, using the Payment Services option on your Account Services page or, if you prefer to send a check to the District, or pay with a Purchase Order, then please "Print the Payment Memo" and mail it with your payment to the District.

Select "Document Management" to attach additional documents, create a sign and seal report, email a sign and seal report or verify permit document attachments.

If you have any questions about our Internet Permitting services or your submission, please check our <u>FAQs</u> area to answer our most common inquiries. We can also be reached by email at <u>Regulatory-Support@srwmd.org</u>.

If you have an account related question, please call us at (386) 362-1001 or (800) 226-1066, from 8:00 a.m. to 5:00 p.m EST.

At <u>SRWMD</u>, we've made a commitment to service. If we're not living up to your expectations, we hope you'll let us know.

Sincerely, SRWMD Permitting Online Services

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### NORTH FLORIDA PROFESSIONAL SERVICES, INC.

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# RESERVE AT JEWEL LAKE PHASE II PERMIT MODIFICATION ERP-023-201235-4 ENGINEERING REPORT LAKE CITY, FLORIDA

Terror R. White, Jr. P.E. W. STATE Floring Reg, No. 37390

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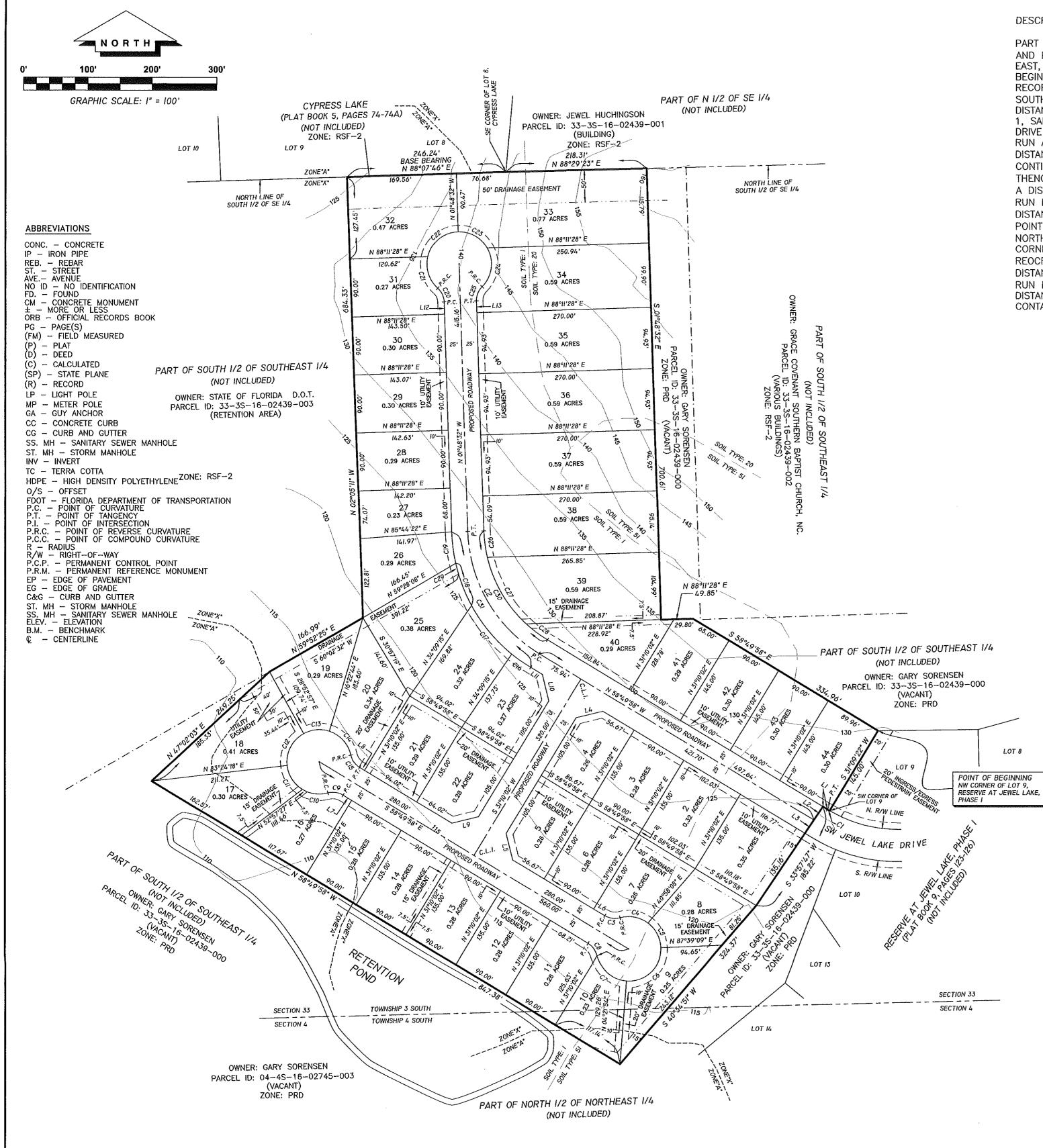
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# Figure 2. Proposed Conditions Plat



FLOOD ZONE INFORMATION

PANEL NOS. 120070 0290D AND 0290D.

FINISHED FLOOR CRITERIA:

designee that such certification is necessary.

section 2.1 Definitions).

THE PROPERTY AS SURVEYED FALLS WITHIN ZONES "A" AND "X"

New construction or substantial improvement of any residential, commercial or industrial structure that is not

lowest finished floor, or for wood floor construction, the bottom of the floor joist elevated no lower than one

PLEASE NOTE: Owner or developer may be required to furnish elevation certification as to compliance with this

section by a licensed surveyor if in the opinion of the land development regulation administrator or his/her

located within a designated flood zone as shown in the county's flood insurance rate map shall have the

foot adjacent paved or unpaved road, or paved or unpaved access easement. Exempt structures are, as follows: 1. Residential, commercial or industrial structures with certification prepared by a Florida licensed engineer as to the proper height or requirements for the protection of the structure against water damage from a base flood event, as defined in article 8 of the Land Development Regulations; or 2. Any accessory structure not used for human habitation (i.e. detached garage, barn, storage shed, airplane hanger, etc. See

PER THE FLOOD INSURANCE RATE MAP OF THE RATE MAP OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY

SOIL TYPES:

1 - ALBANY FINE SAND, 0 TO 5 PERCENT SLOPES.

20 - CHIPLEY FINE SAND, 0 TO 5 PERCENT SLOPES.

51 - PLUMMER FINE SAND

BUILDING SET BACKS:

15 FEET

ZONING:
PRD: PLANNED RESIDENTIAL DEVELOPMENT

BUILDING PERMIT NOTE:

A BUILDING PERMIT FOR THE CONSTRUCTION OR LOCATION OF ANY RESIDENTIAL BUILDING OR STRUCTURE SHALL NOT BE ISSUED FOR LESS THAN ONE ENTIRE LOT AS DEPICTED ON THIS SUBDIVISION PLAT, EXCEPT AS OTHERWISE PROVIDED

SPECIAL NOTE:
WATER RUN-OFF FROM EXISTING ROAD RIGHTS-OF-WAY MAY OCCUR DURING HEAVY RAINS.

### DESCRIPTION:

PART OF THE SOUTH 1/2 OF THE SOUTHEAST 1/4 OF SECTION 33, TOWNSHIP 3 SOUTH, RANGE 16 EAST AND PART OF THE NORTH 1/2 OF THE NORTHEAST 1/4 OF SECTION 4, TOWNSHIP 4 SOUTH, RANGE 16 EAST, COLUMBIA COUNTY, FLORIDA, BEING MORE PARTÍCULARLY DESCRIBED AS FOLLOWS: FOR POINT OF BEGINNING COMMENCE AT THE NORTHWEST CORNER OF LOT 9, RESERVE AT JEWEL LAKE, PHASE 1, AS RECORDED IN PLAT BOOK 9, PAGES 123-126 OF THE PUBLIC RECORDS OF SAID COUNTY, THENCE RUN SOUTH 31'09'22" WEST ALONG THE WEST LINE OF SAID LOT 9. RESERVE AT JEWEL LAKE, PHASE 1. A DISTANCE OF 145.00 FEET TO THE SOUTHWEST CORNER OF SAID LOT 9, RESERVE AT JEWEL LAKE, PHASE 1. SAID SOUTHWEST CORNER BEING ON THE NORTH RIGHT—OF—WAY LINE OF SOUTHWEST JEWEL LAKE DRIVE AND BEING IN A CURVE CONCAVED NORTHEASTERLY HAVING A RADIUS OF 265.00 FEET; THENCE RUN ALONG AND AROUND SAID CURVE AND SAID NORTH RIGHT-OF-WAY LINE, A CHORD BEARING AND DISTANCE OF NORTH 58'58'25" WEST, 0.93 FEET TO THE POINT OF TANGENCY OF SAID CURVE: THENCE CONTINUE ALONG SAID NORTH RIGHT-OF-WAY LINE, NORTH 58'50'38" WEST, A DISTANCE OF 11.04 FEET; THENCE RUN SOUTH 33'57'47" WEST, A DISTANCE OF 185.22 FEET; THENCE RUN SOUTH 40'34'51" WEST, A DISTANCE OF 324.37 FEET; THENCE RUN NORTH 58'49'58" WEST, A DISTANCE OF 847.38 FEET; THENCE RUN NORTH 47'02'03" EAST, A DISTANCE OF 249.25 FEET; THENCE RUN NORTH 59'52'25" EAST, A DISTANCE OF 166.99 FEET; THENCE RUN NORTH 02'05'11" WEST, A DISTANCE OF 684.33 FEET TO A POINT ON THE NORTH LINE OF SAID SOUTH 1/2 OF THE SOUTHEAST 1/4 OF SECTION 33; THENCE RUN NORTH 88'07'46" EAST ALONG SAID NORTH LINE, A DISTANCE OF 246.24 FEET TO THE SOUTHEAST CORNER OF LOT 8, CYPRESS LAKE, AS RECORDED IN PLAT BOOK 5, PAGES 74 AND 74A OF THE PUBLIC REOCRDS OF SAID COUNTY; THENCE CONTINUE ALONG SAID NORTH LINE, NORTH 88°29'23" EAST, A DISTANCE OF 218.31 FEET; THENCE RUN SOUTH 01'48'32" EAST, A DISTANCE OF 700.61 FEET; THENCE RUN NORTH 88'11'28" EAST, A DISTANCE OF 49.85 FEET; THENCE RUN SOUTH 58'49'58" EAST, A DISTANCE OF 334.96 FEET TO THE POINT OF BEGINNING. CONTAINING 17.91 ACRES MORE OR LESS.

# "NOT FOR FINAL RECORDING" RESERVE AT JEWEL LAKE PHASE 2

A PLANNED RESIDENTIAL DEVELOPMENT

SECTION 33, TOWNSHIP 3 SOUTH, RANGE 16 EAST, AND

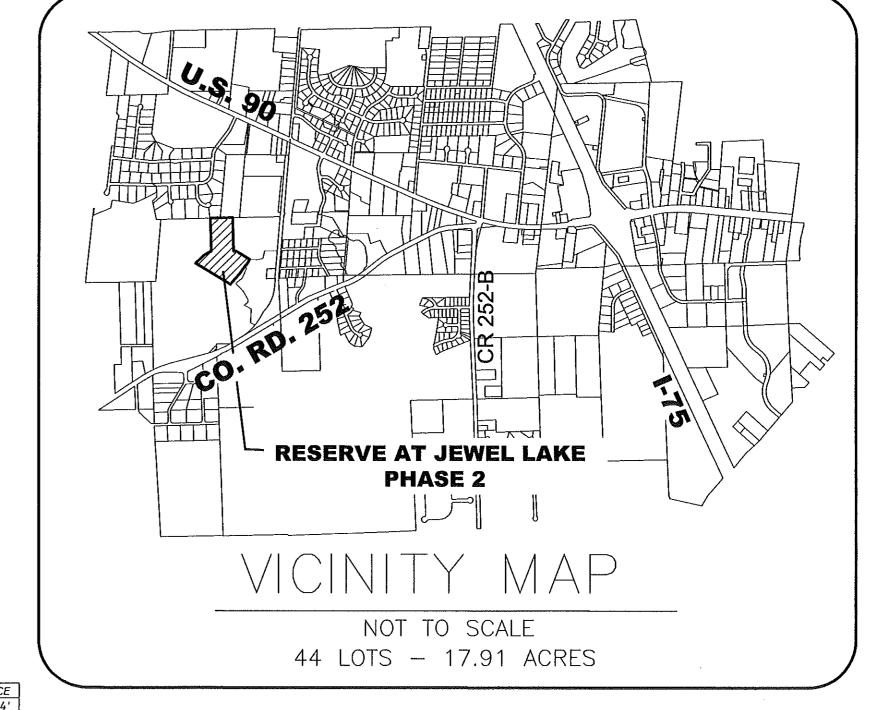
SECTION 4, TOWNSHIP 4 SOUTH, RANGE 16 EAST, COLUMBIA COUNTY, FLORIDA

### LEGEND AND NOTES:

- POTABLE WATER SERVICE PROVIDED BY THE CITY OF LAKE CITY, FLORIDA.
   SANITARY SEWER SERVICES PROVIDED BY THE CITY OF LAKE CITY, FLORIDA.
- 3) EXCEPT AS SHOWN, THERE ARE NO UTILITY EASEMENTS ADJACENT TO PROPOSED PLAT EXCEPT THOSE PROPOSED WITHIN PROPOSED SUBDIVISION.
- 4) UTILITY EASEMENTS AS SHOWN SUBJECT TO CHANGE AT UTILITY PROVIDERS REQUEST.
- 5) COORDINATES AND BEARINGS BASED ON NAD83 (STATE PLANE: FLORIDA, NORTH) (NORTH LINE OF SOUTH 1/2 OF SE 1/4 N 88'07'46" E).
- 6) CONTOUR LINES BASED ON NAVD88.
- 7) DISTANCES MEASURED IN U.S. FEET.
- 8) THERE ARE NO LAKES, MARSHES, SWAMPS, WETLANDS, MUCK POCKETS OR WATER COURSES ON SUBJECT PROPERTY.

### STATISTICAL INFORMATION FOR RESERVE AT JEWEL LAKE, PHASE 2

- 1.) Total acreage of the site is approximately 17.91 acres.
- Maximum building coverage per lot of single—family homes is approximately 25% (depending on the size of the lot), but not to exceed 40%.
- 3.) Gross residential density (single family homes) = 44 Units / 17.91 acres = 2.46 Units/Acre.
- 4.) Net residential acreage (single family homes): 15.26 acres
- 5.) Summary of total site acreage of 17.91 acres:
  a.) Lots for single family homes
  b.) Road Right-of-Way
  15.26 acres
  2.65 acres



### LINE TABLE LINE BEARING N 58°50'38" W L2 S 33°57'47" W L3 S 33°57'47" W L4 S 76°10'02" W 42.43 L5 | S | 3°49'58" E 42.43' 20.231 L6 | S 58°49'58' E L7 N 58°49'58" W 15.601 L8 S 58°49'58" E 8.87' L9 N 76°10'02" E 42.43' LIO N 13°49'58" W 42.43'

20.94

19.06

N 14°47′18" W

S 30°19'15" W

S 30°19'15" W 57°01'26"

03°51'07"

57°01'26\*

8.58'

111.36'

LII N 58°49'58" W

L12 N 01°48'32" W

LI3 S 01°48'32" E

			CURVE TABLE	<b>-</b>		
CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE	TANGENT
CI	205.00'	0.93'	0.93'	N 58°58'25" W	00°15'33"	0.46'
C2	230.00'	228.91'	219.58'	N 30°19'15" E	57°01'26"	124.94'
C3	30.00'	24.38'	23.72'	S 82°06'59" E	46°34'03"	12.91'
C4	50.00'	45.31'	43.78'	S 79°26'22* E	51°55'18"	24.34'
C5	50.00'	44.62'	43.15'	S 27°54'47" E	51°07'52"	23.92'
C6	50.00'	84.40'	74.73'	S 46°00'32" W	96°42'45"	56.23'
C7	50.00'	64.03'	59.74'	N 48°57'00" W	73°22'11"	37.25'
C8	30.00'	24.38'	23.72'	N 35°32'56" W	46°34'03"	12.91'
C9	30.00'	24.38'	23.72'	N 82°06'59" W	46°34'03"	12.91'
CIO	50.00'	40.64'	39.53'	N 82°06'59" W	46°34'03"	21.52'
CII	50.00'	45.59'	44.02'	N 32°42'50" W	52°14'16"	24.52'
CI2	50.00'	59.09'	55.71'	N 27°15'41" E	67°42'45"	33.54'
CI3	50.00'	40.97'	39.83'	N 84°35'20" E	46°56'33"	21.71'
C14	50.00'	52.08'	49.75'	S 42°06'09" E	59°40'29"	28.68'
CI5	30.00'	24.38'	23.72'	S 35°32'56" E	46°34'03"	12.91'
C16	255.00'	36.02'	35.99'	N 54°47'12" W	08°05'32"	18.04'
CI7	255.00'	98.36'	97.75'	N 39°41'26" W	22°05'59*	49.80'
C18	255.00'	70.22'	70.00'	N 20°45'06" W	15°46'42"	35.33'
C19	255.00'	49.191	49.12'	N 07°20'08" W	11°03'13"	24.67'
C20	30.001	24.38'	23.72'	N 25°05'33" W	46°34'03"	12.91'
C21	50.00'	53.63'	51.09'	N 17°39'04" W	61°27'03"	29.72'
C22	50.00'	65.55'	60.96'	N 50°37'58" E	75°07'00"	38.45
C23	50.00'	53,931	51.35'	S 60°54'36" E	61°47'53"	29.92'
C24	50.00'	65.25'	60.72'	S 07°22'26" W	74°46'10"	38.21'
C25	30.00'	24.38'	23.72'	S 21°28'29" W	46°34'03"	12.91'
C26	205.00'	41.33'	41.26'	N 07°35'03" W	11°33'03"	20.73'
C27	205.00'	121.21'	119.46'	N 30°17'56" W	33°52'42"	62.44'

SUBDIVIDER'S AGENT: DEVELOPER: TIMOTHY B. ALCORN GARY SORENSEN 130 WEST HOWARD STREET 1400 WEST 22ND STREET KEARNEY, NEBRASKA 68845 LIVE OAK, FLORIDA 32064 (386) 362-4629 (386) 984-0798 MOTHY B. ALCORN PROFESSIONAL SURVEYOR AND MAPPER FLORIDA CERTIFICATE NO. 6332 DATE: DECEMBER 18, 2019 JOB NO. 320-2019PP "NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER"

SCALE: 1" = 100'	DATE SURVEYE	D: 11-05-19	DATE DRAWN: 12-18-19
REVISED:	APPROVED BY:		DRAWN BY: SH
		R & ASSOCI	IATES, INC. DRIZATION - LB# 7170
130 W. HOWARD PHONE: 386-3 FAX: 386-362		32064 EM.	AlL: jsfa@windstream.net timalcorn@windstream.net

### **Calculation Summary for Jewel Lake Reserve**

			= Critical Storm Event
Comparison of Pre vs. Post Discharge	Rates		
Drainage Area Simulation	Pre-Development Discharge Rate (CFS)	Post-Development Discharge Rate (CFS)	Post-Pre Discharge Rate (CFS)
FDOT 1 Hour - 1 hr - 100 yr	62.9	4.4	-58.5
FDOT2 Hour - 2 hr - 100 yr	54.6	6.5	-48.0
FDOT 4 Hour - 4 hr - 100 yr	34.9	11.6	-23.3
FDOT 8 Hour - 8 hr - 100 yr	43.0	13.8	-29.2
FDOT 24 Hour - 24 hr - 100 yr	14.6	9.4	-5.2
FDOT 72 Hour - 72 hr - 100 yr	11.1	10.4	-0.7
FDOT 168 Hour - 168 hr - 100 yr	7.7	7.6	-0.1
FDOT 240 Hour - 240 hr - 100 yr	10.4	10.3	-0.1

Comparison of Pre vs. Post Discharge	Rates		
	Pre-Development Cumulative Volume	Post-Development Cumulative Volume	Post-Pre Volume
Drainage Area Simulation	(CF)	(CF)	(CF)
FDOT 1 Hour - 1 hr - 100 yr	102030.3	9205.0	-92825.3
FDOT2 Hour - 2 hr - 100 yr	148135.7	64140.0	-83995.7
FDOT 4 Hour - 4 hr - 100 yr	202478.3	125889.0	-76589.3
FDOT 8 Hour - 8 hr - 100 yr	278080.2	194508.1	-83572.1
FDOT 24 Hour - 24 hr - 100 yr	434205.0	337963.3	-96241.7
FDOT 72 Hour - 72 hr - 100 yr	603439.0	487489.4	-115949.6
FDOT 168 Hour - 168 hr - 100 yr	711803.1	570548.4	-141254.7
FDOT 240 Hour - 240 hr - 100 yr	856095.8	694893.0	-161202.8

Maximum Stage and Freeboard Calcu	lation		
	Pond Top Elevation	Max Stage	Freeboard
Drainage Area Simulation	(FT)	(FT)	(FT)
FDOT 1 Hour - 1 hr - 100 yr	112.16	110.46	1.70
FDOT2 Hour - 2 hr - 100 yr	112.16	110.61	1.55
FDOT 4 Hour - 4 hr - 100 yr	112.16	110.91	1.25
FDOT 8 Hour - 8 hr - 100 yr	112.16	111.03	1.13
FDOT 24 Hour - 24 hr - 100 yr	112.16	110.79	1.37
FDOT 72 Hour - 72 hr - 100 yr	112.16	110.85	1.31
FDOT 168 Hour - 168 hr - 100 yr	112.16	110.68	1.48
FDOT 240 Hour - 240 hr - 100 yr	112.16	110.84	1.32

30 Day Recovery			· · · · · · · · · · · · · · · · · · ·		
Drainage Area Simulation	Cumulative Inflow (cf)	Cumulative Infiltration (cf)	Cumulative Discharge (cf)	Remaining (cf)	% of Total Remaining
FDOT 1 Hour - 1 hr - 100 yr	116875.7	107670.8	9204.9	0.0	0.00
FDOT2 Hour - 2 hr - 100 yr	165998.2	101858.2	64140.0	0.0	0.00
FDOT 4 Hour - 4 hr - 100 yr	223171.6	97282.6	125889.0	0.0	0.00
FDOT 8 Hour - 8 hr - 100 yr	301886.2	107378.1	194508.1	0.0	0.00
FDOT 24 Hour - 24 hr - 100 yr	462650.7	124687.5	337963.2	0.0	0.00
FDOT 72 Hour - 72 hr - 100 yr	635369.3	147879.9	487489.4	0.0	0.00
FDOT 168 Hour - 168 hr - 100 yr	745455.1	174906.7	570548.4	0.0	0.00
FDOT 240 Hour - 240 hr - 100 yr	891624.1	196731.1	694893.0	0.0	0.00
72 Hour - Slug Load	34213.0	34213.0	0.0	0.0	0.00

7 Day Recovery		_			
Drainage Area Simulation	Cumulative Inflow (cf)	Cumulative Infiltration (cf)	Cumulative Discharge (cf)	Remaining (cf)	% of Total Remaining
FDOT 1 Hour - 1 hr - 100 yr	116875.7	107670.8	9204.9	0.0	0.00
FDOT2 Hour - 2 hr - 100 yr	165998.2	90694.2	64140.0	11164.0	6.73
FDOT 4 Hour - 4 hr - 100 yr	223171.6	84022.0	125889.0	13260.6	5.94
FDOT 8 Hour - 8 hr - 100 yr	301886.2	92670.9	194508.1	14707.2	4.87
FDOT 24 Hour - 24 hr - 100 yr	462650.7	106354.3	337963.3	18333.1	3.96
FDOT 72 Hour - 72 hr - 100 yr	635369.3	123213.1	487489.4	24666.8	3.88
FDOT 168 Hour - 168 hr - 100 yr	745455.1	143293.0	570548.4	31613.7	4.24
FDOT 240 Hour - 240 hr - 100 yr	891624.1	163322.3	694893.0	33408.8	3.75
72 Hour - Slug Load	34213.0	34213.0	0.0	0.0	0.00

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Phone: 386.752.4675 • Toll Free: 877.335.1525 • Fax: 386.752.4674 • Online: NFPS.net

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### DF9!89J9@CD98'G7G'FI BC:: '71 FJ9' BI A69FG

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### Table T-7 SCS Runoff Curve Numbers for Selected Agricultural, Suburban, and Urban Land Use

		Hy	drologic	Soil Gr	oup
Land Use Descri	ption	A	В	C	D
Cultivated Land <sup>a</sup> :					
Without conservation		72	81	88	91
With conservation tre	atment	62	71	78	81
Pasture or range land:					
Poor condition		68	79	86	89
Good condition		39	61	74	80
Meadow: good condition	i .	30	58	71	78
Wood or Forest Land:					
Thin stand, poor cove	er, no mulch	45	66	77	83
Good cover b		25	55	70	77
Open Spaces, Lawns, Pa	arks, Golf Courses, Cemeteries:				
	s cover on 75% or more of the area	39	61	74	80
Fair condition: grass	cover on 50% to 75% of the area	49	69	79	84
Poor condition: gras	s cover on 50% or less of the area	68	79	86	89
Commercial and Busines	s Areas (85% impervious)	89	92	94	95
Industrial Districts (72% i	mpervious)	81	88	91	93
Residential c					
Average lot size	Average % Impervious d				
1/8 acre or less	65	77	85	90	92
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
Paved Parking Lots, Roo	fs, Driveways *:	98	98	98	98
Streets and Roads:					
Paved with curbs and	d storm sewers e	98	98	98	98
Gravel		76	85	89	91
Dirt		72	82	87	89
Paved with open ditc	The state of the s	83	89	92	93
Newly graded area (r	no vegetation established) <sup>r</sup>	77	86	91	94

<sup>&</sup>lt;sup>a</sup> For a more detailed description of agricultural land use curve numbers, refer to Table T-8.

Reference: USDA, SCS, TR-55 (1984).



<sup>&</sup>lt;sup>b</sup> Good cover is protected from grazing and litter and brush cover soil.

<sup>&</sup>lt;sup>c</sup> Curve numbers are computed assuming the runoff from the house and driveway is directed toward the street with a minimum of roof water directed to lawns where additional infiltration could occur. Depends on depth and degree of permeability of underlying strata.

<sup>d</sup> The remaining pervious areas (lawn) are considered to be in good pasture condition for these curve

e In some warmer climates of the country, a curve number of 96 may be used.

Use for temporary conditions during grading and construction.

Note: These values are for Antecedent Moisture Condition II, and Ia = 0.2S.

Table T-8 SCS Runoff Curve Numbers For Agricultural Use

	Treatment	Hydrologic	Hyd	drologic	Soil Gro	up
Land Use	or Practice	Condition	A	B	C	D
Fallow	Straight row	-	77	86	91	94
Row Crops	Straight row	Poor	72	81	88	91
	Straight row	Good	67	78	85	89
	Contoured	Poor	70	79	84	88
	Contoured	Good	65	75	82	86
	and terraced	Poor	66	74	80	82
	and terraced	Good	62	71	78	81
Small grain	Straight row	Poor	65	76	84	88
	Straight row	Good	63	75	83	87
	Contoured	Poor	63	74	82	85
	Contoured	Good	61	73	81	84
	Contoured	Good	55	69	78	83
	and terraced	Poor	61	72	79	82
	and terraced	Good	59	70	78	81
Close seeded legumes	Straight row	Poor	66	77	85	89
or rotation meadow	Straight row	Good	58	72	81	85
	Contoured	Poor	64	75	83	85
	Contoured	Good	55	69	78	83
	and terraced	Poor	63	73	80	83
	and terraced	Good	51	67	76	80
Pasture or range		Poor	68	79	86	89
		Fair	49	69	79	84
		Good	39	61	74	80
	Contoured	Poor	47	67	81	88
	Contoured	Fair	25	59	75	83
	Contoured	Good	6	35	70	79
Meadow		Good	30	58	71	78
Woods		Poor	45	66	77	83
		Fair	36	60	73	79
		Good	25	55	70	77
Farmsteads			59	74	82	86
Road (dirt) <sup>b</sup>			72	82	87	89
(hard surface) <sup>6</sup>		-	74	84	90	92

Closed-drilled or broadcast.

b Including right-of-way.

Note: These values are for Antecedent Moisture Condition II, and I<sub>a</sub> = 0.2S.

Reference: USDA, SCS, NEH-4 (1972).

### Table T-9 SCS Classifications Of Vegetative Covers By Their **Hydrologic Properties**

Contains a high proportion of row crops, small grain, and fallow. Crop rotation Poor: Good: Contains a high proportion of alfalfa and grasses. Native pasture or range Heavily grazed or having plant cover on Poor: less range than 50% of the area. Fair: Moderately grazed; 50 - 75% plant cover. Good: Lightly grazed; more than 75% plant cover.

Permanent Meadow: 100% plant cover.

Heavily grazed or regularly burned so that litter, small trees, and brush are destroyed. Woodlands Poor:

Fair: Grazed but not burned; there may be some

Good: Protected from grazing so that litter and

shrubs cover the soil.

Hydrologic Condition

Reference: USDA, SCS, NEH-4 (1972).

Vegetative Cover



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### Table T-4 Runoff Coefficients For A Design Storm Return Period Of 10 Years Or Lessa

		Sandy	Soils	Clay	Soils
Slope	Land Use	Min.	Max.	Min.	Max.
Flat	Woodlands	0.10	0.15	0.15	0.20
(0-2%)	Pasture, grass, and farmland b	0.15	0.20	0.20	0.25
	Bare Earth	0.30	0.50	0.50	0.60
	Rooftops and pavement	0.95	0.95	0.95	0.95
	Pervious pavements <sup>c</sup>	0.75	0.95	0.90	0.95
	SFR: 1/2-acre lots and larger	0.30	0.35	0.35	0.45
	Smaller lots	0.35	0.45	0.40	0.50
	Duplexes	0.35	0.45	0.40	0.50
	MFR: Apartments, townhouses,				
	and condominiums	0.45	0.60	0.50	0.70
	Commercial and Industrial	0.50	0.95	0.50	0.95
Rolling	Woodlands	0.15	0.20	0.20	0.25
(2-7%)	Pasture, grass, and farmland b	0.20	0.25	0.25	0.30
	Bare Earth	0.40	0.60	0.60	0.70
	Rooftops and pavement	0.95	0.95	0.95	0.95
	Pervious pavements <sup>c</sup>	0.80	0.95	0.90	0.95
	SFR: 1/2-acre lots and larger	0.35	0.50	0.40	0.55
	Smaller lots	0.40	0.55	0.45	0.60
	Duplexes	0.40	0.55	0.45	0.60
	MFR: Apartments, townhouses,				
	and condominiums	0.50	0.70	0.60	0.80
	Commercial and Industrial	0.50	0.95	0.50	0.95
Steep	Woodlands	0.20	0.25	0.25	0.30
(7%+)	Pasture, grass, and farmland b	0.25	0.35	0.30	0.40
	Bare Earth	0.50	0.70	0.70	0.80
	Rooftops and pavement	0.95	0.95	0.95	0.95
	Pervious pavements *	0.85	0.95	0.90	0.95
	SFR: 1/2-acre lots and larger	0.40	0.55	0.50	0.65
	Smaller lots	0.45	0.60	0.55	0.70
	Duplexes	0.45	0.60	0.55	0.70
	MFR: Apartments, townhouses,				
	and condominiums	0.60	0.75	0.65	0.85
	Commercial and Industrial	0.60	0.95	0.65	0.95

<sup>&</sup>lt;sup>a</sup> Weighted coefficient based on percentage of impervious surfaces and green areas must be selected for each site.

MFR = Multi-Family Residential



<sup>&</sup>lt;sup>b</sup> Coefficients assume good ground cover and conservation treatment.

<sup>&</sup>lt;sup>c</sup> Depends on depth and degree of permeability of underlying strata.

Note: SFR = Single Family Residential

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$$T_{t} = \frac{0.007(n\ell)^{0.8}}{(P_{2})^{0.5} S^{0.4}}$$

(eq. 15-8)

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where:

Tt = travel time, h

n = Manning's roughness coefficient (table 15–1)

e sheet flow length, ft

P<sub>2</sub> = 2-year, 24-hour rainfall, in

S = slope of land surface, ft/ft

$$\ell = \frac{100\sqrt{S}}{n}$$
 (eq. 15–9)

 $\hat{U}_{(a)}^{(b)} = \hat{A}_{(a)}^{(b)} \hat{A}_{(a)}^{(b)}$ 

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$$V = \frac{1.486}{n} R^{0.67} S^{0.5}$$

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Table T-1
Overland Flow Manning's n Values

	<u>Value</u>	Recommended Range of Values
Concrete	0.011	0.010 -0.013
Asphalt	0.012	0.010 -0.015
Bare sand a	0.010	0.010 -0.016
Graveled surface <sup>a</sup>	0.012	0.012 -0.030
Bare clay-loam (eroded) 3	0.012	0.012 -0.033
Fallow (no residue) b	0.05	0.006 -0.16
Chisel plow (<1/4 tons/acre residue)	0.07	0.006 -0.17
Chisel plow (1/4 - 1 tons/acre residue)	0.18	0.070 -0.34
Chisel plow (1 - 3 tons/acre residue)	0.30	0.190 -0.47
Chisel plow (>3 tons/acre residue)	0.40	0.340 -0.46
Disk/Harrow (<1/4 tons/acre residue)	0.08	0.008 -0.41
Disk/Harrow (1/4 - 1 tons/acre residue)	0.16	0.100 -0.25
Disk/Harrow (1 - 3 tons/acre residue)	0.25	0.140 -0.53
Disk/Harrow (>3 tons/acre residue)	0.30	
No till ( 4 tons/acre residue)</td <td>0.04</td> <td>0.030 -0.07</td>	0.04	0.030 -0.07
No till (1/4 - 1 tons/acre residue)	0.07	0.010 -0.13
No till (1 - 3 tons/acre residue)	0.30	0.160 -0.47
Plow (Fall)	0.06	0.020 -0.10
Coulter	0.10	0.050 -0.13
Range (natural)	0.13	0.010 -0.32
Range (clipped)	0.08	0.020 -0.24
Grass (bluegrass sod)	0.45	0.390 -0.63
Short grass prairie a	0.15	0.100 -0.20
Dense grass <sup>c</sup>	0.24	0.170 -0.30
Bermuda grass °	0.41	0.300 -0.48
Woods	0.45	

All values are from Engman (1983), unless noted otherwise.

Note: These values were determined specifically for overland flow conditions and are not appropriate for conventional open channel flow calculations. See the open channel handbook for open channel flow procedures.



<sup>&</sup>lt;sup>a</sup>Woolhiser (1975).

<sup>&</sup>lt;sup>b</sup>Fallow has been idle for one year and is fairly smooth.

<sup>&</sup>lt;sup>c</sup>Palmer (1946). Weeping love grass, bluegrass, buffalo grass, blue gamma grass, native grass mix (OK), alfalfa, lespedeza.

Figure 15-4 Velocity versus slope for shallow concentrated flow

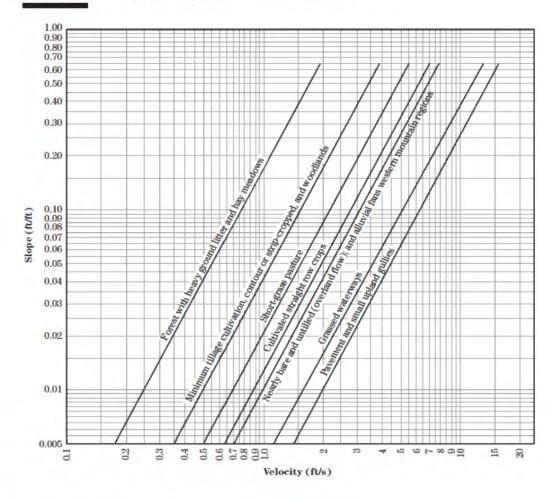


Table 15-3 Equations and assumptions developed from figure 15-4

Flow type	Depth (ft)	Manning's n	Velocity equation (ft/s)
Pavement and small upland gullies	0.2	0.025	V =20.328(s) <sup>0.5</sup>
Grassed waterways	0.4	0.050	V=16.135(s)0.5
Nearly bare and untilled (overland flow); and alluvial fans in western mountain regions	0.2	0.051	V=9.965(s) <sup>0.5</sup>
Cultivated straight row crops	0.2	0.058	V=8.762(s)0.5
Short-grass pasture	0.2	0.073	V=6.962(s)0.5
Minimum tillage cultivation, contour or strip-cropped, and woodlands	0.2	0.101	V=5.032(s)0.5
Forest with heavy ground litter and hay meadows	0.2	0.202	V=2.516(s)0.5

# Table T-3 Recommended Manning's n Values for Artificial Channels with Various Linings

Channel Lining	Lining Description	Design Manning's n Value
Bare Earth or Vegetative Linings		
Bare earth, fairly uniform	Clean, recently completed	0.022
Bare earth, fairly uniform	Short grass and some weeds	0.028
Dragline excavated	No vegetation	0.030
Dragline excavated	Light brush	0.040
Channels not maintained	Dense weeds to flow depth	0.100
Channels not maintained	Clear bottom, brush sides	0.080
Maintained grass or sodded ditches	Good stand, well maintained 2" - 6	0.060*
Maintained grass or sodded ditches	Fair stand, length 12" - 24"	0.200*
Rigid Linings		
Concrete paved	Broomed**	0.016
Concrete paved	"Roughened" - standard	0.020
Concrete paved	Gunite	0.020
Concrete paved	Over rubble	0.023
Asphalt concrete	Smooth	0.013
Asphalt concrete	Rough	0.016

<sup>\*</sup> Decrease 30% for flows > 0.7' (maximum flow depth 1.5').



<sup>\*\*</sup> Because this is not the standard finish, it must be specified.

### DcgH8 Yj YcdYX'H]a Y'cZ7cbWfbffUf]cb

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$$\Gamma_{t} = \frac{0.007 (n\ell)^{0.8}}{(P_{2})^{0.5} S^{0.4}}$$
 (eq. 15–8)

where:

 $T_t$  = travel time, h

n = Manning's roughness coefficient (table 15–1)

 $\ell$  = sheet flow length, ft

P<sub>2</sub> = 2-year, 24-hour rainfall, in

S = slope of land surface, ft/ft

$$\ell = \frac{100\sqrt{S}}{n}$$
 (eq. 15–9)

 $\hat{U}_{(ab)}^{(ab)} = \hat{A}_{(ab)}^{(ab)} \hat{A}_{(ab)}^{(ab)}$ 

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$$V = \frac{1.486}{n} R^{0.67} S^{0.5}$$

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Bermuda grass °	0.41	0.300 -0.48
Woods	0.45	

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<sup>&</sup>lt;sup>b</sup>Fallow has been idle for one year and is fairly smooth.

<sup>&</sup>lt;sup>c</sup>Palmer (1946). Weeping love grass, bluegrass, buffalo grass, blue gamma grass, native grass mix (OK), alfalfa, lespedeza.

Figure 15-4 Velocity versus slope for shallow concentrated flow

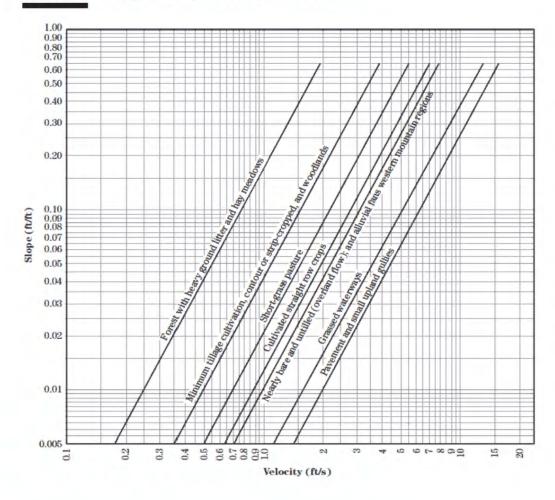


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Concrete paved	"Roughened" - standard	0.020
Concrete paved	Gunite	0.020
Concrete paved	Over rubble	0.023
Asphalt concrete	Smooth	0.013
Asphalt concrete	Rough	0.016

Decrease 30% for flows > 0.7' (maximum flow depth 1.5').



<sup>\*\*</sup> Because this is not the standard finish, it must be specified.

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# NORTH FLORIDA PROFESSIONAL SERVICES, INC.

AL SERVICES, INC.
Experience. Quality. Commitment.

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DCB8G'AC89@B; '85H5 Á

Á Lake City: P.O. Box 3823, Lake City, FL 32056 • Tallahassee: P.O. Box 180998, Tallahassee, FL 32318

Phone: 386.752.4675 • Toll Free: 877.335.1525 • Fax: 386.752.4674 • Online: NFPS.net

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#### Dfc YW68 UtU

Ú¦[b/8cÁpæ{^K R^\\_^|Ææ4^AÜ^•^\;c^

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Ú¦[bʰ&oÁpˇ{à^¦K ŠFJ€ÍFIÙTQ

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Öæg^K FŒEI ËŒFJ

### 5 e i ]ZYf '8 UHU

Óæ ^ÁU  $\stackrel{\checkmark}{AOE} \tilde{a}^{A} \stackrel{\checkmark}{AO} |^{AOE} \tilde{a}^{A} \stackrel{\checkmark}{AO} |^{AOE} \tilde{a}^{A} \stackrel{\checkmark}{AOE} \tilde{a}^{A} \tilde{a}^{AOE} \tilde{a}^{A} \tilde{a}^{AOE} \tilde{$ 

 $Y = x^{k} | \hat{A} / \hat{A} \hat{O} |^{k} = \hat{A} |^{k}$ 

 $P[|\tilde{a}|] capA\hat{U}aec'|aec'aAP^a|ae'|abA\hat{O}|]a' & capac BAS @AQBaec DK$  Fì EEE

Øã|æà|^ÁÚ[¦[•ãĉ ÊÃξ áΚβà DK GÍ È€€

 $X^{casa}$   $A_{a}$   $A_{a}$  A

#### GWYbUf]c =bdi h8 UHU

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Scenario 1 :: FDOT 1 Hour - 1 hr - 100 yr
                              P^å|[*|æ]@V^]^K
                                                                                                              QĮą̃^ÁÙÔÙ
                          ¡'AcXZck Fci hb[.
                                                                                                              Bchfci hYX
                              Ü^] ^cãaã[}•K
                              Óæ•ã ÁŒ^æÁæ&¦^•D
                                                                                                                                                        G€ÈEJ€
                               Vã[^ÁU-ÁÔ[}&^}dæaã[}ÁQ;ãjč^•D
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                               ÖÖQDEÁÇÃD
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                               Ö^• å } ÁÜæð æd ÁÖ^] c@ÁÇ &@• D
                                                                                                                                                        ΙÈG
                               Ö^•āt}ÁÜæāj~æ∥ÁÖˇ¦æaāj}ÁÇ@Į˘¦•D
                                                                                                                                                        FÈ€
                               Ù@e4^ÁØæ&q¦
                                                                                                                                                        WPŐÁÌI
                              Üæna -æd ÁÖardan caji}
                                                                                                                                                        ØÖUVÆÆP[ "
                              QãããædÁt¦[ĭ}åÁ,æe^\Ánoc^|ÁnÇoÁsæeč{D F€ÏĒÎÂnÇâ^æĕ|dD
                               Þ[Áðā] ^•Áæe^¦Á;d;¦{Á;]^&ãã\åÈ
Scenario 2 :: FDOT 2 Hour - 2 hr - 100 yr
                              P^å¦[*¦æ]@V^]^K
                                                                                                              QIã ^ÁÙÔÙ
                          ¡'AcXZck Fci h]b[.
                                                                                                              Bchfci hYX
                              Ü^]^cããã[}∙K
                              Óæ ã ÁŒ^æÁæ&¦^• D
                                                                                                                                                        G€ÈEJ€
                               Ųą̃ ^ÁU_ÁÔ[}&^}dæaą̃}ÁΩ;ą̃°c^∙D
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                               ÖÖQDEÁÇÃ D
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                               Ö^• at } ÁÜæğ æ (ÁÖ^] c@ÁÇ &@• D
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                                                                                                                                                        GÈ€
                                                                                                                                                        WPŐÁÌI
                               U@ed; ^AØee&d; \
                               Üæāj ~æddőa daa caj}
                                                                                                                                                        ØÖUVÁGÁP[ " :
                              QiããadeÁt¦[ˇ}åÁ;æe^¦ÁÁ^ç^|ÁÇoÁåæeč{D F€ÏĒÌÎÁÇà^æĕ|dD
                               Þ[Ácā] ^•Ásee^¦Ánd[¦{Án]^&ãa?åÈ
Scenario 3 :: FDOT 4 Hour - 4 hr - 100 yr
                              P^å|[*|æ|@V^]^K
                                                                                                              QIã ^ÁÙÔÙ
                          ¡'AcXZck Fci hb[.
                                                                                                              Bchfci hYX
                               Ü^] ^cãcãi} • K
                              Óæ å ÁŒ^æÁæ&\^• D
                                                                                                                                                        G€ÈEJ€
                              Va[^ÁU-ÁÔ[}&^}dæaā[}ÁQ;āj~c^•D
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                              Ù@ed ^ ÁØee&d ¦
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                              Üænāj ~æd|ÁÖãn dãna čanī}
                                                                                                                                                        ØÖUVÁLÁP[ " L
                              QiããædÁt¦[ˇ}åÁ,æe^¦Á/\ç^|ÁQoÁåæeč{D F€ÏÊÎÎÁQã^æĕ|dD
                               Þ[Áðā] ^•Áæe^¦Á;d;¦{Á;]^&ãæ}åÈ
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#### GWYbUf]c =bdi hi8 UhU fWcbhfX'Ł

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Scenario 4 :: FDOT 8 Hour - 8 hr - 100 yr
                              P^å|[*|æ]@V^]^K
                                                                                                             QĮą̃^ÁÙÔÙ
                          ¡'AcXZck Fci hb[.
                                                                                                             Bchfci hYX
                              Ü^] ^cãaã[}•K
                              Óæ•ã ÁŒ^æÁæ&¦^•D
                                                                                                                                                       G€ÈEJ€
                               Vã[^ÁU-ÁÔ[}&^}dæaã[}ÁQ;ãjč^•D
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                               ÖÖQEÁÇÃD
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                              Ô ' | ç ^ Âp ' { à ^ |
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                               Ö^• å } ÁÜæð æd ÁÖ^] c@ÁÇ &@• D
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                               Ö^•āt}ÁÜæāj~æ∥ÁÖˇ¦æaāj}ÁÇ@Į˘¦•D
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                               Ù@e4^ÁØæ&q¦
                                                                                                                                                       WPŐÁÌI
                              Üæna -æd ÁÖardan caji}
                                                                                                                                                       ØÖUVÂ ÁP[ " L
                              QãããædÁt¦[ĭ}åÁ,æe^\Ánoc^|ÁnÇoÁsæeč{D F€ÏĒÎÂnÇâ^æĕ|dD
                               Þ[Áðā] ^•Áæe^¦Á;d;¦{Á;]^&ãæ}åÈ
Scenario 5 :: FDOT 24 Hour - 24 hr - 100 yr
                              P^å¦[*¦æ]@V^]^K
                                                                                                             QIã ^ÁÙÔÙ
                          ¡'AcXZck Fci h]b[.
                                                                                                             Bchfci hYX
                              Ü^]^cããã[}∙K
                              Óæ ã ÁŒ^æÁæ&¦^• D
                                                                                                                                                       G€ÈEJ€
                               Ųą̃ ^ÁU_ÁÔ[}&^}dæaą̃}ÁΩ;ą̃°c^∙D
                                                                                                                                                       FΪĖ
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                               Ö^• āt } ÁÜæāj ~æ| ÁÖ` ¦ææāj } ÁÇ@[` ¦• D
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                                                                                                                                                       WPŐÁÌI
                               U@ed; ^AØee&d; \
                                                                                                                                                       ØÖUVÁGIÁP[*;
                               Üæāj ~æddőa daa caj}
                              QiããadeÁt¦[ˇ}åÁ;æe^¦ÁÁ^ç^|ÁÇoÁåæeč{D F€ÏĒÌÎÁÇà^æĕ|dD
                               Þ[Ácā] ^•Ásee^¦Ánd[¦{Án]^&ãa?åÈ
Scenario 6 :: FDOT 72 Hour - 72 hr - 100 yr
                              P^å|[*|æ|@V^]^K
                                                                                                             QIã ^ÂÙÔÙ
                          ¡'AcXZck Fci hb[.
                                                                                                             Bchfci hYX
                               Ü^] ^cãcãi} • K
                              Óæ å ÁŒ^æÁæ&\^• D
                                                                                                                                                       G€ÈEJ€
                              Va[^ÁU-ÁÔ[}&^}dæaā[}ÁQ;āj~c^•D
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                                                                                                                                                       ÎJ
                              Ö^• at } AÜ aas -as |AÖ^] c@AG &@• D
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                              \ddot{O}^{\bullet} at \dot{A}\ddot{U} and \dot{A}\ddot{O}^{\bullet} is a \dot{A}\ddot{Q}\ddot{Q}^{\bullet} is \dot{A}\ddot{Q}\ddot{Q} is \ddot{A}\ddot{Q}\ddot{Q} is \ddot{A}\ddot{Q
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                              Ù@ed ^ ÁØee&d ¦
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                              Üænāj ~æd|ÁÖãn dãna čanī}
                                                                                                                                                       ØÖUVÁ GÁP[ " :
                              QiããædÁt¦[ˇ}åÁ,æe^¦Á/\ç^|ÁQoÁåæeč{D F€ÏÊÎÎÁQã^æĕ|dD
                               Þ[Áxã] ^•Áxœe^¦Áxd[¦{Áx]^&ãa?\åÈ
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#### GWYbUf]c =bdi hi8 UhU fWcbhfK'Ł

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Scenario 7 :: FDOT 168 Hour - 168 hr - 100 yr
        P^å|[*|æ]@V^]^K
                               QĮą̃^ÁÙÔÙ
       ¡'AcXZck Fci hb[.
                               Bchfci hYX
        Ü^]^œãã{}•K
        Óæ•ã ÁŒ^æÁæ&¦^•D
                                           G€EJ€
        Vã(^ÁÚ_ÁÔ[}&^}dæaã(}ÁQ;ã)*c^•D FÏ(È
        ÖÖQDÁÇÃ D
                                           €ÈE
        Ô ' | ç ^ Âp ' { à ^ |
                                           ÎJ
        Ö^• ā } ÁÜæā, -æ|ÁÖ^] c@ÁÇā, &@•D
                                           FIÈ€
        Ö^• å } ÁÜæðj -æ |ÁÖ ˈ ˈæði } ÁÇ@ ˇ ¦• D
                                          FÎÌÈ€
        Ù@e4^ÁØæ&d;;
                                           WPŐÁÌI
        Üæna -æd ÁÖardan caji}
                                           ØÖUVÁFÎÌÁP[*;
        QãããædÁt¦[ĭ}åÁ,æe^\Ánoc^|ÁnÇoÁsæeč{D F€ÏĒÎÂnÇâ^æĕ|dD
        Þ[Ácã[ ^•Ásee^\¦Ác[ ¦{ Ác] ^&ãã\åÈ
Scenario 8 :: FDOT 240 Hour - 240 hr - 100 yr
        P^å¦[*¦æ]@V^]^K
                               QIã ^ÁÙÔÙ
       ¡'AcXZck Fci h]b[.
                               Bchfci hYX
        Ü^]^cããã[}∙K
        Óæ ã ÁŒ^æÁæ&\^• D
                                           G€ÈEJ€
        Vã ^ÁU-ÁÔ[}&^}dæaã|}ÁÇãjč^•D
ÖÒODÆÁÑD
                                           FΪÈ
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                                           WPŐÁÌI
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                                           ØÖUVÁGI€ÁP[Ľ¦
        QhãããæplÁt¦[ˇ}åÁ¸æe^\Án\ç^\ÁnÇæÁåæeč{D F€ÏĒÎÂÇã^æĕ|dD
        Þ[Áðā] ^•Áæe^¦Ád;{Á]^&ãð\åÈ
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R^`\_^|Ææ^AÄU^•^\;ç^

Gi a a UfmcZFYgi `hg :: Scenario 1 :: FDOT 1 Hour - 1 hr - 100 yr

	Va[^ Ç@[~ •D	Ùœ≛^ ÇoÁsæč{D	Üæe^ ÇcÐ∂D	X[   ັ { ^ GcD
ÁÚcæ <sup>t</sup> ^ ÁÁÁTa)á[*{ ÁÁÁTæ¢á[*{	Þ[ơ������������������������������������	Þ[ơÁ OTÇæğlæða)/^ Þ[ơÁ OTÇæğlæða)/^		
ÁQ- [, ÁWÁÜæc^ÁEÁTæcā[ `{ ÆEÁÚ[•ātā;^ ÁWÁÜæc^ÆÉATæcā[ `{ ÆEÁP^*æcā;^ ÁWÁÕ`{ ` æcā;^ÁX[ `{ ^ÁEÁTæcā[ `{ ÁÚ[•ātā;^ ÁWÁÕ`{ ` æcā;^ÁX[ `{ ^ÆEATæcā[ `{ ÁÞ^*æcā;^ ÁWÁÕ`{ ` æcā;^ÁX[ `{ ^ÆEÁTæçā[ `{ ÆÞ^*æcā;^ ÁWÁÕ`{ ` æcā;^ÁX[ `{ ^ÆEÓ)}åÁ;-ÁÛā[ ` æcā]}	∰ HÍ Þ[}^ FÐH Þ[}^ FÐI G		Ό̌€ Þ[}^	F€ŒHEÏH Þ[}^ F€ŒHEĨH
ÁQ-aldaeai} ÁWÁÜaee^ÁEAT aecā[ { ÆEÁÚ[•āiāi;^ ÁWÁÜaee^ÆEAT aecā[ { ÆEÁÞ^* aecāi;^ ÁWÁČ {   aecāi;^Ax[   { ^ÆEÁT aecā[ ` { ÁÚ[•āiāi;^ ÁWÁČ {   aecāi;^Ax[   ` { ^ÆEÁT aecā[ ` { ÁÚ[•āiāi;^ ÁWÁČ {   aecāi;^Ax[   ` { ^ÆEÁT aecā[ ` { ÆÞ^* aecāi;^ ÁWÁČ {   aecāi;^Ax[   ` { ^ÆEÁT aecā[ ` { ÆÞ] }	Þ[ơ������������������������������������		Þ[ơ������������������������������������	Þ[ơ������������������������������������
\(\hat{O}_{\text{i}} \angle \alpha \A \overline{\O}_{\text{a}} \alpha \alpha \O \overline{\O}_{\text{a}} \alpha \alpha \O \overline{\O}_{\text{a}} \alpha \alpha \O \overline{\O}_{\text{a}} \alpha \alpha \overline{\O}_{\text{a}} \alpha \alpha \overline{\O}_{\text{a}} \alpha \alpha \overline{\O}_{\text{a}} \alpha \overline{\O}_{\text{a}} \alpha \overline{\O}_{\text{a}} \alpha \overline{\O}_{\text{a}} \alpha \overline{\O}_{\text{a}} \alpha \overline{\O}_{\text{a}} \alpha \alpha \alpha \alpha \alpha \alpha \alpha \alpha \alpha \overline{\O}_{\text{a}} \alpha \alpha \alpha \alpha \overline{\O}_{\text{a}} \alpha \alpha \alpha \alpha \overline{\O}_{\text{a}} \alpha \alpha \alpha \overline{\O}_{\text{a}} \alpha \alpha \alpha \overline{\O}_{\text{a}} \alpha \alpha \alpha \alpha \alpha \alpha \alpha \overline{\O}_{\text{a}} \alpha \alpha \alpha \alpha \alpha \alpha \alpha \alpha \alpha	€ÏHÍ Þ[}^ FÐH Þ[}^ FÐÏ G		Ό̌€ Þ[}^	F€G€H€ÌH Þ[}^ F€G€H€ÌH
ÁÖā & @ed*^ÁÙd`&c`¦^ÁFÁÉÉBJ æ&cāç^ ÁMÁÜæe^ÁFÉT ægtā[`{ ÁÉÁÚ[•ātāç^ ÁMÁÜæe^ÁFÉT ægtā[`{ ÁÉÁÞ^*ægāç^ ÁMÁÔ`{` ægāç^ÁK[ `{^ÁFÉT ægtā[`{ ÁÚ[•ātāç^ ÁMÁÔ`{` ægāç^ÁK[ `{^ÁFÉT ægtā[`{ ÁÞ^*ægāç^ ÁMÁÔ`{` ægāç^ÁK[ `{^ÁFÉD)}åÁ[-ÁÙā[` ægā]}	åã æà  ^ å åã æà  ^ å åã æà  ^ å åã æà  ^ å åã æà  ^ å		åãræà ^å åãræà ^å	åãræà ^å åãræà ^å åãræà ^å
ÁÖā & @ed*^ÁÙd`&c`¦^ÁGÁÆBJ æ&cāç^ ÁMMÜæe^ÁÆT æeta] `{ ÆÁÚ[•āiā;^ ÁMMÜæe^ÆT æeta] `{ ÆÆP^*æeā;^ ÁMMÔ`{` æeā;^ÁX[ `{^ÆET æeta] `{ ÁÚ[•āiā;^ ÁMMÔ`{` æeā;^ÁX[ `{^ÆET æeta] `{ ÁP^*æeā;^ ÁMMÔ`{` æeā;^ÁX[ `{^ÆET æeta] `{ ÁP^*æeā;^ ÁMMÔ`{` æeā;^ÁX[ `{^ÆEO}}åAj-ÁÙa] ` æeā]}	åã æà  ^ å åã æà  ^ å åã æà  ^ å åã æà  ^ å åã æà  ^ å		åãræà ^å åãræà ^å	åãræà ^å åãræà ^å åãræà ^å
ÁÖã & @ed*^ÁUd* & c`¦^ÁHÁÉÉÉEEE æ&cãç^ ÁMÁÜæe^ÁÉÁT æetē[ `{ ÁÉÁU[•ãíág,^ ÁMÁÜæe^ÁÉÁT æetē[ `{ ÁÉÁP^*æeãg,^ ÁMÁÔ`{` æeãg,^ÁX[ `{ ^ÁÉÁT æetē[ `{ ÁÚ[•ãíág,^ ÁMÁÔ`{` æeãg,^ÁX[ `{ ^ÁÉÁT æetē[ `{ ÁÞ^*æeãg,^ ÁMÁÔ`{` æeãg,^ÁX[ `{ ^ÁÉÁT)}åá,ÁÜē[ ` æeā[}	åã æ à  ^ å åã æ à  ^ å åã æ à  ^ å åã æ à  ^ å åã æ à  ^ å		åãræaà ^å åãræaà ^å	åæræai ^å åæræai ^å åæræai ^å
ÁÚ[  ˇcā[}ÁÓDāææ^{^^}do ÁÁÁHÍÁP[ˇ¦ÁÙcæ*^Áæ}åÁQP-ā[dææā[}ÁX[ ˇ{ ^ ÁÁÁÍGÁP[ˇ¦ÁÙcæ*^Áæ}åÁQP-ā[dææā[}ÁX[ ˇ{ ^	ÞÉÆ ÞÉÆ	ÞÉÆ ÞÉÆ		ÞÍÐÉ ÞÍÐÉ

Gi a a UfmcZFYgi `hg :: Scenario 2 :: FDOT 2 Hour - 2 hr - 100 yr

	Va[^ Ç@(`¦∙D	Ùoæ*^ ÇeA‱iæeč{D	Üæe^ Ç∈ <del>B</del> D	X[   ´ { ^ ÇeD
ÂÛcaet^ ÁWAT ājāj ĭ{ ÁWAT æ¢āj ĭ{	Þ[ơ/Đặæā)^ Þ[ơ/Đặæāæà)^	Þ[ơÁ OTÇæilæà  ^ Þ[ơ Ó OTÇæilæà  ^		
AQ; -  ; AWAU; ase^AEAT ase; a `{ AEAU[•ānā;^ AWAU; ase^AEAT ase; a `{ AEA>^* ase; a^ AWAQ° { `  ase; a;^Ax[ `{ AEAT ase; a `{ AU[•ānā;^ AWAQ° { `  ase; a;^Ax[ `{ AEAT ase; a `{ A>^* ase; a;^ AWAQ° { `  ase; a;^Ax[ `{ AEAO} ah; -AU[a `  ase; a }	편) / 연기 연기 (급) / ^		ÍIĚÌÍÏ Þ[}^	FIÌFHÉ Þ[}^ FIÌFHÉ
ÁQ-áldæði AWAU æð ÁEAT æð á '{ ÆEAU[• áð ág ^ AWAU æð ÆEAT æð á '{ ÆEAD ^* æð ág ^ AWAO '{ ' æð ág ^ ÁK[ '{ ^ ÆEAT æð á '{ ÁU[• áð ág ^ AWAO '{ ' æð ág ^ ÁK[ '{ ^ ÆEAT æð á '{ ÁD ^* æð ág ^ AWAO '{ ' æð ág ^ ÁK[ '{ ^ ÆEAT æð á ' AÚ á ' æð á} }	P[0/AT;castace) ^ P[0/AT;castace) ^ P[0/AT;castace) ^ P[0/AT;castace) ^		Þ[cÁOG aálaaà ^ Þ[cÁOG aálaaà ^	Þ[ơÁŪĒ;æājææi]^ Þ[ơÁŪĒ;æājææi]^ Þ[ơÁŪĒ;æājææi]^
\(\hat{O}_1 \{ \ata_{\hat{A}} \\^\ata_{\hat{A}} \(\hat{A} \) \(\hat{A}	⊕iji GiH Hi}^ Giji		ÍIĚÌÍÏ Þ[}^	FIÌFHÉ Þ[}^ FIÌFHÉ
ÁÖár & @ek* ^ ÁÜd * & c` ¦ ^ ÁF ÁÁÉÁB, æ& cág ^ ÁMÁÜ æz* ÁÉÁT æz ál * { ÁÉÁÚ   • áág ^ ÁMÁÖ æz* ÁÉÁT æz ál * { ÁÉÁP ^* æzág ^ ÁMÁÖ * { *   æzág ^ ÁK     * { ^ ÁÉÁT æz ál * { ÁÚ   • ázág ^ ÁMÁÖ * { *   æzág ^ ÁK     * { ^ ÁÉÁT æz ál * { ÁP ^* æzág ^ ÁMÁÖ * { *   æzág ^ ÁK     * { ^ ÁÉÓ) } å Á; ÁÚ ál *   æzál }	å ã æ æ  ^ å å ã æ æ  ^ å å ã æ æ  ^ å å ã æ  ^ å å ã æ  ^ å		åãræaì ^å åãræaì ^å	åæææ}^å åæææ}^å åæææ}^å
ÁÖár & @ek* ^ ÁÜd * & č ¦ ^ ÁGÁÉÉAj æ& Gáç ^ ÁMÁÜæ * ^ ÁÉÁT æ ¢ áj * { ÁÉÁ   • átág ^ ÁMÁÜæ * ^ ÁÉÁT æ ¢ áj * { ÁÉÁ > * ææág ^ ÁMÁÖ * { *   ææág ^ ÁK     * { ^ ÁÉÁT æ ¢ áj * { ÁÚ   • átág ^ ÁMÁÖ * { *   ææág ^ ÁK     * { ^ ÁÉÁT æ ¢ áj * { ÁÞ ^ * ææág ^ ÁMÁÖ * { *   ææág ^ ÁK     * { ^ ÁÉÁÒ} å Á; ~ ÁÚ áj *   ææáj }	å ã æ æ  ^ å å ã æ æ  ^ å å ã æ æ  ^ å å ã æ  ^ å å ã æ  ^ å		åãræaì ^å åãræaì ^å	åæææ}^å åæææ}^å åæææ}
ÁÖá & @e* ^ ÁÜd ` & c` ¦ ^ Ár HÉÉ aj æ& cáç ^ #MÁÜ æz ^ ÆÉT æz áj ` { ÆÉÁ   [• áág ^ #MÁÜ æz ^ ÆÉT æz áj ` { ÆÉP ^ * æzág ^ #MÁÖ ` { `   æzág ^ ÁK [   ` { ^ ÆET æz áj ` { ÁÚ [ • ázág ^ #MÁÖ ` { `   æzág ^ ÁK [   ` { ^ ÆET æz áj ` { ÁP ^ * æzág ^ #MÁÖ ` { `   æzág ^ ÁK [   ` { ^ ÁEÓ) } å Áj - ÁÚ aj `   æzáj }	å ã a ca à  ^ å å ã a ca à  ^ å		åãræaà ^å åãræaà ^å	åæææ}^å åæææ}^å åæææ}^å
ÁÚ[  ˇcā[}ÁŒāæe^{^}ob ÁMAHÍÁP[ˇ¦ÁÛcæē^Áse)åÁQD-ā[dæeā[}ÁX[ ˇ{^ ÁMAÑ,GÁP[ˇ¦ÁÛcæē^Áse)åÁQQ-ā[dæeā[}ÁX[ ˇ{^	ÞÉÆ ÞÉÆ	ÞÉDÉ ÞÉDÉ		ÞÉÐÉ ÞÉÐÉ

R', ^|Ææ4^ÄÜ^•^¦ç^

Gi a a UfmcZFYgi `hg :: Scenario 3 :: FDOT 4 Hour - 4 hr - 100 yr

	Va[^ Ç@(`¦∙D	Ùoæ*^ Ço%sæc`{D	Üæe^ Ç∈ <del>B</del> D	X[
ÂÛcæt^ ÃÁÁT ajā[ĭ{ ÃÁÁT æ¢ā[ĭ{	Þ[ơ/Đặæāæà ^ Þ[ơ/Đặæāæà ^	Þ[ơÁ OTÇæğlæða  ^ Þ[ơÁ OTÇæğlæða  ^		
ÁQ- [, AMÁL) aec^ÁEÁT aecā[ `{ AEÁÚ[•ātāç^ AMÁL) aec^ÁEÁT aecā[ `{ AEÁ-p^* aecā[^ AMÁCÔ`{ `  aecāç^Áx[  `{ ^AEÁT aecā[ `{ ÁÚ[•ātāç^ AMÁCÔ`{ `  aecāç^Áx[  `{ ^AEÁT aecā[ `{ Áp^* aecā[^ AMÁCÔ`{ `  aecāç^Áx[  `{ ^AEÁT) àd, -ÁÚJ[ `  aecā[} `	GĚÍG 卢[}^ I 白 I J 卢[}^ I 白 I Ì		HÈÌ΀ Þ[}^	G€GIÏÌÈH Þ[}^ G€GIÏÈH
ÁQ-aldeata} AMAÜ aec^Aldeata aecat * { AEAÚ[• airaç^ AMAÜ aec^Aldeata aecat * { AEAc^* aecatç^ AMAÖ * { *   aecatç^Alc   * { AEAc aecat * { AÚ[• airaç^ AMAÔ * { *   aecatç^Alc   * { AEAc aecat * { Ac^* aecat_ AMAÔ * { *   aecat_^Alc   * { AEAc aecat * { Ac^* aecat_ AMAÔ * { *   aecat_^Alc   * { AEAC) } alc * -AÚat *   aecat_ AMAÔ * { *   aecat_^Alc   * { AEAC) } alc * -AÚat *   aecat_ AMAÔ * { *   aecat_^Alc   * { AEAC) } alc * -AÚat *   aecat_ AMAÔ * { *   aecat_^Alc   * { AEACO} } alc * -AÚat *   aecat_ AMAÔ * { *   aecat_^Alc   aecat_^Alc   aecat_ AMAÔ * { *   aecat_^Alc   aecat_	는       여시다는 2000년 10 년         는       여시다는 2000년 10 년         는       이시다는 2000년 10 년         는       이시다는 2000년 10 년         는       이시다는 2000년 10 년		Þ[cÁOG æálææi ^ Þ[cÁOG æálææi ^	Þ[ơ������������������������������������
\(\hat{O}\) {\(\hat{a}\) \(\hat{A}\) (\(\hat{O}\) & \(\lambda\) & \(\hat{O}\) & \(\hat{A}\) (\(\hat{A}\) & \(\hat{A}\) (\(\hat{A}\) & \(\hat{A}\) (\(\hat{A}\) & \(\hat{A}\) & \(\hat{A}\) (\(\hat{A}\) & \(\hat{A}\) (\(\hat{A}\) & \(\hat{A}\) & \(\hat{A}\) (\(\hat{A}\) & \(\hat{A}\) & \(\hat{A}\) & \(\hat{A}\) (\(\hat{A}\) & \(\hat{A}\) &	GĚÍG Þ[}^ I 白 I J Þ[}^ I 白 I Ì		HÈÌ΀ Þ[}^	G€GIÏÌÈH Þ[}^ G€GIÏÌÈH
ÁÖā 8.@ek * ^ ÁÚd * 8.č ¦ ^ ÁFÁEÁB, æ8.cāç ^ ÁWÁÜæe ^ ÁEÁT ægā * { ÁEÁÚ[ • ããāç ^ ÁWÁÜæe ^ ÁEÁT ægā * { ÁEÁP ^ * ægāç ^ ÁWÁÔ * { *   ægāç ^ ÁX[   * { ^ ÁEÁT ægā * { ÁÚ[ • ããāç ^ ÁWÁÔ * { *   ægāç ^ ÁX[   * { ^ ÁEÁT ægā * { ÁÞ ^ * ægāç ^ ÁWÁÔ * { *   ægāç ^ ÁX[   * { ^ ÁEÁÒ} å Á; ~ÁÚā[ *   ægā] }	åãræà  ^å åãræà  ^å åãræà  ^å åãræà  ^å åãræà  ^å		åãræà ^å åãræà ^å	åãræài ^å åãræài ^å åãræài ^å
ÁÖā & @ek * ^ ÁÙd * & č ¦ ^ ÁGÁÉÉB) æ&cāç ^ ÁMÁÜæ * ÁEÉT ægā * { ÁEÁU • ãāç ^ ÁMÁÜæ * ÁET ægā * { ÁEA ^ * ægāç ^ ÁMÁÔ * { ` ægāç ^ ÀK [] * { ^ ÁET ægā * { ÁÚ [ • ãag ^ ÁMÁÔ * { ` ægāç ^ ÁK [] * { ^ ÁET ægā * { Á⊅ ^ * ægāg ^ ÁMÁÔ * { ` ægāç ^ ÁK [] * { ^ ÁEÒ} å Á; -ÁÚā *  ægā }	åã æà  ^å åã æà  ^å åã æà  ^å åã æà  ^å åã æà  ^å		åãræà ^å åãræà ^å	åãræài ^å åãræài ^å åãræài ^å
ÁÖā &@ek*^ÁÙd` &c`¦^Á+WÁÉÁB; æ&cāç^ ÁWÁÜæe^ÁÉÁT ægā; `{ ÁÉÁÚ[•ãág^ ÁWÁÜæe^ÁÉÁT ægā; `{ ÁÉÁP^* ægāç^ ÁWÁÔ`{ ` ægāç^ÁX[]`{ ^ÁÉAT ægā; `{ ÁÚ[•ãááç^ ÁWÁÔ`{ ` ægāç^ÁX[]`{ ^ÁÉAT ægā; `{ ÁP^* ægāg^^ ÁWÁÔ`{ ` ægāç^ÁX[]`{ ^ÁÉAD)} åÁ; -ÁÚā[` ægā; }	åã æà  ^å åã æà  ^å åã æà  ^å åã æà  ^å åã æà  ^å		åãræà ^å åãræà ^å	åãræài ^å åãræài ^å åãræài ^å
ÁÚ[  `cā[}ÁCDāæe^{^}o\dK ÁÁÁÁÁÍÁP[`¦ÁÚcæt^Ása}åÁQD-ājclæeā[}ÁK[ `{^ ÁÁÁÁGÁP[`¦ÁÚcæt^Ása}åÁQD-ājclæeā[}ÁK[ `{^	ÞÉÆ ÞÉÆ	ÞÈÈ ÞÈÈ		ÞÍÐÉ ÞÍÐÉ

Gi a a UfmcZFYgi `hg :: Scenario 4 :: FDOT 8 Hour - 8 hr - 100 yr

		Ùœe*^ ÇoAsaeč{D	Üæe^ Çc <del>9</del> D	X[   ັ { ^ Ç∈ D
ÂÛcaet^ ÀWAT ājā[ĭ{ ÀWAT æscā[ĭ{	Þ[ơÁ Đặc cái cái  ^ Þ[ơÁ Đặc cái cái  ^	Þ[ơÁ OTÇæğlæà  ^ Þ[ơÁ OTÇæğlæà  ^		
ÁQ;- [; ###W, acc^AEÁT accā[ ` { AEÁÚ[•ānā;^ ###W, acc^AEÁT accā] ` { AEÁÞ^* accā;^ ###\$^ {   accā;^Ax[  ` { ^AEÁT accā] ` { AÚ[•ānā;^ ###\$^ {   accā;^Ax[  ` { ^AEÁT accā] ` { AÞ^* accā;^ ###\$^ {   accā;^Ax[  ` { ^AEÁT accā] ` { AÞ^* accā;^ ###\$^ {   accā;^Ax[  ` { ^AEÁO} á Ā; -AÚā[ `   accā] }	lȀGF Þ[}^ ÌÐHG Þ[}^ ÌÐÍF		lŒDÌlÏ Þ[}^	G'̀̀ÈG Þ[}^ G'̀̀ÈG
ÁQ-áldæða]} ####################################	Þ[ơÁŪçæilæà) ^ Þ[ơÁŪçæilæà) ^ Þ[ơÁŪçæilæà) ^ Þ[ơÁŪçæilæà) ^		Þ[ơ/Đặa anglang) Þ[ơ/Đặa anglang)	Þ[ơÁ Diçasilasi)^ Þ[ơÁ Diçasilasi)^ Þ[ơÁ Diçasilasi)^
ÁÔ[{àā]^åÁÖã&@eb*^ #MÁÜæe^ÆZTæçā[`{ÆZÁ[•ããā;^ #MÁÖæe^ÆZTæçā]`{ÆZÁP^*æsã;^ #MÁÔ`{` æsã;^ÁK[ `{^ÆZTæ¢ā[`{ÁÚ[•ãáā;^ #MÁÔ`{` æsã;^ÁK[ `{^ÆZTæ¢ā[`{ÁP^*æsã;^ #MÁÔ`{` æsã;^ÁK[ `{^ÆZÖ}åÅ;-ÁÚā[` æsā[}	lȀGF Þ[}^ ÌÈJHG Þ[}^ ÌĖJF		lŒDÌlÏ Þ[}^	G'̀̀ÈG Þ[}^ G'̀̀ÈG
ÁÖár & @ek* ^ ÁÚd` & c` ¦ ^ ÁF ÁÁÉÁg æ& cág.^ ÁMÁÚæ * ^ ÁÉÁT ægā[``{ ^ ÁÉÁ / [• áág.^ ÁMÁÚæ * ^ ÁÉÁT ægā[``{ ^ ÁÉÁP ^ * ægág.^ ÁMÁÖ`{ ` ægág.^ ÁK[]`{ ^ ÁÉÁT ægā[`{ ÁÚ[• ááág.^ ÁMÁÖ`{ ` ægág.^ ÁK[]`{ ^ ÁÉÁT ægā[`{ ÁÞ ^ * ægág.^ ÁMÁÖ`{ ` ægág.^ ÁK[]`{ ^ ÁÉÓ)} å Ág ÁÚJā[`  ægá[}	åã æ à  ^ å åã æ à  ^ å åã æ à  ^ å åã æ à  ^ å åã æ à  ^ å		åã æà ^å åã æà ^å	åæææ}^å åæææ}^å åæææ}^å
ÁÖár & @ek* ^ ÁÜd * & č ¦ ^ ÁGÁÁÉÁB, æ& Gáç ^ ÁMÁÜ æ&* ÁÉÁT æ¢áj * { ÁÉÁÞ ! • áááç ^ ÁMÁÜ æ&* ÁÉÁT æ¢áj * { ÁÉÁÞ ^* ææáç ^ ÁMÁÖ * { *   ææáç ^ ÁK[] * { ^ ÁÉÁT æ¢áj * { ÁÚ[ • áááç ^ ÁMÁÖ * { *   ææáç ^ ÁK[] * { ^ ÁÉÁT æ¢áj * { ÁÞ ^* ææág ^ ÁMÁÖ * { *   ææáç ^ ÁK[] * { ^ ÁÉÁÒ} å Á; -ÁÚáj *   ææáj }	åã æ à  ^ å åã æ à  ^ å åã æ à  ^ å åã æ à  ^ å åã æ à  ^ å		åã æà ^å åã æà ^å	åæææ}^å åæææ}^å åæææ}^å
ÁÖár & @ek* ^ ÁÜd ` & č ¦ ^ Ár White a æ& cáç ^ ÁMÁÜ æe* ÁÉÁT æet a ` { ÁÉÁÚ [ • áág ^ ÁMÁÜ æe* ÁÉÁT æet a ` { ÁÉÁP ^* æetaç ^ ÁMÁÖ { `   æetaç ^ ÁK [   ` { ^ ÁÉÁT æet a ` { ÁÚ [ • átáç ^ ÁMÁÖ { `   æetaç ^ ÁK [   ` { ^ ÁÉÁT æet a ` { ÁÞ ^* æetag ^ ÁMÁÖ { `   æetag ^ ÁK [   ` { ^ ÁÉÓ) } å Áç ÁÜ a `   æetag }	åã æ الله الله الله الله الله الله الله ال		åã æà ^å åã æà ^å	åæææ}^å åæææ}^å åæææ}^å
ÁÚ[  ˇcā[}ÁŒbæe^{^}o}dK ÁMÀHÍÁP[ˇ¦ÁÙcæe*^Áse)åÁQ-ā[dæeā[}ÁX[ ˇ{^ ÁMÀCÁP[ˇ¦ÁÙcæe*^Áse)åÁQ-ā[dæeā[}Áx[ ˇ{^	ÞÉÆ ÞÉÆ	ÞÈÈ ÞÈŒ		ÞÉJÉ ÞÉJÉ

R', ^|Ææ4^ÄÜ^•^¦ç^

Gi a a UfmcZFYgi `hg :: Scenario 5 :: FDOT 24 Hour - 24 hr - 100 yr

	Vã(^ Ç@(`¦∙D	Ùœet^ ÇeAnieneč{D	Üæe^ ÇcÐD	X[
ÁÙcæt^ ÁÁÁT ajā[*{ ÁÁÁT æ¢ā[*{	Þ[ơÁ Đặc cái cái  ^ Þ[ơÁ Đặc cái cái  ^	Þ[ơÁ OTÇæğlæða  ^ Þ[ơÁ OTÇæğlæða  ^		
ÁQ- [, ###Uæe^ÆTYæçā; `{ ÆTYU[•ātāç^ ###WOæe^ÆTYæçā; `{ ÆTY-^*ætāç^ ###WO`{` ætāg^Ax[ `{ ^ÆTYæçā; `{ #U[•ātāç^ ###WO`{` ætāg^Ax[ `{ ^ÆTYæçā; `{ Ar\*ætāç^ ###WO`{` ætāg^Ax[ `{ ^ÆTYæçā; `{ Ar\*ætāç}^ ####O`{  ætāg^Ax[ `{ ^ÆTYO}}å#; -ÆUā;  ætāj}	FGNEGÍ Þ[}^ G È∐ € Þ[}^		FIĚÏHF Þ[}^	IHIG€ÍÈE Þ[}^ IHIG€ÍÈE
ÁQ-ádæái} ##Üæe^Ác¤Tæçāi { Æc¤U[•ācāç^ ##WÜæe^Æc¤Tæçāi { Æc¤P^*æcāç^ ##WÖ { ` æcāç^Áx[ ` { ^Æc¤Tæcā i ` { ÆU[•ācāç^ ##WÖ { ` æcāç^Áx[ ` { ^Æc¤Tæcā i ` { ÆU[•ācāç^ ##WÖ { ` æcāç^Áx[ ` { ^Æc¤Tæcā i ` { ÆP^*æcāç^ ##WÖ { ` æcāç^Áx[ ` { ^Æc®O}}ån[-ÆUā i  æcāi}}	Þ[ơÁŪṭææiæik Þ[ơÁŪṭææiæik Þ[ơÁŪṭææiæik Þ[ơÁŪṭææiæik Þ[ơÁŪṭææiæik		Þ[ơ������������������������������������	Þ[cÁCC;ææææ) Þ[cÁCC;ææææ) Þ[cÁCC;ææææ)
ÁÔ[{ à ā] ^ å ÁÖā & @e+* ^ ###Üæe^ÆAT ægā[ ` { ÆÄU[• ãsāç^ ###Üæe^ÆAT ægā[ ` { ÆÄP^* ægāç^ ###Ô` { `  ægā;^ Åx[  ` { ^ÆAT ægā[ ` { ÁU[• ãsāç^ ###Ô` { `  ægā;^ Áx[  ` { ^ÆAT ægā[ ` { ÁP^* ægāç^ ###Ô` { `  ægā;^ Áx[  ` { ^ÆAÖ) å Á; ^ÁÛā[ `  ægā[ }	FŒŒŒŒ Þ[}^ GĖ]}^ Þ[}^ GĖÏJ		FIĚÏHF Þ[}^	IHIG€ÉÉE Þ[}^ IHIG€ÉÉE
ÁÖã & @ed*^ÁÙd`& c`¦^ÁF ÁÁÉÁBJ æ& cãç^ ÁMÁÜ æe*ÁÉÁT æ¢ āj`{ ÁÉÁÚ[•ãíág^ ÁMÁÜ æe*ÁÉÁT æ¢ āj`{ ÁÉÁP^* ææ āj^ ÁMÁÔ`{` ææãç^ÁX[ `{ ^ÁÉÁT æ¢ āj`{ ÁÚ[•ãíág^ ÁMÁÔ`{` ææãç^ÁX[ `{ ^ÁÉÁT æ¢ āj`{ ÁP^* ææãg^ ÁMÁÔ`{` ææãç^ÁX[ `{ ^ÁÉÁD}}åÁ,ÁÛāj` ææāj}}	åã æ à  ^ å åã æ à  ^ å åã æ à  ^ å åã æ à  ^ å åã æ à  ^ å		åãræà ^å åãræà ^å	åã æà  ^å åã æà  ^å åã æà  ^å
ÁÖái & @ed*^ÁÙd` & & ¦^ÁGÁÁÉABJ æ& & ag.^ ÁMÁÚ æe? ÁÉAT æg: aj `{ ÁÉAÚ [• átág.^ ÁMÁÚ æe? ÁÉAT æg: aj `{ ÁÉAT æg: aj `{ ÁÚ [• átág.^ ÁMÁÔ` {` ægág.^ÁX [ `{ ^ÁEAT æg: aj `{ ÁÚ [• átág.^ ÁMÁÔ` {` ægág.^ÁX [ `{ ^ÁEAT æg: aj `{ ÁÞ^*ægág.^ ÁMÁÔ` {` ægág.^ÁX [ `{ ^ÁEAÔ}} å.Áj. ÁÚ aj ` ægág.}	åã æ à  ^ å åã æ à  ^ å åã æ à  ^ å åã æ à  ^ å åã æ à  ^ å		åãræà ^å åãræà ^å	åãrænà ^å åãrænà ^å åãrænà ^å
ÁÖá & @ed*^ÁÜd`& c`¦^ÁHÁÁÉABJ æ& cáiç^ ÁMMÜæ c^ÁÉAT æg ā[č] ÁÉÁU[•áíaiç^ ÁMMÜæ c^ÁÉAT æg ā[č] ÁÉAP^*æ aāg,^ ÁMMÔč[č]æ aāg,^ÁX[]č] ^ÁÉAT æg ā[č] ÁÚ[•áíaiç^ ÁMMÔč[č]æ aāg,^ÁX[]č] ^ÁÉAT æg ā[č] ÁP^*æ aãg,^ ÁMMÔč[č]æ aāg,^ÁX[]č] ^ÁÉAÖ) å Áj, ÁÜā[č]æā[]	åã æ à  ^ å åã æ à  ^ å åã æ à  ^ å åã æ à  ^ å åã æ à  ^ å		åã æà ^å åã æà ^å	åãræà ^å åãræà ^å åãræà ^å
ÁÚ[  `cā[}ÁOEaæe^{^}oh ÁÁÁHÍÁP[`'¦ÁÙcæe^Ásæ)åÁQD-ā[dææā[}ÁX[ `{^ ÁÁÁÁGÁP[`'¦ÁÙcæe^Ásæ)åÁQD-ā[dææā[}ÁX[ `{^	ÞÉÆ ÞÉÆ	ÞÉÆ ÞÉÆ		ÞÉŒ ÞÉŒ

Gi a a Ufmic ZF Ygi `hg :: Scenario 6 :: FDOT 72 Hour - 72 hr - 100 yr

	Vã(^ Ç@(`¦∙D	Ùoæ*^ ÇoA‱aæč{D	Üæe^ Çc <del>D</del> D	X[
Â)cæ*^ ÀWAT वे) वं ॅ{ ÀWAT æ¢a; ॅ{	Þ[ơÁ Đặc cái cái þ Þ[ơÁ Đặc cái cái þ	Þ[ơÁ OTÇæğlæà  ^ Þ[ơÁ OTÇæğlæà  ^		
ÁQ;- [; ###W.dæc^AEAT æ¢ā[*{ AEAU[•āāā;^ ###W.dæc^AEAT æ¢ā]*{ AEAp^*æāā;^ ####Q^{    ææā;^Ax[ ]*{ ^AEAT æ¢ā[*{ AU[•āāā;^ ####Q^{    ææā;^Ax[ ]*{ ^AEAT æ¢ā[*{ Ap^*æaā;^ ####Q^{    ææā;^Ax[ ]*{ ^AEAQ}*å4;-AUā[*  ææā[}	ÍJÈÌÏG Þ[}^ ÏŒÐÍI Þ[}^ ÏHŒ€H		FFÈFÎG Þ[}^	Î⊕HHBÈ Þ[}^ Î⊕HHBÈ
ÁQ-áldæði } ###Uæ^ÁzY æ¢ði *{ Æðú[•ðiði;^ ###Uæ^ÁzY æ¢ði *{ Æðb^* æði;^ ###Û*{ ` æði;^Áx[ `{ ^ÆZY æ¢ði `{ ÆÚ[•ðiði;^ ###Û*{ ` æði;^Áx[ `{ ^ÆZY æ¢ði `{ ÆÞ^* æði;^ ###Û*{ ` æði;^Áx[ `{ ^ÆZY æ¢ði ~{ ÆÞ^* æði;^ ###Û*{ ` æði;^Áx[ `{ ^ÆZY æ¢ði ~ÆJði  æði}}	Þ[ơÁ Cộ cá đạch  ^ Þ[ơÁ Cộ cá đạch  ^ Þ[ơÁ Cộ cá đạch  ^ Þ[ơÁ Cộ cá đạch  ^ Þ[ơÁ Cộ cá đạch  ^		Þ[cÁOG caalcaa) Þ[cÁOG caalcaa)	Þ[ơ������������������������������������
\(\hat{O}\) { \(\hat{a}\) \(\hat{A}\) (\(\hat{O}\) a & @ \(\hat{e}\) \(\hat{A}\) ( \(\hat{e}\) a \(\hat{a}\) \(\hat{e}\) \(\hat{A}\) ( \(\hat{e}\) a \(\hat{a}\) ( \(\hat{e}\) \(\hat{A}\) \(\hat{e}\) \(\hat{A}\) \(\hat{e}\) \(\hat{e}\) \(\hat{A}\) \(\hat{A}\) \(\hat{e}\) \(\hat{e}\) \(\hat{A}\) \(\hat{e}\)	ÍJÈÌÏG Þ[}^ ÏŒÈÎI Þ[}^ ÏHĒŒH		FFÈFÎG Þ[}^	΀H HJÈE Þ[}^ ΀H HJÈE
ÁÖár & @ek* ^ ÁÜd ` & c` ¦ ^ ÁF ÁÁÉÁg æ& cág ^ ÁMÁÜæ ^ ÁÉÁT æg aj ` { ÁÉÁÚ! • áág ^ ÁMÁÜæ ^ ÁÉÁT æg aj ` { ÁÉÁP ^ * ægág ^ ÁMÁÖ` { `   ægág ^ ÁK[] ` { ^ ÁÉÁT æg aj ` { ÁÚ! • ágág ^ ÁMÁÖ` { `   ægág ^ ÁK[] ` { ^ ÁÉÁT æg aj ` { ÁÞ ^ * ægág ^ ÁMÁÖ` { `   ægág ^ ÁK[] ` { ^ ÁÉÁÒ} å Á; ÁÚa[ `   ægág }	åã æ à  ^ å åã æ à  ^ å åã æ à  ^ å åã æ à  ^ å åã æ à  ^ å		åãræà ^å åãræà ^å	åãræà ^å åãræà ^å åãræà ^å
ÁÖár & @ek* ^ ÁÜd ` & c`   ^ ÁGÁÉÉÁg æ& cág.^ ÁMÁÜæe ^ ÁÉÁT æg aj ` { ÁÉÁÚ [ • áág.^ ÁMÁÜæe ^ ÁÉÁT æg aj ` { ÁÉÁP ^ * ægág.^ ÁMÁÖ ` { `   ægág.^ Áx[   ` { ^ ÁÉÁT æg aj ` { ÁÚ [ • áág.^ ÁMÁÖ ` { `   ægág.^ Áx[   ` { ^ ÁÉÁT æg aj ` { ÁÞ ^ * ægág.^ ÁMÁÖ ` { `   ægág.^ Áx[   ` { ^ ÁÉÁÒ} à Á; -ÁÚa[ `   ægág.}	åã æ à  ^ å åã æ à  ^ å åã æ à  ^ å åã æ à  ^ å åã æ à  ^ å		åãræà ^å åãræà ^å	åãræà ^å åãræà ^å åãræà ^å
ÁÖã & @ek*^ÁÙd` & c`¦^ÁrWhEb a& cāç^ ÁWHÜ æe^ÁEAT æ¢ā[`{ ÆAÛ[•āāç^ ÁWHÜ æe^ÆAT æ¢ā[`{ ÆAP^*æ¢āç^ ÁWHÔ`{` ææāç^Áx[ `{ ^ÆAT æ¢ā[`{ ÁÚ[•āáç^ ÁWHÔ`{` ææāç^Áx[ `{ ^ÆAT æ¢ā[`{ ÁP^*ææāç^ ÁWHÔ`{` ææāç^Áx[ `{ ^ÆAT æ¢ā[`{ ÁP^*ææāç^ ÁWHÔ`{` ææāç^Áx[ `{ ^ÆADÒ}}åÁ;-ÁÜā[` ææā[}	åã æà  ^å åã æà  ^å åã æà  ^å åã æà  ^å åã æà  ^å		åãræà ^å åãræà ^å	åãræà ^å åãræà ^å åãræà ^å
ÁÚ[  ˇcā[}ÁOEāæe^{^^}dK ÁÁÁHÁP[ˇ¦ÁÙcæe*^ÁæejåÁQJ-ā[dæeā[}ÁX[ ˇ{^ ÁÁÁÁ,GÁP[ˇ¦ÁÙcæe*^ÁæejåÁQJ-ā[dæeā[}ÁX[ ˇ{^	ÞÉŒ ÞÉŒ	ÞÉDÉ ÞÉDÉ		ÞÉJÉ ÞÉJÉ

Gi a a Ufmic ZF Ygi `hg :: Scenario 7 :: FDOT 168 Hour - 168 hr - 100 yr

	Va[^ ÇaQ~¦∙D	Ùœ≛^ ÇoÁsaeč{D	Üæe^ ÇcÐD	X[   ^ GcD
Á)cæ*^ ÁMÁT ðjðj ( ÁMÁT æ¢ðj (	Þ[ơÁ Đặc compania) Þ[ơÁ Đặc compania)	Þ[ơÁ OTÇæğiæà  ^ Þ[ơÁ OTÇæğiæà  ^		
ÁQ- [, ÁWÜ æc^ÁEÁT æcfā[ * { ÁEÁÚ[ • ātāç^ ÁWÜ æc^ÁEÁT æcfā[ * { ÁEÁP^* æcfāç^ ÁWÔČ { *   aecāç^Áx[   * { ^ÁEÁT æcfā[ * { ÁÚ[ • ātāç^ ÁWÔČ { *   aecāç^Áx[   * { ^ÁEÁT æcfā[ * { ÁP^* æcfāç^ ÁWÔČ { *   aecāç^Áx[   * { ^ÁEÓC} åáfa-ÁÚā[ *   aecāfa] }	F΀ŒH Þ[}^ FÎÌ⋻H Þ[}^ FÎÌ⋻ÏH		ΪΪΙΪÎ Þ[}^	Ï FFÌ <del>€ 1È</del> Þ[}^ Ï FFÌ <del>€ 1È</del>
ÁQ-ājd ægāj} ÁMÜ æg^Ágāt ægāj * { Ágāú [ • ātāg^ ÁMÜ æg^Ágāt ægāj * { Ágāp^* ægāg^ ÁMÔ° { *   ægāg^Áx [   * { ^ Ágāt ægāj * { Áú [ • ātāg^ ÁMÔ° { *   ægāg^Áx [   * { ^ Ægāt ægāj * { Áp^* ægāg^ ÁMÔ° { *   ægāg^Áx [   * { ^ Ægō} } å Át ^ Áûāj *   ægāj }	Þ[ơÁŪĒ;æālæà)^ Þ[ơÁŪĒ;æālæà)^ Þ[ơÁŪĒ;æālæà)^ Þ[ơÁŪĒ;æālæà)^ Þ[ơÁŪĒ;æālæà)^		Þ[ơ������������������������������������	Þ[ 0 <sup>(</sup> OF;æiæi)^ Þ[ 0'OF;æiæi)^
ÁÔ[{àā]^åÁÖā;&@e\*^ ###Üæe^ÆET æ¢ā] `{ÆED[•ātā;^ ###Üæe^ÆET æ¢ā] `{ÆED>*æsā;^ ###Ô`{` æsā;^ÀX[[`{^ÆET æ¢ā] `{ÁÚ[•ātā;^ ###Ô`{` æsā;^ÁX[[`{^ÆET æ¢ā] `{ÁÚ[•ātā;^ ###Ô`{` æsā;^ÁX[[`{^ÆEO}åA;AÛā] ` æsā]}	FÎ €È€H Þ[}^ FÎÌÐH Þ[}^ FÎÌÐÏH		ÏĔĬĬÎ Þ[}^	Ï FFÌ <b>⊕ ±È</b> Þ[ }^ Ï FFÌ <b>⊕ ±È</b>
ÁÖár & @ek* ^ ÁÚd* & c*   ^ ÁF ÁÁZÁBJ æ& cág ^ ÁMÁÚæ e^ ÁZÁT æg áj * { ÁZÁÚJ • árág ^ ÁMÁÚæ e^ ÁZÁT æg áj * { ÁZÁF > ^ ÆZÁT æg áj * { ÁÚJ • árág ^ ÁMÁÖ* { *   ærág ^ ÁX [   * { ^ ÁZÁT æg áj * { ÁÚJ • árág ^ ÁMÁÖ* { *   ærág ^ ÁX [   * { ^ ÁZÁT æg áj * { ÁP ^ * ærág ^ ÁMÁÖ* { *   ærág ^ ÁX [   * { ^ ÁZÁÖ} } å Ág - ÁÚ áj *   æráj }	åã æ à  ^ å åã æ à  ^ å åã æ à  ^ å åã æ à  ^ å åã æ à  ^ å		åãræà  ^å åãræà  ^å	åã æà ^å åã æà ^å åã æà ^å
ÁÖár & @ed* ^ ÁÚd * & c   ^ ÁGÁÁZÁBB æ& cáiç ^ ÁMÁÚ ææ^ ÁZÁT ægtáj * { ÁZÁÚ [ • áiáig ^ ÁMÁÚ ææ^ ÁZÁT ægtáj * { ÁZÁT > ^ ÆZÁT ægtáj * { ÁÚ [ • áiáig ^ ÁMÁÖ* { *   ægág^ ÁX [   * { ^ ÁZÁT ægtáj * { ÁÚ [ • áiáig ^ ÁMÁÖ* { *   ægág^ ÁX [   * { ^ ÁZÁT ægtáj * { ÁÞ ^ * ægág ^ ÁMÁÖ* { *   ægág^ ÁX [   * { ^ ÁZÁÖ} } å Ág -ÁÚáj *   ægáj }	å ã æ æ à  ^ å å ã æ à  ^ å		åãræaà ^å åãræaà ^å	åãæaaो∣^å åãæaaो∣^å åãæaaो∣^å
ÁÖã & @æ* ^ ÁÚd * & c   ^ Á+hÁEÁB æ& cág ^ ÁMÁÚæ ^ ÁEÁT æ¢ a * { ÁEÁÚ   • átág ^ ÁMÁÚæ ^ ÁEÁT æ¢ a * { ÁEÁF ^ æ¢ a * ÁMÁÖ * { *   æxág ^ ÁX     * { ^ ÁEÁT æ¢ a *	åã æ à  ^ å åã æ à  ^ å åã æ à  ^ å åã æ à  ^ å åã æ à  ^ å		åãræà  ^å åãræà  ^å	åã æà ^å åã æà ^å åã æà ^å
ÁÚ[  ˇcā[}ÁOEāæe^{^}d\ ÁMÁHÎÁP[ˇ¦ÁÙcæe*^Ásæ)åÁQQ-ājdæeā[}ÁX[ ˇ{ ^ ÁMÁGÁP[ˇ¦ÁÙcæe*^Ásæ)åÁQQ-ājdæeā[}ÁX[ ˇ{ ^	ÞÈŒ ÞÈŒ	ÞÉŒ ÞÉŒ		ÞÈÈ ÞÈÈ

Gi a a Ufmic ZF Ygi `hg :: Scenario 8 :: FDOT 240 Hour - 240 hr - 100 yr

	Vã(^ Ç@(`¦∙D	Ùoæ*^ ÇoAsæč{D	Üæe^ Ç∈ <del>B</del> D	X[   ¯{ ^ Ģ∈D
ÁÙcaet^ ÁWÁTājāj~{ ÁWÁTæ¢āj~{	Þ[ơÁ Đặc cái cái  ^ Þ[ơÁ Đặc cái cái  ^	Þ[ơÁ OTÇæğlæà  ^ Þ[ơÁ OTÇæğlæà  ^		
ÁQ- [, ÁMÚ æt^ÁEÁT ætā * { ÁEÁÚ [ • átát, ^ ÁMÚ æt^ÁEÁT ætā * { ÁEÁÞ ^ * ætát, ^ ÁMÓ * { *   ætát, ^ ÁK [   * { ^ ÁEÁT ætā * { ÁÚ [ • átát, ^ ÁMÓ * { *   ætát, ^ ÁK [   * { ^ ÁEÁT ætā * { ÁÞ ^ * ætát, ^ ÁMÓ * { *   ætát, ^ ÁK [   * { ^ ÁEÁO} } å Át, - ÁÚā *   ætát, }	FÌHÈÏÎ ♭[}^ G €ÐHG ♭[}^ G €ÐÎF		F€ÌÐÏÍ Þ[}^	ÌÍ΀JÍÈ Þ[}^ ÌÍ΀JÍÈ
ÁQ-āld ægā]} ÀMÜ æg^ÁEĀT ægā] ~ { ÁEĀÚ [•ātāç^ ÀMÜ æg^ÁEĀT ægā] ~ { ÁEĀP^* ægā;^ ÀMĬÔ ~ { ` ægā;^Áx[   ~ ÁEĀT ægā] ~ { ÁÚ [•ātāç^ ÀMĬÔ ~ { ` ægā;^Áx[   ~ ÁEĀT ægā] ~ { ÁÞ^* ægā;^ ÀMĬÔ ~ { ` ægā;^Áx[   ~ ÁEĀO} åÁ;-ÁÜ ā] ` ægā]}	Þ[ơ������������������������������������		Þ[ơÁ Độ a đạa à  ^ Þ[ơÁ Độ a đạa à  ^	Þ[ ð Træilæi) Þ[ ð Træilæi) Þ[ ð Træilæi)
ÁÔ[{ àā]^å ÁÖā &@ed*^ ÁMÜ æe^ÁEAT æ¢ā] ~ { ÁEAU[•ātā;^ ÁMÜ æe^ÆAT æ¢ā] ~ { ÁEAP^* æsā;^ ÁMÔ~{ ~  æsā;^ÀX[ ~ { ^ÆAT æ¢ā] ~ { ÁÚ[•ātā;^ ÁMÔ~{ ~  æsā;^ÁX[ ~ { ^ÆAT æ¢ā] ~ { ÁÞ^* æsā;^ ÁMÔ~{ ~  æsā;^ÁX[ ~ { ^ÆAD} æ¢ā] ~ { ÁÞ^* æsā;^ ÁMÔ~{ ~  æsā;^ÁX[ ~ { ^ÆAD} å Á; AÛā[~  æsā]}	FÌHÈÌÏÎ Þ[}^ G⊕ÈHG Þ[}^ G⊕ÈÏF		F€ÌUÏÍ Þ[}^	ÌÍ΀JÍÈ Þ[}^ ÌÍ΀JÍÈ
ÁÖã & @æ* ^ ÁÜd ` & c`   ^ ÁF ÁÁZÁB æ& cág^ ÁMÁÜ ææ^ ÁZÁT æ¢ aj ` { ÁZÁÚ[• áíág^ ÁMÁÜ ææ^ ÁZÁT æ¢ aj ` { ÁZÁÞ^ * æság^ ÁMÁÖ` { `   æság^ ÁX[  ` { ^ ÁZÁT æ¢ aj ` { ÁÚ[• áíág^ ÁMÁÖ` { `   æság^ ÁX[  ` { ^ ÁZÁT æ¢ aj ` { ÁÞ^ * æság^ ÁMÁÖ` { `   æság^ ÁX[  ` { ^ ÁZÁÖ} å Ág - ÁÚ aj `   æság }	åãræa} ^å åãræa} ^å åãræa} ^å åãræa} ^å åãræa} ∧å		åãræà ^å åãræà ^å	åãræaì ^å åãræaì ^å åãræaì ^å
ÁÖár & @el* ^ ÁÚd` & c`   ^ ÁGÁÉÁIJ æ& cáiç ^ ÁMÁÚæ * ^ ÁÉAT æ¢ ā ` { ÁÉÁU   • ácáiç ^ ÁMÁÚæ * ^ ÁÉAT æ¢ ā ` { ÁÉÁP ^ * æsáiç ^ ÁMÁÖ * { `   æsáig ^ ÁX [ ] ` { ^ ÁÉAT æ¢ ā ` { ÁÚ[ • ácáig ^ ÁMÁÖ * { `   æsáig ^ ÁX [ ] ` { ^ ÁÉAT æ¢ ā ` { ÁÞ ^ * æsáig ^ ÁMÁÖ * { `   æsáig ^ ÁX [ ] ` { ^ ÁÉÁD } å Á; ^ ÁÚā `   æsáig }	åãræà ^å åãræà ^å åãræà ^å åãræà ^å åãræà ^å		åãrænà ^å åãrænà ^å	åã æà ^å åã æà ^å åã æà ^å
ÁÖár & @ed* ^ ÁÜd * & č ! ^ ÁHÁÉÉA] æ& cág ^ ÁMÁÜæ * ^ ÁÉAT æ¢ a] * { ÁÉÁÞ ^ æ cág ^ ÁMÁÜæ * ^ ÁÉAT æ¢ a] * { ÁÉÁÞ ^ æ cág ^ ÁMÁÖ * { *   æ cág ^ ÁX [   * { ^ ÁÉAT æ¢ a] * { ÁÚ [ • ácág ^ ÁMÁÖ * { *   æ cág ^ ÁX [   * { ^ ÁÉAT æ¢ a] * { ÁÞ ^ * æ cág ^ ÁMÁÖ * { *   æ cág ^ ÁX [   * { ^ ÁÉÁD } å Á; - ÁÜ a] *   æ cág }	åð æ æ اً \^ å å ق æ اً \^ å å ق æ ا \^ å å ق æ ا \^ å å ق æ ا \^ å		åãiæà ^å åãiæà ^å	åãræà ^å åãræà ^å åãræà ^å
ÁÚ[  ˇcā[}ÁCĒaæe^{^}dK ÁÁÁHÎÁP[ˇ¦ÁÙcæe*^Áse}åÁQQ-ā[dæeā[}ÁX[ ˇ{ ^ ÁÁÁÁ,GÁP[ˇ¦ÁÙcæe*^Áse}åÁQQ-ā[dæeā[}ÁX[ ˇ{ ^	ÞÉŒ ÞÉŒ	ÞÉŒ ÞÉŒ		ÞÉDÉ ÞÉDÉ

R', ^|Ææt^ÄÜ^•^¦ç^

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Phone: 386.752.4675 • Toll Free: 877.335.1525 • Fax: 386.752.4674 • Online: NFPS.net

#### Dfc YWi8 UtU

Ú¦[b/8oÁpæ{^K R^, ^|Ææ}^ÆÛ^•^¦ç^

 $\dot{U}_{a}^{*} = \dot{A}_{a}^{*} \dot$ 

Ú¦[bʰ&oÁpˇ{à^¦K ŠFJ€ÍFIÙTQ

Ò} \* ā, ^ \ ÁK Ó [ à ÁY @æ^

Ù`]^¦çã•ã,\*ÂÒ}\*ã,^^¦K V[¦ãÁP`{]@?ã•

Öæg^K FŒE ËŒFJ

#### <u>5 ei ]ZYf '8 UHJ</u>

Óæ ^ÁU ÁŒ  $\check{a}$ \ $\check{A}\check{O}$ |^çæð $\check{a}$ } ÉÃ $\check{O}$ ÁÇeÁåæč { DK JÌ ÈÎ

Yær^¦ÁVæà|^ÁÔ|^çæna[}ÊÃY VáÁÇóÁsæne { DK F€ÏÊÎÎ

P[¦ã[}œqÁÛæc覿c^åÆr^妿č|ã&ÁÔ[}åč&cãçãcÊÊ©æÁÇæbãæĉDK FÌÈ€€

W}, • æe覿evå ÁK∧¦ cã&æpÁQ, −ājd æeā[} ÁÜæev ÊÃXQ ÁÇÆDàæê DK ÌÈ€

Tæçã $[\hat{A}]$  {  $\hat{A}$ OE^^æ $\hat{A}$ O[ $\hat{A}$ N] • æç $\hat{A}$ eæ $\hat{A}$ N] • åd æçã $[\hat{A}]$ EŽÕŪç $\hat{A}$ Qc DK  $\hat{A}$ IÏ $\hat{A}$ E

#### ; Yca Ylfmi8 UtU

 $\mathring{O} \tilde{a}_{cat} \wedge \mathring{o} \mathring{U} = \mathring{a}_{cat} \wedge \mathring{o} = \mathring{a$ 

 $\mathring{O} \tilde{a}_{c} a \mathring{A} \circ \mathring{A} [ ] \mathring{a} \mathring{A} \circ \mathring{a}_{c} \circ \mathring{A} \mathring{G} \mathring{A}$   $FG \mathring{E}$ 

 $\tilde{O}_{[]}$   $\hat{A}_{[]}$   $\hat{A}$ 

#### GHU[ Y'j g'5 fYU'8 UHJ

Uæŧ^	Œ^æ
ÇoÁåæcč{D	Ģ€D
F€JÈŤĴ	 ÎÎÎIÏ <b>È</b>
FFŒ <u>Î</u> Î	ìïì€ìÈ€

#### 8]gW/Uf[Y'Glfi WifYg

#### 8]gW(Uf[Y'GlfiWifY', %]g'UWijjY'Ug'kY]f

Ö^•&¦ajaaj}kÁÁ,ÓÝ^ãÁOÁF€JÈJÎÁ>OEXÖ

Y^ālÁn|^çæaāj}ĒKÇoÁsæcč{DK F€JÈĴÎ Y^ālÁs[^~a&a}}dK HÈH Y^ālÁn}\*cœÆÇdDK ! Y^ālÁn¢][}^}dK FĒ

Vænni æg^¦ÁEÁnniā ænà|^åÉÁn\^Ánniā &@æd\*^

# DCB8 GʻJYfg]cbʻ' " "\$&+, FYhYbh]cbʻDcbX`FYWcjYfm!`FYZ]bYX`AYN\cX 7 cdmi][\hi&\$%& 8 Yj c`GYYfYYfUažD\"8 "žD"9"

# 8 ]gWt Uf [ Y'Glfi Wfi fYg'fWcblfX'L

8]gW(Uf[Y'Glfi Wi fY', &']g']bUW]jY

8]gW(Uf[ Y'Glfi Wi fY' ' ']g']bUW]j Y

R^, ^|Ææà^ÂÜ^•^\;ç^

#### GWYbUf]c =bdi h8 UtU

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Scenario 9 :: FDOT 1 Hour - 1 hr - 100 yr
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 $\begin{array}{lll} P^{\hat{a}}_{||}[*|aa]@A/^{\hat{a}}]^{\hat{A}} & Q|\bar{a}_{||}^{\hat{A}}\hat{A}\hat{D}\hat{O}\hat{U} \\ T[\mathring{a}_{||}^{\hat{A}}||_{\hat{a}}^{\hat{A}}||_{\hat{a}}^{\hat{A}}| & \hat{U}||_{\hat{a}}^{\hat{A}} & \hat{u}||_{\hat{a}}^{\hat{A}}$ 

ÓærðjÁDE^æÁÇæ&\^•D ŒÊEJ€

Vðj^ÁU-ÁÔ[}&^}dææðj}ÁQ;ðj\*c^•D FFÈI
ÖÖOÐÁÇÃD

Ô\*¦ç^Áp\*{à^! "IG
Ö^•ðt}ÁÜæðj-ædjÁÖ^]c@ÁQ\$&@•D IÈG
Ö^•ðt}ÁÜæðj-ædjÁÖ\*|ææðj}ÁQQ\*¦•D FÈE
Ù@ædj^ÁØæ&d;! WPŐÁÌI
Üæðj-ædjÁÖðfdða\*cði}

QãããædÁt¦[ˇ}åÁ¸æe^¦Áf^ç^|ÁÇóÁåæeč{DF€ÏĒÎÂÇã^æĕ|dD

Va[^ÁO⊑e^¦ Ùd[¦{ÁÖç^}c Çàæê•D	Vã(^ÁŒe^¦ Ùd[:{ÁÔç^}c Çâæê•D	Vã(^ÁŒe^¦ Ùo(¦{ÁÒç^}c Çãæê•D	Vã[^ÁŒe^¦ Ùd[¦{ÁÒç^}c Çãæê•D	Vã(^ÁŒo^¦ Ù({¦{ÁÔç^}c Çãæê•D
€ÌŤ€€	ÍÈ€€€	FFĚ€€	FÌĚ€	G È€€€
€ÌЀ€	ÍĚ€€	FŒŒ€€	FJÈ€€€	ďĚ€€
€ÌH€€	ÎÈŒ€	FŒĬ€€	FJĚ€€	ĞÈ€€€
€Ì€€	ÎĚ€€	FHÌŒ€€	ŒÈŒ€	ĞÉ€€
€Ě€€	ÏÈ€€€	FHÉE€€	G€IĽE€€	РȀ€€
FÈ€€€	ΪĚ€€	FI ÈŒ€€	ŒÈ	G̈́LĚ€€
FĚ€€	ÌÈ€€€	FĻĚ€€	ŒLĚ€€	GÌ ÈE€€
ŒŒ€	ÌĚ€€	FÍ È€€€	CCEÌÈEC€	GÌĚ€€
GĚL€€	JÈŒ€€	FÍĚ€€	cœ <u>i</u> t€€	GJÈ€€€
HÌŒ€€	J <u>Ě</u> €€	FΠȀ€€	G <del>-Ì<u>Ì</u>CC€</del>	GLĚ€€
H <u>Ť</u> €€	F€È€€€	FÏ È€€€	GH <u>Í</u> ,€€	H€ÌE€€€
IÈ€€€	F€ĽE€€	FÏĚŒ	GEE€€	
ΙŘ <i>€</i> €	FF <del>Ì€€€</del>	FÌ Ì <del>È€€</del>	аӊ€€	

#### Scenario 10 :: FDOT 2 Hour - 2 hr - 100 yr

 $\begin{array}{lll} P^{\hat{a}}_{||}[*|aa]@A/^{\hat{a}}]^{\hat{A}} & Q|\bar{a}_{||}^{\hat{A}}\hat{A}\hat{D}\hat{O}\hat{U} \\ T[\mathring{a}_{||}^{\hat{A}}||_{\hat{A}}\tilde{U}[\tilde{a}_{||}^{\hat{a}} *K & \hat{U}[\tilde{a}_{||}^{\hat{a}} *K & \hat{u}]^{\hat{a}} & \tilde{a}_{||}^{\hat{a}}\hat{a}_{||}^{\hat{a}}\hat{a}_{||}^{\hat{a}}\hat{a}_{||}^{\hat{a}} & F \end{array}$ 

ÓærājÁndE^æÁgæ&I^•D GÆBĒJ€

Vāj^ÁnJ-ÁÔ[}&^}dææāj}Ángāj\*c^•D FFEÌ

ÖÔ000AÑĀD

Õ\*¦ç^Án\*{à^| "G

Ö^•ā}ÀÜæāj-æ4|ÄÖ^]c@ÄGā,&@•D ÍĒF

Ö^•ā}ÀÜæāj-æ4|ÄÖ\*¦ææāj}Áng@;¦•D GÆE

Ù@æj^Án2æ&d[¦ WPŐÁÌI

Üæāj-æ4|ÄÖādānaāj} ØÖUVÁGÁP[;¦

#### QũããædÁ¦[ĭ}åÁ,æe^¦Á/ç^|ÁÇóÁåæeč{D F€ÏĒÎÎÁÇã^æĕ|dD

Vã(^ÁŒe^¦ Ùo[¦{ÁÔç^}c Çâæê•D	Va[^ÁŒe^¦ Ùd[¦{ÁÒç^}c Çàæê•D	Va[^ÁŒe^¦ Ùo[¦{ÁÔç^}c Çàæê•D	Vã(^ÁŒe^¦ Ù({¦{ÁÔç^}}c Çãæ:•D	Vã(^ÁŒo^¦ Ùd[¦{ÁÔç^}c Çâæê•D
€È€€	F <u>Ľ</u> €€	Ì∯€€	Ϊ∯€€	F€ĽĚ
€EG€€	ŒŒ€€	ÌŒ€€	ÌÈ€€€	FFŒ€€€
€ÌH€€	GĚ€€	ÍĚ€€	ÌĚ€€	FFĚ€€
€Ì€€	HÌÈ€€€	ÎÈŒ€€	JÈŒ€€	FŒŒ€€
€Ě€€	H <u>É</u> €€	ÎĚ€€	JĚ€€	FŒĬ€€
FÌ€€€	IÈ€€€	ÏÈ€€€	F€Ì€€€	FH <b>Ì€€€</b>

#### GWYbUf]c =bdi h8 UHUfWcbHfX'Ł

Scenario 10 (cont'd.) :: SCS :: FDOT 2 Hour - 2 hr - 100 yr

Vã, ^ÁŒe^¦	Vã(^ÁŒe^¦	Vã, ^ÁŒe^¦	Vã(^ÁŒe^¦	Vã(^ÁOEe^\
Ùo[¦{ ÁÔç^}c	Ù{[  { ÁÔç^}c	Ùo[¦{ ÁÔç^}c	Ù{[  { ÁÔç^}c	Ùo[¦{ ÁÔç^}c
Çåæ̂•D	Çãæ̂•D	Çãæ̂•D	Çãæ̂•D	Çåæ̂•D
FH <u>Ě</u> €€	FÏĚ€€	ŒŒ€	GĚ€	G È€€€
FI ÈE€€	FÌÈŒ€	ŒŬ€€	GÍÈE€€	ĠĚ€€
FĻĚ€€	FÌ <u>Ě</u> €€	CCEÌÈEC€	GÉE€€	GJÈE€€€
FÍÈE€€	FJÈŒ€€	cœni€€	GÎÈŒ€	GJĚ€€
FÍ É €€	FJĚ€€	G <del>-IÈ€€€</del>	GÎĚ€€	H€ÌE€€€
FÎ È <del>€€€</del>	G€ÌÈ€€€	GHLĚ€€	GÏÈE€€	
FÏ Ì <del>Č€€</del>	GETŤ€€	GÌ <del>È€€</del>	ĞİF€	

#### Scenario 11 :: FDOT 4 Hour - 4 hr - 100 yr

```
\begin{array}{lll} P^{\hat{a}_{1}^{i}[*|aa_{1}^{i}@A\hat{v}^{\hat{a}_{1}}]^{A}K & Q_{\hat{a}_{1}^{i}}^{\hat{a}_{1}^{i}}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}^{\hat{a}_{1}^{i}}^{\hat{a}_{1}^{i}} & Q_{\hat{a}_{1}^{i}}^{\hat{a}_{1}^{i}}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}^{\hat{a}_{1}^{i}}^{\hat{a}_{1}^{i}} & Q_{\hat{a}_{1}^{i}}^{\hat{a}_{1}^{i}}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i}}\hat{a}_{1}^{\hat{a}_{1}^{i
```

Óæ-ã, ÁŒ-^æÁÇæ&¦^•D	G€IŒJ€
$Va[^AU_AO[^]&^AU_AO^]$	FFÀ
ÖÔQZÁÇÃ D	€Œ
Ô`¦ç^Âp`{ à^¦	ΪG
Ö^•å } ÁÜæð æð ÁÖ^] c@ÁÇ &@•D	ÎÈ
Ö^•āt j ÁÜæanj -ænjÁÖ ˈlæananj j ÁQQ °l•D	IÈ€
Ù@a4^AØaa&d:	WPÕÁÌI
Üæği -æ  ÁÖã dãa čaji}	ØÖUVÁLÁP[ Ě

 $Q_{\tilde{a}\tilde{a}\tilde{a}\tilde{e}}\dot{A}^{\dot{a}}|_{\tilde{a}}^{\dot{a}} = \hat{A}^{\dot{a}}_{\hat{a}} +  

Vā[^ÁŒe^¦ Ùd[¦{ÁÖç^}c Çâæê•D	Vã[^ÁŒe^¦ Ùd[¦{ÁÔç^}c Çâæê•D	Va[^ÁOE-e^¦ Ùo[¦{ÁÔç^}c Çâæê•D	Va[^ÁŒe^¦ Ùo[¦{ÁÔç^}c Çâæê•D	Vã(^ÁŒo^¦ Ù([;{ÁÔç^}c Çãæê•D
€ÌÈ€€	íÈ€€€	FFĚ.€€	FÌ Ě €€	GÍ È€€€
€ÈG€€	ÍĚ€€	FŒŒ€€	FJÈŒ€€	ďĚ€€
€ÌH€€	ÎÈŒ€€	FŒĬ€€	FJĚ€€	GÎÈE€€
€Ì€€	ÎĚ€€	FHÌŒ€€€	ŒÈŒ€	ĞĒ€€
€Ě€€	ÏÈ€€€	FHÉE€€	ŒŬ€€	ĞÏÈE€€
FÈ€€€	ÏĚ€€	FI È€€€	GFÌ <del>È€€</del> €	GİĚ€€
FĚ€€	ÌÈŒ€€	FI <b>Ě €€</b>	ŒLĚ€€	ĠÈ€€€
ŒŒ€	ÌĚ€€	FÍ È€€€	CC <del>Ì<u>È</u>CE</del>	ĠĚ€
GĚL€€	JÈŒ€€	FÍ <b>Ě €€</b>	COLŤ.€€	GJÈŒ€€
HÈE€€	J <u>Ě</u> €€	FÎ ÈŒ€€	G <del>-I<u>Ì</u>CC€</del>	GIĚ€€
H <u>Ľ</u> €€	F€È€€€	FÏ È€€€	GH <u>É</u> €€	H€ÌE€€€
IÈE€€	F€ĽĚ€€	FÏĚŒ	GÈ€€€	
IĚ€€	FFÌ€€€	FÌÈŒ€	ĠĚ€€	

R^`\_^|Æsæ\^ÄÜ^•^\;ç^

#### GWYbUf]c =bdi hi8 UhU fWcbhfX'Ł

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Scenario 12 :: FDOT 8 Hour - 8 hr - 100 yr
```

 $Q_{\tilde{a}\tilde{a}\tilde{a}\tilde{e}}\dot{A}^{\dot{a}}|_{\tilde{a}}^{\dot{a}} \hat{A}_{\tilde{a}}^{\dot{a}} \hat{$ 

Vã( ^ÁŒe^\	Vã( ^ÁŒe^¦ ```d` ( ^Ô-^) -	Vã(^ÁŒe^¦	Vã(^ÁŒe^¦	Vã ^ÁŒe^¦
Ù([¦{ÁÔç^}c Çâæê•D	Ù([¦{ÁÔç^}c Qåæê•D	Ù([:[{ÁÔç^}c Qãæê•D	Ù([	Ùq[¦{ÁÔç^}c Çàæê∙D
 €ÌF€€	ÌĚ€€	FJÈ <del>€€€</del>	GJÈ€€€	— HJÈ€€€
€ÌЀ€	JÈŒ€€	FJĚ€€	GIĚ€€	IJĚ€€
€ÌH€€	JĚ€€	ŒÈ€€€	H€ÌŒ€€	I€È€€€
€È	F€È€€€	ŒĽE€	H€ <u>I</u> Ě €€	I€Ě€€
€ĽE	F€ĽE€	GFÌ <u>È€€€</u>	HFÌ <u>€</u> €€€	IFÈ€€€
FÌ <del>€€€</del>	FFÈ€€€	ŒĮĘ€€	HFĽĚ€€	IFĚ€€
FĚ€€	FFĚ€€	CCHÌEE€€	HŒŒ€€	l G <del>j€€€</del>
G <del>j€€€</del>	FŒ <del>Ç</del> €€€	cœ <u>i</u> €€	HQĚE€	IŒŤ€€
ŒĮ€€	FŒ <u>Ť</u> €€	G <del>-I<u>ĴE</u>€€</del>	HHÌ€€€	IH <u>Ĵ€€€</u> €
H <del>j€€€</del>	FH <b>Ì€€€</b>	GHÉE€	HHĚ€€	IHÉĘ€€
H <u>Ť</u> €€	FHÉE€	G È€€€	HÈ€€€	IJÈ€€€
IÈ€€€	FI È€€€	Ġ Ě €€	HÌĘ€€	ıì∯€€
ĮĚ€€	FJĚ€€	ďj <u>£€€</u> €	HÍÈE€€	ΙÍÈŒ€€
ÍÈE€€	FÍÈE€€	ĞĚ€€	HÍĚ€€	lĺĚ€€
ÍĚŒ	FÍĚŒ	ĞÈ€€	HÎÈŒ€	IÎÈŒ€€
ÎÈŒ€	FÎÈŒ€	ĞĚ€€	HÎĚŒ	lÎĚ€€
ÎĚ€€	FÏÈŒ€	ĞĖ€€€	HÏÈE€€	IÏÈŒ€
ÏÈ€€€	FÏ <b>Ě</b> €€	ĞĚ€€	HÏĚŒ	ΙΪĚŒ
ÏĚ€€	FÌÈE€€	GÌÈE€€	HÌÈE€€	IÌÈ€€ IÌĚ€€
ÌÈŒ€	FÌĚ€€	G⊞€€	HÌĚ€€	11 世€€

#### Scenario 13 :: FDOT 24 Hour - 24 hr - 100 yr

P^å¦[\*¦æ]@ÁV^]^K Q|ā,^ÁÙÔÙ T[å-[,ÁÜ[`cā,\*K Ü[`c^å,4,ão@Ás,-ādæaā,} Ü^]^cāāa,}•K F

Óærði/KDE^æÁgæ&k^•D

Vā ^ÁU-ÁÔ[}&^}dææði}ÁÇiði\*c^•D

FFÈ
ÖÖOÐÆGÃD

Ô`¦ç^Áp^\*{à^!

Ö^•ði}ÁÜæði-ædhÁÖ^]œÆGØ.«•D

JÈ
Ö^•ði}ÁÜæði-ædhÁÖ`|ææði}ÁÇQI`|•D

G'ÈE

Ù@æj^ÁZæ&G¦

WPŐÁÌI

Üæði-ædhÁÖærdða`dði}

QiããædÁt¦[ˇ}åÁ,æe^¦Á/\ç^|ÁQoÁåæeč{D F€ÏÊÎÎÁQã^æĕ|dD

#### GWYbUf]c =bdi h8 UrU fWcblfK'Ł

Scenario 13 (cont'd.) :: SCS :: FDOT 24 Hour - 24 hr - 100 yr

Vã(^ÁŒe^¦	Va[^ÁŒe^¦	Vã(^ÁŒe^¦	Vã(^ÁŒe^¦	Vã[^ÁŒc^¦
Ùd[¦{ÁÔç^}c	Ùo[¦{ÁÔç^}c	Ùo[¦{ÁÔç^}c	Ù({¦{ÁÔç^}c	Ùd[¦{ÁÔç^}c
Çâæê•D	Çâæê•D	Çãæê•D	Çãæ:•D	Çâæê•D
EÌ÷€€ EÌÈ€€ EÌ €€ FÌÈ€€ FÌ €€ CÌÈ€€ CÌ €€ HÌ€€€	ÍÈ€€ ÍÈ€€ ÎÈ€€ ÏÈ€€ ÌÈ€€ ÌÈ€€ JÈ€€ JÈ€€	FFĚ €€ FCĚ€€ FCĚ €€ FIĚ €€ FIĚ €€ FIĚ €€ FÍĚ €€ FÍĚ €€	FÌ Ě €€ FJ Ě €€ FJ Ě €€ GEĚ €€ GFÈ €€ GGĚ €€ GGĚ €€ GGĚ €€ GGĚ €€	G EEEE G EEEE G EEEE G EEEE G EEEE G EEEE G EEEE G EEEE G EEEE G EEEE
HÉI€€	F <del>€ÌEC€</del>	FÏ È <del>€€€</del>	GHÉI€€	HETEEE
IÈE€€	F€IĬ €€	FÏ È €€	GLÉE€€	
IÈI€€	FFIÈ€€	FÌ È€€€	GLÉI€€	

Scenario 14 :: FDOT 72 Hour - 72 hr - 100 yr

 $\begin{array}{lll} P^{a}_{[}^{+} & Q^{A}_{[}^{+})^{A}_{[}^{-} & Q^{A}_{[}^{+}]^{A}_{[}^{-} ^{A}_{[}^{-} & Q^{A}_{[}^{+}]^{A}_{[}^{-} & Q^{A}_{[}^{+}]^{A}_{[}^{-}]^{A}_{[}^{-} & Q^{A}_{[}^{+}]^{A}_{[}^{-}]^{A}_{[}^{-}]^{A}_{[}^{-} & Q^{A}_{[}^{+}]^{A}_{[}^{-}]^{A}_{[}^{-} & Q^{A}_{[}^{+}]^{A}_{[}^{-}]^{A}_{[}^$ 

 ÓærðjÁDE^æÁÇæ&\^•D
 G€RÈJ€

 Vã ^ÁU-ÁÔ[}&^}dcaæðjÁÇðj°c'•D
 FFÈJ

 ÖÖOÐÁÇÃD
 €RE

 Ö°¦ç^ÁP°{à^}
 Ä'
 Ï G

 Ö^•ðlÁJæðjædjæd,Ö'ojcæððj&@•D
 FCHÈ

 Ö^•ðlÁJæðjædjæd,Ö'ojcæððjåQQ°¦•D
 FCHÈ

 Ü@æðj^ÁØæ&ðd;
 WPŐÁÌI

 ÜæðjædjÆÖðrðaða° cði}
 ØÖUVÁ GÆP[°¦

QhãããæqÁt¦[ˇ}åÁ,æe^\¦Árç^\ÁÇeÁsæcč{D F€ÏĒÌÁÇå^æĕ|dD

Vã(^ÁŒe^¦ Ùq[¦{ÁÔç^}c Çâæê•D	Vã[^ÁŒe^¦ Ùd[¦{ÁÔç^}c Çãæê•D	Va[^ÁŒe^¦ Ùd[¦{ÁÔç^}c Çâæê•D	Va[^ÁŒe^¦ Ùo[¦{ÁÔç^}c Çâæê•D	Vã(^ÁO⊑e^¦ Ùo(¦{ÁÔç^}c Çâæê•D
€È€€	ÍÈ€€€	FFĚ €€	FÌ É €€	GÍ È€€€
€ÌЀ€	ÍĚ€€	FG <del>Ì€€€</del>	FJÈ€€€	ďĚ€€
€ÌH€€	ÎÈŒ€	FŒĬ€€	FJĚ€€	GÎ ÌŒ€€
€Ì€€	ÎĚ€€	FHÌŒ€€	G€ÌÈ€€€	ĜĚ€€
€Ě€€	ÏÈŒ€	FHÉE€€	G€IĽE€	Ğ ÌŒ€€
FÌ <del>E€€</del>	ÏĚ€€	FI È€€€	ŒŒ€€	ĞÉ€€
FĚ€€	ÌÈŒ€	FI LĚ €€	ŒLĚ€€	Ġ Œ€€
ŒŒ€€	ÌĚ€€	FÍ È€€€	CCÈEC€	ĠĚ€€
GĚE€	JÈŒ€€	FÍ LÉ€€	cœ≛€€	GJÈE€€
Ĥ <b>È</b> €€€	JĚ€€	FÎ ÈŒ€	G <del>-IÈ€€</del> €	GIĚ€€
HĚ€€	F€ÌÈ€€€	FÏ È€€€	GHĽE€€	H€ÌÈ€€€
IÈŒ€	F€ĬE€	FÏĚ€€	G È€€€	
Iff€€	FFÌ <del>€€€</del>	FÌ Ì <del>Œ€€</del>	ОҢ€€	

#### DCB8 G'J Yfg]cb" " "\$&+, FYHYbhjcb DcbX FYWcj Yfm! FYZjbYX A Yh cX 7 cdmi][\ h&\$%& 8 Yj c'GYYfYYfUa žD\ '8 '\"D'9"

#### GWYbUf]c =bdi hi8 UhU fWcbhfX'Ł

Scenario 15 :: FDOT 168 Hour - 168 hr - 100 yr

Q|ã^ÁÙÔÙ P^å|[\*|æ]@V^]^K

Ţ[å-Ĭ[¸ÁÜ[ˇœĨ\*K ŰĹĸċvåÁ, ão@ÁSj-ajdæcāj}

Ü^] ^cããã[}•K

Óæ ã ÁŒ^æÁæ&\^• D G€EJ€ Vã ^ÁU-ÁÔ[} & \} dæaã|} ÁQ ã, " c\• D FFÈ ÖÖODEÁÇÃD €ÈE Ô ' | ç ^ Áp ' { à ^ | ΪG Ö^• å} ÁÜæğ æ ÁÖ^] c@ÁÇ &@• D FIÈ€

Ö^• at } ÁÜæaá • æ ÁÖ ˈ aæaá } ÁÇ@ ` ¦• D FÎÌÈ€ Ù@e4^ÁØæ&d[ | WPŐÁÌI

Üæği -æ AÖã dãa cãa cãa } ØÖUVÁFÎ Ì ÁP[ " :

QhãããæqÁt¦[ˇ}åÁ,æe^\Ánoç^|ÁnÇóÁsæcč{D F€ÏĒÎÂÇã^æĕ|dD

Vã[^ÁŒe^¦	Va[^ÁŒe^¦	Va[^ÁŒe^¦	Va[^ÁŒe^¦	Vã(^ÁO⊑e^¦
Ùd[¦{ÁÔç^}c	Ùo[¦{ÁÔç^}c	Ùd[¦{ÁÔç^}c	Ùo[¦{ÁÔç^}c	Ù({¦{ÁÔç^}}c
Çâæê•D	Çâæê•D	Çâæê•D	Çâæê•D	Çâæê•D
€Ì:€€ €Ì:€€	ÍÈ€€ ÍÈ€€ ÎÈ€€€	FFIÉ €€ FC <del>ÌÈ€€</del> FCŒ €€	FÌ É €€ FJÈ€€ FJĚ €€	GÉE€€ GÉE€€
€Ì€€	Î∄€€	FH <u>ÌE€€</u>	G <del>EÌÈ€€</del>	GÎÉE€
€Ĭ€€	ïÈ€€	FHÈ €€	G <del>E</del> ÌÌ €€	GÜÉE€
FÌ€€€	ï∄€€	FIÈE€€	GFÌÈ€€€	GÜÉ€€
FIĽE€	ÌÈE€€	FI <u>IĚ</u> €€	GF <u>I</u> L€€	GÌÈ€€
CHE€€	ÌÈE€€	FÍ <u>IĚ€€€</u>	GG <u>IÈ€€</u>	GÌÈ€€
CHĽE€	JÈE€€	FÍ IĚ €€	GGIL€€	GJÈ€€€
H <u>ÌE€€</u> H <u>Ì</u> E€€	J <u>I</u> LE€ F€ILE€€ F€ILE€€	FΠȀ€€ FÏ È€€€ FÏ È, €€	Gl <u>i<del>ğ</del>∈∈</u> Gl <u>iğ∈∈</u>	GJ <u>É</u> €€ HET <del>EC</del> €
I Ř <i>€</i> €	FF <del>Ì€€€</del>	FÌ Ì <del>€€€</del>	GIŤ€€	

#### Scenario 16 :: FDOT 240 Hour - 240 hr - 100 yr

QĮą̃^ÁÙÔÙ

P^å¦[\*¦æa]@ÁV^]^K T[å-|[,ÁÜ[`cā)\*K Ü^]^oãda[}•K Űĺťc^åÁ,ão@Ás,~ājdæaāi}

Óæ å ÁŒ^æÁæ&¦^• D G€ÈEJ€ Vã ^ÁU-ÁÔ[}&^}dæaã[}ÁÇã, č•D FFÈ ÖÖQZÁÇÃD €È€ Ô ' | ç ^ Âp | { à ^ | ΪG Ö^•å } ÁÜæð æð ÁÖ^] c@ÁÇð &@•D FÎΕ̈ Ö^• at } ÁÜænni - ænni AÖ ˈ ˈænni } ÁÇQ ˇ ¦• D GI€E WPŐÁÌI Üæaj æd ÁÖã dãa caj } ØÖUVÁGI€ÁP[Ľ¦

#### QiããaepÁt¦[ˇ}åÁ;æe^¦Áp^ç^|ÁQoÁåæeč{D F€ÏĒÎÎÁQã^æĕ|dD

Va[^ÁŒe^¦ Ùd[¦{ÁÔ¢^}c	Vã[^ÁŒe^¦ Ùd[:{ÁÒç^}c	Va[^ÁŒe^¦ Ùd[¦{ÁÔc^}c	Va[^ÁŒe^¦ Ùd[¦{ÁÔc^}c	Vã[^ÁŒe^¦ Ùd[¦{ÁÒc^}c
Uq[¦{AOç^}c Çâæê∙D	Oqi{AOç^}c Çåæê∙D	Uq[¦{AOç^}c Çåæê∙D	oų i{ λος/}c Ģaê∙D	Qåæ̂•D
€È€€	F <u>I</u> Ě€€	i <u>⊭</u> €€	 Ï.∯.€€	F€ĽĚ€€
€ÌG€€	G <del>Ì€€€</del>	ÍÈE€€	ÌÈ€€€	FFÌ€€€€
€ÌH€€	ŒĬ€€	ÍĚ€€	ÌĚ€€	FFĚ€€
€Ì€€	HÌÈ€€€	ÎÈŒ€€	JÈŒ€€	FŒŒ€€
€Ě€€	HĚ€€	ÎĚ€€	JĚ€€	FŒĬ€€
FÈ€€€	IÈ€€€	ÏÈŒ€	F€ÌÈ€€€	FH <b>Ì€€€</b>

#### GWYbUf]c =bdi h8 UHUfWcbHfK'Ł

Scenario 16 (cont'd.) :: SCS :: FDOT 240 Hour - 240 hr - 100 yr

Vã ^ÁŒe^¦	Vã ^ÁŒe^¦	Vã ^ÁŒe^¦	Vã ^ÁŒe^¦	Vã ^ÁŒe^l
Ùd[¦{ÁÔç^}c Çâæê∙D	Ùd[¦{ÁÔç^}c Çâæê∙D	Ùd[¦{ÁÔç^}c Çåæê∙D	Ùo[¦{ÁÔç^}c Çâæê∙D	Úq[¦{ÁÖç^}c Çåæê∙D
FHĚ€€	FÏ <u>Ě</u> €€	ŒŒ€	GĚ€€	GÌ È€€€
FIÈŒ€€	FÌ È€€€	ŒLĚ€€	GÍÈŒ€€	GÌĚ€€
FI Ě €€	FÌ Ě€€	CCÈEC€	ďĚ€€	GJÈE€€
FÍÈŒ€€	FJÈŒ€€	œ±i€€	GÎÈŒ€	GIĚ€€
FÍ Ě €€	FJĚ€€	G <del>-IÈ€€</del> €	GÎĚ€€	H€ÌÈ€€€
FÎ ÈŒ€€	ŒÈŒ€€	GHĽE€€	GÏÈE€€	
FÏ Ř <del>€€€</del>	G€IŤ €€	G <del>Ì€€€</del>	GÏŘ€€	

Scenario 17 :: 1" over drainage area

 $V_1^* = (^) oM([]^* (^AGCD)$  HIGH

QãããeфÁt¦[ˇ}åÁ,æe^\Án^ç^|ÁQoÁsaeč{D F€ÏÊÎÂÇãn^æĕ|dD

Vã(^ÁŒe^¦ Ù([¦{ÁÔç^}c	Vã[^ÁŒe^¦ Ù([¦{ÁÔç^}c
Çãæ•D	Çåæ•D
€È€€	Œ <del>ÌÈ€€</del>
€ÌĠÍ€	GŤ€€
€ <u>Ť</u> €€	H <u>Ì</u> E€€€
F <u>E</u> €€€	H <u>Ť</u> €€
FĚ€€	IÈE€€

Gi a a UfmcZFYgi `hg :: Scenario 9 :: FDOT 1 Hour - 1 hr - 100 yr

	Vã(^ Ç@(`¦∙D	Ùœ≛^ ÇeÁsæcॅ{D	Üæe^ ÇcÐD	X[   ັ { ^ Ģc D
ÁÚcæt^ ÁÁÁTajā[ĭ{ ÁÁÁTa¢a¢ā[ĭ{	€ÌÈ€€ FÌÈHÏ	F€ÏÊÎ FF€ÈÎ		
ÁQ- [, AMMÜ 2002^AEÁT 2002 at { AEÁÚ[• ãuāç^ AMMÜ 2002^AEÁT 2002 at { AEÁÞ^* 2002 at ; ^ AMMÖ {   2003 at ; ^AK[  { ^AEÁT 2002 at ; ^ AÚ[• ãuāç^ AMMÖ {   2003 at ; ^AK[  { ^AEÁT 2002 at ; ^ AÞ^* 2003 at ; ^ AMMÖ {   2003 at ; ^AK[  { ^AEÁT 2002 at ; ^ Aba * 2003 at ; ^ Amma 2002 at ; ^ Amm	€∄ÌÌ Þ[}^ F∄!€ Þ[}^ ï Œ∄ÎÎ		ÎÍÈ€Ï Þ[}^	FFÎÌÏÍË Þ[}^ FFÎÌÏÍË
ÁQ-addæaaj) ÁMU æac^Addi æacaj ( Ádúlj• ádáç^ ÁMU æac^Addi æacaj ( Ádún-^* æacáp,^ ÁMOČ (	FÈH Þ[}^ FÍÏĒÌÎ Þ[}^ Ï ŒĒÎÎ		ÏÈEGÏG Þ[}^	Fëiîï€È Þ[}^ Fëiï€È
ÁÔ[{ à āļ^à ÁÖā & @ed*^ ###Üæec^ĀEAT æecā[ `{ ÆEÁU[•ācāc,^ ###WÜæec^ĀEAT æecā[ `{ ÆEAT-^*æecāc,^ ####Ö`{ ` æeāc,^AK[ `{ ^ÆEAT æecā[ `{ ÁU[•ācāc,^ ####Ö`{ ` æeāc,^AK[ `{ ^ÆEAT æecā[ `{ Ab-^*æecāc,^ ####Ö`{ ` æeāc,^AK[ `{ ^ÆEAT æecā[ `{ Ab-^*æecāc,^ ####Ö`{ ` æecāc,^AK[ `{ ^ÆEAO} å.A, ^AŪā[ ` æeā[}	FÈH Þ[}^ FËÎÎ Þ[}^ Ï ŒËÎÎ		I <b>⊞</b> ÎÎ Þ[}^	JO€ÍÈE Þ[}^
ÁÖã & @e+*^Áùd`&c`¦^ÁFÁŒA ā[] ^Á, ^ā ÁMÚ æe*ÁÆAT ægā[`{ ÁÆAÛ[•ãæā;^ ÁMÚ æe*ÁÆAT ægā[`{ ÁÆA>^*ææā;^ ÁMÓ`{` ææā;^ÁX[ `{ ^ÆAT ægā[`{ ÁÚ[•ãæā;^ ÁMÓ`{` ææā;^ÁX[ `{ ^ÆAT ægā[`{ Áo^*ææā;^ ÁMÓ`{` ææā;^ÁX[ `{ ^ÆAT ægā[`{ Áo^*ææā;^ ÁMÓ`{` ææā;^ÁX[ `{ ^ÆAO}&	FÈH Þ[}^ FĒÎÎ Þ[}^ Ï ŒĒÎÎ		I <b>⊞</b> ÎÎ Þ[}^	JG€ÍÈE Þ[}^ JG€ÍÈE
ÁÖá & @ed * ^ ÁÙd * & c '   ^ ÁGÁÉÉA) æ& cáç ^ ÁMÚ æe ^ ÁEÁT æg ā * { ÁEÁÚ[• ã ág ^ ÁMÚ æe ^ ÁEÁT æg ā * { ÁEÁT > * æg āç ^ ÁMÓČ { *   æg āç ^ ÁX[  * { ^ ÁEÁT æg ā] * { ÁÚ[• ã ág ^ ÁMÓČ { *   æg āg ^ ÁX[  * { ^ ÁEÁT æg ā] * { Áp ^ * æg āg ^ ÁMÓČ { *   æg āg ^ ÁX[  * { ^ ÁEÁT æg ā] * { Åp ^ * æg āg ^ ÁMÓČ { *   æg āg ^ ÁX[  * { ^ ÁEÁÖ} å Å;  ÁÛā] *   æg ā] }	åãræà  ^å åãræà  ^å åãræà  ^å åãræà  ^å åãræà  ^å		åãræài ^å åãræài ^å	åãræà ^å åãræà ^å åãræà ^å
ÁÖã & @ek * ^ ÁÙd * & c '   ^ ÁHÁÉÉA) æ8cāç ^ ÁMÁÜæe ^ ÁEÁT ægā * { ÁEÁÚ[• ããaç ^ ÁMÁÜæe ^ ÁEÁT ægā * { ÁEÁÞ ^ * ægāç ^ ÁMÁÔ * { *   ægāç ^ ÁX[  * { ^ ÁEÁT ægā] * { ÁÚ[• ããāç ^ ÁMÁÔ * { *   ægāç ^ ÁX[  * { ^ ÁEÁT ægā] * { ÁÞ ^ * ægāç ^ ÁMÁÔ * { *   ægāç ^ ÁX[  * { ^ ÁEÁT ægā] * { ÅÞ ^ * ægāç ^ ÁMÁÔ * { *   ægāç ^ ÁX[  * { ^ ÁEÁO} å Å; ÁÙā[ *   ægā] }	åã æà  ^å åã æà  ^å åã æà  ^å åã æà  ^å åã æì  ^å		åãræài ^å åãræài ^å	åãræà ^å åãræà ^å åãræà ^å
ÁÚ[  `cā[}ÁOZaæe^{^}ob]åÁQaæē^{^}ob]åÁQaā[}ÁX[ `{^ ÁÁÁÁHÎÁP[`¦ÁÛcæē^Áse]åÁQaā[dæsā[}ÁX[ `{^ ÁÁÁÁCÁP[`¦ÁÛcæē^Áse]åÁQaā[dæsā[}ÁX[ `{^	ÞÍÐÉ ÞÍÐÉ	ÞÉJÉ ÞÉJÉ		ÞÆ ÞÆ

R', ^|Ææ4^ÄÜ^•^¦ç^

Gi a a Ufmic ZF Ygi `hg :: Scenario 10 :: FDOT 2 Hour - 2 hr - 100 yr

	Va[ ^ Ç@2 `¦∙D	Ùœ≛^ ÇoÁsæč{D	Üæg^ ÇcÐD	X[   ັ { ^ Çc D
ÂÙcæt^ ÀÀÁT ājā[ੱ{ ÀÁKT æ¢ā[ĭ{	<del>€ÌÈ€€</del> FËIÍ	F€ÏÊÎ FF€ÊF		
ÁD	란iî 卢}^ 연i! 卢}^ 『ŒiF		ÎJÈÌ€€ Þ[}^	FÎ ( J J ) ÈS FÎ ( J J ) ÈS
ÁQ-ádæái} ###UjæevÁEPI æ¢āi *{ #E#U[•ānāç^ ###UjæevÆEPI æ¢āi *{ #E#p^* æ¢ā;^ ####Q* { ` ææāç^Áx[  `{ ^AE#P æ¢āi *{ #U[•ānāç^ ####Q* { ` ææāç^Áx[  `{ ^AE#P æ¢āi *{ #U[•ānāç^ ####Q* { ` ææāç^Áx[  `{ ^AE#P æ¢āi *{ #p^* ææāç^ ####Q* { ` ææāç^Áx[  `{ ^AE#O} å #kj -#Ûāi * ææāi}}	GÈEHÎ ÎÈEÏF GÎÎĒÎIF ♭[}^ IGGĒÎIF		FFÈHİH EEESİÎ	F€FÌÍÌÈG Þ[}^ F€FÌÍÌÈG
AÔ[{ à ā} ^ å ÁÔā & @ed* ^ ###Üæe^ÁEAT æ¢ā[ ` { ÆEAÛ[•ātā;^ ###Üæe^ÆEAT æ¢ā[ ` { ÆEAP^* ææā;^ ###Ô` { `  ææā;^ÀX[  ` { ^ÆEAT æ¢ā[ ` { ÁÛ[•ātā;^ ###Ô` { `  ææā;^ÁX[  ` { ^ÆEAT æ¢ā[ ` { ÁÛ[•ātā;^ ###Ô` { `  ææā;^ÁX[  ` { ^ÆEAT æ¢ā[ ` { ÁP^* ææā;^ ###®Ô` { `  ææā;^ÁX[  ` { ^ÆEO)}å/f; ~ÂÛā[ `  ææā[}	FËIÍ Þ[}^ FIĒÌF Þ[}^ Ï ŒÎF		ÎĔIIÏ Þ[}^	ÎIFI⊖ÈE Þ[}^ ÎIFI⊖ÈE
ÁÖā & @ek* ^ ÁÜd * & c ¦ ^ ÁF ÁÆA ā ]   ^ Á, ^ ā ÁMÁÜ æek ÆAT æ¢ā * { ÆAÚ[•āāā;^ ÁMÁÜ æek ÆAT æ¢ā * { ÆAP ^* ææā;^ ÁMÁÖ * { *   ææā;^ ÁX[] * { ^ ÆAT æ¢ā * { ÁÚ[•āāā;^ ÁMÁÖ * { *   ææā;^ ÁX[] * { ^ ÆAT æ¢ā * { ÁÞ ^* ææā;^ ÁMÁÖ * { *   ææā;^ ÁX[] * { ^ ÆAÖ) å Å; ~ ÁÜā[ *   ææā; }	FËIÍ Þ[}^ FIĒIF Þ[}^ Ï GŒIF		ÎĚIIÏ Þ[}^	ÎIFI⊖ÈE Þ[}^ ÎIFI⊖ÈE
ÁÖā &@ek*^ÁÚd`&c`¦^ÁGÁÉÁBJ æ&cāç^ ##Üæk^ÆET æ¢ā] `{ ÆEÁÚ[•āāáç^ ##Üæk^ÆET æ¢ā] `{ ÆEAP^*æaāç^ ##WÔ`{ ` æaāç^ÁX[ `{ ^ÆET æ¢ā] `{ ÁÚ[•āāāç^ ##WÔ`{ ` æaāç^ÁX[ `{ ^ÆET æ¢ā] `{ ÁP^*æaāç^ ##WÔ`{ ` æaāç^ÁX[ `{ ^ÆEO}}å4j-ÁÚā] ` ææāj}	åð æ æ  ^ å åð æ   ^ å åð æ   ^ å åð æ   ^ å åð æ   ^ å		åãræaà ^å åãræaà ^å	åãræà  ^å åãræà  ^å åãræà  ^å
ÁÖā &@e\*^ÁÙd`&c`¦^Á+WÉÉ\$J æ&cāç^ ÁWÁÜæk^ÆÉT æ¢āj`{ ÆÉÁÚ[•āāāç^ ÁWÁÜæk^ÆÉT æ¢āj`{ ÆÉA>^*æaāç^ ÁWÁÖ`{` æaāç^ÁX[]`{ ^ÆÉT æ¢āj`{ ÁÚ[•āāāç^ ÁWÁÖ`{` æaāç^ÁX[]`{ ^ÆÉT æ¢āj`{ ÁP^*æaāç^ ÁWÁÖ`{` æaāç^ÁX[]`{ ^ÆÉT æ¢āj`{ ÁP~*æaāç^	åãræà ^å åãræà ^å åãræà ^å åãræà ^å åãræà ^å		åãræà ^å åãræà ^å	åãræà ^å åãræà ^å åãræà ^å
ÁÚ[  ˇcā[}ÁCEaæe^{^}do ÁÁÁH ÁP[ˇ¦ÁÙcæe*^Áse}åÁQ-ādæeā[}ÁX[ ˇ{ ^ ÁÁÁ CÁP[ˇ¦ÁÙcæe*^Áse}åÁQ-ādæeā[}ÁX[ ˇ{ ^	ÞÉDÉ ÞÉDÉ	ÞÈÈ ÞÈÈ		ÞÈÈ ÞÈÈ

Gi a a Ulmic ZF Ygi `hg :: Scenario 11 :: FDOT 4 Hour - 4 hr - 100 yr

	Vã[^ Ç@_`¦•D	Ùcæ≛^ ÇeAnaæč{D	Üæe^ Çc⊕D	X[   ´ { ^ ÇeD
ÁJæť^ ÁÁÁT ajāj~{ ÁÁÁT æ¢aj~{	€ÌÈ€€ HÈG€€	F€ÏĒÎ FF€ÐF		
ÁQ- [, AMAU æec^AEAT æecā[ `{ AEAU[•ātāç^ AMAU æec^AEAT æecā[ `{ AEAP^* æetāç^ AMAO`{ ` æetāç^AAC[ `{ ^AEAT æecā[ `{ AU[•ātāç^ AMAO`{ ` æetāç^AK[ `{ ^AEAT æecā[ `{ Ab^* æetāç^ AMAO`{ ` æetāç^AK[ `{ ^AEAT æecā[ `{ Ab^* æetāç^ AMAO`{ ` æetāç^AK[ `{ ^AEATO}åA, -AUā[ ` æetā[}	연현 H 卢[}^ I 변 i l 卢[}^ Ï G 변 i F		HÌÐÏÌF Þ[}^	03H-ïFÈ Þ[}^ 03H-ïFÈ
ÁQ-ájdæðáj} ÁMKÚæð ÁÐATæðáj (ÁÐÁÚ)[•átág^ ÁMKÚæð ÁÐATæðáj (ÁÐAÞ^*æðág^ ÁMKÓ (*)æðág^ÁK[ '{^ÁÐATæðáj (ÁÚ)[•átág^ ÁMKÓ (*)æðág^ÁK[ '{^ÁÐATæðáj (ÁÞ^*æðág^ ÁMKÓ (*)æðág^ÁK[ '{^ÁÐÓ}åÁ,-ÁÚáj (æðáj)	Q主(Î   注意 F GQ主Î F   卢] }^   「G EÎ F		FŒÈHÌF ËŒËJÌG	λί <b>Θ</b> ί Θε ⊢[}^ λί Θί Θε <u></u>
\hat{O}_{\text{c}} \angle \alpha \A\O \alpha	HÈG€€ Þ[}^ G'ÉIF Þ[}^ ïG'ÉIF		FFÈEGÎF Þ[}^	FŒÍÌÌJÈE Þ[}^ FŒÍÌÌJÈE
ÁÖār & @ed * ^ ÁÚd * & c* ¦ ^ ÁF ÁÁEÁr ā[]   ^ Á, ^ ā ÁMÁÜ æer ÁEÁT æerā[ * { ÁEÁÚ[ • ārāp^ ÁMÁÜ æer ÁEÁT æerā[ * { ÁEÁT > * æerāp^ ÁMÁÔ* { *   ææāp^ ÁK[   * { ^ ÁEÁT æerā[ * { ÁÚ[ • ārāp^ ÁMÁÔ* { *   ææāp^ ÁK[   * { ^ ÁEÁT æerā[ * { ÁÞ^* ææāp^ ÁMÁÔ* { *   ææāp^ ÁK[   * { ^ ÁEÁO} åAþ ÁÚā[ *   ææā] }	HÈŒ Þ[}^ GÌĒÌF Þ[}^ ÏGĒÌF		FFÈÈGÎF Þ[}^	FGÍÌÌJÈE ♭[}^ FGÍÌÌJÈE
ÁÖā & @ek * ^ ÁÙd * & c '   ^ ÁCÁÆAS æ& cāp ^ ÁMÁÜ ææ AÆAT ægā * { ÁÆÁU [ • ārāp ^ ÁMÁÜ ææ ÁÆAT ægā * { ÁÆAÞ ^ * ægāp ^ ÁMÁÔ * { *   ægāp ^ ÁX [   * { ^ ÁÆAT ægā] * { ÁÚ [ • ārāp ^ ÁMÁÔ * { *   ægāp ^ ÁX [   * { ^ ÁÆAT ægā] * { ÁÞ ^ * ægāp ^ ÁMÁÔ * { *   ægāp ^ ÁX [   * { ^ ÁÆAD } å AÐ ÁÐ ĀÛā] *   ægā] }	åð æða ^å åð æða ^å åð æða ^å åð æða ^å åð æða ^å		åãræaa ∧å åãræaa ∧å	åãræaì ^å åãræaì ^å åãræaì ^å
ÁÖā & @ek * ^ ÁÙd * & c '   ^ Án HÁÉÉIS æ& cāp ^ ÁMÁÜæ * ÁÉAT æg ā * { ÁÉAÚ [ • āiāp ^ ÁMÁÜæ * ÁÉAT æg ā * { ÁÉAÞ ^ * ægāp ^ ÁMÁÔ * { *   ægāp ^ ÁX [   * { ^ ÁÉAT æg ā * { ÁÚ [ • āiāp ^ ÁMÁÔ * { *   ægāp ^ ÁX [   * { ^ ÁEAT æg ā * { ÁÞ ^ * ægāp ^ ÁMÁÔ * { *   ægāp ^ ÁX [   * { ^ ÁEAT æg ā *	åã æà ^å åã æà ^å åã æà ^å åã æà ^å åã æà ^å		åãræà⊫ ^å åãræà⊨ ^å	åãræaà ^å åãræaà ^å åãræaà ^å
ÁÚ[  ˇcā[}ÁOāaæc^{^}do\ ÁÁÁHÍÁP[ˇ¦ÁÚcæt^Áæ)åÁQQ-ā[dæcā[}ÁX[ ˇ{^ ÁÁÁÁGÁP[ˇ¦ÁÚcæt^Áæ)åÁQQ-ā[dæcā[}ÁX[ ˇ{^	ÞÍÐÉ ÞÍÐÉ	ÁCÁ ÁCÁ 4		ÞÉÆ ÞÉÆ

R', ^|Ææ4^ÄÜ^•^¦ç^

Gi a a UfmcZFYgi hg :: Scenario 12 :: FDOT 8 Hour - 8 hr - 100 yr

	Va[^ Ç@2_`¦∙D	ٜ#^ Çe%aæč{ D	Üæe^ ÇeÐD	X[   ´ { ^ Çe D
ÁÚcaet^ ÁWÁTājāj ( ÁWÁTæ¢āj (	€Ì€€€ Í ÌÈH€	F€ÏËÎÎ FFFŒH		
ÁQ- [, AMIU æe^AEÄT æe¢ā[ * { AEÄÁU[• ātāç^ AMIU æe^AEÄT æe¢ā] * { AEÄP^* æe¢ā;^ AMIÖ* { *  æe¢ā;^Ax[  * { AEÄT æe¢ā[ * { AÁU[• ātāç^ AMIÖ* { *  æe¢ā;^Ax[  * { AEÄT æe¢ā[ * { AAP^* æe¢ā;^ AMIÖ* { *  æe¢ā;^Ax[  * { AEÄO} å A; AÁUā[ *  æeði] }	HÈJH Þ[}^ ÌĒIÏ Þ[}^ FFÏŒÎI		lÎ∄HŒG Þ[}^	H∈FÌÌÎÈG Þ[}^ H∈FÌÌÏÈG
ÁQ -ād aeaā } ÀWÜ aec^ĀEĀT aecā * { ĀĒĀÚ [• ātāç^ ÀWÜ aec^ĀEĀT aecā * { ĀĒĀP^* aecāç^ ÀWÔ * { *   aecāç^ĀX [   * { ^ĀEĀT aecā * { ĀÚ [• ātāç^ ÀWÔ * { *   aecāç^ĀX [   * { ^ĀEĀT aecā * { ĀP^* aecāç^ ÀWÔ * { *   aecāç^ĀX [   * { ^ĀEĀO } å Ā; -ĀÚā, * aecā; }	IÈEG€ FFEEÏI HEÌÈÏII Þ[}^ FFÏGĒÏII		Æ∰ į G ŁĿĒĴĴĴĮ	F€ÏHÏÌÈF Þ[}^ F€ÏHÏÌÈF
ÁÔ[{àā]^åÁÖā&@e\*^ ###Üæe^ÆATæ¢ā[~{ÆÄV[•āāā;^ ###Üæe^ÆATæ¢ā]~{ÆÄP^*æaā;^ ###Ô~{~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	ÍÈEH€ Þ[}^ HŒÍII Þ[}^ FFÏŒÍI		F <b>HÈ</b> €ÎF Þ[}^	FJIÍ€ÌÈ Þ[}^ FJIÍ€ÌÈ
ÁÖár8.@et*^ÁUd`8c`¦^ÁFÁÆA; aj ]  ^Á, ^ā ÁMÚUæe*ÁÆATæ¢ā; č ÁÆÁU[•āæā;^ ÁMÚUæe*ÁÆATæ¢ā; č ÁÆA>^*ææā;^ ÁMÓč { ` ææā;^Áx[ `{ ^ÁÆATæ¢ā; č ÁÚ[•āæā;^ ÁMÓč { ` ææā;^Áx[ `{ ^ÁÆATæ¢ā; č ÁÞ^*ææā;^ ÁMÓč { ` ææā;^Áx[ `{ ^ÁÆATæ¢ā; č ÁÞ^*ææā;^	ÍÈ⊤H€ Þ[}^ HŒÎII Þ[}^ FFÏŒÎI		F <b>HÌ</b> €ÎF Þ[}^	FJIÍ ĤÈ Þ[}^ FJIÍ ĤÈ
ÁÖár8.@et*^ÁUd`8c`¦^ÁGÁÉÁBJæ8cág,^ ÁMÚUæe*ÁÉÁTæ¢á[`{ÁÉÁU[•átág,^ ÁMÚUæe*ÁÉÁTæ¢á[`{ÁÉÁP^*æág,^ ÁMÍÔ`{` æág,^Áx[ `{^ÁÉÁTæ¢á[`{ÁÚ[•átág,^ ÁMÍÔ`{` æág,^Áx[ `{^ÁÉÁTæ¢á[`{ÁP^*æág,^ ÁMÍÔ`{` æág,^Áx[ `{^ÁÉÁTæ¢á[`{ÁP^*æág,^ ÁMÍÔ`{` æág,^Áx[ `{^ÁÉÓ)}åÁ,-ÁÚá[` æág]}	åãræaì ^å åãræaì ^å åãræaì ^å åãræaì ^å		åãræà ^å åãræà ^å	åãræà ^å åãræà ^å åãræà ^å
ÁÖā 8.@el*^ÁUd`8c`¦^ÁHÁÉÁB æ8cāç^ ÁMÁUæe^ÁÉÁT ægā[č ÁÉÁU[•āāāç^ ÁMÁUæe^ÁÉÁT ægā[č ÁÉÁP^*æēāç^ ÁMÁÖ`{č æēāç^ÁK[ č{^ÁÉÁT ægā[č ÁÚ[•āāāç^ ÁMÁÖ`{č æēāç^ÁK[ č{^ÁÉÁT ægā[č ÁP^*æēāç^ ÁMÁÖ`{č æēāç^ÁK[ č{^ÁÉÁT ægā[č ÁP^*æēāç^ ÁMÁÖ`{č æēāç^ÁK[ č{^ÁÉÖ}}åÁ;ÁÚā[č æēā[}	åãræà  ^å åãræà  ^å åãræà  ^å åãræà  ^å		åãræà ^å åãræà ^å	åãræà ^å åãræà ^å åãræà ^å
ÁÚ[  `cā[}ÁŒaæc^{^}dK ÁÁÁH ÁP[`'¦ÁÙcæt^Áæc)åÁQ-ājdæcā[}ÁX[ `{^ ÁÁÁ GÁP[`'¦ÁÙcæt^Áæc)åÁQ-ājdæcā[}ÁX[ `{^	ÞÉŒ ÞÉŒ	ÞÓÐÉ ÞÓÐÉ		ÞÈÈ ÞÈÈ

Gi a a Ulmic ZF Ygi `hg :: Scenario 13 :: FDOT 24 Hour - 24 hr - 100 yr

	Vã[^ Ç@_~`¦•D	Ùœ≛^ ÇeÁnaeč{D	Üæe^ Çc⊕D	X[
ÁÚcæ≛^ ÁÁÁT aja[*{ ÁÁÁT ag¢a[*{	<del>€ÌÈ€€</del> FÍÈÈÏH	F€ÏËÎ FF€ËJ		
ÁQ- [, ÀÁMÜ acc^AÉÁT accā[ `{ ÁEÁÚ[•āúā;^ ÀÁMÜ acc^AÉÁT accā] `{ ÁEÁP^* accā;^ ÀÁMÔ `{ ` accā;^^AX[ `{ ^ÁEÁT accā[ `{ ÁÚ[•áúā;^ ÀÁMÔ `{ ` accā;^^AX[ `{ ^ÁEÁT accā[ `{ ÁÞ^* accā;^ ÀÁMÔ `{ ` accā;^^AX[ `{ ^ÁEÁT accā[ `{ ÁÞ^* accā;^ ÀÁMÔ `{ ` accā;^^AX[ `{ ^ÁEÁO} àÁ; -ÁÚā[ ` accā[}	FŒ€Î Ģ[}^ G[Ē]}^ ï][Ē]H		FÍĚ€JI Þ[}^	lÎĜÍ∉Ë Þ[}^ lÎĜÍ∉Ë
ÁQ-ádæðá) ÁMÚlæð-ÁEATæðá, `{ÁEÁU[•ãóá;^ ÁMÚlæð-ÁEATæðá, `{ÆEAP^*æðá;^ ÁMÓČ { ` æðá;^ÁX[ `{^ÁEATæðá;`{ÁU[•ãóá;^ ÁMÓČ { ` æðá;^ÁX[ `{^ÁEATæðá; `{ÁD/*æðá;^ ÁMÓČ { ` æðá;^ÁX[ `{^ÁEATæðá; `{ÁÞ^*æðá;^ ÁMÓČ { ` æðá;^ÁX[ `{^ÁEATæðá; `{ÁÞ^*æðá;}	ÌÈÈÎG GÈEÏH H΀ĒÎIH Þ[}^ ÏIIĒÎIH		ÎÈÏÏ€ ËEÈHJ€	FGÎÌÏĚ Þ[}^ FGÎÌÏĚ
ÁÔ[{ à āļ ^ å ÁÖ ā & @ed * ^ ###Ü æe ^ ÆFT æe ā[ ` { ÆFÚ [ • āiā; ^ ###Ü æe ^ ÆFT æe ā[ ` { ÆFÞ ^ * æe ā; ^ ###Ô ` { `  æeā; ^ ÅK[   ` { ^ÆFT æe ā[ ` { ÁÚ [ • āiā; ^ ###Ô ` { `  æeā; ^ ÁK[   ` { ^ÆFT æe ā[ ` { ÁÞ ^ * æeā; ^ ###Ô ` { `  æeā; ^ ÁK[   ` { ^ÆFO } å A;	FÍÈEÏH Þ[}^ IÌĒÏH Þ[}^ ÏIIĒÏH		JÈHÌF€ Þ[}^	HH JÎ HÊH Þ[}^ HH JÎ HÊH
ÁÖã & @ed*^ÁÙd`&c`¦^ÁFÁÆÁ ā ]  ^Á, ^ā ÁMÁÜ æe^ÁÆT ægā `{ ÆÁÚ[•ããç^ ÁMÁÜ æe^ÆT ægā `{ ÆÁÞ^*ægā^^ ÁMÁÔ`{` æaã,^ÁX[ `{ ^ÆT ægā `{ ÁÚ[•ããç^^ ÁMÁÔ`{` æaã,^ÁX[ `{ ^ÆT ægā `{ ÁÞ^*æaã,^ ÁMÁÔ`{` æaã,^ÁX[ `{ ^ÆT ægā `{ ÁÞ^*æaã,^ ÁMÁÔ`{` æaã,^ÁX[ `{ ^ÆTÔ}åÁ,-ÁÚā, ïæaã,}	FÍÈEÏH Þ[}^ IÌĒÏH Þ[}^ ÏIIĒÏH		J <b>ÈÌ</b> F€ Þ[}^	HHÏ JÎ HÊH Þ[ }^ HHÏ JÎ HÊH
ÁÖã & @ed*^ÁÙd`&c`¦^ÁCÁÆÉSJ æ&cãç^ ÁMMÜæe^ÁÆT æetā[`{ ÆÐÚ[•ããg^ ÁMMÜæe^ÆÐT æetā]`{ ÆÐÞ^*æeãg^ ÁMMÔ`{` æeãg^^ÁX[ `{ ^ÆT æetā]`{ ÁÚ[•ãtāg^ ÁMMÔ`{` æeãg^^ÁX[ `{ ^ÆT æetā]`{ ÁP^*æeãg^ ÁMMÔ`{` æeãg^^ÁX[ `{ ^ÆTO}}åAj-ÁÙā[` æeā]}	åð ææi ^å åð ææi ^å åð ææi ^å åð ææi ^å åð ææi ^å		åãræaa ∧å åãræaa ∧å	åãræai ^å åãræai ^å åãræai ^å
ÁÖã & @ed * ^ ÁÙd * & c ' ^ ÁHÁÉÉS e& cáç ^ ÁMÚ æe ^ ÁÉT æg a * { ÁÉÚ [ • áág ^ ÁMÚ æe ^ ÁÉT æg a * { ÁÉÞ ^ * æg a * { ÁÚ [ • áág ^ ÁMÔ * { *  æag ^ ÁX [   * { ^ ÁÉT æg a * { ÁÚ [ • áág ^ ÁMÔ * { *  æag ^ ÁX [   * { ^ ÁÉT æg a * * { ÁÞ ^ * æag ^ ÁMÔ * { *  æag ^ ÁX [   * { ^ ÁÉT æg a * ÂÚ a ^ ÁÚ a * [ æa] }	åã æà ^å åã æà ^å åã æà ^å åã æà ^å åã æà ^å		åã æà ^å åã æà ^å	åãræà ^å åãræà ^å åãræà ^å
ÁÚ[  `cā[}Á05aæe^{^}ohd ÁÁMHÍÁP[``¦ÁÙcæe*^Áæe}åÁQQ-ā[dææaā[}ÁX[ `{^ ÁÁMÁ,GÁP[``¦ÁÙcæe*^Áæe}åÁQQ-ā[dææāa[}ÁX[ `{^	ÞÍÐÉ ÞÍÐÉ	±0. ±0.14		ÞÍÐÉ ÞÍÐÉ

Gi a a Ufmic ZF Ygi `hg :: Scenario 14 :: FDOT 72 Hour - 72 hr - 100 yr

	Vã[^ Ç@_~`¦•D	Ùœ≛^ <i>Ço</i> Ásæč{ D	Üæz^ Çc⊕D	X[   ´ { ^ Çc D
ÁÚcæ≛^ ÁÁÁTA)áã ÍÁÁTa¢¢ãĭ{	€ÌÈ€€ ΀ÈÉÍÍ	F€ÏÊÎ FF€ÈÍ		
ÁQ- [, ÀÁMÜ aœ^AEÁT aœ;ā[ `{ AEÁÚ[•āúā;^ ÀÁMÜ aœ^AEÁT aœ;ā[ `{ AEÁÞ^* aœ;ā;^ ÀÁMÔ`{ ` aœ;ā;^Ax[ `{ ^AEÁT aœ;ā[ `{ ÁÚ[•āúā;^ ÀÁMÔ`{ ` aœ;ā;^Ax[ `{ ^AEÁT aœ;ā[ `{ ÁÞ^* ææ;ā;^ ÁÁMÔ`{ ` aœ;ā;^Ax[ `{ ^AEÁT aæ;ā[ `{ ÁÞ^* ææ;ā;^ ÁÁMÔ`{ ` aœ;ā;^Ax[ `{ ^AEÁO} åÁ; -ÁÜā[ ` aæ;ā[}	[J亞[]   []]   []]   []]   []]   []]		FFÈÌIÍ Þ[}^	ÎHHJEH Þ[}^ ÎHHJEH
ÁQ-ádæðá) ÁMÚlæð-ÁEATæðá, `{ÁEÁU[•áðáç^ ÁMÚlæð-ÁEATæðá, `{ÆÉA>*æðáç^ ÁMÓČ { ` æðáç^ÁX[ `{^ÁEATæðá; `{ÁÚ[•áðáç^ ÁMÓČ { ` æðáç^ÁX[ `{^ÁEATæðá; `{ÁD^*æðág^ ÁMÓČ { ` æðáç^ÁX[ `{^ÁEATæðá; `{ÁD^*æðág^ ÁMÓČ { ` æðáç^ÁX[ `{^ÁEATæðá; ` æái}}	iloajil hi}v ilpaji Loajil Loaje		QEÎÌÏÎ ËEÈEÌ€	FIÏÌÏJÀ Þ[}^ FIÏÌÏJÀ
AÔ[{ à āļ ^ à ÁÖā & @ed*^ ###Üæe^Æ#Tæpā[ `{ Æ##Ú[•ātāp^ ###WÜæe^Æ#Tæpā] `{ Æ##>^*ætāp^ ###ÛČ { ` ætāp^A;K[ `{ ^Æ#Tæpā] ` { ÁÚ[•ātāp^ ###ÜČ { ` ætāp^A;K[ `{ ^Æ#Tæpā] ` { ÁÞ^*ætāp^ ###ÜČ { ` ætāp^A;K[ `{ ^Æ#Tæpā] ` { ÁÞ^*ætāp^ ###ÜČ { ` ætāp^A;K[ `{ ^Æ#O}}ån[-AÛā] ` ætā]}	΀ŒÉÍ Þ[}^ Þ[}^ ïJŒŤÎJ		F€ÈEG Þ[}^	
ÁÖã & @ed*^ÁÙd`&c`¦^ÁFÁÆA ā ]  ^Á, ^ā ÁMMÜ æe^ÁÆT æpā `{ ÆÐU[•ããp^ ÁMMÜ æe^ÆT æpā `{ ÆÐp^*æsãp^ ÁMMÔ`{` æsãp^ÁX[]`{ ^ÆT æpā]`{ ÁÚ[•ãsãp^ ÁMMÔ`{` æsãp^ÁX[]`{ ^ÆT æpā]`{ Áp^*æsãp^ ÁMMÔ`{` æsãp^ÁX[]`{ ^ÆTO}åA, ÆŨā]` æsã]}	Î⊕EÍÍ Þ[}^ JÎĒÍJ Þ[}^		F€ÌÌGFG Þ[}^	
ÁÖã & @ed*^ÁÙd`&c`¦^ÁCÁÆĞŞ æ&cāç^ ###Üæe^ÆÄT æçā[`{ ÆÄÜ[•āñāç^ ###Üæe^ÆÄT æçā[`{ ÆĀÞ^*æcāç^ ###Ô`{` æcāç^A%[]'{ ^ÆÄT æçā[`{ ÁÚ[•āñāç^ ###Ô`{` æcāç^A%[]'{ ^ÆÄT æçā[`{ ÁÞ^*æcāç^ ###Ô`{` æcāç^A%[]'{ ^ÆÄT æçā[`{ ÁÞ^*æcāç^ ###Ô`{` æcāç^A%[]'{ ^ÆÄO}åA, AÛā[` æcā[}	åã æà ^å åã æà ^å åã æà ^å åã æà ^å åã æà ^å		åãrænà∣^å åãrænà∣^å	åãræà ^å åãræà ^å åãræà ^å
ÁÖã & @ed*^ÁÙd`&c`¦^ÁHÁÉÉSI æ&cãp^ ÁMÁÜæe^ÁEÁT ægtā[`{ ÆÁÚ[•ããp^ ÁMÁÜæe^ÆÁT ægtā]`{ ÆÁÞ^*ægāp^ ÁMÁÔ`{` ægāp^ÁX[]`{ ^ÆÉT ægtā]`{ ÁÚ[•ããāp^ ÁMÁÔ`{` ægāp^ÁX[]`{ ^ÆÉT ægtā]`{ ÁÞ^*ægāp^ ÁMÁÔ`{` ægāp^ÁX[]`{ ^ÆÉT ægtā]`{ ÁÞ^*ægāp^ ÁMÁÔ`{` ægāp^ÁX[]`{ ^ÆÉTO}åAÍ-ÁÚā[` ægā]}	åð æi  ^å åð æi  ^å åð æi  ^å åð æi  ^å åð æi  ^å		åãrænà∣^å åãrænà∣^å	åãræà ^å åãræà ^å åãræà ^å
ÁÚ[  `cā[}ÁOEaæe^{^}ohd ÁÁMHÍÁP[`'¦ÁÙcæe*^Áæo}åÁQ-ā[dææā[}ÁX[ `'{^ ÁÁMÁ,GÁP[`'¦ÁÙcæe*^Áæo}åÁQ-ā[dææā[}ÁX[ `'{^	ÞÍÐÉ ÞÍÐÉ	ÞÉJÉ ÞÉJÉ		ÞÍÐÉ ÞÍÐÉ

Gi a a Ufmic ZF Ygi `hg :: Scenario 15 :: FDOT 168 Hour - 168 hr - 100 yr

	Vã[^ Ç@[ઁ¦•D	Ùœ≛^ ÇoAsaeč{D	Üæe^ ÇeÐD	X[   ັ { ^ Çc D
ÁÚcæ≛^ ÁÁÁTajā[*{ ÁÁÁTa¢ē[*{	€ÌÈ€€ FÎ €ÌÈFÍ	F€ÏÊÎ FF€ÎÎÌ		
ÁQ- [, AMWUæe^AEAT æe;ā[ `{ AEAU[•ātā;^ AMWUæe^AEAT æe;ā[ `{ AEA+>* æeā;^ AMWO`{ ` æeā;^Ax[ `{ ^AEA+ æe;ā[ `{ AU[•ātā;^ AMWO`{ ` æeā;^Ax[ `{ ^AEA+ æe;ā[ `{ Ab-^* æeā;^ AMWO`{ ` æeā;^Ax[ `{ ^AEA+ æe;ā[ `{ Ab-^* æeā;^ AMWO`{ ` æeā;^Ax[ `{ ^AEAO} åA; -AUā[ ` æeā[}	FÍJÈÌJ Þ[}^ FÎÌĒÎH Þ[}^ ÌÌÌĒÎH		Ï <b>È</b> Ï€ï Þ[}^	
ÁQ-ádaeá) ÁWÜaec^ÁZTaecá, { ÁZÚ[•ãúá;^ ÁWÜaec^ÁZTaecá, { ÁZÞ^* aecá;^ ÁWÔ`{   aecá;^Áx[  { ^ÁZÞ aecá; ` { ÁÚ[•ãúá;^ ÁWÔ`{   aecá;^Áx[  { ^ÁZT aecá; ` { ÁÞ[•ãúá;^ ÁWÔ`{   aecá;^Áx[  { ^ÁZŤ aecá; ` { ÁÞ^* aecá;^ ÁWÔ`{   aecá;^Áx[  { ^ÁZŤO}åÁ;-ÁÚā;   aecá;}	HÎÈEÍ€ FÏFÈEÎH Ï€ÌÈÎH Þ[}^ ÌÌÌÈÎH		GÎÎF΀ ËEÎFÌHJ	FÏIJ€ÎË Þ[}^ FÏIJ€ÎË
ÁÔ[{ à āļ^à ÁÖā & @ed*^ ###Üæe^ÆT æe;ā[ `{ ÆTÁU[•ātā;^ ###WÜæe^ÆT æe;ā] `{ ÆTÁÞ^*æetā;^ ###Ô`{ ` æetā;^Àx[ `{ ^ÆTA æe;ā[ `{ ÁÚ[•ātā;^ ###Ô`{ ` æetā;^Áx[ `{ ^ÆTA æe;ā[ `{ ÁÞ^*æetā;^ ###Ô`{ ` æetā;^Áx[ `{ ^ÆTA æe;ā[ `{ ÁÞ^*æetā;^ ###Ô`{ ` æetā;^Áx[ `{ ^ÆTÁ)}åA; AÛā[ ` æetā]}	F΀ÈEFÍ Þ[}^ FJG∄ÎH Þ[}^ ÌÌÌĒÎH		Ï∄ŒÍ Þ[}^	ÍÏ€ÍIÌÈ Þ[}^ ÍÏ€ÍIÌÈ
ÁÖã & @ed*^ÁÙd`&c`¦^ÁFÁÆÁ ā ]  ^Á¸^ā ÁMMÜæe^ÁÆT ægā `{ ÆÐU[•ããç^ ÁMMÜæe^ÆT ægā `{ ÆÐ>^*æsāç^ ÁMMÔ`{` æsāç^ÁX[ `{ ^ÆT ægā `{ ÁÚ[•ããç^ ÁMMÔ`{` æsāç^ÁX[ `{ ^ÆT ægā `{ ÁV[•ããç^ ÁMMÔ`{` æsāç^ÁX[ `{ ^ÆT ægā `{ ÁÞ^*æsāç^ ÁMMÔ`{` æsāç^ÁX[ `{ ^ÆTÔ}àÅ[-ÁÛā[` æsā]}	FÎ €ÈEFÍ Þ[}^ FJGÉÍH Þ[}^ ÌÌÌĒÍH		Ϊ∄ŒΓÍ Þ[}^	ÍÏ€ÍIÌÈ Þ[}^ ÍÏ€ÍIÌÈ
ÁÖá & @ed * ^ ÁÙd * & c '   ^ ÁGÁÉÉS) æ& cáp ^ ###Üæe ^ ÁÉÉT æg áj * { ÁÉÚ[• áiáp ^ ###Üæe ^ ÁÉT æg áj * { ÁÉÞ ^ * ægáp ^ ###Ö * { *   ægáp ^ ÁX[  * { ^ ÁÉT æg áj * { ÁÚ[• áiáp ^ ###Ö * { *   ægáp ^ ÁX[  * { ^ ÁÉT æg áj * { ÁÞ ^ * ægáp ^ ###Ö * { *   ægáp ^ ÁX[  * { ^ ÁÉT æg áj * { ÁÞ ^ * ægáp ^ ###Ö * { *   ægáp ^ ÁX[  * { ^ ÁETÖ } å Aj ~ ÁÚáj *   ægáj }	åãræà ^å åãræà ^å åãræà ^å åãræà ^å åãræà ^å		åãræà ^å åãræà ^å	åãræai∣^å åãræai∣^å åãræai∣^å
ÁÖá & @ed * ^ ÁÙd * & c '   ^ ÁHÁÉÉB æ& cáp ^  ###Üæe ^ ÁÉT æp á * { ÆÉU[• áráp ^  ###Üæe ^ ÁÉT æp á * { ÆÉÞ ^ * æráp ^  ###Ö { *   æráp ^ ÁK[  * { ^ ÁÉT æp á * { ÁÚ[• áráp ^  ###Ö { *   æráp ^ ÁK[  * { ^ ÁÉT æp á * { ÁÚ[• áráp ^  ###Ö { *   æráp ^ ÁK[  * { ^ ÁÉT æp á * { ÁÞ ^ * æráp ^  ###Ö { *   æráp ^ ÁK[  * { ^ ÁÉT & æp á * } * { ÁÞ _ * æráp ^  ###Ö { *   æráp ^ ÁK[  * { ^ ÁÉT & æp á * } * }	åãræà ^å åãræà ^å åãræà ^å åãræà ^å åãræà ^å		åãræà ^å åãræà ^å	åãræà ^å åãræà ^å åãræà ^å
ÁÚ[  `cā[}ÁOEaæe^{^}ohd ÁÁÁAnÍAP[`¦ÁÚcæe*^Áæ)åÁAQ-ājdææā[}ÁX[ `{^ ÁÁÁÁ,GÁP[`¦ÁÚcæe*^Áæ)åÁAQ-ājdææā[}ÁX[ `{^	ÞÍÐÉ ÞÍÐÉ	ÞÉJÉ ÞÉJÉ		ÞÓÐÉ ÞÓÐÉ

R^, ^|Ææ4^ÄÜ^•^\;ç^

Gi a a Ufmic ZF Ygi `hg :: Scenario 16 :: FDOT 240 Hour - 240 hr - 100 yr

	Va[ ^ Q@_~¦•D	ٜ*^ ÇeÁaæč{ D	Üæe^ ÇcÐD	X[
ÁÚcae <sup>†</sup> ^ ÁWÁT ājā[ ˇ{ ÁWÁT ægā[ ˇ{	<del>€ÌÈ€€</del> FÌIÈÈGÏ	F€ÏĒÎ FF€ĒI		
ÁÐ- [, ÁMÍÚ æð ÁEÁT æð á * { ÆEÁÚ[• áðág,^ ÁMÍÚ æð ÆÉT æð á * { ÆEÁÞ^* æðág,^ ÁMÍÓ { *  æðág,^ÁX[ * { ^ÆEÁT æð á * { ÁÚ[• áðág,^ ÁMÍÓ { *  æðág,^ÁX[ * { ^ÆEÁT æð á * { ÁÞ^* æðág,^ ÁMÍÓ { *  æðág,^ÁX[ * { ^ÆEÁT æð á * ÁÞA * æðág,^ ÁMÍÓ { *  æðág,^ÁX[ * { ^ÆEÁT)} åð, ÁÚ[á *  æðá]}	FÌIÈ€€€ ♭[}^ G!€Ё!I ♭[}^ J΀Ё!F		F <b>∉i</b> ï <b>H</b> Þ[}^	Ì JFÎ G È Þ[ }^ Ì JFÎ G È
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# NORTH FLORIDA PROFESSIONAL SERVICES, INC.

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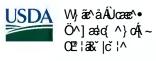
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Á Lake City: P.O. Box 3823, Lake City, FL 32056 • Tallahassee: P.O. Box 180998, Tallahassee, FL 32318

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Þæci¦æ Ü^•[i¦&^• Ô[}•^¦çæca[} Ù^¦çæ&^

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## Gc] A Ud

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#### A5D'@9: 9B8 A5D'=B: CFA5H=CB V@Á[āÁ~`¦ç^^•Ás@eeÁs[{]¦ã~Á[`¦ÁŒUŒ, ^¦^Á;æ]]^åÁsæÁ 5 fYU'cZ=bhYfYghiff5 C≠L Ù][**ä**ÁŒ/æ FKG ʀ€€È OE^æÁ; ÁQ; &\^• ÓÁCOEU OD â Ùd }^ÂÙ][c Gc]`g $X^{\hat{}} \hat{AU}$ $\hat{AU}$ $\hat{AU}$ $\hat{C}$ Yæ}ā, \* KÁÚ jā ÁTæļÁ, æÂ Á joÁs^Ácæláã ÁærÁc@ Á &æl^È Ù[āļÁTæ] ÁN}ãaÁÚ[|^\*[}• Y^oÂÙ][c Ù[āÁTæ]ÁW}ãóÁŠã ^• Ò} |æt\*^{ ^} oÁ -Á æð •Ás^^[ } åÁs@ Á &æt^Á -Á æð ]ð \*Ásæð Ásæð •^Á Ua@\ Δ { ã ` } å^! • cæ) åã \* Á -Ác@ Ás^ cæāÁ -Á æ] ã \* Ásè) å Áse8&` læ8 Á -Á [ āÁ Ù[āÁTæ]ÁW}ãÁÚ[ã,œ | a ^ Á | a & ^ { ^} dÁ / @ Á a a • Á a [ Á [ oÁ @ . Á @ Á { a a l Á a d A A Ù1 ^&andASa ^AØ^aec \^• GdYWU Dclbh: YUh fYa &[ } dæca; \* Á[ a ÁcææÁs] \* | å ÁcææÁs] \* | å Ácææ Ás^^} Ác@. } ÁcæÁsA [ | ^ Ás^cæan^å Á K UhYf': YUhi fYg Ó[[ c • &æ!^È (0) Ùd^æ(•Áæ)åÁÔæ)æ• Ó[¦¦[ ÁÚãc Hf Ubgdcfl/Uhlcb Ú|^æ^Á^|^Á|}Á@AàæAÁ&æ\^Á|}Á\æ&@Á æ‡Á @^oÁ;¦Á æ‡Á ÔlæÂÙ] [c ---Ô|[•^å/Ô^] |^•• ã } Qc^¦•cæc^ÁPã@怕 Ù[ ` | &^Á, -ÁT æ | KÁ, Þæ ; | æ | ÁÜ^• [ ` | &^• AÔ[ } • ^ | cæ | } AÛ^ | cæ | Õ¦æc^|ÁÚãc WÙÁÜ[ ˇ ơ\• Y^àÁÙ[ãÁÙ\*¦c^^ÁWÜŠKÁ Ô[[¦åã]æe^ÁÛ^•e^{ KÁ Y^àÁT^¦&æe[¦ÁQÒÚÙÕKHÌÍÏD Õ¦æç^||^ÂÛ][c Tæb∫¦ÁÜ[æå• Šæ)å-āl Šľ&ælÁÜľæå∙ $T = \frac{1}{4} \cdot A_1 = \frac{A_2 \cdot A_3 \cdot A_4 \cdot A_4 \cdot A_5 \cdot$ ] | [b/8ca] } ÊÁ @ & @ Á | ^• ^ | c ^• Á å å ^ 8ca] } Á æ à Á @ æ † ^ Á à ˇ c Á å æ d | c · Á ŠæçæÁØ|[. 6 UW [fci bX åã ca) &^Ás) åÁs6^aÐÁOÐÁ | [ b/&cã] }Ás@æÐÁ |^•^|ç^•Ás6^aÐÁ \* &@Áse Ás@Á Tæl•@Á¦Á,æ[] OE\aee\AU@q(\*\ae)@ O[tà^|•Á^\* ad=Ezd-^zds[} asAj:| b^8caj} £A @ | aka^Á • ^ akaAj [ | ^ Á Tã^Á¦ÁÛ°æ¦î Tã & \||æ \^[ \*• Á / æ \| V@a Á, : [ å \* & 6 fa Á ^ } ^ | æ ^ å Á | [ { Á @ Á N Ù Ö O E Ü Ö Ù Á & ^ | caā à Á a æ æ Á e Á [-Ás@\Ás^¦•ā[}Ásaæ^Q•DÁāc^åÁs^|[È Ú^\^} } ãædÁr ææ^\ Ü[&\ÁJ~6&¦[] Ù[ā/ÁÛ ;c^^ÁŒ A Ô[] { à ãæ ÂÔ[ } c ÊÁØ [ ;ãa æ Ù 'c^ ÁŒ^æÁÖæææÁ X^¦•ã} ÁFÍ ÊÁÛ^] ÁFÎ ÊÁG€FJ Ùælaā^ÁÙ][c Ùæ}å^ÂÙ][c Ù[địÁ; aqìÁ;)ãn•Ásd÷^Ájasà^|^åÁjan•Á;]as&^Ásd|[ • DÁ;¦Á; aqìÁ;&ad;^•Á FK̀ʀ€Á¦Áæ;\*^¦È Ù^ç^¦^|^ÂÛ|[ å^åÂÛ] [ c Ù@ \ @ |^ Öæe^ @ DÁse^¦ãædÁsi æt ^• Á ^¦^Á @ d \*¦æd @ åkÁ ÖæææÁ [oÁseçæsiðææì|^È Ùlãå^ÁLÂÚlã V@Á, c@ ]@ dÁ; Á c@ ;Áaæ ^Á, æ}Á, }Á, @&&@Á@ Á [āÁā, ^•Á, ^;^Á Ù[å&&ÁÙ][c &[{] a^a/\dada \dada a #^¦^Ásãa]|æ^^åÁs}Ás@•^Á;æ}•ÈÁO•ÁsæÁ^•`|dÉA[{ ^Á;ã[¦Á • @ācā, \* Án -Án æļÁ }ãoÁa[ ັ } åædā • Án æê Áa ^Án çãa ^ } dÈ

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# A Ud'l b]hi8 YgWf]dh]cbg'fF YgYfj Y'Uhi>Yk Y'' @U\_YŁ

#### Ô • d { ÂÛ [ đÁÜ ^• [ \* | & ^ ÁÜ ^] [ | c

Ù[{ ^Á; æ] Á}ão•Áæ;^Á; æå,^Á]Á; Áç [Á;¦Á; [¦^Á; æb;¦Á;[ã•Á;¦Á; ã &^||æ),^[ˇ•Áæ;^æ ÈÁ V@•^Á; æ] Á}ão•Áæ;^Á&[{]|^¢^•Êæ;•[&ãæ;ā]}•ÊA;¦Á}åã.-^¦^}cãæ;°åÁ;[ˇ]•È

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 $\dot{U}[ \{ ^{\dot{A}} \dot{x}^{\dot{a}} ; c^{\hat{A}} \dot{x}^{\dot{a}} ; a^{\dot{A}} \dot{A} ( \tilde{a} &^{\hat{A}} )] ] | c^{\dot{A}} \dot{x}^{\dot{a}} \dot{x}^{\dot{a}} | A_{\hat{a}}  

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                   Ò|^çæqã[}KÁF€ÁS[ÁFJ€Á^^c
                    T^æ),Áæ),} ĕælÁ¦,^&ā],ãææāi,}kAŰ, FÁG,ÁJÁS,&@.●
                    T^æ),Áæ)} ĕaþÁæãiÁe^{ ]^¦æeč¦^KAÎÎÂÁ;ÁÏ€Áå^*¦^^•ÁØ
                   Ø'[•Œ'^^Á\^\á akÁGÌ€Á$ ÁHF€Áåæê•
                   Øæd{ |æd} å Áslæn• ã ã Bæaãi } KÁÞ [ cÁ lài ^ Áæd{ |æd} å
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                   O (Tàæ) ^Áæ) åÁ ã ãæ;Á (ã• KÁJ€Á, ^¦&^) c
                    Tą̃[¦AŚ[{][}^}o•KAİF€Aİ,^¦&^}c
                   Ö•aq aæ^•Áad^Áàa••^aÁi}}Áià•^¦çaæqi}•Æa^•&d;āa•^içaæqi}•Æa;•Æa;•Æa;åaÆd;a;•Æa;•^&o•ÁiÆa;æi;šai£
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         GYH]b[
                             Šæ)å-{¦{Aj[•ããa[}AiÇ[Ēãã[^}•ā[]æ;DAAÜQ[ˇ|å^¦
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         DfcdYfhJYg'UbX'ei U'JhJYg
                             Ù∥[]^KÁ€Á§Á,Á,^¦&^}c
                             Ö^] c@áf Á^•d &&aãç^Á^æeč ¦^KÁT [¦^Ás@æ) Âi€Á§ &@•
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                            ئ^~~^}&^A;-A;[}åð;*KA;[}^
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                             Ù[åã{ Áscå•[¦] cái} Álæcái ÉA æ¢ã; `{ Ási Ái; | -ā/kÁi ÈE
                             Ocçædaæà/^Á, æe^\/Árq[/æ*^Æg/Á;/[-ã/^kAT[å^|æe^ÁQæà[čoÂiÈFÆg&@•D
         =bhYfdfYh]jY'[fcidg
                             Šæ) å ÁSæ) æð ájað ÁSJæ• ã ãSæaj } ÁQJ å æ° å DAÁÞ[}^Á]^8ã ð
                             $æ; 寿; æàājāč Æk|æ••ãææāj; }ÆÇ[}āl¦ā*æe^åDKÁH^
                             P^å¦[|[*&AÛ[&AÕ;[~]KÁOEÖ
                            Ø[¦æ*^Ár`ãææàðããc´Ár¦[`]KÁÙæ}å^Á[ð;•Á;}Áã~^•Áæ}åÁ}[∥•Á;-Á; ^•æXÁ]|æ}å•Á
                                           ÇÖFHÌ ÝŒFHFØŠD
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#### Ô • d { ÂÛ [ ¾ÂÛ ^• [ ` | & ^ÂÛ ^] [ | c

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#### A]bcf<sup>-7</sup>ca dcbYbhg

#### 6 'Ubhcb

Ú^{&}} ơ∱ –Á; ạḍ Á} ãðÁi Á¸^\&^} c

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Šæỳ å - [ { MÁ [ • ãã¼] } ÁÇ @^ ^ Éà A; æÐMÁÙ Tắ ^ Ár || ] ^ ÉÁB; c^! → Č;

Ö[ ¸ } Ë || ] ^ Á @¾ ^ MÁÔ[ } Ç^ ¢

CŒ! [ • • Ē| [ ] ^ Á @¾ ^ MÁо ^ æð

UC@ | Áş^ \* ^ cææã, ^ Ác|æ• · Ãææ¾ } MÁW] |æỳ åÁP æð å¸ [ [ åÁP æð { [ &\ ÁÇÜ FÍ COÉŸ €€Ì ØŠD

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#### <i ff]WUbY

Ú^/8^} oÁ, Á, æjÁ} ã¥ÁHÁ,^\8^} c
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Šæjå-{;{ KÁO|æænÁ;}ÁÇ, [Ēāā,^}•ā;}æ¢DKÁÙQ\*;å^;ÉÁàæ&\•[]^
Šæjå-{;{ Á;[•ãā;}ÁÇ@^^Ēāā,^}•ā;}ædDKÁQ¢^;-;°¢ÉÁāâ^Á;[]^
Ö[¸}Ē[]^Á;@æj^KÁÔ[}Ç^¢
OBJ[••Ē|[]^Á;@æj^KÁŠāj^æb
Uc@;Áç^\*^ææãç^Ág;æ••ãæææāj}KÁÞ[;0@KO[;äãæÁO]æç, [[å•ÁÇÜFÍ COË'€€ ØŠD
P^å;æÁjá;áÁææā\*\*KÁÞ[

#### 7\ ]d`Ym

Û^/8^} ơÁ -Á; æð Á} ãBÁGÁ;^\8^} c

Šæð å-{ | { MÁS} [ ||•Á; } Á; æðð ^Á¢ ||æ8^• ÉHææ•Á; } Á; æðð ^Á¢ ||æ8^• ÉÁã·^•Á; } Á; æðð ^Á¢ ||æ8^•
Šæð å-{ | { MÁS | [|•Ã; } ÁÇ [ Ēðð ^}•ð] } æÐMÁÙ @``|å^|ÊÁsæ8 • [[] ^
Šæð å-{ | { MÁ [•ãðð } ÁÇ @ ^ Ēðð ^}•ð] } æÐMÁQ ¢ |-† Ç^ÊÁsð ^Á|[] ^
Ö[ ¸ } Ē |[ ] ^Á @ AMÔ[ } Ç^¢
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#### AUd'I b]hGYHIb[

Þæði } æþá æjÁ } æðá ^{ à[ | KÁG, € Î Ò|^çæði } KÁH€ÁI, ÁG€ÉÁ^^c T^æ) Áði } `æþá | ^&ði aðæði } KÁÍ €ÁI, Á JÁI, &@• T^æ) Áði } `æþáæðá Æ^{ ] ^|æði |^KAÎ I ÁI, Á GÁB^\* |^^•ÁØ Ø|[•dË/^^Á,^|á| å KÁG Ì ÁI, Á+F€ÁBæê• Øæd{ |æ) å Á&|æ••ãææði } KÁÞ[ dÁ; Í ^Áæð{ |æ) å

#### AUd'I b]h7 ca dcg]hcb

Ó[}}^æ`ÁnjàÁnta[a]adÁn[a]nKnîìÁn\&\}c Tā[¦Ák[{][}^}o\*KAFGÁ;^\&\}c Ò•Cā[aœ^•Ánd^Ánao•^Aán[}Ajà•^¦çæ@ā]}•Êán^•&!a]Cā;•Êán)åÁn!ao;•^&o\*Aj-Án©Aja;}ãÈ

#### 8 YgWidhicb cZ6 cbbYUi

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#### Ô • d { ÂÛ [ ¾ÂÛ ^• [ ` | & ^ÂÛ ^] [ | c

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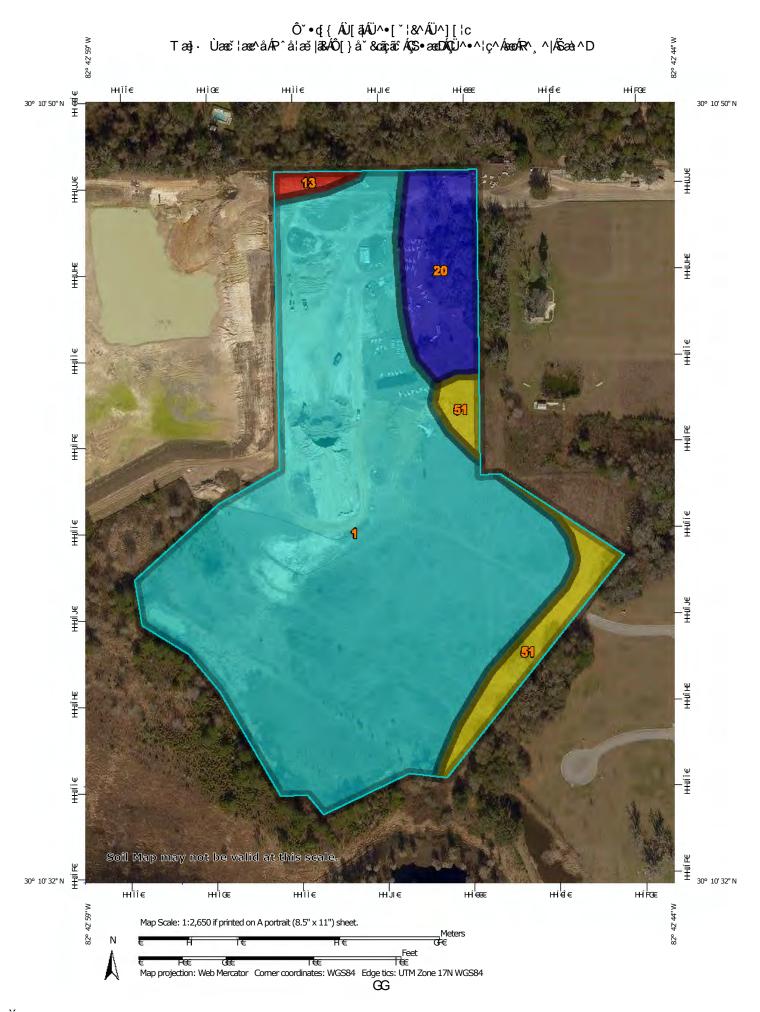
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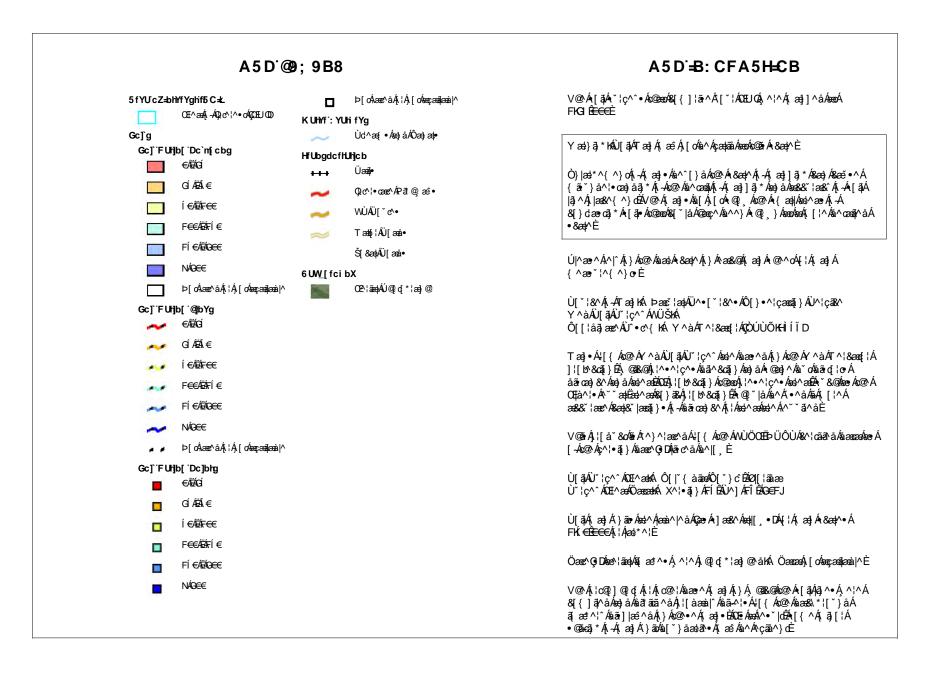
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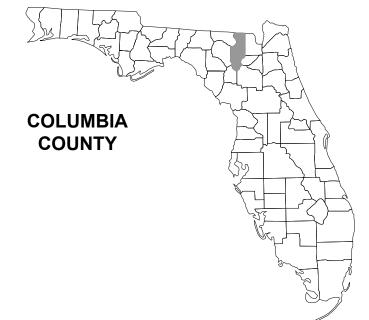
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# RESERVE AT JEWEL LAKE PHASE TWO

## LAKE CITY, FL **SECTION 4, TOWNSHIP 4S, RANGE 16E**



#### PLANS PREPARED FOR:

PROJECT LOCATION <sup>1</sup>

**GARY SORENSEN** 1400 WEST 22ND ST. **KEARNEY, NE 68845** (308) 237-1475

### **SHEET INDEX**

COVER SHEET	C-1
GENERAL NOTES	C-2
WATER & SEWER NOTES	C-3
SITE DATA & LEGEND	C-4
STORMWATER PIPES & STRUCTURES	C-5
SANITARY PIPES & STRUCTURES	C-6
OVERALL SITE PLAN	C-7
EROSION CONTROL PLAN	C-8
SWMF 3 PLAN	C-9
LIFT STATION SITE PLAN	C-10
LIFT STATION DETAILS	C-11
NW DRAINAGE EASEMENT PLAN	C-12
SE DRAINAGE EASEMENT PLAN	C-13
<b>CENTERLINE 1 PLAN &amp; PROFILE SHEET</b>	C-14 - C-16
CENTERLINE 6 PLAN & PROFILE SHEET	C-17
CENTERLINE 7 PLAN & PROFILE SHEET	C-18 - C-19
ROADWAY DETAILS	C-20
WATER DETAILS	C-21 - C-23
SANITARY DETAILS	C-24
MISC. DETAILS	C-25

#### **EXISTING FIRE HYDRANT PLAN**

THIS DOCUMENT HAS BEEN DIGITALLY SIGNED AND SEALED BY:

F-1



ON THE DATE ADJACENT TO THE SEAL

CONSIDERED SIGNED AND SEALED. THE SIGNATURE MUST BE VERIFIED IN THE

P.O. BOX 3823 LAKE CITY, FL 32056 CERTIFICATE OF AUTHORIZATION: 29011 GREGORY G. BAILEY, P.E. NO. 43858

SHEE

COVER

12/2019 **COUNTY - 1ST SUBMITTAL NOT FOR CONSTRUCTION** 

### **GENERAL NOTES**

- 1. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS AT THE JOB SITE TO ENSURE THAT ALL NEW WORK WILL FIT IN THE MANNER INTENDED ON THE PLANS. SHOULD ANY CONDITIONS EXIST THAT ARE CONTRARY TO THOSE SHOWN ON THE PLANS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND COLUMBIA COUNTY, FLORIDA OF SUCH DIFFERENCES IMMEDIATELY AND PRIOR TO PROCEEDING WITH THE WORK.
- 2. THE CONTRACTOR SHALL COMPLY WITH ALL CONDITIONS AS SET FORTH BY THE ISSUED SUWANNEE RIVER WATER MANAGEMENT DISTRICT ENVIRONMENTAL RESOURCE PERMIT, FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION DRINKING WATER FACILITY PERMIT AND FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION DOMESTIC WASTEWATER COLLECTION/TRANSMISSION SYSTEM PERMIT
- 3. THE CONTRACTOR SHALL MAINTAIN THE CONSTRUCTION SITE IN A SECURE MANNER. ALL OPEN TRENCHES AND **EXCAVATED AREAS SHALL BE PROTECTED FROM ACCESS** BY THE GENERAL PUBLIC.
- 4. BOUNDARY INFORMATION SHOWN, WAS OBTAINED FROM A BOUNDARY SURVEY PREPARED BY J. SHERMAN FRIER & ASSOCIATES, FLORIDA CERTIFICATE NO. 6332.
- 5. ANY PUBLIC LAND CORNER WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED. IF A CORNER MONUMENT IS IN DANGER OF BEING DESTROYED AND HAS NOT BEEN PROPERLY REFERENCED, THE CONTRACTOR SHOULD NOTIFY THE ENGINEER.
- 6. THE SITE IS LOCATED IN SECTION 4, TOWNSHIP 4 SOUTH, RANGE 16 EAST, COLUMBIA COUNTY, FLORIDA.
- 7. THE CONTRACTOR SHALL IMPLEMENT ALL COMPONENTS OF THE EROSION AND SEDIMENTATION CONTROL PLAN PRIOR TO ANY EARTH DISTURBING ACTIVITIES. ALL COMPONENTS SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL ALL VEGETATION IS ESTABLISHED, THE ENTIRE PROJECT AREA IS STABILIZED AND THE OWNER HAS ACCEPTED OPERATION AND MAINTENANCE.
- 8. THE STORMWATER BASIN IS DESIGNED IN ACCORDANCE WITH SRWMD APPLICANT HANDBOOK VOLUME II AND 62-330
- 9. ALL SLOPES OF THE STORMWATER BASIN SHALL BE GRASSED. ALL SLOPES STEEPER THAN 3:1 SHALL BE
- 10.ALL DISTURBED AREAS NOT SODDED SHALL BE SEEDED WITH A MIXTURE OF LONG-TERM VEGETATION AND QUICK **GROWING SHORT-TERM VEGETATION FOR THE FOLLOWING** CONDITIONS. FOR THE MONTHS FROM SEPTEMBER THROUGH MARCH. THE MIX SHALL CONSIST OF 70 POUNDS PER ACRE OF LONG-TERM SEED AND 20 POUNDS PER ACRE OF WINTER RYE. FOR THE MONTHS OF APRIL THROUGH AUGUST, THE MIX SHALL CONSIST OF 70 PER ACRE OF LONG-TERM SEED AND 20 POUNDS PER ACRE OF MILLET.
- 11. THE LOCATION OF THE UTILITIES SHOWN IN THE PLANS ARE APPROXIMATE ONLY. THE EXACT LOCATION SHALL BE **DETERMINED BY THE CONTRACTOR DURING** CONSTRUCTION. CONTRACTOR SHALL PROTECT ALL UTILITIES WITHIN THE PROJECT AREAS
- 12.ALL UTILITY CONSTRUCTION SHALL MEET THE CITY OF LAKE CITY WATER AND WASTEWATER UTILITY STANDARDS, AVAILABLE FROM CITY HALL OR PUBLIC WORKS
- 13. THE CONTRACTOR SHALL WASTE ALL EXCESS EARTH ON SITE AS DIRECTED BY THE ENGINEER.
- 14. ALL SITE CONSTRUCTION SHALL BE IN ACCORDANCE WITH COLUMBIA COUNTY LAND DEVELOPMENT REGULATIONS.

- 15. CONTRACTOR SHALL REVIEW AND BECOME FAMILIAR WITH ALL REQUIRED UTILITY CONNECTIONS PRIOR TO BIDDING. CONTRACTOR SHALL PROVIDE ALL WORK AND MATERIALS REQUIRED TO COMPLETE CONNECTION TO THE EXISTING UTILITIES. THIS INCLUDES BUT IS NOT LIMITED TO MANHOLE CORING, WET TAPS, PAVEMENT REPAIRS AND DIRECTIONAL BORING.
- 16.CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER CONTRACTORS WITHIN PROJECT AREA.
- 17.CONTRACTOR SHALL PROVIDE ACTUAL INVERT **ELEVATIONS ON ALL DRAINAGE STRUCTURES, INCLUDING** CULVERTS, PRIOR TO PLACING ANY BASE MATERIAL. DEVIATIONS FROM THE PLANS SHALL BE APPROVED BY THE **ENGINEER BEFORE CONTINUING WORK**
- 18. ALL WETLAND BUFFERS SHALL BE PERMANENTLY MONUMENTED ACCORDING TO THE REQUIREMENTS AS ESTABLISHED IN CHAPTER 61G17-6, F.A.C. PRIOR TO COMMENCEMENT OF ROAD CONSTRUCTION OR THE SALE OF ANY LOT, WHICHEVER COMES FIRST.
- 19.FINISHED FLOOR ELEVATIONS SHALL BE AT LEAST ONE (1) FOOT ABOVE THE CENTERLINE OF THE ADJACENT ROADWAY OR AS NOTED FOR THE INDIVIDUAL LOT, DURING DEVELOPMENT OF EACH LOT, THE LOT SHALL BE GRADED TO DRAIN TO THE ROADSIDE DITCH OF THE ADJACENT ROADWAY.
- 20. THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE F.D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (CURRENT EDITION) AND THE F.D.O.T. STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION (CURRENT EDITION), AWWA SPECIFICATIONS, AND COLUMBIA COUNTY DEVELOPMENT STANDARDS UNLESS OTHERWISE NOTED.
- 21.A PRE-CONSTRUCTION MEETING WITH THE GREATER LAKE CITY REGIONAL UTILITY AUTHORITY (GLCRUA) PROJECT INSPECTOR IS REQUIRED PRIOR TO BEGINNING CONSTRUCTION.
- 22. IF UNSUITABLE MATERIAL IS ENCOUNTERED DURING GRADING. CONTRACTOR SHALL REMOVE UNSUITABLE MATERIAL TO A DEPTH OF 24" BELOW FINISHED GRADE WITHIN THE CONSTRUCTION LIMITS.
- 23.THE CONTRACTOR SHALL NOTIFY COLUMBIA COUNTY AT LEAST 48 HOURS PRIOR TO BEGINNING OF CONSTRUCTION.
- 24. THE CONTRACTOR SHALL SUBMIT A NOTICE OF CONSTRUCTION COMMENCEMENT TO THE WATER MANAGEMENT DISTRICT AT LEAST 48 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- 25. THE CONTRACTOR SHALL NOTIFY THE CITY OF LAKE CITY AT LEAST 48 HOURS IN ADVANCE OF THE PRESSURE AND LEAKAGE TESTS.
- 26.NO FINAL TESTING OR PRESSURE TESTING WILL BE **ACCEPTED UNLESS WITNESSED BY THE CITY'S** REPRESENTATIVE.
- 27.NO WORK SHALL BE PERFORMED ON SATURDAY OR SUNDAY WITHOUT WRITTEN NOTIFICATION TO THE COUNTY AND COUNTY ENGINEER.
- 28. CONTRACTOR SHALL PROVIDE AN AS-BUILT SURVEY MEETING THE REQUIREMENTS OF CHAPTER 61G17 F.A.C. FOR THE STORMWATER MANAGEMENT SYSTEMS. INCLUDE HORIZONTAL AND VERTICAL DIMENSIONAL DATA SO THAT IMPROVEMENTS ARE LOCATED AND DELINEATED RELATIVE TO THE BOUNDARY. PROVIDE SUFFICIENT DETAILED DATA TO DETERMINE WHETHER THE IMPROVEMENTS WERE CONSTRUCTED IN ACCORDANCE WITH THE PLANS. A COPY OF THE AS-BUILT SURVEY (IN PAPER AND DIGITAL AUTOCAD FORMAT) MUST BE SUBMITTED TO COLUMBIA COUNTY AND THE ENGINEER

- 29. THE CONTRACTOR SHALL SUBMIT A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM NOTICE OF INTENT ALONG WITH SUPPORTING DOCUMENTATION TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION AT LEAST 48 HOURS PRIOR TO BEGINNING OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMIT FEES.
- 30.IF DURING CONSTRUCTION OR OPERATION OF THE STORM WATER MANAGEMENT SYSTEM, A STRUCTURAL FAILURE IS OBSERVED THAT HAS THE POTENTIAL TO CAUSE THE DIRECT DISCHARGE OF SURFACE WATER INTO THE FLORIDAN AQUIFER SYSTEM, CORRECTIVE ACTIONS DESIGNED OR APPROVED BY A REGISTERED PROFESSIONAL SHALL BE TAKEN AS SOON AS PRACTICAL TO CORRECT THE FAILURE, A REPORT PREPARED BY A REGISTERED PROFESSIONAL MUST BE PROVIDED AS SOON AS PRACTICAL TO THE DEPARTMENT FOR REVIEW AND APPROVAL THAT PROVIDES REASONABLE ASSURANCE THAT THE BREACH WILL BE PERMANENTLY CORRECTED.

#### **ROADWAY CONSTRUCTION** REQUIREMENTS

- 1. THE ROADWAY CONSTRUCTION PLANS MUST BE REVIEWED AND APPROVED PRIOR TO COMMENCING
- 2. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION.
- 3. A TESTING LABORATORY RETAINED BY THE **CONTRACTOR SHALL CERTIFY THE MATERIALS AND** CONSTRUCTION. COPIES OF ALL TEST RESULTS SHALL BE PROVIDED PRIOR TO ACCEPTANCE.
- 4. ALL TRAFFIC CONTROL AND SAFETY ITEMS (STRIPPING, STOP BARS, REGULATORY SIGNS, ETC.) SHALL BE IN PLACE.
- 5. THE TEMPORARY GRASS SHALL BE SUFFICIENT TO CONTROL EROSION.
- 6. FINAL INSPECTION FOR ACCEPTANCE TO BE PERFORMED BY COUNTY ENGINEER, COUNTY PUBLIC WORKS DIRECTOR, CITY PUBLIC WORKS DIRECTOR, AND COUNTY COMMISSIONER (SHOULD HE/SHE DESIRE TO

#### **INSPECTION BY COUNTY** REPRESENTATIVE

- 1. COMPLETION OF CLEARING AND GRUBBING, VISUAL ONLY - NO TEST REQUIREMENTS.
- 2. ROUGH GRADE AND DRAINAGE STRUCTURES IN PLACE. TEST RESULTS - LBR - PIPE BACKFILL DENSITY.
- 3. SUBGRADE COMPLETE. TEST RESULTS DENSITY.
- 4. LIMEROCK PLACE AND FINISHED. TEST RESULTS -THICKNESS, CROSS SECTION AND DENSITY.
- 5. ASPHALT CONCRETE IN PLACE. TEST RESULTS -THICKNESS AND DENSITY
- 6. FINAL INSPECTION.

#### **EROSION CONTROL NOTES**

- 1. THIS EROSION AND SEDIMENTATION CONTROL PLAN COMPLIES WITH THE REQUIREMENTS OF THE "FLORIDA DEVELOPMENT MANUAL" AND THE "FLORIDA EROSION AND SEDIMENT CONTROL INSPECTOR'S MANUAL".
- 2. THE CONTRACTOR SHALL ADHERE TO COLUMBIA COUNTY, SRWMD, AND OTHER GOVERNING AUTHORITIES FOR EROSION AND SEDIMENT CONTROL REGULATIONS. IF THE CONTRACTOR NEEDS TO CHANGE THIS PLAN TO MORE EFFECTIVELY CONTROL EROSION AND SEDIMENTATION, THE CONTRACTOR SHALL USE BMP'S FROM THE "FLORIDA EROSION AND SEDIMENT CONTROL INSPECTOR'S MANUAL".
- 3. THE CONTRACTOR SHALL ADJUST AND REVISE THIS PLAN TO MEET ACTUAL FIELD CONDITIONS. ANY REVISIONS SHALL BE APPROVED BY THE REVIEWING AGENCIES.
- 4. SEDIMENT AND EROSION CONTROL FACILITIES, STORM DRAINAGE FACILITIES AND DETENTION BASINS SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION.
- 5. EROSION CONTROL MEASURES SHALL BE INSPECTED WEEKLY AND AFTER EACH RAINFALL OF 0.5 INCHES OR GREATER, AND REPAIRED OR REPLACED AS NECESSARY.
- 6. SEDIMENT AND EROSION CONTROL MEASURES SHALL NOT BE REMOVED UNTIL ALL CONSTRUCTION IS COMPLETE AND UNTIL A PERMANENT GROUND COVER HAS BEEN ESTABLISHED.
- 7. ALL OPEN DRAINAGE SWALES SHALL BE GRASSED AND RIPRAP SHALL BE PLACED AS REQUIRED TO CONTROL EROSION.
- 8. SILT FENCES SHALL BE LOCATED ON SITE TO PREVENT SEDIMENT AND EROSION FROM LEAVING PROJECT LIMITS.
- 9. CONTRACTOR SHALL PLACE A DOUBLE ROW OF SILT FENCE IN AREAS WHERE RUNOFF FROM DISTURBED AREAS MAY ENTER WETLANDS.
- 10.DURING CONSTRUCTION AND AFTER CONSTRUCTION IS COMPLETE. ALL STRUCTURES SHALL BE CLEANED OF ALL DEBRIS AND EXCESS SEDIMENT.
- 11. ALL GRADED AREAS SHALL BE STABILIZED IMMEDIATELY WITH A TEMPORARY FAST-GROWING COVER AND/OR MULCH.
- 12. A PAD OF RUBBLE RIP RAP SHALL BE PLACED AT THE BOTTOM OF ALL COLLECTION FLUMES AND COLLECTION PIPE OUTLETS. GRANITE OR LIMESTONE RIPRAP IS REQUIRED. NO BROKEN CONCRETE WILL BE ACCEPTED.
- 13. ALL SIDE SLOPES STEEPER THAN 3:1 SHALL BE ADEQUATELY PROTECTED FROM EROSION THROUGH THE USE OF SYNTHETIC BALES OR SODDING.
- 14. ALL STABILIZATION PRACTICES SHALL BE INITIATED AS SOON AS PRACTICABLE IN AREAS OF THE JOB WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY STOPPED. BUT IN NO CASE SHALL THE DISTURBED AREA BE LEFT UNPROTECTED FOR MORE THAN SEVEN DAYS.
- 15. ALL WASTE GENERATED ON THE PROJECT SHALL BE DISPOSED OF BY THE CONTRACTOR IN AREAS PROVIDED BY CONTRACTOR.
- 16.LOADED HAUL TRUCKS SHALL BE COVERED WITH TARPS.
- 17. EXCESS DIRT SHALL BE REMOVED DAILY.
- 18. THIS PROJECT SHALL COMPLY WITH ALL WATER QUALITY STANDARDS. PERMIT REQUIRED FROM SRWMD HAS BEEN OBTAINED.
- 19. QUALIFIED PERSONNEL SHALL INSPECT THE AREA USED FOR STORAGE OF STOCKPILES, THE SILT FENCE AND STRAW BALES, THE LOCATION WHERE VEHICLES ENTER OR EXIT THE SITE, AND THE DISTURBED AREAS THAT HAVE NOT BEEN FINALLY STABILIZED. AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM OF 0.5 INCHES OR GREATER.
- 20.SITES THAT HAVE BEEN FINALLY STABILIZED WITH SOD OR GRASSING SHALL BE INSPECTED AT LEAST ONCE EVERY WEEK.

North Florida Professic P.O. BOX 3823 P Lake City, FL 32025 T PP. 386-752-4675 E



NERAL NOTES AT JEWEL LAKE PHASE TWO LAKE CITY, FL GENERAL RESERVE

- 3. ALL NEW OR RELOCATED WATER MAINS THAT SERVE FIRE HYDRANTS AND ALL FIRE HYDRANT LEADS SHALL BE NO SMALLER THAN SIX INCHES IN DIAMETER. AUXILIARY VALVES SHALL BE PROVIDED ON ALL HYDRANT LEADS.
- 4. SUFFICIENT VALVES SHALL BE PROVIDED IN NEW AND RELOCATED WATER MAINS SO THAT INCONVENIENCE AND SANITARY HAZARDS WILL BE MINIMIZED DURING REPAIRS. (VALVES SHALL BE PLACED IN NO MORE THAN 500-FOOT INTERVALS IN COMMERCIAL DISTRICTS AND AT NO MORE THAN ONE-BLOCK OR 800-FOOT INTERVALS IN OTHER DISTRICTS.)
- 5. IF THERE ARE ANY NEW OR RELOCATED WATER MAINS THAT CROSS UNDER ANY SURFACE WATER, A MINIMUM COVER OF TWO FEET SHALL BE PROVIDED OVER THE WATER MAIN PIPE AT EACH SURFACE WATER CROSSING, AND IF THE SURFACE WATER IS GREATER THAN 15 FEET IN WIDTH, THE FOLLOWING FEATURES SHALL BE PROVIDED: (A) FLEXIBLE WATER TIGHT JOINTS FOR THE WATER MAIN PIPE AT THE CROSSING, (B) EASILY ACCESSIBLE VALVES LOCATED IN A MANHOLE, AND (C) PERMANENT TAPS ON EACH SIDE OF THE VALVE WITHIN THE MANHOLE TO ALLOW FOR SAMPLING AND INSERTION OF A SMALL METER TO DETERMINE LEAKAGE.
- 6. PROPER BACKFLOW-PREVENTION ASSEMBLIES/DEVICES SHALL BE PROVIDED IN ACCORDANCE WITH RULE 62-555.360, F.A.C., AND THE AWWA'S MANUAL M/4, RECOMMENDED PRACTICE FOR BACKFLOW PREVENTION AND CROSS-CONNECTION CONTROL.
- 7. THIS PROJECT SHALL NOT INCLUDE ANY INTERCONNECTION BETWEEN PREVIOUSLY SEPARATE PUBLIC WATER SYSTEMS THAT HAVE SEPARATE WATER SUPPLY SOURCES. (A SPECIFIC CONSTRUCTION PERMIT IS REQUIRED FOR SUCH AN INTERCONNECTION.
- 8. ALL NEW RELOCATED WATER LATERALS THAT CROSS ANY SANITARY SEWERS, STORM SEWERS, FORCE MAINS, OR RECLAIMED WATER LINES SHALL CROSS ABOVE SUCH PIPELINES.
- 9. COPPER TRACER WIRE SHALL BE PLACED ON ALL POTABLE WATER LINES AND WATER LATERALS. TRACER WIRE SHALL BE CONTINUOUS WITH NO INTERRUPTIONS.
- 10.LOCATOR BALLS SHALL BE PROVIDED AT END OF ALL WATER AND SANITARY SEWER LATERALS. THE LOCATOR BALLS SHALL BE SECURED TO THE LATERALS WITH A PLASTIC TIE
- 11. WATER AND SANITARY SEWER LATERALS SHALL BE LEFT UNCOVERED UNTIL INSPECTED BY THE ENGINEER OR THE ENGINEER'S INSPECTOR.
- 12. CONTRACTOR SHALL PROVIDE TEMPORARY STAKES (2" BY 2" WOODEN STAKES) AT THE END OF EACH LATERAL. EACH STAKE SHALL INDICATE EITHER WATER OR SANITARY SEWER LATERAL. CONTRACTOR SHALL MAINTAIN THE STAKES UNTIL AN AS-BUILT SURVEY OF WATER AND SANITARY SEWER MAINS AND LATERALS ARE COMPLETE AND APPROVED BY THE ENGINEER.
- 13.MEGALUG MECHANICAL JOINT RESTRAINTS OR SERIES 1390 UNI-FLANGE BLOCK BUSTER RESTRAINT DEVICES SHALL BE USED WITH MANUFACTURER'S RECOMMENDATIONS. ALL RESTRAINED JOINTING MUST BE LEFT OPEN UNTIL VIEWED BY THE CITY INSPECTOR.
- 14.FOR SANITARY SEWER PERFORM HYDROSTATIC TEST. ALLOWABLE LEAKAGE IS A MAXIMUM OF 50 GAL. PER INCH OF NOMINAL PIPE SIZE PER MILE OF PIPE, DURING A 24-HOUR PERIOD. OPTION: TEST DUCTILE-IRON PIPING ACCORDING TO AWWA C600, SECTION "HYDROSTATIC TESTING". USE TEST PRESSURE OF AT LEAST 10 PSI. FOR SANITARY SEWERAGE, PERFORM AIR TEST ACCORDING TO UNI-B-6
- 15.FOR SANITARY SEWERAGE ALIGNMENT: EACH SECTION OF THE COMPLETED SEWER SYSTEM SHALL BE INSPECTED FOR PROPER ALIGNMENT. INSPECTION SHALL CONSIST OF "LAMPING" FROM MANHOLE TO MANHOLE. ANY SECTION OF THE SEWER SYSTEM. WHICH DOES NOT DISPLAY TRUE, CONCENTRIC ALIGNMENT, SHALL BE INSTALLED AT NO ADDITIONAL EXPENSE TO THE OWNER.
- 16.CLEAN AND DISINFECT WATER DISTRIBUTION PIPING SYSTEMS AND PARTS OF EXISTING SYSTEMS THAT HAVE BEEN ALTERED, EXTENDED OR REPAIRED BEFORE USE, USE PURGING AND DISINFECTING PROCEDURE PRESCRIBED BY AUTHORITIES HAVING JURISDICTION OR USE PROCEDURE PRESCRIBED BY AUTHORITIES HAVING JURISDICTION OR USE PROCEDURE **DESCRIBED IN AWWA C651.**
- 17.PVC GRAVITY FLOW SEWER PIPE AND FITTINGS 15 INCH AND SMALLER IN DIAMETER SHALL BE SDR35 PIPE WITH BELL AND SPIGOT GASKET JOINT THAT COMPLIES WITH THE **REQUIREMENTS OF ASTM D3034.**

18. ALL PIPE, PIPE FITTINGS, PIPE JOINT PACKING AND JOINTING MATERIALS, VALVES, FIRE HYDRANTS. AND METERS INSTALLED UNDER THIS PROJECT SHALL CONFORM TO APPLICABLE AMERICAN WATER WORKS ASSOCIATION (AWWA) STANDARDS.

19. ALL PUBLIC WATER SYSTEM COMPONENTS, EXCLUDING FIRE HYDRANTS, THAT WILL BE INSTALLED UNDER THIS PROJECT AND THAT WILL COME INTO CONTACT WITH DRINKING WATER SHALL CONFORM TO NSF INTERNATIONAL STANDARD 61 AS ADOPTED IN RULE 62-555.335, F.A.C., OR OTHER APPLICABLE STANDARDS, REGULATIONS, OR REQUIREMENTS REFERENCED IN PARAGRAPH 62-555.320(3)(B), F.A.C.

20.ALL PIPE AND PIPE FITTINGS INSTALLED UNDER THIS PROJECT SHALL CONTAIN NO MORE THAN 8.0% LEAD, AND ANY SOLDER OR FLUX USED IN THIS PROJECT WILL CONTAIN NO MORE THAN 0.2% LEAD.

21.ALL PIPE AND PIPE FITTINGS INSTALLED UNDER THIS PROJECT SHALL BE COLOR CODED OR MARKED IN ACCORDANCE WITH SUBPARAGRAPH 62-555.320(21)(B) 3, F.A.C., USING BLUE AS A PREDOMINANT COLOR. (UNDERGROUND PLASTIC PIPE SHALL BE SOLID-WALL BLUE PIPE, WILL HAVE A CO-EXTRUDED BLUE EXTERNAL SKIN. OR WILL BE WHITE OR BLACK PIPE WITH BLUE STRIPES INCORPORATED INTO, OR APPLIED TO, THE PIPE WALL: AND UNDERGROUND METAL OR CONCRETE PIPE SHALL HAVE BLUE STRIPES APPLIED TO THE PIPE WALL. PIPE STRIPED DURING MANUFACTURING OF THE PIPE SHALL HAVE CONTINUOUS STRIPES THAT RUN PARALLEL TO THE AXIS OF THE PIPE, THAT ARE LOCATED AT NO GREATER THAN 90-DEGREE INTERVALS AROUND THE PIPE. AND THAT WILL REMAIN INTACT DURING AND AFTER INSTALLATION OF THE PIPE. IF TAPE OR PAINT IS USED TO STRIPE PIPE DURING PIPE AND THAT IS LOCATED ALONG THE TOP OF THE PIPE; FOR PIPE WITH AN INTERNAL DIAMETER OF 24 INCHES OR GREATER, TAPE OR PAINT WILL BE APPLIED IN CONTINUOUS LINES ALONG EACH SIDE OF THE PIPE AS WELL AS ALONG THE TOP OF THE PIPE. ABOVEGROUND PIPE SHALL BE PAINTED BLUE OR WILL BE COLOR-CODED OR MARKED LIKE UNDERGROUND PIPE.)

22.SUFFICIENT VALVES SHALL BE PROVIDED ON NEW OR ALTERED WATER MAINS INCLUDED IN THIS PROJECT SO THAT INCONVENIENCE AND SANITARY HAZARDS WILL BE MINIMIZED DURING

23.ALL FIRE HYDRANTS THAT WILL BE INSTALLED UNDER THIS PROJECT AND THAT WILL HAVE UNPLUGGED, UNDERGROUND DRAINS SHALL BE LOCATED AT LEAST THREE FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., OR VACUUM-TYPE SANITARY SEWER; CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610. F.A.C., OR VACUUM-TYPE SANITARY SEWER: OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-10, F.A.C.; AND AT LEAST TEN FEET FROM ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM."

24.NEW OR ALTERED CHAMBERS, PITS, OR MANHOLES THAT CONTAIN VALVES, BLOW-OFFS, METERS, OR OTHER SUCH WATER DISTRIBUTION SYSTEM APPURTENANCES AND THAT ARE INCLUDED IN THIS PROJECT WILL NOT BE CONNECTED DIRECTLY TO ANY SANITARY OR STORM SEWER, AND BLOW-OFFS OR AIR RELIEF VALVES INSTALLED UNDER THIS PROJECT SHALL NOT BE CONNECTED DIRECTLY TO ANY SANITARY OR STORM SEWER

25.NEW OR ALTERED WATER MAINS INCLUDED IN THIS PROJECT SHALL BE INSTALLED IN ACCORDANCE WITH APPLICABLE AWWA STANDARDS OR IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDED PROCEDURES.

26.A CONTINUOUS AND UNIFORM BEDDING SHALL BE PROVIDED IN TRENCHES FOR UNDERGROUND PIPE INSTALLED UNDER THIS PROJECT; BACKFILL MATERIAL WILL BE TAMPED IN LAYERS AROUND UNDERGROUND PIPE INSTALLED UNDER THIS PROJECT AND TO A SUFFICIENT HEIGHT ABOVE THE PIPE TO ADEQUATELY SUPPORT AND PROTECT THE PIPE: AND LINSUITABLY SIZED STONES (AS DESCRIBED IN APPLICABLE AWWA STANDARDS OR MANUFACTURERS' RECOMMENDED INSTALLATION PROCEDURES) FOUND IN TRENCHES WILL BE REMOVED FOR A DEPTH OF AT LEAST SIX INCHES BELOW THE BOTTOM OF UNDERGROUND PIPE INSTALLED UNDER THIS PROJECT.

27.ALL WATER MAIN TEES, BENDS, PLUGS, AND HYDRANTS INSTALLED UNDER THIS PROJECT SHALL BE PROVIDED WITH RESTRAINED JOINTS TO PREVENT MOVEMENT

28.NEW OR ALTERED WATER MAINS THAT ARE INCLUDED IN THIS PROJECT AND THAT WILL BE CONSTRUCTED OF ASBESTOS-CEMENT OR POLYVINYL CHLORIDE PIPE SHALL BE PRESSURE AND LEAKAGE TESTED IN ACCORDANCE WITH AWWA STANDARD C603 OR C605 RESPECTIVELY, AS INCORPORATED INTO RULE 62-555.330, F.A.C., AND ALL OTHER NEW OR ALTERED WATER MAINS INCLUDED IN THIS PROJECT SHALL BE PRESSURE AND LEAKAGE TESTED IN ACCORDANCE WITH AWWA STANDARD C600 AS INCORPORATED INTO RULE 62-555 330

29.NEW OR ALTERED WATER MAINS, INCLUDING FIRE HYDRANT LEADS AND INCLUDING SERVICE LINES THAT WILL BE UNDER THE CONTROL OF A PUBLIC WATER SYSTEM AND THAT HAVE AN INSIDE DIAMETER OF THREE INCHES OR GREATER, SHALL BE DISINFECTED AND BACTERIOLOGICALLY EVALUATED IN ACCORDANCE WITH RULE 62-555.340, F.A.C.

30.NEW OR ALTERED WATER MAINS THAT ARE INCLUDED IN THIS PROJECT AND THAT WILL BE INSTALLED IN AREAS WHERE THERE ARE KNOWN AGGRESSIVE SOIL CONDITIONS SHALL BE PROTECTED THROUGH USE OF CORROSION-RESISTANT WATER MAIN MATERIALS, THROUGH ENCASEMENT OF THE WATER MAINS IN POLYETHYLENE. OR THROUGH PROVISION OF CATHODIC PROTECTION.

31.NEW OR RELOCATED, UNDERGROUND WATER MAINS INCLUDED IN THIS PROJECT SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER, STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

32.NEW OR RELOCATED, UNDERGROUND WATER MAINS INCLUDED IN THIS PROJECT SHALL HAVE A HORIZONTAL DISTANCE OF AT LEAST SIX AND TEN FEET IS PREFERRED BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY-TYPE SANITARY SEWER, EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610. F.A.C.

33.THE HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS MAY BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST TWELVE INCHES ABOVE THE TOP OF THE SEWER

34. A HORIZONTAL DISTANCE OF AT LEAST TEN FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND ALL PARTS OF ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM.'

35 NEW OR RELOCATED, UNDERGROUND WATER MAINS THAT ARE INCLUDED IN THIS PROJECT AND THAT WILL CROSS ANY EXISTING OR PROPOSED GRAVITY- OR VACUUM-TYPE SANITARY SEWER OR STORM SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE THE OTHER PIPELINE. NEW OR RELOCATED, UNDERGROUND WATER MAINS THAT ARE INCLUDED IN THIS PROJECT AND THAT WILL CROSS ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER OR STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER WILL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE THE OTHER PIPELINE.

36.AT THE UTILITY CROSSINGS DESCRIBED ABOVE, SEPARATION DISTANCE SHALL NOT APPLY WHERE A WATER SERVICE PIPE CROSSES A SEWER PIPE. PROVIDED THE WATER SERVICE PIPE IS SLEEVED TO AT LEAST FIVE FEET HORIZONTALLY FROM THE SEWER PIPE CENTERLINE ON BOTH SIDES OF SUCH CROSSINGS WITH PIPE MATERIAL LISTED IN FLORIDA BUILDING CODE SECTION 603.2

37.NEW OR ALTERED WATER MAINS THAT ARE INCLUDED IN THIS PROJECT AND THAT WILL CROSS ABOVE SURFACE WATER SHALL BE ADEQUATELY SUPPORTED AND ANCHORED, PROTECTED FROM DAMAGE AND FREEZING, AND ACCESSIBLE FOR REPAIR OR REPLACEMENT.

38.NEW OR ALTERED WATER MAINS THAT ARE INCLUDED IN THIS PROJECT AND THAT WILL CROSS UNDER SURFACE WATER COURSES GREATER THAN 15 FEET IN WIDTH SHALL HAVE FLEXIBLE OR RESTRAINED, WATERTIGHT PIPE JOINTS AND WILL INCLUDE VALVES AT BOTH ENDS OF THE WATER CROSSING SO THE UNDERWATER MAIN CAN BE ISOLATED FOR TESTING AND REPAIR; THE AFOREMENTIONED ISOLATION VALVES WILL BE EASILY ACCESSIBLE AND WILL NOT BE SUBJECT TO FLOODING: THE ISOLATION VALVE CLOSEST TO THE WATER SUPPLY SOURCE WILL BE IN A MANHOLE: AND PERMANENT TAPS WILL BE PROVIDED ON EACH SIDE OF THE ISOLATION VALVE WITHIN THE MANHOLE TO ALLOW FOR INSERTION OF A SMALL METER TO DETERMINE LEAKAGE FROM THE UNDERWATER MAIN AND TO ALLOW FOR SAMPLING OF WATER FROM THE UNDERWATER MAIN.

39.CONTRACTOR SHALL PROVIDE AN AS-BUILT SURVEY MEETING THE REQUIREMENTS OF CHAPTER 61G17 F.A.C. FOR THE POTABLE WATER MAIN EXTENSION AND THE SANITARY SEWER MAIN EXTENSIONS. INCLUDE HORIZONTAL AND VERTICAL DIMENSIONAL DATA SO THAT IMPROVEMENTS ARE LOCATED AND DELINEATED RELATIVE TO THE BOUNDARY. PROVIDE SUFFICIENT DETAILED DATA TO DETERMINE WHETHER THE IMPROVEMENTS WERE CONSTRUCTED IN ACCORDANCE WITH THE PLANS. A COPY OF THE AS-BUILT SURVEY (IN PAPER AND DIGITAL AUTOCAD FORMAT) MUST BE SUBMITTED TO COLUMBIA COUNTY AND THE

40.CONTRACTOR SHALL PROVIDE POTABLE WATER TEST REPORTS IN ACCORDANCE WITH FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION REQUIREMENTS AFTER DISINFECTION OF THE SYSTEM.

ional Services,

#### **LINETYPE LEGEND EXISTING PROPOSED** FORCE MAIN WATER SANITARY SAN GAS GAS BĘ BURIED ELECTRIC \_BT\_ BURIED TELEPHONE

CABLE TV

FIBER OPTIC

OVERHEAD UTILITIES

OVERHEAD ELECTRIC

CATV

FO

OHU

OHE

### **MISCELLANEOUS LINETYPES**

\_E-FM

E-W

E-SAN

E-GAS

E-BE

\_E-BT

E-CATV

E-FO

E-OHU

E-OHE

E-CMP_		EXISTING CORRUGATED METAL PIPE
E-RCP _		EXISTING ROUND CONCRETE PIPE
E-ECP _		EXISTING ELIPTICAL CONCRETE PIPE
E-CPP _		EXISTING CORRUGATED PLASTIC PIPE
X	- <b>X</b>	FIELD FENCE
$\multimap$	<del></del>	CHAIN LINK FENCE
		WOOD POST FENCE
		PROPERTY BOUNDARY
		RIGHT OF WAY LINE
100'	— 100' ———	EXISTING CONTOUR
100'	- 100'	PROPOSED CONTOUR
V	_	SILT FENCE

### **ABBREVIATION LEGEND**

	ARC LENGTH	L	POINT OF BEGINNING	РВ
ı	BENCHMARK	ВМ	POINT OF COMMENCEMENT	PC
ı	CALCULATED	(C)	POINT OF CURVATURE	PO
ı	CHORD BEARING	CH	POINT OF COMPOUND CURVATURE	PC
ı	CONCRETE MONUMENT	CM		PI
ı	CLEANOUT	CO		PR
ı	DEED	(D)		PT
ı	DITCH, TOP OF	TÓD		СМ
ı	DITCH, BOTTOM OF	BOD		СМ
ı	EAST	E	· · · · · · · · · · · · · · · · · · ·	RC
ı	EDGE OF PAVEMENT	EOP		
	ELECTRICAL	E.	ELLIPTICAL	RC
ı	END VERTICAL CURVE ELEVATION	EVCE	PIPE, POLYETHYLENE	PE
	END VERTICAL CURVE STATION		PIPE, POLYETHYLENE HIGH DENSITY	HD
J	FOUND	FND	PLAT	(P)
	FINISH FLOOR ELEVATION	FFE	PROFILE GRADE LINE	PĠ
	GAS	G	RADIUS	R
Ī	GROUND SPOT ELEVATION	X	RANGE	RN
	IRON PIPE	IP	REBAR	RB
	IRON ROD	IR	REBAR AND CAP	RB
ı	IRON ROD AND CAP	IRC	RECLAIMED WATER	RW
	LINEAR FEET	LF	RIGHT OF WAY	R/V
ı	LINE, BASE	E C P	SANITARY SEWER	SA
ı	LINE, CENTER	Ē	SECTION	SE
	LINE, PROPERTY	P.	SEWER TAP	ST
ı	MEASURED	(M)	SOUTH	S
ı	NAIL	NL	STORM SEWER	SS
	NAIL AND DISK	NL+D	STORM WATER MANAGEMENT FACILITY	SW
	MANHOLE	MH	TANGENT	Т
ı	NO IDENTIFICATION	NO	TOWNSHIP	TW
ı	NORTH	N	UNDERGROUND CABLE	UC
	OFFICIAL RECORD BOOK	ORB		UG
	OFFSET	O/S		UT
	OVERHEAD CABLE		VALVE, COMBINATION AIR/VACUUM	CA
	OVERHEAD ELECTRIC	OE		w
I	OVERHEAD TELEPHONE	ОТ	WATER METER	WN
	PAGE(S)	PG		
	PERMANENT CONTROL POINT	PCP		

#### **SYMBOLS LEGEND**



SIGN. DOUBLE POST PROPOSED

SIGN. SINGLE POST EXISTING

SIGN, SINGLE POST PROPOSED

#### STATISTICAL INFORMATION FOR RESERVE AT JEWEL LAKE, PHASE 2

- 1. TOTAL ACREAGE OF THE SITE IS APPROXIMATELY 17.91 ACRES.
- 2. MAXIMUM BUILDING COVERAGE PER LOT OF SINGLE- FAMILY HOMES IS APPROXIMATELY 25% (DEPENDING ON THE SIZE OF THE LOT). BUT NOT TO
- 3. GROSS RESIDENTIAL DENSITY (SINGLE FAMILY HOMES) = 44 UNITS / 17.91 ACRES
- 4. NET RESIDENTIAL ACREAGE (SINGLE FAMILY HOMES); 15.26 ACRES.
- 5. SUMMARY OF TOTAL SITE ACREAGE OF 17.91 ACRES; A) LOTS FOR SINGLE FAMILY HOMES 15.26 ACRES B) ROAD RIGHT-OF-WAY

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'A & LEGEND
VEL LAKE PHASE TWO
E CITY, FL

DATA

SITE RESERVE A

SECTION DETAIL

MANHOLE, ELECTRICAL PROPOSED MANHOLE, GAS EXISTING

MANHOLE, GAS PROPOSED

			STORMWATE	R STRUCTU	JRE TABLE		
STRUCTURE NUMBER	TYPE   LOCATION   G		GRATE ELEV.		PER FDOT STANDARD PLANS		
NUMBER				IN	IN	OUT	7
SWS-201	TYPE P 3 C.I.	116+20.00	125.16	129.36		129.36	425-020
SWS-202	TYPE P 3 C.I.	116+20.00	133.76			129.56	425-020
SWS-203	TYPE 3 C.I.	114+39.45	128.48			124.98	425-020
SWS-301	TYPE P 4 C.I.	107+15.00	123.66			119.46	425-020
SWS-302	TYPE P 3 C.I.	109+20.00	124.46			120.26	425-020
SWS-303	TYPE P 3 C.I.	109+20.00	124.46	120.16		120.16	425-020
SWS-304	TYPE P 4 C.I.	107+15.00	123.66	119.26	119.26	119.26	425-020
SWS-305	TYPE "C" DBI	XX	119.16	115.46		115.46	425-052
SWS-306	MANHOLE	XX	112.84	109.56		109.56	425-001
SWS-307	TYPE P 3 C.I.	113+20.00	126.56	122.36		122.36	425-020
SWS-308	MANHOLE	112+43.80	127.16	122.16		122.16	425-001
SWS-309	TYPE P 3 C.I.	111+40.00	125.56	121.46		121.46	425-020
SWS-310	TYPE P 3 C.I.	600+46.00	124.56	120.46		120.46	425-020
SWS-311	TYPE P 3 C.I.	703+12.00	115.56			111.16	425-020
SWS-312	TYPE P 3 C.I.	602+77.00	116.56	111.06	111.06	111.06	425-020
SWS-313	TYPE P 3 C.I.	XX	115.16	109.76		109.76	425-020
SWS-314	TYPE P 4 C.I.	700+00.00	112.06	109.36		109.36	425-020
SWMH-6	MANHOLE	XX	134.30	130.20		126.56	425-001
SWMH-7	MANHOLE	112+94.93	125.16	115.70		115.70	425-001
SWMH-8	MANHOLE	113+88.63	125.66	115.20		115.20	425-001
SWMH-9	MANHOLE	114+39.45	129.62	124.93	124.93	124.93	425-001

STORMWATER PIPE TABLE							
PIPE NUMBER	LENGTH(FT)	SIZE(IN)	MATERIAL	LOCATION	SLOPE	NOTES	
SWP-201	22	18	HDPE	SWS-202 TO SWS-201	0.0091		
SWP-202	181	18	HDPE	SWS-201 TO SWMH-9	0.0245		
SWP-203	27	18	HDPE	SWS-203 TO SWMH-9	0.0020		
SWP-204	112	18	HDPE	SWMH-9 TO SWS-307	0.0231		
SWP-301	22	18	HDPE	SWS-301 TO SWS-304	0.0091		
SWP-302	22	18	HDPE	SWS-302 TO SWS-303	0.0045		
SWP-303	205	18	HDPE	SWS-303 TO SWS-304	0.0044		
SWP-304	149	18	HDPE	SWS-304 TO SWS-305	0.0255		
SWP-305	318	18	HDPE	SWS-305 TO SWS-306	0.0186		
SWP-306	114	24	HDPE	SWS-306 TO SWMF 3	0.0035		
SWP-307	72	18	HDPE	SWS-307 TO SWS-308	0.0028		
SWP-308	102	18	HDPE	SWS-308 TO SWS-309	0.0069		
SWP-309	58	18	HDPE	SWS-309 TO SWS-310	0.0175		
SWP-310	232	18	HDPE	SWS-310 TO SWS-312	0.0407		
SWP-311	54	18	HDPE	SWS-311 TO SWS-312	0.0019		
SWP-312	57	24	HDPE	SWS-312 TO SWS-313	0.0232		
SWP-313	168	24	HDPE	SWS-313 TO SWMF 3	0.0036		
SWP-314	149	18	HDPE	SWS-314 TO SWMF 3	0.0013		
SWP-315	62	18	HDPE	MES TO MES	0.0130		
SWP-316	96	18	HDPE	MES TO SWS-314	0.0319		
SWP-501	14	18	HDPE	SWMH-6 TO MES	0.0400		
SWP-502	267	18	HDPE	SWMH-6 TO SWMH-7	0.0545		
SWP-503	101	18	HDPE	SWMH-7 TO SWMH-8	0.0050		
SWP-504	400	18	HDPE	SWMH-8 TO MES	0.0135		
OUTFALL	33	30	HDPE	SWMF 3 TO MES	0.0030		

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STORMWATER PIPES & STRUCTURES
RESERVE AT JEWEL LAKE PHASE TWO
LAKE CITY, FL

| Signature | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Page | Pa



SANITARY PIPES & STRUCTURES
RESERVE AT JEWEL LAKE PHASE TWO
LAKE CITY, FL

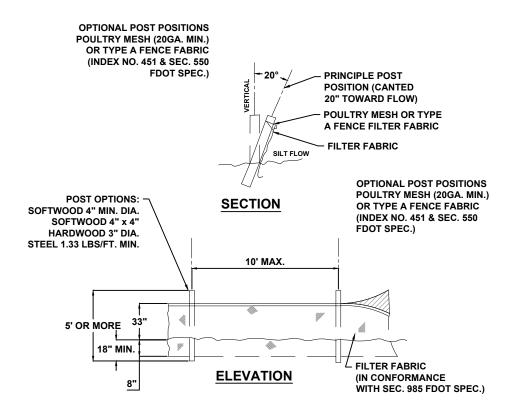
				SANITA	ARY STRUCTU	RE TABLE			
STRUCTURE	TVDE	LOCATION (STA)	OFFSET(FT)		D.114		PIPE INVERTS		NOTES
NUMBER	NUMBER TYPE	LOCATION (STA)	LT	RT	RIM	IN	IN	OUT	NOTES
SS-22	MANHOLE	107+89.70	0.50		123.63			119.06	
SS-23	MANHOLE	118+84.62	0.50		139.50			132.06	
SS-24	MANHOLE	115+98.59	0.20		133.05	126.15		126.12	
SS-25	MANHOLE	113+99.63	3.50		127.42	122.40		122.34	
SS-26	MANHOLE	112+61.89	6.50		126.01	121.67		121.58	
SS-27	MANHOLE	111+34.57	1.50		125.45	117.27	117.27	117.23	
SS-28	MANHOLE	705+64.32		0.40	116.64			111.90	
SS-29	MANHOLE	702+79.07		0.75	115.07	108.57	108.57	108.52	
SS-30	MANHOLE	700+15.21		0.45	111.91	106.76		106.56	
SS-40	MANHOLE	LIFT STATION			109.55	101.96		101.86	

	SANITARY PIPE TABLE								
PIPE NUMBER	LENGTH(FT)	SIZE(IN)	MATERIAL	LOCATION	SLOPE	NOTES			
SP-22	345	8	PVC	SS-22 TO SS-27	0.0052				
SP-23	286	8	PVC	SS-23 TO SS-24	0.0207				
SP-24	200	8	PVC	SS-24 TO SS-25	0.0187				
SP-25	139	8	PVC	SS-25 TO SS-26	0.0048				
SP-26	129	8	PVC	SS-26 TO SS-27	0.0336				
SP-27	320	8	PVC	SS-27 TO SS-29	0.0271				
SP-28	286	8	PVC	SS-28 TO SS-29	0.0117				
SP-29	264	8	PVC	SS-29 TO SS-30	0.0067				
SP-30	147	8	PVC	SS-30 TO SS-40	0.0313				
SP-40	13	8	PVC	SS-40 TO LIFT	0.0330				

**DIVERSION RIDGE REQUIRED** WHERE GRADE EXCEEDS 2% SECTION A-A FILTER FABRIC **USE ROCK BAGS TO ROCK BAGS, OR CONTINUOUS** CHANNELIZE RUNOFF TO GEOSYNTHETIC FABRIC BERM OF EQUIVALENT HEIGHT BASIN AS REQUIRED. **SPILLWAY** SEE NOTES. SUPPLY WATER ROCK BAGS MUST BE TO WASH WHEELS PLACED SUCH THAT NO IF NECESSARY GAPS ARE EVIDENT **COURSE AGGREGATE** 15' MIN. MIN. 6" THICK **DIVERSION RIDGE** NOTES: **PLAN** 

- 1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO
- 2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
- 3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN. 4. ROCK BAGS OR SANDBAGS SHALL BE PLACED SUCH THAT NO GAPS ARE EVIDENT.

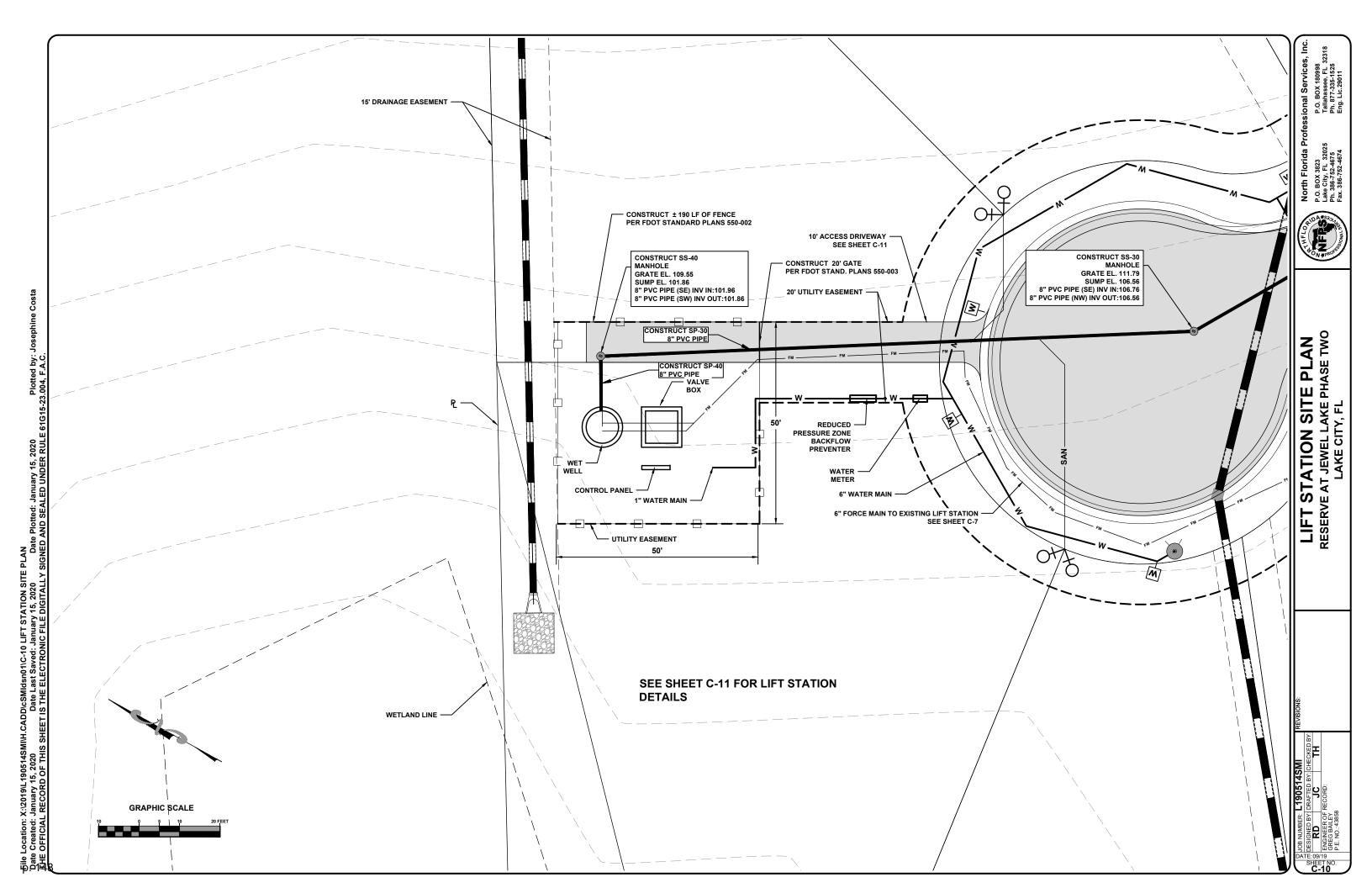
### TEMPORARY CONSTRUCTION ENTRANCE C-8 /SCALE: N.T.S.







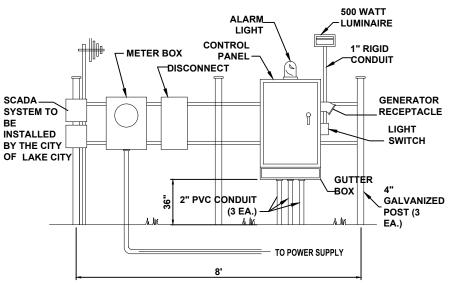
EROSION CONTROL PLAN
RESERVE AT JEWEL LAKE PHASE TWO
LAKE CITY, FL



**NATURAL GROUND** LIMEROCK BASE **NATURAL GROUND** 

### IFTSTATION DRIVEWAY DETAILS SCALE: N.T.S.

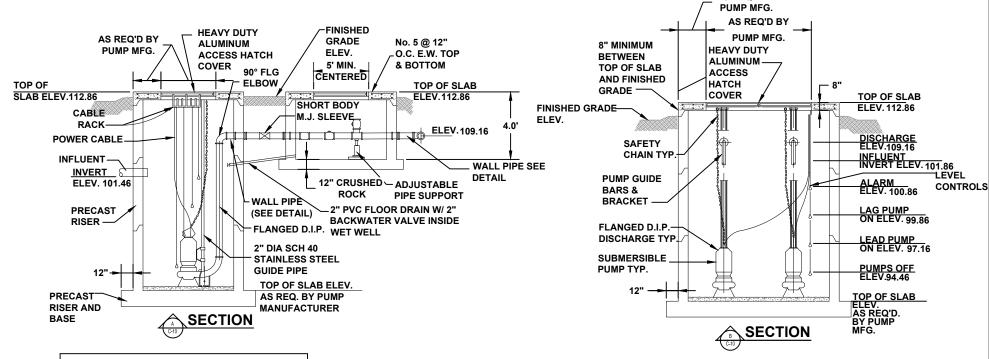
### **PLAN**



### **CONTROL PANEL**

### CONTROL PANEL NOTES:

- 1. CONTROL PANEL ASSEMBLY SHALL BE LOCATED AT PUMP STATION SITE. 2. PUMP CONTROL PANEL SHALL BE SUPPLIED BY PUMP MANUFACTURER AND GENERALLY CONSIST OF A 30"WX36"H NEMA TYPE 4X ENCLOSURE CONSTRUCTED OF 304 STAINLESS STEEL AND UL LISTED.
- 3. A 12"x12"x30" 304 STAINLESS STEEL GUTTER BOX SHALL BE ATTACHED TO THE CONTROL PANEL BY COMPRESSION CORD CONNECTORS ONLY (SIZED FOR THE PUMP, SEAL, AND CONTROL LEADS). NO SEAL OFF FITTINGS SHALL BE INSTALLED IN THE CONDUITS. AN EFFECTIVE SEAL SHALL BE MADE BETWEEN THE CONTROL PANEL AND THE GUTTER BOX.
- 4. CONTRACTOR SHALL INSTALL ALL MOUNTING COMPONENTS (GALVANIZED POSTS, UNISTRUTS, ETC.), CONTROL PANEL, GUTTER BOX, PVC CONDUITS TO WET WELL, POLE LIGHT AND SWITCH, METER BOX AND DISCONNECT, AND POWER CONNECT TO NEAREST POWER SUPPLY.
- 5. SCADA SYSTEM SHALL BE INSTALLED BY THE CITY'S UTILITIES DEPARTMENT.



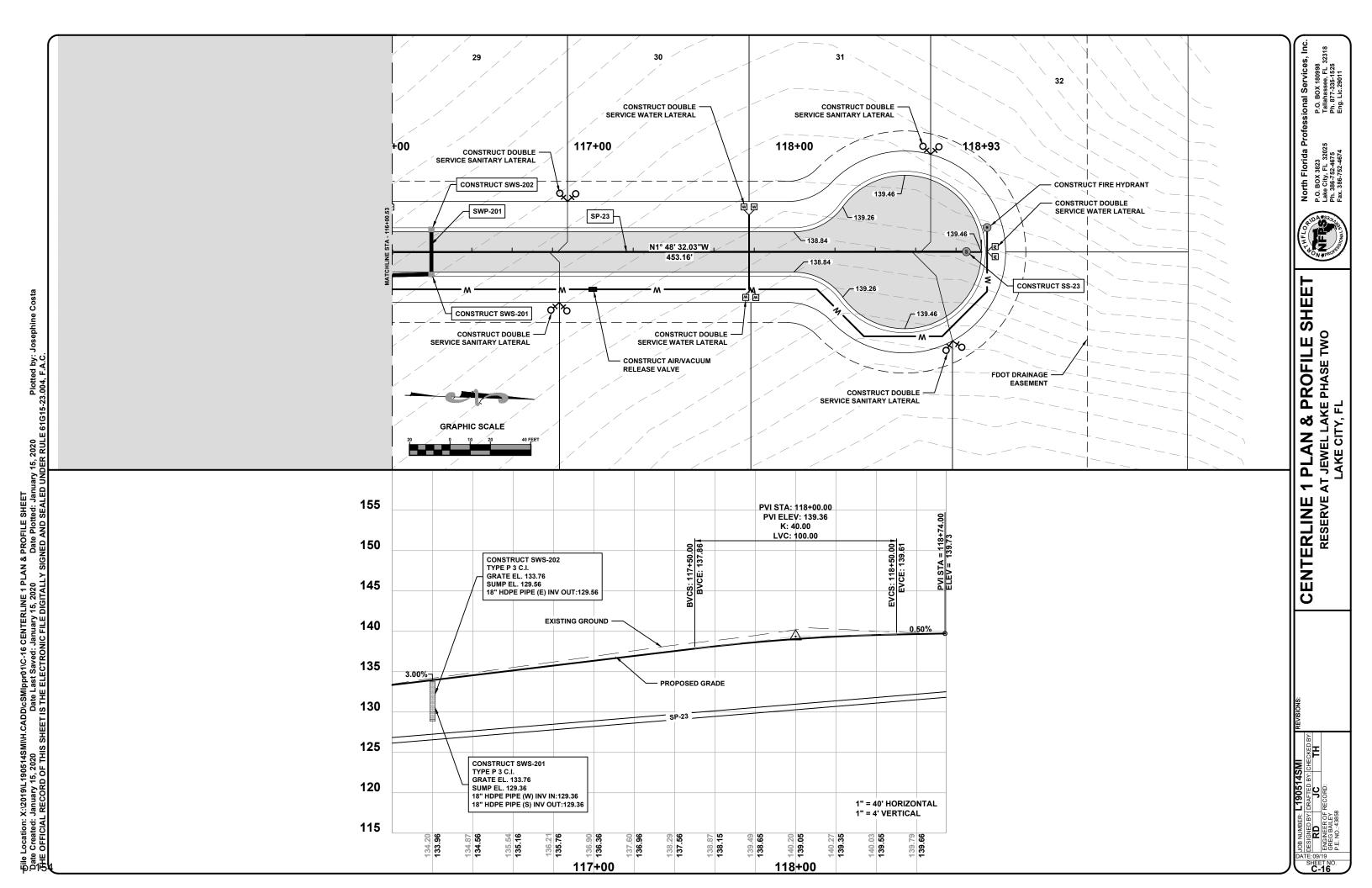
**PUMP STATION DATA** B.H.P. G.P.M. T.D.H. DEMAND NOTE 2 200 37

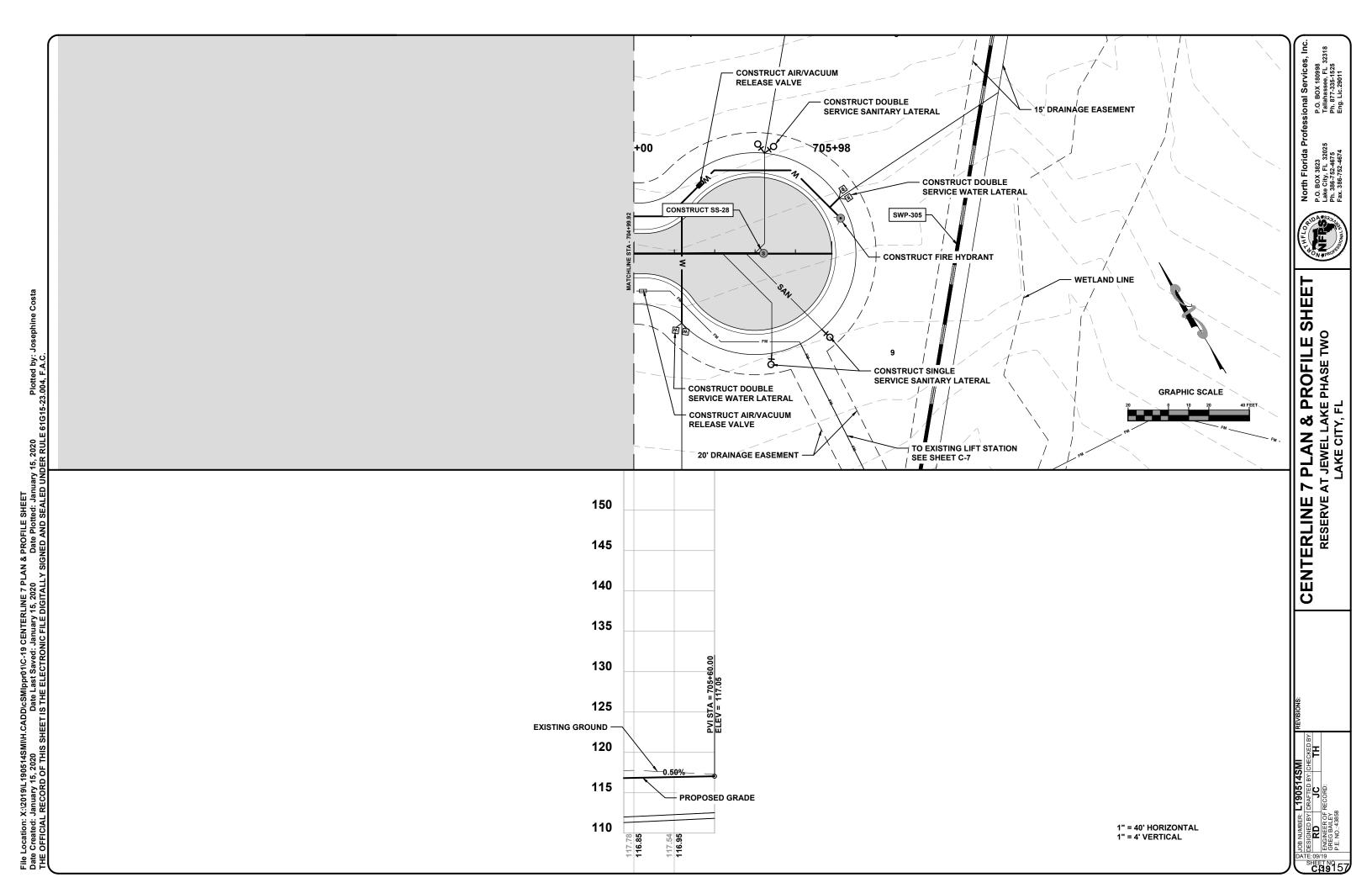
- 1. LIFT STATION PUMP ASSEMBLY SHALL INCLUDE ALL ELECTRICAL CONTROLS. ALARMS, AND TELEMETRY CONTROLS AS REQUIRED BY THE CITY OF LAKE CITY.
- 2. PUMP SIZE SHALL BE PER MANUFACTURERS RECOMMENDATIONS.

CONCRETE LIFTSTATION DETAILS C-11/SCALE: N.T.S.

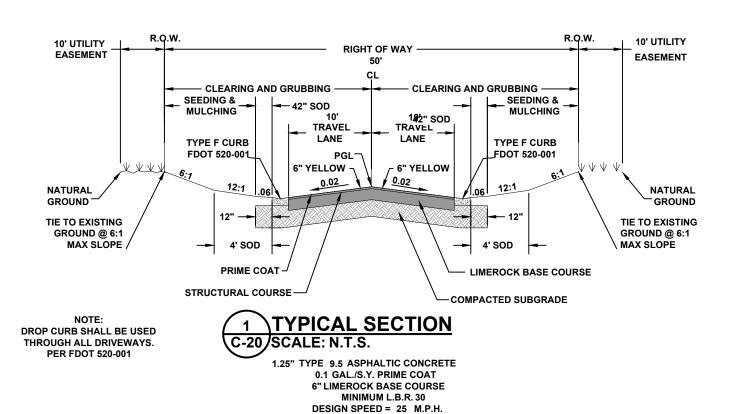
AS REQ'D BY

LIFT STATION DETAILS
RESERVE AT JEWEL LAKE PHASE TWO
LAKE CITY, FL



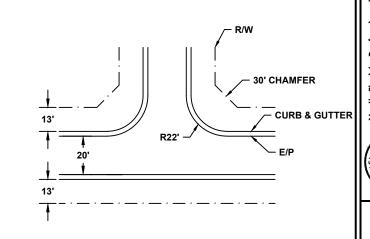






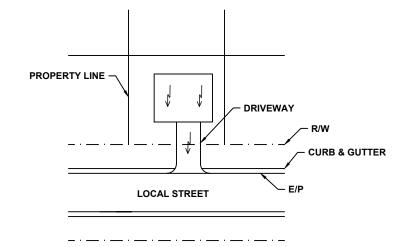
**CURB & GUTTER** 

2 TYPICAL CUL-DE-SAC SECTION C-20/SCALE: N.T.S.

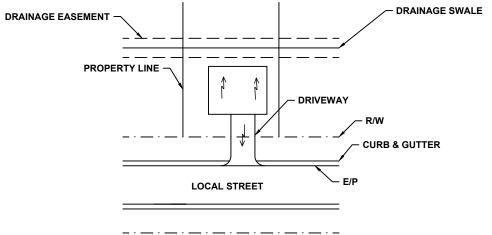


TYPICAL INTERSECTION C-20/SCALE: N.T.S.

ROADWAY DETAILS
RESERVE AT JEWEL LAKE PHASE TWO
LAKE CITY, FL



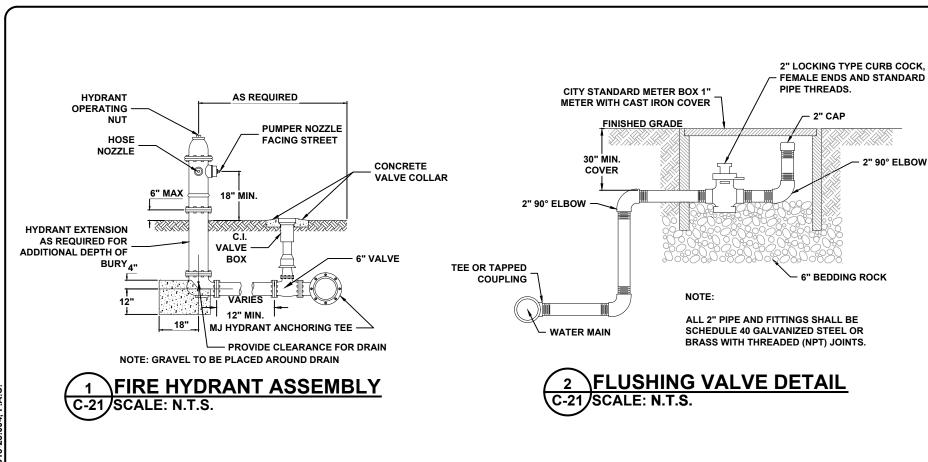
TYPICAL LOT GRADING DETAIL 1 C-20/SCALE: N.T.S.

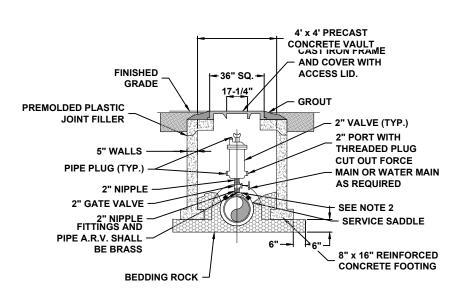


TYPICAL LOT GRADING DETAIL 2 C-20/SCALE: N.T.S.





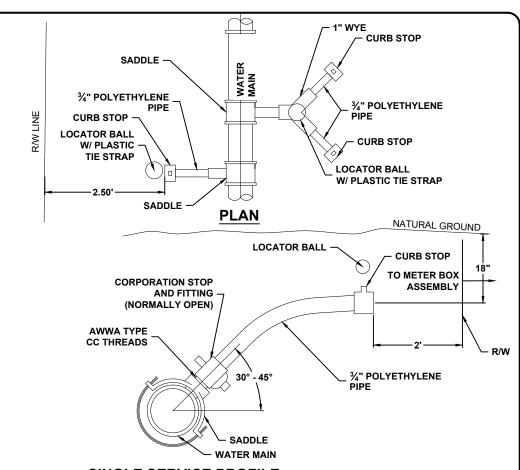




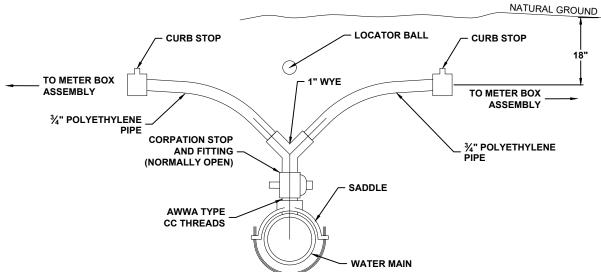
### NOTES:

- 1. ABOVE DETAIL IS BASED ON 2" COMBINATION AIR/VACUUM RELEASE VALVE. CHANGE PIPE AND FITTINGS ACCORDINGLY FOR OTHER VALVE SIZES AND TYPES.
- 2. THE MINIMUM DIMENSION FROM TOP OF PIPE TO FINISHED GRADE SHALL BE 3.0 FEET.

3 AIR AND/OR VACUUM RELEASE VALVE C-21 SCALE: N.T.S.



### SINGLE SERVICE PROFILE



### **DOUBLE SERVICE PROFILE**

NOTES:

- ${\bf 1.\; ALL\; FITTINGS\; SHALL\; BE\; BRASS\; WITH\; COMPRESSION/\; PACK\; JOINT\; TYPE\; CONNECTIONS.}$
- 2. NO SERVICE LINE SHALL TERMINATE UNDER A DRIVEWAY.
- 3. EACH SERVICE SHALL TERMINATE AT A CURB STOP WHICH SHALL BE BURIED APPROXIMATELY 3" BELOW FINAL GRADE AND SHALL BE CLEARLY MARKED WITH A 2" x 2" x 18" STAKE WITH THE TOP PAINTED BLUE AND MARKED WITH THE NUMBER OF THE LOT TO BE SERVED.
- 4. CONTRACTOR SHALL PROVIDE LOCATOR BALLS W/ PLASTIC TIE STRAPS. LOCATOR BALLS SHOULD BE SECURED TO LATERAL W/ TIE STRAP.

4 WATER SERVICE CONNECTION DETAILS C-21 SCALE: N.T.S.

WATER DETAILS

RESERVE AT JEWEL LAKE PHASE TWO
LAKE CITY, FL

For 38

For 38

For 38

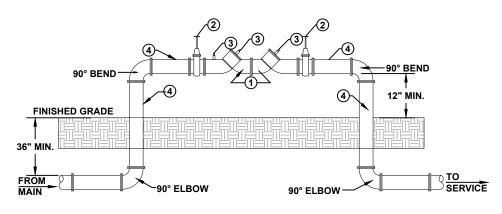
For 38

For 38

For 38

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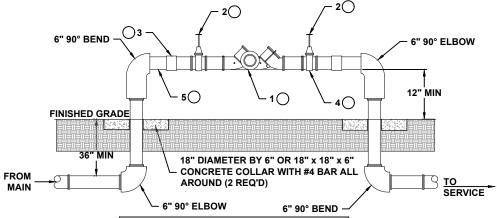
JOB NUMBER: L190514SI
DESIGNED BY DRAFTED BY: C
D JC
ENGINEER OF RECORD:
DE NO 438FS
DE NO 438FS



MATERIALS						
ITEM	DESCRIPTION					
1	BACKFLOW PREVENTER					
2	GATE VALVE					
3	TEST COCKS					
4	DUCTILE IRON PIPE - FLANGED END x FLANGED END					

### NOTES:

- 1. UNDER NO CONDITION WILL ANY CONNECTION BE ALLOWED BETWEEN THE SERVICE METER AND A BACKFLOW PREVENTER USED FOR SYSTEM CONTAINMENT. BACKFLOW PREVENTER SHALL ALWAYS BE INSTALLED DOWNSTREAM OF METER.
- 2. UNDER NO CIRCUMSTANCES, SHALL TEST PORTS BE MODIFIED OR UTILIZED FOR THIS OR OTHER APPLICATION OTHER THAN BACKFLOW DEVICE TESTING.
- 3. PROVIDE AND INSTALL COVER OVER BACKFLOW PREVENTER AS REQ'D BY LOCAL **AUTHORITIES**



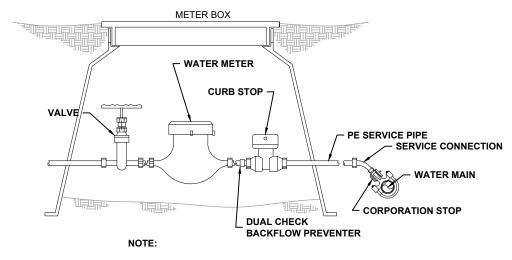
MATERIALS					
ITEM	DESCRIPTION				
1	6" BACKFLOW PREVENTER				
2	6" GATE VALVE				
3	6" UNION				
4	6" TEST COCKS				
5	6" THREADED NIPPLE				

### NOTES:

- 1. UNDER NO CONDITION WILL ANY CONNECTION BE ALLOWED BETWEEN THE SERVICE METER AND A BACKFLOW PREVENTER USED FOR SYSTEM CONTAINMENT. BACKFLOW PREVENTER SHALL ALWAYS BE INSTALLED DOWNSTREAM OF METER.
- 2. IF A PRESSURE MONITOR IS TO BE INSTALLED, ADD A TEE, VALVE FITTINGS, AND MOUNT ON SUPPLY SIDE PRIOR TO BACKFLOW PREVENTION DEVICE: UNDER NO CIRCUMSTANCE, SHALL TEST PORTS BE MODIFIED OR UTILIZED FOR THIS OR OTHER APPLICATION OTHER THAN BACKFLOW DEVICE TESTING.
- 3. A CONBRACO SERIES 40-000 FREEZE PROTECTION VALVE SHALL BE INCLUDED.
- 4. PROVIDE AND INSTALL COVER OVER BACKFLOW PREVENTER AS REQ'D BY LOCAL AUTHORITIES

DOUBLE CHECK BACKFLOW PREVENTER

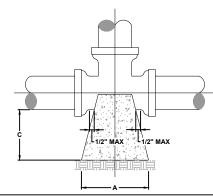
REDUCED PRESSURE BACKFLOW PREVENTER C-22/SCALE: N.T.S.



P.E. TUBING IS TO BE BACKFILLED BY HAND UP TO THE TOP OF THE SERVICE.

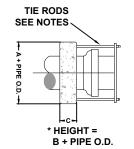


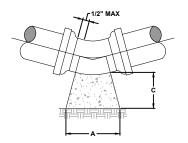
WATER DETAILS
RESERVE AT JEWEL LAKE PHASE TWO
LAKE CITY, FL

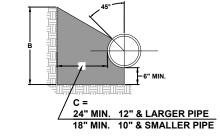


	THRUST BLOCK FOR TEES & PLUGS						
SIZE		TEE		SQ. FT. BEARING			
	Α	В	С	SURFACE			
4"	16"	16'	18"	1.78			
6"	20"	24"	18"	3.33			
8"	26"	32"	18"	5.78			
10"	32"	40"	18"	8.89			
12"	36"	48"	24'	12.00			
14"	40"	56"	24"	15.56			
16"	48"	60"	24"	20.00			
18"	56"	64"	24"	14.89			
20"	60"	76"	24"	31.67			
24"	72"	90"	24"	45.00			
30"	86"	102"	24"	60.67			
36"	116"	108"	24"	86.11			

SIZE	,	90° BEND		SQ. FT. BEARING	45	° BEND	)	SQ. FT. BEARING	22	1/2° BE	ND	SQ. FT. BEARING	11	1/4° BE	ND	SQ. FT. BEARING
	Α	С	С	SURFACE	Α	В	С	SURFACE	Α	В	С	SURFACE	Α	В	С	SURFACE
4"	16"	16"	18"	1.78	14"	16"	18'	1.56	14"	16"	18"	1.56	14"	16"	18"	1.56
6"	22"	32"	18"	4.89	16'	18"	18	2.00	14"	16"	18"	1.56	14"	16"	18"	1.56
8"	32"	36'	18"	8.00	24"	28"	18	4.67	16"	18"	18"	2.00	14"	16"	18"	1.56
10"	36"	46"	18"	11.50	26"	36"	18	6.50	20"	24"	18"	3.33	14"	18"	18"	1.75
12"	44"	56"	24"	17.11	32"	40"	24	8.89	24"	30"	24"	5.00	16"	20"	24"	2.22
14"	52"	62"	24"	22.39	36"	48"	24	12.00	26"	36"	24"	6.50	20"	24"	24"	3.33
16"	58"	72"	24"	29.00	40"	54"	24	15.00	32"	38"	24"	8.44	22"	26"	24"	3.97
18"	64"	80"	24"	35.56	46"	60"	24	19.17	36"	42"	24"	10.50	24"	32"	24"	5.33
20"	72"	88"	24"	44.00	52"	66"	24	23.83	38"	48"	24"	12.67	26"	36"	24"	6.50
24"	96"	96"	24"	63.78	64"	78"	24	34.67	46"	56"	24"	17.89	32"	40"	24"	8.89
30"	122"	102"	24"	86.11	72"	94"	24	47.00	56"	62"	24"	24.11	36"	48"	24"	12.00
36"	166"	104"	24"	123.33	88"	108"	24	66.00	64"	78"	24"	34.67	44"	54"	24"	16.50







RUN

SIZE

REDUCERS

L (FT.)

35

35

65

35

65

35

65

65

95

35

65

120

65

95

120

80

150

80

150

80

150

80

150

SIZE

6X4

8X6

8X4

10X8

10X6

12X10

12X8

16X12

16X10

20X18

20X16 20X12

24X20

24X18

24X16

30X24

30X20

36X30

36X24

42X36

42X30

48X42

48X36

TEES (NOTE 5)

BRANCH

SIZE

L (FT.)

**PVC PIPE RESTRAINT NOTES:** 

1. THIS SCHEDULE SHALL BE UTILIZED ON ALL WATER, SEWER FORCE MAIN OR RECLAIMED WATER SYSTEMS. ALL FITTINGS SHALL BE RESTRAINED TO LENGTHS INDICATED ON THE ABOVE SCHEDULE, AT A MINIMUM. UNLESS OTHERWISE INDICATED, ALL REQUIRED RESTRAINTS SHALL BE INCLUDED IN PRICE OF FITTING, VALVE OR PIPE.

- 2. ASSUMPTIONS: PVC PIPE, SAFETY FACTOR = 1.5, TEST PRESSURE = 150 PSI, SOIL = GM OR SM, TRENCH TYPE 3, DEPTH OF COVER = 30 INCHES FOR 20" AND SMALLER PIPE SIZE OR 36 INCHES FOR 24" AND LARGER PIPE SIZE.
- 3. BENDS AND VALVES: SHALL BE RESTRAINED ON EACH SIDE OF
- 4. VERTICAL OFFSETS: ARE APPROX. 3 FEET COVER ON TOP AND APPROX. 8 FEET COVER ON BOTTOM. PER THE DETAILS, Lu IS THE RESTRAINED LENGTH FOR THE UPPER (TOP) LEVEL. Li IS THE RESTRAINED LENGTH FOR THE LOWER (DEEPER) LEVEL. ASSUME 45 DEGREE BENDS.
- 5. TEES: TOTAL LENGTH BETWEEN FIRST JOINTS OR RESTRAINED LENGTH ON EITHER SIDE OF TEE (RUN) SHALL BE A TOTAL DISTANCE OF 30 FEET (MIN). SEE SCHÉDULE ABOVE FOR RESTRAINT LENGTH ON TEE " BRANCH" LINE.
- 6. HDPE TO PVC TRANSITION: THE PVC PIPE SIDE SHALL BE **RESTRAINED 35 FT (MIN).**
- 7. THE INSTALLATION OF BELL HARNESS RESTRAINTS AT PVC JOINTS (DR-18 & 25 PIPE) SHALL BE COMPLETED PER THE MANUFACTURERS RECOMMENDATION, WHICH INCLUDES NOT OVER TIGHTENING THE PARALLEL RODS/NUTS. THESE NUTS SHOULD ONLY BE SNUG TIGHT. THE HOME MARKS ON THE PIPE SHOULD ALWAYS BE VISIBLE AFTER THE RESTRAINT IS INSTALLED. OVERHOMING THE JOINT MAY CAUSE A FAILURE AT THE BELL RESULTING IN A SERVICE OUTAGE.

- 1. ALL BEARING SURFACES TO BE CARRIED TO UNDISTURBED
- 2. THESE TABLES SHOW MINIMUM SIZES FOR THRUST BLOCKS IN GOOD SOIL (A-1 THRU A-3, CLEAN SANDS AND GRAVELS) WITH MINIMUM BEARING CAPACITY OF 2000 PSI.
- 3. POOR SOILS A-4 THRU A-8, SILTY SOILS, CLAYS, MUCK AND PEAT WILL REQUIRE LARGER THRUST BLOCKING.
- 4. BOTH CONCRETE THRUST BLOCKS AND TIE RODS MUST BE USED WHEN, IN THE JUDGEMENT OF THE ENGINEER, THE NATURE AND CRITICIALITY OF AN INSTALLATION IS SUCH AS TO REQUIRE POSITIVE ASSURANCE OF STABILITY.
- 5. THE USE OF THRUST BLOCKS SHALL BE LIMITED TO SITUATIONS SUCH AS POINT REPAIR WHERE EXPOSING SEVERAL JOINTS OF PIPE IS NOT FEASIBLE DUE TO EXISTING GROUND
- 6. CONCRETE COLLARS WITH TIE RODS MAY BE USED ON DEAD END LINES AT THE CONTRACTOR'S DISCRETION, NUMBER OF TIE **RODS SHALL BE AS FOLLOWS:**
- 3" 8" DIAMETER MAIN --- 2 TIE RODS PER JOINT 10" - 12" DIAMETER MAIN --- 4 TIE RODS PER JOINT

42" - 48" DIAMETER MAIN --- 10 TIE RODS PER JOINT

- 14" 20" DIAMETER MAIN --- 6 TIE RODS PER JOINT 24" - 36" DIAMETER MAIN --- 8 TIE RODS PER JOINT
- 7. MAXIMUM TEST PRESSURE TO BE 150 PSI.

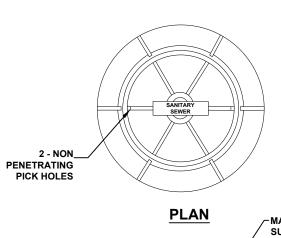
4"	4"	F.O.
6"	6" 4"< LESS	10 F.O.
8"	8" 6"< LESS	30 F.O.
10"	10" 8" 6"< LESS	48 14 F.O.
12"	12" 10" 8"< LESS	65 35 F.O.
16"	16" 12" 10"< LESS	100 40 F.O.
20"	20" 16" 12"< LESS	130 80 F.O.
24"	24" 20" 16" 12"< LESS	130 90 40 F.O.
30"	30" 24" 20" 16"< LESS	140 80 50 F.O.
36"	36" 30" 24" 20"< LESS	180 120 50 F.O.
42"	42" 36" 30" 24" 20"< LESS	220 160 80 40 F.O.
48"	48" 42" 36" 30" 24"<	250 180 90 40 F.O.

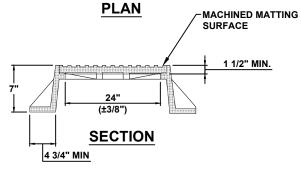
F.O. = FITTING ONLY

LESS



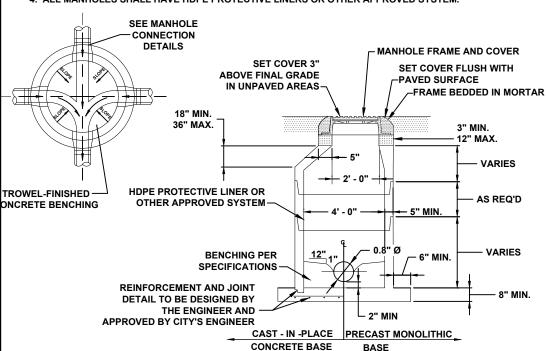
PHASE T JEWEL LAKE F LAKE CITY, FL WATER RESERVE AT





### STANDARD MANHOLE DETAIL C-24/SCALE: N.T.S.

- 1. MANHOLE SHOWN IS FOR SEWER SIZE 8" THRU 18", MANHOLE DIAMETER FOR SEWERS GREATER THAN 18" SHALL BE AS APPROVED BY CITY'S ENGINEERS.
- 2. DROP CONNECTIONS ARE REQUIRED WHENEVER INVERT OF INFLUENT SEWER IS 24" OR MORE ABOVE THE INVERT OF THE MANHOLE. SEE MANHOLE CONNECTION DETAILS.
- 3. APPROVED CONCENTRIC CONE DESIGN MAY BE USED AS AN ALTERNATIVE.
- 4. ALL MANHOLES SHALL HAVE HDPE PROTECTIVE LINERS OR OTHER APPROVED SYSTEM.



PRECAST CONCRETE MANHOLE DETAIL C-24/SCALE: N.T.S.

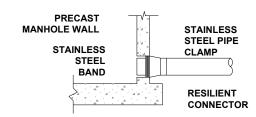
-FINISHED GRADE -LOCATOR **TERMINAL DEPTH AS REQ'D FOR** BALL w/ **SLOPE TO TERMINAL** "HOUSE" SERVICE (3' MIN. TYP.) **PLASTIC TIE** DEPTH AT 1.0% MIN. STRAPS -SPRING LINE **PROFILE** ROTATE 30° TYP. -SEWER MAIN (SEE NOTE 3) VARIES WYE WITH 6" LOT LINE SEWER MAIN **BRANCH** SIZE VARIES 6" 45° BEND **REMOVABLE CLEAN-OUT** PLUG SEE NOTE 1-LOCATOR BALL w/PLASTIC TIE **PLAN** 

1. CLEAN-OUT (SHOWN LIGHTER) SHALL BE INSTALLED BY THE BUILDER IN ACCORDANCE WITH STANDARD PLUMBING CODE.

STRAPS

- 2. LOCATE SINGLE LATERAL AS CLOSE TO LOT LINE AS POSSIBLE, 25' MAXIMUM.
- 3. INVERT OF SERVICE LATERAL SHALL NOT ENTER SEWER MAIN BELOW SPRING LINE.
- 4. CONTRACTOR SHALL PROVIDE LOCATOR BALLS W/PLASTIC TIE STRAPS. LOCATOR BALLS SHALL BE SECURED TO LATERAL W/PLACTIC TIE STRAPS.

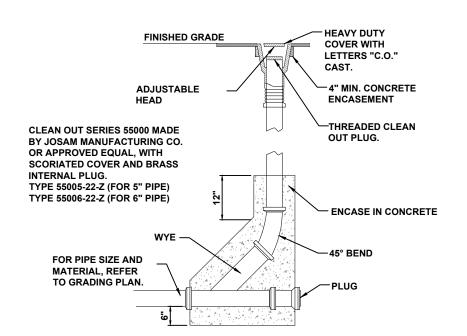
SANITARY SEWER SERVICE LATERALS C-24*/*SCALE: N.T.S.



### NOTES:

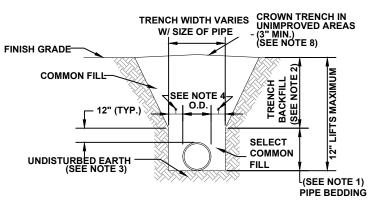
- 1. MANHOLE SHOWN IS FOR SEWER SIZE 8" THRU 24".
- 2. APPROVED CONCENTRIC CONE DESIGN MAY BE USED AS AN ALTERNATIVE.
- 3. BOTH THE INTERIOR AND EXTERIOR SURFACES OF THE MANHOLE SHALL BE COATED WITH EPOXY COAL TAR. DO NOT COAT JOINT OR PIPE OPENING SURFACES.
- 4. DROP CONNECTIONS ARE REQUIRED WHENEVER INVERT OF INFLUENT SEWER IS 24" OR MORE ABOVE THE INVERT OF THE MANHOLE. SEE DETAIL.
- 5. DROP PIPE AND FITTINGS SHALL BE OF EQUAL SIZE AND MATERIAL AS THE INFLUENT SEWER.

MANHOLE CONNECTION DETAIL C-24/SCALE: N.T.S.



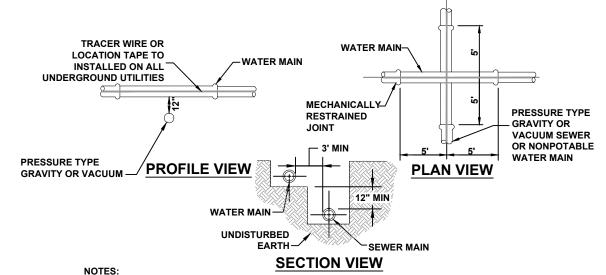


SANITARY DETAILS
RESERVE AT JEWEL LAKE PHASE TWO
LAKE CITY, FL



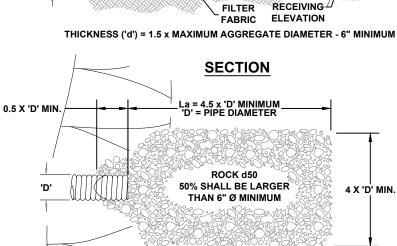
- 1. PIPE BEDDING: SELECT COMMON FILL COMPACTED TO 95% OF THE MAXIMUM **DENSITY AS PER AASHTO T-180.**
- 2. TRENCH BACKFILL: COMMON FILL COMPACTED TO 95% OF THE MAXIMUM **DENSITY AS PER AASHTO T-180.**
- 3. PIPE BEDDING UTILIZING SELECT COMMON FILL OR BEDDING ROCK WILL BE REQUIRED IF OVER-EXCAVATION OCCURS.
- 4. (\*): 15" MAX. FOR PIPE DIAMETER LESS THAN 24", AND 24" MAX. FOR PIPE DIAMETER 24" AND LARGER
- 5. WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION.
- 6. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW.
- 7. PROVIDE TRENCH SLOPING AND BRACING AS REQUIRED FOR SAFETY. 8. FINAL RESTORATION IN IMPROVED AREAS SHALL BE IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS OF GOVERNING AGENCIES, SURFACE RESTORATION WITHIN PAVED AREAS SHALL COMPLY WITH THE REQUIREMENTS OF THE ROAD CONSTRUCTION SPECIFICATIONS.

## TRENCH AND BACKFILL DETAILS



- 1. THE MINIMUM HORIZONTAL DISTANCE BETWEEN THE OUTSIDE OF A WATER MAIN AND SEWER MAIN SHALL BE 6' WITH A PREFERRED 10' SEPARATION.
- 2. WHERE A 6' PARALLEL SEPARATION CANNOT BE MAINTAINED BETWEEN A WATERMAIN AND A SEWER MAIN OR NON-POTABLE WATER MAIN. THEN THE WATER MAIN SHALL BE LAID IN A SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELF AT LEAST 12 INCHES ABOVE THE TOP OF THE SEWER MAIN OR NON-POTABLE WATER MAIN. THE HORIZONTAL SEPARATION SHALL BE NO LESS THAN 3'.
- 3. WHEN A SEWER MAIN AND A WATER MAIN CROSS, THE WATERMAIN SHOULD BE A MINIMUM OF 12" ABOVE.
- 4. FOR ALL PIPE CROSSINGS, THE PIPE JOINTS SHALL BE ARRANGED SO THAT ALL PIPE JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING WITH NO LESS THAN FIVE FEET BETWEEN ANY TWO JOINTS.

WATER/SEWER SEPARATION DETAIL



**OVERFALL** 

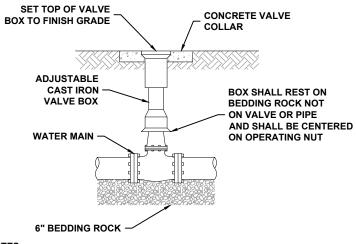
**ELEVATION** 

- 1. 'La' = LENGTH OF APRON. DISTANCE 'La' SHALL BE OF SUFFICIENT LENGTH TO DISSIPATE ENERGY.
- 2. APRON SHALL BE AT A ZERO GRADE AND ALIGNED STRAIGHT.

**PLAN** 

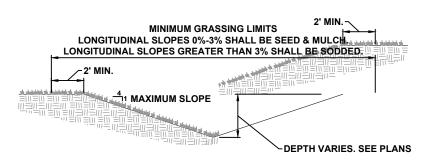
3. FILTER FABRIC SHALL EXTEND 6" PAST AGGREGATE LIMITS

ENERGY DISSIPATER DETAIL C-25/SCALE: N.T.S.



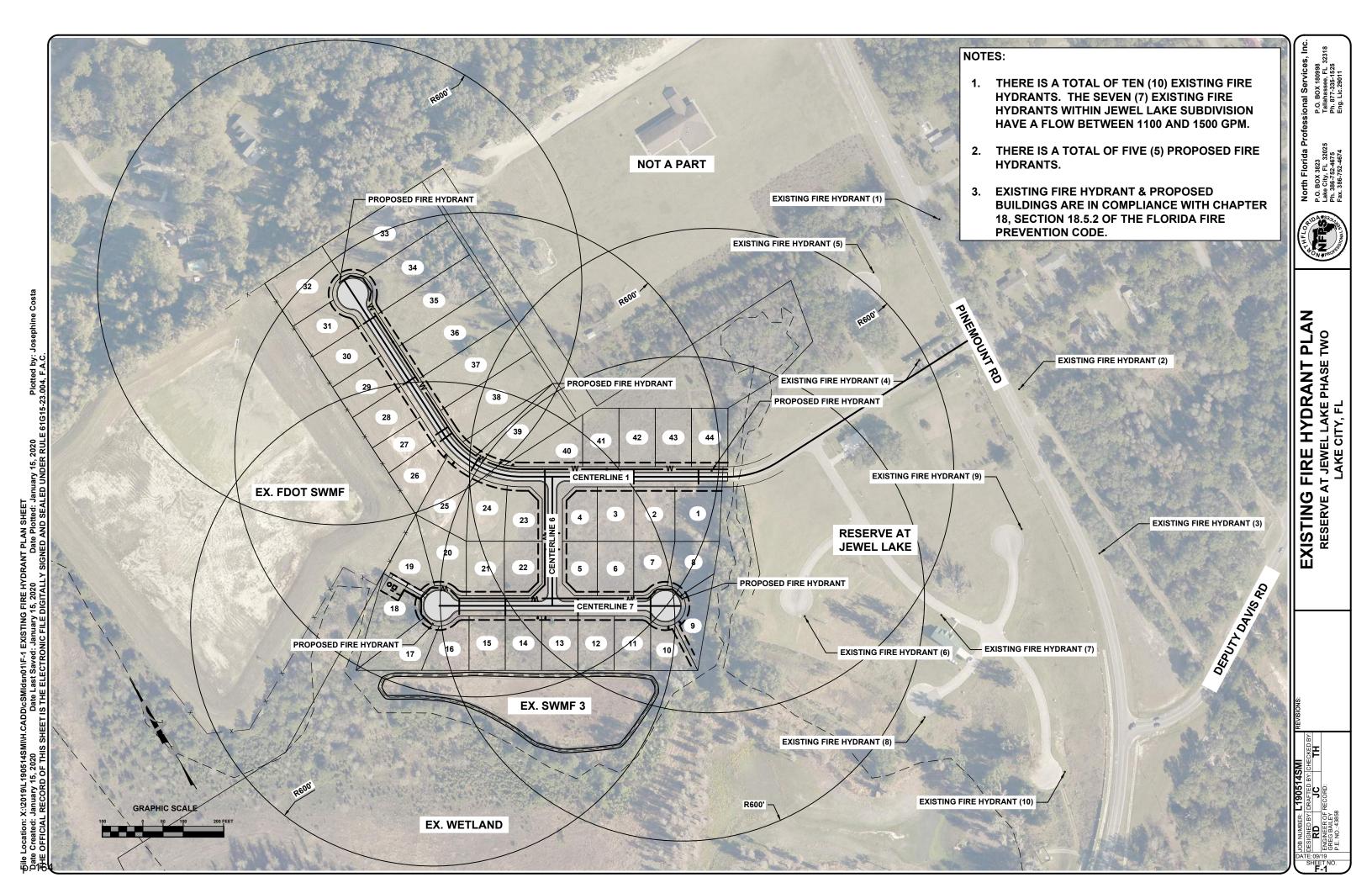
- 1. PVC EXTENSIONS SHALL NOT BE USED ON VALVE BOX INSTALLATION.
- 2. THE ACTUATING NUT FOR DEEPER VALVES SHALL BE EXTENDED TO COME UP TO 4 FOOT DEPTH BELOW FINISHED GRADE.







MISC. DETAILS
RESERVE AT JEWEL LAKE PHASE TWO
LAKE CITY, FL





## COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS AGENDA ITEM REQUEST FORM

The Board of County Commissioners meets the 1st and 3rd Thursday of each month at 5:30 p.m. in the Columbia County School Board Administrative Complex Auditorium, 372 West Duval Street, Lake City, Florida 32055. All agenda items are due in the Board's office one week prior to the meeting date.

Today's Date: April 29, 2020	Meeting Date: May 7, 2020
Name: Joel Foreman	Department: County Attorney
Division Manager's Signature:	
1. Nature and purpose of agenda item:	
COLUMBIA COUNTY, FLORIDA, AMENDING C	DINANCE OF THE BOARD OF COUNTY COMMISSIONERS OF CHAPTER 114, ARTICLE I OF THE COUNTY CODE OF NTY ROADS UPON WHICH OPERATION OF GOLF CARTS IS DATE.
2. Recommended Motion/Action:	
If to approve, to Adopt Ordinance 2020-02.	

3. Fiscal impact on current budget.

This item has no effect on the current budget.

### **MEMORANDUM**

To: Board Agenda, May 7, 2020

From: Joel F. Foreman

**Re:** Proposed Ordinance adding County roads for Golf Cart operation

Date: April 29, 2020

Commissioner Nash requested an ordinance that would include all county roads within the Callaway Subdivision among the county roads on which operation of golf carts is permitted. A draft ordinance was presented to the Board on February 20, 2020, with a request for adoption hearing on March 19, 2020.

At that February 20, 2020 meeting, a request was made during public comment to include The Preserve at Laurel Lake subdivision roads for golf cart traffic. Commissioner Nash also requested to include roads within the Woodborough subdivision. Finally, Commissioner Murphy indicated that he had roads within his district he also wished to open to golf cart traffic, including Woodhaven subdivision. The ordinance was updated to reflect these requests and advertised for an adoption hearing for March 19, 2020.

With the cancelation of the March 19 meeting the adoption hearing was postponed to May 7, 2020. The new hearing date was re-advertised and the ordinance is now ready for adoption at the pleasure of the Board.

Adoption of the attached ordinance will open the roads and subdivisions indicated for golf cart traffic on county roads. It is necessary that the Board consider, as provided in the ordinance, "the speed, volume, and character of motor vehicle traffic using these roads" in order to find "that the roads set forth herein are county roads within the territorial limits of Columbia County, Florida which golf carts may safely travel on or across". This is a legislative determination that will be approved if the ordinance as presented is adopted.

### **Recommended motion:**

If to approve: to adopt Ordinance No. 2020-02, so amending Chapter 114 of the County Code of Ordinances.

### COLUMBIA COUNTY, FLORIDA ORDINANCE NO. 2020-02

AN ORDINANCE OF THE BOARD OF COUNTY COMMISSIONERS OF COLUMBIA COUNTY, FLORIDA, AMENDING CHAPTER 114, ARTICLE I OF THE COUNTY CODE OF ORDINANCES TO ADD TO THE LIST OF COUNTY ROADS UPON WHICH OPERATION OF GOLF CARTS IS PERMITTED AND PROVIDING AN EFFECTIVE DATE.

**WHEREAS**, the Columbia County Board of County Commissioners previously adopted ordinances prohibiting the operation of golf carts upon county roads with the exception of certain roads identified in those ordinances;

**WHEREAS**, the ordinances are codified at Article I of section 114 of the Columbia County Code of Ordinances;

**WHEREAS**, the Board of County Commissioners desires to add to the list of county roads upon which golf carts may be operated; and

**WHEREAS**, the Columbia County Board of County Commissioners is authorized to regulate the operation of golf carts within its territorial limits as provided by Fla. Stat. Ch. 125, the Home Rule Charter for Columbia County, Florida, and Fla. Stat. section 316.212.

## NOW, THEREFORE, BE IT ORDAINED BY THE BOARD OF COUNTY COMMISSIONERS OF COLUMBIA COUNTY, FLORIDA:

### **Section 1. FINDINGS**

The above Recitals are incorporated herein by reference and are hereby adopted as Findings in support of this Ordinance.

Pursuant to Fla. Stat. section 316.212, the Board of County Commissioners for Columbia County, Florida, having considered the speed, volume, and character of motor vehicle traffic using these roads finds that the roads set forth herein are county roads within the territorial limits of Columbia County, Florida which golf carts may safely travel on or across.

Upon adoption of this Ordinance and pursuant to Section 114-2(d) and Fla. Stat. section 316.212(1), the County's public works department shall post and maintain upon the County's right-of-way appropriate signage at roads set forth herein indicating that the operation of golf carts is allowed.

### **Section 2. AUTHORITY**

This ordinance is enacted pursuant to the statutory authority vested in the Board of County Commissioners by Florida Statutes Chapters 316 and 125 and the Home Rule Charter for Columbia County, Florida.

### Section 3. CODE RELATING TO OPERATION OF GOLF CARTS AMENDED

Chapter 114, Article I, Section 114-2 of the Columbia County Code of Ordinances is hereby amended as reflected in this section. Words that are stricken through shall be removed from the Code of Ordinances while those words that are underlined shall be added. Ellipses (...) indicate portions of the code have been omitted for brevity but should not be included in the Code nor should they indicate any deletion. Unless a deletion or addition is indicated herein, Chapter 114 of the Code of Ordinances shall not be altered by this Ordinance.

### Sec. 114-2. - Operation of golf carts.

(a) Definitions.

Golf cart is a motor vehicle that is designed and manufactured for operation on a golf course for sporting or recreational purposes and that is not capable of exceeding speeds of 20 mph as set forth in F.S. 320.01(22).

(b) Designation of county roads for use by golf carts. Subject to the restrictions and limitation and complying with aspects and requirements of this section, golf carts may travel on or across the county roads or streets located within all units of the subdivision known as Three Rivers Estates with the exception of Newark Road, the paved portion of Utah Street, Washington Street, and except all other paved roads within the subdivision, including those paved

after the effective date of this section; and may travel on or across said road or streets in the platted lands of the development know as Wilson Springs; and may travel on or across the county roads known as Aloe Court and Merrimack Place in the Cypress Creek subdivision; may travel on or across the county roads known as SE Pebble Creek Terrace, SE Bream Loop, SE Forest Terrace, SE Whistle Loop, SE Polk Lane, SE Bracken Way, SE Jeremy Place, SE Travis Glen, SE Hanover Place, SE Hubble Street, SE Mohawk ay, SE Apache Way, SE Mojave Way, SE Cherokee Way, SE Sandia Way, SE Jonathan Way, SE Ferret Place, SE Post Court, and SE Anastasia Street, and SE Piute Way; and may travel on or across the county roads within all phases or units of the following platted subdivisions:

- 1. Callaway
- 2. Woodborough
- 3. Lake Valley in Woodborough
- 4. Country Lake in Woodborough
- 5. The Preserve at Laurel Lake
- 6. Woodhaven

The county road known as Wilson Springs Road is specifically excluded and off limits for golf carts.

- (c) Requirements, limitations and restrictions. In consideration of the public health, safety and welfare, the following golf cart requirements, limitations and restrictions shall apply:
  - (1) A golf cart may be operated only during the hours between sunrise and sunset.
  - (2) The golf cart must be equipped with efficient brakes, reliable steering apparatus, safe tires, a rearview mirror, and red-reflectorized warning devices in both the front and rear.
  - (3) A golf cart may not be operated on the public roads or streets by any person under the age of 14.
  - (d) Signage. The county road department shall post signs along the roads where golf carts are allowed advising motorists of the possible presence of golf carts on the roadway.
- (e) Enforcement. Golf carts may only operate on the county roads designated in this section if they are in compliance with all requirements of the limitations of this section and F.S. 316.212.
- (f) Penalties. A violation of this section is a non-criminal traffic infraction and punishable pursuant to F.S., § 316.212(8).

(g) Territory embraced. This section shall apply only to the designated unincorporated area of Columbia County.

### **Section 4. SEVERABILITY**

If any section, phrase, sentence or portion of this ordinance is for any reason held invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed a separate, distinct and independent provision, and such holding shall not affect the validity of the remaining portions thereof.

### **Section 5. EFFECTIVE DATE**

This Ordinance shall take effect immediately upon a certified copy hereof being filed with the Florida Department of State.

DULY ADOPTED by the Board of County Commissioners of Columbia County, Florida, this \_\_\_\_ day of May 2020.

BOARD OF COUNTY COMMISSIONERS COLUMBIA COUNTY, FLORIDA

	By: Toby Witt, Chair
Approved as to form and legality:	ATTEST:
Joel F. Foreman, County Attorney	P. Dewitt Cason, Clerk of Court



## COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS AGENDA ITEM REQUEST FORM

The Board of County Commissioners meets the 1st and 3rd Thursday of each month at 5:30 p.m. in the Columbia County School Board Administrative Complex Auditorium, 372 West Duval Street, Lake City, Florida 32055. All agenda items are due in the Board's office one week prior to the meeting date.

Today's Date: April 30, 2020	Meeting Date: May 7, 2020
Name: Joel Foreman	Department: County Attorney
Division Manager's Signature:	
1. Nature and purpose of agenda item:	
	BOARD OF COUNTY COMMISSIONERS ESTABLISHING ATTERS TO THE OFFICE OF THE COUNTY ATTORNEY
L2. Recommended Motion/Action:	
To adopt Resolution 2020R-12	

3. Fiscal impact on current budget.

This item has no effect on the current budget.

### **MEMORANDUM**

To: Board Agenda, May 7, 2020

From: Joel F. Foreman

Re: RESOLUTION 2020R-12: BOARD ADOPTION OF COUNTY ATTORNEY

**SUBMISSION POLICY** 

Date: April 30, 2020

On December 2 this office circulated an advisory memo relating to the role of the County attorney with respect to the function of the Board of County Commissioners. As part of that memo, I announced policies I was implementing with respect to how this office can be called upon to render opinions and generate work product for the Board.

Commissioner Nash previously requested, and the Board concurred, that the Board should adopt those policies as its own so the Board would bind itself to the same rules. The attached Resolution, if adopted, would implement such a policy.

Recommended motion: To adopt Resolution 2020R-12.

### COLUMBIA COUNTY, FLORIDA RESOLUTION NO. 2020R-12

# A RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS ESTABLISHING PROCEDURES FOR REFERRAL OF LEGAL MATTERS TO THE OFFICE OF THE COUNTY ATTORNEY

**WHEREAS,** the County Attorney informed the Board of County Commissioners on December 2, 2020 of a process through which matters should be submitted to that office for formal review by the County Attorney;

WHEREAS, the process proposed will ensure a more efficient and fair way to employ the services of the County Attorney, and will create a record that will ensure higher accountability for all parties involved in the review process; and

**WHEREAS,** it will serve the public interest to adopt such a policy for the Board of County Commissioners and all County staff.

## NOW, THEREFORE, BE IT RESOLVED, BY THE BOARD OF COUNTY COMMISSIONERS OF COLUMBIA COUNTY, FLORIDA, AS FOLLOWS:

### 1. REQUEST FOR LEGAL REVIEW

- a. Members of the Board of County Commissioners, County Administration, or County Staff shall submit a "Legal Review Request" in substantially the form attached to this Resolution any time a request is made to the County Attorney's office for any of the following:
  - i. Preparation of any proposed ordinance
  - ii. Preparation of any proposed resolution
  - iii. The County Attorney's written opinion as to any question related to possible future action
  - iv. Preparation of or review of any contract
  - v. Preparation of or review of any economic development agreement
  - vi. Preparation of or review of any interlocal agreement
  - vii. Any other matter requiring the County Attorney to generate written work product of any kind.

### 2. PROCESSING AND TRACKING OF REQUESTS

- a. The County Attorney may accept requests through hardcopy or electronic forms, and may refer back any incomplete request.
- b. The County Attorney shall not undertake work unless and until a form is completed and filed.
- c. If a County Commissioner is making a request, he or she shall initial same where indicated.

Resolution 2020R-12 Page 1 of 2

- d. Requests shall be tracked by County Administration and the County Attorney shall provide status updates to the County Manager or the requesting party as reasonably requested from time to time.
- e. The County Attorney shall acknowledge receipt of requests and, where practicable, provide a timeline for completion of the requested work. If a timeline cannot be provided, the County Attorney shall provide a written explanation for why the requested work cannot be completed by a date certain.

### 3. RETROACTIVE EFFECT

a. For any current projects or assignments to the County Attorney for which a form has not been completed or filed, the County Attorney shall request such forms be completed and returned to him within ten days of the date of this Resolution. If after ten days the form is not completed and filed, the County Attorney shall stop work on that project or assignment until completion and filing occurs.

Duly adopted in regular session on this 7<sup>th</sup> day of May, 2020.

## BOARD OF COUNTY COMMISSIONERS COLUMBIA COUNTY, FLORIDA

Approval as to	By:
form and correctness:	Toby Witt, Chairman
	ATTEST:
Joel F. Foreman, County Attorney	P. DeWitt Cason, Clerk of Courts

Resolution 2020R-12 Page 2 of 2

### Office of the County Attorney

LEGAL REVIEW REQUEST				
_				
From:	Sponsoring Commissi	oner (please initial)	District	
	Spensering commissi	oner (preuse minur)	District	
Email:				
Re:				
110.	Describe Item for Rev	iew		
Date:				
Damastina	~ marriage of a(m).	(-11- ONE)		
1 *	g review of a(n): (		One of the Deleted to Describe France Andrew	
		•	Question Related to Possible Future Action	
☐ Contrac	t $\square$ Economic De	velopment Agreement	☐ Interlocal Agreement ☐ Other	
   Meeting I	Date for Board Co	nsideration (if blank, th	en none):	
Meeting Date for Board Consideration (if blank, then none):  Note: This request must be received by the County Attorney no later than five (5) working days before the County				
Manager's	agenda deadline or te	n (10) days before the Mee	eting Date, whichever occurs first in time.	
Brief Sum	nmary of Issue(s):			
	, ()			
			submission. Where revisions are requested to	
			rersion together with the name and contact	
			d copies are received then revisions will be	
author.	by marking up the	nardcopy and scanni	ng the edited hardcopy to be returned to the	
aumor.				
		County Attorne	v Uso Only	
Date Receiv	red:	Comments:	y Osc Omy	
Date Compl		Comments.		
1	d for Agenda			
☐ Revision				
(Attached)	1			



## COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS AGENDA ITEM REQUEST FORM

The Board of County Commissioners meets the 1st and 3rd Thursday of each month at 5:30 p.m. in the Columbia County School Board Administrative Complex Auditorium, 372 West Duval Street, Lake City, Florida 32055. All agenda items are due in the Board's office one week prior to the meeting date.

Today's Date: April 30, 2020	Meeting Date: May 7, 2020
Name: Joel Foreman	Department: County Attorney
Division Manager's Signature:	
1. Nature and purpose of agenda item:	
Resolution 2020R-13: A Resolution of the Boar commissioner to the 2019-2020 Charter Review	ord of County Commissioners appointing replacement w Commission
L	
To adopt Resolution 2020R-13	

3. Fiscal impact on current budget.

This item has no effect on the current budget.

### **MEMORANDUM**

To: Board Agenda, May 7, 2020

From: Joel F. Foreman

Re: RESOLUTION 2020R-13: A RESOLUTION OF THE BOARD OF

COUNTY COMMISSIONERS APPOINTING REPLACEMENT COMMISSIONER TO THE 2019-2020 CHARTER REVIEW

**COMMISSION** 

Date: April 30, 2020

There has been a resignation of one of the District 3 CRC Commissioners. The alternate for that seat is Sandra Buck-Camp. As with previous resignations, the CRC Chair has requested a resolution of the Board of County Commissioners confirming the alternate to replace the resigning commissioner.

Resolution 2020R-13 is similar to the Board's prior resolutions recognizing the placement of alternates into voting seats following resignation. Adoption is recommended.

Recommended Motion: To adopt Resolution 2020R-13

# COLUMBIA COUNTY, FLORIDA RESOLUTION NO. 2020R-13

A RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS APPOINTING REPLACEMENT COMMISSIONER TO THE 2019-2020 CHARTER REVIEW COMMISSION

**WHEREAS**, the Board of County Commissioners for Columbia County, Florida, previously appointed commissioners to the 2019-2020 Charter Review Commission ("CRC");

**WHEREAS**, the CRC chairman has received the resignation of a commissioner in District 3, leaving that seat vacant;

**WHEREAS,** Florida Statutes section 125.61 requires the filling of vacancies that occur on the CRC, providing in part:

(2) The charter commission shall be composed of an odd number of not less than 11 or more than 15 members... Vacancies shall be filled within 30 days in the same manner as the original appointments.

WHEREAS, original appointments were made through each District's County commissioner nominating three voting members of the CRC and one alternate member for their district, such that filling the first vacancy created by the resignation of a particular District's nominee would elevate that District's alternate to voting membership;

WHEREAS, the appointed alternate for District 3 is Sandra Buck-Camp; and

**WHEREAS,** the Chairman of the CRC has requested the Board of County Commissioners confirm the appointment of Ms. Buck-Camp to voting membership for the CRC.

# NOW, THEREFORE, BE IT RESOLVED, BY THE BOARD OF COUNTY COMMISSIONERS OF COLUMBIA COUNTY, FLORIDA, AS FOLLOWS:

# 1. APPOINTMENTS:

- a. SANDRA BUCK-CAMP is hereby appointed commissioner to the CRC, filling the vacancy for District 3.
- 2. **EFFECTIVE DATE.** The effective date of this resolution shall be nunc pro tunc with the effective date of resignation, April 27, 2020.

Duly adopted in regular session on this 7<sup>th</sup> day of May, 2020.

Resolution 2020R-13 Page 1 of 2

# BOARD OF COUNTY COMMISSIONERS COLUMBIA COUNTY, FLORIDA

Approval as to	By:
form and correctness:	Toby Witt, Chairman
	ATTEST:
Joel F. Foreman, County Attorney	P. DeWitt Cason, Clerk of Courts

Resolution 2020R-13 Page 2 of 2



# COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS AGENDA ITEM REQUEST FORM

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Today's Date: April 8, 2020	Meeting Date:	May 7, 2020	
Name: Esther Chung	Department:	BCC Administration	
Division Manager's Signature:			•
1. Nature and purpose of agenda item:			
Final Ranking - RFP 2020-B - Disaster Debris R	Removal and Dis	posal	
2. Recommended Motion/Action:			
Approve ranking and negotiation			
A = 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			

3. Fiscal impact on current budget.

This item has no effect on the current budget.

District No. 1 - Ronald Williams District No. 2 - Rocky Ford District No. 3 - Bucky Nash District No. 4 - Toby Witt

District No. 5 - Tim Murphy



# BOARD OF COUNTY COMMISSIONERS • COLUMBIA COUNTY

# MEMORANDUM

TO: Board of County Commissioners

FR: Esther Chung, Office Manager

DATE: April 8, 2020

RE: Final Ranking

RFP 2020-B: Disaster Debris Removal and Disposal

The County received five (5) responses for the above referenced solicitation. An evaluation committee meeting was held on April 8, 2020. Proposals were reviewed and ranked by Staff, as follows:

- 1. Ceres Environmental Services, Inc.
- 2. Custom Tree Care, Inc.
- 3. T.F.R. Enterprises, Inc.
- 4. DRC Emergency Services
- 5. Grubbs Emergency Services, LLC

At this time, Staff is requesting approval of the ranking and authorization to negotiate with the top ranked firm, Ceres Environmental Services, Inc.

XC: RFP 2020-B File

# FINAL RANKING Disaster Debris Removal and Disposal RFP 2020-B

Columbia County, Florida Board of County Commissioners

	Ben Scott	Kevin Kirby	David Kraus	Total	Rank		
Grubbs Emergency Services, LLC	5	5	5	15	5		
T.F.R. Enterprises, Inc.	3	3	4	10	3		
Custom Tree Care, Inc.	2	2	2	6	2		
DRC Emergency Services	4	4	3	11	4		
Ceres Environmental Services, Inc.	1	1	1	3	1		

Signature of Rater:	Edely	Print Name:
Date:		

# EVALUATION SHEET Disaster Debris Removal and Disposal RFP 2020-B

Columbia County, Florida Board of County Commissioners Criteria for Ranking:

	Firm Qualifications and Experience	Similar Projects	Project Approach	Price Proposal / Fee Schedule			
	0-15	0-10	0-35	0-40			100
Grubbs Emergency Services, LLC	13	9	33	5			60
T.F.R. Enterprises, Inc.	14	9	35	27			85
Custom Tree Care, Inc.	11	7	30	40			88
DRC Emergency Services	14	10	35	15			74
Ceres Environmental Services, Inc.	14	9	35	31			89

By R	Ban Scots
Signature of Rater:	Print Name: 1500 210+
Date: 4-8.30	

# EVALUATION SHEET Disaster Debris Removal and Disposal RFP 2020-B

Columbia County, Florida Board of County Commissioners Criteria for Ranking:

Firm Qualifications and Experience	Similar Projects	Project Approach	Price Proposal / Fee Schedule	
				100
15	7	25	21	704
10@	8	28	90 CP	86
14	7	35	15	71
14	10	35	31	90
	and Experience 0-15 15 15	and Experience Similar Projects  0-15  0-10  15  7  10  8	and Experience Similar Projects Project Approach 0-15 0-10 0-35 15 10 30 15 7 2-5 10 8 28	and Experience Similar Projects Project Approach Fee Schedule  0-15

Signature of Rater:	Print Name: 1600 161834

## **EVALUATION SHEET**

# Disaster Debris Removal and Disposal RFP 2020-B

Columbia County, Florida Board of County Commissioners Criteria for Ranking:

rm Qualifications and Experience	Similar Projects	Project Approach	Price Proposal / Fee Schedule					
0-15	0-10	0-35	0-40					100
5	10	15	5					35
5	2	20	27					54
10	5	30	40					85
10	5	25	15					55
15	10	35	31					9/
	5 10	### Similar Projects   0-15	Ind Experience         Similar Projects         Project Approach           0-15         0-10         0-35           5         10         15           5         2         20           10         5         30           10         5         25	Ind Experience         Similar Projects         Project Approach         Fee Schedule           0-15         0-10         0-35         0-40           5         10         15         5           5         2         20         27           10         5         30         40           10         5         25         15	Ind Experience         Similar Projects         Project Approach         Fee Schedule           0-15         0-10         0-35         0-40           5         10         15         5           5         2         20         27           10         5         30         40           10         5         25         15	Ind Experience         Similar Projects         Project Approach         Fee Schedule           0-15         0-10         0-35         0-40           5         10         15         5           5         2         20         27           10         5         30         40           10         5         25         15	Ind Experience         Similar Projects         Project Approach         Fee Schedule           0-15         0-10         0-35         0-40           5         10         15         5           5         2         20         27           10         5         30         40           10         5         25         15	Ind Experience         Similar Projects         Project Approach         Fee Schedule           0-15         0-10         0-35         0-40           5         10         15         5           5         2         20         27           10         5         30         40           10         5         25         15

Signature of Rater:	Print Name:	DAUID	KANUS	
Date: 04/8 /2020				



# COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS AGENDA ITEM REQUEST FORM

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Today's Date: May 1, 2020	Meeting Date: May 7, 2020	
Name: Esther Chung	Department: Bcc Administration	
Division Manager's Signature:		
1. Nature and purpose of agenda item:		
Contract Approval - RFQ 2019-V Surveying ar	nd Mapping Services	
2. Recommended Motion/Action:		
Approve contracts		

3. Fiscal impact on current budget.

This item has no effect on the current budget.

District No. 1 - Ronald Williams District No. 2 - Rocky Ford District No. 3 - Bucky Nash District No. 4 - Toby Witt District No. 5 - Tim Murphy



# BOARD OF COUNTY COMMISSIONERS • COLUMBIA COUNTY

# MEMORANDUM

TO: Board of County Commissioners

FR: Esther Chung, Office Manager

DATE: May 1, 2020

RE: RFQ 2019-V

Surveying and Mapping Services

On February 20, at the regular meeting of the Board of County Commissioners, the Board approved the final ranking and negotiation authorization of Bid No. 2019-V for surveying and mapping services. The top three (3) ranked firms, Britt Surveying and Mapping, J. Sherman Firer and Association, and Daniel & Gore, were contacted for negotiations. At this time, Staff is requesting your review and approval of the attached contracts.

XC: RFQ 2019-V File

# NON-EXCLUSIVE AGREEMENT FOR SURVEYING AND MAPPING SERVICES (Contract for Surveying and Mapping Services)

THIS MASTER CONSULTING AGREEMENT (this "Agreement") is entered into as of
the Effective Date defined in Article I, below (the "COUNTY"), between Columbia County, Florida,
a political subdivision of the State of Florida, by and through its Board of County
Commissioners, and _ 32ITT SURVEYING AND MAILING the "CONSULTANT"), a Florida
Corporation, whose address 2086 Sw MASN BUVLEVALIS #112, and
whose Federal Employer Identification is 45-4148519.
Number is:

WHEREAS, the COUNTY owns, operates, buys, leases and sells a variety of public facilities and improvements; and

WHEREAS, WHEREAS, the County desires to retain the services of competent and qualified professionals and firms to provide mapping and surveying services, including but not limited to residential, commercial and vacant land surveying and mapping services to support various purchasing, leasing, selling, regulatory, permitting, planning and statutory compliance issues from time to time; and

WHEREAS, after review and consideration of the responsive proposals, the COUNTY desires to engage the CONSULTANT as one of its providers for surveying and mapping services; and

WHEREAS, after review and consideration of the responsive proposals, the COUNTY desires to engage the CONSULTANT to provide the surveying and mapping services; and CONSULTANT represents that it is capable and prepared to do so, and

**NOW, THEREFORE,** in consideration of the mutual covenants contained herein, the parties hereby agree, as follows:

# 1.0 Term.

- 1.1 This Agreement shall take effect on \_\_\_\_\_\_ (the "Effective Date").
- 1.2 The initial term of this Agreement shall be for a 3 (three) year time period, commencing upon the Effective Date and shall remain in force and effect unless sooner terminated as provided herein. This agreement may be extended for an additional term of three years (3) years upon mutual agreement of the parties regarding rates for services and costs.

# 2.0 Non Exclusive Services to be performed by Consultant

- 2.1 The COUNTY does hereby retain, on a non-exclusive basis, the CONSULTANT to furnish, provide and perform the professional services (collectively, the "Services") described in the COUNTY's Request for Proposal RFQ-2019-V—to include all attachments and addenda, and in the CONSULTANT's response thereto\_(collectively, RFQ-2019-is attached hereto as a composite "Exhibit A" and made a part of this Agreement) as those Services may be further specifically designated and authorized by the COUNTY in writing. County may add or amend services to be performed under the Agreement. All such authorization will be issued in the form of a TASK ORDER (TO). All provisions of this Agreement shall apply to any TO as if appearing in full therein. Each TO will set forth a specific Scope of Services, maximum limit of compensation, schedule, liquidated damages, if applicable, and initiation and completion date. Each TO for a Lump Sum scope will include a schedule of deliverables with associated milestones to complete the deliverables.
- 2.2 The CONSULTANT is not authorized to undertake any project without a duly executed TO, which shall specify the Services to be performed and the time to be completed. The CONSULTANT acknowledges that the COUNTY may employ several different consultants to perform the same or similar Services for the COUNTY and that the CONSULTANT has not been employed as the exclusive agent to perform any such Services.
- 2.3 When the CONSULTANT and the COUNTY enter into a TO where the term of the TO expires on a date that is later than the date of this Agreement, the CONSULTANT and the COUNTY agree that the terms of this Agreement and any amendments, attachments, or provisions thereof are automatically extended until the expiration or full completion of the requirement of the TO.

# 3.0 Compensation

# 3.1 General

- 3.1.1 The COUNTY shall pay the CONSULTANT in accordance with "Exhibit B, Fee Schedule," which is attached hereto and made a part of this Agreement. The Fee Schedule identifies all rate classifications for this Agreement.
- 3.1.2 The Fee Schedule, as set out in Exhibit B, is effective for the entirety of the initial term.
  - 3.1.3 Compensation may be negotiated as a "Not-To Exceed" or "Lump-Sum" price on each individual TO.
- 3.1.4 Invoices must reference the applicable TO Number, using an invoice form approved by the County.

- 3.1.5 The CONSULTANT's Project Manager or other authorized officer shall, by affidavit, attest to the correctness and accuracy of all charges and requested reimbursements.
- 3.1.6 Any invoice submitted that does not satisfy the criteria as outlined herein will be returned to the CONSULTANT until correct.
- 3.1.7 Each individual invoice shall be due and payable 30 days after the date the COUNTY receives a correct, fully documented, invoice in form and substance satisfactory to the COUNTY with all appropriate cost substantiations attached. All invoices shall be delivered to:

Chad Williams County Engineer P.O. Box 1529 Lake City, FL 32056-1529

- 3.1.8 In order to enable both parties to close their books on a project, the CONSULTANT will clearly state "Final Invoice" on the CONSULTANT's final/last billing for the services rendered to the COUNTY for each project. The CONSULTANT's submission of a Final Invoice for a project is its certification that all its services have been properly performed and all charges and costs have been invoiced to the COUNTY. Upon receipt of the Final Invoice, the account for such project will be closed, and the CONSULTANT shall be deemed to have waived any further charges not properly included on the Final Invoice.
- 3.1.9 Payment of the Final Invoice by the COUNTY shall not constitute evidence of the COUNTY's acceptance of the CONSULTANT's performances of the Services.

# 3.2 Reimbursable Expenses

- 3.2.1 All of the CONSULTANT's requests for payment of pre-approved actual "out-of-pocket" expenses eligible for reimbursement under the terms of this Agreement shall be reimbursed by the County at cost. The CONSULTANT's requests for payment shall include copies of paid receipts, invoices or other documentation acceptable to the COUNTY.
- 3.2.2 All assets (i.e. durable goods, equipment, etc.) purchased, as part of the Reimbursable Expenses become the property of the COUNTY. The CONSULTANT shall maintain a running current inventory of all such assets during the rendering of Services and all such assets shall be turned over to the COUNTY upon completion of the project or termination of this Agreement.

# 4.0 Standard of Care

**4.1** The CONSULTANT represents to the COUNTY that it has the personnel and experience necessary to perform all Services in a professional and workmanlike manner and

specifically warrants that all Services shall be performed by skilled and competent personnel to the professional standards in the field.

- 4.2 The CONSULTANT shall exercise the same degree of care, skill, and diligence in the performance of the Services as provided by a professional of like experience, knowledge and resources, under similar circumstances.
- 4.3 The CONSULTANT shall, at no ·additional cost to the COUNTY, re-perform all those Services which fail to satisfy the foregoing standard of care or which otherwise fail to meet the requirements of this Agreement.

# 5.0 Independent Contractor

- 5.1 The CONSULT ANT undertakes performance of the Services as an independent contractor and will be wholly responsible for the methods arid manner of performance.
- 5.2 The COUNTY shall have no right to supervise the methods the CONSULTANT uses to perform the Services, but the COUNTY shall have the right to observe the CONSULTANTs performance.
- 5.3 The CONSULTANT shall work closely with the COUNTY in performing Services under this Agreement.
- 5.4 The CONSULT ANT shall not pledge the COUNTY's credit or make the COUNTY a guarantor of payment or surety for any contract, debt, obligation, judgment, lien or any form of indebtedness. The CONSULTANT shall have no right to speak for or bind the COUNTY in any manner.
- Million Dollars (\$1,000,000.00) for errors and omissions inclusive of defense costs. The CONSULTANT shall be required to provide continuing Professional Liability Insurance to cover all Services provided for this Agreement for a period <u>7 years</u> after this Agreement is completed. Notwithstanding the foregoing requirement, the insurance requirements may *vary depending* on the Services the CONSULTANT will provide for each project as determined by the County Administrator. Accordingly, the COUNTY may from time to time require the CONSULTANT to provide a higher level of *coverage* for certain Services provided in support of a specific TO for certain projects and time periods.
- 5.6 Workers Compensation. The CONSULTANT shall provide, pay for, and maintain workers compensation insurance on all employees, its agents or subcontractors as required by Florida Statutes.

## 6.0 Compliance with Laws

6.1 In performance of the Services, the CONSULTANT agrees to comply, at its own expense, with all federal, state and local laws, codes, statutes, ordinances, rules, regulations and requirements applicable to the Project, including but not limited to those dealing with taxation, worker's compensation, equal employment and safety. If CONSULTANT observes that the Contract Documents are at variance therewith, it shall promptly notify County in writing. Compliance with the above laws shall include but is not limited to: (1) the Occupational Safety and Health Act, 29 CFR 1910 and 1926, respectively, General Industry Standards and Construction Industry Standards, including regulations regarding Trenching and Shoring; (2) the Florida Workers' Compensation Law, Chapter 440, Florida Statutes; (3) Rules 38F and 381, Florida Administrative Code; and (4) Florida Department of Transportation Manual of Traffic Control and Safe Practices.

6.2 EMPLOYMENT ELIGIBILITY VERIFICATION (E-VERIFY): In accordance with State of Florida, Office of the Governor, Executive Order 11-116 (superseding Executive Order 11-02; Verification of Employment Status), in the event performance of this Agreement is or will be funded using state or federal funds, the CONSULTANT must comply with the Employment Eligibility Verification Program ("E-Verify Program") developed by the federal government to verify the eligibility of individuals to work in the United States and 48 CFR 52.222-54 (as amended) is incorporated herein by reference. If applicable, in accordance with Subpart 22.18 of the Federal Acquisition Register, the CONSULTANT must (1) enroll in the EVerify Program, (2) use E-Verify to verify the employment eligibility of all new hires working in the United States, except if the CONSULTANT is a state or local government, the CONTSUL TANT may choose to verify only new hires assigned to the Agreement; (3) use EVerify to verify the employment eligibility of all employees assigned to the Agreement; and (4) include these requirement in certain subcontracts, such as construction. Information on registration for and use of the E-Verify Program can be obtained via the internet at the Department of Homeland Security Web site: <a href="http://www.dhs.gov/E-Verify">http://www.dhs.gov/E-Verify</a>.

# 7.0 Public Entity Crimes

7.1 The CONSULTANT understands and acknowledges that this Agreement will be void in the event the conditions stated in Section 287.133, *Florida Statutes*, relating to conviction for a public entity crime apply to the CONSULTANT.

# 8.0 · COUNTY's Responsibilities

8.1 The COUNTY shall be responsible for providing access to all COUNTY project sites, and providing information in the COUNTY's possession that the CONSULTANT may

reasonably require to perform the Services including existing reports, studies, financial information, and other relevant data that are available in the files of the COUNTY.

# 9.0 Termination of Agreement

- 9.1 The COUNTY may terminate this Agreement, in whole or in part, at any time, either due to the failure of the CONSULTANT to fulfill its obligations under this Agreement or for the COUNTY's convenience. The COUNTY shall deliver written notice of such termination to the CONSULTANT, and upon receipt thereof, the CONSULTANT shall:
  - 9.1.1 Immediately discontinue all affected Services unless the notice directs otherwise; and
- 9.1.2 Deliver to the COUNTY all data, reports, summaries, and any and all such other information and materials of whatever type or nature as may have been accumulated by the CONSULTANT in performing this Agreement, whether completed or in process.
- 9.2 Unless in dispute or subject to the COUNTY's right of set-off or other remedy, the CONSULTANT shall be paid for Services actually rendered through the date of termination.
- 9.3 The rights and remedies of the COUNTY provided for in this Section 9 are in addition and supplemental to any and all other rights and remedies provided bylaw or under this Agreement.

# 10.0 Governing Law and Venue

10.1 This Agreement shall be governed in all respects by the laws of the State of Florida. The venue for any disputes or litigation with respect to the obligations under this Agreement shall be brought only in the court of appropriate jurisdiction in Columbia County Florida.

# 11.0 Non-Discrimination

11.1 The CONSULTANT warrants and represents that all of its employees are treated equally during employment without regard to race, color, religion, gender, age or national origin.

# 12.0 Waiver

12.1 A waiver by either the COUNTY or the CONSULTANT of any breach of this Agreement shall not be binding upon the waiving party unless such waiver is in writing. In the event of a written waiver, such a waiver shall not affect the waiving party's rights with respect to any other or further breach of this Agreement. The making or acceptance of a payment by either party with the knowledge of the other party's existing default or breach of this Agreement shall not waive such default or breach, or any subsequent default or breach of this Agreement and shall not be construed as doing so.

# 13.0 Severability

- 13.1 The invalidity, illegality, or unenforceability of any provision of this Agreement, or the occurrence of any event rendering any portion or provision of this Agreement void, shall in no way affect the validity or enforceability of any other portion or provision of this Agreement. 13.2 Any void provision shall be deemed severed from this Agreement and the balance of this Agreement shall be construed and enforced as if this Agreement did not contain the particular portion or provision held to be void.
- 13.3 The parties further agree to reform this Agreement to replace any stricken provision with a valid provision that comes as close as possible to the intent of the stricken provision.
- 13.4 The provisions of this Section 13 shall not prevent this Agreement from being void should a provision which is of the essence of this Agreement be determined to be void.

# 14.0 Entirety of Agreement

14.1 The COUNTY and the CONSULTANT agree that this Agreement sets forth the entire Agreement between the parties with respect to its subject matter, and there are no promises or understandings other than those stated herein. 14.2 This Agreement supersedes all prior agreements, contracts, proposals, representations, negotiations, letters or other communications between the COUNTY and the CONSULTANT pertaining to the Services, whether written or oral.

## 15.0 Modification

15.1 The provisions, terms and conditions stated in this Agreement may not be modified, superseded or otherwise altered unless by a written amendment executed by both the COUNTY and the CONSULTANT.

# 16.0 Successors and Assigns

- 16.1 The COUNTY and the CONSULTANT each binds itself and its partners, successors, assigns and legal representatives to the other party to this Agreement and to the partners, successors, executors, administrators, assigns, and legal representatives.
- 16.2 The CONSULTANT shall not assign this Agreement without the express written approval of the COUNTY, which the COUNTY may unreasonably withhold in its sole discretion.

# 17.0 Contingent Fees

17.1 The CONSULTANT warrants that (i) it has not employed or retained any company or person, other than a bona fide employee working solely for the CONSULTANT to solicit or secure this Agreement; and (ii) it has not paid or agreed to pay any person, company, corporation, individual or firm, other than bona fide employee working solely for the

CONSULTANT, any fee, commission, percentage, gift or any other consideration contingent upon or resulting from the award or making of this Agreement.

# 18.0 Truth-In-Negotiation Certificate

18.1 The CONSULTANT's execution of this Agreement serves as its execution of a Truth-in-Negotiation certificate certifying that the rates used to determine the compensation provided for iri this Agreement are accurate, complete, and current as of the effective date of this Agreement.

# 19.0 Ownership of Documents

19.1 The CONSULTANT shall be required to cooperate with other COUNTY consultants and shall timely provide those consultants any information requested in the specified format. Any and all documents, records, disks, original drawings, or other information shall become the property of the COUNTY for its use and/or distribution as the COUNTY may determine in its sole discretion. The CONSULTANT is not liable for any damages, injury or costs associated with the COUNTY's use or distribution of these documents for purposes other than those originally intended by the CONSULTANT.

## 20.0 Assets and Audits

20.1 The CONSULTANT shall maintain adequate records to justify all charges and costs incurred in performing the Services for at least - years after completion of this Agreement. The COUNTY shall have access to all books, records, and documents that the CONSULTANT must maintain in accordance with this Section 19 for the purpose of inspection or audit during the CONSULTANT's normal business hours at its usual place of business. 20.2 All invoices submitted to the COUNTY pursuant to this Agreement are subject to audit and demand for refund of overpayment for a time extending-years beyond the expiration or earlier termination of this Agreement.

# 21.0 Notice

21.1 Any notice, demand, communication, or request that is required to be delivered to a Party hereunder shall be in writing, addressed to the party for whom it is intended, and delivered at the place last specified by such party: (i) in person, (ii) via nationally recognized overnight delivery service, (iii) via Certified United States Mail, postage prepaid with return receipt requested, or (iv) via email, with confirmation from the recipient acknowledging receipt thereof within 72 hours (and if there is no receipt within such time period, one of the other methods described in this Section 20.1 must be utilized). The parties initially designate the following as their respective places for delivery of notice:

As to County:

Columbia County Board of County Commissioners

P.O. Box 1529, Lake City FL 32056-1529

Attention: Chad Williams

Email: chad williams@columbiacountyfla.com

As to Consultant:

Scott Britt

Britt Surveying and Mapping, LLC

2086 SW Main Bvld #112 Lake City FL 32056 Email: lsbritt@msn.com

21.2 Nothing contained in this Section shall be construed to restrict the transmission of routine communications between representatives of the CONSULTANT and the COUNTY.

#### 22.0 Contract Administration

22.1 The CONSULTANT shall deliver the Services under the general direction of the County Manger, County Engineer, County Attorney. COUNTY'S representative during the term of this Agreement.

## 23.0 Limitation of Liability

23.1 IN NO EVENT SHALL THE COUNTY BE LIABLE TO THE CONSULTANT FOR INDIRECT, INCIDENTAL, CONSEQUENTIAL, SPECIAL, EXEMPLARY, OR PUNITVE DAMAGES OF ANY KIND OR NATURE, INCLUDING LOSS OF PROFIT, WHETHER FORESEEABLE OR NOT, ARISING OUT OF OR RESULTING FROM THE NONPERFORMANCE OR BREACH OF THIS AGREEMENT BY THE COUNTY WHETHER BASED IN CONTRACT, COMMON LAW, WARRANTY, TORT, STRICT LIABILITY, CONTRIBUTION, INDEMNITY OR OTHERWISE.

# 24.0 Public Records Law

24.1 The CONSULTANT acknowledges the COUNTY's obligations under Article I, Section 24, of the Florida Constitution and under Chapter 119, Florida Statutes, to release public records to members of the public upon request. The CONSULTANT acknowledges that the COUNTY is required to comply with Article I, Section 24, of the Florida Constitution and Chapter 119, Florida Statutes, in the handling of the materials created under this Agreement and that said statute and constitutional provisions control over the terms of this agreement.

IN WITNESS WHEREOF, the parties have executed this Agreement on the date(s) indicated below.

CONSULTANT: BURVEYING AND MAPPING, LCC (Company Name)

ATTEST:

By: 1. Scair BRITT (Signature) AND MED (Printed)

Its: OWNER (Title)

Its: Our Niz Q (Title)

Date: 4-29 - 2020

Witness:

Its: Yest Meefse Date: 4/29/2020

President/Corporate Secreatary/Witness

[Corporate Seal]

Meled I Blow

2nd Witness (if not incorporated)

OWNER: Board of County Commissioners of Columbia County, Florida		
(SEAL)	By:Chairman	
Clerk:	Date:	
Approved as to Form and Content:		

County Attorney

# **EXHIBIT C Hourly Price Schedule**

Field work:

2 man crew

\$110 per hour

3 man crew

\$125 per hour

4 man crew

\$140 per hour

Office or Clerical work:

Drafting

\$50 per hour

Deed or records research \$35 per hour

Calculations

\$50 per hour

Deed writing

\$50 per hour (usually requires calculations and drafting also)

meetings as required

\$50 per hour

Professional Land Surveyor:

Consulting

\$75 per hour

Expert witness

\$75 per hour

# NON-EXCLUSIVE AGREEMENT FOR SURVEYING AND MAPPING SERVICES (Contract for Surveying and Mapping Services)

WHEREAS, the COUNTY owns, operates, buys, leases and sells a variety of public facilities and improvements; and

WHEREAS, the County desires to retain the services of competent and qualified professionals and firms to provide surveying and mapping services, including but not limited to residential, commercial and vacant land surveying and mapping services to support various purchasing, leasing, selling, regulatory, permitting, planning and statutory compliance issues from time to time; and

WHEREAS, after review and consideration of the responsive proposals, the COUNTY desires to engage the CONSULTANT as one of its providers for surveying and mapping services; and

WHEREAS, after review and consideration of the responsive proposals, the COUNTY desires to engage the CONSULTANT to provide the surveying and mapping services; and CONSULTANT represents that it is capable and prepared to do so, and

**NOW, THEREFORE,** in consideration of the mutual covenants contained herein, the parties hereby agree, as follows:

## 1.0 Term.

- 1.1 This Agreement shall take effect on \_\_\_\_\_ (the "Effective Date").
- 1.2 The initial term of this Agreement shall be for a 3 (three) year time period, commencing upon the Effective Date and shall remain in force and effect unless sooner terminated as provided herein. This agreement may be extended for an additional term of three years (3) years upon mutual agreement of the parties regarding rates for services and costs.

# 2.0 Non Exclusive Services to be performed by Consultant

- 2.1 The COUNTY does hereby retain, on a non-exclusive basis, the CONSULTANT to furnish, provide and perform the professional services (collectively, the "Services") described in the COUNTY's Request for Proposal RFQ-2019-V—to include all attachments and addenda, and in the CONSULTANT's response thereto\_(collectively, RFQ-2019-V is attached hereto as a composite "Exhibit A" and made a part of this Agreement) as those Services may be further specifically designated and authorized by the COUNTY in writing. County may add or amend services to be performed under the Agreement. All such authorization will be issued in the form of a TASK ORDER (TO). All provisions of this Agreement shall apply to any TO as if appearing in full therein. Each TO will set forth a specific Scope of Services, maximum limit of compensation, schedule, liquidated damages, if applicable, and initiation and completion date. Each TO for a Lump Sum scope will include a schedule of deliverables with associated milestones to complete the deliverables.
- 2.2 The CONSULTANT is not authorized to undertake any project without a duly executed TO, which shall specify the Services to be performed and the time to be completed. The CONSULTANT acknowledges that the COUNTY may employ several different consultants to perform the same or similar Services for the COUNTY and that the CONSULTANT has not been employed as the exclusive agent to perform any such Services.
- 2.3 When the CONSULTANT and the COUNTY enter into a TO where the term of the TO expires on a date that is later than the date of this Agreement, the CONSULTANT and the COUNTY agree that the terms of this Agreement and any amendments, attachments, or provisions thereof are automatically extended until the expiration or full completion of the requirement of the TO.

# 3.0 Compensation

# 3.1 General

- 3.1.1 The COUNTY shall pay the CONSULTANT in accordance with "Exhibit B, Fee Schedule," which is attached hereto and made a part of this Agreement. The Fee Schedule identifies all rate classifications for this Agreement.
- 3.1.2 The Fee Schedule, as set out in Exhibit B, is effective for the entirety of the initial term.
- 3.1.3Compensation may be negotiated as a "Not-To Exceed" or "Lump-Sum" price on each individual TO.
- 3.1.4 Invoices must reference the applicable TO Number, using an invoice form approved by the County.

- 3.1.5 The CONSULTANT's Project Manager or other authorized officer shall, by affidavit, attest to the correctness and accuracy of all charges and requested reimbursements.
- 3.1.6 Any invoice submitted that does not satisfy the criteria as outlined herein will be returned to the CONSULTANT until correct.
- 3.1.7 Each individual invoice shall be due and payable 30 days after the date the COUNTY receives a correct, fully documented, invoice in form and substance satisfactory to the COUNTY with all appropriate cost substantiations attached. All invoices shall be delivered to:

Chad Williams County Engineer P.O. Box 1529 Lake City, FL 32056-1529

- 3.1.8 In order to enable both parties to close their books on a project, the CONSULTANT will clearly state "Final Invoice" on the CONSULTANT's final/last billing for the services rendered to the COUNTY for each project. The CONSULTANT's submission of a Final Invoice for a project is its certification that all its services have been properly performed and all charges and costs have been invoiced to the COUNTY. Upon receipt of the Final Invoice, the account for such project will be closed, and the CONSULTANT shall be deemed to have waived any further charges not properly included on the Final Invoice.
- 3.1.9 Payment of the Final Invoice by the COUNTY shall not constitute evidence of the COUNTY's acceptance of the CONSULTANT's performances of the Services.

# 3.2 Reimbursable Expenses

- 3.2.1 All of the CONSULTANT's requests for payment of pre-approved actual "out-of-pocket" expenses eligible for reimbursement under the terms of this Agreement shall be reimbursed by the County at cost. The CONSULTANT's requests for payment shall include copies of paid receipts, invoices or other documentation acceptable to the COUNTY.
- 3.2.2 All assets (i.e. durable goods, equipment, etc.) purchased, as part of the Reimbursable Expenses become the property of the COUNTY. The CONSULTANT's hall maintain a running current inventory of all such assets during the rendering of Services and all such assets shall be turned over to the COUNTY upon completion of the project or termination of this Agreement.

# 4.0 Standard of Care

4.1 The CONSULTANT represents to the COUNTY that it has the personnel and experience necessary to perform all Services in a professional and workmanlike manner and

specifically warrants that all Services shall be performed by skilled and competent personnel to the professional standards in the field.

- 4.2 The CONSULTANT shall exercise the same degree of care, skill, and diligence in the performance of the Services as provided by a professional of like experience, knowledge and resources, under similar circumstances.
- 4.3 The CONSULTANT shall, at no ·additional cost to the COUNTY, re-perform all those Services which fail to satisfy the foregoing standard of care or which otherwise fail to meet the requirements of this Agreement.

# 5.0 Independent Contractor

- 5.1 The CONSULT ANT undertakes performance of the Services as an independent contractor and will be wholly responsible for the methods arid manner of performance.
- 5.2 The COUNTY shall have no right to supervise the methods the CONSULTANT uses to perform the Services, but the COUNTY shall have the right to observe the CONSULTANTs performance.
- 5.3 The CONSULTANT shall work closely with the COUNTY in performing Services under this Agreement.
- 5.4 The CONSULT ANT shall not pledge the COUNTY's credit or make the COUNTY a guarantor of payment or surety for any contract, debt, obligation, judgment, lien or any form of indebtedness. The CONSULTANT shall have no right to speak for or bind the COUNTY in any manner.
- 5.5 Professional Liability Insurance. CONSULTANT shall maintain One Million Dollars (\$1,000,000.00) for errors and omissions inclusive of defense costs. The CONSULTANT shall be required to provide continuing Professional Liability Insurance to cover all Services provided for this Agreement for a period <u>7 years</u> after this Agreement is completed. Notwithstanding the foregoing requirement, the insurance requirements may *vary depending* on the Services the CONSULTANT will provide for each project as determined by the County Administrator. Accordingly, the COUNTY may from time to time require the CONSULTANT to provide a higher level of *coverage* for certain Services provided in support of a specific TO for certain projects and time periods.
- 5.6 Workers Compensation The CONSULTANT shall provide, pay for, and maintain workers compensation insurance on all employees, its agents or subcontractors as required by Florida Statutes.

# 6.0 Compliance with Laws

6.1 In performance of the Services, the CONSULTANT agrees to comply, at its own expense, with all federal, state and local laws, codes, statutes, ordinances, rules, regulations and requirements applicable to the Project, including but not limited to those dealing with taxation, worker's compensation, equal employment and safety. If CONSULTANT observes that the Contract Documents are at variance therewith, it shall promptly notify County in writing. Compliance with the above laws shall include but is not limited to: (1) the Occupational Safety and Health Act, 29 CFR 1910 and 1926, respectively, General Industry Standards and Construction Industry Standards, including regulations regarding Trenching and Shoring; (2) the Florida Workers' Compensation Law, Chapter 440, Florida Statutes; (3) Rules 38F and 381, Florida Administrative Code; and (4) Florida Department of Transportation Manual of Traffic Control and Safe Practices.

6.2 EMPLOYMENT ELIGIBILITY VERIFICATION (E-VERIFY): In accordance with State of Florida, Office of the Governor, Executive Order 11-116 (superseding Executive Order 11-02; Verification of Employment Status), in the event performance of this Agreement is or will be funded using state or federal funds, the CONSULTANT must comply with the Employment Eligibility Verification Program ("E-Verify Program") developed by the federal government to verify the eligibility of individuals to work in the United States and 48 CFR 52.222-54 (as amended) is incorporated herein by reference. If applicable, in accordance with Subpart 22.18 of the Federal Acquisition Register, the CONSULTANT must (1) enroll in the EVerify Program, (2) use E-Verify to verify the employment eligibility of all new hires working in the United States, except if the CONSULTANT is a state or local government, the CONTSUL TANT may choose to verify only new hires assigned to the Agreement; (3) use EVerify to verify the employment eligibility of all employees assigned to the Agreement; and (4) include these requirement in certain subcontracts, such as construction. Information on registration for and use of the E-Verify Program can be obtained via the internet at the Department of Homeland Security Web site: http://www.dhs.gov/E-Verify.

#### 7.0 Public Entity Crimes

7.1 The CONSULTANT understands and acknowledges that this Agreement will be void in the event the conditions stated in Section 287.133, *Florida Statutes*, relating to conviction for a public entity crime apply to the CONSULTANT.

# 8.0 · COUNTY's Responsibilities

8.1 The COUNTY shall be responsible for providing access to all COUNTY project sites, and providing information in the COUNTY's possession that the CONSULTANT may

# 13.0 Severability

- 13.1 The invalidity, illegality, or unenforceability of any provision of this Agreement, or the occurrence of any event rendering any portion or provision of this Agreement void, shall in no way affect the validity or enforceability of any other portion or provision of this Agreement. 13.2 Any void provision shall be deemed severed from this Agreement and the balance of this Agreement shall be construed and enforced as if this Agreement did not contain the particular portion or provision held to be void.
- 13.3 The parties further agree to reform this Agreement to replace any stricken provision with a valid provision that comes as close as possible to the intent of the stricken provision.
- 13.4 The provisions of this Section 13 shall not prevent this Agreement from being void should a provision which is of the essence of this Agreement be determined to be void.

# 14.0 Entirety of Agreement

14.1 The COUNTY and the CONSULTANT agree that this Agreement sets forth the entire Agreement between the parties with respect to its subject matter, and there are no promises or understandings other than those stated herein. 14.2 This Agreement supersedes all prior agreements, contracts, proposals, representations, negotiations, letters or other communications between the COUNTY and the CONSULTANT pertaining to the Services, whether written or oral.

# 15.0 Modification

15.1 The provisions, terms and conditions stated in this Agreement may not be modified, superseded or otherwise altered unless by a written amendment executed by both the COUNTY and the CONSULTANT.

## 16.0 Successors and Assigns

- 16.1 The COUNTY and the CONSULTANT each binds itself and its partners, successors, assigns and legal representatives to the other party to this Agreement and to the partners, successors, executors, administrators, assigns, and legal representatives.
- 16.2 The CONSULTANT shall not assign this Agreement without the express written approval of the COUNTY, which the COUNTY may unreasonably withhold in its sole discretion.

# 17.0 Contingent Fees

17.1 The CONSULTANT warrants that (i) it has not employed or retained any company or person, other than a bona fide employee working solely for the CONSULTANT to solicit or secure this Agreement; and (ii) it has not paid or agreed to pay any person, company, corporation, individual or firm, other than bona fide employee working solely for the

reasonably require to perform the Services including existing reports, studies, financial information, and other relevant data that are available in the files of the COUNTY.

## 9.0 Termination of Agreement

- 9.1 The COUNTY may terminate this Agreement, in whole or in part, at any time, either due to the failure of the CONSULTANT to fulfill its obligations under this Agreement or for the COUNTY's convenience. The COUNTY shall deliver written notice of such termination to the CONSULTANT, and upon receipt thereof, the CONSULTANT shall:
  - 9.1.1 Immediately discontinue all affected Services unless the notice directs otherwise; and
- 9.1.2 Deliver to the COUNTY all data, reports, summaries, and any and all such other information and materials of whatever type or nature as may have been accumulated by the CONSULTANT in performing this Agreement, whether completed or in process.
- 9.2 Unless in dispute or subject to the COUNTY's right of set-off or other remedy, the CONSULTANT shall be paid for Services actually rendered through the date of termination.
- 9.3 The rights and remedies of the COUNTY provided for in this Section 9 are in addition and supplemental to any and all other rights and remedies provided bylaw or under this Agreement.

# 10.0 Governing Law and Venue

10.1 This Agreement shall be governed in all respects by the laws of the State of Florida. The venue for any disputes or litigation with respect to the obligations under this Agreement shall be brought only in the court of appropriate jurisdiction in Columbia County Florida.

# 11.0 Non-Discrimination

11.1 The CONSULTANT warrants and represents that all of its employees are treated equally during employment without regard to race, color, religion, gender, age or national origin.

# 12.0 Waiver

12.1 A waiver by either the COUNTY or the CONSULTANT of any breach of this Agreement shall not be binding upon the waiving party unless such waiver is in writing. In the event of a written waiver, such a waiver shall not affect the waiving party's rights with respect to any other or further breach of this Agreement. The making or acceptance of a payment by either party with the knowledge of the other party's existing default or breach of this Agreement shall not waive such default or breach, or any subsequent default or breach of this Agreement and shall not be construed as doing so.

CONSULTANT, any fee, commission, percentage, gift or any other consideration contingent upon or resulting from the award or making of this Agreement.

# 18.0 Truth-In-Negotiation Certificate

18.1 The CONSULTANT's execution of this Agreement serves as its execution of a Truth-in-Negotiation certificate certifying that the rates used to determine the compensation provided for iri this Agreement are accurate, complete, and current as of the effective date of this Agreement.

# 19.0 Ownership of Documents

19.1 The CONSULTANT shall be required to cooperate with other COUNTY consultants and shall timely provide those consultants any information requested in the specified format. Any and all documents, records, disks, original drawings, or other information shall become the property of the COUNTY for its use and/or distribution as the COUNTY may determine in its sole discretion. The CONSULTANT is not liable for any damages, injury or costs associated with the COUNTY's use or distribution of these documents for purposes other than those originally intended by the CONSULTANT.

# 20.0 Assets and Audits

20.1 The CONSULTANT shall maintain adequate records to justify all charges and costs incurred in performing the Services for at least 10 years after completion of this Agreement. The COUNTY shall have access to all books, records, and documents that the CONSULTANT must maintain in accordance with this Section 19 for the purpose of inspection or audit during the CONSULTANT's normal business hours at its usual place of business.

20.2 All invoices submitted to the COUNTY pursuant to this Agreement are subject to audit and demand for refund of overpayment for a time extending-years beyond the expiration or earlier termination of this Agreement.

# 21.0 Notice

21.1 Any notice, demand, communication, or request that is required to be delivered to a Party hereunder shall be in writing, addressed to the party for whom it is intended, and delivered at the place last specified by such party: (i) in person, (ii) via nationally recognized overnight delivery service, (iii) via Certified United States Mail, postage prepaid with return receipt requested, or (iv) via email, with confirmation from the recipient acknowledging receipt thereof within 72 hours (and if there is no receipt within such time period, one of the other methods described in this Section 20.1 must be utilized). The parties initially designate the following as their respective places for delivery of notice:

As to County:

Columbia County Board of County Commissioners

P.O. Box 1529, Lake City FL 32056-1529

Attention: Chad Williams

Email: chad williams@columbiacountyfla.com

As to Consultant:

21.2 Nothing contained in this Section shall be construed to restrict the transmission of routine communications between representatives of the CONSULTANT and the COUNTY.

#### 22.0 Contract Administration

22.1 The CONSULTANT shall deliver the Services under the general direction of the County Manger, County Engineer, County Attorney. COUNTY'S representative during the term of this Agreement.

## 23.0 Limitation of Liability

23.1 IN NO EVENT SHALL THE COUNTY BE LIABLE TO THE CONSULTANT FOR INDIRECT, INCIDENTAL, CONSEQUENTIAL, SPECIAL, EXEMPLARY, OR PUNITVE DAMAGES OF ANY KIND OR NATURE, INCLUDING LOSS OF PROFIT, WHETHER FORESEEABLE OR NOT, ARISING OUT OF OR RESULTING FROM THE NONPERFORMANCE OR BREACH OF THIS AGREEMENT BY THE COUNTY WHETHER BASED IN CONTRACT, COMMON LAW, WARRANTY, TORT, STRICT LIABILITY, CONTRIBUTION, INDEMNITY OR OTHERWISE.

# 24.0 Public Records Law

24.1 The CONSULTANT acknowledges the COUNTY's obligations under Article I, Section 24, of the Florida Constitution and under Chapter 119, Florida Statutes, to release public records to members of the public upon request. The CONSULTANT acknowledges that the COUNTY is required to comply with Article I, Section 24, of the Florida Constitution and Chapter 119, Florida Statutes, in the handling of the materials created under this Agreement and that said statute and constitutional provisions control over the terms of this agreement.

IN WITNESS WHEREOF, the parties have executed this Agreement on the date(s) indicated below.

CONSULTANT: J. Sherman Frier Assoc. Inc. (Company Name)		
ATTEST:		
Ву:	(Signature) Anneth Alcora (Printed)	
Its: Prosident	(Title)	
Date: 4-23-2020		
Witness:		
Its:	Date: 4-23-20	
Resident/Corporate Secreatary/Witnes	s .	
2nd Witness (if not incorporated)		

OWNER: Board of County Commissioners of Columbia County, Florida		
(SEAL)	By:	
	Chairman	
Clerk:	Date:	
Approved as to Form and Content:		

County Attorney

# NON-EXCLUSIVE AGREEMENT FOR SURVEYING AND MAPPING SERVICES (Contract for Surveying and Mapping Services)

THIS MASTER CONSULTING AGREEMENT (this "Agreement") is entered into as of
the Effective Date defined in Article I, below (the "COUNTY"), between Columbia County, Florida,
a political subdivision of the State of Florida, by and through its Board of County
Commissioners, and <u>Daniel &amp; Gore, LLC</u> (the "CONSULTANT"), a Florida Corporation, whose
address _426 SW Commerce Blvd, Suite 130-N, Lake City, Florida, and whose Federal Employer
Identification is26-2438958

WHEREAS, the COUNTY owns, operates, buys, leases and sells a variety of public facilities and improvements; and

WHEREAS, the County desires to retain the services of competent and qualified professionals and firms to provide surveying and mapping services, including but not limited to residential, commercial and vacant land surveying and mapping services to support various purchasing, leasing, selling, regulatory, permitting, planning and statutory compliance issues from time to time; and

WHEREAS, after review and consideration of the responsive proposals, the COUNTY desires to engage the CONSULTANT as one of its providers for surveying and mapping services; and

WHEREAS, after review and consideration of the responsive proposals, the COUNTY desires to engage the CONSULTANT to provide the surveying and mapping services; and CONSULTANT represents that it is capable and prepared to do so, and

**NOW, THEREFORE,** in consideration of the mutual covenants contained herein, the parties hereby agree, as follows:

## 1.0 Term.

- 1.1 This Agreement shall take effect on \_\_\_\_\_ (the "Effective Date").
- 1.2 The initial term of this Agreement shall be for a 3 (three) year time period, commencing upon the Effective Date and shall remain in force and effect unless sooner terminated as provided herein. This agreement may be extended for an additional term of three years (3) years upon mutual agreement of the parties regarding rates for services and costs.

# 2.0 Non Exclusive Services to be performed by Consultant

- 2.1 The COUNTY does hereby retain, on a non-exclusive basis, the CONSULTANT to furnish, provide and perform the professional services (collectively, the "Services") described in the COUNTY's Request for Proposal RFQ-2019-V—to include all attachments and addenda, and in the CONSULTANT's response thereto\_(collectively, RFQ-2019-V is attached hereto as a composite "Exhibit A" and made a part of this Agreement) as those Services may be further specifically designated and authorized by the COUNTY in writing. County may add or amend services to be performed under the Agreement. All such authorization will be issued in the form of a TASK ORDER (TO). All provisions of this Agreement shall apply to any TO as if appearing in full therein. Each TO will set forth a specific Scope of Services, maximum limit of compensation, schedule, liquidated damages, if applicable, and initiation and completion date. Each TO for a Lump Sum scope will include a schedule of deliverables with associated milestones to complete the deliverables.
- 2.2 The CONSULTANT is not authorized to undertake any project without a duly executed TO, which shall specify the Services to be performed and the time to be completed. The CONSULTANT acknowledges that the COUNTY may employ several different consultants to perform the same or similar Services for the COUNTY and that the CONSULTANT has not been employed as the exclusive agent to perform any such Services.
- 2.3 When the CONSULTANT and the COUNTY enter into a TO where the term of the TO expires on a date that is later than the date of this Agreement, the CONSULTANT and the COUNTY agree that the terms of this Agreement and any amendments, attachments, or provisions thereof are automatically extended until the expiration or full completion of the requirement of the TO.

# 3.0 Compensation

# 3.1 General

- 3.1.1 The COUNTY shall pay the CONSULTANT in accordance with "Exhibit B, Fee Schedule," which is attached hereto and made a part of this Agreement. The Fee Schedule identifies all rate classifications for this Agreement.
- 3.1.2 The Fee Schedule, as set out in Exhibit B, is effective for the entirety of the initial term.
- 3.1.3Compensation may be negotiated as a "Not-To Exceed" or "Lump-Sum" price on each individual TO.
- 3.1.4 Invoices must reference the applicable TO Number, using an invoice form approved by the County.

- 3.1.5 The CONSULTANT's Project Manager or other authorized officer shall, by affidavit, attest to the correctness and accuracy of all charges and requested reimbursements.
- 3.1.6 Any invoice submitted that does not satisfy the criteria as outlined herein will be returned to the CONSULTANT until correct.
- 3.1.7 Each individual invoice shall be due and payable 30 days after the date the COUNTY receives a correct, fully documented, invoice in form and substance satisfactory to the COUNTY with all appropriate cost substantiations attached. All invoices shall be delivered to:

Chad Williams County Engineer P.O. Box 1529 Lake City, FL 32056-1529

- 3.1.8 In order to enable both parties to close their books on a project, the CONSULTANT will clearly state "Final Invoice" on the CONSULTANT's final/last billing for the services rendered to the COUNTY for each project. The CONSULTANT's submission of a Final Invoice for a project is its certification that all its services have been properly performed and all charges and costs have been invoiced to the COUNTY. Upon receipt of the Final Invoice, the account for such project will be closed, and the CONSULTANT shall be deemed to have waived any further charges not properly included on the Final Invoice.
- 3.1.9 Payment of the Final Invoice by the COUNTY shall not constitute evidence of the COUNTY's acceptance of the CONSULTANT's performances of the Services.

# 3.2 Reimbursable Expenses

- 3.2.1 All of the CONSULTANT's requests for payment of pre-approved actual "out-of-pocket" expenses eligible for reimbursement under the terms of this Agreement shall be reimbursed by the County at cost. The CONSULTANT's requests for payment shall include copies of paid receipts, invoices or other documentation acceptable to the COUNTY.
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## 4.0 Standard of Care

4.1 The CONSULTANT represents to the COUNTY that it has the personnel and experience necessary to perform all Services in a professional and workmanlike manner and

specifically warrants that all Services shall be performed by skilled and competent personnel to the professional standards in the field.

- 4.2 The CONSULTANT shall exercise the same degree of care, skill, and diligence in the performance of the Services as provided by a professional of like experience, knowledge and resources, under similar circumstances.
- 4.3 The CONSULTANT shall, at no ·additional cost to the COUNTY, re-perform all those Services which fail to satisfy the foregoing standard of care or which otherwise fail to meet the requirements of this Agreement.

## 5.0 Independent Contractor

- 5.1 The CONSULT ANT undertakes performance of the Services as an independent contractor and will be wholly responsible for the methods arid manner of performance.
- 5.2 The COUNTY shall have no right to supervise the methods the CONSULTANT uses to perform the Services, but the COUNTY shall have the right to observe the CONSULTANTs performance.
- 5.3 The CONSULTANT shall work closely with the COUNTY in performing Services under this Agreement.
- 5.4 The CONSULT ANT shall not pledge the COUNTY's credit or make the COUNTY a guarantor of payment or surety for any contract, debt, obligation, judgment, lien or any form of indebtedness. The CONSULTANT shall have no right to speak for or bind the COUNTY in any manner.
- 5.5 Professional Liability Insurance. CONSULTANT's hall maintain One Million Dollars (\$1,000,000.00) for errors and omissions inclusive of defense costs. The CONSULTANT shall be required to provide continuing Professional Liability Insurance to cover all Services provided for this Agreement for a period <u>7 years</u> after this Agreement is completed. Notwithstanding the foregoing requirement, the insurance requirements may *vary depending* on the Services the CONSULTANT will provide for each project as determined by the County Administrator. Accordingly, the COUNTY may from time to time require the CONSULTANT to provide a higher level of *coverage* for certain Services provided in support of a specific TO for certain projects and time periods.
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6.1 In performance of the Services, the CONSULTANT agrees to comply, at its own expense, with all federal, state and local laws, codes, statutes, ordinances, rules, regulations and requirements applicable to the Project, including but not limited to those dealing with taxation, worker's compensation, equal employment and safety. If CONSULTANT observes that the Contract Documents are at variance therewith, it shall promptly notify County in writing. Compliance with the above laws shall include but is not limited to: (1) the Occupational Safety and Health Act, 29 CFR 1910 and 1926, respectively, General Industry Standards and Construction Industry Standards, including regulations regarding Trenching and Shoring; (2) the Florida Workers' Compensation Law, Chapter 440, Florida Statutes; (3) Rules 38F and 381, Florida Administrative Code; and (4) Florida Department of Transportation Manual of Traffic Control and Safe Practices.

6.2 EMPLOYMENT ELIGIBILITY VERIFICATION (E-VERIFY): In accordance with State of Florida, Office of the Governor, Executive Order 11-116 (superseding Executive Order 11-02; Verification of Employment Status), in the event performance of this Agreement is or will be funded using state or federal funds, the CONSULTANT must comply with the Employment Eligibility Verification Program ("E-Verify Program") developed by the federal government to verify the eligibility of individuals to work in the United States and 48 CFR 52.222-54 (as amended) is incorporated herein by reference. If applicable, in accordance with Subpart 22.18 of the Federal Acquisition Register, the CONSULTANT must (1) enroll in the EVerify Program, (2) use E-Verify to verify the employment eligibility of all new hires working in the United States, except if the CONSULTANT is a state or local government, the CONTSUL TANT may choose to verify only new hires assigned to the Agreement; (3) use EVerify to verify the employment eligibility of all employees assigned to the Agreement; and (4) include these requirement in certain subcontracts, such as construction. Information on registration for and use of the E-Verify Program can be obtained via the internet at the Department of Homeland Security Web site: <a href="http://www.dhs.gov/E-Verify">http://www.dhs.gov/E-Verify</a>.

## 7.0 Public Entity Crimes

7.1 The CONSULTANT understands and acknowledges that this Agreement will be void in the event the conditions stated in Section 287.133, *Florida Statutes*, relating to conviction for a public entity crime apply to the CONSULTANT.

## 8.0 · COUNTY's Responsibilities

8.1 The COUNTY shall be responsible for providing access to all COUNTY project sites, and providing information in the COUNTY's possession that the CONSULTANT may

reasonably require to perform the Services including existing reports, studies, financial information, and other relevant data that are available in the files of the COUNTY.

## 9.0 Termination of Agreement

- 9.1 The COUNTY may terminate this Agreement, in whole or in part, at any time, either due to the failure of the CONSULTANT to fulfill its obligations under this Agreement or for the COUNTY's convenience. The COUNTY shall deliver written notice of such termination to the CONSULTANT, and upon receipt thereof, the CONSULTANT shall:
  - 9.1.1 Immediately discontinue all affected Services unless the notice directs otherwise; and
- 9.1.2 Deliver to the COUNTY all data, reports, summaries, and any and all such other information and materials of whatever type or nature as may have been accumulated by the CONSULTANT in performing this Agreement, whether completed or in process.
- 9.2 Unless in dispute or subject to the COUNTY's right of set-off or other remedy, the CONSULTANT shall be paid for Services actually rendered through the date of termination.
- 9.3 The rights and remedies of the COUNTY provided for in this Section 9 are in addition and supplemental to any and all other rights and remedies provided bylaw or under this Agreement.

### 10.0 Governing Law and Venue

10.1 This Agreement shall be governed in all respects by the laws of the State of Florida. The venue for any disputes or litigation with respect to the obligations under this Agreement shall be brought only in the court of appropriate jurisdiction in Columbia County Florida.

## 11.0 Non-Discrimination

11.1 The CONSULTANT warrants and represents that all of its employees are treated equally during employment without regard to race, color, religion, gender, age or national origin.

### 12.0 Waiver

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## 13.0 Severability

- 13.1 The invalidity, illegality, or unenforceability of any provision of this Agreement, or the occurrence of any event rendering any portion or provision of this Agreement void, shall in no way affect the validity or enforceability of any other portion or provision of this Agreement. 13.2 Any void provision shall be deemed severed from this Agreement and the balance of this Agreement shall be construed and enforced as if this Agreement did not contain the particular portion or provision held to be void.
- 13.3 The parties further agree to reform this Agreement to replace any stricken provision with a valid provision that comes as close as possible to the intent of the stricken provision.
- 13.4 The provisions of this Section 13 shall not prevent this Agreement from being void should a provision which is of the essence of this Agreement be determined to be void.

## 14.0 Entirety of Agreement

14.1 The COUNTY and the CONSULTANT agree that this Agreement sets forth the entire Agreement between the parties with respect to its subject matter, and there are no promises or understandings other than those stated herein. 14.2 This Agreement supersedes all prior agreements, contracts, proposals, representations, negotiations, letters or other communications between the COUNTY and the CONSULTANT pertaining to the Services, whether written or oral.

## 15.0 Modification

15.1 The provisions, terms and conditions stated in this Agreement may not be modified, superseded or otherwise altered unless by a written amendment executed by both the COUNTY and the CONSULTANT.

## 16.0 Successors and Assigns

- 16.1 The COUNTY and the CONSULTANT each binds itself and its partners, successors, assigns and legal representatives to the other party to this Agreement and to the partners, successors, executors, administrators, assigns, and legal representatives.
- 16.2 The CONSULTANT shall not assign this Agreement without the express written approval of the COUNTY, which the COUNTY may unreasonably withhold in its sole discretion.

## 17.0 Contingent Fees

17.1 The CONSULTANT warrants that (i) it has not employed or retained any company or person, other than a bona fide employee working solely for the CONSULTANT to solicit or secure this Agreement; and (ii) it has not paid or agreed to pay any person, company, corporation, individual or firm, other than bona fide employee working solely for the

CONSULTANT, any fee, commission, percentage, gift or any other consideration contingent upon or resulting from the award or making of this Agreement.

### 18.0 Truth-In-Negotiation Certificate

18.1 The CONSULTANT's execution of this Agreement serves as its execution of a Truth-in-Negotiation certificate certifying that the rates used to determine the compensation provided for iri this Agreement are accurate, complete, and current as of the effective date of this Agreement.

## 19.0 Ownership of Documents

19.1 The CONSULTANT shall be required to cooperate with other COUNTY consultants and shall timely provide those consultants any information requested in the specified format. Any and all documents, records, disks, original drawings, or other information shall become the property of the COUNTY for its use and/or distribution as the COUNTY may determine in its sole discretion. The CONSULTANT is not liable for any damages, injury or costs associated with the COUNTY's use or distribution of these documents for purposes other than those originally intended by the CONSULTANT.

#### 20.0 Assets and Audits

20.1 The CONSULTANT shall maintain adequate records to justify all charges and costs incurred in performing the Services for at least 10 years after completion of this Agreement. The COUNTY shall have access to all books, records, and documents that the CONSULTANT must maintain in accordance with this Section 19 for the purpose of inspection or audit during the CONSULTANT's normal business hours at its usual place of business.

20.2 All invoices submitted to the COUNTY pursuant to this Agreement are subject to audit and demand for refund of overpayment for a time extending-years beyond the expiration or earlier termination of this Agreement.

#### 21.0 Notice

21.1 Any notice, demand, communication, or request that is required to be delivered to a Party hereunder shall be in writing, addressed to the party for whom it is intended, and delivered at the place last specified by such party: (i) in person, (ii) via nationally recognized overnight delivery service, (iii) via Certified United States Mail, postage prepaid with return receipt requested, or (iv) via email, with confirmation from the recipient acknowledging receipt thereof within 72 hours (and if there is no receipt within such time period, one of the other methods described in this Section 20.1 must be utilized). The parties initially designate the following as their respective places for delivery of notice:

As to County:

Columbia County Board of County Commissioners

P.O. Box 1529, Lake City FL 32056-1529

Attention: Chad Williams

Email: chad williams@columbiacountyfla.com

As to Consultant: Daniel & Gore, LLC

P.O. Box 1501, Lake City, FL 32056

Attention: Scott Daniel

Email: sdaniel@dgsurveying.com

21.2 Nothing contained in this Section shall be construed to restrict the transmission of routine communications between representatives of the CONSULTANT and the COUNTY.

### 22.0 Contract Administration

22.1 The CONSULTANT shall deliver the Services under the general direction of the County Manger, County Engineer, County Attorney. COUNTY'S representative during the term of this Agreement.

## 23.0 Limitation of Liability

23.1 IN NO EVENT SHALL THE COUNTY BE LIABLE TO THE CONSULTANT FOR INDIRECT, INCIDENTAL, CONSEQUENTIAL, SPECIAL, EXEMPLARY, OR PUNITVE DAMAGES OF ANY KIND OR NATURE, INCLUDING LOSS OF PROFIT, WHETHER FORESEEABLE OR NOT, ARISING OUT OF OR RESULTING FROM THE NONPERFORMANCE OR BREACH OF THIS AGREEMENT BY THE COUNTY WHETHER BASED IN CONTRACT, COMMON LAW, WARRANTY, TORT, STRICT LIABILITY, CONTRIBUTION, INDEMNITY OR OTHERWISE.

#### 24.0 Public Records Law

24.1 The CONSULTANT acknowledges the COUNTY's obligations under Article I, Section 24, of the Florida Constitution and under Chapter 119, Florida Statutes, to release public records to members of the public upon request. The CONSULTANT acknowledges that the COUNTY is required to comply with Article I, Section 24, of the Florida Constitution and Chapter 119, Florida Statutes, in the handling of the materials created under this Agreement and that said statute and constitutional provisions control over the terms of this agreement.

IN WITNESS WHEREOF, the parties have executed this Agreement on the date(s) indicated below.
CONSULTANT:Daniel & Gore, LLC(Company Name)
(Company Name)
ATTEST:
>
By: Scott Daniel (Signature)
(Printed) Its:MGM (Title)
Date:04/29/2020
Witness: Attu B. Clay The
Its: WITNESS Date: 4/29/2020
President/Corporate Secreatary/Witness
[Corporate Seal]
2nd Witness (if not incorporated)

Ву:
Chairman
Date:

P.O. Box 1501 Lake City, Florida 32056

## **EXHIBIT B**

## **HOURLY PRICE SCHEDULE**

Professional Surveyor	\$125.00 per hour
Project Manager	\$80.00 per hour
2-Man Survey Crew	\$125.00 per hour
3-Man Survey Crew	\$150.00 per hour
GPS Survey Crew	\$150.00 per hour
CADD Technician	\$60.00 per hour
Clerical	\$40.00 per hour

Scott Daniel, PSM • Cell: (386) 208-4176 • E-mail: sdaniel@dgsurveying.com
David Gore • Cell: (386) 365-0298 • E-mail: dgore@dgsurveying.com
Ph: (386) 752-9019 Fax: (904) 339-9229



## COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS AGENDA ITEM REQUEST FORM

The Board of County Commissioners meets the 1st and 3rd Thursday of each month at 5:30 p.m. in the Columbia County School Board Administrative Complex Auditorium, 372 West Duval Street, Lake City, Florida 32055. All agenda items are due in the Board's office one week prior to the meeting date.

Today's Date: April 29, 2020	Meeting Date: May 7, 2020
Name: Tad Cervantes	Department: Fire Department
Division Manager's Signature:	
1. Nature and purpose of agenda item:	
The CCFR Departments requests authorization new set of Edrualic Hurst EWXT waterproof to	n to apply for a Firehouse Subs grant for \$33,180 to purchase a ools
L. Recommended Motion/Action:	
Motion to authorize application for a Firehouse	e Subs Grant

3. Fiscal impact on current budget.

This item has no effect on the current budget.



## **COLUMBIA COUNTY FIRE RESCUE**

509 SW Bascom Norris Dr., Lake City, FL 32025 Office (386) 754-7057 Fax (386) 754-7064

## **MEMORANDUM**

DATE: April 29, 2020

TO: Ben Scott

FR: Assistant Chief Tad Cervantes

RE: FY 2019

Columbia County Fire Rescue would like to apply for the following grant, the Firehouse Subs Grant to acquire a new set of Edrualic Hurst EWXT waterproof tools worth \$33, 180.00. If Columbia County is granted the tools there would be no cost to the Fire Department budget.

Thank you

Tad J. Cervantes



3789 62nd Avenue North Pinellas Park, FL 33781

## Quote

 Date
 04/29/2020

 Quote #
 QT1362984

 Expires
 07/31/2020

Sales Rep Robinson, Jamie S

PO#

Shipping Method FedEx Ground

### **Bill To**

FIREHOUSE SUBS PUBLIC SAFETY FDN, INC 12735 Gran Bay Parkway Suite 150 Jacksonville FL 32258

## Ship To

Tad Cervantes Columbia County Fire Rescue 509 SW Bascom Norris Dr. Lake City FL 32025 United States

Item	Alt. Item #	Units	Description	QTY	Unit Sales Pri	Amount
272288000-1-e			*ENGRAVED* S 788EWXT Cutter - TOOL ONLY **does not include engraving fee – please use part number 525R048 for engraving Hurst eDraulic waterproof battery operated rescue tool	1	9,730.00	9,730.00
271255000-1-e			*ENGRAVED* SP 555EWXT Spreader - TOOL ONLY **does not include engraving fee – please use part number 525R048 for engraving Hurst eDraulic waterproof battery operated rescue tool	1	10,820.00	10,820.00
274285000-1-e			*ENGRAVED* R 521EWXT Ram - TOOL ONLY **does not include engraving fee – please use part number 525R048 for engraving Hurst eDraulic waterproof battery operated rescue tool	1	7,140.00	7,140.00
90-53-15			EWXT 9 Ah battery Hurst	6	680.00	4,080.00
90-53-21			EWXT Charger (110V) Hurst	3	470.00	1,410.00

Firehouse Subs Public Safety Foundation Grant Request

Department Name: Columbia County Fire Rescue, 509 SW Bascom Norris Dr., Lake City

FL 32025

City Sni

33,180.00 0.00 \$33,180.00

Shipping Cost (FedEx Ground)
Total \$33

Department POC: Tad Cervantes; (386) 754-7071; tad\_cervantes@columbiacountyfla.com

MES POC: Tom Winkler; 727-808-5344; twinkler@mesfire.com

This Quotation is subject to any applicable sales tax and shipping & handling charges that may apply. Tax and shipping charges are considered estimated and will be recalculated at the time of shipment to ensure they take into account the most current local tax information.

All returns must be processed within 30 days of receipt and require a return authorization number and are subject to a restocking fee.

Custom orders are not returnable. Effective tax rate will be applicable at the time of invoice.



QT1362984



## COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS AGENDA ITEM REQUEST FORM

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Today's Date: April 28, 2020	Meeting Date: May 7, 2020
Name: David Kraus	Department: Bcc Administration
Division Manager's Signature:	
1. Nature and purpose of agenda item:	
The County has identified several grant oppor	rtunities and seek approval to apply for these grants.
2. Recommended Motion/Action:	
Authorize staff to apply for these grants.	

3. Fiscal impact on current budget.

This item has no effect on the current budget.

District No. 3 - Bucky Nash

District No. 4 - Toby Witt

District No. 5 - Tim Murphy





TO: Columbia County Board of County Commissioners

FR: David Kraus, Assistant County Manager

DATE: April 6, 2020

RE: Request to Apply for Grants

We are seeking Columbia County Board of County Commission approval to apply for the following grants:

- 1) The Bureau of Justice Assistance Coronavirus Emergency Supplemental Funding has allocated \$51,277 to Columbia County for a potential grant that can include equipment. In a meeting, the Sheriff's Office, 911, Central Communications and the Fire and Rescue Department agreed and recommended using this grant to help purchase APX Radio Management system. The total cost of the system is \$103,588.
- 2) The Governor recently announced additional CDBG-DR Rebuild Florida funding for infrastructure projects related to Hurricane Irma. Because it is a CDBG grant, any project will need to meet the 51% low/moderate income National Objective. Staff is reviewing possible projects.
- 3) DEO is in the process of announcing the CDBG-Mitigation grants for planning, hardening and/or infrastructure. Staff is looking at a purchasing generators for the WWTP pump stations as well as select Fire Stations under the hardening category and road and stormwater projects under the infrastructure category. Because of CDBG funding, any project will need to meet the 51% low/moderate income National Objective.

BOARD MEETS FIRST AND THIRD THURSDAY AT 5:30 P.M.

P.O. BOX 1529

LAKE CITY, FLORIDA 32056-1529

PHONE (386) 755-4100

- 4) Staff seeks approval to apply for an Economic Development Administration grant and a Rural Infrastructure Fund Planning for \$300,000 for the TDC "Flat Field Master" Plan. While we would only need one of the grants, we are investigating both options. We hope to apply prior to June.
- 5) Staff seeks approval to work with the Suwannee River Water Management District to fund an Aquifer Recharge project (Water Quality Assistance) in Ellisville. We estimate the project to cost less than \$50,000 and be 100% funded by the District.

BOARD MEETS FIRST AND THIRD THURSDAY AT 5:30 P.M.

P.O. BOX 1529 LAKE CITY, FLORIDA 32056-1529

PHONE (386) 755-4100



## COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS AGENDA ITEM REQUEST FORM

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Today's Date: May 1, 2020	Meeting Date: May 7, 2020	
Name: Ben Scott	Department: BCC Administration	
Division Manager's Signature:	Scatt	
1. Nature and purpose of agenda item:		
	ersonnel policies and procedures manual. The recommended inply clarifying how holiday hours are accounted for and paid.	
2. Recommended Motion/Action:		
Approve change to the personnel policies	and procedures manual.	
O. E's as l'avance ( an assessant la select		

3. Fiscal impact on current budget.

This item has no effect on the current budget.

District No. 1 - Ronald Williams District No. 2 - Rocky Ford District No. 3 - Bucky Nash District No. 4 – Toby Witt District No. 5 - Tim Murphy



## MEMORANDUM

TO: **Board of County Commissioners** 

Ben Scatt FR: Ben Scott, County Manager

DATE: April 30, 2020

RE: Holiday Pay Clarification

Please find attached for your review and approval a change to the personnel policies and procedures manual. The recommended change does not change policy; we are simply clarifying how holiday hours are accounted for and paid.

XC: **Outgoing Correspondence** 

## **CHAPTER 18 - HOLIDAYS**

## A. OBSERVED HOLIDAYS

1. The County observes the following paid holidays.

a. New Year's Day January 1st

b. Martin Luther King, Jr. Day

Third Monday in January

c. Good Friday Friday before Easter

d. Memorial Day Last Monday in May

e. Independence Day July 4

f. Labor Day First Monday in September

g. Veterans Day November 11

h. Thanksgiving Day Fourth Thursday in November

i. Friday after Thanksgiving Day Friday after Thanksgiving

j. \* Christmas Eve December 24<sup>th</sup> (Observed on the last

work day before Christmas)

k. Christmas Day December 25

2. Holidays falling on Saturday will be observed on the Friday preceding the holiday. Holidays falling on Sunday will be observed on the Monday following the holiday or the day recognized nationally. Departments who normally operate 24 hours a day will observe on the actual day of occurrence. A holiday begins 12:00 a.m. and ends 11:59 p.m. Eligible employees will receive holiday pay from date of hire.

\*The Board of County Commissioners may approve an alternate day to observe Christmas Eve, depending on the day Christmas Eve falls.

- 3. On-call and temporary employees are not eligible for holiday pay or benefits.
- 4. Regular part-time employees will receive pro-rated holiday time in accordance with their full-time equivalency.
- 5. To receive holiday pay, an eligible employee must be in approved pay status the regularly scheduled day prior to and immediately after a holiday. In accordance with this policy, an approved vacation day or any other excused and paid day off is considered a day worked for purposes of holiday pay eligibility.

## **B. PERSONAL HOLIDAY**

Upon successful completion of the initial orientation period, regular full-time employees will be granted an eight (8) hour personal holiday with pay to be taken during the fiscal year (October 1 – prior to the last payroll period in September). Use of the personal holiday must be approved in advance by the Department Head/designee and the holiday must be taken in its entirety (all eight hours at once). Regardless of the regularly assigned work hours per day (for example: 8, 10, 12, or 24), the maximum personal holiday granted will be eight (8) hours. Personal holidays that are not used during the fiscal year will be forfeited and unused personal holidays will not be paid out upon termination (use it or lose it). Personal holiday time off will not be considered "time worked" for the purpose of overtime calculation.

## C. HOLIDAY PAY

1. In the event a non-exempt employee is required to work on an observed holiday, or the actual holiday, the employee will be paid eight (8) hours holiday pay (at straight time) plus pay at the rate of one and one-half times his/her regular hourly rate for hours actually worked on the holiday. Hours worked on the holiday will count as hours worked for the calculation of overtime pay per the Fair Labor Standards Act. However, holiday hours worked, paid at time and one-half, will not be considered compensation for overtime. All hours physically worked in excess of 40 hours per pay week (106 per pay period for firefighters) will be paid at time and one-half.

## For Example:

If a holiday is observed during a pay week, an employee worked the holiday, and physically worked 50 hours during the pay week, he/she would be paid as follows:

Wed.	Thurs.	Fri	Sat.	Sun.	Mon.	Tues.	
Holiday							<b>Total Hours</b>
4-Jul	5-Jul	6-Jul	7-Jul	8-Jul	9-Jul	10-Jul	Worked
5	8	8	. 8	5	8	8	50

35 Hours Straight Time

8 Hours Holiday

5 Hours Holiday Worked at the rate of one and one-half times

10 Hours Overtime

2. Holiday hours not worked will not be considered "time worked" for the purpose of overtime calculation.

## D. AUTHORIZATION FOR HOLIDAY PAY

All work scheduled on an observed holiday must be approved by the Department Head.



## COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS AGENDA ITEM REQUEST FORM

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Today's Date: April 16, 202	0	Meeting Date:	May 7, 2020
Name: Tom Brazil		Department:	9-1-1 Communications Center
Division Manager's Signatur	e:		
1. Nature and purpose of age	enda item:		
			ural Grant in the amount of \$45,128.21 for ment and Equature logging recorders.
2. Recommended Motion/Act	ion:		
Recommend approval			
3. Fiscal impact on current b	udget.		
This item is not budgeted.	The proposed budg	get amendment to fu	and this request is provided below.
Budget Amendment Number:	BA 20-40	Fund:	
FROM:		TO:	AMOUNT:
E911 Grant Revenue		E911 Grant R & M	

E911 Grant R & M

\$45,129.00

E911 Grant Revenue



## BOARD OF COUNTY COMMISSIONERS • COLUMBIA COUNTY

## MEMORANDUM

TO: Ben Scott County Manager via David Kraus Assistant County Manager

FR: Thomas W Brazil 911 Center Manager / County 911 Coordinator

DATE: 16 April 2020

RE: State E-911 Grant

> Via this memorandum I am requesting to place on the agenda for the May 7<sup>th</sup> regular meeting of the Board of County Commissioners an item seeking approval to accept State E-911 Board Rural Spring 2020 Grant in the amount of \$45,128.21. This grant is for support and maintenance of our 911 Call Processing Equipment (CPE) at the primary PSAP and Back-up Center PSAP, now located at the Lake City Public Safety Building, as well as support and maintenance of our Equature logging recorders.

Approval to apply for this Grant was given by the Board on March 5<sup>th</sup>. We are pending receipt of the actual Grant Award Letter from the E911 Board but this Grant was approved in the E-911 Board Meeting on April 15<sup>th</sup>.

This is a reimbursement grant and will require an external budget amendment.

CC: file



## COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS AGENDA ITEM REQUEST FORM

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Today's Date: April 28, 2020	)	Meeting Date:	May 7, 2020	
Name: David Kraus		Department:	Bcc Administration	
Division Manager's Signature	: _ <i>M</i>			
1. Nature and purpose of age	nda item:			
			re Fund monies to construct t le actual grant agreement for t	
2. Recommended Motion/Act	ion:			
Motion to approve Grant A	greement D0145.			
3. Fiscal impact on current be	udget.			
This item is not budgeted. 1	he proposed budget	amendment to f	und this request is provided belo	W.
Budget Amendment Number:	BA 20-41	Fund:	302-GENERAL CAPITAL PR	OJECTS
FROM:		TO:		AMOUNT:
302-0000-334.39-01		302-5301-539.60-	63	
OTHER PHYSICAL ENVIRONMNT / RU	RAL INFRASTRUCTURE	CAPITAL OUTLA	Y / IMP OTHER THAN BLDGS	\$500,000.00

**GRNT** 

District No. 1 - Ronald Williams

District No. 2 - Rocky Ford

District No. 3 - Bucky Nash

District No. 4 - Toby Witt

District No. 5 - Tim Murphy



## MEMORANDUM

TO: Columbia County Board of County Commissioners

FR: David Kraus, Assistant County Manager

DATE: April 28, 2020

RE: Grant Agreement Rural Infrastructure Fund for Bell Street Gas Lines

On December 3, 2019, the Florida Department of Economic Opportunity approved a \$500,000 Rural Infrastructure Fund grant to assist in the construction of utilities for the Bell Street Corridor project. On April 16, 2020, upon completion of legal review, DEO sent the Grant Agreement to the County for approval.

Staff requests the Columbia County Board of County Commissioner approve and execute the Grant Agreement D 0145 with the Department of Economic Opportunity for \$500,000 to construct a natural gas main loop.

BOARD MEETS FIRST AND THIRD THURSDAY AT 5:30 P.M.

 From:
 Portwood, Pam

 To:
 Toby Witt

 Cc:
 David Kraus

Subject: Rural Infrastructure Fund Grant Agreement D0145

**Date:** Thursday, April 16, 2020 4:46:11 PM

Attachments: image001.png

D0145-\_Columbia\_County-\_Original\_Agreement.pdf

## Good afternoon Chairman Witt,

DEO has completed its review of the agreement for the above grant to fund a natural gas main loop that will serve the existing businesses and new businesses along the Bell Road Corridor.

Please review the entire grant agreement and let us know if you have any questions or concerns.

Due to the current coronavirus situation, we are asking that you sign the agreement, then scan and return it via email. If you are unable to scan the signed agreement, please let me know and we'll work out an alternative.

Should you have any questions or require additional information, please don't hesitate to contact me.

Best regards,

Pam Portwood Community Program Manager



Florida Department of Economic Opportunity Bureau of Small Cities and Rural Communities

Office: 850-717-8423

Pam.Portwood@deo.myflorida.com

www.floridajobs.org

Sign up for DEO news and information here. Follow us on: Facebook, Twitter and LinkedIn.

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# GRANT AGREEMENT STATE OF FLORIDA DEPARTMENT OF ECONOMIC OPPORTUNITY

THIS GRANT AGREEMENT NUMBER D0145 ("Agreement") is made and entered into by and between the State of Florida, Department of Economic Opportunity ("DEO"), and Columbia County ("Grantee"). DEO and Grantee are sometimes referred to herein individually as a "Party" and collectively as "the Parties".

**WHEREAS**, DEO has the authority to enter into this Agreement and distribute State of Florida funds ("Award Funds") in the amount and manner set forth in this Agreement and in the following Attachments incorporated herein as an integral part of this Agreement:

- Attachment 1: Scope of Work
- Attachment 2 and Exhibit 1 to Attachment 2: Audit Requirements
- Attachment 3: Audit Compliance Certification

**WHEREAS,** the Agreement and its aforementioned Attachments are hereinafter collectively referred to as the "Agreement", and if any inconsistencies or conflict between the language of this Agreement and its Attachments arise, then the language of the Attachments shall control, but only to the extent of the conflict or inconsistency;

**WHEREAS,** Grantee hereby represents and warrants that Grantee's signatory to this Agreement has authority to bind Grantee to this Agreement as of the Effective Date and that Grantee, through its undersigned duly-authorized representative in his or her official capacity, has the authority to request, accept, and expend Award Funds for Grantee's purposes in accordance with the terms and conditions of this Agreement;

**NOW THEREFORE**, for and in consideration of the covenants and obligations set forth herein and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties intending to be legally bound hereby agree to perform the duties described herein in this Agreement as follows:

### A. AGREEMENT PERIOD

This Agreement is effective as of **December 3, 2019** (the "Effective Date") and shall continue until the earlier to occur of **December 2, 2021** (the "Expiration Date") or (b) the date on which either Party terminates this Agreement (the "Termination Date"). The period of time between the Effective Date and the Expiration Date or Termination Date is the "Agreement Period."

## **B. FUNDING**

This Agreement is a Cost Reimbursement Agreement. DEO shall pay Grantee up to **Five Hundred Thousand and Zero Cents (\$500,000.00)** in consideration for Grantee's performance under this Agreement. DEO shall not provide Grantee an advance of Award Funds under this Agreement. Travel expenses are not authorized under this Agreement. DEO shall not pay Grantee's costs related to this Agreement incurred outside of the Agreement Period. In conformity with s. 287.0582, F.S., the State of Florida and DEO's performance and obligation to pay any Award Funds under this Agreement is contingent upon an annual appropriation by the Legislature. DEO shall have final unchallengeable authority as to both the availability of funds and what constitutes an "annual appropriation" of funds. Grantee shall not expend Award Funds for the purpose of

lobbying the Legislature, the judicial branch, or a state agency. Grantee shall not expend Award Funds to pay any costs incurred in connection with any defense against any claim or appeal of the State of Florida or any agency or instrumentality thereof (including DEO); or to pay any costs incurred in connection with the prosecution of any claim or appeal against the State of Florida or any agency or instrumentality thereof (including DEO), which Grantee instituted or in which Grantee has joined as a claimant. Grantee shall either (i) maintain Award Funds in a separate bank account, or (ii) expressly designate in Grantee's business records and accounting system that the Award Funds originated from this Agreement. Grantee shall not commingle Award Funds with any other funds. DEO may refuse to reimburse Grantee for purchases made with commingled funds. Grantee's costs must be in compliance with all laws, rules, and regulations applicable to including the Reference **Expenditures** expenditures of State funds, Guide for State https://www.myfloridacfo.com/Division/AA/Manuals/Auditing/Reference\_Guide\_For\_State\_Expenditure s.pdf)

## C. ELECTRONIC FUNDS TRANSFER

Within 30 calendar days of the date the last Party has signed this Agreement, Grantee shall enroll in Electronic Funds Transfer (EFT) from the State's Chief Financial Officer. Copies of the Authorization form and a sample blank enrollment letter can be found on the vendor instruction page at: https://www.myfloridacfo.com/Division/AA/Vendors/default.htm should be directed to the Direct Deposit/EFT Section of the Division of Accounting and Auditing at (850) 413-5517. Once enrolled, EFT shall make invoice payments.

## D. MODIFICATION

If, in DEO's sole and absolute determination, changes to this Agreement are necessitated by law or otherwise, DEO may at any time, with written notice of all such changes to Grantee, modify this Agreement within its original scope and purpose. Grantee shall be responsible for any due diligence necessary to determine the impact of the modification. Any modification of this Agreement requested by Grantee must be in writing and duly signed by all Parties in order to be enforceable.

## E. AUDITS REQUIREMENTS AND COMPLIANCE

- 1. Section 215.971, Florida Statutes ("F.S."). Grantee shall comply with all applicable provisions of s. 215.97, F.S. and Attachment 2 and Exhibit 1 to Attachment 2: Audit Requirements. Grantee shall perform the deliverables and tasks set forth in Attachment 1, Scope of Work. Grantee may only expend Award Funds for allowable costs resulting from obligations incurred during the Agreement Period. Grantee shall refund to DEO any: (1) balance of unobligated Award Funds which have been advanced or paid to Grantee; or (2) Award Funds paid in excess of the amount to which Grantee is entitled under the terms and conditions of this Agreement and Attachments hereto, upon expiration or termination of this Agreement.
- 2. Audit Compliance. Grantee understands and shall comply with the requirements of s. 20.055(5), F.S. Grantee agrees to reimburse the State for the reasonable costs of investigation the Inspector General or other authorized State official incurs for investigations of Grantee's compliance with the terms of this or any other agreement between the Grantee and the State which results in the suspension or debarment of Grantee. Grantee shall not be responsible for any costs of investigations that do not result in Grantee's suspension or debarment.

## F. RECORDS AND INFORMATION RELEASE

1. Records Compliance. DEO is subject to the provisions of chapter 119, F.S., relating to public records. Any document Grantee submits to DEO under this Agreement may constitute public records under

the Florida Statutes. Grantee shall cooperate with DEO regarding DEO's efforts to comply with the requirements of chapter 119, F.S. Grantee shall respond to requests to inspect or copy such records in accordance with chapter 119, F.S., for records made or received by Grantee in connection with this Agreement. Grantee shall immediately notify DEO of the receipt and content of any request by sending an e-mail to PRRequest@deo.myflorida.com within one business day after receipt of such request. Grantee shall indemnify, defend, and hold DEO harmless from any violation of Florida's public records laws wherein DEO's disclosure or nondisclosure of any public record was predicated upon any act or omission of Grantee. As applicable, Grantee shall comply with s. 501.171, F.S. DEO may terminate this Agreement if Grantee fails to comply with Florida's public records laws. Grantee shall allow public access to all records made or received by Grantee in connection with this Agreement, unless the records are exempt from s. 24(a) of Article I of the State Constitution or s. 119.07(1), F.S.

- 2. Identification of Records. Grantee shall clearly and conspicuously mark all records submitted to DEO if such records are confidential and exempt from public disclosure. Grantee's failure to clearly mark each record and identify the legal basis for each exemption from the requirements of chapter 119, F.S., prior to delivery of the record to DEO serves as Grantee's waiver of a claim of exemption. Grantee shall ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for as long as those records are confidential and exempt pursuant to Florida law. If DEO's claim of exemption asserted in response to Grantee's assertion of confidentiality is challenged in any court of law, Grantee shall defend, assume, and be responsible for all fees, costs, and expenses in connection with such challenge.
- 3. Keeping and Providing Records. DEO and the State have an absolute right to view, inspect, or make or request copies of any records arising out of or related to this Agreement. The Grantee has an absolute duty to keep and maintain all records arising out of or related to this Agreement. DEO may request copies of any records made or received in connection with this Agreement, or arising out of Grantees use of Award Funds, and Grantee shall provide DEO with copies of any records within 10 business days after DEO's request at no cost to DEO. Grantee shall maintain all books, records, and documents in accordance with generally accepted accounting procedures and practices which sufficiently and properly reflect all expenditures of Award Funds. For avoidance of doubt, Grantee's duties to keep and provide records to DEO includes all records generated in connection with or as a result of this Agreement. Upon expiration or termination of this Agreement, the Grantee shall transfer, at no cost, to DEO all public records in possession of Grantee or keep and maintain public records required by DEO to perform the service. If the Grantee keeps and maintains public records upon completion of this Agreement, the Grantee shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to DEO, upon request from DEO's custodian of records, in a format that is compatible with the information technology systems of DEO.
- 4. Audit Rights. Representatives of the State of Florida, DEO, the State Chief Financial Officer, the State Auditor General, the Florida Office of Program Policy Analysis and Government Accountability or representatives of the federal government and their duly authorized representatives shall have access to any of Grantee's books, documents, papers, and records, including electronic storage media, as they may relate to this Agreement, for the purposes of conducting audits or examinations or making excerpts or transcriptions.
- **5. Single Audit Compliance Certification.** Annually, within 60 calendar days of the close of Grantee's fiscal year, Grantee shall electronically submit a completed Audit Compliance Certification (a version of this certification is attached hereto as Attachment 3 to <a href="mailto:audit@deo.myflorida.com">audit@deo.myflorida.com</a>. Grantee's timely submittal

of one completed Audit Compliance Certification for each applicable fiscal year will fulfill this requirement for all agreements between DEO and Grantee.

- **6. Ensure Compliance**. Grantee shall ensure that any entity which is paid from, or for which Grantee's expenditures will be reimbursed by, Award Funds, is aware of and will comply with the aforementioned audit and record keeping requirements.
- 7. Contact Custodian of Public Records for Questions. IF THE GRANTEE HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE GRANTEE'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS AGREEMENT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS by telephone at (850) 245-7140, via e-mail at <a href="mailto:prepare: PRRequest@deo.myflorida.com">PRRequest@deo.myflorida.com</a>, or by mail at Department of Economic Opportunity, Public Records Coordinator, 107 East Madison Street, Caldwell Building, Tallahassee, Florida 32399-4128.

## G. TERMINATION AND FORCE MAJEURE

- 1. Termination due to Lack of Funds: In the event funds to finance this Agreement become unavailable or if federal or state funds upon which this Agreement is dependent are withdrawn or redirected, DEO may terminate this Agreement upon no less than twenty-four (24) hour written notice to Grantee. DEO shall be the final authority as to the availability of funds and will not reallocate funds earmarked for this Agreement to another program thus causing "lack of funds." In the event of termination of this Agreement under this provision, Grantee will be paid for any work satisfactorily completed prior to notification of termination. The lack of funds shall not constitute DEO's default under this Agreement.
- 2. Termination for Cause: DEO may terminate the Agreement if Grantee fails to: (1) deliver the services within the time specified in the Agreement or any extension; (2) maintain adequate progress, thus endangering performance of the Agreement; (3) honor any term of the Agreement; or (4) abide by any statutory, regulatory, or licensing requirement. The rights and remedies of DEO in this clause are in addition to any other rights and remedies provided by law or under the Agreement. Grantee shall not be entitled to recover any cancellation charges or lost profits.
- 3. Termination for Convenience: DEO, by written notice to Grantee, may terminate this Agreement in whole or in part when DEO determines in DEO's sole and absolute discretion that it is in DEO's interest to do so. Grantee shall not provide any deliverable pursuant to Attachment 1: Scope of Work after it receives the notice of termination, except as DEO otherwise specifically instructs Grantee in writing. Grantee shall not be entitled to recover any cancellation charges or lost profits.
- 4. Grantee's Responsibilities Upon Termination: If DEO issues a Notice of Termination to Grantee, except as DEO otherwise specifies in that Notice, Grantee shall: (1) Stop work under this Agreement on the date and to the extent specified in the notice; (2) complete performance of such part of the work DEO does not terminate; (3) take such action as may be necessary, or as DEO may specify, to protect and preserve any property which is in the possession of Grantee and in which DEO has or may acquire an interest; and (4) upon the effective date of termination, Grantee shall transfer, assign, and make available to DEO all property and materials belonging to DEO pursuant to the terms of this Agreement and all Attachments hereto. Grantee shall not receive additional compensation for Grantee's services in connection with such transfers or assignments.
- 5. Force Majeure and Notice of Delay from Force Majeure. Neither Party shall be liable to the other for any delay or failure to perform under this Agreement if such delay or failure is neither the fault nor

the negligence of the Party or its employees or agents and the delay is due directly to acts of God, wars, acts of public enemies, strikes, fires, floods, or other similar cause wholly beyond the Party's control, or for any of the foregoing that affects subcontractors or suppliers if no alternate source of supply is available. However, in the event of delay from the foregoing causes, the Party shall take all reasonable measures to mitigate any and all resulting delay or disruption in the Party's performance obligation under this Agreement. If the delay is excusable under this FORCE MAJEURE AND NOTICE OF DELAY FROM FORCE MAJEURE section, the delay will not result in any additional charge or cost under the Agreement to either Party. In the case of any delay Grantee believes is excusable under this FORCE MAJEURE AND NOTICE OF DELAY FROM FORCE MAJEURE section, Grantee shall notify DEO in writing of the delay or potential delay and describe the cause of the delay either: (1) within 10 calendar days after the cause that creates or will create the delay first arose, if Grantee could reasonably foresee that a delay could occur as a result; or (2) within five calendar days after the date Grantee first had reason to believe that a delay could result, if the delay is not reasonably foreseeable. THE FOREGOING SHALL CONSTITUTE GRANTEE'S SOLE REMEDY OR EXCUSE WITH RESPECT TO DELAY. Providing notice in strict accordance with this FORCE MAJEURE AND NOTICE OF DELAY FROM FORCE MAJEURE section is a condition precedent to such remedy. DEO, in its sole discretion, will determine if the delay is excusable under this FORCE MAJEURE AND NOTICE OF DELAY FROM FORCE MAJEURE section and will notify Grantee of its decision in writing. No claim for damages, other than for an extension of time, shall be asserted against DEO. Grantee shall not be entitled to an increase in the Agreement price or payment of any kind from DEO for direct, indirect, consequential, impact, or other costs, expenses or damages, including but not limited to costs of acceleration or inefficiency arising because of delay, disruption, interference, or hindrance from any cause whatsoever. If performance is suspended or delayed, in whole or in part, due to any of the causes described in this FORCE MAJEURE AND NOTICE OF DELAY FROM FORCE MAJEURE section, after the causes have ceased to exist, Grantee shall perform at no increased cost, unless DEO determines, in its sole discretion, that the delay will significantly impair the value of the Agreement to DEO or the State, in which case, DEO may terminate the Agreement in whole or in part.

## H. BUSINESS WITH PUBLIC ENTITIES

Grantee is aware of and understands the provisions of s. 287.133(2)(a), F.S., and s. 287.134(2)(a), F.S. As required by s. 287.135(5), F.S., Grantee certifies that it is not: (1) listed on the Scrutinized Companies that Boycott Israel List, created pursuant to s. 215.4725, F.S.; (2) engaged in a boycott of Israel; (3) listed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, created pursuant to s. 215.473, F.S.; (4) engaged in business operations in Cuba or Syria. DEO may immediately terminate this Agreement if Grantee submits a false certification as to the above, or if Grantee is placed on the Scrutinized Companies that Boycott Israel List, engages in a boycott of Israel, is placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or has engaged in business operations in Cuba or Syria.

## I. CONTINUING DISCLOSURE OF LEGAL PROCEEDINGS

Prior to execution of this Agreement, Grantee must disclose in a written statement to DEO's Agreement Manager all prior or on-going civil or criminal litigation, investigations, arbitration or administrative proceedings (collectively "Proceedings") involving Grantee (and each subcontractor). Thereafter, Grantee has a continuing duty to promptly disclose all Proceedings upon occurrence. This duty of disclosure applies to Grantee's or subcontractor's officers and directors when any Proceeding relates to the officer or director's business or financial activities. Details of settlements that are prevented from disclosure by the terms of the settlement may be annotated as such. Grantee shall promptly notify DEO's Agreement Manager of any Proceeding relating to or affecting the Grantee's or subcontractor's business. If the existence of such Proceeding causes the State concern about Grantee's ability or willingness to perform the Agreement, then upon DEO's request, Grantee shall provide to DEO's Agreement Manager all reasonable assurances that: (i) Grantee will be able to perform the Agreement in accordance with its terms and conditions; and (ii) Grantee and/or its employees, agents, or

subcontractor(s) have not and will not engage in conduct in performing services for DEO which is similar in nature to the conduct alleged in such Proceeding.

## J. ADVERTISING AND SPONSORSHIP DISCLOSURE

- 1. Limitations on Advertising of Agreement. DEO does not endorse any Grantee, commodity, or service. Subject to chapter 119, F.S., Grantee shall not publicly disseminate any information concerning this Agreement without prior written approval from DEO, including, but not limited to mentioning this Agreement in a press release or other promotional material, identifying DEO or the State as a reference, or otherwise linking Grantee's name and either a description of the Agreement or the name of DEO or the State in any material published, either in print or electronically, to any entity that is not a Party to this Agreement, except potential or actual authorized distributors, dealers, resellers, or service representatives.
- 2. Disclosure of Sponsorship. As required by s. 286.25, F.S., if Grantee is a nongovernmental organization which sponsors a program financed wholly or in part by state funds, including any funds obtained through this Agreement, it shall, in publicizing, advertising, or describing the sponsorship of the program, state: "Sponsored by (Grantee's name) and the State of Florida, Department of Economic Opportunity." If the sponsorship reference is in written material, the words "State of Florida, Department of Economic Opportunity" shall appear in the same size letters or type as the name of the organization.

## K. RECOUPMENT OF FUNDS

- 1. Recoupment. Notwithstanding anything in this Agreement to the contrary, DEO has an absolute right to recoup Award Funds. DEO may refuse to reimburse Grantee for any cost if DEO determines that such cost was not incurred in compliance with the terms of this Agreement. DEO may demand a return of Award Funds if DEO terminates this Agreement. The application of financial consequences as set forth in the Scope of Work is cumulative to any of DEO's rights to recoup Award Funds. Notwithstanding anything in this Agreement to the contrary, in no event shall the application of any financial consequences or recoupment of Award Funds exceed the amount of Award Funds, plus interest.
- 2. Overpayments. If Grantee's (a) noncompliance with this Agreement or any applicable federal, state, or local law, rule, regulation or ordinance, or (b) Grantee's performance or nonperformance of any term or condition of this Agreement results in (i) an unlawful use of Award Funds; (ii) a use of Award Funds that doesn't comply with the terms of this Agreement; or (iii) a use which constitutes a receipt of Award Funds to which Grantee is not entitled (each such event an "Overpayment"), then Grantee shall return such Overpayment of Award Funds to DEO.
- 3. Discovery of Overpayments. Grantee shall refund any Overpayment of Award Funds to DEO within 30 days of Grantee's discovery of an Overpayment, or receipt of notification from DEO that and Overpayment has occurred. DEO is the final authority as to what may constitute an Overpayment of Award Funds. Refunds should be sent to DEO's Agreement Manager, and made payable to the "Department of Economic Opportunity". Should repayment not be made in a timely manner, DEO may charge interest at the lawful rate of interest on the outstanding balance beginning 30 days after the date of notification or discovery.
- 4. Right of Set-Off. DEO and the State shall have all of its common law, equitable and statutory rights of set-off, including, without limitation, the State's option to withhold for the purposes of set-off any moneys due to Grantee under this Agreement up to any amounts due and owing to DEO with respect to this Agreement, any other contract with any State department or agency, including any contract for a term commencing prior to the term of this Agreement, plus any amounts due and owing to the State for any other

reason. The State shall exercise its set-off rights in accordance with normal State practices including, in cases of set-off pursuant to an audit, the finalization of such audits by the State or its representatives.

## L. INSURANCE

Unless Grantee is a state agency or subdivision as defined in s. 768.28(2), F.S., Grantee shall provide and maintain at all times during this Agreement adequate commercial general liability insurance coverage. A self-insurance program established and operating under the laws of the State of Florida may provide such coverage.

Grantee, at all times during the Agreement, at Grantee's sole expense, shall provide commercial insurance of such a type and with such terms and limits as may be reasonably associated with this Agreement, which, as a minimum, shall be: workers' compensation and employer's liability insurance in accordance with chapter 440, F.S., with minimum employer's liability limits of \$100,000 per accident, \$100,000 per person, and \$500,000 policy aggregate. Such policy shall cover all employees engaged in any Agreement work.

Grantee shall maintain insurance coverage of such types and with such terms and limits as may be reasonably associated with this Agreement, as required by law, and as otherwise necessary and prudent for the Grantee's performance of its operations in the regular course of business. The limits of coverage under each policy maintained by Grantee shall not be interpreted as limiting Grantee's liability and obligations under this Agreement. All insurance policies shall be through insurers licensed and authorized to write policies in Florida, and such policies shall cover all employees engaged in any Agreement work. Grantee shall maintain any other insurance required in the Scope of Work. Upon request, Grantee shall produce evidence of insurance to DEO.

DEO shall not pay for any costs of any insurance or policy deductible, and payment of any insurance costs shall be Grantee's sole responsibility. Providing and maintaining adequate insurance coverage is a material obligation of Grantee, and failure to maintain such coverage may void the Agreement, at DEO's sole and absolute discretion, after DEO's review of Grantee's insurance coverage when Grantee is unable to comply with DEO's requests concerning additional appropriate and necessary insurance coverage. Upon execution of this Agreement, Grantee shall provide DEO written verification of the existence and amount for each type of applicable insurance coverage. Within 30 calendar days of the effective date of the Agreement, Grantee shall furnish DEO proof of applicable insurance coverage by standard ACORD form certificates of insurance. In the event that an insurer cancels any applicable coverage for any reason, Grantee shall immediately notify DEO of such cancellation and shall obtain adequate replacement coverage conforming to the requirements herein and provide proof of such replacement coverage within 15 business days after the cancellation of coverage. Copies of new insurance certificates must be provided to DEO's Agreement Manager with each insurance renewal.

### M. CONFIDENTIALITY AND SAFEGUARDING INFORMATION

Each Party may have access to confidential information made available by the other. The provisions of the Florida Public Records Act, Chapter 119, F.S., and other applicable state and federal laws will govern disclosure of any confidential information received by the State of Florida.

Grantee must implement procedures to ensure the appropriate protection and confidentiality of all data, files, and records involved with this Agreement.

Except as necessary to fulfill the terms of this Agreement and with the permission of DEO, Grantee shall not divulge to third parties any confidential information obtained by Grantee or its agents, distributors, resellers, subcontractors, officers, or employees in the course of performing Agreement work, including, but not limited

to, security procedures, business operations information, or commercial proprietary information in the possession of the State or DEO.

Grantee shall not use or disclose any information concerning a recipient of services under this Agreement for any purpose in conformity with state and federal law or regulations, except upon written consent of the recipient or the responsible parent or guardian of the recipient when authorized by law.

When Grantee has access to DEO's network and/or applications, in order to fulfill Grantee's obligations under this Agreement, Grantee shall abide by all applicable DEO Information Technology Security procedures and policies. Grantee (including its employees, subcontractors, agents, or any other individuals to whom Grantee exposes confidential information obtained under this Agreement), shall not store, or allow to be stored, any confidential information on any portable storage media (e.g., laptops, thumb drives, hard drives, etc.) or peripheral device with the capacity to hold information. Failure to strictly comply with this provision shall constitute a breach of Agreement.

Grantee shall immediately notify DEO in writing when Grantee, its employees, agents, or representatives become aware of an inadvertent disclosure of DEO's unsecured confidential information in violation of the terms of this Agreement. Grantee shall report to DEO any Security Incidents of which it becomes aware, including incidents sub-contractors or agents reported to Grantee. For purposes of this Agreement, "Security Incident" means the attempted or successful unauthorized access, use, disclosure, modification, or destruction of DEO information in Grantee's possession or electronic interference with DEO operations; provided, however, that random attempts at access shall not be considered a security incident. Grantee shall make a report to DEO not more than seven business days after Grantee learns of such use or disclosure. Grantee's report shall identify, to the extent known: (i) the nature of the unauthorized use or disclosure, (ii) the confidential information used or disclosed, (iii) who made the unauthorized use or received the unauthorized disclosure, (iv) what Grantee has done or shall do to mitigate any detrimental effect of the unauthorized use or disclosure, and (v) what corrective action Grantee has taken or shall take to prevent future similar unauthorized use or disclosure. Grantee shall provide such other information, including a written report, as DEO's Information Security Manager requests.

In the event of a breach of security concerning confidential personal information involved with this Agreement, Grantee shall comply with s. 501.171, F.S., as applicable. When notification to affected persons is required by statute, Grantee shall provide that notification, but only after receipt of DEO's written approval of the contents of the notice. Defined statutorily, and for purposes of this Agreement, "breach of security" or "breach" means the unauthorized access of data in electronic form containing personal data. Good faith acquisition of personal information by an employee or agent of the Grantee is not a breach, provided the information is not used for a purpose unrelated to the Grantee's obligations under this Agreement or is not subject to further unauthorized use.

## N. PATENTS, COPYRIGHTS, AND ROYALTIES

1. All legal title and every right, interest, claim or demand of any kind, in and to any patent, trademark or copyright, or application for the same, or any other intellectual property right to, the work developed or produced under or in connection with this Agreement, is the exclusive property of DEO to be granted to and vested in the Florida Department of State for the use and benefit of the state; and no person, firm or corporation shall be entitled to use the same without the written consent of the Florida Department of State. Any contribution by the Grantee or its employees, agents or contractors to the creation of such works shall be considered works made for hire by the Grantee for DEO and, upon creation, shall be owned exclusively by DEO. To the extent that any such works may not be considered works made for hire for DEO under applicable law, Grantee agrees, upon creation of such works, to automatically assign to DEO ownership, including copyright interests and any other intellectual property rights therein, without the necessity of any further

consideration.

- 2. If any discovery or invention arises or is developed in the course or as a result of work or services performed with funds from this Agreement, Grantee shall refer the discovery or invention to DEO who will refer it to the Department of State to determine whether patent protection will be sought in the name of the State of Florida.
- 3. Where activities supported by this Agreement produce original writings, sound recordings, pictorial reproductions, drawings or other graphic representations and works of any similar nature, DEO has the right to use, duplicate, and disclose such materials in whole or in part, in any manner, for any purpose whatsoever and to allow others acting on behalf of DEO to do so. Grantee shall give DEO written notice when any books, manuals, films, websites, web elements, electronic information, or other copyrightable materials are produced.
- 4. Notwithstanding any other provisions herein, in accordance with s. 1004.23, F.S., a State University is authorized in its own name to perform all things necessary to secure letters of patent, copyrights, and trademarks on any works it produces. Within 30 calendar days of same, the president of a State University shall report to the Department of State any such university's action taken to secure or exploit such trademarks, copyrights, or patents in accordance with s. 1004.23(6), F.S.

## O. INFORMATION TECHNOLOGY RESOURCE

Grantee shall obtain prior written approval from the appropriate DEO authority before purchasing any Information Technology Resource (ITR) or conducting any activity that will impact DEO's electronic information technology equipment or software, as both terms are defined in DEO Policy Number 5.01, in any way. ITR includes computer hardware, software, networks, devices, connections, applications, and data. Grantee shall contact the DEO Agreement Manager listed herein in writing for the contact information of the appropriate DEO authority for any such ITR purchase approval.

## P. NONEXPENDABLE PROPERTY

- 1. For the requirements of this Nonexpendable Property section of the Agreement, "nonexpendable property" is the same as "property" as defined in s. 273.02, F.S., (equipment, fixtures, and other tangible personal property of a nonconsumable and nonexpendable nature.)
- 2. All nonexpendable property, purchased under this Agreement, shall be listed on the property records of Grantee. Grantee shall inventory annually and maintain accounting records for all nonexpendable property purchased and submit an inventory report to DEO with the final expenditure report. The records shall include, at a minimum, the following information: property tag identification number, description of the item(s), physical location, name, make or manufacturer, year, and/or model, manufacturer's serial number(s), date of acquisition, and the current condition of the item.
- **3.** At no time shall Grantee dispose of nonexpendable property purchased under this Agreement without the written permission of and in accordance with instructions from DEO.
- **4.** Immediately upon discovery, Grantee shall notify DEO, in writing, of any property loss with the date and reason(s) for the loss.
- **5.** Grantee shall be responsible for the correct use of all nonexpendable property Grantee purchases or DEO furnishes under this Agreement.
- **6.** A formal Agreement amendment is required prior to the purchase of any item of nonexpendable property not specifically listed in Attachment 1: Scope of Work.

7. Upon the Expiration Date of this Agreement Grantee is authorized to retain ownership of any nonexpendable property purchased under this Agreement; however, Grantee hereby grants to DEO a right of first refusal in all such property prior to disposition of any such property during its depreciable life, in accordance with the depreciation schedule in use by Grantee, Grantee shall provide written notice of any such planned disposition and await DEO's response prior to disposing of the property. "Disposition" as used herein, shall include, but is not limited to, Grantee no longer using the nonexpendable property for the uses authorized herein; the sale, exchange, transfer, trade-in, or disposal of any such nonexpendable property. DEO, in its sole discretion, may require Grantee to refund to DEO the fair market value of the nonexpendable property at the time of disposition rather than taking possession of the nonexpendable property.

## Q. REQUIREMENTS APPLICABLE TO THE PURCHASE OF OR IMPROVEMENTS TO REAL PROPERTY

In accordance with s. 287.05805, F.S., if funding provided under this Agreement is used for the purchase of or improvements to real property, Grantee shall grant DEO a security interest in the property in the amount of the funding provided by this Agreement for the purchase of or improvements to the real property for five years from the date of purchase or the completion of the improvements or as further required by law.

Upon the Expiration Date of the Agreement, Grantee shall be authorized to retain ownership of the improvements to real property set forth in this Agreement in accordance with the following: Grantee is authorized to retain ownership of the improvements to real property so long as: (1) Grantee is not sold, merged or acquired; (2) the real property subject to the improvements is owned by Grantee; and (3) the real property subject to the improvements is used for the purposes provided in this Agreement. If within five years of the termination of this Agreement, Grantee is unable to satisfy the requirements stated in the immediately preceding sentence, Grantee shall notify DEO in writing of the circumstances that will result in the deficiency upon learning of it, but no later than 30 calendar days prior to the deficiency occurring. In such event, DEO shall have the right, within its sole discretion, to demand reimbursement of part or all of the funding provided to Grantee under this Agreement.

## R. CONSTRUCTION AND INTERPRETATION

The title, section, and paragraph headings in this Agreement are for convenience of reference only and shall not govern or affect the interpretation of any of the terms or provisions of this Agreement. The term "this Agreement" means this Agreement together with all attachments and exhibits hereto, as the same may from time to time be amended, modified, supplemented, or restated in accordance with the terms hereof. The use in this Agreement of the term "including" and other words of similar import mean "including, without limitation" and where specific language is used to clarify by example a general statement contained herein, such specific language shall not be deemed to modify, limit, or restrict in any manner the construction of the general statement to which it relates. The word "or" is not exclusive and the words "herein," "hereof," "hereunder," and other words of similar import refer to this Agreement, including any Exhibits and Attachments, and not to any particular section, subsection, paragraph, subparagraph, or clause contained in this Agreement. As appropriate, the use herein of terms importing the singular shall also include the plural, and vice versa. The reference to an agreement, instrument, or other document means such agreement, instrument, or other document as amended, supplemented, and modified from time to time to the extent permitted by the provisions thereof and the reference to a statute means such statute as amended from time to time and includes any successor legislation thereto and any regulations promulgated thereunder. All references to "\$" shall mean United States dollars. The term "Grantee" includes any person or entity which has been duly authorized to and has the actual authority to act or perform on Grantee's behalf. The term "DEO" includes the State of Florida and any successor office, department, or agency of DEO, and any person or entity which has been duly authorized to and has the actual authority to act or perform on DEO's behalf. The recitals of this Agreement are incorporated herein by reference and shall apply to the terms and provisions of this Agreement and the Parties. Time is of the essence with respect to the performance of all obligations under this Agreement. The

Parties have participated jointly in the negotiation and drafting of this Agreement, and each Party has read and understands this Agreement. In the event an ambiguity or question of intent or interpretation arises, this Agreement shall be construed as if drafted jointly by the Parties, and no presumption or burden of proof shall arise favoring or disfavoring any Party by virtue of the authorship of any of the provisions of this Agreement.

### S. CONFLICT OF INTEREST

This Agreement is subject to chapter 112, F.S. Grantee shall disclose the name of any officer, director, employee, or other agent who is also an employee of the State. Grantee shall also disclose the name of any State employee who owns, directly or indirectly, more than a 5% interest in Grantee or its affiliates.

### T. GRANTEE AS INDEPENDENT CONTRACTOR

Grantee is at all times acting and performing as an independent contractor. DEO has no ability to exercise any control or direction over the methods by which Grantee may perform its work and functions, except as provided herein. Nothing in this Agreement may be understood to constitute a partnership or joint venture between the Parties.

### U. EMPLOYMENT ELIGIBILITY VERIFICATION – E-VERIFY

The Governor of Florida's Executive Order 11-116 requires state agency contracts in excess of a nominal value to expressly require Grantee to: (1) Utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees Grantee hired during the Agreement term; and (2) Include in all subcontracts under this Agreement the requirement that subcontractors performing work or providing services pursuant to this Agreement utilize the E-Verify system to verify the employment eligibility of all new employees subcontractor hired during the term of the Subcontract. The Department of Homeland Security's E-Verify system can be found at:

## https://www.e-verify.gov

If the Grantee does not have an E-Verify MOU in effect, the Grantee must enroll in the E-Verify system prior to hiring any new employee after the effective date of this Agreement.

## V. NOTIFICATION OF INSTANCES OF FRAUD

Upon discovery, Grantee shall report all known or suspected instances of Grantee, or Grantee's agents, contractors or employees, operational fraud or criminal activities to DEO's Agreement Manager in writing within 24 chronological hours.

## W. NON-DISCRIMINATION

Grantee shall not discriminate unlawfully against any individual employed in the performance of this Agreement because of race, religion, color, sex, physical handicap unrelated to such person's ability to engage in this work, national origin, ancestry, or age. Grantee shall provide a harassment-free workplace, with any allegation of harassment to be given priority attention and action.

## X. ASSIGNMENTS

Grantee shall not assign, subcontract, or otherwise transfer its rights, duties, or obligations under this Agreement, by operation of law or otherwise, without the prior written consent of DEO, which consent may be withheld in DEO's sole and absolute discretion. DEO is at all times entitled to assign or transfer its rights, duties, or obligations under this Agreement to another governmental entity in the State of Florida. Any

attempted assignment of this Agreement or any of the rights hereunder by Grantee in violation of this provision shall be void *ab initio*.

## Y. ENTIRE AGREEMENT; SEVERABILITY

This Agreement, and the attachments and exhibits hereto, embodies the entire agreement of the Parties with respect to the subject matter hereof. There are no provisions, terms, conditions, or obligations other than those contained in this Agreement; and this Agreement supersedes all previous communications, representations, or agreements, either verbal or written, between the Parties. If a court of competent jurisdiction voids or holds unenforceable any provision of this Agreement, then that provision shall be enforced only to the extent that it is not in violation of law or is not otherwise unenforceable, and all other provisions shall remain in full force and effect. This Agreement may be executed in counterparts, each of which shall be an original and all of which shall constitute one and the same instrument. If any inconsistencies or conflict between the language of this Agreement and its Attachments arise, then the language of the attachments shall control, but only to the extent of the conflict or inconsistency.

## Z. WAIVER; GOVERNING LAW; ATTORNEYS' FEES, DISPUTE RESOLUTION

- 1. Waiver. No waiver by DEO of any of provision herein shall be effective unless explicitly set forth in writing and signed by DEO. No waiver by DEO may be construed as a waiver of any failure, breach, or default not expressly identified by such written waiver, whether of a similar or different character, and whether occurring before or after that waiver. No failure by DEO to exercise, or delay in exercising, any right, remedy, power or privilege under this Agreement may be construed as a waiver thereof; nor shall any single or partial exercise of any right, remedy, power or privilege hereunder preclude any other or further exercise thereof or the exercise of any other right, remedy, power or privilege. The rights and remedies set forth herein are cumulative and not exclusive.
- 2. Governing Law. The laws of the State of Florida shall govern the construction, enforcement, and interpretation of this Agreement, regardless of and without reference to whether any applicable conflicts of laws principles may point to the application of the laws of another jurisdiction. The Parties expressly consent to exclusive jurisdiction and venue in any state court located in Leon County, Florida, and waive any defense of forum non conveniens, lack of personal jurisdiction, or like defense. IN ANY LEGAL OR EQUITABLE ACTION BETWEEN THE PARTIES, THE PARTIES HEREBY EXPRESSLY WAIVE TRIAL BY JURY TO THE FULLEST EXTENT PERMITTED BY LAW.
- **3. Attorneys' Fees, Expenses.** Except as set forth otherwise herein, each of the Parties shall pay its own attorneys' fees and costs in connection with the execution and delivery of this Agreement and the transactions contemplated hereby.
- **4.** DEO shall decide disputes concerning the performance of the Agreement, and DEO shall serve written notice of same to Grantee. DEO's decision shall be final and conclusive unless within 21 calendar days from the date of receipt, Grantee files with DEO a petition for administrative hearing. DEO's final order on the petition shall be final, subject to any right of Grantee to judicial review pursuant to chapter 120.68, F.S. Exhaustion of administrative remedies is an absolute condition precedent to Grantee's ability to pursue any other form of dispute resolution; provided however, that the Parties may employ the alternative dispute resolution procedures outlined in chapter 120, F.S.

#### AA. INDEMNIFICATION

If Grantee is a state agency or subdivision, as defined in s. 768.28(2), F.S., pursuant to s. 768.28(19), F.S., neither Party indemnifies nor insures or assumes any liability for the other Party for the other Party's negligence.

- 1. Grantee shall be fully liable for the actions of its agents, employees, partners, or subcontractors and shall fully indemnify, defend, and hold harmless the State and DEO, and their officers, agents, and employees, from suits, actions, damages, and costs of every name and description, including attorneys' fees, arising from or relating to personal injury and damage to real or personal tangible property alleged to be caused in whole or in part by Grantee, its agents, employees, partners, or subcontractors; provided, however, that Grantee shall not indemnify, defend, and hold harmless the State and DEO, and their officers, agents, and employees for that portion of any loss or damages the negligent act or omission of DEO or the State proximately caused.
- 2. Further, Grantee shall fully indemnify, defend, and hold harmless the State and DEO from any suits, actions, damages, and costs of every name and description, including attorneys' fees, arising from or relating to violation or infringement of a trademark, copyright, patent, trade secret or intellectual property right; provided, however, that the foregoing obligation shall not apply to DEO's misuse or modification of Grantee's products or DEO's operation or use of Grantee's products in a manner not contemplated by this Agreement. If any product is the subject of an infringement suit, or in Grantee's opinion is likely to become the subject of such a suit, Grantee may, at Grantee's sole expense, procure for DEO the right to continue using the product or to modify it to become non-infringing. If Grantee is not reasonably able to modify or otherwise secure for DEO the right to continue using the product, Grantee shall remove the product and refund DEO the amounts paid in excess of a reasonable fee, as determined by DEO in its sole and absolute discretion, for past use. DEO shall not be liable for any royalties.
- 3. Grantee's obligations under the two immediately preceding paragraphs above, with respect to any legal action are contingent upon the State or DEO giving Grantee (1) written notice of any action or threatened action, (2) the opportunity to take over and settle or defend any such action at Grantee's sole expense, and (3) assistance in defending the action at Grantee's sole expense. Grantee shall not be liable for any cost, expense, or compromise incurred or made by the State or DEO in any legal action without Grantee's prior written consent, which shall not be unreasonably withheld.
- 4. The State and DEO may, in addition to other remedies available to them at law or equity and upon notice to Grantee, retain such monies from amounts due Grantee as may be necessary to satisfy any claim for damages, penalties, costs and the like asserted by or against them. The State may set off any liability or other obligation of Grantee or its affiliates to the State against any payments due Grantee under any Agreement with the State.

### BB. CONTACT INFORMATION FOR GRANTEE AND DEO CONTACTS

- ·· · · · · · · · · · · · · · · · · ·	
Columbia County	David Kraus Assistant County Manager
P. O. Box 1529	P. O. Box 1529
Lake City, Florida 32056-1529	Lake City, Florida 32056-1529
Telephone No. (386)758-1178	Telephone No. (386)758-1178
Email: david_kraus@columbiacountyfla.com	Email: david_kraus@columbiacountyfla.com

Grantee's Agreement Manager:

Grantee's Pavee:

### **DEO's Agreement Manager:**

Robin Liford,
Government Operations Consultant II
107 E. Madison Street, Caldwell Building
Tallahassee, FL 32399
Phone: (850)717-8481
Email: Robin.Liford@deo.myflorida.com

### CC. NOTICES

The Parties' respective contact information is set forth in the immediately preceding paragraph, and may be subject to change at the Parties' discretion. If the contact information changes, the Party making such change will notify the other Party in writing. Where the term "written notice" is used to specify a notice requirement herein, said notice shall be deemed to have been given (i) when personally delivered; (ii) when transmitted via email, if the sender on the same day sends a confirming copy of such notice by certified or registered mail; (iii) the next business day following the day on which the same has been delivered prepaid to a recognized overnight delivery service; or (iv) the third business day following the day on which the same is sent by certified or registered mail, postage prepaid, with return receipt.

[Rest of page left intentionally blank; Attachments to follow after signature page]

**IN WITNESS THEREOF**, and in consideration of the mutual covenants set forth above and in all attachments hereto, the Parties, through their duly-authorized representatives, sign this Agreement and represent and warrant that they understand the Agreement and Attachments' terms and conditions as of the Effective Date.

	DEPARTMENT OF ECONOMIC OPPORTUNITY		COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS		
Ву	Signature	Ву	Signature		
	Brian McManus				
Title	Chief of Staff	Title	Toby Witt Chairman		
Date		Date			
o full a	red as to form and legal sufficiency, subjected and proper execution by the Parties.	ct only			
	CE OF GENERAL COUNSEL RTMENT OF ECONOMIC OPPORTU	NITY			
Ву:					
Approv	ved Date:				

### ATTACHMENT 1 SCOPE OF WORK

# 1. PROJECT DESCRIPTION:

Section 288.0655, Florida Statutes ("F.S."), created the Rural Infrastructure Fund (RIF) to facilitate the planning, preparing, and financing of infrastructure projects in rural communities which will encourage job creation, capital investment, and strengthening and diversification of rural economies by promoting tourism, trade, and economic development.

Section 288.0655(2)(c) provides that DEO may award grants for infrastructure feasibility studies, design and engineering activities, or other infrastructure planning and preparation activities in order to facilitate timely response and induce the location or expansion of specific job creating opportunities in rural communities.

The funds will be used to pay for a 6" natural gas main loop that will serve the existing businesses and new businesses along the Bell Road Corridor.

- **2. GRANTEE RESPONSIBILITIES**: Grantee shall, in addition to all other requirements set forth in the Agreement and this Scope of Work, perform the following tasks:
- A. Natural Gas Utilities: Public Infrastructure Improvements to include the installation of a 6" natural gas main loop along Bell Street and CR25A.
  - i. Equipment Mobilization;
  - ii. Maintenance of traffic to support natural gas main installation;
  - iii. Clearing, Grubbing, and Seeding/Sodding
  - iv. Installation of 6" natural gas main along Bell Street and CR25A. This work shall include trenching or boring, pipe installation, valves, fittings, regulators, and backfilling;
  - v. Connections to the City of Lake City municipal gas utility at Bell Street and at CR 25A as well as to site of Werner Enterprises; and
  - vi. Construction inspection and review of contractor's work.
- 3. **DEO'S RESPONSIBILITIES:** Throughout the term of this agreement, DEO shall:
  - A. Monitor the ongoing activities and progress of Grantee, as DEO deems necessary, to verify that all activities are being performed in accordance with the Agreement;
  - B. Perform Agreement management responsibilities as stated herein;
  - C. Reply to reasonable inquiries pursuant to the Agreement;
  - D. Review Grantee's invoices for accuracy and thoroughness, and if accepted, process invoices on a timely basis; and
  - E. Maintain paper or electronic copies of all documents submitted pursuant to Sections 5 and 6 of this Scope of Work.

### 4. **DELIVERABLES:**

Grantee agrees to provide the following services as specified:

Deliverable No. 1 – Public Infrastructure Improvements				
Tasks	Minimum Level of	Financial Consequences		
	Service	_		
100% Completion of the Public Infrastructure	Grantee may be allowed	Failure to complete the		
Improvements consisting of the construction of	reimbursement upon 20%,	minimum performance		
a 6-inch natural gas main loop and	40%, 60%, 80%, and 100%	measures as specified shall		
appurtenances and inspections, as defined in	completion of the	result in non-payment.		
Section 2, of this Scope of Work.	deliverable as evidenced by			
	submission of the	DEO shall withhold 20% of the		
	following:	total Agreement amount and		
		will not process payment for the		
	1) Invoice package as	final invoice until Recipient		
	defined in Section 6 of this	provides proof to DEO, and		
	Scope of Work.	DEO accepts, that the Project is		
	2) Signed Statement from a	100% complete.		
	licensed engineer and/or			
	contractor certifying that all			
	work for which			
	reimbursement is sought is			
	complete.			
		<b>Deliverable 1 - \$500,000</b>		

#### 5. REPORTING:

- 5.1 Quarterly: Grantee shall provide a quarterly report listing all progress relating to the Deliverables in Section 4. Quarterly reports are due to DEO within 30 calendar days after the end of each quarter, until submission of the final invoice package. The ending dates for each quarter of the program year are September 30, December 31, March 31, and June 30. The quarterly report shall include a summary of project progress, indicating percentage of completion of each Deliverable, the Minority and Service-Disabled Veteran Business Enterprise Report, and all additional reports which are required pursuant to this Agreement, including but not limited to, reports documenting the positive return on investment to the State that results from Grantee's project and its use of Award Funds. The summary shall also include any issues or events occurring which affect the ability of the Grantee to meet the terms of this Agreement. If all required reports and copies are not sent to DEO or are not completed in a manner acceptable to DEO, payments may be withheld until the reports are properly completed or otherwise allowable by law.
- 5.2 Minority and Service-Disabled Veteran Business Enterprise Report: Quarterly, Grantee shall provide a Minority and Service-Disabled Veteran Business Enterprise Report for each invoice period summarizing the participation of certified and non-certified minority and service-disabled veteran subcontractors and material suppliers for that period and the project to date. Grantee shall include the names, addresses, and dollar amount of each certified and non-certified Minority Business Enterprise and Service-Disabled Veteran Enterprise participant. DEO's Minority Coordinator can be reached at (850) 245-7471 to answer concerns and questions.
- **5.3** <u>Close-out Report</u>: No later than 60 calendar days after the Agreement ends or is terminated, Grantee shall provide copies of all paid invoices to document completed work.
- 6. INVOICE SUBMITTAL AND PAYMENT SCHEDULE: DEO shall pay Grantee in accordance with the following schedule in the amount identified per deliverable in Section 4 above. The deliverable amount specified does not establish the value of the deliverable. In accordance with the requirements of s. 215.971(1), F.S., and the Audit Requirements and Compliance section of this Agreement, Grantee and its

subcontractors may only expend funding under this Agreement for allowable costs resulting from obligations incurred during the Agreement period.

- Grantee may provide one invoice per month for all services rendered during the applicable period. Grantee shall submit invoices as set forth below to be eligible to receive and retain payment for the performance of duties and completion of deliverables set forth above. Grantee shall submit all documentation necessary to support Grantee's expenditures. DEO may request any information from Grantee that DEO deems necessary to verify that Grantee has performed the services for which payment is requested. Grantee's submission of each invoice package is Grantee's certification that it has performed the services and incurred the costs in compliance with all applicable laws and the terms of this Agreement. Grantee will provide invoices in accordance with the requirements of the Reference Guide for State Expenditures available at: <a href="https://www.myfloridacfo.com/Division/AA/Manuals/documents/ReferenceGuideforStateExpenditures.pdf">https://www.myfloridacfo.com/Division/AA/Manuals/documents/ReferenceGuideforStateExpenditures.pdf</a>. Invoices must be legible and must clearly reflect the performance for which payment is sought. Payment does not become due under this Agreement until DEO accepts and approves the invoiced deliverable(s) and any required report(s). At DEO's option, Grantee may submit invoices electronically. Grantee shall submit its final invoice for payment to DEO no later than 60 days after this Agreement ends and DEO may, at DEO's sole and absolute discretion, refuse to honor any requests for payment submitted after this deadline.
- **6.2** Invoices must contain the Grantee's name, address, federal employer identification number or other applicable Grantee identification number, the Agreement number, the invoice number, and the invoice period. Grantee shall submit the following documents with the itemized invoice:
- **6.2.1** A cover letter signed by the Grantee's Agreement Manager certifying that the costs being claimed in the invoice package: (1) are for one or more of the components as stated in Section 4, Deliverables, of this Scope of Work; (2) have been paid; and (3) were incurred during the Agreement period.
- **6.2.2** Grantee's invoices shall include the date, period in which work was performed, amount of reimbursement, and work completed to date;
- **6.2.3** A certification by a licensed engineer using AIA forms G702 and G703, or their substantive equivalents, certifying that the project, or a quantifiable portion of the project, is complete.
  - **6.2.4** Before and after photographs of the completed work;
  - **6.2.5** A copy of all supporting documentation for vendor payments;
  - **6.2.6** A copy of the cancelled check(s) specific to the project; and
  - **6.2.7** A copy of the bank statement that includes the cancelled check.
- **6.3** The State may require any other information from Grantee that the State deems necessary to verify that the services have been rendered under the Agreement.
- **6.4** All documentation necessary to support payment requests must be submitted with Grantee's invoice for DEO's review.
- 7. FINANCIAL CONSEQUENCES FOR FAILURE TO TIMELY AND SATISFACTORILY PERFORM: Failure to complete all deliverables in accordance with the requirements of this Agreement, and most particularly the deliverables specified above in Section 4, Deliverables, will result in DEO's assessment of the specified financial consequences. If appropriate, should the Parties agree to a corrective action plan, the plan shall specify additional financial consequences to be applied after the effective date of the corrective action

plan. This provision for financial consequences shall in no manner affect DEO's right to terminate the Agreement as provided elsewhere in the Agreement.

- End of Attachment 1 (Scope of Work) -

# Attachment 2 AUDIT REQUIREMENTS

The administration of resources awarded by DEO to the recipient (herein otherwise referred to as "Grantee") may be subject to audits and/or monitoring by DEO as described in this Attachment 2.

MONITORING. In addition to reviews of audits conducted in accordance with 2 CFR 200, Subpart F-Audit Requirements, and section 215.97, Florida Statutes (F.S.), as revised (see AUDITS below), monitoring procedures may include, but not be limited to, on-site visits by DEO staff, limited scope audits as defined by 2 CFR §200.425, or other procedures. By entering into this agreement, the recipient agrees to comply and cooperate with any monitoring procedures or processes deemed appropriate by DEO. In the event the DEO determines that a limited scope audit of the recipient is appropriate, the recipient agrees to comply with any additional instructions provided by DEO staff to the recipient regarding such audit. The recipient further agrees to comply and cooperate with any inspections, reviews, investigations, or audits deemed necessary by the Chief Financial Officer (CFO) or Auditor General.

### AUDITS.

**PART I: FEDERALLY FUNDED.** This part is applicable if the recipient is a state or local government or a nonprofit organization as defined in 2 CFR \$200.90, \$200.64, and \$200.70.

- 1. A recipient that expends \$750,000 or more in federal awards in its fiscal year must have a single or program-specific audit conducted in accordance with the provisions of 2 CFR 200, Subpart F Audit Requirements. EXHIBIT 1 to this form lists the federal resources awarded through DEO by this agreement. In determining the federal awards expended in its fiscal year, the recipient shall consider all sources of federal awards, including federal resources received from DEO. The determination of amounts of federal awards expended should be in accordance with the guidelines established in 2 CFR §200.502-503. An audit of the recipient conducted by the Auditor General in accordance with the provisions of 2 CFR §200.514 will meet the requirements of this Part.
- 2. For the audit requirements addressed in Part I, paragraph 1, the recipient shall fulfill the requirements relative to audite responsibilities as provided in 2 CFR \\$200.508-512.
- 3. A recipient that expends less than \$750,000 in federal awards in its fiscal year is not required to have an audit conducted in accordance with the provisions of 2 CFR 200, Subpart F Audit Requirements. If the recipient expends less than \$750,000 in federal awards in its fiscal year and elects to have an audit conducted in accordance with the provisions of 2 CFR 200, Subpart F Audit Requirements, the cost of the audit must be paid from non-federal resources (i.e., the cost of such an audit must be paid from recipient resources obtained from other than federal entities).

**PART II: STATE FUNDED**. This part is applicable if the recipient is a nonstate entity as defined by Section 215.97(2), Florida Statutes.

1. In the event that the recipient expends a total amount of state financial assistance equal to or in excess of \$750,000 in any fiscal year of such recipient (for fiscal years ending June 30, 2017, and thereafter), the recipient must have a state single or project-specific audit for such fiscal year in accordance with section 215.97, F.S.; Rule Chapter 69I-5, F.A.C., State Financial Assistance; and Chapters 10.550 (local governmental entities) and 10.650 (nonprofit and for-profit organizations), Rules of the Auditor General. EXHIBIT 1 to this form lists the state financial assistance awarded through DEO by this agreement. In determining the state financial assistance expended in its fiscal year, the recipient shall consider all sources of state financial assistance, including state financial assistance received

- from DEO, other state agencies, and other nonstate entities. State financial assistance does not include federal direct or pass-through awards and resources received by a nonstate entity for federal program matching requirements.
- 2. For the audit requirements addressed in Part II, paragraph 1, the recipient shall ensure that the audit complies with the requirements of section 215.97(8), F.S. This includes submission of a financial reporting package as defined by section 215.97(2), F.S., and Chapters 10.550 (local governmental entities) and 10.650 (nonprofit and for-profit organizations), Rules of the Auditor General.
- 3. If the recipient expends less than \$750,000 in state financial assistance in its fiscal year (for fiscal years ending June 30, 2017, and thereafter), an audit conducted in accordance with the provisions of section 215.97, F.S., is not required. If the recipient expends less than \$750,000 in state financial assistance in its fiscal year and elects to have an audit conducted in accordance with the provisions of section 215.97, F.S., the cost of the audit must be paid from the nonstate entity's resources (i.e., the cost of such an audit must be paid from the recipient's resources obtained from other than state entities).

## PART III: OTHER AUDIT REQUIREMENTS.

(NOTE: This part would be used to specify any additional audit requirements imposed by the State awarding entity that are solely a matter of that State awarding entity's policy (i.e., the audit is not required by Federal or State laws and is not in conflict with other Federal or State audit requirements). Pursuant to Section 215.97(8), Florida Statutes, State agencies may conduct or arrange for audits of state financial assistance that are in addition to audits conducted in accordance with Section 215.97, Florida Statutes. In such an event, the State awarding agency must arrange for funding the full cost of such additional audits.)

"N/A"

### PART IV: REPORT SUBMISSION.

1. Copies of reporting packages for audits conducted in accordance with 2 CFR 200, Subpart F - Audit Requirements, and required by Part I of this form shall be submitted, when required by 2 CFR §200.512, by or on behalf of the recipient directly to the Federal Audit Clearinghouse (FAC) as provided in 2 CFR §200.36 and §200.512.

The FAC's website provides a data entry system and required forms for submitting the single audit reporting package. Updates to the location of the FAC and data entry system may be found at the OMB website.

- 2 Copies of financial reporting packages required by Part II of this form shall be submitted by or on behalf of the recipient <u>directly</u> to each of the following:
  - a. DEO at each of the following addresses:

Electronic copies (preferred): Audit@deo.myflorida.com

or Paper (hard copy):

Department Economic Opportunity MSC # 130, Caldwell Building 107 East Madison Street Tallahassee, FL 32399-4126

b. The Auditor General's Office at the following address:

Auditor General Local Government Audits/342 Claude Pepper Building, Room

Page 21 of 24

401 111 West Madison Street Tallahassee, Florida 32399-1450

The Auditor General's website (https://flauditor.gov/) provides instructions for filing an electronic copy of a financial reporting package.

**3.** Copies of reports or the management letter required by Part III of this form shall be submitted by or on behalf of the recipient <u>directly</u> to:

Electronic copies (preferred): Audit@deo.myflorida.com

or Paper (hard copy):

Department Economic Opportunity MSC # 130, Caldwell Building 107 East Madison Street Tallahassee, FL. 32399-4126

- 4. Any reports, management letters, or other information required to be submitted DEO pursuant to this agreement shall be submitted timely in accordance with 2 CFR §200.512, section 215.97, F.S., and Chapters 10.550 (local governmental entities) and 10.650 (nonprofit and for-profit organizations), Rules of the Auditor General, as applicable.
- 5. Recipients, when submitting financial reporting packages to DEO for audits done in accordance with 2 CFR 200, Subpart F Audit Requirements, or Chapters 10.550 (local governmental entities) and 10.650 (nonprofit and for-profit organizations), Rules of the Auditor General, should indicate the date that the reporting package was delivered to the recipient in correspondence accompanying the reporting package.

**PART V: RECORD RETENTION.** The recipient shall retain sufficient records demonstrating its compliance with the terms of this Agreement for a period of five (5) years from the date the audit report is issued, or five (5) state fiscal years after all reporting requirements are satisfied and final payments have been received, whichever period is longer, and shall allow DEO, or its designee, CFO, or Auditor General access to such records upon request. The recipient shall ensure that audit working papers are made available to DEO, or its designee, CFO, or Auditor General upon request for a period of five (5) years from the date the audit report is issued, unless extended in writing by DEO. In addition, if any litigation, claim, negotiation, audit, or other action involving the records has been started prior to the expiration of the controlling period as identified above, the records shall be retained until completion of the action and resolution of all issues which arise from it, or until the end of the controlling period as identified above, whichever is longer.

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### **EXHIBIT 1 to Attachment 2**

# STATE RESOURCES AWARDED TO THE RECIPIENT PURSUANT TO THIS AGREEMENT CONSIST OF THE FOLLOWING:

## **SUBJECT TO SECTION 215.97, FLORIDA STATUTES:**

State Project: **Department of Economic Opportunity** 

CSFA: 40.042

Rural Infrastructure Fund

\$500,000.00

# COMPLIANCE REQUIREMENTS APPLICABLE TO STATE RESOURCES AWARDED PURSUANT TO THIS AGREEMENT ARE AS FOLLOWS:

- 1. All requirements of this Agreement.
- 2. Please also note that the total amount of the rural infrastructure fund ware under this agreement is limited to \$500,000.00, or thirty percent of the total infrastructure project cost, whichever is less, in accordance with Section 288.0655 (2)(b), Florida Statutes.

NOTE: List applicable compliance requirements

NOTE: 2 CFR § 200.331, as revised, and s. 215.97(5), F.S., require that the information about Federal Programs and State Projects included in Exhibit 1 be provided to the recipient.

- Remainder of Page Intentionally Left Blank -

# Attachment 3

# AUDIT COMPLIANCE CERTIFICATION

Grantee Name:	
FEIN:	
Grantee's Fiscal Year:	
Contact Person Name and Phone Number:	
Contact Person Email Address:	
Did Grantee expend state financial assistance, during its fis agreement, grant, memorandum of agreement, memorand agreement, etc.) between Grantee and the Department of No	dum of understanding, economic incentive award
If the above answer is yes, also answer the following before	e proceeding to item 2:
Did Grantee expend \$750,000 or more of state financial as financial assistance combined) during its fiscal year?	
If yes, Grantee certifies that it will timely comply wit audit requirements of s. 215.97, Florida Statutes, as Financial Services and the Auditor General.	
Did Grantee expend federal awards, during its fiscal year th grant, memorandum of agreement, memorandum of unders between Grantee and DEO?Yes No	
If the above answer is yes, also answer the following before	e proceeding to execution of this certification:
Did Grantee expend \$750,000 or more in federal awards (combined) during its fiscal year? Yes No	from DEO and all other sources of federal awards
If yes, Grantee certifies that it will timely comply with requirements of 2 CFR Part 200, Subpart F, as revised.	
By signing below, I certify, on behalf of Grantee, that true and correct.	the above representations for items 1 and 2 are
Signature of Authorized Representative	Date
Printed Name of Authorized Representative	Title of Authorized Representative

Page **24** of **24** 



# COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS AGENDA ITEM REQUEST FORM

The Board of County Commissioners meets the 1st and 3rd Thursday of each month at 5:30 p.m. in the Columbia County School Board Administrative Complex Auditorium, 372 West Duval Street, Lake City, Florida 32055. All agenda items are due in the Board's office one week prior to the meeting date.

Today's Date: April 14, 2020	Meeting Date: May 7, 2020
Name: Kevin Kirby	Department: Public Works
Division Manager's Signature:	Scatt
1. Nature and purpose of agenda item:	
Approve FDOC contract from October 25, crews in the amount of \$172,491.	2020 through October 24, 2021 to support (3) inmate maintenance
2. Recommended Motion/Action:	
Approve	
O. E's and 'source of any assumption for the stand	

3. Fiscal impact on current budget.

This item has no effect on the current budget.

District No. 1 - Ronald Williams

District No. 2 - Rocky Ford

District No. 3 - Bucky Nash

District No. 4 - Toby Witt

District No. 5 - Tim Murphy



# BOARD OF COUNTY COMMISSIONERS • COLUMBIA COUNTY

## MEMORANDUM

TO: Ben Scott, County Manager

FROM: Kevin Kirby, Assistant County Manager

DATE: April 13, 2020

RE: Department of Corrections Contract Renewal

Attached please find the renewal contract for October 25, 2020 through October 24,2021. The contract amount is \$172,491 to support (3) inmate maintenance crews.

Once the contract is signed and returned it will be converted to a final copy and signed by FDOC. A fully executed copy will then be returned to Columbia County Board of County Commissioners.

If you should need any additional information, please contact me.

#### CONTRACT BETWEEN

#### THE FLORIDA DEPARTMENT OF CORRECTIONS

#### AND

### COLUMBIA COUNTY, BOARD OF COUNTY COMMISSIONERS

This is an Amendment to the Contract between the Florida Department of Corrections ("Department") and the Columbia County, Board of County Commissioners ("Agency"), to provide for the use of inmate labor in work programs.

### This Amendment:

- Renews the Contract for one (1) year pursuant to Section I., B., Contract Renewal, and revises Section I., A., Contract Term. The Department is exercising its final renewal option;
- Revises Section III., C., Submission of Invoice(s);
- Revises Section IV., C., Agency's Representative;
- Adds Section VII., L., Cooperation with the Florida Senate and the Florida House of Representatives; and
- Revises Revised Addendum A, third line.

Original Contract Term: October 25, 2017 through October 24, 2018 Amendment #1: October 22, 2018 through October 24, 2019

Amendment #2:

August 9, 2019 through October 24, 2020

In accordance with Section V., CONTRACT MODIFICATIONS, the following changes are hereby made:

- 1. Section I., A., Contract Term is hereby revised to read:
  - I. A. Contract Term

This Contract began on October 25, 2017 shall end on October 24, 2021.

- 2. Section III., C., Submission of Invoice(s), is hereby revised to read:
  - III. C. Submission of Invoice(s)

The name, address, and phone number of the Agency's official representative to whom invoices shall be submitted is:

Charyll Bradley Columbia County Public Works 607 NW Quinten Street Lake City, FL 32055 Telephone: (386) 719-7565

Fax: (386) 758-2148

Email: Charyll bradley@columbiacountyfla.com

- 3. Section IV., C., Agency's Representative, is hereby revised to read:
  - IV. C. Agency's Representative

The name, address, and telephone number of the Agency's Representative is:

Charyll Bradley Columbia County Public Works 607 NW Quinten Street Lake City, FL 32055 Telephone: (386) 719-7565 Fax: (386) 758-2148

Email: Charyll bradley@columbiacountyfla.com

- 4. Section VII., L., Cooperation with the Florida Senate and the Florida House of Representatives, is hereby added:
  - VII. L. Cooperation with the Florida Senate and the Florida House of Representatives

In accordance with Florida law, the Agency agrees to disclose any requested information, relevant to the performance of this Contract, to members or staff of the Florida Senate or the Florida House of Representatives, as required by the Florida Legislature. The Agency is strictly prohibited from enforcing any nondisclosure clauses conflictive with this requirement.

5. Revised Addendum A, third line, is hereby revised to read:

Interagency Contract Number W1115, Amendment #3 effective October 25, 2020.

### REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK

# CONTRACT #W1115 AMENDMENT #3

All other terms and conditions of the original Contract and any previous amendments remain in full force and effect.

This Amendment shall begin on the last date of signature by all parties.

\_\_\_\_\_DATE:

AGENCY: COLUMBIA COUNTY, BOARD OF

DATE:

IN WITNESS THEREOF, the parties hereto have caused this Amendment to be executed by their undersigned officials as duly authorized.

# **COUNTY COMMISSIONERS SIGNED** BY: NAME: TITLE: DATE: FEIN: FLORIDA DEPARTMENT OF CORRECTIONS Approved as to form and legality, subject to execution. **SIGNED SIGNED** BY: BY: \_\_\_\_\_NAME: Kenneth S. Steely NAME: Kasey A. Bickley General Counsel TITLE: Chief, Bureau of Procurement TITLE:

# Revised Addendum A

Inmate Work Squad Detail of Costs for Columbia County, Board of County Commissioners
Interagency Contract Number W1115, Amendment #3 effective October 25, 2020

	nteragency Contract Number	er W1115,	Amendment	#3 effecti	<u>ve C</u>	ctober 2	5, 202	20
***ENTER MULTIPLIERS IN	SHADED BOXES <u>ONLY</u> IF TO BE	INVOICED	TO AGENCY***	*	Pe	er Officer		Total
					An	inual Cost	/	Annual Cost
I. CORRECTIONAL WORK S TO BE REIMBURSED BY	GUAD OFFICER SALARIES ANI THE AGENCY:	POSITION	RELATED-EXP	PENSES		· · · · · · · · · · · · · · · · · · ·	_	
	Officers Salary	# Officer:	Multiplier	3	\$	54,194.00	** \$	162,582.00
	Salary Incentive Payment		·		\$	1,128.00	\$	3,384.00
	Repair and Maintenance				\$	121.00	\$	363.00
	State Personnel Assessment				\$	354.00	\$	1,062.00
	Training/Criminal Justice Standa	ards			\$	200.00	\$	600.00
	Uniform Purchase				\$	400.00	\$	1,200.00
	Uniform Maintenance				\$	350.00	\$	1,050.00
	Training/Criminal Justice Standa	ards *			\$	2,225.00		'
	TOTAL - To Be Billed By Cor	itract To Ag	ency	,	\$	58,972.00	\$	170,241.00
IA	. The Overtime Hourly Rate of Com Rate of Compensation shall include package provided by the departmen	the average I	ourly rate of pay	for a Correcti	onal (	Officer and the of this Contra	ne ave	rage benefit
						lumber		Total
II ADMINISTRATIVE COCTO	TO DE DEIMBURGED DY THE					Squads	Α	nnual Cost
II. ADMINISTRATIVE COSTS	TO BE REIMBURSED BY THE A Costs include but may not be lim Rain coats, staff high visibility sa safety vest, fire extinguisher, first cuffs, warning signs, handcuffs, I repellants, masks, vaccinations,	ited to the fo fety vest, inr t aid kit, pers gloo coolers	nate high visibili onal protection l , portable toilets	kit, flex , insect		3	\$	2,250.00
	TOTAL - To Be Billed By Contr	act To Agen	су				\$	2,250.00
III. ADDITIONAL AGENCY EX	(PENSES: Tools, equipment, materials and are to be provided by the Agency	supplies not	listed in Section	n II above				
CELLULAR PHONE WITH ENCLOSED TRAILER RE		YES 🗔 YES 🗍	NO X					

#### Revised Addendum A

# Inmate Work Squad Detail of Costs for Columbia County, Board of County Commissioners Interagency Contract Number W1115, Amendment #3 effective October 25, 2020

IV. OPERATING CAPITAL TO BE ADVANCED BY AGENCY:  Hand Held Radio  Vehicle Mounted Radio  MACOM \$4969.00  MACOM \$5400.00  TOTAL Operating Capital To Be Advanced By Agency	Total Cost Bill To Provided Already Agency By Agency Exists  - \$ - \$ - \$ -
<ul> <li>V. TOTAL COSTS TO BE ADVANCED BY AGENCY:</li> <li>1. Operating Capital - from Section IV.</li> <li>2. Grand Total - To Be Advanced By Agency At Contract Signing:</li> </ul>	Total Cost \$0.00 \$0.00
<ol> <li>VI. TOTAL COSTS TO BE BILLED TO AGENCY BY CONTRACT:</li> <li>Correctional Officer Salaries and Position-Related Expenses - from Section I.</li> <li>Other Related Expenses and Security Supplies - from Section II.</li> <li>Grand Total - To Be Billed To Agency By Contract:</li> </ol>	Total Cost \$170,241.00 \$2,250.00 \$172,491.00
VII. TOTAL OF ALL COSTS ASSOCIATED WITH CONTRACT:  (Total of Sections V. and VI.)	\$172,491.00

### VIII. OVERTIME COSTS:

If the contracting Agency requests overtime for the work squad which is approved by the Department, the contracting Agency agrees to pay such costs and will be billed separately by the Department for the cost of overtime.

### Revised Addendum A - INSTRUCTIONS

# Inmate Work Squad Detail of Costs for Columbia County, Board of County Commissioners Interagency Contract Number W1115, Amendment #3 effective October 25, 2020

Section I.

Costs in this section are determined each fiscal year by the Budget and Management Evaluation Bureau and are fixed. By entering the number of Officers required for this contract, the spreadsheet will automatically calculate the "Total Annual Cost" column. If this Work Squad is beyond the first year of existence, enter a zero (0) in the "Total Annual Cost" column for "Training/Criminal Justice Standards" after you have entered the "# Officers Multiplier".

Section II.

Safety and environmental health procedures require safety measures such as the use of safety signs, vests, and clothing. The Department's procedure for Outside Work Squads requires that all Work Squad Officers be responsible for ensuring their squad is equipped with a first aid kit and a personal protection equipment (PPE) kit. Section II identifies such required equipment. A new squad must be sufficiently equipped and an on-going squad must be re-supplied when needed. Type in the number of squads used for this contract and the spreadsheet will automatically calculate the fixed annual expense of \$750.00 per squad and place the total in Section VI.

Section III.

Check "Yes" or "No" to indicate whether a Cellular Phone with Service and/or an Enclosed Trailer is required by the Contract Manager.

Section IV.

The Department's procedure for Outside Work Squads requires that they have at least one (1) primary means of direct communication with the Institution's Control Room. Communication via radio and/or cellular phone is appropriate. It is preferred that a backup, secondary means of communication also be available. It is the Agency's responsibility to provide them. If the Department purchases a radio(s), the Agency must fund the purchase at the time the Contract is signed. Check the box for the type of radio and fill in the Per Unit Cost for the type of radio, Number of Units, and Total Cost columns. Leave the Total Cost column blank if a radio(s) is not being purchased at this time. Check applicable boxes ("Bill to Agency", "Provided by Agency" and "Already Exists") for each radio.

**NOTE**: All radio communication equipment owned or purchased by the Agency that is programmed to the Department's radio frequency and used by the work squad(s), whether purchased by the Department or the Agency, shall be IMMEDIATELY deprogrammed by the Department at no cost to the Agency upon the end or termination of this Contract.

Section V.

The total funds the Agency must provide at the time the contract is signed will be displayed here when the form is properly filled out.

Section VI.

The total funds the Agency will owe contractually, and pay in equal quarterly payments, will be displayed here.

Section VII.

The total funds associated with the Contract, to be paid by the Agency as indicated in Sections V. and VI., will be displayed here.

Section VIII.

Any agreement in this area will be billed separately as charges are incurred.



# COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS AGENDA ITEM REQUEST FORM

The Board of County Commissioners meets the 1st and 3rd Thursday of each month at 5:30 p.m. in the Columbia County School Board Administrative Complex Auditorium, 372 West Duval Street, Lake City, Florida 32055. All agenda items are due in the Board's office one week prior to the meeting date.

Today's Date: April 28, 2020	Meeting Date:	May 7, 2020
Name: Kevin Kirby	Department:	Public Works
Division Manager's Signature:	-	
1. Nature and purpose of agenda item:		
Approval to add SW Erin Glen, SW Ainsley Gle projects in the amount of	n, SW Beasley	Court to the 2020-2021 fiscal year resurfacing
2. Recommended Motion/Action:		
Approve		

3. Fiscal impact on current budget.

This item is currently budgeted. The account number to be charged is 30380825413046

District No. 1 - Ronald Williams
District No. 2 - Rocky Ford

District No. 3 - Bucky Nash District No. 4 - Toby Witt

District No. 5 - Tim Murphy



# BOARD OF COUNTY COMMISSIONERS • COLUMBIA COUNTY

## MEMORANDUM

TO: Ben Scott, County Manager

FROM: Kevin Kirby, Assistant County Manager

DATE: April 14, 2020

RE: SW Erin Glen, SW Ainsley Glen, SW Beasley Court

At the November 7, 2019 Board of County Commissioners meeting, SW Wester, SW Finley Little, and SW Meadow Terr. was recommended and approved for the 2020 fiscal year annual resurfacing. At that time, an estimated budget for these projects were submitted in the amount of \$1,205,000. The lowest bid came in at \$1,037,618 which leaves a balance of \$167,382.

It was requested of me to add the following road projects to consume the remaining funds.

SW Erin Glen.	\$45,000
SW Ainsley Glen.	\$43,000
SW Beasley Ct.	\$30,000

TOTAL \$118,000

Therefore, I am requesting to add the three (3) additional roads to the existing 2020 fiscal year resurfacing projects.

Your consideration is appreciated.

BOARD MEETS FIRST AND THIRD THURSDAY AT 5:30 P.M.



# COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS AGENDA ITEM REQUEST FORM

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Today's Date: May 1, 2020	Meeting Date: May 7, 2020
Name: Ben Scott	Department: BCC Administration
Division Manager's Signature: Ben 8	Scarf
1. Nature and purpose of agenda item:	
To review revenues and discuss possible red	ductions due to the COVID-19 pandemic.
2. Recommended Motion/Action:	
None.	

3. Fiscal impact on current budget.

This item has no effect on the current budget.

District No. 1 - Ronald Williams
District No. 2 - Rocky Ford
District No. 3 - Bucky Nash
District No. 4 – Toby Witt
District No. 5 - Tim Murphy



# BOARD OF COUNTY COMMISSIONERS • COLUMBIA COUNTY

### MEMORANDUM

TO: Board of County Commissioners

FR: Ben Scott, County Manager Ben Scatt

DATE: April 30, 2020

RE: Review of Major Revenues

Per the Board's request, I am providing the attached information in reference to major revenues for a discussion of possible budgetary effects due to the COVID-19 pandemic. I'm providing a breakdown of revenues per fund, a history of revenues 2004-2019, and possible reductions based on historical data.

XC: Outgoing Correspondence



# **Board of County Commissioners**

Regular Meeting

May 7, 2020

5:30 PM

**School Board Administrative Complex** 



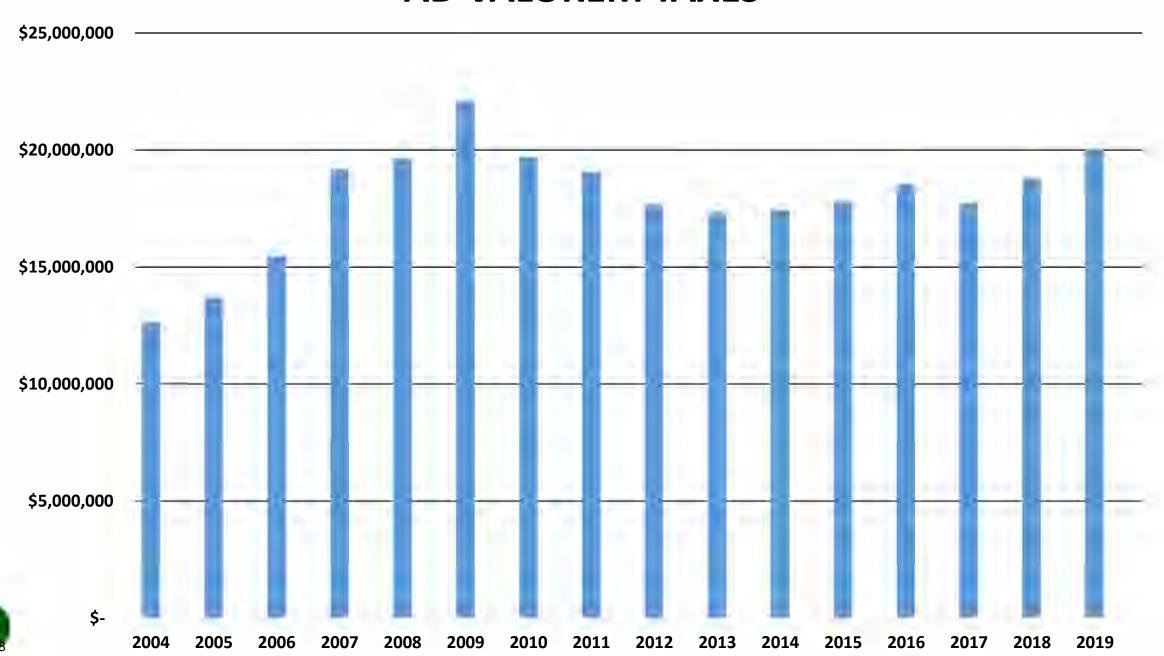
- Review History of Major Revenues
- Review Revenues Per Fund/Department



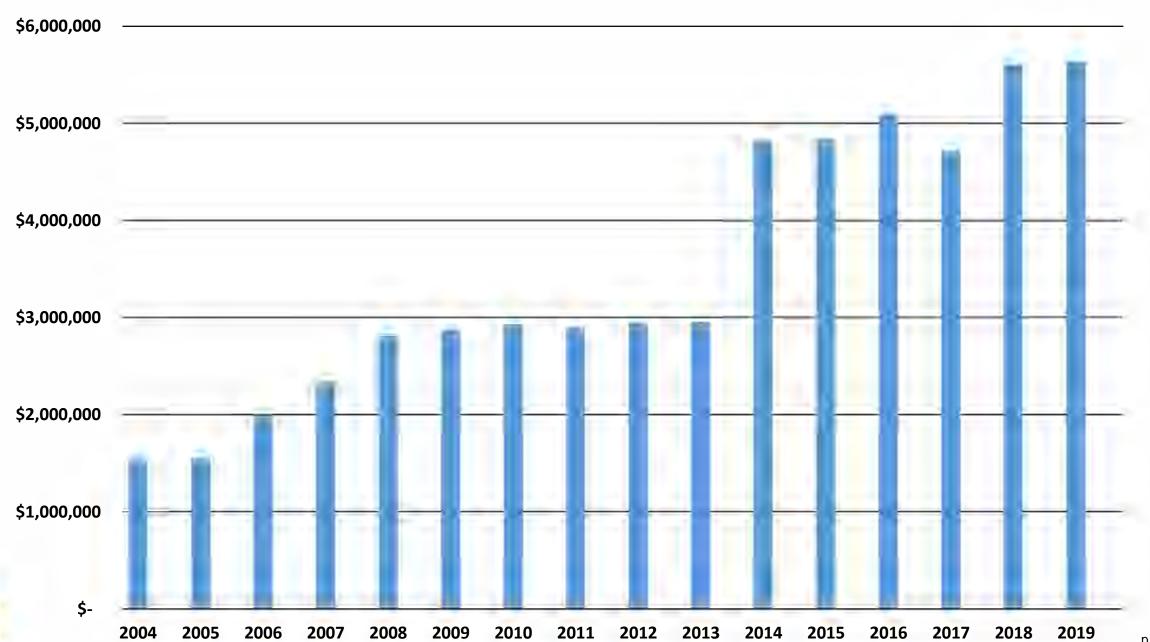
# Major Revenues by Fund

General	Transportation Trust	Municipal Services
Ad Valorem Taxes	Local Option Gasoline Tax	Small County Surtax
Small County Surtax	Small County Surtax	Licenses and Permits
Amendment 1 Relief	Voted Gas Tax	Non Ad Valorem Assessments
State Revenue Sharing	State Revenue Sharing	
Half-Cent Sales Tax	Half-Cent Sales Tax	
	Half-Cent Fiscally Constrained	
	County Gas Tax	
	Constitutional Gas Tax	
Court Services	Road Improvement	Library
Small County Surtax	Local Option Gasoline Tax	Communications Services Tax
	Constitutional Gas Tax	Half-Cent Sales Tax
		State Grants
<b>Tourist Development</b>	Economic Development	Landfill Enterprise
Tourist Development Tax	Half-Cent Sales Tax	Landfill Fees
<b>Road Improvement Debt Service</b>		Jail Debt Service
Local Option Gasoline Tax		Half-Cent Sales Tax

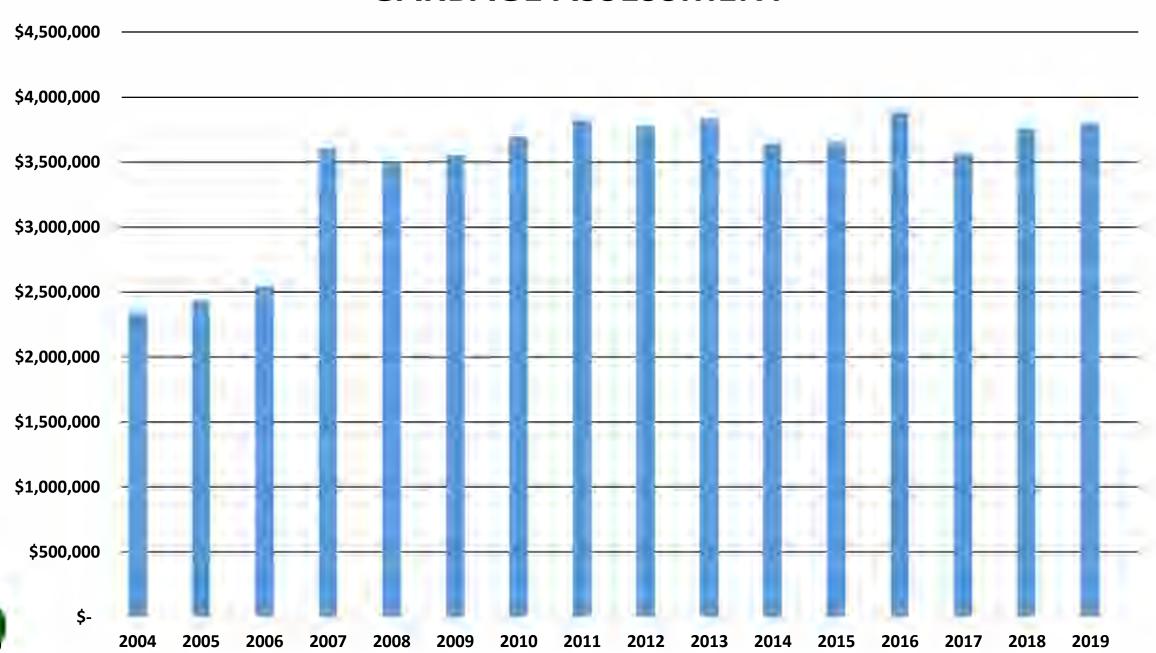
# **AD VALOREM TAXES**



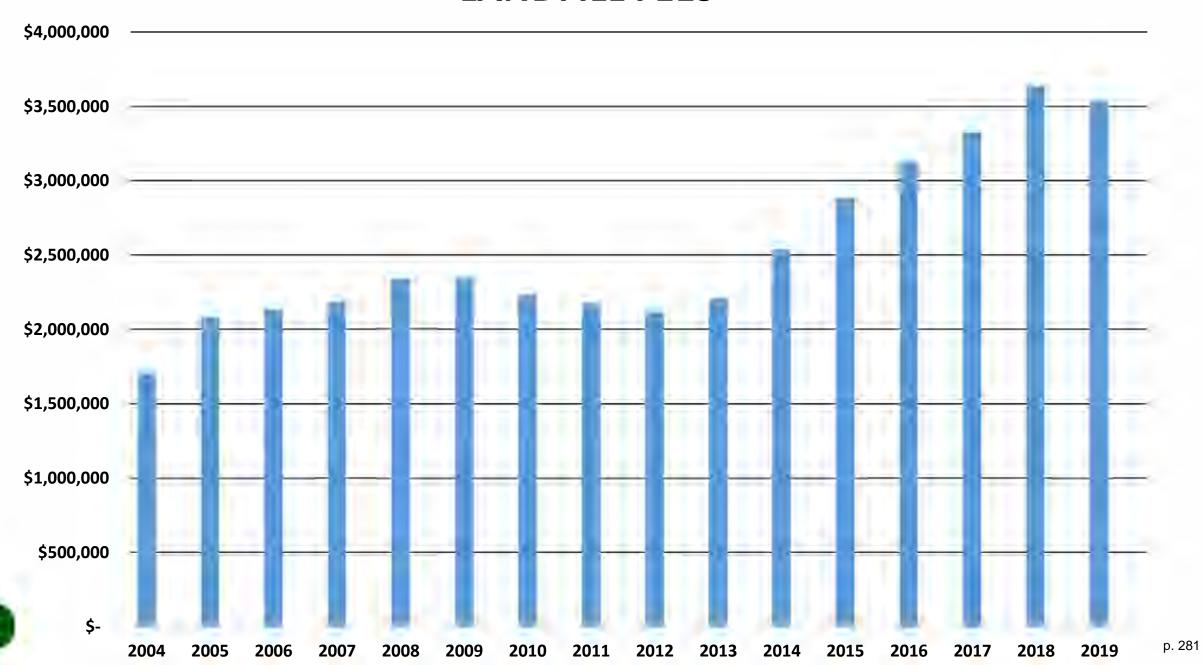
# **FIRE ASSESSMENT**



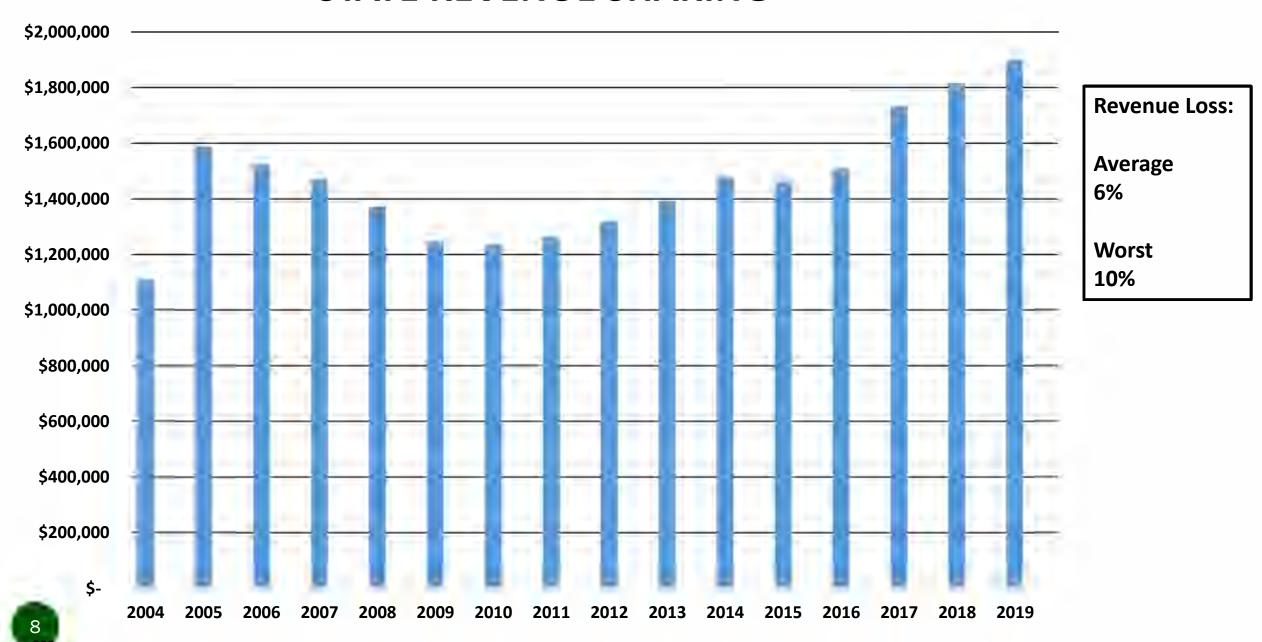
# **GARBAGE ASSESSMENT**



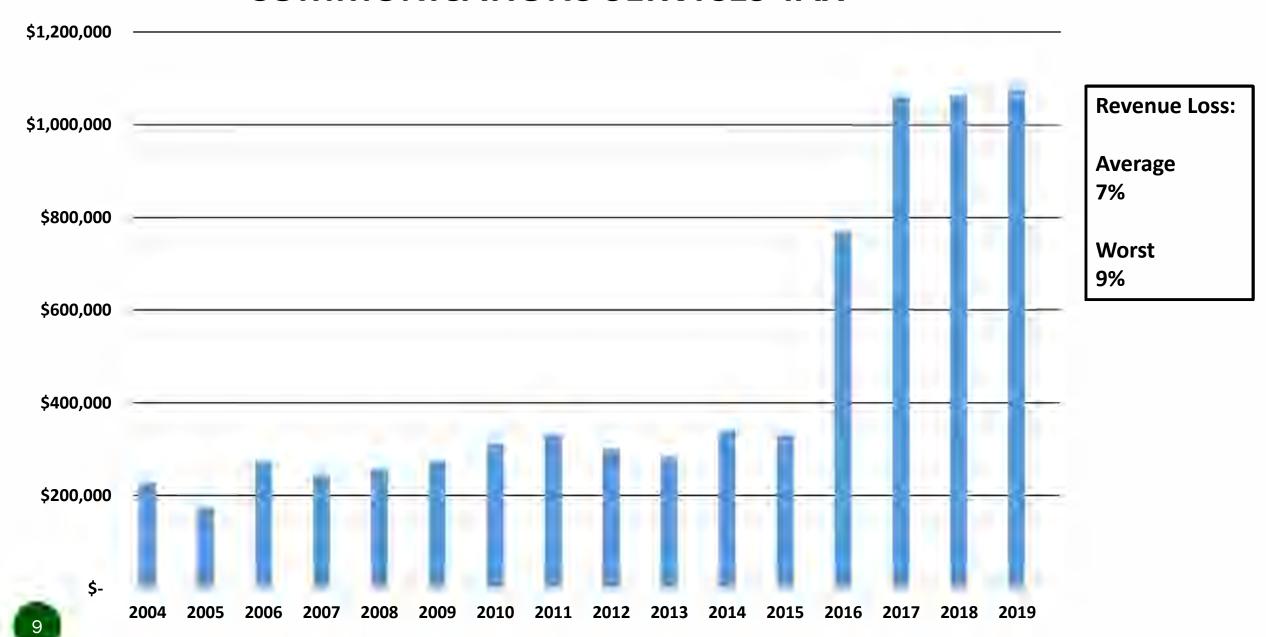
# **LANDFILL FEES**



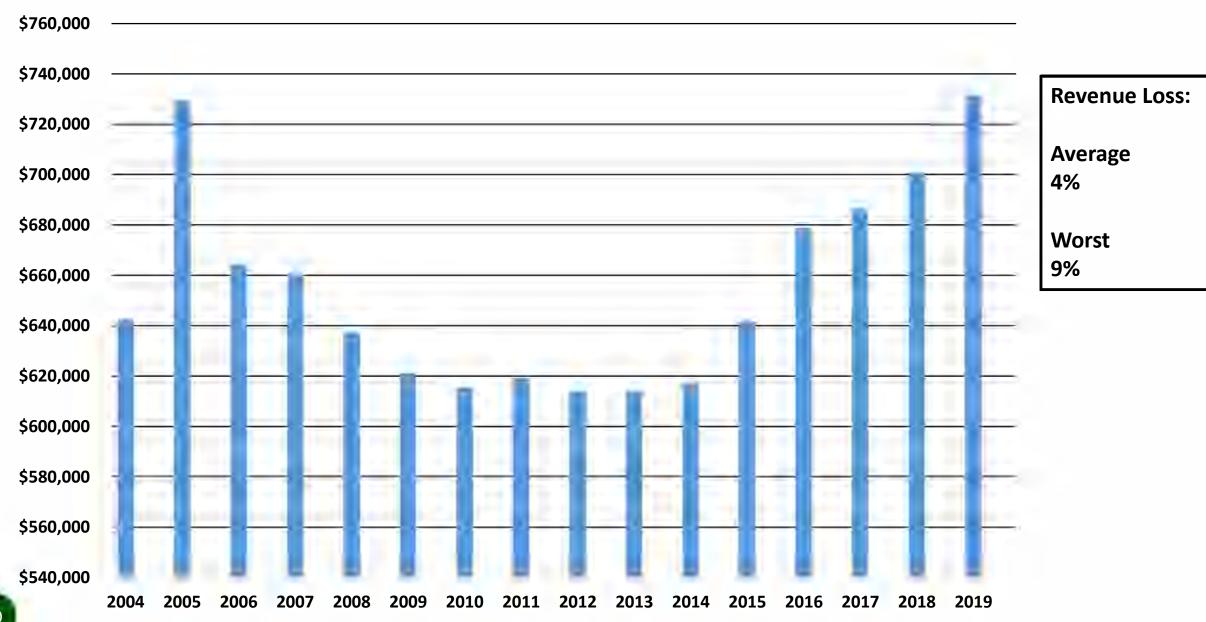
# **STATE REVENUE SHARING**



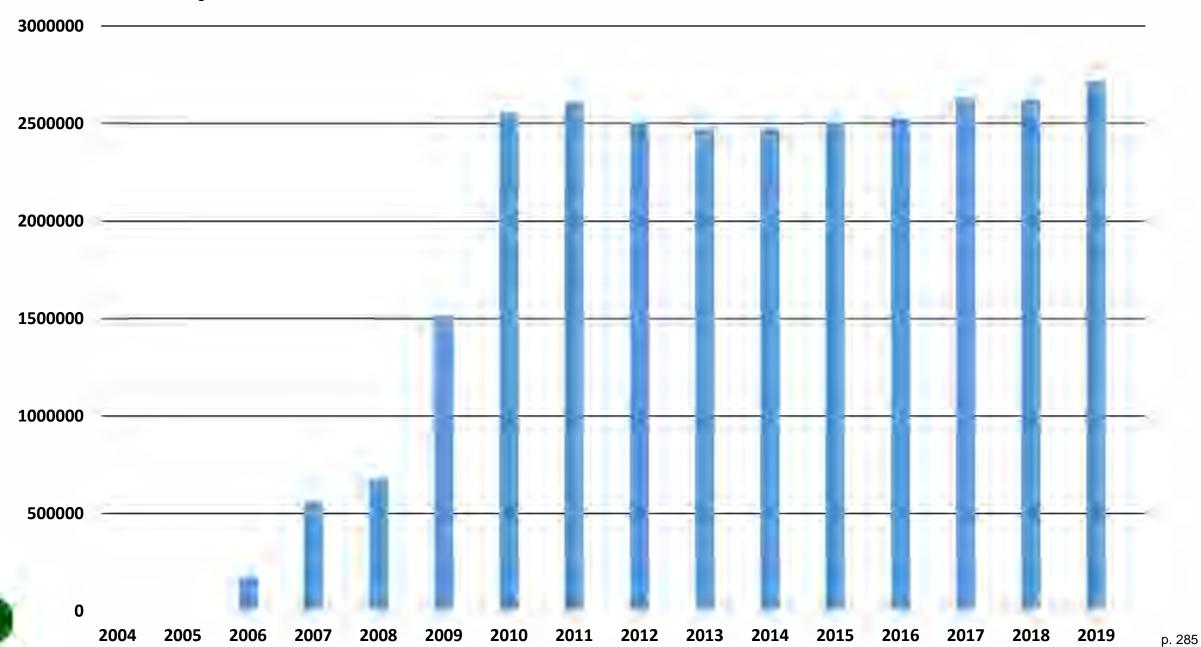
# **COMMUNICATIONS SERVICES TAX**



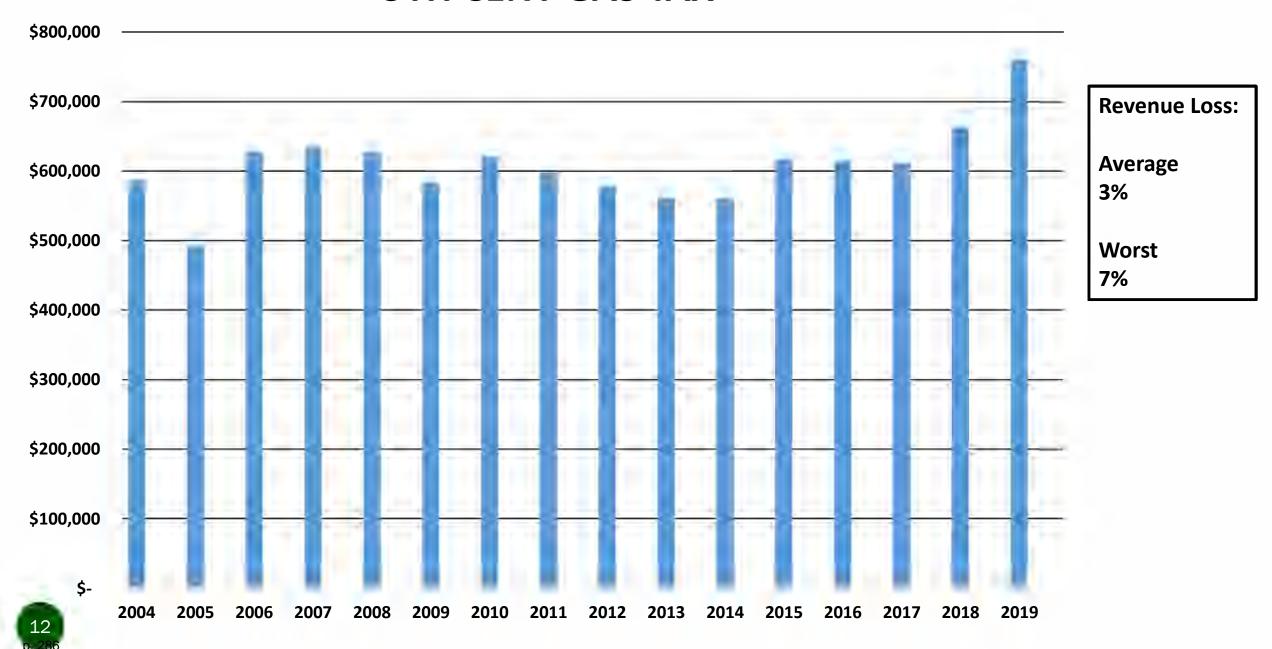
# **COUNTY FUEL TAX**



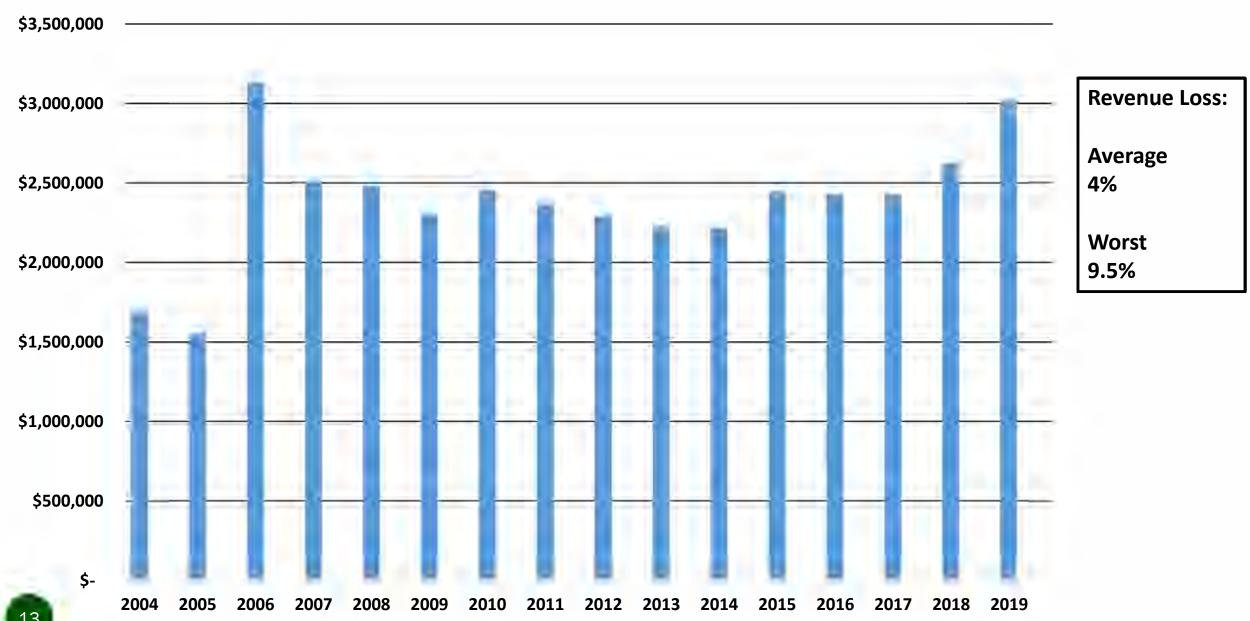
# 1/2 CENT SALES TAX – FISCALLY CONSTRAINED



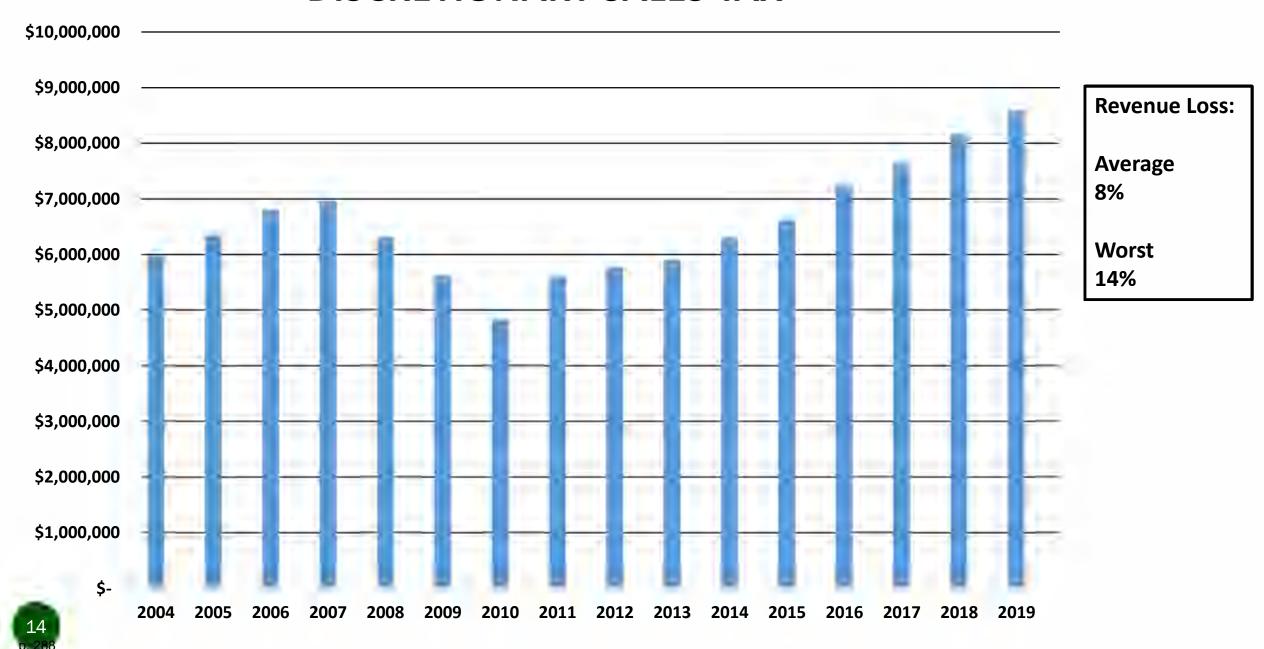
# 9TH CENT GAS TAX



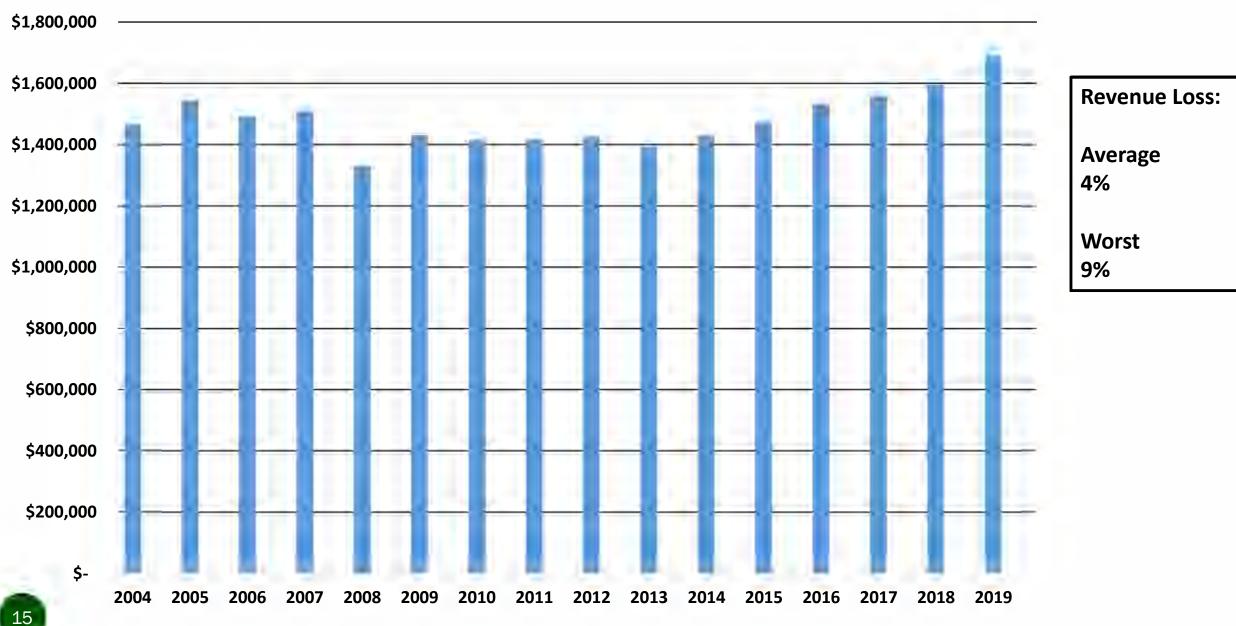
#### **LOCAL OPTION GAS TAX**



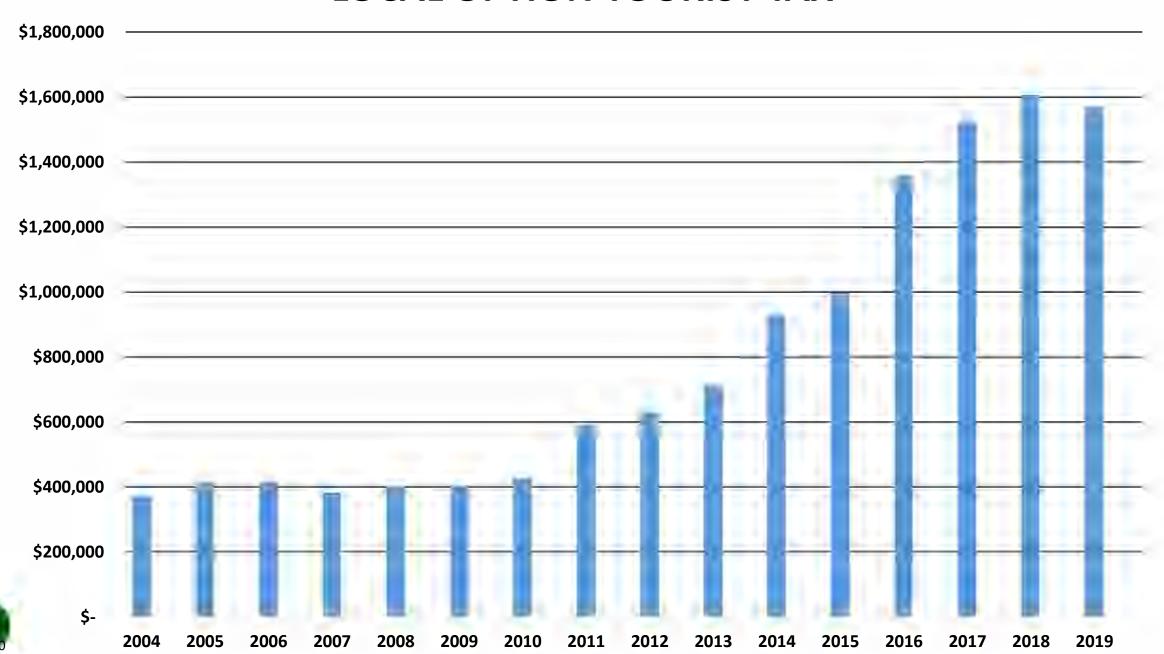
#### **DISCRETIONARY SALES TAX**



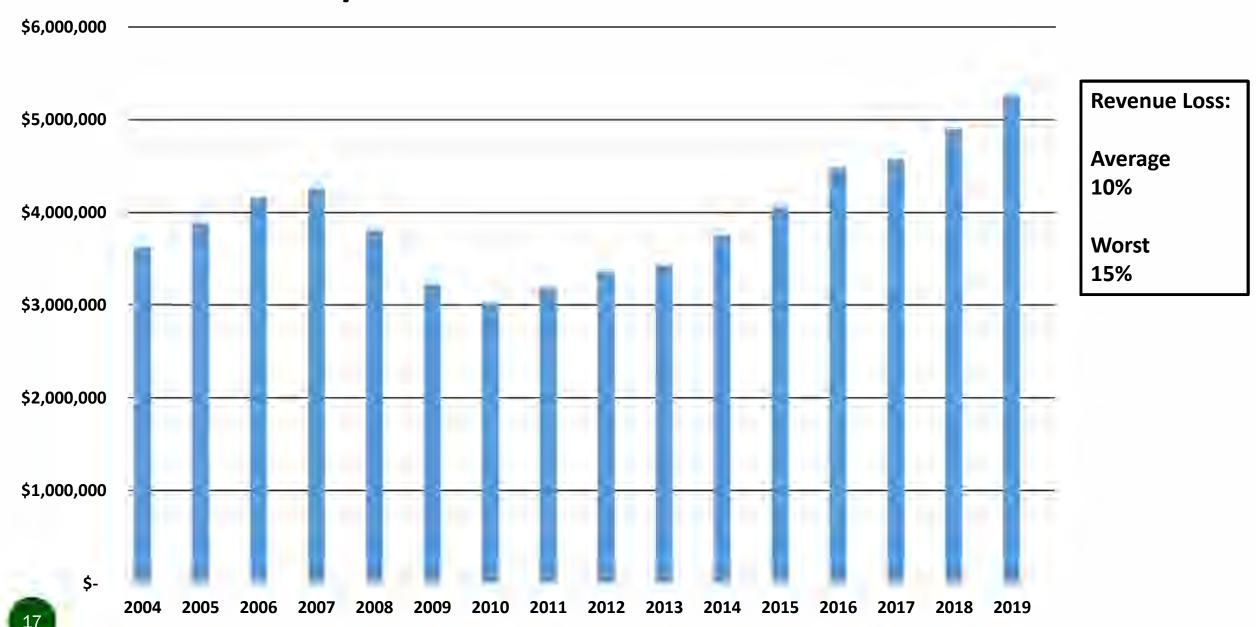
#### **CONSTITUTIONAL GAS TAX**



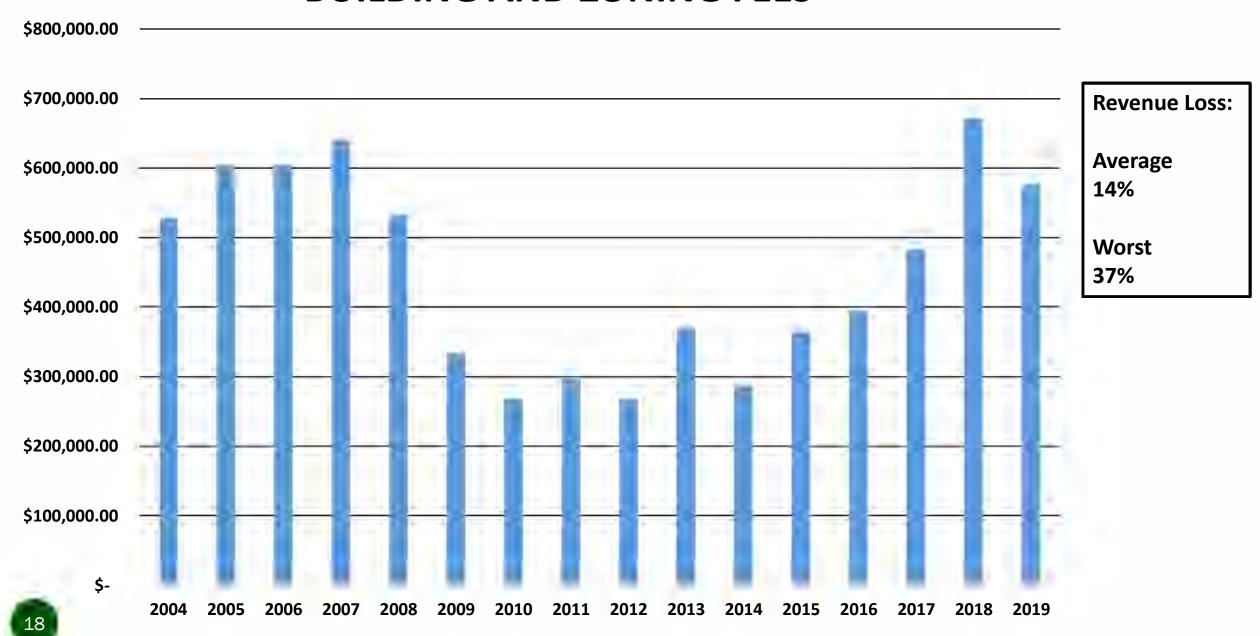
#### **LOCAL OPTION TOURIST TAX**



#### 1/2 CENT SALES TAX



#### **BUILDING AND ZONING FEES**





## General Fund Departments

- Board of County Commissioners
- Supervisor of Elections
- Code Enforcement
- Landscaping and Parks
- **>** 9-1-1
- Recreation
- CentralCommunications
- Clerk to BCC
- Non-Departmental

- Emergency Mgt.
- Soil Conservation
- Property Appraiser
- Facilities Management
- Safety
- Veterans Services
- Tax Collector
- Courthouse Annex
- Autopsies
- Mosquito Control
- County Auditor

- Judicial
- Health Services
- Data Processing
- Watertown Facilities
- County Extension
- Welfare
- County Attorney
- General Government
- City of Lake City Tax Increment Fund



## General Fund Major Revenues

	2020 Budget		Average Reduction		Worst Reduction		ble Average Reduction
Ad Valorem Taxes	\$	22,613,174		N/A		N/A	N/A
Small County Surtax		3,500,000		280,000		490,000	560,000
Amendment 1 Relief		1,900,000		N/A		N/A	N/A
State Revenue Sharing		1,400,000		84,000		140,000	168,000
Half-Cent Sales Tax		1,565,000		156,500		234,750	313,000
Total	\$	30,978,174	\$	520,500	\$	864,750	\$ 1,041,000



## Transportation Trust Departments

- Contracted Mowing
- Graded Roads
- Drainage
- Storm Water
- Sign Shop

- Repair Shop
- Stockroom
- Shoulder Crew
- Right-of-way Maintenance
- Public Works Administration



# Transportation Trust Major Revenues

	2020 Budget		Average Reduction		Worst duction	Double Average Reduction	
Local Option Gasoline Tax	\$	890,000	\$	35,600	\$ 84,550	\$	71,200
Small County Surtax	\$	3,264,000	\$	261,120	\$ 456,960	\$	522,240
Voted Gas Tax	\$	750,000	\$	22,500	\$ 52,500	\$	45,000
State Revenue Sharing	\$	300,000	\$	18,000	\$ 30,000	\$	36,000
Half-Cent Sales Tax	\$	1,872,000	\$	187,200	\$ 280,800	\$	374,400
Half-Cent Fiscally Constrained	\$	800,000		N/A	N/A		N/A
County Gas Tax	\$	695,000	\$	27,800	\$ 62,550	\$	55,600
Constitutional Gas Tax	\$	530,000	\$	10,600	\$ 53,000	\$	21,200
Total	\$	9,101,000	\$	562,820	\$ 904,810	\$	1,048,840



## Municipal Services Fund Departments

- Building and Zoning
- > Fire
- Addressing
- Residential Solid Waste Services



## Municipal Services Fund Major Revenues

	2020 Budget		verage duction	Norst duction	Double Average Reduction		
Small County Surtax	\$	1,475,500	\$ 118,040	\$ 206,570		\$236,080	
Licenses and Permits		549,500	76,930	203,315		153,860	
Non Ad Valorem Assessments		9,633,000	N/A	N/A		N/A	
Total	\$	11,658,000	\$ 194,970	\$ 409,885	\$	389,940	



## Court Services Fund Major Revenues

	_	2020 Budget		rage uction	orst iction	Double Average Reduction		
Small County Surtax	\$	360,500	\$	28,840	\$ 50,470	\$	57,860	



### Landfill Enterprise Fund Major Revenues

	2020	Average	Worst	Double Average	
	Budget	Reduction	Reduction	Reduction	
Landfill Fees	\$ 3,820,000	\$ 114,600	\$ 191,000	\$ 229,200	



#### Library Enhancement Major Revenues

	2020 Budget		verage eduction	Worst eduction	Double Average Reduction		
Communications Services Tax	\$	1,060,000	\$ 74,200	\$ 95,400	\$	148,400	
Half-Cent Sales Tax		20,000	2,000	3,000		4,000	
State Grants		587,271	122,000*	122,000*		122,000*	
Total	\$	1,667,271	\$ 198,200	\$ 220,400	\$	274,400	

<sup>\*</sup>Based on State cuts of \$4,500,000 to overall library funding.



## Tourist Development Major Revenues

	2020	Average	Worst	Double Average
	Budget	Reduction	Reduction	Reduction
Tourist Development Tax	\$ 1,600,000	\$		\$

Continuing to gather information.



## Economic Development Major Revenues

	2020 Budget		Average Reduction		Worst Reduction		Double Average Reduction	
Half-Cent Sales Tax	\$	885,000	\$	88,500	\$	132,750	\$	177,000



## Road Improvement Major Revenues

	2020 Budget		erage luction	orst luction	Double Average Reduction		
Local Option Gasoline Tax	\$	1,525,000	\$ 61,000	\$ 144,875	\$	122,000	
Constitutional Gas Tax		1,070,000	42,800	96,300		85,600	
Total	\$	2,595,000	\$ 103,800	\$ 241,175	\$	207,600	



## Road Improvement Debt Service Major Revenues

	2020 Budget		Average Reduction		Worst Reduction		Double Average Reduction	
Local Option Gasoline Tax	\$	685,000	\$	27,400	\$	65,075	\$	54,800



## Jail Debt Service Major Revenues

	2020 Budget		Average Reduction		Worst Reduction		Double Average Reduction	
Half-Cent Sales Tax	\$ 668,000	\$	66,800	\$	100,200	\$	133,600	



#### COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS AGENDA ITEM REQUEST FORM

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Today's Date: May 1, 2020	Meeting Date: May 7, 2020
Name: Ben Scott	Department: BCC Administration
Division Manager's Signature:	n Scatt
1. Nature and purpose of agenda item:	
I have requested Joel Foreman provide Boards options.	an update to the Board on the legality of Internet Cafés and the
2. Recommended Motion/Action:	
Seeking Board direction	
O. E's and 'man and an assume of head and	

3. Fiscal impact on current budget.

This item has no effect on the current budget.