



Board of County Commissioners

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April 22, 2024

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County Attorney

Donna Marie Collins
County Hearing
Examiner

Cindy Mulkey, Deputy Director
Division of Water Resource Management
Siting Coordination Office
2600 Blair Stone Road, MS 3500
Tallahassee, FL 32399-2400
SCO@dep.state.fl.us

**Re: Lee County Resource Recovery Facility (LCRRF), PA90-30H
Post Certification Amendment
WACS Facility ID: 93715**

Dear Ms. Mulkey:

The Lee County Solid Waste Department requests approval of a post-certification amendment to the Conditions of Certification (PA90-30H) for the Lee County Solid Waste Energy Recovery Facility (SWERF). The following three (3) enhancements are necessary to support the existing facility and are provided in a general site plan in Attachment I.

1. Employee Resource Building (Attachment II)- A Transfer Station Employee Building was proposed and approved in a post certification amendment in 2019. This building was never constructed, and the location has been revised. The newly proposed Employee Resource Building with associated parking lot improvements, has a similar footprint, and is in the same stormwater basin. The building will include a resource center, locker rooms, training room, kitchen, bathrooms and showers, and break room for the increased staff necessary to support Waste to Energy operations.
2. Class III Transfer Station (Attachment III)- Conversion of a portion of the existing footprint for the Construction and Demolition Debris Recycling Facility (CDDRF) to a Class III Transfer Station. Two existing bunkers within the existing CDDRF would be covered and used for transfer of Class III solid waste. The LCRRF has had an increase in Class III solid waste customers, following Hurricane Ian. For the safety of our customers, diversion from the Solid Waste Transfer Station is often necessary. Adding Class III Transfer

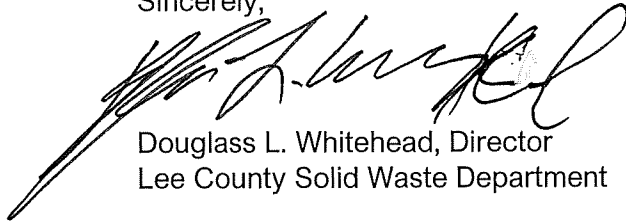
bunkers to the CDDRF site would support solid waste diversion, as necessary from the Waste to Energy Plant. This enhanced feature does not increase impervious surface and utilizes the existing Water Quality Monitoring Network. A revised Operations Plan incorporating Class III Transfer activities into the existing CDDRF is included in this attachment.

3. Fleet Building Improvements (Attachment IV)- An improvement to the existing Fleet building was proposed and approved in a post certification amendment in 2019. This improvement was never constructed, and the location has been revised. The existing Fleet Maintenance Facility maintains the fleet of trucks and off-road equipment used for our solid waste operations. As the solid waste operation grows, additional space for Fleet Maintenance is necessary. No additional impervious surface is necessary for this improved facility.

This request for a post-certification amendment is being submitted to the Siting Coordination Office and copied to the FDEP South District Office.

Stormwater impacts associated with the proposed projects and impervious additions to the site stormwater management system have been evaluated by our consultant, HDR and is included as Attachment V. These impacts have been shown to be accommodated within the existing site storage, with minor elevation improvements to portions of the stormwater berm. Post-construction off-site discharge will not be greater than pre-construction off-site discharge. An environmental assessment was completed in 2019 and our consultant confirms no impacts to wetlands or listed species is anticipated for any of the proposed projects.

Sincerely,



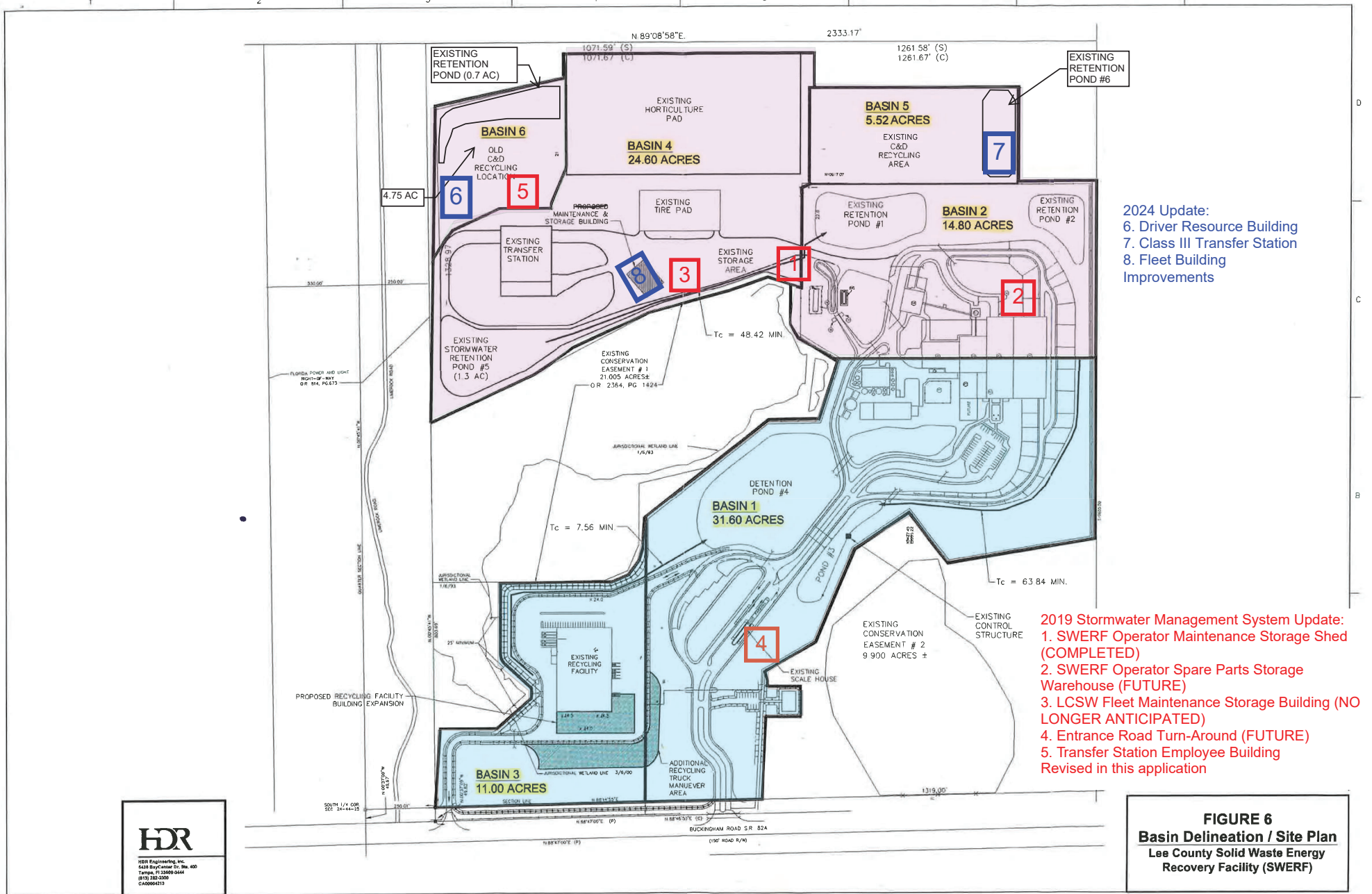
Douglass L. Whitehead, Director
Lee County Solid Waste Department

Attachments:

Site Plans
CDDRF Operations Plan
2024 Updated Stormwater Memo
2023 WQM Plan

cc: R. Kwiat-FDEP South District Office
R. Rodriguez- Lee County Solid Waste
T. Lamontagne – Lee County Solid Waste
A. DuBois – Lee County Solid Waste

Attachment I- General Site Plan





LEE COUNTY
WASTE TO ENERGY

**TRANSFER
STATION
EMPLOYEE
BUILDING**

Client/Owner:
LEE COUNTY BOCC
2115 SECOND STREET
FT. MYERS, FL 33901

Dan Craig, P.E.
Project Manager
Phone: 239-
Email: daniel.craig@stantec.com

THIS PLAN IS INTENDED FOR THE
USE OF ZONING APPROVAL ONLY.
ACTUAL ENGINEERING AND
ARCHITECTURAL CONSTRUCTION
DOCUMENTS WILL BE PREPARED
ONCE ZONING IS APPROVED &
COMPLETE.

THIS DOCUMENT, THE IDEAS AND DESIGNS INCORPORATED HEREIN IS AN INSTRUMENT OF PROFESSIONAL SERVICE, AND IS NOT TO BE USED IN WHOLE OR IN PART FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF DAVID DOUGLAS ASSOCIATES, INC. © 2023.

DATE:	DESCRIPTION
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[illegible]

STRAP #	24-44-25-00-00001.0000
SEC-TWP-RGE	SEC 24 TWP 44S RGE 25E
PROJECT MGR: DAN CRAIG	
PROJECT # : 2156184	
FILE NAME : 01-215618410-SITE-CONCEPT.DWG	
ORIGIN DATE : 02-17-17	
DESIGNER : STS	
CADD : STS	
CHECKED BY: DC	
PLOT DATE : THU, 10-5-2023-11:20 AM	
PLOTTED BY : STSTUART	
SHEET TITLE:	

SHEET TITLE:

CONCEPT #3

SHEET NO. 01



Stormwater Analysis Memo

Date: Monday, April 08, 2024

Project: Lee County Solid Waste – Stormwater Analysis of Basin 6

To: Robbie Lanier – Technician Senior
Rebecca Rodriguez – Public Utilities Operations Manager
Lee County Public Utilities

From: Alexander Miller, PE
HDR Engineering, Inc.

Subject: Basin 6 Stormwater Analysis and Conceptual Design

Introduction

Project Description

Lee County Division of Solid Waste (the County) is considering an expansion project on-site at the Solid Waste Energy Recovery Facility (10500 Buckingham Road, Fort Myers, Florida). The project would involve construction of a new administrative building, an expansion of the existing parking lot, and the filling and associated grading around two depressional areas (see Appendix B for preliminary site layout provided by the County). The County has tasked HDR with the preliminary stormwater design for the project to determine the feasibility of the preliminary proposed layout from a stormwater design and permitting perspective.

Purpose

The purpose of this memorandum is to outline the stormwater analysis performed for this project, including the existing conditions, previous permitting history, and proposed stormwater conceptual design required for the future building and parking lot expansion.

All elevations presented in this memorandum are in NAVD 88 unless otherwise stated.

$$\text{NAVD 88} + 1.15 \text{ ft} = \text{NGVD 29}$$

Background Information

Permitting History

The site is permitted through the Siting Coordination Office (SCO) under Florida Department of Environmental Protection (FDEP) permit number DEP-PA-90-30. Permitting requirements for stormwater are outlined in the site's Conditions of Certification and set through the requirements under F.A.C. 62-25, F.A.C. 62-330, and through the South Florida Water Management District (SFWMD) Environmental Resource Permit (ERP) Handbook.

The Conditions of Certification were last modified in 2010 for the proposed improvements including the expansion of the Recovered Materials Processing Facility, relocation of the Construction and Debris Recycling area, and construction of a Vehicle Maintenance Facility. A 2009 master stormwater analysis was performed by HDR for this project. Excerpts from this approved stormwater report can be found in Appendix C.

In 2019, HDR prepared an update to the approved stormwater report for various projects within the Solid Waste Complex. Some of these proposed projects were never constructed and have been modified/removed from the County's master plan. The current proposed expansion (new admin building & parking lot) was not part of the 2019 stormwater update, but a similar project was considered within Basin 6 in a different location. Excerpts from the 2019 stormwater report update are included in Appendix D for reference.

Existing Conditions

The project is intended to take place in the northwest corner of the site and falls within Basin 6 from the master stormwater plan (Appendix C). The site is currently acting as a closed basin and has no positive drainage up to the 100-year, 24-hour event. Basin 6 has four existing depressional areas that retain runoff: two significant areas that cover the west/north side of the basin and the south/east side of the basin, and two small depressional areas within the existing parking areas. There are two existing parking facilities within the basin, one paved and one of dirt, that drain into these depressional areas. See Appendix A for the Existing Drainage Basin Map. Based on a desktop analysis and the previous 2019 Technical Memorandum (Appendix D), no critical wildlife habitat nor protected wildlife is anticipated within the project site.

Proposed Conditions

The proposed conditions include a new building with offices, restrooms, and conference space, as well as an extension of the existing parking lot and improvements to the ingress/egress turnouts. Two depressional areas with trees will be cleared and filled: one within the paved parking lot to the south will be partially filled, and one within the dirt parking lot to the north is anticipated to be fully filled for safety concerns for the trucks there. Minor grading may also occur surrounding the building and parking lot. See Appendix A for the Proposed Drainage Basin Map and Appendix B for the preliminary site layout provided by the County.

Stormwater Analysis

Methodology

A hydrologic and hydraulic (H&H) model was created for Basin 6 to determine whether the existing depressional areas could still function with the proposed site improvements. The model was created using the ICPR4 software. The depressional areas in Basin 6 are represented as stage/area nodes with weir links connecting them. A boundary stage, or tailwater condition, is set just southeast of the Basin 6 limits and uses peak stages from the stormwater master plan ICPR4 model developed in 2019 for the site.

Stormwater runoff to each depressional area was calculated with the SCS Curve Number method. Land usages were drawn in from recent aerials and include paved areas, open space (good condition), forested areas, and disturbed (compressed dirt parking area) zones. The hydrologic soil group (A/D) for the site was taken from the NRCS Web Soil Survey. During a field review, site staff noted that the area remains dry throughout the year and no wetland vegetation was observed in the depressional areas. Therefore, a hydrologic soil group of 'A' was used for curve number calculations.

A proposed condition model was developed from this existing condition model to represent the proposed site development. Storage around the proposed parking lot and building locations was removed from the nodes to represent the fill that would be added to the site. Proposed land usages, including the impervious building footprint and expansion of the paved parking lot, were drawn from a preliminary site layout provided by the County. The results of these analyses are presented below in Tables 1 and 2.

A recovery analysis of the existing and proposed dry retention systems was also conducted in ICPR4, although dry retention recovery is not mandated by the SFWMD ERP Handbook. Current soil exploration has not been performed. Old soil data taken from the 2009 master stormwater analysis for the adjacent basin (Basin 4) was used to perform preliminary dry retention pond recovery analysis. The analysis showed that the proposed improvements cause an increase in recovery time within the system. Results of this recovery analysis are presented in Appendix F.

Results

The results of the analysis show that all runoff from a 100-year, 72-hour design storm event is contained within Basin 6 in the existing condition; however, the proposed improvements raise peak stages above the existing berm elevations, causing off-site discharges. After discussion with the County, it was determined that a preliminary design involving elevating of the existing berm would be analyzed to determine if the project was still feasible.

Table 1: Existing Conditions Model Peak Stage Results

Node Name	Peak Stage 10-year/24-hour (ft.)	Peak Stage 25-year/72-hour (ft.)	Peak Stage 100-year/72-hour (ft.)	Top of Bank Elev. (ft.)	Warning Stage Description
Depression-C1	21.60	22.05	22.38	23.43	Pop-off to Depression-W
Depression-C2	23.17	23.22	23.23	23.12	Pop-off to Depression-N
Depression-E	20.59	20.92	21.18	21.56	Pop-off southeast into Basin 4
Depression-N	20.66	21.21	21.59	21.68	Lowest top of bank elevation
Depression-W	20.66	21.21	21.59	21.72	Lowest top of bank elevation

Table 2: Proposed Conditions Model Peak Stage Results

Node Name	Peak Stage 10-year/24-hour (ft.)	Peak Stage 25-year/72-hour (ft.)	Peak Stage 100-year/72-hour (ft.)	Top of Bank Elev. (ft.)	Warning Stage Description
Depression-E	20.69	21.07	21.37	21.56	Pop-off southeast into Basin 4
Depression-N	21.16	21.85	22.26	22.50	Lowest top of bank elevation
Depression-W	21.16	21.85	22.27	22.50	Lowest top of bank elevation

Stormwater Quality

The proposed site improvements will add approximately 0.20 acres of impervious area, for a total of 0.78 acres of impervious area within the 5.04-acre basin that is required to be treated; however, since the natural dry retention features of the basin are being used for stormwater management, the entire volume of runoff for the site can be considered treatment volume.

Treatment calculations using the two approaches set in the SFWMD ERP Handbook are provided in Appendix G. The required treatment volume for this basin is the higher of the two approaches, which in this case is 0.21 acre-feet in both the existing and proposed conditions. Since this is much less than the retention volume of the system, meeting treatment volumes should not be a concern for this proposed work. Existing and proposed treatment volume for these dry retention features are outlined in the below table. Both the existing retention volume of 2.71 ac-ft and the proposed retention volume of 2.85 ac-ft are well above the required 0.21 ac-ft of treatment volume.

Table 3: Existing and Proposed Retention Volumes

Retention Area	Required Treatment Volume (ac-ft)	Existing Retention Volume (ac-ft)	Proposed Retention Volume (ac-ft)
North/West	0.21	1.81	2.02
East		0.90	0.83

Conceptual Design

Berm Elevation

Using the results of the proposed conditions analysis, it was determined that a minimum berm elevation of 22.27-ft would be required to contain the 100-year, 72-hour design storm event and prevent off-site flows or impacts to the master stormwater plan of the site. It is recommended

that a **minimum berm elevation of 22.50-ft** be used for design purposes, which provides 3-inches of freeboard and accounts for some uncertainties in the analysis.

A preliminary berm design is provided below in Figure 1.

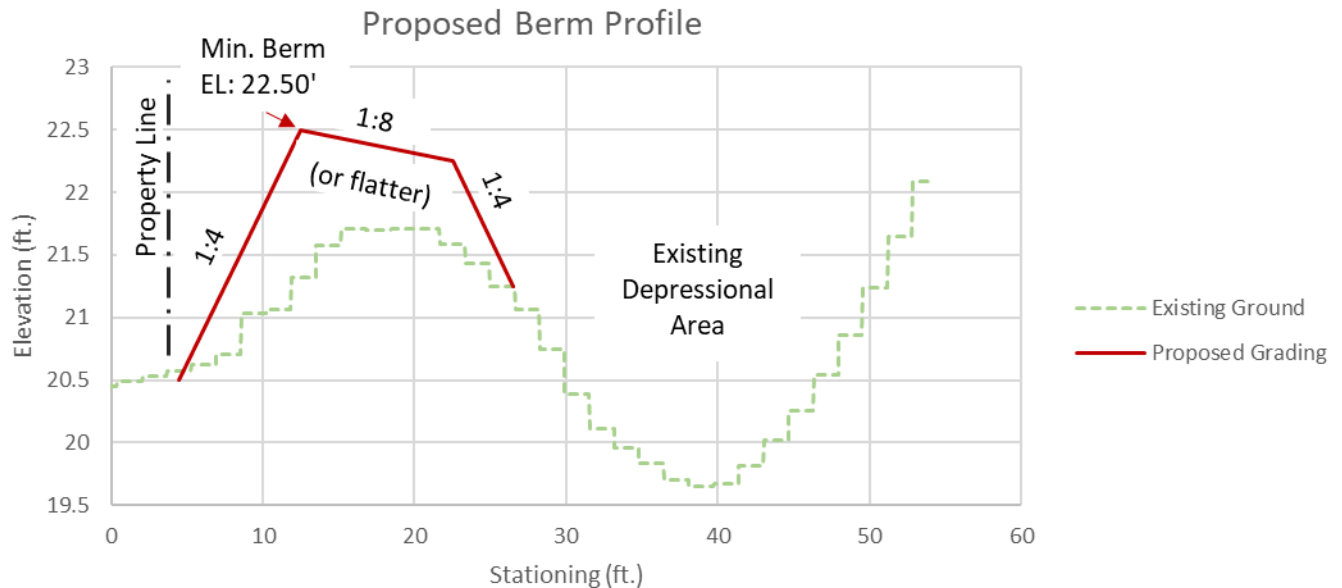


Figure 1: Preliminary Berm Design

Building Finished Floor Elevation

Per SFWMD and FEMA regulations, a building's finished floor elevation (FFE) needs to be at least 1-ft higher than the 100-year floodplain elevation. No FEMA regulatory floodplains exist within the project limits. The results of this analysis dictate a minimum FFE of 23.00-ft. However, since the previous stormwater management plan calls for a site-wide **minimum FFE of 23.60-ft.**, it is recommended to use that elevation.

Site Grading

Parking lot grading should match the existing high points as much as possible. The designer should ensure that positive sheet flow drainage can occur over the parking lot and building footprint and be collected within the associated depressional area. Due to the location of the building footprint, there is a potential for the hydraulic connection within the depressional area to be impacted. If the grading scheme during design expects an impact to this area, a 15-inch side drain with mitered end sections may be required. This pipe was included in the model for conservativeness, but is likely not required based on the footprint of the building.

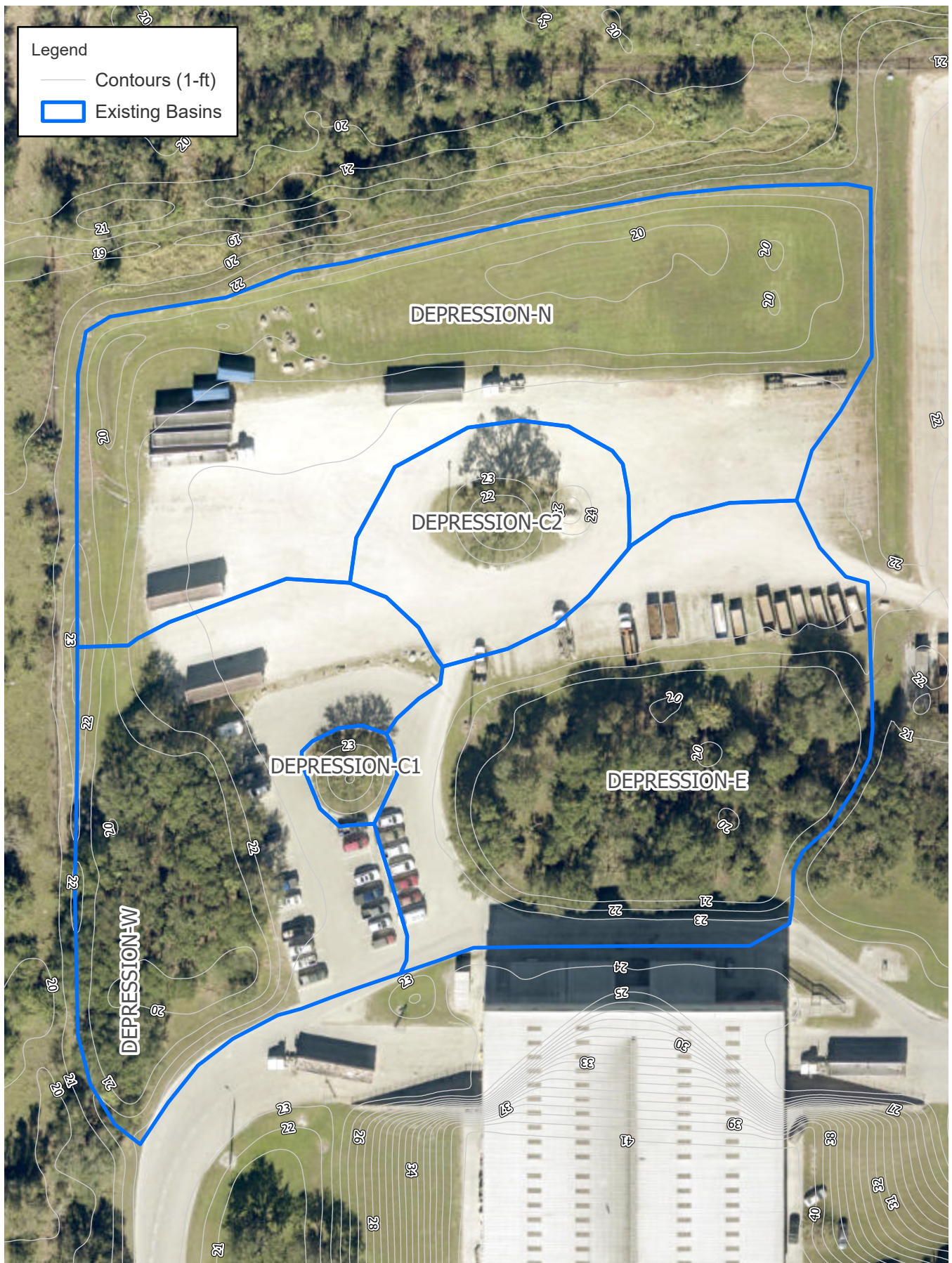
Per SFWMD criteria, the minimum parking lot and road elevation should be set above the 10-year, 24-hour design storm event peak stage. Although the basic-specific modeling dictates a minimum elevation of 21.00-ft, the previous stormwater master plan specifies a site-wide

minimum road elevation of 22.25-ft. It is recommended to use this 22.25-ft elevation for the minimum parking lot edge of pavement elevation in the design phase.

Conclusion

The proposed project, which includes the new building, expansion of the parking lot, and associated filling and paving, appears to be viable without impacting the site's master stormwater system. The existing depressional areas within Basin 6 can handle the increase in impervious area and loss of storage if the minimum berm elevation is raised to 22.50-ft.

Appendix A: Drainage Maps

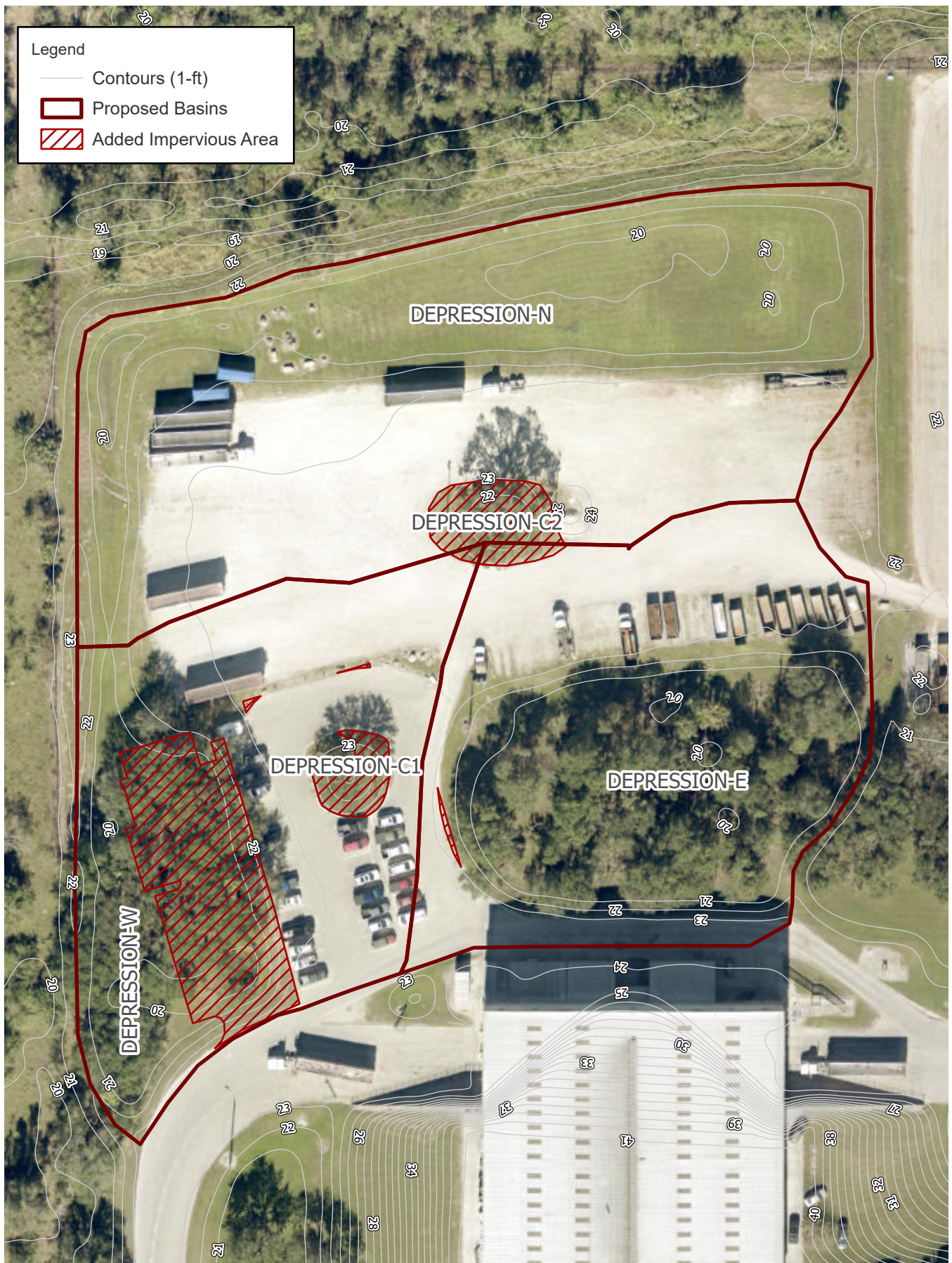


0 60 Feet



EXISTING DRAINAGE MAP

Figure 1

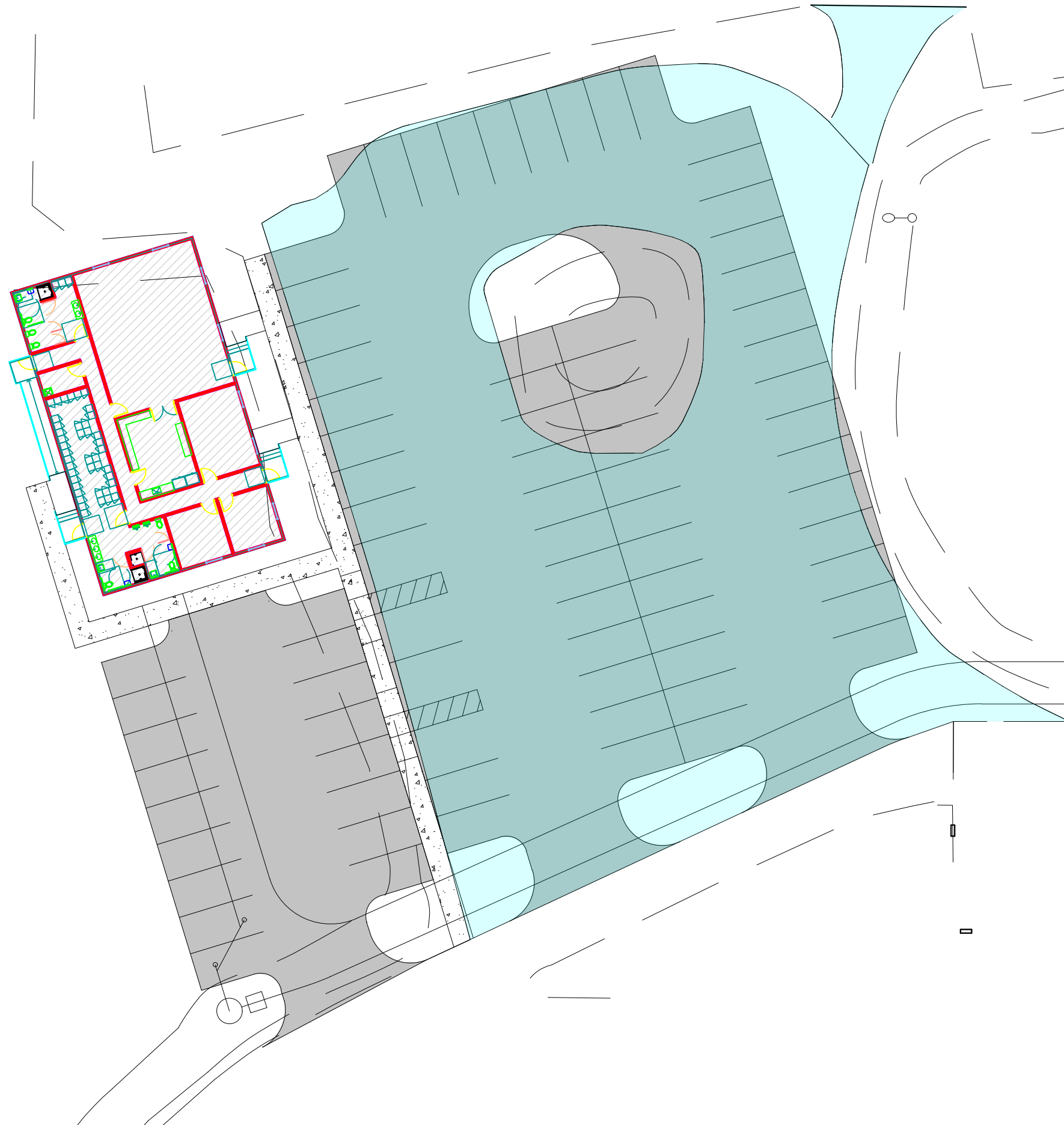


0 60 Feet



PROPOSED DRAINAGE MAP
Figure 2

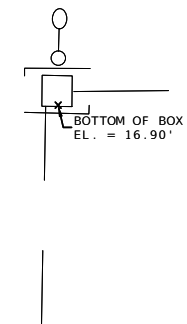
Appendix B:
Preliminary Site Layout
(provided by
Lee County)



EXIST. IMPERVIOUS - 20,330 SF (CYAN SHADING)

PROPOSED BUILDING - 3,375 SF
PROPOSED PRKG, WALKS - 25,834 SF

NET INCREASE OF IMPERVIOUS = 8,879 SF



CO

W

Appendix C:
Excerpts from
2009
Stormwater
Management
System Report



Lee County
Solid Waste Division

**Lee County Solid Waste Energy Recovery Facility
Stormwater Management System**

May 28, 2009

Prepared by
HDR Engineering, Inc.
5426 Bay Center Drive, Suite 400
Tampa, Florida 33609-3444
(813) 282-2300

HDR Project No. 97583-096

M. L. L. L.
6/11/09

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1.4 RESULTS.....	2
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Figure 2: AERIAL MAP
Figure 3: USGS MAP
Figure 4: NRCS SOILS CLASSIFICATION MAP
Figure 5: LAND USE MAP
Figure 6: BASIN DELINEATION / SITE PLAN

ATTACHMENTS

ATTACHMENT A	Stormwater Calculations
ATTACHMENT B	Stage-Storage Curves
ATTACHMENT C	AdICPR "Routing" Modeling Information
ATTACHMENT D	MODRET Infiltration Rate Information and Results
ATTACHMENT E	Supporting Information
	o Rainfall Frequency and Duration Figures
	o SCS Moisture Storage Values
	o Soil Storage Values
	o NRCS Soil map and Properties
	o Time of Concentration

SECTION 1

STORMWATER MANAGEMENT SYSTEM DESIGN NARRATIVE

1.1 Site and Project Description

The Solid Waste Energy Recovery Facility (SWERF) is located on a 280-acre site owned by Lee County and operated by Lee County Solid Waste Division (LCSWD) with frontage along Buckingham Road. The site address is 10500 Buckingham Road, Ft. Myers, Florida 33905 (Unincorporated Lee County). The portion of the site designated as the SWERF is a 150 acre parcel which is covered under the original, and now amended, Power Plant Site Certification. The site is located within Section 24, Township 44 South and Range 25 East in Lee County. A generalized aerial showing the project site is provided as Figure 2. The certified project boundary is depicted as being within the yellow line and the red line depicts the stormwater basins boundary. Refer to Figure 6 for a site plan showing the proposed construction locations.

The proposed improvements within the SWERF consist of expansion of the Recovered Materials Processing Facility (RMPF), relocation of the Construction and Debris (C&D) Recycling area, and construction of a Vehicle Maintenance Facility (VMF). The RMPF building will be expanded to the south and east by approximately 0.46 acres and also expanding the road/parking area to the south and east by approximately 2.52 acres. The RMPF expansion will consist of an additional tipping floor and equipment intended to receive, separate and process single-stream recyclable material (i.e., commingled fiber and containers) so that it can be further sorted and baled through the RMPF's existing two-stream sort lines and balers (i.e., fiber and containers). Upon completion of this project, all new and existing equipment will operate as a unified system. The conversion to single stream recycling capability is intended to enhance recycling participation rates, as well as gain efficiency in curbside pickup from residents and businesses in the County.

The C&D processing area will consist of approximately 5 acres of shell base with two (2) designated areas for concrete or asphalt materials. This area will be used to segregate and market recyclable construction materials therefore providing an environmental benefit of conserving landfill space. Finally, a 0.88 acre VMF will be constructed to provide covered space and improved facilities for the maintenance of vehicles associated with the LCSWD's fleet of residue (ash) haul vehicles, Municipal Solid Waste transfer vehicles and associated mobile equipment.

1.2 Basins Description

The SWERF site is divided into six (6) basins. These basins are delineated in Figure 6. The proposed improvements will occur within Basins 3, 4, and 5. The existing Stormwater Management System for this site was designed and permitted such that Basins 1 and 3 are combined and work together as one homogenous wet detention system and Basins 2 and 4 are combined and work together as one homogenous retention system. Basins 5 and 6 were previously designed and permitted as individual basins. This current analysis of the Stormwater Management System will be done as previously noted, with the exception that Basin 5 will be combined with Basins 2 and 4.

1.3 Zoning, District allowable discharge, and Design Storm Event

The site is zoned for an Industrial Planned Development and was designated as Public Facilities in the future land use map of the County's comprehensive land use plan, specifically to allow for the Facility construction and operation.

The adjacent property land uses consist of a County owned park, Buckingham Park, on the east side of the site. On the south side, across Buckingham Road, is a new residential development. On the west side, the site is bounded by the FP&L transmission corridor, and the north side is undeveloped property.

The site is located within South Florida Water Management District's (SFWMD) Six Mile Cypress Slough where the post-development discharge as set by the District is not to exceed 37 csm (cubic feet per second per mile or approximately 0.06 cfs per acre, see Allowable Discharge (25-yr, 3-day Storm) on Sheet 2 of the Stormwater Calculations, Attachment A) for a 25-year, 72-hour design storm event.

The project site is subject to the SFWMD regulatory criteria. As such, the SFWMD Environmental Resource Permit (ERP) Informational Manual IV, 2008, Basis of Review requires the use of 25-year 72-hour design storm in computing off-site discharge rates; the use of 100-year 72-hour design storm in computing minimum floor elevations; and the use of 10-year 24-hour design storm in computing minimum road and parking lot elevations. Based on the design aids included in the Basis of Review, the rainfall amount of 9.80 inches was selected for the 25-year 72-hour design storm; the rainfall amount of 12.20 inches was selected for the 100-year 72-hour design storm; and the rainfall amount of 6.40 inches was selected for the 10-year 72-hour design storm.

The existing control structure, located in Basin 1 is comprised of a 6 in. diameter orifice at elevation 21.40 ft. NGVD, which is designed to be continuously operational. The overflow at the control structure is a 3 ft. wide broad crested weir with slot bottom elevation at 24.10 ft. NGVD.

1.4 RESULTS

As shown in Attachments A thru E, the proposed improvements in Basins 1 and 3 will generate an off-site discharge rate for the 25-year, 72-hour storm event of 0.84 cfs which is lower than the permitted 2.56 cfs. Also, the proposed improvements in Basins 2, 4 and 5 will generate no off-site discharge rate from the 25-year, 72-hour storm event. Therefore this stormwater management system report demonstrates that, per SFWMD Chapter 40E-4 F.A.C. criteria, no adverse off-site flooding impacts will occur, and no adverse water quantity impacts will occur resulting from the proposed improvements.

SECTION 2

OPERATION AND MAINTENANCE PROCEDURES

5.1 Maintenance

The LCSWD will inspect and maintain the site to minimize impacts to the function and/or integrity of the stormwater system. The LCSWD will provide for site access control, erosion control, grass cover maintenance, and prevention of ponding. Primary focus during the inspection will be the condition of the surface vegetation, and stormwater system.

5.2 Stormwater Structures

All portions of the stormwater system will be visually inspected by LCSWD monthly in accordance with the current NPDES multi-sector generic permit for sector "O". The inspections will identify buildup of debris, surface sheen, erosion and sedimentation, and overgrown or exotic vegetation, and structural problems. Any problems identified by these inspections will be corrected within one (1) week. The detention basins will be inspected to estimate quantities of sediment within each pond. If the sediment occupies approximately 30 percent of the volume below the normal pool elevation, the sediment will be removed and properly disposed of. Vegetation in all portions of the conveyance systems will be removed on an as needed basis to prevent blockage.

5.3 Erosion Control

Avoiding erosion is probably the most cost-effective means of protecting the stormwater system. A relatively minor eroded area combined with a severe storm event can cause degradation. The best way to avoid erosion is to maintain a healthy stand of grass and keep drainage swales free of silt and sediment. Cleaning the drainage swales will prevent overflow and backflow and reduce the risk of erosion from these causes.

5.4 Grass

Grass cover maintenance will include mowing, fertilizing, seeding, mulching, and filling areas of subsidence. Mowing, fertilizing, seeding, mulching, and filling will continue to be performed as needed.

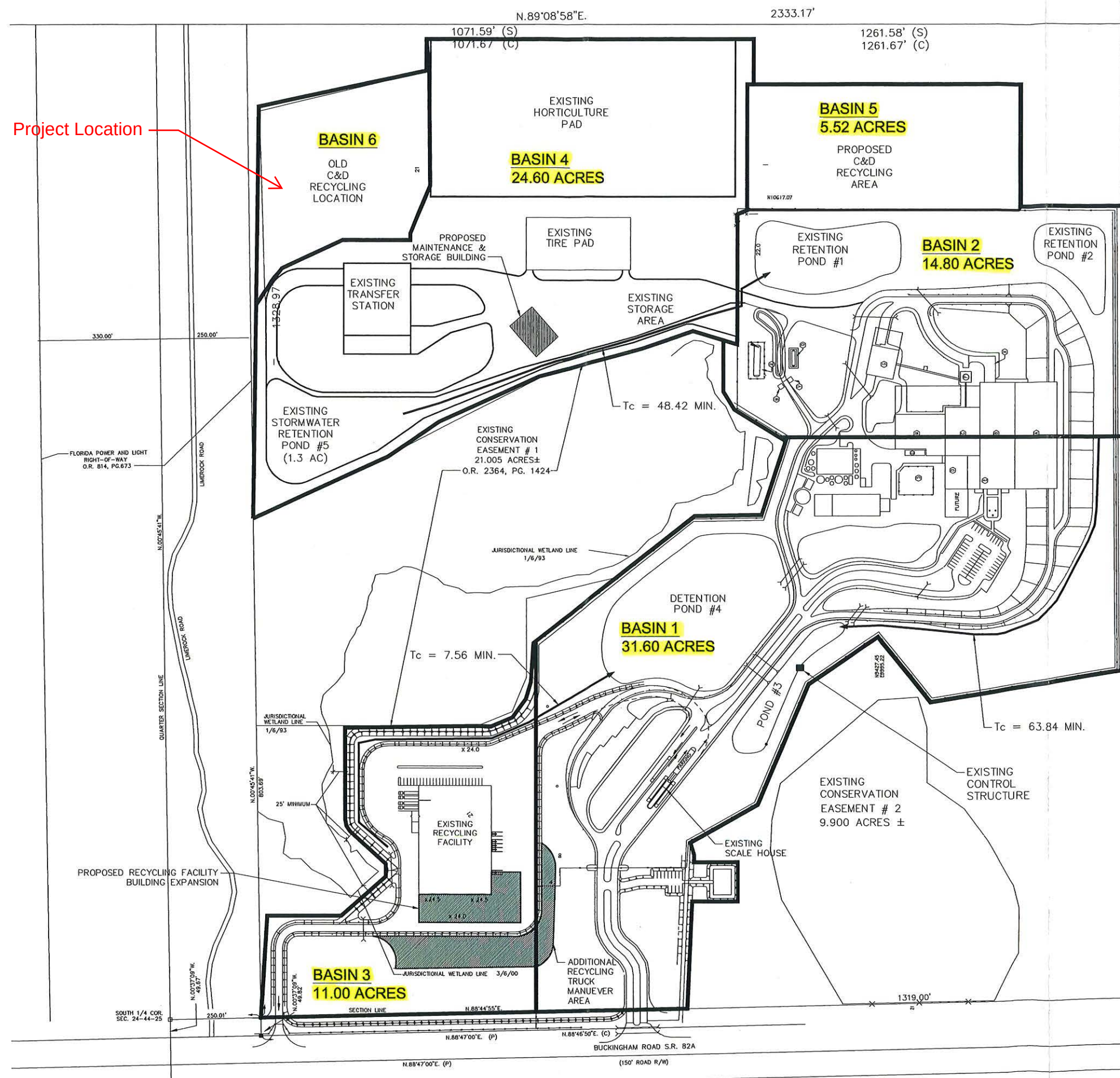
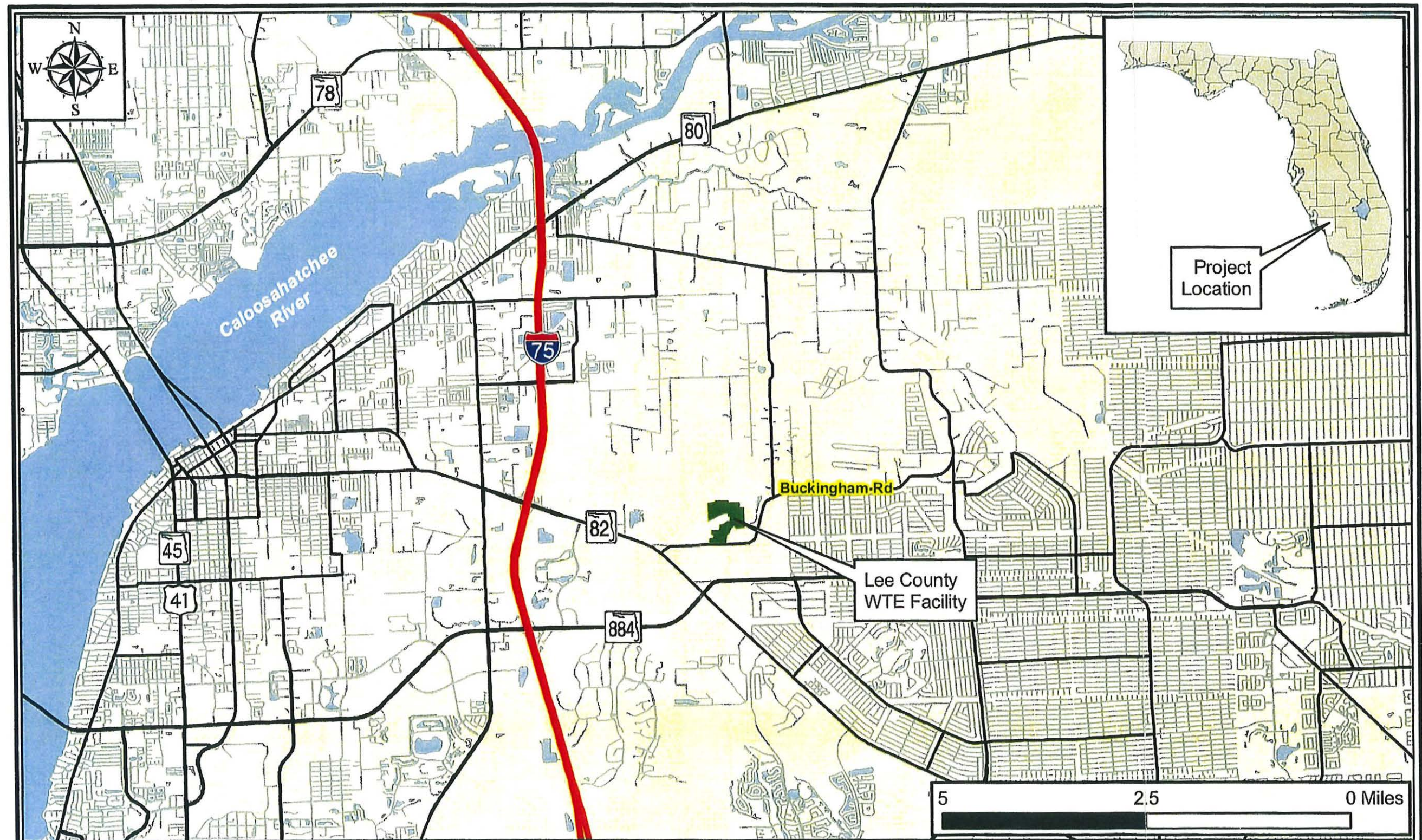


FIGURE 6
Basin Delineation / Site Plan
**Lee County Solid Waste Energy
Recovery Facility (SWERF)**

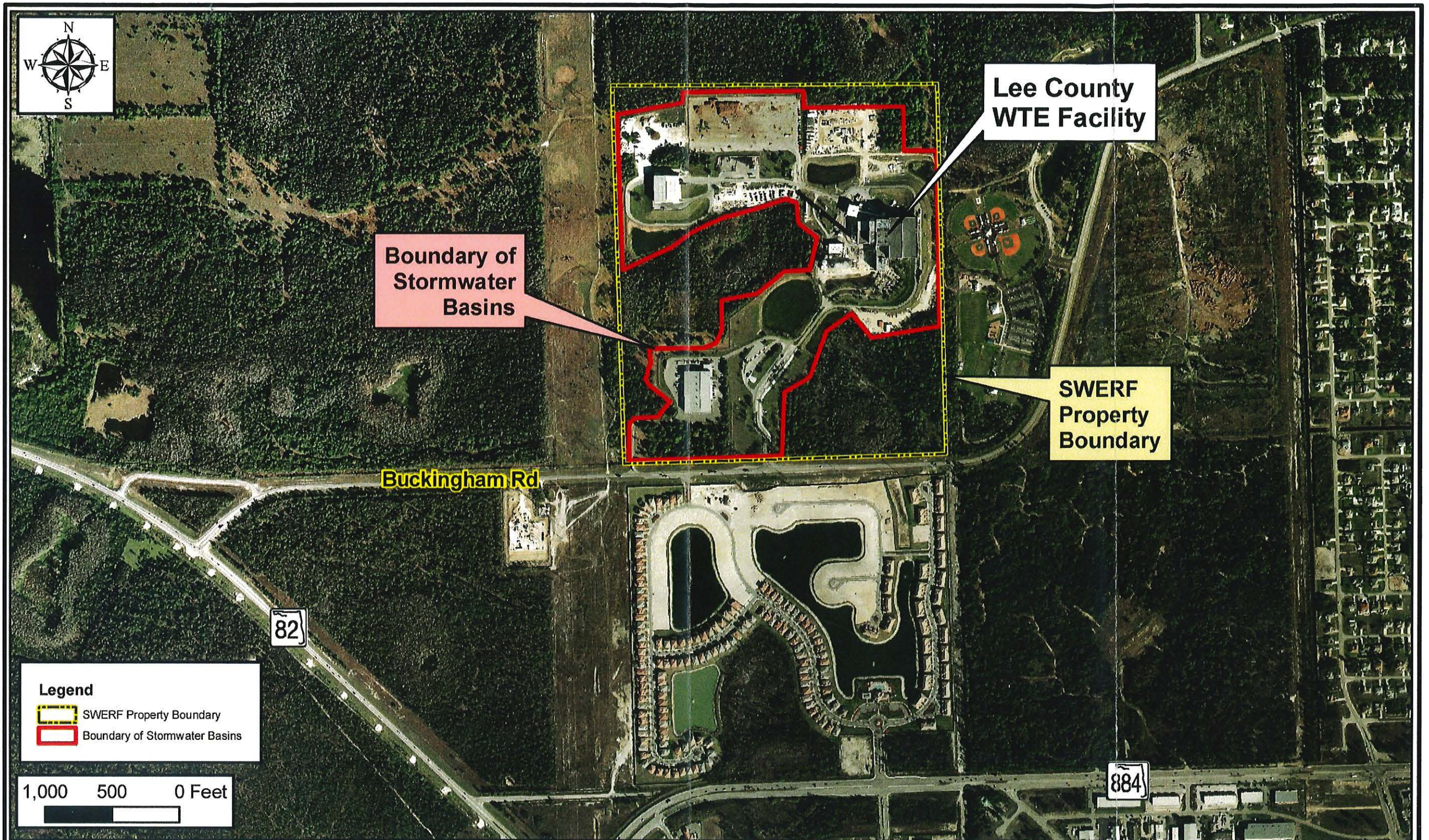


LEE COUNTY
SOUTHWEST FLORIDA

Lee County Solid Waste
Energy Recovery Facility

PROJECT VICINITY MAP

FIGURE 1



MODRET

SUMMARY OF UNSATURATED & SATURATED INPUT PARAMETERS

PROJECT NAME : Lee County RMPF Expansion - Basin 4
HYDROGRAPH RUNOFF DATA USED
UNSATURATED ANALYSIS EXCLUDED

Pond Bottom Area	3.56 ac	155,074.00 ft ²
Pond Volume between Bottom & DHWL	(24.1' - 21.4') (155,074)	418,699.00 ft ³
Pond Length to Width Ratio (L/W)	82' / 82'	1.00
Elevation of Effective Aquifer Base	(NRCS) 21.4 - 2.7'	18.7 ft
Elevation of Seasonal High Groundwater Table		21.40 ft
Elevation of Starting Water Level		21.40 ft
Elevation of Pond Bottom		21.40 ft
Design High Water Level Elevation		24.10 ft
Avg. Effective Storage Coefficient of Soil for Unsaturated Analysis		0.01
Unsaturated Vertical Hydraulic Conductivity	2/3 K _{SAT}	14.71 ft/d
Factor of Safety		2.00
Saturated Horizontal Hydraulic Conductivity	NRCS	22.06 ft/d
Avg. Effective Storage Coefficient of Soil for Saturated Analysis		0.20
Avg. Effective Storage Coefficient of Pond/Exfiltration Trench		1.00
Time Increment During Storm Event		2.00 hrs
Time Increment After Storm Event		12.00 hrs
Total Number of Increments After Storm Event		6.00

Runoff Hydrograph File Name: leecountyrmpf100yr72hrscsBASIN41.SC

Time of Peak Runoff: 60.39 hrs

Rate of Peak Runoff: 90.61 cfs

Hydraulic Control Features:

Groundwater Control Features - Y/N

Distance to Edge of Pond
 Elevation of Water Level

Top Bottom Left Right

N	N	N	N
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00

Impervious Barrier - Y/N

Elevation of Barrier Bottom

N	N	N	N
0.00	0.00	0.00	0.00

Max. water level 30.39' @ 76.12 hrs.
 Recovery @ > 148.12 hrs
 Max. infiltration rate 0.206 ft/day

MODRET

HYDROGRAPH DATA INPUT - SCS UNIT METHOD

Project Name : Lee County RMPF Expansion Basin 4
Rainfall Distribution : SFWMD (72 hrs)

Contributing Basin Area

44.92 ac.

SCS Curve Number

80.00

Time of Concentration

48.42 min.

Rainfall Depth

12.20 in.

Shape Factor

256

Percent DCIA

0.00 %

Wet season water table elevation = 21.4

Bottom pond = 21.4

Top pond = 24.1 (Max elev.)

$$\frac{1 \text{ mi}^2}{640 \text{ ac}} =$$

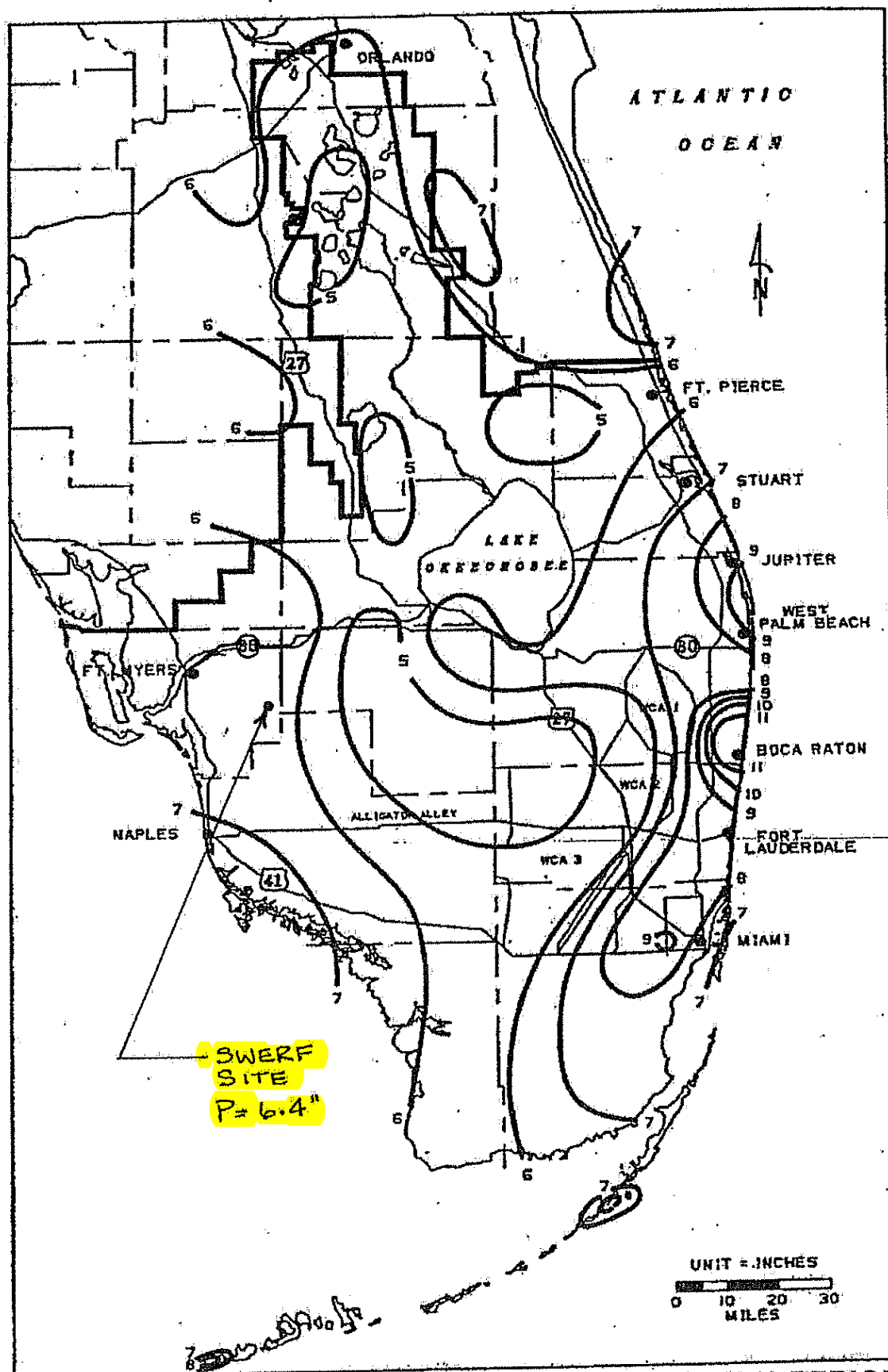


FIGURE C-4. 1-DAY RAINFALL: 10-YEAR RETURN PERIOD

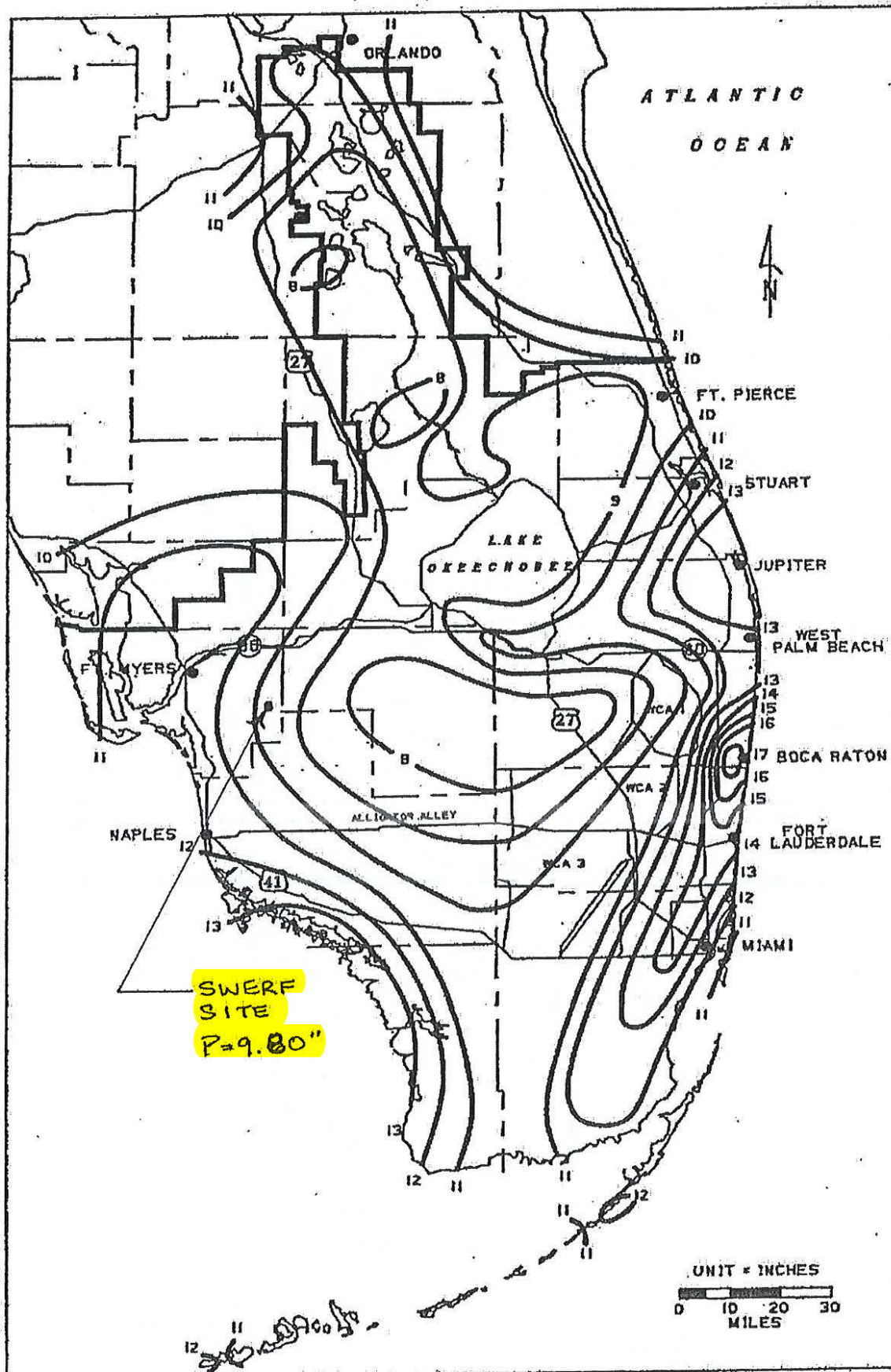


FIGURE C-8. 3-DAY RAINFALL: 25-YEAR RETURN PERIOD

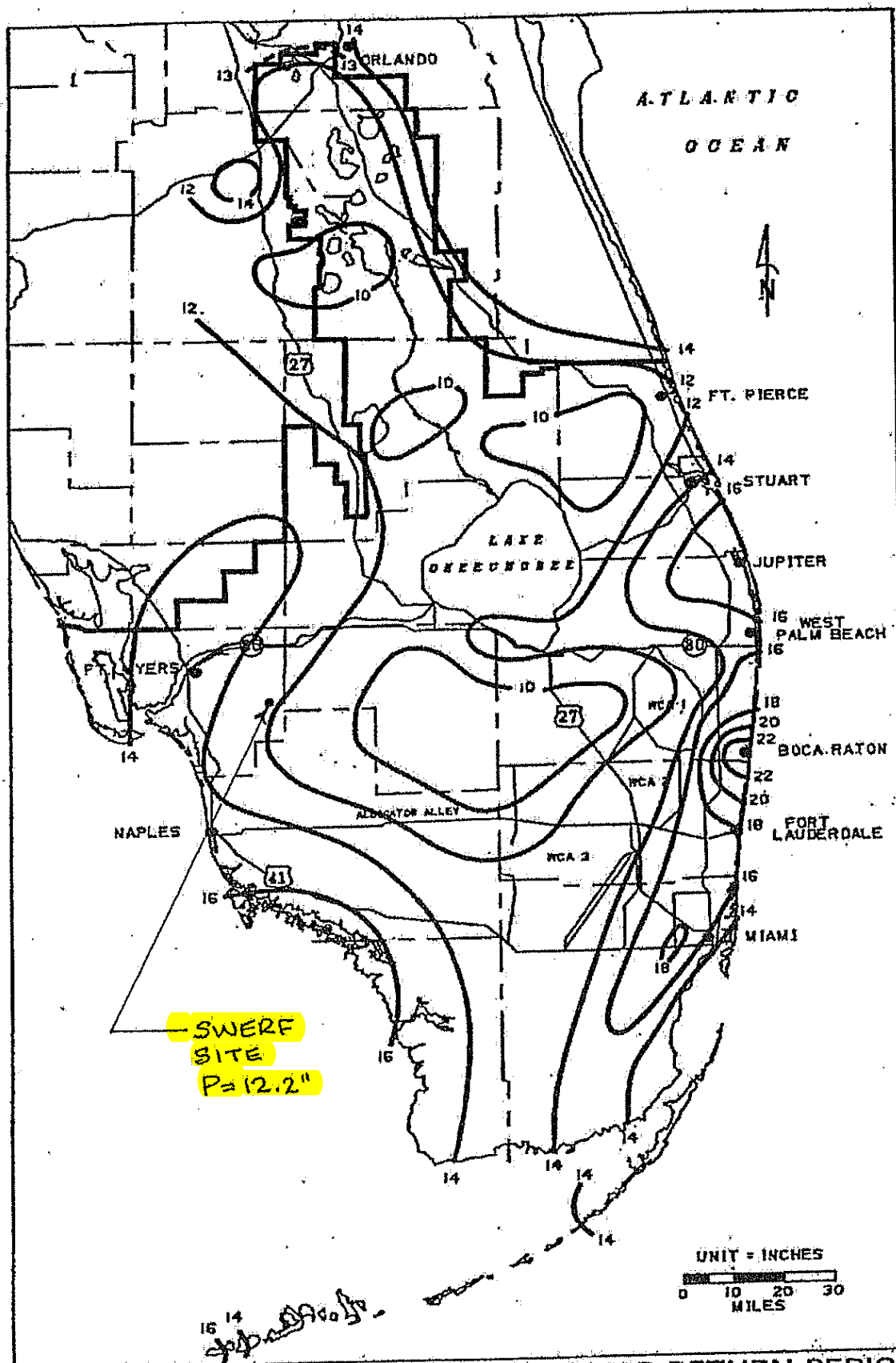


FIGURE C-9. 3-DAY RAINFALL: 100-YEAR RETURN PERIOD

Appendix D:
Excerpts from
2019 Stormwater
Management
System Update



Technical Memorandum

Date: June 24, 2019
Project: Lee County Solid Waste Complex
To: Lee County
From: HDR Engineering
Subject: Environmental Assessment

HDR performed an environmental assessment within the Lee County Solid Waste Complex (i.e. Buckingham Complex) for potential wetlands and/or surface waters as well as threatened or endangered species concerns. Five project areas were reviewed:

- Project Area 1 – SWERF Operator Maintenance Storage Shed
- Project Area 2 – SWERF Operator Spare Parts Storage Warehouse
- Project Area 3 – LCSW Fleet Maintenance Storage Building
- Project Area 4 – Entrance Road Turn-around
- Project Area 5 – Transfer Station Employee Building

Project Overview

The project is located in Lee County north of Buckingham Road (SR82A) in Section 24; Township 44S; Range 25E (**Figure 1**). The Buckingham Complex houses the majority of the County's Municipal Solid Waste (MSW) disposal and recycling operations of the Solid Waste System. The various solid waste components included in the complex are the County-operated Scale House where all incoming materials must be weighed and categorized, the Resource Recovery Facility (RRF) for incoming processible materials (primarily MSW), the Recyclable Materials Processing Facility (RMPF) for incoming recyclable materials, the horticultural area for yard waste, the "tire pad" for disposal of passenger and light truck tires, the Construction and Demolition Debris (C&DD) Facility for dedicated loads of construction and demolition materials, and the Buckingham Transfer Station (BTS) for processing during relatively rare peak periods or periods of major maintenance of the RRF or RMPF. The complex also contains the Vehicle Maintenance Shop (VMS) that is used for maintaining the Solid Waste Division's vehicles, trucks, and equipment.

The complex address is 10500 Buckingham Road, Fort Myers, FL 33905.

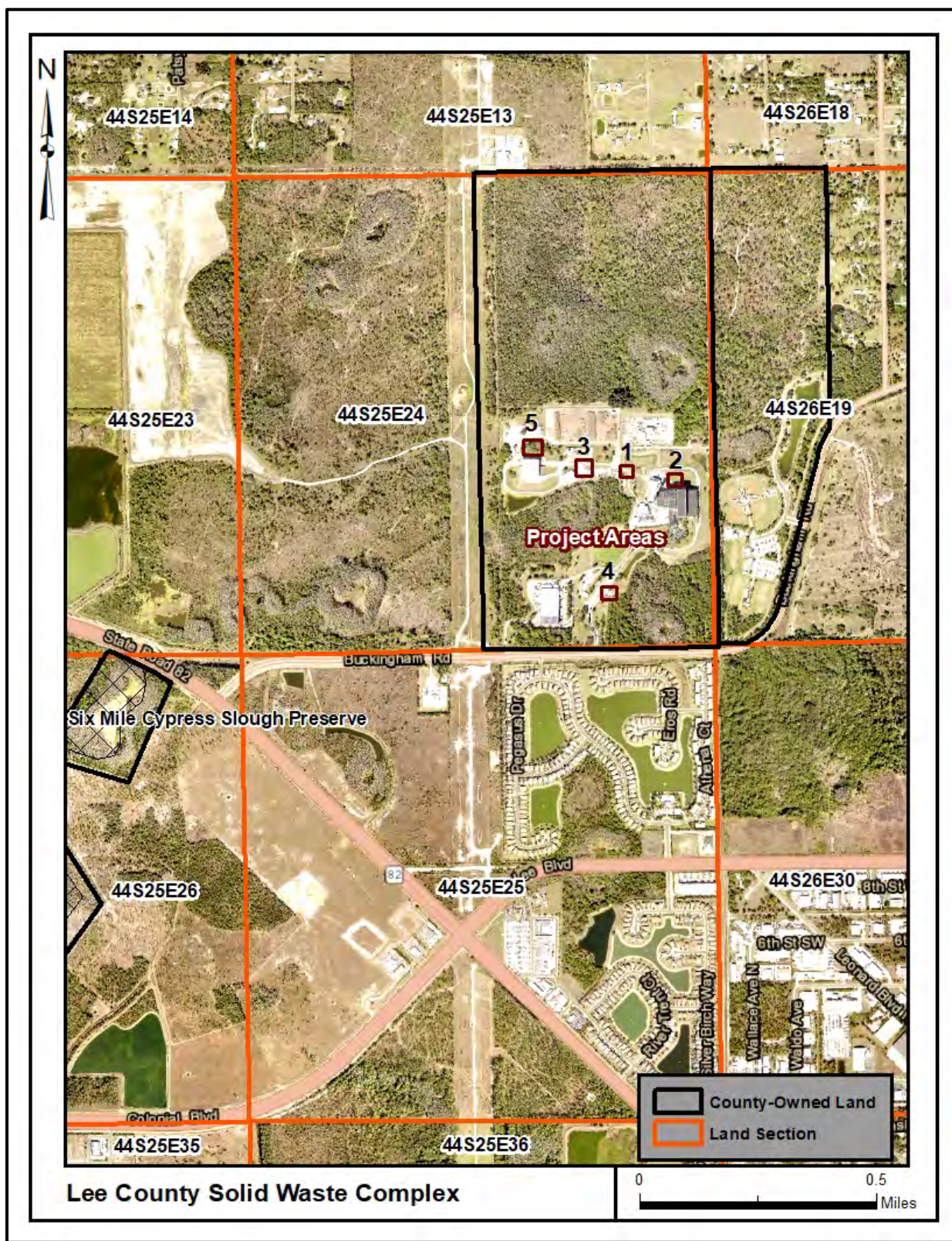


Figure 1. Location Map



Existing Conditions and Soils

The project site is an active solid waste processing complex with the aforementioned components.

Project Areas 1, 2, 3 and 4 were previously filled for development and hardened, sodded, and/or landscaped. Although these areas were mapped with hydric soils, the native soils were no longer present. These areas were landscaped uplands. Landscape vegetation included live oak (*Quercus virginiana*), slash pine (*Pinus elliotii*), and cabbage palm (*Sabal palmetto*).

Project Area 5 was a dry detention area surrounded by a parking lot, a graveled equipment storage lot, and a road. The soils were mapped with Boca fine sand (13), a non-hydric soil. Soil shovel tests confirmed the absence of hydric soils. Vegetation included laurel oaks (*Quercus laurifolia*), slash pine, and cabbage palm (*Sabal palmetto*).

A USDA Natural Resource Conservation Service (NRCS) soil survey map is provided as **Figure 2**.

Wetlands and Surface Waters

A field review was conducted to evaluate existing conditions and natural communities and to characterize habitat types. **Neither wetlands nor surface waters were observed.** Project Area 1 contained gravel and debris from a building that previously occupied the site footprint. Project Area 2 was a sodded field with landscaping. Project Area 3 was a parking lot for the VMS. Project Area 4 was an asphalt parking lot and a sodded field with landscaping. **Project Area 5 was a dry retention area with native trees.**

Protected Wildlife and Habitat

A desktop analysis was performed to evaluate wildlife records pertaining to protected species found in this region. This analysis was followed by a site inspection to characterize habitat and evaluate the area for the potential to support state and/or federally protected species. **Neither critical wildlife habitat nor protected wildlife was recorded for this site nor observed during the site review.**

The project site is within the U.S. Fish and Wildlife Service Consultation Areas of the red-cockaded woodpecker (*Leuconotopicus borealis*) and the Florida scrub-jay (*Aphelocoma coerulescens*) and is within the 18.6-mile core foraging buffer of wood stork (*Mycteria americana*) colonies along the Caloosahatchee River. Project Area 5 occurs at the outer limits of the USFWS secondary zone for the Florida panther (*Puma concolor coryi*). The potential presence of and impact to these and other protected wildlife is discussed below.



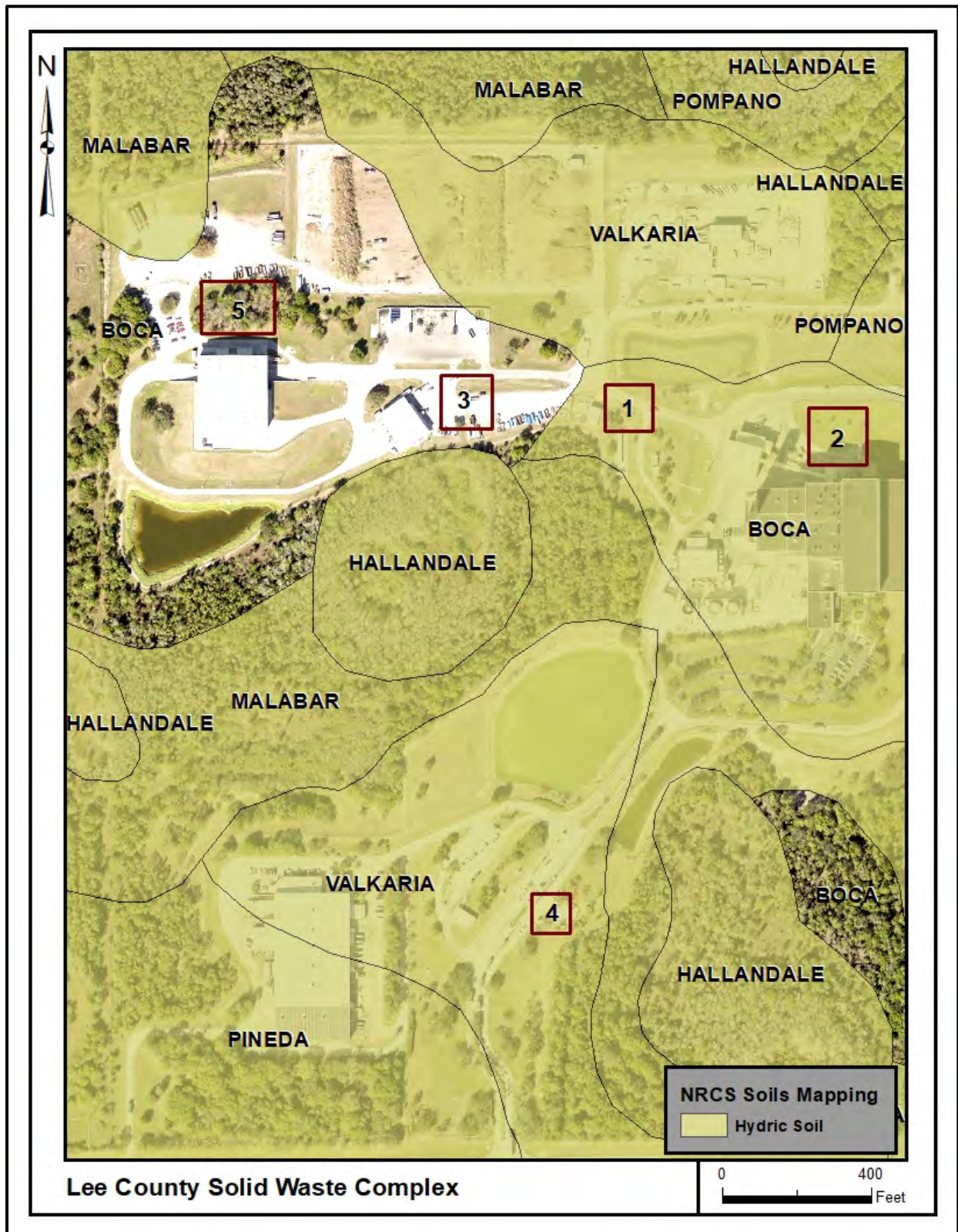


Figure 2. USDA NRCS Soil Survey Map



Based on existing conditions within each project area, impacts to protected wildlife would not be expected. Mature living pine trees needed to support the red-cockaded woodpecker were not present within the project areas. Scrub habitat necessary for the Florida scrub-jay was not observed. While the wood stork could utilize stormwater ponds and conservation wetlands within the solid waste complex – but not within the five project areas – for foraging and roosting, none were observed and given the absence of foraging habitat within the project areas, none would be expected. The five project areas were developed and under active operation as a solid waste processing complex; therefore, habitat to support the Florida panther was not present. The Eastern indigo snake (*Drymarchon corais couperi*) could potentially utilize this site. To protect this species during construction, contractors would adhere to the USFWS *Standard Protection Measures for the Eastern Indigo Snake* (USFWS, 2013), which requires that all workers be made aware of the potential presence of this species. Neither the gopher tortoise (*Gopherus polyphemus*) nor gopher tortoise burrows were observed.

Permitting

These proposed developments would not require a Section 404 dredge and fill permit from the U.S. Army Corps of Engineers (USACE) given the absence of Waters of the U.S. within the specific project areas.

The project is within the Tidal Caloosahatchee Watershed and the Orange River Drainage Basin, and is under the regulatory jurisdiction of the Florida Department of Environmental Protection (FDEP), South District in Fort Myers, Florida. Given the absence of jurisdictional wetlands or surface waters, the project would only need to address stormwater quantity and quality as part of the Environmental Resource Permitting. Since wetlands were not present, wetland mitigation would not be required.

Given the absence of habitat, protected species permitting would not be expected.

HDR Memo

Date: Friday, June 21, 2019

Project: Lee County Solid Waste Energy Recovery Facility (SWERF)

To: File

From: M.Oural/D.J. Castro

Subject: Lee County SWERF Additions - Stormwater Calculations

The stormwater calculations herein are an addition/modification to an existing permit Lee County Solid Waste Energy Recovery Facility (SWERF) within Section 24, Township 44 South and Range 25 East, Lee County, Florida. A number of new features are to be added on the property and pervious/impervious areas will be changed. The calculations included in this document show areas that are not fully determined/constructed yet and final areas may differ. Calculation methods and design criteria used are taken from previous renditions of this facility permit(s) to ensure no discrepancies from the initial design.

Features to be added (Attachment E):

1. SWERF Operator Maintenance Storage Shed – CLI Provided Drawings
2. SWERF Operator Spare Parts Storage Warehouse – CLI Provided Drawings
3. LCSW Fleet Maintenance Storage Building – 5,686 sq.ft.
4. New Entrance Turn-Around (minimal impacts)
5. Transfer Station Employee Building

The site is divided into basins 1 through 6, which make up two larger drainage basins. Basins 1 & 3 make up the first Drainage Basin (referred to as “Drainage Basin 1 & 3”), and Basins 2, 4, & 6 make up the second Drainage Basin (referred to as “Drainage Basin 2, 4, & 6”). Calculations included in this document analyze the runoff from 3 storm events for the Drainage Basin 2, 4, & 6 only. The storm events used are the 10-year 24-hour (used for road elevations), 25-year 72-hour (used for design), and the 100-year 72-hour (used for finished floor elevations). There are no planned improvements in Basins 3 and 5.

Note that the SWERF Operator Maintenance Storage Shed in Area 1 lies on the dividing line of two basins (2 & 4) and will be treated as half the total impervious area for Area 1 for basins 2 & 4 (0.02 acres for each basin).

Note that Area 2, the SWERF Operator Spare Parts Storage Warehouse, is 0.03 acres associated with building roofs.

Note that Area 3, the Fleet Maintenance Storage Building, (5,686 sq. ft. = 0.13 acres) has been separated as 0.1 acres associated with building roofs and 0.03 acres associated with roads and parking.

Note that Area 4 is a proposed turn-around that is 0.065 acres and is the only contributing impervious area associated with Drainage Basin 1 & 3. When compared to the impervious impact on Drainage Basin 2, 4, & 6 of 1.33 acres, it is relatively minute. Given the similar sizes of the two Drainage Basins, and the additional impervious areas associated with each, it can be concluded that Drainage Basin 1 & 3 will not see a sizeable impact in stormwater runoff due to the New Entrance Turn-Around.

Note that Area 5 is a Transfer Station Employee Building that is 0.13 acres, 0.1 acres associated with building roofs and 0.03 acres associated with roads and parking.

Cc: Rebecca Rodriguez, Lee County Solid Waste Division

Jason Fournier, Lee County Solid Waste Division

Kyle Perrin, HDR

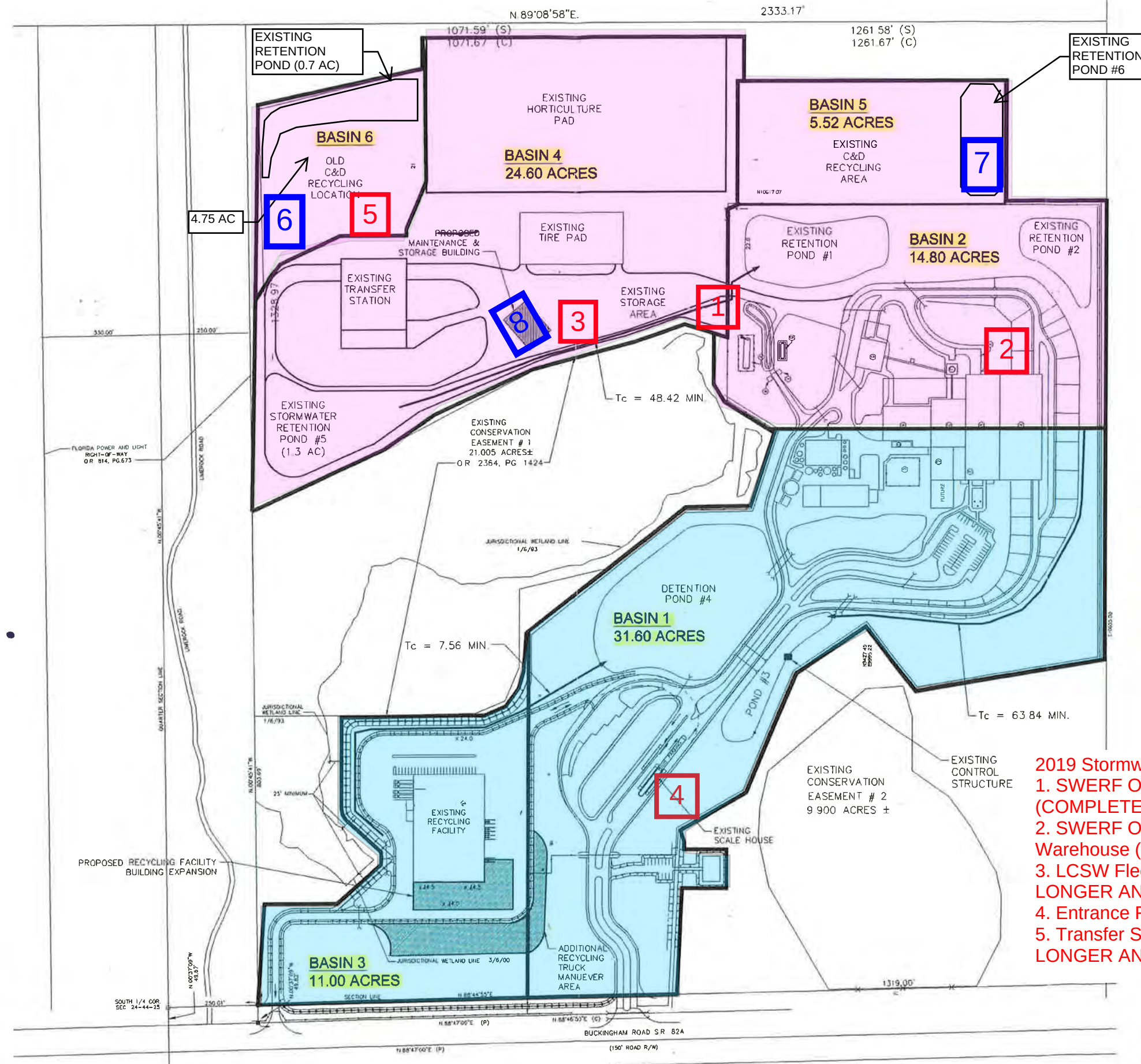
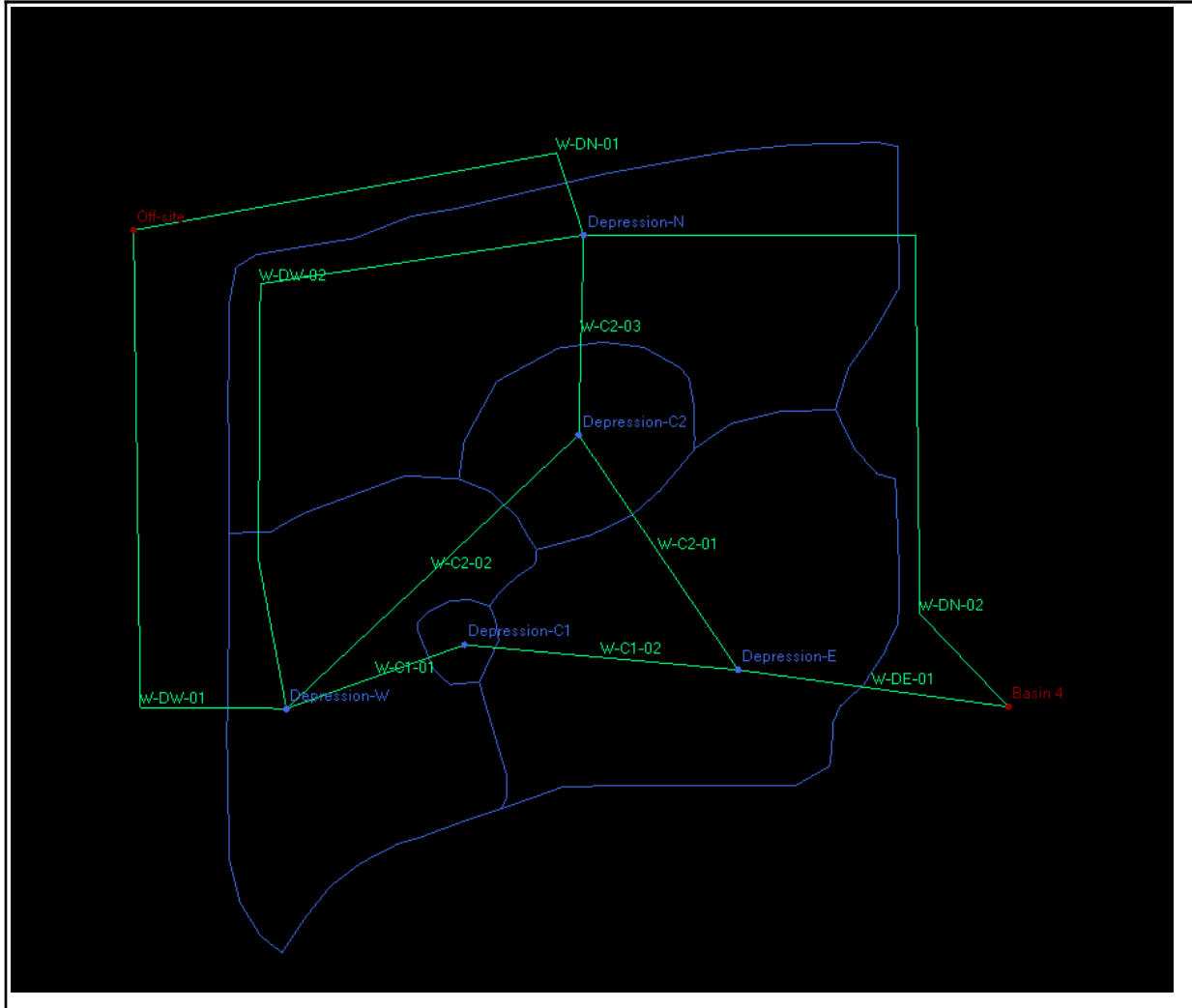


FIGURE 6
Basin Delineation / Site Plan
**Lee County Solid Waste Energy
Recovery Facility (SWERF)**

Appendix E: ICPR4 Report

Existing Condition

Background Image: Existing Diagram



Manual Basin: Depression-C1

Scenario: Existing
 Node: Depression-C1
 Hydrograph Method: NRCS Unit Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 0.00 cfs
 Time Shift: 0.0000 hr
 Unit Hydrograph: UH256
 Peaking Factor: 256.0
 Area: 0.0629 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient	Reference ET
-----------	-----------------	-----------	---------------	------------------	--------------

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
0.0128	Impervious	A			
0.0501	Forest	A			

Comment:

Manual Basin: Depression-C2

Scenario: Existing
 Node: Depression-C2
 Hydrograph Method: NRCS Unit Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 0.00 cfs
 Time Shift: 0.0000 hr
 Unit Hydrograph: UH256
 Peaking Factor: 256.0
 Area: 0.4222 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
0.3400	Disturbed	A			
0.0822	Forest	A			

Comment:

Manual Basin: Depression-E

Scenario: Existing
 Node: Depression-E
 Hydrograph Method: NRCS Unit Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 0.00 cfs
 Time Shift: 0.0000 hr
 Unit Hydrograph: UH256
 Peaking Factor: 256.0
 Area: 1.4434 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
0.2332	Impervious	A			
0.0054	Open Space	A			
0.8919	Forest	A			
0.3129	Disturbed	A			

Comment:

Manual Basin: Depression-N

Scenario: Existing
 Node: Depression-N
 Hydrograph Method: NRCS Unit Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 0.00 cfs
 Time Shift: 0.0000 hr
 Unit Hydrograph: UH256
 Peaking Factor: 256.0
 Area: 1.9191 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
1.1291	Open Space	A			
0.7899	Disturbed	A			

Comment:

Manual Basin: Depression-W

Scenario: Existing
 Node: Depression-W
 Hydrograph Method: NRCS Unit Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 0.00 cfs
 Time Shift: 0.0000 hr
 Unit Hydrograph: UH256
 Peaking Factor: 256.0
 Area: 1.1965 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
0.5706	Forest	A			
0.3266	Impervious	A			
0.0693	Open Space	A			
0.2300	Disturbed	A			

Comment:

Node: Basin 4

Scenario: Existing
 Type: Time/Stage
 Base Flow: 0.00 cfs
 Initial Stage: 21.50 ft
 Warning Stage: 0.00 ft
 Boundary Stage:

Comment: Boundary stage set at top of bank elevation

Node: Depression-C1

Scenario: Existing
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 0.00 ft
 Warning Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
20.69	0.0001	3
21.00	0.0067	290
21.50	0.0125	546
22.00	0.0173	753
22.50	0.0227	987
23.00	0.0311	1353
23.50	0.0445	1939
24.00	0.0630	2743
24.50	0.0631	2746
25.00	0.0631	2746

Comment:

Node: Depression-C2

Scenario: Existing
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 0.00 ft
 Warning Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
20.85	0.0001	3
21.00	0.0035	153
21.50	0.0196	853
22.00	0.0307	1337
22.50	0.0365	1590
23.00	0.0466	2031
23.50	0.2137	9309
24.00	0.4140	18034
24.50	0.4161	18127
25.00	0.4168	18157
25.50	0.4181	18213
26.00	0.4187	18240

Stage [ft]	Area [ac]	Area [ft2]
26.50	0.4197	18284
27.00	0.4203	18306
27.50	0.4208	18329
28.00	0.4215	18360
28.50	0.4221	18387
29.00	0.4221	18387

Comment:

Node: Depression-E

Scenario: Existing
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 19.31 ft
 Warning Stage: 21.60 ft

Stage [ft]	Area [ac]	Area [ft2]
19.31	0.0001	3
19.50	0.0011	46
20.00	0.0453	1974
20.50	0.5656	24639
21.00	0.6733	29330
21.50	0.7333	31942
22.00	0.7766	33827
22.50	0.8186	35659
23.00	0.8829	38461
23.50	1.1547	50298
24.00	1.4410	62768
24.50	1.4410	62768

Comment:

Node: Depression-N

Scenario: Existing
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 19.21 ft
 Warning Stage: 21.70 ft

Stage [ft]	Area [ac]	Area [ft2]
19.21	0.0001	3
19.50	0.0149	651
20.00	0.1921	8370
20.50	0.5634	24543

Stage [ft]	Area [ac]	Area [ft2]
21.00	0.7261	31627
21.50	0.8474	36912
22.00	0.9760	42515
22.50	1.1125	48459
23.00	1.3735	59830
23.50	1.6438	71603
24.00	1.9060	83025
24.50	1.9093	83168
25.00	1.9102	83206
25.50	1.9102	83206

Comment:

Node: Depression-W

Scenario: Existing
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 19.18 ft
 Warning Stage: 21.70 ft

Stage [ft]	Area [ac]	Area [ft2]
19.18	0.0001	3
19.50	0.0022	94
20.00	0.0890	3876
20.50	0.3802	16563
21.00	0.4434	19314
21.50	0.4844	21103
22.00	0.5345	23281
22.50	0.6175	26899
23.00	0.7611	33155
23.50	0.9740	42426
24.00	1.1890	51794
24.50	1.1890	51794

Comment:

Node: Off-site

Scenario: Existing
 Type: Time/Stage
 Base Flow: 0.00 cfs
 Initial Stage: 0.00 ft
 Warning Stage: 0.00 ft
 Boundary Stage:

Comment:

Weir Link: W-C1-01

Scenario:	Existing	Bottom Clip
From Node:	Depression-C1	Default: 0.00 ft
To Node:	Depression-W	Op Table:
Link Count:	1	Ref Node:
Flow Direction:	Both	Top Clip
Damping:	0.0000 ft	Default: 0.00 ft
Weir Type:	Broad Crested Vertical	Op Table:
Geometry Type:	Irregular	Ref Node:
Invert:	23.43 ft	Discharge Coefficients
Control Elevation:	23.43 ft	Weir Default: 2.800
Cross Section:	X-0070W	Weir Table:
		Orifice Default: 0.600
		Orifice Table:

Comment:

Weir Link: W-C1-02

Scenario:	Existing	Bottom Clip
From Node:	Depression-C1	Default: 0.00 ft
To Node:	Depression-E	Op Table:
Link Count:	1	Ref Node:
Flow Direction:	Both	Top Clip
Damping:	0.0000 ft	Default: 0.00 ft
Weir Type:	Broad Crested Vertical	Op Table:
Geometry Type:	Irregular	Ref Node:
Invert:	23.60 ft	Discharge Coefficients
Control Elevation:	23.60 ft	Weir Default: 2.800
Cross Section:	X-0080W	Weir Table:
		Orifice Default: 0.600
		Orifice Table:

Comment:

Weir Link: W-C2-01

Scenario:	Existing	Bottom Clip
From Node:	Depression-C2	Default: 0.00 ft
To Node:	Depression-E	Op Table:
Link Count:	1	Ref Node:
Flow Direction:	Both	Top Clip
Damping:	0.0000 ft	Default: 0.00 ft

Weir Type: Broad Crested Vertical
Geometry Type: Irregular
Invert: 23.57 ft
Control Elevation: 23.57 ft
Cross Section: X-0050W

Op Table:
Ref Node:
Discharge Coefficients
Weir Default: 2.800
Weir Table:
Orifice Default: 0.600
Orifice Table:

Comment:

Weir Link: W-C2-02

Scenario: Existing
From Node: Depression-C2
To Node: Depression-W
Link Count: 1
Flow Direction: Both
Damping: 0.0000 ft
Weir Type: Broad Crested Vertical
Geometry Type: Irregular
Invert: 23.54 ft
Control Elevation: 23.54 ft
Cross Section: X-0060W

Bottom Clip
Default: 0.00 ft
Op Table:
Ref Node:
Top Clip
Default: 0.00 ft
Op Table:
Ref Node:
Discharge Coefficients
Weir Default: 2.800
Weir Table:
Orifice Default: 0.600
Orifice Table:

Comment:

Weir Link: W-C2-03

Scenario: Existing
From Node: Depression-C2
To Node: Depression-N
Link Count: 1
Flow Direction: Both
Damping: 0.0000 ft
Weir Type: Broad Crested Vertical
Geometry Type: Irregular
Invert: 23.12 ft
Control Elevation: 23.12 ft
Cross Section: X-0040W

Bottom Clip
Default: 0.00 ft
Op Table:
Ref Node:
Top Clip
Default: 0.00 ft
Op Table:
Ref Node:
Discharge Coefficients
Weir Default: 2.800
Weir Table:
Orifice Default: 0.600
Orifice Table:

Comment:

Weir Link: W-DE-01

Scenario: Existing
From Node: Depression-E
To Node: Basin 4
Link Count: 1
Flow Direction: Both
Damping: 0.0000 ft
Weir Type: Broad Crested Vertical
Geometry Type: Irregular
Invert: 21.56 ft
Control Elevation: 21.56 ft
Cross Section: X-0010W

Bottom Clip

Default: 0.00 ft

Op Table:

Ref Node:

Top Clip

Default: 0.00 ft

Op Table:

Ref Node:

Discharge Coefficients

Weir Default: 2.800

Weir Table:

Orifice Default: 0.600

Orifice Table:

Comment:

Weir Link: W-DN-01

Scenario: Existing
From Node: Depression-N
To Node: Off-site
Link Count: 1
Flow Direction: Both
Damping: 0.0000 ft
Weir Type: Broad Crested Vertical
Geometry Type: Irregular
Invert: 21.68 ft
Control Elevation: 21.68 ft
Cross Section: X-0090W

Bottom Clip

Default: 0.00 ft

Op Table:

Ref Node:

Top Clip

Default: 0.00 ft

Op Table:

Ref Node:

Discharge Coefficients

Weir Default: 2.800

Weir Table:

Orifice Default: 0.600

Orifice Table:

Comment:

Weir Link: W-DN-02

Scenario: Existing
From Node: Depression-N
To Node: Basin 4
Link Count: 1
Flow Direction: Both
Damping: 0.0000 ft
Weir Type: Broad Crested Vertical
Geometry Type: Irregular
Invert: 22.49 ft
Control Elevation: 22.49 ft
Cross Section: X-0120W

Bottom Clip

Default: 0.00 ft

Op Table:

Ref Node:

Top Clip

Default: 0.00 ft

Op Table:

Ref Node:

Discharge Coefficients

Weir Default: 2.800

Weir Table:

Orifice Default: 0.600

Orifice Table:

Comment:

Weir Link: W-DW-01

Scenario: Existing
 From Node: Depression-W
 To Node: Off-site
 Link Count: 1
 Flow Direction: Both
 Damping: 0.0000 ft
 Weir Type: Broad Crested Vertical
 Geometry Type: Irregular
 Invert: 21.72 ft
 Control Elevation: 21.72 ft
 Cross Section: X-0100W

Bottom Clip

Default: 0.00 ft
 Op Table:
 Ref Node:

Top Clip

Default: 0.00 ft
 Op Table:
 Ref Node:

Discharge Coefficients

Weir Default: 2.800
 Weir Table:
 Orifice Default: 0.600
 Orifice Table:

Comment:

Weir Link: W-DW-02

Scenario: Existing
 From Node: Depression-W
 To Node: Depression-N
 Link Count: 1
 Flow Direction: Both
 Damping: 0.0000 ft
 Weir Type: Broad Crested Vertical
 Geometry Type: Irregular
 Invert: 20.46 ft
 Control Elevation: 20.46 ft
 Cross Section: X-0110W

Bottom Clip

Default: 0.00 ft
 Op Table:
 Ref Node:

Top Clip

Default: 0.00 ft
 Op Table:
 Ref Node:

Discharge Coefficients

Weir Default: 2.800
 Weir Table:
 Orifice Default: 0.600
 Orifice Table:

Comment:

Node Max Conditions [Existing]

Node Name	Sim Name	Warning Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
Basin 4	100yr-72hr	0.00	21.50	0.0000	0.00	0.00	0
Depression-C	100yr-72hr	0.00	22.38	0.0008	0.13	0.00	929

Node Name	Sim Name	Warning Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
1							
Depression-C 2	100yr-72hr	0.00	23.23	0.0010	1.70	1.69	5327
Depression-E	100yr-72hr	21.60	21.18	0.0008	3.85	0.00	30263
Depression-N	100yr-72hr	21.70	21.59	0.0010	7.92	0.82	37943
Depression-W	100yr-72hr	21.70	21.59	0.0010	4.52	0.27	21503
Off-site	100yr-72hr	0.00	0.00	0.0000	0.00	0.00	0
Basin 4	10yr-24hr	0.00	21.50	0.0000	0.00	0.00	0
Depression-C 1	10yr-24hr	0.00	21.60	0.0003	0.05	0.00	588
Depression-C 2	10yr-24hr	0.00	23.17	0.0010	0.79	0.06	4433
Depression-E	10yr-24hr	21.60	20.59	0.0010	1.63	0.00	25524
Depression-N	10yr-24hr	21.70	20.66	0.0010	1.99	0.02	26846
Depression-W	10yr-24hr	21.70	20.66	0.0010	1.80	0.19	17450
Off-site	10yr-24hr	0.00	0.00	0.0000	0.00	0.00	0
Basin 4	25yr-72hr	0.00	21.50	0.0000	0.00	0.00	0
Depression-C 1	25yr-72hr	0.00	22.05	0.0008	0.08	0.00	777
Depression-C 2	25yr-72hr	0.00	23.22	0.0010	1.27	1.26	5210
Depression-E	25yr-72hr	21.60	20.92	0.0007	2.65	0.00	28618
Depression-N	25yr-72hr	21.70	21.21	0.0010	6.70	0.36	33827
Depression-W	25yr-72hr	21.70	21.21	0.0010	2.66	1.15	20058
Off-site	25yr-72hr	0.00	0.00	0.0000	0.00	0.00	0

Simulation: 100yr-72hr

Scenario: Existing
Run Date/Time: 2/15/2023 7:58:25 AM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	96.0000

	Hydrology [sec]	Surface Hydraulics [sec]	Groundwater [sec]
Min Calculation Time:	60.0000	0.1000	900.0000
Max Calculation Time:		30.0000	

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Groundwater

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	60.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:
Reference ET Folder:
Unit Hydrograph
Folder:

Lookup Tables

Boundary Stage Set: 100yr-72hr
Extern Hydrograph Set:
Curve Number Set: CN (A)

Green-Ampt Set:
Vertical Layers Set:
Impervious Set: Imperviousness
Roughness Set:
Crop Coef Set:
Fillable Porosity Set:
Conductivity Set:
Leakage Set:

Tolerances & Options

Time Marching: SAOR	IA Recovery Time: 24.0000 hr
Max Iterations: 6	ET for Manual Basins: False
Over-Relax Weight: 0.5 dec	
Fact:	
dZ Tolerance: 0.0010 ft	Smp/Man Basin Rain: Global
	Opt:
Max dZ: 1.0000 ft	OF Region Rain Opt: Global
Link Optimizer Tol: 0.0001 ft	Rainfall Name: ~SFWM-72
	Rainfall Amount: 12.20 in
Edge Length Option: Automatic	Storm Duration: 72.0000 hr
Dflt Damping (2D): 0.0050 ft	Dflt Damping (1D): 0.0050 ft
Min Node Srf Area: 100 ft2	Min Node Srf Area: 100 ft2

(2D):
Energy Switch (2D): Energy

(1D):
Energy Switch (1D): Energy

Comment:

Simulation: 10yr-24hr

Scenario: Existing
Run Date/Time: 2/15/2023 7:59:34 AM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	24.0000
	Hydrology [sec]	Surface Hydraulics [sec]	Groundwater [sec]	
Min Calculation Time:	60.0000	0.1000	900.0000	
Max Calculation Time:		30.0000		

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Groundwater

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	60.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:
Reference ET Folder:

Lookup Tables

Boundary Stage Set: 10yr-24hr
Extern Hydrograph Set:

Unit Hydrograph
Folder:

Curve Number Set: CN (A)

Green-Ampt Set:
Vertical Layers Set:
Impervious Set: Imperviousness
Roughness Set:
Crop Coef Set:
Fillable Porosity Set:
Conductivity Set:
Leakage Set:

Tolerances & Options

Time Marching: SAOR	IA Recovery Time: 24.0000 hr
Max Iterations: 6	ET for Manual Basins: False
Over-Relax Weight: 0.5 dec	
Fact:	
dZ Tolerance: 0.0010 ft	Smp/Man Basin Rain: Global
	Opt:
Max dZ: 1.0000 ft	OF Region Rain Opt: Global
Link Optimizer Tol: 0.0001 ft	Rainfall Name: ~FLMOD
	Rainfall Amount: 6.40 in
Edge Length Option: Automatic	Storm Duration: 24.0000 hr
Dflt Damping (2D): 0.0050 ft	Dflt Damping (1D): 0.0050 ft
Min Node Srf Area: 100 ft2	Min Node Srf Area: 100 ft2
(2D):	(1D):
Energy Switch (2D): Energy	Energy Switch (1D): Energy

Comment:

Simulation: 25yr-72hr

Scenario: Existing
Run Date/Time: 2/15/2023 8:00:05 AM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	96.0000
	Hydrology [sec]	Surface Hydraulics [sec]	Groundwater [sec]	
Min Calculation Time:	60.0000	0.1000	900.0000	
Max Calculation Time:		30.0000		

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Groundwater

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	60.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:
Reference ET Folder:
Unit Hydrograph
Folder:

Lookup Tables

Boundary Stage Set: 25yr-72hr
Extern Hydrograph Set:
Curve Number Set: CN (A)

Green-Ampt Set:
Vertical Layers Set:
Impervious Set: Imperviousness
Roughness Set:
Crop Coef Set:
Fillable Porosity Set:
Conductivity Set:
Leakage Set:

Tolerances & Options

Time Marching: SAOR
Max Iterations: 6
Over-Relax Weight 0.5 dec
Fact:
dZ Tolerance: 0.0010 ft

Max dZ: 1.0000 ft
Link Optimizer Tol: 0.0001 ft

Edge Length Option: Automatic

IA Recovery Time: 24.0000 hr
ET for Manual Basins: False

Smp/Man Basin Rain Global
Opt:
OF Region Rain Opt: Global
Rainfall Name: ~SFWMD-72
Rainfall Amount: 9.80 in
Storm Duration: 72.0000 hr

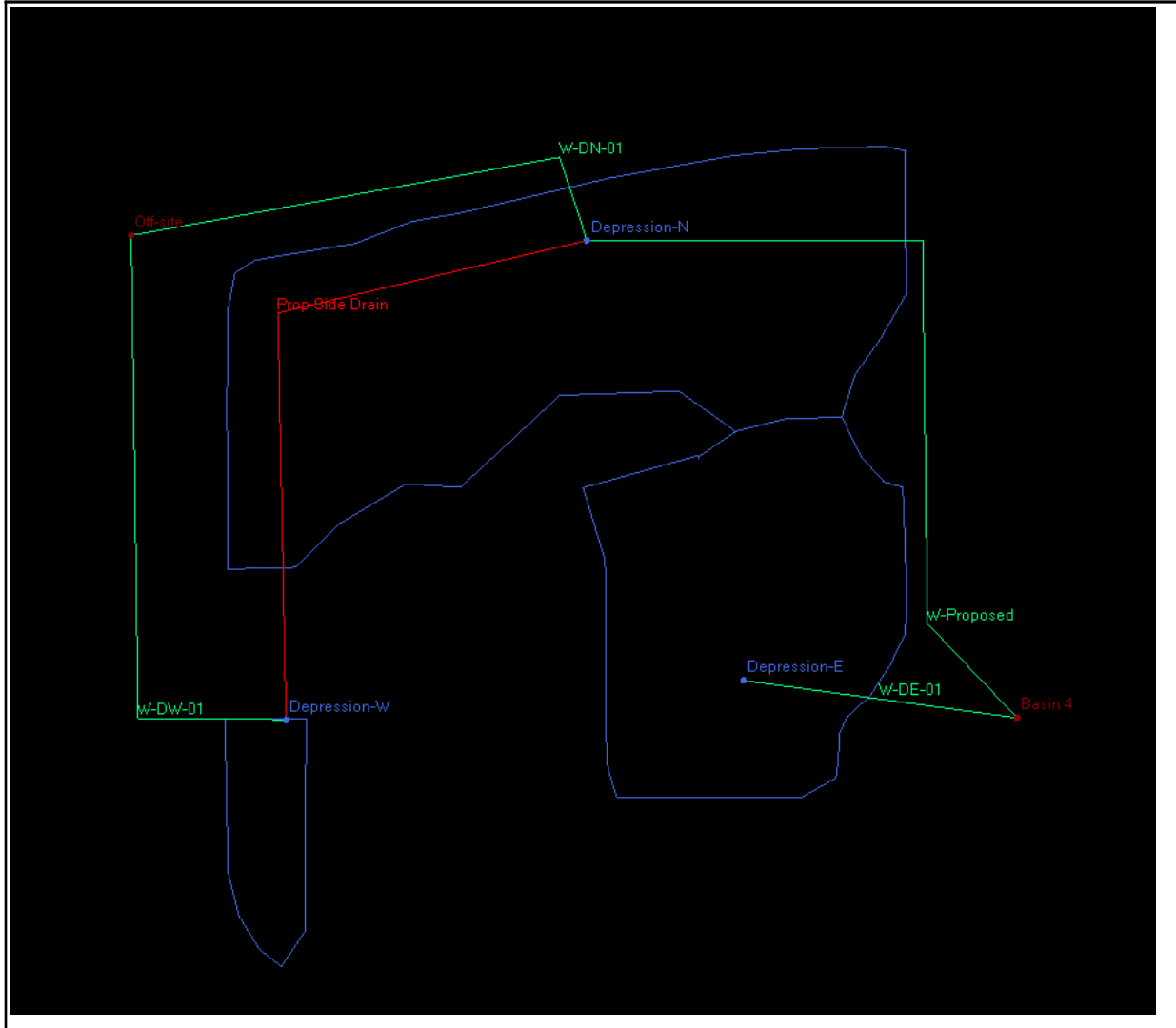
Dflt Damping (2D): 0.0050 ft
Min Node Srf Area 100 ft2
(2D):
Energy Switch (2D): Energy

Dflt Damping (1D): 0.0050 ft
Min Node Srf Area 100 ft2
(1D):
Energy Switch (1D): Energy

Comment:

Proposed Condition

Background Image: Proposed Diagram



Manual Basin: Depression-E

Scenario: Proposed
 Node: Depression-E
 Hydrograph Method: NRCS Unit Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 0.00 cfs
 Time Shift: 0.0000 hr
 Unit Hydrograph: UH256
 Peaking Factor: 256.0
 Area: 1.4918 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
0.2531	Impervious	A			
0.0054	Open Space	A			
0.8113	Forest	A			
0.4220	Disturbed	A			

Comment:

Manual Basin: Depression-N

Scenario: Proposed
 Node: Depression-N
 Hydrograph Method: NRCS Unit Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 0.00 cfs
 Time Shift: 0.0000 hr
 Unit Hydrograph: UH256
 Peaking Factor: 256.0
 Area: 2.1743 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
1.1291	Open Space	A			
1.0452	Disturbed	A			

Comment:

Manual Basin: Depression-W

Scenario: Proposed
 Node: Depression-W
 Hydrograph Method: NRCS Unit Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 0.00 cfs
 Time Shift: 0.0000 hr
 Unit Hydrograph: UH256
 Peaking Factor: 256.0
 Area: 1.3780 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
0.2635	Forest	A			
0.7938	Impervious	A			
0.0477	Open Space	A			
0.2730	Disturbed	A			

Comment:

Node: Basin 4

Scenario: Proposed
 Type: Time/Stage
 Base Flow: 0.00 cfs
 Initial Stage: 21.50 ft
 Warning Stage: 0.00 ft
 Boundary Stage:

Comment: Boundary stage set at top of bank elevation

Node: Depression-E

Scenario: Proposed
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 0.00 ft
 Warning Stage: 21.60 ft

Stage [ft]	Area [ac]	Area [ft2]
19.31	0.0001	3
19.50	0.0011	46
20.00	0.0453	1974
20.50	0.5338	23254
21.00	0.6215	27071
21.50	0.6544	28504
22.00	0.6840	29795
22.50	0.7136	31084
23.00	0.7576	33001
23.50	0.9130	39771
24.00	1.1735	51118
24.50	1.1735	51118

Comment:

Node: Depression-N

Scenario: Proposed
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 0.00 ft
 Warning Stage: 21.70 ft

Stage [ft]	Area [ac]	Area [ft2]
19.21	0.0001	3
19.50	0.0149	651
20.00	0.1921	8370
20.50	0.5658	24645
21.00	0.7316	31869
21.50	0.8549	37238
22.00	0.9854	42923
22.50	1.1291	49185
23.00	1.4088	61369
23.50	1.7688	77049
24.00	2.0577	89634
24.50	2.0614	89793
25.00	2.0615	89800
25.50	2.0615	89800

Comment:

Node: Depression-W

Scenario: Proposed
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 21.70 ft

Stage [ft]	Area [ac]	Area [ft2]
19.62	0.0001	3
20.00	0.0319	1391
20.50	0.1397	6084
21.00	0.1584	6902
21.50	0.1708	7442
22.00	0.1835	7993
22.50	0.1960	8539
23.00	0.2054	8946
23.50	0.2075	9041
24.00	0.2075	9041

Comment:

Node: Off-site

Scenario: Proposed
Type: Time/Stage
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft

Warning Stage: 0.00 ft
Boundary Stage:

Comment:

Pipe Link: Prop Side Drain		Upstream	Downstream
Scenario:	Proposed	Invert: 19.50 ft	Invert: 19.30 ft
From Node:	Depression-W	Manning's N: 0.0120	Manning's N: 0.0120
To Node:	Depression-N	Geometry: Circular	Geometry: Circular
Link Count:	1	Max Depth: 1.25 ft	Max Depth: 1.25 ft
Flow Direction:	Both	Bottom Clip	
Damping:	0.0000 ft	Default: 0.00 ft	Default: 0.00 ft
Length:	120.00 ft	Op Table:	Op Table:
FHWA Code:	0	Ref Node:	Ref Node:
Entr Loss Coef:	0.50	Manning's N: 0.0000	Manning's N: 0.0000
Exit Loss Coef:	1.00	Top Clip	
Bend Loss Coef:	0.00	Default: 0.00 ft	Default: 0.00 ft
Bend Location:	0.00 dec	Op Table:	Op Table:
Energy Switch:	Energy	Ref Node:	Ref Node:
		Manning's N: 0.0000	Manning's N: 0.0000

Comment:

Weir Link: W-DE-01			
Scenario:	Proposed	Bottom Clip	
From Node:	Depression-E	Default:	0.00 ft
To Node:	Basin 4	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	Top Clip	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Broad Crested Vertical	Op Table:	
Geometry Type:	Irregular	Ref Node:	
Invert:	21.56 ft	Discharge Coefficients	
Control Elevation:	21.56 ft	Weir Default:	2.800
Cross Section:	X-0010W	Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Comment:

Weir Link: W-DN-01		Bottom Clip
Scenario:	Proposed	Default: 0.00 ft
From Node:	Depression-N	

To Node: Off-site
 Link Count: 1
 Flow Direction: Both
 Damping: 0.0000 ft
 Weir Type: Broad Crested Vertical
 Geometry Type: Irregular
 Invert: 22.25 ft
 Control Elevation: 22.25 ft
 Cross Section: X-0090W

Op Table:
 Ref Node:
 Top Clip
 Default: 0.00 ft
 Op Table:
 Ref Node:
 Discharge Coefficients
 Weir Default: 2.800
 Weir Table:
 Orifice Default: 0.600
 Orifice Table:

Comment:

Weir Link: W-DW-01

Scenario: Proposed
 From Node: Depression-W
 To Node: Off-site
 Link Count: 1
 Flow Direction: Both
 Damping: 0.0000 ft
 Weir Type: Broad Crested Vertical
 Geometry Type: Irregular
 Invert: 22.25 ft
 Control Elevation: 22.25 ft
 Cross Section: X-0100W

Bottom Clip
 Default: 0.00 ft
 Op Table:
 Ref Node:
 Top Clip
 Default: 0.00 ft
 Op Table:
 Ref Node:
 Discharge Coefficients
 Weir Default: 2.800
 Weir Table:
 Orifice Default: 0.600
 Orifice Table:

Comment:

Weir Link: W-Proposed

Scenario: Proposed
 From Node: Depression-N
 To Node: Basin 4
 Link Count: 1
 Flow Direction: None
 Damping: 0.0000 ft
 Weir Type: Broad Crested Vertical
 Geometry Type: Trapezoidal
 Invert: 22.25 ft
 Control Elevation: 22.25 ft
 Max Depth: 99.00 ft
 Extrapolation Method: Normal Projection
 Bottom Width: 3.00 ft
 Left Slope: 4.000 (h:v)

Bottom Clip
 Default: 0.00 ft
 Op Table:
 Ref Node:
 Top Clip
 Default: 0.00 ft
 Op Table:
 Ref Node:
 Discharge Coefficients
 Weir Default: 2.800
 Weir Table:
 Orifice Default: 0.600
 Orifice Table:

Right Slope: 4.000 (h:v)

Comment:

Node Max Conditions [Proposed]

Node Name	Sim Name	Warning Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
Basin 4	100yr-72hr	0.00	21.50	0.0000	0.00	0.00	0
Depression-E	100yr-72hr	21.60	21.37	0.0010	4.37	0.00	28140
Depression-N	100yr-72hr	21.70	22.26	0.0010	10.10	0.24	46242
Depression-W	100yr-72hr	21.70	22.27	0.0010	6.00	2.82	8286
Off-site	100yr-72hr	0.00	0.00	0.0000	0.31	0.00	0
Basin 4	10yr-24hr	0.00	21.50	0.0000	0.00	0.00	0
Depression-E	10yr-24hr	21.60	20.69	0.0010	1.96	0.00	24671
Depression-N	10yr-24hr	21.70	21.16	0.0010	4.58	0.00	33605
Depression-W	10yr-24hr	21.70	21.16	0.0010	3.69	2.07	7079
Off-site	10yr-24hr	0.00	0.00	0.0000	0.00	0.00	0
Basin 4	25yr-72hr	0.00	21.50	0.0000	0.00	0.00	0
Depression-E	25yr-72hr	21.60	21.07	0.0010	3.08	0.00	27281
Depression-N	25yr-72hr	21.70	21.85	0.0010	7.52	0.00	41267
Depression-W	25yr-72hr	21.70	21.85	0.0010	4.63	2.34	7835
Off-site	25yr-72hr	0.00	0.00	0.0000	0.00	0.00	0

Simulation: 100yr-72hr

Scenario: Proposed

Run Date/Time: 3/10/2023 8:43:05 AM

Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	96.0000

	Hydrology [sec]	Surface Hydraulics [sec]	Groundwater [sec]
Min Calculation Time:	60.0000	0.1000	900.0000
Max Calculation Time:		30.0000	

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
------	-------	-----	-----------	----------------------

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Groundwater

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	60.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:
Reference ET Folder:
Unit Hydrograph
Folder:

Lookup Tables

Boundary Stage Set: 100yr-72hr
Extern Hydrograph Set:
Curve Number Set: CN (A)

Green-Ampt Set:
Vertical Layers Set:
Impervious Set: Imperviousness
Roughness Set:
Crop Coef Set:
Fillable Porosity Set:
Conductivity Set:
Leakage Set:

Tolerances & Options

Time Marching: SAOR
Max Iterations: 6
Over-Relax Weight: 0.5 dec
Fact:
dZ Tolerance: 0.0010 ft

Max dZ: 1.0000 ft
Link Optimizer Tol: 0.0001 ft

Edge Length Option: Automatic

Dflt Damping (2D): 0.0050 ft
Min Node Srf Area: 100 ft2
(2D):
Energy Switch (2D): Energy

IA Recovery Time: 24.0000 hr
ET for Manual Basins: False

Smp/Man Basin Rain: Global
Opt:
OF Region Rain Opt: Global
Rainfall Name: ~SFWMD-72
Rainfall Amount: 12.20 in
Storm Duration: 72.0000 hr

Dflt Damping (1D): 0.0050 ft
Min Node Srf Area: 100 ft2
(1D):
Energy Switch (1D): Energy

Comment:

Simulation: 10yr-24hr

Scenario: Proposed
Run Date/Time: 3/10/2023 8:43:15 AM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	24.0000
	Hydrology [sec]	Surface Hydraulics [sec]	Groundwater [sec]	
Min Calculation Time:	60.0000	0.1000	900.0000	
Max Calculation Time:		30.0000		

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Groundwater

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	60.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:
Reference ET Folder:
Unit Hydrograph
Folder:

Lookup Tables

Boundary Stage Set: 10yr-24hr
Extern Hydrograph Set:
Curve Number Set: CN (A)

Green-Ampt Set:

Vertical Layers Set:
 Impervious Set: Imperviousness
 Roughness Set:
 Crop Coef Set:
 Fillable Porosity Set:
 Conductivity Set:
 Leakage Set:

Tolerances & Options

Time Marching: SAOR	IA Recovery Time: 24.0000 hr
Max Iterations: 6	ET for Manual Basins: False
Over-Relax Weight 0.5 dec	
Fact:	
dZ Tolerance: 0.0010 ft	Smp/Man Basin Rain Global
	Opt:
Max dZ: 1.0000 ft	OF Region Rain Opt: Global
Link Optimizer Tol: 0.0001 ft	Rainfall Name: ~FLMOD
	Rainfall Amount: 6.40 in
Edge Length Option: Automatic	Storm Duration: 24.0000 hr
Dflt Damping (2D): 0.0050 ft	Dflt Damping (1D): 0.0050 ft
Min Node Srf Area 100 ft2	Min Node Srf Area 100 ft2
(2D):	(1D):
Energy Switch (2D): Energy	Energy Switch (1D): Energy

Comment:

Simulation: 25yr-72hr

Scenario: Proposed
 Run Date/Time: 3/10/2023 8:43:17 AM
 Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	96.0000
	Hydrology [sec]	Surface Hydraulics	Groundwater [sec]	
		[sec]		
Min Calculation Time:	60.0000	0.1000	900.0000	
Max Calculation Time:		30.0000		

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Groundwater

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	60.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:
Reference ET Folder:
Unit Hydrograph
Folder:

Lookup Tables

Boundary Stage Set: 25yr-72hr
Extern Hydrograph Set:
Curve Number Set: CN (A)

Green-Ampt Set:
Vertical Layers Set:
Impervious Set: Imperviousness
Roughness Set:
Crop Coef Set:
Fillable Porosity Set:
Conductivity Set:
Leakage Set:

Tolerances & Options

Time Marching: SAOR
Max Iterations: 6
Over-Relax Weight: 0.5 dec
Fact:
dZ Tolerance: 0.0010 ft

Max dZ: 1.0000 ft
Link Optimizer Tol: 0.0001 ft

Edge Length Option: Automatic

Dflt Damping (2D): 0.0050 ft
Min Node Srf Area 100 ft2
(2D):

IA Recovery Time: 24.0000 hr
ET for Manual Basins: False

Smp/Man Basin Rain Global
Opt:
OF Region Rain Opt: Global
Rainfall Name: ~SFWMD-72
Rainfall Amount: 9.80 in
Storm Duration: 72.0000 hr

Dflt Damping (1D): 0.0050 ft
Min Node Srf Area 100 ft2
(1D):

Energy Switch (2D): Energy

Energy Switch (1D): Energy

Comment:

Curve Number: CN (A) [Set]

Land Cover Zone	Soil Zone	Curve Number [dec]
Disturbed	A	72.0
Forest	A	30.0
Impervious	A	98.0
Open Space	A	39.0

Impervious: Imperviousness [Set]

Land Cover Zone	% Impervious	% DCIA	% Direct	Ia Impervious [in]	Ia Pervious [in]
Disturbed	0.00	0.00	0.00	0.000	0.000
Forest	0.00	0.00	0.00	0.000	0.000
Impervious	100.00	100.00	0.00	0.000	0.000
Open Space	0.00	0.00	0.00	0.000	0.000

Appendix F:

ICPR4

Recovery

Analysis

Node: Depression-E

Scenario: Recovery (Existing)
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 20.92 ft
 Warning Stage: 21.60 ft

Stage [ft]	Area [ac]	Area [ft2]
19.31	0.0001	3
19.50	0.0011	46
20.00	0.0453	1974
20.50	0.5338	23254
21.00	0.6215	27071
21.50	0.6544	28504
22.00	0.6840	29795
22.50	0.7136	31084
23.00	0.7576	33001
23.50	0.9130	39771
24.00	1.1735	51118
24.50	1.1735	51118

Comment:

Node: Depression-N

Scenario: Recovery (Existing)
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 21.21 ft
 Warning Stage: 21.70 ft

Stage [ft]	Area [ac]	Area [ft2]
20.00	0.6566	28600
21.00	0.9426	41060
22.00	1.1610	50572
22.50	1.2556	54696
23.00	1.7273	75240
23.50	1.9001	82768
24.00	2.0615	89800
24.50	2.0615	89800

Comment:

Node: Depression-W

Scenario: Recovery (Existing)
 Type: Stage/Area

Base Flow: 0.00 cfs
 Initial Stage: 21.21 ft
 Warning Stage: 21.70 ft

Stage [ft]	Area [ac]	Area [ft2]
19.62	0.0001	3
20.00	0.0319	1391
20.50	0.1397	6084
21.00	0.1584	6902
21.50	0.1708	7442
22.00	0.1835	7993
22.50	0.1960	8539
23.00	0.2054	8946
23.50	0.2075	9041
24.00	0.2075	9041

Comment:

Node: Groundwater

Scenario: Recovery (Existing)
 Type: Time/Stage
 Base Flow: 0.00 cfs
 Initial Stage: 0.00 ft
 Warning Stage: 0.00 ft
 Boundary Stage:

Comment:

Percolation Link: L-E-PERC

Scenario:	Recovery (Existing)	Surface Area Option:	Vary Based on Stage/Area Table
From Node:	Depression-E	Vertical Flow Termination:	Horizontal Flow Algorithm
To Node:	Groundwater	Perimeter 1:	620.00 ft
Link Count:	1	Perimeter 2:	780.00 ft
Flow Direction:	Both	Perimeter 3:	1420.00 ft
Aquifer Base Elevation:	13.00 ft	Distance P1 to P2:	25.00 ft
Water Table Elevation:	18.31 ft	Distance P2 to P3:	100.00 ft
Annual Recharge Rate:	0 ipy	# of Cells P1 to P2:	5
Horizontal Conductivity:	22.060 fpd	# of Cells P2 to P3:	10
Vertical Conductivity:	14.710 fpd		
Fillable Porosity:	0.200		
Layer Thickness:	1.00 ft		

Comment: Percolation parameters taken from 2009 MODRET model in Basin 4. Estimated GWT elevation to be at least 1-ft below pond bottom per site visit.

Percolation Link: L-N-PERC

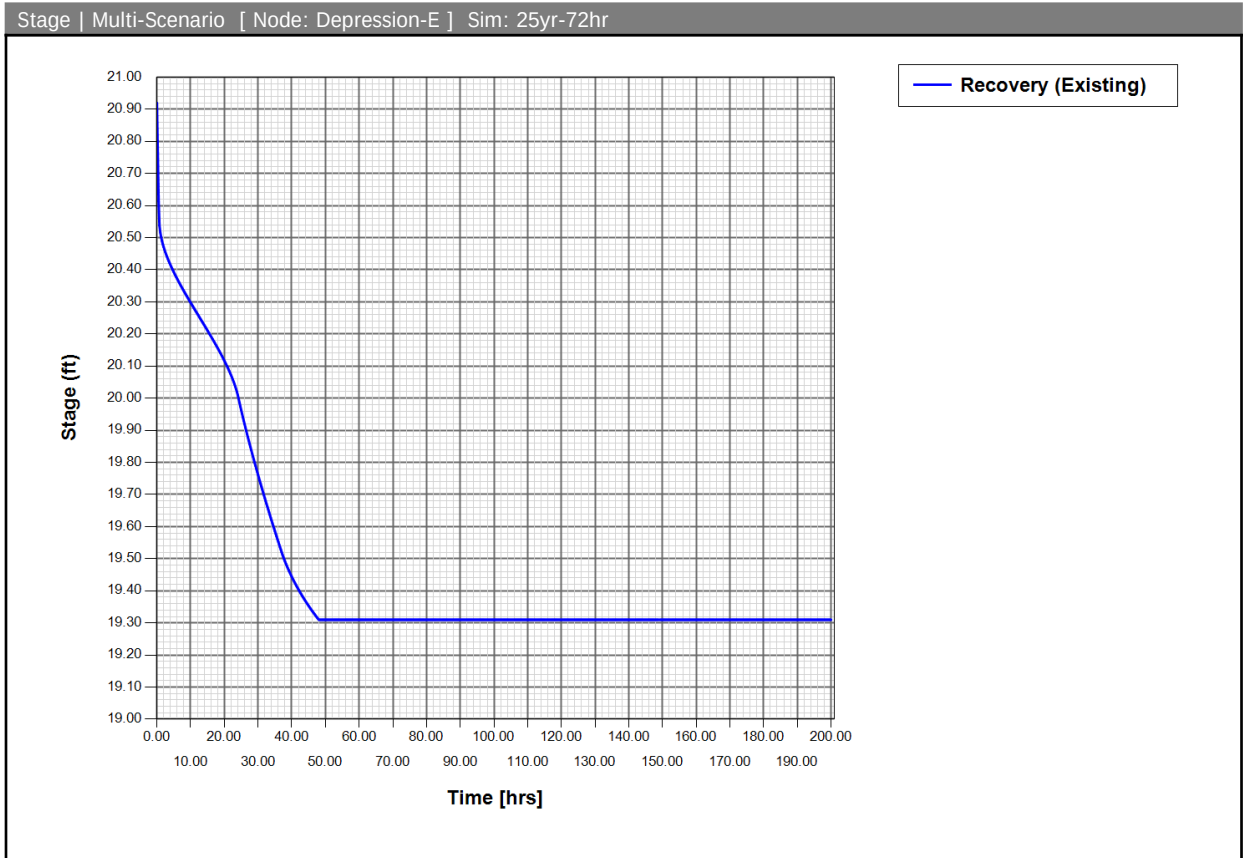
Scenario:	Recovery (Existing)	Surface Area Option:	Vary Based on Stage/Area Table
From Node:	Depression-N		
To Node:	Groundwater	Vertical Flow Termination:	Horizontal Flow Algorithm
Link Count:	1	Perimeter 1:	1370.00 ft
Flow Direction:	Both	Perimeter 2:	1540.00 ft
Aquifer Base Elevation:	14.00 ft	Perimeter 3:	2020.00 ft
Water Table Elevation:	19.00 ft	Distance P1 to P2:	25.00 ft
Annual Recharge Rate:	0 ipy	Distance P2 to P3:	100.00 ft
Horizontal Conductivity:	22.060 fpd	# of Cells P1 to P2:	5
Vertical Conductivity:	14.710 fpd	# of Cells P2 to P3:	10
Fillable Porosity:	0.200		
Layer Thickness:	1.00 ft		

Comment: Percolation parameters taken from 2009 MODRET model in Basin 4. Estimated GWT elevation to be at least 1-ft below pond bottom per site visit.

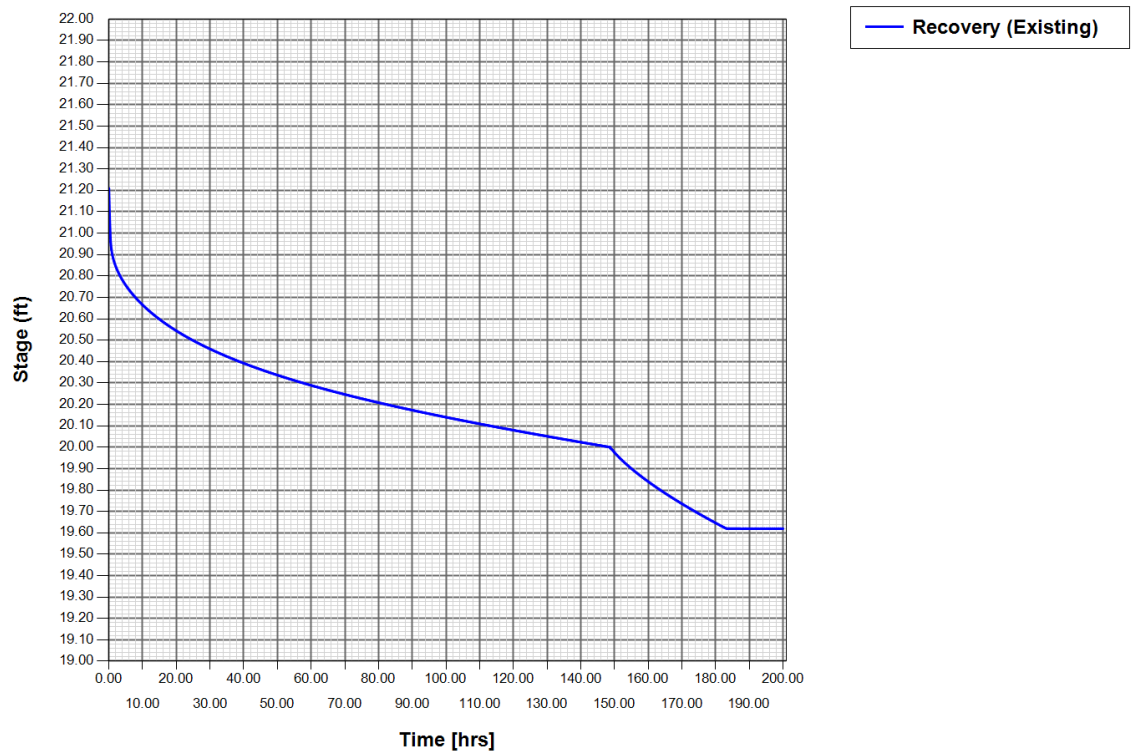
Percolation Link: L-W-PERC

Scenario:	Recovery (Existing)	Surface Area Option:	Vary Based on Stage/Area Table
From Node:	Depression-W		
To Node:	Groundwater	Vertical Flow Termination:	Horizontal Flow Algorithm
Link Count:	1	Perimeter 1:	580.00 ft
Flow Direction:	Both	Perimeter 2:	760.00 ft
Aquifer Base Elevation:	14.00 ft	Perimeter 3:	1430.00 ft
Water Table Elevation:	18.62 ft	Distance P1 to P2:	25.00 ft
Annual Recharge Rate:	0 ipy	Distance P2 to P3:	100.00 ft
Horizontal Conductivity:	22.060 fpd	# of Cells P1 to P2:	5
Vertical Conductivity:	14.710 fpd	# of Cells P2 to P3:	10
Fillable Porosity:	0.200		
Layer Thickness:	1.00 ft		

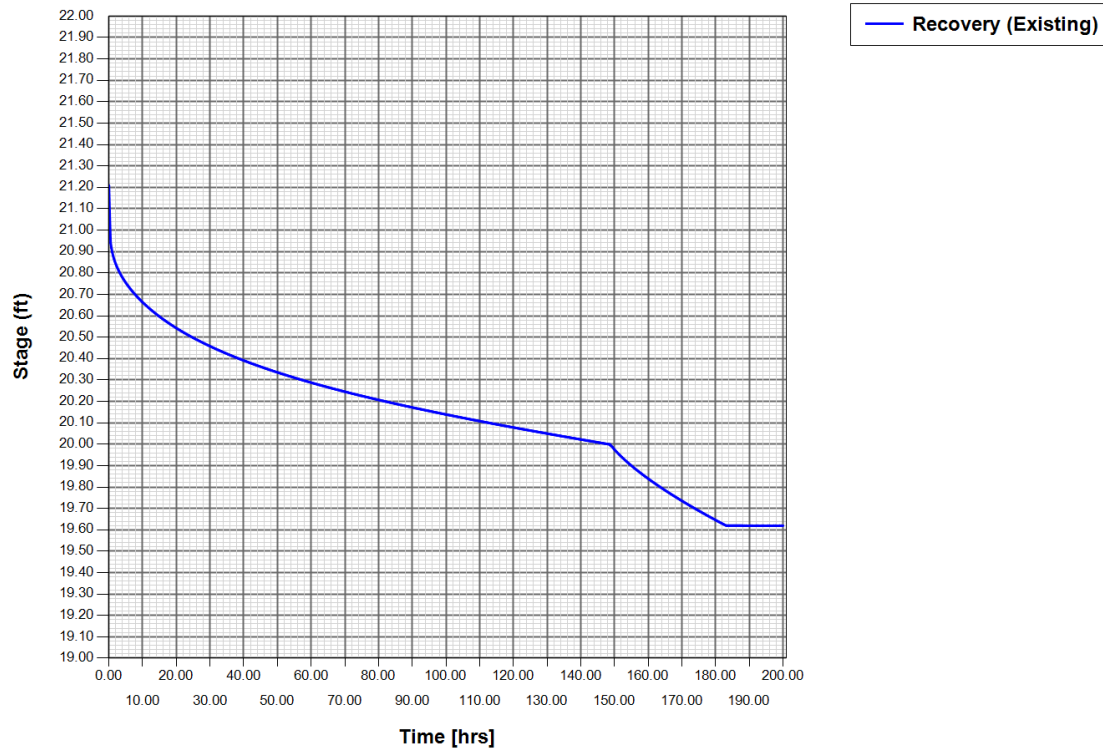
Comment: Percolation parameters taken from 2009 MODRET model in Basin 4. Estimated GWT elevation to be at least 1-ft below pond bottom per site visit.



Stage | Multi-Scenario [Node: Depression-N] Sim: 25yr-72hr



Stage | Multi-Scenario [Node: Depression-W] Sim: 25yr-72hr



Node: Depression-E

Scenario: Recovery (Proposed)

Type: Stage/Area

Base Flow: 0.00 cfs

Initial Stage: 21.07 ft

Warning Stage: 21.60 ft

Stage [ft]	Area [ac]	Area [ft2]
19.31	0.0001	3
19.50	0.0011	46
20.00	0.0453	1974
20.50	0.5338	23254
21.00	0.6215	27071
21.50	0.6544	28504
22.00	0.6840	29795
22.50	0.7136	31084
23.00	0.7576	33001
23.50	0.9130	39771
24.00	1.1735	51118

Stage [ft]	Area [ac]	Area [ft2]
24.50	1.1735	51118

Comment:

Node: Depression-N

Scenario: Recovery (Proposed)
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 21.54 ft
 Warning Stage: 21.70 ft

Stage [ft]	Area [ac]	Area [ft2]
20.00	0.6566	28600
21.00	0.9426	41060
22.00	1.1610	50572
22.50	1.2556	54696
23.00	1.7273	75240
23.50	1.9001	82768
24.00	2.0615	89800
24.50	2.0615	89800

Comment:

Node: Depression-W

Scenario: Recovery (Proposed)
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 21.54 ft
 Warning Stage: 21.70 ft

Stage [ft]	Area [ac]	Area [ft2]
19.62	0.0001	3
20.00	0.0319	1391
20.50	0.1397	6084
21.00	0.1584	6902
21.50	0.1708	7442
22.00	0.1835	7993
22.50	0.1960	8539
23.00	0.2054	8946
23.50	0.2075	9041
24.00	0.2075	9041

Comment:

Node: Groundwater

Scenario: Recovery (Proposed)
 Type: Time/Stage
 Base Flow: 0.00 cfs
 Initial Stage: 0.00 ft
 Warning Stage: 0.00 ft
 Boundary Stage:

Comment:

Percolation Link: L-E-PERC

Scenario:	Recovery (Proposed)	Surface Area Option:	Vary Based on Stage/Area Table
From Node:	Depression-E	Vertical Flow Termination:	Horizontal Flow Algorithm
To Node:	Groundwater	Perimeter 1:	620.00 ft
Link Count:	1	Perimeter 2:	780.00 ft
Flow Direction:	Both	Perimeter 3:	1420.00 ft
Aquifer Base Elevation:	13.00 ft	Distance P1 to P2:	25.00 ft
Water Table Elevation:	18.31 ft	Distance P2 to P3:	100.00 ft
Annual Recharge Rate:	0 ipy	# of Cells P1 to P2:	5
Horizontal Conductivity:	22.060 fpd	# of Cells P2 to P3:	10
Vertical Conductivity:	14.710 fpd		
Fillable Porosity:	0.200		
Layer Thickness:	1.00 ft		

Comment: Percolation parameters taken from 2009 MODRET model in Basin 4. Estimated GWT elevation to be at least 1-ft below pond bottom per site visit.

Percolation Link: L-N-PERC

Scenario:	Recovery (Proposed)	Surface Area Option:	Vary Based on Stage/Area Table
From Node:	Depression-N	Vertical Flow Termination:	Horizontal Flow Algorithm
To Node:	Groundwater	Perimeter 1:	1370.00 ft
Link Count:	1	Perimeter 2:	1540.00 ft
Flow Direction:	Both	Perimeter 3:	2020.00 ft
Aquifer Base Elevation:	14.00 ft	Distance P1 to P2:	25.00 ft
Water Table Elevation:	19.00 ft	Distance P2 to P3:	100.00 ft
Annual Recharge Rate:	0 ipy	# of Cells P1 to P2:	5
Horizontal Conductivity:	22.060 fpd	# of Cells P2 to P3:	10
Vertical Conductivity:	14.710 fpd		
Fillable Porosity:	0.200		
Layer Thickness:	1.00 ft		

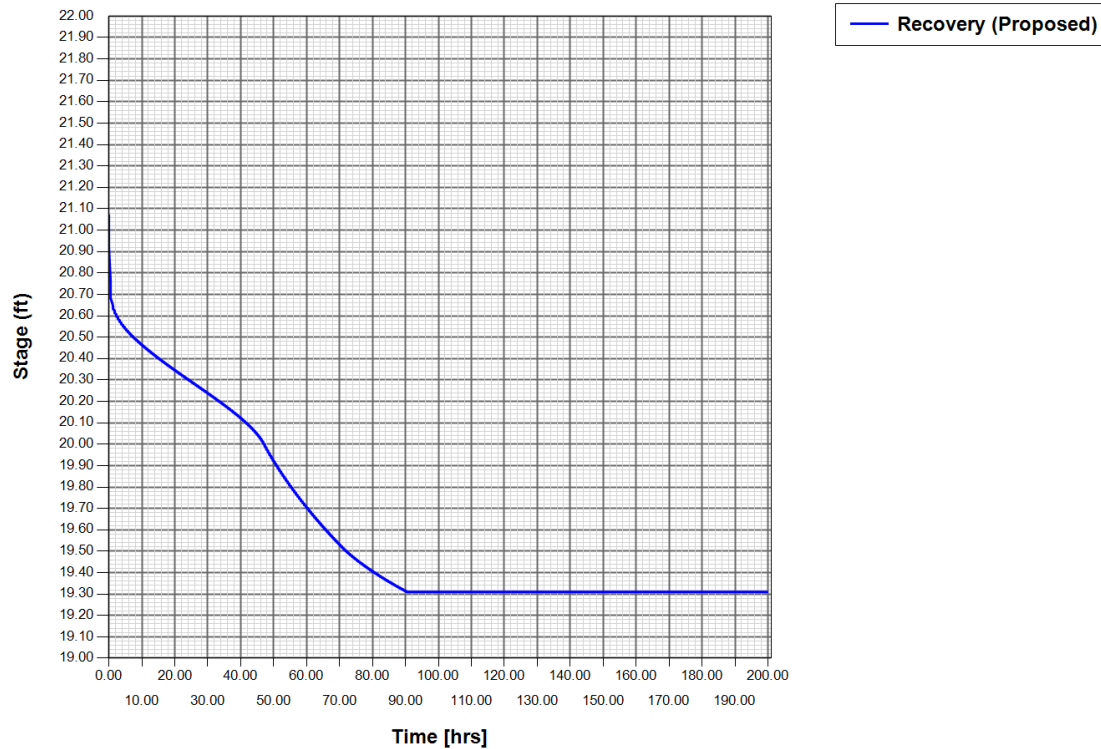
Comment: Percolation parameters taken from 2009 MODRET model in Basin 4. Estimated GWT elevation to be at least 1-ft below pond bottom per site visit.

Percolation Link: L-W-PERC

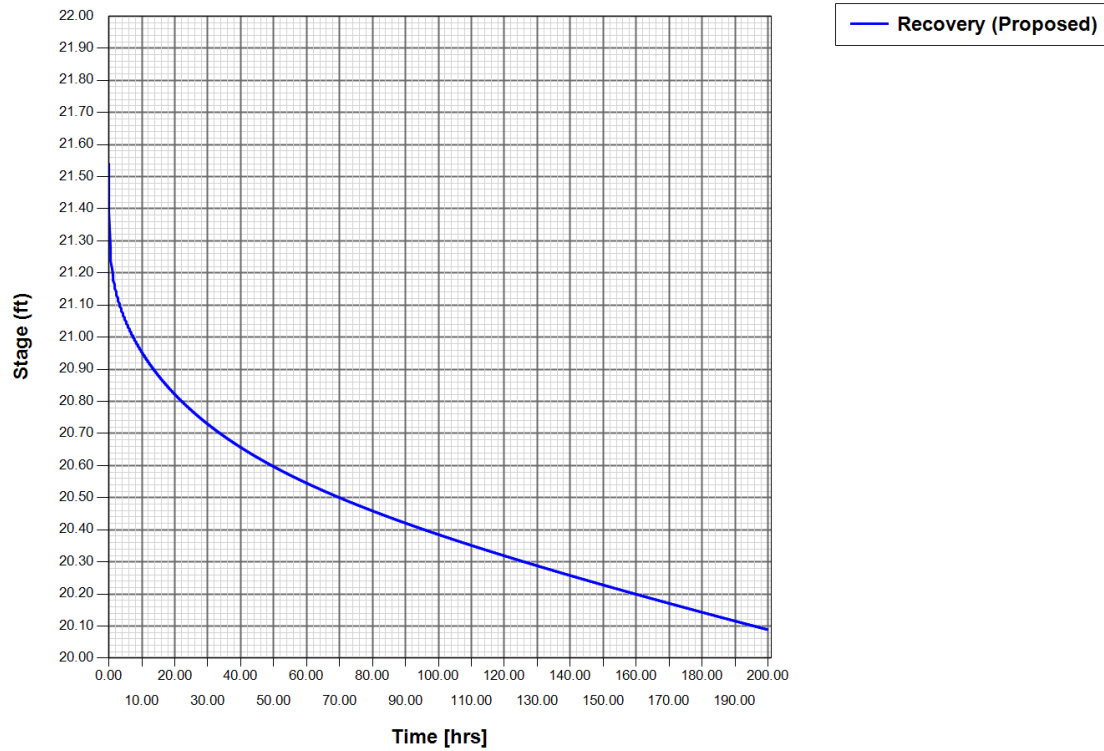
Scenario:	Recovery (Proposed)	Surface Area Option:	Vary Based on Stage/Area Table
From Node:	Depression-W	Vertical Flow Termination:	Horizontal Flow Algorithm
To Node:	Groundwater	Perimeter 1:	580.00 ft
Link Count:	1	Perimeter 2:	760.00 ft
Flow Direction:	Both	Perimeter 3:	1430.00 ft
Aquifer Base Elevation:	14.00 ft	Distance P1 to P2:	25.00 ft
Water Table Elevation:	18.62 ft	Distance P2 to P3:	100.00 ft
Annual Recharge Rate:	0 ipy	# of Cells P1 to P2:	5
Horizontal Conductivity:	22.060 fpd	# of Cells P2 to P3:	10
Vertical Conductivity:	14.710 fpd		
Fillable Porosity:	0.200		
Layer Thickness:	1.00 ft		

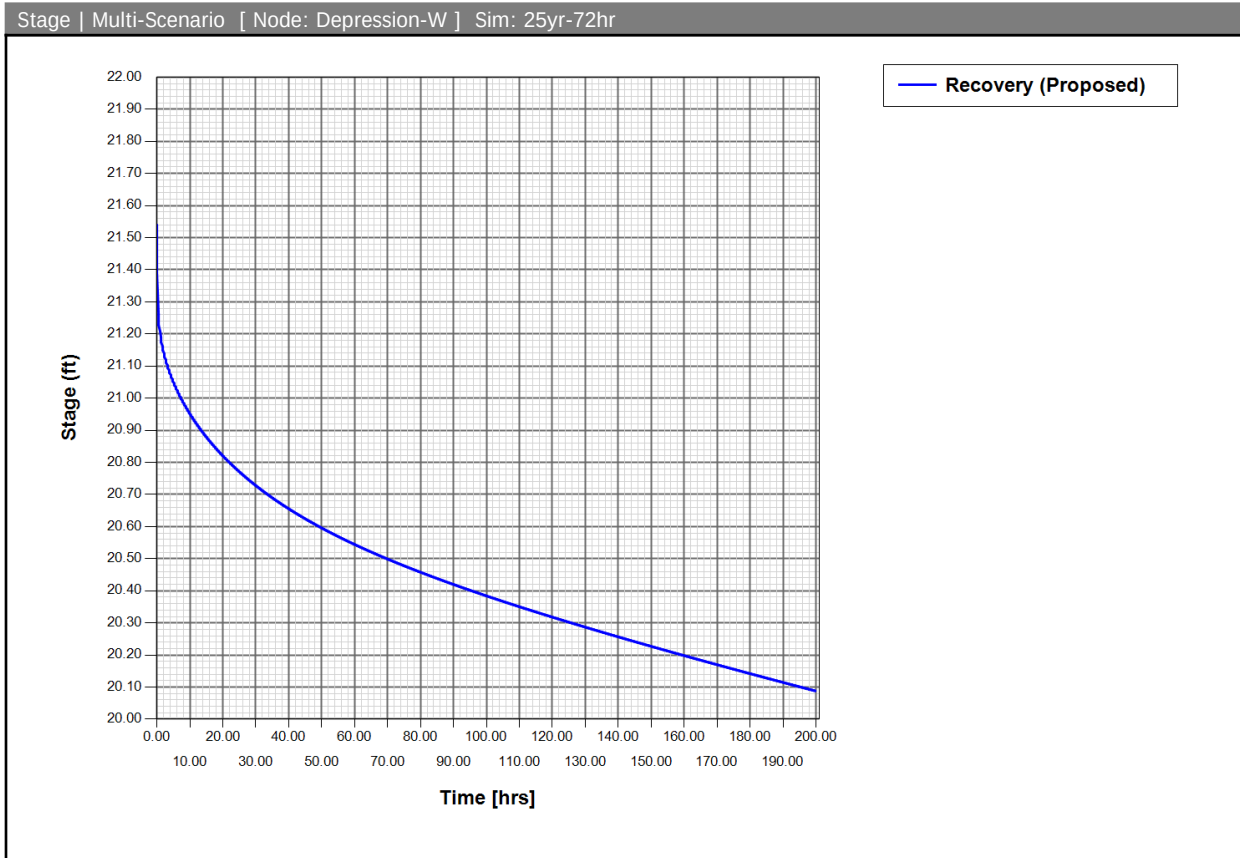
Comment: Percolation parameters taken from 2009 MODRET model in Basin 4. Estimated GWT elevation to be at least 1-ft below pond bottom per site visit.

Stage | Multi-Scenario [Node: Depression-E] Sim: 25yr-72hr



Stage | Multi-Scenario [Node: Depression-N] Sim: 25yr-72hr





Appendix G: Water Quality Calculations

Existing Condition Treatment Volume Calculations

Approach A: 1" over Project Area

Total Project Area

5.04 ac.

Required Treatment Volume

(1" x Total Project Area x 50% for Retention)

0.21 ac-ft.

Approach B: 2.5" x % Impervious

Total Project Area

5.04 ac.

Roof Area

0 ac.

Pervious Area

4.46 ac.

Percentage of Impervious

(does not count roof area)

11.51%

Required Treatment Volume

(2.5" x % Impervious)

0.06 ac-ft.

Result:

0.21 ac-ft. of treatment volume is required

Proposed Condition Treatment Volume Calculations

Approach A: 1" over Project Area

Total Project Area

5.04 ac.

Required Treatment Volume

(1" x Total Project Area x 50% for Retention)

0.21 ac-ft.

Approach B: 2.5" x % Impervious

Total Project Area

5.04 ac.

Roof Area

0.08 ac.

Pervious Area

3.99 ac.

Percentage of Impervious

(does not count roof area)

19.56%

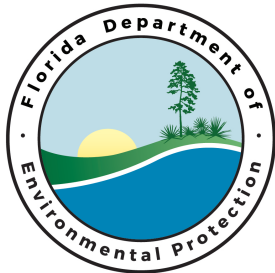
Required Treatment Volume

(2.5" x % Impervious)

0.10 ac-ft.

Result:

0.21 ac-ft. of treatment volume is required



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

DEP Form #: 62-701.900(4), F.A.C.

Form Title: Application to Construct, Operate, or
Modify a Waste Processing FacilityEffective Date: February 15, 2015Incorporated in Rule: 62-701.710(2), F.A.C.

APPLICATION TO CONSTRUCT, OPERATE, OR MODIFY A WASTE PROCESSING FACILITY

GENERAL REQUIREMENT: Solid Waste Management Facilities shall be permitted pursuant to Section 403.707, Florida Statutes (F.S.) and in accordance with Florida Administrative Code (F.A.C.) Chapter 62-701. A permit application shall be submitted in accordance with the requirements of Rule 62-701.320(5)(a), F.A.C., to the Department District Office having jurisdiction over the facility. The appropriate fee in accordance with subsection 62-701.315(4), F.A.C., shall be submitted with the application by check made payable to the Department of Environmental Protection (DEP). Complete appropriate sections for the type of facility for which application is made and include all additional information, drawings, and reports necessary to evaluate the facility.

Please Type or Print in Ink

A. GENERAL INFORMATION

1. Type of facility (check all that apply):

☒ Transfer Station:

☐ C&D

☒ Class III

☐ Class I

☐ Other Describe: _____

☒ Materials Recovery Facility:

☒ C&D Recycling

☐ Class III MRF

☐ Class I MRF

☐ Other Describe: _____

☐ Other Facility That Processes But Does Not Dispose Of Solid Waste On-Site:

☐ Storage, Processing or Disposal for Combustion Facilities (not addressed in another permit)

☐ Other Describe: _____

NOTE: C&D Disposal facilities that also recycle C&D, shall apply on DEP FORM 62-701.900(6), F.A.C.

2. Type of application:

☐ Construction/Operation

☒ Operation without Additional Construction

3. Classification of application:

☐ New

☐ Substantial Modification

☐ Renewal

☐ Intermediate Modification

☒ Minor Modification

4. Facility name: Lee County Construction and Demolition Debris Recycling Facility*

5. DEP ID number: PA90-30H (WACS ID 93715) County: Lee

6. Facility location (main entrance): 10500 Buckingham Road, Fort Myers, FL 33905

*The C&D Debris Recycling Facility (CDDRF) is located within the area covered by the site certification for the Lee County Solid Waste Resource Recovery Facility.

7. Location coordinates: modification application
- Section: 24 Township: 44S Range: 25E
- Latitude: 26 ° 37 ' 39.15 " Longitude: 81 ° 45 ' 47.94 "
- Datum: NAD 83 Coordinate Method: Google Earth
- Collected by: Jennifer Deal, PE Company/Affiliation: Cornerstone Environmental Group, LLC
8. Applicant name (operating authority): Lee County Solid Waste Department
- Mailing address: 10500 Buckingham Road, Fort Myers, FL 33905
- Street or P.O. Box City State Zip
- Contact person: Angie DuBois Telephone: (239) 707-1537
- Title: Project Manager adubois@leegov.com
- E-Mail address (if available)
9. Authorized agent/Consultant: Cornerstone Environmental Group, LLC, A Tetra Tech Company
- Mailing address: 201 E. Pine Street, Suite 1000, Orlando, FL 32801
- Street or P.O. Box City State Zip
- Contact person: Jennifer L Deal, PE Telephone: (407) 719-0608
- Title: Area Manager jennifer.deal@tetrattech.com
- E-Mail address (if available)
10. Landowner (if different than applicant): Lee County Board of County Commissioners
- Mailing address: PO Box 398, Fort Myers, FL 33902
- Street or P.O. Box City State Zip
- Contact person: Douglass Whitehead Telephone: (239) 634-9814
- dwhitehead@leegov.com
- E-Mail address (if available)
11. Cities, towns and areas to be served: Lee County and Hendry County
12. Date site will be ready to be inspected for completion: N/A
13. Estimated costs:
- Total Construction: \$ N/A Closing Costs: \$ N/A
14. Anticipated construction starting and completion dates:
- From: N/A To: N/A
15. Expected volume of waste to be received: _____ yds³/day 700 tons/day

16. Provide a brief description of the operations planned for this facility: Construction and demolition debris is delivered to the facility for separation of recyclable materials. Non-recyclable materials are may be disposed at the WTE or at the County's Lee-Hendry Landfill. Class III waste will be hand unloaded at the east side of the facility within covered tipping areas.

B. ADDITIONAL INFORMATION

Please attach the following reports or documentation as required.

1. Provide a description of the operation of the facility that shall include (62-701.710(2)(a), F.A.C.):
 - a. The types of materials, i.e., wastes, recyclable materials or recovered materials, to be managed or processed;
 - b. The expected daily average and maximum weights or volumes of materials to be managed or processed;
 - c. How the materials will be managed or processed;
 - d. How the materials will flow through the facility including locations of the loading, unloading, sorting, processing and storage areas;
 - e. The types of equipment that will be used;
 - f. The maximum time materials will be stored at the facility;
 - g. The maximum amounts of wastes, recyclable materials, and recovered materials that will be stored at the facility at any one time; and
 - h. The expected disposition of materials after leaving the facility.
2. Attach a site plan, signed and sealed by a professional engineer registered under Chapter 471, F.S., with a scale not greater than 200 feet to the inch, which shows the facility location, total acreage of the site, and any other relevant features such as water bodies or wetlands on or within 200 feet of the site, potable water wells on or within 500 feet of the site (62-701.710(2)(b), F.A.C.).
3. Provide a boundary survey and legal description of the property (62-701.710(2)(c), F.A.C.).
4. Provide a construction plan, including engineering calculations, that describes how the applicant will comply with the design requirements of subsection 62-701.710(3), F.A.C. (62-701.710(2)(d), F.A.C.).
5. Provide an operation plan that describes how the applicant will comply with subsection 62-701.710(4), F.A.C. and the recordkeeping requirements of subsection 62-701.710(8), F.A.C. (62-701.710(2)(e), F.A.C.).
6. Provide a closure plan that describes how the applicant will comply with subsection 62-701.710(6), F.A.C. (62-701.710(2)(f), F.A.C.).
7. Provide a contingency plan that describes how the applicant will comply with subsection 62-701.320(16), F.A.C. (62-701.710(2)(g), F.A.C.).
8. Unless exempted by subparagraph 62-701.710(1)(d)1., F.A.C., provide the financial assurance documentation required by subsection 62-701.710(7), F.A.C. (62-701.710(2)(h), F.A.C.).
9. Provide a history and description of any enforcement actions by the applicant described in subsection 62-701.320(3), F.A.C. relating to solid waste management facilities in Florida. (62-701.710(2), F.A.C. and 62-701.320(7)(i), F.A.C.)
10. Provide documentation that the applicant either owns the property or has legal authorization from the property owner to use the site for a waste processing facility (62-701.710(2), F.A.C. and 62-701.320(7)(g), F.A.C.)

C. CERTIFICATION BY APPLICANT AND ENGINEER OR PUBLIC OFFICER

1. Applicant:

The undersigned applicant or authorized representative of Lee County Solid Waste Department

is aware that statements made in this form and attached information are an application for a waste processing facility
construction permit from the Florida Department of Environmental Protection and certifies that the

information in this application is true, correct and complete to the best of his/her knowledge and belief. Further, the undersigned agrees to comply with the provisions of Chapter 403, Florida Statutes, and all rules and regulations of the Department. It is understood that the Permit is not transferable, and the Department will be notified prior to the sale or legal transfer of the permitted facility.

R. Rodriguez
Signature of Applicant or Agent

Rebecca Rodriguez

Name and Title (please type)

RRodriguez2@leegov.com

E-Mail address (if available)

10500 Buckingham Road

Mailing Address

Fort Myers, FL 33905

City, State, Zip Code

(239) 533-8000

Telephone Number

16 - Apr - 2024

Date

Attach letter of authorization if agent is not a governmental official, owner, or corporate officer.

2. Professional Engineer registered in Florida (or Public Officer if authorized under Sections 403.707 and 403.7075, Florida Statutes):

This is to certify that the engineering features of this waste processing facility have been designed/examined by me and found to conform to engineering principles applicable to such facilities. In my professional judgment, this facility, when properly maintained and operated, will comply with all applicable statutes of the State of Florida and rules of the Department. It is agreed that the undersigned will provide the applicant with a set of instructions of proper maintenance and operation of the facility.

Cornerstone Environmental Group, LLC
A Tetra Tech Company Engineering Business #29533

201 E. Pine Street, Suite 1000

Mailing Address

Orlando, FL 32801

City, State, Zip Code

jennifer.deal@tetrattech.com

E-Mail address (if available)

(407) 719-0608

Telephone Number

Date

This item has been digitally signed and sealed by
Jennifer L Deal, PE, on 04/22/2024.

Printed copies of this document are not considered
signed and sealed and the signature must be verified
on any electronic copies.

Signature

Jennifer L Deal, PE

Name and Title (please type)

58592

Florida Registration Number
(please affix seal)



OPERATIONS PLAN
CONSTRUCTION AND DEMOLITION DEBRIS RECYCLING
AND CLASS III WASTE TRANSFER FACILITY

PREPARED FOR:

LEE COUNTY SOLID WASTE



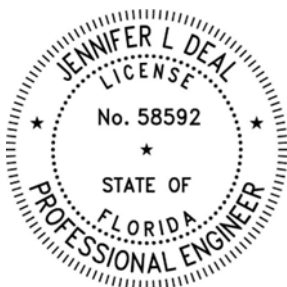
PREPARED BY:

CORNERSTONE ENVIRONMENTAL GROUP, LLC
A TETRA TECH COMPANY
201 E. PINE STREET, SUITE 1000
ORLANDO, FL 32801
ENGINEERING BUSINESS #29533



MARCH 2024

Tt# 209-4232117



This item has been digitally signed and sealed by
Jennifer L Deal, PE, on 03/22/2024.

Printed copies of this document are not considered
signed and sealed and the signature must be verified
on any electronic copies.

LEE COUNTY CONSTRUCTION AND DEMOLITION DEBRIS RECYCLING FACILITY OPERATIONS PLAN

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LEE COUNTY CONSTRUCTION AND DEMOLITION DEBRIS RECYCLING FACILITY OPERATIONS PLAN

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LEE COUNTY CONSTRUCTION AND DEMOLITION DEBRIS RECYCLING FACILITY OPERATIONS PLAN

1.0 PURPOSE

The Lee County Solid Waste Department (the “County”) owns and operates the Lee County Construction and Demolition Debris Recycling Facility (CDDRF), which is located within the Solid Waste Resource Recovery Facility (RRF) campus on Buckingham Road in Fort Myers, Florida. The purpose of this Operations Plan is to describe the facility operations and maintenance in accordance with the requirements of Chapter 62-701.710, Florida Administrative Code (FAC). All activities at the facility shall be performed in accordance with this operations plan. The plan shall be updated, as operations change, but not less frequently than every 5 years.

2.0 SITE LOCATION AND LAYOUT

The CDDRF is located within the certified boundary of the RRF at 10500 Buckingham Road in Fort Myers. The site location map is presented in Figure 1, included in Appendix A. The RRF Aerial Map is presented in Figure 2, and Site Layout is presented in Figure 3, included in Appendix A. The RRF Site is approximately 280 acres in size, of which approximately 150 acres is ‘certified’ under the Power Plant Siting Act. The CDDRF site is located on approximately 5 acres within the RRF Site. The location of the CDDRF is designated as Area E on the Aerial Map.

LEE COUNTY CONSTRUCTION AND DEMOLITION DEBRIS RECYCLING FACILITY OPERATIONS PLAN

3.0 GENERAL OPERATIONS

Summary of Key Operational Requirements

Task/Item	FAC Rule Reference	Operational Requirement	Section
Contingency Plan	62-701.710(2)(g)	A Contingency Plan to address emergencies such as fires, explosions, or natural disasters, must be accessible to facility operators	5.0
Putrescible Waste Removal	62-701.710(4)(a)	Putrescible waste may not be stored for longer than 7 days (only if odor and vector control employed)	3.3.1
Operator and Spotter Training	62-701.710(4)(c)	Operators and spotters shall be trained in accordance with FAC 62-701.320(15)	4.0
Odor Control	62-701.710(4)(d)	The facility shall be operated to control objectionable odors	3.13.1
Fire Protection	62-701.710(4)(e)	Fire protection shall be available at all times	3.12.5 5.7
Hazardous Waste	62-701.710(4)(h)	FDEP shall be notified if hazardous waste is discovered at the facility	3.3.3
Maximum Capacity	62-701.710(4)(i)	If the facility has reached maximum capacity, no additional waste may be accepted until capacity is restored	3.5 3.6
Certification of Construction Completion	62-701.710(5)	Certification of Construction Completion is required after construction has been completed, prior to waste acceptance	3.2
Record Keeping	62-701.710(8)	Operations records and annual reporting requirements	3.16

The Lee County CDDRF is a Waste Processing Facility (WPF), that receives Class III waste for transfer and Construction and Demolition Debris (C&D) waste for processing. Regulatory definitions are provided in Rule 62-701.200, FAC.

C&D generally consists of materials discarded from the construction or destruction of a structure or as a part of a construction or demolition or renovation project. This generally includes, but is not limited to steel, glass, brick, concrete, asphalt material, pipe, gypsum wallboard, lumber, land clearing debris (rock soil, vegetative debris), clean cardboard, paper,

LEE COUNTY CONSTRUCTION AND DEMOLITION DEBRIS RECYCLING FACILITY OPERATIONS PLAN

plastic, wood, shingles, wallboard, siding, or other similar materials. This waste includes both commercial and residential derived materials.

Class III waste to be accepted at the CDDRF will generally consist of carpet, cardboard, paper, glass, plastic, unless the waste is generated as part of a construction project and treated as C&D. Class III waste may also include furniture (other than appliances) and pressure treated wood.

3.1 Description of Operations

All vehicles utilizing the CDDRF, including collection and transfer vehicles, will use the existing entrance through the main scale house and roads within the RRF. Collection vehicles arriving with construction & demolition debris (C&D) and Class III materials will be directed to the CDDRF via the bypass road around the Waste-to-Energy (WTE) facility. They will enter CDDRF at the northwest corner of the site. Upon entering, the vehicles are directed to the appropriate unloading area by Lee County personnel and dumped. C&D loads that can be recovered are directed to tip near the sorting tipping area. Class III waste is directed to the Class III waste transfer area on the east side of the CDDRF or to the transfer station.

Transfer vehicles will also access the CDDRF via the bypass road around the WTE facility. These vehicles will be loaded by onsite equipment with recyclable or non-recyclable materials processed at the facility. These may include, but are not limited to, ferrous and non-ferrous metals, cardboard and other fiber products, wood and lumber, concrete, blocks/bricks, drywall, recovered screen material (RSM), residue, and unauthorized waste.

Recyclable materials will be transferred to various off site users by the County as appropriate, e.g., RSM may be reused as initial or intermediate cover at the County's Lee/Hendry Landfill or alternative permitted landfill within the State of Florida, or in accordance with the Permit. Non-recyclables/residue generated via processing of the C&D may be disposed at the WTE or at the Lee/Hendry Landfill located in Hendry County as appropriate. If unauthorized wastes are found at the CDDRF, the procedures outlined in this Operations Plan, as appropriate, will be followed; these wastes will ultimately be disposed or processed at an approved facility.

Empty collection vehicles and loaded transfer vehicles will exit the CDDRF at the southwest corner of the facility, merge onto the site one-way loop road, then scale out and exit the property via one of the designated facility exits. The County may use one of the three onsite scales, or scales at the receiving facility to weigh the loaded transfer vehicles.

3.2 Class III Tipping Area

One covered Class III tipping area at the southeast end of the CDDRF is shown on the Site Plan in Appendix B. The tipping area consists of concrete bin blocks with dimensions of 3-feet by 3-feet and measuring 6-feet in length. The tipping area will have interior dimensions of 54 feet in length, 42 feet in width, and 9 feet in height, with the open wall on the west side. A second tipping area at the northeast end of the CDDRF, consisting of concrete bin blocks of the same dimensions, may be covered and accept Class III waste if need arises. This northern tipping

area will have interior dimensions of 54 feet in length, 42 feet in width, and 9 feet in height, with the open wall on the south side.

3.3 Waste Acceptance Plan

C&D and Class III waste accepted at the CDDRF will originate in incorporated and unincorporated areas of Lee and Hendry Counties. The waste includes residential, commercial, and industrial C&D from construction, renovation, and remodeling, or demolition projects. A sign stating “No putrescible, biomedical, or hazardous wastes will be accepted” is posted at the entrance to the CDDRF. Waste acceptance and inspection procedures and procedures for managing unauthorized waste are discussed below.

3.3.1 Putrescible Wastes

The Lee County CDDRF facility does not accept Putrescible/Class I Waste. Incidental material discovered after unloading and during the processing operations will be removed and will be either returned to the owner or placed in a suitable container or transfer vehicle and disposed at the WTE or an FDEP approved facility. Stored putrescible wastes shall not be allowed to remain unprocessed for more than 48 hours; however, if vector control and odor control measures are in place, putrescible wastes may be stored for up to seven days. It is the general practice of the site to remove this waste daily.

3.3.2 Non-Permitted Wastes (Non-Hazardous)

Non-hazardous unauthorized wastes, which include Municipal Solid Waste (MSW), other Class I wastes, and other non-hazardous wastes that are not C&D or Class III and are not permitted at the CDDRF will be removed from the incoming waste loads and placed in a suitable container in the location shown on the CDDRF Site Plan provided in Appendix B or returned to the customer for removal. Materials suitable for the WTE will be delivered to the tipping floor for disposal or may be delivered to the Lee-Hendry Landfill. Items such as batteries or propane tanks will be transferred to the Lee County Household Hazardous Waste facility for proper management. The CDDRF Site Supervisor will determine the appropriate disposal facility depending on the types of wastes to be disposed. Procedures for managing putrescible wastes are described in Section 3.2.1 of this Operations Plan. Unauthorized waste received by the facility shall be segregated and transported to an authorized disposal or recycling facility within 30 days of receipt.

3.3.3 Prohibited Wastes (Hazardous)

Prohibited wastes that are hazardous will not be accepted at the CDDRF. If hazardous waste is suspected in a waste load, the facility operator will question the generator and/or driver and if necessary, contact the CDDRF Site Supervisor and other personnel to verify the

suspicious waste. If any regulated hazardous waste is discovered to be improperly tipped at the CDDRF, the operator will promptly notify the FDEP, the person responsible for shipping the waste to the facility, and the generator of the wastes, if known. The area where the waste is tipped will immediately be cordoned off from public access. If the generator or hauler cannot be identified, the Lee County will ensure the cleanup, transportation, and management and/or disposal of the waste by a licensed hazardous waste contractor. The area designated for these materials is the “unauthorized (hazardous) waste storage area” and is located as shown on the CDDRF Site Plan provided in Appendix B.

The FDEP will be notified as indicated above at 239-344-5600 during normal business hours, or at 800-320-0519 (State Warning Point) during other hours.

3.4 Load Inspections

A trained operator or spotter will inspect the incoming C&D and Class III waste loads as collection vehicles unload and as the C&D is loaded and sorted within the CDDRF processing equipment. In addition, a trained operator will inspect at least three loads per week, selected at random. The drivers of the selected loads will be directed to unload in an area slightly offset from the receiving area and to remain with the load until the inspection is completed. The operator will spread the load with the loader bucket and visually inspect the load for prohibited/unauthorized waste. In the event that unauthorized waste is discovered at the facility, the site will follow the procedures for non-permitted and prohibited waste, which are described in Section 3.3.

3.5 Maximum Waste Storage Time and Capacity

C&D will typically be processed within 72 hours of receipt but a longer storage time of up to seven (7) days may occasionally be required following holidays, hurricanes, or unanticipated events. Putrescibles removed from incoming C&D will not be stored for more than 48 hours. In the event that storage is required for a period greater than 48 hours, procedures to control vectors and odors will be implemented. In no case will storage of putrescibles last longer than 7 days. Procedures for controlling vectors and odors include cleaning waste storage areas at least weekly. Only approved pesticides, i.e., as specified in Chapter 5E-2, FAC (Florida Department of Agriculture and Consumer Services), will be used if necessary. Processed and separated materials will be stored in the materials storage bunkers integral to the facility design until the quantity of material is sufficient for transport offsite.

The maximum combined quantity of processed and unprocessed waste at the CDDRF at any time will not exceed 20,000 cubic yards, as currently approved by the FDEP. This quantity was determined based on the size of the CDDRF and the capacity of processing equipment and

storage areas and/or containers. Material storage stockpiles will be developed as dictated by the composition and quantity of incoming C&D. These stockpiles will be located in the general areas shown on the CDDRF Site Plan provided in Appendix B.

3.6 Operating Capacity

The facility is designed to receive up to 500 tons of C&D waste and 200 tons of Class III waste per typical 8-hour day. Not all Class III waste may be cleared by the end of each operating day, depending on daily operating conditions.

According to the original equipment manufacturer, the C&D processing equipment is rated for up to 500 tons per 8-hours of processing time, or 62.5 tons per hour. More waste may be processed or stored in an emergency by operating more than 8 hours per day.

3.7 Equipment

The CDDRF will utilize mobile and stationary equipment generally consisting of the following mobile and stationary equipment. The type and quantity of equipment may vary based on operating rates and conditions. Equivalent equipment may be substituted as needed.

Mobile Equipment

The machinery and equipment expected to be utilized at the CDDRF includes the following:

- 4 front end loaders
- 2 skid steers
- 1 excavator
- 1 water truck
- 1 street sweeper.

Other equipment includes various transfer vehicles which may include walking floor trailers (100-CY capacity) and associated tractors, dump trailers (30-CY capacity) and tractors, roll off containers for separated recyclables (20 – 30 CY capacity), roll off containers for putrescible waste (40-CY capacity), and roll off trucks. Additional equipment may be utilized as conditions dictate.

Stationary Equipment

The stationary equipment used for handling and sorting the C&D and the flow of materials is described below. No changes are proposed to the existing and approved processing equipment. Similar or equivalent replacement equipment may be utilized as needed.

LEE COUNTY CONSTRUCTION AND DEMOLITION DEBRIS RECYCLING FACILITY OPERATIONS PLAN

Primary Screen: The primary screen receives all material and passes the material over 10" openings. The equipment includes several "drops" to help evenly distribute material and prevent materials from being trapped under other materials. Materials greater than 10" are directed to the primary sorting line and the materials less than 10" are directed for further processing.

Primary Sorting Line: Materials greater than 10" are received on this line and hand sorted. Materials may be positively or negatively sorted depending on the waste stream characteristics as well as market conditions. Typical materials include brick/block, clean wood, metals, cardboard, and plastics with non-recyclables/residue running off the end of the line to a stockpile which will be loaded into a transport vehicle for transfer and disposal.

Ferrous Belt Magnet: The magnet positively sorts ferrous materials from the 10" minus material and diverts this material to a storage bunker.

Fines Screen: The fines screen consists of a finger screen, trommel or equivalent. Materials less than the screen dimension, typically 2", are directed to a fines bunker. Materials greater than 2" are directed to the secondary sorting line.

Secondary Sorting Line: This line is for targeting large items rejected by the fines screen and will be sorted into similar categories as the Primary Sorting Line prior to further processing.

Density Separator: The Density Separator receives materials from the Secondary Sorting Line and separates the materials by weight using air and/or screens. The light material typically includes paper and plastics which will be combined with the processible (combustible) non-recyclables/residue destined for the SWERF. The heavy material is typically rock, stones and other inert materials that can be used as aggregate and will be directed to the appropriate processed material storage stockpile.

Material Bunkers: Materials are collected in the recyclable materials storage bunkers until sufficient material has accumulated to transfer to the appropriate recycling and/or disposal facility.

3.8 Operating Hours

Internal operations at the CDDRF typically start at 4 am. The CDDRF accepts C&D and Class III waste 6:00 am – 6:00 pm on Monday through Friday, and 6:00 am – 12:00 pm on Saturday, though hours are subject to change. The County may process and/or transfer materials to the WTE or the Lee/Hendry Landfill 24 hours per day, 7 days per week. The CDDRF may accept

C&D and Class III waste outside of the normal operating hours in response to emergencies, (e.g., hurricanes, or following holidays or due to other unanticipated events, etc.). The facility operating hours are posted at the main entrance.

3.9 Transfer Plan

Materials are transferred from the CDDRF to appropriate locations for final disposition. The primary transfer plan for non-recyclables/residue is to the WTE tipping floor (processable or combustible material), or the Lee/Hendry Landfill (non-processible or non-combustible materials) or approved disposal facility.

Recyclable materials are shipped to commercial businesses or the County's Materials Recovery Facility (MRF) such as glass and plastics.

The number and type of transfer vehicles to be used may change to suit market and economic conditions. Transfer frequency of materials will be based on the type and quantity of materials to be delivered to recycling facilities.

3.10 Expected Life of Facility

The facility can operate 10 years or more with proper maintenance.

3.11 Personnel

Responsible Authority

The Lee County Solid Waste Department Director, or designee, will be responsible for the overall operation of the facility.

Staffing

The person responsible for managing the CDDRF on a day-to-day basis is the CDDRF Site Supervisor. The CDDRF Site Supervisor will be trained as described below, will have the authority to make operating decisions on a daily basis, and will have a direct line of communication to the Director of the Lee County Solid Waste Department, or designee. The CDDRF will employ a sufficient number of trained operators, spotters, laborers, and other personnel to properly manage the operations at the CDDRF. All equipment operators and other personnel involved with facility operation are expected to be employees of Lee County. However, the County may contract for some or all of the CDDRF operations through private entities.

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The facility typically operates with 7 employees and 13 day laborers (6-8 of the laborers are stationed on the sorting line). The facility may adjust labor based on tons received and a second shift may be operated, as needed.

Training

The CDDRF Site Supervisor will receive at least 16 hours of initial training from the University of Florida TREEO Center (or equivalent) and at least 8 hours of continuing education every three years as required by Rule 62-701.320(15), FAC. An operator trained as described above will be on duty whenever the facility is operating.

Spotters will receive at least 8 hours of initial training from the University of Florida TREEO Center (or equivalent) and at least 4 hours of continuing education every three years as required by Rule 62-701.320(15), FAC. A trained spotter or a trained operator serving as a spotter will be on duty at all times that waste is received at the CDDRF to inspect the incoming waste and identify and remove unacceptable and unauthorized wastes.

3.12 Water Management and Environmental Monitoring

The Lee County CDDRF is an open-air facility. Except for the recycling/sorting building (covered equipment), maintenance building, offices, and other minor storage buildings, all areas of the facility are uncovered. Precipitation and water used for dust suppression fall on the site require proper management to protect the environment.

3.12.1 Stormwater Management

The RRF's stormwater management system includes management of stormwater from the CDDRF, which is directed into perimeter stormwater swales to the north, south, and east, into the designated stormwater retention areas. Sediment barriers, such as GeoHay or other stormwater filters, are used throughout the CDDRF boundary to prevent sediment discharge to other areas.

3.12.2 Leachate

In accordance with Rule 62-701.710(1)(d), FAC, the CDDRF is covered by a groundwater monitoring program meeting the requirements of Rule 62-701.730(8), FAC; therefore, no leachate collection system is required for the CDDRF.

3.12.3 Groundwater Monitoring

A groundwater monitoring program meeting the requirements of Rule 62-701.730(8), FAC, has been implemented at the CDDRF. These requirements are applicable to both C&D and Class III WPFs. Figure 4, CDDRF Ground Water Monitoring Well Location Map, shows the

locations of the current groundwater monitoring wells that comprise the monitoring well network for the CDDRF. Addition of Class III waste transfer operations will not affect the design of the monitoring well network. The current Water Quality Monitoring Plan, prepared by Jones Edmunds and dated May 2023, is attached for reference as Appendix C.

The CDDRF groundwater monitoring wells are sampled semi-annually, and analyzed for the parameters listed in Rule 62-701.730(8), FAC. Reports containing the analytical results of the ground water monitoring results are submitted to the FDEP as required.

3.12.4 Potable Water

The facility potable water supply needs will be provided by the existing onsite water supply systems.

3.12.5 Fire Protection

Water for fire protection is provided by the existing reclaimed water system which serves fire hydrants located throughout the RRF campus. Fire hydrants are located along the eastern and southern boundaries of the CDDRF as shown on the CDDRF Site Plan in Appendix B. In addition, all stationery and mobile equipment is equipped with fire extinguishers.

3.13 Control of Nuisance Conditions

Solid waste management facilities inherently create nuisance conditions that require mitigation. This section addresses the most common nuisance conditions and how they will be properly mitigated.

3.13.1 Odor

The CDDRF facility will be operated to control objectionable odors in accordance with Rule 62-296.320(2), FAC. The materials received at the facility are non-putrescible and are generally non-odorous in nature. If an odorous load is encountered, it will be inspected to determine the source of odor and a determination made as to whether the load is appropriate for unloading at this facility. Best management practices will be employed to minimize any nuisance odors encountered. Waste is handled on a first-in, first-out basis to the extent practicable. In addition, waste storage areas will be maintained as necessary to minimize odor and vector problems.

3.13.2 Dust

Roads servicing the facility are paved to minimize dust. The operational areas of the CDDRF are a hard surface as well; these areas will be swept or otherwise cleaned as needed to minimize dust. Dust control of these areas is provided by the use of a water truck. Water is

provided by the existing reclaimed water system. Other sources may be utilized as conditions require.

3.13.3 Litter

Litter at the CDDRF will be controlled by utilizing existing screening around the WTE campus along the property boundaries. In addition, litter controls, e.g., litter fencing and/or litter patrols will be implemented as needed to keep the site litter-free, especially during very windy periods.

3.13.4 Vectors

Since the materials received at the facility are non-putrescible, vectors typically will not be attracted to the facility and do not pose a significant nuisance threat.

3.14 Traffic Flow

The on-site roads and unloading areas are designed for efficient movement and unloading of vehicles. Figure 5 – Traffic Flow Map, presented in Appendix A, shows the typical traffic flow to and from the CDDRF, though traffic flow may be routed through the facility as needed based on overall site operating conditions. The roads are designed to service the anticipated loads and frequency and minimize conflicting truck traffic. The roadways and loading and unloading areas are shown on the CDDRF Site Plan.

3.15 Access Control and Public Safety

The Lee County Solid Waste Department is committed to providing a safe environment for both the public and staff and will take the following steps to ensure the safety at the CDDRF. The CDDRF is located on the existing RRF property, which is already equipped with appropriate fencing, gates, lighting, etc. to control access. Entry to the RRF is controlled after hours by an automatic gate which can only be opened with security cards issued to authorized personnel only.

Safety procedures have been established for all personnel entering the RRF including residents and private vehicles. These safety procedures are designed to prevent the exposure of the public to hazardous conditions and/or waste. Safety measures include signs, safety equipment, Personal Protection Equipment (PPE) and personnel staffing of competent individuals capable of dealing with any health or safety issues that may arise.

3.16 Record Keeping and Reporting

The following recordkeeping and reporting procedures will be implemented for the CDDRF:

Record Keeping: Operational records will be maintained in accordance with Rule 62-701.710(9), FAC, which include a daily log of the quantity of solid waste received, processed, stored, and removed from the CDDRF for recycling or disposal, and the county of origin of the waste (e.g., Lee County), if known. The records will include each type of solid waste, recyclable/recovered materials, non-recyclables/residue, and unacceptable waste which is processed, recycled, and disposed. The records will be compiled monthly and will be available for inspection by Department personnel during the hours of operation. The records will be retained at the facility for three years.

Reporting: In accordance with Rule 62-701.710(9)(b), FAC, and Rule 62-701.730(12), FAC, Lee County will submit an annual report to the Department on Form 62-701.900(7). The report will include a summary of the amounts and types of materials recycled. The County of origin of materials which are recycled, or a statement that the county of origin if unknown, will be included in the report. The report will be submitted no later than April 1 of each year for the preceding calendar year.

4.0 Training Plan

In accordance with Rule 62-701.320(15) FAC, the Site Supervisor, will ensure that equipment operators and spotters are trained to operate the facility and identify and properly manage any hazardous, unauthorized, or hot load materials inadvertently received at the facility. Training courses applicable to the operation of a CDDRF will be selected from the list of approved courses maintained by FDEP and can be viewed at <http://www.treeo.ufl.edu/solid-waste/>.

This training plan, along with records documenting how the training plan is being implemented, will be kept at the facility at all times and be made available for inspection by FDEP. Recorded information will be tracked on the Training Log in Appendix D and will include, at a minimum, the following information:

1. The name and title (operator, spotter, etc.) of all trained employees.
2. The course title(s), date(s) attended, and hours completed by each employee.
3. Certificates received from successful completion of approved training.

Lee County will have a trained WPF operator on site at all times that the facility is open and operating.

Each operator shall complete at least 16 hours of the approved initial training course titled “16-Hour Initial Training Course for Transfer Station and MRF Operators” or another course approved by FDEP and shall pass an examination as part of that initial training. Within each 3-year period after successfully completing the initial training course, each operator shall have completed at least 8 hours of continued training. Any examinations required shall be administered by an independent third-party.

Each spotter will complete at least 8 hours of initial training. Within each 3-year period after successfully completing the initial training course, each spotter will complete at least 4 hours of continued training, selected from the same list of courses, or other courses approved by FDEP. Any examinations required will be administered by an independent third-party.

New employees that are intended to serve as operators or spotters will receive in-house training, performed by a properly trained operator or spotter, as required. An independent third party must administer any in-house operator training that includes an examination. A trained operator must perform in-house operator training that does not include an examination. A copy of this training plan will be kept on-site and will be made available to the Department upon request.

5.0 Contingency Plan

Every effort will be made to ensure that the facility operates as required to avoid emergencies or delays in transporting solid waste. However, in the event that equipment breaks down, emergencies arise, or delays in waste transportation are encountered, the following contingency plan is in place and will be followed. Alternate procedures include, but are not limited to, the following.

1. Redirect waste loads to a similar facility for recycling.
2. Redirect waste loads to a landfill with permitted available airspace (e.g., Lee-Hendry Landfill).
3. Establish backup waste transport capabilities from local vendors or other facilities.

Facility personnel will communicate with appropriate management personnel to address any emergency situations that arise. In the event of a natural disaster, the CDDRF may be shut down with little notice and the site and equipment will be promptly secured.

5.1 Emergency Phone Numbers

Emergency telephone numbers are included in Appendix E.

5.2 Equipment Breakdown

Equipment is taken to the RRF Vehicle Maintenance Facility for maintenance and repair. In addition, the CDDRF Site Supervisor will ensure that backup equipment and/or parts are available or readily obtainable from equipment vendors or from other facilities when possible. Equivalent equipment will be rented during extended times of mechanical breakdown, if needed.

5.3 Inclement Weather

In the event of impending natural disaster or severe weather, operation of the CDDRF facility will temporarily cease. Stored waste materials which might become wind-blown litter will be removed from the site for proper disposal to the extent possible. Any necessary clean-up of the loading and unloading areas after a severe weather event will be completed within 48 hours. The decision to resume operations of the CDDRF will be made by the site supervisor and/or trained operator.

5.4 Hot Loads

Any hot load of authorized material found will be dumped in an isolated area away from the active operations and as directed by the site supervisor. The load will immediately be sprayed

with water if a fire exists or is considered imminent. The waste will not be processed until it has cooled completely and deemed no longer a fire hazard. If the waste load was not inspected prior to spraying with water, the load will be sent back to the entrance for proper inspection.

5.5 Spills

No hazardous waste is knowingly accepted at the CDDRF. The Site Supervisor, spotters, and equipment operators will be responsible for spotting concealed drums or other suspect wastes. In the event waste materials of questionable nature are unloaded before they are spotted by site personnel, the source of the debris will be recorded, and the Site Supervisor shall be immediately notified to determine the appropriate action.

Despite these precautions, if hazardous waste, fuel, or oil is spilled at the site, absorbent material will be placed to contain the spill. The Site Supervisor will be notified immediately in the event a spill occurs. If a reportable quantity has been spilled, FDEP will be contacted. During the operational hours of the CDDRF, at least one person who is trained in the spill plan procedures will be on-site; this person may be at the transfer station or office. In case of a spill, the following spill contingency plan will be implemented. The Spill Prevention, Control, and Countermeasures Plan should also be consulted in the event of an oil/petroleum spill.

In case of, or as soon as any spill is observed, the source of the spill will be located and actions taken to contain the spill and to prevent further spillage and spread, if possible:

1. Valves, pumps, and electrical equipment will be shut off as appropriate.
2. Potential ignition sources will be removed from and restricted from entering the area of the spill.
3. Absorbent socks/booms will be used where appropriate. A spill response firm will be contacted, if necessary, to assist in these activities. The spill response firm will provide sampling and analysis for spill cleanup materials.
4. All absorbed material will be transported to the WTE or the Lee/Hendry Landfill.
5. A spill kit is maintained at the adjacent vehicle fueling facility and will, at a minimum, be capable of containing a spill of at least 25 gallons will be located at the site.

5.6 Personal Injury

In the event of a personal injury at the CDDRF, the nature and extent of the injury will be assessed to the extent possible by the on-site personnel and emergency first aid techniques administered by appropriately trained personnel as necessary. If the injury appears to require professional medical attention, emergency assistance will be summoned. If the injury requires

non-emergency medical attention, the injured party will be transported by conventional means to a place of professional medical care, e.g., hospital, emergency room, doctor's office, or clinic. In all cases, the Site Supervisor will be notified.

5.7 Fire

The primary emergency phone number (911) and the Fire Department will be called immediately to respond to all fires.

Adequate fire protection devices will be available at the facility at all times. Fire extinguishers will be located in all buildings and other locations inhabited by personnel around the CDDRF facility. Emergency exits shall be established for all buildings and operational structures.

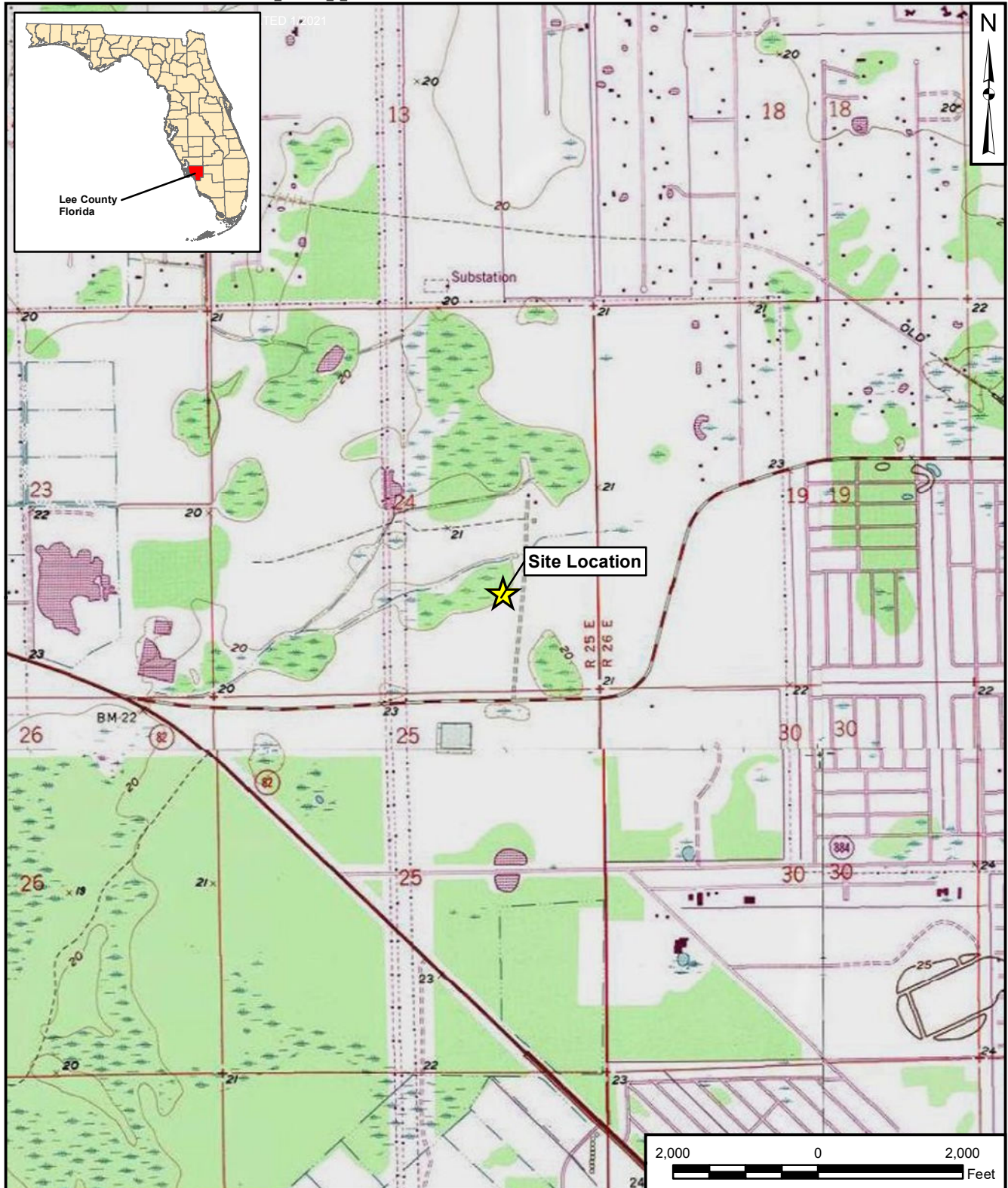
The local fire department is currently the Tice Fire District. The closest fire station (Station # 2) is located at 5850 Buckingham Road, Fort Myers, FL 33905, and the phone number is 239-694-2380. In the event of a significant fire or explosion, the Department of Environmental Protection will be notified at 239-344-5600 during normal business hours or at 800-320-0519 (State Warning Point) during other hours.

5.8 Hurricane Preparedness Plan

In the event a hurricane is expected to impact the South Florida area, the Site Supervisor will begin making arrangements to clear out waste materials and temporarily close the transfer station. The Site Supervisor, or other authorized Lee County Solid Waste Department staff, will make the decision when to close the facility for CDDRF operations; however, closing the facility will occur at least 24 hours prior to the expected time the hurricane is expected to impact the area. In the remaining 24 hours, on-site preparations such as securing equipment and other items will occur, in accordance with the existing RRF Hurricane Plan.

After a hurricane has passed through the area, the Site Supervisor will inspect the facility for safety and damage and will make the determination of when the facility can be re-opened. If it appears that damage to the facility would affect permit or operations compliance, the Site Supervisor or designee will notify FDEP to discuss the procedures to bring the facility into compliance.

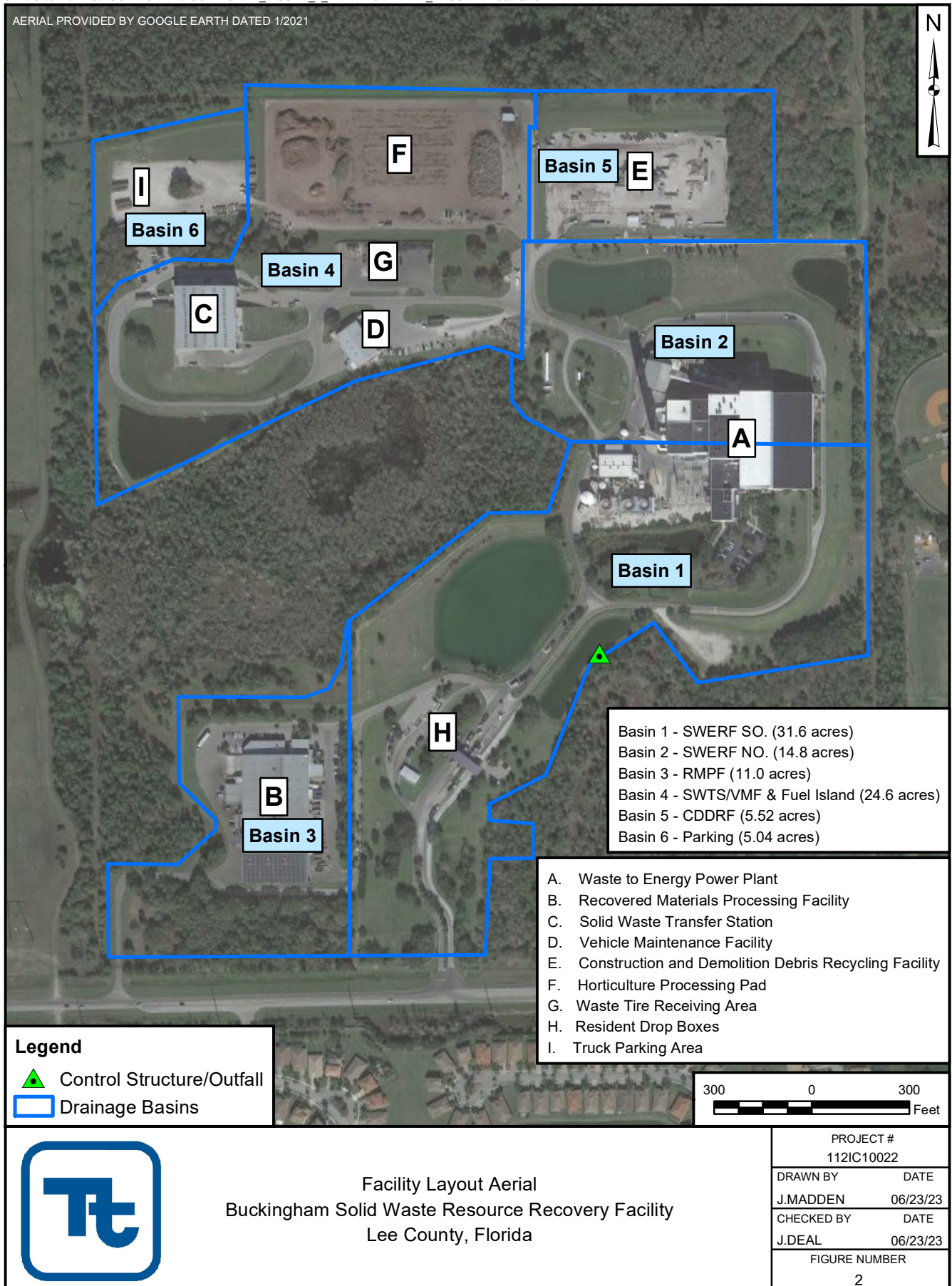
APPENDIX A
FIGURES



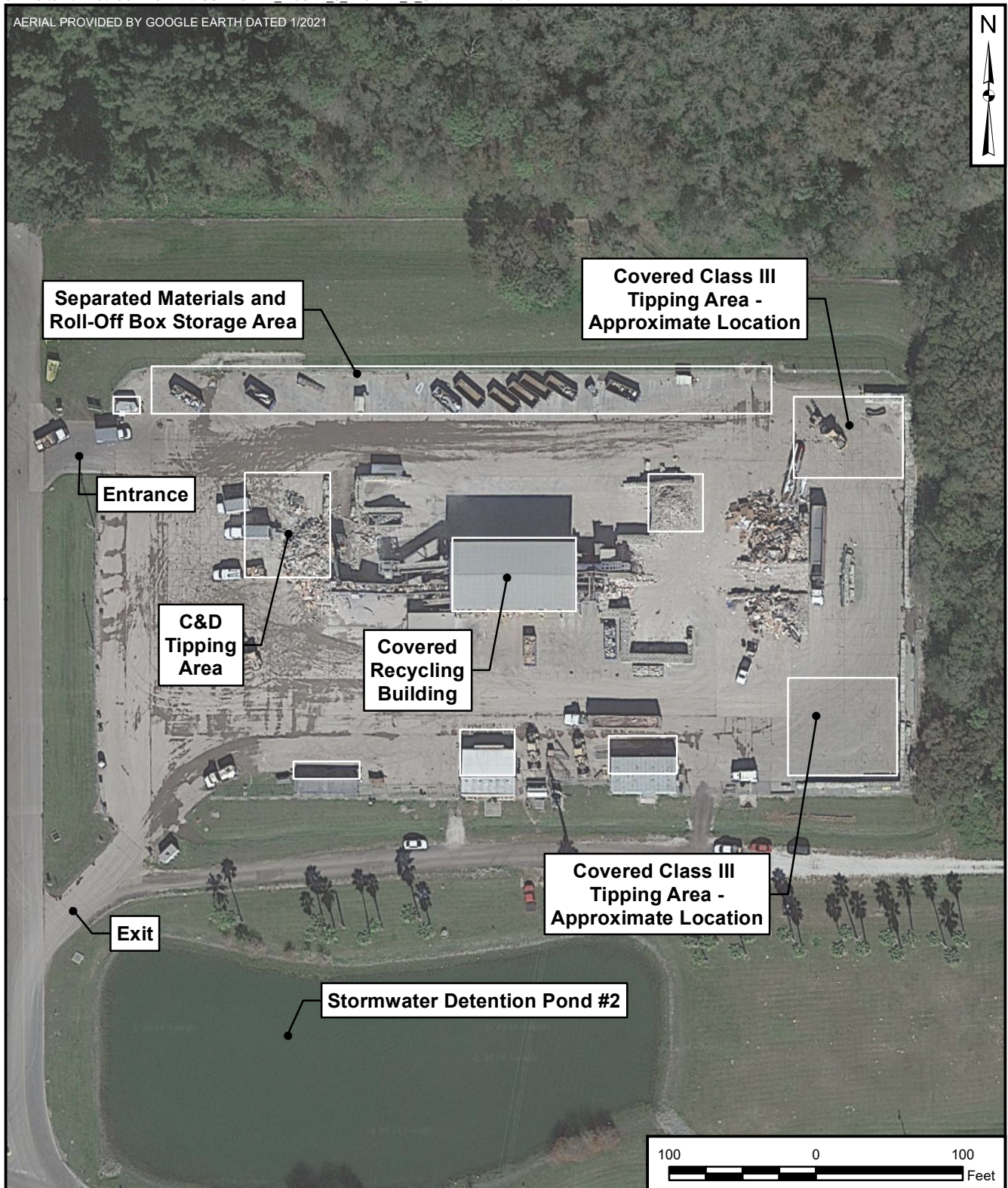
Site Location Map
Buckingham Solid Waste Resource Recovery Facility
Lee County, Florida

PROJECT # 112IC10022	
DRAWN BY J.MADDEN	DATE 04/26/23
CHECKED BY J.DEAL	DATE 04/26/23
FIGURE NUMBER 1	

AERIAL PROVIDED BY GOOGLE EARTH DATED 1/2021



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Facility E - Construction and Demolition Debris Recycling Facility
Buckingham Solid Waste Resource Recovery Facility
Lee County, Florida

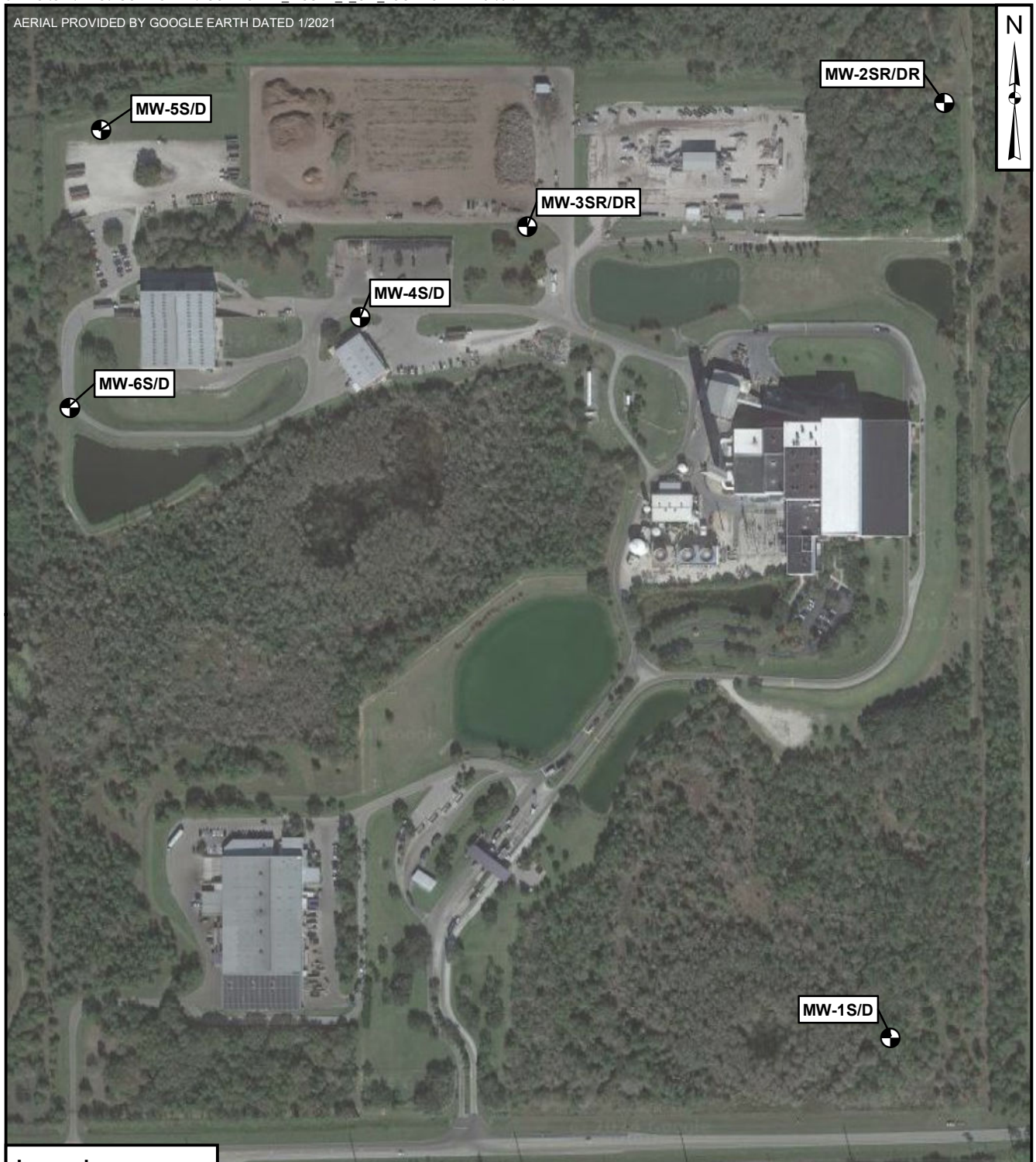
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112IC10022

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J.MADDEN	02/01/24

CHECKED BY	DATE
J.DEAL	02/01/24

FIGURE NUMBER
3

AERIAL PROVIDED BY GOOGLE EARTH DATED 1/2021



Legend

 Monitoring Well

300 0 300
Feet



Groundwater Monitoring Well Location Map Buckingham Solid Waste Resource Recovery Facility Lee County, Florida

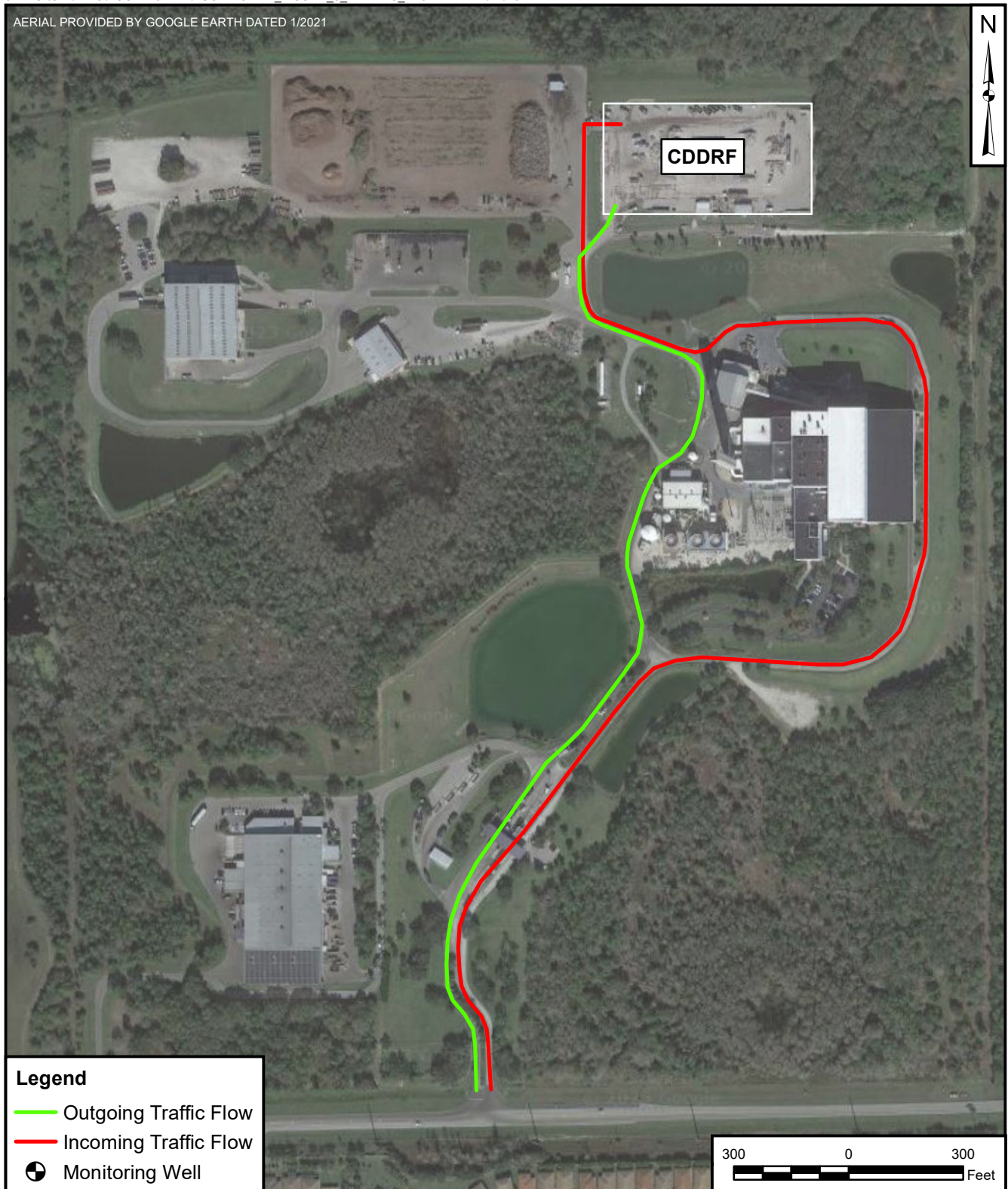
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DRAWN BY	DATE
J.MADDEN	02/01/24

CHECKED BY	DATE
J.DEAL	02/01/24

FIGURE NUMBER
4

AERIAL PROVIDED BY GOOGLE EARTH DATED 1/2021



CDDRF Traffic Flow
 Buckingham Solid Waste Resource Recovery Facility
 Lee County, Florida

PROJECT #
 112IC10022

DRAWN BY	DATE
J.MADDEN	12/27/23

CHECKED BY	DATE
J.DEAL	12/27/23

FIGURE NUMBER
 5

APPENDIX B
SITE PLAN

APPENDIX C
WATER QUALITY MONITORING PLAN
(JONES EDMUNDS, MAY 2023)

Attachment III

Lee County Solid Waste Division

Lee County Solid Waste Energy Recovery Facility Water Quality Monitoring Plan

Revised – May 2023

Prepared by

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Table 1-3	Routine Semiannual Monitoring Parameter List

ATTACHMENTS

Attachment 1	– Monitoring Well Network Site Map
Attachment 2	– FDEP Form 62-701.900(30) – Monitoring Well Completion Report
Attachment 3	– FDEP Form 62-701.900(31) – Water Quality Monitoring Certification

Section 1.0 GROUNDWATER MONITORING

1.1 SITE HYDROGEOLOGICAL SETTING

The geology of the Lee County Solid Waste Energy Recovery Facility (SWERF) is described in the November 2002 Supplemental Application for Power Plant Site Certification PA-90-30C (Malcolm Pirnie, 2002) and in the August 1992 Power Plant Siting Act Permit Application PA-90-30 (Malcolm Pirnie, 1992). Based on these site hydrogeological studies, there are three significant hydrologic strata beneath the facility including the shallow/water table surficial aquifer, the Hawthorn confining unit, and the sandstone aquifer. The shallow surficial aquifer is separated from the deeper sandstone aquifer by the upper Hawthorn confining unit which minimizes flow between the two aquifers.

1.2 GROUNDWATER FLOW DIRECTION

As established by previously submitted semiannual groundwater contour maps, the surficial/shallow aquifer at the facility generally shows a generally westerly flow while the sandstone/deep aquifer shows a southerly flow.

1.3 GROUNDWATER MONITORING NETWORK

The surficial/shallow aquifer at the SWERF is monitored by wells MW-1S, MW-2S, MW-3SR (previously WTE-3SR), MW-4S, MW-5S, and MW-6S. Monitoring wells MW-1S and MW-2S serve as upgradient wells and are located on the southeast and northeast corners of the SWERF, respectively. Monitoring wells MW-5S and MW-6S are on the west side of the property. MW-4S and MW-3SR are located approximately in the center of the property.

Although not currently monitored for water quality under the SWERF's GWMP, six deep wells (MW-1D, MW-2D, MW-3DR, MW-4D, MW-5D, and MW-6D) were previously installed to monitor the sandstone aquifer at the SWERF. In accordance with the Department's approval of the SWERF's previous GWMP (October 2010), the sandstone aquifer monitoring wells are inspected and maintained and monitored for groundwater elevations on the same schedule as the shallow aquifer monitoring wells.

The CDDRF's groundwater monitoring network shares three wells from the SWERF's groundwater monitoring network. MW-2S is designated as the background well for the CDDRF while MW-3SR and MW-4S are the CDDRF's designated detection wells.

In the event that the GWMN is modified (wells added or abandoned), the requirements of this GWMP will be applicable to the new GWMN without further revision of this document. Any required modifications of the groundwater monitoring system or program shall be modified in accordance with the provisions of Section A, Condition XXI of the SWERF's Conditions of Certification.

Table 1-1 Groundwater Monitoring Network

Testsite Name*	Testsite WACS ID	Designation	Aquifer	Facility
MW-1S	23402	Background	Surficial	SWERF
MW-2S	23404	Detection/Background	Surficial	SWERF / CDDRF
MW-3SR	27415	Detection	Surficial	SWERF / CDDRF
MW-4S	23409	Detection	Surficial	SWERF / CDDRF
MW-5S	23411	Detection	Surficial	SWERF
MW-6S	23413	Detection	Surficial	SWERF
MW-1D	23403	Piezometer	Sandstone	SWERF
MW-2D	23405	Piezometer	Sandstone	SWERF
MW-3DR	27416	Piezometer	Sandstone	SWERF
MW-4D	23410	Piezometer	Sandstone	SWERF
MW-5D	23412	Piezometer	Sandstone	SWERF
MW-6D	23414	Piezometer	Sandstone	SWERF

A site map indicating the locations of the monitoring network wells and piezometers is included as Attachment 1.

1.4 MONITORING WELL SAMPLING AND ANALYSIS

Initial sampling of any approved and newly installed wells shall be conducted within 30 days of final well development. Samples will be collected to determine background groundwater quality as described in Chapter 62-701.730(8)(d), FAC for the parameters listed in Table 1-2.

Table 1-2 Initial (Background) Groundwater Sampling Parameters

Field Parameters	Laboratory Parameters
Static Water Level	Total Ammonia-N
Specific Conductivity	Chlorides
pH	Iron
Dissolved Oxygen	Nitrate-N
Turbidity	Sodium
Temperature	Total Dissolved Solids (TDS)
Colors and Sheens (by observation)	Sulfate
	Aluminum
	40 CFR 258, Appendix II

Note: 40 CFR 258 – Chapter 40 Code of Federal Regulations Part 258.

Routine semiannual groundwater samples shall be collected from monitoring wells MW-1S, MW-2S, MW-3SR, MW-4S, MW-5S, and MW-6S (and any subsequently approved monitoring wells) during February and August each year. Samples will be analyzed for the parameters listed in Rule 62-701.730(8)(c), FAC (see Table 1-3).

Table 1-3 Routine Semiannual Monitoring Parameter List

Field Parameters	Laboratory Parameters
pH	Aluminum
Turbidity	Chloride
Temperature	Nitrate-N
Specific conductivity	Sulfate
Dissolved oxygen	Total Dissolved Solids (TDS)
Water elevations before purging	Iron
Colors and sheens	Sodium
	Arsenic
	Cadmium
	Chromium
	Lead
	Mercury
	Total Ammonia-N
	Xylenes
	Those parameters listed in EPA Methods 601 and 602

In addition to collecting water elevations before purging in the sampled wells, a “continuous round” of water levels will be collected within a 24-hour period from all monitoring wells and piezometers to a precision of 0.01 foot to be used in preparing groundwater contour maps for each sampling event. The groundwater contour maps will be submitted to FDEP in conjunction with the routine semiannual groundwater monitoring results.

All sampling and analyses will be conducted in accordance with Chapter 62-160, FAC; Chapter 62-701.510(2)(b), FAC; FDEP *Standard Operating Procedures for Field Activities* (DEP-SOP-001/01); and FDEP *Standard Operating Procedures for Laboratory Activities* (DEP-SOP-002/01). All analyses will be performed by a laboratory certified by the Florida Department of Health under the National Environmental Laboratory Accreditation Program.

Section 2.0 SURFACE WATER MONITORING

Section B, Specific Condition II.C.3.c of the SWERF’s Conditions of Certification requires a surface water quality monitoring program which monitors all discharges from the surface water management system into the Buckingham Road drainage system. Surface water monitoring at the SWERF is conducted in accordance with FDEP NPDES Stormwater Program Permit FLR05B588.

No additional surface water sampling at the SWERF, beyond that already regulated under Permit FLR05B588-005, should be necessary.

Section 3.0 WATER-QUALITY REPORTING

3.1 WATER-QUALITY MONITORING REPORTS

Results of all sampling events shall be submitted to FDEP within 60 days from completion of laboratory analyses in accordance with the GWMP and Chapter 62-701.510(8)(a), FAC unless an extension of the reporting deadline is requested from and approved by FDEP.

Water-quality data shall be provided to FDEP in an electronic format consistent with the requirements for importing into FDEP databases. FDEP Form 62-701.900(31) (Attachment 3), *Water Quality Monitoring Certification*, shall be used to certify that the laboratory results have been reviewed and approved by the permittee (Lee County or their authorized representative). At a minimum, the report shall include the following:

1. The facility name and identification number, sample collection dates, and analysis dates.
2. All analytical results.
3. Identification number and designation of all groundwater monitoring points.
4. Applicable water-quality standards.
5. Quality assurance and quality control notations.
6. Method detection limits.
7. STORET code numbers for all parameters.
8. Water levels recorded before purging the groundwater monitoring wells for sample collection.
9. An updated groundwater table contour map signed and sealed by a Professional Geologist (PG) or Professional Engineer (PE).
10. A summary of any water-quality standards or criteria that are exceeded.

3.2 WATER-QUALITY MONITORING TECHNICAL REPORT

A Water-Quality Monitoring Technical Report is not required for the SWERF under FDEP Conditions of Certification document PA90-30H.

In addition, Chapter 62-701.710(1)(d), FAC for Waste Processing Facilities notes the following:

2. Waste processing facilities that accept only construction and demolition debris are exempt from the requirement to provide a leachate control system set forth in paragraph (3)(b) of this rule, provided that all areas where waste is stored or processed are covered by a ground water monitoring system which meets the requirements of subsection 62-701.730(8), F.A.C., except the technical report of paragraph 62-701.510(8)(b), F.A.C., is not required.

The CDDRF is a waste processing facility that falls under the above rule section. As such, a Water-Quality Monitoring Technical Report is not required for the CDDRF under the current Chapter 62-701.710 FAC rule.

Attachment 1
Monitoring Well Network Site Map

PLOTTED: 5/17/2023 01:44 PM JOSHUA HALFORD, EI

SAVED: 4/24/2020 11:01 AM SURFER12 Y:\GWM\JONES EDMUNDS\LEE COUNTY\WTE PLANT\FIGURE 1 SITE MAP.DWG

SHALLOW (WATER TABLE) WELLS				SANDSTONE AQUIFER WELLS			
WELL	TOC ELEVATION	LATITUDE	LONGITUDE	WELL	TOC ELEVATION	LATITUDE	LONGITUDE
MW-1S	21.91 FT	26° 37' 41"	81° 45' 36"	MW-1D	22.96 FT	26° 37' 41"	81° 45' 36"
MW-2S	24.18 FT	26° 38' 03"	81° 45' 37"	MW-2D	23.52 FT	26° 38' 03"	81° 45' 37"
MW-3SR	23.98 FT	26° 38' 1.62"	81° 45' 46.08"	MW-3DR	23.91 FT	26° 38' 1.62"	81° 45' 46.14"
MW-4S	22.48 FT	26° 37' 58"	81° 45' 51"	MW-4D	23.81 FT	26° 37' 58"	81° 45' 51"
MW-5S	23.81 FT	26° 38' 03"	81° 45' 59"	MW-5D	24.50 FT	26° 38' 03"	81° 45' 59"
MW-6S	23.66 FT	26° 37' 57"	81° 45' 59"	MW-6D	22.91 FT	26° 37' 57"	81° 45' 59"

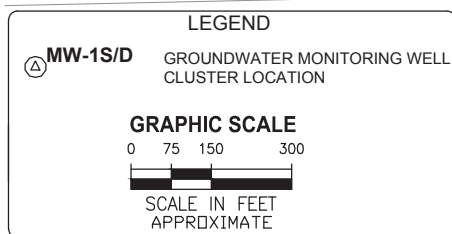
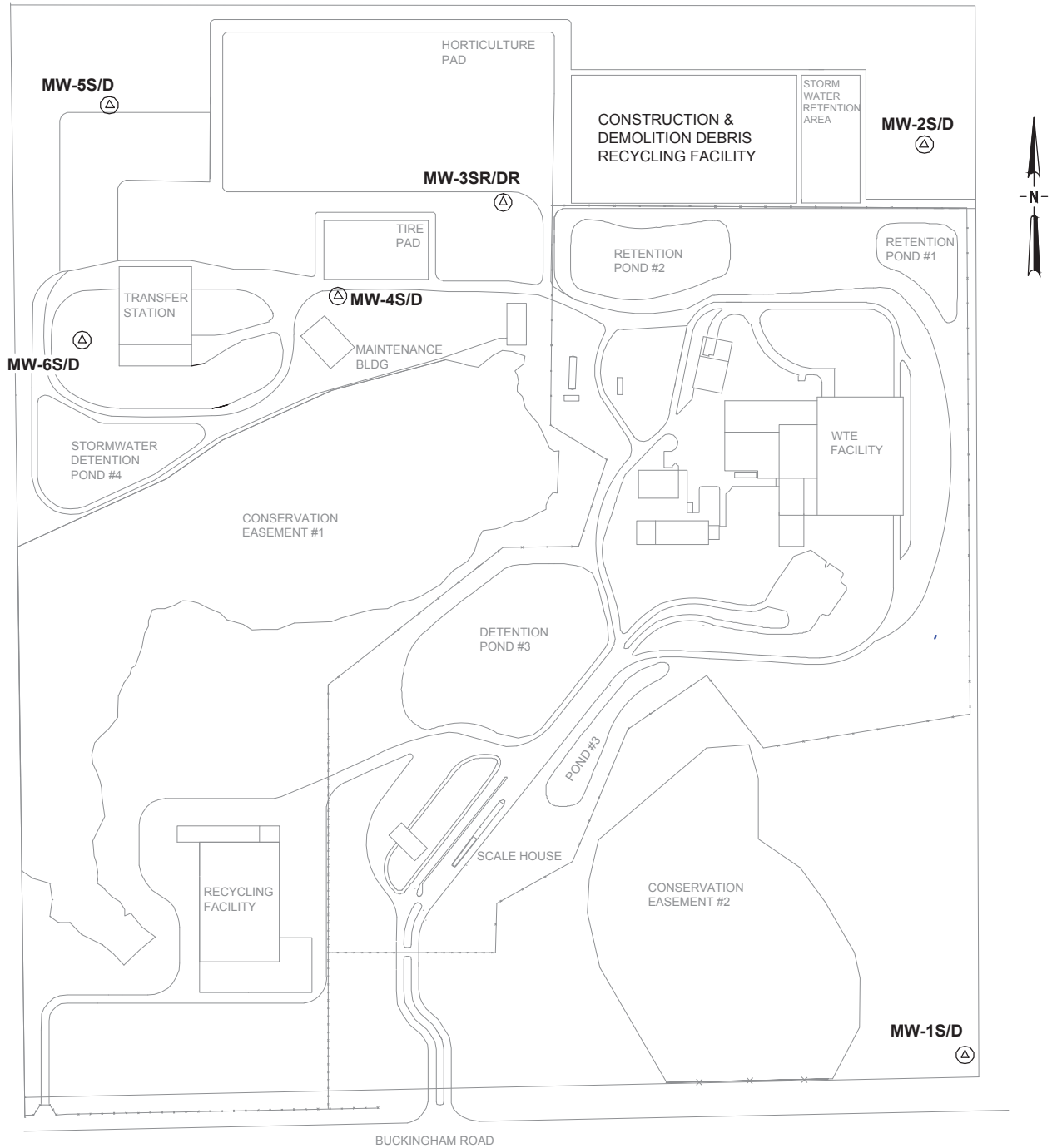


FIGURE 1: SITE MAP
 SOLID WASTE ENERGY RECOVERY FACILITY
 LEE COUNTY SOLID WASTE DIVISION

Attachment 2

**FDEP Form 62-701.900(30) –
Monitoring Well Completion Report**



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

DEP Form # 62-701.900(30)

Form Title: Monitoring Well Completion Report

Effective Date: January 6, 2010

Incorporated in Rule 62-701.510(3), F.A.C.

MONITORING WELL COMPLETION REPORT

DATE: _____

FACILITY NAME: _____

DEP PERMIT NO.: _____ WACS FACILITY ID NO.: _____

WACS MONITORING SITE NUM.: _____ WACS WELL NO.: _____

WELL TYPE: BACKGROUND ☐ DETECTION ☐ COMPLIANCE ☐

LATITUDE: _____ ° _____ ' _____ " LONGITUDE: _____ ° _____ ' _____ "

(see back for LAT / LONG requirements):

Coordinate Accuracy _____ Datum _____ Elevation Datum _____

Collection Method _____ Collection Date _____

Collector Name _____ Collector Affiliation _____

AQUIFER MONITORED: _____

DRILLING METHOD: _____ DATE INSTALLED: _____

INSTALLED BY: _____

BORE HOLE DIAMETER: _____ TOTAL DEPTH: _____ (BLS)

CASING TYPE: _____ CASING DIAMETER: _____ CASING LENGTH: _____

SCREEN TYPE: _____ SCREEN SLOT SIZE: _____ SCREEN LENGTH: _____

SCREEN DIAMETER: _____ SCREEN INTERVAL: _____ TO _____ (BLS)

FILTER PACK TYPE: _____ FILTER PACK GRAIN SIZE: _____

INTERVAL COVERED: _____ TO _____ (BLS)

SEALANT TYPE: _____ SEALANT INTERVAL: _____ TO _____ (BLS)

GROUT TYPE: _____ GROUT INTERVAL: _____ TO _____ (BLS)

TOP OF CASING ELEVATION (NGVD): _____ GROUND SURFACE ELEVATION (NGVD): _____

DESCRIBE WELL DEVELOPMENT: _____

POST DEVELOPMENT WATER LEVEL ELEVATION (NGVD): _____

DATE AND TIME MEASURED: _____

REMARKS: _____

NAME OF PERSON PREPARING REPORT: _____

(Name, Organization, Phone No., E-mail)

Northwest District
160 Government Center
Pensacola, FL 32501-5794
850-595-8360

Northeast District
7825 Baymeadows Way Ste 200B
Jacksonville, FL 32256-7590
904-807-3300

Central District
3319 Maguire Blvd., Ste. 232
Orlando, FL 32803-3767
407-894-7555

Southwest District
13051 N. Telecom Pky.
Temple Terrace, FL
813-632-7600

South District
2295 Victoria Ave., Ste. 364
Fort Myers, FL 33901-3881
239-332-6975

Southeast District
400 North Congress Ave.
West Palm Beach, FL 33401
561-681-6600

Attachment 3

**FDEP Form 62-701.900(31) –
Water Quality Monitoring Certification**



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

DEP Form #: 62-701.900(31), F.A.C

Form Title: Water Quality Monitoring Certification

Effective Date: January 6, 2010

Incorporated in Rule 62-701.510(9), F.A.C.

WATER QUALITY MONITORING CERTIFICATION

PART I GENERAL INFORMATION

- (1) Facility Name Lee County Resource Recovery Facility And Construction & Demolition Debris Recycling Facility
Address 10500 Buckingham Road
City Fort Myers, Florida Zip 33905 County Lee
Telephone Number (239) 533-8000
- (2) WACS Facility ID 93715
- (3) DEP Permit Number PA90-30H Groundwater Monitoring Plan
- (4) Authorized Representative's Name _____ Title _____
Address _____
City _____ Zip _____ County _____
Telephone Number (_____) _____
Email address (if available) _____

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submission of false information including the possibility of fine and imprisonment.

(Date)

(Owner or Authorized Representative's Signature)

PART II QUALITY ASSURANCE REQUIREMENTS

Sampling Organization _____
Analytical Lab NELAC / HRS Certification # _____
Lab Name _____
Address _____
Phone Number (_____) _____
Email address (if available) _____

APPENDIX D
TRAINING LOG

**LEE COUNTY SOLID WASTE
CDDRF
OPERATOR AND SPOTTER TRAINING LOG**

COURSE	COURSE INSTRUCTOR	HRS. ATTENDED	SIGNATURES/ DATE

APPENDIX E
EMERGENCY PHONE NUMBERS

**LEE COUNTY SOLID WASTE
EMERGENCY TELEPHONE NUMBERS**

Organization	Phone Number
Primary Emergency Response	911
Tice Fire Protection and Rescue District (Station 2)	239-694-2380 or 911
Hazard Response – Rapid Environmental Response Services	352-431-7303
24-Hour Duty Line	239-826-5564
Florida Department of Environmental Protection	239-694-2380
State Warning Point (24 hours)	800-320-0519
Director of Solid Waste – Douglass Whitehead	239-533-8917
Operations Manager – Tim Lamontagne	239-533-8960
Superintendent – Caleb Gonzalez	239-823-6837
Site Supervisor – Roberto Gonzalez	239-826-6410
Project Manager – Angie DuBois	239-707-1537

**Lee County
Solid Waste Division**

**Lee County Solid Waste Energy Recovery Facility
Water Quality Monitoring Plan**

Revised – May 2023

Prepared by

Jones Edmunds & Associates, Inc.
730 NE Waldo Road
Gainesville, Florida 32641

TABLE OF CONTENTS

SECTION 1.0	GROUNDWATER MONITORING	2
1.1	Site Hydrogeological Setting	2
1.2	Groundwater Flow Direction.....	2
1.3	Groundwater Monitoring Network	2
1.4	Monitoring Well Sampling and Analysis	3
SECTION 2.0	SURFACE WATER MONITORING.....	4
SECTION 3.0	WATER-QUALITY REPORTING	5
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3.2	Water-Quality Monitoring Technical Report	5

TABLES

Table 1-1	Groundwater Monitoring Network
Table 1-2	Initial (Background) Groundwater Sampling Parameters
Table 1-3	Routine Semiannual Monitoring Parameter List

ATTACHMENTS

Attachment 1	– Monitoring Well Network Site Map
Attachment 2	– FDEP Form 62-701.900(30) – Monitoring Well Completion Report
Attachment 3	– FDEP Form 62-701.900(31) – Water Quality Monitoring Certification

Section 1.0 GROUNDWATER MONITORING

1.1 SITE HYDROGEOLOGICAL SETTING

The geology of the Lee County Solid Waste Energy Recovery Facility (SWERF) is described in the November 2002 Supplemental Application for Power Plant Site Certification PA-90-30C (Malcolm Pirnie, 2002) and in the August 1992 Power Plant Siting Act Permit Application PA-90-30 (Malcolm Pirnie, 1992). Based on these site hydrogeological studies, there are three significant hydrologic strata beneath the facility including the shallow/water table surficial aquifer, the Hawthorn confining unit, and the sandstone aquifer. The shallow surficial aquifer is separated from the deeper sandstone aquifer by the upper Hawthorn confining unit which minimizes flow between the two aquifers.

1.2 GROUNDWATER FLOW DIRECTION

As established by previously submitted semiannual groundwater contour maps, the surficial/shallow aquifer at the facility generally shows a generally westerly flow while the sandstone/deep aquifer shows a southerly flow.

1.3 GROUNDWATER MONITORING NETWORK

The surficial/shallow aquifer at the SWERF is monitored by wells MW-1S, MW-2S, MW-3SR (previously WTE-3SR), MW-4S, MW-5S, and MW-6S. Monitoring wells MW-1S and MW-2S serve as upgradient wells and are located on the southeast and northeast corners of the SWERF, respectively. Monitoring wells MW-5S and MW-6S are on the west side of the property. MW-4S and MW-3SR are located approximately in the center of the property.

Although not currently monitored for water quality under the SWERF's GWMP, six deep wells (MW-1D, MW-2D, MW-3DR, MW-4D, MW-5D, and MW-6D) were previously installed to monitor the sandstone aquifer at the SWERF. In accordance with the Department's approval of the SWERF's previous GWMP (October 2010), the sandstone aquifer monitoring wells are inspected and maintained and monitored for groundwater elevations on the same schedule as the shallow aquifer monitoring wells.

The CDDRF's groundwater monitoring network shares three wells from the SWERF's groundwater monitoring network. MW-2S is designated as the background well for the CDDRF while MW-3SR and MW-4S are the CDDRF's designated detection wells.

In the event that the GWMN is modified (wells added or abandoned), the requirements of this GWMP will be applicable to the new GWMN without further revision of this document. Any required modifications of the groundwater monitoring system or program shall be modified in accordance with the provisions of Section A, Condition XXI of the SWERF's Conditions of Certification.

Table 1-1 Groundwater Monitoring Network

Testsite Name*	Testsite WACS ID	Designation	Aquifer	Facility
MW-1S	23402	Background	Surficial	SWERF
MW-2S	23404	Detection/Background	Surficial	SWERF / CDDRF
MW-3SR	27415	Detection	Surficial	SWERF / CDDRF
MW-4S	23409	Detection	Surficial	SWERF / CDDRF
MW-5S	23411	Detection	Surficial	SWERF
MW-6S	23413	Detection	Surficial	SWERF
MW-1D	23403	Piezometer	Sandstone	SWERF
MW-2D	23405	Piezometer	Sandstone	SWERF
MW-3DR	27416	Piezometer	Sandstone	SWERF
MW-4D	23410	Piezometer	Sandstone	SWERF
MW-5D	23412	Piezometer	Sandstone	SWERF
MW-6D	23414	Piezometer	Sandstone	SWERF

A site map indicating the locations of the monitoring network wells and piezometers is included as Attachment 1.

1.4 MONITORING WELL SAMPLING AND ANALYSIS

Initial sampling of any approved and newly installed wells shall be conducted within 30 days of final well development. Samples will be collected to determine background groundwater quality as described in Chapter 62-701.730(8)(d), FAC for the parameters listed in Table 1-2.

Table 1-2 Initial (Background) Groundwater Sampling Parameters

Field Parameters	Laboratory Parameters
Static Water Level	Total Ammonia-N
Specific Conductivity	Chlorides
pH	Iron
Dissolved Oxygen	Nitrate-N
Turbidity	Sodium
Temperature	Total Dissolved Solids (TDS)
Colors and Sheens (by observation)	Sulfate
	Aluminum
	40 CFR 258, Appendix II

Note: 40 CFR 258 – Chapter 40 Code of Federal Regulations Part 258.

Routine semiannual groundwater samples shall be collected from monitoring wells MW-1S, MW-2S, MW-3SR, MW-4S, MW-5S, and MW-6S (and any subsequently approved monitoring wells) during February and August each year. Samples will be analyzed for the parameters listed in Rule 62-701.730(8)(c), FAC (see Table 1-3).

Table 1-3 Routine Semiannual Monitoring Parameter List

Field Parameters	Laboratory Parameters
pH	Aluminum
Turbidity	Chloride
Temperature	Nitrate-N
Specific conductivity	Sulfate
Dissolved oxygen	Total Dissolved Solids (TDS)
Water elevations before purging	Iron
Colors and sheens	Sodium
	Arsenic
	Cadmium
	Chromium
	Lead
	Mercury
	Total Ammonia-N
	Xylenes
	Those parameters listed in EPA Methods 601 and 602

In addition to collecting water elevations before purging in the sampled wells, a “continuous round” of water levels will be collected within a 24-hour period from all monitoring wells and piezometers to a precision of 0.01 foot to be used in preparing groundwater contour maps for each sampling event. The groundwater contour maps will be submitted to FDEP in conjunction with the routine semiannual groundwater monitoring results.

All sampling and analyses will be conducted in accordance with Chapter 62-160, FAC; Chapter 62-701.510(2)(b), FAC; FDEP *Standard Operating Procedures for Field Activities* (DEP-SOP-001/01); and FDEP *Standard Operating Procedures for Laboratory Activities* (DEP-SOP-002/01). All analyses will be performed by a laboratory certified by the Florida Department of Health under the National Environmental Laboratory Accreditation Program.

Section 2.0 SURFACE WATER MONITORING

Section B, Specific Condition II.C.3.c of the SWERF’s Conditions of Certification requires a surface water quality monitoring program which monitors all discharges from the surface water management system into the Buckingham Road drainage system. Surface water monitoring at the SWERF is conducted in accordance with FDEP NPDES Stormwater Program Permit FLR05B588.

No additional surface water sampling at the SWERF, beyond that already regulated under Permit FLR05B588-005, should be necessary.

Section 3.0 WATER-QUALITY REPORTING

3.1 WATER-QUALITY MONITORING REPORTS

Results of all sampling events shall be submitted to FDEP within 60 days from completion of laboratory analyses in accordance with the GWMP and Chapter 62-701.510(8)(a), FAC unless an extension of the reporting deadline is requested from and approved by FDEP.

Water-quality data shall be provided to FDEP in an electronic format consistent with the requirements for importing into FDEP databases. FDEP Form 62-701.900(31) (Attachment 3), *Water Quality Monitoring Certification*, shall be used to certify that the laboratory results have been reviewed and approved by the permittee (Lee County or their authorized representative). At a minimum, the report shall include the following:

1. The facility name and identification number, sample collection dates, and analysis dates.
2. All analytical results.
3. Identification number and designation of all groundwater monitoring points.
4. Applicable water-quality standards.
5. Quality assurance and quality control notations.
6. Method detection limits.
7. STORET code numbers for all parameters.
8. Water levels recorded before purging the groundwater monitoring wells for sample collection.
9. An updated groundwater table contour map signed and sealed by a Professional Geologist (PG) or Professional Engineer (PE).
10. A summary of any water-quality standards or criteria that are exceeded.

3.2 WATER-QUALITY MONITORING TECHNICAL REPORT

A Water-Quality Monitoring Technical Report is not required for the SWERF under FDEP Conditions of Certification document PA90-30H.

In addition, Chapter 62-701.710(1)(d), FAC for Waste Processing Facilities notes the following:

2. Waste processing facilities that accept only construction and demolition debris are exempt from the requirement to provide a leachate control system set forth in paragraph (3)(b) of this rule, provided that all areas where waste is stored or processed are covered by a ground water monitoring system which meets the requirements of subsection 62-701.730(8), F.A.C., except the technical report of paragraph 62-701.510(8)(b), F.A.C., is not required.

The CDDRF is a waste processing facility that falls under the above rule section. As such, a Water-Quality Monitoring Technical Report is not required for the CDDRF under the current Chapter 62-701.710 FAC rule.

Attachment 1
Monitoring Well Network Site Map

PLOTTED: 5/17/2023 01:44 PM JOSHUA HALFORD, EI

SAVED: 4/24/2020 11:01 AM SURFER12 Y:\GWM\JONES EDMUNDS\LEE COUNTY\WTE PLANT\FIGURE 1 SITE MAP.DWG

SHALLOW (WATER TABLE) WELLS				SANDSTONE AQUIFER WELLS					
WELL	TOC	ELEVATION	LATITUDE	LONGITUDE	WELL	TOC	ELEVATION	LATITUDE	LONGITUDE
MW-1S		21.91 FT	26° 37' 41"	81° 45' 36"	MW-1D		22.96 FT	26° 37' 41"	81° 45' 36"
MW-2S		24.18 FT	26° 38' 03"	81° 45' 37"	MW-2D		23.52 FT	26° 38' 03"	81° 45' 37"
MW-3SR		23.98 FT	26° 38' 1.62"	81° 45' 46.08"	MW-3DR		23.91 FT	26° 38' 1.62"	81° 45' 46.14"
MW-4S		22.48 FT	26° 37' 58"	81° 45' 51"	MW-4D		23.81 FT	26° 37' 58"	81° 45' 51"
MW-5S		23.81 FT	26° 38' 03"	81° 45' 59"	MW-5D		24.50 FT	26° 38' 03"	81° 45' 59"
MW-6S		23.66 FT	26° 37' 57"	81° 45' 59"	MW-6D		22.91 FT	26° 37' 57"	81° 45' 59"

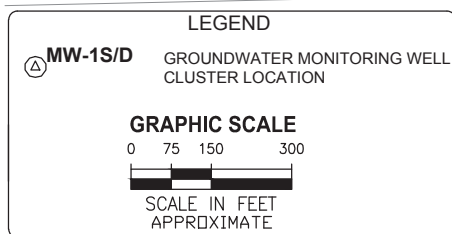
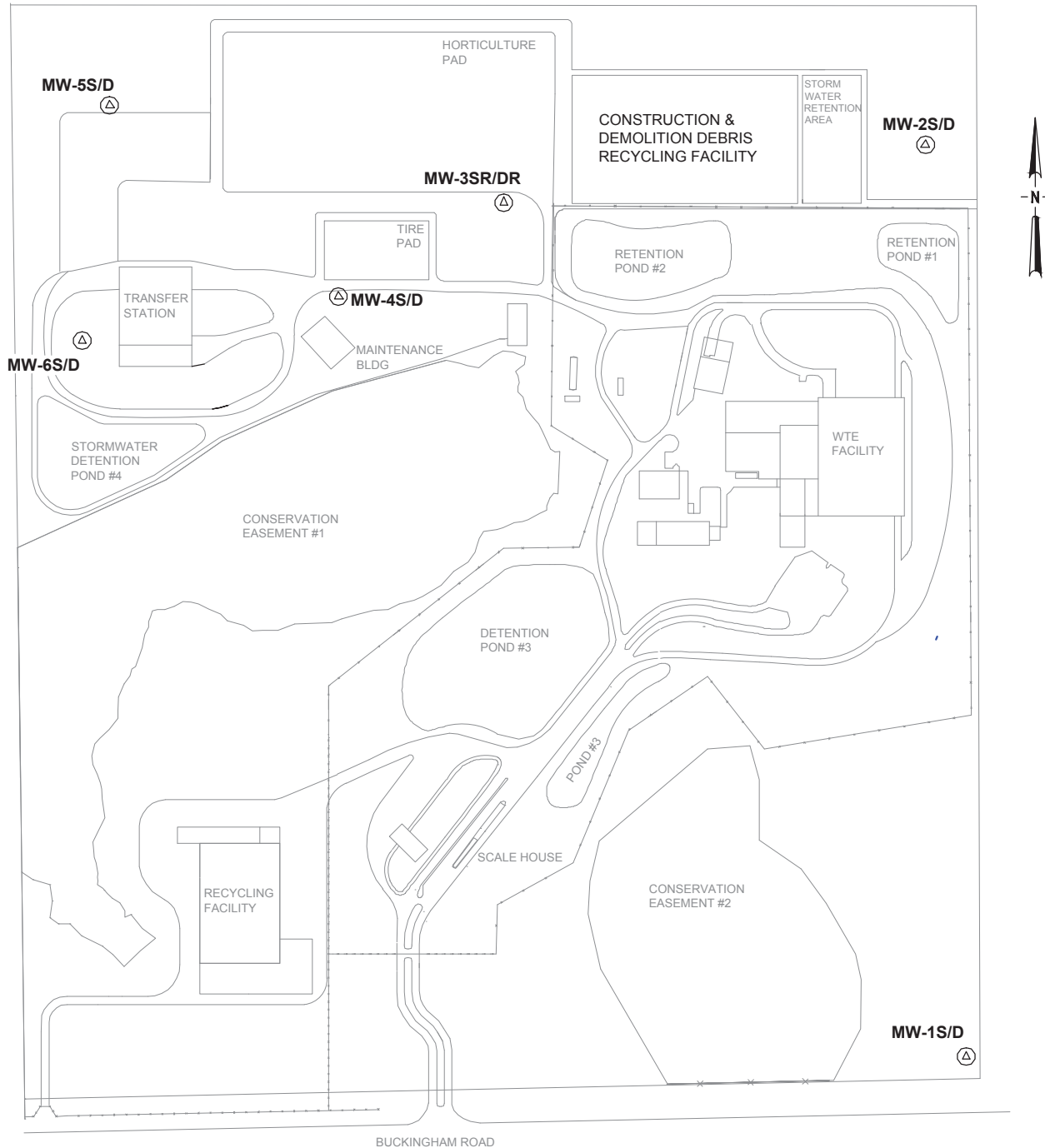


FIGURE 1: SITE MAP
 SOLID WASTE ENERGY RECOVERY FACILITY
 LEE COUNTY SOLID WASTE DIVISION

Attachment 2

**FDEP Form 62-701.900(30) –
Monitoring Well Completion Report**



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

DEP Form # 62-701.900(30)

Form Title: Monitoring Well Completion Report

Effective Date: January 6, 2010

Incorporated in Rule 62-701.510(3), F.A.C.

MONITORING WELL COMPLETION REPORT

DATE: _____

FACILITY NAME: _____

DEP PERMIT NO.: _____ WACS FACILITY ID NO.: _____

WACS MONITORING SITE NUM.: _____ WACS WELL NO.: _____

WELL TYPE: BACKGROUND ☐ DETECTION ☐ COMPLIANCE ☐

LATITUDE: _____ ° _____ ' _____ " LONGITUDE: _____ ° _____ ' _____ "

(see back for LAT / LONG requirements):

Coordinate Accuracy _____ Datum _____ Elevation Datum _____

Collection Method _____ Collection Date _____

Collector Name _____ Collector Affiliation _____

AQUIFER MONITORED: _____

DRILLING METHOD: _____ DATE INSTALLED: _____

INSTALLED BY: _____

BORE HOLE DIAMETER: _____ TOTAL DEPTH: _____ (BLS)

CASING TYPE: _____ CASING DIAMETER: _____ CASING LENGTH: _____

SCREEN TYPE: _____ SCREEN SLOT SIZE: _____ SCREEN LENGTH: _____

SCREEN DIAMETER: _____ SCREEN INTERVAL: _____ TO _____ (BLS)

FILTER PACK TYPE: _____ FILTER PACK GRAIN SIZE: _____

INTERVAL COVERED: _____ TO _____ (BLS)

SEALANT TYPE: _____ SEALANT INTERVAL: _____ TO _____ (BLS)

GROUT TYPE: _____ GROUT INTERVAL: _____ TO _____ (BLS)

TOP OF CASING ELEVATION (NGVD): _____ GROUND SURFACE ELEVATION (NGVD): _____

DESCRIBE WELL DEVELOPMENT: _____

POST DEVELOPMENT WATER LEVEL ELEVATION (NGVD): _____

DATE AND TIME MEASURED: _____

REMARKS: _____

NAME OF PERSON PREPARING REPORT: _____

(Name, Organization, Phone No., E-mail)

Northwest District
160 Government Center
Pensacola, FL 32501-5794
850-595-8360

Northeast District
7825 Baymeadows Way Ste 200B
Jacksonville, FL 32256-7590
904-807-3300

Central District
3319 Maguire Blvd., Ste. 232
Orlando, FL 32803-3767
407-894-7555

Southwest District
13051 N. Telecom Pky.
Temple Terrace, FL
813-632-7600

South District
2295 Victoria Ave., Ste. 364
Fort Myers, FL 33901-3881
239-332-6975

Southeast District
400 North Congress Ave.
West Palm Beach, FL 33401
561-681-6600

Attachment 3

**FDEP Form 62-701.900(31) –
Water Quality Monitoring Certification**



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

DEP Form #: 62-701.900(31), F.A.C

Form Title: Water Quality Monitoring Certification

Effective Date: January 6, 2010

Incorporated in Rule 62-701.510(9), F.A.C.

WATER QUALITY MONITORING CERTIFICATION

PART I GENERAL INFORMATION

- (1) Facility Name Lee County Resource Recovery Facility And Construction & Demolition Debris Recycling Facility
Address 10500 Buckingham Road
City Fort Myers, Florida Zip 33905 County Lee
Telephone Number (239) 533-8000
- (2) WACS Facility ID 93715
- (3) DEP Permit Number PA90-30H Groundwater Monitoring Plan
- (4) Authorized Representative's Name _____ Title _____
Address _____
City _____ Zip _____ County _____
Telephone Number (_____) _____
Email address (if available) _____

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submission of false information including the possibility of fine and imprisonment.

(Date)

(Owner or Authorized Representative's Signature)

PART II QUALITY ASSURANCE REQUIREMENTS

Sampling Organization _____
Analytical Lab NELAC / HRS Certification # _____
Lab Name _____
Address _____
Phone Number (_____) _____
Email address (if available) _____

Building Expansion Lee County Fleet Storage, Buckingham Rd. Lee Co.

Ardaman Proposal 23-564

Attachment IV

