Agenda Report

2725 Judge Fran Jamieson Way
Viera, FL 32940

Public Hearing

D.9 9/13/2021

Subject:
Adoption of Budgets for FY 2021-2022 for Certain Districts and Programs

Dept/Office:
Budget Office

Requested Action:
It is recommended that the Board of County Commissioners adopt the budgets for the districts and programs listed below.

Summary Explanation and Background:
The following budgets must be adopted on or before September 15, 2021. If there are no objections or requests for individual discussion, these items may be approved with one motion.

Description	FY 2021-2022 Budget
• Solid Waste Management Department Brevard County Code of Ordinances specify that on or before September 15 of each year, an annual budget shall be adopted for the Solid Waste Management	$139,147,204
• Stormwater Utility Brevard County Code of Ordinances specify that on or before September 15 of each year, an annual budget shall be adopted for the Stormwater Utility Operations and CIP	$33,633,056
• Fire Rescue Operations Assessment Brevard County Code of Ordinances specify that on or before September 15 of each year, an annual budget shall be adopted for Fire Rescue Operations	$32,288,161
• Melbourne-Tillman Water Control District A resolution adopting the budget tentatively approved at the August 24, 2021 public hearing	$4,113,883

Clerk to the Board Instructions:
Maintain for records retention

BREVARD County
BOARD OF COUNTY COMMISSIONERS

FLORIDA'S SPACE COAST

Kimberly Powell, Clerk to the Board, 400 South Street • P.O. Box 999, Titusville, Florida 32781-0999

Telephone: (321) 637-2001
Fax: (321) 264-6972
Kimberly.Powell@brevardclerk.us

September 14, 2021

MEMORANDUM

TO: Jill Hayes, Budget Office Director

RE: Item D.9., Budgets for Fiscal Year 2021-2022 for Certain Districts and Programs

The Board of County Commissioners, in special session on September 13, 2021, accepted the budgets of Solid Waste Management Department, Stormwater Utility, Fire Rescue Operations Assessment, and Melbourne-Tillman Water Control District for Fiscal Year 2021-2022.

Your continued cooperation is greatly appreciated.

Sincerely,

BOARD OF COUNTY COMMISSIONERS
RACHEL M. SADOFF, CLERK

Kimberly Powell, Clerk to the Board

/ds

cc: County Manager
Tax Collector
Finance

BOARD OF COUNTY COMMISSIONERS

Solid Waste Management Department
2725 Judge Fran Jamieson Way
Building A, Room 118
Viera, FL 32940

Inter-Office Memo

October 1, 2021

TO: Rachel M. Sadoff, Clerk

THRU: Thomas Mulligan, Interim Director
Solid Waste Management Department

FROM: Joseph Hacker, Contract Administrator

RE: S2Li Task Order 17-28

Please find attached for your signature task order 17-28 from S2Li for services for Brevard County Solid Waste. Task Order 17-28 is for Geotechnical subgrade and foundation investigations for US-192 Solid Waste Facility. This will include a main asphalt access roadway, a perimeter roadway, 4 stormwater ponds, 2 borrow pits and approximately 13 muck removal areas. This task order will not exceed $465,592.75 and was approved by the Brevard Board of County Commissioners budget for Solid Waste on September 13, 2021.

Please sign all copies and return 2 copies to Brevard County Solid Waste.
If you have any questions regarding this task please contact Thomas Mulligan at 633-2042.

/jjh

Attachment: Agreement (3 Copies)
Kimmie Gram Approved County Budget 2021/2022
Solid Waste Capital Improvement Budget 2021/2022

Brevard COUNTY

BOARD OF COUNTY COMMISSIONERS

Solid Waste Management Department
2725 Judge Fran Jamieson Way
Building A, Room 118
Viera, FL 32940

Inter-Office Memo

September 28, 2021

TO: Rita Pritchett, Chair

THRU: Frank Abbate, County Manager

THRU: John P. Denninghoff, Assistant County Manager

THRU: Thomas Mulligan, Interim Director
Solid Waste Management Department

FROM: Joseph Hacker, Contract Administrator

RE: S2Li Task Order 17-28

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Solid Waste Capital Improvement Budget 2021/2022

BREVARD County
BOARD OF COUNTY COMMISSIONERS

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Sincerely,

BOARD OF COUNTY COMMISSIONERS
RACHEL M. SADOFF, CLERK

Kimberly Powell, Clerk to the Board

/ds

cc: County Manager
Tax Collector
Finance

RECEIVED
SEP 27 2021
Solid Waste Management Department

File #: 3299, **Version:** 1

Subject:

Adoption of Budgets for FY 2021-2022 for Certain Districts and Programs

Dept/Office:

Budget Office

Requested Action:

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Clerk to the Board Instructions:

Maintain for records retention

SOLID WASTE MANAGEMENT PROGRAM BUDGET – FY 2021-2022

Chapter 94, Brevard County Code, provides that on or before the fifteenth day of September, the Board shall hold a public hearing to adopt the budget for the Operation and Maintenance of the Solid Waste Management System, and the Solid Waste Collection and Recycling program for the ensuing County fiscal year.

It is recommended that the Board of County Commissioners adopt the Solid Waste Management Program's FY 2021-2022 budget for the Operation and Maintenance of the Solid Waste Management System and the Solid Waste Collection and Recycling programs.

FISCAL IMPACT:

Annual Solid Waste Management Program's FY 2021-2022 Budget:

Operation and Maintenance of the Solid Waste Management System	$ 114,446,635
Solid Waste Collection and Recycling Programs	$ 24,700,569
Total	$ 139,147,204

SOLID WASTE MANAGEMENT DEPARTMENT
FISCAL YEAR 2021-2022 CAPITAL IMPROVEMENTS PROGRAM

Program Name	Description	Funding Source	Total Cost
Disposal			
	U.S. 192	Assessments	$5,000,000
	Titusville Transfer Station	Assessments/ Impact Fees	$7,200,000
	South Landfill Expansion Cell 2	Assessments/ Impact Fees	$19,000,000
Total Funded For Department			**$31,200,000**

TASK ORDER NUMBER 17-28
FOR THE
PROFESSIONAL ENGINEERING SERVICES CONTRACT
BREVARD COUNTY SOLID WASTE MANAGEMENT SYSTEM

Geotechnical Subgrade and Foundation Investigations US-192 Solid Waste Management Facility

Board of County Commissioners
Solid Waste Management Department

S2L, Incorporated

This TASK ORDER NO. 17-28, dated this 30th day of Sept, 2021 by and between the BOARD OF COUNTY COMMISSIONERS OF BREVARD COUNTY, FLORIDA, a political subdivision of the State of Florida, hereinafter referred to as "County," and S2L, Incorporated, a Florida Corporation, whose local address is 531 Versailles Drive, Suite 202, Maitland, Florida 32751, hereinafter referred to as "Engineer" amending that certain Contract between the parties dated October 10, 2017.

WITNESSETH:

WHEREAS, the County is authorized to construct, acquire, improve, maintain, and operate its Solid Waste Management Facilities in the County; and

WHEREAS, the Solid Waste Management Department is charged with meeting the existing and future solid waste disposal needs of Brevard County; and

WHEREAS, the County desires to implement the recommendations of the Capital Improvements Program for the continued operation of existing Solid Waste Management Facilities and other projects; and

WHEREAS, the Engineer has experience in the planning, procurement, preparation of permit applications, design, financing, construction administration, and operation of similar systems, facilities and tasks required; and

WHEREAS, the County has retained the services of the Engineer to provide consulting and engineering services for the permitting and development of the County's new US-192 Solid Waste Management Facility located at the US-192 Site ("South County Solid Waste Management Facility" or "Site"); and

WHEREAS, on May 24, 2011, Brevard County ("County") and Farmland Reserve, Inc. d/b/a Deseret Ranches of Florida ("Deseret") entered into a Settlement Agreement ("Agreement") that set terms and conditions for the County to obtain its solid waste construction and operations permits for the new solid waste management facility located at the US-192 Site ("South County Solid Waste Management Facility" or "US-192 Site"); and

WHEREAS, the County has obtained a Florida Department of Environmental Protection ("FDEP") Solid Waste Permit that requires abandonment of certain groundwater monitoring wells and artesian wells; and

WHEREAS, in order to further prepare for the development of the Site, geotechnical services are needed to: 1) abandon existing groundwater monitoring wells and piezometers before site development, 2) abandon two deep artesian wells in compliance with the FDEP solid waste permit, 3) conduct borings in the future roads for design and specifications preparation needs, 4) perform field borings and laboratory classification of samples within the stormwater basins and future soil borrow areas to develop a soil profile for soil reuse on site, and 5) determine the depth of wetland muck areas permitted to be removed in the planned construction areas to provide a structural foundation for the proposed development.

WHEREAS, the County desires Engineer and its geotechnical engineering subconsultant ("Ardaman and Associates") and land surveyor ("Peavey Surveying") collectively known as the "Project Team" to conduct the geotechnical subgrade and foundation investigations as required above; and

WHEREAS, the County desires to amend the existing "Contract" between the parties dated October 10, 2017.

NOW, THEREFORE, in consideration of the premises and mutual promises and conditions contained herein, it is mutually agreed between the parties as follows:

SECTION 1. Scope of Services: The Scope of Services agreed to be performed by the Engineer pursuant to the continuing contract between the parties, dated October 10, 2017, is hereby amended to include the services shown on Attachment "A", attached hereto.

SECTION 2. Compensation: Compensation shall be in accordance with "SECTION 3, COMPENSATION" of the contract between the parties dated October 10, 2017. The Engineer shall be paid for this Task Order 17-28 a not-to-exceed the amount of Four Hundred Sixty-Five Thousand Five Hundred Ninety-two Dollars and Seventy-five cents ($465,592.75), payable as deliverables are accepted by the County for the services as set forth in Attachment "A-1" of this task order.

SECTION 3. Continuing Effect of Contract: Except as otherwise provided herein, the Contract dated October 10, 2017, shall remain in full force and effect.

SECTION 4. Time for Performance: The Engineer shall complete the work required in this Task Order within 170 calendar days of receipt of the County's Notice to Proceed.

(THIS AREA INTENTIONALLY LEFT BLANK)

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

ATTEST:
OF BREVARD COUNTY, FLORIDA

Rachel M. Sadoff, Clerk of the Courts

BOARD OF COUNTY COMMISSIONERS

Rita Pritchett, Chair

As Approved by the Board on September 13, 2021.

ATTEST:

Cheryl Hollister

ENGINEER:
S2L, INCORPORATED

Samuel B. Levin, P.E., President

S2Li Task Order No. 17-28
Geotechnical Subgrade and Foundation Investigations
US-192 Solid Waste Management Facility
Brevard County

Attachment A-1

Task Order No. 17-28

Geotechnical Subgrade and Foundation Investigations

US-192 Solid Waste Management Facility

Solid Waste Management Department
Board of County Commissioners
Brevard County, Florida

INTRODUCTION

Brevard County ("County") has received permits from the Florida Department of Environmental Protection ("FDEP") for a new solid waste management facility located at the US-192 Site ("South County Solid Waste Management Facility" or "Site"). To further prepared for the development of the Site, geotechnical services are needed to: 1) abandon existing groundwater monitoring wells and piezometers before site development, 2) abandon two deep artesian wells in accordance to the FDEP solid waste permit, 3) conduct borings in the future road pathways for design and specifications preparation needs, 4) perform field borings and laboratory classification of samples within the stormwater basins and future soil borrow areas to develop a soil profile for soil reuse on site, and 5) determine the depth of wetland muck areas permitted to be removed in the planned construction areas to provide a structural foundation for the proposed development.

County desires S2L, Incorporated ("Engineer") and its geotechnical engineering subconsultant ("Ardaman and Associates") and land surveyor ("Peavey Surveying") collectively known as the "Project Team" to conduct the geotechnical subgrade and foundation investigations.

The following is a description of the services to be provided under this Task Order.

SCOPE OF SERVICES

The proposed construction for this phase of the project includes the following:

- A main asphalt paved access roadway approximately 9,800 feet in length;
- A perimeter asphalt paved roadway for the Class III landfill approximately 12,640 feet in length;
- Limerock stabilized haul roads throughout the site that total approximately 1,300 lineal feet;
- Four stormwater detention ponds (Ponds SWM 1, SWM 1A, SWM 2, and SWM 4) with the depths of the ponds at approximately 20 to 23 feet below existing ground surface;
- Two borrow pits (ponds) (BP1 and BP2) with the depth of the borrow pits at approximately 40 feet below existing ground surface; and
- Approximately 13 muck removal areas where wetlands are to be de-mucked and backfilled with select fill material.

The scope of our work will include collecting soil stratigraphy data and groundwater level data at the locations of the proposed improvements discussed above and determining if the soil characteristics are suitable to construct the proposed pavement areas. Additionally, as requested, existing monitor wells, artesian wells, and piezometers located on the project site will be abandoned. The following summarizes the scope of work and associated fees for conducting the subject exploration:

Task 1 – Survey to Locate Soil Borings

The Project Team's licensed surveyor will locate and determine the existing elevations for each of the proposed borings for the geotechnical drilling company, proposed roads, stormwater ponds, and soil borrow (pond) areas. A proposed boring layout map will be prepared for use by the surveyor and drilling company. The map will also locate surrounding wetlands and other features to be avoided and not disturbed when the driller is mowing and accessing the planned drilling and well abandonment areas.

Task 2 – Field Exploration for Proposed Improvements

Since portions of the site may be wooded and/or vegetated with brush, minor brush mowing may be performed to provide access to some of the boring locations. Four days of brush mowing are included in this task order.

The proposed field exploration program will include the following:

Description	Number of Borings	Depth Below Ground Surface (feet)
Main and Perimeter Roadways - (one boring every approximate 200 feet)	112 Auger	5
Haul Roads - (one boring every approximate 200 feet)	7 Auger	5
Stormwater Pond SWM-1 (Approx. 65 acres) - (one boring per acre)	33 SPT 32 Auger	25 20
Stormwater Pond SWM-1A (Approx. 5 acres) - (one boring per acre)	3 SPT 2 Auger	25 20
Stormwater Pond SWM-2 (Approx. 20 acres) - (one boring per acre)	10 SPT 10 Auger	25 20
Stormwater Pond SWM-4 (Approx. 7 acres) - (one boring per acre)	4 SPT 3 SPT	25 20
Borrow Pit BP1 (Approx. 130 acres) - (one boring per 2 acres)	65 SPT	45
Borrow Pit BP2 (Approx. 75 acres) - (one boring per 2 acres)	38 SPT	45

It is noted that the Florida Department of Transportation (FDOT) Soils and Foundation Handbook recommends that two soil borings be performed per acre of proposed stormwater pond area. However, based on the large sizes of the proposed ponds and borrow pits for this project and the geotechnical engineer's experience, the boring frequencies presented in the table above will be utilized. Additional borings may be recommended in some of the areas if highly variable soil conditions are encountered during our field exploration.

The Standard Penetration Test (SPT) borings will be drilled using truck- or ATV-mounted drilling equipment and a procedure similar to the SPT outlined in ASTM D-1586. The borings will be sampled at 18-inch intervals to 10 feet deep and at 5-foot intervals below 10 feet. The auger borings will be drilled with a 4-inch diameter, truck- or ATV-mounted continuous flight auger or a 3-inch diameter, hand-held bucket auger. Each sample will be removed from the auger or sampler in the field and then examined and visually classified by field personnel.

Representative portions will be sealed and packaged for transportation to the laboratory for further analysis as required. Water level observations will be made in the boreholes during the drilling operation. Upon completion of drilling, the boreholes will be backfilled with soil cuttings.

Task 3 – Muck Probes in Wetland Areas

There are approximately 13 wetland areas on the project site that are intended to be de-mucked and backfilled with select fill material. These areas are shown on Drawing G8 of the County's Environmental Resource Permit (ERP). The Project Team's geotechnical engineer will conduct shallow muck probes at selected accessible locations within the wetland areas to preliminarily measure the depth of surficial soft organic soils. These probes are performed by hand-pushing a ½-inch diameter steel pipe into the ground until penetration is refused. The depth is recorded as the assumed depth of muck. This task order has budget for up to 4 days of muck probing.

Task 4 – Well/Piezometer Abandonments

Subtask 4.1 - Areas Outside of Proposed Landfill Liner Footprint

Prior to initiation of the abandonment activities, the Project Team's geotechnical engineer will prepare and submit up to ten permit applications for the well and piezometer abandonments to the appropriate regulatory agency. The well and piezometer abandonments may be initiated once the permit applications are submitted since it is assumed that the permits will be approved.

The abandonment of existing monitor wells and piezometers is identified on Drawing G9 from the FDEP ERP as revised. Based on the locations provided on the drawing, 19 monitor wells and piezometers are located in areas outside of the proposed landfill liner footprint and will be abandoned. A summary of the wells and piezometers to be abandoned is presented in Attachment 1 of Ardaman's attached proposal. In case additional wells are identified on site that need to be abandoned, four additional "contingency" wells/piezometers are included in this task order. This task order does not include addressing the existing water level staff gauges and monitoring stations located on the project site.

Each of the monitor wells and piezometers discussed above will be abandoned by inserting a tremie pipe to the bottom of the casing and then filling the casing with cement grout from the bottom up using the pump on the drill rig. The surface concrete pad and manhole located on each well or piezometer will also be removed. This proposal assumes that the abandonment of these 19 monitor wells/piezometers can be completed in no more than 10 days and that the abandonment of the four "contingency" wells/piezometers (if necessary) can be completed in no more than 2 days.

The Project Team's geotechnical engineer will also abandon the existing 6-inch diameter artesian Well 5539 located outside of the proposed landfill liner footprint on the project site but within the access road construction area. Data regarding this artesian well is incomplete; therefore, this proposal assumes that the artesian well is no deeper than approximately 465 feet below existing ground surface. The top of the artesian well casing will first be removed by cutting with a torch or other equipment. Then, a smaller internal casing will be placed into the bottom section of the existing well casing and a heavy cement grout mixture will be pumped into the casing using the pump on the drill rig. The addition of the cement grout mixture will continue as the internal casing is withdrawn. This proposal assumes that artesian Well 5539 can be abandoned in no more than 5 days.

Subtask 4.2 - Areas Inside of Proposed Landfill Liner Footprint

Based on the locations provide on Drawing G9 from the FDEP ERP as revised, four monitor wells and piezometers are located inside the proposed landfill liner footprint and are required to be abandoned. These four wells and piezometers are identified in Attachment 1 of Ardaman's attached proposal.

The four monitor wells and piezometers located within the proposed landfill liner footprint will be abandoned by "drilling out" the existing PVC casing using an external casing and a rotary drill bit, and then backfilling the remaining borehole with soil. The surface concrete pad and manhole located on each well or piezometer will also be removed. This proposal assumes that the abandonment of these four wells and piezometers can be completed in no more than 3 days.

The Project Team's geotechnical engineer will also abandon the existing 6-inch diameter artesian Well 5520 located within the proposed landfill liner footprint on the project site. Data regarding this well is also incomplete; therefore, this task order assumes that the artesian well is no deeper than approximately 465 feet below existing ground surface. The top of the well casing will first be removed by cutting with a torch or other equipment. Then, a smaller internal casing will be placed into the bottom section of the existing well casing and a heavy cement grout mixture will be pumped into the casings using the pump on the drill rig. The addition of the cement grout mixture will continue as the internal casing is withdrawn. As requested, the grouting of the well casing is to stop at a depth of approximately 20 feet below existing ground surface. Then, the well casing will be "drilled out" from existing ground surface to a depth of 20 feet using an external casing and a rotary drill bit. The remaining borehole, after the casing is drilled out (0 to 20 feet), will be backfilled with soil. This proposal assumes that the casing for artesian Well 5520 is PVC or other similar material and that the well can be abandoned in no more than 5 days.

Waste materials (concrete, manholes, PVC pipe, casing, etc.) generated during the abandonment activities will be gathered and placed into a roll off dumpster on the project site by Ardaman personnel. The dumpster will then be removed, and the contents disposed of off-site by the dumpster operator.

Task 5 – Laboratory Program

Routine laboratory visual classification of the soil samples collected from the borings will be performed by the Project Team's geotechnical engineer. Additionally, specific classification tests deemed necessary to assist with classification (i.e., percent fines, organic content, natural moisture content, Atterberg limits) will be performed on soil samples collected from the borings.

Task 6 – Engineering Analysis and Report

Engineering analysis of all data obtained will be made by the Project Team's geotechnical engineer to evaluate general subsurface conditions and to develop engineering recommendations to guide site preparation within the proposed roadway areas. Specific loading conditions for the roadways are to be utilized for the analysis. In addition, the Project Team's geotechnical engineer will provide the soil stratigraphy and groundwater level data collected within the proposed stormwater pond and borrow pit areas and a general discussion of the suitability of the soils encountered within the proposed stormwater pond and borrow pit areas for use as structural fill.

Project Team's geotechnical engineer's recommendations for the roadway areas, together with data developed during the exploration, will be submitted in written reports as portions of the project are completed. Project Team's geotechnical engineer will provide two separate reports for (1) the roadway areas and (2) the stormwater pond, borrow pit, and muck removal areas. The laboratory test data generated during the project will be presented on soil boring profiles included with the reports.

PROJECT SCHEDULE

It is anticipated that the work will take 170 days to complete, starting within two weeks of receipt of a formal notice to proceed (NTP). The schedule has been prepared to focus on preparing the reports for the road and earthwork designs/specifications first followed last by the monitoring wells/artesian well abandonment which will only need to be removed prior to any site work construction. The estimated schedule by task is shown below.

1.	Project Setup	0 to 14 days from NTP
2.	Brush Mowing/Initial Survey for Boring Locations/Elevations	14 to 30 days from NTP
3.	Roadway Soil Borings	21 to 45 days from NTP
4.	Roadway Geotechnical Report	45 to 60 days from NTP
5.	Muck Probes	60 to 85 days from NTP
6.	Stormwater Pond and Borrow Pond Areas Borings	35 to 100 days from NTP
7.	Laboratory Testing	35 to 120 days from NTP
8.	Stormwater Pond, Borrow Pond Areas and Muck Removal Report	90 to 135 days from NTP
9.	Wells/Piezometers Abandonment	120 to 150 days from NTP
10.	Artesian Wells Abandonment	140 to 170 days from NTP

The Project Team will not perform any additional work effort prior to receipt of written approval of a new Task Order from the County.

ASSUMPTIONS

This task order is subject to the following conditions:

1. access to boring locations is to be readily available to the truck- or mudbug-mounted drilling equipment,
2. the brush mowing needed to access the work areas can be accomplished in no more than four days,
3. the artesian wells can be successfully abandoned using the equipment and procedures outlined in this task order,
4. the proposed number of borings and the boring depths will be adequate, and
5. exploration or evaluation of the environmental (ecological or hazardous/toxic material related) condition of the will site and subsurface is not included.

*****

Client	Brevard County, US 192 Solid Waste Management Facility	**EXHIBIT 1**	TO 17-28 Fee Estimate
Project Name	Task Order 17-28 - Geotechnical Subgrade and Foundation Investigations		
S2LI Project Number	21-850		
Date of Estimate	23 Sep 21		

Task/Subtask / Labor Rate	Project Director/ Officer $ 200.00	Project Manager $ 166.00	Senior Project Engineer/ Professional $ 177.00	Project Engineer/ Professional Scientist $ 118.00	Staff Engineer/ Professional $ 107.00	Senior Technician $ 102.00	Project Technician/ AutoCAD $ 91.00	Drafterperson $ 75.00	Certified Resident Const. Rep. $ 105.00	Field Technician $ 78.00	Admin. Manager $ 66.00	Admin. Assistant/ Clerical $ 70.00	Allowable Expenses	Subtotal
Task 1 - Survey to Locate Soil Borings	16	0	16	0	0	0	0	0	0	0	2	0	$ -	$ 6,204.00
Task 2 - Field Exploration for Proposed Improvements	40	0	0	0	0	0	0	0	0	0	2	0	$ -	$ 8,172.00
Task 3 - Muck Probes in Wetland Areas	16	0	16	0	0	0	0	0	0	0	2	0	$ -	$ 6,204.00
Task 4 - Well/Piezometer Abandonments	48	0	16	0	16	0	0	0	0	0	10	0	$ -	$ 15,004.00
4.1 Areas Outside of Proposed Landfill Liner Footprint	24	0	8	0	8	0	0	0	0	0	2	0	$ -	$ 7,244.00
4.2 Areas Inside of Proposed Landfill Liner Footprint	24	0	8	0	8	0	0	0	0	0	8	0	$ -	$ 7,760.00
Task 5 - Laboratory Program	16	0	8	0	8	0	0	0	0	0	0	0	$ -	$ 5,472.00
Task 6 - Engineering Analysis and Report	24	0	20	0	8	0	0	0	0	0	4	0	$ -	$ 9,540.00
S2LI Fee Estimate (subtotal)													S2LI Fee Estimate (subtotal) ===>	$ 50,596.00
Subconsultants and Professional Services														
Geotechnical Engineering- *Ardaman*	$ 394,996.75													
Survey for Borings - *Peavey Surveying*	$ 20,000.00													
Subconsultants Fee Estimates (see attached) (subtotal)													Subconsultants Fee Estimate (subtotal) ===>	$ 414,996.75
TOTAL CONTRACT VALUE Task Order 17-28													**TOTAL CONTRACT VALUE TASK ORDER 17-28 ===>**	**$ 465,592.75**

Ardaman & Associates, Inc.

Geotechnical, Environmental and
Materials Consultants

August 4, 2021
Proposal File No. 21-23-5262PR
Revised September 21, 2021

S2Li
531 Versailles Drive, Suite 202
Maitland, Florida 32751

Attention: Mr. Omar Smith, P.E.

Subject: Proposal for Subsurface Soil Exploration and Well/Piezometer Abandonment Services
US 192 Solid Waste Management Facility
Brevard County, Florida

Dear Mr. Smith:

As requested, we are pleased to present this proposal for providing subsurface soil exploration and well/piezometer abandonment services for the subject project. Based on our review of information provided by S2Li, the proposed construction for this phase of the project includes the following:

- A main asphalt paved roadway approximately 9,800 feet in length;
- A perimeter asphalt paved roadway approximately 12,640 feet in length;
- Limerock stabilized haul roads throughout the site that total approximately 1,300 lineal feet;
- Four stormwater detention ponds (Ponds SWM 1, SWM 1A, SWM 2, and SWM 4). Based on information provided by the Client, the depths of the ponds will not exceed approximately 20 to 23 feet below existing ground surface;
- Two borrow pits (BP1 and BP2). We have assumed that the depth of the borrow pits will not exceed approximately 40 feet below existing ground surface; and
- Approximately 13 muck removal areas where wetlands are to be de-mucked and backfilled with select fill material.

Based on discussion with S2Li representatives, it is estimated that up to approximately 3 to 4 feet of fill is required to raise the pavement areas to final elevations.

The scope of our work will include collecting soil stratigraphy data and groundwater level data at the locations of the proposed improvements discussed above and determining if the soil characteristics are suitable to construct the proposed pavement areas. Additionally, as requested, we will abandon existing monitor wells, artesian wells, and piezometers located on the project site. The following summarizes our proposed scope of work and associated fees for conducting the subject exploration.

FIELD EXPLORATION

Field Exploration for Proposed Improvements

Since portions of the site may be wooded and/or vegetated with brush, minor brush mowing may be performed to provide access to some of the boring locations. We could direct a site work contractor to mow minimal paths to our boring locations. Assistance from the client will be needed to help identify wetland areas and areas of threatened and/or endangered species habitat which should be avoided when performing these minor brush mowing operations. Also, this proposal assumes that permission from local Code Enforcement, SJRWMD or other pertinent agencies for the minor mowing, if necessary, has been obtained by the client. Four days of brush mowing are included in this proposal.

The proposed field exploration program will include the following:

Description	Number of Borings	Depth Below Ground Surface (feet)
Main and Perimeter Roadways (one boring every approximate 200 feet)	112 Auger	5
Haul Roads (one boring every approximate 200 feet)	7 Auger	5
Stormwater Pond SWM-1 (Approx. 65 acres) (one boring per acre)	33 SPT 32 Auger	25 20
Stormwater Pond SWM-1A (Approx. 5 acres) (one boring per acre)	3 SPT 2 Auger	25 20
Stormwater Pond SWM-2 (Approx. 20 acres) (one boring per acre)	10 SPT 10 Auger	25 20
Stormwater Pond SWM-4 (Approx. 7 acres) (one boring per acre)	4 SPT 3 SPT	25 20
Borrow Pit BP1 (Approx. 130 acres) (one boring per 2 acres)	65 SPT	45
Borrow Pit BP2 (Approx. 75 acres) (one boring per 2 acres)	38 SPT	45

It is noted that the FDOT Soils and Foundation Handbook recommends that two soil borings be performed per acre of proposed stormwater pond area. However, based on the large sizes of the proposed ponds and borrow pits for this project and on our experience in the project vicinity, we recommend the boring frequencies presented in the table above. Additional borings may be recommended in some of the areas if highly variable soil conditions are encountered during our field exploration.

The SPT borings will be drilled using truck- or ATV-mounted drilling equipment and a procedure similar to the Standard Penetration Test outlined in ASTM D-1586. The borings will be sampled at 18-inch intervals to 10 feet deep and at 5-foot intervals below 10 feet. The auger borings will be drilled with a 4-inch diameter, truck- or ATV-mounted continuous flight auger or a 3-inch

diameter, hand-held bucket auger. Each sample will be removed from the auger or sampler in the field and then examined and visually classified by our field personnel.

Representative portions will be sealed and packaged for transportation to our laboratory for further analysis as required. Water level observations will be made in the boreholes during the drilling operation. Upon completion of drilling, the boreholes will be backfilled with soil cuttings.

Muck Probes in Wetland Areas

There are approximately 13 wetland areas on the project site that are intended to be de-mucked and backfilled with select fill material. These areas are shown on Drawing G8 provided by S2Li. Shallow muck probes will be conducted at selected accessible locations within the wetland areas to preliminarily measure the depth of surficial soft organic soils. These probes are performed by hand-pushing ½-inch diameter steel pipe into the ground until penetration is refused. The depth is recorded as the assumed depth of muck. We have budgeted up to four days of muck probing into this proposal.

Well/Piezometer Abandonment - Areas Outside of Proposed Landfill Liner Footprint

Prior to initiation of the abandonment activities, up to 10 permit applications for the well and piezometer abandonment will be prepared and submitted to the appropriate regulatory agency. The well and piezometer abandonment may be initiated once the permit applications are submitted since it is assumed that the permits will be approved.

As requested, our services for this phase of the project will include the abandonment of existing monitor wells and piezometers identified by the client on Drawing G9. Additionally, the client provided a list of the monitor wells and piezometers that are to be abandoned August 10, 2021. Based on review of the provided information, 19 monitor wells and piezometers are located in areas outside of the proposed landfill liner footprint and will be abandoned. A summary of the wells and piezometers to be abandoned is presented in Attachment 1. As requested, we have included four additional "contingency" wells/piezometers to be abandoned in our scope of services, in case additional wells or piezometers are encountered during the field program. Our scope of services does not include addressing the existing water level staff gauges and monitoring stations located on the project site.

Each of the monitor wells and piezometers discussed above will be abandoned by inserting a tremie pipe to the bottom of the casing and then filling the casing with cement grout from the bottom up using the pump on the drill rig. The surface concrete pad and manhole located on each well or piezometer will also be removed. This proposal assumes that the abandonment of these 19 monitor wells/piezometers can be completed in no more than 10 days and that the abandonment of the four "contingency" wells/piezometers (if necessary) can be completed in no more than 2 days.

As requested, our scope of services will also include abandonment of existing 6-inch diameter artesian Well 5539 located outside of the proposed landfill liner footprint on the project site. Data regarding this artesian well is incomplete; therefore, this proposal assumes that the artesian well is no deeper than approximately 465 feet below existing ground surface. The top of the artesian well casing will first be removed by cutting with a torch or other equipment. Then, a smaller internal casing will be placed into the bottom section of the existing well casing and a heavy cement grout

mixture will be pumped into the casing using the pump on the drill rig. The addition of the cement grout mixture will continue as the internal casing is withdrawn. This proposal assumes that artesian Well 5539 can be abandoned in no more than 5 days.

Well/Piezometer Abandonment - Areas Inside of Proposed Landfill Liner Footprint

Based on review of the provided information, four monitor wells and piezometers are located inside the proposed landfill liner footprint and will be abandoned. These four wells and piezometers are identified in Attachment 1.

The four monitor wells and piezometers located within the proposed landfill liner footprint will be abandoned by "overdrilling" the existing PVC casing using an external casing and a rotary drill bit, and then backfilling the remaining borehole with soil. The surface concrete pad and manhole located on each well or piezometer will also be removed. This proposal assumes that the abandonment of these four wells and piezometers can be competed in no more than 3 days.

As requested, our scope of services will also include abandonment of existing 6-inch diameter artesian Well 5520 located within the proposed landfill liner footprint on the project site. Data regarding this well is also incomplete; therefore, this proposal assumes that the artesian well is no deeper than approximately 465 feet below existing ground surface. The top of the well casing will first be removed by cutting with a torch or other equipment. Then, a smaller internal casing will be placed into the bottom section of the existing well casing and a heavy cement grout mixture will be pumped into the casings using the pump on the drill rig. The addition of the cement grout mixture will continue as the internal casing is withdrawn. As requested, we will stop the grouting of the well casing at a depth of approximately 20 feet below existing ground surface. Then, the well casing will be "overdrilled" from existing ground surface to a depth of 20 feet using an external casing and a rotary drill bit. The remaining borehole after the casing is overdrilled (0 to 20 feet) will be backfilled with soil. This proposal assumes that the casing for Artesian Well 5520 is PVC or other similar material and that the well can be abandoned in no more than 5 days.

Waste materials (concrete, manholes, PVC pipe, casing, etc.) generated during the abandonment activities will be gathered and placed into a roll off dumpster on the project site by Ardaman personnel. The dumpster will then be removed and the contents disposed of off-site by the dumpster operator.

LABORATORY PROGRAM

Routine laboratory visual classification of the soil samples collected from the borings will be performed by a geotechnical engineer. Additionally, specific classification tests deemed necessary to assist with classification (i.e., percent fines, organic content, natural moisture content, Atterberg limits) will be performed on soil samples collected from the borings.

ENGINEERING ANALYSIS AND REPORT

Engineering analysis of all data obtained will be made to evaluate general subsurface conditions and to develop engineering recommendations to guide site preparation within the proposed roadway areas. For our analysis, we will require specific loading conditions for the roadways. In addition, we will provide the soil stratigraphy and groundwater level data collected within the proposed stormwater pond and borrow pit areas and a general discussion of the suitability of the

soils encountered within the proposed stormwater pond and borrow pit areas for use as structural fill.

Our recommendations for the roadway areas, together with data developed during the exploration, will be submitted in written reports as portions of the project are completed. As requested, we will provide two separate reports for (1) the roadway areas and (2) the stormwater pond, borrow pit, and muck removal areas. The laboratory test data generated during the project will be presented on soil boring profiles included with the reports.

COST ESTIMATE

The costs associated with the aforementioned tasks are presented in the attached Cost Estimate. The total estimated cost presented in the attached Cost Estimate will not be exceeded without prior authorization from the client. Periodic invoices and a cover letter summarizing the work referenced in the invoice will be submitted to the client during the course of the project.

CLOSURE

This proposal is subject to the following conditions: (1) access to boring locations is to be readily available to our truck- or mudbug-mounted drilling equipment, (2) the brush mowing needed to access the work areas can be accomplished in no more than four days, (3) the artesian wells can be successfully abandoned using the equipment and procedures outlined in this proposal, (4) the proposed number of borings and the boring depths will be adequate, (5) Ardaman & Associates will not take responsibility for damages to underground structures and/or services that are not located by Sunshine One-Call; their locations are to be provided by the client or owner prior to commencement of the field work, and (6) exploration or evaluation of the environmental (ecological or hazardous/toxic material related) condition of the will site and subsurface is not included.

We appreciate the opportunity to submit this proposal and look forward to working with you on this phase of the project. If this proposal meets with your approval, please indicate your acceptance by issuing a written work order. Please call if you have any questions or require additional information.

Very truly yours,
ARDAMAN & ASSOCIATES, INC.

Jason P. Manning, P.E.
Branch Manager

Francis K. Cheung, P.E.
Principal Engineer

Attachments: 1. Summary of Monitor Wells and Piezometers to be Abandoned
2. Cost Estimate

ATTACHMENT 1

Summary of Monitor Wells and Piezometers to be Abandoned

US 192 Solid Waste Management Facility **Proposal No. 21-23-5262PR**

Summary of Monitor Wells and Piezometers to be Abandoned

Monitor Wells	
Well ID	**Total Depth (ft)**
MW-7I	20.5
MW-7S	7.5
MW-16I	29.0
MW-14I	32.5
MW-13S	12.5
MW-11I*	39.0
MW-11S*	12.1
MW-15S	15.0
Piezometers	
Piezometer ID	**Total Depth (ft)**
WPZ-5S*	6.0
PZ-8D	85.3
PZ-8I	40.6
PZ-8S	22.1
WPZ-4S*	12.0
WPZ-12S	6.0
PZ-16S	10.5
PZ-1D	85.0
PZ-1I	41.0
PZ-1S	22.5
PZ-14S	11.5
PZ-2D	96.0
PZ-2I	43.7
PZ-2S	22.7
WPZ-2S	6.0
*Indicates that well or piezometer is located within the proposed landfill liner footprint.	

8/30/21

ATTACHMENT 2

Cost Estimate

ARDAMAN & ASSOCIATES, INC.
Cost Estimate
US 192 Solid Waste Management Facility

JOB NO:	21-23-5262PR_REV2		
JOB NAME:	US 192 SWMF		
ENGINEER:	JPM	DATE:	09/10/21
CHECKED:		DATE:	
SHEET:	1 of 1		

ENGINEERING SERVICES

	Quantity	Units	Rate	Subtotal
Project Director / Officer	28	Hour	$ 200.00	$ 5,600.00
Senior Project Engineer	180	Hour	$ 177.00	$ 31,860.00
Project Engineer	290	Hour	$ 118.00	$ 34,220.00
Well Abandonment Permits	10	Each	$ 125.00	$ 1,250.00
Draftperson	85	Hour	$ 75.00	$ 6,375.00
Administrative Assistant/Clerical	28	Hour	$ 70.00	$ 1,960.00
		Engineering Services Subtotal		**$ 81,265.00**

FIELD SERVICES

	Quantity	Units	Rate	Subtotal
Field Technician for Site Recon and Borehole Layout	24	Hour	$ 78.00	$ 1,872.00
Mobilization/Demobilization of Drilling Equipment - Truck Mount	18	Rig-Hour	$ 210.00	$ 3,780.00
Mobilization/Demobilization of Drilling Equipment - Mudbug	18	Rig-Hour	$ 210.00	$ 3,780.00
Mileage - Rig	1500	Mile	$ 1.45	$ 2,175.00
Mileage - Truck	11040	Mile	$ 0.75	$ 8,280.00
SPT Borings - 0 to 25 feet - Truck	1875	Feet	$ 18.75	$ 35,156.25
SPT Borings - 25 to 50 feet - Truck	1030	Feet	$ 20.95	$ 21,578.50
SPT Borings - 0 to 25 feet - Mudbug	1950	Feet	$ 19.75	$ 38,512.50
SPT Borings - 25 to 50 feet - Mudbug	1030	Feet	$ 21.95	$ 22,608.50
Pond and Borrow Pit Auger Borings - Truck	440	Feet	$ 12.50	$ 5,500.00
Pond and Borrow Pit Auger Borings - Mudbug	440	Feet	$ 13.50	$ 5,940.00
Rig Time - Truck (hole location, setup, etc.)	60	Per Hour	$ 208.00	$ 12,480.00
Rig Time - Mudbug (hole location, setup, etc.)	60	Per Hour	$ 208.00	$ 12,480.00
Roadway Auger Borings - Field Technician	88	Hour	$ 78.00	$ 6,864.00
Mobilization/Demobilization of Well Abandonment Equipment	24	Crew-Hours	$ 232.00	$ 5,568.00
Removal of Top of Casing for Artesian Wells	2	Wells	$ 1,500.00	$ 3,000.00
Piezometer and Monitor Well Abandonment with Drill Rig	150	Crew-Hours	$ 232.00	$ 34,800.00
Artesian Well Abandonment with Drill Rig	100	Crew-Hours	$ 232.00	$ 23,200.00
Abandonment Field Equipment	1	Project	$ 12,400.00	$ 12,400.00
Abandonment Materials	1	Project	$ 16,200.00	$ 16,200.00
Miscellaneous Materials	1	Project	$ 650.00	$ 650.00
Muck Probes (2-man crew)	32	Crew-Hours	$ 156.00	$ 4,992.00
Brush Mowing for Access and Borehole Layout	4	Days	$ 2,400.00	$ 9,600.00
Contingency Cost	1	Project	$ 5,000.00	$ 5,000.00
		Field Services Subtotal		**$ 296,416.75**

LABORATORY SERVICES

	Quantity	Units	Rate	Subtotal
Grain Size - Percent Fines	220	Test	$ 38.50	$ 8,470.00
Grain Size - Sieve Analysis	12	Test	$ 56.75	$ 681.00
Atterberg Limits Testing	20	Test	$ 124.00	$ 2,480.00
Moisture Content	124	Test	$ 16.00	$ 1,984.00
Organic Content	100	Test	$ 37.00	$ 3,700.00
		Laboratory Services Subtotal		**$ 17,315.00**

GEOTECHNICAL SERVICES TOTAL $ 394,996.75

Peavey & Associates

Surveying & Mapping, PA
9399 North Lake Buffum Road Fort Meade, Fl 33841
Phone: 863-738-4960 Email: DebPeavey@peaveysurveying.com

September 14, 2021

S2L, Incorporated
Attention: Omar Smith

RE: Brevard CDF South Landfill Drilling for site borings

1. SCOPE OF SERVICES

The project consists of the following surveying services located above as follows: Preparing a specific purpose survey and stake 319 boring locations for the proposed borings. Coordinate for staking will be provided by engineer. Horizontal datum will be in US Survey Feet and Florida East Zone State Plane Coordinates (NAD83 2018 adjustment). Vertical Datum of NAVD1988 datum.

Description	Number of Borings	Depth Below Ground Surface (feet)
Main and Perimeter Roadways (one boring every approximate 200 feet)	112 Auger	5
Haul Roads (one boring every approximate 200 feet)	7 Auger	5
Stormwater Pond SWM-1 (Approx. 65 acres) (one boring per acre)	33 SPT 32 Auger	25 20
Stormwater Pond SWM-1A (Approx. 5 acres) (one boring per acre)	3 SPT 2 Auger	25 20
Stormwater Pond SWM-2 (Approx. 20 acres) (one boring per acre)	10 SPT 10 Auger	25 20
Stormwater Pond SWM-4 (Approx. 7 acres) (one boring per acre)	4 SPT 3 SPT	25 20
Borrow Pit BP1 (Approx. 130 acres) (one boring per 2 acres)	65 SPT	45
Borrow Pit BP2 (Approx. 75 acres) (one boring per 2 acres)	38 SPT	45

Peavey & Associates

Surveying & Mapping, PA
9399 North Lake Buffum Road Fort Meade, Fl 33841
Phone: 863-738-4960 Email: DebPeavey@peaveysurveying.com

2. PROFESSIONAL FEES

Compensation for the outlined services will be on a lump sum basis of $20,000.00 billed monthly for the work in progress.

3. ACCEPTANCE OF TERMS

Services requested by the CLIENT not listed in the above scope of work will be provided on a time and material basis in accordance with the "Hourly Rate Schedule" of $150 per hour for survey crew and $150 per hour for project surveyor. If the proceeding is satisfactory to you, please return a signed copy of this Agreement. Invoicing will occur monthly based upon the percentage or hours of work completed.

Sincerely,