

**F. Consent Agenda - Natural Resources Management
ITEM 2.**



**AGENDA REPORT
January 22, 2019**

**Interlocal Agreement for Fountainhead Advanced Denitrification System
Project, District 5**

SUBJECT:

Approval Re: Interlocal Agreement with the City of Melbourne for Construction, Operation and Maintenance of the Fountainhead Advanced Denitrification System Project - District 5.

FISCAL IMPACT:

None

DEPT/OFFICE:

Natural Resources Management

REQUESTED ACTION:

It is requested that the Board of County Commissioners: 1) approve and authorize the Chair to execute the Interlocal Agreement between Brevard County (Grantee) and the City of Melbourne for the Fountainhead Advanced Denitrification System Project; and 2) Authorize the County Manager, or designee, to execute future amendments subject to the approval of the County Attorney's Office and Risk Management.

SUMMARY EXPLANATION and BACKGROUND:

On December 4, 2018 the board pulled this item from the consent agenda so that staff could address questions from District 2 regarding project status, design, costs, grant requirements, and alternatives. These questions were addressed in the attached letters sent on December 20 and 21, 2018.

The proposed agreement with the City of Melbourne is necessary to complete the Fountainhead Advanced Denitrification System Project.

On May 17, 2016, the Board approved a grant for the Fountainhead Advanced Denitrification System to remove nitrogen from the Fountainhead stormwater system which flows to the Indian River Lagoon (Clerk's Memo attached). Design and engineering is complete. Construction materials have been purchased. Grant reimbursements for project progress have been received and would have to be returned if the project was not completed substantially in the form agreed to in the grant contract.

The Fountainhead stormwater system is located in a residential area in the City of Melbourne and receives runoff from 235 acres of surrounding residential land use. The

system discharges through a series of canals leading to the Eau Gallie River and Crane Creek with final discharge to the Indian River Lagoon. Historically, the pond has experienced continuous and excessive vegetation overgrowth. In 2013, Brevard County used a harvester to mechanically remove approximately 492 tons of vegetation.

To reduce nutrient loads released from this pond to the Indian River Lagoon, two offline denitrification bioreactor chambers will be installed adjacent to the Fountainhead pond to remove nitrogen and release the treated water back to the pond. Based on the size of the proposed chamber, it is estimated that at least 488 lbs. of nitrogen will be removed annually.

Portions of the project will be constructed on and under City of Melbourne property necessitating an agreement allowing the use of the City property for this project. In exchange for allowing the use of the City property, Melbourne will receive a pro-rated amount (2%) of the credit awarded by the state for compliance with the Total Maximum Daily Load (TMDL) mandate for the Indian River Lagoon.

Attached are the contract review forms from the County Attorney's Office and Risk Management. The City of Melbourne Council approved this agreement on December 11, 2018.

CLERK TO THE BOARD INSTRUCTIONS:

A total of three (3) signed original agreements are needed – one (1) for the Clerk to the Board, one (1) for NRM, and one (1) for the City of Melbourne.

ATTACHMENTS:

Description

- ▢ **District 2 Response Letters**
- ▢ **Contract Review Form (AO29)**
- ▢ **Agreement with associated Exhibits (including Location Map)**



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

Telephone: (321) 637-2001
Fax: (321) 264-6972
Tammy.Rowe@brevardclerk.us

January 23, 2019

M E M O R A N D U M

TO: Virginia Barker, Natural Resources Management Director

RE: Item F.2., Interlocal Agreement with City of Melbourne for Construction, Operation, and Maintenance of the Fountainhead Advanced Denitrification System Project

The Board of County Commissioners, in regular session on January 22, 2019, approved and authorized the Chair to execute Interlocal Agreement with City of Melbourne for the Fountainhead Advanced Denitrification System Project; and authorized the County Manager, or his designee, to execute future amendments, subject to approval of the County Attorney's Office and Risk Management. Enclosed are two fully-executed Interlocal Agreements.

Your continued cooperation is always appreciated.

Sincerely,

BOARD OF COUNTY COMMISSIONERS
SCOTT ELLIS, CLERK

Tammy Rowe

Tammy Rowe, Deputy Clerk

Encls. (2)

cc: Contracts Administration

Rapolti, Jeff

From: McClure, Bach
Sent: Friday, December 21, 2018 2:40 PM
To: Lober, Bryan
Cc: Van, Fritz; Abbate, Frank B; Denninghoff, John P; Barker, Virginia H; Rapolti, Jeff
Subject: RE: Fountainhead Denitrification Project - Response to Questions

Dear Commission,

I was asked to explain a couple of the acronyms from the table and add a couple of other details.

TN = Total Nitrogen, this includes the organic and inorganic forms and includes compounds dissolved in the water as well as those in suspended particles.

TP = Total Phosphorus: This includes dissolved phosphorus and phosphorus bound to particles.

PM = Particulate Matter: Particles which are suspended in the water, but which can be removed by filters or, more commonly, by settling.

The measures listed in the table are the most common items of concern when treating stormwater runoff, though other compounds may be of concern at specific locations. Both nitrogen and phosphorus are associated with increases in algal blooms which are an ongoing source of concern for the lagoon and our other waterbodies. The particulate matter will eventually settle out to become sediment and muck at in the lagoon or in our lakes, rivers, and channels. The sediment reduces the capacity of stormwater systems and will contribute nitrogen and phosphorus to the surrounding waters over time.

Of the spent \$100,000 on this project so far, we have been reimbursed \$64,900 from the grant. The remaining \$35,100 came from Stormwater Utility Funds.

Sincerely,

Bach McClure, P.E.
Stormwater Program Administrator
Department of Natural Resources
Brevard County, FL
(321) 633-2016

From: McClure, Bach
Sent: Thursday, December 20, 2018 12:38 PM
To: Lober, Bryan
Cc: Van, Fritz; Abbate, Frank B; Denninghoff, John P; Barker, Virginia H; Rapolti, Jeff
Subject: Fountainhead Denitrification Project - Response to Questions

Dear Commissioner,

On December 4th, you asked for additional information related to Agenda Item F.1. Fountainhead Advanced Denitrification System Project. You expressed potential concern about the cost effectiveness of this project and uncertainty regarding application of the proposed technology in this setting. You also asked whether it would be possible to redirect expenditure of the grant funds for monitoring. We have gathered information to respond to your questions and would like your feedback before we ask the Board for additional direction on the proposed agreement with Melbourne.

The grant funds were for this specific project. To change the project from stormwater to monitoring would require forfeiting the grant. The project was approved by the County Commission two years ago, so design is complete, materials

have been purchased, and partial grant reimbursements have already been received. Forfeiting the grant would require returning the grant funds already received. Below is a summary of the current fiscal status of the project.

\$32k design (consultant) - complete

\$62k of materials - purchased

\$6K of grant required educational outreach performed

Construction is scheduled for early 2019 if the ILA is approved.

Based on the size of the proposed chamber, it is estimated that at least 488 lbs. of nitrogen (19% of the estimated 2,570 lbs. of nitrogen entering the pond) and at least 216 lbs. of phosphorus (50% of the estimated 433 lbs. of phosphorus entering the pond) will be removed annually. Once data from this controlled design is collected, future projects can be designed without pumps and pipe chambers where appropriate. Going forward, this same project on our own land (if the exact same outreach were included) would cost approximately \$56k less for providing the same nutrient reduction benefit without the bells and whistles needed for the optimization study.

Fountainhead's 20-year Lifecycle Annualized Total project cost benefit = \$47/lb of nitrogen removed and \$105/lb phosphorus removed (media cost is only \$0.70/lb of nitrogen removed and \$1.23/lb phosphorus removed).

Fountainhead's 20-year Lifecycle Annualized cost benefit after deducting grant cost share = \$25/lb of nitrogen removed and \$57/lb phosphorus removed

For comparison to other stormwater design options in the state of Florida, here is a table of lifecycle annualized costs from a 2011 the University of Florida "Maintenance Matters" Report:

Table S 2 Comparison of BMPs vs. maintenance costs (\$/lb) for PM, TP and TN. For BMPs, separation and recovery are required, while only recovery is required for maintenance practices.

Separation and/or Recovery Method	Median Cost (\$/lb)		
	TN	TP	PM
BMP Treatment Train ^a	935	32,600	26
FL Database for BMPs ^b	1,900	10,500	41
Screened Hydrodynamic Separator (HS) ^c	3,730 (1,280 - 14,860)	9,210 (3,170 - 36,680)	4 (1 - 13)
Baffled Hydrodynamic Separator (HS) ^c	3,020 (1,280 - 14,860)	7,450 (3,170 - 36,680)	3 (1 - 13)
Street Sweeping	165	257	0.10
Catch Basin Cleaning ^d	1,016	1,656	0.70

^a Wet basin sedimentation followed by granular media filtration. Squadra Tempesta, (2010) *Green Infrastructure Design for Pollutant Control from Transport Systems Crossing Land-Water Interfaces - A Bridge too Far?*, Water Environment Federation, WEFTEC, New Orleans, LA.

^b TMDL database for Florida Best Management Practices, 2009

^c Based on 2000 m² urban catchment draining to a hydrodynamic separator (HS) with 50% PM annual removal efficiency based on clean sump conditions. This result assumes no scour or washout from the screened hydrodynamic separator in order to compare to other separators. Accounting for scour and washout will result in costs higher than the median costs shown.

^d Based on 100 dry pounds of PM recovery based on an annual cleaning frequency

Denitrification is a naturally occurring process which occurs under a variety of conditions. Harnessing this process to treat stormwater and irrigation runoff and groundwater flows has been successfully utilized in many areas of the country to reduce nitrogen levels discharged from artificial systems. The many different bacteria species capable of performing denitrification thrive under a variety of conditions, but some are found in all areas and will naturally colonize

media. Providing the optimal growing conditions maximizes the growth and increases the rate at which removal of nitrogen from the water takes place.

Regarding application of denitrification treatment in the proposed design, there are a number of factors that influence the effectiveness for removing nutrients. This project seeks to vary contact time in our local field conditions to gather information that will be used to optimize the efficiency (size relative to flow volume and velocity) of future denitrification projects in Brevard County.

- Removal efficiencies are based on temperature and contact time per volume of a denitrification media type within the bioreactor chamber and the intent of our partnering with FDEP and the City of Melbourne was to obtain local results concerning the optimal contact time for the more cost effective (and in certain conditions best performing) nutrient reduction media.
- The results of this project will pair with another project in close proximity (at Johnson Jr High School) to develop the optimal stormwater/baseflow nutrient reduction strategy for saturated media conditions to be used independently or in addition to other nutrient reduction BMPs throughout Brevard.
- The lower cost approach of gravity flow and HDPE Liner Chamber (rather than the solar pumps and HDPE pipe chambers that achieve quicker controlled variable results) is the way we have been designing most future projects of this type (Pines Industrial, County-wide Ditch Denitrification, etc.). Where gravity flow systems are not appropriate solar pumps may continue to be an appropriate choice.

Staff believes this is a very cost effective project that will lead to more cost effective projects in the future. The grant funds secured cannot be redirect and prior grant reimbursements would have to be repaid to the state if we do not complete the project per the grant contract. We would like your feedback before we ask the Board for additional direction on the proposed Interlocal Agreement. Please do not hesitate to contact me or the project engineer, Jeff Rapolti, if you want any further information.

Sincerely,

Bach McClure, P.E.
Stormwater Program Administrator
Department of Natural Resources
Brevard County, FL
(321) 633-2016

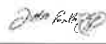
**BREVARD COUNTY
BOARD OF COUNTY COMMISSIONERS**

INITIAL CONTRACT REVIEW AND APPROVAL FORM

SECTION I - GENERAL INFORMATION

1. Contractor: City of Melbourne	
2. Fund/Account #: 1700/?/1115/260050 Stormwater	3. Department Name: Natural Resources
4. Contract Description: ILA for FDEP Grant for Fountainhead Advanced Denitrification	
5. Contract Monitor: Jeff Rapolti x56120	7. Contract Type: INTERGOVT/LOCAL
6. Dept/Office Director: Virginia Barker	

SECTION II – REVIEW AND APPROVAL TO ADVERTISE

<u>COUNTY OFFICE</u>	<u>APPROVAL</u>		<u>SIGNATURE</u>	<u>DATE</u>
	<u>YES</u>	<u>NO</u>		
User Agency	<input checked="" type="checkbox"/>	<input type="checkbox"/>	 <small>Digitally signed by Rapolti, Jeff DN: cn=Jeff Rapolti, email=Jeff.Rapolti@brevard.gov, Date: 2018.11.02 15:45:12 -0400</small>	11/02/2018
Risk Management	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Matt Lairsey	11/20/2018
County Attorney	<input type="checkbox"/>	<input type="checkbox"/>		

SECTION III – REVIEW AND APPROVAL TO EXECUTE

<u>COUNTY OFFICE</u>	<u>APPROVAL</u>		<u>SIGNATURE</u>	<u>DATE</u>
	<u>YES</u>	<u>NO</u>		
User Agency	<input type="checkbox"/>	<input type="checkbox"/>		
Risk Management	<input type="checkbox"/>	<input type="checkbox"/>		
County Attorney	<input type="checkbox"/>	<input type="checkbox"/>		

SECTION IV - CONTRACTS MANAGEMENT DATABASE CHECKLIST

<u>CM DATABASE REQUIRED FIELDS</u>	<u>Complete</u> ✓
Department Information	<input type="checkbox"/>
Department	<input type="checkbox"/>
Program	<input type="checkbox"/>
Contact Name	<input type="checkbox"/>
Cost Center, Fund, and G/L Account	<input type="checkbox"/>
Vendor Information (SAP Vendor #)	<input type="checkbox"/>
Contract Status	<input type="checkbox"/>
Contract Title	<input type="checkbox"/>
Contract Type	<input type="checkbox"/>
Contract Amount	<input type="checkbox"/>
Storage Location (SAP)	<input type="checkbox"/>
Contract Approval Date	<input type="checkbox"/>
Contract Effective Date	<input type="checkbox"/>
Contract Expiration Date	<input type="checkbox"/>
Contract Absolute End Data (No Additional Renewals/Extensions)	<input type="checkbox"/>
Material Group	<input type="checkbox"/>
Contract Documents Uploaded in CM database (Initial Contract Form with County Attorney/ Risk Management Approval; Signed/Executed Contract)	<input type="checkbox"/>
"Right To Audit" Clause Included in Contract	<input type="checkbox"/>
Monitored items: Uploaded to database (Insurance, Bonds, etc.)	<input type="checkbox"/>

INTERLOCAL AGREEMENT
For Construction, Operation and Maintenance of
Fountainhead Advanced Denitrification System Project

THIS INTERLOCAL AGREEMENT for Construction, Operation and Maintenance of Fountainhead Advanced Denitrification System Project is made and entered into as of _____, 2018, by and between the **BOARD OF COUNTY COMMISSIONERS OF BREVARD COUNTY**, a political subdivision of the State of Florida (hereinafter referred to as the "County"), and the **CITY OF MELBOURNE**, a Florida municipal corporation (hereinafter referred to as the "City").

WITNESSETH:

WHEREAS, Part 1 of Chapter 163, Florida Statutes permits public agencies as defined therein to enter into interlocal agreements with each other to jointly exercise any power, privilege or authority that such agencies share in common and that each might exercise separately; and

WHEREAS, the County and the City are authorized to improve water quality within the Crane Creek Drainage District Canal L-7 system, and in this capacity, may at its own initiative take necessary steps as soon as practicable and desirable to implement drainage projects; and

WHEREAS, the County has received Florida Department of Environmental Protection (FDEP) funding in the amount of \$141,320.00 under the grant program identified as the FY2016 TMDL Water Quality Restoration Grant (TMDL Grant), which provides cost share assistance to local governments for stormwater retrofit projects that reduce stormwater pollutant loadings discharged to impaired waters; and

WHEREAS, the County was awarded \$141,320.00 under the TMDL in order to provide for drainage water quality improvements in the County related to the Crane Creek Drainage District Canal L-7 system; and

WHEREAS, a portion of such drainage improvements impact property of and within the City of Melbourne; and

WHEREAS, the County and the City desire to cooperate in the permitting, construction, operation, and maintenance of such drainage improvements; and

WHEREAS, it is in the interest of the public health, safety and welfare to cooperate in the planning and implementation of the Fountainhead Advanced Denitrification System Project with the understanding that successful construction, operation, and maintenance of the Fountainhead Advanced Denitrification System Project will be shared, in part, by the parties; and

WHEREAS, the County desires the use of a portion of the City's park property to install and operate an advanced denitrification system in order to improve water quality within the Crane Creek Drainage District Canal L-7 system.

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

1. **STATUTORY AUTHORITY.** This Agreement shall be considered an Interlocal Agreement pursuant to the authority of Section 163.01, Florida Statutes.

2. **RECITALS.** The recitals contained above are true and correct and are incorporated herein by reference.

3. **DEFINITIONS.** For all purposes of this Agreement, unless the context requires otherwise, the following terms shall have the following meanings

"Agreement" means this Interlocal Agreement for Construction, Operation, and Maintenance of Fountainhead Advanced Denitrification System Project.

"Denitrification System" means and refers to a particular system set forth in the Plans for the Fountainhead Advanced Denitrification System Project which is designed and constructed or implemented to remove nitrogen from the Crane Creek Drainage District Canal L-7 system and release the treated water back to the Fountainhead pond. The Denitrification System includes, but is not limited to, offline denitrification bioreactor chambers, pumps, and stabilizing sluice at points of discharge into the existing stormwater system, the Fountainhead pond located within Jimmy Moore Park along a portion of the Crane Creek Drainage District Canal No. L-7 and all areas as shown upon Plans, together with all appurtenant outfall structures, pipes, lines, tees, bends, meters, gauges, mechanical equipment, valves, and easements and licenses therefore.

"Fountainhead Advanced Denitrification System Project" or "Project" means the Brevard County project funded, in part, by the FDEP TMDL Grant, identified as FDEP Project LP05115, as delineated more specifically in the Application and in the Grant Award Agreement between the County and the FDEP dated June 13, 2016, amended on November 21, 2016 and September 21, 2017, and as summarized on the attached Exhibit A.


"Licensed Area" means and refers to the real property described and depicted in the attached Exhibit "C", incorporated herein by reference, consisting of approximately 13,051 square feet and located within Jimmy Moore Park near the southeast corner of the intersection of Sarno Road and Wickham Road (a portion of parcel identification number 27-37-19-00-501).

"Operation," "Operate," or "Operated" when used in conjunction with the Denitrification System means and refers to the repair, management, improvements, inspection, maintenance, deactivation, construction, renovation, operation, insurance and replacement of, as well as the disconnection from or connection to the Denitrification System.

4. **INTENT AND PURPOSE.** The City and the County agree to cooperate and coordinate in efforts to improve the health of the Indian River Lagoon by allowing the County to use a portion of City property to install and operate an advanced denitrification system to improve water quality within the Crane Creek Drainage District Canal L-7 system. The intent and purpose of this Agreement is to acknowledge joint support for the Fountainhead Advanced Denitrification System Project, to identify responsible parties and to recognize the allocation of TMDL credits to the City for use of the City property.

5. **TERM.** The Agreement shall become effective upon execution by the County and the City and filed with the clerk of the circuit court, and the Agreement shall continue in full force and effect until it is terminated as set forth in paragraph N below.

6. **OBLIGATIONS OF THE COUNTY.**

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a. The County, being the grantee and applicant of the Project, shall administer the Project in conformance with all applicable federal, state, local government, City and water management district requirements.

b. The County shall manage, design, engineer, construct, and monitor the Project, or shall provide for the same. Construction, Operation, and Maintenance of the Fountainhead Advanced Denitrification System Project within the incorporated boundaries or pertaining to City water and sewer utilities shall be subject to City regulations.

c. The County shall acquire all land required for the Project that are not already controlled by the City or County, and record conveyances for the same in the public records of Brevard County.

d. The County shall obtain all necessary permits to complete the Project.

e. The County shall provide all funding necessary to complete the Construction, Operation, and Maintenance of the Project.

f. The County shall restore to pre-construction conditions, all property impacts by the Fountainhead Advanced Denitrification System Project beyond those depicted in Exhibit B.

g. The County shall place signs indicating a water quality improvement project with underground utilities is in the area and a call to us is required before digging. This requirement shall be in force until the Denitrification System is abandoned in place with above grade system components removed from the Licensed Area.

h. The County shall provide the City with as-built drawings of Denitrification System.

i. The County shall maintain ownership of the Denitrification System.

j. The County shall Operate the Denitrification System.

k. The County shall award to the City the TMDL credits related to the Denitrification System.

7. OBLIGATIONS OF MELBOURNE.

a. The City shall grant a license to use a portion of City property as set forth in paragraph 8 below.

b. The City shall cooperate with the County in obtaining permits necessary or convenient to the Fountainhead Advanced Denitrification System Project.

c. Because the project reduces the grassed surface area to be mowed at the location of at/above grade system components (hatches, solar panel, pump box, etc.), the City shall maintain its current grounds keeping (grass mowing, landscaping, etc.) responsibility on the entire property owned by the City.

8. License Granted. The City hereby grants a non-exclusive license to the County to Operate the Denitrification System on the Licensed Area. The Denitrification System shall comply with the most current construction plans for the Project, as approved by the City Engineer and permitted by the City in accordance with the City Code of the City of Melbourne (the "Plans"). The County shall fence the Licensed Area with split rail wooden fencing in design and quality reasonably satisfactory to the City Manager. The County's use of the Licensed Area shall be non-exclusive such that at all times the Licensed Area shall be available for use by the City except

that the City agrees not to interfere with the safe operation or maintenance of the Denitrification System.

9. **MAINTENANCE OF FACILITIES.** The Denitrification System (and associated facilities) shall be Operated by the County, all in accordance with the standards, conditions, and requirements set forth on the Plans, and in the City Code of Ordinances, and in particular although not limited to the requirements of the City Code, which are incorporated herein by this reference, and the City Comprehensive Plan, which standards, conditions, and requirements shall constitute minimum standards for the Operation of the Denitrification System.

Work performance, equipment, and job site shall be in compliance with applicable City, County, State, and Federal requirements. The County shall obtain the necessary permits and other permissions from the City to perform construction pursuant to the Plans and Operation of the Denitrification System. Work, while in progress, shall be properly protected at all times with suitable barricades, flags, lights, flares, or other devices to protect all members of the public having occasion to use the Licensed Area or adjacent property. The County shall at all times employ due care and shall install, maintain, and use commonly accepted methods and devices for preventing failures and accidents which are likely to cause damage, injuries, or nuisances to the public.

The County shall not unnecessarily or unreasonably obstruct the use of or damage any sidewalk, driveway, curb, street, or park amenity during construction or maintenance of the Denitrification System. The County, upon completion of installation or maintenance of the Denitrification System, shall restore the Licensed Area and any affected adjacent properties to a condition as good as it was at the time of initial construction, subject to modifications set forth in the Plans.

The County shall at all times maintain in good Operation the Denitrification System on the Licensed Area. Maintenance of the Denitrification System shall mean and include, among other things, the exercise of practices which allow the system to provide drainage, water storage, conveyance or other Denitrification System capabilities. Any repair or reconstruction of the Denitrification System shall, at a minimum, be accomplished consistent with this Agreement, the Plans and performance specifications, any required permit of the St. Johns River Water Management District, and any permit of the City (required or otherwise), or if the Denitrification System is modified as approved by the St. Johns River Water Management District and the City. Maintenance of any lighting/electrical fixtures which are integral parts of the Denitrification System shall include and extend to payment for all electricity consumed in the operation thereof. The County shall be responsible for the maintenance of the Denitrification System and the Licensed Area and any infrastructure affected by the Denitrification System or the County's use. At all times the Denitrification System shall be maintained in such a condition so that the Denitrification System equals or exceeds the design performance standards as shown in the performance calculations on the Plans and as represented in Exhibit "A" attached hereto.

If the County has failed to maintain in good Operation, the Denitrification System or failed to do so in compliance with the Plans or as otherwise required herein, then the City may but shall not be obligated to, after giving the County thirty (30) day's written notice, Operate that portion of the Denitrification System in need of said Operation. Said determination by the City to Operate, temporarily or permanently, any part or all of the Denitrification System, shall be optional with the City. The City shall be under no obligation to, either temporarily or permanently, Operate the Denitrification System, nor shall the City be liable for failing to Operate the Denitrification System. A determination by the City that the Denitrification System, or any portion thereof, is not being Operated in compliance with the Plans and other standards set forth in this Agreement shall be one subject to the sole but reasonable judgment of the City. All costs and expenses of the City resulting

from any Operation of the City of the Denitrification System shall be chargeable to the County; provided that in the event the City is compelled to Operate the Denitrification System in accordance herewith, the County shall have thirty (30) days in which to pay the City's Assessment expenses and costs after the County receives a bill therefor from the City.

10. COSTS; CREDITS. The County will be responsible for the costs and expenses associated with the design, permitting and installation and Operation of the Denitrification System and maintenance of the Licensed Area and any infrastructure affected by the Denitrification System or the County's use of the Licensed Area. In exchange for the license granted herein, the County shall allocate at least 2 percent of this project's TMDL credits to the City pursuant to the pro-rata share of the 2018 BCPAO land valuation (0.33 Acres at \$32,415 per acre less the split-rail fence provided to the City by the County valuation of \$5,530 per 2018 engineering cost estimate) relative to the project's \$263,255 total value:

$$TMDL\ Credit = \frac{PROJECT\ ACRES \times \left(\frac{2018\ SITE\ BCPAO\ LAND\ VALUATION}{SITE\ ACRES} \right) - 2018\ SPLIT-RAIL\ FENCE\ ENGINEER\ COST\ ESTIMATE}{2018\ PROJECT\ ENGINEER\ COST\ ESTIMATE + \left(PROJECT\ ACRES \times \left(\frac{2018\ SITE\ BCPAO\ LAND\ VALUATION}{SITE\ ACRES} \right) \right)}$$

$$= \frac{\left[0.33 \times \left(\frac{\$435,660}{13.44} \right) - \$5,530 \right]}{\left[\$252,558 + \left(0.33 \times \frac{\$435,660}{13.44} \right) \right]} \times 100\% = 2\%$$

11. PARTNERSHIP. By entering into this Agreement, the City shall not be or become a partner or joint venture with the County in the installation, Operation or maintenance of the Denitrification System. The City is merely allowing the use of the Licensed Area for such purposes. The City shall not be deemed to take ownership of or responsibility for the Denitrification System.

12. TERMINATION OF THE AGREEMENT; NOTIFICATION.

a. This license shall be irrevocable for a period of 20 years. After 20 years, either party may terminate this Agreement for any reason by providing written notice of termination to the other party. Such termination shall become effective one-hundred eighty (180) days after the written notice is mailed.

b. Upon termination, the County shall abandon the Denitrification System in place with removal of above grade system components from the Licensed Area and capping of the system piping below grade, at the sole cost and expense of the County. In the event the County fails to abandon the Denitrification System in place with removal of above grade system components from the Licensed Area and capping of the system piping below grade, then the City shall have the right, but not the obligation, to remove and/or abandon the Denitrification System and the County agrees to pay promptly the City for the reasonable cost of removing the Denitrification System.

c. Notices to the respective parties shall be forwarded, in writing, to the parties by certified mail, return receipt requested, hand delivery or express courier. Notices shall be sent to the parties at the addresses set forth below or such other addresses as provided to the parties by written notice delivered in accordance with this paragraph.

If to Brevard County, such notice shall be addressed to:

Frank Abbate, County Manager
2725 Judge Fran Jamieson Way
Viera, Florida 32940

If to Melbourne, such notice shall be addressed to:

City of Melbourne
Michael A. McNees, City Manager
900 East Strawbridge Avenue
Melbourne, Florida 32901

13. HOLD HARMLESS.

a. The County agrees to indemnify and hold harmless the City to the extent permitted by law, from any and all liability, claims, damages, expenses, proceedings, and causes of action of any kind and/or nature resulting from negligent acts of the County in relation to this Agreement and the Project. The County agrees that it will, at its own expense, defend any and all actions, writs or proceedings which are brought against the County or the City and which arise out of circumstances set out previously in this paragraph, including attorney's fees, costs and expenses related to any litigation, suit, dispute, controversy, mediation, or proceeding.

b. The City agrees to indemnify and hold harmless the County to the extent permitted by law, from any and all liability, claims, damages, expenses, proceedings, and causes of action of any kind and/or nature resulting from negligent acts of the City in relation to this Agreement and the Project. The City agrees that it will, at its own expense, defend any and all actions, writs or proceedings which are brought against the County or the City and which arise out of circumstances set out previously in this paragraph, including attorney's fees, costs and expenses related to any litigation, suit, dispute, controversy, mediation, or proceeding.

c. Each party hereto agrees that it shall be solely responsible for the negligent acts of its employees and agents. This paragraph shall survive termination.

d. Nothing contained in this paragraph shall be construed to be a waiver by either party of any protections under sovereign immunity, Section 768.28, Fla. Stat., or any other similar provision of law. Nothing contained herein shall be constructed to be a consent by either party to be sued by third parties in any matter arising out of this or any other Agreement.

14. OWNERSHIP OF INTELLECTUAL PROPERTY. Ownership and copyright to all designs, plans, specifications, reports and accompanying data (in all formats) pertaining to the Fountainhead Advanced Denitrification System Project shall be vested in the parties.

15. ENFORCEMENT. Enforcement of this Agreement may be by the County or City and may be accomplished by any proceeding at law or in equity against any person or persons violating or attempting to violate any provision hereof, either to restrain a violation or to recover damages to the extent permitted by this Agreement. Failure to enforce any covenant or provision herein contained shall in no event be deemed a waiver of the right to do so thereafter.

16. MISCELLANEOUS

a. Headings. The headings used are for convenience only and they shall be disregarded in the construction and interpretation of this Agreement.

b. Interpretation. The drafting of this Agreement constituted a joint effort of the parties and the Agreement's interpretation shall assume that no party had more input or influence than any other. All words, terms, and conditions herein contained are to be read in concert, each with the other, and a provision contained under one heading may be considered to be equally applicable under another heading in the interpretation of this Agreement.

c. Third Party Beneficiaries. This Agreement is solely for the benefit of the parties to this Agreement and no other causes of action shall accrue upon or by reason hereof to or for the benefit of any third parties.

d. Jurisdiction, Venue, and Choice of Law. All questions pertaining to the validity and interpretations of the Agreement shall be determined in accordance with the Laws of the State of Florida. Any legal action by either party against the other concerning the Agreement shall be filed in Brevard County, Florida, which shall be deemed proper jurisdiction and venue for the action, or if in federal court, in the U.S. District Court for the Middle District of Florida.

e. Entire Agreement. This Agreement shall constitute the entire agreement between the parties.

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

IN WITNESS WHEREOF, the COUNTY has caused this Agreement to be executed on the day and year written below in its name by its duly authorized representative, and CITY has caused this Agreement to be executed on the day and year written below in its name by its duly authorized representatives. This Agreement may be executed in separate counterparts, which shall not affect its validity. Upon execution, this Agreement constitutes the entire agreement of the parties, notwithstanding any stipulations, representations, agreements, or promises, oral or otherwise, not printed or inserted herein.

ATTEST:

BY: 

Scott Ellis, Clerk
(Seal)

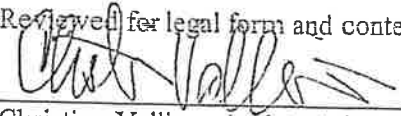
BREVARD COUNTY, FLORIDA by and
through its Board of County Commissioners

BY: 

Chair KRISTINE ISNARDI

As approved by the Board on 1/22/19

Reviewed for legal form and content by:


Christine Valliere, Assistant County Attorney

BY: 

Cathleen Wysor, City Clerk
(Seal)

CITY OF MELBOURNE,
a Florida municipal corporation

BY: 

Shannon Lewis, City Manager

As approved by City Council on 12/11/18

Attachments

Ex. A: Summary of Project

Ex. B: Depiction of Fountainhead Advanced Denitrification System Project

Ex. C: Legal description and sketch of License Area

Summary of Project

Project Title: Fountainhead Advanced Denitrification System

Project Authority: The Grantee received funding for this project from the Nonpoint Source Implementation Grant, C9-9945 1512-0, referenced by the Department as Grant No. 31912. Monitoring and auditing guidelines, as related to the Federal Single Audit Act, are specified in the Catalog of Federal Assistance (CDFA), No.66.460.

The Florida Department of Environmental Protection (FDEP) granted state assistance to the Grantee through the TMDL Water Quality Restoration Grant program, as specified in Chapter 62-305, F.A.C. and authorized by Section 403.885, F.S. Monitoring and auditing guidelines, as related to the Florida Single Audit Act, are specified in the Florida Catalog of State Financial Assistance (CSFA), No. 37.039.

Project Location: Melbourne, Brevard County: 28.118255, -80.671577

Project Background: The Fountainhead pond stormwater system is located in a residential area in the City of Melbourne and receives runoff from 234.65 acres of surrounding residential land use. The Fountainhead pond discharges to the Crane Creek Drainage District Canal L-7 system. Historically, the Fountainhead pond has experienced continuous and excessive vegetation overgrowth. In 2013, Brevard County used a harvester to mechanically remove approximately 492 tons of vegetation from the pond.

Project Description: Two offline denitrification bioreactor chambers will be installed adjacent to the Fountainhead pond to remove nitrogen and release the treated water back to the pond. Each chamber will have a subsurface intake orifice to deliver water from the pond to the chamber using solar powered submersible pumps. Each chamber will consist of high-density polyethylene pipe filled with wood chip mulch. The chambers will be capped at both ends with the exception of the inflow and outflow pipes. Intake water will bubble up through the denitrification media at a rate selected to ensure sufficient contact time and exit through the outflow pipe. A stabilized sluice containing rock or other suitable material will be installed at the points of discharge from each chamber to increase dissolved oxygen in the discharge water.

Denitrification bioreactors have been effective at removing soluble nitrogen in previous applications. Removal efficiencies are based on temperature and contact time per volume of denitrification media within the bioreactor chamber. Based on the size of the proposed chambers, it is estimated that at least 488 lbs. of nitrogen (19% of 2,570.6 lbs. of nitrogen entering the pond) will be removed annually.

EXHIBIT B

FOUNTAINHEAD ADVANCED DENITRIFICATION SYSTEM PROJECT

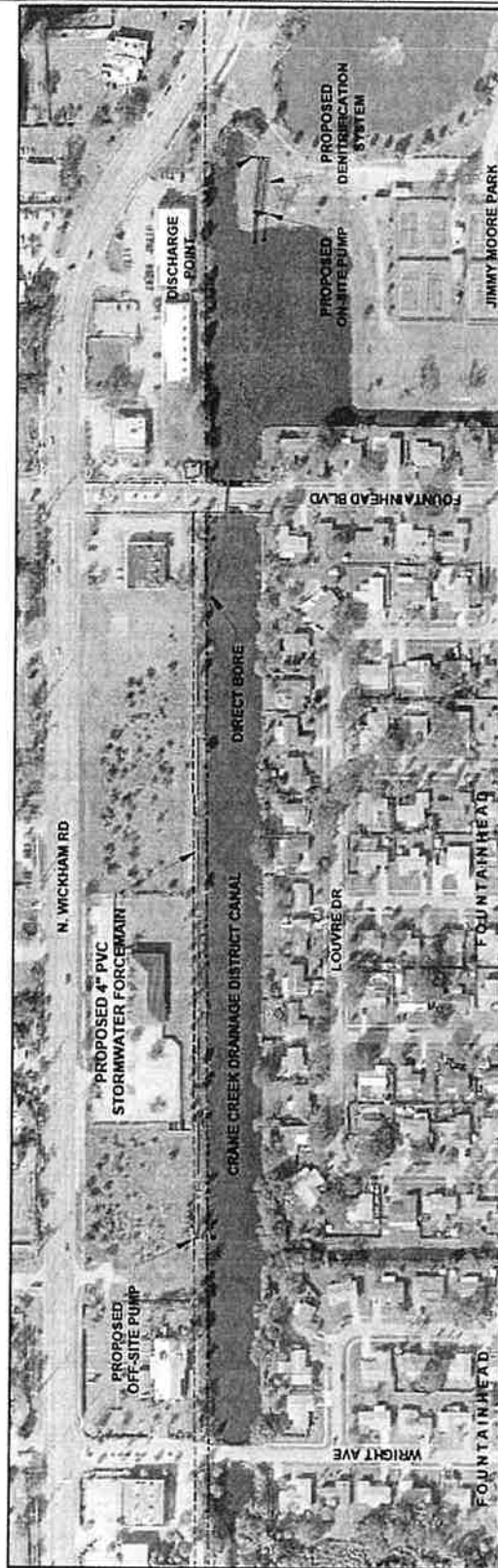
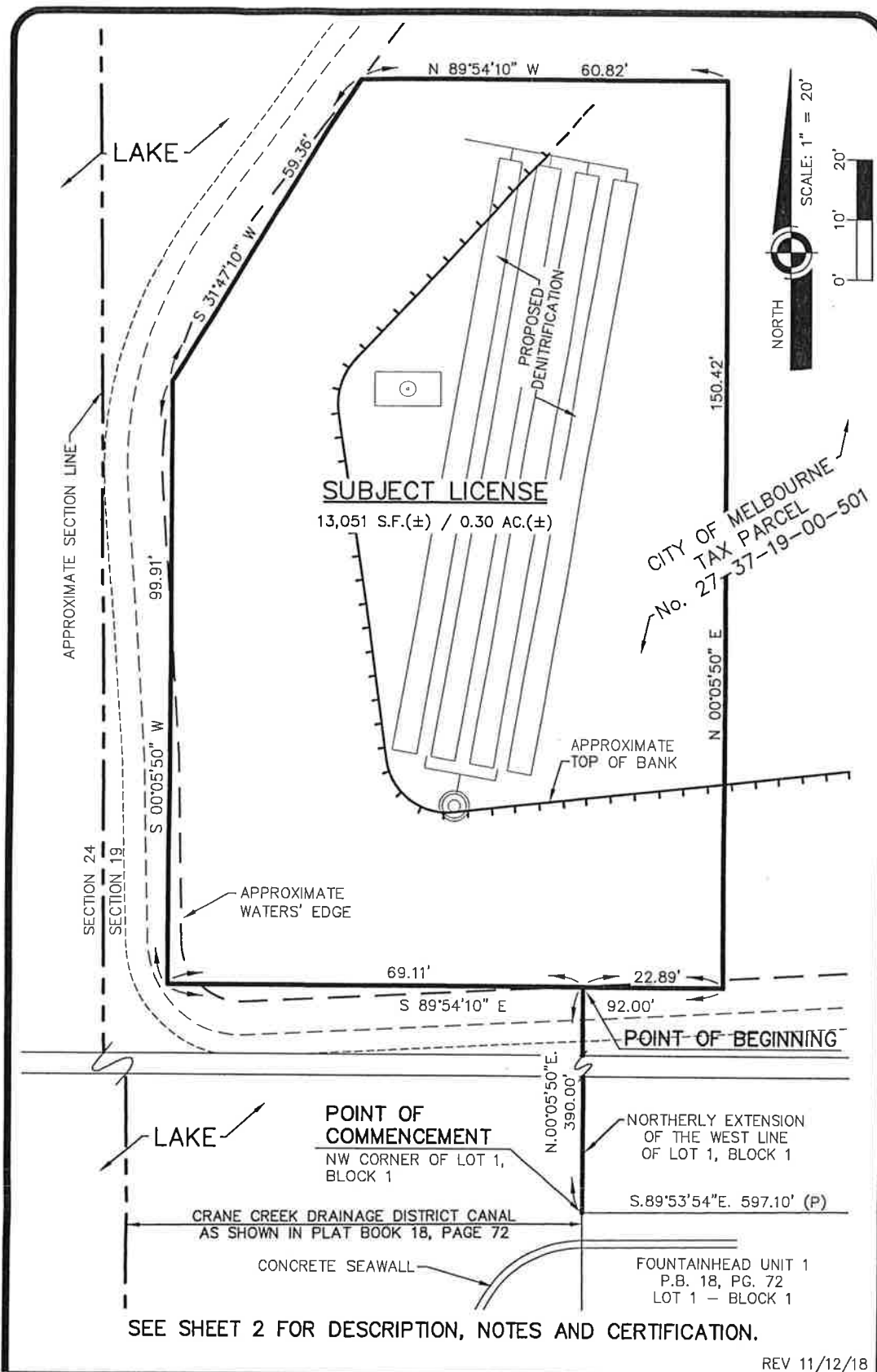


EXHIBIT C

Legal description and sketch of License Area



Sec.: 19, 27

Twp.: 27 South

Rng.: 37 East

Dsn. by : JBC

Drn. by : JC

Chk. by : JBC

A SKETCH AND DESCRIPTION PREPARED FOR:

**FOUNTAINHEAD ADVANCED
DENITRIFICATION PROJECT**

BREVARD COUNTY FLORIDA

Bussen-Mayer Engineering Group

100 PARNELL STREET • MERRITT ISLAND, FLORIDA 32953
PH. NO.: (321) 453-0010 FAX NO.: (321) 454-6885

Date : 05/15/18

Scale : 1"=20'

P. N. : 387002

Sheet No.
1 of 2

DESCRIPTION:

A parcel of land lying in Section 19, Township 27 South, Range 37 East Brevard County, Florida, and being more particularly described as follows;

Commence at the northwest corner of Lot 1, Block 1, Fountainhead Unit Number 1 as recorded in Plat Book 18, Page 72 of the Public Records of Brevard County, Florida; thence North 00°05'50" East, along the northerly extension of the west line of said Lot 1, Block 1, a distance of 390.00 feet to the Point-of-Beginning; thence South 89°54'10" East a distance of 22.89 feet; thence North 00°05'50" East a distance of 150.42 feet; thence North 89°54'10" West a distance of 60.82 feet; thence South 31°47'10" West a distance of 59.36 feet; thence South 00°05'50" West a distance of 99.91 feet; thence South 89°54'10" East a distance of 69.11 feet to the Point-of-Beginning

Containing 13,051 sq ft more or less and being subject to any easements and/or rights-of-ways of record.

NOTES:



1. This is not a boundary survey.
2. Bearings shown hereon are based on west line of Lot 1 Block 1 Fountainhead Unit #1 as recorded in Plat Book 18 Page 72 of the Brevard County Public Records being; North 00°05'50" East.
3. This sketch and description is certified correct to the parties shown hereon and is valid only with original signature and seal or verified electronic signature and seal.
4. This sketch and description is certified correct to:
Brevard County Board of County Commissioners
City of Melbourne

CERTIFICATE:

I hereby certify that the sketch and description shown hereon is true and correct to the best of my knowledge and belief, as performed under my direction and supervision, and that it meets or exceeds the standards of practice as set forth by the Florida Board of Professional Land Surveyors in Chapter 5J-17.052 Florida Administrative Code, pursuant to Section 472.027, Florida statutes.


Joseph Barry Cabaniss, P.L.S. Date
FLORIDA SURVEYOR'S CERTIFICATE NO.: 4524
BUSSEN-MAYER ENGINEERING CERTIFICATE NO.: 3535

SEE SHEET ONE FOR
SKETCH OF DESCRIPTION

Sec.: 19, 27	A SKETCH AND DESCRIPTION PREPARED FOR: FOUNTAINHEAD ADVANCED DENTRIFICATION PROJECT	Date : 05/15/18
Twp.: 27 South		Scale : 1"=20'
Rng.: 37 East		P. N. : 387002
Dsn. by : JBC		Sheet No.
Drn. by : JC		2 of 2
Chk. by : JBC	 Bussen-Mayer Engineering Group  100 PARNELL STREET • MERRITT ISLAND, FLORIDA 32953 PH. NO.: (321) 453-0010 FAX NO.: (321) 454-8885	

Project: 387002-sk01

Mon June 04 10:17:13 2018

Parcel Map Check

Parcel name: Easement

North: 1376556.0285	East : 760798.9544
Line Course: S 31-47-10 W	Length: 59.36
North: 1376505.5713	East : 760767.6865
Line Course: S 00-05-50 W	Length: 99.91
North: 1376405.6615	East : 760767.5170
Line Course: S 89-54-10 E	Length: 69.11
North: 1376405.5442	East : 760836.6269
Line Course: S 89-54-10 E	Length: 22.89
North: 1376405.5054	East : 760859.5169
Line Course: N 00-05-50 E	Length: 150.42
North: 1376555.9251	East : 760859.7721
Line Course: N 89-54-10 W	Length: 60.82
North: 1376556.0284	East : 760798.9522

Perimeter: 462.51 Area: 13,051 sq. ft. 0.30 acres

Mapcheck Closure - (Uses listed courses and chords)

Error Closure: 0.0022 Course: S 85-01-37 W

Error North: -0.00019 East : -0.00220

Precision 1: 210,231.82