

**LAKE COUNTY WATER AUTHORITY
2023 STORMWATER GRANT PROGRAM
AGREEMENT TO FUND HOWEY-IN-THE-HILLS
LAKESIDE CAPTURE – PHASE 1 PROJECT**

THIS AGREEMENT is made and entered into by and between the LAKE COUNTY WATER AUTHORITY, whose address is 27351 SR 19, Tavares, FL 32778-3119 (hereinafter referred to as the “Authority”) and THE TOWN OF HOWEY-IN-THE-HILLS, whose address is PO Box 128, Howey-in-the-Hills, Florida 34737 (hereinafter referred to as “Grantee” or “Recipient”), a body of local government within Lake County, Florida, to provide financial assistance to complete installation of best management technologies in a stormwater treatment system.

WITNESSETH:

WHEREAS, the Authority, is authorized and governed by Chapter 2005-314, Laws of Florida, for the purposes, among others, of controlling and conserving the freshwater resources of Lake County, preserving, protecting, and improving the fish and aquatic wildlife of the county, and protecting the freshwater resources by assisting local governments in the treatment of stormwater runoff, and

WHEREAS, the reduction and ultimate elimination of untreated stormwater into our public waterways will ultimately benefit the ecology of our waterways and the residents and tourists that use them, and

WHEREAS, it is desirable for the Authority to assist the local governments of Lake County in a coordinated effort through the provision of grant funds to reduce the influx of untreated stormwater into the publicly owned waterways of Lake County, and

WHEREAS, the Grantee’s project consists of design, permitting, and construction of lakeside swales and a Water Quality Unit (WQU), hereinafter referred to as the "PROJECT"; and

WHEREAS, the Authority considers Grantee’s PROJECT worthwhile and desires to assist Grantee in the funding of the PROJECT.

NOW, THEREFORE, the Authority and Grantee, in consideration of the mutual terms, covenants and conditions set forth herein, agree as follows:

In consideration of the mutual benefits to be derived here from, the Authority and the Grantee do hereby agree as follows:

1. The Grantee does hereby agree to perform and/or construct its PROJECT, in accordance with the terms and conditions set forth in this Agreement, **Attachment ‘A’ Grant Work Plan** and all attachments and exhibits named herein, which are attached hereto and incorporated by reference. For purposes of this Agreement, the

terms “Contract” and “Agreement” and the terms “Grantee”, “Recipient” and “Contractor”, are used interchangeably.

2. This Agreement shall begin upon the date it has been executed by both parties and terminate no later than **twenty-four (24) months** thereafter. The Grantee shall not be eligible for reimbursement for any work performed or land purchased prior to the date this Agreement has been executed by both parties. This Agreement may be amended to provide for additional services if additional funding is made available by the Authority.
3. A. For the improvement of water quality in the receiving Lake County waterbody by the Grantee under the terms of this Agreement, the Authority shall provide grant monies to the Grantee, on a cost reimbursement basis, in an amount not to exceed **\$82,280 (Eighty-two thousand Two hundred and Eighty Dollars) or 74.8% (Seventy-four and Eight-tenths Percent)** of the design, permitting, and construction PROJECT costs, whichever is less, for a portion of the Grantee’s water quality enhancement PROJECT, outlined in **Attachment A**, Grant Work Plan. The parties agree that the Grantee is responsible for providing at least a minimum match of **\$27,720 (Twenty-seven thousand seven hundred and Twenty Dollars) or 25.2% (Twenty-five and Two-tenths Percent)** of the design, permitting, and construction PROJECT costs described in **Attachment A**. Regardless of the amount of this grant, expenditures by Grantee which are determined, in the sole discretion of the Authority, to be unrelated to the enhancement of water quality in the receiving waterbody, will not be funded or reimbursed by the Authority. If the Grantee finds, after receipt of competitive bids, that the work described in **Attachment A** cannot be accomplished for the current estimated project cost, the parties hereto agree to modify the Grant Work Plan described in **Attachment A** to provide for the work that can be accomplished for the funding identified above.

(1) Payments shall further be conditioned upon the following:

- i. That funding from the Authority shall only be applied toward the portion of the project that treats the existing impervious areas and not future development, nor shall the Authority fund the redistribution of flows from existing retention areas or the repair of stormwater pipes;
- ii. That Grantee shall pay its pro-rata share of the PROJECT as outlined in this Agreement;
- iii. That Grantee shall provide the Authority the necessary invoices and other documentation sufficient to evidence that Grantee has incurred the actual expense;
- iv. That Grantee shall provide the Authority written verification, provided by a person duly authorized by Grantee to so verify, that Grantee has incurred the actual expense;

- v. That Grantee shall provide sufficient evidence to demonstrate that the reimbursable expenses are directly related to the water quality enhancement portion of the PROJECT.
- (2) If Grantee does not expend its pro-rata share of the cost for the work performed as set forth in this Agreement, the Authority will make payment only in a lesser amount which is proportionate to that which Grantee has expended and for which it has provided the appropriate support documentation to the Authority in accordance with this Agreement.
- a. The Authority shall make reimbursements to Grantee within thirty (30) days of timely submitted invoices by Grantee, complete with the appropriate support documentation and any additional information requested by the Authority, which shall be submitted to the Authority at the following address:

LAKE COUNTY WATER AUTHORITY
27351 SR 19
Tavares, Florida 32778

- b. Grantee shall not use any Authority funds for purposes not specifically identified in the Grant Work Plan.
 - c. The Authority shall have no obligation to reimburse Grantee for any costs under this Agreement until construction of the PROJECT has been completed.
 - d. The Authority's performance and payment pursuant to this Agreement is contingent upon the Authority's Board of Trustees appropriating funds for the PROJECT.
- B. Upon completion of the PROJECT, the Grantee shall submit a written payment request, including a final project report containing before and after photographs and as-built plans, to the Authority's Grant Manager. The Grant Manager shall have thirty (30) calendar days within which to review the request. The Grantee shall be reimbursed on a cost reimbursement basis for all eligible water quality enhancement project costs, not to exceed the maximum grant amount. In addition to the payment request, the Grantee must provide from its accounting system a listing of expenditures made under this Agreement. The listing shall include, at a minimum, a description of the goods and/or services purchased, date of the transaction, voucher number, amount paid, and vendor name.
- C. In addition to the invoicing requirements contained in paragraph 3.B. above, the Authority may request proof of transactions, such as invoices and

payroll registers. If requested by the Authority, Grantee shall provide this additional information within 30 calendar days of such request.

4. The Authority's performance and obligation to pay under this Agreement is contingent upon an annual budget allocation by the Board of Trustees. The parties hereto understand that this Agreement is not a commitment of future budget allocations.
5. The Grantee shall submit written quarterly progress reports describing the PROJECT work performed, problems encountered, problem resolution, schedule updates and proposed work for the next reporting period. Quarterly reports shall be submitted to the Authority's Grant Manager no later than twenty (20) days following the completion of the quarterly reporting period. It is understood and agreed by the parties that the term "quarterly" shall reflect the calendar quarters ending March 31, June 30, September 30, and December 31. The Authority's Grant Manager shall have ten (10) calendar days to review deliverables submitted by the Grantee.
6. The Grantee shall recognize the Authority by erecting a sign at the site indicating the Authority's funding assistance for the project. The Authority's Grant Manager shall review and approve the sign prior to placement.
7. The Grantee agrees that it shall be solely responsible for the construction, operation, maintenance and/or failure of operation and/or maintenance of its PROJECT and/or stormwater system, and for its acts of omission and/or commission and for the negligent and/or wrongful acts of itself, its employees and agents. The Grantee agrees it shall be responsible for harvesting and replanting indigenous, mature wetland plants at minimum, annually, to remove sequestered nutrients from re-entering the water or when the plants die and before they decompose. However, nothing contained herein shall constitute a waiver by Grantee of its sovereign immunity or the provisions of Section 768.28, Florida Statutes.
8. The Authority may terminate this Agreement at any time in the event of the failure of the Grantee to fulfill any of its obligations under this Agreement. Prior to termination, the Authority shall provide thirty (30) calendar days written notice of its intent to terminate this Agreement and shall provide the Grantee an opportunity to consult with the Authority regarding the reason(s) for termination, and to remedy the deficiencies, if possible.
9. This Agreement may be unilaterally canceled by the Authority for refusal by the Grantee to allow public access to all documents, papers, letters, or other material made or received by the Grantee in conjunction with this Agreement, unless the records are exempt from Article I, Section 24(a), Florida Constitution and Chapter 119, Florida Statutes.
10. The Grantee shall maintain books, records and documents directly pertinent to performance under this Agreement in accordance with generally accepted accounting principles consistently applied. The Authority, the State, or their

authorized representatives shall have access to such records for audit purposes during the term of this Agreement and for five years following Agreement completion. In the event any work is subcontracted, the Grantee shall similarly require each subcontractor to maintain and allow access to such records for audit purposes.

11. A. The Grantee may subcontract work under this Agreement without the prior written consent of the Authority's Grant Manager. The Grantee agrees to be responsible for the fulfillment of all work elements included in any subcontract and agrees to be responsible for the payment of all monies due under any subcontract. It is understood and agreed by the Grantee that the Authority shall not be liable to any subcontractor for any expenses or liabilities incurred under the subcontract and that the Grantee shall be solely liable to the subcontractor for all expenses and liabilities incurred under the subcontract.

B. The Authority supports diversity in its procurement program and requests that all subcontracting opportunities afforded by this Agreement embrace diversity enthusiastically. It is encouraged that the award of subcontracts reflects the full diversity of the citizens of the State of Florida.
12. Nothing in this Agreement shall create or be implied to create any relationship between the Authority and any subcontractor of Grantee, nor any ownership, liability or responsibility of the Authority with respect to the stormwater system of Grantee.
13. Nothing in this Agreement shall be construed to benefit any person or entity not a party to this Agreement.
14. The Grantee shall comply with all applicable federal, state, and local rules and regulations in its construction, performance and/or operation of the PROJECT. The Grantee acknowledges that this requirement includes compliance with all applicable federal, state, and local health and safety rules and regulations. The Grantee further agrees to include this provision in all subcontracts issued as a result of this Agreement.
15. The Authority's Grant Manager for this Agreement is identified below.

Steve Crawford	
Water Resources Director	
Lake County Water Authority	
27351 SR 19	
Tavares, FL 32778-3119	
Telephone No.:	(352) 324-6141 ext. 125
Fax No.:	(352) 324-6364
Email Address:	scrawford@lcwa.org

16. The Grantee's Grant Manager for this Agreement is identified below.

Morgan Cates	
Public Works Director	
Town of Howey-in-the-Hills	
PO Box 128, Howey-in-the-Hills	
Telephone No.:	(352) 805-0205
E-Mail Address:	mcates@howey.org

17. To the extent required by law, the Grantee will be self-insured against, or will secure and maintain during the life of this Agreement, Workers' Compensation insurance for all of its employees connected with the work of this project and, in case any work is subcontracted, the Grantee shall require the subcontractor(s) to provide Workers' Compensation Insurance for all of the subcontractors' employees, unless such employees are covered by the protection afforded by the Grantee. All such self-insurance programs or insurance coverage shall comply fully with the Florida Workers' Compensation law. In case any class of employees are engaged in hazardous work under this Agreement, and are not protected under Workers' Compensation statutes, the Grantee shall provide, and shall cause each subcontractor to provide, adequate insurance, consistent with Grantee's primary insurance coverage, for the protection of all such employees not otherwise protected.
18. The parties specifically agree that Grantee is an independent contractor, and is not an agent, representative, or employee of the Authority. Grantee agrees to carry adequate liability insurance coverage and other appropriate forms of insurance coverage, consistent with Grantee's primary insurance coverage. The Authority shall have no liability except as to the payment of grant monies as provided above.
19. The Grantee covenants that it presently has no interest, and shall not acquire any interest, which would conflict in any manner or degree with the performance of services required.
20. The purchase of non-expendable personal property or equipment costing \$1,000 or more is not an authorized reimbursable expense under the terms of this Agreement.
21.
 - A. No person, on the grounds of race, creed, color, national origin, age, sex, or disability, shall be excluded from participation in, be denied the proceeds or benefits of, or be otherwise subjected to discrimination in performance of this Agreement.
 - B. An entity or affiliate who has been placed on the discriminatory vendor list may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not award or perform work as a contractor, supplier, subcontractor, or consultant under contract with any public entity, and may not transact business with any public entity. The Florida Department of Management Services is responsible for maintaining

the discriminatory vendor list and posting the list on its website. Questions regarding the discriminatory vendor list may be directed to the Florida Department of Management Services, Office of Supplier Diversity, at 850/487-0915.

- 22. This Agreement represents the entire agreement of the parties. Any alterations, variations, changes, modifications or waivers of provisions of this Agreement shall only be valid when they have been reduced to writing, duly signed by each of the parties hereto, and attached to the original of this Agreement, less otherwise provided herein.
- 23. The Grantee agrees that the PROJECT is not to be used to offset additional stormwater treatment requirements that may be imposed upon the Grantee as a result of future redevelopment located within the treatment basin.

IN WITNESS WHEREOF, the parties hereto, or their lawful representatives, have executed this Agreement on the day and year set forth next to their signatures below.

LAKE COUNTY WATER AUTHORITY

_____ By: _____
Witness LCWA, Executive Director Date
Federal ID#: 59-6018003

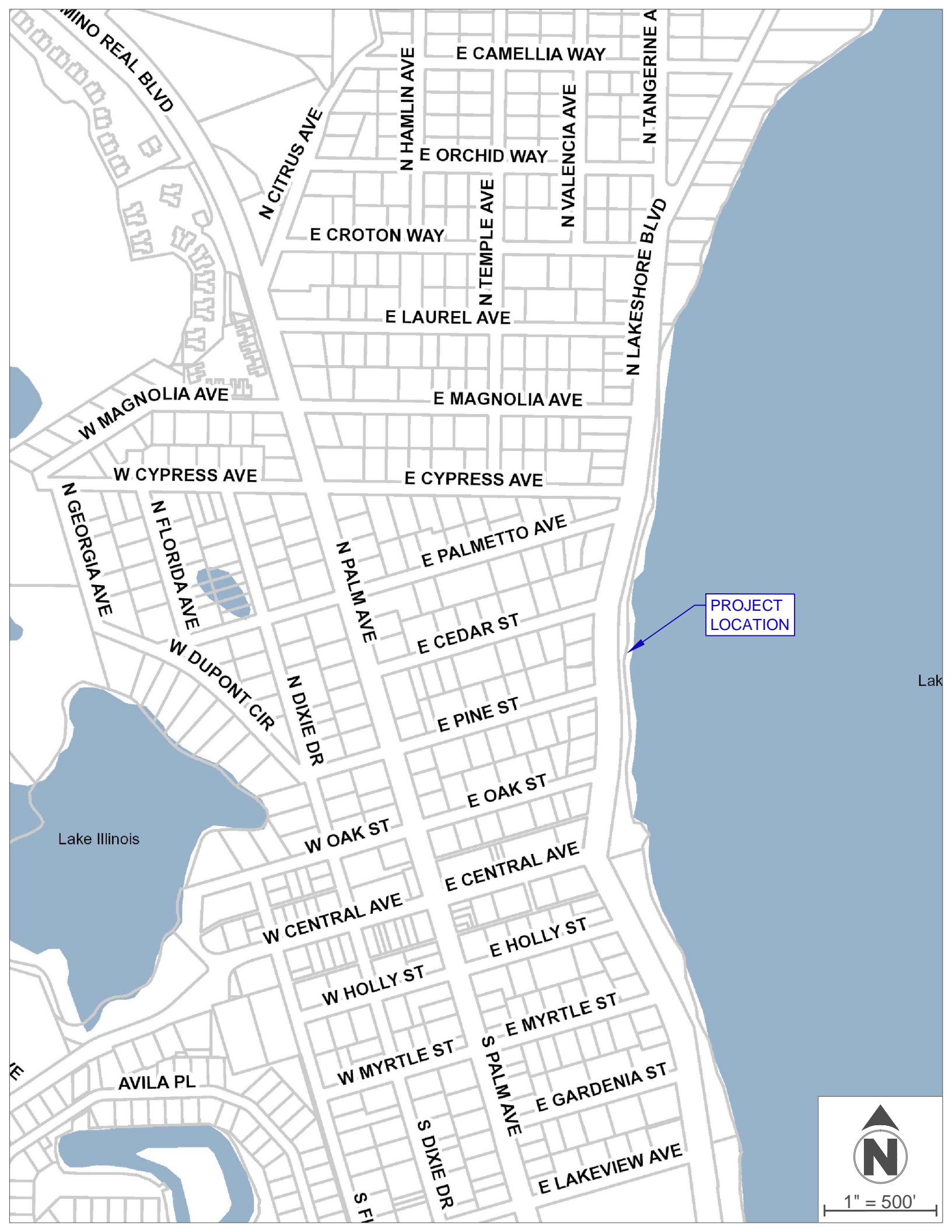
TOWN OF HOWEY-IN-THE-HILLS

_____ By: _____
Witness Town Manager of Howey-in-the-Hills Date
Federal ID#: 59-1061566

List of attachments/exhibits included as part of this Agreement:

Specify	Letter/	Description (includes number of pages)
Type	Number	
Attachment	A	Grant Work Plan and Attachments (X Pages)

Attachment A



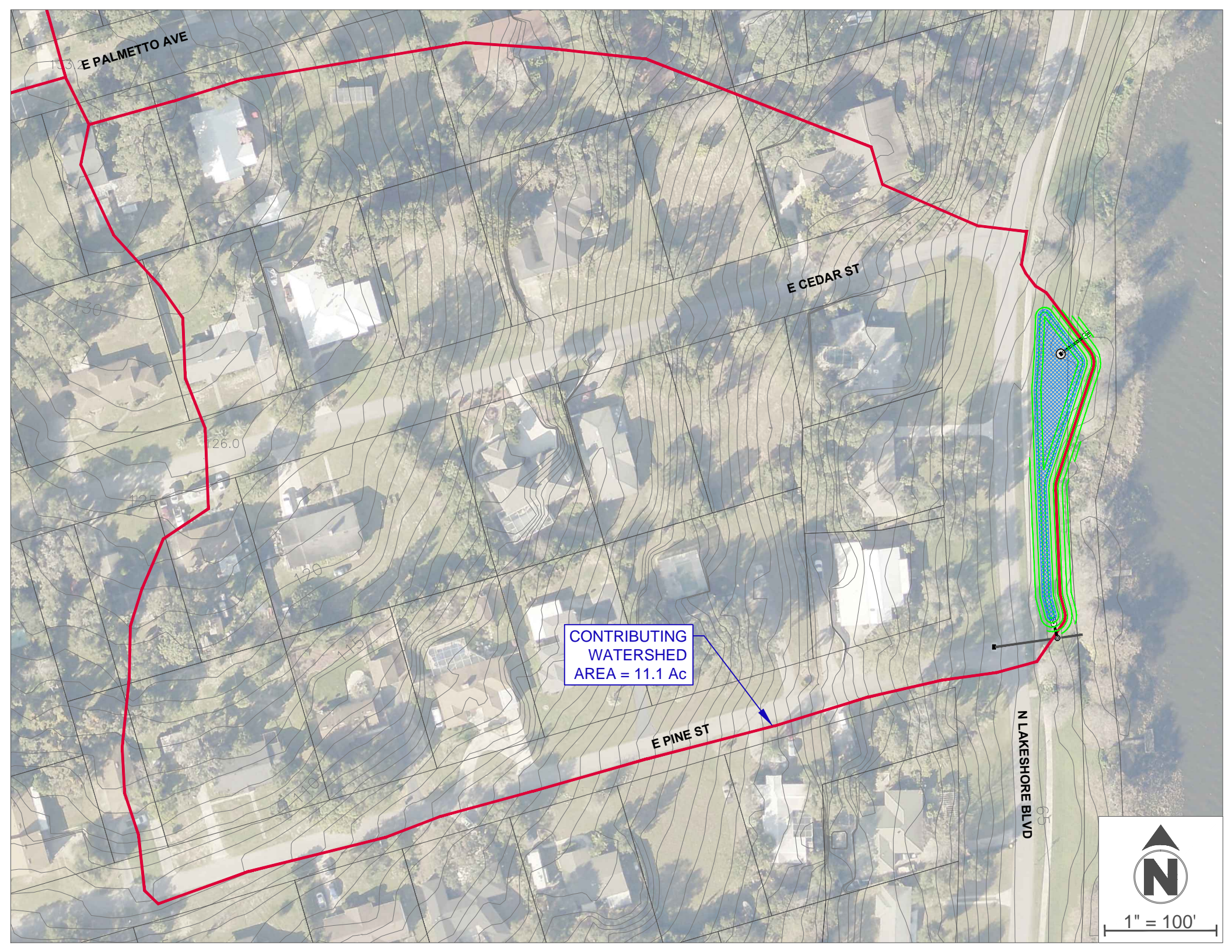
PROJECT
LOCATION

Lake Illinois

Lak



1" = 500'



E PALMETTO AVE

E CEDAR ST

CONTRIBUTING
WATERSHED
AREA = 11.1 Ac

E PINE ST

N LAKESHORE BLVD



1" = 100'

E CEDAR ST

PROP.
SHALLOW
RETENTION

PROP.
PIPE
& MES

PROP.
CDS 4045-8
OUTFALL

N LAKESHORE BLVD

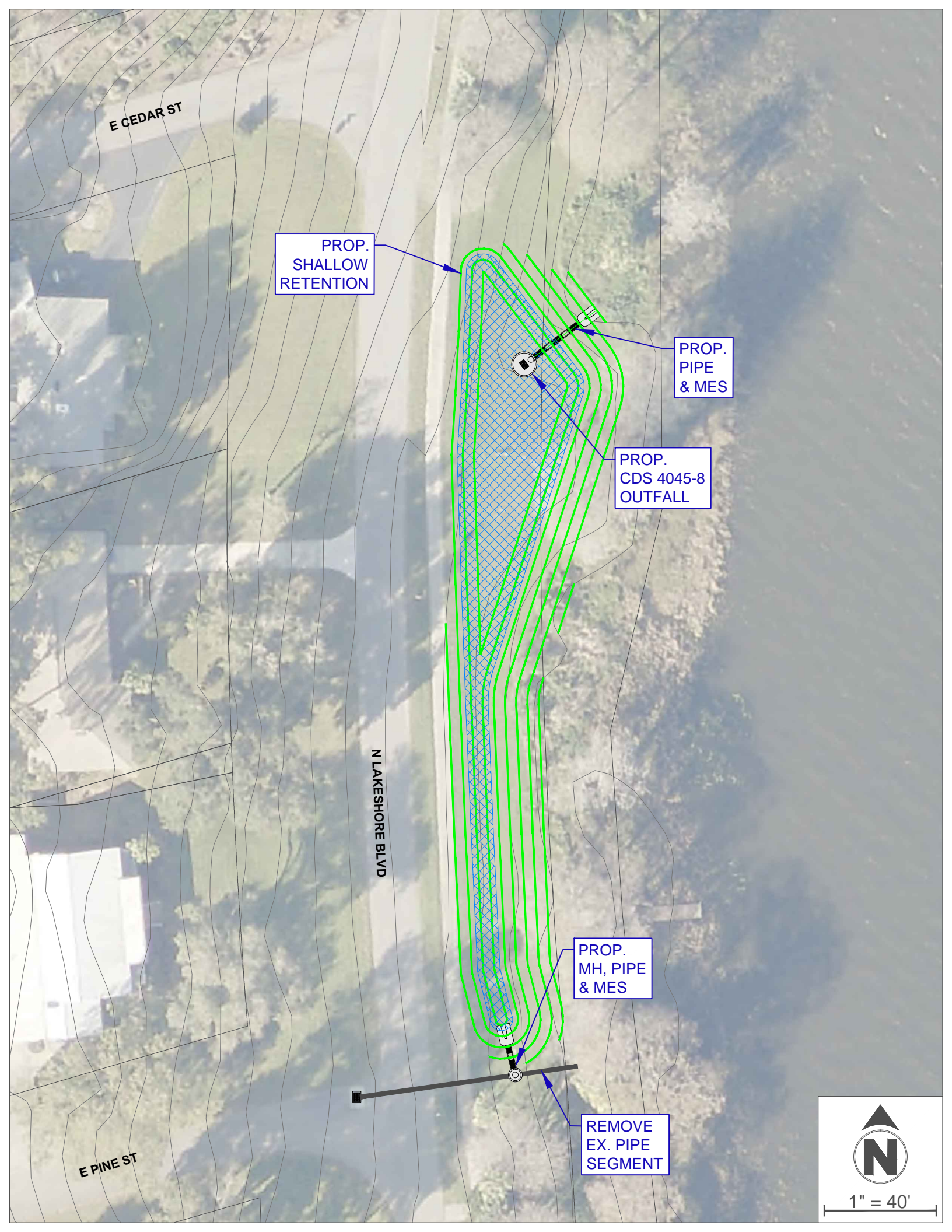
PROP.
MH, PIPE
& MES

REMOVE
EX. PIPE
SEGMENT

E PINE ST



1" = 40'



PONDS 3.3
Nitrogen and Phosphorus Loading Calculator
Version 3.3.115
Copyright 2008
Devo Seereeram, Ph.D., P.E.

Data Section 1: Project Data

Node Text: Howey-in-the-Hills
 Project Name: Howey Lakeside Capture - Phase 1
 Project Description: Shallow retention w/ CDS outflow
 Project Number:
 Engineer: DAG
 Supervising Engineer:
 Date: 12-15-2022

End Data Section 1

Data Section 2: Single Basin or Multibasin Pond

Node: Multibasin Pond
 Description: Lakeside Capture - Phase 1
 Analysis Type: Specified Reduction In Postdevelopment Nutrient Loading
 Pond Type: Dry Pond
 Analyze For: Nitrogen and Phosphorus

Climate Data:

Climate zone = 2 - Central Florida
 Average annual rainfall depth (inches) = 50

Postdevelopment Basins:

Postdevelopment Basin Input Parameters					
Basin	Basin ID	Basin Area (acres)	Curve Number	DCIA (%)	Land Use
1	Basin 1	11.04	57	0	Single-Family
Total		11.04	57	0	

Postdevelopment Basin Intermediate Parameters						
Basin	Nitrogen Conc. (mg/l)	Phosphorus Conc. (mg/l)	Runoff Coef.	Annual Runoff Volume (ac-ft/yr)	Annual Nitrogen Load (kg/yr)	Annual Phosphorus Load (kg/yr)
1	2.070	0.327	0.0252	1.1592	2.959794	0.4675617
Total	2.070	0.327	0.0252	1.1592	2.959794	0.4675617

Postdevelopment Non-Runoff Contributing Area (acres): 0.15
 Postdevelopment Total Area (acres): 11.19

PONDS 3.3
Nitrogen and Phosphorus Loading Calculator
Version 3.3.115
Copyright 2008
Devo Seereeram, Ph.D., P.E.

Efficiency:

Required Removal Efficiency (%) = 55

Dry Pond Design Requirements:

Required dry pond retention depth (inches) = 0.1427156

Required dry pond retention volume (ac-ft) = 0.1312983

Discharge Summary:

	Predevelopment	Postdevelopment
Annual Runoff Volume (ac-ft)	N.A.	1.1592
Annual Discharge Volume (ac-ft)	N.A.	0.5216399
Annual Mass of Discharged Nitrogen (kg/yr)	N.A.	1.331907
Annual Mass of Discharged Phosphorus (kg/yr)	N.A.	0.2104028
Nitrogen Concentration in Discharge (mg/l)	N.A.	2.070
Phosphorus Concentration in Discharge (mg/l)	N.A.	0.327

End Data Section 2

Hydrodynamic Separation Product Calculator

Howey Lakeside Capture - Phase 1

Lakeside Capture - Phase 1

CDS 4045-8

Project Information					
Project Name	Howey Lakeside Capture - Phase 1			Option #	A
Country	UNITED_STATES	State	Florida	City	Howey-in-the-Hills

Contact Information			
First Name	Donald	Last Name	Griffey
Company	Griffey Engineering, Inc.	Phone #	352-409-0640
Email	dag@griffeyengineering.com		

Design Criteria					
Site Designation	Lakeside Capture - Phase 1			Sizing Method	Net Annual
Screening Required?	Yes	Drainage Area (ac)	11.10	Peak Flow (cfs)	10.00
Groundwater Depth (ft)	0 - 5	Pipe Invert Depth (ft)	0 - 5	Bedrock Depth (ft)	>15
Multiple Inlets?	No	Grate Inlet Required?	Yes	Pipe Size (in)	18.00
Required Particle Size Distribution?	No	90° between two inlets?	N/A	180° between inlet and outlet?	No
Runoff Coefficient	0.60	Rainfall Station	41 - Orlando Airport, FL	TC (Min)	15

Treatment Selection					
Treatment Unit	CDS	System Model	4045-8		
Target Removal	80%	Particle Size Distribution (PSD)	125	Predicted Net Annual Removal	80.96%

Hydrodynamic Separation Product Calculator

Howey Lakeside Capture - Phase 1

Lakeside Capture - Phase 1

CDS 4045-8

CDS ESTIMATED NET ANNUAL SOLIDS LOAD REDUCTION BASED ON THE RATIONAL RAINFALL METHOD

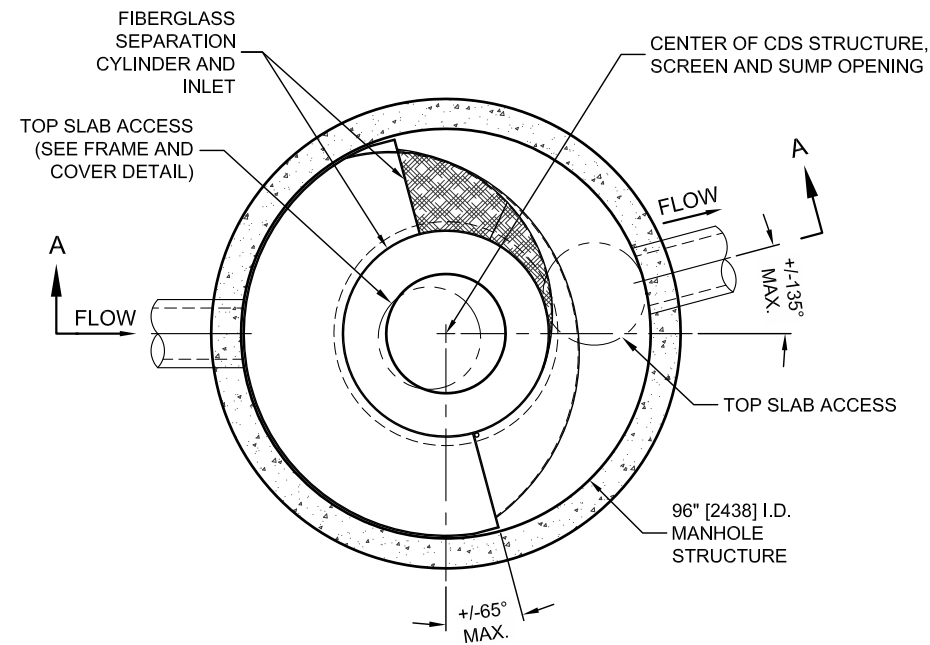
Rainfall Intensity ¹ (in/hr)	% Rainfall Volume ¹	Cumulative Rainfall Volume	Rainfall Volume Treated	Total Flowrate (cfs)	Treated Flowrate (cfs)	Operating Rate (%)	Removal Efficiency (%)	Incremental Removal (%)
0.0200	4.13%	4.13%	4.13%	0.1332	0.1332	1.78%	100.00%	4.13%
0.0400	4.27%	8.40%	4.27%	0.2664	0.2664	3.55%	100.00%	4.27%
0.0600	4.24%	12.64%	4.24%	0.3996	0.3996	5.33%	100.00%	4.24%
0.0800	3.16%	15.80%	3.16%	0.5328	0.5328	7.10%	99.99%	3.16%
0.1000	3.20%	19.00%	3.20%	0.6660	0.6660	8.88%	99.63%	3.19%
0.1200	2.63%	21.63%	2.63%	0.7992	0.7992	10.66%	99.28%	2.61%
0.1400	3.02%	24.65%	3.02%	0.9324	0.9324	12.43%	98.92%	2.99%
0.1600	3.05%	27.70%	3.05%	1.0656	1.0656	14.21%	98.57%	3.01%
0.1800	2.66%	30.36%	2.66%	1.1988	1.1988	15.98%	98.21%	2.61%
0.2000	2.42%	32.78%	2.42%	1.3320	1.3320	17.76%	97.86%	2.37%
0.2500	5.41%	38.19%	5.41%	1.6650	1.6650	22.20%	96.97%	5.25%
0.3000	4.98%	43.17%	4.98%	1.9980	1.9980	26.64%	96.08%	4.78%
0.3500	3.95%	47.12%	3.95%	2.3310	2.3310	31.08%	95.19%	3.76%
0.4000	4.86%	51.98%	4.86%	2.6640	2.6640	35.52%	94.30%	4.58%
0.4500	3.07%	55.05%	3.07%	2.9970	2.9970	39.96%	93.41%	2.87%
0.5000	4.65%	59.70%	4.65%	3.3300	3.3300	44.40%	92.53%	4.30%
0.7500	12.34%	72.04%	12.34%	4.9950	4.9950	66.60%	88.08%	10.87%
1.0000	10.62%	82.66%	10.62%	6.6600	6.6600	88.80%	83.64%	8.88%
1.5000	11.21%	93.87%	8.42%	9.9900	7.5000	100.00%	61.11%	6.85%
2.0000	4.77%	98.64%	2.69%	13.3200	7.5000	100.00%	45.83%	2.19%
2.5000	1.35%	99.99%	0.61%	16.6500	7.5000	100.00%	36.67%	0.50%
								87.41%
Removal Efficiency Adjustment ² =								6.45%
Predicted % Annual Rainfall Treated =								87.93%
Predicted Net Annual Load Removal Efficiency =								80.96%
1 - Based on 10 years of hourly precipitation data from NCDC station # 6628 , Orlando WSO McCoy, Orange County, FL								
2 - Reduction due to use of 60-minute data for a site that has a time of concentration less than 30-minutes.								

CDS4045-8-C DESIGN NOTES

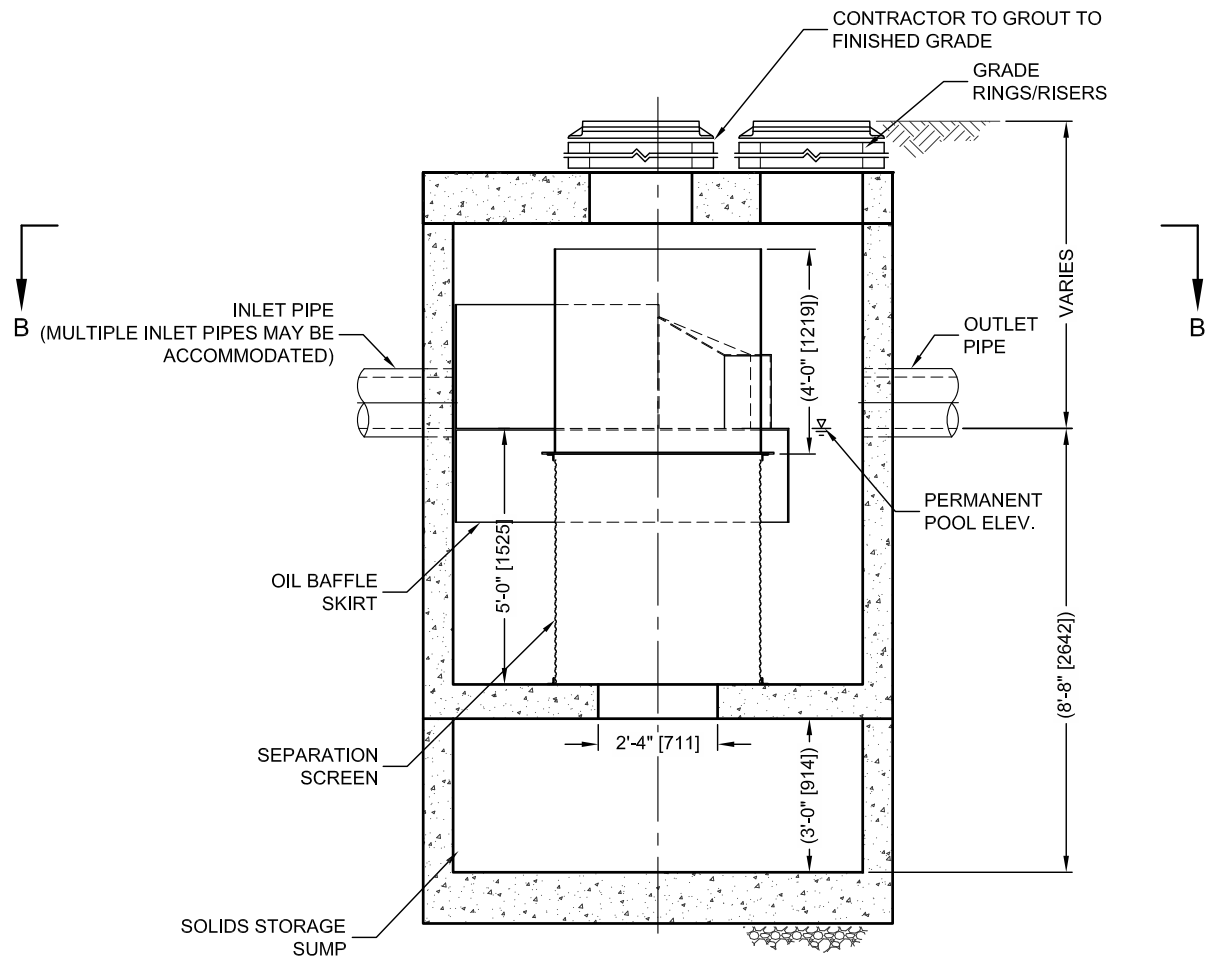
THE STANDARD CDS4045-8-C CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

CONFIGURATION DESCRIPTION

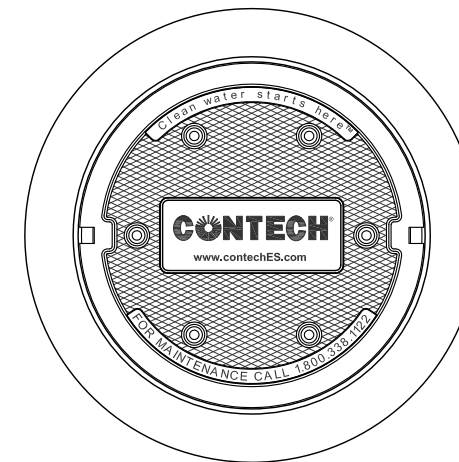
- GRATED INLET ONLY (NO INLET PIPE)
- GRATED INLET WITH INLET PIPE OR PIPES
- CURB INLET ONLY (NO INLET PIPE)
- CURB INLET WITH INLET PIPE OR PIPES
- SEPARATE OIL BAFFLE (SINGLE INLET PIPE REQUIRED FOR THIS CONFIGURATION)
- SEDIMENT WEIR FOR NJDEP / NJCAT CONFORMING UNITS



PLAN VIEW B-B
N.T.S.



ELEVATION A-A
N.T.S.



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID				
WATER QUALITY FLOW RATE (CFS OR L/s)				*
PEAK FLOW RATE (CFS OR L/s)				*
RETURN PERIOD OF PEAK FLOW (YRS)				*
SCREEN APERTURE (2400 OR 4700)				*
PIPE DATA:	I.E.	MATERIAL	DIAMETER	
INLET PIPE 1	*	*	*	
INLET PIPE 2	*	*	*	
OUTLET PIPE	*	*	*	
RIM ELEVATION				*
ANTI-FLOTATION BALLAST	WIDTH	HEIGHT		
	*	*		
NOTES/SPECIAL REQUIREMENTS:				
* PER ENGINEER OF RECORD				

GENERAL NOTES

1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH () ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.contechES.com
4. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
5. STRUCTURE SHALL MEET AASHTO HS20 AND CASTINGS SHALL MEET HS20 (AASHTO M 306) LOAD RATING, ASSUMING GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION.
6. PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.

INSTALLATION NOTES

- A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
- C. CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
- D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
- E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

CONTECH
ENGINEERED SOLUTIONS LLC

www.contechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CDS4045-8-C
INLINE CDS
STANDARD DETAIL

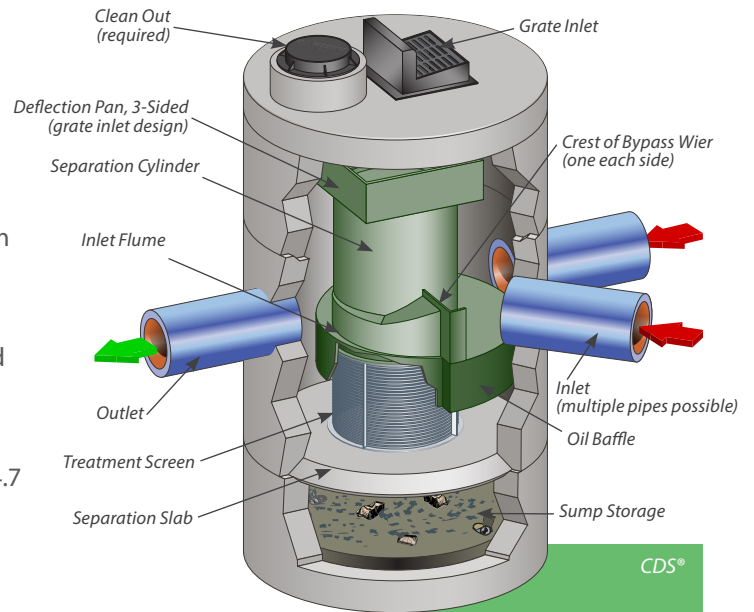
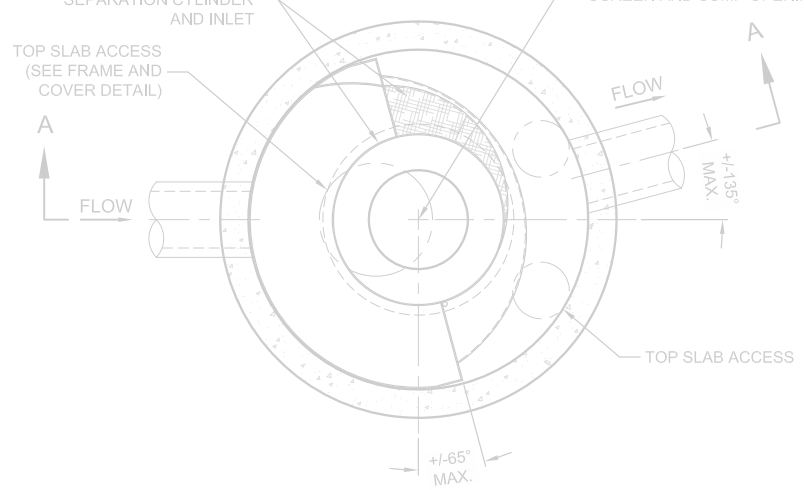


The CDS® System

Superior Trash Removal ...

The CDS is a hybrid technology that uses a combination of swirl concentration and indirect screening to separate and trap trash, debris, sediment, and hydrocarbons from stormwater runoff.

At the heart of the CDS system is a unique screening technology used to capture and retain trash and debris. The screen face is louvered so that it is smooth in the downstream direction. The effect created is called "Continuous Deflective Separation." The power of the incoming flow is harnessed to continually shear debris off the screen and to direct trash and sediment toward the center of the separation cylinder. This results in a screen that is self-cleaning and provides 100% removal of floatables and neutrally buoyant material debris 4.7 mm or larger, without blinding.



FEATURE	BENEFIT
Captures and retains 100% of floatables and neutrally buoyant debris 4.7 mm or larger	Superior trash removal
Self-cleaning screen	Ease of maintenance
Isolated storage sump eliminates scour potential	Excellent pollutant retention
Internal bypass	Eliminates the need for additional structures
Multiple pipe inlets and 90-180° angles	Design flexibility
Clear access to sump and stored pollutants	Fast, easy maintenance

Learn More:
www.ContechES.com/cds

SELECT CDS APPROVALS

- Washington Department of Ecology (GULD) – Pretreatment
- New Jersey Department of Environmental Protection Certification (NJDEP)
- Canadian Environmental Technology Verification (ETV)
- California Statewide Trash Amendments Full Capture System Certified*

* The CDS System has been certified by the California State Water Resources Control Board as a Full Capture System provided that it is sized to treat the peak flow rate from the region specific 1-year, 1-hour design storm, or the peak flow capacity of the corresponding storm drain, whichever is less.

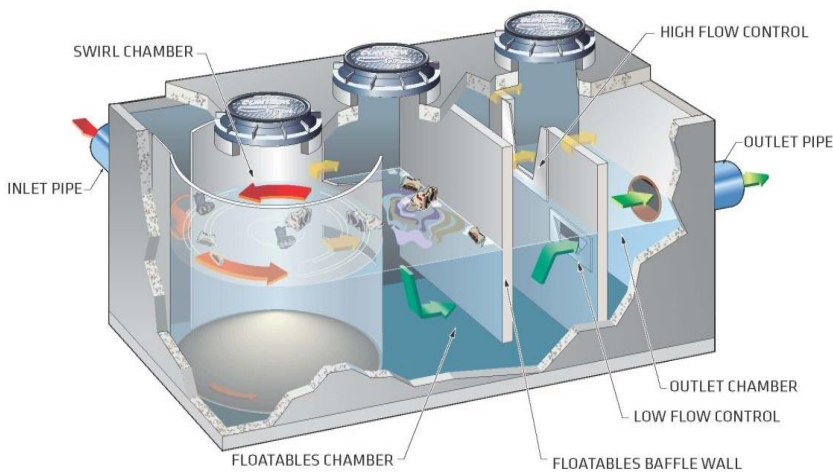
STORMWATER IMPROVEMENT PROGRAM

The Stormwater Improvement Program for the Town of Howey-in-the-Hills consists primarily of two types of system improvements, Lakeside Capture and Roadside Retrofit. These will reduce the pollutant load in the runoff from town roads, which will improve the quality of the stormwater flowing into the receiving water bodies.

LAKESIDE CAPTURE

This improvement measure is proposed for the area along the east side of Lakeshore Boulevard between the eastern edge of the sidewalk and the shoreline of Little Lake Harris. The project limits are from E. Laurel Avenue on the north end to E. Lakeview Avenue on the south end. This covers ten blocks along Lakeshore Blvd.

The project will be implemented on a block by block basis. The improvements will entail the construction of a linear swale between the sidewalk and the lake shore. The swale will intercept the road runoff and provide treatment through percolation. The swales will also convey the runoff to Water Quality Units (WQUs) which will capture sediment, trash and oils prior to discharge to Little Lake Harris. There will be one WQU installed per block. The exhibits below show a Vortech Continuous Deflective Separation WQU.



The table below details the typical unit cost for the Lakeside Capture improvements.

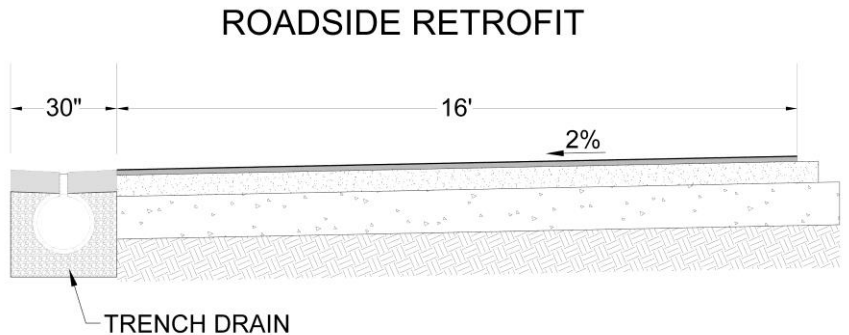
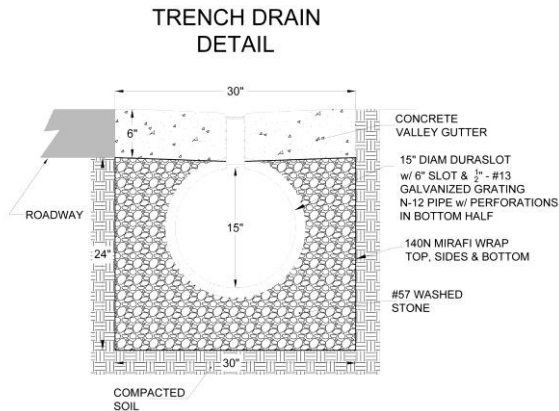
LAKESIDE CAPTURE - \$/BLOCK				
ITEM DESCRIPTION	UNIT	QNTY	UNIT COST	COST
SWALE - FINE GRADE AND SOD	SY	1,000	\$5	\$5,000
VORTECH CDS WQU	EA	1	\$85,000	\$85,000
			TOTAL	\$90,000

The next table shows the overall cost for the Lakeside Capture improvements.

LAKESIDE CAPTURE COSTS					
Basin	Road	Length (LF)	# Blocks	Unit Cost (\$/Block)	Cost (\$)
LITTLE LAKE HARRIS	N LAKESHORE BLVD	2,400	6	\$90,000	\$540,000
LITTLE LAKE HARRIS	S LAKESHORE BLVD	1,600	4	\$90,000	\$360,000
				TOTAL COST	\$900,000

ROADSIDE RETROFIT

This measure will be implemented in concert with the town’s road improvement program. Most of the local roads in the town are substandard and in poor shape. When the town rebuilds a road, the construction will include the installation of a trench drain exfiltration system. The storage volume in the exfiltration drain, exclusive of percolation, meets the volume criteria required in the state’s stormwater quality standards. This measure takes advantage of the sandy, well-draining soils throughout the town. It provides distributed, upstream capture using linear retention areas. The trench drains also will provide a controlled runoff conveyance system, reducing the potential for soil erosion. The exhibits below provide details of the proposed system.





The table below details the typical unit cost for the Roadside Retrofit improvements.

ROADSIDE RETROFIT - \$/LF				
ITEM DESCRIPTION	UNIT	QNTY	UNIT COST	COST
15" HDPE PIPE - SLOTTED DRAIN	LF	500	\$50	\$25,000
#57 WASHED STONE	CY	70	\$100	\$7,000
140N MIRAFI WRAP	SY	500	\$2	\$1,000
18"x18" CATCH BASIN	EA	3	\$1,500	\$4,500
30" VALLEY GUTTER	LF	500	\$125	\$62,500
TOTAL				\$100,000
COST/LF				\$200

The next table shows the overall cost for the Roadside Retrofit improvements.

ROADSIDE RETROFIT COSTS				
Basin	Road	Length (LF)	Unit Cost (\$/LF)	Cost (\$)
LITTLE LAKE HARRIS	MISSION LN	1,200	\$200	\$240,000
LITTLE LAKE HARRIS	CAMELLIA WAY	1,600	\$200	\$320,000
LITTLE LAKE HARRIS	ORCHID WAY	1,500	\$200	\$300,000
LITTLE LAKE HARRIS	CROTON WAY	1,600	\$200	\$320,000
LITTLE LAKE HARRIS	LAUREL AVE	1,300	\$200	\$260,000
P.A. K-11-8	LAUREL AVE	200	\$200	\$40,000
LITTLE LAKE HARRIS	MAGNOLIA AVE	1,100	\$200	\$220,000
P.A. K-11-8	MAGNOLIA AVE	700	\$200	\$140,000
P.A. K-11-7	MAGNOLIA AVE	800	\$200	\$160,000
LITTLE LAKE HARRIS	CYPRESS AVE	1,000	\$200	\$200,000
P.A. K-11-8	CYPRESS AVE	1,300	\$200	\$260,000
LITTLE LAKE HARRIS	HAMLIN AVE	1,000	\$200	\$200,000
LITTLE LAKE HARRIS	TEMPLE AVE	2,000	\$200	\$400,000
LITTLE LAKE HARRIS	VALENCIA AVE	1,000	\$200	\$200,000
LITTLE LAKE HARRIS	TANGERINE AVE	1,000	\$200	\$200,000
LITTLE LAKE HARRIS	PALMETTO AVE	1,200	\$200	\$240,000
P.A. K-11-8	PALMETTO AVE	300	\$200	\$60,000
LITTLE LAKE HARRIS	CEDAR ST	900	\$200	\$180,000
LITTLE LAKE HARRIS	PINE ST	1,200	\$200	\$240,000
LITTLE LAKE HARRIS	OAK ST	1,500	\$200	\$300,000
LITTLE LAKE HARRIS	DIXIE DR	2,900	\$200	\$580,000
P.A. K-11-8	DIXIE DR	900	\$200	\$180,000
LAKE ILLINOIS	DIXIE DR	500	\$200	\$100,000
LAKE ILLINOIS	GEORGIA AVE	600	\$200	\$120,000
LAKE ILLINOIS	DUPONT CIR	1,000	\$200	\$200,000
P.A. K-11-8	FLORIDA AVE	800	\$200	\$160,000
LAKE ILLINOIS	FLORIDA AVE	300	\$200	\$60,000
LITTLE LAKE HARRIS	FLORIDA AVE	900	\$200	\$180,000
HOLLAND LAKE	FLORIDA AVE	2,500	\$200	\$500,000
LITTLE LAKE HARRIS	HOLY ST	900	\$200	\$180,000
LITTLE LAKE HARRIS	MYRTLE ST	900	\$200	\$180,000
LITTLE LAKE HARRIS	GARDENIA ST	800	\$200	\$160,000
LITTLE LAKE HARRIS	LAKEVIEW AVE	1,100	\$200	\$220,000
HOLLAND LAKE	LAKEVIEW AVE	300	\$200	\$60,000
LITTLE LAKE HARRIS	OLEANDER AVE	500	\$200	\$100,000
HOLLAND LAKE	OLEANDER AVE	200	\$200	\$40,000
TOTAL LENGTH (LF)		37,500	TOTAL COST	\$7,500,000