

Storm Water Quality Structural Control Bond in the amount of: **\$19,000.00** must be submitted to our office prior to any construction

NOTICE
Please notify our inspector at least 48 hours before starting construction by calling (832) 394-9108



CITY OF HOUSTON

Storm Water Quality (SWQ) Permit Application

- NEW PERMIT (\$385.37)
 - RENEWAL (\$207.47)
 - AMENDMENT (\$207.47)
- 2020 FEES

ILMS# 220 23057

Project Name: Highland Enclave
 HCAD Account #: 0162630000024 SWQ Permit #: 2022-0059
 Date of this application: 02/08/22 Date of current permit expiration: _____
 Site location or address: 9116 West Montgomery Road, Houston, Texas 77088
 Site Acreage: 2.1777 SWQ Structural Control: BaySaver Barracuda S4
 Provide the latitude and longitude of the SWQ structural control
 Latitude (Deg/Min/Sec): (29°) (52') (35.8") Longitude (Deg/Min/Sec): (95°) (26') (33.3")
OWNER'S NAME: Community Development Group, LLC Phone #: (713) 826-7057
 Email: laurachiesara@cdg-homes.com Fax #: _____
 Address: 4919 Lochman Lane, Pearland, Texas 77584
CONTACT'S NAME (IF DIFFERENT THAN OWNER): Laura Elena Chiesara, Co-Director
 Email: _____ Phone #: _____
 Address: _____

Submitted with this application:

- Fee(s)
- SWQMP Engineer's Certification
- SWQMP Owner's Affidavit – Original Certification
- SWQMP Owner's Affidavit – Annual Renewal
- Other/Notes: _____
- SWQMP Post Construction Certification – Original Certification
- SWQMP Post Construction Certification – Annual Renewal
- SWQMP Manual
- Inspection documents (pictures, manifest, etc)

Notice: This application is required by Article XII, Chapter 47 of the City Code of Ordinances governing Storm Water Discharges. The applicant hereby agrees to comply with the Code of Ordinances which includes the following conditions:

- This permit expires on the expiration date indicated and must be renewed annually.
- The SWQ permittee shall submit a renewal application and the applicable renewal fee not more than 30 days but not less than five days prior to expiration. Failure to renew the permit may result in enforcement action.
- The attached Owner's Affidavit certifies that the owner has read the maintenance and operation requirements of the Storm Water Quality Management Plan (SWQMP) and agrees to follow the requirements of the plan.
- This permit shall be amended if there is a change in ownership. Amendment shall be submitted within ten days after any such transfer to a subsequent owner or to a third-party permittee.
- The obligation to have and comply with a SWQ permit shall continue in perpetuity and shall run with all the land covered by the original SWQ permit.

The City may revoke this permit if the City Engineer determines that any information on this application is false. This SWQ permit is effective upon signature by the City's Storm Water Quality Engineer, or his/her authorized representative.

Laura Chiesara
 Owner's Signature

02/11/22
 Date



CITY USE ONLY	
<i>Permit Issuance</i>	
Permit #:	<u>2022-0059</u>
Renewal #:	_____
New Effective Date:	<u>03-24-2022</u>
Next Permit Expiration Date:	<u>03-24-2023</u>
<i>[Signature]</i> Storm Water Quality Engineer	<u>03-24-2022</u> Date

City of Houston
 Storm Water Quality Permit
ISSUED
RENEWED
AMENDED

SWQMP Post Construction Certification - Original Certification form must be submitted when the storm water quality structural control has been installed

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
Construction General Permit (CGP) coverage is required



CITY OF HOUSTON

Storm Water Quality
(SWQ) Permit Application

NEW PERMIT (\$385.37)
 RENEWAL (\$207.47)
 AMENDMENT (\$207.47)
2020 FEES

Project Name: _____

HCAD Account #: _____ SWQ Permit #: _____

Date of this application: _____ Date of current permit expiration: _____

Site location or address: _____

Site Acreage: _____ SWQ Structural Control: _____

Provide the latitude and longitude of the SWQ structural control

Latitude (Deg/Min/Sec): () () () Longitude (Deg/Min/Sec): () () ()

OWNER'S NAME: _____ Phone #: _____

Email: _____ Fax #: _____

Address: _____

CONTACT'S NAME (IF DIFFERENT THAN OWNER): _____

Email: _____ Phone #: _____

Address: _____

Submitted with this application:

- Fee(s)
- SWQMP Engineer's Certification
- SWQMP Owner's Affidavit – Original Certification
- SWQMP Owner's Affidavit – Annual Renewal
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- SWQMP Post Construction Certification – Original Certification
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3. The attached Owner's Affidavit certifies that the owner has read the maintenance and operation requirements of the Storm Water Quality Management Plan (SWQMP) and agrees to follow the requirements of the plan.
4. This permit shall be amended if there is a change in ownership. Amendment shall be submitted within ten days after any such transfer to a subsequent owner or to a third-party permittee.
5. The obligation to have and comply with a SWQ permit shall continue in perpetuity and shall run with all the land covered by the original SWQ permit.

The City may revoke this permit if the City Engineer determines that any information on this application is false. This SWQ permit is effective upon signature by the City's Storm Water Quality Engineer, or his/her authorized representative.

Owner's Signature

Date

CITY USE ONLY
Permit Issuance

Permit #: _____

Renewal #: _____

New Effective Date: _____

Next Permit Expiration Date: _____

Storm Water Quality Engineer

Date



CITY OF HOUSTON

Houston Public Works Department / Houston Permitting Center Division
Office of the City Engineer Branch / Engineering Services Section
Storm Water Quality Group

Storm Water Quality – New Permit Application Check List

Storm Water Quality – New Permit Application Check List			
Project Name:		ILMS #:	
Engineer/Contact:			
Project Acreage:		SWQ Feature:	
COH Reviewer:		Review Date:	
\$370.59 new permit application fee	<input type="checkbox"/> Yes	Comments:	
<i>SWQMP Permit Application</i> * (signed by owner)	<input type="checkbox"/> Yes	Comments:	
<i>SWQMP Owner's Affidavit – Original Certification</i> * (signed by owner and notarized)	<input type="checkbox"/> Yes	Comments:	
<i>SWQMP Engineer's Certification</i> *	<input type="checkbox"/> Yes	Comments:	
Executive Summary (one page summary of the SWQMP)	<input type="checkbox"/> Yes	Comments:	
Signed and sealed SWQMP Cover Page	<input type="checkbox"/> Yes	Comments:	
Vicinity map	<input type="checkbox"/> Yes	Comments:	
Engineering drawings consisting of			
• Drainage plans	<input type="checkbox"/> Yes	Comments:	
• Grading plans	<input type="checkbox"/> Yes	Comments:	
• Detail connection with existing storm system	<input type="checkbox"/> Yes	Comments:	
• SWPPP drawing	<input type="checkbox"/> Yes	Comments:	
• SWPPP detail	<input type="checkbox"/> Yes	Comments:	
Non-structural BMP/control	<input type="checkbox"/> Yes	Comments:	
Structural BMP/control	<input type="checkbox"/> Yes	Comments:	
Non-structural maintenance	<input type="checkbox"/> Yes	Comments:	
Structural maintenance	<input type="checkbox"/> Yes	Comments:	
Non-structural inspection	<input type="checkbox"/> Yes	Comments:	
Structural inspection	<input type="checkbox"/> Yes	Comments:	
Inspection form(s)	<input type="checkbox"/> Yes	Comments:	
<i>Notice of SWQ Requirements</i> *	<input type="checkbox"/> Yes	Comments:	
Exhibit A (metes and bounds)	<input type="checkbox"/> Yes	Comments:	
Both recorded together with Harris County Clerk	<input type="checkbox"/> Yes	Comments:	
Storm Water Drainage (Availability) Letter	<input type="checkbox"/> Yes	Comments:	
Manufacturer specs of the SWQ device	<input type="checkbox"/> Yes	Comments:	
Sizing calculations	<input type="checkbox"/> Yes	Comments:	
Cost estimate for SWQ device (including installation)	<input type="checkbox"/> Yes	Comments:	
Original <i>SWQ Structural Control Bond</i> * or letter from owner that bond will be provided before construction	<input type="checkbox"/> Yes	Comments:	
Blank COH forms for post-construction & renewals *	<input type="checkbox"/> Yes	Comments:	
PDF of SWQMP after all deficiencies are addressed	<input type="checkbox"/> Yes	Comments:	
Additional notes:			

*COH forms can be downloaded from <http://edocs.publicworks.houstontx.gov/engineering-and-construction/storm-water-quality-forms.html>

CITY OF HOUSTON

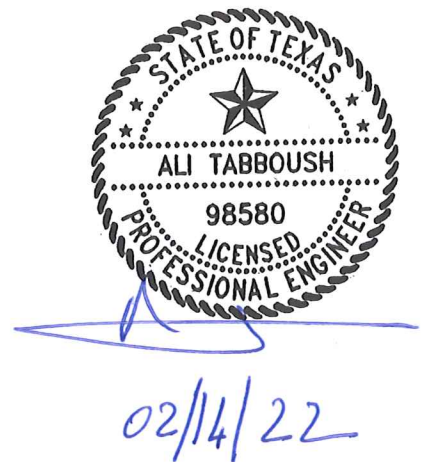
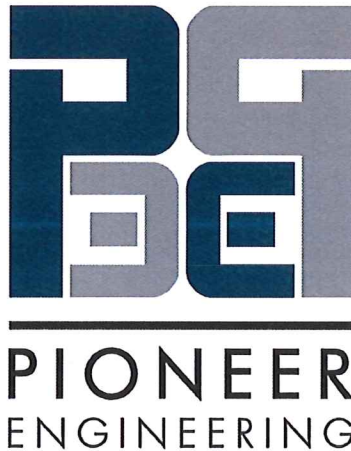
**STORM WATER QUALITY
MANAGEMENT PLAN
SWQMP**

FOR

**COMMUNITY DEVELOPMENT GROUP, LLC
PROPOSED TOWNHOME DEVELOPMENT
HIGHLAND ENCLAVE**

Prepared by:

**Pioneer Engineering, LLC
7050 East Freeway, Suite 1A
Houston, Texas 77020
(832) 307-0010**



FEBRUARY 08, 2021

Table of Contents

1	Site Description	3
1.1	Site location.....	3
1.2	Owner and contact information	3
1.3	New Development Description	3
1.4	Nature of activities.....	3
1.5	Site area and total area affected by development.....	4
1.6	Site and Vicinity Maps and Associated Information.....	4
1.6.1	Vicinity Map	4
1.6.2	Area of Development and Drainage Areas	5
1.6.3	Potential Pollutant Activities.....	5
1.6.4	Non-structural and Structural Controls.....	5
1.6.5	Storm Water Discharge Locations	6
2	Controls.....	6
2.1	A. Non-Structural Controls	6
2.1.1	Waste Materials.....	6
2.2	Structural Controls	7
2.2.1	BaySaver Barracuda S4	7
2.3	Non-structural controls	7
2.4	Maintenance for structural controls	8
3	Inspections.....	8
3.1	Non-structural controls	8
3.2	Structural Controls	9
3.3	Annual Inspection Report.....	9

Project Information:

9116 West Montgomery Road
Houston, Texas 77088

Permittee Information:

Community Development Group, LLC
Laura Chiesara
4919 Lochman Lane
Pearland, Texas 77584

1 Site Description

This Storm Water Quality Management Plan (SWQMP) functions as a mitigation plan for the potential impacts of pollution from storm water discharge from the normal operating activities of the site for the life of the development. This plan will contain a site description, planned controls and procedures for maintenance and inspection.

1.1 Site location

The project is located inside the City of Houston limits. The address of the property is 9116 West Montgomery Road, Houston, Texas 77088 (see figure 1). Being 2.1777 acres (94,861 SF) of land, being a Replat of Lots 24 and 25, in Block 1 of Highland Acre Homes, an addition in Harris County, Texas.

Latitude 29°52'35.8" N and Longitude 95°26'33.3" W.

1.2 Owner and contact information

Owner(s)	Address
Community Development Group, LLC	4919 Lochman Lane Pearland, Texas 77584
Contact	
Laura Chiesara Co-Director	Phone: (281) 501-9001 Email: laurachiesara@cdg-homes.com

1.3 New Development Description

The project consists of a twenty-eight (28) townhome development that will include the construction of underground utilities, landscaping, and required parking spaces.

1.4 Nature of activities

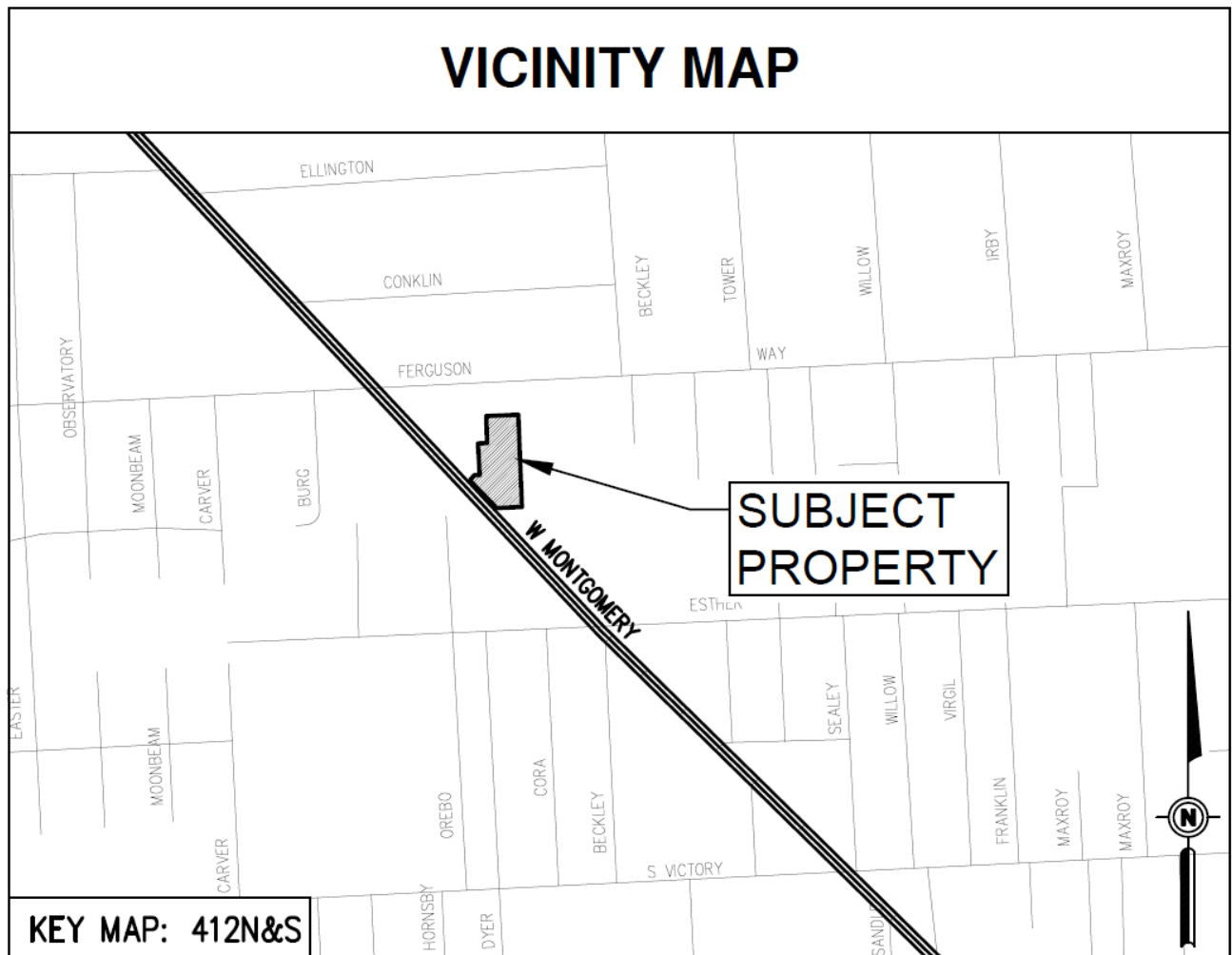
The development is for residential use (SIC code 1521: General Contractors-Single-Family Houses). All activities associated with this development are typical to residential households: landscaping and house maintenance and residential waste disposal. Sanitary waste is transferred via sanitary sewer lines to City of Houston's system. Compared to existing site conditions, there is going to be an increase of the impervious cover after development, meaning that on-site detention is required.

1.5 Site area and total area affected by development

	Area (acres)
Site area	2.1777
Area affected by development	2.1777
Receiving water body	Vogel Creek
Unit	E121-00-00
Watershed	White Oak Bayou

1.6 Site and Vicinity Maps and Associated Information

1.6.1 Vicinity Map



Site is located between Ferguson Way and Esther Drive.

1.6.2 Area of Development and Drainage Areas

See attached sheet C4 for:

- Areas of development.
- Areas not to be developed.
- Drainage areas and their acreage
- Wetlands and surface waters.
- Locations and listing of activities which may generate pollutants and potential discharge, including hazardous materials treatment, storage or disposal facilities, parking areas, loading areas, etc.
- Locations and listing of structural controls, and non-structural controls as applicable, that are identified in the plan.
- Locations where storm water is discharged to the MS4 and the name of the MS4 operator.

1.6.3 Potential Pollutant Activities

All activities associated with this development are typical to residential living: landscaping and house maintenance and residential waste disposal. These activities will be located in the vicinity of each house.

1.6.4 Non-structural and Structural Controls

Non-structural controls for storm water quality in this development will include:

- a) Litter Control. Consistent removal of litter from developed areas before runoff or wind moves these materials to receiving waters.
- b) Cleaning & Maintenance. Consistent cleaning of oil spill and other liquid pollutants from vehicle parking areas to reduce pollutants in receiving waters.
- c) Landscaping. Lawn care and landscaping practices using native, low maintenance species, where feasible, to reduce water and fertilization. Grass clippings will not be swept or blown into storm sewers or interceptors.
- d) Chemicals. Proper applications of fertilizers and pesticides will be used to minimize the potential of storm water pollution.

The storm water quality structural control for this development is comprised of the Storm Water Quality Unit located at the point of discharge into COH (MS4) storm sewer system.

1.6.5 Storm Water Discharge Locations

Storm water discharges into various storm sewer inlets in the residential area of the development. The storm sewer outfalls through the storm water quality unit and then to an existing 24" storm sewer pipe along West Montgomery. Storm sewer flows southeastern for approximately 3700' towards the intersection of W. Montgomery and Ferguson Way, upsizing to an 84" along the way. Storm sewer then flows western along Ferguson for approximately 700' towards Carver Road. Storm sewer flows southern along Carver for approximately 2580' towards Victory Drive. Storm sewer then upsizes to a 108" pipe and flows western 2800' outfalls into a Harris County Off-Road ditch. Off-Road ditch flows southwestern for approximately 5400' and finally outfalls into Vogel Creek.

The MS4 operator is ***the City of Houston***. All storm sewer inlets and outfall are identified in Sheet C4.

2 Controls

2.1 A. Non-Structural Controls

2.1.1 Waste Materials

Property Owner will be given information on proper handling of solid waste. Solid waste materials should be stored in a trashcan with a functional lid or kept under cover. The trashcans are placed on the curbside twice a week for pickup by a licensed waste management provider where it will be taken to an approved landfill for disposal.

2.1.2 Hazardous Waste

Homeowners will be given information on proper storage and disposal of household hazardous materials.

2.1.3 Sanitary Waste

All residential homes in the subdivision are connected to a sanitary sewer that drains to COH treatment facilities.

2.1.4 Landscaping Practices / Fertilizer and Pesticide Practices

Homeowners will be responsible for maintaining their private property; however, good management practices for lawn and garden will be provided to educate residence on pollutant reducing practices and alternatives.

2.2 Structural Controls

2.2.1 BaySaver Barracuda S4

The storm water quality structural control for this development is comprised of one (1) BaySaver Barracuda S4 located at the point of discharge into COH (MS4) storm sewer system.

See Appendix B – Documentation for “Maintenance Guide.”

The BaySaver Barracuda S4 Stormwater Separator Operation Overview:

The Barracuda is a high-performance, vortex hydrodynamic separator designed to remove at least 80 percent of TSS while capable of carrying 100 percent of the design peak flow in multiple configurations.

3 Maintenance

3.1 Non-structural controls

The main maintenance activities are described below.

- a) A lawn maintenance company will perform regular lawn and detention pond maintenance, including removal of clippings and parking lot debris. Typically, this will be every week in warmer months and every two to three weeks in cooler months.
- b) The perimeter of the site will be inspected at least once weekly for windblown debris.
- c) Dumpster Trash will be picked up on a weekly schedule including cleaning of dumpster area.
- d) Any oil or chemical related spills will be cleaned up immediately and disposed of per local, county and TCEQ regulations.

3.2 Maintenance for structural controls

See Appendix B – Documentation for “Maintenance Guide.”

The following is a list of erosion and sediment controls to be used on this project.

Stabilization Practices

- a. Stabilization of construction access and parking areas.
- b. Hydro-mulch seeding.
- c. Textured soil surfaces on newly graded lots to reduce sheet flow and improve surface water impoundment.
- d. Landscaping provided for individual lots upon completion of building construction.

Structural Practices

- a. Filter fabric fences.
- b. Filter fabric barriers around inlets.
- c. Storm sewers.

To maintain the above practices, the following will be performed:

1. Maintenance and repairs will be conducted within 24 hours of inspection report (see Section 8.0 below) to maintain the effectiveness of the Best Management Practice (BMP). Note that this includes maintenance following all storm events of 0.5 inch or greater.
2. Sediment will be removed from behind the sediment fences when it becomes about 1/3 the height of the fence.

4 **Inspections**

4.1 Non-structural controls

Visual inspections of the residential area will be performed by neighbor, named by the homeowner association). An inspection form will be filled out by the person(s) performing the inspection and filed at place to be determined by HOA. The form will include the inspector’s name, address, and qualifications. The residential area will be inspected for the following:

- a. Proper litter control (e.g., trash receptacles have secure lids or under cover).
- b. Proper landscaping, fertilizer, and pesticide practices.

The inspector will note the date that any maintenance or repairs have been performed since the last inspection. Blank inspection checklists can be found in *Appendix B*. He will also be responsible for following up on residents’ complaints, which are pertinent to the SWQMP. Public education will continue to be provided to residents on proper waste and household hazardous materials storage and disposal, landscaping practices, and fertilizer and pesticide practices.

4.2 Structural Controls

See Appendix B – Documentation for “Maintenance Guide.”

4.3 Annual Inspection Report

Annual inspections of the residential area will be performed by HOA’s designee. An inspection report will be written and filed. The report will be written to assess the effectiveness of all current control measures, non-structural and structural, and identify any changes that need to be made to the SWQMP to better control pollutants. The report will include the following information:

- a. Inspector’s name, address, and qualifications.
- b. Status of proper litter control (trash receptacles have secure lids or under cover)
- c. Status of proper landscaping, fertilizer, and pesticide practices
- d. Status of public education practices based on documentation and attached materials (e.g., brochures, flyers, etc.)
- e. Status of the basin for litter, debris, vegetation needs, integrity of any structural components, erosion problems, and sediment accumulation.
- f. Whether the current BMPs, non-structural and structural, are effectively controlling floatables, suspended solids, and other pollutants.
- g. The date that any maintenance or repairs were performed since the last annual inspection, whether there is any standing water in the basin, the amount of rain produced in the last rainfall event, and the period of time since that event.

As a pre-requisite for the permittee’s annual renewal of the Storm Water Quality Permit, the structural storm water quality control feature will be inspected by a Professional Engineer, licensed in the state of Texas, who will certify that the controls conform to the plans and technical specifications contained in the approved civil engineering drawings and the Storm Water Quality Management Plan on file with the COH. The Annual Professional Engineer Inspection Certification form can be found in Appendix B.

As a pre-requisite for the permittee’s annual renewal of the Storm Water Quality Permit, the permittee/operator will complete the Annual Permittee Certification of Proper Maintenance for Permit Renewal form. The Annual Permittee Certification of Proper Maintenance for Permit Renewal form can be found in Appendix B.

References

City of Houston-Harris County-Harris County Flood Control District, STORM WATER QUALITY MANAGEMENT GUIDANCE MANUAL, 2001 Edition.

APPENDIX A – FORMS

- Owner Affidavit (Original Certificate)
- Owner Affidavit (Annual Renewal)
- Post-Construction Certification (Original Certification)
- Post-Construction Certification (Annual Renewal)
- Engineer's Certification
- Certificate of Storm Water Quality Management Requirements
- Notice of Storm Water Quality Requirements
- Legal Description
- Structural Control Bond



CITY OF HOUSTON
 Storm Water Quality Management Plan
 Owner's Affidavit – Original Certification

I, Laura Elena Chiesara, acting as Co-Director for Community Development Group, LLC, have read the Storm Water Quality Management Plan and associated drawings and agree to implement the requirements described therein for the property known as: "Highland Enclave".

Owner's Name: Laura Elena Chiesara
 Address: 4919 Lochman Lane
 City: Pearland State: Texas Zip: 77584
 Phone Number: (713)826-7057 Fax Number: _____
 E-mail, (if available): laurachiesara@cdg-homes.com

Owner's Signature: *[Signature]* Date: 02/11/22

State of Texas §
 County of Harris §

Before me, a notary public, on this day personally appeared Laura Elena Chiesara known to me (or proved to me on the oath of TX DL) to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he/she executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office this 11 day of February, 2022.

Notary Public Signature & Seal: *[Signature]*

Permit #: _____
 Project Name: Highland Enclave
 Project Description: Proposed Townhome Development
 Project Location: 9116 West Montgomery Road, Houston, Texas 77088

Once executed, please return the original affidavit and Engineer's Certification – Original Certification, along with your original SWQMP, to:

City of Houston
 Department of Public Works and Engineering
 Storm Water Quality Engineer
 1002 Washington Ave., 2nd Floor
 Houston, Texas 77002



CITY OF HOUSTON

Storm Water Quality Management Plan
Owner's Affidavit – Annual Renewal

I, Laura Elena Chiesara _____, acting as Owner or authorized agent for the Owner _____ of _____ the _____ property _____ known as: " _____ ", recorded with Storm Water Quality Permit # _____, have implemented from _____ _____, 20__ the Storm Water Quality Management Plan for this property and agree to continue implementing the requirements described therein for the next year.

Owner's Name: Laura Elena Chiesara _____

Authorized Agent's Name (if applicable): _____

Address: 4919 Lochman Lane _____

City: Pearland _____ State: Texas _____ Zip: 77584 _____

Phone Number: (713)826-7057 _____ Fax Number: _____

E-mail, (if available): laurachiesara@cdg-homes.com _____

Signature: _____ Date: _____

State of _____ §

County of _____ §

Before me, a notary public, on this day personally appeared Laura Elena Chiesara known to me (or proved to me on the oath of _____) to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he/she executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office this _____ day of _____, _____.

Notary Public Signature & Seal _____

Permit #: _____

Project Name: _____

Project Description: Proposed Townhome Development _____

Project Location: 9116 West Montgomery Road, Houston, Texas 77088 _____

Once executed, please return the original affidavit and Engineer's Certification – Annual Certification, along with your original SWQ renewal application, to:

City of Houston
Department of Public Works and Engineering
Storm Water Quality Engineer
1002 Washington Ave., 2nd Floor
Houston, Texas 77002



CITY OF HOUSTON

Storm Water Quality Management Plan Post Construction Certification – Original Certification

I, _____, a Professional Engineer duly licensed to practice in the State of Texas do hereby certify that the structural components recorded with Storm Water Quality Permit # _____ appear to still be constructed and in place as originally designed for the Storm Water Quality Management Plan of the property known as:

“ _____ ”.

Name: _____

Affiliation: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone Number: _____ Fax Number: _____

E-mail, (if available): _____

Engineer's Seal and Signature: _____

Date: _____

Permit #: _____

Project Name: _____

Project Description: Proposed Townhome Development

Project Location: 9116 West Montgomery Road, Houston, Texas 77088

Once executed, please return the original certification to:

City of Houston
Department of Public Works and Engineering
Storm Water Quality Engineer
1002 Washington Ave., 2nd Floor
Houston, Texas 77002



CITY OF HOUSTON

Storm Water Quality Management Plan Post Construction Certification – Annual Renewal

I, _____, a Professional Engineer duly licensed to practice in the State of Texas do hereby certify that the structural components recorded with Storm Water Quality Permit # _____ appear to still be constructed and in place as originally designed and still perform as per the Storm Water Quality Management Plan of the property known as:

“ _____ ”.

Name: _____

Affiliation: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone Number: _____ Fax Number: _____

E-mail, (if available): _____

Engineer's Seal and Signature: _____

Date: _____

Permit #: _____

Project Name: _____

Project Description: Proposed Townhome Development

Project Location: 9116 West Montgomery Road, Houston, Texas 77088

Once executed, please return the original certification, along with your original SWQ renewal application, to:

City of Houston
Department of Public Works and Engineering
Storm Water Quality Engineer
1002 Washington Ave., 2nd Floor
Houston, Texas 77002



CITY OF HOUSTON
 Storm Water Quality Management Plan
 Engineer's Certification

I, Ali Tabboush, a Professional Engineer duly licensed to practice in the State of Texas do hereby certify that the information presented in this document was prepared under my direction and supervision and complies with the *City of Houston, Texas Ordinance No. 2001-800, codified in Chapter 47, Code of Ordinance, City of Houston*, and *Storm Water Quality Management Guidance Manual*. Any parts of design/sizing of the permanent storm water quality feature(s) that do not meet current minimum design criteria contained within the Ordinance and Manual are noted below.

(Describe any exceptions to the criteria here.)

Printed Name: Ali Tabboush

Affiliation: Pioneer Engineering, LLC

Address: 7050 East Freeway, Suite 1A

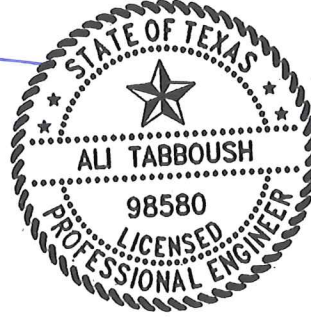
City: Houston State: Texas Zip: 77020

Phone Number: (832) 307-0010 Fax Number: _____

E-mail Address (if available): ali@pioneerengineer.com

Engineer's Seal and Signature: 

Date: 02/14/22



Permit #: _____

Project Name: Highland Enclave

Project Description: Proposed Townhome Development

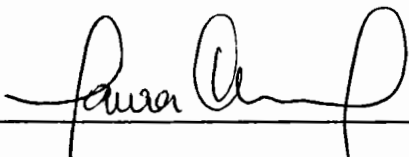
Project Location: 9116 West Montgomery Road, Houston, Texas 77088

Once executed, please return the original certification to:

City of Houston
 Department of Public Works and Engineering
 Storm Water Quality Engineer
 1002 Washington Ave., 2nd Floor
 Houston, Texas 77002

PERMITTEE CERTIFICATION OF STORM WATER
QUALITY MANAGEMENT REQUIREMENTS

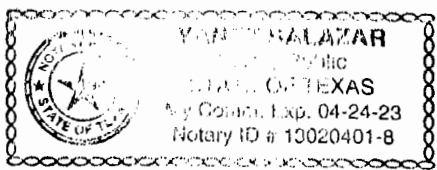
I, Laura Elena Chiesara acting as Co-Director for Community Development Group, LLC, Permittee, certify under penalty of law that the proposed development is subject to storm water quality requirements. It is my duty to see that all storm water quality features be placed in accordance with construction drawings approved by City of Houston. Once storm water quality features are in place, it is my responsibility that all features be inspected either yearly or at the frequency outlined in the Storm Water Quality Management Plan for Highland Enclave. Also, all storm water quality features will be maintained in accordance with the above-mentioned report for the property known as Highland Enclave at 9116 West Montgomery Road, Houston, Texas 77088.

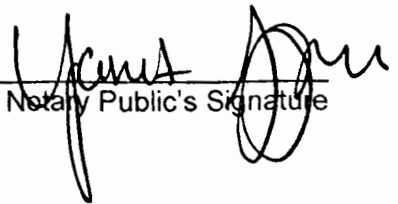
Signature: 
Printed Name: Laura Elena Chiesara
Permittee's Name: Community Development Group, LLC
Address: 4919 Lochman Lane
Pearland, Texas 77584
Phone Number: (713)826-7057

Date: 02/11/22

State of Texas
County of Harris

Before me, a notary on this day personally appeared Laura Elena Chiesara known to me to be the person whose name is subscribed to foregoing instrument and acknowledged to me that he/she executed the same for the purposes and consideration therein expressed.
Given under my hand and seal of office this 11 day of February, 2022.




Notary Public's Signature

**NOTICE OF
STORM WATER QUALITY REQUIREMENTS**

STATE OF TEXAS §
 § Know All Men by these Presents:
COUNTY OF HARRIS §

- 1. Laura Chiesara - Community Development Group, LLC (“Owner”) is the owner of the real property described in Exhibit A attached hereto and made a part hereof for all purposes (the “Property”).
- 2. The Property is subject to, and shall be owned, used and maintained in accordance with, Divisions 1 and 2 of Article XII of Chapter 47 of the City of Houston Code of Ordinances, as may be amended from time to time (the “Ordinance”). The obligation for the Property to comply with the Ordinance runs with the Property, and is binding upon the Owner and its successors and assigns. Each portion of the Property, however such portion may be created, shall be subject to the Ordinance, and the owner of each portion shall be responsible for ensuring that the portion complies with the Ordinance requirements.
- 3. The Owner has submitted a Storm Water Quality Management Plan (the “Plan”) for the Property to the City of Houston. The Plan will be incorporated by reference into the Storm Water Quality Permit required by the Ordinance for the Property. Any storm water quality structural or non-structural control specified in the Plan may not be changed from the plans and technical specifications in the Plan without the written consent of the City of Houston pursuant to the provisions of the Ordinance.
- 4. The Storm Water Quality Permit for the Property must be amended if ownership of all or any portion of the Property is transferred to a different person or entity.

EXECUTED this 11 day of February, 2022.

Community Development Group, LLC
By: Community Development Group, LLC
Name: Laura Elena Chiesara
Title: Co-Director

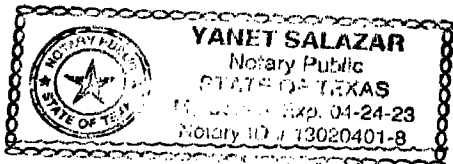
STATE OF TEXAS _____ §

COUNTY OF HARRIS _____ §

Before me, a notary public, on this day personally appeared Laura Elena Chiesara known to me (or proved to me on the oath of TL DL) to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he/she executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office this 11 day of February, 2022.

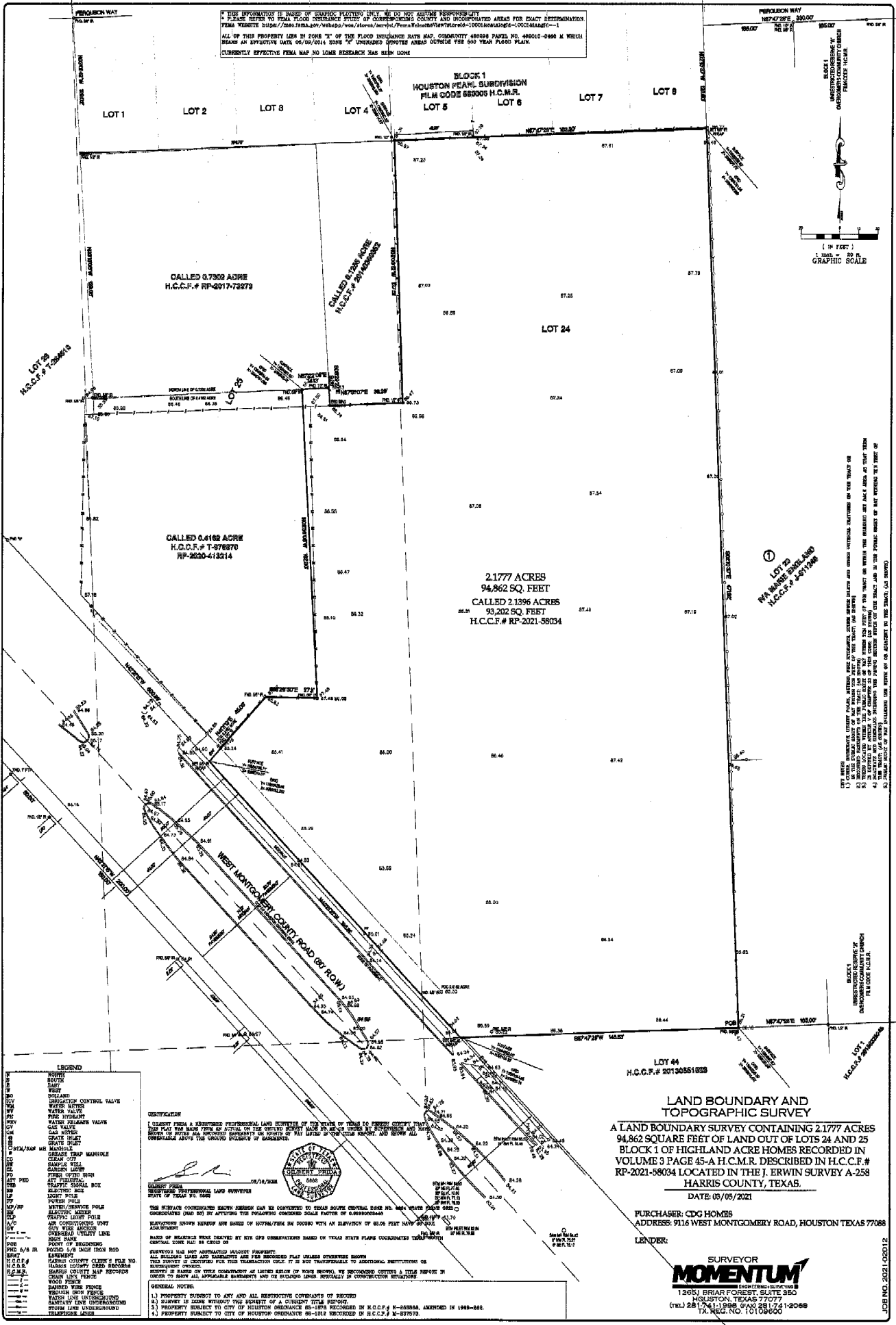
Notary Public Signature & Seal



RP-2022-81584

RP-2022-81584

THIS INFORMATION IS BASED ON GRAPHIC PLATTING ONLY. WE DO NOT ASSUME RESPONSIBILITY FOR THE ACCURACY OF THE INFORMATION. THE INFORMATION IS BASED ON THE DATA PROVIDED TO US BY OUR CLIENTS AND IS NOT GUARANTEED. THE INFORMATION IS NOT TO BE USED FOR ANY OTHER PURPOSES. THE INFORMATION IS NOT TO BE USED FOR ANY OTHER PURPOSES. THE INFORMATION IS NOT TO BE USED FOR ANY OTHER PURPOSES.



LEGEND

W	WATER
S	SEWER
E	ELECTRIC
T	TELEPHONE
...	...

CERTIFICATION

I, **DAVID J. MURPHY**, a Registered Professional Land Surveyor of the State of Texas, do hereby certify that the foregoing is a true and correct copy of the original survey as shown to me by the client, and that the same is a true and correct copy of the original survey as shown to me by the client, and that the same is a true and correct copy of the original survey as shown to me by the client.

DAVID J. MURPHY
REGISTERED PROFESSIONAL LAND SURVEYOR
STATE OF TEXAS, No. 5688



GENERAL NOTES:

- 1) PROPERTY SUBJECT TO ANY AND ALL RESTRICTIVE COVENANTS OF RECORD
- 2) SURVEY IS DONE WITHOUT THE BENEFIT OF A CHAIN OF TITLE REPORT
- 3) PROPERTY SUBJECT TO CITY OF HOUSTON ORDINANCE 68-1078 RECORDED IN H.C.C.F. # H-28884, AMENDED IN 1988-282
- 4) PROPERTY SUBJECT TO CITY OF HOUSTON ORDINANCE 98-1018 RECORDED IN H.C.C.F. # H-297878

LAND BOUNDARY AND TOPOGRAPHIC SURVEY

A LAND BOUNDARY SURVEY CONTAINING 2.1777 ACRES 94,862 SQUARE FEET OF LAND OUT OF LOTS 24 AND 25 BLOCK 1 OF HIGHLAND ACRE HOMES RECORDED IN VOLUME 3 PAGE 45-A H.C.M.R. DESCRIBED IN H.C.C.F. # RP-2021-58034 LOCATED IN THE J. ERWIN SURVEY A-258 HARRIS COUNTY, TEXAS.

DATE: 05/05/2021
PURCHASER: CDG HOMES
ADDRESS: 9116 WEST MONTGOMERY ROAD, HOUSTON TEXAS 77068

LENDER:

SURVEYOR
MOMENTUM
12651 BRIAR FOREST SUITE 350
HOUSTON, TEXAS 77077
(TEL) 281-741-1988 (FAX) 281-741-2088
TX REG. NO. 15108500

CITY OF HOUSTON, TEXAS, HAS REVIEWED THIS SURVEY AND HAS DETERMINED THAT THE SURVEY IS IN ACCORDANCE WITH THE REQUIREMENTS OF THE SURVEYING ACT AND THE PUBLIC INTEREST. THE CITY OF HOUSTON, TEXAS, HAS REVIEWED THIS SURVEY AND HAS DETERMINED THAT THE SURVEY IS IN ACCORDANCE WITH THE REQUIREMENTS OF THE SURVEYING ACT AND THE PUBLIC INTEREST.

BLOCK 1
UNRECORDED RESERVE "A"
ERWIN SURVEY
HARRIS COUNTY, TEXAS

LOT 25
H.C.C.F. # 2021-58034

LOT 24
H.C.C.F. # 2021-58034

LOT 41
H.C.C.F. # 20130551825

RP-2022-81584
Pages 3
02/15/2022 09:56 AM
e-Filed & e-Recorded in the
Official Public Records of
HARRIS COUNTY
TENESHIA HUDSPETH
COUNTY CLERK
Fees \$22.00

RECORDERS MEMORANDUM

This instrument was received and recorded electronically and any blackouts, additions or changes were present at the time the instrument was filed and recorded.

Any provision herein which restricts the sale, rental, or use of the described real property because of color or race is invalid and unenforceable under federal law.

THE STATE OF TEXAS
COUNTY OF HARRIS

I hereby certify that this instrument was FILED in File Number Sequence on the date and at the time stamped hereon by me; and was duly RECORDED in the Official Public Records of Real Property of Harris County, Texas.



Teneshia Hudspeth
COUNTY CLERK
HARRIS COUNTY, TEXAS

RP-2022-81584

Community Development Group, LLC
4919 Lochman Lane
Pearland, Texas 77584
Office: (713) 826-7057

February 10, 2022

Mr. Richard Chapin
City of Houston
Department of Public Works & Engineering
Storm Water Quality Permitting
1002 Washington Avenue, 2nd Floor
Houston, TX 77002

Re: Storm Water Quality Management Plan
9116 West Montgomery Road
Houston, TX 77088

Dear Mr. Chapin,

I, Laura Elena Chiesara, Co-Director of Community Development Group, LLC, will furnish storm water quality bond in the amount of \$19,000.00, which includes the quote for the proposed Storm Water Quality feature and approximate installation costs, to the City of Houston prior to construction on the proposed development titled Highland Enclave, located at 9116 West Montgomery, Houston, Texas 77088 approved under City project number 21023933.



Laura Elena Chiesara
Co-Director
Community Development Group, LLC

STORM WATER QUALITY STRUCTURAL CONTROL BOND

Bond No. _____

THE STATE OF TEXAS §

KNOW ALL MEN BY THESE PRESENTS:

THE COUNTY OF HARRIS §

THAT WE Community Development Group, LLC, hereinafter called the Principal, and _____, a corporation organized and existing under the laws of the State of _____, licensed to do business in the State of Texas and admitted to write bonds as surety, hereinafter called the Surety, do hereby acknowledge ourselves to be held and firmly bound to the City of Houston, a municipal corporation, in the full sum of _____ dollars (\$_____) for the payment of which sum, well and truly to be made to the City of Houston and its successors, the Principal and the Surety do bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally.

THE CONDITIONS OF THIS OBLIGATION ARE SUCH THAT:

WHEREAS, Principal has applied for and been issued a Storm Water Quality Permit by the City of Houston, No. _____, dated _____, in reliance on drawings and specifications prepared by _____ of _____, which permit, drawings and specifications are by reference made a part hereof and which are hereinafter referred to as the Permit.

WHEREAS, the Principal and Surety, in consideration of the City of Houston issuing a Storm Water Quality Permit to the Principal, are willing to furnish to the City of Houston a bond to guarantee the performance of the Principal's obligations to install storm water quality structural controls in accordance with the Permit requirements.

NOW THEREFORE, if the Principal shall faithfully and strictly perform the work required by the Permit in accordance with the plans, specifications and Permit documents, then these obligations shall be null and void; otherwise to remain in full force and effect.

It is further understood and agreed that the Surety does hereby relieve the City of Houston or its representatives from the exercise of any diligence whatsoever in securing compliance on the part of the Principal with the terms of the Permit, and the Surety hereby waives any notice to it of any default or delay by the Principal in the performance of the Permit obligations and agrees that it, the Surety, shall be bound to take notice of

and shall be held to have knowledge of all acts or omissions of the Principal in all matters pertaining to the installation of the water quality structural controls required by the Permit.

It is further expressly agreed and understood that the Principal and Surety will fully indemnify and save harmless the City of Houston from any liability, loss, cost, expense, or damage arising out of or in connection with the installation of the water quality structural controls by the Principal under the Permit.

Such bond shall remain in full force and effect until one year after the date of the City's initial inspection that confirms that the water quality structural controls covered by the bond have been properly installed.

The Surety will notify the City Engineer in writing 30 days prior to a cancellation, non-renewal or material change in the bond.

IN WITNESS THEREOF, the Principal and Surety have signed and sealed this instrument on the respective dates written below their signatures and have attached current Powers of Attorney.

ATTEST, SEAL: (if a corporation)

Community Development Group, LLC
Permit Holder

WITNESS: (if not a corporation)

By: _____
Name: _____
Title: _____

By: _____
Name: _____
Title: _____

ATTEST, SEAL: (if a corporation)

Surety

WITNESS: (if not a corporation)

By: _____
Name: _____
Title: _____

By: _____
Name: _____
Title: _____

THE FOREGOING BOND IS ACCEPTED ON
BEHALF OF CITY OF HOUSTON, TEXAS:

By: _____
Name: _____
Title: _____

APPENDIX B – DOCUMENTATION

- Executive Summary
- Maintenance Report
- Inspection Forms
- City of Houston Capacity Reservation Letter



Executive Summary of Highland Enclave

Owner Contact Information

Laura Elena Chiesara
Co-Director
Community Development Group, LLC
4919 Lochman Lane
Pearland, Texas 77584
Phone: (713) 826-7057

- The Initial Storm Water Quality Permit is valid for one year from the date of issuance but may be renewed. Each renewal application of a SWQ Permit is valid for one year, and the renewal package must be submitted to the City of Houston not more than 30 days but not less than 5 days prior to the expiration of the SWQ Permit.
- As part of the renewal, **Community Development Group, LLC** must certify that all controls have been maintained as specified in the Storm Water Quality Management Plan, (SWQMP). If structural controls are used, a State Licensed Professional Engineer must also certify that the structural controls still generally conform to the plans and technical specifications outlined in the SWQMP.
- A *Storm Water Quality Management Plan Post Construction Certification-As-Built Form* is required within 14 days after the installation of the structural control feature specified in this report, in accordance with the Code of Ordinance Sec. 47-672. - Certifications and attestations. **Community Development Group, LLC** must also submit an acknowledgement letter stating that SWQ report was read and agreed to adhere to the operation and maintenance requirements specified in this report.
- At the time of renewal, a State Licensed Professional Engineer must certify that the structural controls conform to the construction plans and technical specifications listed in the SWQMP.
- The renewal package will contain the following documents:
 - a completed Storm Water Quality Management Plan Application Permit form
 - a completed Storm Water Quality Management Plan Owner's Affidavit – Annual Renewal Certification
 - a completed Storm Water Quality Management Plan Post Construction Certification- Annual Renewal
 - several time and date stamped photos of the permitted feature (show the area where the feature is located and a close up of the feature)
 - a copy of the waste manifest for cleaning the feature or the inspection form showing that the feature is within the manufacturer's specs
 - and the check representing the renewal fee

Documents related to City of Houston SWQMP are available at: <http://www.cleanwaterclearchoice.org/>

- **Community Development Group, LLC** must seek to amend and transfer the SWQ Permit to the new Owner if property is sold in within 10 days or amend the SQWMP if changes occur from the original status of the permit.
- An Application to amend a SWQ permit to transfer the SWQ permit to a subsequent Owner or a third-party permittee shall include an attestation by the subsequent Owner or third-party permittee has read the SWQMP and agrees to adhere to the operation and maintenance requirements specified therein.
- **Community Development Group, LLC** may choose to enter into an agreement with a Maintenance and Monitoring Company for SWQ for maintenance, inspections, permit renewal, amendment and transfer of the Ownership.

Prior to Construction:

- **Community Development Group, LLC** must submit a copy of NOI (Notice of Intent) to the Texas Commission on Environmental Quality (TCEQ) and City of Houston, if the site is larger than 5 acres, prior to construction.
- **Community Development Group, LLC** must submit a copy of the Notice of Termination, (NOT) form to TCEQ and City of Houston at the completion of project.

During Construction:

- **Community Development Group, LLC** must implement and maintain all Storm Water Pollution Prevention Measures (SWPPP) for the site during construction.

Following Construction:

- **Community Development Group, LLC** must submit to TCEQ a NOT and supply a copy to the City of Houston.

Maintenance Guide

BaySaver Barracuda™

July 2017

One of the advantages of the BaySaver Barracuda is the ease of maintenance. Like any system that collects pollutants, the BaySaver Barracuda must be maintained for continued effectiveness. Maintenance is a simple procedure performed using a vacuum truck or similar equipment. The systems were designed to minimize the volume of water removed during routine maintenance, reducing disposal costs.

Contractors can access the pollutants stored in the manhole through the manhole cover. This allows them to gain vacuum hose access to the bottom of the manhole to remove sediment and trash. There is no confined space entry necessary for inspection or maintenance.

The entire maintenance procedure typically takes from 2 to 4 hours, depending on the size of the system, the captured material, and the capacity of the vacuum truck.

Local regulations may apply to the maintenance procedure. Safe and legal disposal of pollutants is the responsibility of the maintenance contractor. Maintenance should be performed only by a qualified contractor.

Inspection and Cleaning Cycle

Periodic inspection is needed to determine the need for and frequency of maintenance. You should begin inspecting as soon as construction is complete and thereafter on an annual basis. Typically, the system needs to be cleaned every 1-3 years.

Excessive oils, fuels or sediments may reduce the maintenance cycle. Periodic inspection is important.

Determining When to Clean

To determine the sediment depth, the maintenance contractor should lower a stadia rod into the manhole until it contacts the top of the captured sediment and mark that spot on the rod. Then push the probe through to the bottom of the sump and mark that spot to determine sediment depth.

Maintenance should occur when the sediment has reached the levels indicated in the Storage Capacity Chart.

BaySaver Barracuda Storage Capacities

Model	Manhole Diameter	Treatment Chamber Capacity	Standard Sediment Capacity (20" depth)	NJDEP Sediment Capacity (50% of standard depth)
S3	36"	212 gallons	0.44 cubic yards	0.22 cubic yards
S4	48"	564 gallons	0.78 cubic yards	0.39 cubic yards
S5	60"	881 gallons	1.21 cubic yards	0.61 cubic yards
S6	72"	1269 gallons	1.75 cubic yards	0.88 cubic yards
S8	96"	3835 gallons	3.10 cubic yards	1.55 cubic yards
S10	120"	7496 gallons	4.85 cubic yards	2.43 cubic yards

Maintenance Instructions

1. Remove the manhole cover to provide access to the pollutant storage. Pollutants are stored in the sump, below the bowl assembly visible from the surface. You'll access this area through the 10" diameter access cylinder.



2. Use a vacuum truck or other similar equipment to remove all water, debris, oils and sediment. See figure 1.
3. Use a high pressure hose to clean the manhole of all the remaining sediment and debris. Then, use the vacuum truck to remove the water.
4. Fill the cleaned manhole with water until the level reaches the invert of the outlet pipe.
5. Replace the manhole cover.
6. Dispose of the polluted water, oils, sediment and trash at an approved facility.
 - Local regulations prohibit the discharge of solid material into the sanitary system. Check with the local sewer authority for authority to discharge the liquid.
 - Some localities treat the pollutants as leachate. Check with local regulators about disposal requirements.
 - Additional local regulations may apply to the maintenance procedure.

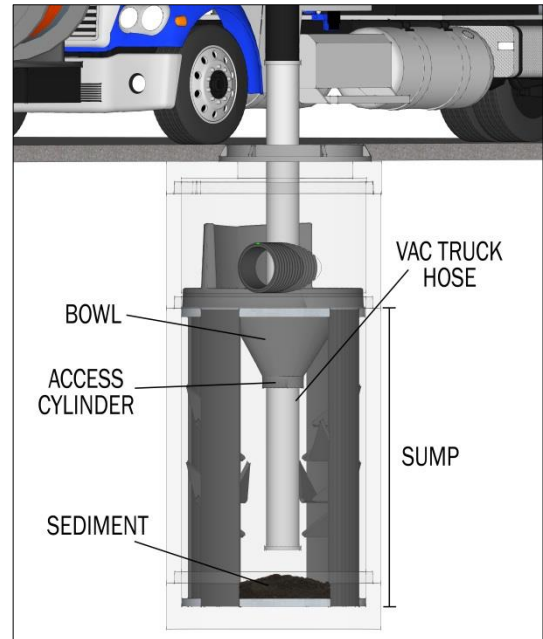


Figure 1

**ADS Water Quality Units
Inspection Form**

Owner: _____
Address: _____
Inspector: _____ **Phone:** _____

ADS WQU

Model Number _____ **Date:** _____
Location on Site _____
Volume of Sediment Chamber _____ (Cy. Yd.)

Inspections:

<u>Date</u>	<u>Inspector</u>	<u>Sediment Volume</u>	<u>Total Volume</u>

General Observations: _____

Unit Filled With Water: Dates: _____

Certification: _____ **Title** _____ **Date:** _____

**ADS Water Quality Units
Inspection Form**

Owner: _____
Address: _____
Inspector: _____ **Phone:** _____

ADS WQU

Model Number _____ **Date:** _____
Location on Site _____
Volume of Sediment Chamber _____ (Cy. Yd.)

Inspections:

<u>Date</u>	<u>Inspector</u>	<u>Sediment Volume</u>	<u>Total Volume</u>

General Observations: _____

Unit Filled With Water: Dates: _____

Certification: _____ **Title** _____ **Date:** _____

**ADS Water Quality Units
Inspection Form**

Owner: _____
Address: _____
Inspector: _____ **Phone:** _____

ADS WQU

Model Number _____ **Date:** _____
Location on Site _____
Volume of Sediment Chamber _____ (Cy. Yd.)

Inspections:

<u>Date</u>	<u>Inspector</u>	<u>Sediment Volume</u>	<u>Total Volume</u>

General Observations: _____

Unit Filled With Water: Dates: _____

Certification: _____ **Title** _____ **Date:** _____

**ADS Water Quality Units
Inspection Form**

Owner: _____
Address: _____
Inspector: _____ **Phone:** _____

ADS WQU

Model Number _____ **Date:** _____
Location on Site _____
Volume of Sediment Chamber _____ (Cy. Yd.)

Inspections:

<u>Date</u>	<u>Inspector</u>	<u>Sediment Volume</u>	<u>Total Volume</u>

General Observations: _____

Unit Filled With Water: Dates: _____

Certification: _____ **Title** _____ **Date:** _____



February 22, 2021

Ms. Ana Aponte
Community Development Group, LLC
4919 Lochman Lane
Pearland, Texas 77584

ILMS Project Number: 20105801 **WCR File Number:** 0025277

Legal Description: 2.1396 acres of land being Lots 24 and 25, Block 1, Highland Acre Homes, located at 9116 West Montgomery Road

Proposed Development: Construction of twenty-eight (28) single family residences

Wastewater:

Impact Fee: \$33,575.08
Admin Fee: \$29.72
Connection Point(s): 8-inch sanitary sewer in West Montgomery Road
Proposed Service Units: 28.0000
Treatment Plant: Northwest
Pumping Station: Ferguson

Water:

Impact Fee: \$22,135.40
Admin Fee: \$29.72
Connection Point(s): 20-inch water main in West Montgomery Road
Proposed Service Units: 28.0000

Deidre Van Langen
For Rudy Moreno, Jr.
Deputy Assistant Director
Infrastructure and Development Services
CEH:RM:TL (Council District B)

For Carol Ellinger Haddock, P.E.
Director
Houston Public Works

This approval is subject to the standard City of Houston requirements and supplemental requirement(s) listed below.

Standard Requirements:

The City Engineer may, from time to time, revise the Houston Public Works Infrastructure Design Manual, resulting in changes to the design criteria and parameters that must be followed in the development of this site.

Wastewater discharges from non-domestic sources must be reviewed for organic loading capacity and industrial wastewater permit requirements. Contact the Industrial Wastewater Service at 832-395-5800 if the sanitary sewer discharge contains non-domestic waste. Failure to comply with industrial wastewater permit requirements may result in termination of service or other enforcement remedies according to Chapter 47 Article V of the City of Houston Code of Ordinances.

Please note, if the sanitary sewer line to which connection will be made is deeper than twenty feet (20'), or is larger than thirty-six

Ms. Ana Aponte
Community Development Group, LLC
ILMS Project No 20105801
February 22, 2021

inches (36") in pipe diameter, then the connection must be made to the nearest existing manhole of the sanitary sewer line. Please contact Mr. Simon Tung in the City Engineer's Office at (832) 394-9135 prior to engineering the plans for connection.

Failure to pay the Wastewater Impact Fees within six (6) months from the date of this letter will result in the expiration of this reservation and a new application must be submitted. If this project is not under construction within two (2) years from the date of this letter, the water portion of this reservation will expire, and a new application must be submitted. All fees must be paid prior to issuance of a building permit and may be paid online, by mail, or at 1002 Washington Avenue. A copy of the Impact Fee receipts and copy of this letter must be submitted with your construction plans when applying for a building permit. Plans must be approved by the Code Enforcement Branch of the Building and Development Services Division prior to the issuance of a permit.

Please note, the Wastewater and Water Impact Fees quoted above are not refundable for any reason including failure to obtain a building permit or failure to complete the project for any reason.

This information is based on the City of Houston Geographic Information Management System Maps. These maps are prepared utilizing the best information available to the City and the City cannot warrant their accuracy or completeness. The exact size and location of all utility lines should be field verified.

For direct inquiries, please contact Utility Analysis at (832) 394-8888 or email wrcrtechs@houstontx.gov. Be sure to reference the ILMS project number listed in this letter.

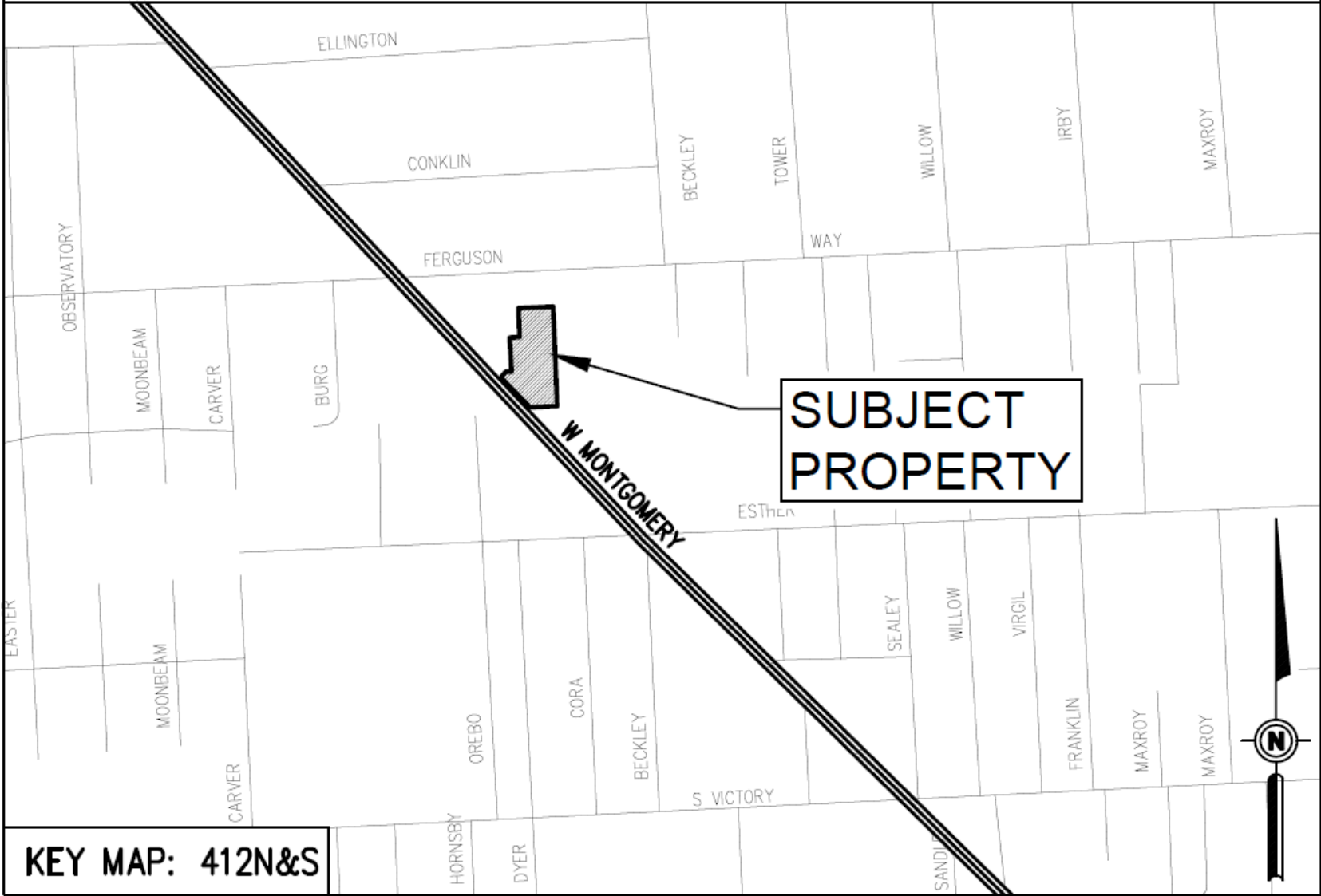
Supplemental Requirement(s):

- Ordinances provide for a waiver of impact fees for houses (single family residences) that sell to the first-time purchaser for less than the median price of a home in Houston during the month the proposed home is permitted. Currently, the median price is approximately \$257,519. If you feel that your proposed development may qualify for this exemption, please do not pay the impact fees referenced in this letter and make certain that you fill out an Impact Fee Exemption Form at 1002 Washington Avenue when applying for a building permit.
- Each single family residence must be individually connected to the sanitary sewer. Should each single family residence not have direct access to the public sanitary sewer, please contact our Infrastructure Support Group at (832) 394-8996 to have your site utility plan approved prior to obtaining building permits.
- A public water meter must be provided to each single family residence. Should each single family residence not have direct access to the public water main, please contact our Infrastructure Support Group at (832) 394-8996 to have your site utility plan approved prior to making application to purchase water meters.

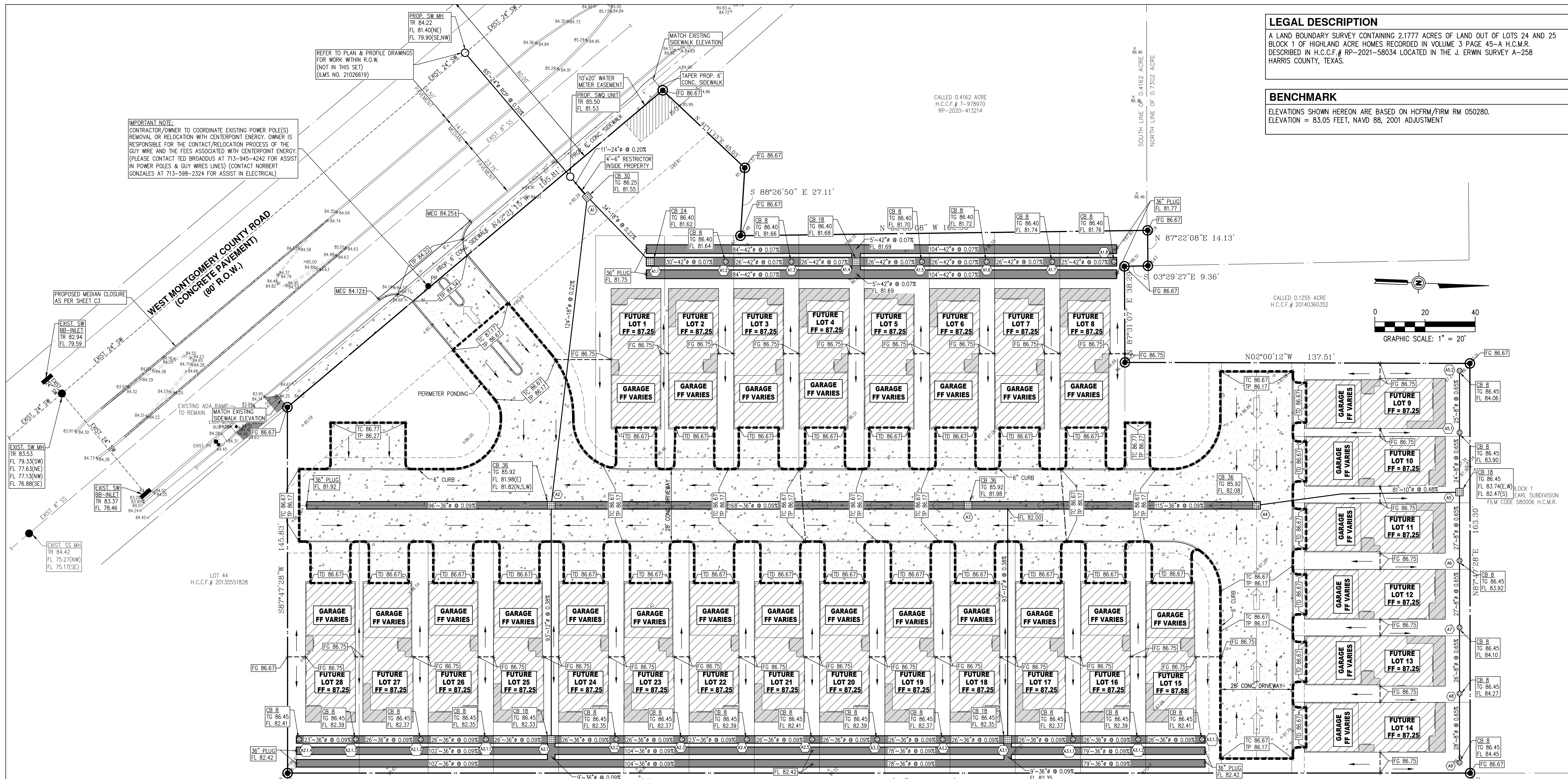
APPENDIX C – EXHIBITS

- Exhibit 1 – Vicinity Map
- Exhibit 2 – Site Drainage/SWQ Map
- Exhibit 3 – BaySaver Barracuda Stormwater Separator Detail
- Barracuda Sizing Calculations

VICINITY MAP



KEY MAP: 412N&S



LEGAL DESCRIPTION
 A LAND BOUNDARY SURVEY CONTAINING 2.1777 ACRES OF LAND OUT OF LOTS 24 AND 25 BLOCK 1 OF HIGHLAND ACRE HOMES RECORDED IN VOLUME 3 PAGE 45-A H.C.M.R. DESCRIBED IN H.C.C.F.# RP-2021-58034 LOCATED IN THE J. ERWIN SURVEY A-258 HARRIS COUNTY, TEXAS.

BENCHMARK
 ELEVATIONS SHOWN HEREON ARE BASED ON HCFRM/FIRM RM 050280. ELEVATION = 83.05 FEET, NAVD 88, 2001 ADJUSTMENT

PIONEER ENGINEERING
 7060 EAST FREEWAY, SUITE 1A, HOUSTON, TEXAS 77020
 (832) 307-0010
 FIRM NO. 18084

COMMUNITY DEVELOPMENT GROUP
 FUTURE TOWNHOMES
 9116 W. MONTGOMERY ROAD
 HOUSTON, TEXAS 77088

GRADING AND DRAINAGE PLAN

IMPORTANT NOTE:
 CONTRACTOR/OWNER TO COORDINATE EXISTING POWER POLE(S) REMOVAL OR RELOCATION WITH CENTERPOINT ENERGY. OWNER IS RESPONSIBLE FOR THE CONTACT/RELOCATION PROCESS OF THE GUY WIRE AND THE FEES ASSOCIATED WITH CENTERPOINT ENERGY. (PLEASE CONTACT TED BROADDUS AT 713-945-4242 FOR ASSIST IN POWER POLES & GUY WIRES LINES) (CONTACT NORBERT GONZALES AT 713-598-2324 FOR ASSIST IN ELECTRICAL)

PROPOSED MEDIAN CLOSURE
 AS PER SHEET C3

EXIST. SW MH
 TR 82.94
 FL 79.59

EXIST. SW MH
 TR 84.42
 FL 75.27(NW)
 FL 75.17(SE)

NOTE:
 ALL HOMES ARE FUTURE. TO BE PERMITTED SEPARATELY.

NOTE:
 SHEET FLOW IS NOT ALLOWED INTO ADJACENT PROPERTIES AND/OR ROW.

NOTE:
 ALL AREA(S) NOT UNDER THE FOOTPRINT OF THE BUILDINGS ARE TO BE CONSIDERED COMMON AREAS.

NOTE:
 BEFORE STARTING ANY CONSTRUCTION WORK, CONTRACTOR SHALL FIELD-VERIFY LOCATION, DEPTH AND CONDITION OF ALL EXISTING UTILITIES AND DRAINAGE FACILITIES, TO ASSURE THAT PROPOSED CONNECTIONS CAN BE MADE AS INDICATED IN THESE DRAWINGS. CONTACT ENGINEER IMMEDIATELY IF ANY DISCREPANCIES THAT MAY IMPACT WORK DESCRIBED HEREIN ARE DISCOVERED.

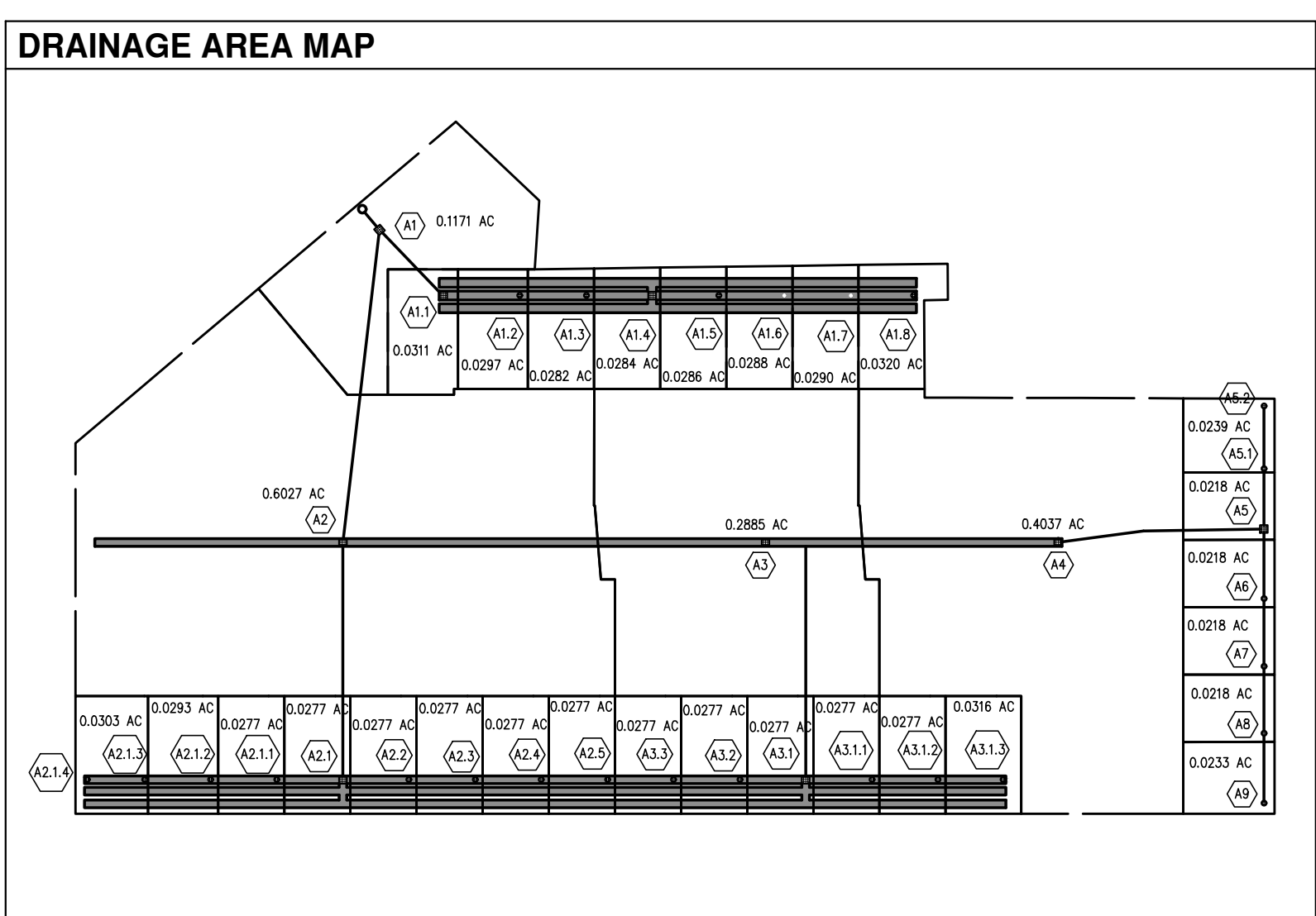
NOTE:
 FUTURE 8" AREA DRAINS AND DOWNSPOUT COLLECTOR PIPES SHALL BE INSTALLED IN CONJUNCTION OF GUTTER INSTALLATION OF CORRESPONDING UNITS.

CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND DIMENSIONS OF EXIT PORCHES, RAMPS, PRECISE BUILDING DIMENSIONS AND EXACT UTILITY ENTRANCE LOCATIONS.

NOTE:
 ALL WATER, SANITARY SEWER, STORM PIPING, PAVING, GAS, AND ELECTRICAL FACILITIES LOCATED IN THE COMMON AREA(S) TO BE MAINTAINED BY THE HOME OWNERS ASSOCIATION.

DETENTION NOTE:
 1. PROPERTY OWNER IS RESPONSIBLE OF MAINTAINING THE DETENTION FACILITY.
 2. SUBSURFACE DRAINAGE SYSTEM IS REQUIRED TO BE DRAINED IN 48 HRS.
 3. CONTRACTOR TO PROVIDE SIGNAGE WARNING PROPERTY OWNERS THAT ON-SITE DETENTION AREA WATER LEVEL MAY RISE DURING HEAVY RAINFALL EVENTS.

STORM SEWER (SW) PIPE MATERIAL:
 1. MATERIAL SPECIFICATIONS:
 A. ALL SW PIPE SHALL BE HDPE (U.O.N.)
 B. SW PIPE MATERIAL SHALL CONFORM TO: AASHTO STANDARD M252 (FOR PIPES 10" OR SMALLER) AASHTO STANDARD M294 (FOR PIPES 12" OR LARGER)
 2. ALL SW PIPE WITHIN CITY RIGHT-OF-WAY SHALL BE REINFORCED CONCRETE (RCP) UNLESS NOTED OTHERWISE.



STORM SEWER CALCULATIONS

Station	Area (sq ft)	Flow (cfs)	Velocity (ft/s)	Depth (ft)	Time (min)
1+00	1000	1.0	1.0	1.0	1.0
1+10	1100	1.1	1.1	1.1	1.1
1+20	1200	1.2	1.2	1.2	1.2
1+30	1300	1.3	1.3	1.3	1.3
1+40	1400	1.4	1.4	1.4	1.4
1+50	1500	1.5	1.5	1.5	1.5
1+60	1600	1.6	1.6	1.6	1.6
1+70	1700	1.7	1.7	1.7	1.7
1+80	1800	1.8	1.8	1.8	1.8
1+90	1900	1.9	1.9	1.9	1.9
2+00	2000	2.0	2.0	2.0	2.0
2+10	2100	2.1	2.1	2.1	2.1
2+20	2200	2.2	2.2	2.2	2.2
2+30	2300	2.3	2.3	2.3	2.3
2+40	2400	2.4	2.4	2.4	2.4
2+50	2500	2.5	2.5	2.5	2.5
2+60	2600	2.6	2.6	2.6	2.6
2+70	2700	2.7	2.7	2.7	2.7
2+80	2800	2.8	2.8	2.8	2.8
2+90	2900	2.9	2.9	2.9	2.9
3+00	3000	3.0	3.0	3.0	3.0
3+10	3100	3.1	3.1	3.1	3.1
3+20	3200	3.2	3.2	3.2	3.2
3+30	3300	3.3	3.3	3.3	3.3
3+40	3400	3.4	3.4	3.4	3.4
3+50	3500	3.5	3.5	3.5	3.5
3+60	3600	3.6	3.6	3.6	3.6
3+70	3700	3.7	3.7	3.7	3.7
3+80	3800	3.8	3.8	3.8	3.8
3+90	3900	3.9	3.9	3.9	3.9
4+00	4000	4.0	4.0	4.0	4.0
4+10	4100	4.1	4.1	4.1	4.1
4+20	4200	4.2	4.2	4.2	4.2
4+30	4300	4.3	4.3	4.3	4.3
4+40	4400	4.4	4.4	4.4	4.4
4+50	4500	4.5	4.5	4.5	4.5
4+60	4600	4.6	4.6	4.6	4.6
4+70	4700	4.7	4.7	4.7	4.7
4+80	4800	4.8	4.8	4.8	4.8
4+90	4900	4.9	4.9	4.9	4.9
5+00	5000	5.0	5.0	5.0	5.0
5+10	5100	5.1	5.1	5.1	5.1
5+20	5200	5.2	5.2	5.2	5.2
5+30	5300	5.3	5.3	5.3	5.3
5+40	5400	5.4	5.4	5.4	5.4
5+50	5500	5.5	5.5	5.5	5.5
5+60	5600	5.6	5.6	5.6	5.6
5+70	5700	5.7	5.7	5.7	5.7
5+80	5800	5.8	5.8	5.8	5.8
5+90	5900	5.9	5.9	5.9	5.9
6+00	6000	6.0	6.0	6.0	6.0
6+10	6100	6.1	6.1	6.1	6.1
6+20	6200	6.2	6.2	6.2	6.2
6+30	6300	6.3	6.3	6.3	6.3
6+40	6400	6.4	6.4	6.4	6.4
6+50	6500	6.5	6.5	6.5	6.5
6+60	6600	6.6	6.6	6.6	6.6
6+70	6700	6.7	6.7	6.7	6.7
6+80	6800	6.8	6.8	6.8	6.8
6+90	6900	6.9	6.9	6.9	6.9
7+00	7000	7.0	7.0	7.0	7.0
7+10	7100	7.1	7.1	7.1	7.1
7+20	7200	7.2	7.2	7.2	7.2
7+30	7300	7.3	7.3	7.3	7.3
7+40	7400	7.4	7.4	7.4	7.4
7+50	7500	7.5	7.5	7.5	7.5
7+60	7600	7.6	7.6	7.6	7.6
7+70	7700	7.7	7.7	7.7	7.7
7+80	7800	7.8	7.8	7.8	7.8
7+90	7900	7.9	7.9	7.9	7.9
8+00	8000	8.0	8.0	8.0	8.0
8+10	8100	8.1	8.1	8.1	8.1
8+20	8200	8.2	8.2	8.2	8.2
8+30	8300	8.3	8.3	8.3	8.3
8+40	8400	8.4	8.4	8.4	8.4
8+50	8500	8.5	8.5	8.5	8.5
8+60	8600	8.6	8.6	8.6	8.6
8+70	8700	8.7	8.7	8.7	8.7
8+80	8800	8.8	8.8	8.8	8.8
8+90	8900	8.9	8.9	8.9	8.9
9+00	9000	9.0	9.0	9.0	9.0
9+10	9100	9.1	9.1	9.1	9.1
9+20	9200	9.2	9.2	9.2	9.2
9+30	9300	9.3	9.3	9.3	9.3
9+40	9400	9.4	9.4	9.4	9.4
9+50	9500	9.5	9.5	9.5	9.5
9+60	9600	9.6	9.6	9.6	9.6
9+70	9700	9.7	9.7	9.7	9.7
9+80	9800	9.8	9.8	9.8	9.8
9+90	9900	9.9	9.9	9.9	9.9
10+00	10000	10.0	10.0	10.0	10.0

DETENTION CALCULATIONS

Project Name: 9116 West Montgomery Road
 Project Number: 21026
 Date: 2/14/2022

DETENTION CALCULATIONS

1. City of Houston Detention Rate:
 Property area is 2.1777 acres, which is larger than 1 acre.
 Detention will be provided at a rate of 0.5 acre-feet per acre of proposed impervious cover.

2. Area of Proposed Impervious Cover:
 - Building: 30,759.49 sq ft
 - Shared Drive/Garage Approach/Parking: 25,050.96 sq ft
 - Total Area: 55,810.45 sq ft = 1.2812 Acres

3. Required Detention Volume:
 V_d = 143,550 (0.5 acre-feet per acre x 1.2812 acres) = 27,905.23 c.f.

4. Provided Detention Volume:
 Maximum Water Surface Elevation: 86.67

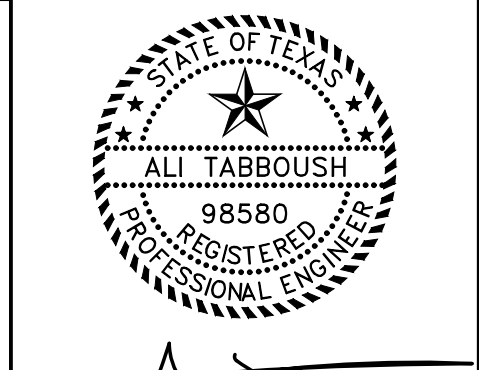
Pavement Detention:
 Area (sq ft) | Curb Depth (in) | Non-Curb Depth (in) | Volume (c.f.)
 24,362.95 | 6.00 | 3.00 | 14,211.72

Subtotal: 14,211.72 c.f.

Underground Detention System (Pipes):
 Length (ft) | Diameter (in) | Vol. (c.f./ft) | Vol. (c.f.)
 157.00 | 8 | 0.35 | 54.80
 81.00 | 10 | 0.65 | 44.18
 88.00 | 12 | 0.79 | 67.54
 158.00 | 18 | 1.77 | 279.21
 1,481.00 | 36 | 7.07 | 10,488.57
 571.00 | 42 | 9.82 | 5,493.66

Subtotal: 16,407.97 c.f.

Total Detention Provided = 30,619.69 c.f.



02/14/22

ISSUE HISTORY

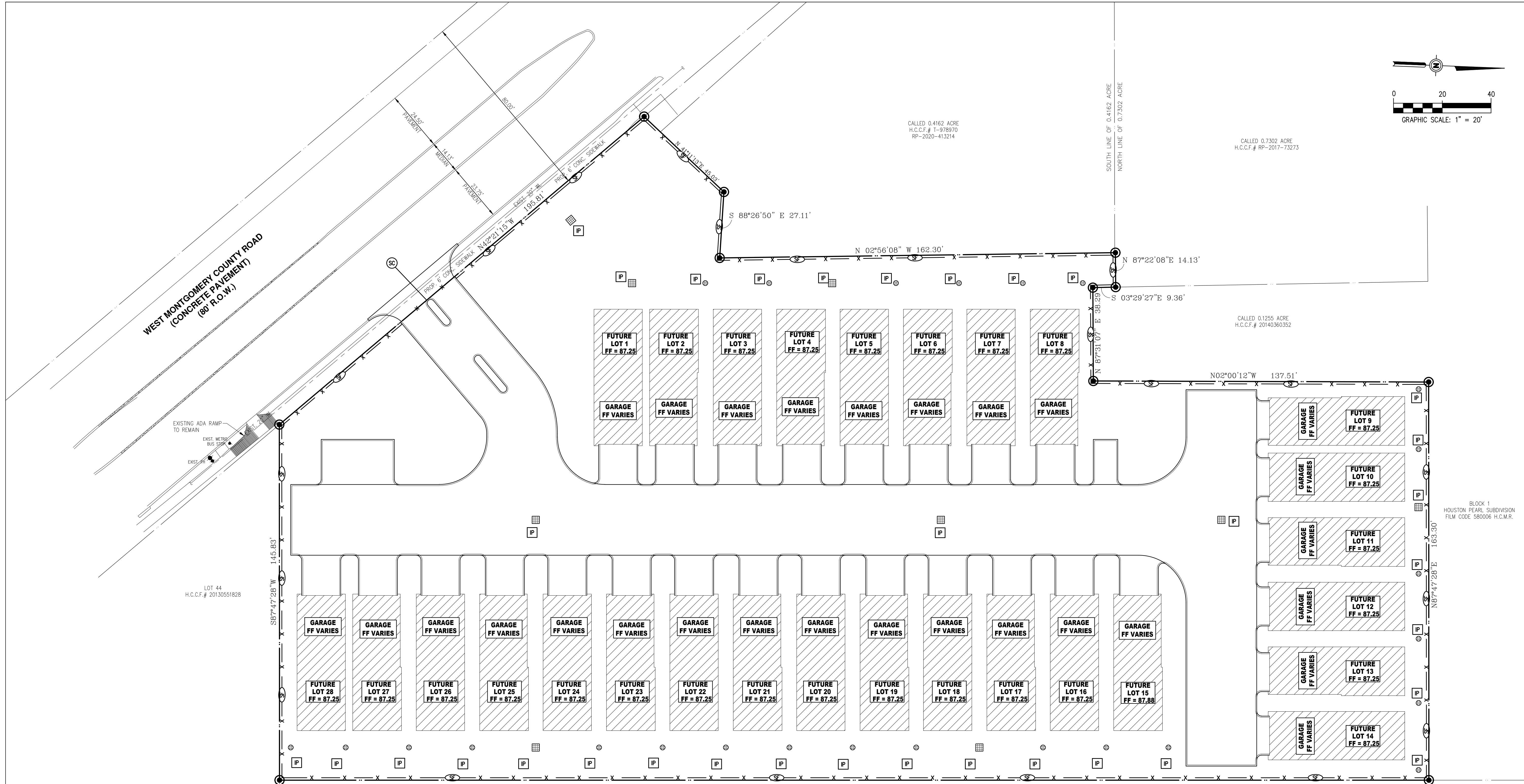
DATE	ISSUED FOR
09/20/21	CLIENT REVIEW
03/23/21	PERMIT

REVISIONS

DATE	DESCRIPTION
09/08/21	COH COMMENTS DATED 04/21/21
02/14/22	COH COMMENTS DATED 10/19/21

DATE: 03/09/21
 DRAWN BY: MP
 CHECKED BY: AT
 PEPN: 21026 COH: 21023933

SHEET C4



PIONEER ENGINEERING
 7060 EAST FREEWAY, SUITE 1A, HOUSTON, TEXAS 77020
 (832) 307-0010
 FIRM NO. 18084

COMMUNITY DEVELOPMENT GROUP
FUTURE TOWNHOMES
 9116 W. MONTGOMERY ROAD
 HOUSTON, TEXAS 77088
STORM WATER POLLUTION PREVENTION PLAN



02/14/22

ISSUE HISTORY	
DATE	ISSUED FOR
09/20/21	CLIENT REVIEW
03/23/21	PERMIT

REVISIONS	
DATE	DESCRIPTION
09/08/21	COH COMMENTS DATED 04/21/21
02/14/22	COH COMMENTS DATED 10/19/21

DATE: 03/09/21
 DRAWN BY: MP
 CHECKED BY: AT
 PEPN: 21026 COH: 21023933
SHEET C7

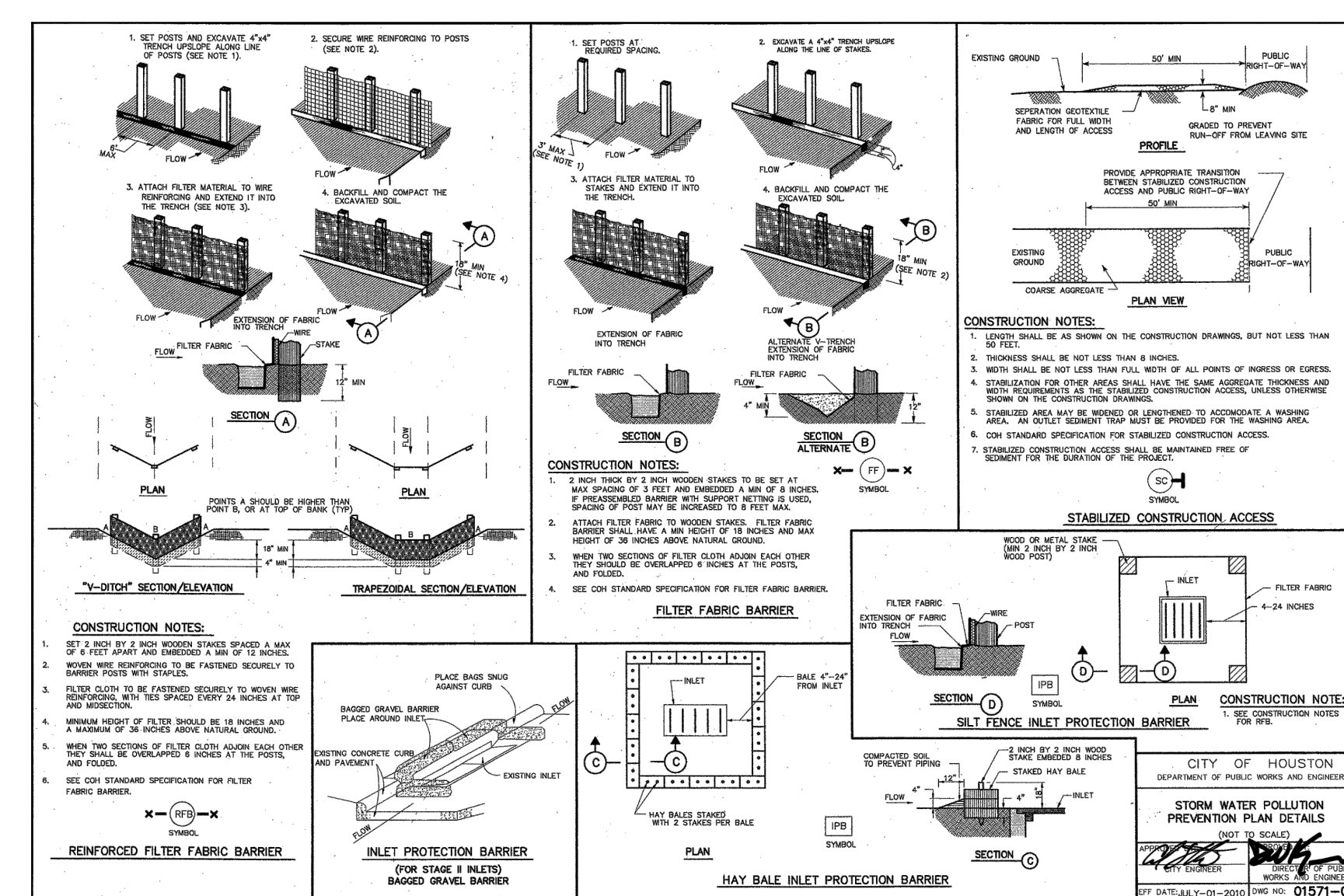
NOTE:
 BEFORE STARTING ANY CONSTRUCTION WORK, CONTRACTOR SHALL FIELD-VERIFY LOCATION, DEPTH AND CONDITION OF ALL EXISTING UTILITIES AND DRAINAGE FACILITIES, TO ASSURE THAT PROPOSED CONNECTIONS CAN BE MADE AS INDICATED IN THESE DRAWINGS.
 CONTACT ENGINEER IMMEDIATELY IF ANY DISCREPANCIES THAT MAY IMPACT WORK DESCRIBED HEREIN ARE DISCOVERED.

NOTE:
 ALL HOMES ARE FUTURE. TO BE PERMITTED SEPARATELY.

NOTE:
 ALL AREA(S) NOT UNDER THE FOOTPRINT OF THE BUILDINGS ARE TO BE CONSIDERED COMMON AREAS.

NOTE:
 PROPOSED SITE WORK DOES NOT INCLUDE RETAINING WALLS.

NOTE:
 FUTURE 8" AREA DRAINS AND DOWNSPOUT COLLECTOR PIPES WILL BE INSTALLED IN CONJUNCTION WITH THE CORRESPONDING UNITS.



PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER:	ERNIE CARRASCO 832-948-4112 ERNIE.CARRASCO@ADS-PIPE.COM
ADS SALES REP:	CRAIG VICKERY 281-236-8739 CRAIG.VICKERY@ADS-PIPE.COM
PROJECT NO:	S281810



FUTURE TOWNHOMES 9116 W.MONTGOMERY RD

HOUSTON, TX

BAYSAVER BARRACUDA SPECIFICATIONS

MATERIALS AND DESIGN

CONCRETE STRUCTURES: DESIGNED FOR H-20 TRAFFIC LOADING AND APPLICABLE SOIL LOADS OR AS OTHERWISE DETERMINED BY A LICENSED PROFESSIONAL ENGINEER. THE MATERIALS AND STRUCTURAL DESIGN OF THE DEVICES SHALL BE PER ASTM C857 AND ASTM C858.

48" HP MANHOLE STRUCTURES: MADE FROM AN IMPACT MODIFIED COPOLYMER POLYPROPYLENE MEETING THE MATERIAL REQUIREMENTS OF ASTM F2764. THE ECCENTRIC CONE REDUCER SHALL BE MANUFACTURED FROM POLYETHYLENE MATERIAL MEETING ASTM D3350 CELL CLASS 213320C. GASKETS SHALL BE MADE OF MATERIAL MEETING THE REQUIREMENTS OF ASTM F477.

SEPARATOR INTERNALS SHALL BE SUBSTANTIALLY CONSTRUCTED OF STAINLESS STEEL, POLYETHYLENE, OR OTHER THERMOPLASTIC MATERIAL APPROVED BY THE MANUFACTURER.

PERFORMANCE

THE STORMWATER TREATMENT UNIT SHALL BE AN INLINE UNIT CAPABLE OF CONVEYING 100% OF THE DESIGN PEAK FLOW. IF PEAK FLOW RATES EXCEED MAXIMUM HYDRAULIC RATE, THE UNIT SHALL BE INSTALLED OFFLINE.

THE STORMWATER TREATMENT UNIT INTERNALS SHALL CONSIST OF (1)SEPARATOR CONE ASSEMBLY, AND (1)SUMP ASSEMBLY WHICH INCLUDES(4) LEGS WITH "TEETH".

THE BARRACUDA UNIT SHALL BE DESIGNED TO REMOVE AT LEAST 80% OF THE SUSPENDED SOLIDS ON AN ANNUAL AGGREGATE REMOVAL BASIS. SAID REMOVAL SHALL BE BASED ON FULL-SCALE THIRD PARTY TESTING USING OK-110 MEDIA GRADATION OR EQUIVALENT AND 300 mg/L INFLUENT CONCENTRATION. SAID FULL SCALE TESTING SHALL HAVE INCLUDED SEDIMENT CAPTURE BASED ON ACTUAL TOTAL MASS COLLECTED BY THE STORMWATER TREATMENT UNIT.

-OR-

THE BARRACUDA UNIT SHALL BE DESIGNED TO REMOVE AT LEAST 50% OF TSS USING A MEDIA MIX WITH d_{50} =75 MICRON AND 200 MG/L INFLUENT CONCENTRATION.

-OR-

THE BARRACUDA UNIT SHALL BE DESIGNED TO REMOVE AT LEAST 50% OF TSS PER CURRENT NJDEP/NJCAT HDS PROTOCOL .

MANUFACTURER

EACH STORMWATER TREATMENT SYSTEM SHALL BE A BARRACUDA SYSTEM AS MANUFACTURED BY BAYSAVER, LLC, 1030 DEER HOLLOW DR., MOUNT AIRY, MD 21771, PHONE (301) 829-6470, FAX (301) 829-3747, TOLL FREE 1-800-229-7283 (1-800-BAYSAVER), EMAIL INFO@BAYSAVER.COM

BARRACUDA MAINTENANCE

BARRACUDA SYSTEMS MUST BE INSPECTED AND MAINTAINED PERIODICALLY. INSPECTION IS MADE BY CHECKING THE DEPTH OF SEDIMENT IN EACH MANHOLE WITH A GRADE STICK OR SIMILAR DEVICE. MAINTENANCE IS REQUIRED WHEN THE SEDIMENT DEPTH IN EXCEEDS 20 INCHES. MINIMUM INSPECTION IS RECOMMENDED TWICE A YEAR TO MAINTAIN OPERATION AND FUNCTION OF THE UNIT.

MAINTENANCE INSTRUCTIONS

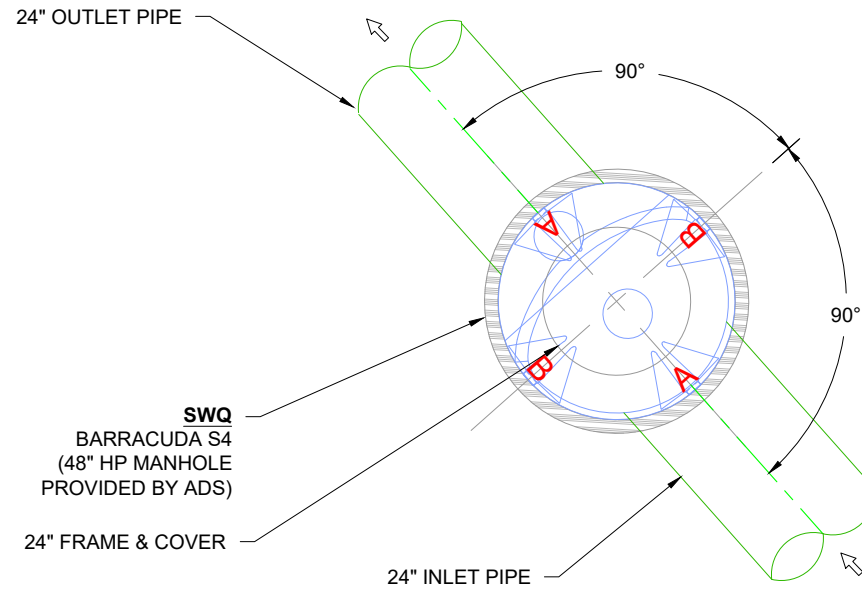
1. REMOVE THE MANHOLE COVER TO PROVIDE ACCESS TO THE POLLUTANT STORAGE. POLLUTANTS ARE STORED IN THE SUMP, BELOW THE BOWL ASSEMBLY VISIBLE FROM THE SURFACE. YOU'LL ACCESS THIS AREA THROUGH THE 10" DIAMETER ACCESS CYLINDER.
2. USE A VACUUM TRUCK OR OTHER SIMILAR EQUIPMENT TO REMOVE ALL WATER, DEBRIS, OILS AND SEDIMENT.
3. USE A HIGH PRESSURE HOSE TO CLEAN THE MANHOLE OF ALL THE REMAINING SEDIMENT AND DEBRIS. THEN, USE THE VACUUM TRUCK TO REMOVE THE WATER.
4. FILL THE CLEANED MANHOLE WITH WATER UNTIL THE LEVEL REACHES THE INVERT OF THE OUTLET PIPE.
5. REPLACE THE MANHOLE COVER.
6. DISPOSE OF THE POLLUTED WATER, OILS, SEDIMENT AND TRASH AT AN APPROVED FACILITY.
 - LOCAL REGULATIONS PROHIBIT THE DISCHARGE OF SOLID MATERIAL INTO THE SANITARY SYSTEM. CHECK WITH THE LOCAL SEWER AUTHORITY FOR AUTHORITY TO DISCHARGE THE LIQUID.
 - SOME LOCALITIES TREAT THE POLLUTANTS AS LEACHATE. CHECK WITH LOCAL REGULATORS ABOUT DISPOSAL REQUIREMENTS.
 - ADDITIONAL LOCAL REGULATIONS MAY APPLY TO THE MAINTENANCE PROCEDURE.

BARRACUDA INSTALLATION NOTES

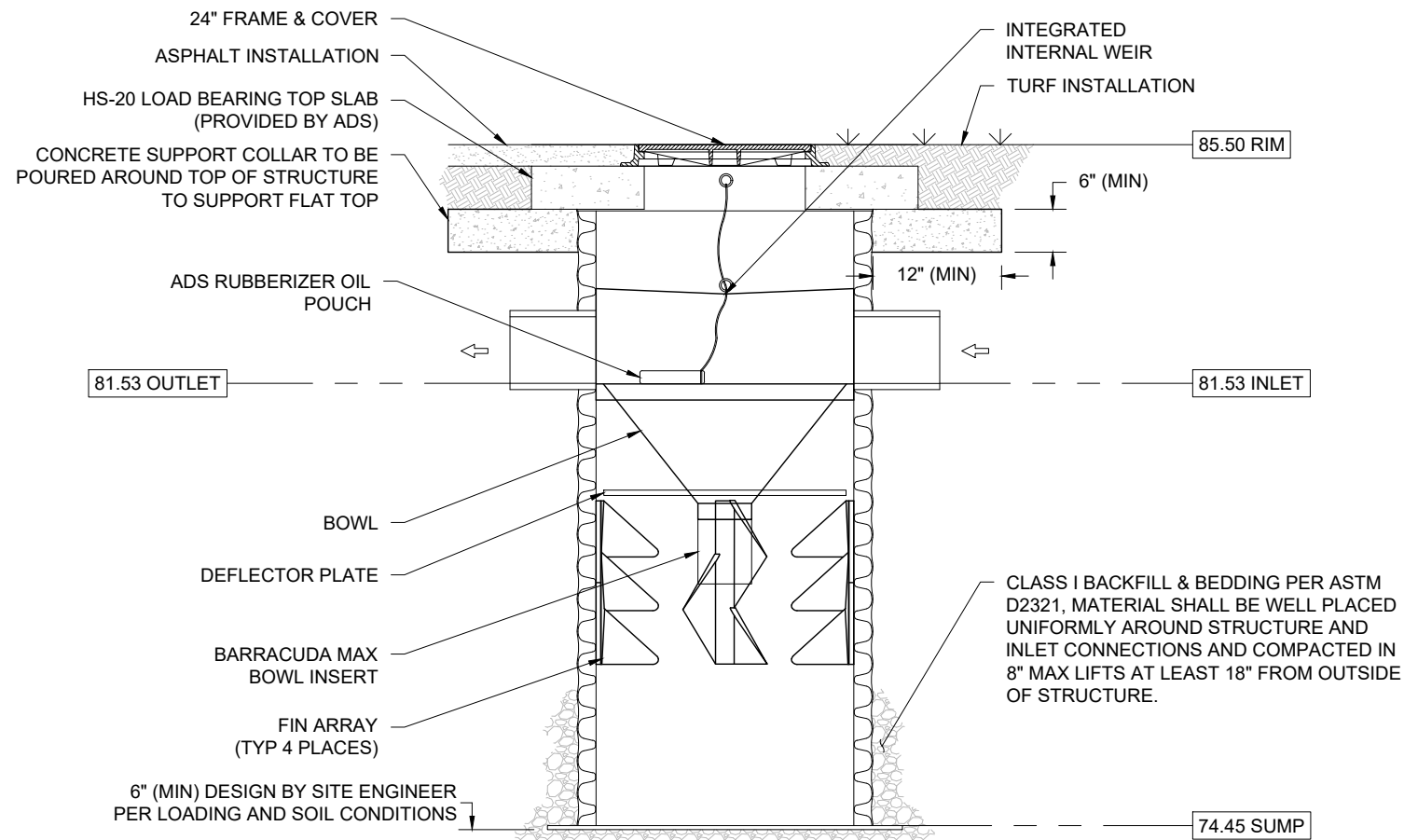
INSTALLATION OF THE STORMWATER TREATMENT UNIT(S) SHALL BE PERFORMED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. SUCH INSTRUCTIONS CAN BE OBTAINED BY CALLING ADVANCED DRAINAGE SYSTEMS AT (800) 821-6710 OR BY LOGGING ON TO WWW.ADS-PIPE.COM OR WWW.BAYSAVER.COM.

NOTE: 12" MINIMUM FABRICATED STUBS AVAILABLE. SMALLER CONNECTIONS CAN UTILIZE REDUCERS TO CONNECT TO FABRICATED STUBS OR STUB CAN BE REPLACED WITH THE APPROPRIATE INSERTA TEE.

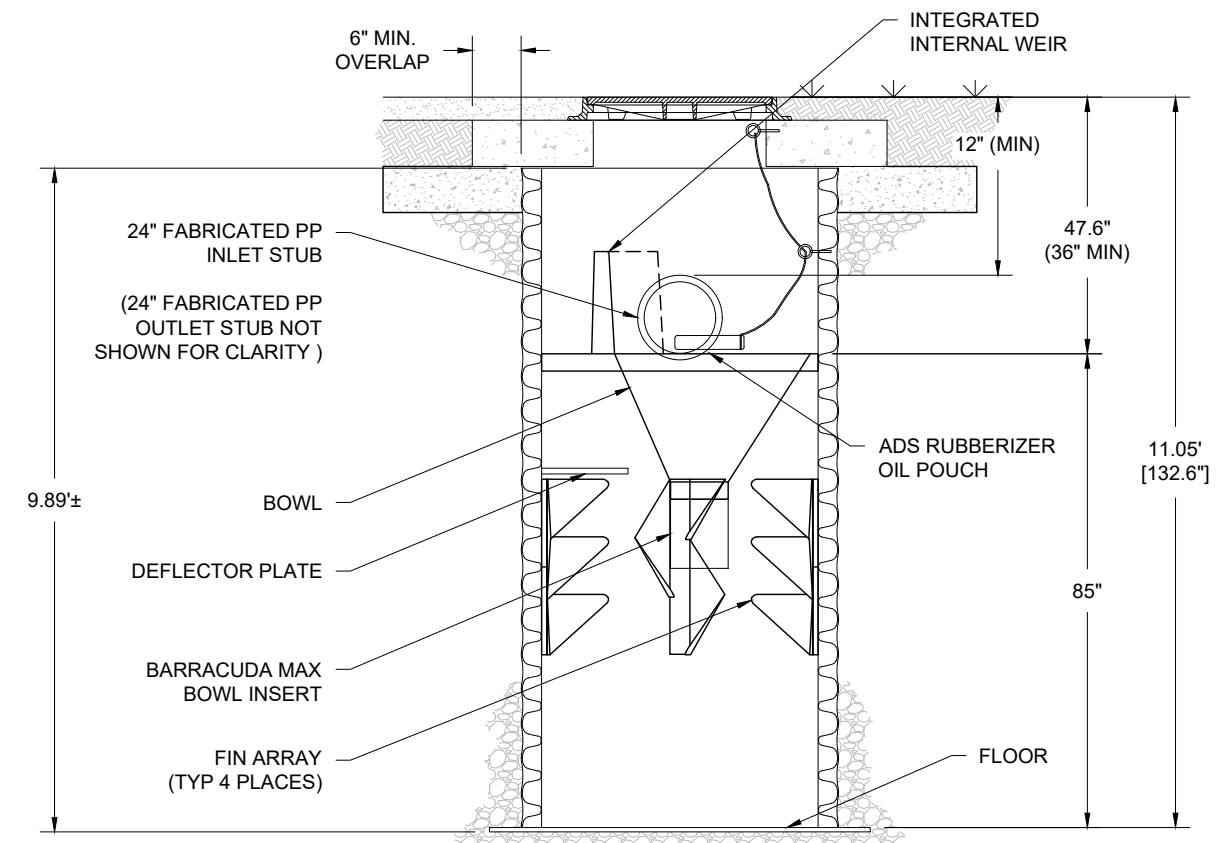
BARRACUDA MAX S4	
UNIT ID	SWQ
PEAK FLOW RATE (CFS)	
TREATMENT FLOW RATE (CFS)	1.52



PLAN VIEW
NTS



SECTION VIEW A-A
NTS



SECTION VIEW B-B
NTS

FUTURE TOWNHOMES
9116 W. MONTGOMERY RD
HOUSTON, TX

DATE: 02/21/22 DRAWN: GDL
PROJECT #: S281810 CHECKED: CJD

DATE	DRWN	CHKD	DESCRIPTION

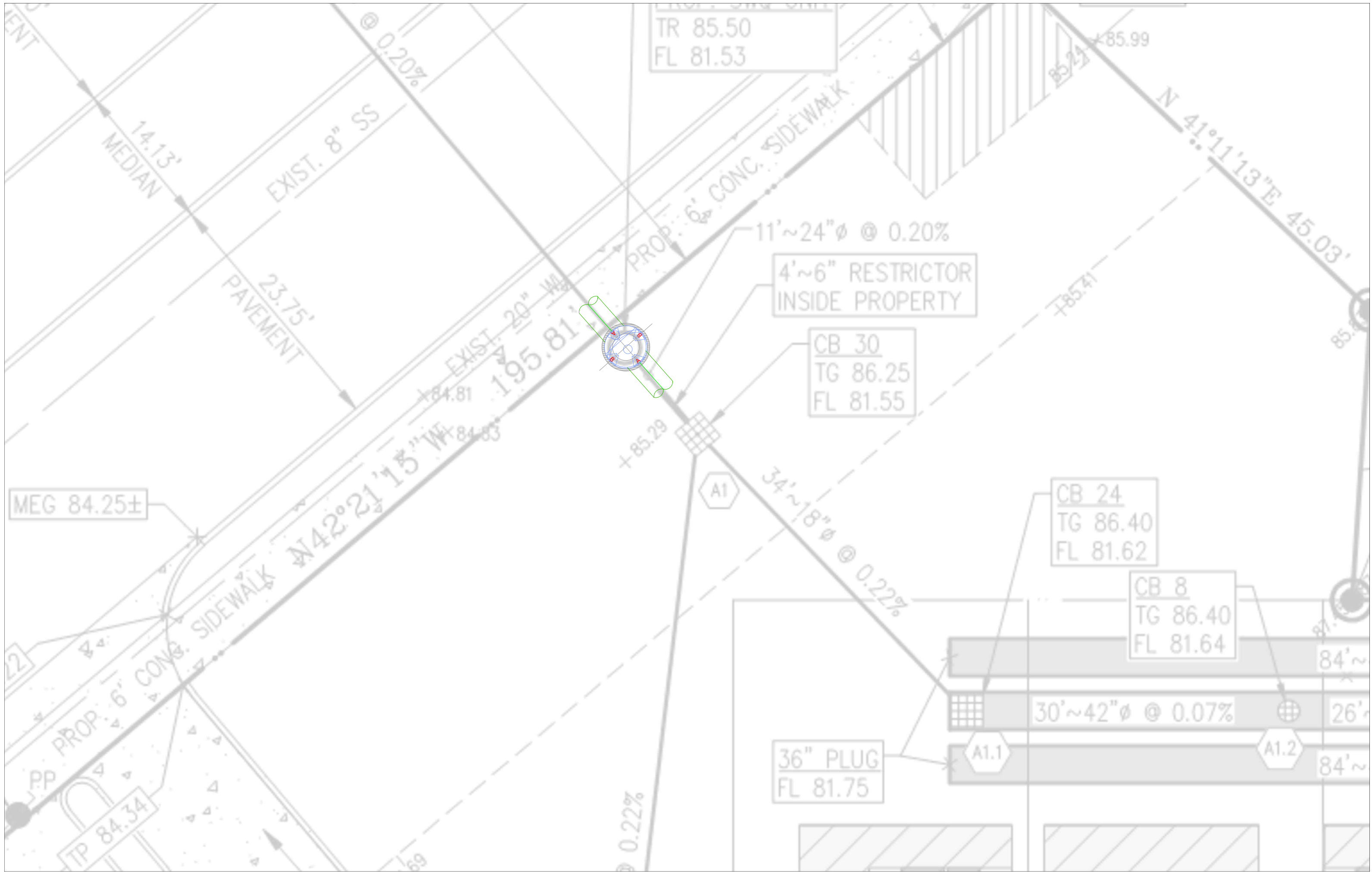
Barracuda Max
Stormwater Separator

4640 TRUJMAN BLVD
HILLIARD, OH 43026



NOT TO SCALE

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS UNDER THE DIRECTION OF THE SITE DESIGN ENGINEER OR OTHER PROJECT REPRESENTATIVE. THE SITE DESIGN ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE SITE DESIGN ENGINEER TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.





To Size an ADS BaySaver System based on the Houston Criteria enter the area to be treated in the highlighted box. The Houston/Harris County Joint Task Force (JTF) currently requires the use of the 'Rational Method' $Q=CiA$ for sizing Stormwater Quality (SWQ) Products.

The Coefficient "Q" represents the flow rate to be treated in "cfs".
 The Coefficient "C" is based on land use (commercial = 0.80, residential = 0.55, etc...) as defined by the JTF.
 The Coefficient "i" has been predetermined by the JTF and equals 0.27 in/hr.
 The Coefficient "A" represents the area to be treated in acres.

The ADS BaySaver model number will be given in the "Required ADS Unit" field below.

A = Total Area (ac)	2.2	← Insert the desired treatment area here.
C = Rational Coefficient	0.80	← Insert the rational coefficient here.
i = Intensity (in/h)	0.27	
Q = Flow Rate (cfs)	0.47	

Required ADS Unit: S4 Barracuda

The sizing of all BaySaver units should be verified with a local ADS representative prior to specification to ensure utilization of the most current JTF guidelines; please contact either Ernie Carrasco (832-948-4112) or Erik Robinson (281-753-5068).

TYPICAL STORMWATER TREATMENT FLOW RATES FOR BAYSAVER SIZING IN HOUSTON/HARRIS COUNTY

BaySaver MODEL	Treatment Flowrate	
	Q (cfs)	Q (gpm)
S3 Barracuda	0.70	314
S4 Barracuda	1.25	561
S6 Barracuda	2.80	1,256
S8 Barracuda	5.00	2,244
3K BaySeparator	7.80	3,500
5K BaySeparator	11.10	4,982
10K BaySeparator	21.80	9,784
XK BaySeparator	>21.80	

Note:

1. If site requires treatment flows higher than the capacity of our standard units, an upstream splitter box or manhole can be used in conjunction with multiple units to achieve proper design for treatment.
2. Contact ADS representative to confirm by-pass flow rates where applicable.