



CERTIFICATE OF AUTHENTICITY

THIS IS TO CERTIFY THAT THE FOLLOWING ELECTRONIC RECORDS ARE TRUE AND ACCURATE REPRODUCTIONS OF THE ORIGINAL RECORDS OF JAMES CITY COUNTY GENERAL SERVICES DEPARTMENT- STORMWATER DIVISION; WERE SCANNED IN THE REGULAR COURSE OF BUSINESS PURSUANT TO GUIDELINES ESTABLISHED BY THE LIBRARY OF VIRGINIA AND ARCHIVES; AND HAVE BEEN VERIFIED IN THE CUSTODY OF THE INDIVIDUAL LISTED BELOW.

BMP NUMBER: PC213

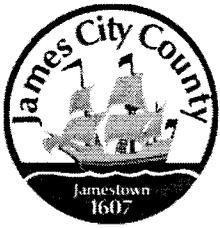
DATE VERIFIED: November 2, 2012

QUALITY ASSURANCE TECHNICIAN:

Leah Hardenbergh

Leah Hardenbergh

LOCATION: WILLIAMSBURG, VIRGINIA



Stormwater Division

MEMORANDUM

DATE: March 13, 2010
TO: Michael J. Gillis, Virginia Correctional Enterprises Document Management Services
FROM: Jo Anna Ripley, Stormwater
PO: 270712
RE: Files Approved for Scanning

General File ID or BMP ID: PC213

PIN: 3611500006

Subdivision, Tract, Business or Owner

Name (if known):

New Town

Property Description:

Block 14 Sections 3 & 6 Parcel E

Site Address:

4374 New Town Ave

(For internal use only)

Box 4

Drawer: 2

Agreements: (in file as of scan date)

Y

Book or Doc#:

080011785

Page:

070008832

Comments
Sentara Building

COPY

Return to:
County Attorney's Office
James City County
101-C Mounts Bay Road
Williamsburg, VA 23185

COUNTY OF JAMES CITY, VIRGINIA

DECLARATION OF COVENANTS
INSPECTION/MAINTENANCE OF DRAINAGE SYSTEM

THIS DECLARATION, made this 7TH day of APRIL, 20 08, between A/H - TWA ASSOCIATES, LLC., and all successors in interest, ("COVENANTOR(S)"), owner(s) of the following property:

Parcel Identification Number: 3911500006
Legal Description: P-E BLK-14 S-3+6 NEW TOWN
Project or Subdivision Name: NEW TOWN - SECTION 3+6 - BLOCK 14 - PARCEL E - SENTARA BUNDING
Document No. 070008832
OR Deed Book _____, Page No. _____
and the County of James City, Virginia ("COUNTY.")

WITNESSETH:

I (We), the COVENANTOR(S), with full authority to execute deeds, mortgages, other covenants, and all rights, titles and interests in the property described above, do hereby covenant with the COUNTY as follows:

1. The COVENANTOR(S) shall provide maintenance for the drainage system including any runoff control facilities, conveyance systems and associated easements, hereinafter referred to as the "SYSTEM," located on and serving the above-described property to ensure that the SYSTEM is and remains in proper working condition in accordance with approved design standards, and with the law and applicable executive regulations. The SYSTEM shall not include any elements located within any Virginia Department of Transportation rights-of-way.
2. If necessary, the COVENANTOR(S) shall levy regular or special assessments against all present or subsequent owners of property served by the SYSTEM to ensure that the SYSTEM is properly maintained.
3. The COVENANTOR(S) shall provide and maintain perpetual access from public right-of-ways to the SYSTEM for the COUNTY, its agent and its contractor.
4. The COVENANTOR(S) shall grant the COUNTY, its agent and its contractor a right of entry to the SYSTEM for the purpose of inspecting, monitoring, operating, installing, constructing, reconstructing, maintaining or repairing the SYSTEM.
5. If, after reasonable notice by the COUNTY, the COVENANTOR(S) shall fail to maintain the SYSTEM in accordance with the approved design standards and with the law and applicable executive regulations, the COUNTY may perform all necessary repair or maintenance work, and the COUNTY may assess the COVENANTOR(S) and/or all property served by the SYSTEM for the cost of the work and any applicable penalties.

Instrument # 080011785

Recorded on May 6, 2008

6. The COVENANTOR(S) shall indemnify and save the COUNTY harmless from any and all claims for damages to persons or property arising from the installation, construction, maintenance, repair, operation or use of the SYSTEM.

7. The COVENANTOR(s) shall promptly notify the COUNTY when the COVENANTOR(S) legally transfers any of the COVENANTOR(S)' responsibilities for the SYSTEM. The COVENANTOR(S)' shall supply the COUNTY with a copy of any document of transfer, executed by both parties.

8. The covenants contained herein shall run with the land and shall bind the COVENANTOR(S) and the COVENANTOR(S)' heirs, executors, administrators, successors and assignees, and shall bind all present and subsequent owners of property served by the SYSTEM.

9. This COVENANT shall be recorded in the County Land Records.

IN WITNESS WHEREOF, the COVENANTOR(S) have executed this DECLARATION OF COVENANTS as of the date first above written.

COVENANTOR(S)



Print Name A. Russell Kirk

Manager

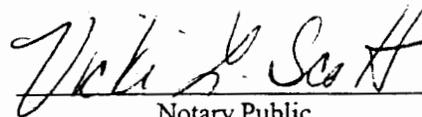
Title

ACKNOWLEDGMENT

COMMONWEALTH OF VIRGINIA
CITY/COUNTY OF Va. Beach, to wit:

I hereby certify that on this 18th day of April, 2008, before the subscribed, a Notary Public for the Commonwealth of Virginia, personally appeared A. Russell Kirk and did acknowledge the foregoing instrument to be his/her Act.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal this 18th day of April, 2008.



Notary Public



Notary Registration Number: 197051

My Commission expires: 4/30/2011

COVENANTOR(S)

[Signature]
Print Name A. Russell Kirk

Manager
Title

ACKNOWLEDGMENT

COMMONWEALTH OF VIRGINIA
CITY/COUNTY OF Va. Beach, to wit:

I hereby certify that on this 18th day of April, 2008, before the subscribed, a Notary Public for the Commonwealth of Virginia, personally appeared A. Russell Kirk and did acknowledge the foregoing instrument to be his/her Act.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal this 18th day of April, 2008.



[Signature]
Notary Public

REGISTRATION Number: 197051
MY COMMISSION EXPIRES: 4/30/2011

Approved as to form:
[Signature]
County Attorney

This Declaration of Covenants prepared by:

Name: _____

Print Name: Shelly Hampton

Title: Director of Asst Mgmt - ARMADA HOFFLER

Address: 222 Central Park Ave, Ste 2100
Va Beach VA 23462

Phone Number: 757-366-4000

(drainage1.pre)



**James City County Environmental Division
Stormwater Management/BMP Record Drawing &
Construction Certification Review
Tracking Form**

Project Name: New Town Section 3&6, Blk 14, Parcel E - Sentara Building
 County Plan No.: SP-125-06
 Stormwater Management Facility: Biotreatment
 BMP Phase #: I II III
 Information Package Received. Date/By: 1/22/08
 Completeness Check:
 Record Drawing Date/By: AES, Bob Cosby 1/21/08
 Construction Certification Date/By: AES, Bob Cosby 1/21/08
 RD/CC Standard Forms (Required for all BMPs after Feb 1st 2001 Only)
 Insp/Maint Agreement # / Date: # 080011785 5/6/08
 BMP Maintenance Plan Location: SP-125-06 sheet 8
 Other: _____
 Standard E&SC Note on Approved Plan Requiring RD/CC or County comment in plan review
 Yes No Location: _____
 Assign County BMP ID Code #: Code: PC213
 Preliminary Input/Log into Division's "As-Built Tracking Log"
 Add Location to GIS Map. Obtain basic site information (GPIN, Owner, Address, etc.)
 Preliminary Log into Access Database (BMP ID #, Plan No., GPIN, Project Name, etc.)
 Active Project File Review (correspondence, H&H, design computations, etc.)
 Initial As-Built File setup (File label, folder, copy plan/details/design information, etc.)
 Inspector Check of RD/CC (forward to Inspector using transmittal for cursory review).
 Pre-Inspection Drawing Review of Approved Plan (Quick look prior to Field Inspection).
 Final Inspection (FI) Performed Date: 1/30/08
 Record Drawing (RD) Review Date: 1/30/08
 Construction Certification (CC) Review Date: 1/30/08
 Actions:
 No comments.
 Comments. Letter Forwarded. Date: 3/13/08 Tim McVane
 Record Drawing (RD)
 Construction Certification (CC)
 Construction-Related (CR)
 Site Issues (SI)
 Other: SI
 Second Submission: N/A
 Reinspection (if necessary): OKAY
 Acceptable for SWM Purposes (RD/CC/CR/Other). OK to proceed with bond release.
 Complete "Surety Request Form".
 Check/Clean active file of any remaining material and finish "As-Built" file.
 Add to County BMP Inventory/Inspection schedule (Phase I, II or III).
 Copy Final Inspection Report into County BMP Inspection Program file.
 Obtain Digital Photographs of BMP and save into County BMP Inventory.
 Request mylar/reproducible from As-Built plan preparer. N/A
 Complete "As-built Tracking Log".
 Last check of BMP Access Database (County BMP Inventory).
 Add BMP to JCC Hydrology & Hydraulic database (optional).
 Add BMP to Municipal BMP list (if a County-owned facility)
 Add BMP to PRIDE BMP ratings database.

Final Sign-Off

Plan Reviewer: Jason Beck

Date: 05/15/08

*** See separate checklist, if needed.



James City County, Virginia
Environmental Division

Stormwater Management / BMP Facilities
Record Drawing and Construction Certification Forms

(Note: In accordance with the requirements of the Chesapeake Bay Preservation Ordinance, Chapter 23, Section 23-10(4), BMP's shall be designed and constructed in accordance with the manual entitled James City County Guidelines for Design and Construction of Stormwater Management BMP's. Erosion and sediment control policy and approved plans generally require that at the completion of the project and prior to release of surety, an "as-built" plan prepared by a registered Professional Engineer or Certified Land Surveyor must be provided for the drainage system for the project, including any Best Management Practice (BMP) facilities. In addition, for BMP facilities involving the construction of an impounding structure or dam embankment, certification is required by a Professional Engineer who has inspected the structure during its construction. Currently there are over 20 water quality type BMP's accepted by the County.)

Section 1 – Site Information:

Project Name: Sentara Building
Structure/BMP Name:
Project Location: New Town Block 14, Parcel E
BMP Location: New Town Block 14, Parcel E, Parking Lot
County Plan No.: SP - 125 - 06

Project Type: Residential Business Tax Map/Parcel No.: (39-1)(1500006)
 Commercial Office BMP ID Code (if known): PC-213
 Institutional Industrial Zoning District: MU
 Public Roadway Land Use:
 Other Site Area (sf or acres): 3.45 Ac.

Brief Description of Stormwater Management/BMP Facility: Bio-Retention Cell, located in large landscape island within the parking lot of site directly in front of the building.

Nearest Visible Landmark to SWM/BMP Facility: Sentara Building

Nearest Vertical Ground Control (if known):
 JCC Geodetic Ground Control USGS Temporary Arbitrary Other
Station Number or Name:
Datum or Reference Elevation:
Control Description:
Control Location from Subject Facility: _____

Section 2 – Stormwater Management / BMP Facility Construction Information:

PreConstruction Meeting Held for Construction of SWM/BMP Facility: Yes No Unknown
Approx. Construction Start Date for SWM/BMP Facility: September 2007
Facility Monitored by County Representative during Construction: Yes No Unknown
Name of Site Work Contractor Who Constructed Facility: Armada Hoffler
Name of Professional Firm Who Routinely Monitored Construction: AES Consulting Engineers
Date of Completion for SWM/BMP Facility: September 2007
Date of Record Drawing/Construction Certification Submittal: 01/14/2008

(Note: Record Drawing and Construction Certifications are required within thirty (30) days of the completion of Stormwater Management and/or BMP facility construction. Record Drawings and Construction Certifications must be reviewed and approved by the James City County Environmental Division prior to final inspection, acceptance and bond or surety release.)

Section 3 – Owner / Designer / Contractor Information:

Owner/Developer: *(Note: Site Owner or Applicant responsible for development of the project.)*

Name: AH Williamsburg Medical LLC
Mailing Address: 222 Central Park Avenue, Suite 2100
Virginia Beach, VA 23462
Business Phone: 757/366-4000 Fax: _____
Contact Person: Chris Odle Title: Project Executive

Design Professional: *(Note: Professional Engineer or Certified Land Surveyor responsible for the design and preparation of plans and specifications for the Stormwater Management / BMP facility.)*

Firm Name: AES Consulting Engineers
Mailing Address: 5248 Olde Towne Rd., Suite 1
Williamsburg, VA 23188
Business Phone: (757) 253-0040
Fax: (757) 220-8994
Responsible Plan Preparer: Robert Cosby III, P.E.
Title: Project Manager
Plan Name: Sentara Building Section 3&6 Block 14 Parcel E
Firm's Project No. 6632-6-14E
Plan Date: 01/25/2007
Sheet No.'s Applicable to SWM/BMP Facility: 6 / 7 / 11 /

BMP Contractor: *(Note: Site Work Contractor directly responsible for construction of the Stormwater Management / BMP facility.)*

Name: Armada Hoffler
Mailing Address: 222 Central Park Ave., Suite 1200
Business Phone: 757/366-4000
Fax: 757/523-0782
Contact Person: Tim McCrane - Project Manager
Site Foreman/Supervisor: Jim Mohs
Specialty Subcontractors & Purpose (for BMP Construction Only):
Hudgins Contracting, Inc. - 757/873-0199

Section 4 – Professional Certifications:

Certifying Professionals: *(Note: A Registered Professional Engineer or Certified Land Surveyor is responsible for preparation of a Record Drawing, sometimes referred to as an As-Built plan, for the drainage system for the project including any Stormwater Management/BMP Facilities. A Registered Professional Engineer is responsible for the inspection, monitoring and certification of Stormwater Management / BMP facilities during its construction.)*

Record Drawing and Construction Certifications for Stormwater Management / BMP Facilities

Record Drawing Certification

Firm Name: AES Consulting Engineers
Mailing Address: 5248 Olde Towne Rd. Suite 1

Business Phone: (757) 253-0040
Fax: (757) 220-8994

Name: Robert E. Cosby III, P.E.
Title: Project Manager

Signature: 
Date: 1/21/08

I hereby certify to the best of my knowledge and belief that this record drawing represents the actual condition of the Stormwater Management / BMP facility. The facility appears to conform with the provisions of the approved design plan, specifications and stormwater management plan, except as specifically noted.

Construction Certification

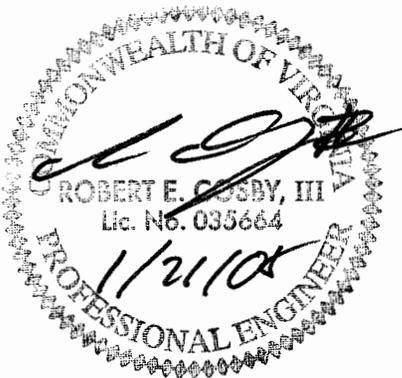
Firm Name: AES Consulting Engineers
Mailing Address: 5248 Olde Towne Rd., Suite 1

Business Phone: (757) 253-0040
Fax: (757) 220-8994

Name: Robert Cosby III, P.E.
Title: Project Manager

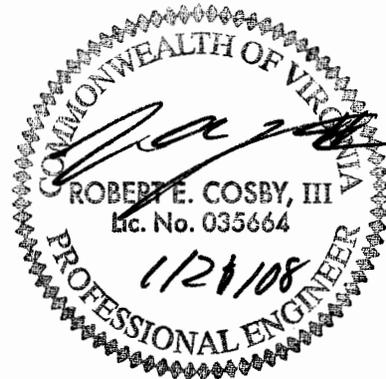
Signature: 
Date: 1/21/08

I hereby certify to the best of my knowledge and belief that this Stormwater Management / BMP facility was monitored and constructed in accordance with the provisions of the approved design plan, specifications and stormwater management plan, except as specifically noted.



(Seal)

Virginia Registered Professional Engineer
Or Certified Land Surveyor



(Seal)

Virginia Registered
Professional Engineer

Section 5 – Record Drawing and Construction Certification Requirements and Instructions:

- ❑ PreConstruction Meeting – Provides an opportunity to review SWM / BMP facility construction, maintenance and operation plans and address any questions regarding construction and/or monitoring of the structure. The design engineer, certifying professionals (if different), Owner/Applicant, Contractor and County representative(s) are encouraged to attend the preconstruction meeting. Advanced notice to the Environmental Division is requested. Usually, this requirement can be met simultaneously with Erosion and Sediment Control preconstruction meetings held for the project.
- ❑ A fully completed **STORMWATER MANAGEMENT / BMP FACILITIES, RECORD DRAWING and CONSTRUCTION CERTIFICATION FORM and RECORD DRAWING CHECKLIST**. All applicable sections shall be completed in their entirety and certification statements signed and sealed by the registered professional responsible for individual record drawing and/or construction certification.
- ❑ The Record Drawing shall be prepared by a Registered Professional Engineer or Certified Land Surveyor for the drainage system of the project including any Best Management Practices.
- ❑ Construction Certification. Construction of Stormwater Management / BMP facilities which contain impoundments, embankments and related engineered appurtenances including subgrade preparation, compacted soils, structural fills, liners, geosynthetics, filters, seepage controls, cutoffs, toe drains, hydraulic flow control structures, etc. shall be visually observed and monitored by a Registered Professional Engineer or his/her authorized representative. The Engineer must certify that the structure, embankment and associated appurtenances were built in accordance with the approved design plan, specifications and stormwater management plan and standard accepted construction practice and shall submit a written certification and/or drawings to the Environmental Division as required. Soil and compaction test reports, concrete test reports, inspection reports, logs and other required construction material or installation documentation may be required by the Environmental Division to substantiate the certification, if specifically requested. The Engineer shall have the authority and responsibility to make minor changes to the approved plan, in coordination with the assigned County inspector, in order to compensate for unsafe or unusual conditions encountered during construction such as those related to bedrock, soils, groundwater, topography, etc. as long as changes do not adversely affect the integrity of the structure(s). Major changes to the approved design plan or structure must be reviewed and approved by the original design professional and the James City County Environmental Division.
- ❑ Record Drawing and Construction Certifications are required within **thirty (30) days** of the completion of Stormwater Management / BMP facility construction. Submittals must be reviewed and accepted by James City County Environmental Division prior to final inspection, acceptance and bond/surety release.

Dual Purpose Facilities – Completion of construction also includes an interim stage for Stormwater Management / BMP facilities which serve dual purpose as temporary sediment basins during construction and as permanent stormwater management / BMP facilities following construction, once development and stabilization are substantially complete. For these dual purpose facilities, construction certification is required once the temporary sediment basin phase of construction is complete. Final record drawing and construction certification of additional permanent components is required once permanent facility construction is complete.

Interim Construction Certification is required for those dual purpose embankment-type facilities that are generally ten (10) feet or greater in dam height (*) and may not be converted, modified or begin function as a permanent SWM / BMP structure for a period generally ranging from six (6) to eighteen (18) months or more from issuance of a Land Disturbance permit for construction.

Interim or final record drawing and construction certifications are not required for temporary sediment basins which are designed and constructed in accordance with current minimum standards and specifications for temporary sediment basins per the Virginia Erosion and Sediment Control Handbook (VESCH); have a temporary service life of less than eighteen (18) months; and will be removed completely once associated disturbed areas are stabilized, unless a distinct hazard to the public's health, safety and welfare is determined by the Environmental Division due to the size or presence of the structure or due to evidence of improper construction.

(*Note: Dam Height as referenced above is generally defined as the vertical distance from the natural bed of the stream or waterway at the downstream toe of the embankment to the top of the embankment structure in accordance with 4VAC50-20-30, Virginia Impoundment Structure Regulations and the Virginia Dam Safety Program.)

- Record Drawings shall provide, at a minimum, all information as shown within these requirements and the attached **RECORD DRAWING CHECKLIST** specific to the type of SWM/BMP facility being constructed. Other additional record data may be formally requested by the James City County Environmental Division. *(Note: Refer to the current edition of the James City County Guidelines for Design and Construction of Stormwater Management BMP's manual for a complete list of acceptable BMP's. Currently there are over 20 acceptable water quality type BMP's accepted by the County.)*
- Record Drawings shall consist of blue/black line prints and a reproducible (mylar, sepia, diazo, etc.) set of the approved stormwater management plan including applicable plan views, profiles, sections, details, maintenance plans, etc. as related to the subject SWM / BMP facility. The set shall indicate "**RECORD DRAWING**" in large text in the lower right hand corner of each sheet with record elevations, dimensions and data drawn in a clearly annotated format and/or boxed beside design values. Approved design plan values, dimensions and data shall not be removed or erased. Drawing sheet revision blocks shall be modified as required to indicate record drawing status. Elevations to the nearest 0.1' are sufficiently accurate except where higher accuracy is needed to show positive drainage. Certification statements as shown in Section 4 of the Record Drawing and Construction Certification Form, *or similar forms thereof*, and professional signatures and seals, with dates matching that of the record drawing status in the revision or title block, are also required on all associated record drawing plans, prints or reproducibles.
- Submission Requirements. Initial and subsequent submissions for review shall consist of a minimum of one (1) blue/black line set for record drawings and one copy of the construction certification documents with appropriate transmittal. Under certain circumstances, it is understood that the record drawing and construction certification submissions may be performed by different professional firms. Therefore, record drawing submission may be in advance of construction certification or vice versa. Upon approval and prior to release of bond/surety, final submission shall include one (1) reproducible set of the record drawings, one (1) blue/black line set of the record drawings and one (1) copy of the construction certification. Also for current and/or future incorporation into the County BMP database and GIS system, it is requested that the record drawings also be submitted to the Environmental Division on a diskette or CD-ROM in an acceptable electronic file format such as *.dxf, *.dwg, etc. or in a standard scanned and readable format. The electronic file requirement can be discussed and coordinated with Environmental Division staff at the time of final submission.

STORMWATER MANAGEMENT / BMP FACILITIES RECORD DRAWING CHECKLIST

(Key for Checklist is as follows: XX Acceptable N/A Not Applicable Inc Incomplete)

I. Methods and Presentation: (Required for all Stormwater Management / BMP facilities.)

- XX 1. All constructed facilities meet approved design plans, unless otherwise shown. Record information or deviations from approved design plan shown in clearly annotated format and/or boxed beside design values.
- XX 2. Elevations to the nearest 0.1' unless higher accuracy is needed to show positive drainage.
- XX 3. All plan sheets labeled with "RECORD DRAWING" in large text in lower right hand corner (Approved County Plan Number and BMP ID Code can be included if known).
- XX 4. All plans sheet revision blocks modified to indicate date and record drawing status.
- XX 5. All plan sheets have certification statements and certifying professional's signature and seal.

II. Minimum Standards: (Required for all Stormwater Management / BMP facilities, as applicable.)

- XX 1. All requirements of Section I (Methods and Presentation) apply to this section.
- XX 2. Plan Views: Show general location, arrangement and dimensions. Location and alignment shall generally match approved design plans.
- N/A 3. Profile or elevations along top or berm of the facility. At a minimum, elevations are required at each end, at intervals not to exceed 50 feet and where low spots may be present. Top of embankment or berm elevations must be no less than design elevation plus any settlement allowances.
- N/A 4. Top widths, berm widths and embankment side slopes.
- N/A 5. Show length, width and depth of facility or grading, contours or spot elevations as required to verify permanent pool and design storage volumes were met or were reasonably close to the approved design. Evaluation of as-built grading, contours, spot elevations, or cross-sections, may be necessary by the professional to ensure approved design configurations, depths and volumes were closely maintained. If grading or elevations are significantly different from the approved plan, the Environmental Division shall be contacted immediately to determine whether the variation is acceptable or whether further evidence will be required. Facilities which do not closely resemble approved plan grades, elevations or configurations may require regrading by the Contractor; check volumetric computations; and/or a check hydraulic routing to ensure approved design water surface elevations, discharges or freeboard were closely maintained.
- N/A 6. Cross-section of the embankment through the principal spillway or outlet barrel. Must extend at least 100 ft. downstream of the pipe outlet or to recorded site property line, whichever is closer. Proper correlation is required between principal spillway (control structure) crest, emergency spillway crest, orifice and weirs and the top of the dam or facility. All elevations and dimensions must reasonably match the design plan or be sequentially relative to each other and the facility must reflect the required design storage volume(s) and/or design depth.
- N/A 7. Profile or elevations along the entire centerline of the emergency spillway. Emergency spillway may be steeper, but no flatter or narrower than design.
- XX 8. Elevation of the principal spillway crest or outlet crest of the structure.

- XX 9. Primary control structure (riser) diameter or dimensions, height, type of material and base size. Indicate provisions for access that are present such as steps, ladders, etc.
- N/A 10. Dimensions, locations and elevations of outlet orifices, weirs, slots and drains.
- N/A 11. Type and size of anti-vortex and trash rack device. Height, diameter, dimensions, bar spacings (if applicable) and elevations relative to the principal spillway crest. Indicate if lockable hatch is present or not.
- N/A 12. Type, location, size and number of anti-seep collars or documentation of other methods utilized for seepage control. **May need to obtain this information during construction.**
- N/A 13. Top of impervious core embankment, core trench limits and elevation of cut-off trench bottom. **May need to obtain this information during construction.**
- N/A 14. Elevation of the principal spillway barrel (outlet pipe) inlet and outlet invert.
- N/A 15. Outlet barrel diameter, length, slope, type and thickness class of material and type of flared end sections, headwall or endwall.
- N/A 16. Outfall protection dimension, type and depth of rock and if underlain filter fabric is present.
- XX 17. BMP interior and periphery landscaping zones conform with arrangements and requirements of the approved design plan.
- N/A 18. Maintenance plan taken from approved design plan transposed onto record drawing set.
- N/A 19. Fencing location and type, if applicable to facility.
- XX 20. BMP vicinity properly cleaned of stockpiles and construction debris.
- XX 21. No visual signs of erosion or channel degradation immediately downstream of facility.
- XX 22. Any other information formally requested by the Environmental Division specific to the constructed SWM/BMP facility.

**STORMWATER MANAGEMENT / BMP FACILITIES
RECORD DRAWING CHECKLIST**

(Key for Checklist is as follows: XX Acceptable N/A Not Applicable Inc Incomplete)

III. Group A – Wet Ponds (Includes A-1 Small Wet Ponds; A-2 Wet Ponds; A-3 Wet Ext Det Ponds.)

- _____ A1. All requirements of Section II, Minimum Standards, apply to Group A facilities.
- _____ A2. Principal spillway consists of reinforced concrete pipe with O-Ring gaskets for watertight joint construction.
- _____ A3. Sediment forebays or pretreatment devices provided at inlets to pond. Generally 4 to 6 ft. deep.
- _____ A4. Access for maintenance and equipment is provided to the forebay(s). Access corridors are at least 12 ft. wide, have a maximum slope of 15 percent and are adequately stabilized to withstand heavy equipment or vehicle use.
- _____ A5. Adequate fixed vertical sediment depth markers installed in the forebay(s) for future sediment monitoring purposes.
- _____ A6. Pond liner (if required) provided. Either clay liners, polyliners, bentonite liners or use of chemical soil additives based on requirements of the approved plan.
- _____ A7. Minimum 6 percent slope safety bench extending a minimum of 15 feet outward from normal pool edge and/or an aquatic bench extending a minimum of 10 feet inward from the normal shoreline with a maximum depth of 12 inches below the normal pool elevation, if applicable, per the approved design plans. (Note: Safety benches may be waived if pond side slopes are no steeper than 4H:1V).
- _____ A8. No trees are present within a zone 15 feet around the embankment toe and 25 feet from the principal spillway structure.
- _____ A9. Wet permanent pool, typically 3 to 6 feet deep, is provided and maintains level within facility.
- _____ A10. Low flow orifice has a non-clogging mechanism.
- _____ A11. A pond drain pipe with valve was provided.
- _____ A12. Pond side slopes are not steeper than 3H:1V, unless approved plan allowed for steeper slope.
- _____ A13. End walls above barrels (outlet pipe) greater than 48 inch in diameter are fenced to prevent a fall hazard.

**STORMWATER MANAGEMENT / BMP FACILITIES
RECORD DRAWING CHECKLIST**

(Key for Checklist is as follows: XX Acceptable N/A Not Applicable Inc Incomplete)

IV. Group B – Wetlands: *(Includes B-1 Shallow Marsh; B-2 Ext Det Shallow Wetlands; B-3 Pond Wetland System and B-4 Pocket Wetland).*

- _____ B1. Same requirements as Group A Wet Ponds.
- _____ B2. Minimum 2:1 length to width flow path provided across the facility.
- _____ B3. Micropool provided at or around outlet from BMP (generally 3 to 6 ft. deep).
- _____ B4. Wetland type landscaping provided in accordance with approved plan. Includes correct pondscaping zones, plant species, planting arrangements, wetland beds, etc. Wetland plants include 5 to 7 emergent wetland species. Individual plants at 18 inches on center in clumps.
- _____ B5. Adequate wetland buffer provided (Typically 25 ft. outward from maximum design water surface elevation and 15 ft. setback to structures).
- _____ B6. No more than one-half (½) of the wetland surface area is planted.
- _____ B7. Topsoil or wetland mulch provided to support vigorous growth of wetland plants.
- _____ B8. Planting zones staked or flagged in field and locations subsequently established by appropriate field surveying methods for record drawing presentation.

**STORMWATER MANAGEMENT / BMP FACILITIES
RECORD DRAWING CHECKLIST**

(Key for Checklist is as follows: XX Acceptable N/A Not Applicable Inc Incomplete)

V. Group C – Infiltration Practices (Includes C-1 Infiltration Trench; C-2 Infiltration Trench;
C-3 Infiltration Basin; and C-4 Infiltration Basin)

- _____ C1. All requirements of Section II, Minimum Standards, apply to Group C facilities as applicable.
- _____ C2. Facility is not located on fill slopes or on natural ground in excess of six (6) percent.
- _____ C3. Pretreatment devices provided prior to entry into the infiltration facility. Acceptable pretreatment devices include sediment forebays, sediment basins, sediment traps, sump pits or inlets, grass channels, plunge pools or other acceptable measures.
- _____ C4. Three (3) or more of the following pretreatment devices provided to protect long term integrity of structure: grass channel; grass filter strip; bottom sand layer; upper filter fabric layer; use of washed bank run gravel aggregate.
- _____ C5. Sides of infiltration practice lined with filter fabric.
- _____ C6. Facility was not used for erosion and sediment control purposes and sediment was prevented from entering the facility to the greatest extent possible during construction.
- _____ C7. Stabilization and acceptable vegetative cover established over contributing drainage area prior to conveyance of stormwater to the facility.
- _____ C8. Minimum one hundred (100) foot separation horizontally from any known water supply well and minimum one hundred (100) foot separation upslope from any building.
- _____ C9. Minimum twenty-five (25) foot separation down gradient from any structure.
- _____ C10. Stormwater outfalls provided for overflow associated with larger design storms.
- _____ C11. No visual signs of erosion or channel degradation immediately downstream of facility.
- _____ C12. Facility does not currently cause any apparent surface or subsurface water problems to downgrade properties.
- _____ C13. Observation well provided.
- _____ C14. Adequate, direct access provided to the facility for future maintenance, operation and inspection.

**STORMWATER MANAGEMENT / BMP FACILITIES
RECORD DRAWING CHECKLIST**

(Key for Checklist is as follows: XX Acceptable N/A Not Applicable Inc Incomplete)

- VI. Group D – Filtering Systems** *Includes D-1 Bioretention Cells; D-2 Surface Sand Filters; D-3 Underground Sand Filters; D-4 Perimeter Sand Filters; D-5 Organic Filters; and D-6 Pocket Sand Filters)*
- XX D1. All requirements of Section II, Minimum Standards, apply to Group D facilities.
- XX D2. Sediment pretreatment devices provided.
- XX D3. For D-1 BMPs (Bioretention Cells), pretreatment consisting of a grass filter strip below level spreader (deflector); a gravel diaphragm; and mulch and planting soil layers were provided.
- XX D4. For D-1 BMPs (Bioretention Cells), plantings consist of native plant species; vegetation provided was based on zones of hydric tolerances; trees and understory of shrubs and herbaceous materials were provided; woody vegetation is absent from inflow locations; and trees are located around facility perimeter.
- XX D5. Facility was not used for erosion and sediment control purposes and sediment was prevented from entering the facility to the greatest extent possible during construction.
- XX D6. No visible signs of accumulated silt/sediment were present in the facility following construction or alternately, accumulated silt/sediment was properly removed.
- XX D7. Filtering system is off-line from storm drainage conveyance system.
- N/A D8. Overflow outlet has adequate erosion protection.
- N/A D9. Deflector, diversion, flow splitter or regulator structure provided to divert the water quality volume to the filtering structure.
- XX D10. Minimum four (4) inch perforated underdrain provided in a clean aggregate envelope layer beneath the facility.
- XX D11. Minimum fifty (50) foot separation from any slope fifteen (15) percent or greater. Minimum one hundred (100) foot separation horizontally from any known water supply well. Minimum one hundred (100) foot separation upslope and twenty-five (25) foot separation downslope from any building.
- XX D12. Stabilization and acceptable vegetative cover established over contributing drainage area prior to conveyance of stormwater to the facility.
- XX D13. No visual signs of erosion or channel degradation immediately downstream of facility.
- XX D14. Adequate, direct access provided to the pretreatment area and/or filter bed for future maintenance.

**STORMWATER MANAGEMENT / BMP FACILITIES
RECORD DRAWING CHECKLIST**

(Key for Checklist is as follows: XX Acceptable N/A Not Applicable Inc Incomplete)

VII. Group E – Open Channel Systems *(Includes E-1 Wet Swales (Check Dams); E-2 Dry Swales; and E-3 Biofilters)*

- _____ E1. All requirements of Section II, Minimum Standards, apply to Group E facilities as applicable.
- _____ E2. Open channel system has constructed longitudinal slope of less than four (4) percent.
- _____ E3. No visual signs of erosion in the open channel system's soil and/or vegetative cover.
- _____ E4. Open channel side slopes are no steeper than 2H:1V at any location. Preferred channel sideslope is 3H:1V or flatter.
- _____ E5. No visual signs of ponding are present at any location in the open channel system, except at rock check dam locations for E-1 systems (Wet Swales).
- _____ E6. For E-2 BMPs (Dry Swales), an underdrain system was provided.
- _____ E7. Treated timber or rock check dams provided as pretreatment devices for the open channel system.
- _____ E8. Gravel diaphragm provided in areas where lateral sheet flow from impervious surfaces are directly connected to the open channel system.
- _____ E9. Grass cover/stabilization in the open channel system appears adaptable to the specific soils and hydric conditions for the site and along the channel system.
- _____ E10. Open channel system areas with grass covers higher than four (4) to six (6) inches were properly mowed.
- _____ E11. Facility was not used for erosion and sediment control purposes and sediment was prevented from entering the facility to the greatest extent possible during construction.
- _____ E12. No visible signs of accumulated silt/sediment were present in the facility following construction or alternately, accumulated silt/sediment was properly removed and no adverse affects to the function of the facility are anticipated.
- _____ E13. For E-3 BMPs (Biofilters), the bottom width is six (6) feet maximum at any location.
- _____ E14. For E-3 BMPs (Biofilters), sideslopes are 3H:1V maximum at any location.
- _____ E15. For E-3 BMPs (Biofilters), the constructed channel slope is less than or equal to three (3) percent at any location.
- _____ E16. For E-3 BMPs (Biofilters), the constructed grass channel is approximately equivalent to the constructed roadway length.

**STORMWATER MANAGEMENT / BMP FACILITIES
RECORD DRAWING CHECKLIST**

(Key for Checklist is as follows: **XX** Acceptable **N/A** Not Applicable **Inc** Incomplete)

VIII. Group F – Extended Dry Detention (Includes F-1 Timber Walls; and F-2 Dry Extended Detention with Forebay)

- _____ F1. All requirements of Section II, Minimum Standards, apply to Group F facilities.
- _____ F2. Basin bottom has positive slope and drainage from all basin inflow points to the riser (or outflow) location.
- _____ F3. Timber wall BMP used in intermittent stream only. (ie. Prohibited in perennial streams.)
- _____ F4. Forebay provided approximately 20 ft. upstream of the facility. Forebays generally 4 to 6 feet in depth.
- _____ F5. A reverse slope pipe, vertical stand pipe or mini-barrel and riser was provided to prevent clogging
- _____ F6. Principal spillway and outlet barrel provided consisting of reinforced concrete pipe with O-Ring gaskets for watertight joint construction.
- _____ F7. Mini-barrel and riser, if used, contains a removable trash rack to reduce clogging.
- _____ F8. Low flow orifice, if used, has a minimum diameter of three (3) inches or two (2) inches if internal orifice control was utilized and a small, cage type external trash rack.
- _____ F9. Timbers properly reinforced or concrete footing provided if soil conditions were prohibitive.
- _____ F10. Timber wall cross members extended to a minimum depth of two (2) feet below ground elevation.
- _____ F11. Protection against erosion and scour from the low flow orifice and weir-flow trajectory provided.
- _____ F12. Stilling basin or standard outlet protection provided at principal spillway outlet.
- _____ F13. Adequate, direct access provided to the facility. Access corridor to facility is at least ten (10) feet wide, slope is less than twenty (20) percent and appropriate stabilization provided for equipment and vehicle use. Access extends to forebay, standpipe and timber wall, as applicable.
- _____ F14. No visual signs of undercutting of timber walls or clogging of the low orifice were present.
- _____ F15. No visual signs of erosion or channel degradation immediately downstream of facility.
- _____ F16. No visible signs of accumulated silt/sediment were present in the facility following construction or alternately, accumulated silt/sediment was properly removed and no adverse affects to the function of the facility are anticipated.

**STORMWATER MANAGEMENT / BMP FACILITIES
RECORD DRAWING CHECKLIST**

(Key for Checklist is as follows: XX Acceptable N/A Not Applicable Inc Incomplete)

IX. Group G – Open Spaces (Includes All Open Space Types G-1; G-2; and G-3)

- _____ G1. All requirements of Section II, Minimum Standards, apply to Group G facilities as applicable.

- _____ G2. Constructed impervious areas appear to conform with locations indicated on the approved plan and appear less than sixty (60) percent impervious in accordance with the requirements of the James City County Chesapeake Bay Preservation Ordinance.

- _____ G3. Dedicated open space areas are in undisturbed common areas, conservation easements or are protected by other enforceable instruments that ensures perpetual protection.

- _____ G4. Provisions included to clearly specify how the natural vegetated areas utilized as dedicated open space will be managed and field identified (marked).

- _____ G5. Adequate protection measures were implemented during construction to protect the defined dedicated open space areas.

- _____ G6. Dedicated open space areas were not disturbed during construction (ie. cleared, grubbed or graded).

STORMWATER MANAGEMENT / BMP FACILITIES RECORD DRAWING CHECKLIST

(Key for Checklist is as follows: XX Acceptable N/A Not Applicable Inc Incomplete)

X. Storm Drainage Systems (Associated with BMP's Only)

(Includes all incidental stormwater drainage conveyance systems associated with SWM/BMP facilities such as onsite or offsite storm drains, open channels, inlets, manholes, junctions, outlet protections, deflectors, etc. These facilities are external to the treatment function of, but are directly associated with drainage to and/or from a constructed SWM/BMP facility. The intent of this portion of the certification is to accurately identify the type and quantity of inflow or outflow points associated with the facility for future reference. The Professional may use his/her own discretion to determine inclusive facilities to meet the intent of this section. As a general rule, storm drainage systems would include incidental facilities to the nearest access structure upslope or downslope from the normal physical limits of the facility or 800 feet of storm drainage conveyance system length, whichever is less.)

- _____ SD1. All requirements of Section II, Minimum Standards, apply to Storm Drainage Systems.
- _____ SD2. Horizontal location of all pipe and structures relative to the SWM/BMP facility.
- _____ SD3. Type, top elevation and invert elevation of all access type structures (inlets, manholes, etc.).
- _____ SD4. Material type, size or diameter, class, invert elevations, lengths and slopes for all pipe segments.
- _____ SD5. Class, length, width and depth of riprap and outlet protections or dimensions of special energy dissipation structures.

XII. Other Systems

(Includes any non-typical, specialty, manufactured or innovative stormwater management/BMP practices or systems generally accepted for use as or in conjunction with other acceptable stormwater management / BMP practices. Requires evidence of prior satisfactory industry use and prior Environmental Division approval, waiver or exception.)

- _____ O1. All requirements of Section II, Minimum Standards, apply to this section.
- _____ O2. Certification criteria to be determined on a case-by-case basis by the Environmental Division specific to the proposed SWM/BMP facility.

STORMWATER MANAGEMENT / BMP FACILITIES RECORD DRAWING CHECKLIST

XIII. References *(The James City County Record Drawing and Construction Certification Forms and Checklists for Stormwater Management / BMP facilities were developed using the following sources and references.)*

- Baltimore County, Maryland Soil Conservation District, As-Built Stormwater Management Pond Checklist.
- James City County, Virginia, Guidelines for Design and Construction of Stormwater Management BMP's (October 1999.)
- James City County, Virginia, Stormwater Detention/Retention Basin Design Checklist and Erosion and Sediment Control and Stormwater Management Design Plan Checklists.
- James City County Stormwater Policy Framework, Final Report of the James City County BMP Policy Project, October 1998, The Center for Watershed Protection.
- Prince Georges County, Maryland, As-Built Requirements Retention or Detention Pond/Basin.
- Prince William County, Virginia, Stormwater Management Fact Sheet.
- Stafford County, Virginia As-Built Plan Checklist.
- Stormwater Management Design Manual, NRCS Maryland Code No. 378, Pond Standards and Specifications.
- USEPA/Watershed Management Institute, Stormwater Management Inspection Forms.
- Virginia Impounding Structure Regulations (Dam Safety), Department of Conservation & Recreation, 1997.
- Virginia Erosion and Sediment Control Handbook, Third Edition 1992, Virginia Department of Conservation and Recreation, Division of Soil and Water Conservation.
- Virginia Stormwater Management Handbook, 1999 edition, Virginia Department of Conservation and Recreation, Division of Soil and Water Conservation.



**James City County, Virginia
Environmental Division**

**Stormwater Management / BMP Facilities
Record Drawing and Construction Certification**

Standard Forms & Instructions

<u>Contents</u>		Page
Record Drawing and Construction Certification Forms		
	Section 1 – Site Information	1
	Section 2 – Construction Information	2
	Section 3 – Owner / Designer / Contractor Information	2
	Section 4 – Professional Certifications	3
	Section 5 – Certification Requirements and Instructions	4
Record Drawing Checklist		
I.	Methods and Presentation (Required for All Facilities)	6
II.	Minimum Standards (Required for All Facilities)	6
III.	Group A – Wet Ponds	8
IV.	Group B – Wetlands	9
V.	Group C – Infiltration Practices	10
VI.	Group D – Filtering Systems	11
VII.	Group E – Open Channel Systems	12
VIII.	Group F – Extended Dry Detention	13
IX.	Group G – Open Spaces	14
X.	Storm Drainage Systems (Associated with BMP's Only)	15
XII.	Other Systems	15
XIII.	References	16

*Issue Date
February 1, 2001*

ARTS WITH VIRGINIA NATURAL GAS, DOMINION
OTHERS THAT MAY BE REQUIRED.

WORK INDICATED.

CITY COUNTY ZONING ORDINANCE.

BE INSTALLED AND TESTED IN ACCORDANCE
R DISTRIBUTION AND SANITARY SEWER
MENTS DATED JANUARY 2003), AND THE
VERAGE REGULATIONS. THE CONTRACTOR
ERIALS SHALL BE STORED SO AS TO ASSURE
CSA DESIGN AND ACCEPTANCE CRITERIA AND
CTOR DURING TIME OF INSTALLING, TESTING,

BRIDGE STANDARDS AND VDOT SPECIFICATIONS.
AND GUIDELINES, AND MANHOLES DEEPER
L BE CLASS III UNLESS OTHERWISE NOTED.

LAND DISTURBER" FOR PURPOSES OF PLAN
OR DEVELOPER SHALL PROVIDE THE NAME
RESPONSIBLE LAND DISTURBER" FOR THE
WRITTEN NOTIFICATION SHOULD THE

RUN) AND CATCHMENT 208-103-1 OF THE

TIL ALL UTILITIES HAVE BEEN INSTALLED.

PROVAL ON OCTOBER 19, 2006.

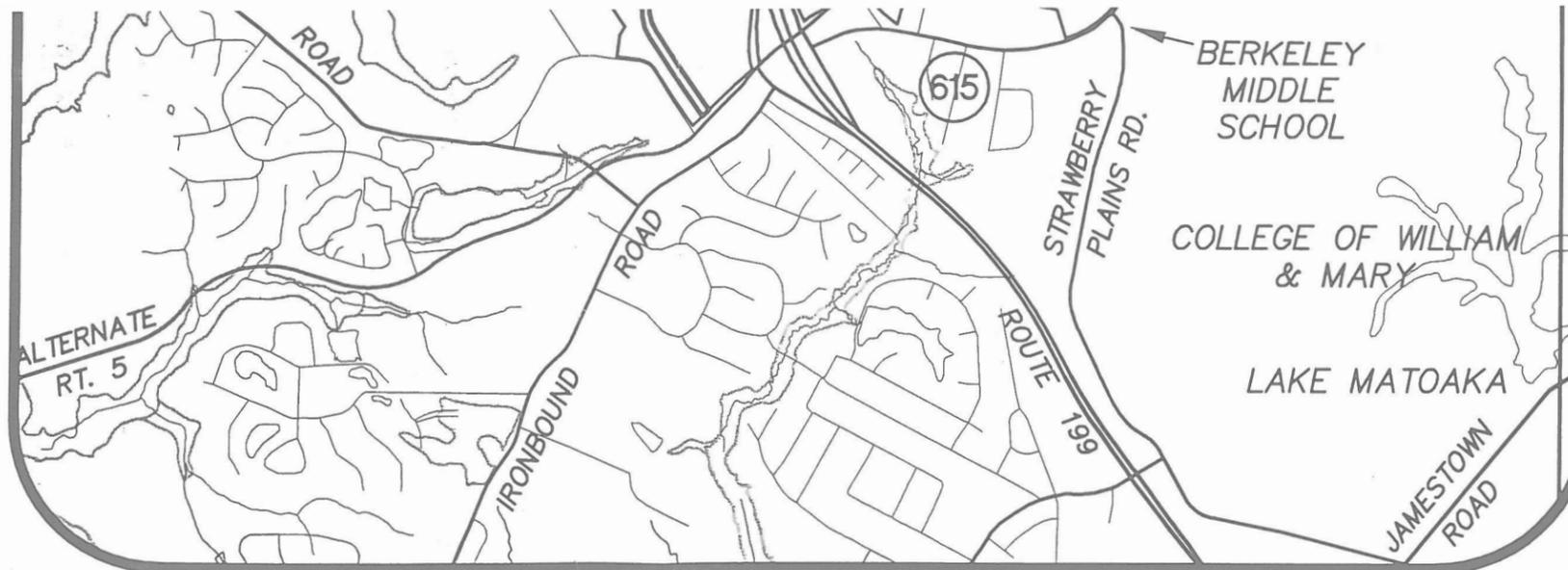
PLACES SHALL BE DESIGNATED BY ABOVE

MAINTAINED BY VDOT.

ACCORDANCE WITH ALL APPLICABLE LOCAL,

PERMIT FOR DISCHARGE OF STORMWATER
VIRGINIA DEPARTMENT OF CONSERVATION

LEVATION=110.67



VICINITY MAP (APPROX. SCALE 1"=2000')

SEPTEMBER 27, 2006

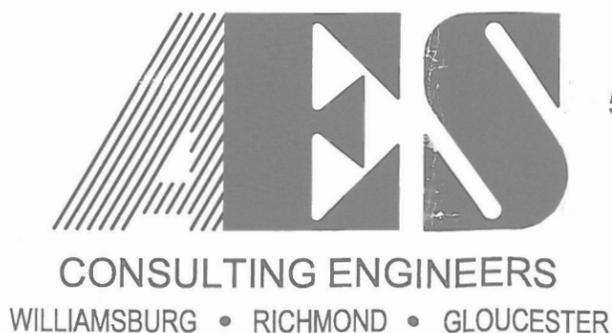
JCC-SP-125-06

PROJECT NO.: 6632-6-14E

SHEET 1 OF 8



NOTE:
1) A WAIVER TO SEC. 24-527(A), SETBACK REQUIREMENTS
PLANNED OR EXISTING PUBLIC ROAD RIGHT OF WAY, WAS
BY THE JAMES CITY COUNTY PLANNING COMMISSION ON JULY 10, 2006.
PROVIDED PROPOSALS ARE IN ACCORDANCE WITH THE NEW
DESIGN GUIDELINES.



5248 Olde Towne Road, Suite 1
Williamsburg, Virginia 23188
(757) 253-0040
Fax (757) 220-8994

VDOT DOES NOT ASSUME RESPONSIBILITY FOR
MAINTENANCE OF THE DETENTION BMP
AND SHALL BE SAVED HARMLESS FROM

CONCRETE 3,000 P.S.I.
STEEL 60,000 P.S.I.

16-25' POLE BASE DETAIL

N.T.S.

- CHANGE
- H. ALL LOGS TO BE EXTENDED TO A METEOROLOGICAL PAID FOR
- I. ANY REVISIONS TO BE COMPLETED
- J. THE CONTRACTOR SHALL PROVIDE ANY NECESSARY CONDITIONS FOR CONTRACTOR'S
- K. WATER SHALL BE PROVIDED FROM THE PROJECT
- L. ONLY JOINTS SHALL BE USED
- M. ANY EXISTING UTILITIES SHALL BE MAINTAINED AND PROTECTED
- N. BEDDING SHALL BE PROVIDED
- O. NO TREE REMOVAL SHALL BE REQUIRED UNLESS SPECIFICALLY NOTED
- P. JOINTS SHALL BE AS SHOWN
- Q. PROPOSED UTILITIES SHALL BE MAINTAINED AND PROTECTED
- R. ANY SPECIAL REQUIREMENTS SHALL BE SPECIFIED
- S. PLUMBING SHALL BE AS SHOWN AT (757) APPROVED
- T. EASEMENT SHALL BE OBTAINED FROM THE AUTHORITY WITH THE NECESSARY RECORDS FROM JOINT TO IMPROVE
- U. JCSA SHALL BE NOTIFIED AND BACKFILL SHALL BE PROVIDED
- V. FIRE HYDRANT SHALL BE ACCORDING TO

MAINTENANCE PROGRAM & SCHEDULE

INSPECT AND REPAIR EROSION	MONTHLY
REMULCH ANY VOID AREAS	WHENEVER NEEDED
REMOVE PREVIOUS MULCH AND REAPPLY	EVERY 3 YEARS
REMOVAL AND REPLACEMENT OF ALL DISEASED VEGETATION CONSIDERED BEYOND TREATMENT	WHENEVER NEEDED
CHECK FOR ACCUMULATED SEDIMENTS	MONTHLY
INSPECT AND REMOVE ANY DEBRIS THAT MAY COLLECT AT THE DROP INLET	AFTER MAJOR STORM EVENTS/OR SEMI ANNUALLY

SOIL SPECIFICATIONS

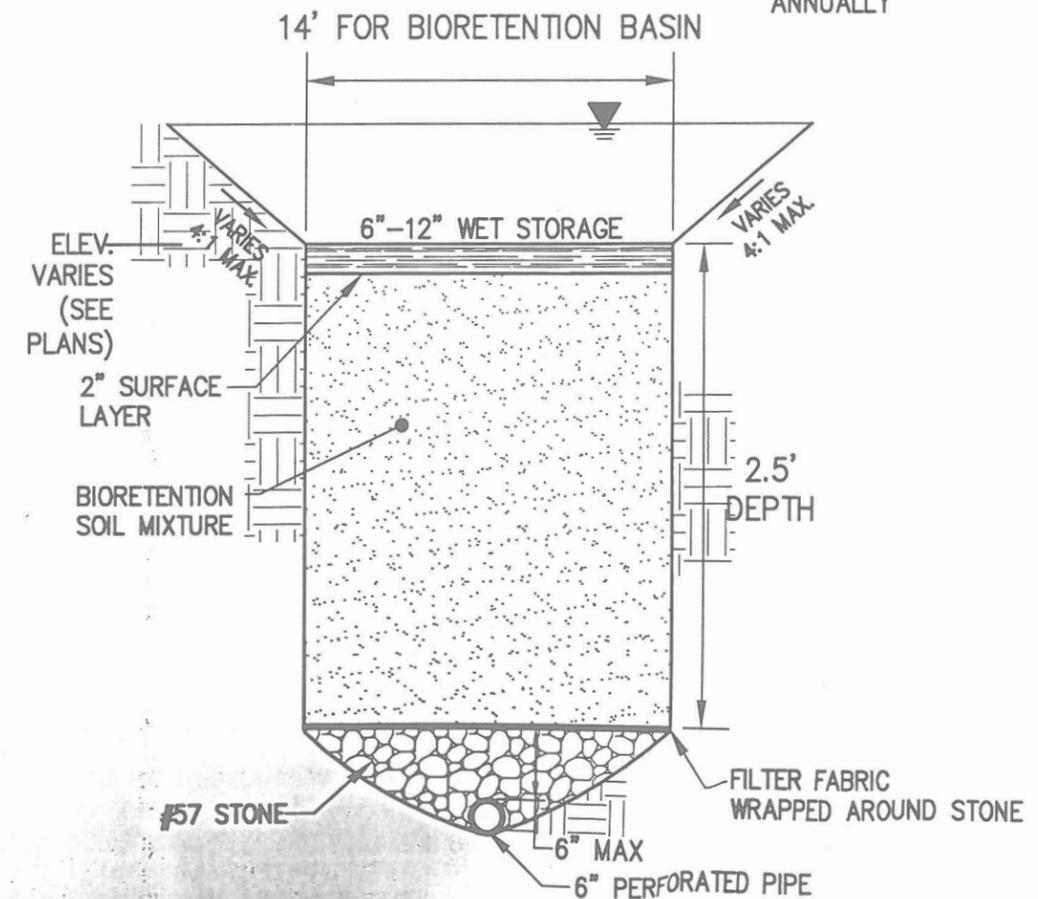
THE BIORETENTION AREAS SHALL CONTAIN A PLANTING SOIL MIXTURE OF 50% SAND, 30% LEAF COMPOST (FULLY COMPOSTED, NOT PARTIALLY ROTTED LEAVES), AND 20% TOPSOIL. TOPSOIL SHALL BE SANDY LOAM OR LOAMY SAND OF UNIFORM COMPOSITION, CONTAINING NO MORE THAN 5% CLAY, FREE OF STONES, STUMPS, ROOTS, OR SIMILAR OBJECTS GREATER THAN ONE INCH, BRUSH, OR ANY OTHER MATERIAL OR SUBSTANCE WHICH MAY BE HARMFUL TO PLANT GROWTH, OR A HINDRANCE TO PLANT GROWTH OR MAINTENANCE. THE TOPSOIL SHALL BE FREE OF PLANTS OR PLANT PARTS OF BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, MUGWORT, NUTSEDEGE, POISON IVY, CANADIAN THISTLE, CATTAIL, OR OTHERS AS SPECIFIED. IT SHALL NOT CONTAIN TOXIC SUBSTANCES HARMFUL TO PLANT GROWTH.

THE TOP SOIL SHALL BE TESTED AND MEET THE MINIMUM CRITERIA SET FORTH IN SECTION 3.11-28 OF THE VIRGINIA STORMWATER MANAGEMENT HANDBOOK (LATEST EDITION).

A SURFACE LAYER SHALL BE PROVIDED ON TOP OF THE PLANTING SOIL. AN ACCEPTABLE SURFACE LAYER SHALL INCLUDE SHREDDED HARDWOOD OR SHREDDED WOOD CHIPS OR OTHER SIMILAR PRODUCT, PEA GRAVEL, OR RIVER STONE, OR TOPSOIL AS SPECIFIED ABOVE AND PERMANENT SEEDING.

NOTES

1. WATER PLANT MATERIAL EACH DAY FOR FOURTEEN CONSECUTIVE DAYS AFTER CONSTRUCTION.
2. CONTRACTOR SHALL REFER TO COUNTY BMP MANUAL (GROUP D, PGS. 48-50) AND MINIMUM STANDARD 3.11 AND 3.13 OF THE VIRGINIA STORMWATER MANAGEMENT HANDBOOK FOR METHODS/MATERIAL ASSOCIATED WITH CONSTRUCTION OF THE BIORETENTION CELLS.
3. VDOT SHALL BE SAVED HARMLESS FROM THE MAINTENANCE RESPONSIBILITY OR LIABILITY ASSOCIATED WITH ANY FAILURE OF THE STORM WATER MANAGEMENT FACILITY AND ITS STRUCTURES.
4. A PROFESSIONAL ENGINEER WHO HAS INSPECTED THE BASIN DURING CONSTRUCTION SHALL CERTIFY THE CONSTRUCTION OF THE BIORETENTION BASIN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE BIORETENTION BASIN CONSTRUCTION SCHEDULE WITH THE ENGINEER TO ENSURE ON SITE MONITORING.



BIORETENTION AREA

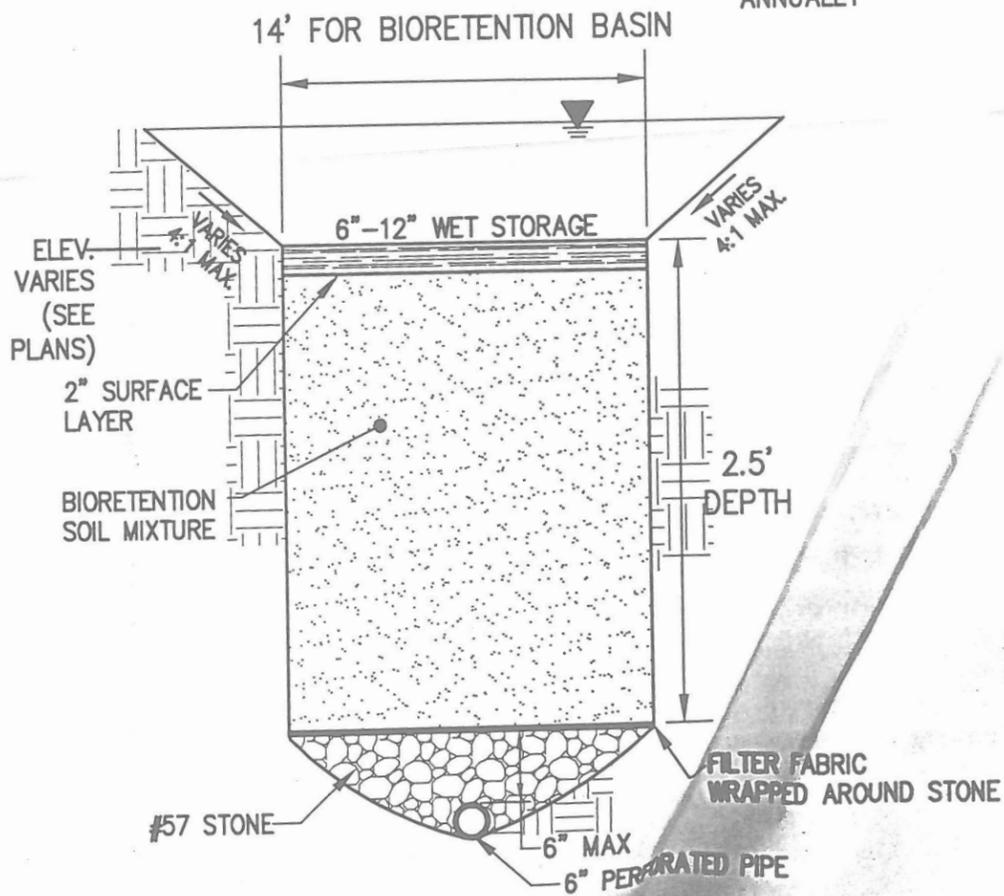
N.T.S.

25' POLE BASE DETAIL

N.T.S

MAINTENANCE PROGRAM & SCHEDULE

INSPECT AND REPAIR EROSION	MONTHLY
MULCH ANY VOID AREAS	WHENEVER NEEDED
REMOVE PREVIOUS MULCH AND REAPPLY	EVERY 3 YEARS
REMOVAL AND REPLACEMENT OF ALL DISEASED VEGETATION CONSIDERED BEYOND TREATMENT	WHENEVER NEEDED
CHECK FOR ACCUMULATED SEDIMENTS	MONTHLY
INSPECT AND REMOVE ANY DEBRIS THAT MAY COLLECT AT THE DROP INLET	AFTER MAJOR STORM EVENTS/OR SEMI ANNUALLY



BIORETENTION AREA

N.T.S.

- WATER DISTRIBUTION AND SANITARY SEWER SYSTEM IN STRICT ACCORDANCE WITH THE JCSA DESIGN AND ACCEPTANCE CRITERIA.
- G. ANY FIELD MODIFICATIONS OR CHANGES TO THE APPROVED PLANS SHALL BE VERIFIED AND CHECKED BY THE ENGINEER OF RECORD AND ACCEPTED BY JCSA PRIOR TO ANY FIELD MODIFICATIONS OR CHANGES. ALL APPROVED CHANGE AND FIELD MODIFICATIONS SHALL BE ACCURATELY INDICATED ON THE RECORD DRAWINGS.
 - H. ALL LOTS SHALL BE PROVIDED WITH WATER SERVICE AND SANITARY SEWER CONNECTIONS. THE CONNECTIONS SHALL BE EXTENDED FROM THE MAIN TO THE PROPERTY LINE OR EASEMENT LINE, AND SHALL TERMINATE WITH A YOKE IN A METER BOX, OR AT THE CLEAN OUT, SET AT FINAL FINISHED GRADE. METERS FOR ALL LOTS (UNITS) SHALL BE PAID FOR BY THE DEVELOPER OR BUILDER AND INSTALLED BY JCSA.
 - I. ANY REQUIRED EASEMENTS, PERMITS AND APPROVALS SHALL BE ACQUIRED BY THE DEVELOPER PRIOR TO COMMENCEMENT OF WATER MAIN AND/OR SANITARY SEWER CONSTRUCTION.
 - J. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LAWS, ORDINANCES, RULES, REGULATIONS AND ORDERS OF ANY PUBLIC BODY HAVING JURISDICTION. THE CONTRACTOR SHALL ERECT AND MAINTAIN, AS REQUIRED BY THE CONDITIONS AND PROGRESS OF THE WORK, ALL NECESSARY SAFEGUARDS FOR SAFETY AND PROTECTION. THE CONTRACTOR SHALL ALSO NOTIFY "MISS UTILITY" PRIOR TO PERFORMING ANY UNDERGROUND EXCAVATION.
 - K. WATER METER BOX INSTALLATION SHALL MAINTAIN A MINIMUM 18-INCH HORIZONTAL EDGE-TO-EDGE CLEARANCE FROM DRIVEWAYS AND/OR DRIVE PATHS, SIDEWALKS OR BIKE PATHS.
 - L. ONLY JCSA PERSONNEL ARE AUTHORIZED TO OPERATE VALVES ON EXISTING JCSA WATER MAINS AND SANITARY FORCE MAINS.
 - M. ANY EXISTING UNUSED WELL(S) SHALL BE ABANDONED IN ACCORDANCE WITH STATE PRIVATE WELL REGULATIONS AND JAMES CITY COUNTY CODE.
 - N. BEDDING OF JCSA UTILITIES SHALL BE IN ACCORDANCE WITH HRPDC DETAIL EW_01.
 - O. NO TREES, SHRUBS, FENCES OR OBSTACLES SHALL BE PLACED WITHIN A JCSA EASEMENT WHICH WOULD RENDER THE EASEMENT INACCESSIBLE BY EQUIPMENT. SHRUBS SHALL BE A MINIMUM OF 5-FEET, AND TREES A MINIMUM OF 10-FEET, FROM THE CENTER OF WATER AND SANITARY SEWER PIPELINES.
 - P. JOINT RESTRAINT SHALL BE PROVIDED IN ACCORDANCE WITH MINIMUM REQUIREMENTS OF JCSA DETAIL JR.1, UNLESS SHOWN OTHERWISE ON THE PLANS. ALL PRESSURE PIPELINES SHALL HAVE JOINT RESTRAINT.
 - Q. PROPOSED WATER AND SANITARY SEWER SYSTEMS SHALL MAINTAIN A MINIMUM HORIZONTAL SEPARATION OF 5-FEET FROM OTHER UTILITIES AND STRUCTURES, INCLUDING BUT NOT LIMITED TO STORM SEWERS, STREET LIGHTS, ETC. WATER AND SANITARY SEWER FACILITIES SHALL HAVE A MINIMUM 10-FOOT HORIZONTAL EDGE-TO-EDGE SEPARATION.
 - R. ANY PROPOSED BACKFLOW PREVENTION DEVICE AND/OR GREASE TRAP MUST BE INSPECTED BY THE JCSA UTILITY SPECIAL PROJECTS COORDINATOR AT (757) 259-4138.
 - S. PLUMBING INSIDE OF PROPOSED BUILDINGS MUST BE INSPECTED BY JCSA'S UTILITY SPECIAL PROJECTS COORDINATOR AT (757) 259-4138, FOR POTENTIAL CROSS CONNECTIONS. ANY CROSS CONNECTIONS MUST BE PROTECTED BY THE APPROPRIATE BACKFLOW PREVENTION DEVICE(S).
 - T. EASEMENTS DENOTED AS "JCSA UTILITY EASEMENTS" ARE FOR THE EXCLUSIVE USE OF THE JAMES CITY SERVICE AUTHORITY AND THE PROPERTY OWNER. OTHER UTILITY SERVICE PROVIDERS DESIRING TO USE THESE EASEMENTS WITH THE EXCEPTION OF PERPENDICULAR UTILITY CROSSINGS MUST OBTAIN AUTHORIZATION FOR ACCESS AND USE FROM JCSA AND THE PROPERTY OWNER. ADDITIONALLY, JCSA SHALL NOT BE HELD RESPONSIBLE FOR ANY DAMAGE TO IMPROVEMENTS WITHIN THIS EASEMENT, FROM ANY CAUSE.
 - U. JCSA SHALL NOT BE HELD RESPONSIBLE FOR ANY PAVEMENT SETTLEMENT DUE TO PIPE BEDDING, BACKFILLING, BACKFILL MATERIALS OR COMPACTION FOR WATER OR SANITARY SEWER FACILITIES FOR THIS PROJECT.
 - V. FIRE HYDRANTS TO BE INSTALLED WITHIN EXISTING OR PROPOSED VDOT RIGHT-OF-WAYS SHALL BE LOCATED IN ACCORDANCE WITH VDOT REQUIREMENTS.



CONSULTING ENGINEERS

VIRGINIA

NOTES AND DETAIL SHEET

SENTARA BUILDING

SECTION 3 & 6

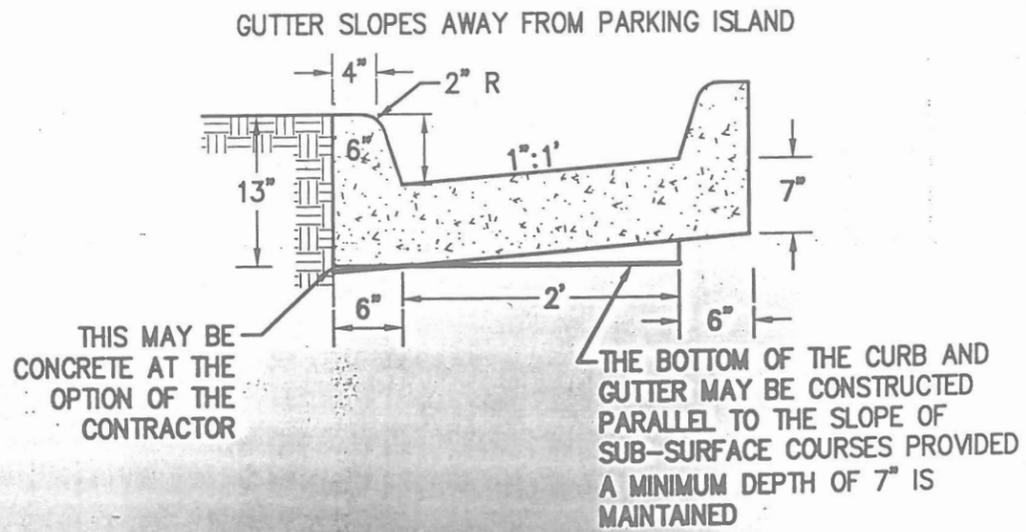
BLOCK 14

PARCELE

JAMES CITY COUNTY

BERKELEY DISTRICT

Designed REC/VAB	Drawn SDC
Scale 1"=25'	Date 9/27/06
Project No. 6632S6-14E	
Drawing No. 8	

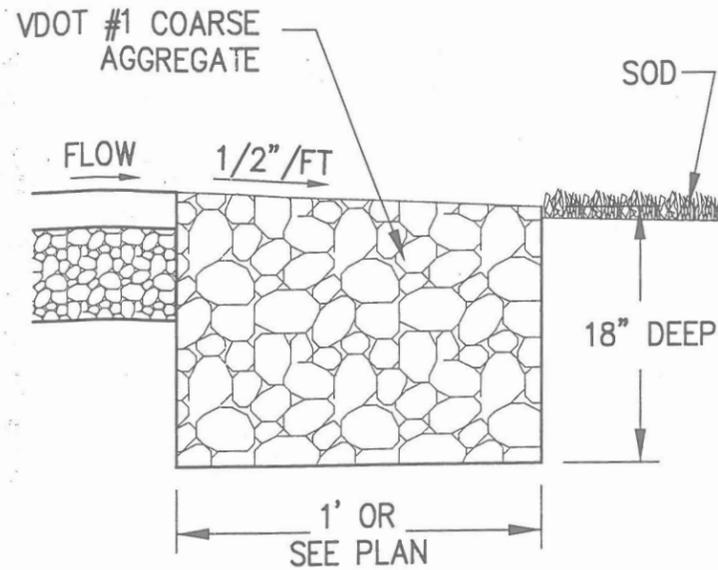


THIS MAY BE CONCRETE AT THE OPTION OF THE CONTRACTOR

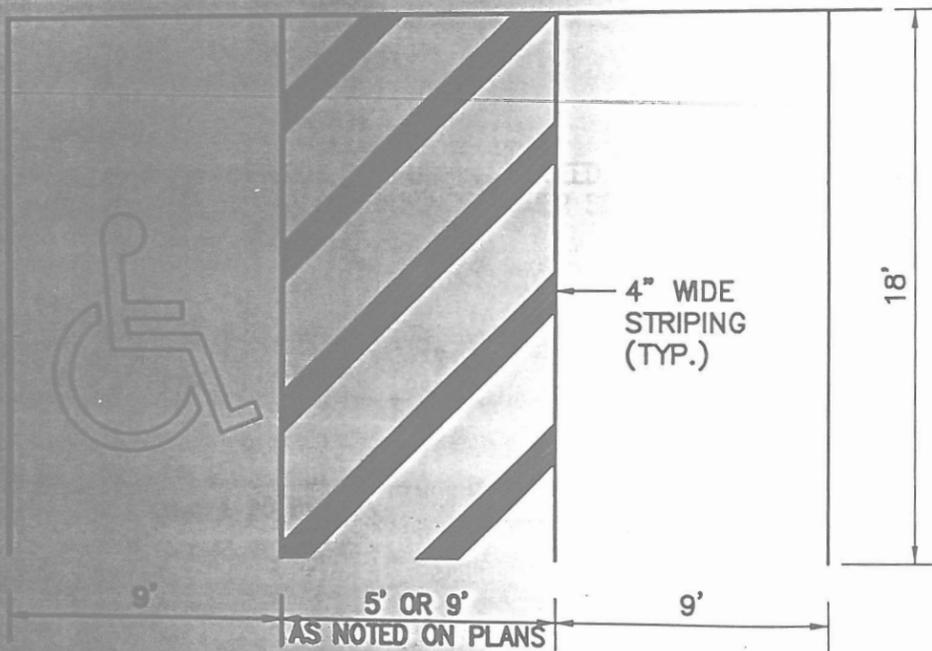
THIS ITEM MAY BE PRECAST OR CAST IN PLACE

CONCRETE TO BE CLASS A3 IF CAST IN PLACE, 4000 PSI IF PRECAST

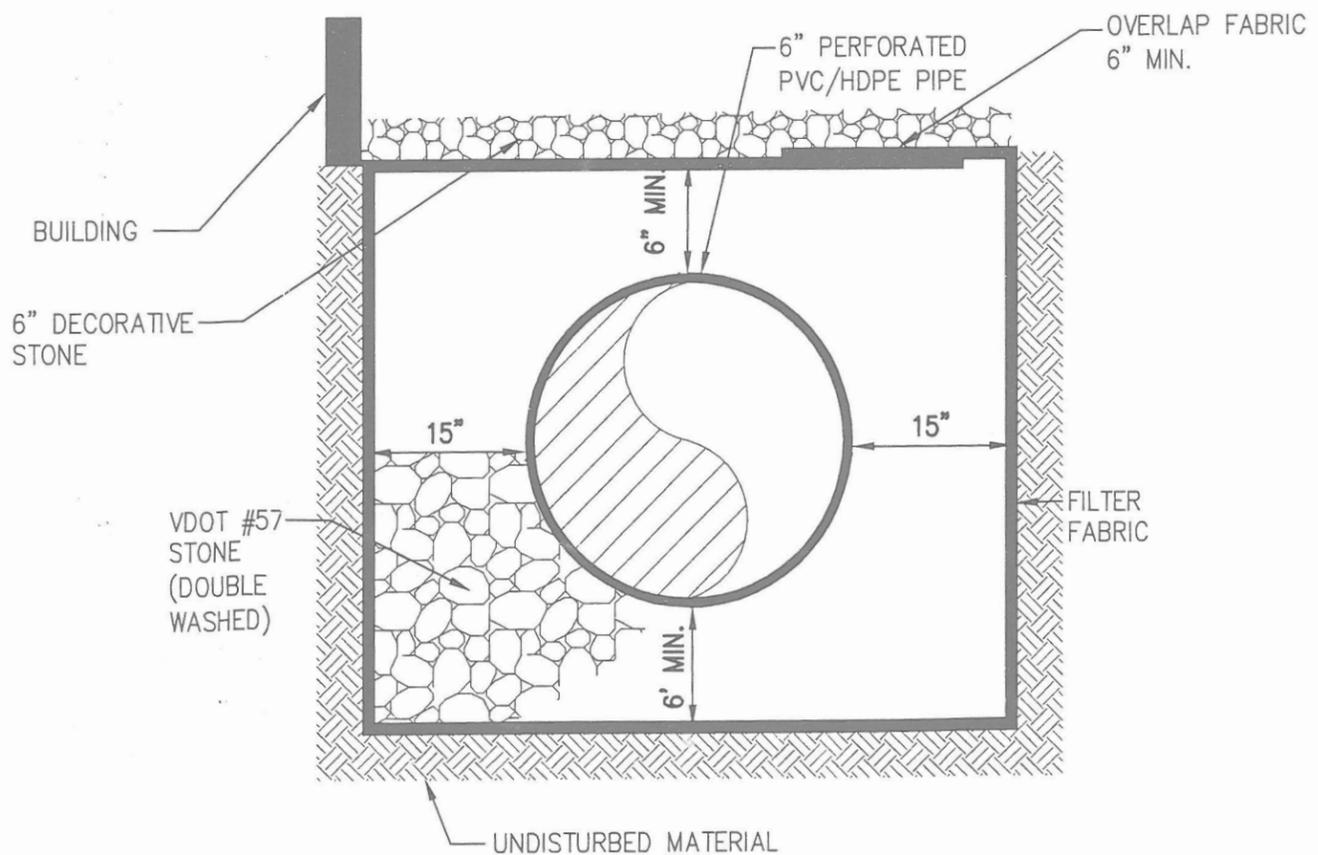
ISLAND CUT THROUGH
N.T.S.



STONE DIAPHRAGM
N.T.S.



PARKING SPACE DETAIL
N.T.S.



FRENCH DRAIN DETAIL
NOT TO SCALE

No.	DATE	REVISION / COMMENT / NOTE	REVISOR	BY
2	1/25/07	REVISED PER COUNTY COMMENTS	REC	REC
1	11/14/06	REVISED PER COUNTY COMMENTS DATED 10/25/06	REC	REC



One Road, Suite 1
Virginia 23188
53-0040
220-8994

DRAINAGE CALCULATIONS

FOR

***NEW TOWN
SECTION 3 & 6
Block 14, Parcel E
Sentara Building***

SITE:

James City County

SUBMITTED TO:

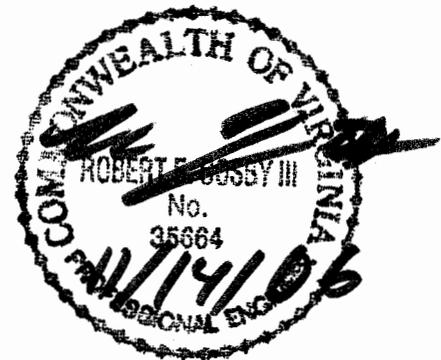
Environmental Division
James City County

Prepared By:

AES Consulting Engineers
5248 Olde Towne Road, Suite 1
Williamsburg, Virginia 23188

September 27, 2006
Revised: November 14, 2006

AES Project No. 6632-6-14E



6632-6-14E.dnrcalcs-Rev.doc

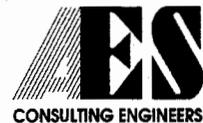
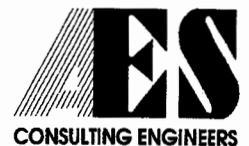


TABLE OF CONTENTS

- I INTRODUCTION
- II EXISTING SITE CONDITIONS
- III PROPOSED STORMDRAIN SYSTEM

APPENDICES

- APPENDIX A STORM SEWER SYSTEM
- APPENDIX B DRAINAGE AREA MAPS
- APPENDIX C LOW IMPACT DEVELOPMENT – BIO-RETENTION



I INTRODUCTION

This project, known as Section 3 & 6 Block 14, Parcel E, The Sentara Building is a continuation of the commercial development of Block 14. The drainage associated with this project will be collected into a storm drainage system draining to a best management practice (BMP) facility CO3. During construction, diversion dikes and diversions will be utilized to collect runoff from the disturbed area into the sediment basin.

II EXISTING SITE CONDITIONS

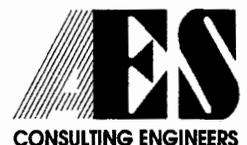
This site is a cleared area that has been filled and is being utilized as a stockpile area with a temporary sediment basin. Stormwater is currently conveyed via sheet flow to the diversions, which directs the runoff in concentrated flows to the temporary sediment basin that releases the flow to natural channels downstream.

Prior to recent clearing operations the site was wooded with a cleared portion adjacent to Ironbound Road. Stormwater was conveyed via sheet flow and shallow concentrated flow to the existing wetlands.

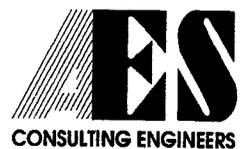
III PROPOSED STORMDRAIN SYSTEM

This project will be collected by a storm drainage system, which is designed to collect the runoff from this project and other areas upon the completion of all construction. The drainage system is draining to a best management practice (BMP) facility CO3. This facility is designed as a temporary sediment basin, which will be converted to a best management practice (BMP) facility when all areas draining to the facility have been stabilized. The sediment basin is designed for the roadways along with the commercial blocks 14, a portion of Block 15, & a portion of Block 17 using the ultimate drainage areas for sizing the basins.

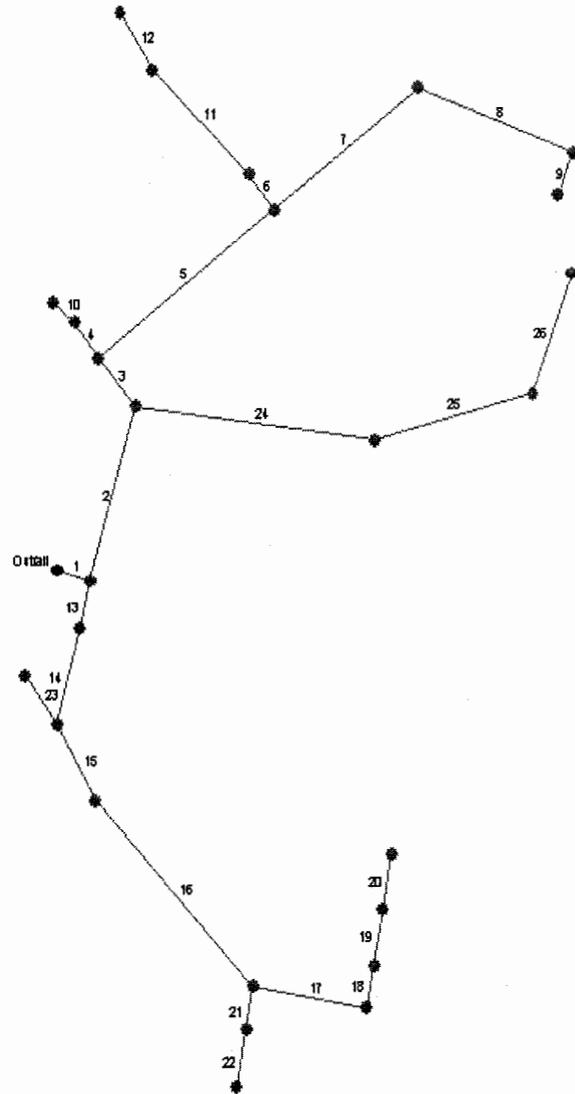
BMP C03 is designed as a Dry Extended Detention Basin with Sediment Forebay. James City County BMP Type F-2. This BMP is a 4 point facility as noted on the Master Stormwater Management Plan with similar drainage area. This BMP reduces the peak flow rate to below predeveloped levels for all design storm events. In addition the 1 year storm is fully contained within the basin and released through a low flow 4" orifice in accordance with Channel Protection Requirements.



APPENDIX A
STORM SEWER SYSTEM



Hydraflow Plan View



Project File: 6632e22-Storm System #3-Block-14E.stm

No. Lines: 26

11-14-2006

Hydraflow Storm Sewers 2005

Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data							Line ID	
	Dnstr line No.	Line length (ft)	Defl angle (deg)	Junc type	Known Q (cfs)	Drng area (ac)	Runoff coeff (C)	Inlet time (min)	Invert EI Dn (ft)	Line slope (%)	Invert EI Up (ft)	Line size (in)	Line type	N value (n)	J-loss coeff (K)		Inlet/ Rim EI (ft)
1	End	32.0	16.1	MH	0.00	0.44	0.85	5.0	88.00	6.25	90.00	30	Cir	0.013	0.60	103.32	4-10 to 4-9
2	1	154.0	-90.2	MH	0.00	1.33	0.85	5.0	90.89	2.00	93.97	24	Cir	0.013	0.99	102.00	4-11 to 4-10
3	2	52.0	-56.4	MH	0.00	0.20	0.85	5.0	93.97	1.00	94.49	24	Cir	0.013	1.00	101.72	4-12 to 4-11
4	3	38.0	2.5	MH	0.00	0.20	0.85	5.0	94.49	1.00	94.87	15	Cir	0.013	0.23	101.72	4-13 to 4-12
5	3	205.0	92.7	MH	0.00	0.39	0.85	5.0	97.72	3.05	103.98	18	Cir	0.013	1.00	111.21	4-14 to 4-12
6	5	38.0	-89.9	MH	0.00	0.16	0.85	5.0	103.98	1.00	104.36	15	Cir	0.013	0.18	111.21	4-15 to 4-14
7	5	168.0	0.1	MH	0.00	0.00	0.00	0.0	104.58	1.00	106.26	15	Cir	0.013	0.87	113.16	4-16 to 4-14
8	7	153.0	58.0	MH	0.00	0.14	0.85	5.0	106.26	1.22	108.13	15	Cir	0.013	1.00	112.47	4-17 to 4-16
9	8	38.0	90.0	MH	0.00	0.20	0.85	5.0	108.13	0.97	108.50	12	Cir	0.013	1.00	112.51	4-18 to 4-17
10	4	26.0	-10.9	MH	0.00	0.13	0.85	5.0	94.87	6.65	96.60	12	Cir	0.013	1.00	99.60	4-13A to 4.13
11	6	125.0	-8.5	MH	0.00	0.30	0.85	5.0	104.36	0.20	104.61	15	Cir	0.013	0.30	108.84	4-15B to 4-1
12	11	57.0	14.6	MH	0.00	0.09	0.85	5.0	104.61	0.21	104.73	8	Cir	0.013	1.00	105.51	4-15C to 4-15B
13	1	41.0	88.2	MH	0.00	0.66	0.85	10.0	91.00	7.00	93.87	15	Cir	0.013	0.15	104.76	4-10A-A to 4-10
14	13	84.0	0.1	MH	0.00	0.05	0.85	5.0	93.87	7.00	99.75	15	Cir	0.013	0.40	106.52	4-10A to 4-10A-A
15	14	74.0	-43.9	MH	0.00	0.31	0.85	10.0	99.75	6.35	104.45	15	Cir	0.013	0.28	108.45	4-10B to 4-10A
16	15	214.0	-13.4	MH	0.00	0.13	0.85	5.0	104.45	3.10	111.08	12	Cir	0.013	0.82	115.26	4-10C to 4-10B
17	16	108.0	-37.8	MH	0.00	0.00	0.00	0.0	111.08	2.38	113.65	12	Cir	0.013	1.00	118.00	4-10F to 4-10C
18	17	36.0	-90.0	MH	0.00	0.08	0.85	5.0	113.65	1.00	114.01	12	Cir	0.013	0.15	117.60	4-10G to 4-10F
19	18	48.0	0.0	MH	0.00	0.08	0.85	5.0	114.01	1.00	114.49	12	Cir	0.013	0.15	117.60	4-10H to 4-10G
20	19	48.0	0.0	MH	0.00	0.08	0.85	5.0	114.49	0.63	114.79	12	Cir	0.013	1.00	117.60	4-10I to 4-10H
21	16	37.0	51.5	MH	0.00	0.18	0.85	5.0	111.08	1.00	111.45	8	Cir	0.013	0.15	115.10	4-10D to 4-10C

Project File: 6632e22-Storm System #3-Block-14E.stm

Number of lines: 26

Date: 11-14-2006

Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data							Line ID	
	Dnstr line No.	Line length (ft)	Defl angle (deg)	Junc type	Known Q (cfs)	Drng area (ac)	Runoff coeff (C)	Inlet time (min)	Invert El Dn (ft)	Line slope (%)	Invert El Up (ft)	Line size (in)	Line type	N value (n)	J-loss coeff (K)		Inlet/ Rim El (ft)
22	21	49.0	0.7	MH	0.00	0.13	0.85	5.0	111.45	1.00	111.94	8	Cir	0.013	1.00	114.94	4-10E to 4-10D
23	14	50.0	129.7	MH	0.00	1.24	0.85	5.0	99.75	3.00	101.25	15	Cir	0.013	1.00	104.25	4-10J to 4-10A
24	2	224.0	81.1	MH	0.00	0.99	0.85	10.0	93.97	4.55	104.16	15	Cir	0.013	0.43	111.70	4-11A to 4-11
25	24	151.0	-22.2	MH	0.00	0.27	0.85	5.0	104.16	2.00	107.18	12	Cir	0.013	0.85	113.00	4-11B to 4-11A
26	25	107.0	-55.1	MH	0.00	0.34	0.85	5.0	107.18	2.00	109.32	12	Cir	0.013	1.00	113.00	4-11C to 4-11B

Project File: 6632e22-Storm System #3-Block-14E.stm

Number of lines: 26

Date: 11-14-2006

Storm Sewer Tabulation

Station		Len (ft)	Drng Area		Rnoff coeff (C)	Area x C		Tc		Rain (I) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line		Incr (ac)	Total (ac)		Incr	Total	Inlet (min)	Syst (min)					Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
1	End	32.0	0.44	8.12	0.85	0.37	6.90	5.0	10.9	5.7	39.03	102.5	7.95	30	6.25	90.00	88.00	95.42	95.13	103.32	0.00	4-10 to 4-9
2	1	154.0	1.33	4.74	0.85	1.13	4.03	5.0	10.6	5.7	23.04	31.99	7.34	24	2.00	93.97	90.89	97.76	96.16	102.00	103.32	4-11 to 4-10
3	2	52.0	0.20	1.81	0.85	0.17	1.54	5.0	9.6	5.9	9.08	22.62	2.89	24	1.00	94.49	93.97	99.37	99.29	101.72	102.00	4-12 to 4-11
4	3	38.0	0.20	0.33	0.85	0.17	0.28	5.0	5.4	6.9	1.93	6.46	1.57	15	1.00	94.87	94.49	99.63	99.59	101.72	101.72	4-13 to 4-12
5	3	205.0	0.39	1.28	0.85	0.33	1.09	5.0	8.8	6.1	6.61	18.35	4.57	18	3.05	103.98	97.72	104.96	99.50	111.21	101.72	4-14 to 4-12
6	5	38.0	0.16	0.55	0.85	0.14	0.47	5.0	6.7	6.5	3.06	6.46	2.85	15	1.00	104.36	103.98	105.27	105.23	111.21	111.21	4-15 to 4-14
7	5	168.0	0.00	0.34	0.00	0.00	0.29	0.0	7.0	6.5	1.87	6.46	2.94	15	1.00	106.26	104.58	106.81	105.38	113.16	111.21	4-16 to 4-14
8	7	153.0	0.14	0.34	0.85	0.12	0.29	5.0	5.4	6.9	1.99	7.14	3.23	15	1.22	108.13	106.26	108.69	106.97	112.47	113.16	4-17 to 4-16
9	8	38.0	0.20	0.20	0.85	0.17	0.17	5.0	5.0	7.0	1.19	3.51	2.63	12	0.97	108.50	108.13	108.96	108.87	112.51	112.47	4-18 to 4-17
10	4	26.0	0.13	0.13	0.85	0.11	0.11	5.0	5.0	7.0	0.77	9.19	0.98	12	6.65	96.60	94.87	99.67	99.66	99.60	101.72	4-13A to 4.13
11	6	125.0	0.30	0.39	0.85	0.26	0.33	5.0	5.6	6.8	2.26	2.89	2.39	15	0.20	104.61	104.36	105.48	105.29	108.84	111.21	4-15B to 4-1
12	11	57.0	0.09	0.09	0.85	0.08	0.08	5.0	5.0	7.0	0.54	0.55	1.53	8	0.21	104.73	104.61	105.68	105.57	105.51	108.84	4-15C to 4-15B
13	1	41.0	0.66	2.94	0.85	0.56	2.50	10.0	10.5	5.7	14.35	17.08	11.69	15	7.00	93.87	91.00	98.03	96.01	104.76	103.32	4-10A-A to 4-10
14	13	84.0	0.05	2.28	0.85	0.04	1.94	5.0	10.3	5.8	11.18	17.08	9.11	15	7.00	99.75	93.87	101.71	99.19	106.52	104.76	4-10A to 4-10A-A
15	14	74.0	0.31	0.99	0.85	0.26	0.84	10.0	10.0	5.8	4.90	16.27	4.63	15	6.35	104.45	99.75	105.34	103.26	108.45	106.52	4-10B to 4-10A
16	15	214.0	0.13	0.68	0.85	0.11	0.58	5.0	8.3	6.2	3.56	6.27	4.91	12	3.10	111.08	104.45	111.88	105.45	115.26	108.45	4-10C to 4-10B
17	16	108.0	0.00	0.24	0.00	0.00	0.20	0.0	7.3	6.4	1.30	5.49	2.56	12	2.38	113.65	111.08	114.13	112.27	118.00	115.26	4-10F to 4-10C
18	17	36.0	0.08	0.24	0.85	0.07	0.20	5.0	7.0	6.5	1.32	3.56	3.01	12	1.00	114.01	113.65	114.50	114.28	117.60	118.00	4-10G to 4-10F
19	18	48.0	0.08	0.16	0.85	0.07	0.14	5.0	6.3	6.6	0.90	3.56	2.35	12	1.00	114.49	114.01	114.89	114.66	117.60	117.60	4-10H to 4-10G
20	19	48.0	0.08	0.08	0.85	0.07	0.07	5.0	5.0	7.0	0.48	2.82	1.76	12	0.63	114.79	114.49	115.09	115.03	117.60	117.60	4-10I to 4-10H
21	16	37.0	0.18	0.31	0.85	0.15	0.26	5.0	5.4	6.9	1.82	1.21	5.20	8	1.00	111.45	111.08	112.73	111.89	115.10	115.26	4-10D to 4-10C

Project File: 6632e22-Storm System #3-Block-14E.stm

Number of lines: 26

Run Date: 11-14-2006

NOTES: Intensity = 80.56 / (Inlet time + 14.90) ^ 0.82; Return period = 10 Yrs.

Storm Sewer Tabulation

Station		Len (ft)	Drng Area		Rnoff coeff (C)	Area x C		Tc		Rain (l) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line		Incr (ac)	Total (ac)		Incr	Total	Inlet (min)	Syst (min)					Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
22	21	49.0	0.13	0.13	0.85	0.11	0.11	5.0	5.0	7.0	0.77	1.21	2.22	8	1.00	111.94	111.45	113.34	113.14	114.94	115.10	4-10E to 4-10D
23	14	50.0	1.24	1.24	0.85	1.05	1.05	5.0	5.0	7.0	7.38	11.18	6.01	15	3.00	101.25	99.75	103.60	102.95	104.25	106.52	4-10J to 4-10A
24	2	224.0	0.99	1.60	0.85	0.84	1.36	10.0	10.0	5.8	7.93	13.77	6.66	15	4.55	104.16	93.97	105.27	98.77	111.70	102.00	4-11A to 4-11
25	24	151.0	0.27	0.61	0.85	0.23	0.52	5.0	5.7	6.8	3.53	5.04	4.88	12	2.00	107.18	104.16	107.98	105.69	113.00	111.70	4-11B to 4-11A
26	25	107.0	0.34	0.34	0.85	0.29	0.29	5.0	5.0	7.0	2.02	5.04	3.33	12	2.00	109.32	107.18	109.92	108.30	113.00	113.00	4-11C to 4-11B

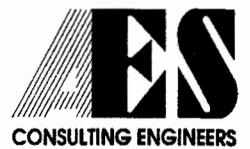
Project File: 6632e22-Storm System #3-Block-14E.stm

Number of lines: 26

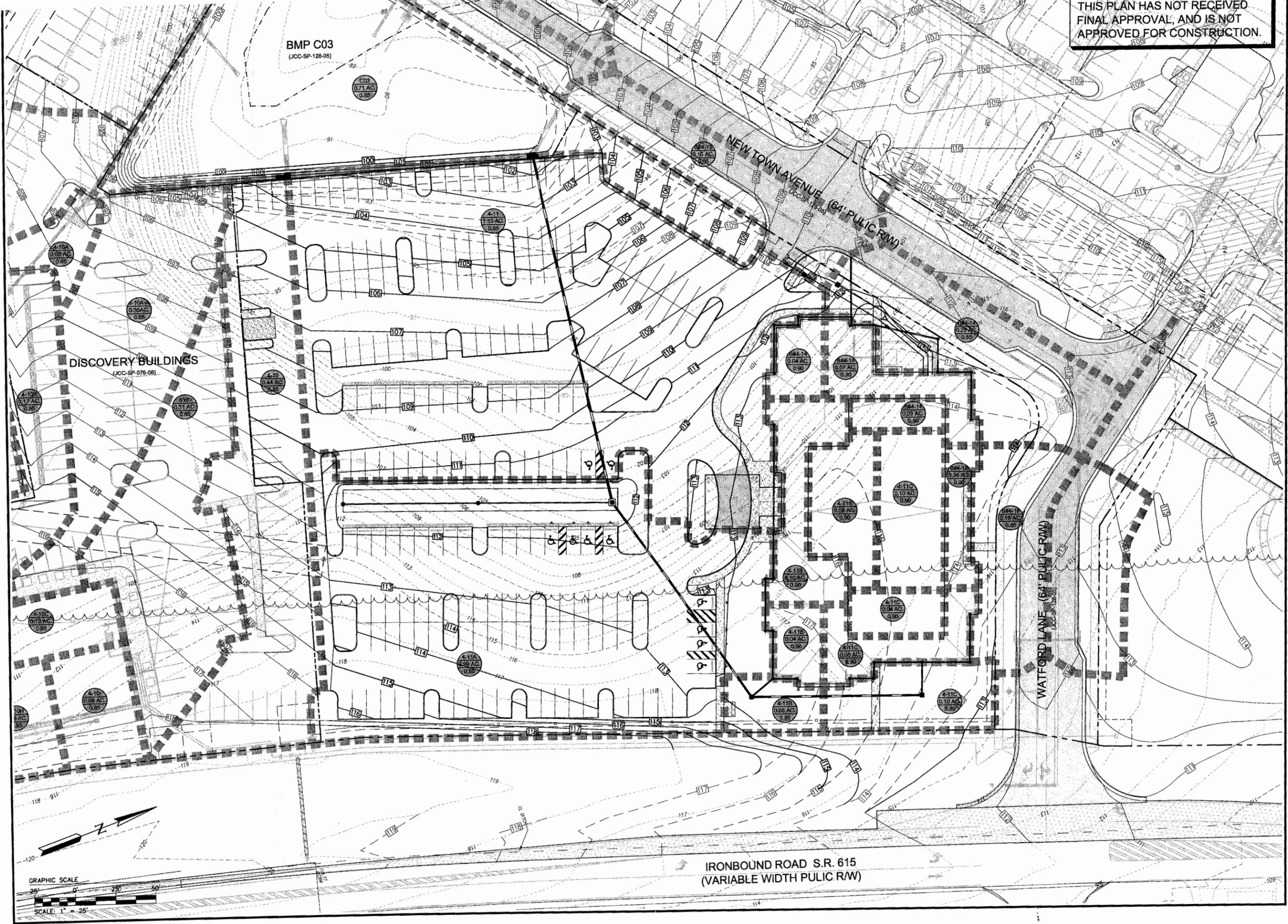
Run Date: 11-14-2006

NOTES: Intensity = 80.56 / (Inlet time + 14.90) ^ 0.82; Return period = 10 Yrs.

APPENDIX B
DRAINAGE AREA MAPS
POST-DEVELOPMENT BMP MAP



THIS PLAN HAS NOT RECEIVED FINAL APPROVAL, AND IS NOT APPROVED FOR CONSTRUCTION.



No.	DATE	REVISION / COMMENT / NOTE	REVISED BY	REC'D BY
1	11/27/06	REVISED PER COUNTY COMMENTS DATED 10/25/06		



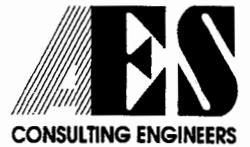
5248 Old Towne Road, Suite 1
 Williamsburg, Virginia 23188
 (757) 253-0040
 Fax (757) 220-9994



GRADING & DRAINAGE & EROSION AND SEDIMENT CONTROL PLAN
SENTARA BUILDING
 SECTION 3 & 6
 BLOCK 14
 PARCEL E
 BERKELEY DISTRICT
 JAMES CITY COUNTY
 VIRGINIA

Designed REC	Drawn SDC
Scale 1" = 25'	Date 9/27/06
Project No. 66.3256-14E	
Drawing No. 4	

APPENDIX C
LOW IMPACT DEVELOPMENT
BIO-RETENTION





Williamsburg (757) 253-0040
 Richmond (804) 330-8040

PROJECT NEW TOWN - SENTARA BLDG

PROJECT NO. 6632-6-14E

SUBJECT BIO RETENTION

SHEET NO. 1 OF 1

CALCULATED BY REC DATE 9/27/06

NEW TOWN SECTION 3+1 BLOCK 14 PARCEL E
 SENTARA BUILDING AND PARKING LOT

SITE AREA - 3.45 ACRE

TREAT 10% WITH LID RECOMMENDED 0.35 ACRE

PROVIDE BIO RETENTION AREA

DRAINAGE AREA = ~~1.05~~^{0.99} ACRE

IMPERVIOUS COVER = 0.74 ACRE, 32,235 SF

PROVIDE 1" / IMPERVIOUS ACRE WATER QUALITY VOLUME

2,686 CF REQUIRED

WATER QUALITY VOLUME PROVIDED

AREA ELEV 111.0 = 2,520 SF

AREA ELEV 111.7 = 5,400 SF

WQV PROVIDED = 2,772 CF

2772 CF PROVIDED ✓

2,686 CF REQUIRED



TRANSMITTAL SHEET

ENGINEERING & RESOURCE PROTECTION → STORMWATER

Project: SP-125-06 Sentara New Town / Williamsburg / New Town sec 346 BLOCK 14 PARCEL E

County Plan No. SP-125-06

Assigned BMP No.: PC 213

BMP Type: Bioretention Basin

Information Enclosed:

- Record Drawings (Asbuilts)
- Construction Certification
- Computations

RECEIVED ON
 NOV 26 '12
 Stormwater Division

Other :
 Please add this to existing BMP file. Owner requested to do an enhanced landscaping plan for the existing BMP. They worked with New Town Design Review Board, Planning & Engineering and Resource Protection to secure approval without site plan amendment.

Note: Scott Thomas discussed with Fran G. the possibility of this business project qualifying for Turf Love - Rain Love program or PRIDE mini-grant, & forwarded Leanne Reidenbach with Planning an email to relay that information on to her contact with Sentara Healthcare.

Name: Scott J. Thomas

Date: 11/21/12

Signature: *Scott J. Thomas*

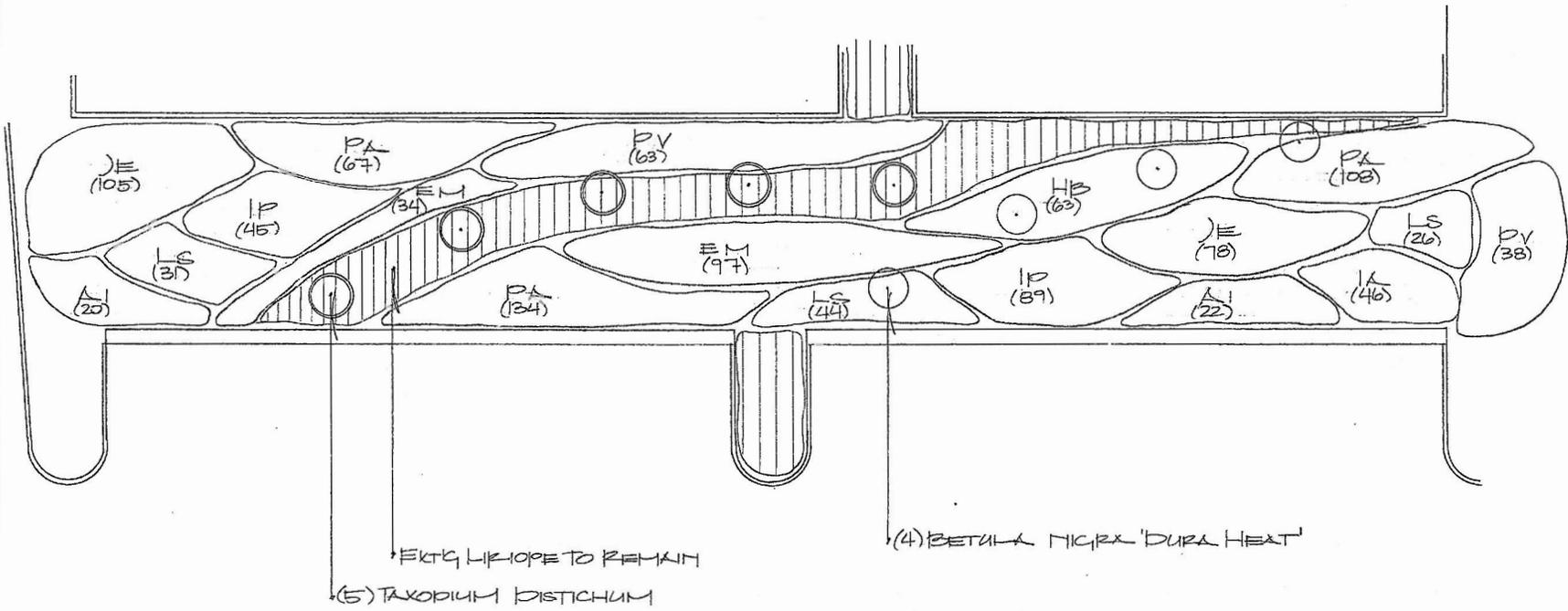


SENTARA NEW TOWN WILLIAMSBURG
BIO SLATE PLANTINGS

Scale: 10' Date: 6.22.12
 Drawn by: P.R. Reviewed by:
 Designed by: RYAN PALFREY
 Revisions:

Plant List

Quantity	Symbol	Botanical Name	Size	Height	Comments
Herbaceous Plants					
42	AI	Asclepias incarnate (Swamp Milkweed)	1 gal.	full	24" OC
63	HB	Hibiscus moscheutos 'Disco Belle Pink' (Swamp Mallow)	1 gal.	full	24" OC
46	IA	Iris 'Ann Chowning' (Louisiana Iris)	1 gal.	full	18" OC
134	IP	Iris pseudocorus (Yellow Flag Iris)	1 gal.	full	18" OC
101	LS	Lobelia siphilitica (Great Blue Lobelia)	1 gal.	full	18" OC
183	JE	Juncus effusus 'Gold Strike' (Gold Soft Rush)	1 gal.	full	24" OC
101	PV	Panicum virgatum (Switchgrass)	1 gal.	full	24" OC
309	PA	Phalaris arundinacea 'Strawberries & Cream' (Ribbon Grass)	1 gal.	full	24" OC
131	EM	Eupatorium maculatum 'Gateway' (Joe Pye Weed)	1 gal.	full	18" OC
Trees					
4	as shown	Betula nigra 'Dura Heat' (Dura Heat River Birch)	15 gal.	6-8'	
5	as shown	Taxodium distichum (Bald Cypress)	15 gal.	1.5-2' cal.	
Shrubs					
24	Imagery	Azalea Encore 'Autumn Angel' (White Re-blooming Azalea)	3 gal.	15-18"	



Sentara Family Medicine Physicians
Bio-Swale Plant Pictures



**Asclepias incarnate
(Swamp Milkweed)**



**Hibiscus moscheutos
'Disco Belle Pink'
(Swamp Mallow)**



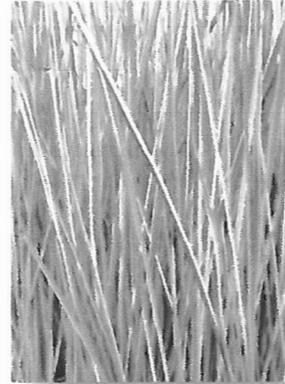
**Iris 'Ann Chowning'
(Louisiana Iris)**



**Iris pseudocorus
(Yellow Flag Iris)**



Lobelia siphilitica
(Great Blue Lobelia)



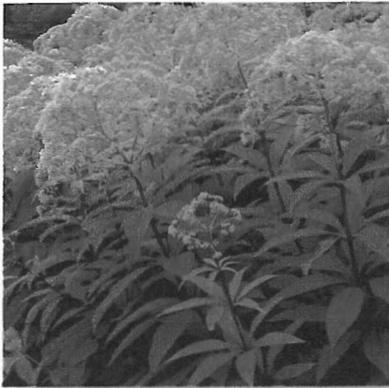
Juncus effuses 'Gold Strike'
(Gold Soft Rush)



Panicum virgatum
(Switchgrass)



Phalaris arundinacea
'Strawberries and Cream'
(Ribbon Grass)



Eupatorium maculatum 'Gateway'
(Joe Pye Weed)



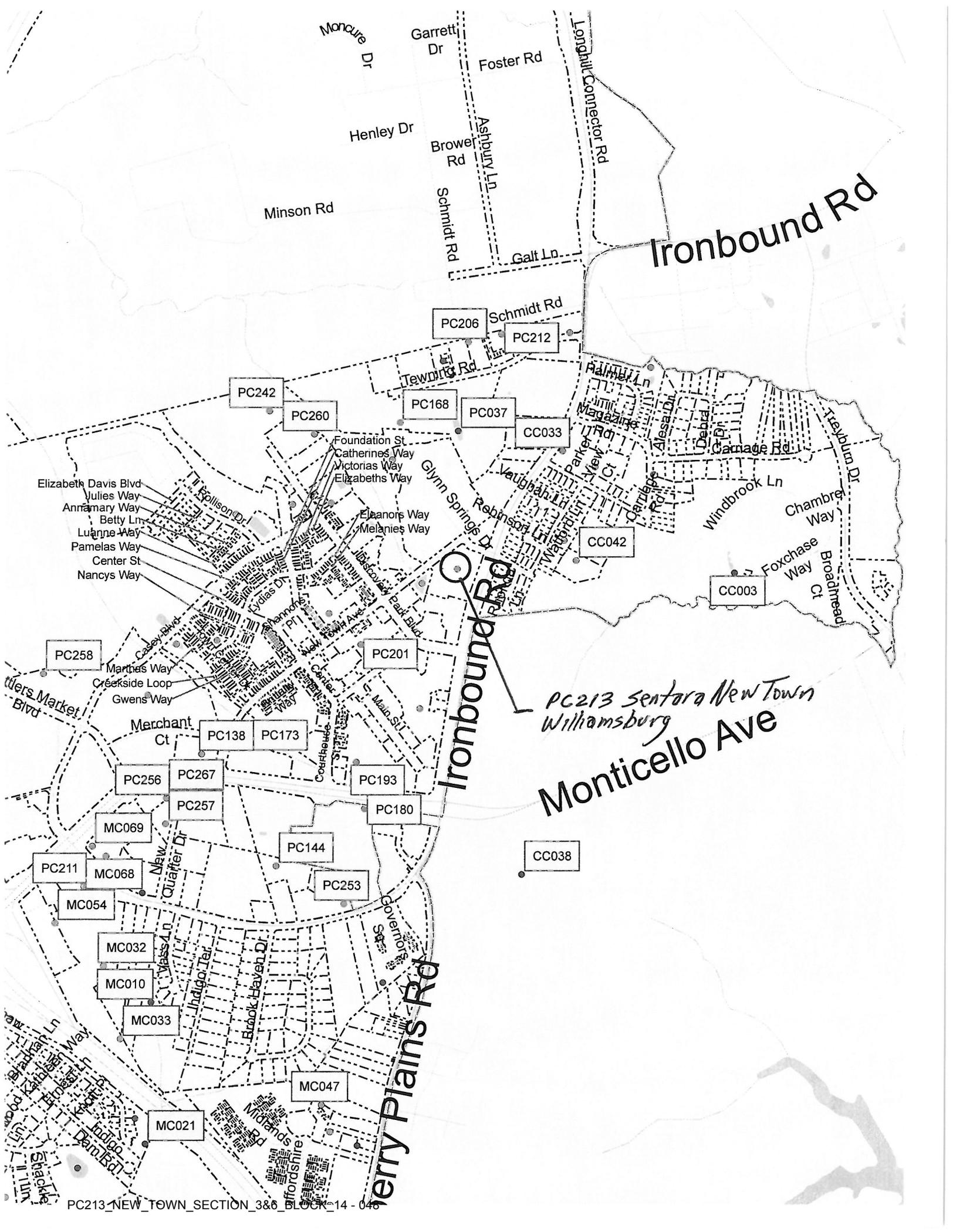
Taxodium distichum
(Bald Cypress)



Betula nigra 'Dura Heat'
(Dura Heat River Birch)



Azalea Encore 'Autumn Angel'
(White Re-blooming Azalea)



Ironbound Rd

Ironbound Rd

Perry Plains Rd

PC213 sentara New Town
Williamsburg
Monticello Ave

Scott Thomas

From: Scott Thomas
Sent: Wednesday, November 21, 2012 1:38 PM
To: Leanne Reidenbach
Subject: FW: 4374 New Town Avenue, Williamsburg, VA; Bio-Swale Landscaping

Leanne – if you could please, forward this information on to the contact you had for this project. If they are interested, they may qualify for a grant for their planting plan.

JCCPRIDE (PROTECTING RESOURCES IN DELICATE ENVIRONMENTS) GRANTS

- Up to \$2,000 for neighborhoods, community groups and stormwater management facility (BMP) owners to accomplish v quality focused projects such as tree or wetland plantings, BMP enhancements, or buffer plantings
- Applications due Nov. 30, 2012
- Get your application
- For more information, contact stormwater@jamescitycountyva.gov or call 757-259-1446.

Please note that County e-mail addresses have changed.

Please use: Scott.Thomas@jamescitycountyva.gov for all future correspondence

Scott J. Thomas, P.E.
Director of Engineering and Resource Protection



101-E Mounts Bay Road
Williamsburg, VA 23185
P: 757-253-6639
F: 757-259-4032
jamescitycountyva.gov

From: Scott Thomas
Sent: Thursday, November 08, 2012 12:58 PM
To: Leanne Reidenbach; Michael Woolson
Subject: RE: 4374 New Town Avenue, Williamsburg, VA; Bio-Swale Landscaping

I am ok with it – good to go.

Scott J. Thomas
Director
James City County
Division of Engineering and Resource Protection

From: Leanne Reidenbach
Sent: Wednesday, November 07, 2012 9:59 AM
To: Michael Woolson; Scott Thomas
Subject: FW: 4374 New Town Avenue, Williamsburg, VA; Bio-Swale Landscaping

Scott Thomas

From: Scott Thomas
Sent: Thursday, November 08, 2012 12:58 PM
To: Leanne Reidenbach; Michael Woolson
Subject: RE: 4374 New Town Avenue, Williamsburg, VA; Bio-Swale Landscaping

I am ok with it – good to go.

Scott J. Thomas
Director
James City County
Division of Engineering and Resource Protection

From: Leanne Reidenbach
Sent: Wednesday, November 07, 2012 9:59 AM
To: Michael Woolson; Scott Thomas
Subject: FW: 4374 New Town Avenue, Williamsburg, VA; Bio-Swale Landscaping

Mike and Scott-
Here's the revised plan for the New Town Sentara bio-swale with the cattails replaced. Any issues with this revision or do you think it's good to go?

Thanks!

Please note that County email addresses have changed. Please use leanne.reidenbach@jamescitycountyva.gov for all future correspondence.

Leanne Reidenbach
Senior Planner II



101-A Mounts Bay Road
Williamsburg, VA 23185
P: 757-253-6876
F: 757-253-6822
Front Desk: 757-253-6685
jamescitycountyva.gov

From: BENJAMIN M SUTHERLAND [<mailto:BMSUTHER@sentara.com>]
Sent: Tuesday, November 06, 2012 11:54 AM
To: Leanne Reidenbach
Cc: 'Dick Reynolds'; 'Bryan Ramsey'; JOSEPH D JOYNES
Subject: 4374 New Town Avenue, Williamsburg, VA; Bio-Swale Landscaping

Leanne,
Attached are the revised bio-swale landscaping plans for our Sentara New Town, Williamsburg location. This should now meet with your approval. You will find in the attachments two "photo shopped" pictures that depict adding the additional 24 shrubs to the planting beds on both sides of the main entrance to the facility as well as the cattail material being swapped out as well. Please review and let me know if there are any other concerns that need to be addressed.

R/Ben

Benjamin M. Sutherland
Manager, Buildings and Property
Sentara Healthcare - Corporate Facilities
835 Glenrock Rd., Suite 270
Norfolk, VA 23502
(O) 757-252-3102
(C) 757-289-4265
(Fax) 757-252-3101

-----Disclaimer-----

This electronic message and its contents and attachments contain information from Sentara Healthcare and is confidential or otherwise protected from disclosure. The information is intended to be for the addressee only.

If you are not the addressee, any disclosure, copy, distribution or use of the contents of this message is prohibited. If you have received this electronic message in error, please notify us immediately and destroy the original message and all copies.

Scott Thomas

From: Leanne Reidenbach
Sent: Thursday, November 01, 2012 2:16 PM
To: Scott Thomas; Michael Woolson; Bill Cain; Barry Moses
Cc: Joe Buchite; Amy Parker; Scott Whyte
Subject: RE: New Town Bio-Swale Landscaping Replacement

Thanks everyone!

I talked with the owner about getting rid of the cattails and adding some shrubs so they still meet the parking lot ordinance. If these items are done, we're not going to require a site plan. I'll send you the revised drawing when I get it.

Please note that County email addresses have changed. Please use leanne.reidenbach@jamescitycountyva.gov for all future correspondence.

Leanne Reidenbach
Senior Planner II



101-A Mounts Bay Road
Williamsburg, VA 23185
P: 757-253-6876
F: 757-253-6822
Front Desk: 757-253-6685
jamescitycountyva.gov

From: Scott Thomas
Sent: Wednesday, October 31, 2012 2:10 PM
To: Leanne Reidenbach; Michael Woolson; Bill Cain; Barry Moses
Cc: Joe Buchite; Amy Parker; Scott Whyte
Subject: RE: New Town Bio-Swale Landscaping Replacement

Just an FYI on this...we released the permit and surety on this project/BMP awhile ago 2008. County BMP ID Code is PC213. So technically they should be working with STW as a postconstruction BMP modification. However, from the plan amendment/permit side it would be us. If Scott W. is going to defer to us, I think the sketches are good enough for us to say ok to this without the need for a full blown SP amendment. The planting plan is well devised and an enhancement to that current. Again, except no cattails as proposed.

Also, I think this planting plan would be eligible for the Turf Love/Bioretenion rain garden grant through Fran's shop. The grant was for lot owners and businesses. Perhaps they could get the grant to pay for the plantings as proposed?

(Barry – sorry, when I first sent the email out I meant to copy you but hit Bill's name twice)

Scott J. Thomas
Director
James City County
Division of Engineering and Resource Protection

From: Leanne Reidenbach
Sent: Wednesday, October 31, 2012 1:37 PM
To: Michael Woolson; Scott Thomas; Bill Cain; Bill Cain
Cc: Joe Buchite; Amy Parker; Scott Whyte
Subject: RE: New Town Bio-Swale Landscaping Replacement

Mike- It's the large landscape island/median in the Sentara parking lot in New Town right across from the main covered building entrance.

Please note that County email addresses have changed. Please use leanne.reidenbach@jamescitycountyva.gov for all future correspondence.

Leanne Reidenbach
Senior Planner II



101-A Mounts Bay Road
Williamsburg, VA 23185
P: 757-253-6876
F: 757-253-6822
Front Desk: 757-253-6685
jamescitycountyva.gov

From: Michael Woolson
Sent: Wednesday, October 31, 2012 12:42 PM
To: Scott Thomas; Bill Cain; Bill Cain
Cc: Joe Buchite; Amy Parker; Leanne Reidenbach; Scott Whyte
Subject: RE: New Town Bio-Swale Landscaping Replacement

Looks fine to me, w/o cattails, but where is it?

From: Scott Thomas
Sent: Wednesday, October 31, 2012 12:38 PM
To: Bill Cain; Bill Cain; Michael Woolson
Cc: Joe Buchite; Amy Parker; Leanne Reidenbach; Scott Whyte
Subject: FW: New Town Bio-Swale Landscaping Replacement

Leanne called me about this. The question is whether we would require a SP- amendment for a different bioretention planting. I told her that both Scott Whyte and us would need to make this decision as it is a SWM facility that needs to follow County/state specs. However, I said that if Scott W. was ok for now requiring a SP-amendment, that we would be ok with just working this a plan/field revision through our E&S process.

I've looked quick at this and it seems to be a very focused replanting of the bioretention basin using common plants used in such facilities. Would appear to be an enhancement compared to what we typically see. I would not use "cattail" though as they listed. This is very invasive in bioretention applications.

Division engineering staff please look at and decide whether we can handle "in-house" through sketches, etc. or if a SP-amendment is warranted.

*Please note that County e-mail addresses have changed.
Please use: Scott.Thomas@jamescitycountyva.gov for all future correspondence*

Scott J. Thomas, P.E.
Director of Engineering and Resource Protection



101-E Mounts Bay Road
Williamsburg, VA 23185
P: 757-253-6639
F: 757-259-4032
jamescitycountyva.gov

From: Leanne Reidenbach
Sent: Wednesday, October 31, 2012 11:24 AM
To: Scott Thomas
Subject: FW: New Town Bio-Swale Landscaping Replacement

Scott-
Here are the diagrams I mentioned for the changes to the Sentara bio swale plantings. It amends SP-125-06 and SP-23-08. Can you guys take a quick look and let me know if there's anything that's missing or other info that you need? It's scheduled for the Design Review Board meeting on 11/15 so if you can get me your thoughts by next week I would appreciate it.

Thank you!

Please note that County email addresses have changed. Please use leanne.reidenbach@jamescitycountyva.gov for all future correspondence.

Leanne Reidenbach
Senior Planner II



101-A Mounts Bay Road
Williamsburg, VA 23185
P: 757-253-6876
F: 757-253-6822
Front Desk: 757-253-6685
jamescitycountyva.gov

From: Dick Reynolds [<mailto:Dick@NewTownWilliamsburg.com>]
Sent: Tuesday, October 30, 2012 4:54 PM
To: Leanne Reidenbach
Subject: FW: New Town Bio-Swale Landscaping Replacement

Hi Leanne,

Here are the submittal and the referenced pdfs for the changes to the existing bio-swale at the Sentara New Town Medical facility, 4374 New Town Avenue, Williamsburg, Virginia 23188 as we discussed today. Thank you for offering to review this with the others at JCC who should also be involved in considering this submittal as this installation has already been included in the approved site plan.

The enclosed includes the contact information for Mr. Sutherland of Sentara in the event information is needed from him for additional submittals.

Thanks,

Dick

Dick Reynolds, Secretary, New Town Design Review Board
CMCA
Property and Facilities Manager
Town Management, LLC
4801 Courthouse Street, Suite 128
Williamsburg, Virginia 23188
Phone (757) 565-6200
Fax (757) 565-6291
dick@newtownwilliamsburg.com



From: Dick Reynolds [<mailto:Dick@NewTownWilliamsburg.com>]
Sent: Thursday, October 11, 2012 5:12 PM
To: 'BENJAMIN M SUTHERLAND'
Subject: RE: New Town Bio-Swale Landscaping Replacement

Ben

The Board meets at 3:00PM in the Kaufman & Canoles Board Room, 4801 Courthouse Street, Suite 300, Williamsburg, VA 23188. Visitors are asked to arrive in Suite 128 and are then invited to the Board Room when their Agenda item is to be reviewed. We can give you a more definite suggested arrival time as the Agenda is finalized.

Will look forward to seeing you on the 15th.

Dick

Dick Reynolds, CMCA
Property and Facilities Manager
Town Management, LLC
4801 Courthouse Street, Suite 128
Williamsburg, Virginia 23188
Phone (757) 565-6200
Fax (757) 565-6291
dick@newtownwilliamsburg.com



From: BENJAMIN M SUTHERLAND [<mailto:BMSUTHER@sentara.com>]
Sent: Thursday, October 11, 2012 5:03 PM
To: 'Dick Reynolds'
Cc: JOSEPH D JOYNES
Subject: RE: New Town Bio-Swale Landscaping Replacement

I would like to attend. What time and what is the location?

R/Ben

From: Dick Reynolds [<mailto:Dick@NewTownWilliamsburg.com>]
Sent: Thursday, October 11, 2012 4:59 PM
To: BENJAMIN M SUTHERLAND
Cc: JOSEPH D JOYNES
Subject: RE: New Town Bio-Swale Landscaping Replacement

Ben,

Thank you for the submittal. As changes to buildings and landscaping are subject to approval by the New Town Design Review Board, this application will be included on its Agenda for its next meeting scheduled for Thursday afternoon, November 15. These meetings are open and you and your representatives are welcome to participate. Will you please feel free to let me know if you have any questions or comments prior to this meeting?

Thanks,

Dick

Dick Reynolds, Secretary, New Town Design Review Board
CMCA
Property and Facilities Manager
Town Management, LLC
4801 Courthouse Street, Suite 128
Williamsburg, Virginia 23188
Phone (757) 565-6200
Fax (757) 565-6291
dick@newtownwilliamsburg.com



From: BENJAMIN M SUTHERLAND [<mailto:BMSUTHER@sentara.com>]
Sent: Wednesday, October 10, 2012 2:21 PM
To: 'dick@newtownwilliamsburg.com'
Cc: JOSEPH D JOYNES
Subject: New Town Bio-Swale Landscaping Replacement

Dick,

In talking with Randy about a month or so ago he tells me that you are the POC to get landscaping plans/changes approved. Attached you will find drawings and plant selection pictures to describe the changes that we want to implement at 4374 New Town Ave. in the bio-swale area in the front of the facility. Please review and let me know where we stand or if additional changes will be required in order to get this work accomplished. We are looking to implement these changes in early Spring 2013.

R/Ben

Benjamin M. Sutherland
Manager, Buildings and Property
Sentara Healthcare - Corporate Facilities
835 Glenrock Rd., Suite 270

Norfolk, VA 23502
(O) 757-252-3102
(C) 757-289-4265
(Fax) 757-252-3101

-----Disclaimer-----

This electronic message and its contents and attachments contain information from Sentara Healthcare and is confidential or otherwise protected from disclosure. The information is intended to be for the addressee only.

If you are not the addressee, any disclosure, copy, distribution or use of the contents of this message is prohibited. If you have received this electronic message in error, please notify us immediately and destroy the original message and all copies.

-----Disclaimer-----

This electronic message and its contents and attachments contain information from Sentara Healthcare and is confidential or otherwise protected from disclosure. The information is intended to be for the addressee only.

If you are not the addressee, any disclosure, copy, distribution or use of the contents of this message is prohibited. If you have received this electronic message in error, please notify us immediately and destroy the original message and all copies.

Scott Thomas

From: Scott Whyte
Sent: Wednesday, October 31, 2012 1:06 PM
To: Michael Woolson; Scott Thomas; Bill Cain; Bill Cain
Cc: Joe Buchite; Amy Parker; Leanne Reidenbach
Subject: RE: New Town Bio-Swale Landscaping Replacement

The plantings look fine to me, and I agree about cattails. If this was a change to the regular landscaping I would have to require an amendment. We allow substitutions to be approved over the phone, but when they change the overall design we require an amendment. But since it is within a bioretention facility, I'm not sure if that should be needed. I would like to defer to the ERP folks on that one.

Scott W.

-----Original Message-----

From: Michael Woolson
Sent: Wednesday, October 31, 2012 12:42 PM
To: Scott Thomas; Bill Cain; Bill Cain
Cc: Joe Buchite; Amy Parker; Leanne Reidenbach; Scott Whyte
Subject: RE: New Town Bio-Swale Landscaping Replacement

Looks fine to me, w/o cattails, but where is it?

From: Scott Thomas
Sent: Wednesday, October 31, 2012 12:38 PM
To: Bill Cain; Bill Cain; Michael Woolson
Cc: Joe Buchite; Amy Parker; Leanne Reidenbach; Scott Whyte
Subject: FW: New Town Bio-Swale Landscaping Replacement

Leanne called me about this. The question is whether we would require a SP- amendment for a different bioretention planting. I told her that both Scott Whyte and us would need to make this decision as it is a SWM facility that needs to follow County/state specs. However, I said that if Scott W. was ok for now requiring a SP-amendment, that we would be ok with just working this a plan/field revision through our E&S process.

I've looked quick at this and it seems to be a very focused replanting of the bioretention basin using common plants used in such facilities. Would appear to be an enhancement compared to what we typically see. I would not use "cattail" though as they listed. This is very invasive in bioretention applications.

Division engineering staff please look at and decide whether we can handle "in-house" through sketches, etc. or if a SP-amendment is warranted.

Please note that County e-mail addresses have changed.

Scott Thomas

From: Leanne Reidenbach
Sent: Wednesday, October 31, 2012 11:24 AM
To: Scott Thomas
Subject: FW: New Town Bio-Swale Landscaping Replacement
Attachments: Sentara BioSwalePlantPics 101112.pdf; Sentara OceTDS5028 Bio Swale Planting 101112.pdf

Scott-

Here are the diagrams I mentioned for the changes to the Sentara bio swale plantings. It amends SP-125-06 and SP-23-08. Can you guys take a quick look and let me know if there's anything that's missing or other info that you need? It's scheduled for the Design Review Board meeting on 11/15 so if you can get me your thoughts by next week I would appreciate it.

Thank you!

Please note that County email addresses have changed. Please use leanne.reidenbach@jamescitycountyva.gov for all future correspondence.

Leanne Reidenbach
Senior Planner II



101-A Mounts Bay Road
Williamsburg, VA 23185
P: 757-253-6876
F: 757-253-6822
Front Desk: 757-253-6685
jamescitycountyva.gov

From: Dick Reynolds [mailto:Dick@NewTownWilliamsburg.com]
Sent: Tuesday, October 30, 2012 4:54 PM
To: Leanne Reidenbach
Subject: FW: New Town Bio-Swale Landscaping Replacement

Hi Leanne,

Here are the submittal and the referenced pdfs for the changes to the existing bio-swale at the Sentara New Town Medical facility, 4374 New Town Avenue, Williamsburg, Virginia 23188 as we discussed today. Thank you for offering to review this with the others at JCC who should also be involved in considering this submittal as this installation has already been included in the approved site plan.

The enclosed includes the contact information for Mr. Sutherland of Sentara in the event information is needed from him for additional submittals.

Thanks,

Dick

Dick Reynolds, Secretary, New Town Design Review Board
CMCA
Property and Facilities Manager
Town Management, LLC

4801 Courthouse Street, Suite 128
Williamsburg, Virginia 23188
Phone (757) 565-6200
Fax (757) 565-6291
dick@newtownwilliamsburg.com



From: Dick Reynolds [<mailto:Dick@NewTownWilliamsburg.com>]
Sent: Thursday, October 11, 2012 5:12 PM
To: 'BENJAMIN M SUTHERLAND'
Subject: RE: New Town Bio-Swale Landscaping Replacement

Ben

The Board meets at 3:00PM in the Kaufman & Canoles Board Room, 4801 Courthouse Street, Suite 300, Williamsburg, VA 23188. Visitors are asked to arrive in Suite 128 and are then invited to the Board Room when their Agenda item is to be reviewed. We can give you a more definite suggested arrival time as the Agenda is finalized.

Will look forward to seeing you on the 15th.

Dick

Dick Reynolds, CMCA
Property and Facilities Manager
Town Management, LLC
4801 Courthouse Street, Suite 128
Williamsburg, Virginia 23188
Phone (757) 565-6200
Fax (757) 565-6291
dick@newtownwilliamsburg.com



From: BENJAMIN M SUTHERLAND [<mailto:BMSUTHER@sentara.com>]
Sent: Thursday, October 11, 2012 5:03 PM
To: 'Dick Reynolds'
Cc: JOSEPH D JOYNES
Subject: RE: New Town Bio-Swale Landscaping Replacement

I would like to attend. What time and what is the location?

R/Ben

From: Dick Reynolds [<mailto:Dick@NewTownWilliamsburg.com>]
Sent: Thursday, October 11, 2012 4:59 PM
To: BENJAMIN M SUTHERLAND
Cc: JOSEPH D JOYNES
Subject: RE: New Town Bio-Swale Landscaping Replacement

Ben,

Thank you for the submittal. As changes to buildings and landscaping are subject to approval by the New Town Design Review Board, this application will be included on its Agenda for its next meeting scheduled for Thursday afternoon, November 15. These meetings are open and you and your representatives are welcome to participate. Will you please feel free to let me know if you have any questions or comments prior to this meeting?

Thanks,

Dick

Dick Reynolds, Secretary, New Town Design Review Board
CMCA
Property and Facilities Manager
Town Management, LLC
4801 Courthouse Street, Suite 128
Williamsburg, Virginia 23188
Phone (757) 565-6200
Fax (757) 565-6291
dick@newtownwilliamsburg.com



From: BENJAMIN M SUTHERLAND [<mailto:BMSUTHER@sentara.com>]
Sent: Wednesday, October 10, 2012 2:21 PM
To: 'dick@newtownwilliamsburg.com'
Cc: JOSEPH D JOYNES
Subject: New Town Bio-Swale Landscaping Replacement

Dick,

In talking with Randy about a month or so ago he tells me that you are the POC to get landscaping plans/changes approved. Attached you will find drawings and plant selection pictures to describe the changes that we want to implement at 4374 New Town Ave. in the bio-swale area in the front of the facility. Please review and let me know where we stand or if additional changes will be required in order to get this work accomplished. We are looking to implement these changes in early Spring 2013.

R/Ben

Benjamin M. Sutherland
Manager, Buildings and Property
Sentara Healthcare - Corporate Facilities
835 Glenrock Rd., Suite 270
Norfolk, VA 23502
(O) 757-252-3102
(C) 757-289-4265
(Fax) 757-252-3101

-----Disclaimer-----

Sentara Family Medicine Physicians

Bio-Swale Plant Pictures



Asclepias incarnate
(Swamp Milkweed)



Hibiscus moscheutos
'Disco Belle Pink'
(Swamp Mallow)



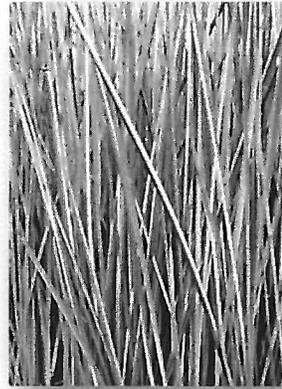
Iris 'Ann Chowning'
(Louisiana Iris)



Iris pseudocorus
(Yellow Flag Iris)



Lobelia siphilitica
(Great Blue Lobelia)



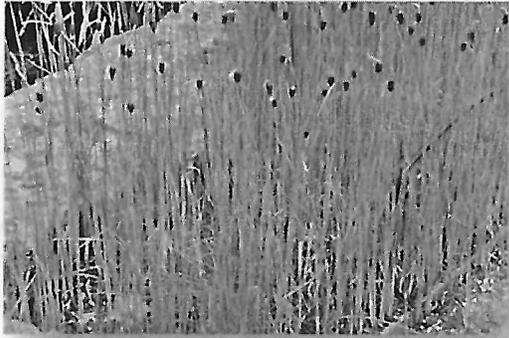
Juncus effusus 'Gold Strike'
(Gold Soft Rush)



Panicum virgatum
(Switchgrass)



Phalaris arundinacea
'Strawberries and Cream'
(Ribbon Grass)



Typha minima
(Cattail)



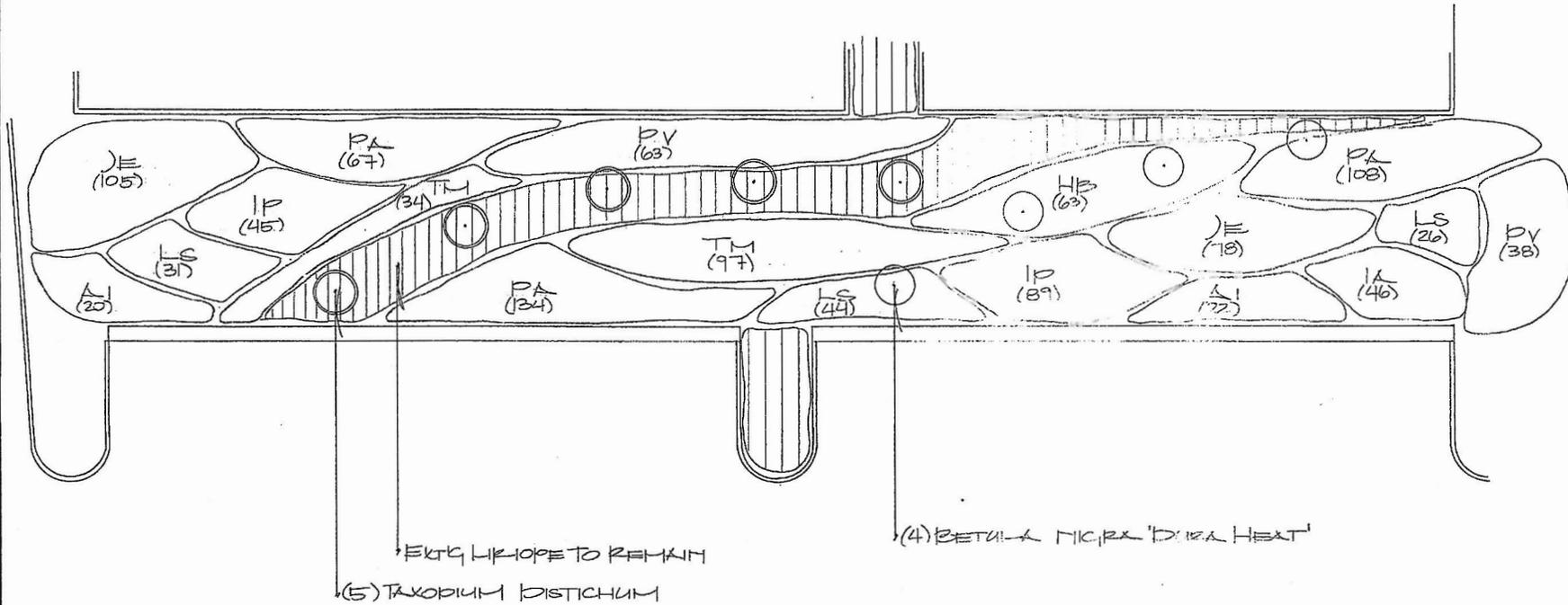
Taxodium distichum
(Bald Cypress)



Betula nigra 'Dura Heat'
(Dura Heat River Birch)

Plant List

Quantity	Symbol	Botanical Name	Size	Height	Comments
Herbaceous Plants					
42	AI	Asclepias incarnate (Swamp Milkweed)	1 gal.	full	24" OC
63	HB	Hibiscus moscheutos 'Disco Belle Pink' (Swamp Mallow)	1 gal.	full	24" OC
46	IA	Iris 'Ann Chowning' (Louisiana Iris)	1 gal.	full	18" OC
134	IP	Iris pseudocorus (Yellow Flag Iris)	1 gal.	full	18" OC
101	LS	Lobelia siphilitica (Great Blue Lobelia)	1 gal.	full	18" OC
185	JE	Juncus effusus 'Gold Strike' (Gold Soft Rush)	1 gal.	full	24" OC
101	PV	Panicum virgatum (Switchgrass)	1 gal.	full	24" OC
309	PA	Phalaris arundinacea 'Strawberries & Cream' (Ribbon Grass)	1 gal.	full	24" OC
131	TM	Typha minima (Cattail)	1 gal.	full	18" OC



SENTARA NEW TOWN WILLIAMSBURG
 BIO SWALE PLANTINGS

Scale: 10' Date: 6.22.12
 Drawn by: B.R. Reviewed by:
 Designed by: BRYAN RAYBEY
 Revisions:



Mr. J. Ribeiro
November 14, 2006
Page 5 of 11

3. Codes Compliance is unable to verify compliance with knowing scope of services (business plan.)

Per the architect, the proposed project is a medical office and is labeled as such on Sheet 3 "Site Layout and Utility Plan".

Fire

Approved 10/3/06

County Engineer:

Approved 10/16/03

Environmental Division Review Comments

October 18, 2006

General:

1. ✓ A Land-Disturbing Permit and Siltation Agreement, with surety, are required for this project.

So noted.

2. ✓ VSMP. The construction activity for the site will exceed 2,500 square feet. Therefore, it is the owner's responsibility to register for coverage under the General Permit for Discharge of Stormwater from Construction Activities, in accordance with current requirements of the Virginia Department of Conservation and Recreation and the Virginia Stormwater Management Program. Visit <http://www.dcr.virginia.gov/sw/vsmp.htm> or contact the DCR Central Office at 804-371-7330 for additional information.

So noted.

3. ✓ VDOT. It appears a VDOT CE-7 (temporary construction entrance permit) may be required. Contact the Williamsburg Residency, Permits and Subdivisions at 757-253-4832 for further information.

So noted.

4. ✓ Plan Number. Please reference the assigned County plan number on all subsequent submissions.

Revised plans by adding JCC site plan reference number to the Cover Sheet.

Erosion & Sediment Control Plan:

5. ✓ Temporary Stockpile Areas. The drainage calculations correctly state that this site is an active stockpile area. Please show the limits of the stockpile area on the existing conditions plan sheet and provide information in response to this comment indicating where the current material is to be relocated. If the material is to be relocated within the New Town development, provide a map reflecting the approved stockpile location.

The stockpile area will be closed by the time this project begins construction. The existing material from the stockpile area will be moved to Oxford to fill that site as part of that project within the coming months. This project and adjacent project will complete the construction of the previous stockpile area and therefore construction access is not required.

6. ✓ Limits of Work. Show and label a distinct limit of work (clearing and grading) around the site periphery. Be sure to include work associated with installation of erosion and sediment controls and onsite or offsite utility connections. Ensure disturbed area estimates match land-disturbance inclusive within the limits of work.

Limits of disturbance has been shown and labeled on Sheet 4 "Grading, Drainage, Erosion and Sediment Control Plan".

7. ✓ Silt Fence. Extend silt fence from the northern border of the site to the western border, between the sediment basin and the proposed parking lot.

Silt fence has been added as required.

8. ✓ Safety Fence. Use of orange colored safety fence in accordance with VESCH Minimum Standard & Spec. 3.01 of the VESCH may be warranted along the frontage of the site to maintain pedestrian safety or around temporary sediment basins or traps if in close proximity to occupied dwellings.

Revised plans by adding note to "Sequence of Construction" stating that additional measures may be installed during construction as directed by the engineer, owner, or environmental division inspector.

Stormwater Management / Drainage:

9. Site Tabulation. The site tabulation indicates that there will be off site work as the disturbed area is greater than the site area. Provide information in response to this comment clarifying why this is the case and that permitting this work to take place will not result in trespassing.

The disturbed area includes the grading along the BMP's edge to achieve the elevation of the proposed curb and curb inlet. This area is own by the COA (Commercial Owners Association). The other disturbed area is located in the right-of-way of Ironbound Road and will be cover by the CE-7 Permit from VDOT.

10. Bioretention area. The proposed area of bioretention does not appear capable of operating as stated in the design computations. This is due to the southern end appearing lower (FG = 111.10) in the plan than the inlet at the northern end (111.70). With the next submittal, provide appropriate information in the plan to convey to both the plan reviewer and the contractor that the measure has the required capacity (not to include the parking area), that all bypass flows have been directed to inlet SS# 4-11A, and that the basin can be constructed in the area provided.

The bioretention area is designed as an infiltration area with an under drain and a drop inlet as an overflow. The southern end is at FG=111.10, the northern end is at FG=111.00 and the drop inlet's rim is at 111.70 to allow the required .7 feet of wet storage. Pavement is at 111.84, which is above rim elevation, and finish grades are provided on downstream side at 112.1 to prevent bypass of structure.

11. Drainage Map. The drainage areas provided on the associated drainage area map do not agree with the proposed contours provided on the grading plan. This is readily evident in the area between the proposed parking lot and Ironbound Road. With the next submittal, revise all appropriate information to agree.

Revised Drainage Area Map and Stormwater Calculations to reflect all revisions to Block 14, Block 17, and Phase IV Roadways that affected this storm system.

12. Site Hydrology. Provide information to validate the curve numbers of 85 and 98 that are being used in what appears to be the building roof. It appears that all of these values should be 0.98.

Reviewed storm calculations and revised "C" factor for the roof to be consistent for the entire roof. Please note that the rational method is being used to calculate pipe capacity so a "C" factor is used and not a curve number as with the SCS method used for routing through a pond.

13. Storm Drain Computations. Information provided in the computations package indicates that the HGL at inlet 4-15B will not be contained within the system and alterations will be required. Provide appropriate information with the next submittal to address this.

Revised Stormwater Calculations to reflect all revisions to Block 14, Block 17, and Phase IV Roadways that affected this storm system.

14. PVC Storm Drains. Provide appropriate information for the pipe to be installed in proximity to the proposed structure (HDPE, PVC, Schedule, Smooth wall, etc.), and provide and reference a detail for the apparent French drain as proposed around the proposed building. Detail should include stone type, trench dimensions, distance to foundation, placement of filter fabric, and location of drainage pipe.

Revised plans by adding trench drain detail to Sheet 7 "Notes and Detail Sheet".

JCSA

General Comments:

1. Based on the plan layout submitted, water and sanitary sewer inspection fees will be required for this project and shall be paid in full to JCSA prior to issuance of a Certificate to Construct Utilities.

So noted.

2. The Applicant shall coordinate with JCC Code Compliance and JCC Fire Department concerning layout of the proposed fire suppression system (fittings, valves, fire department connection, etc).

So noted.

3. RPZ backflow preventers will be required on both the domestic water service and fire suppression main to the buildings. The Applicant shall add a note to the site plan stating this requirement and indicating that preventers are to be installed within the building.

Revised plans by adding note to Sheet 3 "Site Layout & Utility Plan".

Jason Beck

From: McCrane, Tim [tmccrane@armadahoffler.com]
Sent: Thursday, March 13, 2008 4:48 PM
To: Jason Beck
Cc: Joe Buchite
Subject: New Town - Sentara Project

We'll take care of everything. Give me a week or two to get the grass growing. As you can see, we hydro-seeded everything. Unfortunately, the next day was a huge rainstorm, and I bet a lot of the erosion was caused by that. I'm sure that is what happened to the bio-retention area as well.

If the Inspection Maintenance Agreement is the form you sent me last week, I'm getting that filled out and signed by the right people, and will hopefully have that for you early next week.

I'll be in touch. Thanks.

Tim McCrane – Project Manager
 Armada Hoffler
 Ph: 757/825-7399

From: Jason Beck [mailto:JBeck@james-city.va.us]
Sent: Thursday, March 13, 2008 4:34 PM
To: McCrane, Tim
Cc: Joe Buchite
Subject: New Town - Sentara Project

Tim,

I did the final site inspection for the above project. The following needs to be completed;

1. We need the inspection maintenance/agreement for the drainage system.
2. Stabilize the slope along the East side of the parking lot which is currently eroding. I recommend using EC-2 matting on the slope to give the grass seed time to germinate. I also recommend seeding the future VDOT project area that is on the property if they do not start soon.
3. Stabilize the three sections in the bio-retention area that are currently showing some erosion.

Thanks,

Jason Beck
 Environmental Inspector
 James City County
 PO Box 8784
 101-E Mounts Bay Road
 Williamsburg, VA 23187-8784
 757-259-4026



222 CENTRAL PARK AVENUE, SUITE 2100
 VIRGINIA BEACH, VA 23462

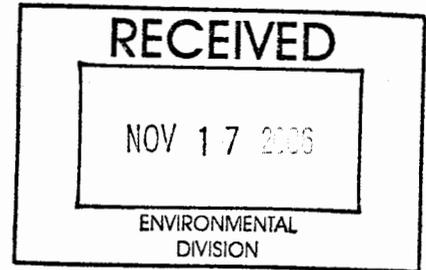
WWW.ARMADAHOFFLER.CO
 PHONE: 757.366.400

Development ■ Construction ■ Asset Management

TRANSMITTAL

DATE: Thursday, November 16, 2006

TO: Environmental (1)
JCSA (2)
VDOT
Codes Compliance



FROM: Jose Ribeiro, Planner

SUBJECT: SP-125-06-Sentara Bldg New Town Section 3 & 6, Block 14 Parcel E

ITEMS

ATTACHED: Site Plan
Response Letter
Environmental Drainage Calculations (1)
JCSA Water Data Sheet (2)
JCSA Sanitary Sewer Data Sheet (2)

ACTION: Please review and return comments by Thursday, November 30, 2006

Approved DEC 11/30/06

Land disturbing permit is required.

Thank you for your review,

José-Ricardo Linhares Ribeiro
JCC Planner

TRANSMITTAL

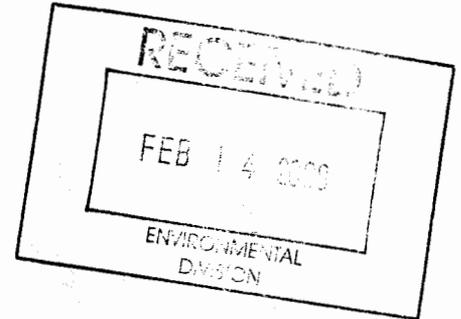
DATE: February 14, 2008

- Environmental Division
- County Engineer
- ~~Environmental Division~~
FIRE DEPT

FROM: Jose Ribeiro, Planner

SUBJECT:

SP-0023-2008, Sentara Building-Section 3 & 6, Block
14, Parcel E-Site Plan Amendment



ITEMS
ATTACHED:

Site Plan

All agencies

ACTION: Please review and return comments By February 26, 2008

NOTE: *This Site Plan is an amendment to Site Plan SP-125-06. The amendment is to revise the ambulance drop off area

Thank you for your review
Jose-Ricardo Linhares Ribeiro-JCC Planner

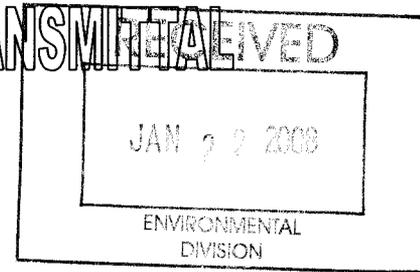
*Plan amendment is approved by
the Environmental Division.*

Scott Thomas
02-28-07

AES CONSULTING ENGINEERS
Engineering, Surveying, and Planning
5248 Olde Towne Road, Suite 1
WILLIAMSBURG, VIRGINIA 23188

Phone: (757) 253-0040
Fax: (757) 220-8994

LETTER OF TRANSMITTAL



ATTN:

CO.: JCC – Environmental Div.

Address: 101 E Mounts Bay Road

cc: Tim McCrane (Armada Hoffler)

DATE 01/22/08	JOB NO. 6632-6-14E
FROM: Bob Cosby	
RE New Town - Sections 3 & 6 Block 14, Parcel E Sentara Building	

WE ARE SENDING YOU THE FOLLOWING ITEMS:

- Attached
 Under separate cover via
- Original(s) Print(s) Plan(s) Specification(s) Change Order
- Copy of letter(s) Other:

COPIES	DATE	No. of Pages	DESCRIPTION
1	1/22/08	16	BMP Facilities Record Drawing and Construction Certification
1	1/14/08	1	Record Drawing

THESE ARE TRANSMITTED as checked below:

- For your approval For your signature For review and comment
- For your use As you requested As requested by:
- Other:

REMARKS:

If enclosures are not as noted, kindly notify us at once.



**James City County Environmental Division
Stormwater Management / BMP Inspection Report
Bioretention Facilities**

County BMP ID Code (if known): PC-213 Sentara Building
 Name of Facility: New Town section 3 & 6, BIK 14, Parcel E BMP No.: 1 Date: 4/13/08
 Location: New Town - Sentara Parking Lot
 Name of Owner: AH Williamsburg Medical, LLC
 Name of Inspector: Jason Beck
 Type of Facility: Bioretention
 Weather Conditions: Sunny Type: Final Inspection County BMP Inspection Program Owner Inspection

If an inspection item is not applicable, mark NA, otherwise mark the appropriate column.

- O.K. - The item checked is in adequate condition and the maintenance program is currently satisfactory. No action required.
- Routine - The item checked requires attention, but does not present an immediate threat to the function/integrity of the BMP.
- Urgent - The item checked requires immediate attention to keep the BMP operational and prevent damage to the facility.

Provide an explanation and details in the comment column, if routine or urgent are marked.

Facility Item	O.K.	Routine	Urgent	Comments
Accessibility:				
Roads	✓			
Parking Areas	✓			
Gates				
Locks				
Safety Fencing				
Observation Wells/Areas:				
Trap Doors				
Manhole Covers	✓			
Grates	✓			
Steps				
Pretreatment Devices: <input type="checkbox"/> Inlet <input type="checkbox"/> Sump <input type="checkbox"/> Forebay <input type="checkbox"/> Other				
Sediment	✓			
Trash & Debris	✓			
Structure	✓			<u>stone diaphragm</u>
Other	✓			
Inflow Structure (Describe Type/Location):				

Facility Item	O.K.	Routine	Urgent	Comments
Condition	✓			
Erosion		✓		<i>some erosion spots</i>
Trash and Debris	✓			
Sediment	✓			
Aesthetics	✓			
Other	✓			
Primary Infiltration (Bioretention Cell) Area:				
Specialty Landscaping	✓			
Mulch Layer	✓			
Planting Soil/Sand	✓			
Subgrade Soil	✓			
Aggregate	✓			
Underdrain	✓			
Sediment	✓			
Aesthetics	✓			
Overflow or Bypass Control Structure (Describe Type/Location):				
Condition	✓			
Erosion	✓			
Trash & Debris	✓			
Sediment	✓			
Other	✓			
Outlet Structure (Describe Type/Location):				
Condition	✓			
Erosion	✓			
Trash & Debris	✓			
Sediment	✓			
Other	✓			
Contributing Drainage Area/Perimeter Conditions:				
Land Use	✓			
Stabilization	✓			
Trash & Debris	✓			
Pollutant Hazard	✓			
Other				

Facility Item	O.K.	Routine	Urgent	Comments
Sketch and/or Remarks:				
<p>Overall Environmental Division Internal Rating: <u>3</u> <i>5/5/08</i> <i>OKay to release.</i></p> <p>Signature: <u><i>Yoson Bahr</i></u> Date: <u><i>3/13/08</i></u> Title: <u><i>Environmental Inspector</i></u></p>				

SWMProg\BMP\CoInspProg\Bioret.wpd

Date Record Created:

WS_BMPNO:

Created By:

PC213

WATERSHED PC
BMP ID NO 213
PLAN NO SP-125-06
TAX PARCEL (39-1)(15-6)
PIN NO 3911500006
CONSTRUCTION DATE 9/1/2008
PROJECT NAME New Town 3&6 Sentara Blk 14 Par E
FACILITY LOCATION Parking Lot
CITY-STATE Williamsburg
CURRENT OWNER AH Williamsburg Medical, LLC
OWNER ADDRESS 222 Central Park Avenue
OWNER ADDRESS 2 Suite 2100
CITY-STATE-ZIP CODE Virginia Beach, VA 23462
OWNER PHONE 757-366-4000
MAINT AGREEMENT Yes
EMERG ACTION PLAN No

MAINTENANCE PLAN

SITE AREA acre

Yes

3.45

LAND USE

Mixed Use

old BMP TYP

Bioretention

JCC BMP CODE

D1 Bioretention

POINT VALUE

5

SVC DRAIN AREA acres

0.99

SERVICE AREA DESCRI

Parking Lot

IMPERV AREA acres

0.74

RECV STREAM

Lower Chisel Run into PC

EXT DET-WQ-CTRL

Yes

WTR QUAL VOL acre-ft

0.06

CHAN PROT CTRL

No

CHAN PROT VOL acre-ft

SW/FLOOD CONTROL

No

GEOTECH REPORT

No

CTRL STRUC DESC

Perforate Pip

CTRL STRUC SIZE inches

6

OTLT BARRL DESC

RCP

OTLT BARRL SIZE inch

15

EMERG SPILLWAY

No

DESIGN HW ELEV

n/a

PERM POOL ELEV

n/a

2-YR OUTFLOW cfs

0.00

10-YR OUTFLOW cfs

0.00

REC DRAWING

Yes

CONSTR CERTIF

Yes

LAST INSP DATE 5/5/2008

Inspected by:

INTERNAL RATING

3

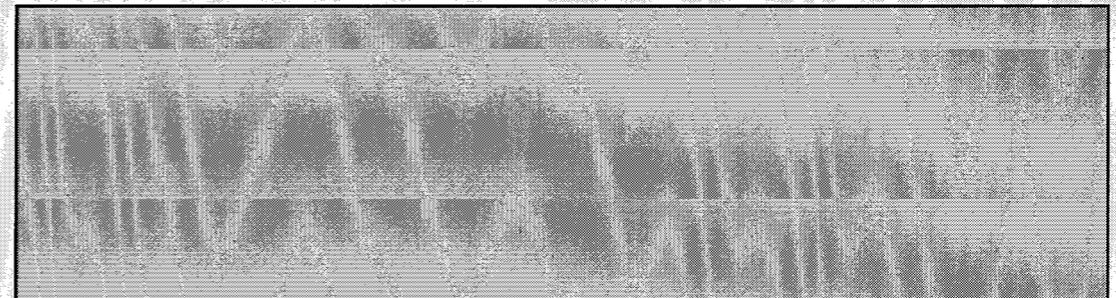
MISC/COMMENTS

[Get Last BMP No](#)

[Return to Menu](#)

[Print Record](#)

Additional Comments:





JASON BECK
ENVIRONMENTAL INSPECTOR

ENVIRONMENTAL DIVISION

101-E MOUNTS BAY ROAD, P.O. BOX 8784 (757) 259-4026
WILLIAMSBURG, VIRGINIA 23187-8784 FAX: (757) 259-4032
E-MAIL: jbeck@james-city.va.us

Sentara

3/15/08

- Erosion bioretention area
- Slope Erosion Ironbound Road side of parking lot.

Venture East bioretention