

**Date: 11/29/12**

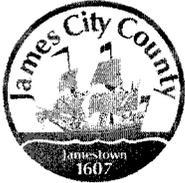
**Subject: Michael Hipple Contractor Office – Infiltration Basin**

**To: JCC Stormwater Division**

**From: Tina Creech – JCC ERP**

**Comments: Mylar included**

D/E  
SWMF  
D/B 2-11-13  
JMR



**James City County Engineering and Resource  
Protection Division  
Stormwater Management/BMP Record Drawing and  
Construction Certification Review Tracking Form**

Project Name: Michael Nipple Contractors Office  
 County Plan No. (List any amendments): SP-94-10  
 Stormwater Management Facility Type: Infiltration Trench  
 BMP Phase #:  I  II  III  
 Information Package Submittal Date: 6/18/12 CRD  
 Completeness Check:  
 Record Drawing Date/By: 6/15/12 Landtech - William Felts  
 Construction Certification Date/By: \_\_\_\_\_  
 RD/CC Standard Forms (Ensure that all forms for the BMP type are included)  
 Insp/Maint Agreement # / Date: 5/4/12  
 BMP Maintenance Plan Location: Sheet C4  
 Special Considerations: \_\_\_\_\_  
 Standard E&SC Notes on Approved Plan Requiring RD/CC or County comment in plan review  
 Location (sheet #): Sheet C5  
 County BMP ID Code #: YR020  
 Log into Division's "As-Built Tracking Log"  
 Obtain basic site information (GPIN, Owner, Address, etc.)  
 Log into Access Database (BMP ID #, Plan No., GPIN, Project Name, etc.)  
 Copy from Active Project File (correspondence, H&H, design computations, etc.)  
 Create As-Built File using Project File information (File label, folder, copy plan/details/design information, etc.)  
 Inspector Review of RD/CC (consult with Chief Engineer prior to completion of comments).  
 Record Drawing Review against Approved Plan prior to Field Inspection.  
 Final Site Inspection (FI) Performed Date: \_\_\_\_\_  
 Record Drawing (RD) Review Date: 7/26/12  
 Construction Certification (CC) Review Date: 7/26/12  
 Actions:  
 No comments. 11/3/12  
 Comments. Letter Forwarded. Date: 7/31/12  
 Record Drawing (RD)  
 Construction Certification (CC)  
 Construction-Related (CR) Release 11/29/12  
 Site Issues (SI)  
 Other : \_\_\_\_\_  
 Resubmittal (# and date): 11/6/12  
 Re-inspection (if necessary): 11/13/12  
 Drainage System Information Acceptable (RD/CC/System Info). Ok for bond release.  
 Complete "Surety Request Form".  
 Final Inspection of active file copying any relevant information to "As-Built" file.  
 On County BMP Inventory (Phase I, II or III).  
 Copy Final Inspection Report into County BMP Inspection Program file.  
 Provide Digital Photographs of BMP and save into County BMP Inventory.  
 Request mylar/reproducible from As-Built plan preparer.  
 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**

Inspector: Jina Creech Date: 11/29/12  
 Chief Engineer: [Signature] Date: 11/29/12

\*\*\* See separate checklist, if needed.





Development Management  
101-A Mounts Bay Road  
P.O. Box 8784  
Williamsburg, VA 23187-8784  
P: 757-253-6671  
F: 757-253-6822  
devman@james-city.va.us  
jamescitycountyva.gov

Building Safety and Permits  
757-253-6620

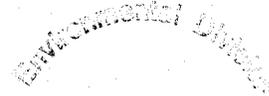
Engineering and Resource Protection  
757-253-6670

Planning  
757-253-6685

Zoning Enforcement  
757-253-6671

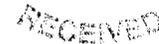
July 31, 2012

Michael J. Hipple  
Michael J. Hipple Builder Contractor Office  
7432 Richmond Road  
Williamsburg, Virginia 23188



NOV 05 2012

Re: Michael J. Hipple Builder Contractor Office  
County Plan No. SP-094-10  
County BMP ID Code: YR020



Dear Mr. Hipple:

The Engineering and Resource Protection Division has received a record drawing (asbuilt) and construction certification for the stormwater management facility and associated conveyance system components for the above referenced project. The record drawing provides as-built information for the infiltration basin situated in the northwest side of the site. Record Drawings (asbuilts) and construction certifications are required for the entirety of the stormwater conveyance and attenuation system which includes any stormwater management/BMP(s) and the associated conveyance system(s). Record drawings and construction certifications must meet established program requirements of both the county engineering and resource protection and stormwater divisions.

Based on our review of the project, record drawing submittal, and concurrent field inspection as performed on July 26, 2012, the following items must be addressed prior to the release of surety and for our division to proceed with the closing out of the project:

Record Drawing:

- 1. Show elevation data for the treated timbers/level spreader on the record drawing once repairs are complete. **ELEVATIONS HAVE BEEN RE-VERIFIED**
- 2. If possible add the following County identifiers to the lower right hand corner of the record drawing: County BMP ID Code: YR020 **ID CODE HAS BEEN ADDED.**

Construction - Related Items:

- 3. Remove the sediment plumes from the west end and center of the infiltration basin as discussed on July 26, 2012.
- 4. Complete the treated timbers/level spreader repair which includes removing the timbers on the eastern end of the infiltration basin and entrenching the remaining timbers to insure that the level spreader functions as originally designed on the approved plan.

Once this work is satisfactorily completed, contact our office appropriately for reinspection. We can then proceed with final release of the surety and/or closing out the project. One reproducible and one blue/black line set of the record drawings will be required once the above items are adequately addressed.

Please contact me at 757-253-6702 or the assigned Engineering and Resource Protection Division inspector at 757-253-6743 should you have any comments or questions.

Sincerely,



William Cain, P.E.  
Chief Civil Engineer  
Engineering and Resource Protection

cc: Landtech Resources, Inc. – via fax  
Tina Creech - JCC ERP DIV inspector – via email

\\jccdeptstore\dmo1\DMData\environmental\Projects\AsBuilts\Reviews\Fina\SP-94-10.YR020.0



**Development Management**  
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Williamsburg, VA 23187-8784  
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devman@james-city.va.us  
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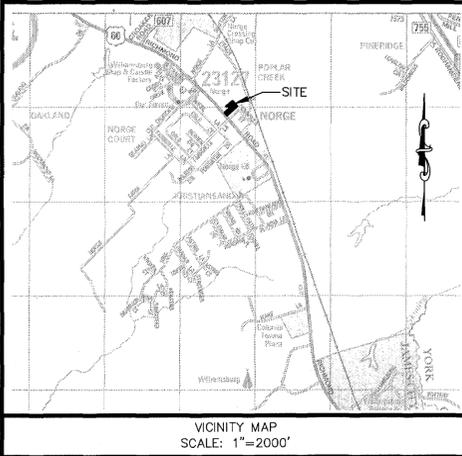
Sincerely,



William Cain, P.E.  
Chief Civil Engineer  
Engineering and Resource Protection

cc: Landtech Resources, Inc. – via fax  
Tina Creech - JCC ERP DIV inspector – via email

\\jccdeptstore\dmo1\DMDData\environmental\Projects\AsBuilts\Reviews\Fina\SP-94-10.YR020.0



VICINITY MAP  
SCALE: 1"=2000'  
ADC PERMITTED USE NUMBER 21001208

# BMP RECORD DRAWING OF MICHAEL J. HIPPLE, BUILDER CONTRACTING OFFICE

JAMES CITY COUNTY, VIRGINIA

Environmental Division  
NOV 05 2012  
RECEIVED

BMP RECORD DRAWING  
OF  
MICHAEL J. HIPPLE, BUILDER  
CONTRACTING OFFICE  
JAMES CITY COUNTY, VIRGINIA

**RECORD DRAWING CERTIFICATION:**

I HEREBY CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THIS RECORD DRAWING REPRESENTS THE ACTUAL CONDITION OF THE DRAINAGE SYSTEM. THE FACILITY APPEARS TO CONFORM WITH THE PROVISIONS OF THE APPROVED DESIGN PLAN, SPECIFICATIONS AND STORMWATER MANAGEMENT PLAN, EXCEPT AS SPECIFICALLY NOTED.

*William S. Felts*

11/05/12  
DATE

**TABLE OF CONTENTS**

SHEET NO.	SHEET TITLE
C1	COVER SHEET
C2	RECORD DRAWING

**OWNER/DEVELOPER**

MICHAEL J. HIPPLE, BUILDER  
7432 RICHMOND ROAD  
WILLIAMSBURG, VIRGINIA 23188  
PHONE: (757) 592-0071

**NOTES:**

- 1) PER FEMA COMMUNITY MAP NUMBER 51095C0110C DATED 9/28/07 THE SITE APPEARS TO BE IN FLOOD ZONE "X".
- 2) BOUNDARY PER PLAT BY PARKER SURVEYING, INC. DATED 9-8-04 FURNISHED BY CLIENT.
- 3) HORIZONTAL AND VERTICAL DATUM BASED ON JCC GEODETIC GROUND CONTROL NETWORK.
- 4) THIS PROJECT IS LOCATED IN THE YARMOUTH CREEK WATERSHED OF JAMES CITY COUNTY.
- 5) PROPERTY IS ZONED A-1

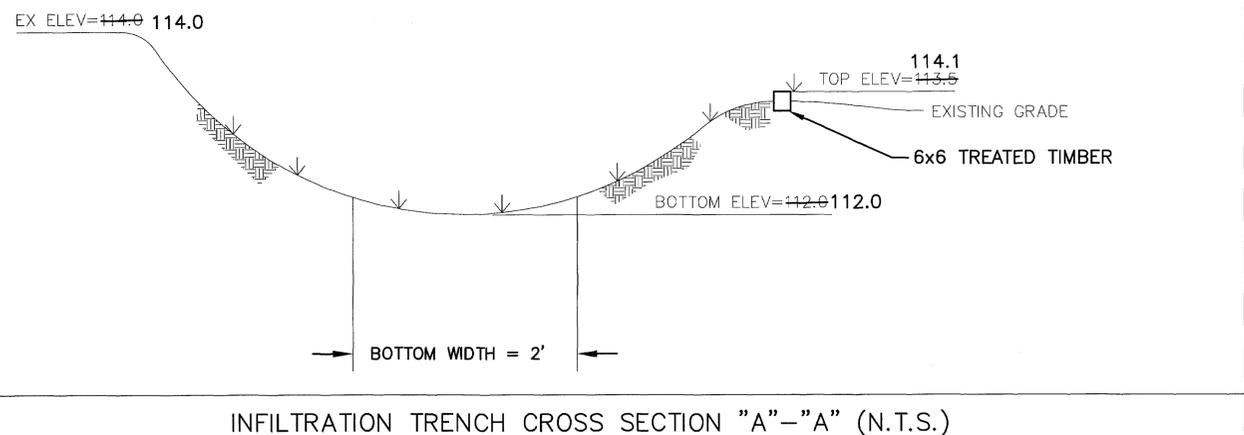
NO.	DATE	REVISION / COMMENT / NOTE
1	11/05/12	REVISED PER COUNTY COMMENTS DATED 07/31/12



**LandTech Resources, Inc.**  
Surveying • GPS • Engineering  
205 Bullfants Blvd., Ste. E, Williamsburg, VA 23188  
Phone: (757) 565-4677 Fax: (757) 565-0782  
web: landtechresources.com

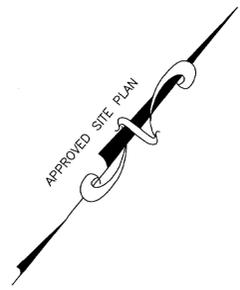
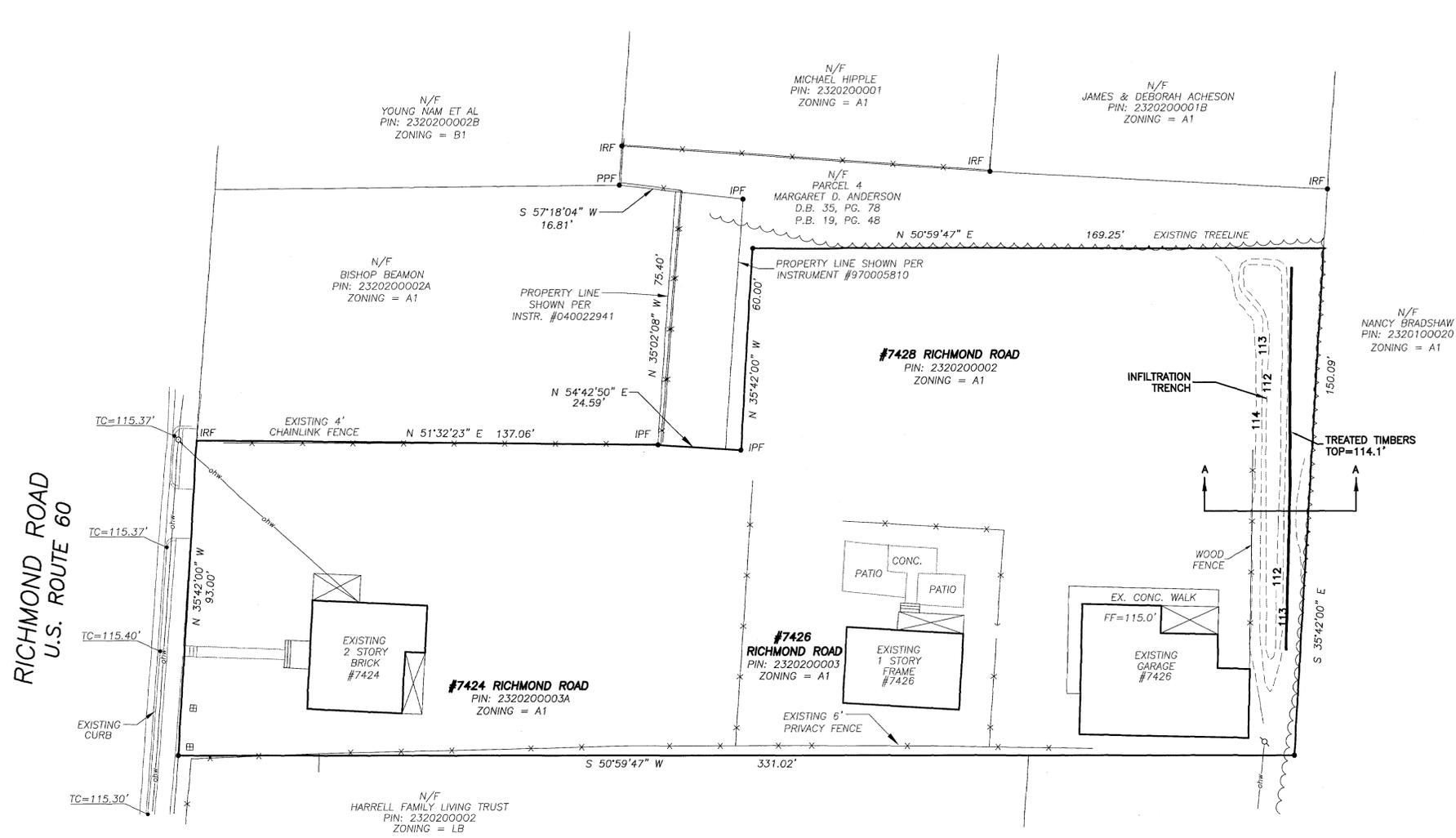
**COUNTY BMP ID CODE**  
YR020  
**RECORD DRAWING**  
JCC SP-0094-2010

SCALE: 1" = 20'  
DATE: 06/15/2012  
JOB: 07-305  
DRAWN BY: WSF  
SHEET: 1 OF 2



**INFILTRATION TRENCH MAINTENANCE AND INSPECTION PROGRAM**

**RESPONSIBLE ENTITY:**  
 THE PROPERTY OWNER OF RECORD IS RESPONSIBLE FOR MAINTENANCE & INSPECTION OF THE BMP.  
**INSPECTION SCHEDULE:**  
 AFTER THE TRENCH IS FIRST MADE FUNCTIONAL IT SHALL BE INSPECTED MONTHLY AND AFTER ANY LARGE STORM EVENTS. THEREAFTER, ONCE THE TRENCH IS DEEMED FUNCTIONING PROPERLY AND WITHOUT POTENTIAL SEDIMENT PROBLEMS, INSPECTIONS SHALL BE CONDUCTED SEMI-ANNUALLY AND AFTER ANY LARGE STORM EVENTS. ALL INSPECTIONS SHALL INCLUDE INVESTIGATION FOR POTENTIAL SOURCES OF CONTAMINATION.  
**DEBRIS AND LITTER REMOVAL:**  
 TRASH WILL COLLECT IN THE TRENCH SINCE IT DOES NOT HAVE AN OUTLET. TRASH, DEBRIS, LITTER, ETC. SHALL BE REMOVED AT THE SAME TIME THAT THE SEMI-ANNUAL INSPECTIONS ARE CONDUCTED.  
**SEDIMENT REMOVAL:**  
 THE TRENCH SHALL BE CHECKED SEDIMENT ACCUMULATION MONTHLY SINCE IT DOES NOT HAVE A SEDIMENT FOREBAY. ANY SEDIMENT ACCUMULATION SHALL BE CLEANED OUT IMMEDIATELY.  
**EROSION CONTROL:**  
 THIS IS A VERY IMPORTANT MAINTENANCE TASK SINCE ERODED SEDIMENTS ADVERSELY AFFECT THE INFILTRATION CAPACITY OF THE TRENCH. DURING THE SEMI-ANNUAL INSPECTIONS, THE TRENCH SHALL BE CHECKED FOR EXCESSIVE SEDIMENT ACCUMULATION. IF SEDIMENT IS FOUND IN THE TRENCH IT SHALL BE TRACED BACK TO AN INADEQUATELY PROTECTED SITE UPSTREAM. THE PROBLEM SHALL BE RESOLVED IMMEDIATELY IN ORDER TO PREVENT FURTHER CONTAMINATION OF THE TRENCH.  
**VEGETATION AND MULCH MAINTENANCE:**  
 MAINTENANCE OF THE VEGETATION ON THE TRENCH SIDE SLOPES IS NECESSARY TO PROMOTE A DENSE TURF WITH EXTENSIVE ROOT GROWTH, WHICH SUBSEQUENTLY ENHANCES INFILTRATION, PREVENTS EROSION AND SEDIMENTATION, AND DETERS INVASIVE WEED GROWTH. BARE SPOTS SHOULD BE IMMEDIATELY STABILIZED AND REVEGETATED. MOWING SHOULD BE DONE ONCE A MONTH AT A MINIMUM, WITH CLIPPINGS BAGGED, TO PREVENT CLOGGING OF THE TRENCH SIDES.

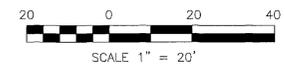


- LEGEND**
- MAIL BOX
  - ⊕ POWER POLE
  - ohw = OVERHEAD WIRES
  - IRF = IRON ROD FOUND
  - IPF = IRON PIPE FOUND
  - PPF = PINCH PIPE FOUND
  - = IRON ROD FOUND
  - = IRON PIPE FOUND
  - TC = TOP OF CURB
  - SSMH = SANITARY SEWER MANHOLE
  - 115 — EXISTING CONTOURS
  - ⊠ WATER METER

**RECORD DRAWING CERTIFICATION:**

I HEREBY CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THIS RECORD DRAWING REPRESENTS THE ACTUAL CONDITION OF THE DRAINAGE SYSTEM. THE FACILITY APPEARS TO CONFORM WITH THE PROVISIONS OF THE APPROVED DESIGN PLAN, SPECIFICATIONS AND STORMWATER MANAGEMENT PLAN, EXCEPT AS SPECIFICALLY NOTED.

*William S. Felts*  
 11/05/12  
 DATE



**COUNTY BMP ID CODE**  
**YR020**  
**RECORD DRAWING**  
**JCC SP-0094-2010**

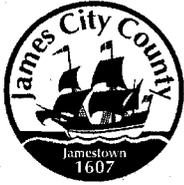
**BMP RECORD DRAWING**  
**OF**  
**MICHAEL J. HIPPLE, BUILDER**  
**CONTRACTING OFFICE**  
 JAMES CITY COUNTY, VIRGINIA

NO.	DATE	REVISION / COMMENT / NOTE
1	11/05/12	REVISED PER COUNTY COMMENTS DATED 07/31/12



**LandTech Resources, Inc.**  
 Surveying • GPS • Engineering  
 205 Bullfants Blvd., Ste. E, Williamsburg, VA 23188  
 Phone: (757) 565-1677 Fax: (757) 565-0782  
 web: landtechresources.com

SCALE: 1" = 20'  
 DATE: 06/15/2012  
 JOB: 07-305  
 DRAWN BY: WSF  
 SHEET: 2 OF 2



**James City County Environmental Division  
Stormwater Management / BMP Inspection Report  
Infiltration Basin and Trench Facilities**

County BMP ID Code (if known): YR020

Name of Facility: Michael Hipple Contractor BMP No.: 1 Date: 7/25/12 ET/31/12

Location: 7432 Richmond Road office w/ Bill

Name of Owner: Michael Hipple

Name of Inspector: Tina Creech

Type of Facility: Infiltration Trench

Weather Conditions: Sunny Hot Type:  Final Inspection  County BMP Inspection Program  Owners 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
<b>Accessibility:</b>				
Roads	/			
Parking Areas	/			
Gates	/			
Locks	/			
Safety Fencing	/			
<b>Observation Wells/Areas:</b>				
Trap Doors	/			
Manhole Covers	/			
Grates	/			
Steps	/			
<b>Pretreatment Devices:</b> <input type="checkbox"/> Inlet <input type="checkbox"/> Sump <input checked="" type="checkbox"/> Forebay <input type="checkbox"/> Other				
Sediment	/			
Trash & Debris	/			
Structure	/			
Other	/			

Facility Item	O.K.	Routine	Urgent	Comments
<b>Primary Storage/ Infiltration Area:</b>				
Trash & Debris	✓			
Sediment	✓			
Ponding / Drawdown	✓			
Surface Aggregates				
Aesthetics	✓			
Other	-cuts along fence line ✓			→ repaired 1/13/12
<b>Inlet Structure # 1 (Describe Location):</b>				
Condition of Structure				
Erosion				
Trash and Debris				
Sediment				
Aesthetics				
Other				
<b>Inlet Structure # 2 (Describe Location):</b>				
Condition of Structure				
Erosion				
Trash and Debris				
Sediment				
Aesthetics				
Other				
<b>Inlet Structure # 3 (Describe Location):</b>				
Condition of Structure				
Erosion				
Trash and Debris				
Sediment				
Aesthetics				
Other				
<b>Outlets - Overflow or Bypass Control Structures (Describe Location):</b>				
Condition of Structure	✓			
Erosion	✓			
Trash and Debris	✓			leaves - only
Sediment	✓			
Other				
<b>Nuisance Type Conditions:</b>				

Facility Item	O.K.	Routine	Urgent	Comments
Mosquito Breeding	/			
Animals, Rodents	/			
Graffiti	/			
Other				
<b>Perimeter (Contributing Drainage Area) Conditions:</b> Parking Lot - stone E rear of				
Stabilization	/			prop stabilized
Vegetation Condition	/			
Trash and Debris	/			
Aesthetics	/			
Other				

**Remarks:**

Overall Environmental Division Internal Rating: 4

Signature: Uma Creech

Date: 11/13/12

Title: env Insp



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July 31, 2012

Michael J. Hipple  
Michael J. Hipple Builder Contractor Office  
7432 Richmond Road  
Williamsburg, Virginia 23188

Re: Michael J. Hipple Builder Contractor Office  
County Plan No. SP-094-10  
County BMP ID Code: YR020

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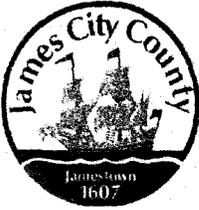


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\\jcdeptstore\dmo1\DMDData\environmental\Projects\AsBuilts\Reviews\Fina\SP-94-10.YR020.0





COUNTY OF JAMES CITY, VIRGINIA

**DECLARATION OF COVENANTS**  
**INSPECTION/MAINTENANCE OF DRAINAGE SYSTEM**

**Please type or print legibly in black ink. Covenantor(s) should submit this form to the JCC Engineering and Resource Protection Division, 101-E Mounts Bay Road, Williamsburg, VA 23185.**

THIS DECLARATION OF COVENANTS, made this 4th day of May, 2012, between Michael J. Hipple, and all successors in interest, ("COVENANTOR(S)"), owner(s) of the following property:

Parcel Identification Number(s): 2320200002, 2320200003 & 2320200003A  
Legal Description(s): .241 acres Norge Lot a 7428 Richmond Rd, .215 acres Norge Lot at 7426 Richmond Rd & .239 acres Adj Hovey at 7424 Richmond Rd

Project or Subdivision Name: Michael J. Hipple Builder Contracting Office

Document/Instrument No(s): 040022941

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.

-----  
**Prepared by (Name, Address & Phone):**  
Michael J. Hipple  
7432 Richmond Rd  
Williamsburg, VA 23188  
757-592-0071

**Return to:**  
JCC Attorney's Office  
101-C Mount's Bay Road  
Williamsburg, VA 23185  
(757) 253-6612

*Instrument No. 120011505  
Recorded on: May 30, 2012*

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) has executed this DECLARATION OF COVENANTS as of the date first above written.

COVENANTOR(S)

[Handwritten Signature]  
Signature

Michael J. Hipple President  
Print Name and Title

ACKNOWLEDGMENT

COMMONWEALTH OF VIRGINIA  
CITY/COUNTY OF James City, to wit:

I hereby certify that on this 4<sup>th</sup> day of May, 20 12, before the subscribed, a Notary Public for the Commonwealth of Virginia, personally appeared Michael J. Hipple and did acknowledge the foregoing instrument to be his/her Act.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal this 4<sup>th</sup> day of May, 2012.



[Handwritten Signature]  
Notary Public

Notary Registration Number: 7014335

My Commission expires: 12/31/2014

Approved as to form:  
[Handwritten Signature]  
County Attorney



Environmental Division  
JUN 18 2012

James City County, Virginia  
Environmental Division

RECEIVED

### 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: MICHAEL J. HIPRE, BUILDER CONTRACTING OFFICE  
Structure/BMP Name: INFILTRATION TRENCH  
Project Location: 7432 RICHMOND RD.  
BMP Location: NORTHEAST SIDE OF PROPERTY  
County Plan No.: JCC SP 0094 - 2010

Project Type:  Residential  Business  Commercial  Office  Institutional  Industrial  Public  Roadway  Other  
Tax Map/Parcel No.: 2320200003A; 3 & 2  
BMP ID Code (if known): -  
Zoning District: A-1  
Land Use: -  
Site Area (sf or acres): 1.03 ACRES

Brief Description of Stormwater Management/BMP Facility:  
INFILTRATION TRENCH LOCATED @ NORTH EAST END OF PROPERTY @ 7432 RICHMOND ROAD

Nearest Visible Landmark to SWM/BMP Facility: RICHMOND ROAD

Nearest Vertical Ground Control ( if known ): N/A  
 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: APRIL 2012  
Facility Monitored by County Representative during Construction:  Yes  No  Unknown  
Name of Site Work Contractor Who Constructed Facility: MICHEAL J. HIPPLE BULER  
Name of Professional Firm Who Routinely Monitored Construction: N/A  
Date of Completion for SWM/BMP Facility: JUNE 2012  
Date of Record Drawing/Construction Certification Submittal: JUNE 15, 2012

( 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: MICHEAL J. HIPPLE  
Mailing Address: 7432 RICHMOND ROAD  
WILLIAMSBURG VIRGINIA 23188  
Business Phone: 757-592-0071 Fax: -  
Contact Person: MICHEAL J. HIPPLE Title: OWNER

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: LANDTECH RESOURCES, INC.  
Mailing Address: 225-E BULIFANTS BLVD  
WILLIAMSBURG, VA. 23188  
Business Phone: 757-565-1677  
Fax: 757-565-0782  
Responsible Plan Preparer: MATTHEW H. CONNOLLY  
Title: PRESIDENT  
Plan Name: SITE PLAN OF MICHEAL J. HIPPLE BLDG  
Firm's Project No. CONTRACTING OFFICE 07-305  
Plan Date: 11-4-10  
Sheet No.'s Applicable to SWM/BMP Facility: 5 / 4 / / /

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

Name: MICHEAL J. HIPPLE  
Mailing Address: SEE ABOVE  
Business Phone: \_\_\_\_\_  
Fax: \_\_\_\_\_  
Contact Person: \_\_\_\_\_  
Site Foreman/Supervisor: \_\_\_\_\_  
Specialty Subcontractors & Purpose (for BMP Construction Only): N/A

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

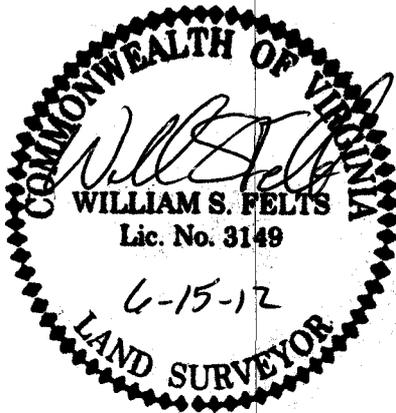
Record Drawing Certification

Firm Name: LANDTECH RESOURCES, INC  
Mailing Address: 205-E BULLIFANTS BLVD  
WILLIAMSBURG VA. 23188  
Business Phone: 757-565-1677  
Fax: 757-565-0782

Name: WILLIAM S. FELTS  
Title: VICE PRESIDENT

Signature: *William S. Felts*  
Date: 06-15-12

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.



( Seal )

Virginia Registered Professional Engineer  
or Certified Land Surveyor

Construction Certification

Firm Name: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_  
\_\_\_\_\_  
Business Phone: \_\_\_\_\_  
Fax: \_\_\_\_\_

Name: \_\_\_\_\_  
Title: \_\_\_\_\_

Signature: \_\_\_\_\_  
Date: \_\_\_\_\_

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

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 plan 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.
- XX 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.
- XX 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.

- N/A 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.
- N/A 17. BMP interior and periphery landscaping zones conform with arrangements and requirements of the approved design plan.
- XX 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 )

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

- XX C1. All requirements of Section II, Minimum Standards, apply to Group C facilities as applicable.
- XX C2. Facility is not located on fill slopes or on natural ground in excess of six (6) percent.
- N/A 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.
- N/A 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.
- N/A C5. Sides of infiltration practice lined with filter fabric.
- XX 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.
- XX C7. Stabilization and acceptable vegetative cover established over contributing drainage area prior to conveyance of stormwater to the facility.
- N/A 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.
- N/A C9. Minimum twenty-five (25) foot separation down gradient from any structure.
- N/A C10. Stormwater outfalls provided for overflow associated with larger design storms.
- XX C11. No visual signs of erosion or channel degradation immediately downstream of facility.
- XX C12. Facility does not currently cause any apparent surface or subsurface water problems to downgrade properties.
- N/A C13. Observation well provided.
- XX C14. Adequate, direct access provided to the facility for future maintenance, operation and inspection.

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

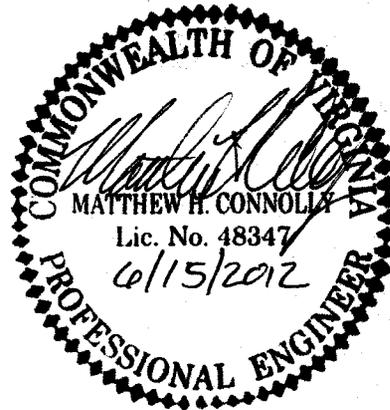
Firm Name: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_  
\_\_\_\_\_  
Business Phone: \_\_\_\_\_  
Fax: \_\_\_\_\_  
  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
  
Signature: \_\_\_\_\_  
Date: \_\_\_\_\_

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: LANDTECH RESOURCES, INC.  
Mailing Address: 205-E BILLIFANTS BLD.  
WILLIAMSBURG, VA 23188  
Business Phone: 757-565-1677  
Fax: 757-556-565-0782  
  
Name: MATTHEW H. CONNOLLY  
Title: PRESIDENT  
  
Signature: Matthew H. Connolly  
Date: 6-15-2012

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

**Development Management**

101-A Mounts Bay Road  
P.O. Box 8784  
Williamsburg, VA 23187-8784  
P: 757-253-6671  
F: 757-253-6822  
devman@james-city.va.us



jccEgov.com

**Code Compliance**

757-253-6620  
codecomp@james-city.va.us

**Environmental Division**

757-253-6670  
environ@james-city.va.us

December 1, 2010

**Planning and Zoning**

757-253-6685  
planning@james-city.va.us

Mr. Kenny Jenkins  
LandTech Resources, Inc.  
205-E Bulifants Blvd,  
Williamsburg, VA 23188

Re: 10-point system Variance Request  
Hipple Contractor's Office  
County Plan No. SP-0094-2010

Dear Mr. Jenkins:

The Environmental Division is in receipt of your written variance request letter dated October 13<sup>th</sup> 2010 for the above referenced project. The variance request is for a variance from the County 10-point BMP water quality provisions under Section 23-10.4 of the James City County Chesapeake Bay Ordinance.

Based on our review of information as submitted, the variance as requested is hereby *approved* for this specific review case only. The variance was considered appropriate due to information as submitted in the letter request and the amended plan of development including:

- Application has maximized the treatment of impervious areas.
- Site plan demonstrates the overall impervious area will be reduced to the greatest extent practicable in post-development.
- Existing development on all sides of the project site, existing utilities throughout the site, the overall size of the site, and general overall conditions prevents grading and installation of appropriate measures to convey drainage to a single point. This being the case, however, the BMP has been located "in-line" of existing drainage patterns to maximize treatment area.
- Inability to place stormwater treatment devices within the VDOT Right of Way of Route 60 prevents treatment of the entire parcel and site's location at a local high point prevents treatment of off-site areas.
- Use of the County's offsite open space program was not feasible for this proposed development.

The following conditions apply to approval of this waiver request:

1. All components of the approved plan shall be appropriately maintained and kept in a proper operating condition.
2. Impervious areas are reduced to meet or exceed that as presented on the approved plan.
3. Any future site improvements will nullify this waiver and full compliance will need to be reevaluated at the time of site plan submittal.
4. The variance approval shall become part of the approved site stormwater management plan.

Please note that approval of this variance, with the conditions stated, in no way implies final approval of a site or subdivision plan as required by the Chapter 24 Zoning or Chapter 19 Subdivisions of the County Code; nor, does it constitute final approval of an erosion and sediment control or stormwater management plan as required by Chapter 8 Erosion and Sediment Control and Chapter 23 Chesapeake Bay Preservation of the County Code. Approval of this variance is also contingent upon no major (substantial) changes in the development plan, the subject best management practice facility, or if site conditions change, become apparent or alter significantly following the date of this approval.

Sincerely,

William Cain, P.E.  
Chief Civil Engineer  
Environmental Division

cc: Ellen Cook, Planning

SWMPProg/Variations/SPvar/Var091404.SP07004

**Scott Thomas**

---

**From:** Scott Thomas  
**Sent:** Friday, November 19, 2010 5:03 PM  
**To:** Joe Buchite; Michael Majdeski  
**Cc:** Darryl Cook; William Cain; Zuzanna Lesniak  
**Subject:** Alert to Plan Approval (Environmental)  
**Attachments:** DOC.PDF

Stormwater fees apply. We need to follow with process of the waiver request (Zu/Bill). I processed approval because of the impending SUP expiration.

Scott J. Thomas  
Director  
James City County Environmental Division

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

**From:** BLDGE\_Xerox@james-city.va.us [mailto:BLDGE\_Xerox@james-city.va.us]  
**Sent:** Friday, November 19, 2010 12:28 PM  
**To:** Scott Thomas  
**Subject:** Scan from a Xerox WorkCentre

Please open the attached document. It was scanned and sent to you using a Xerox WorkCentre.

Attachment File Type: PDF

WorkCentre Location: machine location not set  
Device Name: XRX000AA7C9C73

For more information on Xerox products and solutions, please visit <http://www.xerox.com>

Environmental Division

OCT 19 2010

RECEIVED

Erosion and Sediment  
Control Narrative



for

Michael J. Hipple, Builder Contracting Office

October 12, 2010

Project Number 07-305

LandTech Resources, Inc.

205 Bulifants Blvd., Ste E, Williamsburg, VA

Phone 757-565-1677

Fax 757-565-0782

**Erosion and Sediment  
Control Narrative**

for

**Michael J. Hipple, Builder Contracting Office**

October 12, 2010

Project Number 07-305



**LandTech Resources, Inc.**  
205 Bulifants Blvd., Ste E, Williamsburg, VA  
Phone 757-565-1677 Fax 757-565-0782

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## **PROJECT DESCRIPTION**

The project consists of removing portions of existing gravel on the current site and the construction of a stormwater infiltration BMP, sidewalk, parking layout and landscape screening. The existing site consists of 3 parcels located at 7424, 7426 & 7428 Richmond Road in James City County, Virginia. The existing properties contain 1.03 Acres. After construction is complete the site will contain a total of 0.28 acres of covered impervious surfaces. The total disturbed area for the relocation of gravel parking and the stormwater BMP facility is 0.16 acres.

## **EXISTING CONDITIONS**

Currently the site contains two residential houses and a contractor's office/shed. The site is open and slopes from front to rear.

## **ADJACENT AREAS**

The site is bounded on the west by Richmond Road, on the north and southeast by residential parcels zoned A-1 and on the south by a developed parcel zoned LB.

## **OFF-SITE AREA**

There are no off-site areas proposed to be disturbed in association with this project. However, if it becomes necessary to disturb off-site areas, a revised erosion and sediment control plan will be prepared and submitted to the county for review and approval.

## **SOILS**

### **Kenansville Loamy Fine Sand (20B)**

This soil is deep, gently sloping, and well drained. It is on upland ridges. Slopes are smooth and are 150 to 500 feet long. Areas commonly are long and narrow or irregularly oval. They range from about 2 to 40 acres.

Typically, the surface layer of this soil is dark grayish brown loamy fine sand about 2 inches thick. The subsurface layer is light yellowish brown loamy brown sand 23 inches thick. The subsoil is yellowish brown and strong brown fine sandy loam 18 inches thick. The substratum is yellowish brown loamy fine sand with lamellae of brown fine sandy loam to a depth of at least 78 inches.

## **CRITICAL EROSION AREAS**

The critical erosion area associated with this site is at the northeastern side of the property at the rear. The majority of the runoff from the project drains to this area. To prevent sediment from leaving the site to this area, it is imperative that the contractor install all erosion and sediment control measures shown on these plans before any land disturbing activities commence. Regular

inspection and maintenance is also required for all erosion and sediment control measures to keep them functioning as designed.

## **EROSION AND SEDIMENT CONTROL MEASURES**

Unless otherwise indicated, all structural and vegetative erosion and sediment control practices shall be constructed and maintained according to minimum standards and specifications of the latest edition of Virginia Erosion and Sediment Control Handbook (VESCH). The minimum standards shall be adhered to unless otherwise waived or approved by variance.

### **STRUCTURAL PRACTICES**

#### **Silt Fence – 3.05**

Silt fence shall be placed around the limits of clearing to intercept and detain small amounts of sediment from disturbed areas during construction operations.

#### **Soil Stabilization Blankets and Matting – 3.36**

Jute mesh shall be provided to aid in controlling erosion on the fill slopes by providing a microclimate which protects young vegetation and promotes its establishment.

### **VEGETATIVE PRACTICES**

#### **Permanent Seeding – 3.32**

All denuded areas, which will be left dormant for extended periods of time, shall be seeded with permanent vegetation immediately following grading. Selection of the seed mixture will depend on the time of year it is applied.

### **MANAGEMENT STRATEGIES**

- Sediment trapping measures will be installed as the first step in grading and will be seeded and mulched immediately following installation.
- Temporary seeding or other stabilization will follow immediate after grading.
- The contractor shall be responsible for the installation and maintenance of all erosion and sediment control practices depicted on the Plans.
- After achieving adequate stabilization, the temporary controls will be cleaned and removed. Any areas disturbed in the removal process shall be graded, top soiled, and seeded accordingly.

### **PERMANENT STABILIZATION**

All areas disturbed by construction shall be stabilized with permanent seeding immediately following finish grading. Seeding shall be accomplished with Kentucky 31 Tall Fescue according to Standards and Specifications 3.32, Permanent Seeding of the VESCH. Soil

stabilization blankets will be installed over slopes, which have been brought to final grade and have been seeded to protect the slopes from rill and gully erosion and to allow seed to germinate properly. Mulch (straw or fiber) will be used on relatively flat areas. In all seeding operations, seed, fertilizer and lime will be applied prior to mulching.

## **STORMWATER MANAGEMENT**

This project will reduce the amount of impervious area from 0.43 acres to 0.28 acres reducing the stormwater runoff volume from the site. The stormwater quantity requirements of Minimum Standard 19 of the Virginia Stormwater Management Handbook are met with the reduction in the impervious area. The 2-year pre-development storm runoff rate of 0.59 cfs is reduced to 0.15 cfs, the 10-year pre-development storm runoff rate of 2.07 cfs is reduced to 1.14 cfs and the 100-year pre-development storm runoff rate of 3.55 cfs is reduced to 2.60 cfs. To meet the stormwater quality requirements of the James City County BMP Point System and a James City County C-1 BMP (Infiltration Trench) will be designed to treat the stormwater runoff from the developed site. The BMP treats 0.931 acres for 9 BMP points. A waiver request letter to reduce the site BMP points from 10 to 9 is included in the submittal.

## **CALCULATIONS**

Appendix A contains design calculations for the BMP design.  
Appendix B contains the Geotechnical Report.

## **MAINTENANCE**

In general, all erosion and sediment control measures will be checked daily and after each significant rainfall. The following items will be checked in particular:

### **Silt Fence – 3.05**

Silt fences shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. Any required repairs shall be made immediately.

Close attention shall be paid to the repair of damaged silt fence resulting from end runs and undercutting.

Should the fabric on a silt fence decompose or become ineffective prior to the end of the expected usable life and the barrier still be necessary, the fabric shall be replaced promptly.

Sediment deposits should be removed after each storm event. They must be removed when deposits reach approximately one-half the height of the barrier.

Any sediment deposits remaining in place after the silt fence is no longer required shall be dressed to conform to the existing grade, prepared and seeded.

### **Permanent Seeding – 3.32**

The seeded/mulched areas should be checked regularly to ensure that a good stand is established and maintained. Areas should be fertilized, mulched and re-seeded as needed. When it is clear that plants have not germinated on an area or have died, these areas must be re-seeded immediately to prevent erosion damage. However, it is extremely important to determine for what reason germination did not take place and make any corrective action necessary prior to re-seeding the area.

- Fertilizer shall be applied using approved fertilization methods and equipment.
- Formulations and application rates shall conform to the guidelines given in VESCH.
- Maintain a ground cover or organic mulch around trees that is adequate to prevent erosion, protect roots, and hold water.

### **Soil Stabilization Blankets and Matting – 3.36**

All soil stabilization blankets and matting should be inspected periodically following installation, particularly after rainstorms to check for erosion and undermining. Any dislocation or failure should be repaired immediately. If washouts or breakage occurs, reinstall the material after repairing damage to the slope. Continue to monitor these areas until which time they become permanently stabilized; at that time an annual inspection should be adequate.

**APPENDIX A**

# Worksheet 2: Runoff curve number and runoff

Project 07-305 - HIPPLE	By MHC	Date 10/08/10
Location JAMES CITY COUNTY	Checked	Date

Check one:  Present  Developed

## 1. Runoff curve number

Soil name and hydrologic group (appendix A)	Cover description  (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN <sup>1/</sup>			Area  <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi <sup>2</sup> <input type="checkbox"/> %	Product of CN x area
		Table 2-2	Figure 2-3	Figure 2-4		
KENANSVILLE (A)	ROOF/GRAVEL/CONC	98			0.422	41.356
KENANSVILLE (A)	OPEN SPACE - GRASS (GOOD CONDITION)	39			0.509	19.851

<sup>1/</sup> Use only one CN source per line

Totals ➡ .931 | 61.207

CN (weighted) =  $\frac{\text{total product}}{\text{total area}} = \frac{61.207}{0.931} = 65.74$  ;

Use CN ➡ 66

## 2. Runoff

	Storm #1	Storm #2	Storm #3
Frequency ..... yr	2	10	100
Rainfall, P (24-hour) ..... in	3.5	5.8	8.0
Runoff, Q ..... in	0.8	2.3	4.0

(Use P and CN with table 2-1, figure 2-1, or equations 2-3 and 2-4)

# Worksheet 3: Time of Concentration ( $T_c$ ) or travel time ( $T_t$ )

Project <b>07-305 - HIPPLE</b>	By <b>MHC</b>	Date <b>10/08/10</b>
Location <b>JAMES CITY COUNTY</b>	Checked	Date

Check one:  Present    Developed

Check one:   $T_c$      $T_t$  through subarea

Notes: Space for as many as two segments per flow type can be used for each worksheet.  
Include a map, schematic, or description of flow segments.

### Sheet flow (Applicable to $T_c$ only)

	Segment ID	A-B	B-C	
1. Surface description (table 3-1) .....		GRAVEL	GRASS	
2. Manning's roughness coefficient, n (table 3-1) .....		0.011	0.24	
3. Flow length, L (total L $\uparrow$ 300 ft) .....	ft	160	158	
4. Two-year 24-hour rainfall, $P_2$ .....	in	3.5	3.5	
5. Land slope, s .....	ft/ft	0.0091	0.0165	
6. $T_t = \frac{0.007 (nL)^{0.8}}{P_2^{0.5} s^{0.4}}$ Compute $T_t$ .....	hr	0.04	+ 0.35	= 0.39

### Shallow concentrated flow

	Segment ID			
7. Surface description (paved or unpaved) .....				
8. Flow length, L .....	ft			
9. Watercourse slope, s .....	ft/ft			
10. Average velocity, V (figure 3-1) .....	ft/s			
11. $T_t = \frac{L}{3600 V}$ Compute $T_t$ .....	hr		+      =	

### Channel flow

	Segment ID			
12. Cross sectional flow area, a .....	ft <sup>2</sup>			
13. Wetted perimeter, $p_w$ .....	ft			
14. Hydraulic radius, $r = \frac{a}{p_w}$ Compute r .....	ft			
15. Channel slope, s .....	ft/ft			
16. Manning's roughness coefficient, n .....				
17. $V = \frac{1.49 r^{2/3} s^{1/2}}{n}$ Compute V .....	ft/s			
18. Flow length, L .....	ft			
19. $T_t = \frac{L}{3600 V}$ Compute $T_t$ .....	hr		+      =	
20. Watershed or subarea $T_c$ or $T_t$ (add $T_t$ in steps 6, 11, and 19) .....	Hr			0.39

### Worksheet 5a: Basic watershed data

Project <b>07-305 HIPPLE</b>				Location <b>JAMES CITY COUNTY</b>				By <b>MHC</b>		Date <b>10/8/10</b>		
Check one: <input checked="" type="checkbox"/> Present <input type="checkbox"/> Developed				Frequency (yr)				Checked		Date		
Subarea name	Drainage area	Time of concentration	Travel time through subarea	Downstream subarea names	Travel time summation to outlet	24-hr rainfall	Runoff curve number	Runoff	$A_m Q$	Initial abstraction	$I_a/P$	
<b>STORM</b>	$A_m$ (mi <sup>2</sup> )	$T_c$ (hr)	$T_t$ (hr)		$\Sigma T_t$ (hr)	$P$ (in)	$CN$	$Q$ (in)	$A_m Q$ (mi <sup>2</sup> -in)	$I_a$ (in)	$I_a/P$	
2	0.0015	0.39				3.5	66	0.8	.0012	1.030	.29	
10	0.0015	0.39				5.8	66	2.3	.0035	1.030	.18	
100	0.0015	0.39				8.0	66	4.0	.0060	1.030	.13	

From worksheet 3

From worksheet 2

From table 5-1

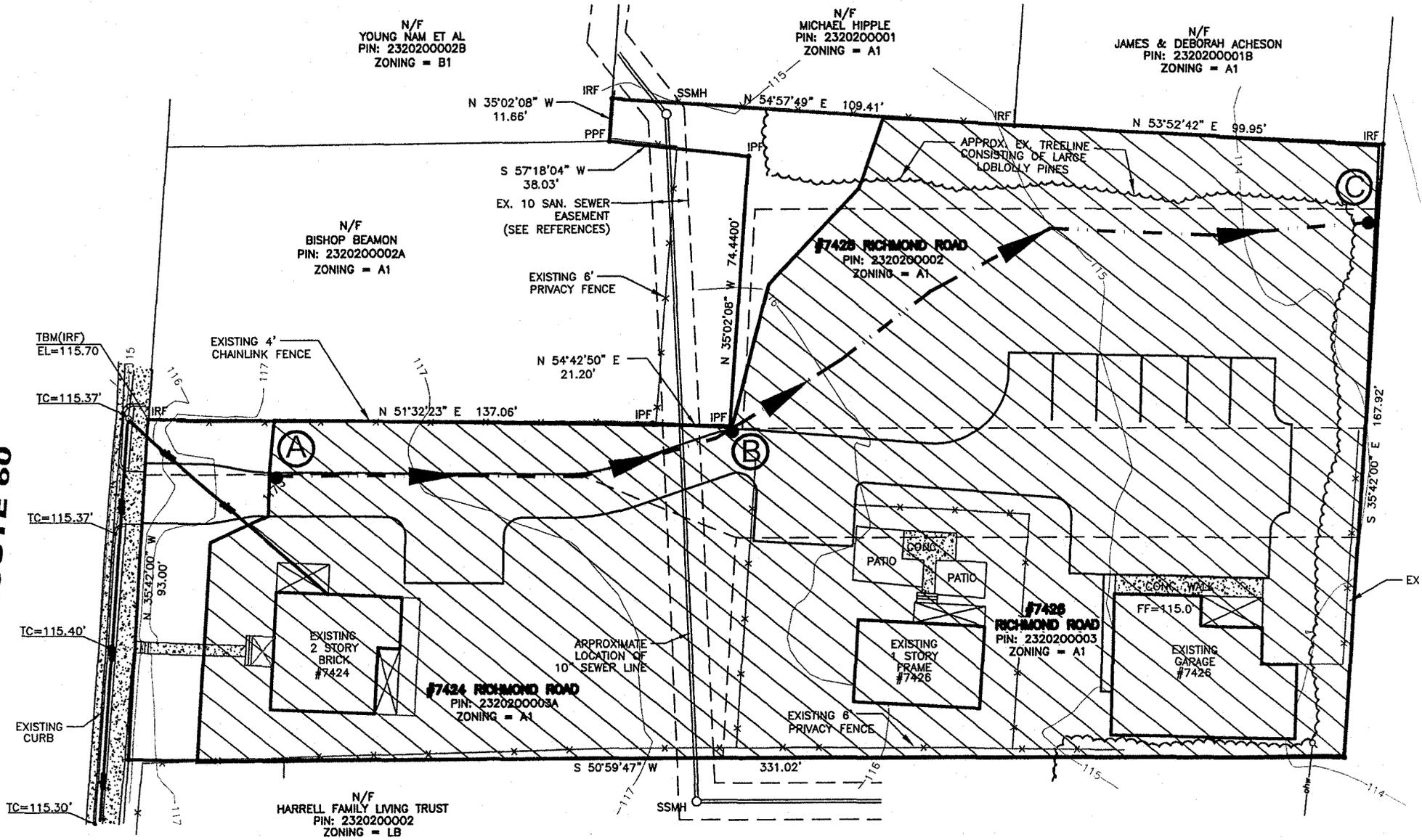
### Worksheet 5b: Basic watershed data

Project <b>07-305-HIPPLE</b>		Location <b>JAMES CITY COUNTY</b>				By <b>MHC</b>		Date <b>10/8/10</b>							
Check one: <input checked="" type="checkbox"/> Present <input type="checkbox"/> Developed		Frequency (yr)				Checked		Date							
Subarea name <b>STORM</b>	Basic watershed data used <sup>1/</sup>				Select and enter hydrograph times in hours from exhibit 5-II <sup>2/</sup>										
	Subarea $T_c$ (hr)	$\Sigma T_t$ to outlet (hr)	$I_a/P$	$A_m Q$ * (mi <sup>2</sup> -in)				<b>12.3</b>	<b>12.4</b>						
					Discharges at selected hydrograph times <sup>3/</sup> (cfs)										
<b>2</b>	<b>.39</b>		<b>.29</b>	<b>.0012</b>					<b>0.59</b>						
<b>10</b>	<b>.39</b>		<b>.18</b>	<b>.0035</b>					<b>2.07</b>						
<b>100</b>	<b>.39</b>		<b>.13</b>	<b>.0060</b>					<b>3.55</b>						
Composite hydrograph at outlet															

VT-TR-55, Second Ed., June 1986

1/ Worksheet 5a. Rounded as needed for use with exhibit 5.  
 2/ Enter rainfall distribution type used.  
 3/ Hydrograph discharge for selected times is  $A_m Q$  multiplied by tabular discharge from appropriate exhibit 5.

**RICHMOND ROAD  
U.S. ROUTE 60**



# Worksheet 2: Runoff curve number and runoff

Project <b>07-305 - HIPPLE</b>	By <b>MHC</b>	Date <b>10-08-10</b>
Location <b>JAMES CITY COUNTY</b>	Checked	Date

Check one:  Present  Developed

## 1. Runoff curve number

Soil name and hydrologic group (appendix A)	Cover description  (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN <sup>1/</sup>			Area  <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi <sup>2</sup> <input type="checkbox"/> %	Product of CN x area
		Table 2-2	Figure 2-3	Figure 2-4		
KENANSVILLE (A)	ROOF/GRAVEL/CONC	98			.284	27.832
KENANSVILLE (A)	OPEN SPACE - GRASS (GOOD CONDITION)	39			.647	25.233

<sup>1/</sup> Use only one CN source per line

Totals ➡ **.931** **53.065**

CN (weighted) =  $\frac{\text{total product}}{\text{total area}} = \frac{53.065}{0.931} = 56.99$  ;

Use CN ➡ **57**

## 2. Runoff

	Storm #1	Storm #2	Storm #3
Frequency ..... yr	2	10	100
Rainfall, P (24-hour) ..... in	3.5	5.8	8.0
Runoff, Q ..... in	0.42	1.6	3.0

(Use P and CN with table 2-1, figure 2-1, or equations 2-3 and 2-4)

# Worksheet 3: Time of Concentration ( $T_c$ ) or travel time ( $T_t$ )

Project <b>07-305 HIPPLE</b>	By <b>MHC</b>	Date <b>10-08-10</b>
Location <b>JAMES CITY COUNTY</b>	Checked	Date

Check one:  Present  Developed

Check one:   $T_c$    $T_t$  through subarea

Notes: Space for as many as two segments per flow type can be used for each worksheet.  
Include a map, schematic, or description of flow segments.

**Sheet flow (Applicable to  $T_c$  only)**

	Segment ID	A-B	B-C	
1. Surface description (table 3-1) .....		GRAVEL	GRASS	
2. Manning's roughness coefficient, n (table 3-1) .....		0.011	0.24	
3. Flow length, L (total L $\neq$ 300 ft) ..... ft		125	193	
4. Two-year 24-hour rainfall, $P_2$ ..... in		3.5	3.5	
5. Land slope, s ..... ft/ft		0.0091	0.0165	
6. $T_t = \frac{0.007 (nL)^{0.8}}{P_2^{0.5} s^{0.4}}$ Compute $T_t$ ..... hr		0.03	+ 0.42	= 0.45

**Shallow concentrated flow**

	Segment ID			
7. Surface description (paved or unpaved) .....				
8. Flow length, L ..... ft				
9. Watercourse slope, s ..... ft/ft				
10. Average velocity, V (figure 3-1) ..... ft/s				
11. $T_t = \frac{L}{3600 V}$ Compute $T_t$ ..... hr			+ =	=

**Channel flow**

	Segment ID			
12. Cross sectional flow area, a ..... ft <sup>2</sup>				
13. Wetted perimeter, $p_w$ ..... ft				
14. Hydraulic radius, $r = \frac{a}{p_w}$ Compute r ..... ft				
15. Channel slope, s ..... ft/ft				
16. Manning's roughness coefficient, n .....				
17. $V = \frac{1.49 r^{2/3} s^{1/2}}{n}$ Compute V ..... ft/s				
18. Flow length, L ..... ft				
19. $T_t = \frac{L}{3600 V}$ Compute $T_t$ ..... hr			+ =	=
20. Watershed or subarea $T_c$ or $T_t$ (add $T_t$ in steps 6, 11, and 19) ..... Hr				0.45

### Worksheet 5a: Basic watershed data

Project <b>07-305 - HIPPLE</b>				Location <b>JAMES CITY COUNTY</b>				By <b>MHC</b>		Date <b>10/08/10</b>		
Check one: <input type="checkbox"/> Present <input checked="" type="checkbox"/> Developed				Frequency (yr)				Checked		Date		
Subarea name	Drainage area	Time of concentration	Travel time through subarea	Downstream subarea names	Travel time summation to outlet	24-hr rainfall	Runoff curve number	Runoff	$A_m Q$	Initial abstraction	$I_a/P$	
<b>STORM</b>	$A_m$ (mi <sup>2</sup> )	$T_c$ (hr)	$T_t$ (hr)		$\Sigma T_t$ (hr)	$P$ (in)	$CN$	$Q$ (in)	$A_m Q$ (mi <sup>2</sup> -in)	$I_a$ (in)	$I_a/P$	
2	0.0015	0.45				3.5	57	0.4	.0006	1.509	.43	
10	0.0015	0.45				5.8	57	1.6	0.002	1.509	.26	
100	0.0015	0.45				8.0	57	3.0	0.004	1.509	.19	

From worksheet 3

From worksheet 2

From table 5-1

### Worksheet 5b: Basic watershed data

Project <b>07-305 - HIPPLE</b>		Location <b>JAMES CITY COUNTY</b>				By <b>MRF</b>		Date <b>10/08/10</b>										
Check one: <input type="checkbox"/> Present <input checked="" type="checkbox"/> Developed		Frequency (yr)				Checked		Date										
Subarea name	Basic watershed data used <sup>1/</sup>				Select and enter hydrograph times in hours from exhibit 5-II <sup>2/</sup>													
	Subarea $T_c$ (hr)	$\Sigma T_t$ to outlet (hr)	$I_a/P$	$A_m Q$ * (mi <sup>2</sup> -in)				12.3	12.4	12.5								
<b>STORM</b>					Discharges at selected hydrograph times <sup>3/</sup> (cfs)													
2	.45		.43	.0006														.15
10	.45		.26	.0023														1.14
100	.45		.19	.0044														2.60
Composite hydrograph at outlet																		

1/ Worksheet 5a. Rounded as needed for use with exhibit 5.  
 2/ Enter rainfall distribution type used.  
 3/ Hydrograph discharge for selected times is  $A_m Q$  multiplied by tabular discharge from appropriate exhibit 5.

# LandTech Resources, Inc.

Surveying • Engineering • GPS

201 Bulifants Blvd., Suite A, Williamsburg, VA 23188

Phone: (757) 565-1677 Fax: (757) 565-0782

web: landtechresources.com

PROJECT NAME HIPPLE

PROJECT NO. 07-305

SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_

CALCULATED BY WJH DATE 10/08/10

SCALE \_\_\_\_\_

## DESIGN INFILTRATION BASIN

TREATMENT VOLUME = 0.5 IN/IMP. ACRE

IMPERVIOUS AREA = 12,405 S.F.

$$WQV = \frac{12,405 \text{ S.F.} \cdot .5 \text{ IN/FT}}{12 \text{ IN}} = 517 \text{ C.F.}$$

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PROJECT NAME HIPPLE

PROJECT NO. 07-305

SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_

CALCULATED BY MHC DATE 10/08/10

SCALE \_\_\_\_\_

## DETERMINE MAX. PONDING TIME

$$\text{INFILTRATION RATE, } f = \frac{0.757 + 2.942}{2} \quad \text{Per Soils Report IN Appendix B}$$
$$= 1.85 \text{ in/hr}$$

$$\text{DESIGN INFILTRATION RATE } f_d = 0.5f = 0.92 \text{ in/hr}$$

$$\text{PONDING TIME, } T = \frac{d}{f_d}$$

$$\text{MAXIMUM PONDING DEPTH } 113-112 = 1.0$$

$$T = \frac{1.0 \text{ FT} \left| \begin{array}{l} 12 \text{ IN} \\ 1 \text{ FT} \end{array} \right.}{0.92 \text{ in/hr}} = 13 \text{ HOURS} < 48 \text{ HRS } \underline{\underline{\text{OK}}}$$

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PROJECT NAME HIPPLE

PROJECT NO. 07-305

SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_

CALCULATED BY MHC DATE 10/8/10

SCALE \_\_\_\_\_

## DESIGN OUTLET WEIR

OUTLET WEIR TO BE 6" x 6" TREATED  
TIMBER RIGID LIP ALONG THE EASTERN  
SIDE OF THE INFILTRATION BASIN AT  
ELEVATION 113.50'. LENGTH = 105.0'

## Worksheet for BMP Point System

A. STRUCTURAL BMP POINT ALLOCATION

<u>BMP</u>	<u>BMP Points</u>		<u>Fraction of Site Served by BMP</u>	=	<u>Weighted BMP Points</u>
C-1	10	x	0.90	=	9
_____	_____	x	_____	=	_____
_____	_____	x	_____	=	_____
_____	_____	x	_____	=	_____

TOTAL WEIGHTED STRUCTURAL BMP POINTS: 9

B. NATURAL OPEN SPACE CREDIT

<u>Fraction of Site</u>		<u>Natural Open Space Credit</u>	=	<u>Points for Natural Open Space</u>
_____	x	(0.1 per 1%)	=	_____
_____	x	(0.15 per 1%)	=	_____

TOTAL NATURAL OPEN SPACE CREDIT: 0

C. TOTAL WEIGHTED POINTS

$$\frac{9}{\text{Structural BMP Points}} + \frac{0}{\text{Natural Open Space Points}} = \frac{9}{\text{Total}}$$

SITE AREA = 1.03 ACRES

BMP AREA = 0.93 ACRES

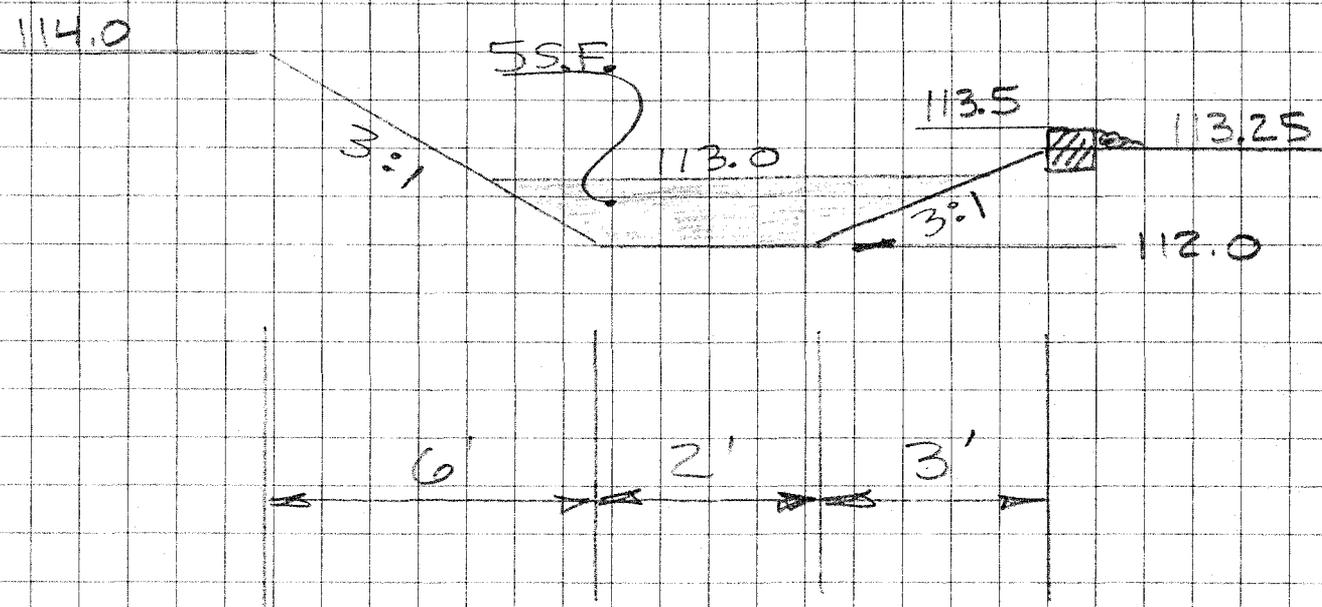
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PROJECT NAME HIPPLE  
PROJECT NO. 07-305  
SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_  
CALCULATED BY MHC DATE 10-08-10  
SCALE \_\_\_\_\_

## BMP INFILTRATION BASIN



LENGTH OF POND  $\frac{1}{105} * 5 = 525 \text{ C.Y.}$

**APPENDIX B**

SAN. MH

APPROX. EX. TREELINE  
CONSISTING OF LARGE  
LOBLOLLY PINES

SEWER  
MENT  
NCES)

3' 6"  
FENCE

PROPOSED UNDERSTORY  
HEDGE ROW OF RED TIPS

#7428

AREA FOR  
FUTURE PARKING

APPROX. EX. OVERSTORY  
TREELINE CONSISTING OF  
LARGE LOBLOLLY PINES

N/F  
NANCY BRADSHAW  
PARCEL ID #2320100020

EX. 6' PRIVACY  
TO BE RELOCATED

PROXIMATE  
ATION OF  
WER LINE

EXISTING  
1 STORY  
FRAME  
#7426

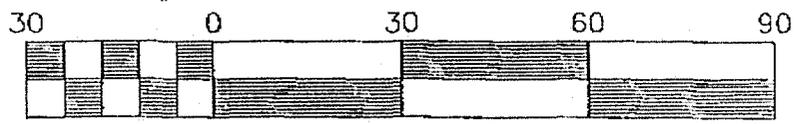
#7426

EXISTING  
GARAGE  
#7426

PROPOSED  
APE AREA

EXISTING 6'  
PRIVACY FENCE

SAN. MH



Scale: 1" = 30'

JOB #07-305

REFERENCES:

PLAT BY:  
PARKER SURVEYING, INC.  
DATED 09-18-04  
DATE: 04-15-09  
SCALE: 1"=30'

005/005

005/005

005/005

10/08/2004 11:40 FAX 101543060

Agency/Company Name

SATURATED HYDRAULIC CONDUCTIVITY WORKSHEET

Sheet No.:

Project Name.: Hipple: Richmond Rd.	Parcel.....: 7426,7428, 7424	Terminology and Solution (Modified Glover)
Boring No.....: 1	Date.....: 10-7-2010	Ksat : Saturated hydraulic conductivity
Investigators.: AH	File Name.....: Hipple	Q: Steady-state rate of water flow into the soil
Boring Depth.: 60"	WCU Base. Ht. h: 15.2 cm	H: Constant height of water in borehole
Boring Dia.....: 11.4 cm	WCU Susp. Ht. S: 30.5 cm	r: Radius of cylindrical borehole
Boring Rad. (r): 5.70 cm	Const. Wtr. Ht. H: 45.7 cm	$K_{sat} = Q[\sinh^{-1}(H/r) - (r^2/H^2 + 1)^{0.5} + r/H] / (2\pi r H^2)$ [Glover R. E.]
This worksheet is optimized for borehole diameters of 9 - 11 cm and CH depths of 15 - 35 cm.		3.75" Dia. (AMS 3.25" auger) adjustment factor...: 1.23

VOLUME (ml)	Volume Out (ml) [a]	TIME (hr:min:sec a/p)	Elapsed Time		Flow Rate Q (ml/min) [a/b]	Ksat Equivalent Values				
			(hr:min:sec)	(min) [b]		(cm/min)	(cm/sec)	(cm/day)	(in/hr)	(ft/day)
2000		9:52:00 AM								
1820	180	9:53:00 AM	0:01:00	1.00	180.00	0.032	5.34E-04	46.2	0.757	1.51
1660	160	9:54:00 AM	0:01:00	1.00	160.00	0.028	4.75E-04	41.0	0.673	1.35
1520	140	9:55:00 AM	0:01:00	1.00	140.00	0.025	4.16E-04	35.9	0.589	1.18
1380	140	9:56:00 AM	0:01:00	1.00	140.00	0.025	4.16E-04	35.9	0.589	1.18
1260	120	9:57:00 AM	0:01:00	1.00	120.00	0.021	3.56E-04	30.8	0.505	1.01
1170	90	9:58:00 AM	0:01:00	1.00	90.00	0.016	2.67E-04	23.1	0.379	0.76
1080	90	9:59:00 AM	0:01:00	1.00	90.00	0.016	2.67E-04	23.1	0.379	0.76
960	120	10:00:00 AM	0:01:00	1.00	120.00	0.021	3.56E-04	30.8	0.505	1.01
890	70	10:01:00 AM	0:01:00	1.00	70.00	0.012	2.08E-04	18.0	0.295	0.59
800	90	10:02:00 AM	0:01:00	1.00	90.00	0.016	2.67E-04	23.1	0.379	0.76
710	90	10:03:00 AM	0:01:00	1.00	90.00	0.016	2.67E-04	23.1	0.379	0.76
630	80	10:04:00 AM	0:01:00	1.00	80.00	0.014	2.37E-04	20.5	0.337	0.67
550	80	10:05:00 AM	0:01:00	1.00	80.00	0.014	2.37E-04	20.5	0.337	0.67
470	80	10:06:00 AM	0:01:00	1.00	80.00	0.014	2.37E-04	20.5	0.337	0.67
400	70	10:07:00 AM	0:01:00	1.00	70.00	0.012	2.08E-04	18.0	0.295	0.59
320	80	10:08:00 AM	0:01:00	1.00	80.00	0.014	2.37E-04	20.5	0.337	0.67
250	70	10:09:00 AM	0:01:00	1.00	70.00	0.012	2.08E-04	18.0	0.295	0.59

Natural Moisture: Moist to dry	Init. Satur. Time: 4 min.	ESTIMATED FIELD Ksat.....:	
Texture/Classif: sandy loam	Consistency:	Bedrock Dpth:	Notes: Estimated Field Ksat is determined by averaging and/or rounding of test results for final three or four intervals.
Structure/Fabric:	Water Tbl. Dpth:	Imprm. Lyr. Dpth:	

003/008  
RUMSSEPIIU  
14/06/2004 11:40 P.M. 1016433080

Agency/Company Name

SATURATED HYDRAULIC CONDUCTIVITY WORKSHEET

Sheet No.:

Project Name.: Hipple-Richmond Rd.	Parcel.....: 7426,7428,7424	Terminology and Solution (Modified Glover)
Boring No.....: 2	Date.....: 10-7-2010	Ksat : Saturated hydraulic conductivity
Investigators.: AH	File Name.....:	Q: Steady-state rate of water flow into the soil
Boring Depth.: 60"	WCU Base. Ht. h: 15.2 cm	H: Constant height of water in borehole
Boring Dia.....: 11.4 cm	WCU Susp. Ht. S: 30.5 cm	r: Radius of cylindrical borehole
Boring Rad. (r): 5.72 cm	Const. Wtr. Ht. H: 45.7 cm	Ksat = $Q[\sinh^{-1}(H/r) - (r^2/H^2+1)^{-0.5} + r/H] / (2\pi r H^2)$ [Glover R. E.]
This worksheet is optimized for borehole diameters of 9 - 11 cm and CH depths of 15 - 35 cm.		3.75" Dia. (AMS 3.25" auger) adjustment factor...: 1.23

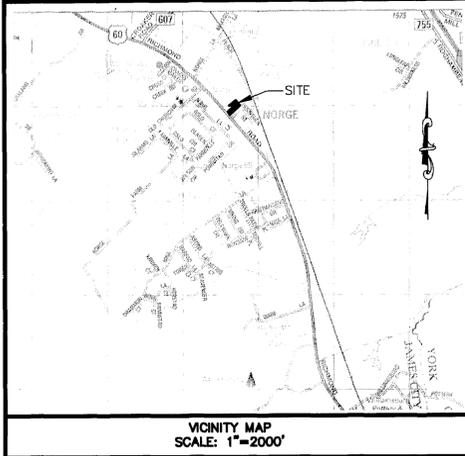
VOLUME (ml)	Volume Out (ml) [a]	TIME (hr:min:sec a/p)	Elapsed Time		Flow Rate Q (ml/min) [a/b]	Ksat Equivalent Values					
			(hr:min:sec)	(min) [b]		(cm/min)	(cm/sec)	(cm/day)	(in/hr)	(ft/day)	
2000		10:28:30 AM									
1650	350	10:29:00 AM	0:00:30	0.50	700.00	0.125	2.08E-03	179.3	2.942	5.88	
1360	290	10:29:30 AM	0:00:30	0.50	580.00	0.103	1.72E-03	148.6	2.437	4.87	
1080	280	10:30:00 AM	0:00:30	0.50	560.00	0.100	1.66E-03	143.5	2.353	4.71	
760	320	10:30:30 AM	0:00:30	0.50	640.00	0.114	1.90E-03	163.9	2.689	5.38	
450	310	10:31:00 AM	0:00:30	0.50	620.00	0.110	1.84E-03	158.8	2.605	5.21	
2000		10:32:00 AM									
1670	330	10:32:30 AM	0:00:30	0.50	660.00	0.117	1.96E-03	169.1	2.773	5.55	
1400	270	10:33:00 AM	0:00:30	0.50	540.00	0.096	1.60E-03	138.3	2.269	4.54	
1120	280	10:33:30 AM	0:00:30	0.50	560.00	0.100	1.66E-03	143.5	2.353	4.71	
830	290	10:34:00 AM	0:00:30	0.50	580.00	0.103	1.72E-03	148.6	2.437	4.87	
530	300	10:34:30 AM	0:00:30	0.50	600.00	0.107	1.78E-03	153.7	2.521	5.04	
2000		10:35:30 AM									
1700	300	10:36:00 AM	0:00:30	0.50	600.00	0.107	1.78E-03	153.7	2.521	5.04	
1430	270	10:36:30 AM	0:00:30	0.50	540.00	0.096	1.60E-03	138.3	2.269	4.54	
1180	250	10:37:00 AM	0:00:30	0.50	500.00	0.089	1.48E-03	128.1	2.101	4.20	
930	250	10:37:30 AM	0:00:30	0.50	500.00	0.089	1.48E-03	128.1	2.101	4.20	
680	250	10:38:00 AM	0:00:30	0.50	500.00	0.089	1.48E-03	128.1	2.101	4.20	
460	220	10:38:30 AM	0:00:30	0.50	440.00	0.078	1.30E-03	112.7	1.849	3.70	
230	230	10:39:00 AM	0:00:30	0.50	460.00	0.082	1.36E-03	117.8	1.933	3.87	
0	230	10:39:30 AM	0:00:30	0.50	460.00	0.082	1.36E-03	117.8	1.933	3.87	

Natural Moisture: moist to dry	Init. Satur. Time: 6 minutes	ESTIMATED FIELD Ksat.....:	
Texture/Classif: loamy sand	Consistency:	Bedrock Dpth:	Notes: Estimated Field Ksat is determined by averaging and/or rounding of test results for final three or four intervals.
Structure/Fabric: none	Water Tbl. Dpth:	Imprm. Lyr. Dpth:	

004/008

ADAMSSEPTIC

10/08/2004 11:40 FAX 7576453060



VICINITY MAP  
SCALE: 1"=2000'  
PERMITTED USE NUMBER 21001208

# SITE PLAN OF MICHAEL J. HIPPLE, BUILDER CONTRACTING OFFICE 7424, 7426, 7428 RICHMOND ROAD PARCEL ID #2320200003A, 2320200003 & 2320200002 JAMES CITY COUNTY VIRGINIA

**JCC SP-0094-2010**

JAMES CITY COUNTY	
GENERAL SITE PLAN	
APPROVALS	DATE
Fire Dept.	11/22/10
Health Dept.	
WVOT	
Planning	11/22/10
Zoning Admin	11/22/10
County Eng.	
FEA	
Other	

Environmental Division  
DEC 09 2010  
RECEIVED

### TABLE OF CONTENTS

SHEET NO.	SHEET TITLE
C1	COVER SHEET
C2	EXISTING CONDITIONS
C3	LAYOUT PLAN
C4	GRADING PLAN/EROSION & SEDIMENT CONTROL PLAN
C5	DETAIL SHEET
L1	LANDSCAPE PLAN

**CASE NO. SUP-0010-2009 CONDITIONS APPROVED BY THE JAMES CITY COUNTY BOARD OF SUPERVISORS ON MAY 26, 2009:**

- 1) Permitted Use: This Special Use Permit ("SUP") shall be valid for the operation of a contractors' office/shed (limited to the existing 1,600-square-foot garage/office building), with associated parking area, and two residential houses, (collectively, "the Project"). The Project shall be located at 7426, 7424, and 7428 Richmond Road, further identified as James City County Real Estate Tax Map Nos. 2320200003, 2320200003A, and 2320200002, respectively (the "Property"). Development of the Property shall be generally in accordance with, and as depicted on, the drawing, entitled "Binding Master Plan for Michael J. Hipple, Builder Contracting Office," prepared by LandTech Resources, Inc., and dated April 15, 2009, (hereafter referred to as "the Master Plan") as determined by the Planning Director of James City County ("Planning Director"). The two houses shall remain on the Property as shown on the Master Plan, and be used only for residential purposes. Minor changes may be permitted.
- 2) Lighting: Any exterior lighting installed on the Property shall be comprised of recessed fixtures with no bulb, lens, or globe extending below the fixture housing. The housing shall be opaque and shall completely enclose the light source in such a manner that all light is directed downward, and that the light source is not visible from the side of the fixture. Pole-mounted fixtures shall not be mounted in excess of 15 feet in height, as measured from the finished grade beneath them. Light spillage, defined as light intensity measured at 0.1 foot-candle or higher extending beyond any property line, shall be prohibited.
- 3) Site Plan Approval: A site plan shall be required for this project. Final approval of the site plan shall be obtained within eighteen (18) months of issuance of this SUP, or the SUP shall become void.
- 4) Certificate of Occupancy: A Permanent Certificate of Occupancy for the contractor's office/shed shall be obtained within thirty-six (36) months of issuance of this SUP, or the SUP shall become void.
- 5) Water Conservation: The applicant shall be responsible for developing and enforcing water conservation standards for the Property, to be submitted to and approved by the James City Service Authority (JCSA), prior to final site plan approval. The standards may include, but shall not be limited to, such water conservation measures as limitations on the installation and use of irrigation systems and irrigation wells, the use of approved landscaping materials including the use of drought tolerant plants, warm season grasses, and the use of water conserving fixtures and appliances to promote water conservation and minimize the use of public water resources.
- 6) Irrigation: As part of the site plan, the applicant shall include provision of stormwater systems that can be used to collect stormwater for outdoor water use for the entire development. Only surface water collected from surface water collection devices, (such as cisterns, rain barrels, etc.), may be used for irrigating common areas on the Property ("the Irrigation"). In no circumstances shall the James City Service Authority (JCSA) public water supply be used for irrigation.
- 7) JCSA Utility Easements: Prior to final site plan approval, all JCSA utility easements located on the subject property shall be upgraded to meet current JCSA easement standards, as applicable. This shall be accomplished with an easement plat and/or deed deemed suitable by JCSA and the County Attorney.
- 8) Landscaping and Fencing: The applicant shall install landscaping along the Richmond Road side of the wooden privacy fence that separates the 7424 lot and the 7426 lot. A landscape plan for this area, subject to the review and approval of the Planning Director or his/her designee, shall be submitted for the Property (in accordance with "Article II, Special Regulations Division 4, Landscaping" of the Zoning Ordinance). All privacy fencing shall be maintained in good repair as shown on the Master Plan. Requests to amend the landscaping and/or fencing on the Property may be permitted by the Planning Director or his/her designee, as long as they do not degrade the aesthetics or character of the development, or reduce the effectiveness of the screening being offered.
- 9) Outdoor Storage: No tools, materials, or equipment may be stored outside onsite, unless it is fully screened from the view of Richmond Road and adjacent properties by landscaping and/or fencing. This condition excludes work trailers, such as a mobile generator trailer.
- 10) Impervious Area: The impervious area of the Property shall be minimized to the greatest extent practical. If the impervious area of the Project site exceeds 10%, Low Impact Development (LID) or other suitable measures will be provided to mitigate the effects of stormwater runoff from the Property.
- 11) Heavy Vehicles: Traffic to and from the site related to the contractor's office shall be limited to light-to-medium duty passenger vehicles, work trucks, and similar vehicles. Larger, heavier vehicles such as tractor-trailers, stake-bed trucks, dump trucks, and heavy construction vehicles (e.g., bulldozer, backhoe, etc.) are prohibited. Deliveries of supplies shall be made by small-box delivery trucks, or smaller vehicles.
- 12) Hours of Operation: The hours of operation for the Project, including the loading or unloading of deliveries to/from the site, shall be limited to 6:30AM to 5:00PM, Monday through Friday.
- 13) Parking of Vehicles: No more than ten vehicles associated with the contractor's office, to include employee vehicles, work trucks, and work trailers, may be parked on the Property at any given time. While only four parking spaces have initially been shown on the Master Plan, the applicant may add up to six other stalls on the 7426 and/or 7428 lots with an approved site plan that properly addresses all stormwater management concerns. All vehicles associated with the contractor's office shall be parked on the 7426 and 7428 lots, and shall be screened from Richmond Road and from surrounding properties by privacy fencing, buildings, and/or landscaping. For purposes of this condition, vehicles belonging to tenants of the two rental houses (including employee vehicles, if applicable) shall not be counted against the ten-vehicle limitation. Interpretations of the counting of vehicles on the Property shall be at the sole discretion of the Zoning Administrator. Requests to amend this p
- 14) Severance Clause: This SUP is not severable. Invalidation of any word, phrase, clause, sentence, or paragraph shall invalidate the remainder.

### STATISTICAL INFORMATION

ZONE	A-1 (GENERAL AGRICULTURE)
DISTRICT	STONEHOUSE
PARCEL ID NO.	2320200002, 2320200003 & 2320200003A
PROPOSED USE	CONTRACTOR'S OFFICE W/PARKING
WATER	PUBLIC
SEWER	PUBLIC
SITE AREA	44,741 S.F./ 1.03 ACRES
DISTURBED AREA	8,902 S.F./0.20± AC.
BUILDING FLOOR AREA	1,600 SF
BUILDING HEIGHT	14'
EXISTING IMPERVIOUS AREA	18,785 S.F./42%
PROPOSED IMPERVIOUS AREA	12,405 S.F./28%
PARKING SPACES	
PROVIDED:	16
H/C PROVIDED:	1
ITE CODE	710
AM PEAK HOUR TRIP GENERATION	3
PM PEAK HOUR TRIP GENERATION	3
PEAK DAY TRIP GENERATION	18

**OWNER/DEVELOPER**  
MICHAEL J. HIPPLE, BUILDER  
7432 RICHMOND ROAD  
WILLIAMSBURG, VIRGINIA 23188  
PHONE: (757) 592-0071

**BEFORE DIGGING CALL "MISS UTILITY"  
OF VIRGINIA AT 1 - 800 - 552 - 7001**

**NOTES:**

- 1) PER FEMA COMMUNITY MAP NUMBER 51095C0110C DATED 9/28/07 THE SITE APPEARS TO BE IN FLOOD ZONE "X".
- 2) TOPOGRAPHIC SURVEY SHOWN HEREON IS BASED ON A FIELD SURVEY PERFORMED BY LANDTECH RESOURCES, INC. - JANUARY 2009.
- 3) BOUNDARY PER PLAT BY PARKER SURVEYING, INC. DATED 9-8-04 FURNISHED BY CLIENT.
- 4) THE EXISTENCE AND LOCATION (HORIZONTAL AND VERTICAL) OF EXISTING UTILITIES ARE NOT GUARANTEED AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
- 5) THE PROFESSIONAL SURVEYOR WHOSE SEAL IS AFFIXED HEREON SHALL ACT AS THE "RESPONSIBLE LAND DISTURBER" FOR THE PLAN REVIEW PHASE OF THIS PROJECT. ONCE THE PLANS ARE APPROVED BY THE COUNTY THE OWNER/DEVELOPER SHALL PROVIDE THE COUNTY WITH THE NAME OF THE "RESPONSIBLE LAND DISTURBER" FOR THE CONSTRUCTION PHASE OF THE PROJECT.
- 6) THE OWNER WILL BE REQUIRED TO OBTAIN A VSPM PERMIT FROM THE VIRGINIA DEPARTMENT OF CONSERVATION & RECREATION IF THE DISTURBED AREA IS GREATER THAN 2,500 SF. THIS PERMIT WILL REQUIRE A STORMWATER POLLUTION PREVENTION PLAN.
- 7) A LAND DISTURBING PERMIT AND SILTATION AGREEMENT, WITH SURETY ARE REQUIRED FOR THIS PROJECT.
- 8) HORIZONTAL AND VERTICAL DATUM BASED ON JCC GEODETIC GROUND CONTROL NETWORK.
- 9) A STANDARD INSPECTION/MAINTENANCE AGREEMENT IS REQUIRED TO BE EXECUTED WITH THE COUNTY DUE TO THE PROPOSED STORMWATER MANAGEMENT/BMP FACILITY.
- 10) ALL OBJECTIONABLE AND DELETERIOUS MATERIAL IS TO BE REMOVED FROM THE SITE AND DISPOSED OF IN A STATE APPROVED FACILITY MEETING THE REQUIREMENTS OF ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.
- 11) THE PROPOSED STORMWATER MANAGEMENT (BMP) FACILITY CONSTRUCTION FOR THIS PROJECT WILL REQUIRE SUBMISSION, REVIEW AND APPROVAL OF A RECORD DRAWING (AS-BUILT) AND CONSTRUCTION CERTIFICATION PRIOR TO RELEASE OF THE POSTED BOND/SURETY. THIS ACTIVITY SHALL BE ADEQUATELY COORDINATED AND PERFORMED BEFORE, DURING, AND FOLLOWING CONSTRUCTION IN ACCORDANCE WITH CURRENT COUNTY GUIDELINES.
- 12) THERE ARE NO ANTICIPATED OFFSITE LAND DISTURBING AREAS ANTICIPATED FOR THIS PROJECT.
- 13) THIS PROJECT IS LOCATED IN THE YARMOUTH CREEK WATERSHED OF JAMES CITY COUNTY.
- 14) WATER AND SANITARY SEWER INSPECTION FEES ARE REQUIRED FOR THIS PROJECT AND SHALL BE PAID IN FULL TO JCSA PRIOR TO ISSUANCE OF A CERTIFICATE TO CONSTRUCT UTILITIES.



NO.	DATE	REVISION / COMMENT / NOTE
1	11/4/10	REV PER JCC LTR DTD 11/4/10

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web: landtechresources.com



JOB: 07-305
DWG NO: 07-305
DATE: 10/12/2010
DRAWN BY: MHC
SHEET: C1 OF 6

**NOTES:**

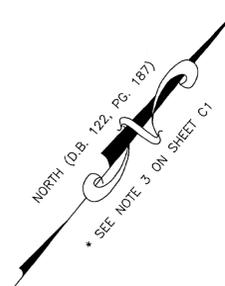
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- 5) VERTICAL DATUM BASED ON JCC GEODETIC GROUND CONTROL NETWORK - NGVD29

**ENVIRONMENTAL INVENTORY**

COMPONENT	PRESENT	IMPACT
TIDAL WETLANDS	NOT PRESENT	NO IMPACT
TIDAL SHORES	NOT PRESENT	NO IMPACT
NONTIDAL WETLANDS IN RPA	NOT PRESENT	NO IMPACT
100-FOOT RPA BUFFER	NOT PRESENT	NO IMPACT
NONTIDAL WETLANDS IN RMA	NOT PRESENT	NO IMPACT
100-YEAR FLOODPLAIN	NOT PRESENT	NO IMPACT
SLOPES 25% OR GREATER	NOT PRESENT	NO IMPACT

**SOILS INVENTORY**

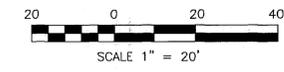
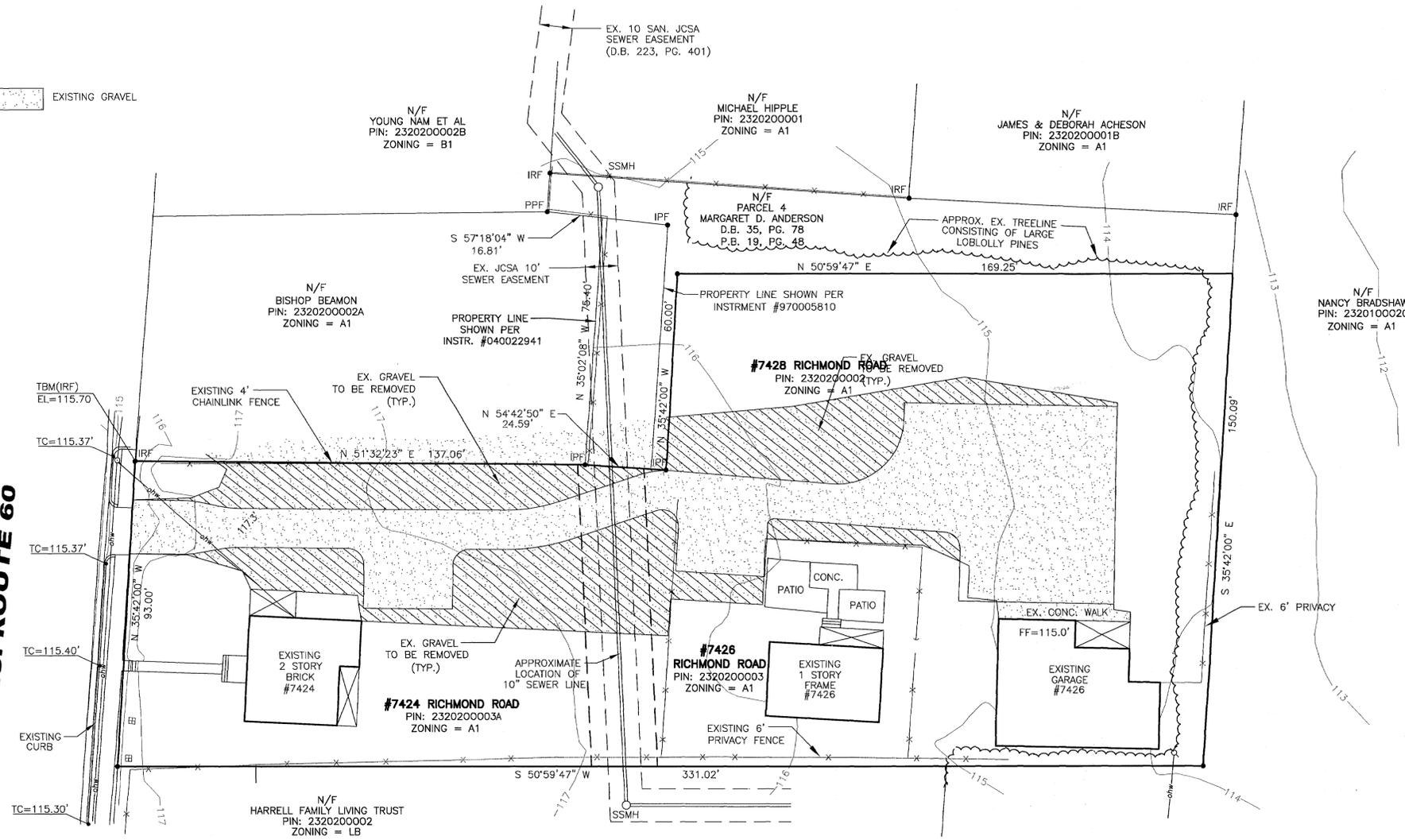
NAME	SYMBOL
KENANSVILLE LOAMY FINE SAND	20B



**LEGEND**

- MAIL BOX
- ⊕ POWER POLE
- ohw = OVERHEAD WIRES
- IRF = IRON ROD FOUND
- IPF = IRON PIPE FOUND
- PPF = PINCH PIPE FOUND
- = IRON ROD FOUND
- = IRON PIPE FOUND
- TC = TOP OF CURB
- SSMH = SANITARY SEWER MANHOLE
- 115- EXISTING CONTOURS
- ⊠ WATER METER

**RICHMOND ROAD  
U.S. ROUTE 60**



**SITE PLAN**  
**MICHAEL J. HIPPLE, BUILDER**  
**CONTRACTING OFFICE**  
**EXISTING CONDITION/DEMOLITION PLAN**  
 JAMES CITY COUNTY  
 VIRGINIA

NO.	DATE	REVISION / COMMENT / NOTE
1	11/4/2010	CHANGES TO BOUNDARY LINE PER COUNTY COMMENTS.



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 Surveying • GPS • Engineering  
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 web: landtechresources.com

SCALE: 1" = 20'  
 DATE: 10/12/2010  
 JOB: 07-305  
 DRAWN BY: MHC  
 SHEET: C2 OF 6

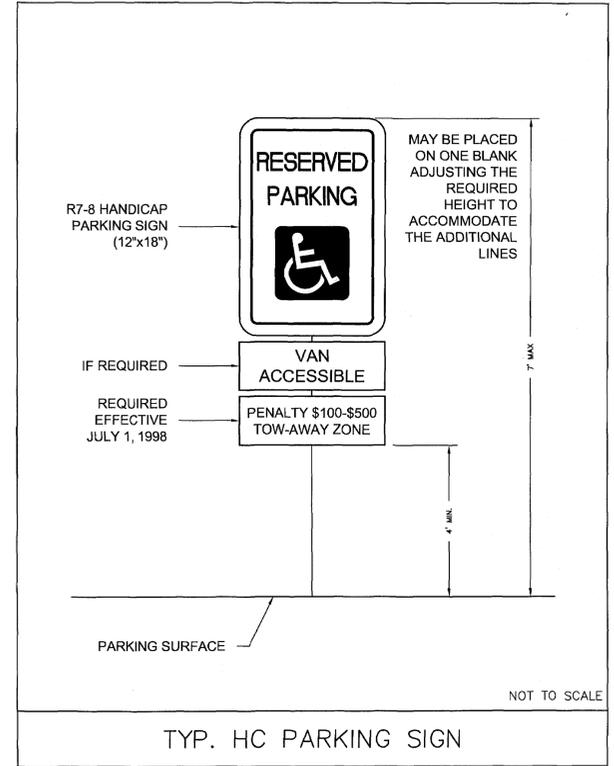
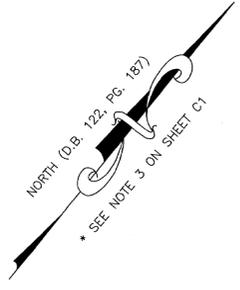
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**NOTES**

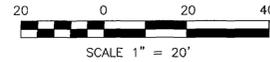
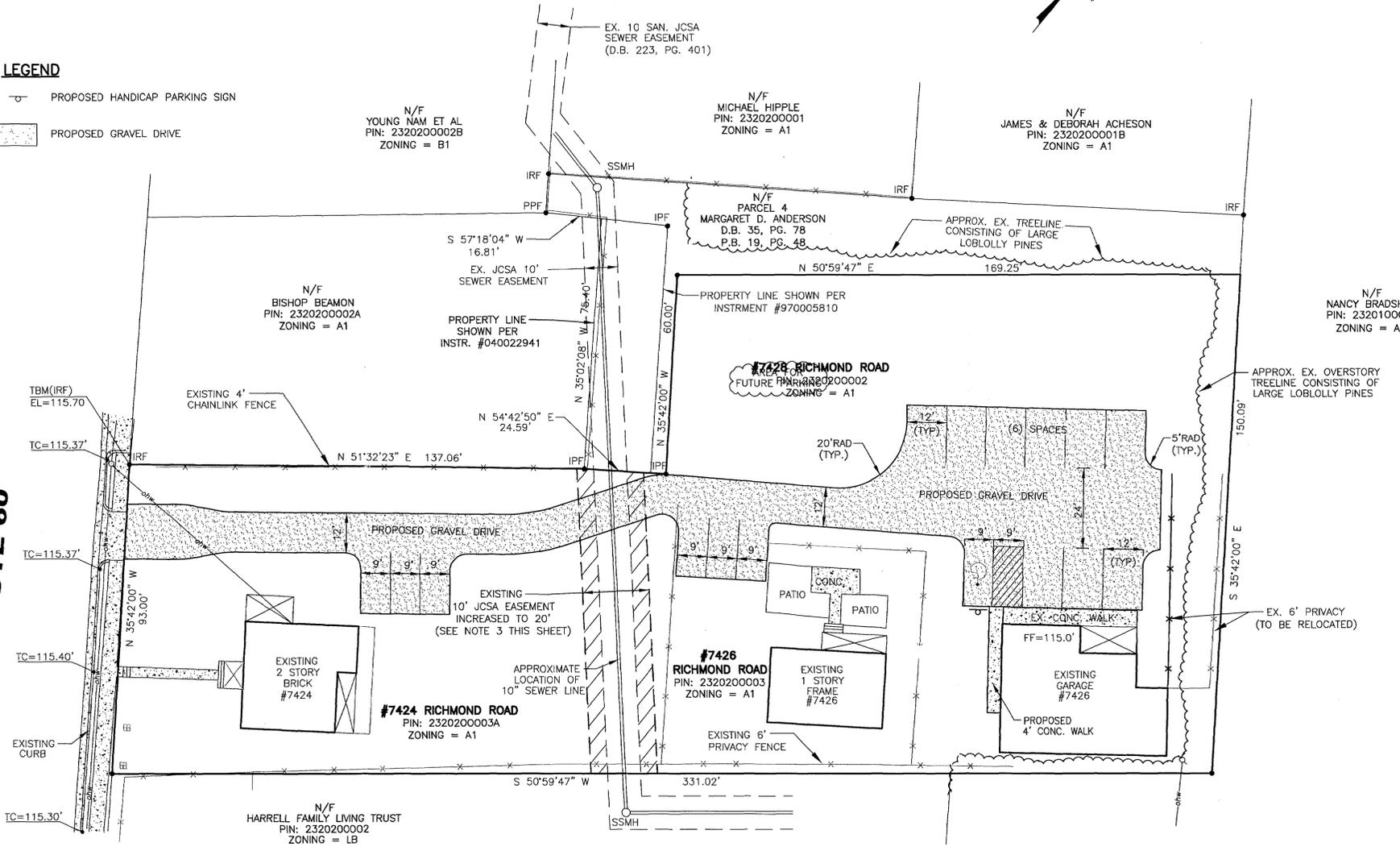
- 1) INSTALL ABOVE GROUND HANDICAP SIGNS BETWEEN 4' AND 7' ABOVE PAVEMENT.
- 2) SITE TO BE SERVED INDIVIDUAL TRASH CANS AND DOES NOT REQUIRE A DUMPSTER PAD.
- 3) EXISTING 10' JCSA UTILITY EASEMENT INCREASED TO 20' PER JCSA EASEMENT PLAT PREPARED BY THIS FIRM AND SUBMITTED UNDER SEPARATE COVER.

**LEGEND**

- PROPOSED HANDICAP PARKING SIGN
- ▨ PROPOSED GRAVEL DRIVE



**RICHMOND ROAD  
U.S. ROUTE 60**



**BEFORE DIGGING CALL "MISS UTILITY"  
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**SITE PLAN**  
**MICHAEL J. HIPPLE, BUILDER**  
**CONTRACTING OFFICE**  
**LAYOUT PLAN**

VIRGINIA  
JAMES CITY COUNTY

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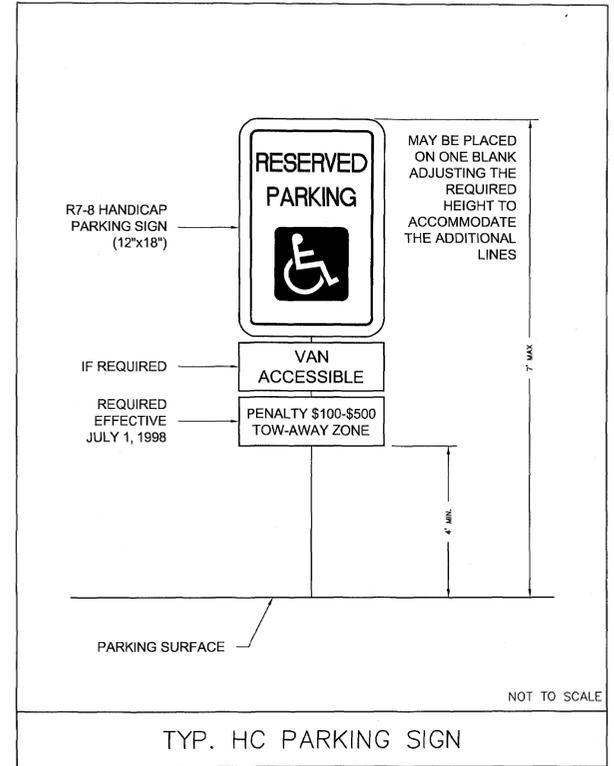
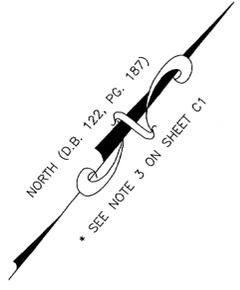
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SHEET: C3 OF 6

**NOTES**

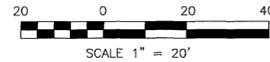
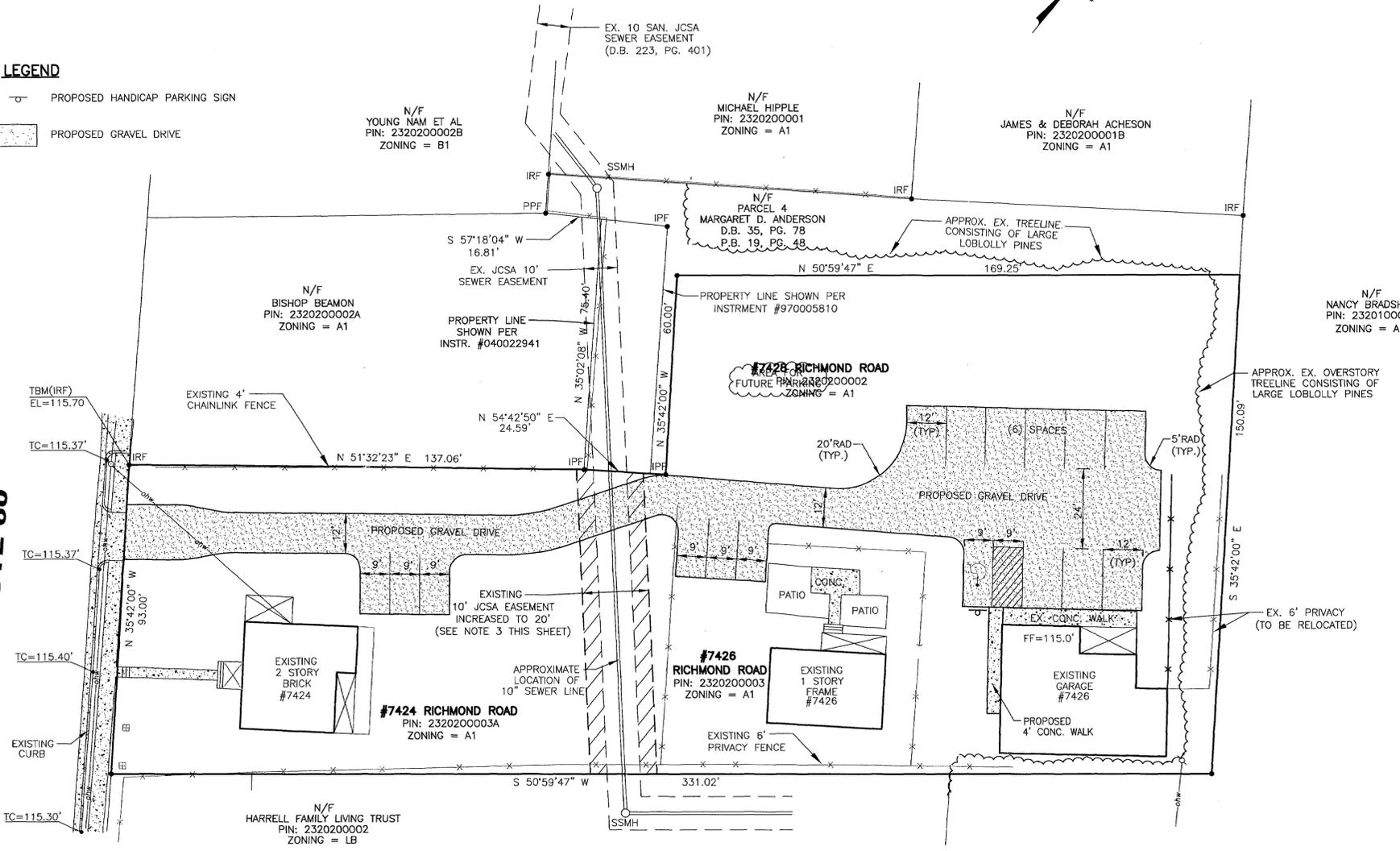
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**LEGEND**

- PROPOSED HANDICAP PARKING SIGN
- ▨ PROPOSED GRAVEL DRIVE



**RICHMOND ROAD  
U.S. ROUTE 60**



**BEFORE DIGGING CALL "MISS UTILITY"  
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**SITE PLAN**  
**MICHEAL J. HIPPLE, BUILDER**  
**CONTRACTING OFFICE**  
**LAYOUT PLAN**

VIRGINIA  
JAMES CITY COUNTY

NO.	DATE	REVISION / COMMENT / NOTE
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SHEET: C3 OF 6

**MAINTENANCE**

IN GENERAL, ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED DAILY AND AFTER SIGNIFICANT RAINFALL. THE FOLLOWING ITEMS WILL BE CHECKED IN PARTICULAR:

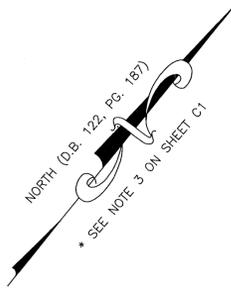
1. THE SILT FENCE WILL BE CHECKED REGULARLY FOR SEDIMENT CLEANOUT.
3. THE SEEDED AREAS WILL BE CHECKED REGULARLY TO ENSURE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED AND RESEEDED AS NEEDED.

**PROPOSED SEQUENCE OF CONSTRUCTION**

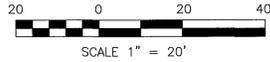
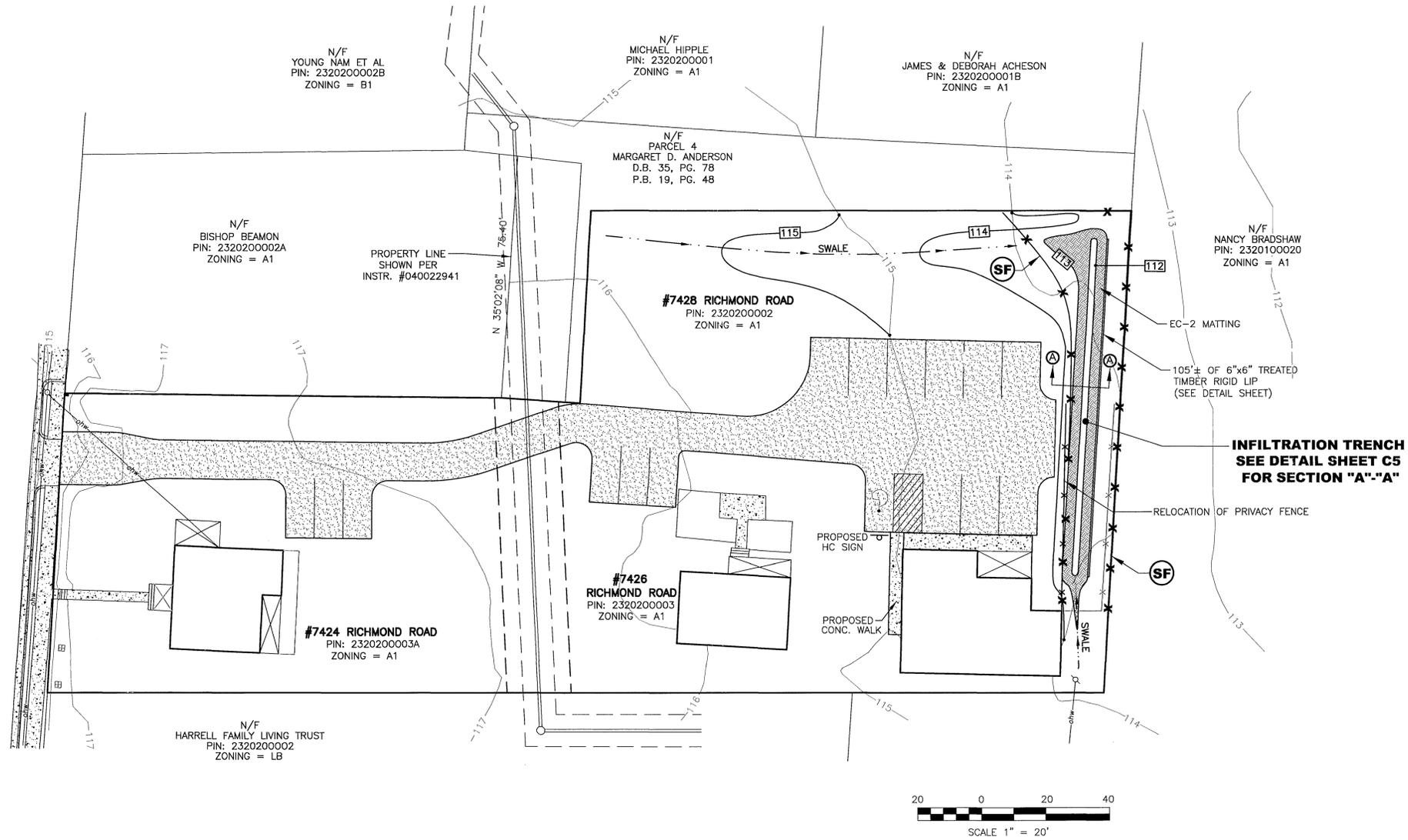
- 1) SCHEDULE PRECONSTRUCTION CONFERENCE WITH JCC ENVIRONMENTAL DIVISION.
- 2) INSTALL SILT FENCE, SAFETY FENCE, AND TREE PROTECTION.
- 3) REMOVE EXISTING GRAVEL PER EXISTING CONDITION/DEMOLITION PLAN.
- 4) CONSTRUCT SIDEWALK AND INSTALL HANDICAP PARKING SIGN.
- 5) CONSTRUCT INFILTRATION BASIN AND GRADE SWALES
- 6) INSTALL LANDSCAPING AS SHOWN ON LANDSCAPE PLAN
- 7) RELOCATED WOOD PRIVACY FENCE AS SHOWN ON
- 8) REMOVE ALL TEMPOTRARY E & S MEASURES ONCE ALL DISTURBED AREAS ASSOCIATED WITH THE PROJECT ARE STABILIZED AND AFTER RECEIVING APPROVAL TO DO SO BY THE JAMES CITY COUNTY ENVIRONMENTAL DIVISION.

**LEGEND**

TITLE	SYMBOL	KEY	NO.
SILT FENCE	— x —	(SF)	3.05



**RICHMOND ROAD  
U.S. ROUTE 60**



**SITE PLAN**  
**MICHEAL J. HIPPLE, BUILDER**  
**CONTRACTING OFFICE**  
**GRADING/EROSION & SEDIMENT CONTROL**

JAMES CITY COUNTY  
 VIRGINIA

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**BEFORE DIGGING CALL "MISS UTILITY"  
 OF VIRGINIA AT 1 - 800 - 552 - 7001**

**GENERAL EROSION AND SEDIMENT CONTROL NOTES**

JAMES CITY COUNTY ENVIRONMENTAL DIVISION

REVISED 7/6/01

THE PURPOSE OF THE EROSION CONTROL MEASURES SHOWN ON THESE PLANS SHALL BE TO PRECLUDE THE TRANSPORT OF ALL WATERBORNE SEDIMENTS RESULTING FROM CONSTRUCTION ACTIVITIES FROM ENTERING ONTO ADJACENT PROPERTIES OR STATE WATERS. IF FIELD INSPECTION REVEALS THE INADEQUACY OF THE PLAN TO CONFINE SEDIMENTS TO THE PROJECT SITE ALL APPROPRIATE MODIFICATIONS WILL BE MADE TO CORRECT ANY PLAN DEFICIENCIES. IN ADDITION TO THESE NOTES, ALL PROVISIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS WILL APPLY TO THIS PROJECT.

- ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, 3RD EDITION, 1992. THE CONTRACTOR SHALL BE THOROUGHLY FAMILIAR WITH ALL APPLICABLE MEASURES CONTAINED THEREIN THAT MAY BE PERTINENT TO THIS PROJECT, INCLUDING MINIMUM STANDARDS 1 THROUGH 19. IF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS FOUND TO BE INADEQUATE IN THE FIELD, THE MINIMUM STANDARDS WILL APPLY IN ADDITION TO THE PROVISIONS OF THE APPROVED PLAN.
- AS A PREREQUISITE TO APPROVAL OF AN EROSION AND SEDIMENT CONTROL PLAN FOR LAND ACTIVITIES, THE NAME OF A RESPONSIBLE LAND-DISTURBER SHALL BE PROVIDED. THE RESPONSIBLE LAND-DISTURBER SHALL BE AN INDIVIDUAL WHO HOLDS A VALID CERTIFICATE OF COMPETENCE ISSUED BY THE VIRGINIA DEPARTMENT OF CONSERVATION AND IS DEFINED AS THE PERSON IN CHARGE OF AND RESPONSIBLE FOR CARRYING OUT THE LAND-DISTURBING ACTIVITY. PERMITS OR PLANS WITHOUT THIS INFORMATION ARE DEEMED INCOMPLETE AND WILL NOT BE APPROVED UNTIL PROPER NOTIFICATION IS RECEIVED. ALSO, IF THE PERSON DESIGNATED AS RESPONSIBLE LAND-DISTURBER CHANGES BETWEEN THE TIME OF PLAN APPROVAL AND THE SCHEDULED PRECONSTRUCTION MEETING, THE ENVIRONMENTAL DIVISION SHALL BE INFORMED OF THE CHANGE, IN WRITING, 24 HOURS IN ADVANCE OF THE RECONSTRUCTION MEETING.
- A PRECONSTRUCTION MEETING SHALL BE HELD ON-SITE BETWEEN THE COUNTY, THE DEVELOPER, THE PROJECT ENGINEER, THE RESPONSIBLE LAND-DISTURBER AND THE CONTRACTOR PRIOR TO ISSUANCE OF THE LAND DISTURBING PERMIT. THE CONTRACTOR SHALL SUBMIT A SEQUENCE OF CONSTRUCTION TO THE COUNTY FOR APPROVAL PRIOR TO THE PRECONSTRUCTION MEETING. THE DESIGNATED RESPONSIBLE LAND-DISTURBER IS REQUIRED TO ATTEND THE RECONSTRUCTION MEETING FOR THE PROJECT.
- ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS SHALL BE PROTECTED BY A TEMPORARY CONSTRUCTION ENTRANCE TO PREVENT TRACKING OF MUD ONTO PUBLIC RIGHT-OF-WAY. AN ENTRANCE PERMIT FROM VDOT IS REQUIRED PRIOR TO ANY CONSTRUCTION ACTIVITIES WITHIN STATE RIGHT-OF-WAYS. WHERE SEDIMENT IS TRANSPORTED ONTO A PUBLIC ROAD SURFACE, THE ROAD SHALL BE THOROUGHLY CLEANED AT THE END OF EACH DAY (STD. & SPEC. 3.02).
- SEDIMENT BASINS AND TRAPS (STD. & SPEC. 3.13 AND 3.14), PERIMETER DIKES (STD. & SPEC. 3.09 AND 3.12), SEDIMENT FILTER BARRIERS (STD. & SPEC. 3.05) AND OTHER MEASURES INTENDED TO TRAP SEDIMENT ON-SITE MUST BE CONSTRUCTED AS A FIRST STEP IN GRADING AND MUST BE MADE FUNCTIONAL PRIOR TO ANY SLOPE LAND DISTURBANCE TAKING PLACE. EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS MUST BE SEEDED AND MULCHED IMMEDIATELY AFTER INSTALLATION. PERIODIC INSPECTIONS OF THE EROSION CONTROL MEASURES BY THE OWNER OR OWNER'S REPRESENTATIVE SHALL BE MADE TO ASSESS THEIR CONDITIONS. ANY NECESSARY MAINTENANCE OF THE MEASURES SHALL BE ACCOMPLISHED IMMEDIATELY AND SHALL INCLUDE THE REPAIR OF MEASURES DAMAGED BY ANY SUBCONTRACTOR INCLUDING THOSE OF THE PUBLIC UTILITY COMPANIES.
- SURFACE FLOWS OVER OUT AND FILL SLOPES SHALL BE CONTROLLED BY EITHER REDIRECTING FLOWS FROM TRANSVERSING THE SLOPES OR BY INSTALLING MECHANICAL DEVICES TO SAFELY LOWER WATER DOWNSLOPE WITHOUT CAUSING EROSION. A TEMPORARY FILL DIVERSION (STD. & SPEC. 3.10) AND SLOPE DRAIN (STD. & SPEC. 3.15) SHALL BE INSTALLED PRIOR TO THE END OF EACH WORKING DAY.
- SEDIMENT CONTROL MEASURES MAY REQUIRE MINOR FIELD ADJUSTMENTS AT TIME OF CONSTRUCTION TO ENSURE THEIR INTENDED PURPOSE IS ACCOMPLISHED. ENVIRONMENTAL DIVISION APPROVAL WILL BE REQUIRED FOR OTHER DEVIATIONS FROM THE APPROVED PLAN.
- THE CONTRACTOR SHALL PLACE SOIL STOCKPILES AT THE LOCATIONS SHOWN ON THE PLAN. SOIL STOCKPILES SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. OFF-SITE WASTE OR BORROW AREAS SHALL BE APPROVED BY THE ENVIRONMENTAL DIVISION PRIOR TO THE IMPORT OF ANY BORROW OR EXPORT OF ANY WASTE TO OR FROM THE PROJECT SITE.
- THE CONTRACTOR SHALL COMPLETE DRAINAGE FACILITIES WITHIN 30 DAYS FOLLOWING COMPLETION OF ROUGH GRADING AT ANY POINT WITHIN THE PROJECT. THE INSTALLATION OF DRAINAGE FACILITIES SHALL TAKE PRECEDENCE OVER ALL UNDERGROUND UTILITIES. OUTFALL DITCHES FROM DRAINAGE STRUCTURES SHALL BE STABILIZED IMMEDIATELY AFTER CONSTRUCTION OF THE SAME (STD. & SPEC. 3.18). THIS INCLUDES INSTALLATION OF EROSION CONTROL STONE OR PAVED DITCHES WHERE REQUIRED. ANY DRAINAGE OUTFALLS REQUIRED FOR A STREET MUST BE COMPLETED BEFORE STREET GRADING OR UTILITY INSTALLATION BEGINS.
- PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.
- NO MORE THAN 300 FEET OF SANITARY SEWER, STORM DRAIN, WATER OR UNDERGROUND UTILITY LINES ARE TO BE OPEN AT ONE TIME. FOLLOWING INSTALLATION OF ANY PORTION OF THESE ITEMS, ALL DISTURBED AREAS ARE TO BE IMMEDIATELY STABILIZED (I.E. THE SAME DAY).
- IF DISTURBED AREA STABILIZATION IS TO BE ACCOMPLISHED DURING THE MONTHS OF DECEMBER, JANUARY OR FEBRUARY, STABILIZATION SHALL CONSIST OF MULCHING (STD. & SPEC. 3.35). SEEDING WILL THEN TAKE PLACE AS SOON AS THE SEASON PERMITS.
- THE TERM SEEDING, FINAL VEGETATIVE COVER OR STABILIZATION ON THIS PLAN SHALL MEAN THE SUCCESSFUL GERMINATION AND ESTABLISHMENT OF A STABLE GRASS COVER FROM A PROPERLY PREPARED SEEDBED CONTAINING THE SPECIFIED AMOUNTS OF SEED, LIME AND FERTILIZER (STD. & SPEC. 3.32). IRRIGATION SHALL BE REQUIRED AS NECESSARY TO ENSURE ESTABLISHMENT OF GRASS COVER.
- ALL SLOPES STEEPER THAN 3H:1V SHALL REQUIRE THE USE OF EROSION CONTROL BLANKETS AND MATTINGS TO AID IN THE ESTABLISHMENT OF A VEGETATIVE COVER. INSTALLATION SHALL BE IN ACCORDANCE WITH STD. & SPEC. 3.35, MULCHING; STD. & SPEC. 3.36, SOIL STABILIZATION BLANKETS; AND MATTING AND MANUFACTURERS INSTRUCTIONS. NO SLOPES SHALL BE CREATED STEEPER THAN 2H:1V.
- INLET PROTECTION (STD. & SPEC. 3.07 AND 3.08) SHALL BE PROVIDED FOR ALL STORM DRAIN AND CULVERT INLETS FOLLOWING CONSTRUCTION OF THE SAME.
- TEMPORARY LINERS, SUCH AS POLYETHYLENE SHEETS, SHALL BE PROVIDED FOR ALL PAVED DITCHES UNTIL THE PERMANENT CONCRETE LINER IS INSTALLED.
- PAVED DITCHES SHALL BE REQUIRED WHEREVER ACCELERATED EROSION IS EVIDENT. PARTICULAR ATTENTION SHALL BE PAID TO THOSE AREAS WHERE GRADES EXCEED 3 PERCENT.
- TEMPORARY EROSION CONTROL MEASURES SUCH AS SILT FENCE ARE NOT TO BE REMOVED UNTIL ALL DISTURBED AREAS ARE STABILIZED. TRAPPED SEDIMENT SHALL BE SPREAD, SEEDED AND MULCHED. AFTER THE PROJECT AND STABILIZATION ARE COMPLETE, ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS.
- NO SEDIMENT TRAP OR SEDIMENT BASIN SHALL BE REMOVED UNTIL A) AT LEAST 75 PERCENT OF THE LOTS WITHIN THE DRAINAGE AREA TO THE TRAP OR BASIN HAVE BEEN SOLD TO A THIRD PARTY (UNRELATED TO THE DEVELOPER) FOR THE CONSTRUCTION OF HOMES AND/OR B) 60 PERCENT OF THE SINGLE FAMILY LOTS WITHIN THE DRAINAGE AREA TO THE TRAP OR BASIN HAVE BEEN COMPLETED AND THE SOIL STABILIZED. A BULK SALE OF THE LOTS TO ANOTHER BUILDER DOES NOT SATISFY THIS PROVISION. SEDIMENT TRAPS AND SEDIMENT BASINS SHALL NOT BE REMOVED WITHOUT THE EXPRESS AUTHORIZATION OF THE JAMES CITY ENVIRONMENTAL DIVISION.
- RECORD DRAWINGS (AS-BUILTS) AND CONSTRUCTION CERTIFICATIONS ARE BOTH REQUIRED FOR NEWLY CONSTRUCTED OR MODIFIED STORMWATER MANAGEMENT/BMP FACILITIES. CERTIFICATION ACTIVITIES SHALL BE ADEQUATELY COORDINATED AND PERFORMED BEFORE, DURING AND FOLLOWING CONSTRUCTION IN ACCORDANCE WITH THE CURRENT VERSION OF THE JAMES CITY COUNTY ENVIRONMENTAL DIVISION, STORMWATER MANAGEMENT/BMP FACILITIES, RECORD DRAWINGS AND CONSTRUCTION CERTIFICATION, STANDARD FORMS & INSTRUCTIONS.
- DESIGN AND CONSTRUCTION OF PRIVATE-TYPE SITE DRAINAGE SYSTEMS OUTSIDE VDOT RIGHTS-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT VERSION OF THE JAMES CITY COUNTY ENVIRONMENTAL DIVISION, STORMWATER DRAINAGE CONVEYANCE SYSTEMS, (NON-BMP RELATED), GENERAL DESIGN AND CONSTRUCTION GUIDELINES.

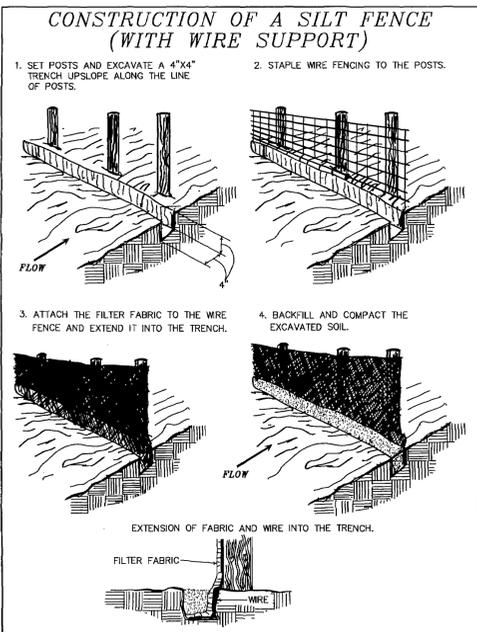
**BEFORE DIGGING CALL "MISS UTILITY" OF VIRGINIA AT 1 - 800 - 552 - 7001**

**TABLE 3.32-D SITE SPECIFIC SEEDING MIXTURES FOR COASTAL PLAIN AREA**

	TOTAL LBS. PER ACRE
MINIMUM CARE LAWN - COMMERCIAL OR RESIDENTIAL - KENTUCKY 31 OR TURF-TYPE TALL FESCUE	125-200 LBS.
- COMMON BERMUDAGRASS **	75 LBS.
HIGH-MAINTENANCE LAWN - KENTUCKY 31 OR TURF-TYPE TALL FESCUE OR - HYBRID BERMUDAGRASS (SEED) **	40 LBS. (UNHULLED) 30 LBS. (HALLED)
GENERAL SLOPE (3:1 OR LESS) - RED TOP GRASS - SEASONAL NURSE CROP *	128 LBS. 2 LBS. 150 LBS.
LOW MAINTENANCE SLOPE (STEEPER THAN 3:1) - KENTUCKY 31 TALL FESCUE - COMMON BERMUDAGRASS ** - RED TOP GRASS - SEASONAL NURSE CROP * - SERICEA LESPEDEZA **	93-108 LBS. 0-15 LBS. 2 LBS. 20 LBS. 20 LBS. 150 LBS.

\* USE SEASONAL NURSE CROP IN ACCORDANCE WITH SEEDING DATES AS STATED BELOW:  
FEBRUARY, MARCH THROUGH APRIL ..... ANNUAL RYE  
MAY 1ST THROUGH AUGUST ..... FOXTAIL MILLET  
SEPTEMBER, OCTOBER THROUGH NOVEMBER 15TH ..... ANNUAL RYE  
NOVEMBER 16TH THROUGH JANUARY ..... WINTER RYE

\*\* MAY THROUGH OCTOBER, USE HULLED SEED. ALL OTHER SEEDING PERIODS, USE UNHULLED SEED. WEEPING LOVEGRASS MAY BE ADDED TO ANY SLOPE OR LOW-MAINTENANCE MIX DURING WARM SEEDING PERIODS; ADD 10-20 LBS./ACRE IN MIXES.



SOURCE: Adapted from *Installation of Stone and Fabric Filter Barriers for Sediment Control*, *Shaw & Hart*. PLATE 3.05-1

**INFILTRATION TRENCH MAINTENANCE AND INSPECTION PROGRAM**

**RESPONSIBLE ENTITY:**  
THE PROPERTY OWNER OF RECORD IS RESPONSIBLE FOR MAINTENANCE & INSPECTION OF THE BMP.

**INSPECTION SCHEDULE:**  
AFTER THE TRENCH IS FIRST MADE FUNCTIONAL IT SHALL BE INSPECTED MONTHLY AND AFTER ANY LARGE STORM EVENTS. THEREAFTER, ONCE THE TRENCH IS DEEMED FUNCTIONING PROPERLY AND WITHOUT POTENTIAL SEDIMENT PROBLEMS, INSPECTIONS SHALL BE CONDUCTED SEMI-ANNUALLY AND AFTER ANY LARGE STORM EVENTS. ALL INSPECTIONS SHALL INCLUDE INVESTIGATION FOR POTENTIAL SOURCES OF CONTAMINATION.

**DEBRIS AND LITTER REMOVAL:**  
TRASH WILL COLLECT IN THE TRENCH SINCE IT DOES NOT HAVE AN OUTLET. TRASH, DEBRIS, LITTER, ETC. SHALL BE REMOVED AT THE SAME TIME THAT THE SEMI-ANNUAL INSPECTIONS ARE CONDUCTED.

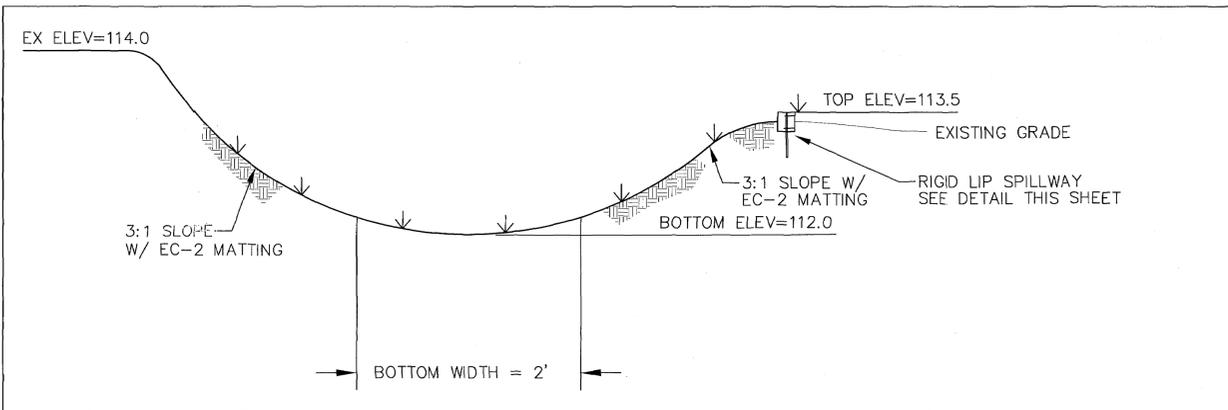
**SEDIMENT REMOVAL:**  
THE TRENCH SHALL BE CHECKED SEDIMENT ACCUMULATION MONTHLY SINCE IT DOES NOT HAVE A SEDIMENT FOREBAY. ANY SEDIMENT ACCUMULATION SHALL BE CLEANED OUT IMMEDIATELY.

**EROSION CONTROL:**  
THIS IS A VERY IMPORTANT MAINTENANCE TASK SINCE ERODED SEDIMENTS ADVERSELY AFFECT THE INFILTRATION CAPACITY OF THE TRENCH. DURING THE SEMI-ANNUAL INSPECTIONS, THE TRENCH SHALL BE CHECKED FOR EXCESSIVE SEDIMENT ACCUMULATION. IF SEDIMENT IS FOUND IN THE TRENCH IT SHALL BE TRACED BACK TO AN INADEQUATELY PROTECTED SITE UPSTREAM. THE PROBLEM SHALL BE RESOLVED IMMEDIATELY IN ORDER TO PREVENT FURTHER CONTAMINATION OF THE TRENCH.

**VEGETATION AND MULCH MAINTENANCE:**  
MAINTENANCE OF THE VEGETATION ON THE TRENCH SIDE SLOPES IS NECESSARY TO PROMOTE A DENSE TURF WITH EXTENSIVE ROOT GROWTH, WHICH SUBSEQUENTLY ENHANCES INFILTRATION, PREVENTS EROSION AND SEDIMENTATION, AND DETERS INVASIVE WEED GROWTH. BARE SPOTS SHOULD BE IMMEDIATELY STABILIZED AND REVEGETATED. MOWING SHOULD BE DONE ONCE A MONTH AT A MINIMUM, WITH CLIPPINGS BAGGED, TO PREVENT CLOGGING OF THE TRENCH SIDES.

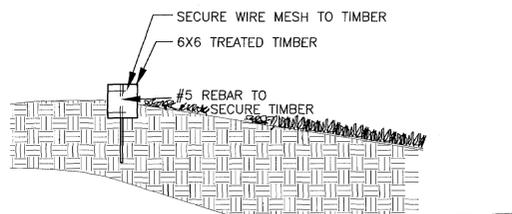
**GENERAL NOTES**

- ALL CONSTRUCTION SHALL CONFORM TO CURRENT COUNTY AND/OR VDOT STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE SPECIFIED.
- CONTRACTOR SHALL SECURE THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND COMPLY WITH ALL COUNTY REQUIREMENTS FOR EROSION AND SEDIMENT CONTROL.
- ALL CUTS, VEGETATION AND DELETERIOUS MATERIAL ENCOUNTERED SHALL BE REMOVED AND DISPOSED OF OFF SITE.
- SELECT MATERIAL IS REQUIRED FOR FILL AND BACKFILL UNDER PARKING LOT, FOOTINGS, AND STRUCTURES. IT SHALL BE PLACED IN LAYERS NOT TO EXCEED EIGHT INCHES (8") IN THICKNESS AND COMPACTED TO 95% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D-698.
- ALL CONCRETE SHALL BE CLASS A-3 AIR ENTRAINED (3000 PSI).
- ALL GREEN AREA, WITHIN LIMITS OF CONSTRUCTION, TO BE TOPSOILED, FERTILIZED, SEEDED, AND MULCHED.
- CONTRACTOR SHALL OBTAIN AT HIS OWN EXPENSE, ANY PERMIT OR BOND IF REQUIRED BY ANY GOVERNMENT AGENCY.
- CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING, PROTECTING, AND RESOLVING ANY CONFLICTS WITH EXISTING UTILITIES AND SHALL REPAIR, AT HIS OWN EXPENSE, ALL UTILITIES TO BE RELOCATED OR DAMAGED BY CONSTRUCTION.
- ANY ERRORS OR DISCREPANCIES SHALL BE REPORTED TO THE ARCHITECT/ENGINEER OR THE SURVEYOR BEFORE PROCEEDING WITH THE WORK.
- DEWATERING OR EXCAVATION, IF NEEDED, IS PART OF THIS CONTRACT.
- BEFORE DIGGING CALL "MISS UTILITY" OF VIRGINIA 1-800-552-7001.
- CONTRACTOR SHALL OBTAIN PERMITS FROM THE STATE HIGHWAY DEPARTMENT PRIOR TO ANY WORK IN THE STATE'S RIGHT-OF-WAY. THE CONTRACTOR SHALL RESTORE AND CLEAN UP THE SITE TO THE SATISFACTION OF THE HIGHWAY DEPARTMENT.
- CONTRACTOR MUST OBTAIN ALL NECESSARY BUILDING PERMITS PRIOR TO CONSTRUCTION.



INFILTRATION TRENCH CROSS SECTION "A"- "A" (N.T.S.)

**INFILTRATION TRENCH RIGID LIP SPILLWAY CROSS SECTION**



\* MIN. PHYSICAL REQUIREMENTS OF FILTER CLOTH NOTED IN STD. & SPEC. 3.19, RIPRAP

**INFILTRATION TRENCH CONSTRUCTION SPECIFICATIONS**

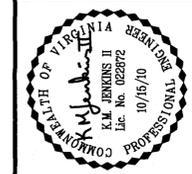
- BEFORE THE SITE IS CLEARED, THE AREA PLANNED FOR THE TRENCH SHALL BE ROPED OFF WITH TREE PROTECTION FENCING TO PREVENT HEAVY EQUIPMENT FROM COMPACTING THE UNDERLYING SOILS. THE CONTRACTOR IS TO TAKE GREAT CARE WHEN REMOVING THE TREES AND UNDERBRUSH IN THE AREA OF THE TRENCH.
- DURING BOTH THE EROSION & SEDIMENT CONTROL PHASE AND FINAL BMP CONVERSION THE BASIN SHALL BE EXCAVATED USING LIGHT EARTH-MOVING EQUIPMENT WITH TRACKS OR OVER-SIZED TIRES. NORMAL RUBBER TIRES SHALL BE AVOIDED SINCE THEY COMPACT THE SUBSOIL AND REDUCE ITS INFILTRATION CAPABILITIES. THE USE OF BULLDOZERS OR FRONT END-LOADERS WILL BE AVOIDED, SINCE SOME COMPACTION OF THE UNDERLYING SOILS IS STILL LIKELY TO OCCUR DURING THE CONVERSION OF THE BASIN FROM AN E & S MEASURE TO A FINAL BMP. THE FLOOR OF THE BASIN SHALL BE DEEPLY TILLED WITH A ROTARY TILLER OR DISC HARROW. SEVERAL PASSES WITH A LEVELING DRAG SHALL THEN BE MADE TO SMOOTH OUT THE TRENCH FLOOR.
- THE TRENCH BOTTOM AND SIDESLOPES SHALL BE STABILIZED WITH KENTUCKY 31 FESCUE SEED OR SOD AS SOON AS FINAL BMP GRADE IS ATTAINED. THE CONDITION OF THE NEWLY ESTABLISHED VEGETATION SHALL BE CHECKED WEEKLY OVER THE FIRST TWO MONTHS, AND ANY NECESSARY REMEDIAL ACTIONS TAKEN (E.G. RESEEDING, FERTILIZATION, AND IRRIGATION).

**SITE PLAN**  
**MICHEAL J. HIPPLE, BUILDER**  
**CONTRACTING OFFICE**  
**DETAIL SHEET**

VIRGINIA

JAMES CITY COUNTY

NO.	DATE	REVISION / COMMENT / NOTE



**LandTech Resources, Inc.**  
 Surveying • GPS • Engineering  
 205 Bullions Blvd., Sta. Williamsburg, VA 23188  
 Phone: (757) 565-1677 Fax: (757) 565-0782  
 web: landtechresources.com

SCALE: 1" = 20'
DATE: 10/12/2010
JOB: 07-305
DRAWN BY: MHC
SHEET: C5 OF 6

**Schedule A Plant Schedule - Parking and Building**

Hipple Contractor Office

**Deciduous Canopy Trees**

Code	Quantity	Botanical Name	Common Name	Size Caliper or Height	Condition	Comments
QPH	2	Quercus phellos	Willow Oak	2.5" cal.	B&B	
	2	<b>Subtotal</b>				

**Small Deciduous Trees**

Code	Quantity	Botanical Name	Common Name	Size Caliper or Height	Condition	Comments
CV	2	Crataegus viridis 'Winter King'	Winter King Green Hawthorn	2" cal.	B&B	
MS	2	Magnolia stellata	Star Magnolia	2" cal.	B&B	
	4	<b>Subtotal</b>				

**Evergreen Trees**

Code	Quantity	Botanical Name	Common Name	Size Caliper or Height	Condition	Comments
PTA	1	Pinus taeda	Loblolly Pine	8' ht.	B&B	
	1	<b>Subtotal</b>				

**Evergreen Shrubs**

Code	Quantity	Botanical Name	Common Name	Size Caliper or Height	Condition	Comments
BJW	7	Berberis julianae	Wintergreen Barberry	18" Min.	Cont.	
ICC	11	Ilex crenata 'Compacta'	Compacta Holly	18" Min.	Cont.	
PL	6	Prunus laurocerasus 'Otto Luykens'	Cherry Laurel	18" Min.	Cont.	
	24	<b>Subtotal</b>				

**Deciduous Shrubs**

Code	Quantity	Botanical Name	Common Name	Size Caliper or Height	Condition	Comments
CSA	11	Cornus sericea	Redosier Dogwood	22" Min.	Cont.	
RPO	6	Rhododendron periclymenoides	Pink Azalea	22" Min.	Cont.	
	17	<b>Subtotal</b>				

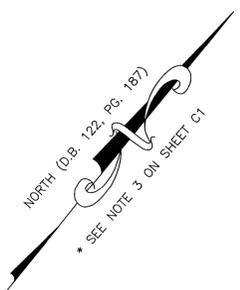
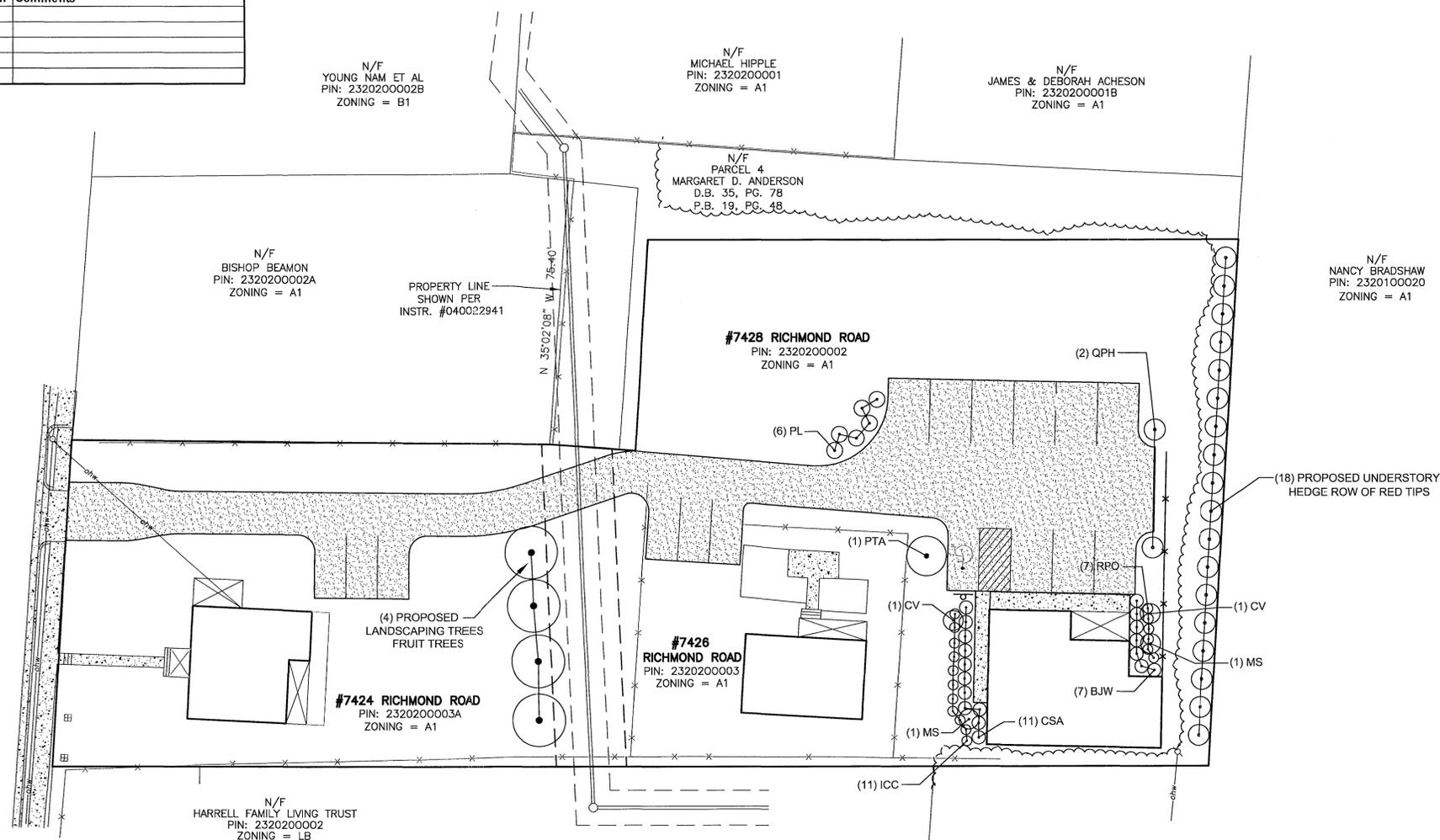
**Schedule B - Foundation Planting**

Building	Width (FT.)	Area (SF)	TREE RATIO	NO. OF TREES (ORN.) REQUIRED	NO. OF TREES (ORN.) PROVIDED	SHRUB RATIO	NO. OF SHRUBS REQUIRED	NO. OF SHRUBS PROVIDED
①	10	2171	1:200	4	4	5:200	35	35

**Schedule C - Parking Area Planting**

PARKING PROVIDED	TREES RATIO NO. OF SPACES	NO. OF TREES REQUIRED	NO. OF TREES PROVIDED	SHRUBS RATIO NO. OF SPACES	NO. OF SHRUBS REQUIRED	NO. OF SHRUBS PROVIDED
13	1:5	3	3	2:5	6	6

**RICHMOND ROAD  
U.S. ROUTE 60**



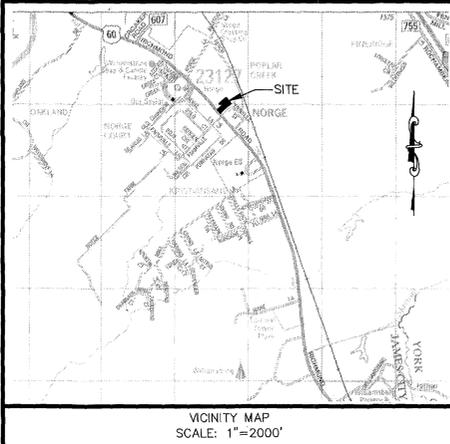
**SITE PLAN**  
**MICHAEL J. HIPPLE, BUILDER**  
**CONTRACTING OFFICE**  
**LANDSCAPE PLAN/SCREENING**

JAMES CITY COUNTY VIRGINIA

NO.	DATE	REVISION / COMMENT / NOTE
1	11/4/2010	CHANGES TO BOUNDARY LINE PER COUNTY COMMENTS.

SCALE: 1" = 20'  
DATE: 10/12/2010  
JOB: 07-305  
DRAWN BY: MHC  
SHEET: L1 OF 6

**BEFORE DIGGING CALL "MISS UTILITY"  
OF VIRGINIA AT 1 - 800 - 552 - 7001**



ADC PERMITTED USE NUMBER 21001208

# BMP RECORD DRAWING OF MICHAEL J. HIPPLE, BUILDER CONTRACTING OFFICE

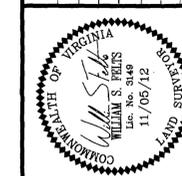
## JAMES CITY COUNTY, VIRGINIA

**BMP RECORD DRAWING**

**OF  
MICHAEL J. HIPPLE, BUILDER  
CONTRACTING OFFICE**

JAMES CITY COUNTY, VIRGINIA

NO.	DATE	REVISION / COMMENT / NOTE
1	11/05/12	REVISED PER COUNTY COMMENTS DATED 07/31/12



**LandTech Resources, Inc.**  
 Surveying • GPS • Engineering  
 205 Bullfents Blvd., Ste. 400, Williamsburg, VA 23188  
 Phone: (757) 565-1677 Fax: (757) 565-0782  
 web: landtechresources.com

**RECORD DRAWING CERTIFICATION:**

I HEREBY CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THIS RECORD DRAWING REPRESENTS THE ACTUAL CONDITION OF THE DRAINAGE SYSTEM. THE FACILITY APPEARS TO CONFORM WITH THE PROVISIONS OF THE APPROVED DESIGN PLAN, SPECIFICATIONS AND STORMWATER MANAGEMENT PLAN, EXCEPT AS SPECIFICALLY NOTED.

William S. Felts 11/05/12  
DATE

**TABLE OF CONTENTS**

SHEET NO.	SHEET TITLE
C1	COVER SHEET
C2	RECORD DRAWING

**OWNER/DEVELOPER**

MICHEAL J. HIPPLE, BUILDER  
 7432 RICHMOND ROAD  
 WILLIAMSBURG, VIRGINIA 23188  
 PHONE: (757) 592-0071

**NOTES:**

- 1) PER FEMA COMMUNITY MAP NUMBER 51095C0110C DATED 9/28/07 THE SITE APPEARS TO BE IN FLOOD ZONE "X".
- 2) BOUNDARY PER PLAT BY PARKER SURVEYING, INC. DATED 9-8-04 FURNISHED BY CLIENT.
- 3) HORIZONTAL AND VERTICAL DATUM BASED ON JCC GEODETIC GROUND CONTROL NETWORK.
- 4) THIS PROJECT IS LOCATED IN THE YARMOOUTH CREEK WATERSHED OF JAMES CITY COUNTY.
- 5) PROPERTY IS ZONED A-1

**COUNTY BMP ID CODE**

**YR020**

**RECORD DRAWING**

**JCC SP-0094-2010**

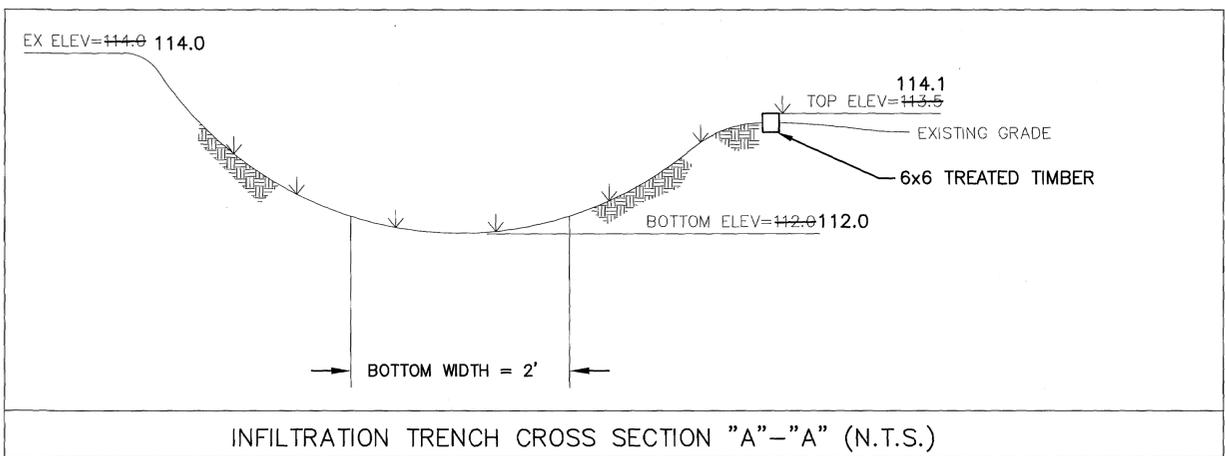
SCALE: 1" = 20'

DATE: 06/15/2012

JOB: 07-305

DRAWN BY: WSF

SHEET: 1 OF 2



**INFILTRATION TRENCH MAINTENANCE AND INSPECTION PROGRAM**

**RESPONSIBLE ENTITY:**  
THE PROPERTY OWNER OF RECORD IS RESPONSIBLE FOR MAINTENANCE & INSPECTION OF THE BMP.

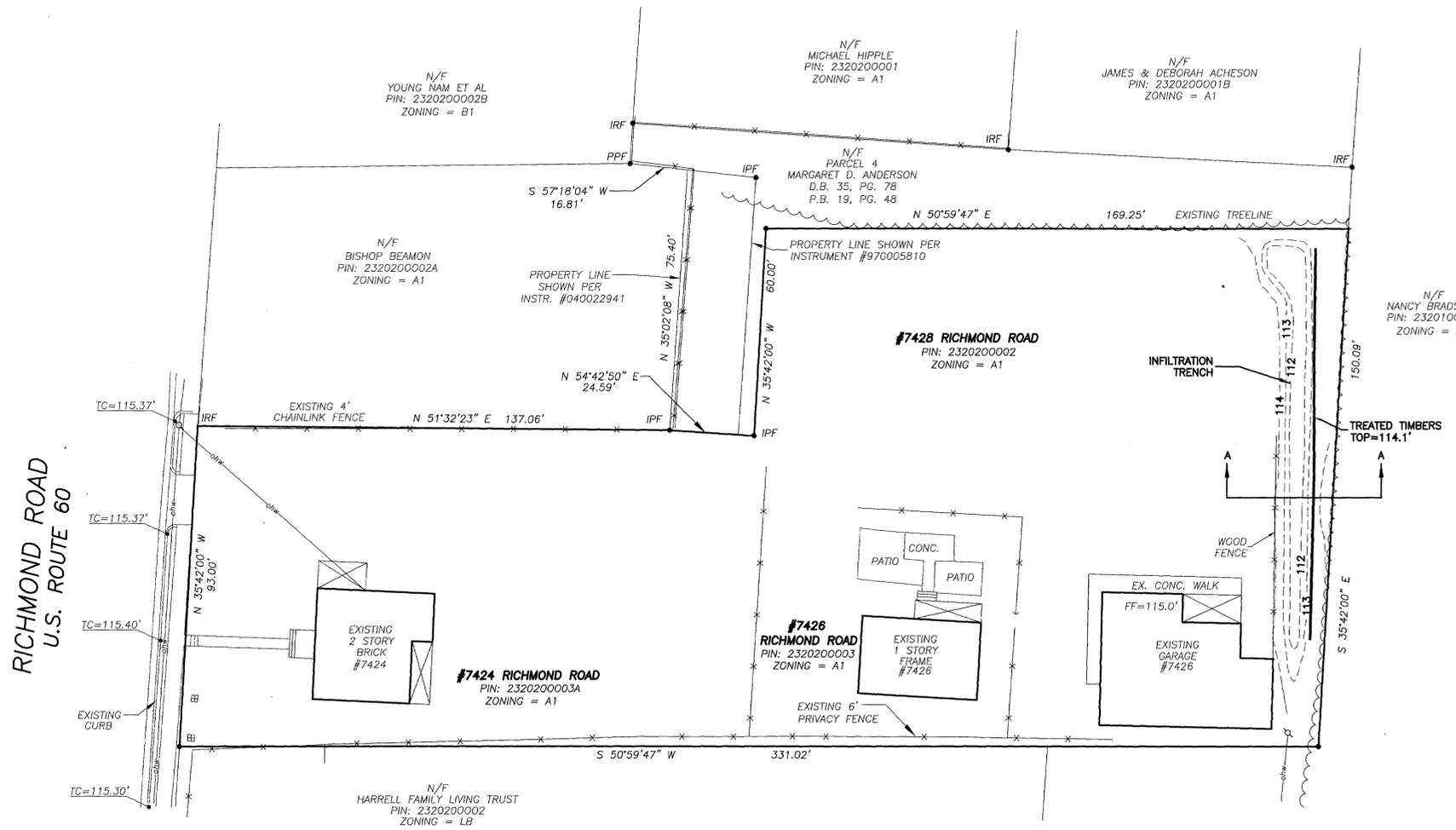
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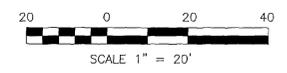
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THE TRENCH SHALL BE CHECKED FOR SEDIMENT ACCUMULATION MONTHLY SINCE IT DOES NOT HAVE A SEDIMENT FOREBAY. ANY SEDIMENT ACCUMULATION SHALL BE CLEANED OUT IMMEDIATELY.

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THIS IS A VERY IMPORTANT MAINTENANCE TASK SINCE ERODED SEDIMENTS ADVERSELY AFFECT THE INFILTRATION CAPACITY OF THE TRENCH. DURING THE SEMI-ANNUAL INSPECTIONS, THE TRENCH SHALL BE CHECKED FOR EXCESSIVE SEDIMENT ACCUMULATION. IF SEDIMENT IS FOUND IN THE TRENCH IT SHALL BE TRACED BACK TO AN INADEQUATELY PROTECTED SITE UPSTREAM. THE PROBLEM SHALL BE RESOLVED IMMEDIATELY IN ORDER TO PREVENT FURTHER CONTAMINATION OF THE TRENCH.

**VEGETATION AND MULCH MAINTENANCE:**  
MAINTENANCE OF THE VEGETATION ON THE TRENCH SIDE SLOPES IS NECESSARY TO PROMOTE A DENSE TURF WITH EXTENSIVE ROOT GROWTH, WHICH SUBSEQUENTLY ENHANCES INFILTRATION, PREVENTS EROSION AND SEDIMENTATION, AND DETERS INVASIVE WEED GROWTH. BARE SPOTS SHOULD BE IMMEDIATELY STABILIZED AND REVEGETATED. MOWING SHOULD BE DONE ONCE A MONTH AT A MINIMUM, WITH CLIPPINGS BAGGED, TO PREVENT CLOGGING OF THE TRENCH SIDES.



- LEGEND**
- MAIL BOX
  - ⊕ POWER POLE
  - ohw = OVERHEAD WIRES
  - IRF = IRON ROD FOUND
  - IPF = IRON PIPE FOUND
  - PPF = PINCH PIPE FOUND
  - = IRON ROD FOUND
  - = IRON PIPE FOUND
  - TC = TOP OF CURB
  - SSMH = SANITARY SEWER MANHOLE
  - 115— EXISTING CONTOURS
  - ⊞ WATER METER



**RECORD DRAWING CERTIFICATION:**

I HEREBY CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THIS RECORD DRAWING REPRESENTS THE ACTUAL CONDITION OF THE DRAINAGE SYSTEM. THE FACILITY APPEARS TO CONFORM WITH THE PROVISIONS OF THE APPROVED DESIGN PLAN, SPECIFICATIONS AND STORMWATER MANAGEMENT PLAN, EXCEPT AS SPECIFICALLY NOTED.

*William S. Felt*  
11/05/12  
DATE

**COUNTY BMP ID CODE**  
**YR020**

**RECORD DRAWING**  
**JCC SP-0094-2010**

**BMP RECORD DRAWING**  
**OF**  
**MICHAEL J. HIPPLE, BUILDER**  
**CONTRACTING OFFICE**  
JAMES CITY COUNTY, VIRGINIA

NO.	DATE	REVISION / COMMENT / NOTE
1	11/05/12	REVISED PER COUNTY COMMENTS DATED 07/31/12



**LandTech Resources, Inc.**  
Surveying • GPS • Engineering

205 Bullfarts Blvd., Ste. F, Williamsburg, VA 23185  
Phone: (757) 568-1677 Fax: (757) 565-0782  
web: landtechresources.com

SCALE: 1" = 20'  
DATE: 06/15/2012  
JOB: 07-305  
DRAWN BY: WSF  
SHEET: 2 OF 2