CERTIFICATE OF AUTHENTICITY

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

BMP NUMBER: **DC015**

DATE VERIFIED: **May 18, 2012**

QUALITY ASSURANCE TECHNICIAN: **Leah Hardenbergh**

Leah Hardenbergh

LOCATION: WILLIAMSBURG, VIRGINIA

Stormwater Division

MEMORANDUM

DATE: March 15, 2010

TO: Michael J. Gillis, Virginia Correctional Enterprises Document Management Services

FROM: Jo Anna Ripley, Stormwater

PO: 270712

RE: Files Approved for Scanning

General File ID or BMP ID: DC015

PIN: 1240600001A

Subdivision, Tract, Business or Owner Name (if known): Toano Business Center

Property Description: Common Area

Site Address: 8105 Richmond Road

(For internal use only) **Box** 25 **Drawer:** N/A

Agreements: (in file as of scan date) **N** **Book or Doc#:** **Page:**

Comments

DC-015

Contents for Stormwater Management Facilities As-built Files

Each file is to contain:

1. As-built plan
2. Completed construction certification
3. Construction Plan
4. Design Calculations
5. Watershed Map
6. Maintenance Agreement
7. Correspondence with owners
8. Inspection Records
9. Enforcement Actions

James City County, Virginia
Environmental Division

Stormwater Management / BMP Facilities
Record Drawing and Construction Certification Forms

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

Section 1 – Site Information:

Project Name: Toano Business Center
Structure/BMP Name:
Project Location: Toano area off Rt. 60 (8105 Richmond Rd.)
BMP Location: The rear of site and front of site
County Plan No.: SP - 14 - 98

Project Type:
- ☐ Residential
- ☐ Commercial
- ☐ Institutional
- ☐ Public
- ☒ Other Office Warehouse
- ☐ Business
- ☐ Office
- ☐ Industrial
- ☐ Roadway

Tax Map/Parcel No.: (12-4)(1-9, 9A)
BMP ID Code (if known): DC013
Zoning District: M-1 with Proffers
Land Use: Office Warehouse
Site Area (sf or acres): 7.27 ac.

Brief Description of Stormwater Management/BMP Facility: The facilities on site are comprised of an Extended Detention Dry Pond in the rear of the site and an Infiltration trench located at the front of the site.

Nearest Visible Landmark to SWM/BMP Facility: Dry Detention between buildings 3 & 4; Infiltration in front of parking lot to building 1.

Nearest Vertical Ground Control (if known):
☒ JCC Geodetic Ground Control ☐ USGS ☐ Temporary ☐ Arbitrary ☐ Other
Station Number or Name:
Datum or Reference Elevation:
Control Description: Top of SS#2 and SS#8 on site
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: _____
Facility Monitored by County Representative during Construction: ☐ Yes ☐ No ☒ Unknown
Name of Site Work Contractor Who Constructed Facility: C. A. Barrs Contractors
Name of Professional Firm Who Routinely Monitored Construction: _____
Date of Completion for SWM/BMP Facility: _____
Date of Record Drawing/Construction Certification Submittal: _____

(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: Michael C. Brown
Mailing Address: P.O. Box 1105
Williamsburg, VA 23187-1105
Business Phone: 757-566-8900 Fax: 757-566-8990
Contact Person: Michael C. Brown Title: President

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

Firm Name: AES Consulting Engineers
Mailing Address: 5248 Olde Towne Rd., Suite 1
Williamsburg, VA 23188-1986
Business Phone: 757-253-0040
Fax: 757-220-8994
Responsible Plan Preparer: G. Archer Marston, III, P.E.
Title: Vice President
Plan Name: Toano Business Center
Firm's Project No. 8003
Plan Date: 1/15/98
Sheet No.'s Applicable to SWM/BMP Facility: 2 / 11 / ____ / ____ / ____

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

Name: C. A. Barrs Contractors
Mailing Address: P.O. Box 1489
Yorktown, VA 23692-1489
Business Phone: 757-898-7282
Fax: 757-898-1282
Contact Person: Scott St. Clair
Site Foreman/Supervisor: Scott St. Clair
Specialty Subcontractors & Purpose (for BMP Construction Only):
N/A

Section 4 – Professional Certifications:

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

Record Drawing and Construction Certifications for Stormwater Management / BMP Facilities

Record Drawing Certification

Firm Name: AES Consulting Engineers
Mailing Address: 5248 Olde Towne Rd., Suite 1
Williamsburg, VA 23188-1986
Business Phone: 757-253-0040
Fax: 757-220-8994

Name: G. Archer Marston, III, P.E.
Title: Vice President

Signature:
Date: 9/22/03

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.

COMMONWEALTH OF VIRGINIA
G. ARCHER MARSTON III
No. 018232
PROFESSIONAL ENGINEER
9/22/03

_____ (Seal)

Virginia Registered Professional Engineer
Or Certified Land Surveyor

Construction Certification

Firm Name:
Mailing Address:

Business Phone:
Fax:

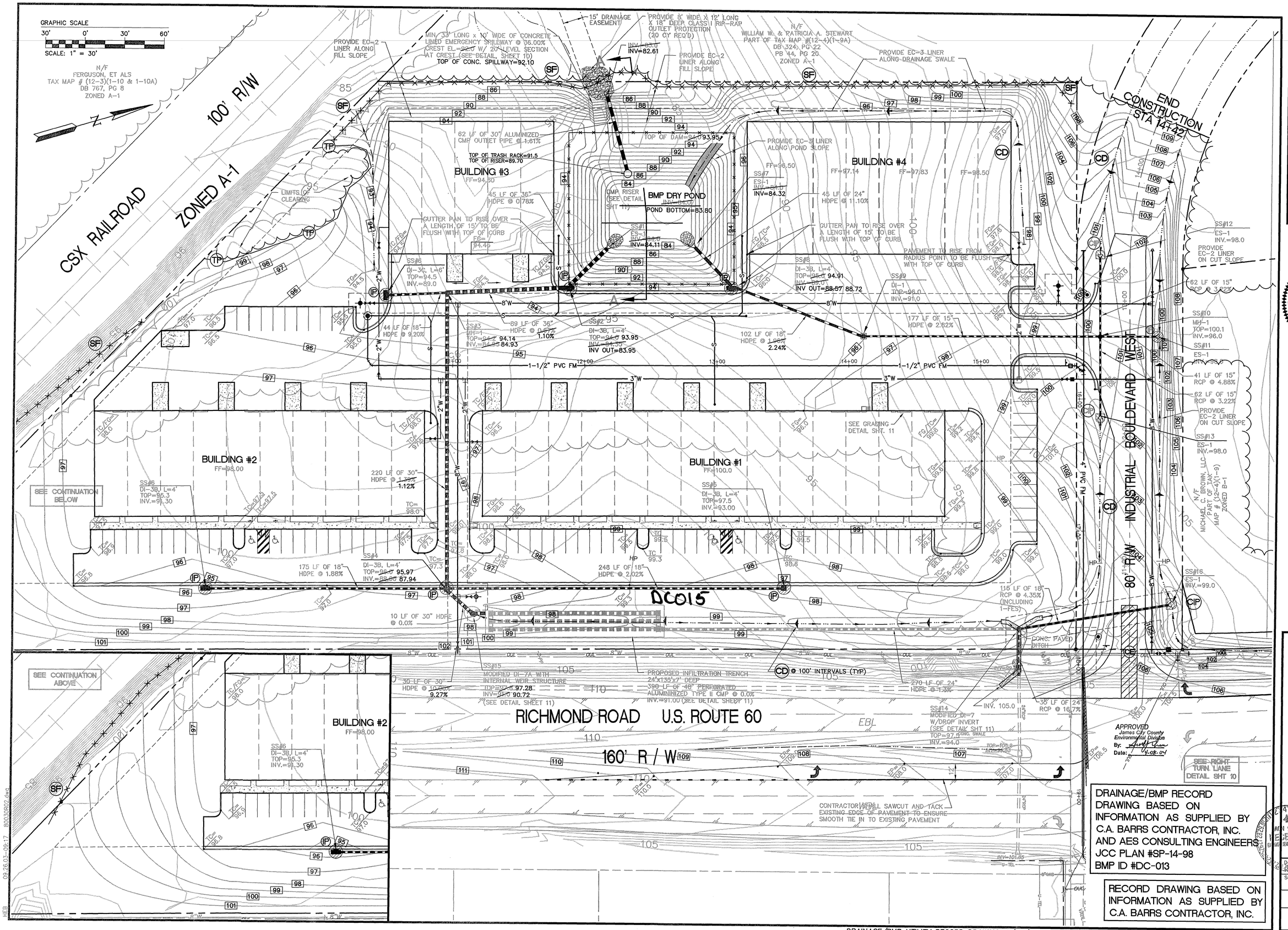
Name:
Title:

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



No.	DATE	REVISION / COMMENT / NOTE	BY
5	9/22/03	RECORD DRAWING	GAM
2	6/9/98	REVISED PER JCC COMMENTS 6/10/98	RMC
1	5/98	REVISED PER JCC COMMENTS 3/10/98	RMC

COMMONWEALTH OF VIRGINIA
G. ARCHER MARSTON, III
No. 018232
PROFESSIONAL ENGINEER

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

GRADING AND DRAINAGE PLAN
TOANO BUSINESS CENTER
OWNER/DEVELOPER: MICHAEL C. BROWN, LLC.
STONEHOUSE DISTRICT JAMES CITY COUNTY VIRGINIA

Designed GAM	Drawn EAW
Scale 1"=30'	Date 1/5/98
Project No. 8003	
Drawing No. 2 OF 14	

RECEIVED JAN 2003 ENVIRONMENTAL DIVISION

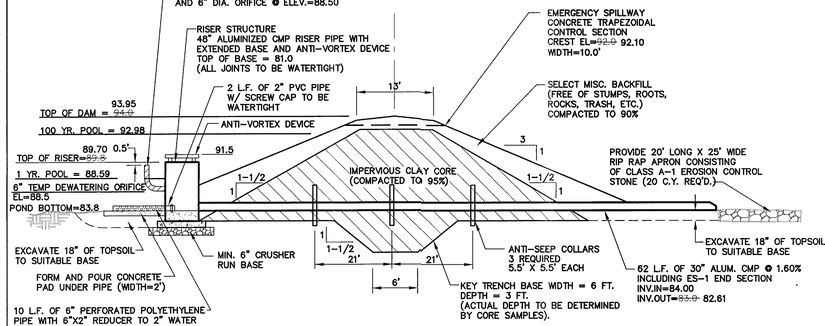
DRAINAGE/BMP UTILITY RECORD DRAWING-9/22/03 DRAINAGE/BMP UTILITY RECORD DRAWING-12/13/02 RECORD DRAWING-1/27/99

SP-14-98; DC015

DC015_TOANO_BUSINESS_CENTER_INFILTRATION_BMP - 007

NOTE:
AFTER ALL DISTURBED AREAS WITHIN THE BASIN'S DRAINAGE AREA ARE STABILIZED AND OPERATION AS TEMPORARY SEDIMENT BASIN CEASES, THE SCREW CAP ON THE 2" PVC PIPE ATTACHED TO THE WATER QUALITY ORIFICE IS TO BE OPENED, THE DEWATERING DEVICE REMOVED, AND THE DEWATERING ORIFICE SEALED TO BE WATERTIGHT.

NOTE:
SEDIMENT CLEANOUT POINT DURING OPERATION AS TEMPORARY SEDIMENT BASIN AS AT 12,256 C.F. OF STORAGE OR ELEV.=86.6



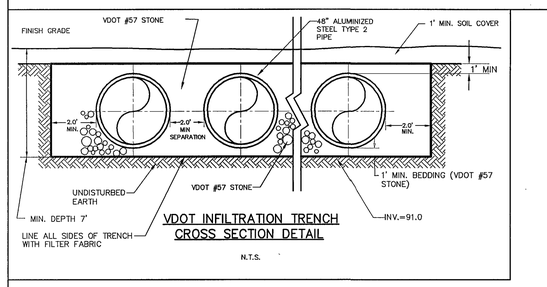
DAM - CROSS SECTION BASIN #1

NOT TO SCALE

D-8003

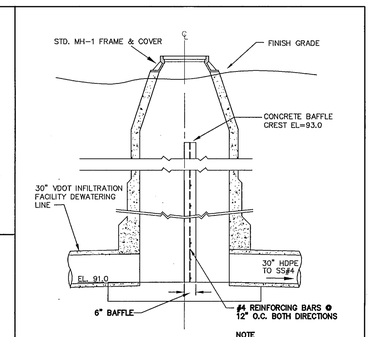
NOTES:

1. PROPOSED SWM/BMP "DRY" POND #1 SHALL ACT AS A TEMPORARY SEDIMENT BASIN DURING CONSTRUCTION. SEE TEMPORARY RISER STRUCTURE THIS SHEET.
2. SEDIMENT CLEAN OUT POINT DURING OPERATION AS TEMPORARY SEDIMENT BASIN IS @ EL.=86.6'
3. AFTER ALL DISTURBED AREAS ARE STABILIZED AND OPERATION AS TEMPORARY SEDIMENT BASIN CEASES, THE BASIN SHALL BE CLEANED OF SEDIMENT AND THE PERFORATED POLYETHYLENE DEWATERING DEVICE SHALL BE REMOVED. RISER PIPE SHALL THEN BE LOWERED TO ATTAIN A PERMANENT CREST ELEVATION OF 88.3.
4. UPON COMPLETION, THE CONSTRUCTION OF THE DAM SHALL BE CERTIFIED BY A GEOTECHNICALL ENGINEER WHO HAS INSPECTED THE STRUCTURE DURING CONSTRUCTION.
5. CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS TO ENGINEER UPON COMPLETION OF BMP FACILITY.



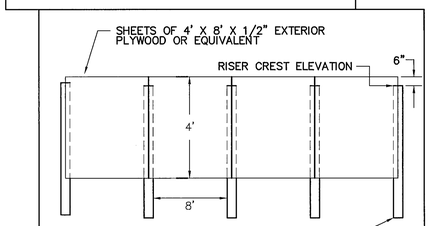
VDOT INFILTRATION TRENCH CROSS SECTION DETAIL

N.T.S.



MODIFIED MH-1 MANHOLE SS#15

NOT TO SCALE



TEMPORARY SEDIMENT BASIN BAFFLE SECTION DETAIL

NOT TO SCALE

D-BAFFLE

DAM CONSTRUCTION NOTES

1. A GEOTECHNICAL SUBSURFACE EXPLORATION AT THE PROPOSED DAM SITE SHALL BE PERFORMED BY THE OWNERS TESTING AGENCY. THE GEOTECHNICAL ENGINEER SHALL SUBMIT TO THE JAMES CITY COUNTY ENVIRONMENTAL DIVISION FOR APPROVAL, THEIR RECOMMENDATIONS FOR DAM DESIGN, CORE TRENCH WIDTH AND DEPTH, ANTI-SEEPAGE CONTROL , ETC. THE GEOTECHNICAL ENGINEER WILL INSPECT THE DAM DURING CONSTRUCTION. AFTER COMPLETION THE GEOTECHNICAL ENGINEER SHALL SUBMIT TO THE COUNTY A LETTER CERTIFYING THAT THE DAM WAS BUILT IN ACCORDANCE WITH THE PLANS, SPECIFICATIONS AND RECOMMENDATIONS FOR THE PROJECT.

2. SITE PREPARATION: THE CONTRACTOR SHALL STRIP ALL AREAS OF THE PERMANENT CONSTRUCTION TO REMOVE ALL UNSUITABLE MATERIALS. THE UNSUITABLE MATERIALS TO BE REMOVED BY STRIPPING SHALL INCLUDE ALL TOPSOIL, DEBRIS AND VEGETABLE MATTER, INCLUDING STUMPS AND ROOTS, AND ALL OTHER MATERIALS WHICH MAY BE UNSUITABLE FOR USE IN THE PERMANENT CONSTRUCTION.

3. EMBANKMENT: THE EXPOSED SUBGRADE SOILS SHALL BE CAREFULLY INSPECTED BY THE GEOTECHNICAL ENGINEER. ANY UNSUITABLE SUBGRADE MATERIALS THUS EXPOSED SHALL BE REMOVED AND REPLACED WITH A WELL COMPACTED, SUITABLE MATERIAL. DENSITY TESTING AT THE DISCRETION OF THE GEOTECHNICAL ENGINEER SHALL BE PERFORMED AT THIS TIME.

   THE EMBANKMENT SHALL BE KEYED INTO THE UNDISTURBED (EXISTING) SOIL STRATUM. EMBANKMENT SHALL BE KEYED INTO THE STRATUM AS SPECIFIED BY THE GEOTECHNICAL ENGINEER. THE EMBANKMENT FOUNDATION AND ABUTMENTS SHALL BEAR ON FIRM AND STABLE EXISTING SUBGRADE WHICH HAS BEEN PREPARED SO AS TO REMOVE ALL ORGANIC, LOOSE, AND GENERALLY UNSUITABLE MATERIAL.

   ALL MATERIALS TO BE USED FOR BACK FILL OR COMPACTED FILL SHALL BE INSPECTED AND TESTED BY THE SOILS ENGINEER IN ACCORDANCE WITH ASTM D2487 PRIOR TO PLACEMENT TO DETERMINE IF THEY ARE SUITABLE FOR THE INTENDED USE.

   THE FILL MATERIAL SHALL BE TAKEN FROM APPROVED BORROW AREAS. IT SHALL BE CLEAN MINERAL SOIL, FREE OF ROOTS, WOOD VEGETATION, OVERSIZED STONES, ROCKS, OR OTHER OBJECTIONABLE MATERIAL. SOILS WHICH ARE APPROVABLE FOR THE CONSTRUCTION OF THE IMPERVIOUS CLAY CORE, AS DEFINED BY THE UNIFIED SOIL CLASSIFICATION SYSTEM, ARE CH, INORGANIC CLAYS OF HIGH PLASTICITY; CL, INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELY CLAYS, SANDY CLAYS, SILTY CLAYS; SC, (WITH ENGINEERS APPROVAL) CLAYEY SANDS, POORLY GRADED SAND CLAY MIXTURES. MATERIALS TO BE USED FOR THE CONSTRUCTION OF THE SHELL SHALL BE SELECT BACK FILL FREE OF STUMPS, ROOTS, ROCKS, TRASH, ETC. AND SHALL BE MORE PERVIOUS THAN THE IMPERVIOUS CLAY CORE. THE FILL MATERIAL'S MOISTURE CONTENT SHALL BE +3 TO -2 PERCENTAGE POINTS OF OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D2216 (I.E. IN GENERAL THE FILL MATERIAL SHOULD CONTAIN SUFFICIENT MOISTURE SO THAT IT CAN BE FORMED INTO A BALL WITHOUT CRUMBLING. IF WATER CAN BE SQUEEZED OUT OF THE BALL, IT IS TOO WET FOR PROPER COMPACTION). FILL MATERIAL SHALL BE PLACED IN 6 TO 8-INCH CONTINUOUS LAYERS OVER THE ENTIRE LENGTH OF THE FILL. FIRST LIFT ON SUB GRADE MAY BE PLACED AT A DEPTH UP TO 30 INCHES TO BRIDGE SUBGRADE SOILS WITH OVER OPTIMUM MOISTURE CONTENT. COMPACTION, AS NOTED ON PLAN, SHALL BE OBTAINED GENERALLY BY USING A SHEEPSFOOT COMPACTOR. FINISHED GRADES SHALL BE MERGED NATURALLY INTO THE EXISTING GRADES.
   THE OWNER'S TESTING AGENCY SHALL PROVIDE A TESTING PROGRAM TO ENSURE THE DAM WAS CONSTRUCTED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT'S RECOMMENDATIONS. THE LAB SHALL, AT A MINIMUM, TEST EVERY LIFT OF FILL. IF THE LIFT EXCEEDS 15,000 SQUARE FEET THEN A TEST SHALL BE PROVIDED, AT A MINIMUM, FOR EACH 15,000 SQUARE FEET OF FILL IN THE LIFT. THESE TEST RESULTS SHALL BE PROVIDED TO THE OWNER AT AN ONGOING BASIS. AT THE COMPLETION OF THE EMBANKMENT THE TESTING AGENCY SHALL PROVIDE THE OWNER WITH A LETTER TO CERTIFY THAT SUFFICIENT TESTS HAVE BEEN TAKEN TO ENSURE THE CONSTRUCTION IS IN ACCORDANCE WITH GEOTECHNICAL REPORT'S RECOMMENDATIONS. SHELL MATERIAL TO BE SELECT FILL (COMPACTION TO A DRY DENSITY OF 90%). CORE SHALL BE IMPERVIOUS CLAY WITH A COMPACTION TO DRY DENSITY OF 95%.

4. CUTOFF TRENCH/KEY TRENCH: THE TRENCH SHALL BE EXCAVATED ALONG THE CENTERLINE OF THE DAM. THE MINIMUM DEPTH AND WIDTH SHALL BE AS DETERMINED BY THE GEOTECHNICAL ENGINEER.
   THE MINIMUM BOTTOM WIDTH SHALL BE WIDE ENOUGH TO PERMIT OPERATION OF COMPACTION EQUIPMENT. THE SIDE SLOPES SHALL BE NO STEEPER THAN 1:1. COMPACTION REQUIREMENTS SHALL BE THE SAME AS THOSE FOR THE EMBANKMENT. THE TRENCH SHALL BE KEPT DRAINED DURING THE BACKFILLING-COMPACTING OPERATIONS.

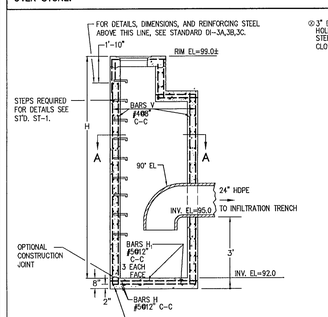
5. PRINCIPAL SPILLWAY: THE BOTTOM OF THE SPILLWAY RISER FOUNDATION BASE EXCAVATION SHALL BE OBSERVED BY THE GEOTECHNICAL ENGINEER TO ENSURE THAT ALL UNSUITABLE AND LOOSE MATERIALS ARE REMOVED AND THAT ACCEPTABLE BEARING CONDITIONS EXIST IN THE EXCAVATION'S BASE.

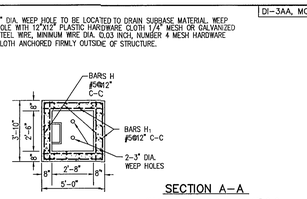
   ALL JOINTS IN THE PRINCIPAL SPILLWAY RISER STRUCTURE AND BARREL SHALL BE OF WATERTIGHT CONSTRUCTION. THE RISER OF THE PRINCIPAL SPILLWAY SHALL BE SECURELY ATTACHED TO THE BARREL BY A WATERTIGHT CONNECTION. THE BARREL AND RISER SHALL BE PLACED ON A FIRM COMPACTED SOIL FOUNDATION. THE BASE OF THE RISER SHALL BE FIRMLY ANCHORED ACCORDING TO THE DESIGN CRITERIA TO PREVENT ITS FLOATING. PERVIOUS MATERIALS SUCH AS SAND, GRAVEL OR CRUSHED STONE SHALL NOT BE USED AS BACK FILL AROUND THE BARREL. FILL MATERIAL SHALL BE PLACED AROUND THE PIPE IN 4-INCH LAYERS AND COMPACTED BY HAND AT LEAST TO THE SAME DENSITY AS THE EMBANKMENT. A MINIMUM OF TWO FEET OF FILL SHALL BE HAND-COMPACTED OVER THE BARREL BEFORE CROSSING IT WITH CONSTRUCTION EQUIPMENT.

6. EMERGENCY SPILLWAY: EMERGENCY SPILLWAY CONSTRUCTED OVER FILL MATERIAL SHALL BE CONCRETE LINED.

7. VEGETATIVE STABILIZATION: FINAL VEGETATIVE COVER (STABILIZATION) SHALL CONSIST OF TOP SOILING, LIMING, FERTILIZING, SEEDING, AND MULCHING TO ASSURE A FIRM STAND OF GRASS AS SOON AS PRACTICAL. SEDIMENT BASINS AND OTHER TEMPORARY EROSION CONTROL MEASURES ARE TO BE REMOVED ONLY WHEN STABILIZATION IS COMPLETE. FINAL VEGETAL COVER SHALL BE PROVIDED IN ACCORDANCE WITH THE FOLLOWING:

TOPSOIL:	AT LEAST 2" THICKNESS OBTAINED FROM STOCKPILES ON SITE, FREE OF LARGE DEBRIS.
LIME:	4,000#/ACRE (90#/1,000 S.F.)
SEED:	KENTUCKY 31 TALL FESCUE 250#/ACRE (6#/1,000 S.F.)
FERTILIZER:	10/20/10 MIX, 1,000#/ACRE (25#/1,000 S.F.)
MULCH:	STRAW OR HAY (LOCALLY OBTAINED) 4,000#/ACRE (90#/1,000 S.F.)





SECTION A-A

#4X8" SMOOTH DOWELS @ APPROX. 12" C-C- TO BE PLACED IN ALL AREAS ADJACENT TO ABUTTING CONCRETE TO PREVENT SETTLEMENT.

IN LIEU OF DOWELS A 2"X4" NOTCH MAY BE PROVIDED. SEE STANDARD T-DI-3,4 ALTERNATE DESIGN.

NOTES:

ALL CAST IN PLACE CONCRETE TO BE CLASS A3. FOR ACCEPTABLE ALTERNATE SEE PRECAST STANDARD DESIGNS. MINIMUM DEPTH (H) TO BE 8'-0". MAXIMUM DEPTH TO BE 20'-0". FOR INLETS LESS THAN 8' USE STD. DI-3A,3B,3C.

LENGTH OF SLOT (L) WILL, IN ALL CASES, BE SHOWN ON PLANS.

WHEN INLET IS USED IN 4' MEDIAN, BACK OF INLET IS TO BE SHAPED TO CONFORM TO PROPOSED CURB.

FOR PLAN VIEW OF INLET SEE STD. DI-3A,3B,3C.

IF OPTIONAL CONSTRUCTION IS USED IT IS TO BE KEYED. ALL SPLICES IN BARS V TO BE A MINIMUM OF 40D (20").

WHEN SPECIFIED ON PLANS INVERT IS TO BE SHAPED IN ACCORDANCE WITH STANDARD PLAN IS-1.

THIS ITEM MAY BE PRECAST OR CAST IN PLACE.

SEE STD. SL-1 FOR APPLICABILITY OF SAFETY SLABS.

THE AMOUNT OF CONCRETE AND STEEL DISPLACED BY PIPES MUST BE DEDUCTED TO OBTAIN TRUE QUANTITIES.

SCHEDULE OF REINFORCING STEEL **

BARS H		BARS H_1		BARS V	
NO. REQ'D.	LENGTH	NO. REQ'D.	LENGTH	NO. REQ'D.	LENGTH
4X(H+1)	3'-6"	4X(H+1)	3'-8"	36	H-1'4"

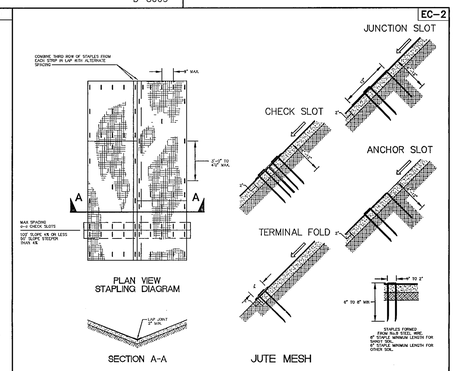
IN THE EVENT THE INVERT OF THE OUTFALL PIPE IS HIGHER THAN THE BOTTOM OF THE STRUCTURE, THE INVERT OF THE STRUCTURE SHALL BE SHAPED WITH CEMENT MORTAR TO PREVENT STANDING OR PONDING OF WATER IN THE STRUCTURE.

MODIFIED CAST IN PLACE MANHOLE WITH DROP INVERT SEDIMENT TRAP SS #14

12" - 30" PIPE

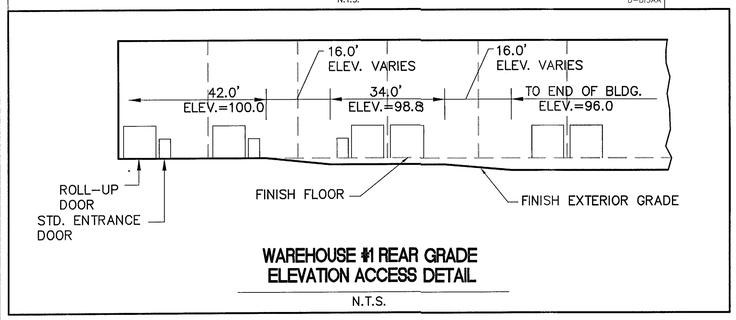
N.T.S.

D-DI3AA



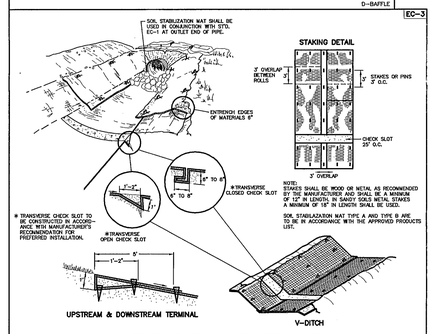
PROTECTIVE COVERING INSTALLATION CRITERIA

NOT TO SCALE



WAREHOUSE #1 REAR GRADE ELEVATION ACCESS DETAIL

N.T.S.



SOIL STABILIZATION MAT INSTALLATION

N.T.S

DRAINAGE/BMP RECORD DRAWING BASED ON INFORMATION AS SUPPLIED BY C.A. BARRS CONTRACTOR, INC. AND AES CONSULTING ENGINEERS JCC PLAN #SP-14-98 BMP ID #DC-013

RECORD DRAWING BASED ON INFORMATION AS SUPPLIED BY C.A. BARRS CONTRACTOR, INC.

No.	DATE	REVISION / COMMENT / NOTE	BY
5	9/22/03	RECORD DRAWING	GAM
3	6/98	REVISED PER JCC COMMENTS 5/10/98	RMO
1	5/98	REVISED PER JCC COMMENTS 3/10/98	RMO

COMMONWEALTH OF VIRGINIA — G. ARCHER MARSTON, III — No. 018232 — 1/21/99 — PROFESSIONAL ENGINEER

5248 Olde Towne Road, Suite 1
Williamsburg, Virginia 23188
(804) 253-0040
Fax (804) 220-8994
CONSULTING ENGINEERS

NOTES AND DETAILS
TOANO BUSINESS CENTER
OWNER/DEVELOPER: MICHAEL C. BROWN, L.L.C.
STONEHOUSE DISTRICT — JAMES CITY COUNTY — VIRGINIA

Designed	Drawn
RMO/GAM	EAW
Scale	Date
1"=30'	1/5/98

Project No. 8003

Drawing No. 11 OF 14

09.26.03-09:19 80030R11.dwg
HEB
DC015_TOANO_BUSINESS_CENTER_INFILTRATION_BMP - 008

PROPOSED OFFICE/WAREHOUSE BUILDING #2
20,000 S.F.
F.F.=98.0
HEIGHT 25 FT.±

PROPOSED OFFICE/WAREHOUSE BUILDING #1
28,000 S.F.
F.F.=100.0
HEIGHT 25 FT.±

"HANDICAP SPACE" PARKING SIGN (TYP.)

5' CONC. SIDEWALK

12 SPACES @ 9' EA. = 108'

14 SPACES @ 9' EA. = 126'

(INCLUDES 2 HANDICAP SPACES AND 1 HANDICAP ACCESS LANE)

11 SPACES @ 9' EA. = 99'

PROPOSED PAVED PARKING (SEE TYPE II SECTION, SHEET 9)

50' BLDG SETBACK

S15°40'02"W 946.82'

DRAINAGE EASEMENT TO BE DEDICATED TO VDOT

YELLOW REFLECTORIZED MARKERS TO BE INSTALLED ON EDGE OF PAVEMENT LINE.

SIGHT DISTANCE – 1,020'
EAST BOUND LANE

RICHMOND ROAD U.S. ROUTE 60

160' R / W

4" WHITE MINI-SKIPS (3' LENGTHS AND 6' SPACING)

4" SOLID WHITE

4" SOLID YELLOW

WEST BOUND LANE

PROPOSED 200' TAPER

PROPOSED 200' LEFT TURN LANE

EXISTING YELLOW REFLECTORIZED PAVEMENT MARKERS TO BE REMOVED AND REPLACED WITH WHITE MARKERS.

TAX PARCEL (12-4)(1-16F)
NOW OR FORMERLY
WILLIAMSBURG FOODS, INC.
ZONED M-1

TAX PARCEL (12-4)(1-16E)
NOW OR FORMERLY
WRIGHT SIGN SERVICE, INC.
ZONED M-1

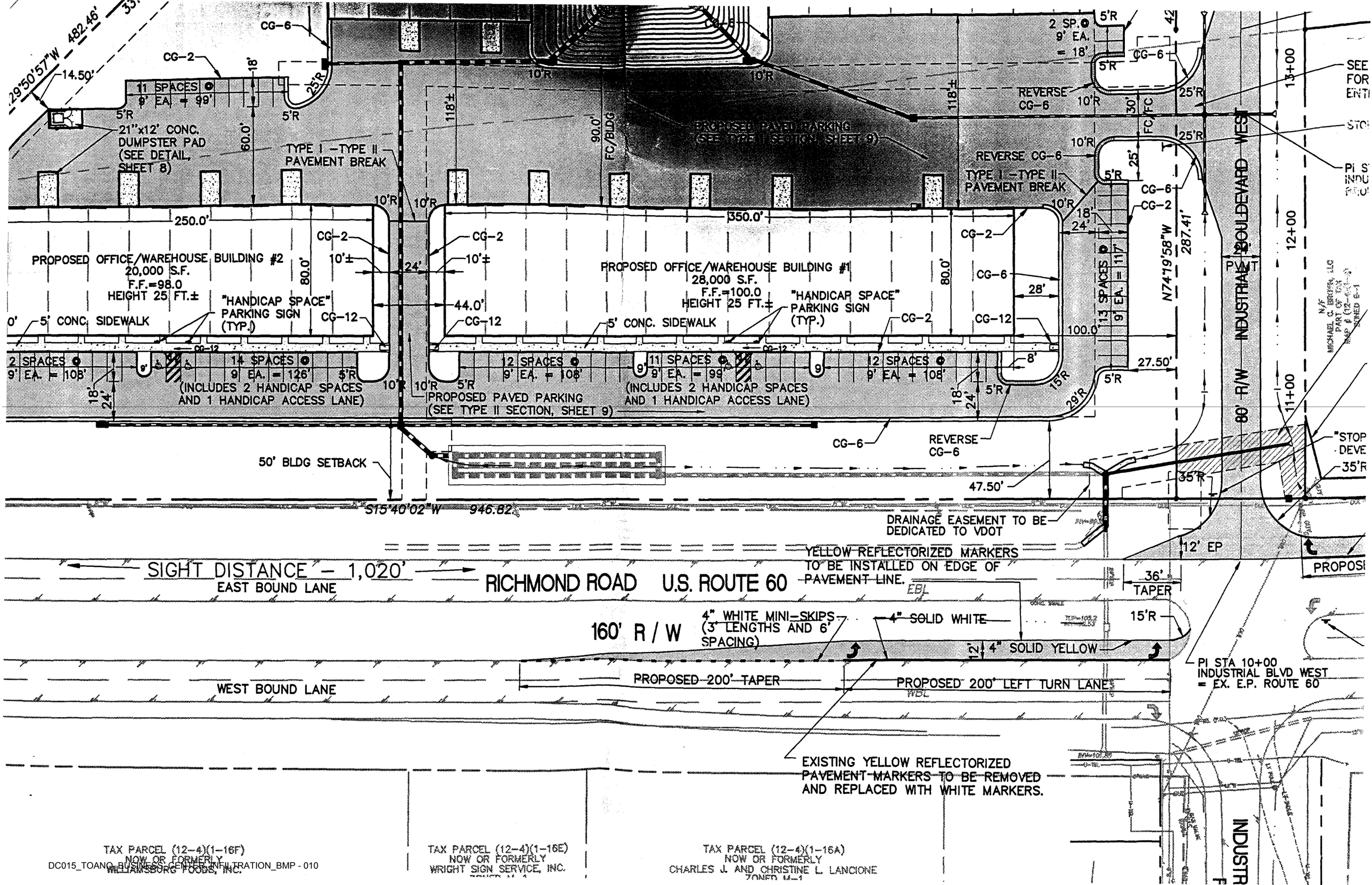
TAX PARCEL (12-4)(1-16A)
NOW OR FORMERLY
CHARLES J. AND CHRISTINE L. LANCIONE
ZONED M-1

TAX PARCEL (12-4)(1-13A)
NOW OR FORMERLY
WALTER J. & RUTH W. SCRUGGS

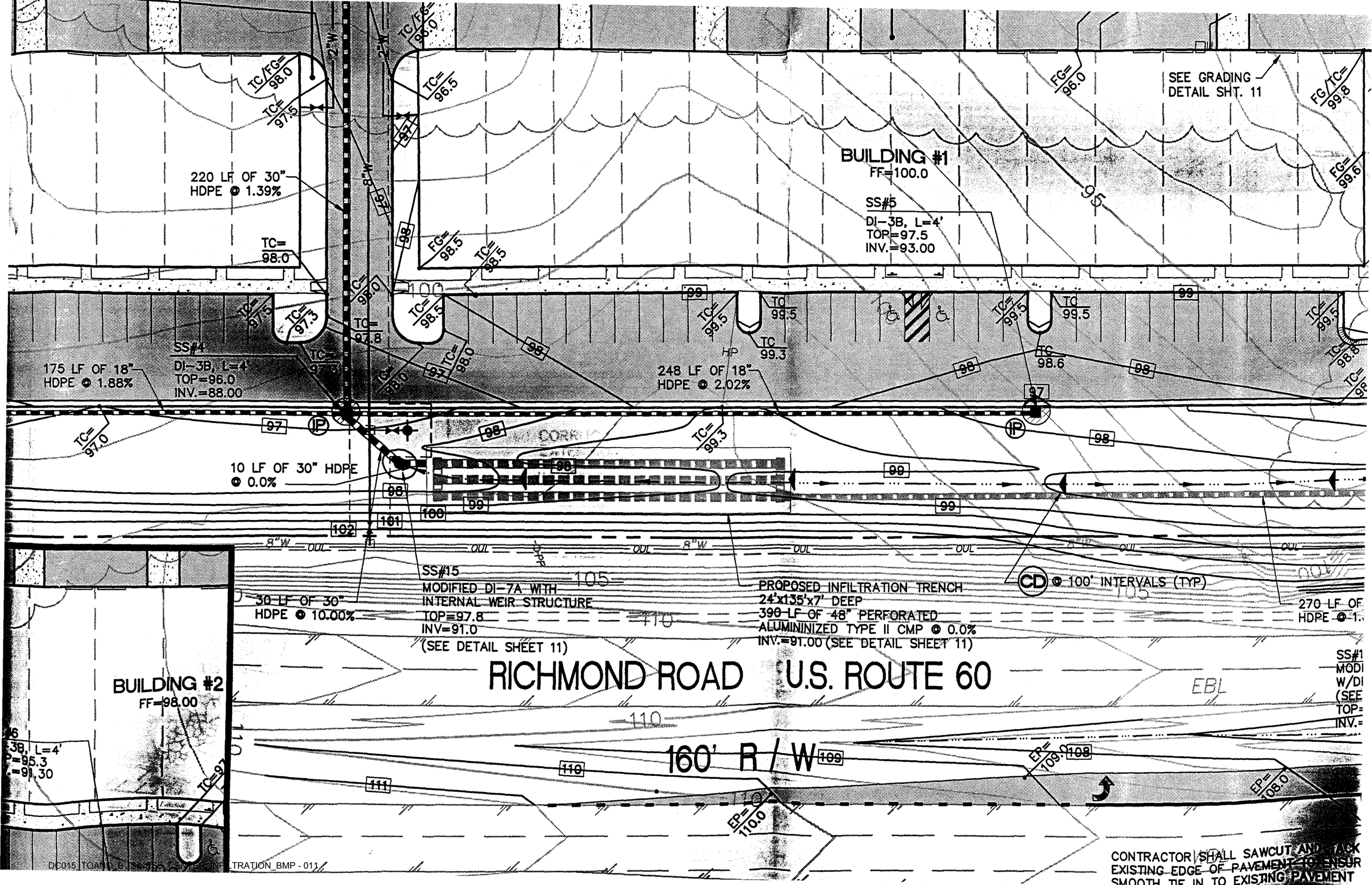
INDUSTRIAL BOULEVARD 100' R/W
RT. 754

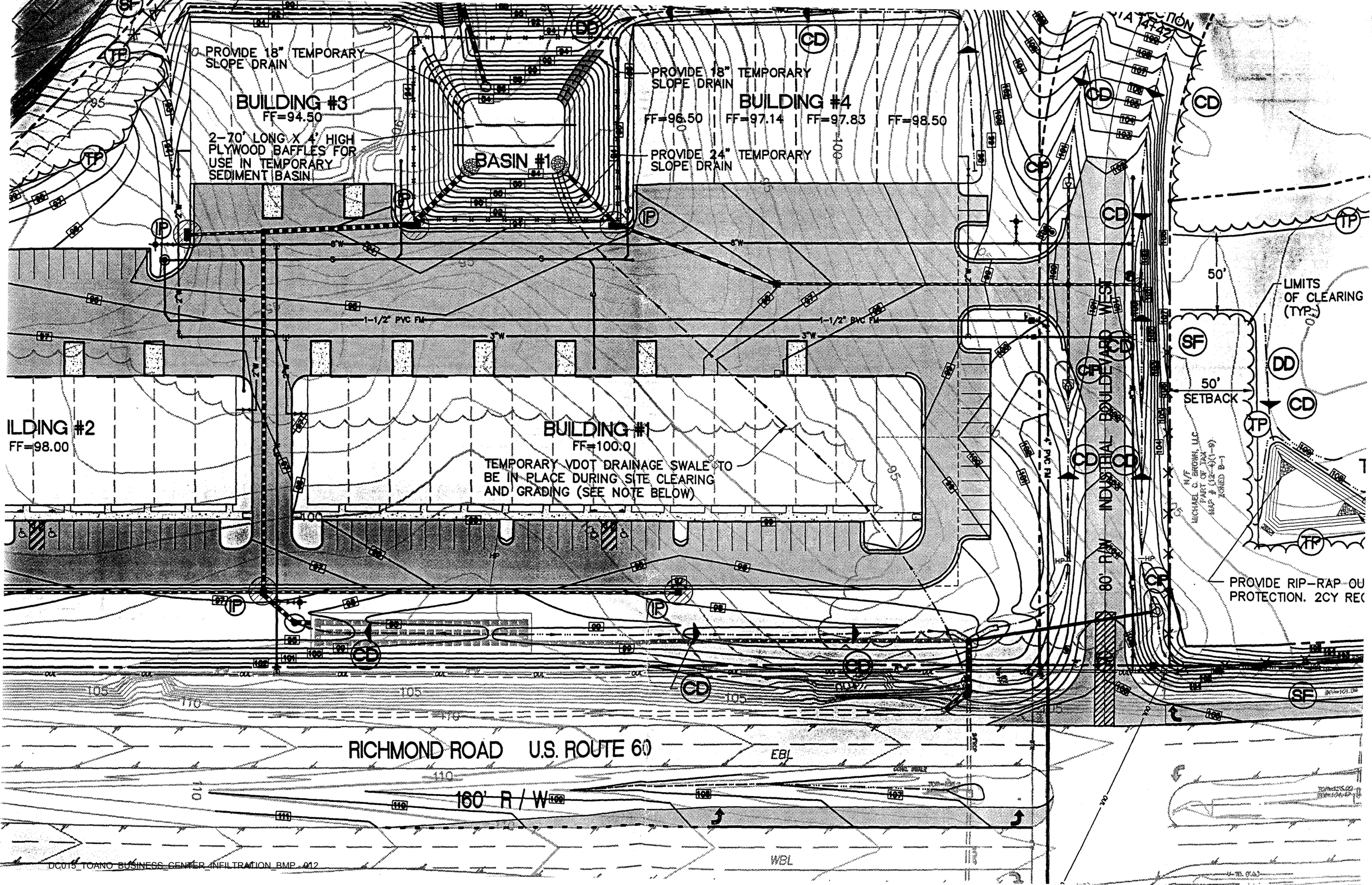
80' R/W INDUSTRIAL

NOTE:
WHERE NEW PAVEMENT MARKING DESIGNS ARE REQUIRED, ALL EXISTING MARKINGS SHALL BE ERADICATED.



29°50'57"W 482.46'
14.50'
CG-6
CG-2
11 SPACES @ 9' EA. = 99'
21"x12' CONC. DUMPSTER PAD (SEE DETAIL, SHEET 8)
TYPE I - TYPE II PAVEMENT BREAK
PROPOSED PAVED PARKING (SEE TYPE I SECTION, SHEET 9)
2 SP. @ 9' EA. = 18'
REVERSE CG-6
TYPE I - TYPE II PAVEMENT BREAK
250.0'
350.0'
PROPOSED OFFICE/WAREHOUSE BUILDING #2
20,000 S.F.
F.F.=98.0
HEIGHT 25 FT.±
PROPOSED OFFICE/WAREHOUSE BUILDING #1
28,000 S.F.
F.F.=100.0
HEIGHT 25 FT.±
"HANDICAP SPACE" PARKING SIGN (TYP.)
5' CONC. SIDEWALK
44.0'
100.0'
27.50'
13 SPACES @ 9' EA. = 117'
N74°19'58"W 287.41'
80' R/W INDUSTRIAL BOULEVARD WEST
14 SPACES @ 9' EA. = 126'
12 SPACES @ 9' EA. = 108'
11 SPACES @ 9' EA. = 99'
12 SPACES @ 9' EA. = 108'
(INCLUDES 2 HANDICAP SPACES AND 1 HANDICAP ACCESS LANE)
PROPOSED PAVED PARKING (SEE TYPE II SECTION, SHEET 9)
50' BLDG SETBACK
S15°40'02"W 946.82
47.50'
DRAINAGE EASEMENT TO BE DEDICATED TO VDOT
12' EP
36' TAPER
YELLOW REFLECTORIZED MARKERS TO BE INSTALLED ON EDGE OF PAVEMENT LINE.
SIGHT DISTANCE - 1,020'
EAST BOUND LANE
RICHMOND ROAD U.S. ROUTE 60
160' R / W
4" WHITE MINI-SKIPS (3' LENGTHS AND 6' SPACING)
4" SOLID WHITE
4" SOLID YELLOW
PI STA 10+00 INDUSTRIAL BLVD WEST = EX. E.P. ROUTE 60
PROPOSED 200' TAPER
PROPOSED 200' LEFT TURN LANE
WEST BOUND LANE
EXISTING YELLOW REFLECTORIZED PAVEMENT MARKERS TO BE REMOVED AND REPLACED WITH WHITE MARKERS.
TAX PARCEL (12-4)(1-16F) NOW OR FORMERLY WILLIAMSBURG FOODS, INC.
TAX PARCEL (12-4)(1-16E) NOW OR FORMERLY WRIGHT SIGN SERVICE, INC.
TAX PARCEL (12-4)(1-16A) NOW OR FORMERLY CHARLES J. AND CHRISTINE L. LANCIONE

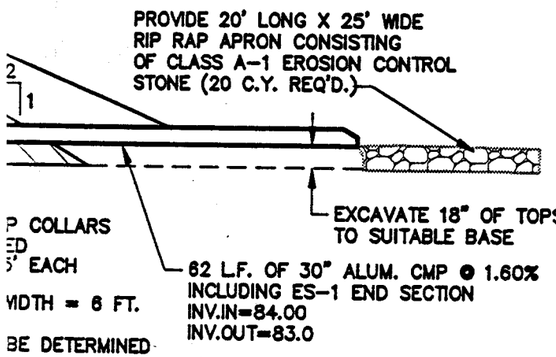

SEE GRADING DETAIL SHT. 11
BUILDING #1
FF=100.0
SS#5
DI-3B, L=4'
TOP=97.5
INV.=93.00
220 LF OF 30" HDPE @ 1.39%
175 LF OF 18" HDPE @ 1.88%
SS#4
DI-3B, L=4'
TOP=96.0
INV.=88.00
248 LF OF 18" HDPE @ 2.02%
10 LF OF 30" HDPE @ 0.0%
30 LF OF 30" HDPE @ 10.00%
SS#15
MODIFIED DI-7A WITH INTERNAL WEIR STRUCTURE
TOP=97.8
INV=91.0
(SEE DETAIL SHEET 11)
PROPOSED INFILTRATION TRENCH
24'x135'x7' DEEP
390 LF OF 48" PERFORATED ALUMININIZED TYPE II CMP @ 0.0%
INV.=91.00 (SEE DETAIL SHEET 11)
CD @ 100' INTERVALS (TYP.)
270 LF OF HDPE @ 1.
BUILDING #2
FF=98.00
RICHMOND ROAD
U.S. ROUTE 60
160' R / W
EBL
CONTRACTOR SHALL SAWCUT AND TACK EXISTING EDGE OF PAVEMENT TO ENSUR SMOOTH TIE IN TO EXISTING PAVEMENT


PROVIDE 18" TEMPORARY SLOPE DRAIN
BUILDING #3
FF=94.50
2-70' LONG X 4' HIGH PLYWOOD BAFFLES FOR USE IN TEMPORARY SEDIMENT BASIN
BASIN #1
PROVIDE 18" TEMPORARY SLOPE DRAIN
BUILDING #4
FF=96.50
FF=97.14
FF=97.83
FF=98.50
PROVIDE 24" TEMPORARY SLOPE DRAIN
1-1/2" PVC FM
ILDING #2
FF=98.00
BUILDING #1
FF=100.0
TEMPORARY VDOT DRAINAGE SWALE TO BE IN PLACE DURING SITE CLEARING AND GRADING (SEE NOTE BELOW)
INDUSTRIAL BOULEVARD WEST
80' R/W
50'
LIMITS OF CLEARING (TYP.)
50' SETBACK
PROVIDE RIP-RAP OU
PROTECTION. 2CY REC
RICHMOND ROAD U.S. ROUTE 60
160' R / W
EBL
WBL

OUT POINT DURING OPERATION AS TEMPORARY
AS AT 12,256 C.F. OF STORAGE OR ELEV.=86.6

EMERGENCY SPILLWAY
CONCRETE TRAPEZOIDAL
CONTROL SECTION
CREST EL=92.0
WIDTH=10.0'

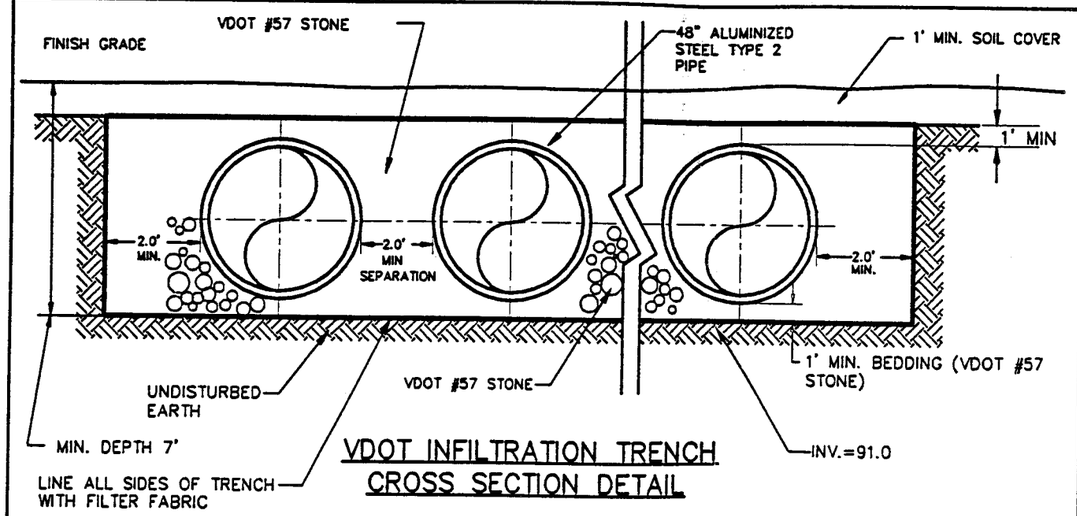
SELECT MISC. BACKFILL
(FREE OF STUMPS, ROOTS,
ROCKS, TRASH, ETC.)
COMPACTED TO 90%



D-8003

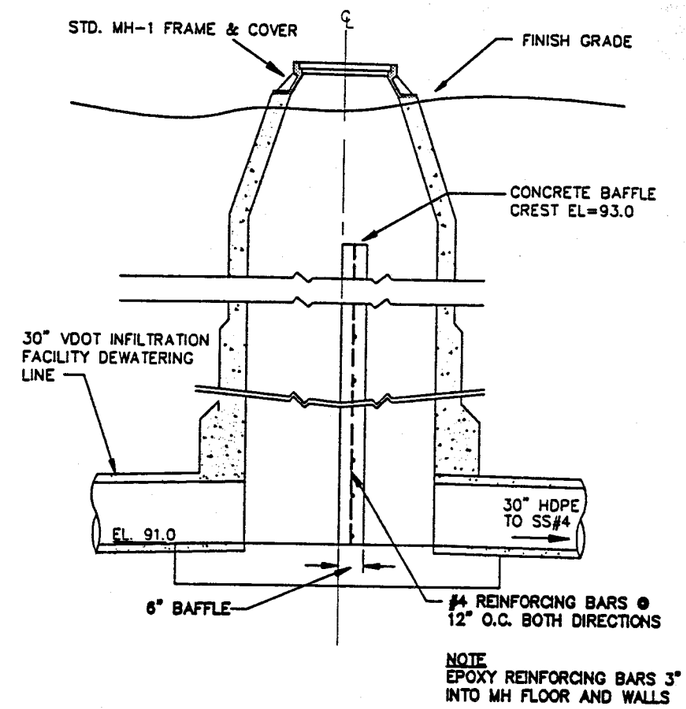
NOTES:

1. PROPOSED SWM/BMP "DRY" POND #1 SHALL ACT AS A TEMPORARY SEDIMENT BASIN DURING CONSTRUCTION. SEE TEMPORARY RISER STRUCTURE THIS SHEET.
2. SEDIMENT CLEAN OUT POINT DURING OPERATION AS TEMPORARY SEDIMENT BASIN IS @ EL.=86.6'
3. AFTER ALL DISTURBED AREAS ARE STABILIZED AND OPERATION AS TEMPORARY SEDIMENT BASIN CEASES, THE BASIN SHALL BE CLEANED OF SEDIMENT AND THE PERFORATED POLYETHYLENE DEWATERING DEVICE SHALL BE REMOVED. RISER PIPE SHALL THEN BE LOWERED TO ATTAIN A PERMANENT CREST ELEVATION OF 88.3.
4. UPON COMPLETION, THE CONSTRUCTION OF THE DAM SHALL BE CERTIFIED BY A GEOTECHNICALL ENGINEER WHO HAS INSPECTED THE STRUCTURE DURING CONSTRUCTION.
5. CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS TO ENGINEER UPON COMPLETION OF BMP FACILITY.



VDOT INFILTRATION TRENCH
CROSS SECTION DETAIL

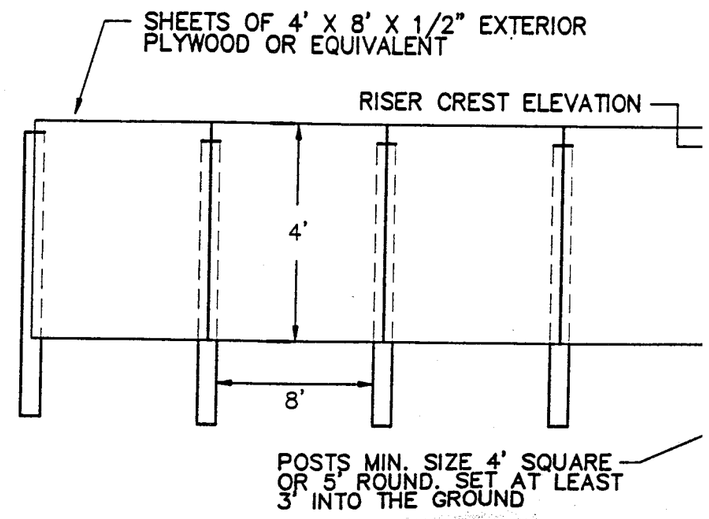
N.T.S.



NOTE
EPOXY REINFORCING BARS 3"
INTO MH FLOOR AND WALLS

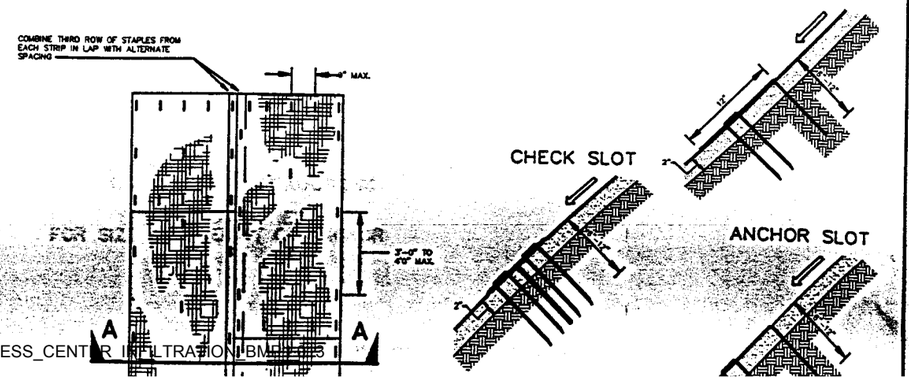
MODIFIED MH-1 MANHOLE
SS#15

NOT TO SCALE



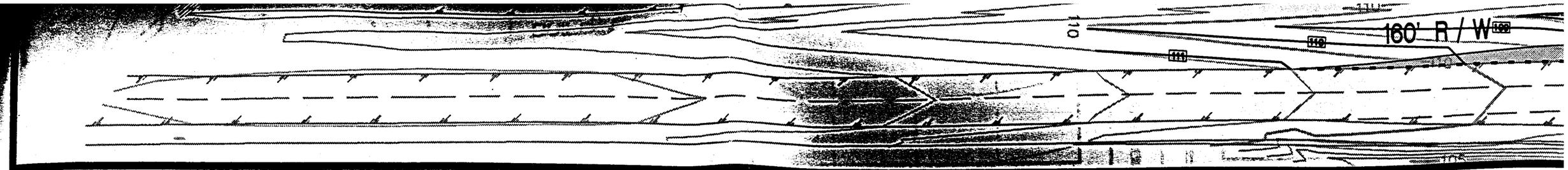
DI-3AA, MODIFIED

EC-2



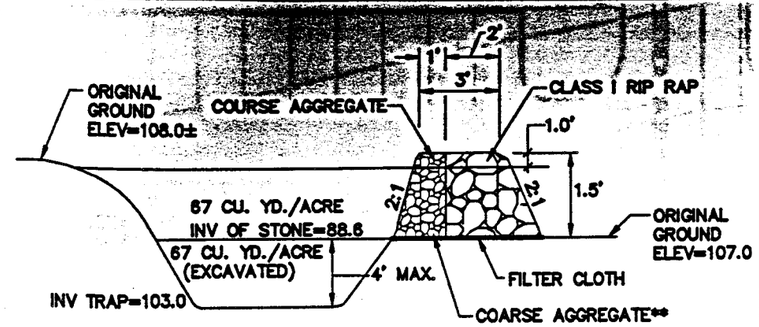
A
ROX. 12' C-C
ADJACENT TO

CC15_TOANO_BUSINESS_CENTER_INFILTRATION_BMP_15

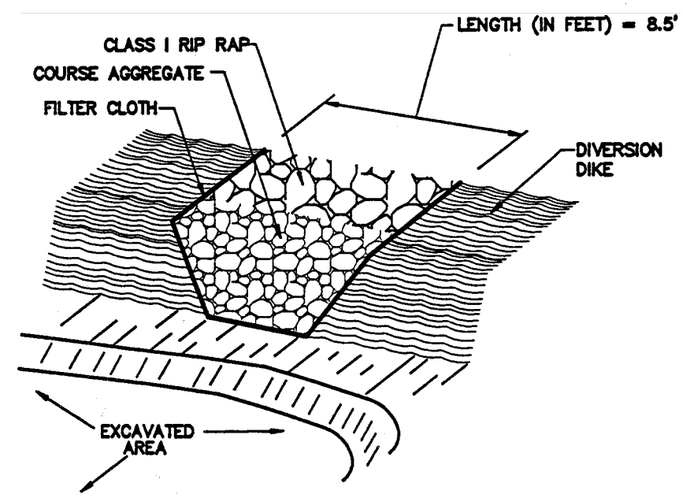


CONSTRUCTION SEQUENCING

1. ENSURE THAT THE CONSTRUCTION ENTRANCE HAS BEEN INSTALLED FOR THE ENTIRE DEVELOPMENT.
2. CLEAR AS NECESSARY TO ACCESS SITE AND BASIN #1 LOCATION.
3. INSTALL THE SILT FENCE AROUND PROPOSED BASIN AND THE REMAINDER OF THE SITE AS SPECIFIED ON THE PLANS. INSTALL SEDIMENT BASIN #1.
4. CLEAR AS NECESSARY TO ACCESS OFFSET STOCKPILE AREA AND TEMPORARY TRAP LOCATION.
5. INSTALL THE SILT FENCE AROUND PROPOSED TRAP AND THE REMAINDER OF THE OFFSET AREA AS SPECIFIED ON THE PLANS. INSTALL OFFSET SEDIMENT TRAP #1.
6. CLEAR THE OFFSET STOCKPILE AREA.
7. INSTALL DIVERSION DIKE SYSTEM, DRAINAGE SWALES, AND CHECK DAMS AS SPECIFIED ON PLANS. CLEAR THE BUSINESS CENTER SITE AND REMOVE THE TOPSOIL. STOCKPILE TOPSOIL ON OFF SITE AREA.
8. CUT TEMPORARY VDOT DRAINAGE SWALE FROM VDOT OUTFALL SOUTH OF INDUSTRIAL BOULEVARD WEST ACROSS PROPERTY TO BASIN #1. THIS SWALE TO REMAIN IN PLACE DURING CONSTRUCTION AND UNTIL GRADING FOR BUILDING #1 OCCURS AND STORM SEWER SS#14 AND SS#15 HAVE BEEN INSTALLED. SWALE SHALL THEN BE REDIRECTED TO FLOW INTO SS#15 THROUGH DI-7 TOP.
9. PREPARE THE BUILDING PAD AND ROUGH GRADE THE AREA TO BE PAVED.
10. INSTALL ALL UNDERGROUND UTILITIES.
11. INSTALL THE PROPOSED STORM DRAINAGE SYSTEM. INSTALL INLET PROTECTION OF AN APPROVED TYPE FOR THE NEW DRAINAGE STRUCTURES.
12. INSTALL CURB AND THEN BACKFILL BEHIND THE CURB, THEN GRADE BEHIND THE CURB.
13. ESTABLISH VEGETATIVE COVER BEHIND CURB.
14. PLACE BASE STONE AND ASPHALT.
15. REPAIR ANY INADVERTENT EROSION AND REMOVE ANY INADVERTENT SEDIMENTATION.
16. DRESS AND SEED ALL DISTURBED AREAS AS NECESSARY TO EFFECT PERMANENT VEGETATIVE COVER.
17. FOLLOWING COMPLETION OF ALL LAND DISTURBANCE ACTIVITY AND STABILIZATION OF SITE, VDOT INFILTRATION TRENCH SHALL BE INSTALLED AND CONNECTED TO SS#15. SS#14 SHALL THEN BE INSTALLED AND THE 15" CULVERT BENEATH INDUSTRIAL BOULEVARD WEST AND THE 24" VDOT CULVERT SHALL THEN BE EXTENDED AND CONNECTED TO SS#14. SS#14 SHALL BE CONNECTED TO THE VDOT INFILTRATION TRENCH BY A 24" HDPE PIPE AS SPECIFIED ON THE PLANS. A PERMANENT DRAINAGE SWALE SHALL BE RE-CONSTRUCTED TO EXTEND FROM THE ROADSIDE DITCH AT INDUSTRIAL BOULEVARD WEST TO SS#15 IN ORDER TO DRAIN RUNOFF FROM INDUSTRIAL BOULEVARD WEST INTO SS#15 THROUGH DI-7.
18. REMOVE ANY REMAINING TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES WITHIN THIRTY DAYS AFTER THE FINAL SITE STABILIZATION.

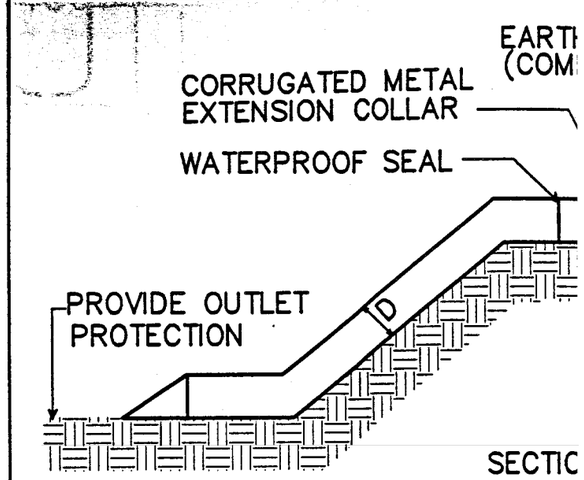


CROSS SECTION OF OUTLET

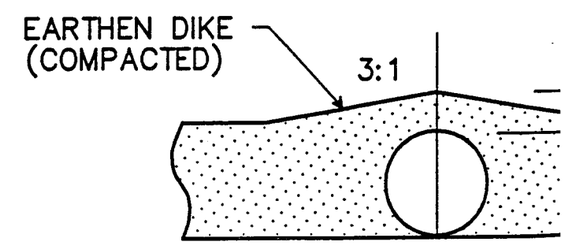


** COARSE AGGREGATE SHALL BE VDOT #3, #357 OR #5

OUTLET (PERSPECTIVE VIEW)



NOTE: SEDIMENT MAY BE COI
UPLAND PONDING WILL



SECTION

TSD TEMPORARY

SOURCE: VA. DSWC

TOANO BUSINESS CENTER
TEMPORARY SEDIMENT TRAP
N.T.S

D-ST

07.06.98-14:20 03ES02.dwg

DMO 5_TOANO_BUSINESS_CENTER_INFILTRATION_BMP - 014

STANDARD
EROSION AND SEDIMENT CONTROL NOTES
FOR JAMES CITY COUNTY, VIRGINIA
REVISED 4/7/97

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 SEDIMENT TO THE PROJECT SITE, 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 SHALL APPLY TO THIS PROJECT.

1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE "VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK". THE CONTRACTOR SHALL BE THOROUGHLY FAMILIAR WITH ALL APPLICABLE MEASURES CONTAINED THEREIN WHICH MAY BE PERTINENT TO THIS PROJECT.

2. ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS SHALL BE PROTECTED BY A TEMPORARY CONSTRUCTION ENTRANCE TO PREVENT TRACKING OF MUD ONTO PUBLIC RIGHT-OF-WAYS. AN ENTRANCE PERMIT FROM VDOT IS REQUIRED PRIOR TO ANY CONSTRUCTION ACTIVITIES WITHIN STATE RIGHTS-OF-WAYS. WHERE SEDIMENT IS TRANSPORTED ONTO A PUBLIC ROAD SURFACE, THE ROAD SHALL BE THOROUGHLY CLEANED AT THE END OF EACH DAY.

3. A PRECONSTRUCTION MEETING SHALL BE HELD ON SITE BETWEEN THE COUNTY, THE DEVELOPER, THE PROJECT ENGINEER, 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 CONTRACTOR WILL SUPPLY THE ENVIRONMENTAL DIVISION WITH THE NAME OF THE INDIVIDUAL WHO WILL BE RESPONSIBLE FOR ENSURING MAINTENANCE OF INSTALLED MEASURES ON A DAILY BASIS.

4. SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT ON-SITE MUST BE CONSTRUCTED AS A FIRST STEP IN GRADING AND BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE. EARTHEN STRUCTURES SUCH AS DAMS, DIKES, AND DIVERSIONS MUST BE SEEDED AND MULCHED IMMEDIATELY AFTER INSTALLATION. PERIODIC INSPECTIONS OF THE EROSION CONTROL MEASURES SHALL BE MADE TO ASSESS THEIR CONDITION. ANY NECESSARY MAINTENANCE OF THE MEASURES SHALL BE ACCOMPLISHED IMMEDIATELY UPON NOTIFICATION BY THE COUNTY AND SHALL INCLUDE THE REPAIR OF MEASURES DAMAGED BY ANY SUBCONTRACTOR INCLUDING THOSE OF THE PUBLIC UTILITY COMPANIES.

5. SURFACE FLOWS OVER CUT 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) SHALL BE INSTALLED PRIOR TO THE END OF EACH WORKING DAY.

6. SEDIMENT CONTROL MEASURES MAY REQUIRE MINOR FIELD ADJUSTMENTS AT TIME OF CONSTRUCTION TO INSURE THEIR INTENDED PURPOSE IS ACCOMPLISHED. ENVIRONMENTAL DIVISION APPROVAL WILL BE REQUIRED FOR OTHER DEVIATIONS FROM THE APPROVED PLANS.

7. THE CONTRACTOR SHALL PLACE SOIL STOCKPILES AT THE LOCATIONS SHOWN ON THIS PLAN OR AS DIRECTED BY THE ENGINEER. 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.

8. 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 SAME. 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.

9. PERMANENT OR TEMPORARY SOIL STABILIZATION MUST BE APPLIED TO ALL DENUDED AREAS WITHIN 7 DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. SOIL STABILIZATION MUST ALSO BE APPLIED TO DENUDED AREAS WHICH MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN 30 DAYS. SOIL STABILIZATION MEASURES INCLUDE VEGETATIVE ESTABLISHMENT, MULCHING AND THE EARLY APPLICATION OF GRAVEL BASE MATERIAL ON AREAS TO BE PAVED.

10. NO MORE THAN 300 FEET OF SANITARY SEWER, STORM SEWER, WATERLINES, 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).

11. IF DISTURBED AREA STABILIZATION IS TO BE ACCOMPLISHED DURING THE MONTHS OF DECEMBER, JANUARY, OR FEBRUARY, STABILIZATION SHALL CONSIST OF MULCHING IN ACCORDANCE WITH SPECIFICATION 3.35. SEEDING WILL THEN TAKE PLACE AS SOON AS THE SEASON PERMITS.

12. THE TERM SEEDING, FINAL VEGETATIVE COVER OR STABILIZATION, ON THIS SITE 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 IN ACCORDANCE WITH SPECIFICATION 3.32, PERMANENT SEEDING. IRRIGATION SHALL BE REQUIRED AS NECESSARY TO ENSURE ESTABLISHMENT OF GRASS COVER.

13. ALL SLOPES STEEPER THAN 3:1 SHALL REQUIRE THE USE OF EROSION CONTROL BLANKETS SUCH AS EXCELSIOR BLANKETS TO AID IN THE ESTABLISHMENT OF A VEGETATIVE COVER. INSTALLATION SHALL BE IN ACCORDANCE WITH SPECIFICATION 3.35, MULCHING AND MANUFACTURER'S INSTRUCTIONS. NO SLOPES SHALL BE CREATED STEEPER THAN 2:1.

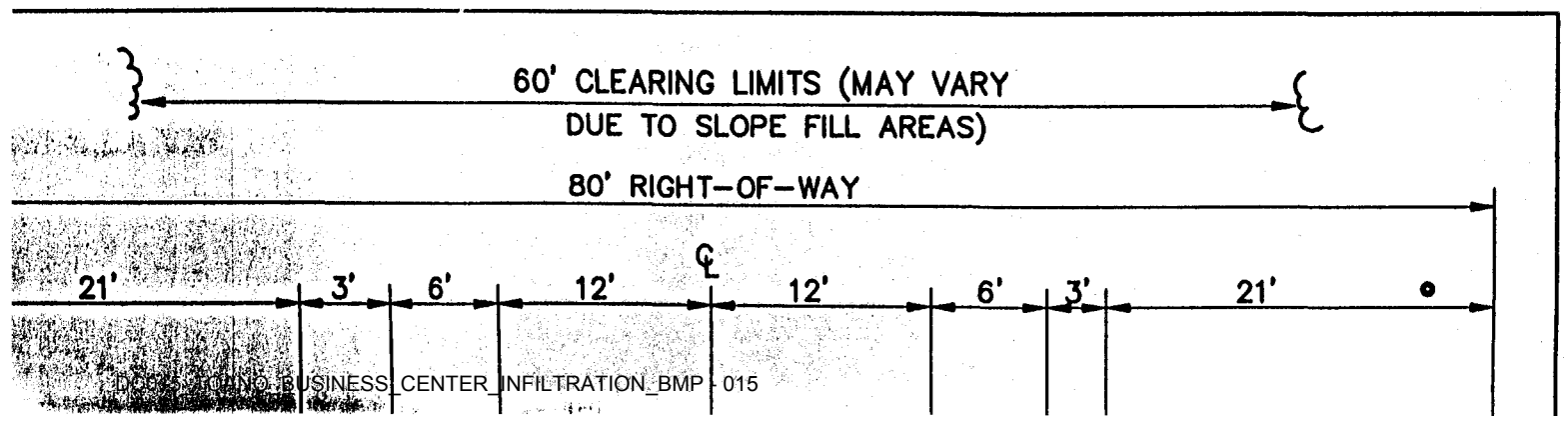
14. INLET PROTECTION IN ACCORDANCE WITH SPECIFICATION 3.07 SHALL BE PROVIDED FOR ALL STORM DRAIN INLETS AS SOON AS PRACTICAL FOLLOWING CONSTRUCTION OF SAME.

15. TEMPORARY LINERS, SUCH AS POLYETHYLENE SHEETS, SHALL BE PROVIDED FOR ALL PAVED DITCHES UNTIL THE PERMANENT CONCRETE LINER IS INSTALLED.

16. PAVED DITCHES SHALL BE REQUIRED WHEREVER EROSION IS EVIDENT. PARTICULAR ATTENTION SHALL BE PAID TO THOSE AREAS WHERE GRADES EXCEED 3 PERCENT.

17. TEMPORARY EROSION CONTROL MEASURES ARE NOT TO BE REMOVED UNTIL ALL DISTURBED AREAS ARE STABILIZED. AFTER STABILIZATION IS COMPLETE, ALL MEASURES SHALL BE REMOVED WITHIN 30 DAYS. TRAPPED SEDIMENT SHALL BE SPREAD AND SEEDED.

18. AS-BUILT DRAWINGS MUST BE PROVIDED FOR ALL DETENTION/BMP FACILITIES. ALSO UPON COMPLETION, THE CONSTRUCTION OF ALL DETENTION/BMP FACILITIES SHALL BE CERTIFIED BY A PROFESSIONAL ENGINEER WHO INSPECTED THE STRUCTURE DURING CONSTRUCTION. THE CERTIFICATION SHALL STATE THAT TO THE BEST OF HIS/HER JUDGMENT, KNOWLEDGE, AND BELIEF, THE STRUCTURE WAS CONSTRUCTED IN ACCORDANCE WITH THE APPROVAL PLANS AND SPECIFICATIONS.

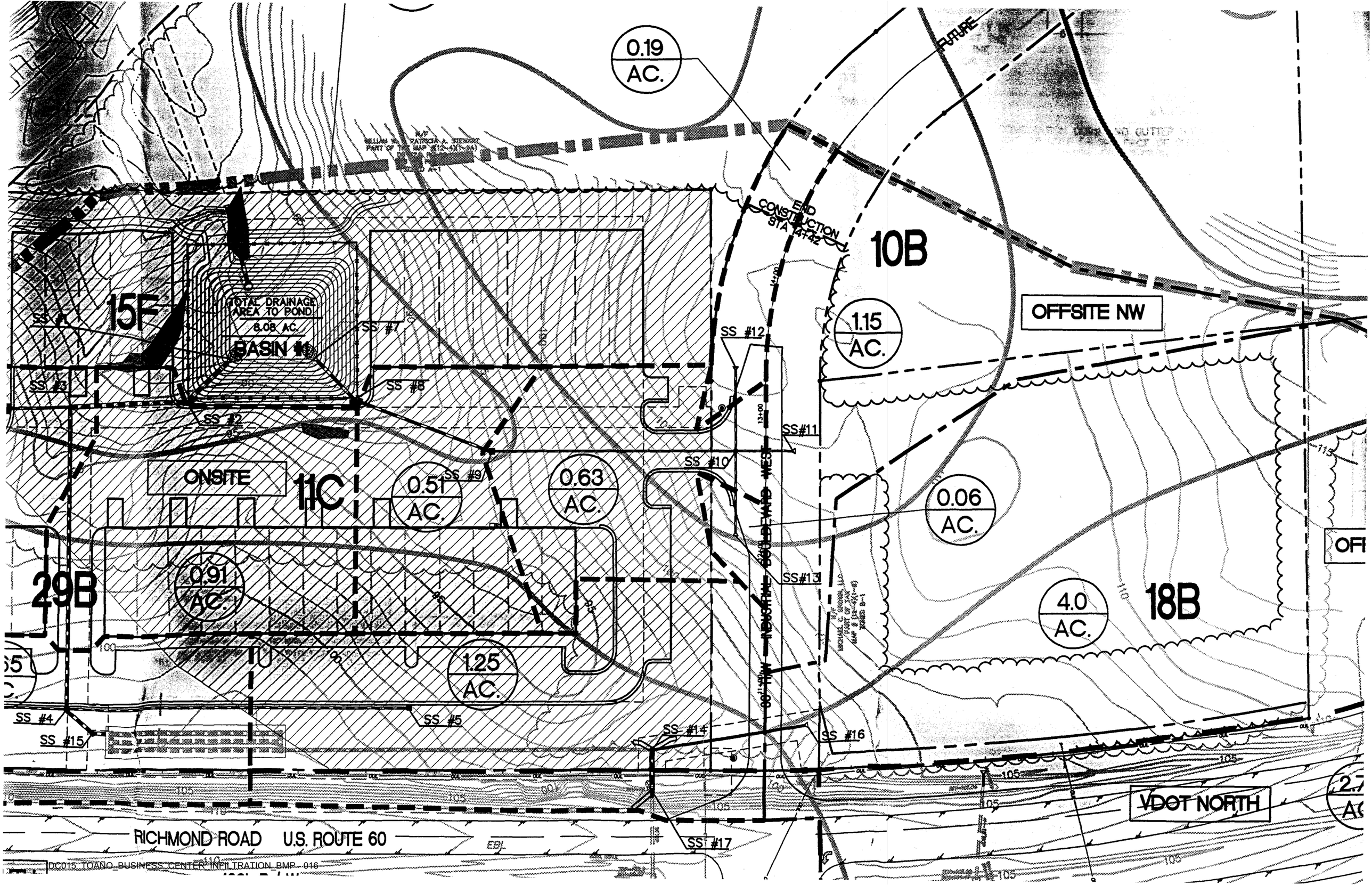


No.	DATE	REVISION / COMMENT / NOTE	BY
2	6/98	REVISED PER JCC COMMENTS 6/10/98	RM(
1	5/98	REVISED PER JCC COMMENTS 3/10/98	RM(

COMMONWEALTH OF VIRGINIA
G. ARCHER MARSTON, III
No. 018232
1/21/98
PROFESSIONAL ENGINEER

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

CENTER
N, L.L.C.
VIRGINIA



DC015_TOANO_BUSINESS_CENTER_INFILTRATION_BMP - 016

Date Record Created:

Created By:

WS_BMPNO: DC015

Print Form

PRINTED ON:
Monday, March 15, 2010
12:36:59 PM

WATERSHED	DC
BMP ID NO	015
PLAN NO	SP-14-98
TAX PARCEL	(12-4)(1-9)
PIN NO	1240100009
CONSTRUCTION DATE	6/1/1998
PROJECT NAME	Toano Business Center BMP 2
FACILITY LOCATION	8105 Richmond Road
CITY-STATE	Toano, Va. 23168
CURRENT OWNER	Michael C Brown LTD
OWNER ADDRESS	P.O. Box 188
OWNER ADDRESS 2	
CITY-STATE-ZIP CODE	Toano, Va. 23168
OWNER PHONE	
MAINT AGREEMENT	Yes
EMERG ACTION PLAN	No

Get Last BMP No

Return to Menu

MAINTENANCE PLAN	No
SITE AREA acre	7.26
LAND USE	M1 - Limited
old BMP TYP	Infiltration Trench
JCC BMP CODE	C1 Infiltration Trench .5
POINT VALUE	7
SVC DRAIN AREA acres	11.75
SERVICE AREA DESCRI	Offsite & Onsite
IMPERV AREA acres	6.96
RECV STREAM	UT of Diascund Creek
EXT DET-WQ-CTRL	Yes
WTR QUAL VOL acre-ft	0.21
CHAN PROT CTRL	No
CHAN PROT VOL acre-ft	0
SW/FLOOD CONTROL	Yes
GEOTECH REPORT	Yes

CTRL STRUC DESC	Triple Alum
CTRL STRUC SIZE inches	48
OTLT BARRL DESC	RCP
OTLT BARRL SIZE inch	30
EMERG SPILLWAY	No
DESIGN HW ELEV	96.95
PERM POOL ELEV	na
2-YR OUTFLOW cfs	11.36
10-YR OUTFLOW cfs	37.82
REC DRAWING	Yes
CONSTR CERTIF	No

LAST INSP DATE 4/14/2003 Inspected by:

INTERNAL RATING 3

MISC/COMMENTS

Underground oversized Infiltration Pipes, 24 x 135 x 7, perf aluminized type 2.

Additional Comments: