

No.	DATE	REVISION / COMMENT	BY
1	4/7/03	REVISION PER JCC COMMENTS DATED 5/04	WMB
2	5/17/04	REVISION PER JCC COMMENTS DATED 5/04	WMB
3	8/17/04	REVISED FOR RETAINING WALL STAIRS (SHEETS 6, 9 & 10)	WMB
4	6/5/05	AMENDED FOR BUILDING AND BMP MODIFICATION	WMB
5	3/6/06	AMENDED - REV PER JCC COMMENTS DATED 1/05	WMB



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



STORMWATER MANAGEMENT FACILITY

**WINDSORMEADE
CONSULTING ENGINEERS**

WINDSOR HALL CONSTRUCTION PLAN

BERKELEY DISTRICT JAMES CITY COUNTY VIRGINIA

Designed JAG	Drawn JAG
Scale 1" = 25'	Date 5/3/05
Project No. 8818-06	
Drawing No. 20	

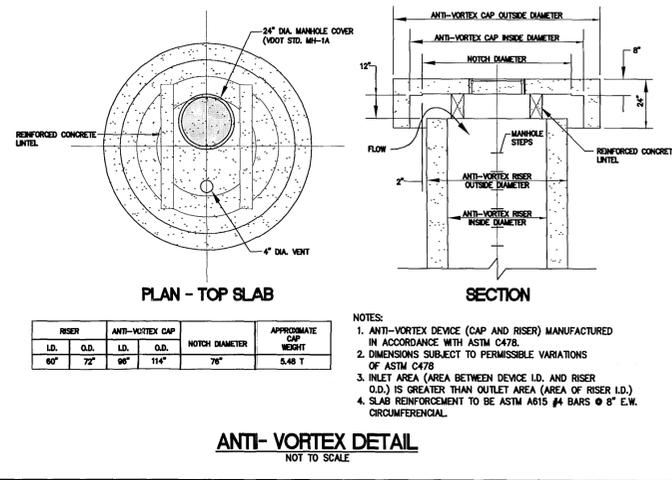
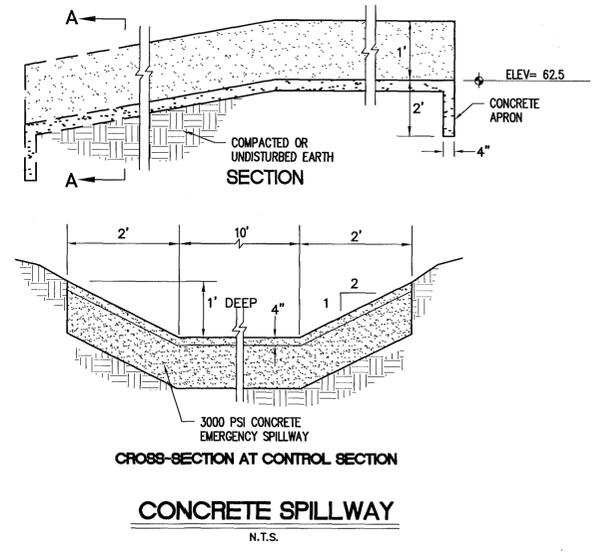
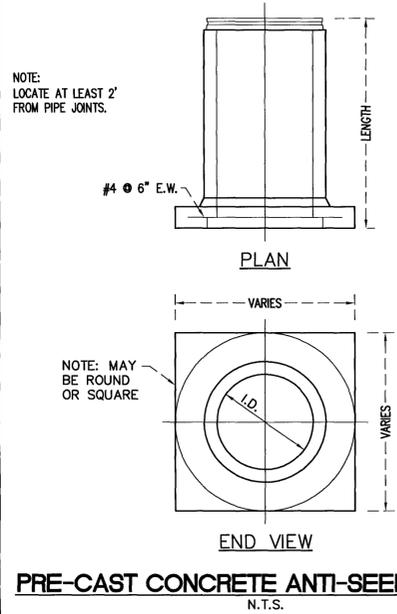
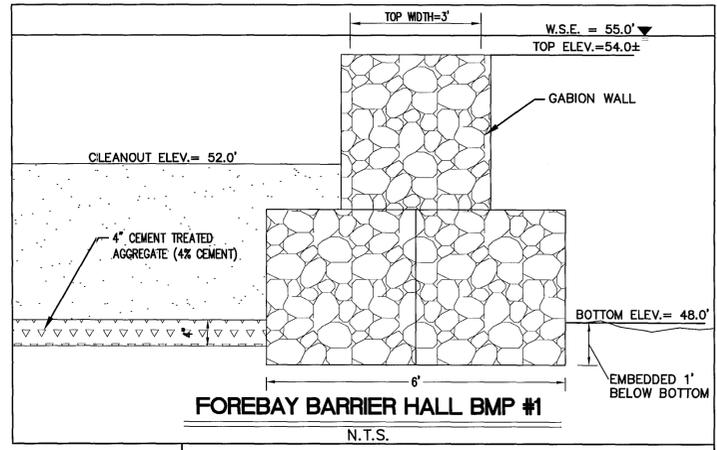
S:\Info\05\05\05\WMB\Windsor_Hall\dwg\Technical\Revised_Site\Carolina\808C20.DWG, 3/7/2006 1:46:45 PM, gvc

GENERAL NOTES FOR CONSTRUCTION OF STORMWATER BASINS

1. THE CONTRACTOR SHALL PROVIDE ALL WORK AND MATERIALS NEEDED TO CONSTRUCT THE STORMWATER BASIN, STORMWATER MANAGEMENT PONDS, BEST MANAGEMENT PRACTICES, SEDIMENT BASINS AND SEDIMENT TRAPS. THE WORK SHALL INCLUDE ALL LABOR, EQUIPMENT AND MATERIALS NEEDED FOR THE COMPLETION OF GRADING AND EARTHWORK ASSOCIATED WITH THE CONSTRUCTION.
2. THE CONTRACTOR SHALL CONSULT AND PROVIDE FOR THE SERVICES OF A GEOTECHNICAL ENGINEER. THE GEOTECHNICAL ENGINEER SHALL PROVIDE TEST RESULTS ON PLACED DAM MATERIALS, IDENTIFYING SOIL CLASSIFICATION, PERMEABILITY, PLASTICITY INDEX, AND COMPACTION. ALL TESTS SHALL BE IN CONFORMANCE WITH ASTM STANDARDS. THE COST OF THE SERVICES OF THE GEOTECHNICAL ENGINEER SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. SATISFACTORY GEOTECHNICAL RESULTS ARE NEEDED PRIOR TO FINAL APPROVAL.
3. ALL INSPECTIONS REQUIRED FOR THE WORK SHALL BE PERFORMED BY A GEOTECHNICAL ENGINEER AT THE EXPENSE OF THE GENERAL CONTRACTOR.
4. ON-SITE EXCAVATED MATERIAL, IF DETERMINED SUITABLE FOR USE IN DAM CONSTRUCTION BY A GEOTECHNICAL ENGINEER, MAY BE USED FOR DAM CONSTRUCTION. SHOULD ADDITIONAL MATERIAL BE REQUIRED, THE CONTRACTOR SHALL IDENTIFY THE NEED FOR MATERIAL TO THE OWNER, AS ADDITIONAL BORROW MATERIAL MAY BE AVAILABLE ON-SITE. ALL EXCAVATED MATERIAL DETERMINED BY THE GEOTECHNICAL ENGINEER TO BE UNSUITABLE SHALL BE DISPOSED OF PROPERLY AT THE CONTRACTOR'S EXPENSE. ALL EXCAVATED MATERIAL NOT REQUIRED FOR BACKFILLING SHALL EITHER BE DEPOSITED ON SITE AND SPREAD BY THE CONTRACTOR, OR SHALL BE DEPOSITED IN ANOTHER AREA ON THE SITE AS DIRECTED BY THE OWNER. THE CONTRACTOR SHALL PROVIDE PROPER STABILIZATION, AND EROSION AND SEDIMENT CONTROL MEASURES AS MAY BE REQUIRED TO CONTROL EROSION AND SEDIMENTATION AT EARTHWORK AND STOCKPILE LOCATIONS PER THE VESCH THIRD EDITION.
5. UNDERCUT FOR THE FOUNDATION OF THE DAM EMBANKMENT SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEER'S RECOMMENDATION. THE FOUNDATION SHALL BE BACKFILLED WITH SOILS CLASSIFIED AS SM, SC, OR CL UNDER THE UNIFIED SOIL CLASSIFICATION SYSTEM, UNLESS OTHERWISE RECOMMENDED BY THE GEOTECHNICAL ENGINEER. SOILS SHALL HAVE A MINIMUM OF 15% BY WEIGHT FINES, HAVING A PLASTICITY INDEX OF 30% AND A PERMEABILITY OF 0.0004 IN/SEC, OR LESS. FILL SHALL BE COMPACTED IN 12-INCH LIFTS, OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER, TO A DRY DENSITY OF 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D-698). EXCAVATION FOR THE DAM KEY SHALL BE IN ACCORDANCE TO THE GEOTECHNICAL ENGINEER'S RECOMMENDATION. HEIGHT, DEPTH, AND WIDTH OF THE KEY SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS. THE KEY SHALL BE FORMED USING SOILS CLASSIFIED AS SC OR CL, WITH A PERMEABILITY OF 0.0004 IN/SEC, OR LESS, UNLESS OTHERWISE DIRECTED BY THE GEOTECHNICAL ENGINEER.
6. THE DAM CORE SHALL BE AS CONSTRUCTED WITH NON-EXPANSIVE SC OR CL CLAYEY MATERIAL WITH PERMEABILITY OF 0.0004 IN/SEC OR LESS. THE FILL OF THE CORE SHALL BE MADE IN 12-INCH LIFTS, OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER, TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D-698). SIZE, SHAPE, WIDTH, DEPTH, AND HEIGHT OF THE DAM CORE SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS. TO COVER THE DAM CORE, A SILTY FINE SAND OR CLAYEY SOIL (SM, SC, OR CL) SHALL BE PLACED. A VEGETATIVE COVER USING VDOT EC-2 EROSION CONTROL BLANKETS SHALL BE PLACED ON DAM SLOPES AND CREST TO PREVENT EROSION.
7. UPON COMPLETION, THE CONSTRUCTION OF THE DAM WILL BE CERTIFIED BY A GEOTECHNICAL ENGINEER WHO HAS INSPECTED THE STRUCTURE DURING CONSTRUCTION.
8. A RECORD DRAWING (AS-BUILT) SHALL BE SUBMITTED, REVIEWED, AND APPROVED PRIOR TO RELEASE OF THE POSTED BOND / SURETY.

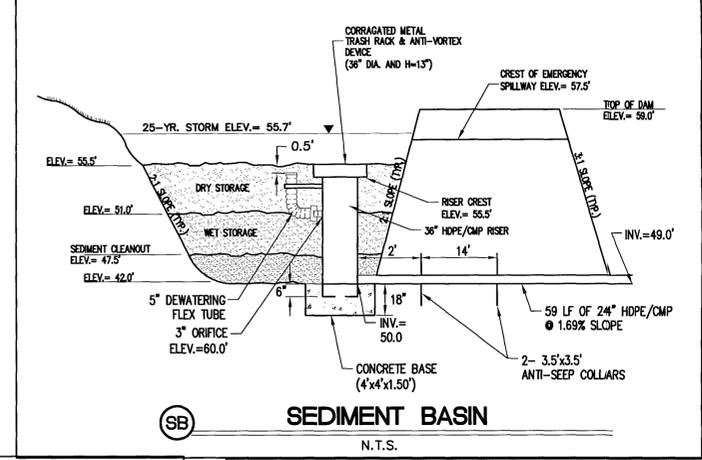
STORMWATER MANAGEMENT/ BMP FACILITY MAINTENANCE PLAN

- PROPER MAINTENANCE OF THIS FACILITY IS ENCOURAGED TO PREVENT THE INTRODUCTION OF DEBRIS AND SEDIMENT INTO THE FACILITY, SPILLWAY(S) AND DOWNSTREAM WATERWAYS. FOLLOWING INSTALLATION OF THE FACILITY AND ESTABLISHMENT OF VEGETATION IN DISTURBED AREAS, INSPECTIONS FOR SEDIMENT BUILDUPS WILL BE PERFORMED AT LEAST QUARTERLY. IT IS ANTICIPATED THAT UNDER NORMAL CONDITIONS, SEDIMENT REMOVAL FROM THE FACILITY WILL BE REQUIRED ONCE EVERY TO YEARS. IF OTHER CONSTRUCTION OR RELATED ACTIVITIES ARE PERFORMED ON UP-SLOPE PARCELS, ADEQUATE PROTECTION SHOULD BE PROVIDED AND INSPECTIONS PERFORMED AT LEAST ONCE WEEKLY OF THESE NEWLY DISTURBED AREAS AS WELL AS INSPECTIONS FOR ACCUMULATED SEDIMENTS AT THE BMP FACILITY.
- A DESIGNATED REPRESENTATIVE OF THE OWNER WILL INSPECT THE BMP STRUCTURE AFTER EACH SIGNIFICANT RAINFALL EVENT OR THE FOLLOWING WORKING DAY IF A WEEKEND OR HOLIDAY OCCURS. A SIGNIFICANT RAINFALL FOR THIS STRUCTURE IS DEFINED AS ONE (1) INCH OR MORE OF GAUGED RAINFALL WITHIN A 24 HOUR PERIOD. ONCE PER YEAR, A REPRESENTATIVE OF THE COUNTY MAY JOINTLY INSPECT THE STRUCTURE. APPROPRIATE ACTION, PERFORMED AT THE COST OF THE OWNER, WILL BE TAKEN TO ENSURE APPROPRIATE MAINTENANCE KEYS TO LOCKED ACCESS POINTS SHALL BE MADE AVAILABLE TO COUNTY INSPECTION PERSONNEL UPON REQUEST. INSPECTION AND MAINTENANCE OF THE FACILITY WILL CONSIST OF THE FOLLOWING ADDITIONAL MEASURES:
1. THE INSPECTION FOR SEDIMENT BUILDUP WILL BE PERFORMED BY VISUAL INSPECTION AND A PHYSICAL DETERMINATION OF SEDIMENT DEPTH WITHIN THE STORAGE AREA. SEDIMENT REMOVAL IS REQUIRED USING A RUBBER-WHEELED BACKHOE, AT THE SAME TIME, OR AT LEAST ONCE PER YEAR, THE RISER BOTTOM AND OUTLET PIPE SHALL BE CLEARED OF ACCUMULATED SEDIMENTS. DISPOSE OF SEDIMENTS REMOVED FROM THE FACILITY AT AN ACCEPTABLE DISPOSAL AREA. SEDIMENT SHALL NOT BE ALLOWED TO ACCUMULATE IN DEPTHS GREATER THAN 1-FOOT. NO SEDIMENT SHALL BE ALLOWED TO ACCUMULATE TO PREVENT THE PROPER FUNCTION OF ANY PIPE OR COLLECTOR.
 2. PERFORM MAINTENANCE MOWING OF GRASSED AREAS AT LEAST TWICE EACH YEAR. GRASSES SUCH AS TALL FESCUE SHOULD BE MOWED IN EARLY SUMMER AFTER EMERGENCE OF THE HEADS ON COOL SEASON GRASSES AND IN LATE FALL TO PREVENT SEEDS OF ANNUAL WEEDS FROM MATURING. MOWING OF LEGUMES CAN BE LESS FREQUENT. TREES AND SHRUBS SHOULD NOT BE PERMITTED TO GROW ON ANY PART OF THE GRADED EMBANKMENT.
 3. PERFORM SOIL SAMPLING ON STABILIZED BMP SOIL AREAS ONCE EVERY FOUR (4) YEARS. SOIL SAMPLING AND TESTING SHOULD BE PERFORMED BY A QUALIFIED INDEPENDENT TESTING LABORATORY. APPLY ADDITIONAL LIME AND FERTILIZER IN ACCORDANCE WITH TEST RECOMMENDATIONS.
 4. IN STABILIZED BMP AREAS, IF VEGETATION COVERS LESS THAN 40% FERTILIZE AND SEED IN ACCORDANCE WITH RECOMMENDATIONS FOR NEW SEEDINGS, AS LISTED IN DAM CONSTRUCTION NOTES. IF VEGETATION COVERS MORE THAN 40% SURFACES, LIME FERTILIZE AND OVERSEED IN ACCORDANCE WITH CURRENT SEEDING RECOMMENDATIONS.
 5. PERFORM QUARTERLY INSPECTIONS OF THE RELEASE STRUCTURES, RISER SECTION AND CREST OF SPILLWAY FOR THE OBSERVANCE OF COLLECTED DEBRIS. IMMEDIATELY REMOVE ANY DEBRIS TO MAINTAIN THE INTEGRITY OF THE STRUCTURE AND PROVIDE AN ATTRACTIVE APPEARANCE. DURING QUARTERLY INSPECTIONS, THE POND DRAIN VALVE, USUALLY LEFT IN THE VALVE "CLOSED" POSITION, SHALL BE INSPECTED AND OPERATED THROUGH TWO COMPLETE FULL-OPEN TO FULL-CLOSE TO FULL-OPEN CYCLES.
 6. PERFORM YEARLY STRUCTURAL INSPECTIONS OF THE FACILITY FOR DAMAGE. STRUCTURAL INSPECTION SHALL BE PERFORMED ON THE CONCRETE RISER, ANTI-VORTEX DEVICE, TRASH RACK, ORIFICE/WEIR(S), OUTLET BARREL AND POND EMBANKMENT. IF DAMAGE IS EVIDENT, FURTHER INVESTIGATION BY A PROFESSIONAL ENGINEER MAY BE REQUIRED TO ASSESS THE CONTINUED INTEGRITY OF THE STRUCTURE.
 7. PERFORM QUARTERLY INSPECTIONS OF THE GRADED SIDE SLOPES OF THE FACILITY FOR SIGNS OF ANIMAL/ROBBER BORROWS OR SLOPE EROSION. IMMEDIATELY PERFORM NECESSARY REPAIRS, REFILLING OR RESEEDING AS APPROPRIATE.
 8. RECORD KEEPING. THE LANDOWNER OR DESIGNATED REPRESENTATIVE SHALL KEEP REASONABLE, ACCURATE WRITTEN RECORDS OR INSPECTIONS PERFORMED FOR THE STRUCTURE. RECORDS SHALL DOCUMENT ROUTINE MAINTENANCE AND/OR REPAIRS PERFORMED. COPIES SHALL BE PROVIDED TO THE COUNTY UPON REQUEST.
 9. THE FACILITY SHALL NOT BE MODIFIED IN ANY WAY WITHOUT PRIOR CONSENT/APPROVAL OF THE COUNTY.

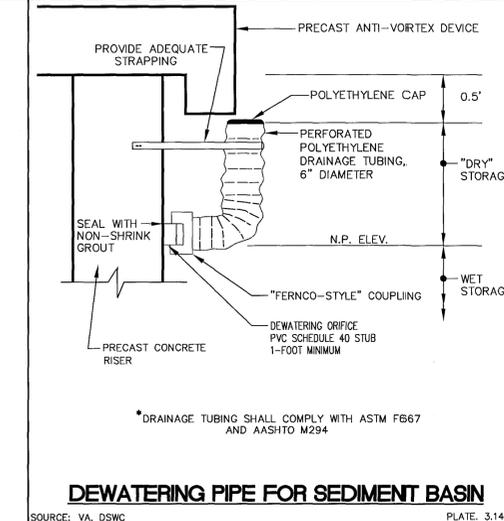
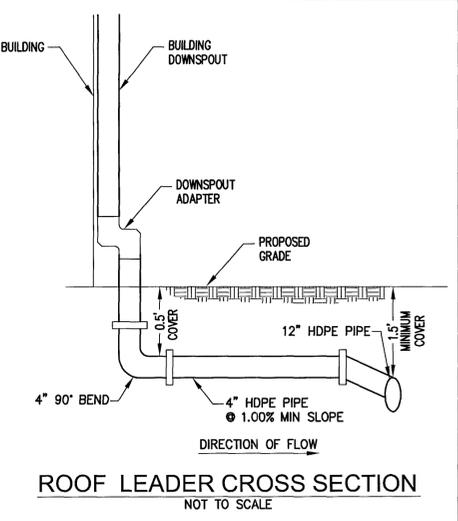
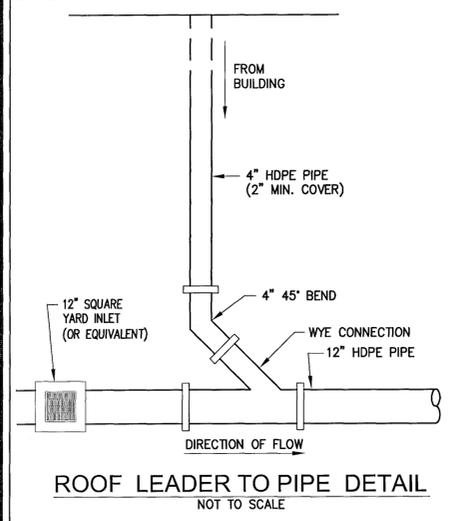
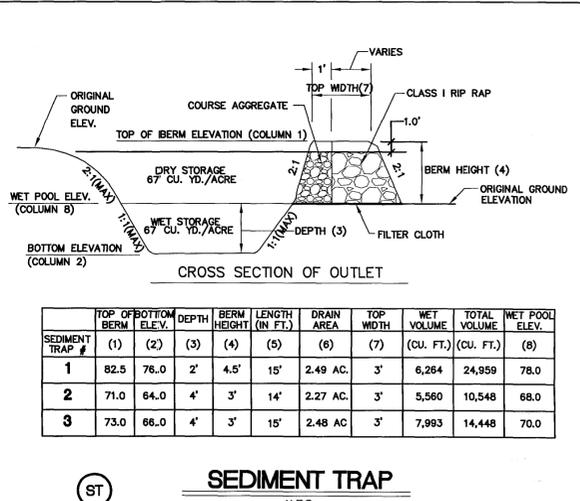
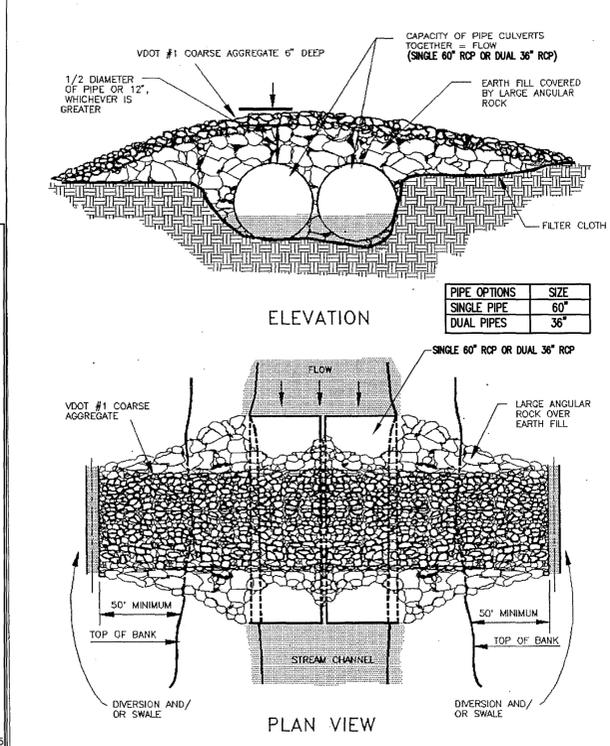


CONVERSION OF SEDIMENT BASIN INTO BMP FACILITIES

HALL BMP #1 WILL BE CONSTRUCTED PRIOR TO SITE GRADING AS OUTLINED IN THE SEQUENCE OF CONSTRUCTION. HALL BMP #2 WILL INITIALLY BE CONSTRUCTED AS SEDIMENT BASIN WHICH WILL REQUIRE REGRADING AT THE TIME OF THE ROAD OF CONSTRUCTION. BOTH HALL BMP #1 & #2 SHALL FUNCTION AS SEDIMENT TRAPPING FEATURES UNTIL SUCH TIME THAT J.C.C. ENVIRONMENTAL DIVISION GIVES CONCURRENT TO MODIFY THE SEDIMENT BASINS, ANY EXCESS EARTH OR SEDIMENT SHALL BE REMOVED AND DISPOSED OF BY CONTRACTOR. POND CONTOURS SHALL BE REGRADED TO FINAL DESIGN (PER PLANS). THE RIP-RAP FOREBAY SHALL BE MONITORED FOR SEDIMENT BUILDUP THROUGHOUT THE CONSTRUCTION PROCESS AND AFTER CONSTRUCTION.



TEMPORARY CULVERT CROSSING



NO.	DATE	REVISION / COMMENT / NOTE
1	4/2/03	REVISION PER ACC COMMENTS DATED 2/04
2	5/14/04	REVISION PER ACC COMMENTS DATED 5/04
3	8/12/04	REVISED FOR RETAINING WALL STAIRS (SHEETS 6, 9 & 16)
4	6/2/05	AMENDED FOR BUILDING AND BMP MODIFICATION
5	3/6/06	AMENDED- REV PER ACC COMMENTS DATED 1/06



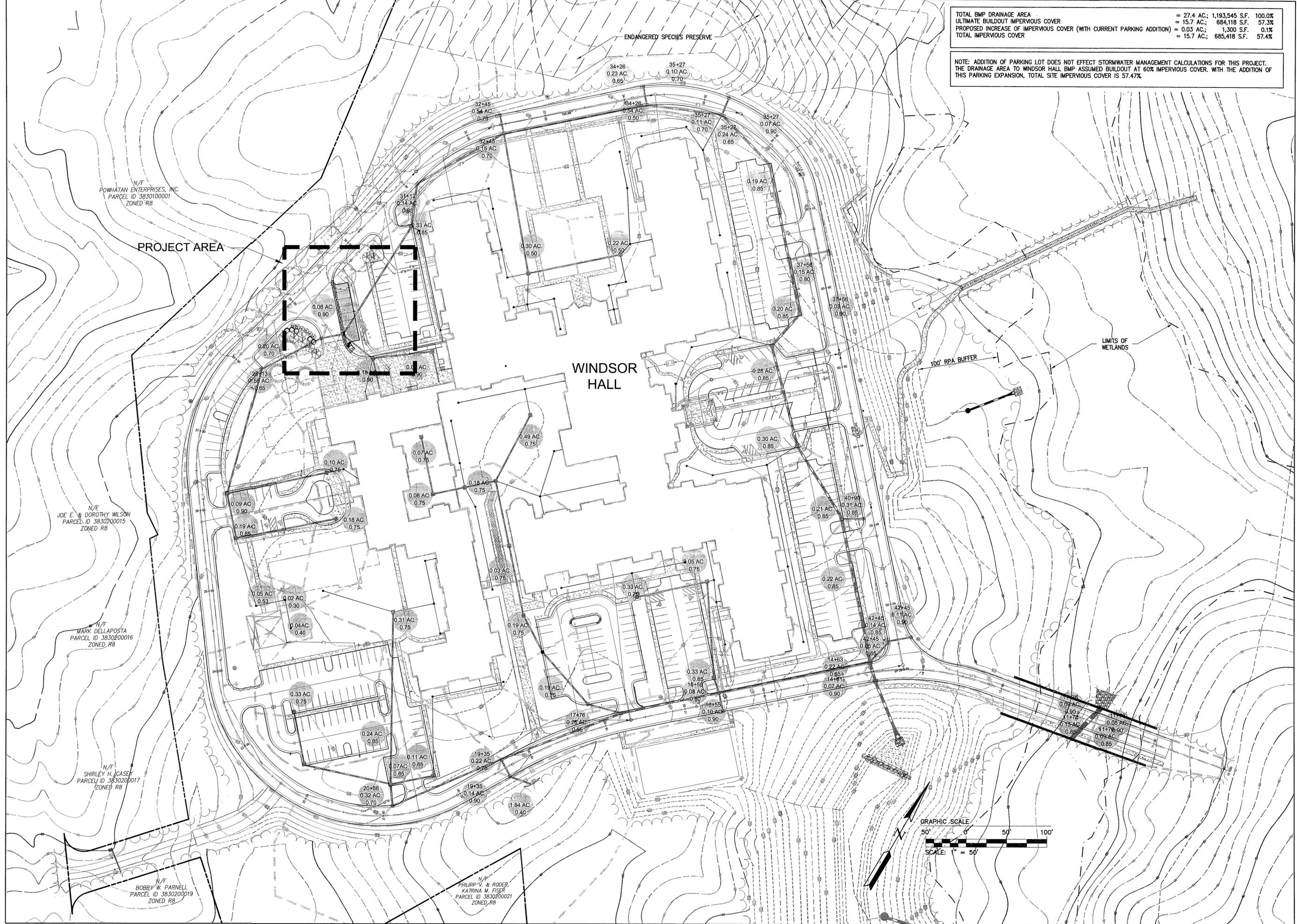
5248 Old Towne Road, Suite 1
Williamsburg, Virginia 23188
(757) 253-0040
Fax (757) 220-8994



EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT DETAILS
WINDSORHALL-CONSTRUCTION PLAN
JAMES CITY COUNTY, VIRGINIA
BERKELEY DISTRICT
Designed JAG
Scale 1"=25'
Project No. 8818-06
Drawing No. 25

TOTAL BMP DRAINAGE AREA	= 27.4 AC;	1,193,545 S.F.	100.0%
ULTIMATE BUILDOUT IMPERVIOUS COVER	= 15.7 AC;	684,118 S.F.	57.3%
PROPOSED INCREASE OF IMPERVIOUS COVER (WITH CURRENT PARKING ADDITION)	= 0.03 AC;	1,300 S.F.	0.1%
TOTAL IMPERVIOUS COVER	= 15.7 AC;	685,418 S.F.	57.4%

NOTE: ADDITION OF PARKING LOT DOES NOT EFFECT STORMWATER MANAGEMENT CALCULATIONS FOR THIS PROJECT. THE DRAINAGE AREA TO WINDSOR HALL BMP ASSUMED BUILDOUT AT 60% IMPERVIOUS COVER. WITH THE ADDITION OF THIS PARKING EXPANSION, TOTAL SITE IMPERVIOUS COVER IS 57.47%.



Revised By	
Date	
Rev.	
Description	



5248 Old Towne Road, Suite 1
 Williamsburg, Virginia 23188
 Phone: (757) 263-0940
 Fax: (757) 263-0950
 www.aiesva.com

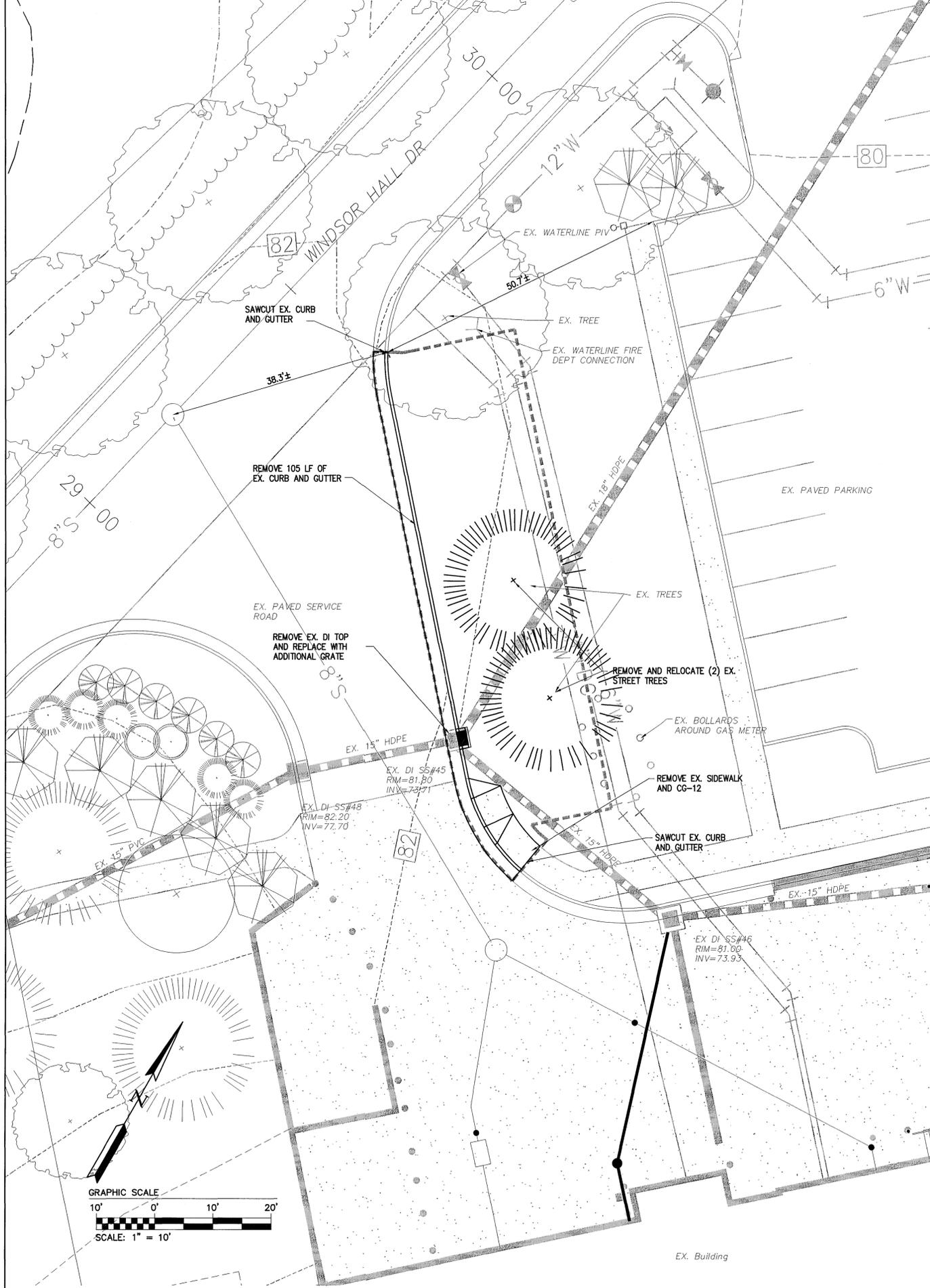
AIES
 CONSULTING ENGINEERS
 Hampton Roads | Central Virginia | Middle Peninsula

ADDITIONAL PARKING SPACES

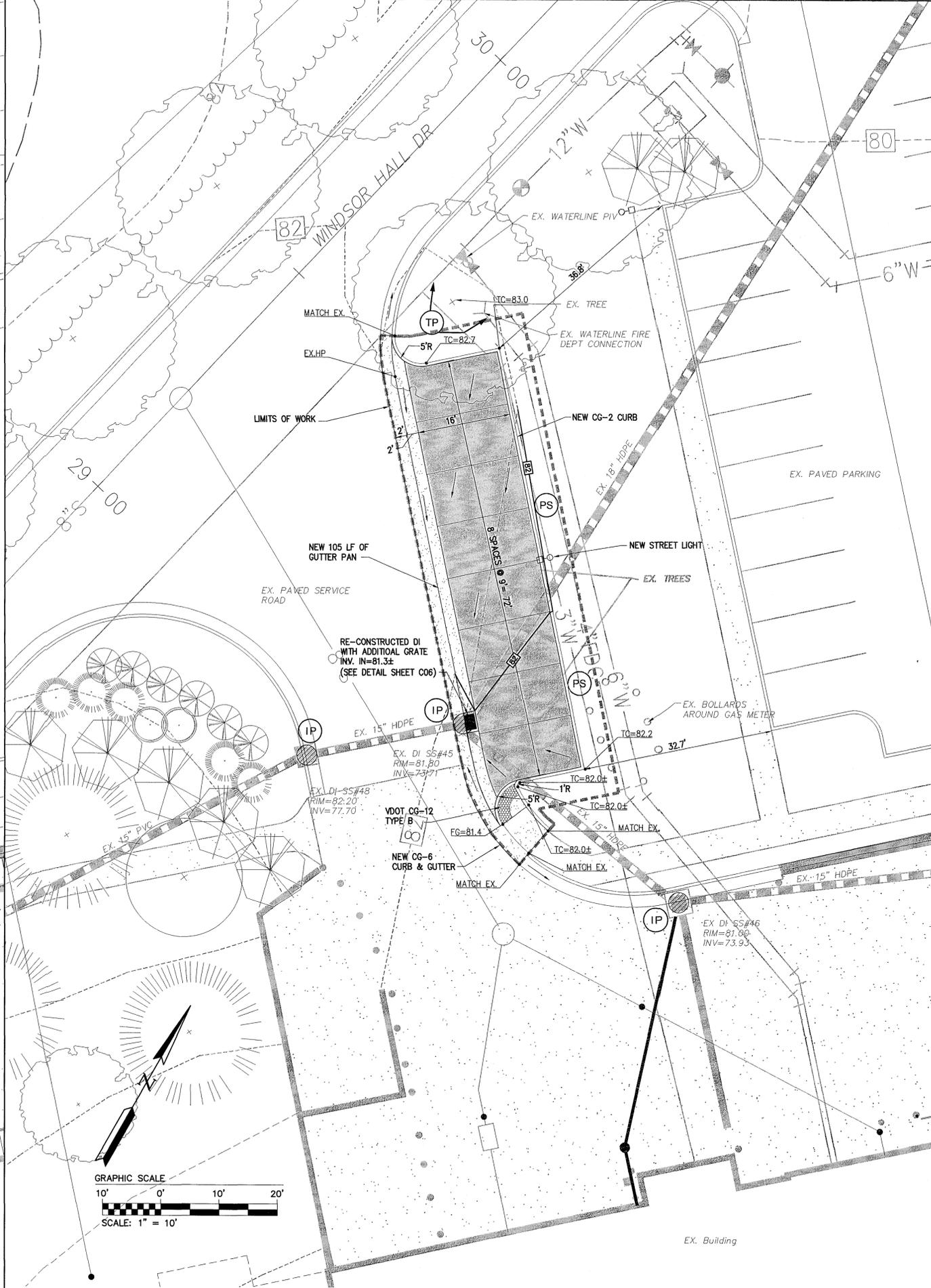
WINDSOR MEADE
Of Williamsburg

BERKLEY DISTRICT | JAMES CITY COUNTY | VIRGINIA

Project Contacts:	LBA
Project Number:	WB818-09
Scale:	Date:
1"=50'	4/9/12
Sheet Title:	
OVERALL DRAINAGE PLAN	
Sheet Number	
C03	



DEMOLITION PLAN



LAYOUT AND E&S PLAN

Rev.	Date	Description



ABS
CONSULTING ENGINEERS
Hampton Roads | Central Virginia | Middle Peninsula

6248 Old Town Road, Suite 1
Williamsburg, Virginia 23188
Phone: (757) 233-0040
Fax: (757) 222-0584
www.absva.com

WINDSORMEADE
Of Williamsburg

ADDITIONAL PARKING SPACES

BENKLEY DISTRICT | JAMES CITY COUNTY | VIRGINIA

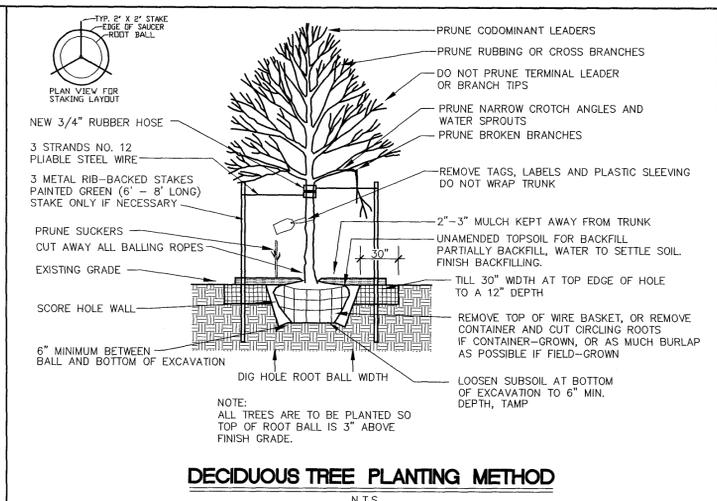
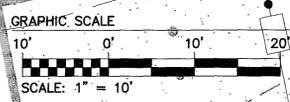
Project Contacts: LBA
Project Number: W8818-09
Scale: 1"=10'
Date: 4/9/12

Sheet Title:
DEMOLITION & LAYOUT PLAN

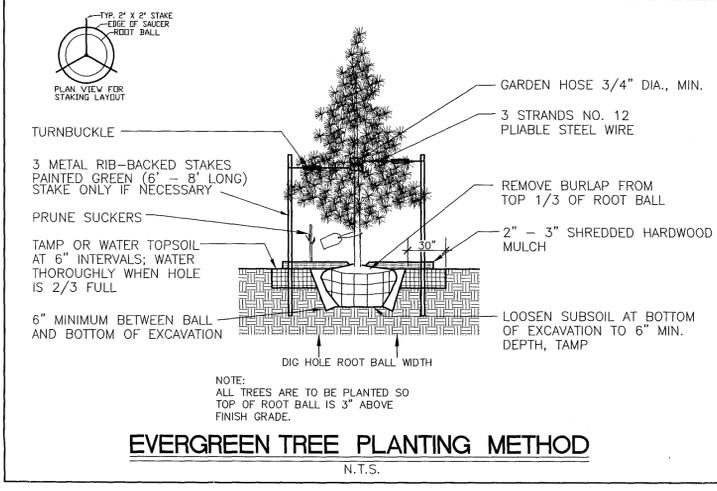
Sheet Number
C04



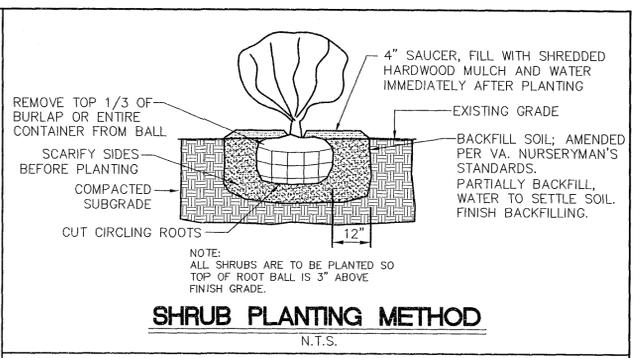
LANDSCAPING & LIGHTING PLAN



DECIDUOUS TREE PLANTING METHOD



EVERGREEN TREE PLANTING METHOD



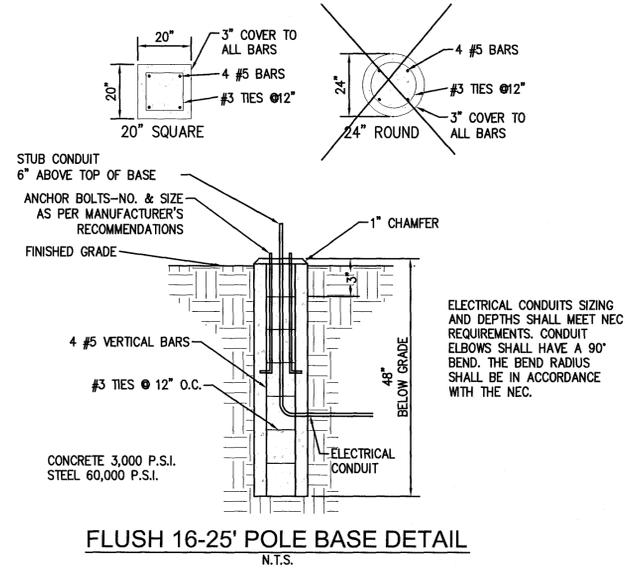
SHRUB PLANTING METHOD

LANDSCAPE REQUIREMENTS (BASED ON JAMES CITY COUNTY MIN. STANDARDS)

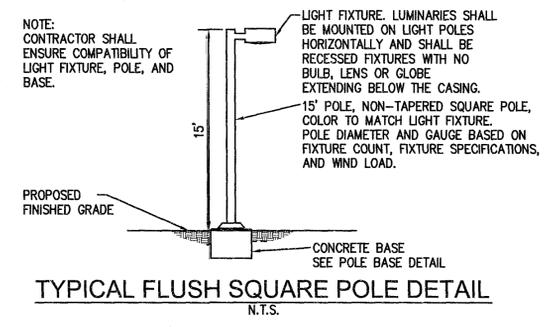
AREAS	COUNTY REQ	TOTAL QTY PROVIDED	TREES AND SHRUBS RATIO	MIN. NUMBER REQUIRED	NEW PLANTINGS PROVIDED
LANDSCAPE YARD				2 TREES 4 SHRUBS	1 TREE 9 SHRUBS
PARKING LOT	SEE PARKING TABULATIONS ON COVER SHEET.	8 SPACES	1 TREE: 5 SPACES AND 2 SHRUBS: 5 SPACES	1 US EVERGREEN 1 DECID SHADE 4 EVERGREEN	1 TREE 9 SHRUBS

PLANT SCHEDULE

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	COMMENT
TREES: AR	1	ACER RUBRUM 'RED SUNSET'	'RED SUNSET' RED MAPLE	1-1/2" CAL	B & B	SINGLE STEM
SHRUBS: JPK	9	JUNIPERUS PFITZERIANA 'KELLY'S COMPACT'	COMPACT PFITZER JUNIPER	18" HT.	CONT.	DENSE, FULL



FLUSH 16-25' POLE BASE DETAIL



TYPICAL FLUSH SQUARE POLE DETAIL

Rev.	Date	Description



5246 Old Towne Road, Suite 1
Williamsburg, Virginia 23188
Phone: (757) 228-9840
Fax: (757) 228-9844
www.abe.com

ABE
CONSULTING ENGINEERS

Hampton Roads | Central Virginia | Middle Peninsula

ADDITIONAL PARKING SPACES

WINDSORMEADE
of Williamsburg

BERKLEY DISTRICT | JAMES CITY COUNTY | VIRGINIA

Project Contacts: LBA
Project Number: W8918-09
Scale: AS NOTED
Date: 4/9/12

Sheet Title:
LANDSCAPE AND DETAILS

Sheet Number
C05

