

TOWN OF HAYMARKET PLANNING COMMISSION PUBLIC HEARING/REGULAR MEETING ~ AGENDA ~

Emily Kyriazi, Town Planner http://www.townofhaymarket.org/ 15000 Washington Street, Suite 100 Haymarket, VA 20169

Tuesday, June 20, 2023

7:00 PM

Council Chambers

I. Call To Order

II. Pledge of Allegiance

III. Public Hearing

- **1. Public Notice**
- 2. Citizen Comments
- 3. Close Public Hearing

IV. Citizens Time

V. Minute Approval

1. Planning Commission - Public Hearing/Regular Meeting - May 15, 2023 7:00 PM

VI. Agenda Items

- 1. Consideration of Resolution #2023-007
- 2. CIP Review and Recommendation to Town Council
- 3. Kiddie Academy Site Plans Crossroads Village Center

VII. Old Business

1. R-2 Zoning Text Discussion

VIII. New Business

IX. Architectural Review Board Updates

X. Town Council Updates

XI. Adjournment

TOWN OF HAYMARKET NOTICE OF PUBLIC HEARING FOR GENERAL CIRCULATION

Notice is hereby given that the Planning Commission of the Town of Haymarket will hold a Public Hearing on Tuesday, June 20, 2023 at 7:00 P.M. in the Haymarket Town Hall located at 15000 Washington Street, Suite 100, Haymarket, Virginia, to consider the adoption of general and comprehensive amendments to the Town Comprehensive Plan. The proposed amendments include updating the potential soil erosion hazards map in the appendix of the Town Comprehensive Plan.

The Comprehensive Plan draft is available on the Town's website (www.townofhaymarket.org) and for review at Town Hall located at 15000 Washington Street, between the hours of 9:00 A.M. and 4:00 P.M. Monday – Friday, phone 703-753-2600. All meetings are open to the public. The Town of Haymarket does not discriminate on the basis of disability in admission or access to its programs and activities. The location of this public hearing is believed to be accessible to persons with disabilities. Any person with questions on the accessibility of the facility should contact the Town Clerk at the above address or by telephone at the above number.

If you wish to comment but cannot attend the public hearing, please send your comments to the Clerk of the Council, Kim Henry, by June 20, 2023 at 4:00 pm, via email <u>Khenry@townofhaymarket.org</u> or via mail, 15000 Washington Street, Ste. 100, Haymarket, VA 20169.



TOWN OF HAYMARKET PLANNING COMMISSION

PUBLIC HEARING/REGULAR MEETING ~ MINUTES ~

Emily Kyriazi, Town Planner http://www.townofhaymarket.org/		15000 Washington Street, Suite 100 Haymarket, VA 20169
Monday, May 15, 2023	7:00 PM	Council Chambers

A Public Hearing/Regular Meeting of the Planning Commission of the Town of Haymarket, VA, was held this evening in the Council Chambers, commencing at 7:00 PM.

Chairman Alexander Beyene called the meeting to order.

I. Call To Order

Commissioner Robert Hallet: Present, Chairman Alexander Beyene: Present, Commissioner Sandy Freeman: Present, Commissioner Jerome Gonzalez: Present.

II. Pledge of Allegiance

Chairman Alexander Beyene invited everyone to stand for the Pledge of Allegiance.

III. Public Hearing

1. Public Notice

Town Clerk Kim Henry read the Public Notice into the record.

2. Public Comment

There were no citizens present at this meeting.

3. Close Public Hearing

With no citizens present, Chairman Beyene closed the public hearing.

IV. Citizen's Time

There were no citizens present at this evening's meeting.

V. Minute Approval

1. Planning Commission - Regular Meeting - Apr 17, 2023 7:00 PM Commissioner Hallet moved to accept the minutes from the Planning Commission meeting on April 17, 2023. Commissioner Freeman seconded the motion. The motion carried.

RESULT:	ACCEPTED [UNANIMOUS]
MOVER:	Robert Hallet, Commissioner
SECONDER:	Sandy Freeman, Commissioner
AYES:	Robert Hallet, Alexander Beyene, Sandy Freeman, Jerome Gonzalez

VI. Agenda Items

1. Consideration of Comprehensive Plan Amendment

Town Planner Thomas Britt provided information on the subject of the Comprehensive Plan Amendment. He shared that the amendment was a requirement from the Department of Environmental Quality on soil erosion.

Commissioner Freeman moved to adopt Resolution #2023-006 as presented. Commissioner Gonzalez seconded the motion. The motion carried by a roll call vote.

RESULT:	ADOPTED [UNANIMOUS]
MOVER:	Sandy Freeman, Commissioner
SECONDER:	Jerome Gonzalez, Commissioner
AYES:	Robert Hallet, Alexander Beyene, Sandy Freeman, Jerome Gonzalez

2. Soil Erosion Map Update

5.1

5.1

Town Planner Thomas Britt shared that he was bringing the Soil Erosion Hazard Map back to the Planning Commission that was reviewed at the April meeting. He stated that it was requested that a more clear and bigger font legend be provided. Mr. Britt provided the updated changes and requested that the Planning Commission direct staff to proceed with a public notice.

3. Motion for Public Notice

Commissioner Gonzalez moved that the Planning Commission put notice for a public hearing towards the adoption of potential soil hazards expanded map. Commissioner Hallet seconded the motion. The motion carried.

RESULT:	ADOPTED [UNANIMOUS]
MOVER:	Jerome Gonzalez, Commissioner
SECONDER:	Robert Hallet, Commissioner
AYES:	Robert Hallet, Alexander Beyene, Sandy Freeman, Jerome Gonzalez

4. Land Use Chart

Town Planner Thomas Britt provided a copy of the land use chart and was is permissible by right and by special use permit. There was a discussion on the difference between utility service minor and utility service major and allowable uses. Mr. Britt read the definition of both from the definitions in the zoning ordinance. Town Manager Emily Kyriazi gave examples of a minor utility service within the Town. They also discussed the subject of a halfway house being permitted by special use. Mrs. Kyriazi read the definition of halfway house from the zoning ordinance. A discussion followed on the subject. The Planning Commission discussed other uses such as garden centers, greenhouses, and drive thru restaurants by special use permit. Mrs. Kyriazi stated that these items should be left in the zoning ordinance for future abilities. She stated that the Planning Commission should not get into the practice of striking uses completely from the zoning ordinance just because you would no longer want it in the Town. She gave some examples of uses in the districts and provided a detailed explanation. She continued to state that with the zoning uses, the Town is not saying that they do or do not want a type of business in a particular district yet allowing a business the opportunity to have that type of use, if deemed necessary. She continued to state that the business would have to meet all the standards as set out in a special use permit and justify why a particular location is the best option for their business. She stated that at that point, the Planning Commission and Town Council would determine if that special use would be the best fit for the Town in a particular district. A discussion continued on the subject. Chairman Beyene asked that the Planning Commission review the land use chart for further discussion at the June meeting.

VII. Old Business

Town Planner Thomas Britt gave some updates during Old Business. He shared that the Town Center site plan has received engineer and outside agency approval. He also shared on a revision to the Crossroads Village Center site plans that dealt with utilities near the town homes and the emergency vehicle designation. He stated those items were given engineer approval and was recently signed off. Mr. Britt shared that staff is still waiting on second submission of the final site plans for Kiddie Academy and the town homes on Bleight drive before bringing those to the Planning Commission. He also shared that the staff received a new submission for a dentist office on a parcel adjacent to Crossroads Village Center. Mr. Britt stated that he is giving building releases for the town homes in Crossroads Village. He also gave the updates on the traffic signal activation process at the Crossroads Village Center entrance.

VIII. New Business

Mr. Britt shared that he and Town Manager Kyriazi are working together on drafting questionnaires for the Comprehensive Plan survey. Chairman Beyene asked Mrs. Kyriazi to share with the rest of the Planning Commission information that the Town received on the projected affordable housing development request coming from Prince William County. Mrs. Kyriazi stated that the Town received notification from Prince William County on a rezoning application that could affect the Town since one third of the project sits within the Town limits. She stated that the County submitted the application to the Town for a one mile review. Mrs. Kyriazi shared that this item has been before the Town Council for comments to be sent to the County. She continued to state that the applicant has just recently submitted a rezoning application to the Town for the portion that sits within the boundaries. She shared that staff will be reviewing the application for completeness. She shared that once she is assured that the application is complete, then

a series of public hearings will be held on the subject. Mrs. Kyriazi continued to share that the applicant sent an invitation to the surrounding property owners, excluding the Town, to a meeting to discuss the project. A discussion ensued on this projects and previous projects similar to this.

Minutes

IX. Architectural Review Board Updates

Town Manager Emily Kyriazi gave the Architectural Review Board updates. She shared that the Board is considering a demolition permit application and will be doing a site visit at their next meeting. She also shared that Kiddie Academy brought forth their building design architectural. She shared that they will be returning to the next meeting with an updated color scheme and elevation changes to the building. Mrs. Kyriazi also shared that Taco Bell resubmitted a sign application with a requested changes from an already approved sign permit. Lastly, she shared that Haymarket Storage sold their building and the new owners would be submitting a new sign permit application. A short discussion followed on the progress of the Lidl grocery store and Planet Fitness. Mr. Britt stated that he will follow up on both subjects.

X. Town Council Updates

Chairman Beyene gave the Town Council updates. He stated that the rezoning application that was just discussed was brought before the Town Council at their last meeting. He said that he wanted Mrs. Kyriazi to share the information with the Commission because it will come to them first in a public hearing. Mrs. Kyriazi shared the comments that the Town Council brought forth to submit to the Prince William County on the one mile review. A discussion followed on the subject.

XI. Adjournment

With no further business before the Planning Commission, Commissioner Hallet moved to adjourn with a second by Commissioner Freeman. The motion carried.

1. Motion to Adjourn

RESULT:	ADOPTED [UNANIMOUS]
MOVER:	Robert Hallet, Commissioner
SECONDER:	Sandy Freeman, Commissioner
AYES:	Robert Hallet, Alexander Beyene, Sandy Freeman, Jerome Gonzalez

Submitted:

Approved:

Kimberly Henry, Clerk of the Council

Alexander Beyene, Chairman

5.1



Town of Haymarket 15000 Washington Street, #100 Haymarket, VA 20169 703-753-2600

Thomas Britt Town Planner 6.1.a

MEMORANDUM

TO:Planning CommissionFROM:Thomas Britt, Town PlannerDATE:June 13, 2023SUBJECT:Comprehensive Plan Update

<u>Background</u>: As part of the Virginia DEQ's external review of the Town of Haymarket's compliance with required CBPA items, the DEQ recommended in January 2022 that the Town add a brief narrative to the existing potential soil hazards map found in the appendix of the Haymarket comprehensive plan. This narrative would provide more context for the potential soil hazards in Haymarket. Additionally, the Potential Erosion Hazards map required an update as the information hadn't been updated in a few years. Thomas Britt, the town planner for Haymarket, has written an updated narrative for the potential erosion hazards map and provided a map showing the potential erosion hazards in Haymarket.

The planning commission moved to hold a public hearing for the adoption of the new soil hazards map in the Town Comprehensive Plan in the May 15th Planning Commission Meeting. The Town has given public notice of the public hearing to be held on the June 20th Planning Commission Meeting.

<u>Response</u>: The Town Planner recommends the Planning Commission move to adopt RES #2023-007 the updated Erosion Hazards Map in the Town Comprehensive Plan.

Or an alternate motion.

6.1.b





CONSIDERATION OF AN AMENDMENT TO THE TOWN OF HAYMARKET, VIRGINIA, COMPREHENSIVE PLAN

RESOLUTION #2023-007

WHEREAS, in furtherance of the purposes of the Comprehensive Plan as set out in \$15.2-2229 of the Code of Virginia, the Town Council directed that, from time to time, the Planning Commission review and amend the Town of Haymarket Comprehensive Plan; and

WHEREAS, the Planning Commission held a public hearing on Tuesday, June 20, 2023 to hear citizens comments on the map amendment the Appendix of the Comprehensive Plan;

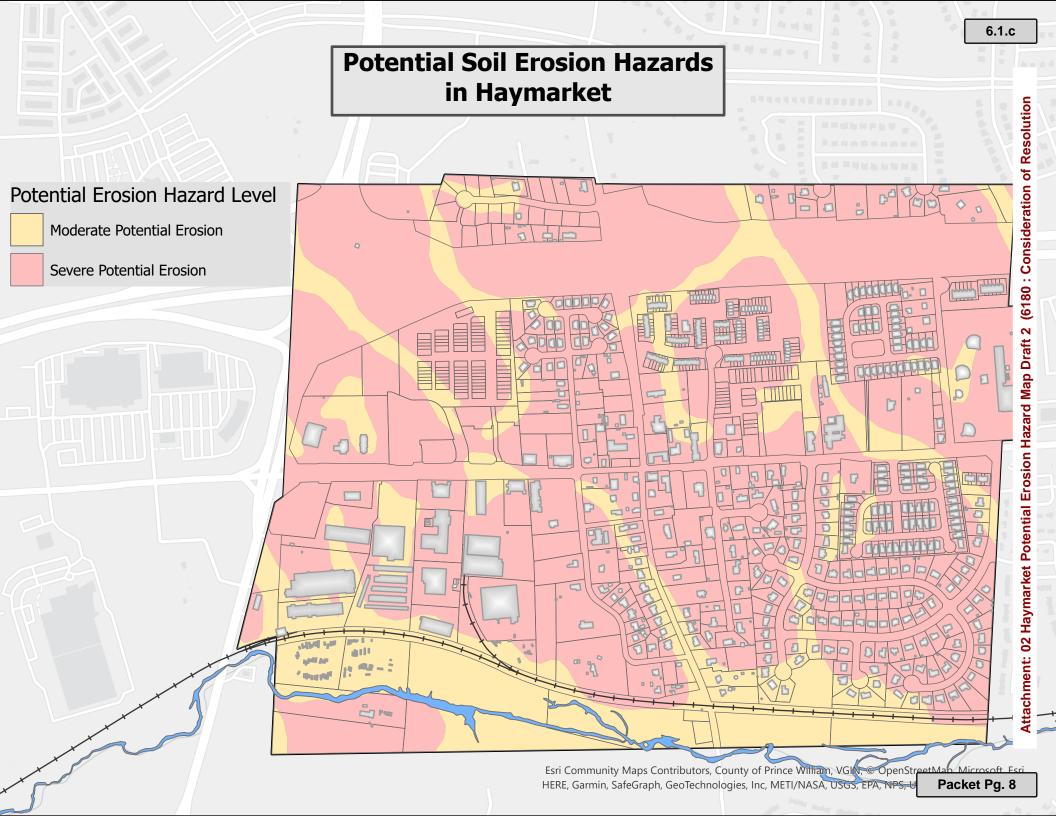
NOW, THEREFORE, BE IT RESOLVED that the Town of Haymarket Planning Commission adopt the map amendment to the of potential sediment and erosion hazards to the Town of Haymarket Comprehensive Plan.

Done this 20th day of June 2023

ATTEST:

Kimberly Henry, Town Clerk

Ayes: Nays: Absent: Abstain:





Town of Haymarket 2023 Through 2028 Capital Improvements Plan

		Town	Contribution	s]
ERGINIA	Current		Future	Years				
	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	Total Project Costs	Notes
GENERAL GOVERNMENT								
Nashington Street Beautification								
								Currently working on a Streetscape Inventory to better analy
								maintenance needs on the lightpoles. The anticipated maint
								needs include banner arm replacements, globe replacement
								numbering system, flag holder replacement. Staff is working
								determine if we can initiate a phased approach and recomm
								parts from other poles to instill a uniformed look throughout
treetlights (Repairs)		\$25,000	\$5,000	\$5,000	\$5,000	\$25,000	\$65,000	Town
								Proposed phase approach, starting with the older streetlight
Streetlight (Painting)			\$50,000				\$50,000	Fayette to Madison St blocks along Washington St
								Replacements of any dead street trees, bench replacement
								Washington Street determinant on the Streetscape Invent
								the general maintenance of the streetscape. Staff plans to in
								a quarterly maintenance review along the Streetscape to en
Street Trees, Planters, Street Beautification Projects		\$5,000		\$5,000		\$5,000	\$15,000	elements are well maintained throughout the year.
own Sidewalk (repairs)		\$50,000		\$50,000		\$50,000	\$150,000	on a 2 year plan; replacement\$
Crosswalk Improvements (Signage/Markings)		\$25,000	\$50,000		\$50,000		\$125,000	Chief Recommendation
Crosswalk Repair (Maintenance)						\$50,000	\$50,000	
Streets, Sidewalks, Parking								
laymarket Park Sidewalk to Bleight Drive		\$650,000	\$100,000				\$750,000	
Brick Sidewalk Replacement to Stamped Concrete			\$50,000	\$50,000	\$50,000	\$50,000		Phased Replacement of sidewalks throughout Town
efferson Street Turn Lane (Southbound Rte 625)			\$50,000	\$1,500,000			\$1,550,000	
efferson Street Turn Lane (Northbound Rte 625)				\$1,500,000	\$2,000,000		\$3,500,000	
own Center Property							-	
laster Plan Construction	\$250,000	\$50,000	\$250,000	\$250,000	\$1,000,000		\$1,800,000	
aymarket Community Park	-							
Renovations on the Community Center at Park	\$75,000	\$50,000					\$125,000	*Includes Exterior Bathroom Access
Aaster Plan							\$0	
Parking Improvements							\$0	
Town Signage	1			-	-	•	1	
Signage Above TH and PD Doors	\$10,000	\$10,000						Town Hall Signage is proposed to be completed by July 2023
	, .,						1	then fall into a routine maintenance schedule
Gateway Sign Program (Design, Engineering, Construction)		\$15,000	\$35,000	\$35,000			\$85,000	
Post & Panel Gateway Signs (Qty 2)		\$16,000					\$16,000	4
Quiet Zone	1	#450.000		#450.000	#050.000		¢550.000	4
Quiet Zone Implementation		\$150,000		\$150,000	\$250,000	l	\$550,000	4
	¢42.000	¢66.000	¢100.000	¢100.000			¢207.000	
olice Cruiser	\$43,000	\$66,000 \$6,000	\$109,000	\$109,000				PD vehicles;
PD Awning		1 - 7					\$6,000	
Admin Window		\$8,000					\$8,000	Ballistic window for main PD window lobby
Caboose Renovations		\$40,000					\$40.000	
		Φ40,000					\$40,000	



Town of Haymarket 15000 Washington Street, #100 Haymarket, VA 20169 703-753-2600

Thomas Britt Town Planner 6.3.a

MEMORANDUM

TO:Planning CommissionFROM:Thomas Britt, Town PlannerDATE:March 13, 2023SUBJECT:Kiddie Academy Final Site Plan Submission

Background: The applicant has submitted a site plan for the Kiddie Academy education center. The site is located in the northwest corner of the Crossroads Village Center development, behind the Quarles Property. The second submission of the final site plan is currently under Town and outside agency review.



FINAL SITE PLAN KIDDIE ACADEMY AT CROSSROADS VILLAGE CENTER TOWN OF HAYMARKET, VIRGINIA

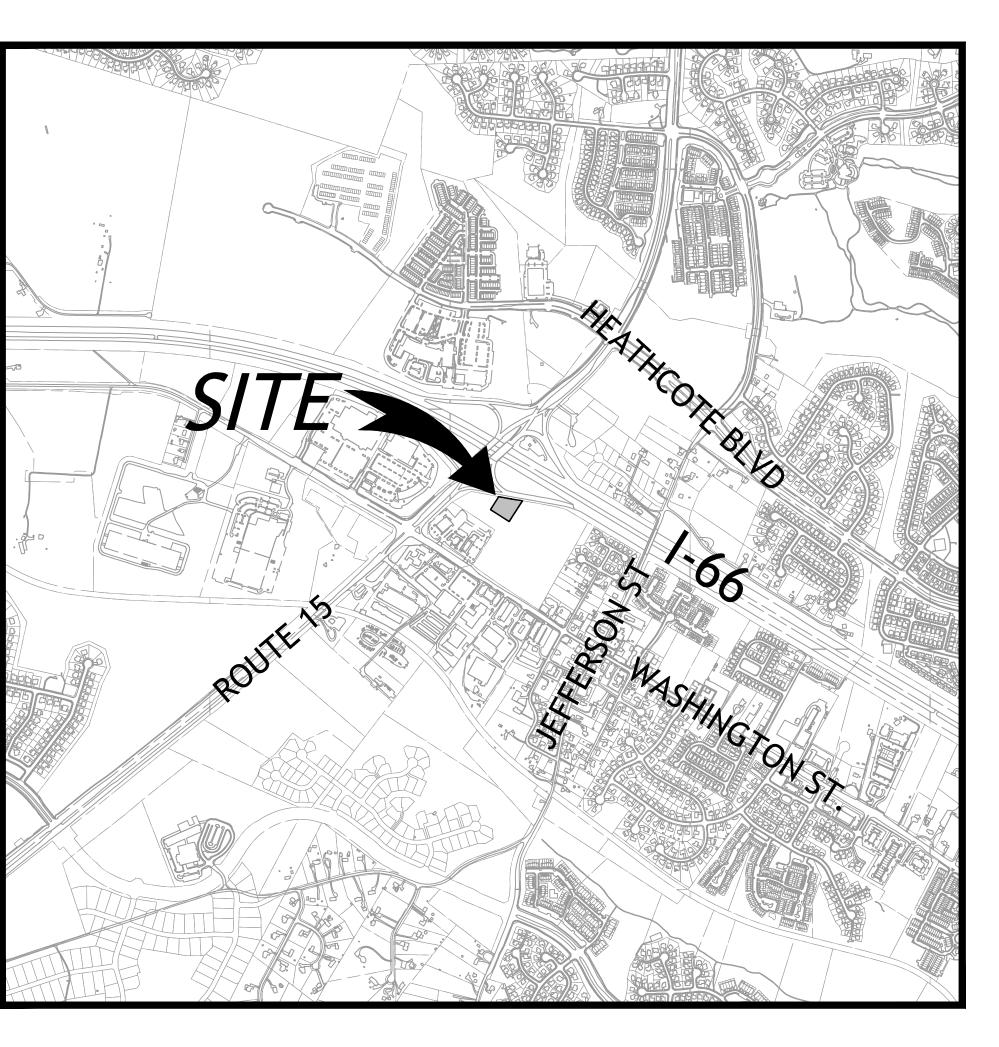
GENERAL NOTES

- 1. THE SUBJECT PROPERTY SHOWN HEREON IS ZONED B-2 ADMINISTERED UNDER THE 2017 TOWN OF HAYMARKET ZONING AND SUBDIVISION ORDINANCE, PROPERTY ADDRESS IS 15150 WASHINGTON STREET, PRINCE WILLIAM COUNTY GPIN: 7298-21-2707
- 2. THE FOLLOWING LAND DEVELOPMENT APPLICATIONS ARE ASSOCIATED WITH THIS PROJECT: SP #1977 CROSSROADS VILLAGE CENTER - FINAL SITE PLAN CROSSROADS VILLAGE CENTER - RETAIL PRELIMINARY PLAN CROSSROADS VILLAGE CENTER - FINAL SITE PLAN - OVERALL REVISION CROSSROADS VILLAGE CENTER - FINAL SITE PLAN - OVERALL REVISION 2 KIDDIE ACADEMY AT CROSS ROADS VILLAGE CENTER PRELIMINARY PLAN
- 11/20/2018. 09/13/2021. 02/10/2022. 08/09/2022. 11/29/2022.

- 3. THE DISTURBED AREA IS 1.08 ACRES.
- METES AND BOUNDS SHOWN HEREON ARE THE RESULT OF A CURRENT FIELD SURVEY
- THE PROPERTY DOES NOT CONTAIN ANY AREAS OF EITHER MODERATELY OR VERY STEEP SLOPES
- 6. DATA SHOWN HEREON ARE ON HORIZONTAL DATUM VIRGINIA STATE PLAN COORDINATE SYSTEM NAD 1983 AND VERTICAL DATUM NAVD 1988.
- 7. THERE IS NO FLOODPLAIN ON THE PROPERTY THAT IS THE SUBJECT OF THIS APPLICATION. THE PROPERTY SHOWN HERON LIES WITHIN FLOOD HAZARD AREA ZONE "X" AS DEPICTED ON FLOOD INSURANCE RATE MAP, COMMUNITY PANEL 51153C0059D, HAVING AN EFFECTIVE DATE OF JANUARY 5, 1995 AND PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
- ALL STRUCTURES WITHIN 50 FEET OF THE SUBJECT PROPERTY HAVE BEEN SHOWN ON THE EXISTING CONDITIONS MAP
- NO RPA IS PRESENT ON SITE. THERE ARE NO KNOWN CEMETERIES OR HISTORIC SITES ON THIS PROPERT
- 10. SOILS INFORMATION SHOWN HEREON IS TAKEN FROM DIGITAL MAPS PROVIDED BY PRINCE WILLIAM COUNTY THE SUBJECT DEVELOPMENT SITE DOES CONTAIN CLASS III SOILS AS IDENTIFIED BY THE INTERPRETIVE GUIDE TO SOILS MAP, PRINCE WILLIAM COUNTY.
- 11. A VSMP PERMIT WILL BE SUBMITTED WITH THE FINAL ENGINEERING PLAN
- ELEPHONE, ELECTRIC, CABLE AND OTHER UTILITIES, WILL BE EXTENDED TO THE SITI
- SEWER WILL BE PROVIDED THROUGH CONNECTIONS TO EXISTING FACILITIES (OWNED AND OPERATED PRINCE WILLIAM COUNTY SERVICE AUTHORITY) WHICH ARE AVAILABLE AT THE SITE BOUNDARY. THE SERVICE AUTHORITY DOES NOT GUARANTEE THE CONSTRUCTION OR TIMING WHEN UTILITIES WILL BE PLACED INTO SERVICE THAT ARE SHOWN AS EXISTING IN THIS PLAN SET. IF UTILITIES SHOWN AS EXISTING ARE NOT AVAILABLE WHEN NEEDED BY THIS PROJECT. THIS PROJECT SHALL OBTAIN THE NECESSARY RIGHTS TO INSTALL ON-SITE AND OFF-SITE WATER AND SANITARY SEWER UTILITIES FROM AN APPROVED PLAN TO PROVIDE THE DESIRED SERVICE.
- 14. PARKING FOR ALL USES SHALL COMPLY WITH THE REOUIREMENTS OF SECTION 58-6.1
- 15. VEHICLE COUNTS (VPD) ARE BASED ON THE 9th EDITION OF THE ITE TRIP GENERATION MANUAL
- 16. THE APPROVAL OF THESE PLANS SHALL IN NO WAY RELIEVE THE DEVELOPER OR HIS AGENT OF ANY LEGAL RESPONSIBILITY WHICH MAYBE REQUIRED BY APPLICABLE LOCAL. STATE AND FEDERAL REQUIREMENTS OR ANY OTHER ORDINANCE ENACTED BY THE TOWN OF HAYMARKET

NOTICE REQUIRED CONTRACTORS SHALL NOTIFY OPERATORS WHO MAINTAIN UNDERGROUND UTILITY LINES IN THE AREA OF PROPOSED EXCAVATION OR BLASTING AT LEAST TWO WORKING DAYS, BUT NOT MORE THAN TEN WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION.
CONTACT "MISS UTILITY" AT 1-800-552-7001 FOR THESE UTILITIES
A.T.& T. CO.COLONIAL PIPELINE CO.VIRGINIA ELECTRIC & POWER CO.FAIRFAX CO. WATER AUTHORITYCOLUMBIA GAS TRANSMISSION CO.WASHINGTON GAS LIGHT CO.FAIRFAX CO. SAN. SEWER DIV.PRINCE WILLIAM ELEC. CO-OP.TRANSCO GAS PIPELINE CO.PLANTATION PIPELINE CO.COLUMBIA GAS OF VIRGINIAC & P TELEPHONE CO.CONTINENTAL TELEPHONE OF VIRGINIAC
CONTACT THESE UTILITIES
TRI-COUNTY ELEC. CO-OP 703-777-2151 LOUDOUN WATER 571-291-7888 FALLS CHURCH WATER SER. 703-241-5078 FAIRFAX CITY WATER SER. 703-385-7916
EMERGENCY DIAL 911 POLICE - FIRE - RESCUE

SERVICE AUTHORITY PLAN NUMBER: SA2023-0014



VICINITY MAP SCALE : 1"=1000'

APPLICANT/DEVELOPER

BAKER & ASSOCIATES, ARCHITECTS 673 HIGH STREET, SUITE 204 WORTHINGTON, OH 43085

ENGINEER

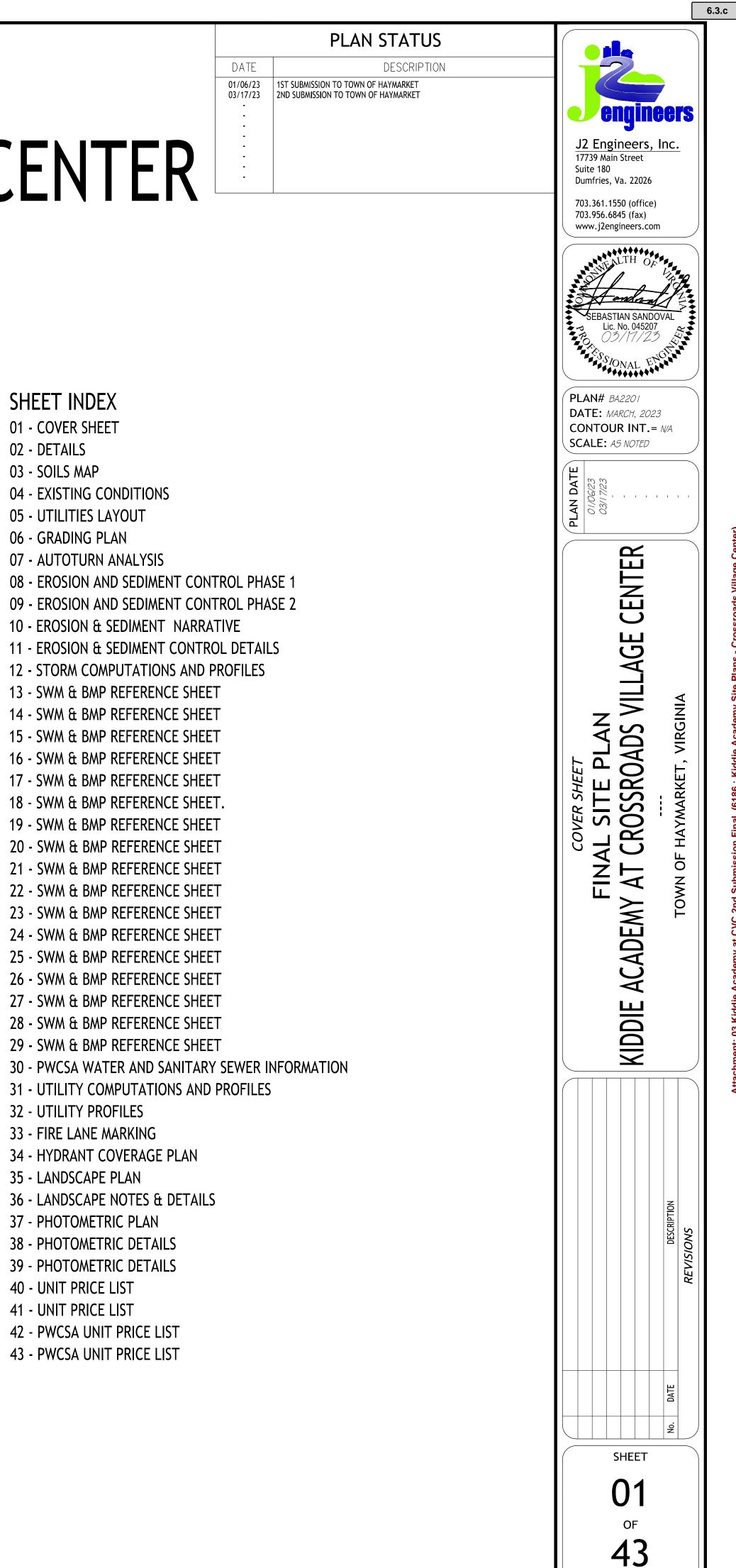
J2 ENGINEERS 17739 MAIN STREET SUITE 180 DUMFRIES, VA 22026 703-361-1550

OWNER

MELADON GROUP 1602 VILLAGE MARKT BLVD, SE SUITE 235 LEESBURG, VIRGINIA 20175 571-375-1750

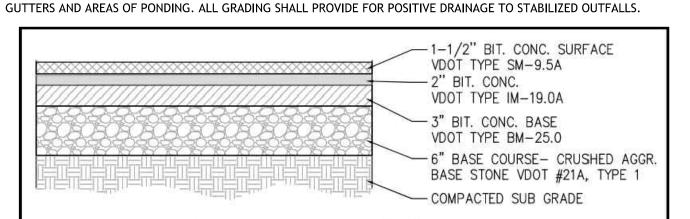
TOWN REPRESENTATIVE

EMILY KYRIAZI **1500 WASHINGTON STREET** SUITE 100 HAYMARKET, VA 20169 703-753-2600 EXT. 204



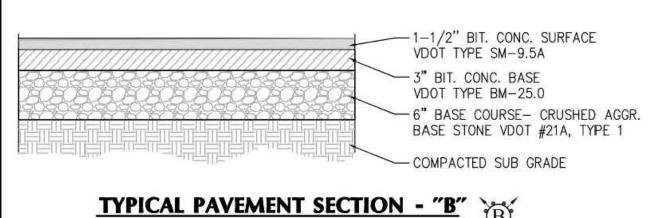
SITE NOTES

- 1. THE CONTRACTOR SHALL CAREFULLY EXAMINE THE SITE AND MAKE ALL INSPECTIONS AS NECESSARY IN ORDER TO DETERMINE THE FULL EXTENT OF THE WORK REQUIRED TO MAKE THE PROPOSED WORK CONFORM TO THE DRAWINGS AND SPECIFICATIONS. THE CONTRACTOR SHALL SATISFY HIMSELF AS TO THE NATURE AND LOCATION OF THE WORK, CONDITIONS, AND CONFORMATION AND CONDITION OF EXISTING GROUND SURFACE AND THE CHARACTER OF THE EQUIPMENT AND FACILITIES NEEDED PRIOR TO AND DURING PROSECUTION OF THE WORK. THE CONTRACTOR SHALL SATISFY HIMSELF AS TO THE CHARACTER, QUANTITY AND QUALITY OF SURFACE AND SUBSURFACE MATERIALS OR OBSTACLES TO BE ENCOUNTERED. ANY INACCURACIES OR DISCREPANCIES BETWEEN THE DRAWINGS AND SPECIFICATIONS MUST BE BOUGHT TO THE OWNER'S ATTENTION IN ORDER TO CLARIFY THE EXACT NATURE OF THE WORK TO BE PERFORMED PRIOR TO THE COMMENCEMENT OF ANY WORK. THE CONTRACTOR/DEVELOPER/APPLICANT SHALL BE RESPONSIBLE FOR ALL ERRORS AND INCONSISTENCIES.
- EXCEPT WHERE NOTED HEREON, TO THE BEST OF OUR KNOWLEDGE, THE PROPOSED DEVELOPMENT OF THE SUBJECT PROPERTY CONFORMS TO ALL CURRENT APPLICABLE LAND DEVELOPMENT ORDINANCES, REGULATIONS, AND ADOPTED STANDARDS.
- ALL UNDERGROUND UTILITIES WITHIN THE STREET RIGHT -OF WAY SHALL BE INSTALLED TO THE REQUIRED DISTANCE BEYOND THE RIGHT-OF-WAY LINE PRIOR TO THE INSTALLATION OF ANY SUBBASE MATERIAL, CURB AND GUTTER OR SIDEWALK.
- LAND CONSERVATION NOTES- MEASURES TO CONTROL EROSION AND SILTATION SHALL BE PROVIDED PURSUANT TO AND IN COMPLIANCE WITH CURRENT STATE AND LOCAL REGULATIONS. HOWEVER, THE APPROVAL OF THESE PLANS SHALL IN NO WAY RELIEVE THE DEVELOPER OR HIS AGENT OF ANY LEGAL RESPONSIBILITIES WHICH MAY BE REQUIRED BY THE CODE OF VIRGINIA OR ANY ORDINANCE ENACTED BY THE TOWN OF HAYMARKET
- EROSION AND SILTATION CONTROL SHALL BE PROVIDED WHERE NECESSARY PRIOR TO CLEARING, GRADING AND CONSTRUCTION. EROSION AND SEDIMENT CONTROL MEASURES WILL BE PROVIDED IN ACCORDANCE WITH THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (LATEST EDITION).
- ADDITIONAL SILTATION AND EROSION CONTROL MEASURES SHALL BE INSTALLED AS DIRECTED BY VDOT AND / OR THE INSPECTOR DURING FIELD REVIEW; COSTS ASSOCIATED WITH ADDITIONAL MEASURES SHALL BE ASSUMED BY THE DEVELOPER.
- 8. ALL CONSTRUCTION SHALL COMPLY WITH THE LATEST U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION RULES AND REGULATIONS.
- THE RIGHT IS SPECIFICALLY RESERVED TO UTILIZE NONSTRUCTURAL AREAS FOR BORROW PITS CONSISTENT WITH THE GEOTECHNICAL REQUIREMENTS.
- 10. THE APPROVAL OF THIS PLAN SHALL IN NO WAY GRANT PERMISSION BY THE COUNTY FOR THE DEVELOPER TO TRESPASS ON OFF-SITE PROPERTIES. 11. THE APPROVAL OF THESE PLANS SHALL IN NO WAY RELIEVE THE OWNER OF COMPLYING WITH OTHER APPLICABLE LOCAL, STATE, AND
- FEDERAL REQUIREMENTS. 12. CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTMENTS AND/OR RECONSTRUCTION OF ALL UTILITY COVER (MANHOLE FRAMES AND
- COVERS, VALVE BOX COVERS, ETC.) TO MATCH THE FINISHED GRADES OF THE AREAS EFFECTED BY THE CONSTRUCTION. 13. THE CONTRACTOR MUST HAVE THE APPROVED CONSTRUCTION DRAWINGS IN POSSESSION PRIOR TO THE START OF CONSTRUCTION. AT
- LEAST ONE (1) COPY OF THE APPROVED PLANS, WITH REVISIONS, MUST BE KEPT ON-SITE AT ALL TIMES 14. ALL UTILITIES NOTED TO BE RELOCATED OR REMOVED SHALL BE AT THE DEVELOPERS EXPENSE, TO INCLUDE ALL POLES AND STRUCTURES AS REQUIRED. ALL POLES REQUIRED TO BE RELOCATED MUST BE MOVED PRIOR TO CONSTRUCTION.
- 15. DISTURBED AREAS WITHIN THE PROJECTS LIMITS THAT WILL REMAIN INACTIVE FOR A PERIOD OF 14 CALENDAR DAYS OR LONGER SHALL BE TEMPORARILY STABILIZED WITH SEED AND STRAW, MULCH, OR OTHER ACCEPTABLE GROUNDCOVER. THE DEVELOPER IS RESPONSIBLE FOR SECURING ALL REQUIRED PERMITS PRIOR TO CONSTRUCTION.
- 17. THE CONTRACTOR IS RESPONSIBLE FOR ARRANGING ALL NECESSARY INSPECTIONS
- 18. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING A SAFE CONSTRUCTION SITE AND COMPLYING WITH ALL OSHA REGULATIONS. 19. EMERGENCY VEHICLE ACCESS SHALL BE PROVIDED DURING ALL PHASES OF CONSTRUCTION
- 20. WHERE IMPROVEMENTS ARE PROPOSED WITHIN EXISTING EASEMENTS OF RECORD, THE DEVELOPER SHALL OBTAIN WRITTEN PERMISSION FROM THE AUTHORITIES THAT ARE DOMINANT TENEMENTS OF THESE EASEMENTS FOR PERMIT FOR ANY DISTURBANCES WITHIN THESE AREAS PRIOR TO CONSTRUCTION.
- 21. ALL SIDEWALKS TO BE 4" THICK CONCRETE UNLESS OTHERWISE SHOWN ON THE PLAN. 22. ALL HANDICAP RAMPS SHALL BE BUILT IN ACCORDANCE WITH THE MOST CURRENT EDITION OF THE VIRGINIA DEPARTMENT OF
- TRANSPORTATION ROAD AND BRIDGE STANDARDS. 23. AN APPROVED SET OF PLANS AND ALL APPLICABLE PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE. ALSO, A REPRESENTATIVE
- OF THE DEVELOPER MUST BE AVAILABLE AT ALL TIMES. 24. THE ENGINEER SHALL NOT HAVE CONTROL OVER OR CHARGE OF AND SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK SHOWN ON THESE PLANS. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S SCHEDULES OR FAILURE TO CARRY OUT THE WORK. THE ENGINEER IS NOT RESPONSIBLE FOR ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS, OR THEIR AGENTS OR EMPLOYEES, OR OF ANY OTHER PERSONS PERFORMING PORTIONS OF THE WORK
- 25. THE CONTRACTOR/DEVELOPER/APPLICANT SHALL BE RESPONSIBLE FOR ALL ITEMS MENTIONED ABOVE. 26. PEDESTRIAN ACCESS FOR THIS DEVELOPMENT IS PROVIDED BY A SIDEWALK AND TRAFFIC SYSTEM.
- 27. THE PRINCE WILLIAM COUNTY SERVICE AUTHORITY (PWCSA) SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL PUBLIC SANITARY SEWER AND WATER MAIN SYSTEMS WITHIN DEDICATED EASEMENTS CONVEYED TO PWCSA AT THE TIME OF BOND RELEASE. 28. A VDOT ENTRANCE PERMIT MUST BE OBTAINED FROM THE RESIDENT ENGINEER'S OFFICE PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION WITHIN THE EXISTING STATE RIGHT-OF-WAY, TO INCLUDE THE INSTALLATION OF ANY TEMPORARY CONSTRUCTION
- ENTRANCE 29. THE VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL STREET PAVEMENTS AND STORM DRAINAGE SYSTEMS THAT ARE LOCATED WITHIN DEDICATED AND ACCEPTED PUBLIC STREET RIGHT-OF-WAYS.
- 30. APPROVAL OF SOIL REPORT IS REQUIRED PRIOR TO FINAL SITE PLAN APPROVAL 31. THE TOWN SHALL NOT BE RESPONSIBLE FOR REPAVING OR RESURFACING PAVED AREAS OR MAINTAINING LANDSCAPING WITHIN EASEMENTS.
- 32. THE FEE TITLE OWNER SHALL BE RESPONSIBLE FOR GRASS MOWING WITH REASONABLE FREQUENCY, IF APPLICABLE, AND FOR THE REMOVAL OF DEBRIS AND OTHER MATTER THAT HAS IMPEDED OR THREATENS TO IMPEDE THE FREE FLOW OF STORM WATER 33. PWCSA INSPECTOR SHALL BE NOTIFIED WHEN ANY IMPROVEMENTS PERTINENT TO HIS INSPECTION DUTIES ARE BEING INSTALLED, SPECIFIC REQUIREMENTS ARE:
 - A. SITE INSPECTOR OR AREA SUPERVISOR IS TO BE NOTIFIED AT LEAST 3 DAYS PRIOR TO START OF CONSTRUCTION B. A MINIMUM OF 24 HOURS NOTICE IS REQUIRED WHEN REQUESTING COMPACTION TEST AND RESIDENTIAL OR NONRESIDENTIAL
- USE PERMITS C. A MINIMUM OF 48 HOURS NOTICE IS REQUIRED WHEN REQUESTING TESTS PERTAINING TO SANITARY SEWER ACCEPTANCE. 34. LOCATIONS AND / OR ADDITIONAL SIGNAGE AND STRIPING REQUIREMENTS ARE TO BE DETERMINED DURING THE FINAL INSPECTION
- PROCESS. 35. ALL CURB AND GUTTER SHALL BE VIRGINIA DEPARTMENT OF TRANSPORTATION STANDARD CG-6 UNLESS OTHERWISE NOTED
- 36. ALL EXCAVATION SUPPORT SYSTEMS SHALL CONFORM TO AND COMPLY WITH THE CURRENT OSHA STANDARDS AND SPECIFICATIONS. 37. ALL FINISHED GRADING, SEEDING, SODDING, AND PAVING SHALL BE PERFORMED IN SUCH MANOR TO PRECLUDE THE FORMING OF FALSE



TYPICAL PAVEMENT SECTION - "A" NO SCALE

 Δ MAX. SLOPE =8%

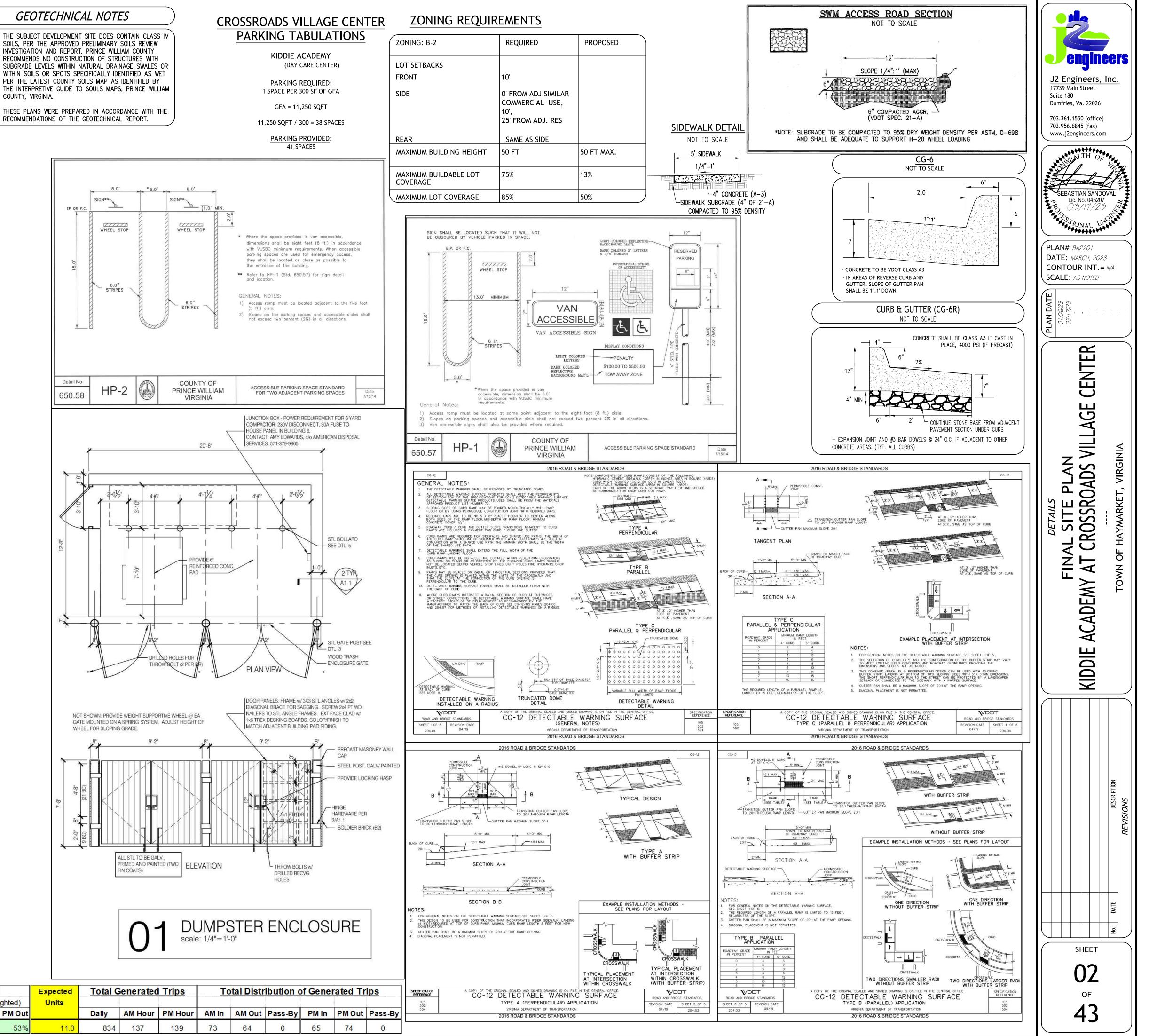


NO SCALE

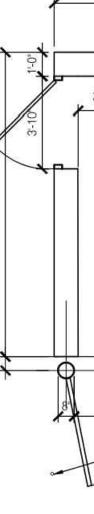
MAX. SLOPE =8%

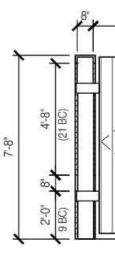
GEOTECHNICAL NOTES

- SOILS. PER THE APPROVED PRELIMINARY SOILS REVIEW INVESTIGATION AND REPORT. PRINCE WILLIAM COUNTY RECOMMENDS NO CONSTRUCTION OF STRUCTURES WITH SUBGRADE LEVELS WITHIN NATURAL DRAINAGE SWALES OR WITHIN SOILS OR SPOTS SPECIFICALLY IDENTIFIED AS WET PER THE LATEST COUNTY SOILS MAP AS IDENTIFIED BY THE INTERPRETIVE GUIDE TO SOULS MAPS, PRINCE WILLIAM COUNTY, VIRGINIA.
- THESE PLANS WERE PREPARED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT.





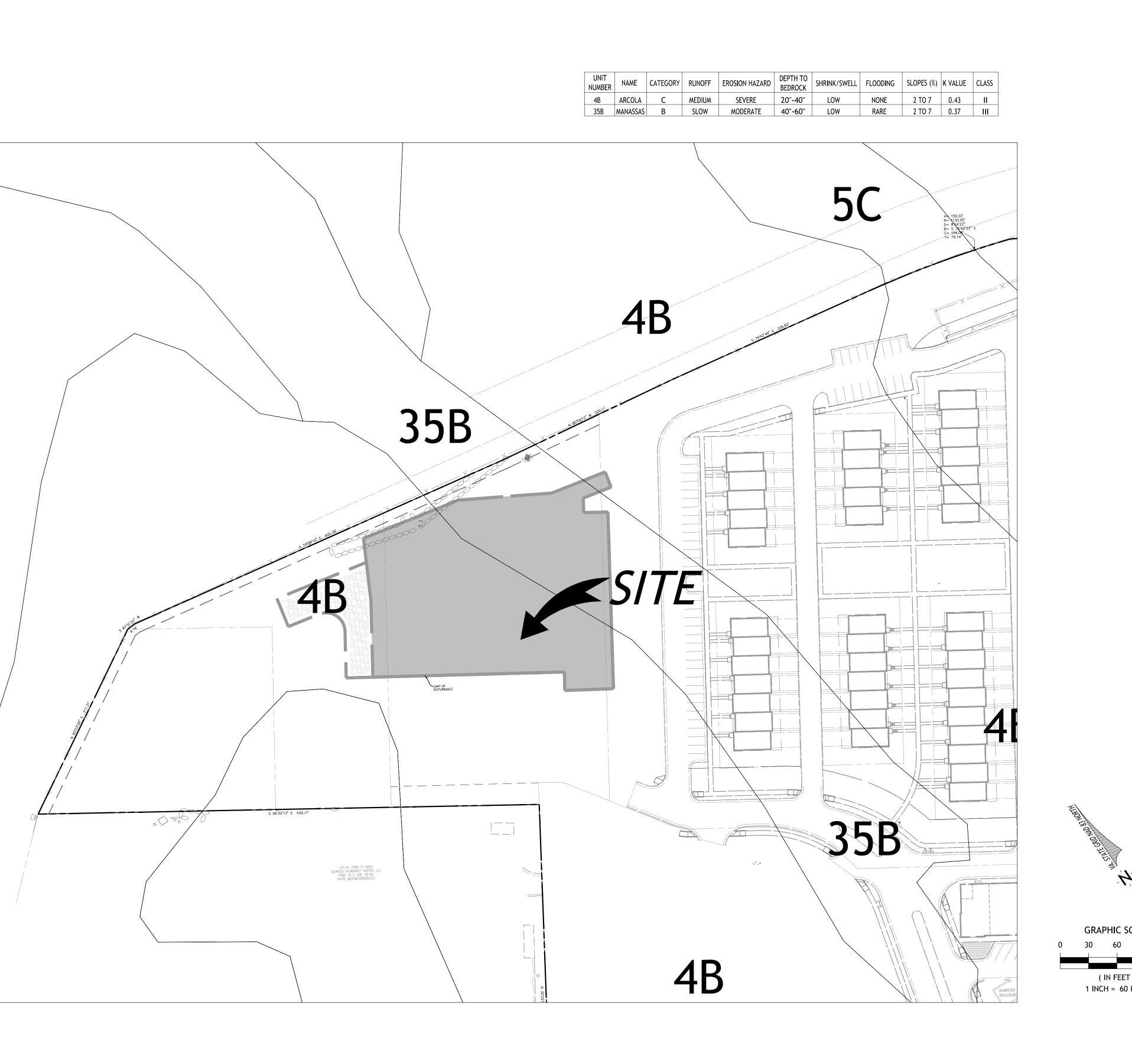


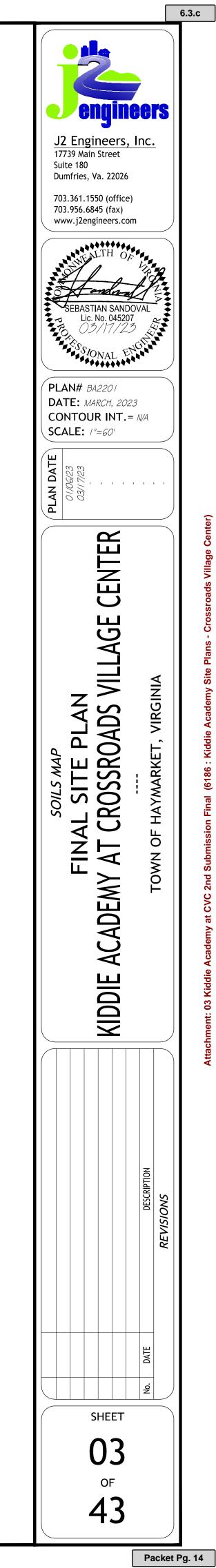


AVERAGE DAILY TRAFFIC

Description/ITE Code		ITE	Vehic	le Trip	Generat	ion Ra	ates			Expected	Total (
	Units	(peak hours	are for pe	eak hour	of adjacen	t street t	traffic <mark>unl</mark> e	ess highl	ighted)	Units	
		Weekday	AM	PM	Pass-By	AM In	AM Out	PM In	PM Out		Daily
Daycare Center 565	KSF ²	74.06	12.18	12.34		53%	<mark>47</mark> %	47%	53%	11.3	834

Packet Pg. 13



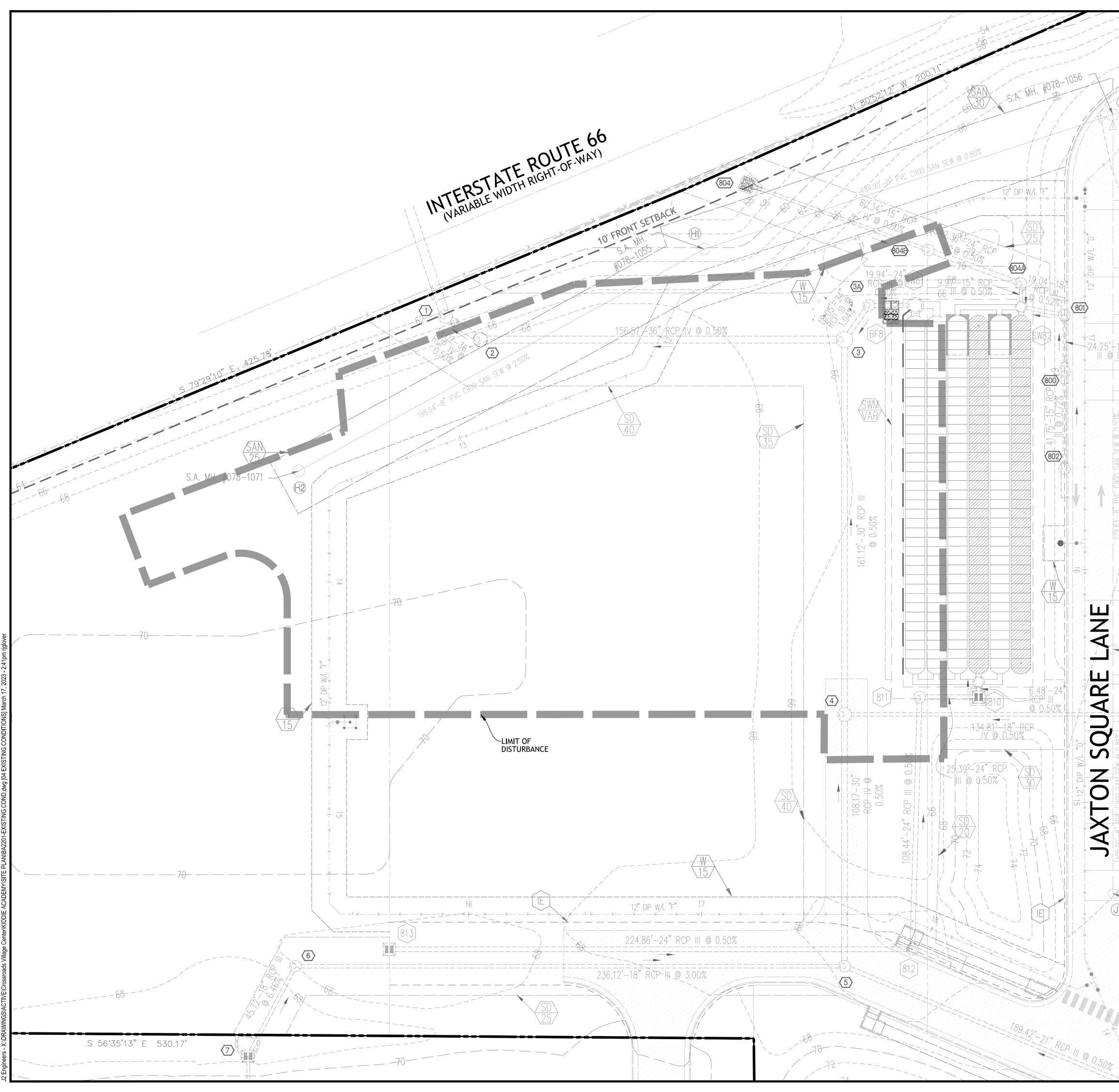


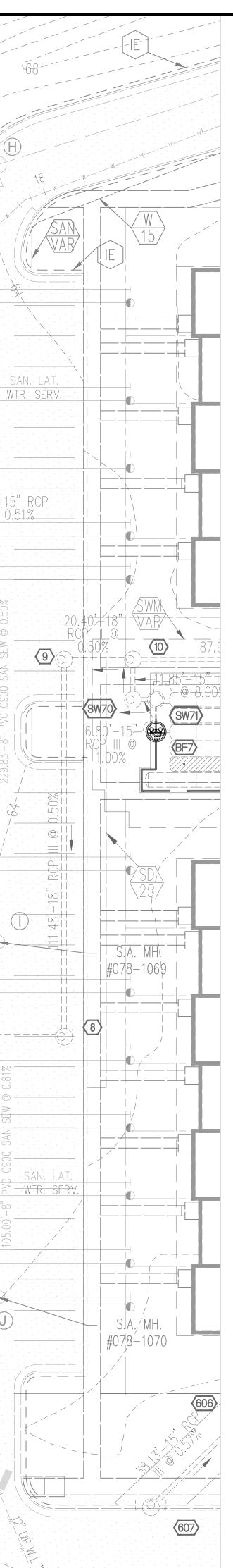
GRAPHIC SCALE

(IN FEET) 1 INCH = 60 FEET

120

(6186





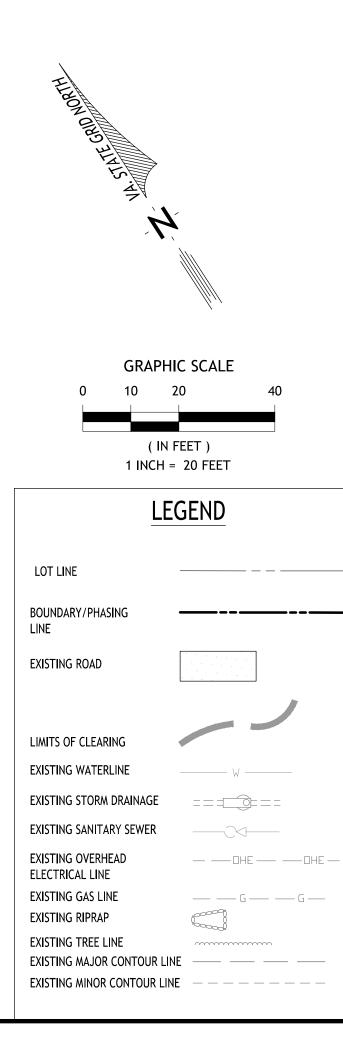
NOTES:

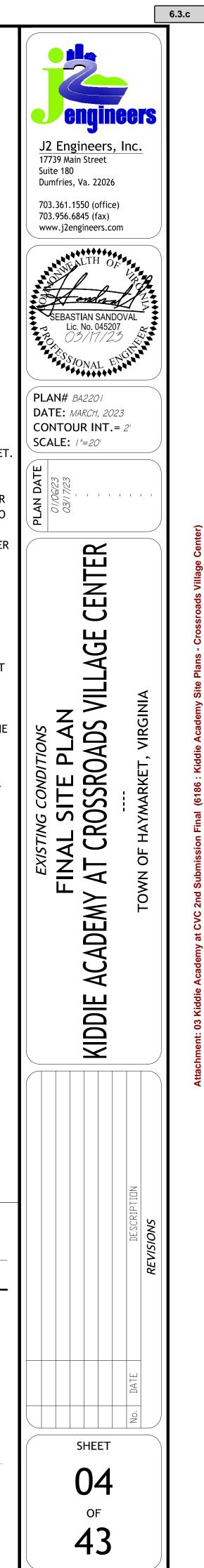
1) THE SERVICE AUTHORITY DOES NOT GUARANTEE THE CONSTRUCTION OR TIMING WHEN UTILITIES WILL BE PLACED INTO SERVICE THAT ARE SHOWN AS EXISTING IN THIS PLAN SET IF UTILITIES SHOWN AS EXISTING ARE NOT AVAILABLE WHEN NEEDED BY THIS PROJECT, THIS PROJECT SHALL OBTAIN THE NECESSARY RIGHTS TO INSTALL ON-SITE AND OFFSITE- WATER AND SANITARY SEWER UTILITIES FROM AN APPROVED PLAN TO PROVIDE THE DESIRED SERVICE.

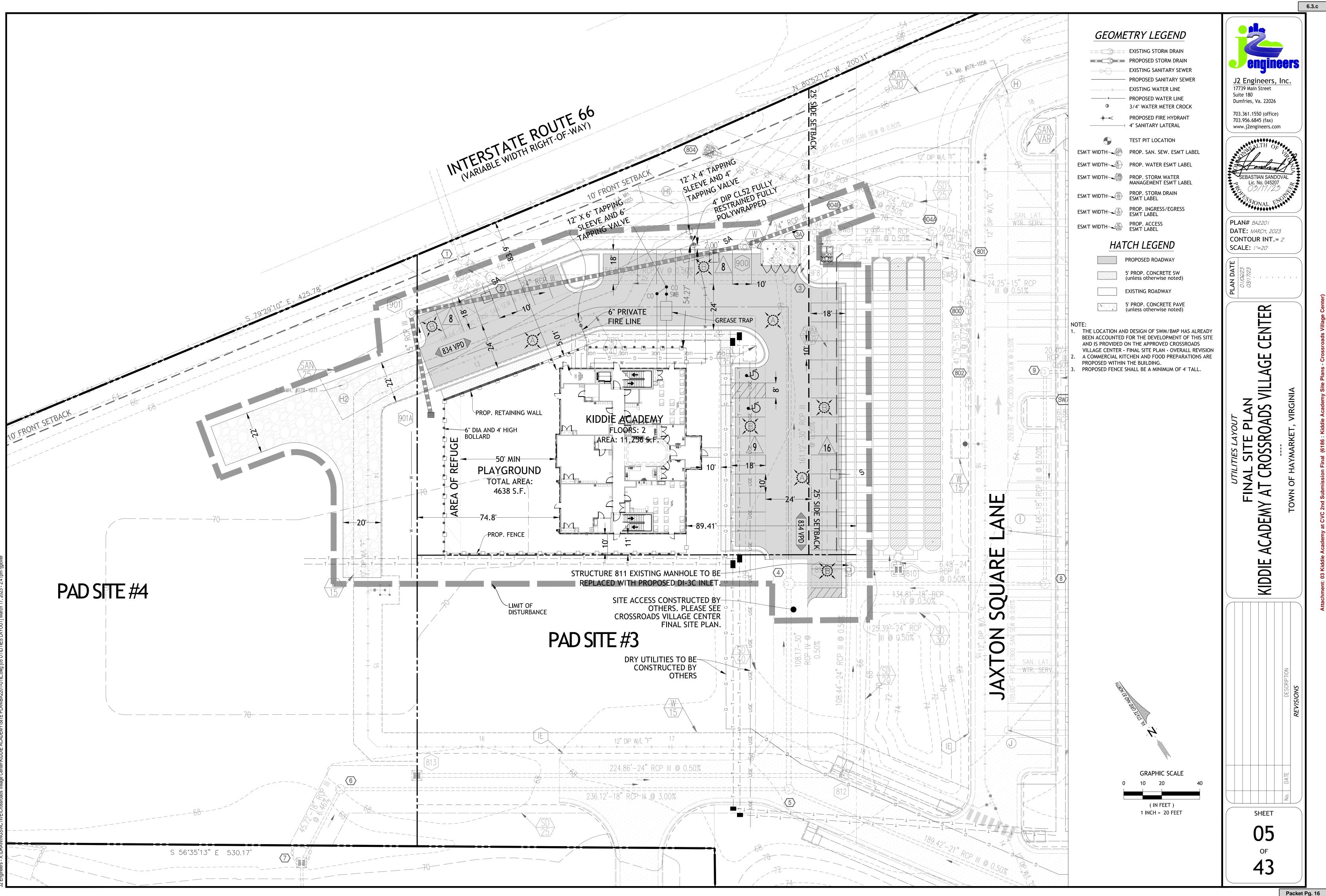
2) DEVELOPER OF THIS PROJECT CANNOT CONNECT TO WATER AND SANITARY SEWER BUILT BY THE DEVELOPER OF CROSSROADS VILLAGE CENTER UNTIL THE WATER AND SANITARY SEWER UTILITIES, PASS ALL INSPECTIONS, TESTING AND PLACES THE UTILITIES INTO SERVICE THROUGH THE SERVICE AUTHORITY'S BENEFICIAL USE PROCESS.

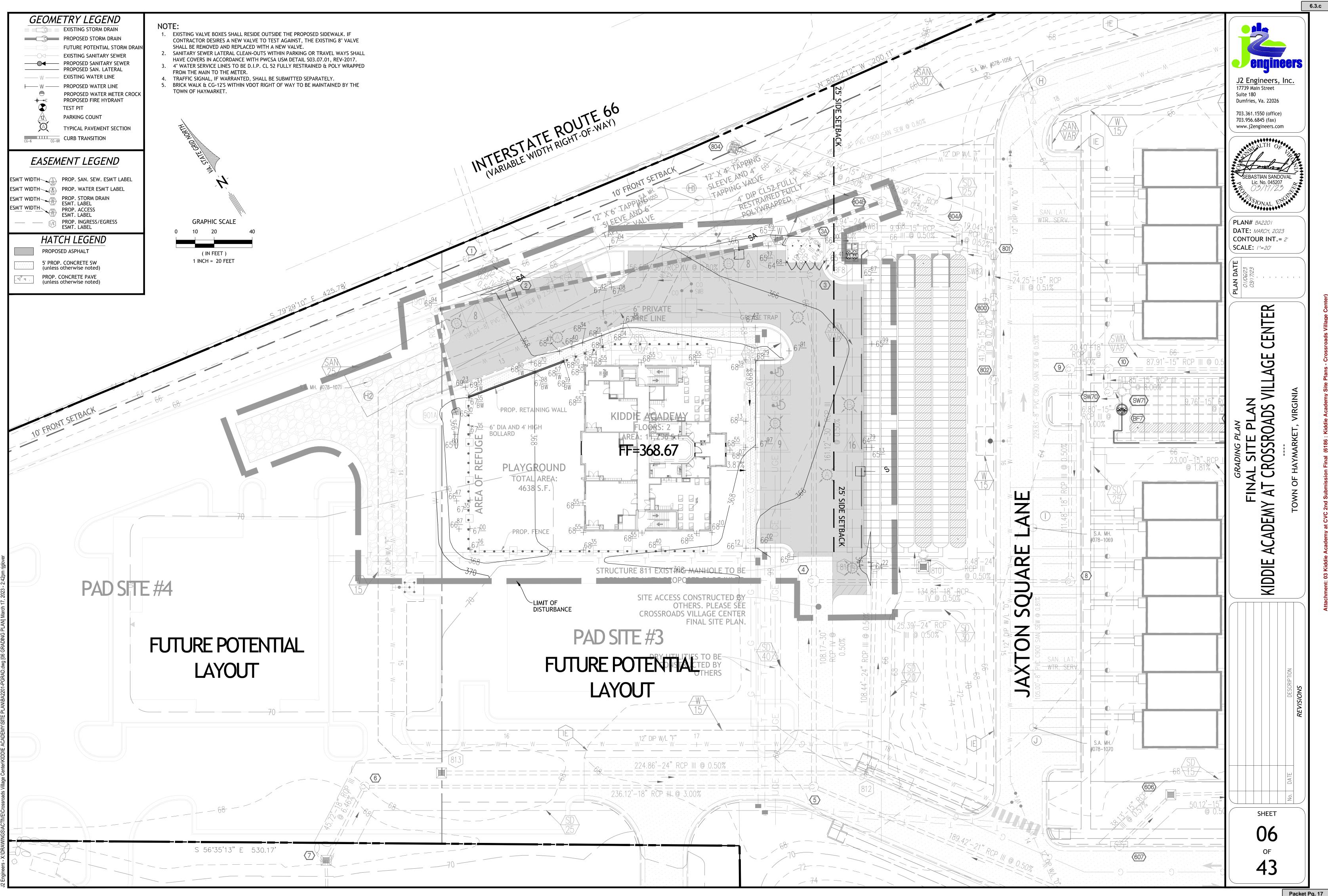
3) IF THIS PROJECT WISHES TO CONNECT TO WATER AND SANITARY SEWER UTILITIES PLACED INTO SERVICE BY THE DEVELOPER OF CROSSROADS VILLAGE CENTER PRIOR TO THAT DEVELOPER ACHIEVING BOND RELEASE FROM THE SERVICE AUTHORITY, THE DEVELOPER OF THIS PROJECT MUST SIGN A LETTER OF INDEMNIFICATION AND ASSUMPTION OF LIABILITY PER USM 2.9A. USM 2.9A IS NO LONGER APPLICABLE ONCE THE DEVELOPER OF CROSSROADS VILLAGE CENTER ACHIEVES SERVICE AUTHORITY ACCEPTANCE OF UTILITIES THROUGH BOND RELEASE.

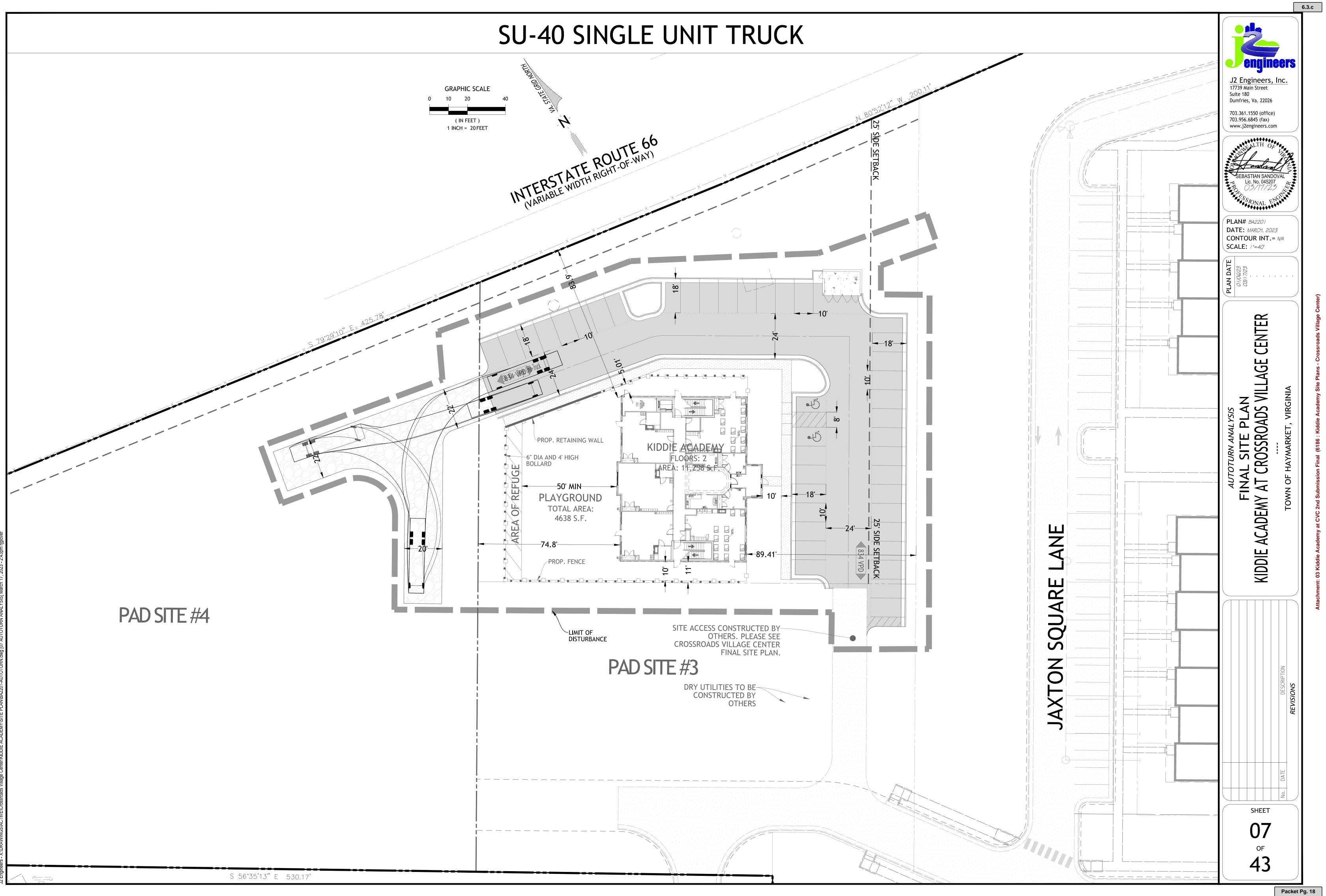
4) EXISTING UTILITIES SHOWN ARE TO BE INSTALLED AS PART OF THE CROSSROADS VILLAGE CENTER PLAN #PRV2022-013.

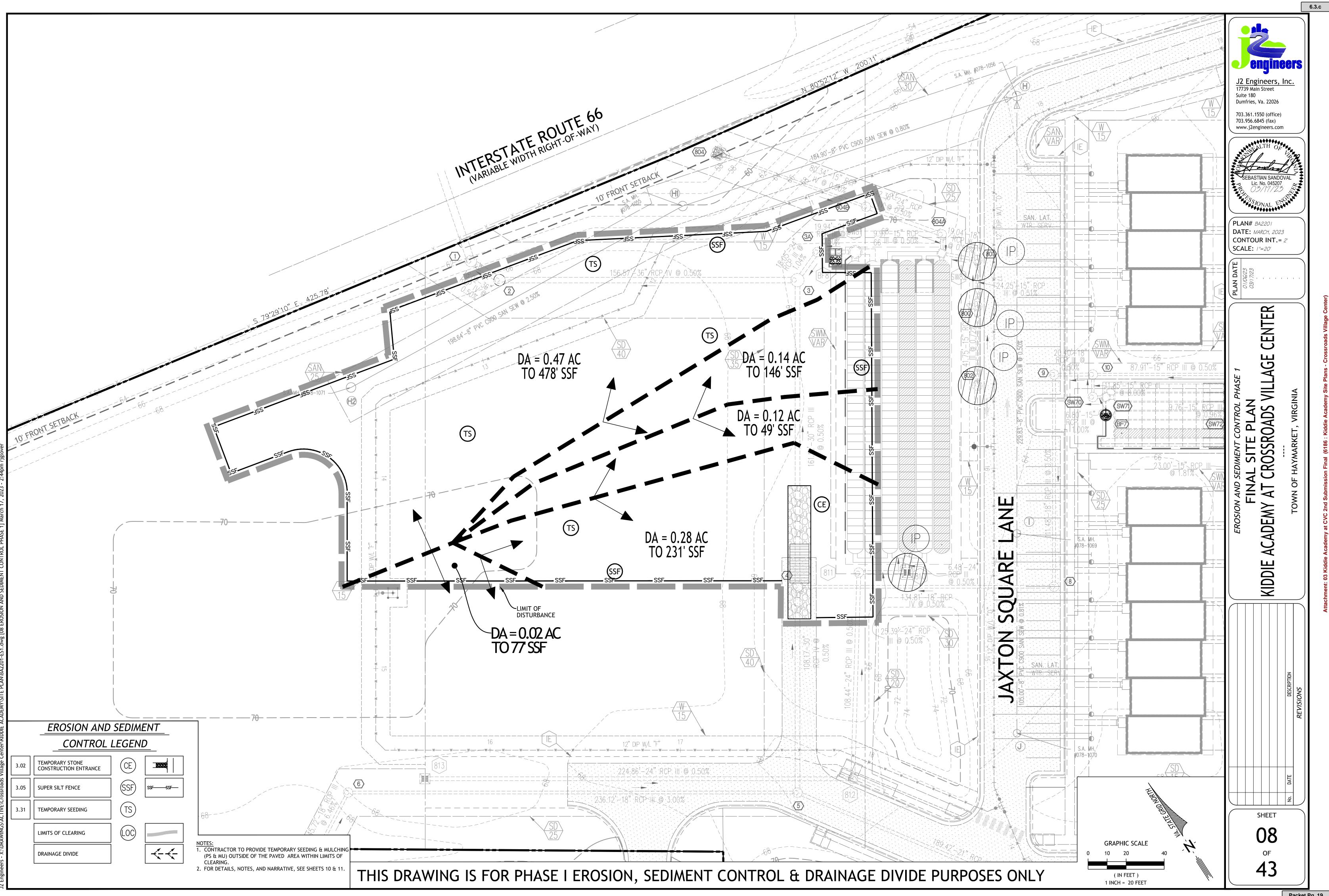


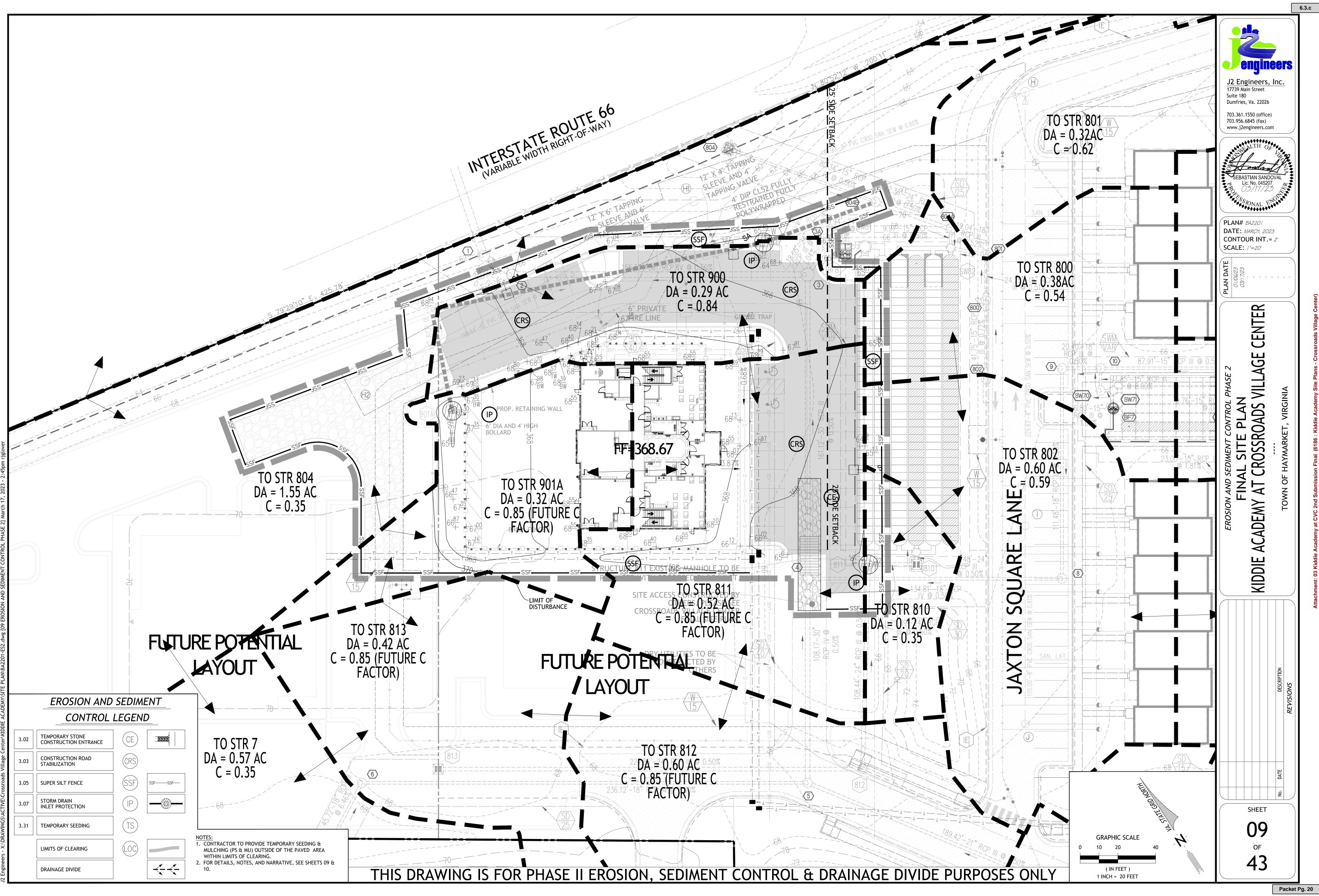












Bioleconstruction	1.	PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.	PROJECT I THE SITE'S EXISTING S THE SITE I
constant Types But Type	•	APPLICANT IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS BORROW AREAS AND	ADJACENT NORTH OF
 Berthammer Aller Aller			<u>OFF-SITE</u> NO OFFSIT
 Hered TIDS AD STREET PARKENES. SERVICE SERVICE TO USE VALUE AS AD TO THE TO USE MALE AS AD TO THE TO USE ADDIES. HERMANTENESS CONTENT AS ADDIES OF TO DEFEND YOUR AS ADDIES OF TO USE ADDIES ADDI			<u>SOILS</u> : ALL SOILS
SHEET THE A 10 BUELT FLANS SHEET, BE BORDEN DO CONTICUES DEFLOY OF THE TAX LEAKAGE AND THE BESIDE THE THAN CARA. THE AMERICAN DEFLOY OF A CONTROL OF AN ADDRESS SHEET CONTROL ON ADDRESS SHEET CONT		STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.	CRITICAL THERE AR
ALBEL STAN HATE AVEC. Image: Standard		SEDIMENT TRAPS AND SEDIMENT BASINS SHALL BE DESIGNED AND CONSTRUCTED BASED UPON THE TOTAL DRAINAGE AREA TO BE SERVED BY THE TRAP OR BASIN.	PROPOSEI
Contractions of the American Stream Control of Action of The Elements of the Cale Control of Action Stream Control of Actio		AREAS LESS THAN THREE ACRES.	ANY TREE
LUT AD ULL SUPE SHULL BE SORDER AD CONSTUTET IN ADAMPET REFINEL REPORTS JUSTE IN A WARDER THE ALL REPORTS ADAMPET REFINEL ADAMPET ADAMPET ADAMPET REFINEL ADAMPET ADAM		CONTROLLED BY A SEDIMENT BASIN. THE MINIMUM STORAGE CAPACITY OF A SEDIMENT BASIN SHALL BE 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA. THE OUTFALL SYSTEM SHALL, AT A MINIMUM, MAINTAIN THE STRUCTURAL INTEGRITY OF THE BASIN DURING A TWENTY-FIVE YEAR STORM OF 24-HOUR DURATION. RUNOFF COEFFICIENTS USED IN RUNOFF CALCULATIONS SHALL CORRESPOND TO A BARE EARTH CONDITION OR THOSE CONDITIONS EXPECTED TO EXIST WHILE THE	THE CON 1. CON CON
CONSTRUCT DEFINITION FINITION FOR ALL CONSTRUCTION FILL CONTROL OF THE OWNER OF PREVANCE CONTROL FUNCTION FILL ENDER CONTROL CONTROL ON SERVICE IN CONTROL CONTROL ON SERVICE IN CONTROL CONTROL ON SERVICE IN CONTROL CONTROL CONTROL ON SERVICE IN CONTROL CO			WO 2. FILL COM
enclosed with start with a USE FACE ACES AND SHALL BE AND THE AND A STATE TO SHALL BE PROFILED.		•	
ALL STORAGES YEREN ALTES THE ALWAND PERSA TO UNKNOWN CONSTRUMTION HALL REPORTED TO A TAXAB SHALLES. A CONSTRUMT AND ANY REQUERT A CONSTRUMT CONSTR			
Procentificates strokewards converted outwards on Press see and operations, addpunt outral requestions converted to the stroke str			FILT STR 2. INST
WICH WORK IN A. IN "WITERCOURSE IS FERTORING. FILE ALTER CARDING CONTRACTION, SINUL IS TARKED AND TAKEN TO AND TAKEN AND TA		BEFORE NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS OR PIPES ARE MADE OPERATIONS., ADEQUATE OUTLET PROTECTION AND ANY REQUIRED	3. CLE/ 4. ONC
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 <td< td=""><td></td><td>WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. NONERODIBLE MATERIAL SHALL BE USED FOR THE CONSTRUCTION OF CAUSEWAYS</td><td>COM <u>PHASE II:</u> 1. ALL COM</td></td<>		WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. NONERODIBLE MATERIAL SHALL BE USED FOR THE CONSTRUCTION OF CAUSEWAYS	COM <u>PHASE II:</u> 1. ALL COM
AL APPLICABLE FEDERAL. STATE AND LOCAL SEQUENTIONS PERTAMINE TO WORKING IN OR CROSSING LINE WATTERCOURSES SIVAL LE WAT. 4 THE EED AND DAVIS OF A WITER COURSE SHALL ES STABLEED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITON TO OTHER APPLICABLE CRITERIA: 5 NO MORE THAN SOLULISS HELL EN INTELLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITON TO OTHER APPLICABLE CRITERIA: 5 NO MORE THAN SOLULISS HELL EN INTELLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITON TO OTHER APPLICABLE CRITERIA: 5 NO MORE THAN SOLULISS HELL EN INTELLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITON TO OTHER APPLICABLE CRITERIA: 5 NO MORE THAN SOLULISS HELL EN INTELLED IN ADDITON TO THE REPORT OF READING STANDARDS IN ADDITON TO OTHER APPLICABLE CRITERIA: 5 WARKER THAN DERACTION VALUE IN ACCORDANCE WITH THESE DECALITIONS. 5 WARKER THAN DERACTION VALUE IN ADDITON TO THANKE BOOMON AND PRODUCT STADILLATION. 5 WARKER THAN DERACTION VALUE IN ADDITON TO THANKE BOOMON AND PRODUCT STADILLATION. 5 WARKER THAN DERACTION VALUE IN ADDITON TO ADDITON TO THANKE BOOMON AND PRODUCT STADILLATION. 5 WARKER THAN DERACTION VALUE IN THE WORD OF RELICE CARDER STATULINE DE CONDUCTION TO STADARDY ADDITON TO ADDITION VALUE IN THE WORD ADDITION TO ADDITION VALUE IN THE WORD ADDITION TO ADDITION VALUE IN THE WORD ADDI			
THE BED AND BANKS OF A WITTER CLOBES SHALL BE STALLED MAEDATERY AFTER VORK IN THE WATERCORE & COMPLETED. 7. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.			4. REM 5. INST
UNDERCEDURG UT UT Y LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CARTERIA: 9 NO XONE THAN SOU LINES AND ALL DE LINES AND SERVICES TO RETIRES: 9 NO XONE THAN SOU LINES AND ALL DE LINES AND SERVICES TO RETIRES: 9 NO XONE THAN SOU LINES AND AND SERVICES AND RETIRES: 9 REFLUENT RICK DEWATERING OVERATIONS SHALL BE PORTON TO RECENT. 9 REFLUENT RICK DEWATERING OVERATIONS SHALL BE CONCENT ON TREES RESULATIONS. 9 WHERE CONTRUCTION VERICE AND THE PORT DE VIEW OR RULE CONS. 9 WHERE CONTRUCTION VERICE AND THE PORT DE VIEW OR RULE CONS. 9 WHERE CONTRUCTION VERICE AND THE PORT OF RULE DE RUDE THAN SERVICED AND RULE CRAD. STRUCTS THAN ADDRESS AND RESOLUCES THAN ADDRESS AND RESOLUCES AND ADDRESS AND RESOL		THE BED AND BANKS OF A WATER COURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.	7. I NST
NO.000000000000000000000000000000000000		UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:	
WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED OR PUBLIC ROADS, PROVISION SHALL BE ANDE TO MININZE THE TRANSPORT OF SEDWENT BY VEHICULAR TRACKING ONTO THE PAVED SUPPACE. WHERE SEDWENT IS TRANSPORTED TO A DAVED OR PUBLIC ROAD SUPPACE. THE ROAD SUPPACE, THE ROAD SUPPACE THE TRANSPORT OF SEDWENT BY VEHICULAR TRACKING ONTO THE PAVED SUPPACE. THE ROAD SUPPACE THE ROAD SUPPACE. THE ROAD SUPPACE THE TRANSPORT OF SEDWENT A SEDWENT CONTROL BENCHMENT STATES SEDWENT IS REMOVED IN THIS MAINER. THIS PROVISION SHALL PRIVIT TO HONDULAL DEPENDMENT CONTROL MASSINGER LAW-DISTORMENT CALL BE REMOVED WITHIN 3D DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY WEARERS ARE NO LONGER MEDDED, UNLESS OTHERWISE ALL DE REMOVED WITHIN 2D DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY WEARERS ARE NO LONGER MEDDED, UNLESS OTHERWISE ALL DE REMOVED WITHIN 2D DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY WEARERS ARE NO LONGER MEDDED, UNLESS OTHERWISE ALL DE REMOVED WITHIN 2D DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY WEARERS ARE NO LONGER MEDDED, UNLESS OTHERWISE ALL DE REMOVED WITHIN 2D DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY WEARERS SERVED ALL DEDRESITION OR AFTER FROM SESTIMET STABLE DEPOSITION, ENGINA AND DAMAGE DUE TO MICRASS IN VOLLME, VELOCITY AND AFEAR FLOW RATE OF STORMANTER RUNCHF FOR THE STATE DEPOSITION, ENGINN AND DAMAGE DUE TO MICRASS IN VOLLME, VELOCITY AND AFEAR FLOW RATE OF STORMANTER RUNCHF FOR THE STATE DEPOSITION, ENGINN AND DAMAGE DUE TO MICRASS IN VOLLME, VELOCITY AND AFEAR FLOW RATE OF STORMANTER RUNCHF FOR THE STATE DEPOSITION, ENGINN AND DAMAGE DUE TO MICRASS IN VOLLME, VELOCITY AND AFEAR FLOW RATE RUNCHF FOR THE STATE STADE DEPOSITION, ENGINN AND AFEAR FLOW MICRASS IN VOLLME, VELOCITY AND AFEAR FOR THE STORMANTER RUNCH FOR THE STATE STABULATION AND AFEAR FOR THE STATE AT STABULING TO MICRASS IN VOLLME, VELOCITY A TWO VERY THAT		EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES. EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY. MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION. RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE REGULATIONS.	E&S MEASI UNLESS OT AND SPEC STRUCTUF SAFETY FE
CONTROL DEPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDURED IS READVED IN THIS MANNER. THIS PROVISION SHALL APPLY TO INDIVIDUAL CONTROL DEVELOPMENT LOTS AN WELL AS TO LARGE LAND-DISTURBING ACTIVITES. ATTEM ALL TEMPORARY EROSION AND EXEMENT CONTROL REASURES SHALL BE ERRAVED WITHIN 3D DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY SUPER PROPERTIES AND WATER MON OF EXEMPORARY MEASURES SHALL BE ERRAVED WITHIN 3D DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY SUPER PROPERTIES AND WATER MON OF DEAR LOW RATE OF STORMWATER RUNOFF FOR THE STATED FREQUENCY STORM OF 24-HOUR DURATION IN ACCORDANCE STORM PROPERTIES AND WATER MUNOF LEAVING A DEVELOPMENT SITES SHALL BE ENSCHARED DIRECTLY INTO AN ADEQUATE NATURAL OR AMANADE RECEIPING YEEET CONCENTRATE RUNOFF LEAVING A DEVELOPMENT SITES SHALL BE ENSCHARED DIRECTLY INTO AN ADEQUATE NATURAL OR AMANADE RECEIPING YEEET CONCENTRATE RUNOFF LEAVING A DEVELOPMENT SITES SHALL BE ENSCHARED DIRECTLY INTO AN ADEQUATE NATURAL OR AMANADE RECEIPING YEEET CONCENTRATE RUNOFF LEAVING A DEVELOPMENT SITES SHALL BE ENSCHARED INTO FEDRATISS WITHIN THE CHANNEL OR AMANADE RECEIPING YEEET CONCENTRATE RUNOFF LEAVING A DEVELOPMENT SITES SHALL BE REMOVER DISDEARDADING AND ATTER MULL DEVELOPMENT ANALYSIS WITHIN THE CHANNEL ON AMANER AND A THE WILL DEVELOPMENT AND A DEVELOPMENT		WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED OR PUBLIC ROADS, PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY VEHICULAR TRACKING ONTO THE PAVED SURFACE. WHERE SEDIMENT IS TRANSPORTED ONTO A PAVED OR PUBLIC ROAD SURFACE, THE ROAD SURFACE SHALL BE	A PROTEC TEMPORA A GRAVEL
ALL TEMPORARY EROSED NUM SEDIMENT CONTROL MEASURES SHALL BE REAVED WITHIN 30 DAYS AFTER FINAL STE STABILIZATION OR AFTER THE TEMPORARY SUPER MASURES ARE NO LONGER NEEDD, INLESS DIFFERING ALTIFORZID BY THE LOCLAR PROCEMULAT VISABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION. A TEM PROPERTIES AND WATERWAYS DOWNSTERAN FROM DEVELOPMENT SITES SHALL BE PROVIDENT TO TRUE STABILIZED TO PREVENT FURTHER EROSION AND DAVAGE DUE TO STORM INCREASES IN VOLUME, VELOCITY AND PARK HOW RATE OF STORMWATER RUNOFF FOR THE STATED FREQUENCY STORM OF 24-HOUR DURATION IN ACCORDANCE A SED WITH THE FOLOWING STANDARDS AND CRITERIA: "WEET "WEET CONCENTRATED STORMWATER RUNOFF LEXING A DEVELOPMENT SITES SHALL BE DISCHARGED INTO A MAEQUIATE NATURAL OR MAN-WADE RECEIVING ON ADMENT FOR STORM WATER RUNOFF FOR THE STATELIZATION AND DEVILTE NATURAL OR MAN-WADE RECEIVING ON ADMENT FOR STORM WATER RUNOFF FOR THE STATELIZATION ON A PIPE OR SYSTEM. THE RUNG FOR STEW VIERE RUNOFF IS DISCHARGED INTO A PIPE OR SYSTEM, DOWNSTREAN STABILITY ANALYSIS AT THE UDURATION ADMENT FOR THE PIPE ON THE OTAL DRAINAGE AREA TO THE POINT OF ANALYSIS WITHIN THE CHAINEL IS ONE HUMORED THAS GREATER THAN PIPORT THE CONTRUCTION DAMINGE AREA OT THE POINT OF ANALYSIS WITHIN THE CHAINEL IS ONE HUMORED THAS STREME THAT STORMWATER WILL ON TOKENT AND THE OTAL DRAINAGE AREA TO THE POINT OF ANALYSIS WITHIN THE CHAINEL IS ONE HUMORED THAS GREATER THAN PIPORT THE CONTROL RESPONDED. IN THE APPLICATION SHALL BE ANALYZED BY THE STATE INST. THE AND THE SHALL BE ANALYSIS WITHIN THE CHAINEL IS ONE HUMORED THES STREME THE THE THE THE THE THE THE THE THE TH		CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER. THIS PROVISION SHALL APPLY TO INDIVIDUAL	CONSTRUE A TEMPOR
INCREASES IN VOLUME, VELOCITY AND PEAK FLOW RATE OF STORWMATER RUNOFF FOR THE STATED FREQUENCY STORM OF 24 HOUR DURATION IN ACCORDANCE A SED WITH THE FOLLOWING STANDARDS AND CRITERIA: CONCENTRATED STORWMSTER RUNOFF LEAVING A DEVELOPMENT SITES SHALL BE DISCHARGED DRECTLY INTO AN ADEQUATE NATURAL OR MAN-MADE RECEIVING CHAINEL, PIPE OR STORM SEWER SYSTEMS. FOR THOSE SITES WHERE RUNOFF IS DISCHARGED DRECTLY INTO AN ADEQUATE NATURAL OR MAN-MADE RECEIVING CHAINEL, PIPE OR STORM SEWER SYSTEMS. FOR THOSE SITES WHERE RUNOFF IS DISCHARGED DRECTLY INTO AN ADEQUATE NATURAL OR MAN-MADE RECEIVING CHAINEL, PIPE OR STORM SEWER SYSTEMS. FOR THOSE SITES WHERE RUNOFF IS DISCHARGED DRECTLY INTO AN ADEQUATE NATURAL OR MAN-MADE RECEIVING CHAINEL, PIPE OR STORM SEWER SYSTEMS HALL BE PERFORMED. 10. THE APPLICANT SHALL DEAMONSTRATE THAT THE TOTAL DRAINAGE AREA TO THE POINT OF ANALYSIS WITHIN THE CHAINEL IS ONE HUNDRED TIMES GREATER THAN PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR MANNEL BE OR BANKS; AND (a) ALL PREVONDISY CONSTRUCTED MAN-MADE CHAINELS SHALL BE ANALYZED BY THE USE OF A TEN-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERIFY DITS BANKS AND BY THE USE OF A TWO-YEAR STORM TO DEEMONSTRATE THAT STORMWATER WILL NOT CAUSE EROSION OF CHAINEL BED OR BANKS; AND (b) PIPES AND STORM SYSTEMS SHALL BE ANALYZED BY THE USE OF A TEN-YEAR STORM TO VERIFY THAT STORMWATER WILL BE CONTAINED WITHIN THE PIPE OR PSYSTEM. IF EXISTING NATURAL RECEIVING CHAINELS OR PRIVINGLY CONSTRUCTED AMA-MADE CHAINELS OR PIPES ARE NOT ADEQUATE, THE APPLICANT SHALL BE ANALYZED BY THE USE OF A TEN-YEAR STORM TO VERIFY THAT STORMWATER WILL BE CONTAINED WITHIN THE PIPE OR PSYSTEM. IF EXISTING NATURAL RECEIVING CHAINELS OR PRIVINGLY CONSTRUCTED AMA-MADE CHAINELS OR PIPES ARE NOT ADEQUATE, THE APPLICANT SHALL IF EXISTING NATURAL RECEIVING CHAINELS OR PRIVINGLY CONSTRUCTED AMA-MADE CHAINELS OR PIPES ARE NOT ADEQUATE, THE APPLICANT SHALL IF EXISTING NATURAL RECEIVING CHAINELS OR PREVIDUSLY CONSTRUCTED AMA-MADE CHAINELS OR PIPES ARE NOT AD		MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE LOCAL PROGRAM AUTHORITY. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS	<u>SUPER SIL</u> A TEMPOR
CONCENTRATED STORWWATER RUNOFF LEAVING A DEVELOPMENT SITES SHALL BE DISCHARGED DIRECTLY INTO A NADE ADDRUGT RATURAL OR MAN-MADE RECEIVING CHANNEL POR STORM SEVER SYSTEMS. SOR INDESS ITES WHERE RUNOFF IS DISCHARGED DIRE OR SYSTEM, DOWNSTREAM STABILLTY ANALYSIS AT THE DIPSC OUTFALL OF THE PIPE OR PIPE SYSTEM SHALL BE PERFORMED. ADDRUACY OF ALL CHANNELS AND PIPES SHALL BE VERIFED IN THE FOLLOWING MANNER: INTER ANTICATIONAL DIAL NOD PIPES SHALL BE VERIFED IN THE FOLLOWING MANNER: INTER ANTICATIST HAT THE TOTAL DRAINAGE AREA OT THE POINT OF ANALYSIS WITHIN THE CHANNEL IS ONE HUNDRED TWEES GREATER THAN PROTE THE CONTRIBUTING DRAINAGE AREA OF THE PROLECT IN QUESTION: OR INTER ANALYSED SITH ANALYSED BY THE USE OF A TWO-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP CHANNEL BANKS NOR CAUSE BE STA EROSION OF CHANNEL SHALL BE ANALYSED BY THE USE OF A TWO-YEAR STORM TO DEMONSTRATE THAT STORMWATER WILL HOT CAUSE EROSION OF CHANNEL BEO OR DAINS; AND (A) AL PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS SHALL BE ANALYZED BY THE USE OF A TWO-YEAR STORM TO VERIFY THAT STORMWATER WILL HOT CAUSE EROSION OF CHANNEL BEO OR DAINS; AND (B) PIPES AND STORM SYSTEMS SHALL BE ANALYZED BY THE USE OF A TEN-YEAR STORM TO VERIFY THAT STORMWATER WILL BE CONTAINED WITHIN THE PIPE OR SYSTEM. (B) PIPES AND STORM SYSTEMS SHALL BE ANALYZED BY THE USE OF A TEN-YEAR STORM TO VERIFY THAT STORMWATER WILL BE CONTAINED WITHIN THE PIPE OR SYSTEM SHALL BE ANALYZED BY THE USE OF A TEN-YEAR STORM TO VERIFY THAT STORMWATER WILL BE CONTAINED WITHIN THE PIPE OR SYSTEM SHALL BE ANALYZED BY THE USE OF A TEN-YEAR STORM TO ADDRUGALE, THE APPLICANT SHALL: (1) MPROVE THE CHANNEL TO A CONDITION WHERE AT ETY-YEAR STORM TO TO ADDRUGALE, THE APPLICANT SHALL: (1) MPROVE THE PIPE OR SYSTEM SORM THA REAL PROVING ATTER BANKS AND A TWO-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A ANALDE CHANNEL IS A CONSTRUCTE DEVELOPMENT FARE MORE RATE FROM A TEN-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A ANAMADE CHANNEL SHALL DES STORM AND ARE CREASED ON TO MAKE THE REPORVER		INCREASES IN VOLUME, VELOCITY AND PEAK FLOW RATE OF STORMWATER RUNOFF FOR THE STATED FREQUENCY STORM OF 24-HOUR DURATION IN ACCORDANCE	<u>STORM DF</u> A SEDIME VEGETAT
THE CONTRIBUTING DRAINAGE AREA OF THE PROJECT IN QUESTION: OR PROTE (2). NATURAL CHANNELS SHALL BE ANALYZED BY THE USE OF A TWO-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP CHANNEL BEANKS NOR CAUSE EROSION OF CHANNEL SED OR BANKS; AND (A) ALL PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS SHALL BE ANALYZED BY THE USE OF A TEN-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP TIS BANKS; AND (B) PRES AND STORM SYSTEM SAND BY THE USE OF A TWO-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT CAUSE EROSION OF CHANNEL BED OR BANKS; AND (B) PRES AND STORM SYSTEM SHALL BE ANALYZED BY THE USE OF A TEN-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT CAUSE EROSION OF CHANNEL BED OR BANKS; AND (C) PRIOTE PRES AND STORM SYSTEM SHALL BE ANALYZED BY THE USE OF A TEN-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT CAUSE EROSION OF CHANNEL BED OR BANKS; AND IF EXISTING NATURAL RECEIVING CHANNELS OR PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS OR PIPES ARE NOT A CONDITION WHERE A TEN-YEAR STORM AND CHANNELS OR PIPES ARE STORM TO A CONDITION WHERE A TEN-YEAR STORM AND CHANNELS, OR (C) IMPROVE THE CHANNEL TO A CONDITION WHERE A TEN-YEAR STORM SCONTAINED WITHIN THE APPURTENANCES; OR (1) MERCYCLE PRIPE OR PRESSION TO A CONDITION WHERE THE TEN-YEAR STORM IS CONTAINED WITHIN THE APPURTENANCES; OR (2) MORTON' THE PIPE OR PRESSION TAK AND CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TEN-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A NATURAL CHANNEL IN TO CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TEN-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A NATURAL CHANNEL IN TO CHANNEL INFROVEMENT, STORMWATER DETENTION OR OTHER MEASURES WHICH IS SATISFACTORY TO THE PLAN-APPROVING ALL PROCISIC MAN'ESS HALL BE BASCING MAINTENANCE OF THE DETENTION FACHTER STORMWATER DETENTION OR OTHER MEASURES WHICH IS SATISFACTORY TO THE PLAN-APPROVING ALL PROJUCANT CHANNEL INFORMET, STORMWATER DETENTION OR OTHER MEASURES WHICH IS SATISFACTORY TO THE PLAN-APPROVING ALL PROJUCANT CHANNELS MAST BE VERIFIED TO A CAUSE THE PREDICE T		CHANNEL, PIPE OR STORM SEWER SYSTEMS. FOR THOSE SITES WHERE RUNOFF IS DISCHARGED INTO A PIPE OR SYSTEM, DOWNSTREAM STABILITY ANALYSIS AT THE OUTFALL OF THE PIPE OR PIPE SYSTEM SHALL BE PERFORMED. ADEQUACY OF ALL CHANNELS AND PIPES SHALL BE VERIFIED IN THE FOLLOWING MANNER:	TOPSOILIN TOPSOIL N BE CONFIN
NOT OVERTOP ITS BANKS AND BY THE USE OF A TWO-YEAR STORM TO DEMONSTRATE THAT STROMWATER WILL NOT CAUSE EROSION OF CHANNEL BED OR BANKS, AND (8) PIPES AND STORM SYSTEMS SHALL BE ANALYZED BY THE USE OF A TEN-YEAR STORM TO VERIFY THAT STORMWATER WILL BE CONTAINED WITHIN THE PIPE OR SYSTEM. IF EXISTING KAINURGLE CREVENUS CHANNELS OR PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS OR PIPES ARE NOT ADEQUATE, THE APPLICANT SHALL: TOPSC (1) IMPROVE THE CHANNEL ON A CONDITION WHERE A TEN-YEAR STORM WILL NOT OVERTOP THE BANKS AND A TWO-YEAR STORM WILL NOT CAUSE EROSION TO THE PROPE CHANNEL BED OR BANKS; OR (2) IMPROVE THE CHANNEL TO A CONDITION WHERE A TEN-YEAR STORM WIL NOT OVERTOP THE BANKS AND A TWO-YEAR STORM WILL NOT CAUSE EROSION TO THE PROPE CHANNEL BED OR BAIKS; OR (3) DEVELOP A SITE DESIGN THAT WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TWO-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A NATURAL (CHANNEL OR WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TWO-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A NATURAL (CHANNEL MOR CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TWO-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A NATURAL (CHANNEL IN PROVEMENT, STORMWATER DETENTION OR OTHER MEASURES WHICH IS SATISFACTORY TO THE PLAN-APPROVING AUTHORITY TO PREVENT DOWNSTREAM EROSION. THE APPLICANT SHALL PROVIDE EVIDENCE OF PERMISSION TO MAKE THE IMPROVEMENTS. ALL HYDROLOGIC ANALYSIS SHALL BE BASED ON THE EXISTING WATERSHED CHARACTERISTICS AND THE ULTIMATE DEVELOPMENT OF THE SUBJECT PROJECT. PERMA MAINTENANCE OF THE DETENTION FACILITY SHALL BE DISCHARGED TO A RECEIVING CHANNEL. MAD ENERGY DISSIPATERS SHALL BE PLACED AT THE OUTFALL OF ALL EFOSIC OUTFALL FROM A DETENTION FACILITY SHALL BE DISCHARGED TO A RECEIVING CHANNEL, AND DENERGY DISSIPATERS SHALL BE PLACED AT THE OUTFALL OF ALL EFOSIC ALL MASKERS VIDUAMS TERNING FOR THE SATABILIZED TRANSITION FROM THE FACILITY TO THE RECEIVING CHANNEL. ALL ON-SITE CHANNELS, MOR THE MAILS EROSION OR SEDIMENTATION ON ADJACENT PROPERTY SHALL BE DIVERTED TO	2).	THE CONTRIBUTING DRAINAGE AREA OF THE PROJECT IN QUESTION: OR NATURAL CHANNELS SHALL BE ANALYZED BY THE USE OF A TWO-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP CHANNEL BANKS NOR CAUSE EROSION OF CHANNEL BED OR BANKS; AND	PRIOR TO PROTECT BE STABIL FOR LONG
IF EXISTING NATURAL RECEIVING CHANNELS OR PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS OR PIPES ARE NOT ADEQUATE, THE APPLICANT SHALL: TO PSOC (1) IMPROVE THE CHAINNEL TO A CONDITION WHERE A TEN-YEAR STORM WILL NOT OVERTOP THE BANKS AND A TWO-YEAR STORM WILL NOT CAUSE EROSION TO THE PROPEC (2) IMPROVE THE PIPE OR PIPE SYSTEM TO A CONDITION WHERE THE TEN-YEAR STORM IS CONTAINED WITHIN THE APPURTENANCES; OR (3) DEVELOP A SITE DESIGN THAT WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TWO-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A NATURAL CHANNEL; (4) PROVIDE A COMBINATION OF CHANNEL IMPROVEMENT, STORMWATER DETENTION OR OTHER MEASURES WHICH IS SATISFACTORY TO THE PLAN-APPROVING ALL PROVIDE A COMBINATION OF CHANNEL IMPROVEMENT, STORMWATER DETENTION OR OTHER MEASURES WHICH IS SATISFACTORY TO THE PLAN-APPROVING ALL PROVIDE A COMBINATION OF CHANNEL IMPROVEMENT, STORMWATER DETENTION OR OTHER MEASURES WHICH IS SATISFACTORY TO THE PLAN-APPROVING ALL PROVIDE A COMBINATION OF CHANNEL IMPROVEMENT, STORMWATER DETENTION OR OTHER MEASURES WHICH IS SATISFACTORY TO THE PLAN-APPROVING ALL PROVIDE A COMBINATION OF CHANNEL IMPROVEMENT, STORMWATER DETENTION OR OTHER MEASURES WHICH IS SATISFACTORY TO THE PLAN-APPROVING ALL PROVIDE STORMWATER DETENTION FACILITYS SHALL BE BASED ON THE EXISTING WATERSHED CHARACTERISTICS AND THE ULTIMATE DEVELOPMENT OF THE SUBJECT PROJECT. PERMAG IF THE APPLICANT SHALL BE DASED ON THE EXISTING WATERSHED CHARACTERISTICS AND THE ULTIMATE DEVELOPMENT OF THE SUBJECT PROJECT. ALL HYDROLOGIC ANALYSIS SHALL BE BASED ON THE EXISTING WATERSHED CHARACTERISTICS AND THE ULTIMATE DEVELOPMENT OF THE SUBJECT PROJECT. PERMAG IF THE APPLICANT SHALL BE DESCHARGED TO A RECEIVING CHANNEL, AND ENREGY DISSIPATERS SHALL BE PLANE ON RESPONSIBLE FOR UNTFALL FROM A DETENTION FACILITYS. THE PLAN SHALL SET FORTH THE MAINTENANCE REQUIREMENTS OF THE FACILITY AND THE PERSON RESPONSIBLE FOR UNTFALL FROM A DETENTION FACILITY SHALL BE DISCHARGED TO A RECEIVING CHANNEL, AND ENREGY DISSIPATERS SHALL BE PLA		NOT OVERTOP ITS BANKS AND BY THE USE OF A TWO-YEAR STORM TO DEMONSTRATE THAT STROMWATER WILL NOT CAUSE EROSION OF CHANNEL BED OR BANKS; AND	PRIOR TO APPROVEI APPROVEI
(3) DEVELOP A SITE DESIGN THAT WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TWO-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO (3) DEVELOP A SITE DESIGN THAT WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TEN-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO (4) PROVIDE A COMBINATION OF CHANNEL IMPROVEMENT, STORMWATER DETENTION OR OTHER MEASURES WHICH IS SATISFACTORY TO THE PLAN-APPROVING TEMPO (4) PROVIDE A COMBINATION OF CHANNEL IMPROVEMENT, STORMWATER DETENTION OR OTHER MEASURES WHICH IS SATISFACTORY TO THE PLAN-APPROVING SELECT THE APPLICANT TO PREVENT DOWNSTREAM EROSION. SELECT THE APPLICANT THAT INCLUDES STORMWATER DETENTION HAS THE IMPROVEMENTS. PERMA ALL HYDROLOGIC ANALYSIS SHALL BE BASED ON THE EXISTING WATERSHED CHARACTERISTICS AND THE ULTIMATE DEVELOPMENT OF THE SUBJECT PROJECT. PERMA IF THE APPLICANT CHOOSES AN OPTION FACILITIES. THE PLAN SHALL SET FORTH THE MAINTENANCE REQUIREMENTS OF THE FACILITY ON A DETENTION FACILITY SHALL BE DISCHARGED TO A RECEIVING CHANNEL, AND ENERGY DISSIPATERS SHALL BE PLACED AT THE OUTFALL OF ALL EROSIG DUTFALL FROM A DETENTION FACILITY SHALL BE DISCHARGED TO A RECEIVING CHANNEL, AND ENERGY DISSIPATERS SHALL BE PLACED AT THE OUTFALL OF ALL EROSIG INCREASED VOLUMES OF SHEET FLOWS THAT MAY CAUSE EROSION OR SEDIMENTATION ON ADJACENT PROPERTY SHALL BE DIVERTED TO A STABLE OUTLET, OPERA OUTFALL FROM A DETENTION FACILITY. IN APPLYING THESE STORMWATER RUNDEFF CONSIDERED TO A DETENTION FROM THE FACILITY. IN APPLYING THESE STORMWATER RUNDEFF		IF EXISTING NATURAL RECEIVING CHANNELS OR PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS OR PIPES ARE NOT ADEQUATE, THE APPLICANT SHALL: (1) IMPROVE THE CHANNEL TO A CONDITION WHERE A TEN-YEAR STORM WILL NOT OVERTOP THE BANKS AND A TWO-YEAR STORM WILL NOT CAUSE EROSION TO THE	TOPSOIL S PROPER G ON FLATT
AUTHORITY TO PREVENT DOWNSTREAM EROSION. SELECT THE APPLICANT SHALL PROVIDE EVIDENCE OF PERMISSION TO MAKE THE IMPROVEMENTS. ALL HYDROLOGIC ANALYSIS SHALL BE BASED ON THE EXISTING WATERSHED CHARACTERISTICS AND THE ULTIMATE DEVELOPMENT OF THE SUBJECT PROJECT. IL HYDROLOGIC ANALYSIS SHALL BE BASED ON THE EXISTING WATERSHED CHARACTERISTICS AND THE ULTIMATE DEVELOPMENT OF THE SUBJECT PROJECT. IL HYDROLOGIC ANALYSIS SHALL BE BASED ON THE EXISTING WATERSHED CHARACTERISTICS AND THE ULTIMATE DEVELOPMENT OF THE SUBJECT PROJECT. IL HYDROLOGIC ANALYSIS SHALL BE BASED ON THE XISTING WATERSHED CHARACTERISTICS AND THE ULTIMATE DEVELOPMENT OF THE SUBJECT PROJECT. IF APPLICANT CHOOSES AN OPTION THAT INCLUDES STORWWATER DETENTION HE SHALL OBTAIN APPROVAL FROM THE LOCALITY OF A PLAN FOR ESTABL MAINTENANCE OF THE DETENTION FACILITIES. THE PLAN SHALL SET FORTH THE MAINTENANCE REQUIREMENTS OF THE FACILITY AND THE PERSON RESPONSIBLE FOR UNG PERFORMING THE MAINTENANCE. OUTFALL FROM A DETENTION FACILITY SHALL BE DISCHARGED TO A RECEIVING CHANNEL, AND ENERGY DISSIPATERS SHALL BE PLACED AT THE OUTFALL OF ALL EROSIC DETENTION FACILITIES AS NECESSARY TO PROVIDE A STABILIZED TRANSITION FROM THE FACILITY TO THE RECEIVING CHANNEL. ALL ON-SITE CHANNELS MUST BE VERIFIED TO BE ADEQUATE. INCREASED VOLUMES OF SHEET FLOWS THAT MAY CAUSE EROSION OR SEDIMENTATION ON ADJACENT PROPERTY SHALL BE DIVERTED TO A STABLE OUTLET, ADEQUATE CHANNEL, PIPE OR PIPE SYSTEM, OR TO A DETENTION FACILITY. IN APPLYING THESE STORWATER RUNOFF CRITERIA, INDIVIDUAL LOTS OR PARCELS IN A RESIDENTIAL, COMMERCIAL OR INDUSTRIAL DEVELOPMENT SHALL NOT BE SPECIA CONSIDERED TO BE SEPARATE DEVELOPMENT PROJECTS. INSTEAD, THE DEVELOPMENT, AS A WHOLE, SHALL BE CONSIDERED TO BE A SINGLE DEVELOPMENT THE CONSIDERED TO BE ASPARATE DEVELOPMENT PROJECTS. INSTEAD, THE DEVELOPMENT CONDITIONS SHALL BE USED IN ALL ENGINEERING CALCULATIONS. WORK ALL MEASURES USED TO PROPERTIES AND WATERWAYS SHALL BE EMPLOYED IN A MANNER WHICH MINIMIZES IMPACTS ON THE PHYSICAL, CHEMICAL AND GREAT BIOLOGICAL INTEGR		(3) DEVELOP A SITE DESIGN THAT WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TWO-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A NATURAL CHANNEL OR WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TEN-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO	TOPSOILIN
IF THE APPLICANT CHOOSES AN OPTION THAT INCLUDES STORMWATER DETENTION HE SHALL OBTAIN APPROVAL FROM THELOCALITY OF A PLAN FORESTABLMAINTENANCE OF THE DETENTION FACILITIES. THE PLAN SHALL SET FORTH THE MAINTENANCE REQUIREMENTS OF THE FACILITY AND THE PERSON RESPONSIBLE FORLONGPERFORMING THE MAINTENANCE.OUTFALL FROM A DETENTION FACILITY SHALL BE DISCHARGED TO A RECEIVING CHANNEL, AND ENERGY DISSIPATERS SHALL BE PLACED AT THE OUTFALL OF ALLEROSICDETENTION FACILITIES AS NECESSARY TO PROVIDE A STABILIZED TRANSITION FROM THE FACILITY TO THE RECEIVING CHANNEL.EROSICALL ON-SITE CHANNELS MUST BE VERIFIED TO BE ADEQUATE.EROSICINCREASED VOLUMES OF SHEET FLOWS THAT MAY CAUSE EROSION OR SEDIMENTATION ON ADJACENT PROPERTY SHALL BE DIVERTED TO A STABLE OUTLET,OPERAADEQUATE CHANNEL, PIPE OR PIPE SYSTEM, OR TO A DETENTION FACILITY.IN APPLYING THESE STORMWATER RUNOFF CRITERIA, INDIVIDUAL LOTS OR PARCELS IN A RESIDENTIAL, COMMERCIAL OR INDUSTRIAL DEVELOPMENT SHALL NOT BESPECIACONSIDERED TO BE SEPARATE DEVELOPMENT PROJECTS.INSTEAD, THE DEVELOPMENT, AS A WHOLE, SHALL BE CONSIDERED TO BE A SINGLE DEVELOPMENTTHE COPROJECT. HYDROLOGIC PARAMETERS THAT REFLECT THE ULTIMATE DEVELOPMENT, AS A WHOLE, SHALL BE CONSIDERED TO BE A SINGLE DEVELOPMENTWORKALL MEASURES USED TO PROTECT PROPERTIES AND WATERWAYS SHALL BE EMPLOYED IN A MANNER WHICH MINIMIZES IMPACTS ON THE PHYSICAL, CHEMICAL ANDGREATBIOLOGICAL INTEGRITY OF RIVERS, STREAMS AND OTHER WATERS OF THE STATE.COMPL		AUTHORITY TO PREVENT DOWNSTREAM EROSION. THE APPLICANT SHALL PROVIDE EVIDENCE OF PERMISSION TO MAKE THE IMPROVEMENTS.	ALL DENU SELECTION
DETENTION FACILITIES AS NECESSARY TO PROVIDE A STABILIZED TRANSITION FROM THE FACILITY TO THE RECEIVING CHANNEL. EROSIC ALL ON-SITE CHANNELS MUST BE VERIFIED TO BE ADEQUATE. INCREASED VOLUMES OF SHEET FLOWS THAT MAY CAUSE EROSION OR SEDIMENTATION ON ADJACENT PROPERTY SHALL BE DIVERTED TO A STABLE OUTLET, ADEQUATE CHANNEL, PIPE OR PIPE SYSTEM, OR TO A DETENTION FACILITY. IN APPLYING THESE STORMWATER RUNOFF CRITERIA, INDIVIDUAL LOTS OR PARCELS IN A RESIDENTIAL, COMMERCIAL OR INDUSTRIAL DEVELOPMENT SHALL NOT BE CONSIDERED TO BE SEPARATE DEVELOPMENT PROJECTS. INSTEAD, THE DEVELOPMENT, AS A WHOLE, SHALL BE CONSIDERED TO BE A SINGLE DEVELOPMENT PROJECT. HYDROLOGIC PARAMETERS THAT REFLECT THE ULTIMATE DEVELOPMENT CONDITIONS SHALL BE USED IN ALL ENGINEERING CALCULATIONS. ALL MEASURES USED TO PROTECT PROPERTIES AND WATERWAYS SHALL BE EMPLOYED IN A MANNER WHICH MINIMIZES IMPACTS ON THE PHYSICAL, CHEMICAL AND GREAT BIOLOGICAL INTEGRITY OF RIVERS, STREAMS AND OTHER WATERS OF THE STATE.		IF THE APPLICANT CHOOSES AN OPTION THAT INCLUDES STORMWATER DETENTION HE SHALL OBTAIN APPROVAL FROM THE LOCALITY OF A PLAN FOR MAINTENANCE OF THE DETENTION FACILITIES. THE PLAN SHALL SET FORTH THE MAINTENANCE REQUIREMENTS OF THE FACILITY AND THE PERSON RESPONSIBLE FOR PERFORMING THE MAINTENANCE.	PERMANEN ESTABLISH LONG LIVE
ADEQUATE CHANNEL, PIPE OR PIPE SYSTEM, OR TO A DETENTION FACILITY. IN APPLYING THESE STORMWATER RUNOFF CRITERIA, INDIVIDUAL LOTS OR PARCELS IN A RESIDENTIAL, COMMERCIAL OR INDUSTRIAL DEVELOPMENT SHALL NOT BE CONSIDERED TO BE SEPARATE DEVELOPMENT PROJECTS. INSTEAD, THE DEVELOPMENT, AS A WHOLE, SHALL BE CONSIDERED TO BE A SINGLE DEVELOPMENT PROJECT. HYDROLOGIC PARAMETERS THAT REFLECT THE ULTIMATE DEVELOPMENT CONDITIONS SHALL BE USED IN ALL ENGINEERING CALCULATIONS. ALL MEASURES USED TO PROTECT PROPERTIES AND WATERWAYS SHALL BE EMPLOYED IN A MANNER WHICH MINIMIZES IMPACTS ON THE PHYSICAL, CHEMICAL AND BIOLOGICAL INTEGRITY OF RIVERS, STREAMS AND OTHER WATERS OF THE STATE. COMPL		DETENTION FACILITIES AS NECESSARY TO PROVIDE A STABILIZED TRANSITION FROM THE FACILITY TO THE RECEIVING CHANNEL. ALL ON-SITE CHANNELS MUST BE VERIFIED TO BE ADEQUATE.	EROSION EROSION EROSION OPERATIC
CONSIDERED TO BE SEPARATE DEVELOPMENT PROJECTS. INSTEAD, THE DEVELOPMENT, AS A WHOLE, SHALL BE CONSIDERED TO BE A SINGLE DEVELOPMENTTHE COPROJECT. HYDROLOGIC PARAMETERS THAT REFLECT THE ULTIMATE DEVELOPMENT CONDITIONS SHALL BE USED IN ALL ENGINEERING CALCULATIONS.WORKALL MEASURES USED TO PROTECT PROPERTIES AND WATERWAYS SHALL BE EMPLOYED IN A MANNER WHICH MINIMIZES IMPACTS ON THE PHYSICAL, CHEMICAL ANDGREATBIOLOGICAL INTEGRITY OF RIVERS, STREAMS AND OTHER WATERS OF THE STATE.COMPLCOMPLCOMPL		ADEQUATE CHANNEL, PIPE OR PIPE SYSTEM, OR TO A DETENTION FACILITY.	<u>SPECIAL C</u>
		CONSIDERED TO BE SEPARATE DEVELOPMENT PROJECTS. INSTEAD, THE DEVELOPMENT, AS A WHOLE, SHALL BE CONSIDERED TO BE A SINGLE DEVELOPMENT PROJECT. HYDROLOGIC PARAMETERS THAT REFLECT THE ULTIMATE DEVELOPMENT CONDITIONS SHALL BE USED IN ALL ENGINEERING CALCULATIONS. ALL MEASURES USED TO PROTECT PROPERTIES AND WATERWAYS SHALL BE EMPLOYED IN A MANNER WHICH MINIMIZES IMPACTS ON THE PHYSICAL, CHEMICAL AND	THE CONT WORK IS F GREATEST THESE STF
			COMPLETE

EROSION & SEDIMENT CONTROL NARRATIVE

VISTURBED AREA IS 1.21 ACRES WITHIN A 21.0 ACRE MIXED USE DEVELOPMENT. THIS PROJECT IS THE DEVELOPMENT OF A DAYCARE FACILITY AND PARKING. E CONDITIONS:

LEARED WITH NO STEEP SLOPES PRESENT.

HE SITE IS THE EXISTING INTERSTATE 66. SOUTH, EAST AND WEST OF THE SITE IS THE EXISTING CROSSROADS VILLAGE CENTER.

AREAS ARE PROPOSED TO BE IMPACTED WITH THIS PLAN.

NFORMATION IS PROVIDED IN THE SOILS MAP ON SHEET 03

NO CRITICAL AREAS WITHIN THE PROPOSED SITE

REE SAVE AREA:

UTSIDE THE LIMITS OF CLEARING AND GRADING SHALL REMAIN UNDISTURBED UNLESS DIRECTLY INSTRUCTED BY THE TOWN OF HAYMARKET INSPECTOR.

ID EROSION CONTROL PROGRAM: ACTOR SHALL TAKE THE FOLLOWING STEPS TO MINIMIZE THE VOLUME OF SILT:

FRACTOR SHALL EVALUATE THE SITE TO DETERMINE EXTENSIVE CUT AND FILL AREAS, AND SHALL WORK THESE AREAS TO MINIMIZE THE EXTENT OF HEAVY EQUIPMENT WORK. FRACTOR SHALL STRIVE TO BRING AREAS TO GRADE (ROUGH OR FINISH) AND TO STABILIZE, BY TEMPORARY OR PERMANENT VEGETATION, THESE DISTURBED AREAS PRIOR TO BEGINNING

K IN ANOTHER AREA. AREAS SHALL BE COMPACTED. COMPLETELY PRIOR TO THE END OF EACH WORK DAY. FILL SLOPE SURFACES SHALL BE LEFT ROUGHENED TO REDUCE SHEET EROSION OF THE SLOPES. RACTOR SHALL RE-DIRECT CONCENTRATED RUNOFF, BY EARTH BERMS OR OTHER DEVICES, AROUND ACTIVELY DISTURBED AREAS TO STABILIZE OUTLETS. ICOPE AS NECESSARY. SHALL BE PROTECTED FORM CONCENTRATED FLOW BY BERMS ABOVE THE SLOPE AND DIRECTED AROUND THE DISTURBED AREA TO STABILIZED OUTLETS. W PAVEMENT AREAS, PLACE THE AGGREGATE BASE STONE ON THE FINISH SUBGRADE AT THE EARLIEST POSSIBLE TIME.

ALL THE TEMPORARY CONSTRUCTION ENTRANCE WITH WASH RACKS AS SHOWN ON SHEET 08. WATER TRUCKS SHALL BE USED IF THERE IS NO ON-SITE WATER AVAILABLE. PROVIDE FABRIC UNDERLAIN. MUD AND DEBRIS SHALL BE WASHED FROM ALL CONSTRUCTION VEHICLES AND EQUIPMENT BEFORE LEAVING THE SITE. ANY MUD OR SILT CARRIED INTO THE EET AFTER WASHING SHALL BE IMMEDIATELY REMOVED.

ALL INLET PROTECTION FOR ALL EXISTING STORM SEWER INLETS AS SHOWN ON THE PHASE I DRAWINGS ON SHEET 08.

AND GRUB ALONG THE PERIMETER OF LIMITS OF CLEARING AND GRADING. INSTALL SAFETY FENCE AND PERIMETER CONTROLS.

E THE THE ABOVE STEPS HAVE BEEN COMPLETED, THE CONTRACTOR SHALL CONTACT THE TOWN E&S INSPECTOR TO INSPECT THE SITE. NO FURTHER CONSTRUCTION ACTIVITY SHALL MENCE UNTIL THE TOWN INSPECTOR HAS PERFORMED THE SITE INSPECTION.

SUPER SILT FENCES AND SILT FENCE WILL REMAIN WHERE SHOWN ON THE PHASE II PLAN ON SHEET 08. THE CONSTRUCTION ENTRANCE SHALL BE REMOVED WHEN FINAL PAVING IS PLETED AND APPROVED BY THE TOWN INSPECTOR.

F PROTECTION FOR STORM INLETS SHALL BE PLACED AS SOON AS THE INLETS ARE INSTALLED. SLOPE SURFACES SHALL BE LEFT IN A ROUGHENED CONDITION TO REDUCE SHEET AND RILL EROSION OF THE SLOPES. THE CONTRACTOR SHALL RE-DIRECT CONCENTRATED FLOW AWAY

A THE FILL SLOPES BY INSTALLING EARTH BERMS AND OUTLETTING THE RUNOFF TO A STABILIZED OUTLET.

OVE THE EXISTING CURB AND GUTTER IN THE LOCATIONS INDICATED ON THE PLAN. ALL THE PROPOSED STORM DRAINS CONCURRENTLY WITH NEW CURB AND GUTTER.

ALL PAVEMENT SUBBASE AND AND INTERMEDIATE COURSE.

ALL PAVEMENT TOP COURSE AND PROPOSED SIDEWALKS.

PLETE FINAL MISCELLANEOUS SITE ITEMS INCLUDING PAVEMENT STRIPING, etc. CONSTRUCTION OPERATIONS HAVE ENDED AND ALL DISTURBED AREAS HAVE BEEN STABILIZED WITH VEGETATION, THE EROSION AND SEDIMENT CONTROL MEASURES MAY BE REMOVED THE APPROVAL OF THE TOWN E&S INSPECTOR.

ERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS FICATIONS OF THE HANDBOOK. THE MINIMUM STANDARDS OF THE VESCH SHALL BE ADHERED TO UNLESS OTHERWISE WAIVED OR APPROVED BY A VARIANCE. L PRACTICES

/E BARRIER INSTALLED TO PREVENT ACCESS TO AN EROSION CONTROL MEASURE

CONSTRUCTION ENTRANCE - 3.02

AD LOCATED AT POINTS OF VEHICULAR INGRESS AND EGRESS ON A CONSTRUCTION SITE TO REDUCE THE MUD TRANSPORTED ONTO PUBLIC ROADS AND OTHER PAVED AREAS.

ION ROAD STABILIZATION - 3.03

Y STABILIZATION OF ACCESS ROADS, AND OTHER ONSITE VEHICLE TRANSPORTATION ROUTES WITH STONE IMMEDIATELY AFTER GRADING.

ENCE BARRIER - 3.05

Y BARRIER CONSISTING OF A SYNTHETIC FILTER FABRIC STRETCHED ACROSS AND ATTACHED TO SUPPORTING POSTS AND ENTRENCHED.

N INLET PROTECTION - 3.07

T FILTER OR AN EXCAVATED IMPOUNDING AREA AROUND A STORM DRAIN DROP INLET OR CURB INLET.

PRACTICES

LL BE STRIPPED FROM AREAS TO BE GRADED AND STOCKPILED FOR LATER USE. TOPSOIL OPERATIONS SHOULD NOT BE PERFORMED WHEN THE SOIL IS WET OR FROZEN. STRIPPING SHALL ED TO THE IMMEDIATE CONSTRUCTION AREA. A 4-TO 6-INCH STRIPPING DEPTH SHALL BE PROVIDED. ALL PERIMETER DIKES, BASINS, AND OTHER SEDIMENT CONTROLS SHALL BE IN PLACE TRIPPING. TOPSOIL SHALL BE STOCKPILED IN SUCH A MANNER THAT NATURAL DRAINAGE IS NOT OBSTRUCTED AND NO OFF-SITE SEDIMENT DAMAGE SHALL RESULT. STABILIZE OR STOCKPILES IN ACCORDANCE WITH MS #2. PERIMETER CONTROLS MUST BE PLACED AROUND THE STOCKPILE IMMEDIATELY. STOCKPILE LOCATIONS SHALL BE LOCATED ON-SITE AND ARE TO ZED WITH TEMPORARY VEGETATION WITHIN 7 DAYS OF THE FORMATION OF THE STOCKPILE, IN ACCORDANCE WITH STD. & SPEC. 3.31, TEMPORARY SEEDING IF IT IS TO REMAIN DORMANT THAN 30 DAYS (REFER TO MS #1 AND MS #2).

AND-DISTURBING ACTIVITIES, THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY E&S PLAN TO THE OWNER COVERING ANY OFF-SITESTOCKPILE AREA WHICH WOULD HAVE TO BE BY THE PLAN APPROVING AUTHORITY BEFORE ANY OFF-SITE ACTIVITY COMMENCES. ANY OFFSITE WORK MUST BE CONDUCTETD AT A SITE WITH AN ACTIVE GRADING PERMIT AND AN E&SC PLAN.

IALL NOT BE PLACED WHILE IN A FROZEN OR MUDDY CONDITION, WHEN TOPSOIL OR SUBGRADE IS EXCESSIVELY WET, OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO ADING OR PROPOSED SODDING OR SEEDING. THE TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED TO A MINIMUM COMPACTED DEPTH OF 2 INCHES ON 3:1 OR STEEPER SLOPES AND 4 INCHES R SLOPES. (SEE TABLE 3.30-A TO DETERMINE VOLUME OF TOPSOIL REQUIRED FOR APPLICATION TO VARIOUS DEPTHS). ANY IRREGULARITIES IN THE SURFACE, RESULTING FROM G OR OTHER OPERATIONS, SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.

ED AREAS, WHICH WILL BE LEFT DORMANT FOR EXTENDED PERIODS OF TIME, SHALL BE SEEDED WITH FAST GERMINATING TEMPORARY VEGETATION IMMEDIATELY FOLLOWING GRADING. I OF THE SEED MIXTURE WILL DEPEND ON THE TIME OF YEAR IT IS APPLIED.

ENT OF PERENNIAL VEGETATIVE COVER BY PLANTING SEED ON ROUGH GRADING AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE FOR A YEAR OR MORE OR WHERE PERMANENT, VEGETATIVE COVER IS NEEDED ON FINE GRADING AREAS.

NTROL BLANKET - 3.36 OR MULCH - 3.35

ONTROL BLANKETS WILL BE INSTALLED OVER FILL SLOPES, WHICH HAVE BEEN BROUGHT TO FINAL GRADE AND HAVE BEEN SEEDED TO PROTECT THE SLOPES FROM RILL AND GULLY ND TO ALLOW SEED TO GERMINATE PROPERLY. MULCH (STRAW OR FIBER) WILL BE USED ON RELATIVELY FLAT AREAS AND WILL BE APPLIED AS A SECOND STEP IN THE SEEDING (SEE SHEET 26 FOR MULCHING RATES, TABLE 3.35-A)

ACTOR SHALL TAKE SPECIAL CARE TO PROTECT THE EXISTING VEGETATION, WETLANDS AND STREAMS OUTSIDE OF THE DESIGNATED LIMITS OF WORK SHOWN ON THE PLANS. WHEN ERFORMED IN/NEAR STREAMS AND WETLANDS, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE EXTENT POSSIBLE DURING CONSTRUCTION. NONERODIBLE MATERIAL SHALL BE USED FOR THE CONSTRUCTION OF CAUSEWAYS AND COFFERDAMS. EARTHEN FILL MAY BE USED FOR UCTURES IF ARMORED BY NONERODIBLE MATERIALS. THE BED AND BANKS OF THE STREAM AND WETLANDS SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN/NEAR THESE LOCATIONS IS

IT STRATEGIES

FRUCTION WILL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE.

TEMPORARY SEEDING OR OTHER STABILIZATION WILL FOLLOW IMMEDIATELY AFTER GRADING.

AREAS WHICH ARE NOT TO BE DISTURBED WILL BE CLEARLY MARKED BY FLAGS, SIGNS, ETC.

THE JOB SUPERINTENDENT SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL PRACTICES. AFTER ACHIEVING ADEQUATE STABILIZATION, THE TEMPORARY E&S CONTROLS WILL BE CLEANED UP AND REMOVED.

6. IF ON-SITE WATER IS NOT AVAILABLE, WATER TRUCKS SHALL BE PRESENT ON-SITE.

PERMANENT STABILIZATION: ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY FOLLOWING FINISH GRADING. SEEDING SHALL BE DONE WITH A SITE SPECIFIC SEED, AS BASED ON TIME OF CONSTRUCTION AND AVAILABILITY, ACCORDING TO STD. & SPEC. 3.32, PERMANENT SEEDING, OF THE HANDBOOK (SEE SHEET 11). EROSION CONTROL BLANKETS WILL BE INSTALLED OVER FILL STEEP 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. SOIL TESTS SHALL BE REQUIRED TO DETERMINE SITE SPECIFIC LIME AND FERTILIZER REQUIREMENTS.

MAINTENANCE:

- 2. ALL SILT TRAPPING FACILITIES SHALL BE CLEANED OUT AT 50% TRAP CAPACITY AND SEDIMENT SHALL BE DISPOSED OF BY SPREADING ON SITE (OR HAULING AWAY IF NOT SUITABLE FOR
- STRUCTURUAL FILL).

TEMPORARY SEEDING

SEE SHEET III-288 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH) FOR ALLOWABLE PLANTING MATERIAL, SEEDING RATES, AND DATES. THE REQUIREMENTS OF THE "SOUTH" PLANTING REQUIREMENTS SHALL BE FOLLOWED. LIMING SHALL BE BASED ON TABLE 3.31-A OF VESCH. FERTILIZERS SHALL BE APPLIED AS 600 LB/ACRE. THE FERTILIZER SHALL BE INCORPORATED INTO THE TOP 2-4" OF SOIL. SEED SHALL BE EVENLY APPLIED AND SMALL GRAINS SHALL BE PLANTED NO MORE THAN 1.5" DEEP. SEEDING MADE IN FALL FOR WINTER COVER AND DURING HOT SUMMER MONTHS SHALL BE MULCHED.

INSTALLED PER PAGE III-339 OF VESCH.

UTILITY INSTALLATION:

- NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
- ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.
- RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE REGULATIONS. 5 6.

LAND CONSERVATION NOTES:

- THOSE REQUIRED FOR THE PERIMETER CONTROLS.

THE FOLLOWING IS A PROGRAM OF MAINTENANCE FOR MECHANICAL CONTROLS SPECIFIED IN THIS NARRATIVE AND ON THE PLAN: 1. THE SITE SUPERINTENDENT, OR HIS REPRESENTATIVE, SHALL MAKE A VISUAL INSPECTION OF ALL MECHANICAL CONTROLS AND NEWLY STABILIZED AREAS (I.E.-SEEDED OR SODDED AREAS) ON A DAILY BASIS (ESPECIALLY AFTER A HEAVY RAINFALL) TO INSURE THAT ALL CONTROLS ARE IN PLACE AND THAT NONE HAVE BEEN DAMAGED. ANY DAMAGED CONTROL SHALL BE REPAIRED PRIOR TO END OF THE WORK DAY TO INCLUDE RESEDING OR RESODDING, IF NECESSARY.

AFTER ALL CONSTRUCTION OPERATIONS HAVE ENDED AND ALL DISTURBED AREAS ARE STABILIZED, MECHANICAL SEDIMENT CONTROLS SHALL BE REMOVED AND GROUND SHALL BE RESTORED INCLUDING ESTABLISHMENT OF VEGETATION TO ITS NATURAL OR PROPOSED CONDITION. REMOVAL OF ANY CONTROL IS CONTINGENT UPON APPROVAL BY THE INSPECTOR. 4. DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES AND BORROW AREAS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES.

SODDED AREAS SHALL BE BROUGHT TO FINAL GRADE IN ACCORDANCE WITH THE APPROVED PLANS. SOIL TEST SHOULD BE MADE TO DETERMINE THE EXACT REQUIREMENTS FOR LIME AND FERTILIZER. PRIOR TO LAYING SOD, SOIL SURFACE SHALL BE CLEAR OF TRASH, DEBRIS AND LARGE OBJECTS. QUALITY OF SOD SHALL BE STATE CERTIFIED AND ENSURE GENETIC PURITY AND HIGH QUALITY. SOD SHALL NOT BE LAID IN EXCESSIVELY WET OR DRY WEATHER AND BE DELIVERED AND INSTALLED WITHIN 36 HOURS. SOD SHOULD NOT BE LAID ON FROZEN SOIL SURFACE AND SHALL BE

DURING CONSTRUCTION OF THIS PROJECT, SOIL STOCKPILES AND BORROW AREAS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT CONTROL DEVICES.

UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:

EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT

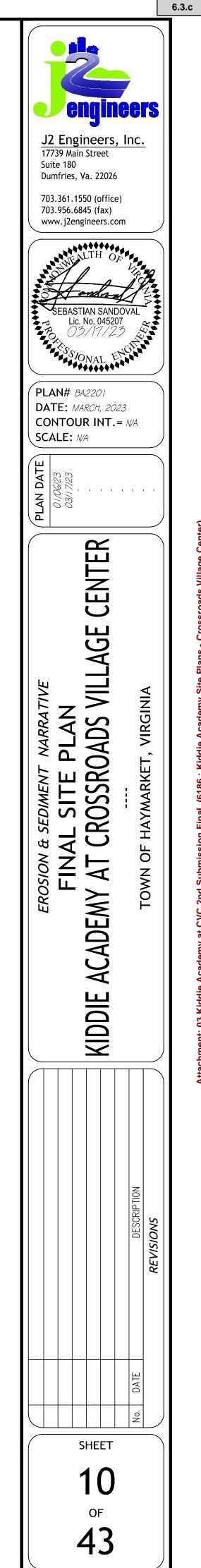
MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.

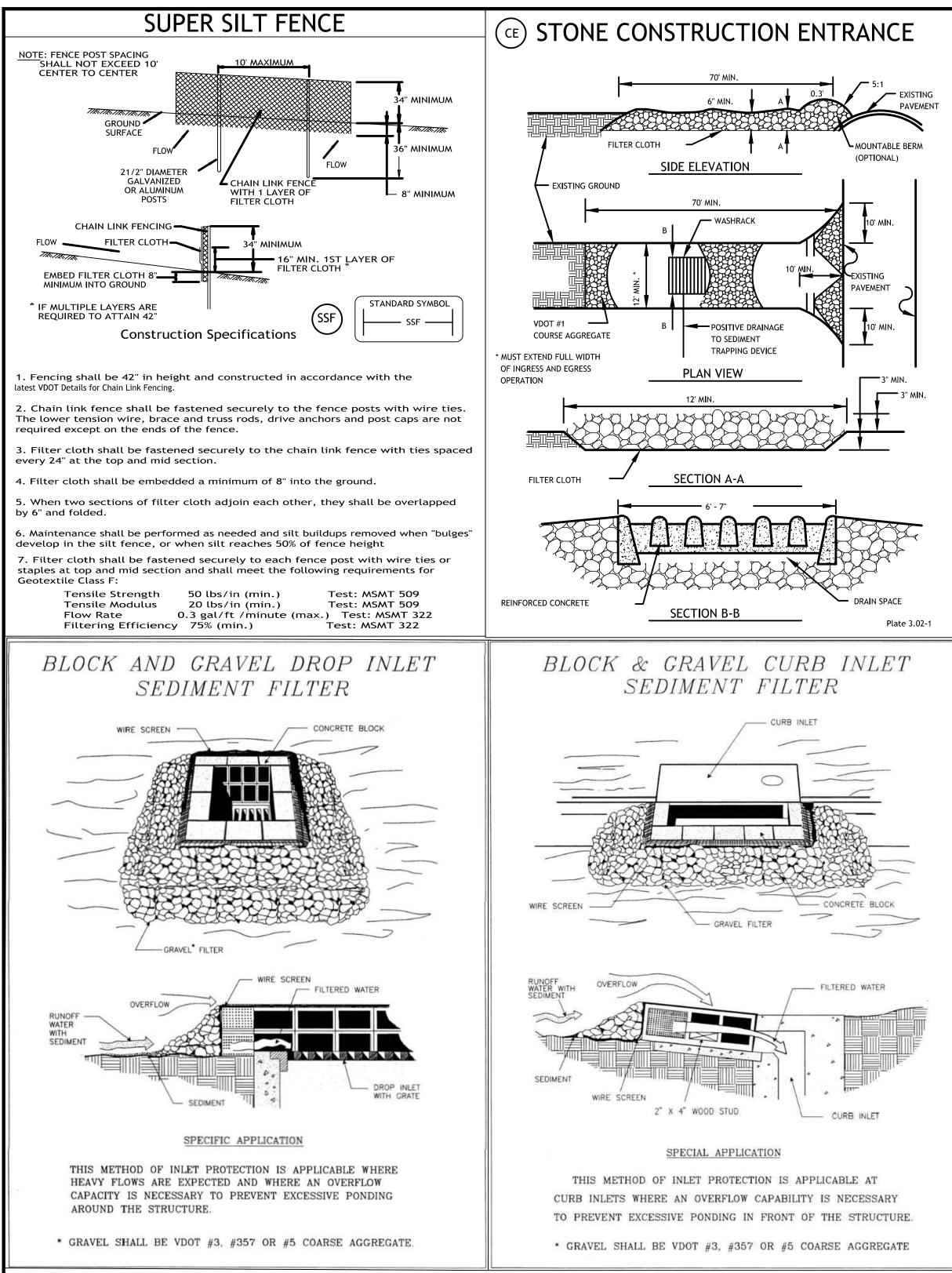
APPLICABLE SAFETIES SHALL TAKE PLACE AND REGULATIONS SHALL BE COMPLIED WITH.

ALL E&S CONTROL MEASURES APPROVED WITH THE PHASE I E&S CONTROL PLAN SHALL BE PLACED PRIOR TO OR AS THE FIRST STEP IN GRADING. FIRST AREAS TO BE CLEARED ARE TO BE

ALL STORM AND SANITARY SEWER LINES NOT IN STREETS SHALL BE SEEDED AND MULCHED WITHIN 7 DAYS AFTER BACKFILL. NO MORE THAT 500' SHALL BE OPEN AT ANY ONE TIME.

ELECTRIC POWER, TELEPHONE AND GAS SUPPLY TRENCHES SHALL BE COMPACTED, SEEDED, AND MULCHED WITHIN 7 DAYS AFTER BACKFILL. ALL TEMPORARY EARTH BERMS, DIVERSIONS AND SEDIMENT CONTROL DAMS SHALL BE SEEDED AND MULCHED FOR TEMPORARY VEGETATIVE COVER IMMEDIATELY (AS SOON AS POSSIBLE BUT NO LATER THAN 48 HOURS) AFTER COMPLETION OF GRADING. STRAW OR HAY MULCH IS REQUIRED. ALL SOIL STOCKPILES SHALL BE SEEDED AND MULCHED WITHIN 7 DAYS AFTER GRADING. 5. DURING CONSTRUCTION, ALL STORM SEWER INLETS SHALL BE PROTECTED BY INLET PROTECTION DEVICES, MAINTAINED AND MODIFIED AS REQUIRED BY CONSTRUCTION PROGRESS.





_	
10' M I N.	
-	
TING	
10' MIN.	
_	

SITE SPECIFIC SEEDING MIXTURES FOR CO.	ASTAL PLAIN AREA
	Total Lb Per Acro
Minimum Care Lawn	
- Commercial or Residential	19495 - 2015-194
 Kentucky 31 or Turf-Type Tall Fescue 	175-200 lb
or Barlanti	75 11
 Common Bermudagrass ** 	75 lb
High-Maintenance Lawn	
- Kentucky 31 or Turf-Type Tall Fescue	200-250 lb
OF	
- Hybrid Bermudagrass (seed) **	40 lbs. (unhulled
or - Hybrid Bermudagrass (by other vegetative	30 lbs. (hulled
establishment method, see Std. & Spec. 3.34	4)
General Slope (3:1 or less)	
- Kentucky 31 Fescue	128 lb
- Red Top Grass	2 lb
- Seasonal Nurse Crop *	20 lb
	150 lb
Low Maintenance Slope (Steeper than 3:1)	
 Kentucky 31 Tall Fescue 	93-108 lb
- Common Bermudagrass **	0-15 lb
- Red Top Grass	2 lb
 Seasonal Nurse Crop * Sericea Lespedeza ** 	20 lb
- Sencea Lespedeza	<u>20 lb</u> 150 lb
	150 10
* Use seasonal nurse crop in accordance with seeding	dates as stated below:
February, March through April	Annual Ry
May 1st through August	Foxtail Mille
September, October through November	15th Annual Ry
November 16th through January	winter Ry
** May through October, use hulled seed. All oth	ner seeding periods, us
unhulled seed. Weeping Lovegrass may be added	to any slope or low
maintenance mix during warmer seeding periods; add	10-20 lbs./acre in mixes

	molen min	FERIALS AND A	III LICATION KATES
	RA	TES:	
MULCHES:	Per Acre	Per 1000 sq.ft.	NOTES:
Straw or Hay	1.5-2 Tons (Minimum 2 tons for winter cover)	70-90 lbs.	Free from weeds and coarse matter. Must be anchored. Spread with mulch blower or by hand.
Fiber Mulch	Minimum 1500lbs.	35 lbs.	Do not use as a mulch for winter cover or during hot, dry periods.* Apply as slurry.
Corn Stalks	4-6 tons	185-275 lbs.	Cut or shredded in 4-6" lengths. Air-dried. Do not use in fine turf areas. apply with a mulch blower or by hand.
Wood Chips	4-6 tons	185-275 lbs.	Free of coarse matter. Air-dried. Treat with 12lbs. Nitrogen per ton. Do not use in fine turf areas. Apply with a mulch blower, chip handler, or by hand.
Bark Chips or Shredded Bark	50-70 cu. yds.	1-2 cu. yds.	Free of coarse matter. Air-dried. Do not use in fine turf areas. Apply with a mulch blower, chip handler, or by hand.
	num rate of 2000 lbs./a		when straw should be used,
	T	ABLE 3.31-B	
ACCEPTA	BLE TEMPOR	ARY SEEDING	PLANT MATERIAL
"(UICK REFER	RENCE FOR AL	L REGIONS"
<u>Planting Da</u> SEPT. 1-FEB.	15 50/50 M (Lolium & Cereal (Species Mix of Annual Ryegrass multi-florum) Winter) Rye cereale)	Rate <u>(lbs./acre)</u> 50-100
FEB. 16-APR.	30 Annual	Ryegrass 1 multi-florum)	60-100
MAY 1-AUG.	31 German	Millet	50

7A <u>CHECKLIST</u> EOR EROSION AND SEDIMENT CONTROL BLANS
FOR FRACION AND SERVICE CONTROL BLANS
FOR EROSION AND SEDIMENT CONTROL PLANS
<u>Minimum Standards</u> - All applicable Minimum Standards must be addresse
ARRATIVE
<u>Project description</u> - Briefly describes the nature and purpose of the lan disturbing activity, and the area (acres) to be disturbed.
Existing site conditions - A description of the existing topography, vegetation and drainage.
Adjacent areas - A description of neighboring areas such as streams, lake residential areas, roads, etc., which might be affected by the land disturbance
<u>Off-site areas</u> - Describe any off-site land-disturbing activities that will occ (including borrow sites, waste or surplus areas, etc.). Will any other areas disturbed?
<u>Soils</u> - A brief description of the soils on the site giving such information soil name, mapping unit, erodibility, permeability, depth, texture and se structure.
<u>Critical areas</u> - A description of areas on the site which have potential serious erosion problems (e.g., steep slopes, channels, wet weather underground springs, etc.).
<u>Erosion and sediment control measures</u> - A description of the methods whi will be used to control erosion and sedimentation on the site. (Contro should satisfy minimum standards in Chapter 3.)
<u>Permanent stabilization</u> - A brief description, including specifications, of he the site will be stabilized after construction is completed.
<u>Stormwater runoff considerations</u> - Will the development site cause increase in peak runoff rates? Will the increase in runoff cause flooding channel degradation downstream? Describe the strategy to contr stormwater runoff.
<u>Calculations</u> - Detailed calculations for the design of temporary sedime basins, permanent stormwater detention basins, diversions, channels, e Include calculations for pre- and post-development runoff.
VII - 26

6.3.c



Packet Pg. 22

7A-2 (continued) SITE PLAN <u>Vicinity map</u> - A small map locating the site in relation to the surrounding area. Include any landmarks which might assist in locating the site. \rightarrow Indicate north - The direction of north in relation to the site. ____ Limits of clearing and grading - Areas which are to be cleared and graded. _____ Existing contours - The existing contours of the site. ____ Final contours - Changes to the existing contours, including final drainage ____ patterns Existing vegetation - The existing tree lines, grassed areas, or unique ____ vegetation. Soils - The boundaries of different soil types. Existing drainage patterns - The dividing lines and the direction of flow for the different drainage areas. Include the size (acreage) of each drainage area. Critical erosion areas - Areas with potentially serious erosion problems. (See Chapter 6 for criteria.) Site Development - Show all improvements such as buildings, parking lots, access roads, utility construction, etc. Location of practices - The locations of erosion and sediment control and stormwater management practices used on the site. Use the standard symbols and abbreviations in Chapter 3 of the E&S Handbook. <u>Off-site areas</u> - Identify any off-site land-disturbing activities (e.g., borrow sites, waste areas, etc.). Show location of erosion controls. (Is there sufficient ____ information to assure adequate protection and stabilization?) Detail drawings - Any structural practices used that are not referenced to the E&S Handbook or local handbooks should be explained and illustrated with \rightarrow detail drawings.

Maintenance - A schedule of regular inspections and repair of erosion and sediment control structures should be set forth.

VII - 27

STORM SEWER DESIGN COMPUTATIONS

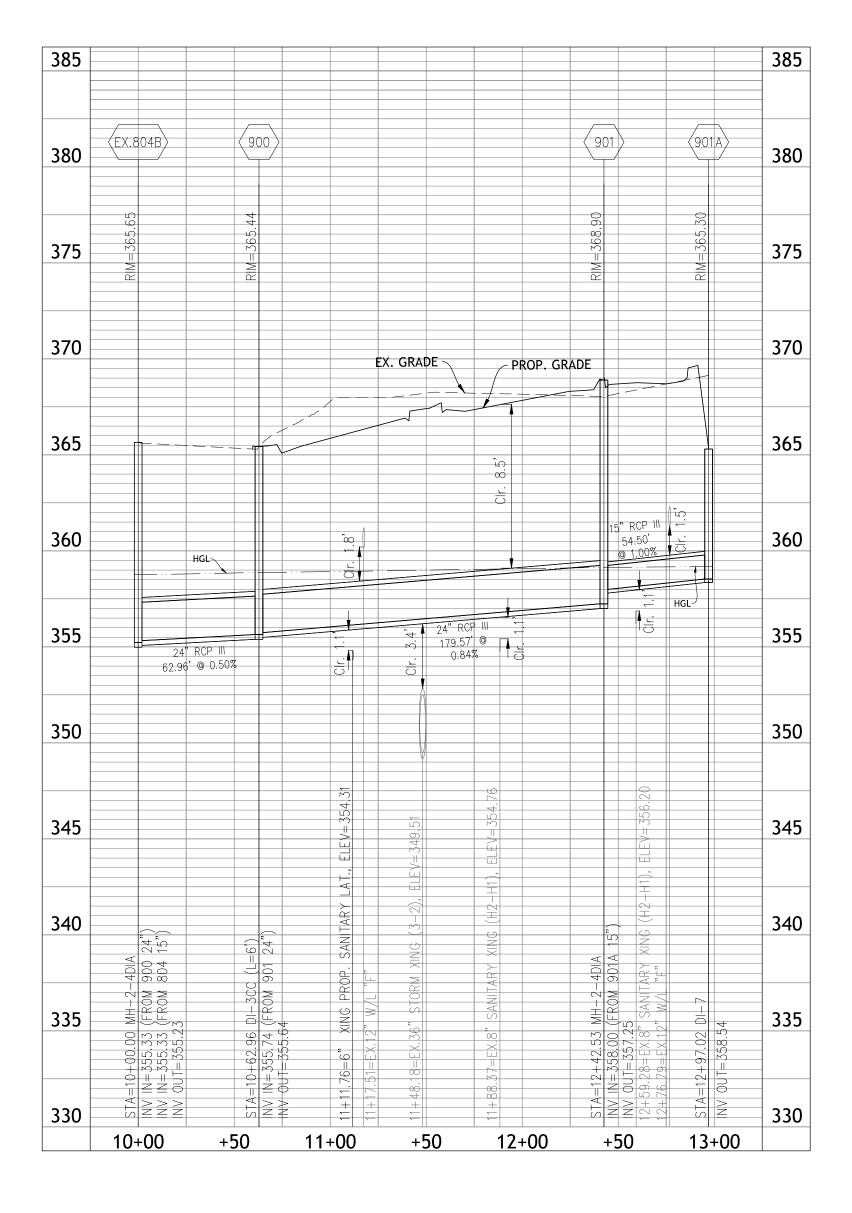
Proj	ect: CROSSROAD	S VILLAGE (CENTER	0												
From	То	Drainage	C	C x.	C x A Inl		Rain	Runoff	ff Invert Elev.		Length	Slope	Dia.	Capacity	VEL.	Flow
Point	Point	Area	Factor	Increment	Cumm.	Time	Fall	Q	Upper	Lower				Q		Time
						Min.	In/Hr	C.F.S.	End	End	FT.	%	IN.	C.F.S.	F.P.S.	MIN.
811	EX.810	0.52	0.85	0.44	0.44	23.00	3.70	1.64	357.13	357.00	25.39	0.52%	24	16.29	3.32	0.13
EX.81	0 EX.SW83	0.12	0.35	0.04	0.48	24.00	3.62	1.75	356.90	356.87	6.5	0.50%	24	16.04	3.35	0.03
*																
901A	901	0.32	0.85	0.27	0.27	28.00	3.27	0.89	358.54	358.00	54.50	1.00%	15	6.48	3.70	0.25
901	900	0.00	0	0.00	0.27	29.00	3.19	0.87	357.25	355.74	179.57	0.84%	24	20.74	3.26	0.92
900	EX.804B	0.29	0.84	0.24	0.52	30.00	3.10	1.60	355.64	355.33	62.96	0.50%	24	15.98	3.25	0.32
*																

STORM SEWER INLET COMPUTATIONS

Project:	Project: CROSSROADS VILLAGE CENTER																																
11	ILET								Q	Q	Q	S	Sx	T	W	W/T	Sw	Sw/Sx	Eo	а	S'w	Se	Lt	P	L/Lt	d	E	h	Q	d/H	Qb	T	
NUMBER	TYPE	STATION	7	DRAINAGE AREA	С	CxA	CxA W	INTENSITY	INCR	CARRY OVER	TOTAL	GUTTER	CROSS SLOPE	SPREAD										EFFECTIVE LENGTH					INT		CARRY OVER	SPREAD AT SAG	REMARKS
*																																<u> </u>	
811	DI-3CC	6	(0.26	0.85	0.22	0.22	5.75	1.27		1.27	0.0217	0.02	4.74	2		0.083	4.15	_					9.60		0.23		0.42		0.56		11.75	
			(0.26	0.85	0.22	0.22	5.75	1.27	0.00	1.27			4.74																			
900	DI-3CC	6	(0.15	0.84	0.13	0.13	5.75	0.72		0.72	0.0203	0.02	2.98	2		0.083	4.15				2		9.60		0.16		0.42		0.38		7.88	
			(0.14	0.84	0.12	0.12	5.75	0.68	0.00	0.68			2.76																			
901A	DI-I				0.85	0.27	0.27	5.75	-	0.00	1.56													6.42		0.19							

HYDRAULIC GRADE LINE COMPUTATIONS

Proje	ct: CROSSROAD	S VILLAGE	CENT	ER																		
		Outlet									JUI	VCTION	LOSS								Inlet	
INLET	UPSTREAM	Water	Do	Qo	Lo	Sfo	Hf		12						ē:	-		1.3	0.5	FINAL	Water	RIM
STATION	INLET	Surface						Vo	Ho	Qi	Vi	QiVi	2		Angle	Hd	Ht	Ht	Ht	H	Surface	ELEV.
		Elev.	in	cfs	ft	%	ft				-	L	Vi /2g			L					Elev.	_
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)		(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
EX.SW82		-			•				tor but				<u>.</u>		•	tor.			Startin	g Elevation	358.39	
EX.804A		358.39	24.00	3.69	9.97	0.03	0.00	4.15	0.07					0.09		0.16	0.32	0.42	0.21	0.21	358.6 <mark>0</mark>	366.00
	EX.804B		24.00	N.				-		3.70	4.15	15.36	0.27	-	70.00	-						
EX.804B		358.60	24.00	3.70	42.36	0.03	0.01	4.15	0.07					0.10		0.06	0.23	0.30	0.15	0.16	358.76	365.65
	EX.804		15.00	1						4.37	4.25	<mark>18.</mark> 59	0.28	0.10	0.00	0.00						
	900		24.00	0						1.60	3.25	5.20	0.16	0.06	40.00	0.06						
EX.804		358.76	15.00	4.37	80.34	0.46	0.37	4.25	0.07					0.00		0.00	0.07	0.09	0.05	0.41	359.17	355.00
	0									4.37	0.00	0.00	0.00		0.00							
900		358.76	24.00	1.60	62.96	0.00	0.00	3.25	0.04					0.06		0.01	0.11	0.00	0.00	0.11	358.87	365.44
-	901		24.00	(0.87	3.26	2.83	0.17		8.00							
901		358.87	24.00	0.87	179.57	0.00	0.00	3.26	0.04					0.07		0.15	0.26	0.00	0.00	0.27	359. <mark>14</mark>	368.90
3	901A		15.00	0						0.89	3.70	3.29	0.21		90.00							
901A		359.14	15.00	0.89	54.50	0.02	0.01	3.70	0.05					0.00		0.00	0.05	0.07	0.03	0.04	359.19	365.30
	0									0.89	0.00	0.00	0.00		0.00							



SWM AND BMP NARRATIVE

ALL STORMWATER AND BMP REQUIREMENTS ARE ACHIEVED BY THE UNDERGROUND DETENTION STRUCTURE PROPOSED IN THE OVERALL REVISION TO THE APPROVED CROSSROADS VILLAGE CENTER SITE PLAN #1977, SEE SHEETS 13-29. STORMTECH 8 AND BAYFILTER 8 WILL PROVIDE DETENTION AND TREATMENT FOR THIS SITE. THE EXISTING STORM DRAINAGE SYSTEM WAS DESIGNED FOR A MAXIMUM LOT COVERAGE OF 85%. THE PROPOSED LOT COVERAGE IS 50%. THEREFORE, THE DESIGN PROVIDED IN THE OVERALL REVISION TO THE APPROVED CROSSROADS VILLAGE SITE PLAN IS DEEMED ADEQUATE.

GENERAL NOTES:

1. THE CONTRACTOR SHALL IDENTIFY THE LIMITS OF EXCAVATION AND THE AMOUNT OF EXISTING WATERLINE PIPE THAT WILL BE EXPOSED WITH THE PWCSA FIELD INSPECTOR.

2.PRIOR TO EXCAVATING THE FULL TRENCH, THE CONTRACTOR SHALL TEST PIT AND EXPOSE ALL EXISTING WATERLINE PIPE JOINTS WITHIN THE PLANNED TRENCH AREA. ALL PIPE JOINTS WITHIN THE PLANNED EXCAVATION AREA SHALL BE MECHANICALLY RESTRAINED AGAINST MOVEMENT.

3. THE CONTRACTOR SHALL TEST PIPE AND EXPOSE ALL EXISTING WATERLINE PIPE JOINTS 20 FEET BEYOND THE LIMITS OF PLANNED TRENCH AREA. ALL PIPE JOINTS WITH 20 FEET OF A TRENCH WALL SHALL BE MECHANICALLY RESTRAINED AGAINST MOVEMENT.

4. THE CONTRACTOR SHALL REPLACE THE EXISTING JOINT RESTRAINTS IF THERE ARE ANY SIGNS OF CORROSION.

5. THE CONTRACTOR SHALL SECURE THE EXISTING WATERLINE THAT WILL BE EXPOSED IN THE TRENCH AGAINST MOVEMENT THAT WOULD RESULT IN A BREAK OR LEAK. AT THE REQUEST OF THE PWCSA FIELD INSPECTOR, THE CONTRACTOR SHALL HAVE A PROFESSIONAL ENGINEER CERTIFY THE MEANS AND METHODS PROPOSED TO SUPPORT THE EXISTING PIPE IN WRITING.

6.THE CONTRACTOR SHALL INSTALL #57 STONE FROM UNDISTRIBUTED SOIL TO THE SPRING LINE OF THE EXITING WATERLINE WITH 95% COMPACTION TO PREVENT VOIDS AND SETTLING OF THE BEDDING.

7. THE TOP OF THE PIPE SHALL BE BACKFILLED IN COMPLIANCE WITH PWCSA'S CURRENT UTILITY

HORIZONTAL SCALE

GRAPHIC SCALE

(IN FEET)

1 INCH = 50 FEET

VERTICAL SCALE

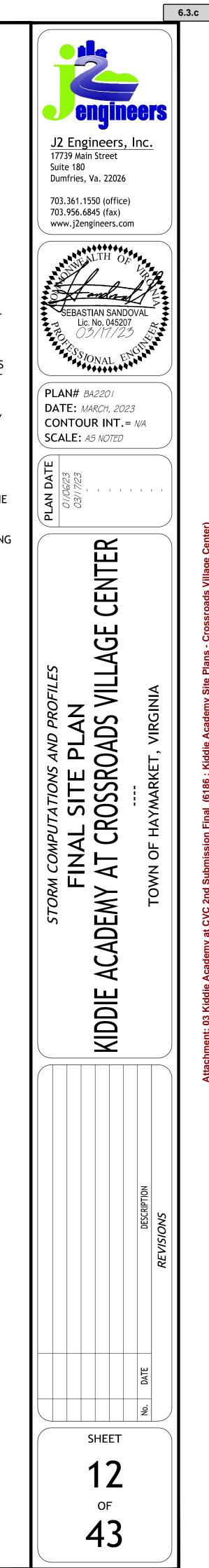
GRAPHIC SCALE

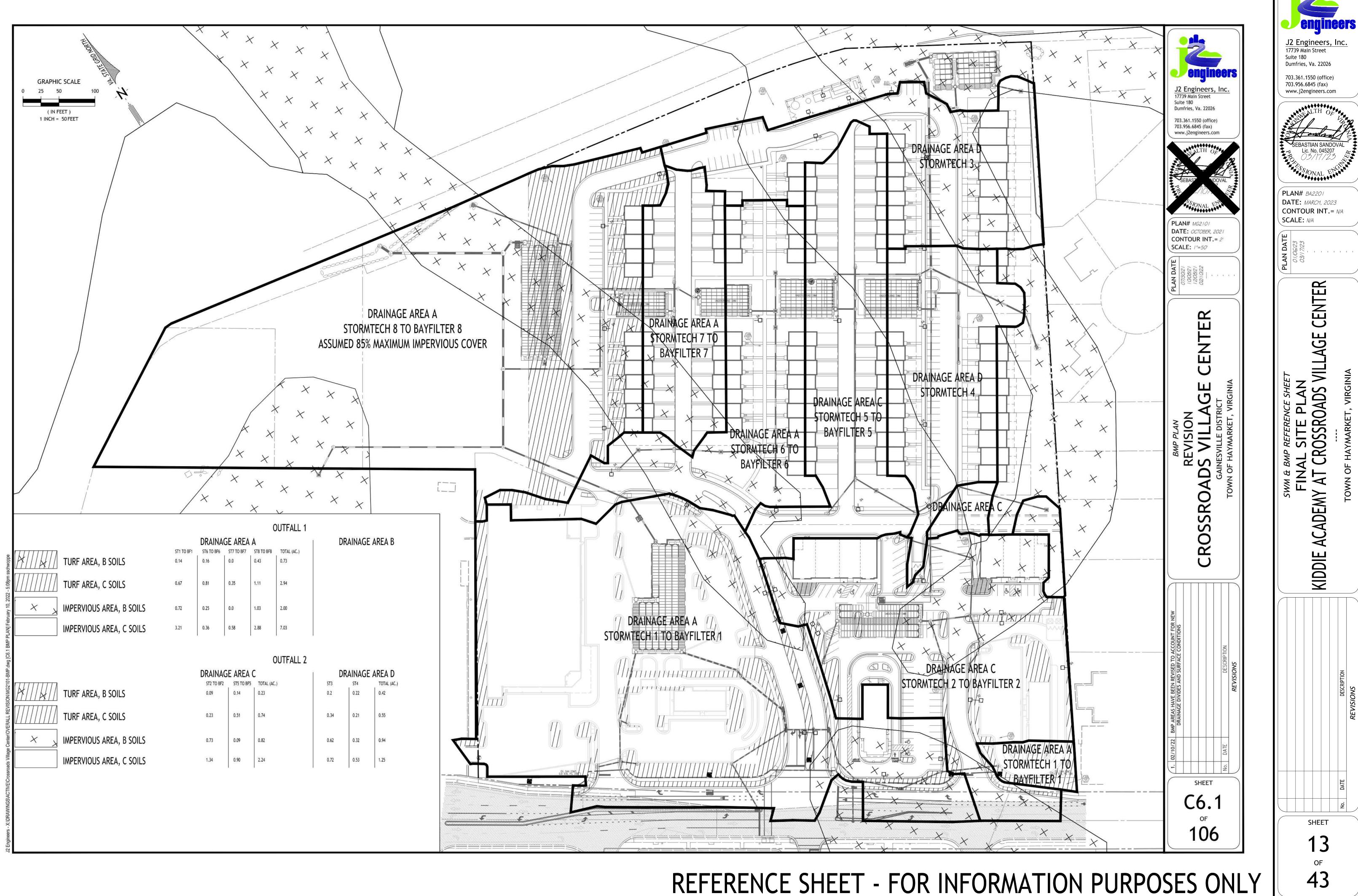
(IN FEET) 1 INCH = 5FEET

2.5

100

10





Project Name:	Crossroads Village Center	CLEAR A
Date:	8/6/2021	(Ctrl+Shift+

BMP Design Specifications List: 2013 Draft Stds & Specs

Site Information

Post-Development Project (Treatment Volur

Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) undisturbed, protected forest/open space or reforested					0.00
Managed Turf (acres) disturbed, graded for yards or other turf to be		2.10	4.37		6.47
Impervious Cover (acres)		3.84	10.44		14.28
					20.75

Constants

Annual Rainfall (inches)	43
Target Rainfall Event (inches)	1.00
Total Phosphorus (TP) EMC (mg/L)	0.26
Total Nitrogen (TN) EMC (mg/L)	1.86
Target TP Load (lb/acre/yr)	0.41
Pj (unitless correction factor)	0.90

							Ĩ						
road	ls Village Center]	CLEAR		data input cells	Site Result	ts (Water	Quality Cor	mpliance)			
8,	/6/2021			(Ctrl+Sh	ift+R)	constant values	Area Checks	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	AREA CHECK
l.						calculation cells	FOREST/OPEN SPACE (ac)	0.00	0.00	0.00	0.00	0.00	OK.
						final results	IMPERVIOUS COVER (ac)	9.03	0.00	3.06	2.19	0.00	OK.
						A Contraction of the second se	IMPERVIOUS COVER TREATED (ac)	9.03	0.00	3.06	2.19	0.00	OK.
							MANAGED TURF AREA (ac)	3.67	0.00	0.97	0.97	0.00	OK.
							MANAGED TURF AREA TREATED (ac)	3.67	0.00	0.97	0.97	0.00	OK.
	in the second						AREA CHECK	OK.	OK.	OK.	OK.	OK.	
lum	e and Loads)								-				-
							Site Treatment Volume (ft ³)	54,259					
l	C Soils	D Soils	Totals				Runoff Reduction Volume and TP By Drainage Area		·		1		
			0.00					D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	TOTAL
	1		6.47				RUNOFF REDUCTION VOLUME ACHIEVED (ft ³)	0	0	0	0	0	0
	4.37		0.47				TP LOAD AVAILABLE FOR REMOVAL (Ib/yr)	21.37	0.00	7.11	5.21	0.00	33.69
	10.44		14.28				TP LOAD REDUCTION ACHIEVED (Ib/yr)	14.94	0.00	4.97	2.08	0.00	22.00
	10.77		20.75				TP LOAD REMAINING (Ib/yr)	6.43	0.00	2.14	3.13	0.00	11.70
			20.75	.,					in a second s			7	
	Runoff Coefficient	te (Ry)					NITROGEN LOAD REDUCTION ACHIEVED (Ib/yr)	0.00	0.00	0.00	0.00	0.00	0.00
ſ	Number Coefficient	A Soils	B Soils	C Soils	D Soils	1							
	Forest/Open Space	0.02	0.03	0.04	0.05	-	Total Phosphorus		-				
	Managed Turf	0.15	0.20	0.22	0.25		FINAL POST-DEVELOPMENT TP LOAD (lb/yr)	34.09					
	Impervious Cover	0.95	0.95	0.95	0.95]	TP LOAD REDUCTION REQUIRED (Ib/yr)	25.58					
							TP LOAD REDUCTION ACHIEVED (Ib/yr)	22.00					
							TP LOAD REMAINING (Ib/yr):						
							REMAINING TP LOAD REDUCTION REQUIRED (Ib/yr):	3.59					
nt R	Requirement fo	or Site Area					Total Nitrogen (For Information Purposes)						
			1				POST-DEVELOPMENT LOAD (Ib/yr)	243.88					
Requ	aired (lb/yr)	25.58					NITROGEN LOAD REDUCTION ACHIEVED (Ib/yr)	0.00					
							REMAINING POST-DEVELOPMENT NITROGEN LOAD (Ib/yr)	243.88	1				

Post-Developmen

TP Load Reduction Re

LAND COVER SUMMARY – POST DEVELOPMENT

Land Cover Summary	
Forest/Open Space Cover (acres)	0.00
Weighted Rv (forest)	0.00
% Forest	0%
Managed Turf Cover (acres)	6.47
Weighted Rv (turf)	0.21
% Managed Turf	31%
Impervious Cover (acres)	14.28
Rv (impervious)	0.95
% Impervious	69%
Site Area (acres)	20.75
Site Rv	0.72

Treatment Volume and Nutrient Loads								
Treatment Volume (acre-ft)	1.2456							
Treatment Volume (cubic feet)	54,259							
TP Load (lb/yr)	34.09							
TN Load (Ib/yr) (Informational Purposes Only)	243.88							

Drainage Area A

OUTFALL 1, STORMTECH 1, 6, 7, 8 TO BAYFILTERS

Drainage Area A Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv
Forest/Open Space (acres)					0.00	0.00
Managed Turf (acres)		0.73	2.94		3.67	0.22
Impervious Cover (acres)		2.00	7.03		9.03	0.95

Total 12.70

Stormwater Best Management Practices (RR = Runoff Reduction)

Practice	Runoff Reduction Credit (%)	New Concerning and the Second of	Cover Credit	Volume from Upstream Practice (ft ³)	Reduction	Remaining Runoff Volume (ft ³)	Total BMP Treatment Volume (ft ³)	Removal Efficiency	Phosphorus Load from Upstream Practices (Ib)	Phosphorus Load to	Practice (Ib)	rnosphorus	Downstream Practice to be Employed
14. Manufactured Treatment Devices (14. Manufactured Treatment Devices (no RR)												
14.a ISOLATOR ROW	0	3.6 7	9.03	0	0	34,018	34 ,018	40	0.00	21.35	8.54	12.81	14.b. MTD - Filtering
BAYFILTER	0			34,018	0	34,018	34,018	50	12.81	0.00	6.40	6.40	

WATER QUALITY NARRATIVE

USING THE VRRM SPREADSHEET, IT HAS BEEN DETERMINED THAT 25.58 LBS/YR OF PHOSPHORUS REDUCTION IS REQUIRED. THE PHOSPHORUS LOAD REDUCTION REQUIREMENT SHALL BE MET PARTIALLY THROUGH THE USE OF ISOLATOR ROWS OR APPROVED EQUALS AND BAY FILTERS OR APPROVED EQUALS. THE REMAINING 3.59 LBS/YR OF PHOSPHORUS REDUCTION SHALL BE MET THROUGH THE ACQUISITION OF OFF-SITE NUTRIENT CREDITS.

CLEAR BMP AREAS 'otal Phosphorus Available for Removal in D.A. A (lb/yr) 21.37 Post Development Treatment Volume in D.A. A (ft³) 34,018 --Select from dropdown lists-

HUC: 02070011

Applicant: Haymarket Development #1 LLC

1602 Village Market Blvd. Suite 235 Leesburg, VA 20175

RE: Nutrient Offset Availability

Ronald Green, (Broker)

Date: October 7, 2021

Project Reference: Crossroads Village Center Attention: Scott Schwoppe

This letter is to confirm the availability of authorized nonpoint nutrient offsets at our CP Nutrient Bank

project located in Westmoreland County. The CP Nutrient Bank project has received operational status through the Chesapeake Bay Watershed Nutrient Exchange Program (Virginia Code 62.1-44.19:14 et seq.) of the Virginia Department of Environmental Quality. CP Nutrient Bank currently has 27.22 pounds of phosphorus offsets and 426.25 pounds of nitrogen offsets available for transfer in the approved service area in the Potomac River watershed.

These offsets were certified pursuant to the Chesapeake Bay Nutrient Exchange Program by Virginia Department of Environmental Quality and the Virginia Department of Conservation and Recreation to be used as compensation for state or local permit water quality requirements. These offsets have been generated and are transferable according to 10.1-603.8:1 of the code of Virginia.

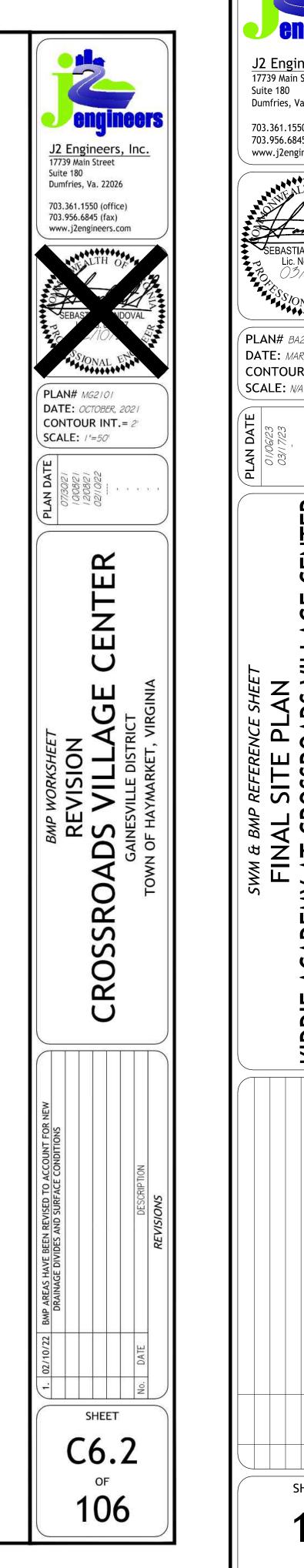
Per your request, the project would like to purchase 3.59 lbs/yr of phosphorus credits or 56.22 lbs,/yr. of nitrogen credits. CP Nutrient Bank upon execution of a credit purchase agreement and payment shall transfer those credits to the project owner. The 3.59 phosphorus credits or 56.22 nitrogen credits shall be available for a period of 30 days from the date of this letter.

If we can provide further assistance please do not hesitate to contact me at 804-908-4171



REFERENCE SHEET - FOR INFORMATION PURPOSES ONLY

CP NUTRIENT BANK





Packet Pg. 25

(6186

Drainage Area C OUTFALL 2, STORMTECH 2, 5 TO BAYFILTERS

Drainage Area A Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv
Forest/Open Space (acres)					0.00	0.00
Managed Turf (acres)		0.23	0.74		0.97	0.22
Impervious Cover (acres)		0.82	2.24		3.06	0.95
	бэ	9	8	Total	4.03	

Stormwater Best Management Practices (RR = Runoff Reduction)

Stormwater Best Management Practices (RR = Runoff Reduction)Select from dropdown lists-													
Practice	Runoff Reduction Credit (%)	1000	Impervious Cover Credit Area (acres)		Runoff Reduction (ft ³)	Remaining Runoff Volume (ft ³)	Total BMP Treatment Volume (ft ³)	Removal Efficiency	Phosphorus Load from Upstream Practices (lb)	Phosphorus Load to	Removed By Practice (Ib)	Phosphorus	Downstream Practice to be
14. Manufactured Treatment Devices	14. Manufactured Treatment Devices (no RR)												
14.a ISOLATOR ROW	0	0.97	3.06	0	0	11,310	11,310	40	0.00	7.10	2.84	4.26	14.b. MTD - Filtering
BAYFILTER	0			11,310	0	11,310	11,310	50	4.26	0.00	2.13	2.13	

Drainage Area D OUTFALL 2, STORMTECH 3, 4

Drainage Area A Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv
Forest/Open Space (acres)					0.00	0.00
Managed Turf (acres)		0.42	0.55		0.97	0.21
Impervious Cover (acres)		0.94	1.25		2.19	0.95
	<u>t</u> , ;	<i>1</i>	2	Total	3.16	

Stormwater Best Management Practices (RR = Runoff Reduction)

Stormwater Best Managem	nent Practi	ces (RR =	Runoff Red	duction)		1							Select from dropdown lists-
Practice	Runoff Reduction Credit (%)	Turf Credit	Cover Credit	Volume from Upstream Practice (ft ³)	Reduction	Remaining Runoff Volume (ft ³)	Treatment	Removal Efficiency	Phosphorus Load from Upstream Practices (Ib)	Load to	Practice (lb)		Downstream Practice to be Employed
14. Manufactured Treatment Devices	(no RR)												
14.a. ISOLATOR ROW	0	0.97	2.19	0	0	8,296	8,296	40	0.00	5.21	2.08	3.12	

CLEAR BMP AREAS

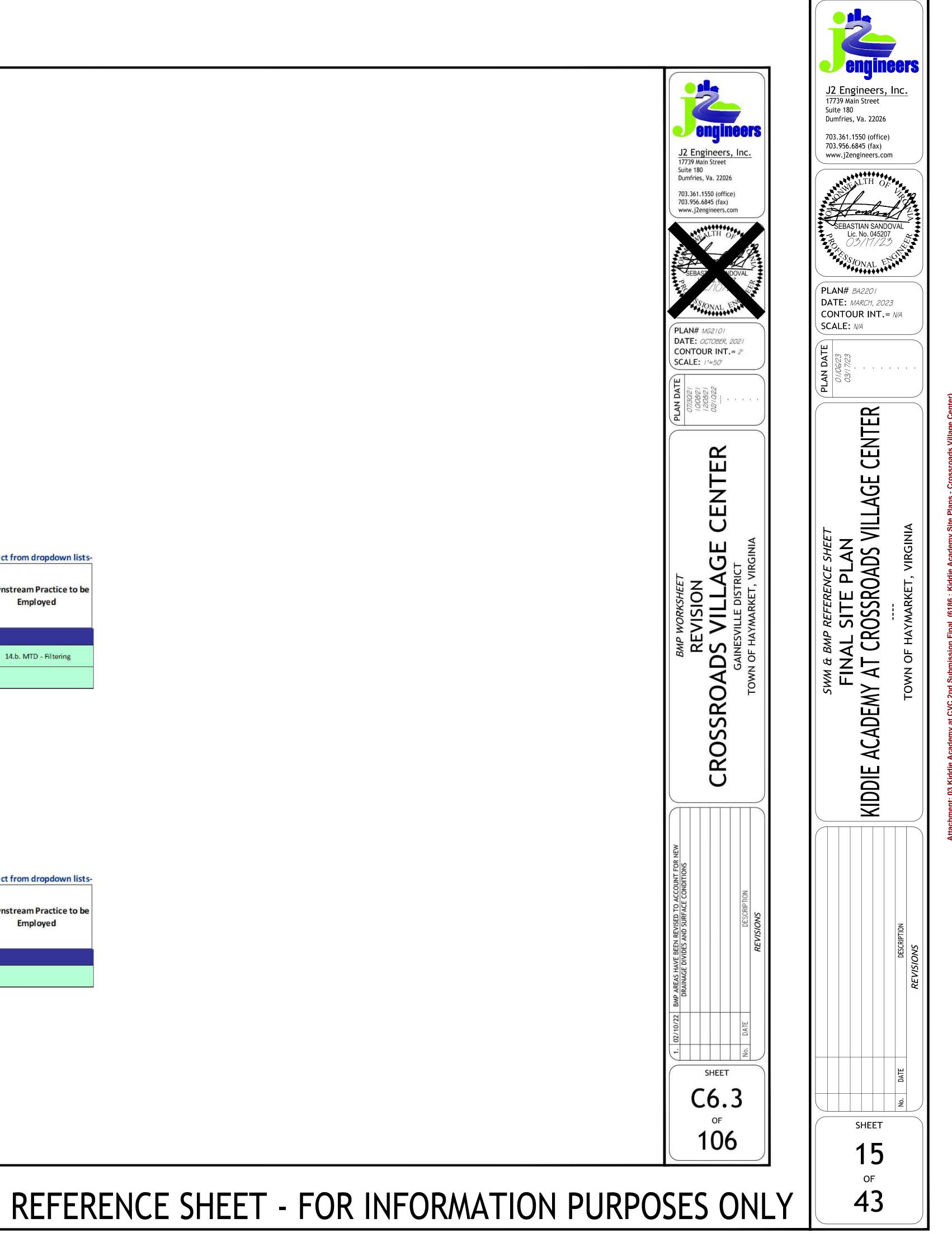
 Total Phosphorus Available for Removal in D.A. C (lb/yr)
 7.11

 Post Development Treatment Volume in D.A. C (ft³) 11,310

.

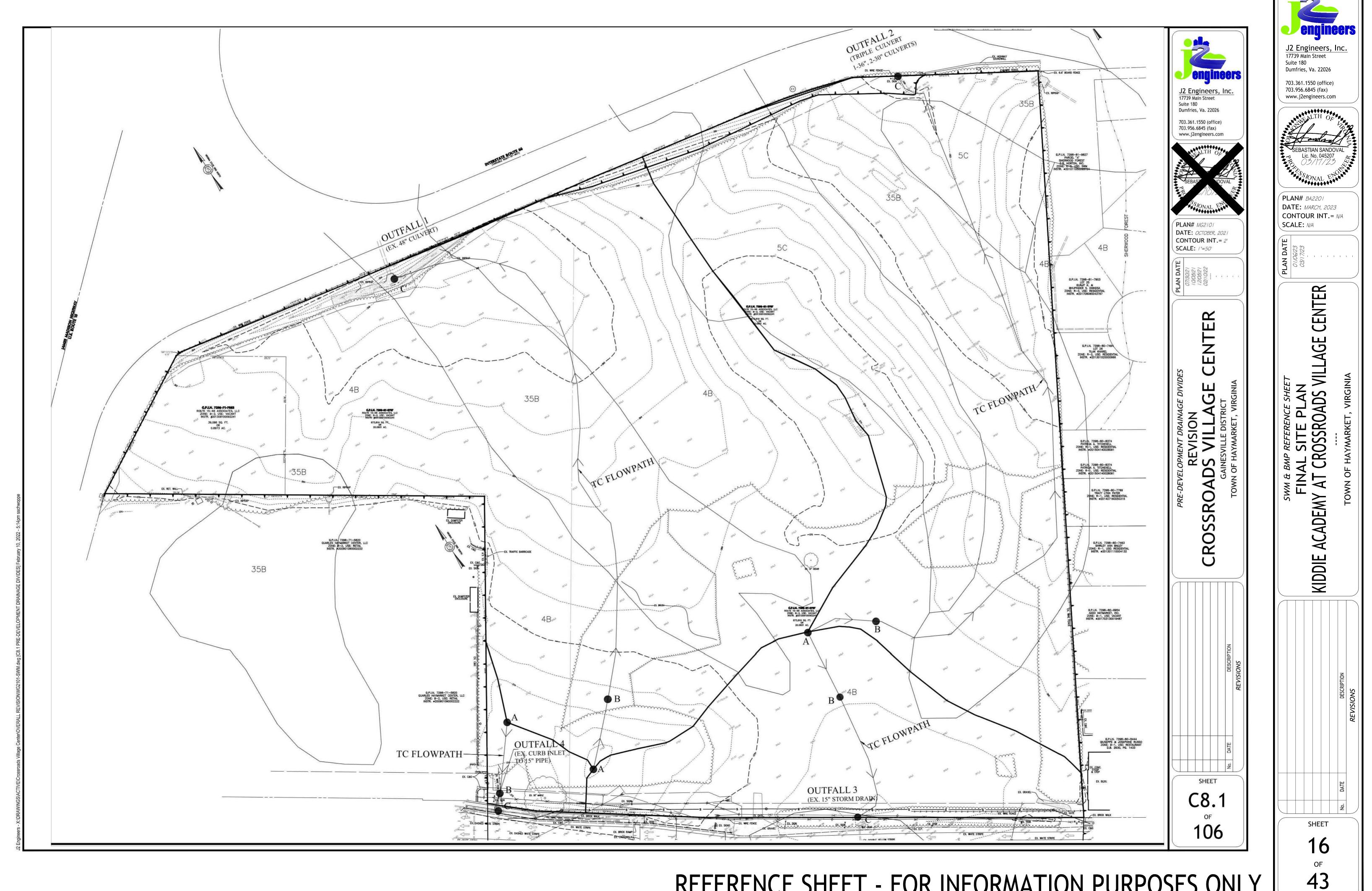
CLEAR BMP AREAS

'otal Phosphorus Available for Removal in D.A. D (lb/yr) 5.21 Post Development Treatment Volume in D.A. D (ft³) 8,296



(6186

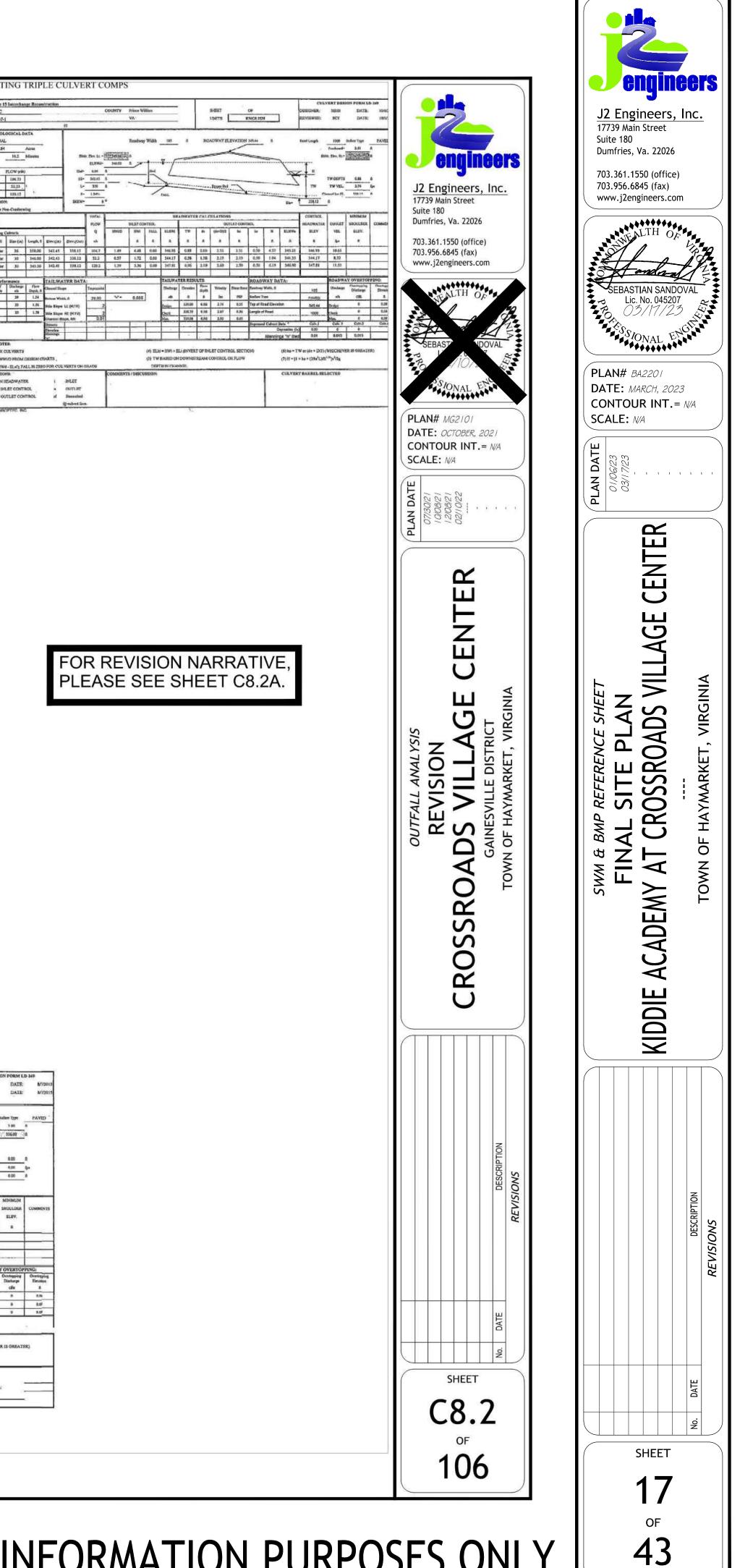
6.3.c



6.3.c

1		0	UTFAI	LLIPK	E-DEV	ELOP	MENTR	ELEAS	E RATES	,	
	Pre-Development Flow to Outfalls	1	YEAR	aranh	Sun	mary	Reno	rt			D® Civil 3D® 2009 by Autodesk, Inc. v6.01
	Outfall 1 Existing 48 culvert under Route 66	1.5	and the survey		ak Tim	and and a	10000	Hydraficw Hy Inflow	drographs Exter	tsion for AutoCA	and the second sec
	Assume Good Woods		lyd. Hydro Io. ty (ori	pe fic	w Inter	val peak	volume (cuft)	hyd(s)	elevation (ft)	strge used (cuft)	Hydrograph description
	Total drainage area = 10.48 Acres 2.76 Acres B Soils woods, CN = 55		1 SCS R	Runoff 2.90	105 1	726	12,717	-			Pre-Dev Outfull 1
	7.72 Acres C Soils woods, CN = 70	23	TEAD	same access	en dati di	1.0	100304330				I Construction of the second
	Composite CN			the state of the state	and the second			and the second s	1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.	100000000000000000000000000000000000000	© Civil 3D® 2009 by Autodesk, Inc. v6.066
	2.76 x 55 = 151.80		Vo. ty	ograph Pe rpe fic Igin) (cfi	w inter	val peak	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph description
	7.72 x 70 = <u>540.40</u> 10.48 692.20/10.48 = 66.05 = CN, use 66	ŀ			24 112011		-				
		10	1 SCS F	1	. .	725	21,723	-			Pre-Dev Outfall 1
	Tc	I	Hydro	graph	n Sur	nmary	Repo	historia H	vdrographs Exte	naion for AutoCA	D® Civil 3D® 2009 by Autodesk, Inc. v6.0
	A-B Overland Flow 100 LF, Change in Elevation = 6.0' From Seelye Chart TC = 11 min.	L L			eak. Tir	_		Inflow	Maximum	Total	Hydrograph
	B-C Shallow Concentrated Flow 830 LF, Change in elevation = 24.5'	1			ow inte fs) (m	rval peak in) (min)		hyd(s)	elevation (ft)	strge used (cuft)	description
	S = .0295, V = 2.8 fps, 830/2.8 = 296 seconds = 4.94 min	Ī	1 SCS	Runoff 19	.51 1	724	58,042	-	_		Pre-Dev Outfall 1
	Total TC = 11+4.94 = 15.94 min., Use 16 minutes		YEAR								
	Energy Balance Volume	-	lydro	graph	Sun	nmary	Repo	Hydraflow Hy	drographs Exter	isian for AutoCA	- De Civil 3De 2009 by Autodesk, Inc. v6.05
	S = 1000/CN -10 = 5.15	H	lyd. Hydro Io. ty		nak Tim Inter		Hyd. volume	Inflow hyd(s)	Maximum elevation	Total strge used	Hydrograph description
	$Q = (P2S)^2/P+.8S = (2.512(5.15))^2/2.51 + .8(5.15) = 2.19/6.63 = .33''$	F	(or)	igin) (cf	s) (mi	n) (min)	(cuft)		(ft)	(cuft)	
	Volume = 10.48 Acres x .33" x 43560 x 1/12 = 12,554 CF		1 SCS F	Selection (1) and a second	56 1	724	89,451		-	-	Pre-Dev Outfail 1
	Pre-Development Flow		Veral		Sum	marv	Renor	t			9 Civil 3D(9 2009 by Autodesk, Inc. v6.066
	1 YR = 2.906 cfs										
	2 Yr = 6.141 10 Yr = 19.51 cfs	Hy No		e flow	Interv	at peak	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph description
	10 Yr = 43.41 cfs			07.0000	00 1877.04		LINSCOM.		1.14	10000	
		11	SCS Ru	inoff 43.41	1	723	124,337			-	Pre-Dev Outfall 1
	Outfall 2 Existing triple culvert under Route 66		TFAL	L 2 PRE	-DEVI	ELOPM	ENT RE	LEASE	RATES		
	(1-36", 2-30")			araph	Sun	nmary	Repo	rt			D& CMI 3D& 2009 by Autodisk, Inc. v6.01
	Assume Good Woods	100	hereiteren	and the second second	neod i Sueo	on Automation	Contraction in the	Hydraflow Hy Inflow	drographs Exter	Total	108034302300113111
	Total drainage area = 7.46 Acres		CONTRACTOR OF A DESCRIPTION OF A DESCRIP		w inter		volume (cuft)	hyd(s)	elevation (ft)	strge used (cuft)	Hydrograph description
	3.21 Acres B Soils woods, CN = 55	ŀ									
	4.25 Acres C Soils woods, CN = 70 Composite CN	U	1 SCS F	Runoff 0.9	59 1	734	7,103			-	Pre-Dev flow to Gutfall 2
	3.21 × 55 = 176.55			ograph	n Sur	nmar	y Repo	ort	lucteopractes Fixte	ension for AutoOA	NDIS Civil 3DIB 2009 by Autodesk, Inc. v6.0
	4.25 x 70 = <u>297.50</u>			and the second second		me Time		Inflow	Maximum	12	Hydrograph
	7.46 474.05/7.46 = 63.546 = CN, use 63.5		No. t			erval peak iin) (min		hyd(s)	elevation (ft)	strge used (cuft)	description
	Тс	İ	1 505	Runoff 2.	348	1 732	12,768	-	-	_	Pre-Dev flow to Outfall 2
	A-B Overland Flow 100 LF, Change in Elevation = .35'	10 Y	FAR	Sector 1 and	1 38	1 1 1 2 2	i sueco		1		Contract of the second second
	From Seelye Chart TC = 19 min.		Hydro	ograp	n Sui	mmar	у кер	Ort Hydrallow	Hydrographs Ex	tension for AutoC	ADIS Civil 3DIB 2009 by Autodesk, Inc. v6
	B-C Shallow Concentrated Flow 1010 LF, Change in elevation = 20.7'			type i	low int	erval Time	k volume	inflow hyd(s)	Maximum	strge used	Hydrograph description
	S = .0205, V = 2.3 fps, 1010/2.3 = 439.13 seconds = 7.3 min		(0	origin) (i	cfs) (n	nin) (mir	1) (cuft)	_	(ft)	(cuft)	
	Total TC = 19+7.3 = 26.3 min., Use 26 minutes	25.1	1 SCS	Runoff 8.	922	1 730	36,492				Pre-Dev flow to Outfall 2
	Energy Balance Volume			graph	Sun	nmar	Repo	ort			UB Civil 3DB 2009 by Autodesk, Inc. v6.
	S = 1000/CN -10 = 1000/63.5 - 10 = 5.748			and a start	nak Tim			Hydrafiow H	Maximum	Total	We Civil 3De 2009 by Autodesk, Inc. v6.0 Hydrograph
	$Q = (P2S)^2/P+.8S = (2.512(5.748))^2/2.51 + .8(5.748) = 1.85/7.108 = .26''$		lo. ty		ow inte	rval peek	volume	hyd(s)	elevation (ft)	strge used (cuft)	description
	Volume = 7.48 Acres x .26" x 43560 x 1/12 = 7041 CF	H						1		2012010	
	Pre-Development Flow		1 SCS F YEAR	Runoff 14.	82 1	730	57,519	-	-	-	Pre-Dev flow to Outfall 2
	1 YR = 0.959 cfs	H	lydro	graph	Sun	nmary	Repo	ent Hallow H	vienoranhs Euto	osion for AutoCA	AD® Civil 3D® 2009 by Autodesk, Inc. v6.0
	2 Yr = 2.348 cfs				ak Tin			Inflow	Maximum	Total	Hydrograph
	10 Yr = 8.922 cfs 100 Yr = 21.39 cfs		lo. ty: (ori	pe fic		1. C . C . C . C . C . C . C . C . C . C	volume (cuft)	hyd(s)	elevation (ft)	strge used (cuft)	description
	100 11 - 21.39 (13	1	1 SCS R	Runoff 21.3	39 1	730	61,155	1	-		Pre-Dev flow to Outfall 2
	Outfall 3 Existing 15" storm drain across Washington Street		TFALI	L 3 PRE-				LEASE	RATES	4	
		1 Y	EAR	aranh	Sun	nman	Reno	rt			
	Assume Good Woods Total drainage area = 2.64 Acres		2013 2020	525 52	1.0		1.5225	1000000	1. AZ 18. AZ	1.0000	DE Civil 3DE 2009 by Autodesk, Inc. v6.06
	0.14 Acres B Soils woods, CN = 55		No. ty		nak Tim ow Inter (s) (mi	rval peak	volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph description
	2.50 Acres C Soils woods, CN = 70	ŀ			(1997) A.		-	-	1.4	1	
	Composite CN 0.14 x 55 = 7.70	2 YI	FAD	Runaff 1.0	aso 10 C	726	4.095	1		-	Pre-Development Flow to Outfall 3
	$2.50 \times 70 = 175.00$	н	ydro	graph	Sum	mary	Repo	Hydrallow Hyd	inographs Exten	sion for AutoCAD	N8 Civil 3D/8 2009 by Autodesk, Inc. v6.06
	7.46 182.7/2.64 = 69.20 = CN, use 69.2		d. Hydros	graph Peo	ak Time	Time to		Inflow hyd(s)	Maximum	Total strge used	Hydrograph description
			(orig) (min) (min)	(cuft)	() alat	(11)	(cufi)	
oppe	Tc A.B. Overland Flow 100 LE. Change in Elevation = 1.20'	1	SCS R	unoff 1.96	2 1	725	6,634	-		() min ()	Pre-Development Flow to Outfall 3
MIDSC	A-B Overland Flow 100 LF, Change in Elevation = 1.20' From Seelye Chart TC = 12.5 min.		EAR		~		-			,	
hild	B-C Shallow Concentrated Flow 200 LF, Change in elevation = 3.75'	H	ydrog	graph	Sum	mary	Repor	lydrafiow Hydr	ographs Extens	on for AutoCAD	6 Chill 3D/8 2009 by Autodesk, Inc. v6.066
- 0	S = .01875, V = 2.2 fps, 200/2.2 = 90.91 seconds = 1.52 min	Hy: No.	d. Hydrogr type	raph Peak t flow	k Time Intervi	Time to peak	Hyd. volume	Inflow hyd(s)	Maximum elevation	Total strge used	Hydrograph description
770	Total TC = 15.5+1.52 = 17.02 min., Use 17 minutes	_	(origi	n) (cfs)	(min)	(min)	(cuft)		(n)	(cuft)	
10,1	Energy Balance Volume	100.3	SCS RU	nott 5.412	1	725	16,446	- 1	—		Pre-Development Flow to Outfull 3
Indiy	S = 1000/CN -10 = 1000/69.2 - 10 = 4.45			raph	Sumi	marv	Repor	t			9 Cive 3D& 2009 by Autodesk, Inc. v6.066
na_ l	Q = (P2S) ² /P+.8S = (2.512(4.45)) ² /2.51 + .8(4.45) = 2.62/6.07 = .43" Volume = 2.64 Acres x .43" x 43560 x 1/12 = 4121 CF	Hyd	0.22 - 22	27 1 22 22		Time to	Hyd.	vorallow Hydr	ographs Extensi Maximum	on for AutoCAD	9 Civil 3D® 2009 by Autodesk, Inc. v6.056 Hydrograph
CICL		No.	type (origin	flow	Time Interva (min)		Hyd. volume (cuft)	hyd(s)	elevation (ft)	Total strge used (cuft)	Hydrograph description
INT	Pre-Development Flow								3.4	1001	
11.	1 YR = 1.063 cfs	1	SCS Run	noff 11.38	1	724	33,724	-			Pre-Davelopment Flow to Outfall 3
	2 Yr = 1.962 cfs 10 Yr = 5.412 cfs			4 PRE-	DEVE	LOPME	NT REI	EASE I	RATES		
070	100 Yr = 11.38 cfs	1 YE Hy	drog	raph :	Sum	mary	Repor	t	moianha Extern	ion for AutoCAD	© Civil 3DI® 2009 by Autodesk, Inc. v6.0
2	Outfall 4 Existing Storm Inlet in Washington Street	Hyd.				Time to	Hyd.	Inflow	Maximum	Total	Hydrograph
MD'IN	outian 4 Existing Storm meetin Washington Street	No.	type (origin)	flow	interva (min)	l peak (min)	volume (cuft)	hyd(s)	elevation (ft)	strge used (cuft)	description
100	Assume Good Woods	,	SCS Run	off 0.200	1	723	608				Pre-Development Flow to Outfall 4
0170	Total drainage area = 0.37 Acres	2 YE	AR					- 1			
MINN	0.37 Acres C Soils woods, CN = 70	Hy	drog	raph \$	Sumi	mary	Repor	t Iydraflow Hydr	rographs Extens	ion for AutoCAD	@ CMI 3D® 2009 by Autodesk, Inc. v6.0
nici	Тс	Hyd.	Hydrogra	ph Peak	Time	Time to	Hyd.	Inflow	Maximum	Total	Hydrograph
	A-B Overland Flow 100 LF, Change in Elevation = 2.90'	No.	(origin)) (cfs)	(min)	(min)	volume (cuft)	hyd(s)	elevation (ft)	strge used (cuft)	description
THE	From Seelye Chart TC = 12.6 min. B-C Shallow Concentrated Flow 25 LF, Change in elevation = 2.20'	1	SCS Run	off 0.354	1	722	974				Pre-Development Flow to Outfall 4
UVE U	S = .088, V = 4.8 fps, $25/4.8 = 5.2$ seconds = 0.08 min	10 YI	EAR	rank C			Done				16
VIAIUS	Total TC = 12.6+0.08 = 12.68 min., Use 13 minutes	Hyd	urogr	apn S	umn	nary f	repor	draflow Hydro	ographe Extensi	on for AutoCAD	6 Civil 3D8 2009 by Autodesk, Inc. v6.06
le Ce	Frank Palance Values	Hyd. No.	Hydrograp type	flow	Time interval	Time to peak	Hyd. volume	Inflow hyd(s)	Maximum elevation	Total strge used	Hydrograph description
VIIId	Energy Balance Volume S = 1000/CN -10 = 1000/70 - 10 = 4.29		(origin)	(cfs)	(mîn)	(min)	(cuft)	1000	(ft)	(cuft)	
SUBU	$Q = (P2S)^2 / P+.8S = (2.512(4.29))^2 / 2.51 + .8(4.29) = 2.729 / 5.942 = .46''$	100 Y	SCS Runot	ff 0.927	1	721	2,373	_			Pre-Development Flow to Outfall 4
USSII	Volume = 0.37 Acres x .46" x 43560 x 1/12 = 618 CF			aph S	umn	nary F	Report		and a second		9 Civil 3D/9 2009 by Autodesk, Inc. v6.06
	Pro Development Flow	(Lacos) (s		201 Stends	Time	Time to	Hyd.	Brallow Hydro	graphs Extension	Total	9 Civil 3D/B 2009 by Autodesk, Inc. v6.06 Hydrograph
	Pre-Development Flow 1 YR = 0.200 cfs	Hyd. I No.	Hydrograpi type (origin)	h Peak flow (cfs)	Time Interval (min)	Time to peak (min)	Hyd. volume (cuft)	hyd(s)	Sector Control Control	Total strge used (cuft)	Hydrograph description
100	2 Yr = 0.354 cfs	+				A CO	12-12/2 1990/1991		1.4		
NIIAN	10 Yr = 0.927 cfs	1	SCS Runafi	f 1.907	1	721	4,617	-		-	Pre-Development Flow to Outfail 4
	100 Yr = 1.907 cfs										
<'											

						Q1 = 0.059 cfs	EXISTI
680	121. 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910		and Energy Baland	ce Equation		Q2 = 0.074 cfs	DECT 1-66/Rie 15 1/2 AD Ramp C LVERT 12D-1m7-1
	Outfall 1 – ST 1, Outfall	Flowrates				Q10 = 0.119 cfs Q100 = 0.184 cfs	22+25 HYPROLOG
1	Facility ST1	Q1 0.106 cfs	Q2 0.414 cfs	Q10 4.366 cfs	Q100 29.82 cfs	Mag Duit	hedi <u>RATIONAL</u> inaga Asen: 23.34 m of Concentration
6	ST6	0.030 cfs	0.104 cfs	1.626 cfs	8.650 cfs	Post Development Volume	NGN PLOWS
1	ST7 ST8	0.038 cfs 0.097 cfs	0.175 cfs 0.381 cfs	3.189 cfs 3.731 cfs	7.806 cfs 25.88 cfs	Q = (P2S) ² /P+.8S = (2.512(0.638)) ² /2.51 + .8(0.638) = 5.676/3.020 = 1.88"	SD Design 2 Check
	ST9	0.070 cfs	0.256 cfs	2.301 cfs	20.14 cfs	Volume = 0.018 Acres x 1.88" x 43560 x 1/12 = 545.95 CF	100 Mm.
	Total	0.341 cfs				1 Tear allowable release rate to meet energy balance equation	rf Edge Osserigtion: ore edge wihendoell
100-0	There is no byp	ass flow to Out	tfall 1				Utipin Non-Conforming Out
066			6 W 4			01 Doct 4/- 7 221	ntata Ciasular osseta Ciasular
	Total Post-Dev Facility	Volume to Out Area	fall 1 Weighted CN	Area	x CN		naretz Cierciler
	ST1	4.31 Acres	93.7	= 403			Ividual Colvert Perform CULVERT # No of 1 Bandle 1
	ST6 ST7	1.58 Acres 0.93 Acres	75.7 89.0	= 119 = 82.7		Since the discharge to structure 112 is less than the pre-development flow, there is a reduction in flow	1 I 1 1
800	ST8	3.92 Acres	84.1	= 329		to the storm drain system. The channel should then be considered adequate. The Energy Balance Equation has been met for Outfall 3.	
	ST9	1.90 Acres 12.64 Acres	89.4	= 169	.86 8/12.64 = 87.5		CHNICAL FOOTNOTES
		12.04 ACIES		1105.	0/12.04 - 07.5	Outfall 4 – Overland Flow to existing curb inlet	USE QARE FOR BOX CUR HWWD = HWID OR HWWD FALL = HWI - (ELRWI - 1
2	Post Developm S = 1000/CN - 1		10 - 1 42			0.044 Acros C coils Turf	HWL · DEBON HE
56			1.43)) ² /2.51 + .8(1.43) = 4.946/3	.654 = 1.35"	Tc = 5 min.	HW6 HW IN DOUTS
	Volume = 12.64	Acres x 1.35"	x 43560 x 1/12 =	61,942.32 CF		Q1 = 0.048 cfs	I VERTICET IN FRICE
-	1 Year allowabl	e release rate	to meet Energy B	alance Equation	n	Q2 = 0.076 cfs	
	Q1 post = Q1</td <td>Pre (Volume P</td> <td>re/Volume Post)</td> <td></td> <td></td> <td>Q10 = 0.172 cfs</td> <td></td>	Pre (Volume P	re/Volume Post)			Q10 = 0.172 cfs	
	Q1 Post = 2.9<br Q1 Post = 0.4</td <td></td> <td></td> <td></td> <td></td> <td>Q100 = 0.327 cfs</td> <td></td>					Q100 = 0.327 cfs	
066	and a second		Energy Balance E	quation is met.		Post Development Volume	
	Outfall 2 – ST 2	ST3 ST4 and	ST 5			S = 1000/CN - 10 = 1000/74 - 10 = 3.51 $Q = (P2S)^2/P+.8S = (2.512(3.51))^2/2.51 + .8(3.51) = 3.269/5.318 = 0.61''$	
-	Outfall 2 – 51 2, Outfall	Flowrates	515			Volume = 0.044 Acres x 0.61" x 43560 x 1/12 = 97.43 CF	
I	Facility	Q1	Q2 0.151 cfs	Q10	Q100 20.62 cfs	1 Year allowable release rate to most Energy Pelance Frustian	
0.065	ST2 ST3	0.048 cfs 0.039 cfs	0.151 cfs 0.161 cfs	1.612 cfs 1.621 cfs	20.62 cfs 12.78 cfs	1 Year allowable release rate to meet Energy Balance Equation Q1 post = Q1 Pre (Volume Pre/Volume Post) x IF – Bypass Flow</td <td></td>	
٦	ST4	0.033 cfs	0.109 cfs	0.998 cfs	11.12 cfs	Q1 Post = 0.200 (618/97.43) x 0.9</td <td></td>	
_	ST5 Total	0.037 cfs 0.157 cfs	0.132 cfs	1.424 cfs	13.05 cfs	Q1 Post = 1.417</td <td></td>	
	See Bypass Info		1			Since, 0.048 cfs < 1.417 cfs, Energy Balance Met	
v6.066	Total Post-Dev	Volume to Out	6-11 7			Since the discharge to the existing curb inlet is less than the pre-development flow, there is a reduction	
		Area	Weighted CN	Area	CN	in flow to the storm drain system. The channel should then be considered adequate. The Energy	
_		2.30 Acres	93.0	= 213		Balance Equation has been met for Outfall 4.	
	and the second se	1.88 Acres 1.28 Acres	89.7 87.7	= 168 = 112		Outfall 1	
6.066		1.64 Acres	87.4	<u>= 143</u>		There is an existing 49 inch Culturat under Doute CC at Outfall 1. This subject was designed to pass the	
٦		7.10 Acres		638.1	/7.10 = 89.9	There is an existing 48 inch Culvert under Route 66 at Outfall 1. This culvert was designed to pass the 100 year storm. The pre-development design includes the following flows:	
	Post Developme					2 year storm = 47.22 cfs	
	S = 1000/CN - 1 $O = (P_{-} 2S)^{2}/P_{+}$		- 10 = 1.123 1.123)) ² /2.51 + .8	(1 122) - 5 22/	2 41 - 1 52"	50 year storm = 93.29 cfs 100 year storm = 106.40 cfs.	
1066	the second s		43560 x 1/12 = 3		5.41 - 1.55	The 100 year flow must be less than 106.40 cfs to keep the culvert adequate.	
1,066	Thore is humans	flow to Outfall	2. This poods to	he accounted f	or in the post-development volume and	There is offsite flow to this culvert in addition to the onsite flow. The 100 year offsite flow is 12.46 cfs.	
	flowrate.	now to Outrain	2. This needs to	be accounted in	or in the post-development volume and	The total on-site flow is 92.296 cfs. This brings the total post-development flow to the culvert to 104.76	
	On site Danser I					cfs, which is less than the pre-development flow of 106.40 cfs. The existing 48" culvert should not be negatively impacted.	
	On-site Bypass I	Flow				negatively impacted.	
066	1.05 Acres, B So		x 61 = 64.05			Outfall 2	
	0.22 Acres, C So 0.11 Acres, B So		x 74 = 16.28 x 98 = <u>10.78</u>			There is an existing triple culvert under Route 66 at Outfall 2. There are two 30" pipes and one 36" pipe.	
	1.38 Acres		Contraction of the second	1.38 = 66.0		This culvert was designed to pass the 100 year storm. The pre-development design includes the	
d:	Volume Bypass					following flows: 2 year storm = 52.23 cfs	
066	S = 1000/CN - 1	0 = 1000/66 -				50 year storm = 104.73 cfs	
	the second se	and the second sec	5.152)) ² /2.51 + .8 43560 x 1/12 = 1	and the second se	5.63 = 0.33"	100 year storm = 120.15 cfs The 100 year flow must be less than 120.15 cfs to keep the culvert adequate.	
				90000000000000000000000000000000000000			
3	Bypass Flow 1.3	8 Acres, CN = 6	66, Tc = 26 min			There is 4.18 acres of offsite water entering this culvert through the outfall pipe. There is also flow from the existing stormwater management pond. The total 100 year flow from the offsite area is 31.10 cfs.	
6	Q1 = 0.275 cfs					The 100 year flow from the Sherwood Forest Pond is 13.23 cfs. There is also on-site bypass flow that	
	Q2 = .584 cfs					does not go through the stormwater management facilities, but directly to the storm drain system. The 100 year flow from the on-site bypass area is 4.33 cfs. The total on-site flow through the SWM facilities	
	Q10 = 1.917 cfs Q100 = 4.33 cfs					is 57.57 cfs. This brings the total flow to the culvert to 106.23 cfs, which is less than the pre-	
L	1 Voor ellevente	a release estat	o most Farmer P	alance Fauntin		development flow of 120.15 cfs. The existing triple culvert should not be negatively impacted. EXISTING 48" CULVERT COMPS	
56			o meet Energy Ba re/Volume Post)	1. C			
1			433 + 1653.10) x (0.8 – 0.275 cfs		PROJECT L66R/e 15 Interchange Reconstruction R0AD Ramp C1 COURTY Prince William SidEET OF DESIGNES	CULVERT DESIGN P
-	Q1 Post = 0.1<br Since the bypas			the allowable r	elease rate from the site, the Energy	CULVERT 13C3to13C4 VA Uterts ENGLISH REVEWE	er: SCT
1	Balance Equation				nnel comps will be performed for Outfall	HYDROLOGICAL DATA Mithod: RATIONAL Roadway Walth 24 8 ROADWAY BLEVATION 35600 8 Reed Lengt	ih 1999 Suher
	2.					Desinage Area 16.17 Arres Time of Concentration 11.6 Minutes Shife: Des LL - 356.06 in 6	Freehauste 3 Skildt. Elter, RL= 1/1/15
066	Outfall 3 – Over	land Flow to e	xisting 15" SD pip	e		DE33GN FLOWS ELIWA- 332.8 II RL (sees) FLOW (efg) ELIWA- 332.8 II S0 Daim 132.9 II III	-
٦	125 SF, C soils, 1 650 SF, C Soils P					50 Daniga \$129 2 Obeck 4723 100 Max. 104.40	TW DEPTH 0 TW VEL 0 Change Ins E 0
		avenient				100 Max. 101.40 3= 1.237k 2 DEPRESSION 6 m. CULVERT DESCRIPTION: 3XLW+ 0 "n" Bed 30.00 TYPE: Single/Multiple Conferming "n" Bed 30.00	
1	Weighted CN .003 x 74 = .222					Infer Edge Description: TOTAL FLOW FER HEADWATER CALCULATIONS CONTR Square edge undestundi FLOW FER MARKEL MARKEL MARKEL OUTLET CONTROL MARKEL M	1925 Contractor Parket
066	$.003 \times 74 = .222$ $.015 \times 98 = 1.47$					Single / Multiple Confirming / Encode With No. Weight USA FALL ELMON TM do Sec H ELMON	V VEL EL
	and the second s	2/.018 = 94				Conserver Conserver 4 1 0.013 91.29 92.3 1.43 5.30 0.09 2.63 3.32 3.06 0.50 3.29 352.35<	20 10.53
	Tc = 5 min.					106.40 106.4 LB2 5.97 UB0 333.47 0.00 2.81 3.41 3.15 0.50 4.20 353.35 353.9	
1						Broken Back Cutvert TAILWATER DATA; TAILWATER RESULTS: ROADWAY DATA; LENGTR Eler. SKIW* Caured Shapp Eleration Floor Shapp Velocity Shaper force Randway Watha, it 24	ROADWAY OV Dacharge Die
10-						Bodem Walds, B 0.00 ">" 0.035 CB B Eps	
ðon						Biald Grape. Not Oriting 0.00 Check. 8.00 9.00 0.06 Length of Road, ft view Channel Slipe. Not 0.0100 Max, 0.09 9.00 8.00 1.09 1.09 1.09 1.09 1.00	
						Disseer Caration V*-	
							D/2) (WHICHEVER IS (
00						(2) HW/D \C R HW/D \C R HW/D FROM DESIGN CHARTS (5) TW BASED ON DOWNSTREAM CONTROL OR FLOW (7) H-[1 + In + (2%) (7) FALL - HWI- (ELHWI- ELL); FALL IS ZERO FOR CULVERTS ON GRADE DEFTH IN CHANNEL (20) - SUBSCRIPT DEFINITIONS: COLVERTS / BASED SOL	
7						Busicestor Converts / Bacestor Converts / Bacestor Converts / Bacestor HW4 DBSIGN HEADWATER I DLET SIZE SIZE HW1 HW RUNCET ONTROL 0 OULST SHAPE SHAPE	R: MATERIAL:
						HWe HW IN OUTLET CONTROL of Streamford ENTRANCE	
						CULVERTSOFT by ENSOFTED, INC.	
1							



(6186

SWM REVISION NARRATIVE

OUTFALL 1

OUTFALL 2

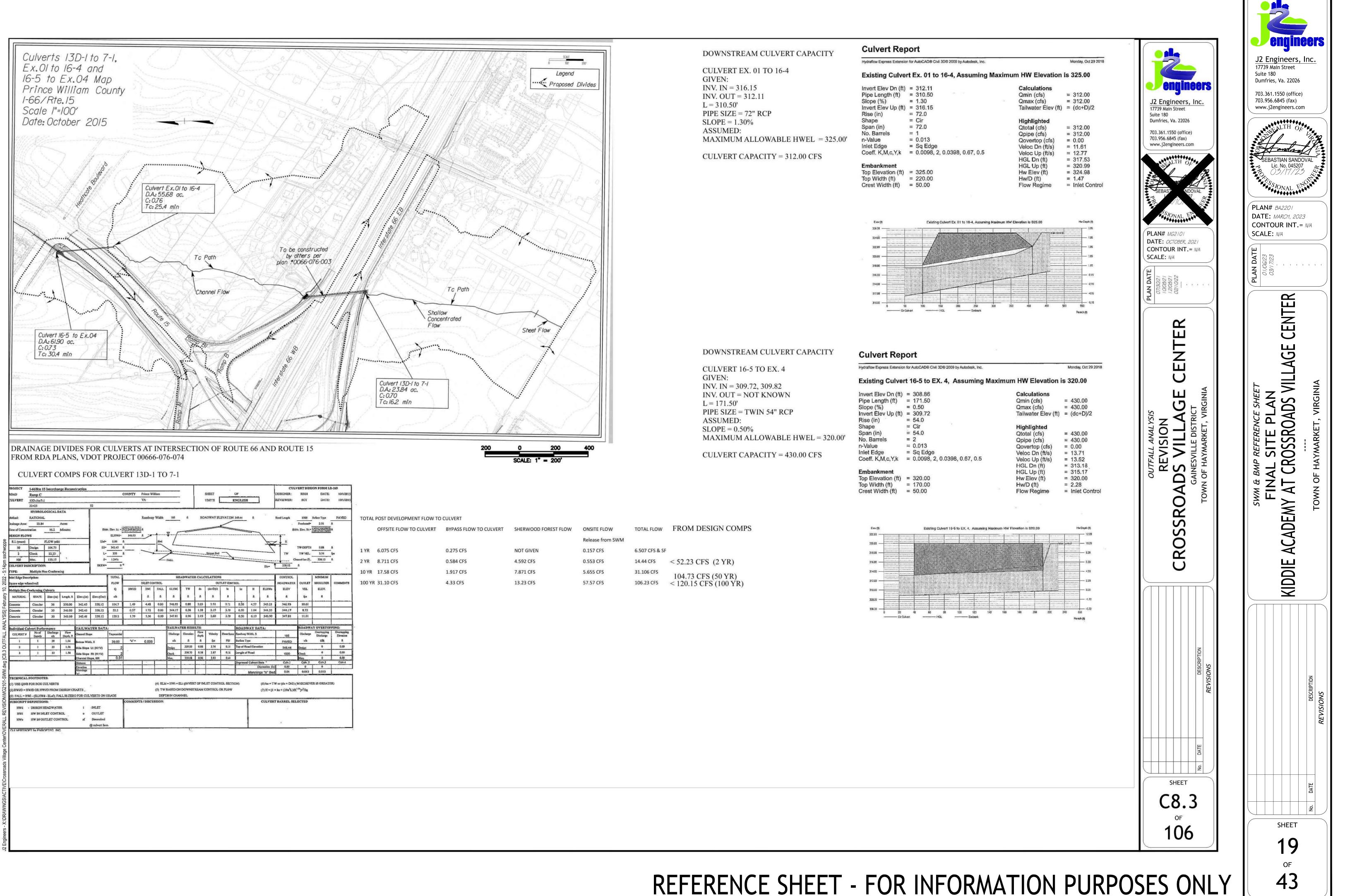
Summary for Subcatchment 106S: ON [47] Hint: Peak is 274% of capacity of segment #2 Runoff = 69.712 cfs @ 12.00 hrs, Volume= Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Tin Type II 24-hr 100-Year Rainfall=8.03" Area (ac) CN Description * 0.650 61 B TURF * 1.290 74 C TURF * 1.760 98 B IMPERMOUS

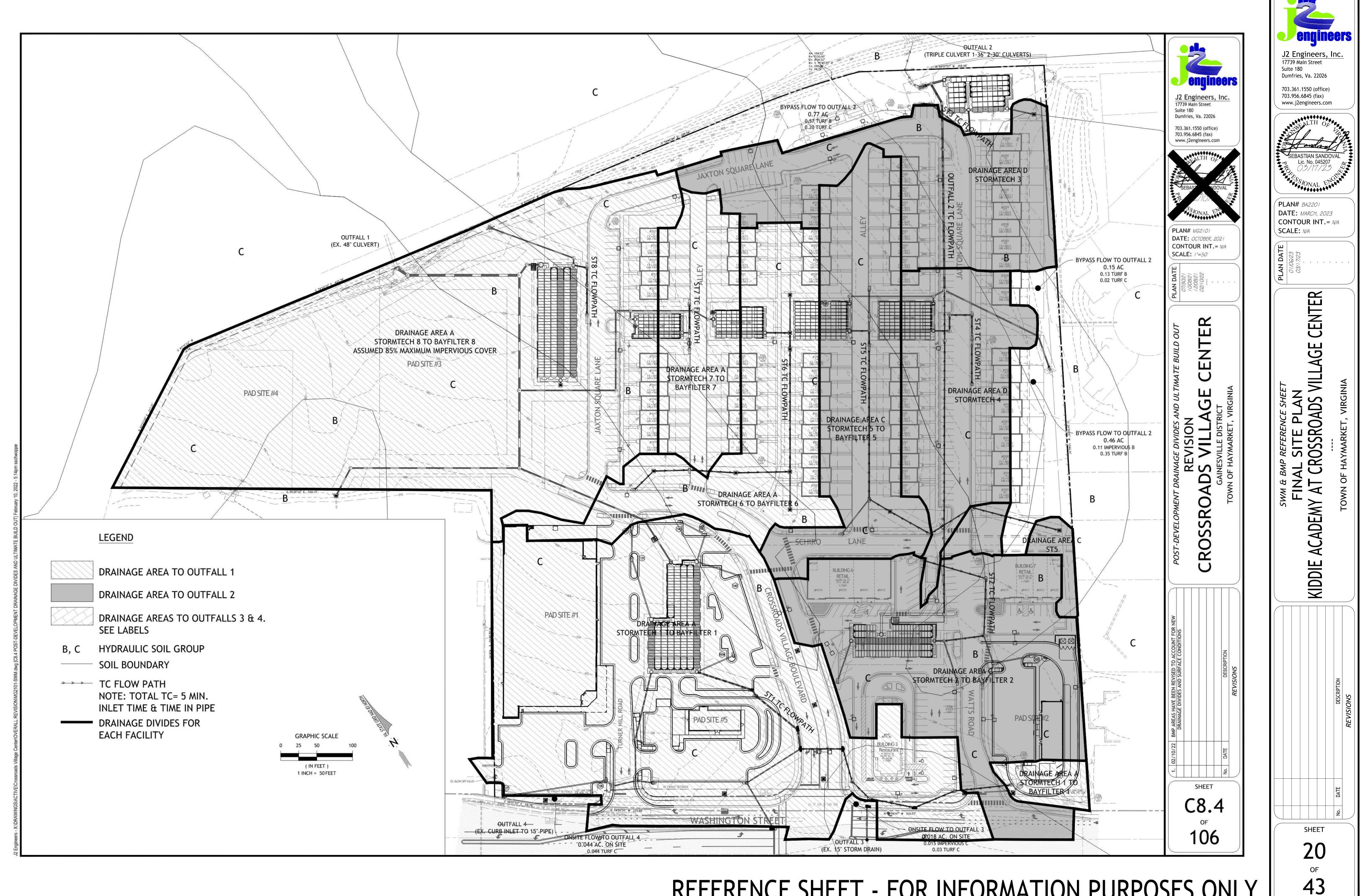
*	1	.760	98 BIN	PERMOUS	5	
*	3	.490	98 CIN	PERMOU	S	
	7	.190	90 Wei	ghted Aver	age	
	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Descri
	9.2 0.2	81	0.0370	6.37	25.463	Direct Trap/V Bot.W= n= 0.03
	9.4	81	Total			

REFERENCE SHEET - FOR IN

		engineers
SWM REVISION NARRATIVE		J2 Engineers, Inc. 17739 Main Street Suite 180
THIS REVISION PROPOSES CHANGES TO ALL STORMTECH SYSTEMS.	engineers	Dumfries, Va. 22026 703.361.1550 (office) 703.956.6845 (fax)
STORMTECHS 1, 6, 7, & 8 CONTRIBUTE TO OUTFALL 1.	J2 Engineers, Inc. 17739 Main Street Suite 180	www.j2engineers.com
STORMTECH 9 HAS BEEN REMOVED AND STORMTECH 8 HAS BEEN REVISED TO PROVIDE TREATMENT FOR THE ENTIRE PAD WEST OF THE ZONING LINE AT THE MAXIMUM IMPERVIOUS LOT COVERAGE ALLOWED PER MUNICIPAL CODE AT 85% IMPERVIOUS TO ACCOUNT FOR ANY FUTURE DEVELOPMENT.	Dumfries, Va. 22026 703.361.1550 (office) 703.956.6845 (fax)	ALTH OF
STORMTECH 1 HAS A REVISED LAYOUT AND CONTROL STRUCTURE TO ACCOUNT FOR CHANGES ON THIS PORTION OF THE SITE.	www.j2engineers.com	SEBASTIAN SANDOVAL Lic. No. 045207
STORMTECH 6 HAS A REVISED CONTROL STRUCTURE.		103/17/23 H
SOTMRTECH 7 HAS A REVISED CONTROL STRUCTURE AND LAYOUT.	SEBAST NDOVAL	CSSIONAL ENGL
THE ORIGINAL POST-CONDITION FLOWS FOR OUTFALL 1 ARE (PER SHEET C8.2): Q1=0.341 CFS Q10=15.213 CFS	R 110 E	PLAN# BA2201 DATE: MARCH, 2023
THE REVISED POST CONDITION 1 YEAR FLOWS FOR OUTFALL 1 ARE (PER SHEETS C9.11-C9.26): ST1: 0.104 CFS ST6: 0.040 CFS ST7: 0.035 CFS	PLAN# MG2101 DATE: OCTOBER, 2021 CONTOUR INT.= NA	CONTOUR INT. = N/A SCALE: N/A
ST8: 0.158 CFS TOTAL: 0.337 CFS < 0.341 CFS		(N DATE) (N DATE) ()/06/23 3/17/23 - - - -
THE REVISED POST CONDITION 10 YEAR FLOWS FOR OUTFALL 1 ARE (PER SHEETS C9.11-C9.26): ST1: 4.424 CFS ST6: 1.563 CFS ST7: 3.007 CFS ST8: 5.830 CFS	PLAN DAT	BLA PLA
TOTAL: 14.824 CFS < 15.213 CFS		
SINCE THE REVISED POST-CONDITION FLOWS ARE LESS THAN THE ORIGINAL POST-CONDITION FLOWS, ANALYSIS ON SHEET C8.2 IS STILL VALID FOR OUTFALL 1.	ER	CEN
OUTFALL 2		Ы
STORMTECHS 2, 3, 4, & 5 CONTRIBUTE TO OUTFALL 2.		AG AG
STORMTECH 2 HAS A REVISED CONTROL STRUCTURE.		
STORMTECH 3 HAS A REVISED LAYOUT AND CONTROL STRUCTURE. STORMTECH 4 HAS A REVISED LAYOUT AND CONTROL STRUCTURE.		
STORMTECH 4 HAS A REVISED LAYOUT AND CONTROL STRUCTURE.		e sheet LAN NDS VI Virginia
THE ORIGINAL POST-CONDITION FLOWS FOR OUTFALL 2 ARE (PER SHEET C8.2): Q1=0.157 CFS Q10=5.655 CFS		
THE REVISED POST CONDITION 1 YEAR FLOWS FOR OUTFALL 2 ARE (PER SHEETS C9.11-C9.26): ST2: 0.048 CFS ST3: 0.036 CFS ST4: 0.028 CFS	III MAR	MP REFERENC L SITE P CROSSRO/ HAYMARKET,
ST5: 0.033 CFS TOTAL: 0.145 CFS < 0.157 CFS		
THE REVISED POST CONDITION 10 YEAR FLOWS FOR OUTFALL 3 ARE (PER SHEETS C9.11-C9.26): ST2: 1.536 CFS ST3: 1.604 CFS ST4: 0.991 CFS ST5: 1.414 CFS TOTAL: 5.545 CFS < 5.655 CFS		<i>SWM &</i> FIN, NY AT тоwn oi
1 YEAR AND 10 YEAR REVISED POST CONDITION FLOWS ARE LESS THAN ORIGINAL POST CONDITION FLOWS. HOWEVER, OUTFALL 2 DID NOT ORIGINALLY MEET ENERGY BALANCE AND ANAYLSIS OF THE EXISTING DOWNSTREAM CULVERT WAS PERFORMED. THE ORIGINAL DETAINED ON SITE 100 FLOW WAS 57.57 CFS. THE REVISED 100 YEAR POST CONDITION FLOW WAS CALCULATED USING A WEIGHTED CURVE NUMBER ENCOMPASSING THETOTAL DRIANAGE AREA TO STORMTECHS 2, 3, 4, & 5 UTILIZING A TIME OF CONCENTRATION AS SHOWN ON SHEET C8.4.	ROSSF	KIDDIE ACADE/
Summary for Subcatchment 106S: ONSITE DETAINED OUTFALL 2		
[47] Hint: Peak is 274% of capacity of segment #2		
Runoff = 69.712 cfs @ 12.00 hrs, Volume= 4.095 af, Depth> 6.83"		
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-30.00 hrs, dt= 0.05 hrs Type II 24-hr 100-Year Rainfall=8.03"	DER	
Area (ac) CN Description * 0.650 61 BTURF	BEEN UPDATED	
* 1.290 74 CTURF * 1.760 98 BIMPERMOUS		
* 3.490 98 C IMPERMOUS 7.190 90 Weighted Average	Ψ I I I I I I I I I I I I I I I I I I I	
To Length Slope Velocity Capacity Description		
(min) (ft/ft) (ft/se c) (cfs) 9.2 0.2 0.0370 6.37 25.463 Trap/Vee/Rect Channel Flow, DITCH FROM OUTFALL TO C	DNS	
Bot.W=1.00' D=1.00' Z= 3.0'/ Top.W=7.00' n= 0.030 Earth, grassed & winding	GES. DESC	NOLT
9.4 81 Total	RE RE	DESCRIPTION
	SWM ANALYSIS FOR OUTFALL REVISION CHANGES. DI REVISIO	DESC
THE REVISED 100 YEAR FLOW IS 69.712 CFS, WHICH IS GREATER THEN THE ORIGINAL POST CONDITION 100 YEAR FLOW OF 57.57. HOWEVER, THE PRE-CONDITION FLOW TO THE CULVERT IS	A ANAI REVISION	REV
CALCULATED AS 120.15 CFS PER SHEET C8.3. THE REVISED POST-CONDITION FLOW IS NOW 118.372 CFS WHICH IS LESS THAN THE PRE- CONDITION FLOW. THE EXISTING TRIPLE CULVERT SHOULD NOT		
BE NEGATIVELY IMPACTED.	02/10/22 DATE	
OUTFALLS 3 & 4 HAVE REMAINED UNCHANGED WITH THIS REVISION.	(-)	
	SHEET	DATE
	C8.2A	
	Providencial Control of Control o	ý j
		SHEET
	106	10
		18
		OF
		43
IEET - FOR INFORMATION PU	TUSES UNLY	4 3

6.3.c





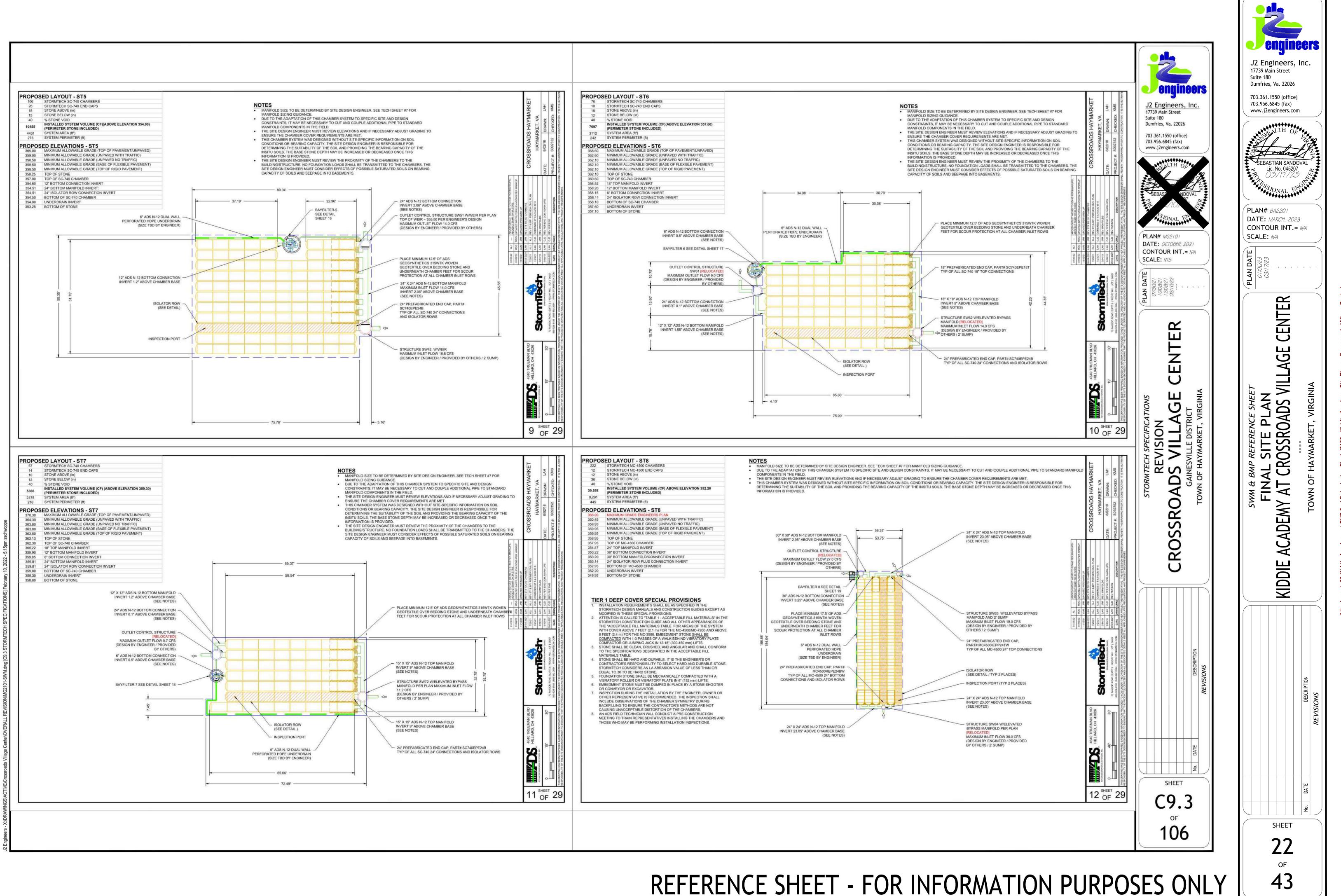
Packet Pg. 31

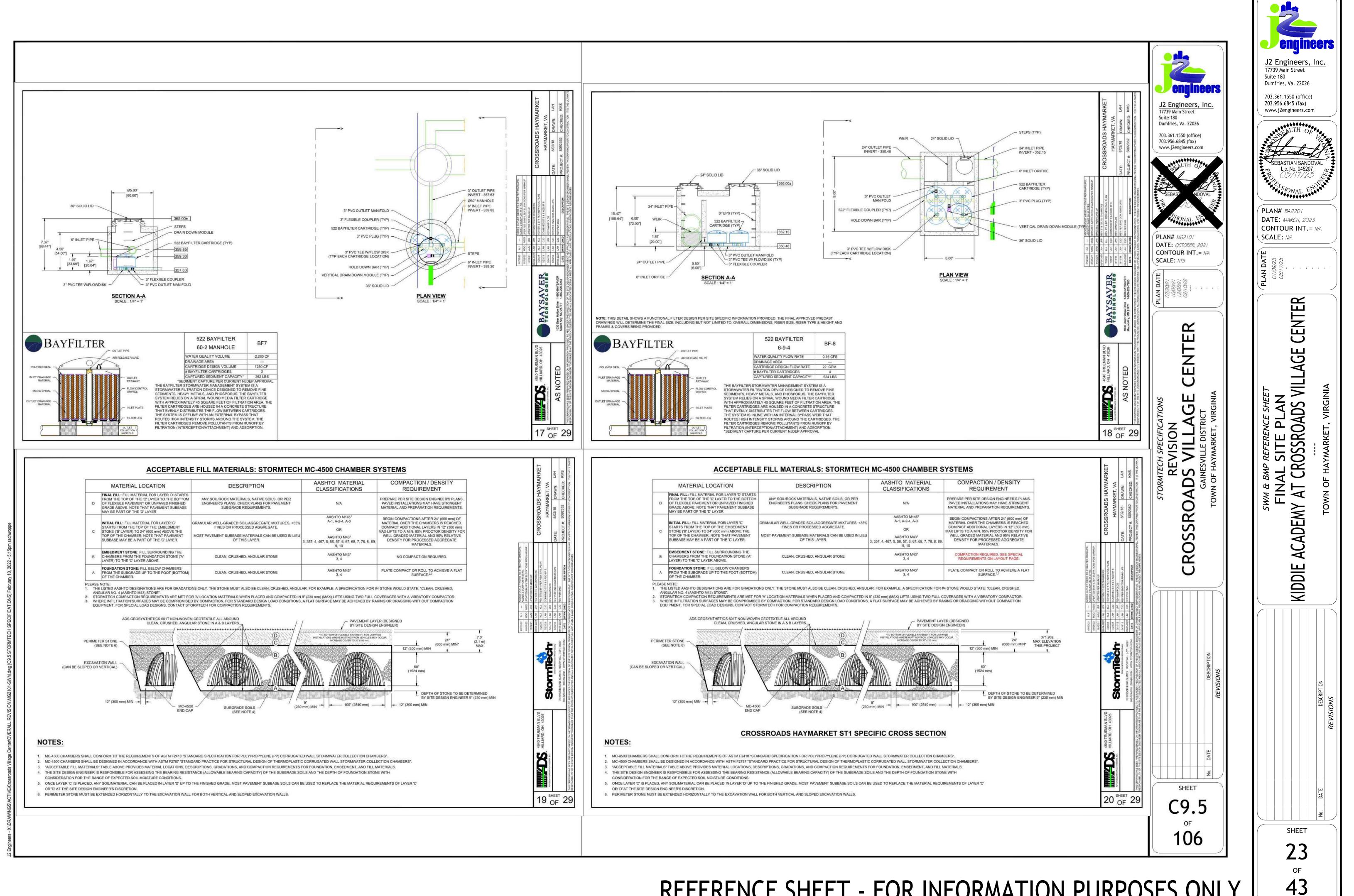
CROSSROAI	EXAMPLE AND		
<section-header><section-header><section-header><list-item><list-item><list-item><list-item><list-item><list-item><list-item><list-item><list-item><list-item><list-item><list-item><list-item><list-item><list-item><list-item><list-item><list-item><list-item><list-item><list-item><list-item><list-item><list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></section-header></section-header></section-header>	 MCCATCAT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-4500 CHAMBER SYSTEM FOR AND AND THE INSTALLED WITH IN	<section-header><section-header><section-header><list-item><list-item><list-item><list-item><list-item><list-item><list-item><list-item><list-item><list-item><list-item><list-item><list-item><list-item><list-item><list-item><list-item><list-item><list-item><list-item><list-item><list-item><list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></section-header></section-header></section-header>	 IMPORTANT - NOTES FOR 1 STORMTECH MC-3500 CHAMBERS PRE-CONSTRUCTION MEETING WIT STORMTECH MC-3500 CHAMBERS CHAMBERS ARE NOT TO BE BACKF STORMTECH RECOMMENDS 3 BACK ON STONESHOOTER LOCATED C BACKFILL AS ROWS ARE BUIL BACKFILL AS ROWS ARE BUIL BACKFILL FROM OUTSIDE TH THE FOUNDATION STONE SHALL B JOINTS BETWEEN CHAMBERS SHA MAINTAIN MINIMUM - 9" (230 mm) SI INLET AND OUTLET MANIFOLDS MU EMBEDMENT STONE SURROUNDIN #4. STONE MUST BE PLACED ON THE 1 THE CONTRACTOR MUST REPORT ENGINEER. ADS RECOMMENDS THE USE OF "F STORMWATER MANAGEMENT SYS NOTES FOR CONSTRUCTION STORMTECH MC-3500 CHAMBERS THE USE OF EQUIPMENT OVER MC NO EQUIPMENT IS ALLOWED NO RUBBER TIRED LOADER, WITH THE "STORMTECH MC- WEIGHT LIMITS FOR CONSTR FULL 36" (900 mm) OF STABILIZED CONSTRUCTION USE OF A DOZER TO PUSH EMBEDMENT BACKFILL METHOD. ANY CHAMBERS DA WARRANTY.
STRUMENCE STRUMENCE SCHOOLSEN SPECIFICATIONS MANNEERS MALL BE DESIGNER AND ALLOWED SPECIFICATION SPECIFICIATION SPECIFICATION SPECI	IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310/SC-740 SYSTEM Strandborg Strandb	SUMPARY SUMMARY SUMMA	BAYFILTER MAINTEN THE BAYFILTER SYSTEM REQUI PROCESS COMPRISES THE REM VACUUM TRUCK. FOR BEST RES CALL TO AN ADS ENGINEER OR WHEN BAYFILTER IS INITIALLY IN AFTER THAT, THE INSPECTION O LOADS. WHEN BAYFILTER EXHIBITS FLO REPLACING A BAYFILTER CARTE MAINTENANCE PROCEDURES 1. REMOVE THE MANIHOLE C 2. BEFORE ENTERING THE SS CO, OR OTHER APPLICABL 3. USING A SMALL LIFT OR TH 5. ANY CARTRIDGES THAT C LIFT. 6. WHEN ALL THE CARTRIDG STAINLESS CLAMPS ON TH AND THE FERNCO'S AND F 7. CLEAN THE MANIFOLD PIP 8. INSTALL THE EXCHANGE O 9. THE USED CARTRIDGES M BEAYFILTER INSTALL THE SUB-GRADE TO AND THE SITE PLANS. ADJ 5. ANY CHE SUB-GRADE TO AND THE SITE PLANS. ADJ 5. HAVE THE SUB-GRADE TO AND THE SITE PLANS. ADJ 5. SECTION (S) OF THE VAULT 8. LEVEL THE SUB-GRADE TO AND THE SITE PLANS. ADJ 5. SECTION (S) OF THE VAULT 8. INSTALL THE PVC OUTLET 9. INSTALL THE PVC OUTLET 9. INSTALL THE PVC OUTLET 10. INSTALL THE PVC OUTLET 11. AFTER THE SITE STABIL DRAINDOWN MODULES (IF 12. PLACE FULL SET OF HOLD

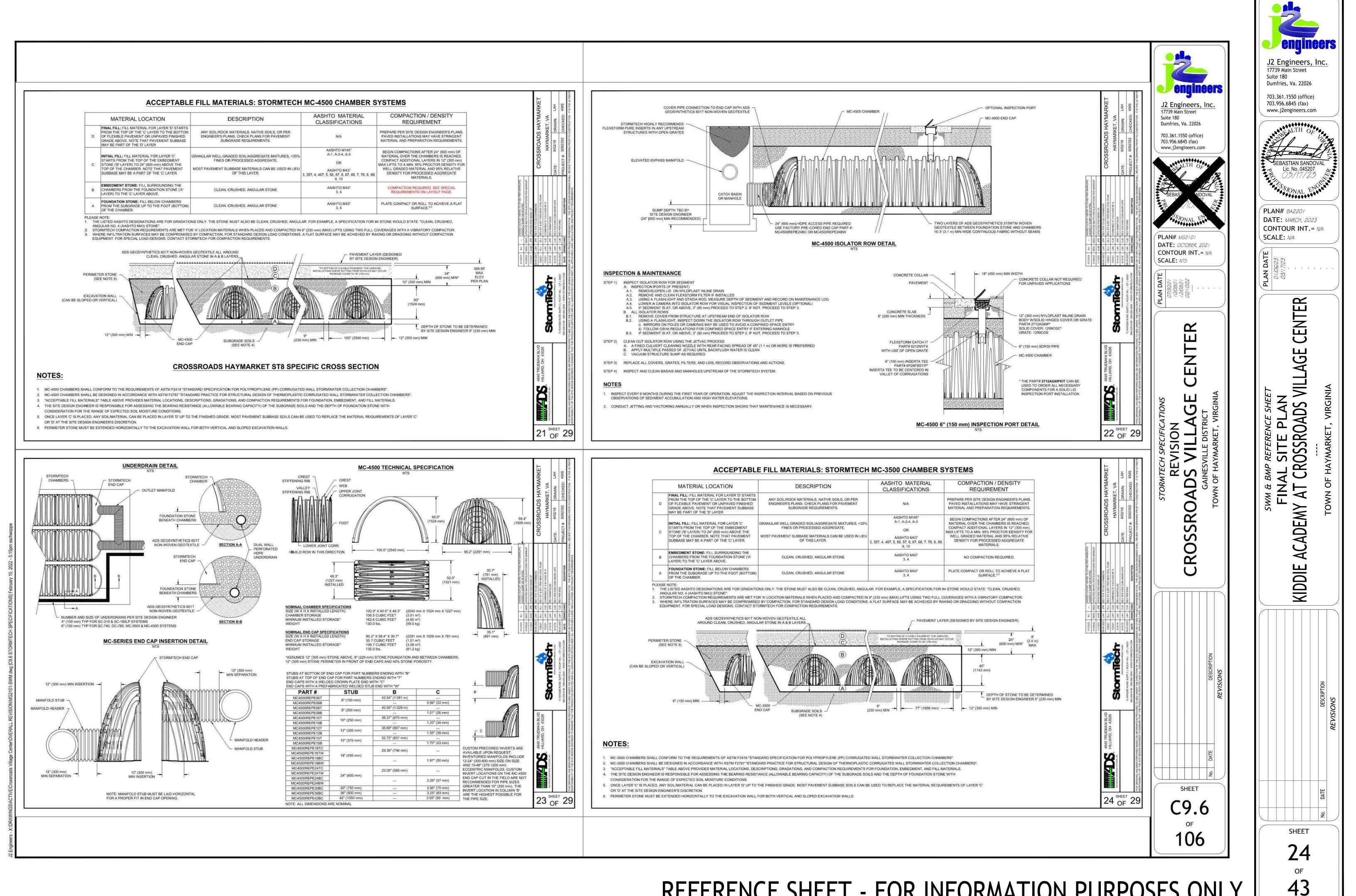
WPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-3500 CHARBER SYSTEM A PROFILE AND A PROFILE		SIMILE BACENCE SHEET FINAL STATES SIMILE AND SIMILE AND SUMPLIES VALUES SIMILE SAME SEBASTIAN SANDOVAL LIC NO. 045207 SOMAL SOMAL SOMAL SEBASTIAN SANDOVAL LIC NO. 045207 SOMAL S	
 EXPERIENCE MAINTENANCE HE BAYFLITER SYSTEM REQUIRES PERIODIC MAINTENANCE TO CONTINUE OPERATING AT ITS PEAK EFFICIENCY DESIGN. THE MAINTENANCE PROCESS COMPRISES THE REQUIRES SPENDIC MAINTENANCE TO CONTINUE OPERATING AND THE SUBMIN OF THE WAILL TO K MANHOLE WITH A VACUM RRUKE AND REST RESULTS. SPAFFILTER MAINTENANCE HOURSES AND THE SUBMIN CONCENTRANCE CONTINUE (SPAFFILTER MAINTENANCE CONTINUE (SPAFFILTER MAINTENANCE CONTINUE (SPAFFILTER MAINTENANCE CONTINUE) AND REST RESULTS. SPAFFILTER MAINTENANCE METHOD SPAFFILTER MAINTENANCE CONTINUE (SPAFFILTER MAINTENANCE CONTINUE) (SPAFFILTER MAINTENANCE ADD ACTUAL SOLIDS (SPAFFILTER MAINTENANCE MAINTENANCE MAINTENANCE METHOD (SPAFFILTER MAINTENANCE ADD ACTUAL SOLIDS (SPAFFILTER MAINTENANCE) (SPAFFILTER MAINTENANCE MAI	Indiana and a second and a seco	INDITIONAL INITIAL A INI	

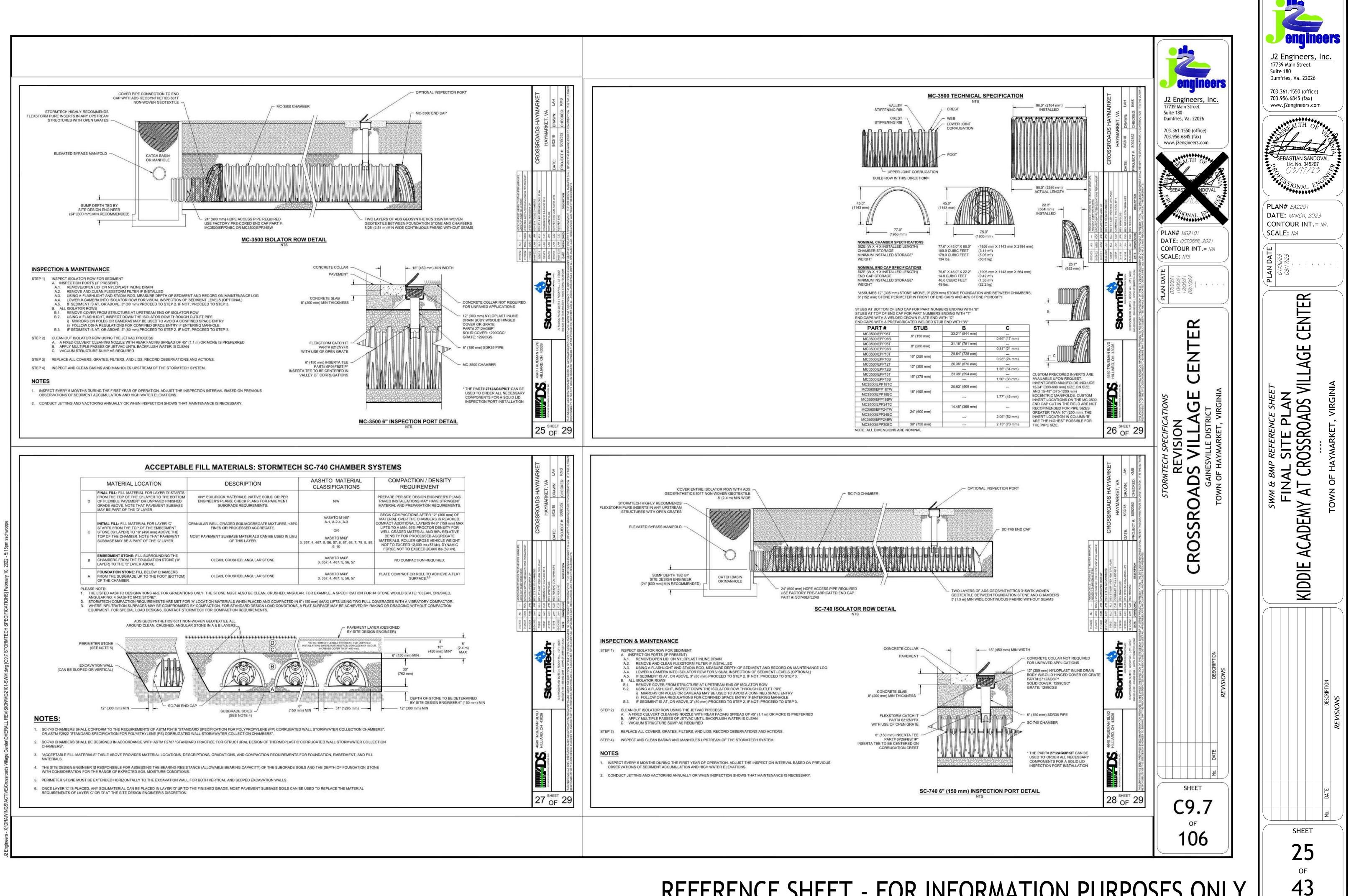
REFERENCE SHEET - FOR INFORMATION PURPOSES ONLY

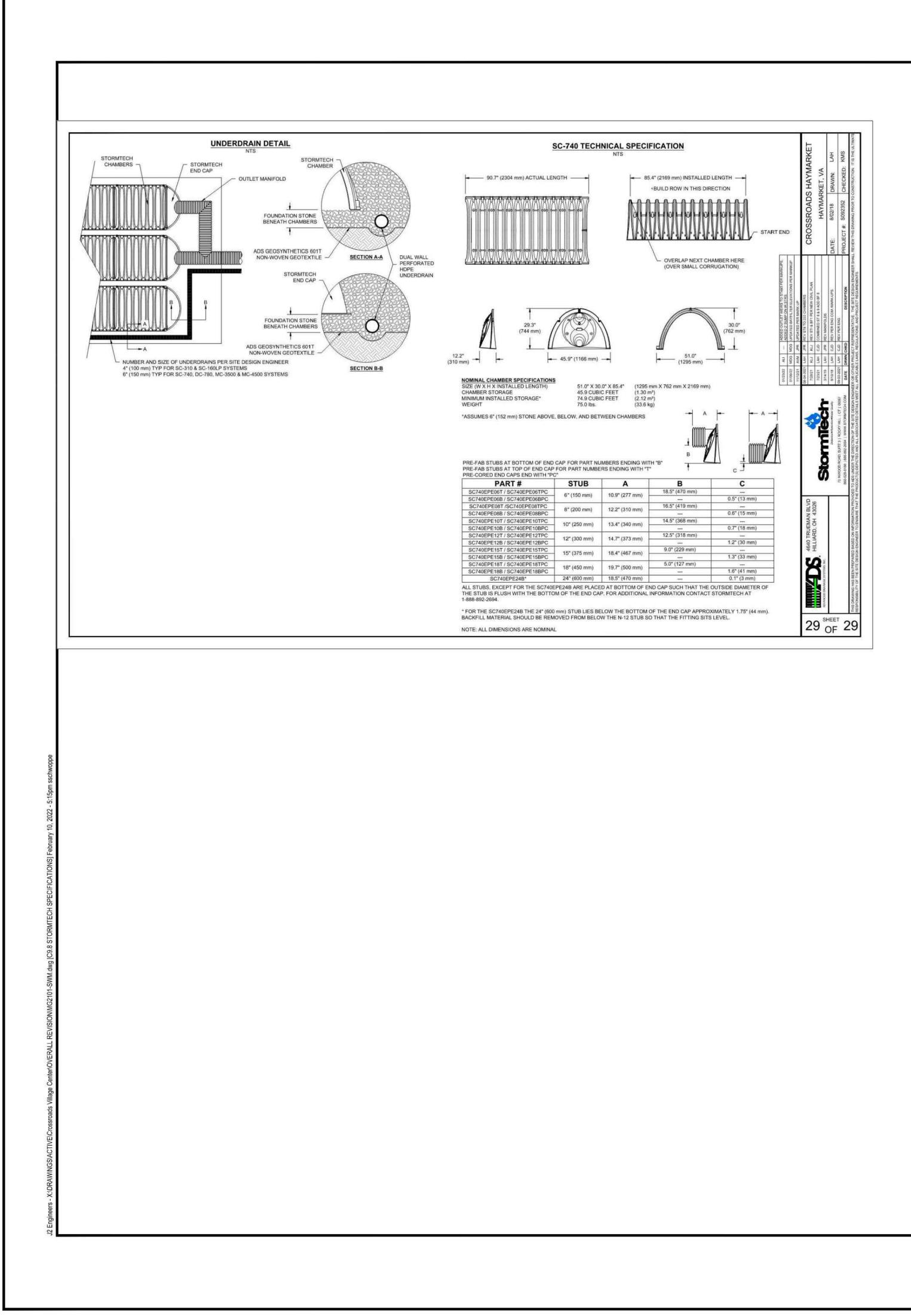
43













6.3.c

	a Stormwater Management Handbook, Chapter 3 July 2013	Virginia Stormwater Manag
3-F.3.0	. EXAMPLE CHECKLIST FOR A FINAL STORMWATER MANAGEMENT	Final good engin
1 45	SITE PLAN PREPARATION AND REVIEW	including contribu compliance with th Stage-discharge o
Final P	lan Submission Date	facilities Final analysis of
Project Site Pla	NameCROSSROADS VILLAGE CENTER	necessary Downstream analy
Site Ad Applica	dress_15150 WASHINGTON STREET TOWN OF HAYMARKET, VA 20169 int Meladon Group Phone Number (571) 375.1750 int Legal Address_1602 Village Market Blvd. SE Suite 235 Leesburg, Virginia 20175	N/A Dam safety and be 8. Representative cross
Owner Princip	Same as Applicant Phone Number (571) 375.1750 al Designer_J2 Engineers Phone Number (703)-361-1550 al Contractor Phone Number (703)-361-1550	measures and convey
2.	Signature and stamp of licensed professional consultant and owner	Existing and propo Design water surfa Structural details control structures,
	tification n Status Approved <i>Legend:</i> _ 🗊 - Complete	9 Applicable co applicable material ar
~	Not Approved Legend. - Complete Not Approved Inc. - Incomplete/Incorrect N/A - Not Applicable	10. <u> </u>
nur Addr	Common address and legal description of the site, including the tax reference nber(s) and parcel number(s) of the property or properties affected. ess: 15150 Washington Street, Town of Haymarket, VA 20169 els 1-A, 1-B, 1-C, 1-D (Commercial + Retail)	Handbook 11. <u> </u>
	el 2 (R-2 Subdivision)	12. Operations and maint
pro env rele	A narrative that includes a description of current site conditions and posed development and final site conditions, including proposed use of vironmental site design techniques and practices, stormwater control measures, evant information pertaining to long-term maintenance of these measures (see item below), and a construction schedule.	Name, legal addre term maintenance Description and so Identification/desci Description of acco Procedures for tes
	sting and proposed mapping and plans (recommended scale of 1" = 50', or greater ail), which illustrates the following at a minimum:	Right-of-entry auth
4	North arrow	13 Evidence of a 14 ^{N/A} Waiver/except
Ž	Legend Vicinity map Existing and proposed topography (minimum of 2-foot contours recommended)	15. 🖌 Evidence of a
¥	Property lines Perennial and intermittent streams	covenants, land trusts
~	Mapping of predominant soils from USDA soils surveys as well as the location of any site-specific test bore hole investigations that may have been conducted and information identifying the budralogic obstractoristics and structural properties of acids.	geotechnical investig
~	information identifying the hydrologic characteristics and structural properties of soils used in the installation of stormwater management facilities Boundaries of existing predominant vegetation and proposed limits of clearing and	17. <u>N/A</u> Other required
~	grading 3-F-4	
Virgini	a Stormwater Management Handbook, Chapter 3 July 2013	
_ _	Location and boundaries of natural feature protection and conservation areas (e.g.,	
_ _	Location and boundaries of natural feature protection and conservation areas (e.g., wetlands, lakes, ponds, aquifers, public drinking water supplies, etc.) and applicable setbacks (e.g., stream buffers, drinking water well setbacks, septic drainfield setbacks, building setbacks, etc.)	
	wetlands, lakes, ponds, aquifers, public drinking water supplies, etc.) and applicable setbacks (e.g., stream buffers, drinking water well setbacks, septic drainfield setbacks, building setbacks, etc.) Identification of any on-site or adjacent water bodies included on the Virginia 303(d) list of impaired waters	
N/A	 wetlands, lakes, ponds, aquifers, public drinking water supplies, etc.) and applicable setbacks (e.g., stream buffers, drinking water well setbacks, septic drainfield setbacks, building setbacks, etc.) Identification of any on-site or adjacent water bodies included on the Virginia 303(d) list of impaired waters Current land use and location of existing and proposed roads, buildings, parking lots and other impervious areas 	
~	 wetlands, lakes, ponds, aquifers, public drinking water supplies, etc.) and applicable setbacks (e.g., stream buffers, drinking water well setbacks, septic drainfield setbacks, building setbacks, etc.) Identification of any on-site or adjacent water bodies included on the Virginia 303(d) list of impaired waters Current land use and location of existing and proposed roads, buildings, parking lots and other impervious areas Location and description of any planned demolition of existing structures, roads, etc. Proposed land use(s) with a tabulation of the percentage of surface area to be adapted to various uses, including but not limited to planned locations of utilities, roads, parking 	
~	 wetlands, lakes, ponds, aquifers, public drinking water supplies, etc.) and applicable setbacks (e.g., stream buffers, drinking water well setbacks, septic drainfield setbacks, building setbacks, etc.) Identification of any on-site or adjacent water bodies included on the Virginia 303(d) list of impaired waters Current land use and location of existing and proposed roads, buildings, parking lots and other impervious areas Location and description of any planned demolition of existing structures, roads, etc. Proposed land use(s) with a tabulation of the percentage of surface area to be adapted to various uses, including but not limited to planned locations of utilities, roads, parking lots, stormwater management facilities, and easements Location of existing and proposed utilities [e.g., water (including wells), sewer (including 	
~	 wetlands, lakes, ponds, aquifers, public drinking water supplies, etc.) and applicable setbacks (e.g., stream buffers, drinking water well setbacks, septic drainfield setbacks, building setbacks, etc.) Identification of any on-site or adjacent water bodies included on the Virginia 303(d) list of impaired waters Current land use and location of existing and proposed roads, buildings, parking lots and other impervious areas Location and description of any planned demolition of existing structures, roads, etc. Proposed land use(s) with a tabulation of the percentage of surface area to be adapted to various uses, including but not limited to planned locations of utilities, roads, parking lots, stormwater management facilities, and easements 	
	 wetlands, lakes, ponds, aquifers, public drinking water supplies, etc.) and applicable setbacks (e.g., stream buffers, drinking water well setbacks, septic drainfield setbacks, building setbacks, etc.) Identification of any on-site or adjacent water bodies included on the Virginia 303(d) list of impaired waters Current land use and location of existing and proposed roads, buildings, parking lots and other impervious areas Location and description of any planned demolition of existing structures, roads, etc. Proposed land use(s) with a tabulation of the percentage of surface area to be adapted to various uses, including but not limited to planned locations of utilities, roads, parking lots, stormwater management facilities, and easements Location of existing and proposed utilities [e.g., water (including wells), sewer (including septic systems), gas, electric, telecommunications, cable TV, etc.] and easements Earthwork specifications Selection, location and design of both structural and non-structural stormwater control measures, including maintenance access and limits of disturbance Storm drainage plans for site areas <i>not</i> draining to any BMP(s) 	
	 wetlands, lakes, ponds, aquifers, public drinking water supplies, etc.) and applicable setbacks (e.g., stream buffers, drinking water well setbacks, septic drainfield setbacks, building setbacks, etc.) Identification of any on-site or adjacent water bodies included on the Virginia 303(d) list of impaired waters Current land use and location of existing and proposed roads, buildings, parking lots and other impervious areas Location and description of any planned demolition of existing structures, roads, etc. Proposed land use(s) with a tabulation of the percentage of surface area to be adapted to various uses, including but not limited to planned locations of utilities, roads, parking lots, stormwater management facilities, and easements Location of existing and proposed utilities [e.g., water (including wells), sewer (including septic systems), gas, electric, telecommunications, cable TV, etc.] and easements Earthwork specifications Selection, location and design of both structural and non-structural stormwater control measures, including maintenance access and limits of disturbance Storm drainage plans for site areas <i>not</i> draining to any BMP(s) Location of existing and proposed conveyance systems, such as storm drains, inlets, catch basins, channels, swales, and areas of overland flow, including grades, 	
	 wetlands, lakes, ponds, aquifers, public drinking water supplies, etc.) and applicable setbacks (e.g., stream buffers, drinking water well setbacks, septic drainfield setbacks, building setbacks, etc.) Identification of any on-site or adjacent water bodies included on the Virginia 303(d) list of impaired waters Current land use and location of existing and proposed roads, buildings, parking lots and other impervious areas Location and description of any planned demolition of existing structures, roads, etc. Proposed land use(s) with a tabulation of the percentage of surface area to be adapted to various uses, including but not limited to planned locations of utilities, roads, parking lots, stormwater management facilities, and easements Location of existing and proposed utilities [e.g., water (including wells), sewer (including septic systems), gas, electric, telecommunications, cable TV, etc.] and easements Earthwork specifications Selection, location and design of both structural and non-structural stormwater control measures, including maintenance access and limits of disturbance Storm drainage plans for site areas <i>not</i> draining to any BMP(s) Location of existing and proposed conveyance systems, such as storm drains, inlets, catch basins, channels, swales, and areas of overland flow, including grades, dimensions, and direction of flow Final drainage patterns and flow paths Location of floodplain/floodway limits and relationship of site to upstream and 	
	 wetlands, lakes, ponds, aquifers, public drinking water supplies, etc.) and applicable setbacks (e.g., stream buffers, drinking water well setbacks, septic drainfield setbacks, building setbacks, etc.) Identification of any on-site or adjacent water bodies included on the Virginia 303(d) list of impaired waters Current land use and location of existing and proposed roads, buildings, parking lots and other impervious areas Location and description of any planned demolition of existing structures, roads, etc. Proposed land use(s) with a tabulation of the percentage of surface area to be adapted to various uses, including but not limited to planned locations of utilities, roads, parking lots, stormwater management facilities, and easements Location of existing and proposed utilities [e.g., water (including wells), sewer (including septic systems), gas, electric, telecommunications, cable TV, etc.] and easements Earthwork specifications Selection, location and design of both structural and non-structural stormwater control measures, including maintenance access and limits of disturbance Storm drainage plans for site areas <i>not</i> draining to any BMP(s) Location of existing and proposed conveyance systems, such as storm drains, inlets, catch basins, channels, swales, and areas of overland flow, including grades, dimensions, and direction of flow Final drainage patterns and flow paths Location of all contributing drainage areas and points of stormwater discharge, 	
	 wetlands, lakes, ponds, aquifers, public drinking water supplies, etc.) and applicable setbacks (e.g., stream buffers, drinking water well setbacks, septic drainfield setbacks, building setbacks, etc.) Identification of any on-site or adjacent water bodies included on the Virginia 303(d) list of impaired waters Current land use and location of existing and proposed roads, buildings, parking lots and other impervious areas Location and description of any planned demolition of existing structures, roads, etc. Proposed land use(s) with a tabulation of the percentage of surface area to be adapted to various uses, including but not limited to planned locations of utilities, roads, parking lots, stormwater management facilities, and easements Location of existing and proposed utilities [e.g., water (including wells), sewer (including septic systems), gas, electric, telecommunications, cable TV, etc.] and easements Earthwork specifications Selection, location and design of both structural and non-structural stormwater control measures, including maintenance access and limits of disturbance Storm drainage plans for site areas <i>not</i> draining to any BMP(s) Location of existing and proposed conveyance systems, such as storm drains, inlets, catch basins, channels, swales, and areas of overland flow, including grades, dimensions, and direction of flow Final drainage patterns and flow paths Location of floodplain/floodway limits and relationship of site to upstream and downstream properties and drainage areas and points of stormwater discharge, receiving surface waters or karst features into which stormwater discharges, the predevelopment and post-development conditions for drainage areas, and the potential impacts of site stormwater on adjoining parcels 	
	 wetlands, lakes, ponds, aquifers, public drinking water supplies, etc.) and applicable setbacks (e.g., stream buffers, drinking water well setbacks, septic drainfield setbacks, building setbacks, etc.) Identification of any on-site or adjacent water bodies included on the Virginia 303(d) list of impaired waters Current land use and location of existing and proposed roads, buildings, parking lots and other impervious areas Location and description of any planned demolition of existing structures, roads, etc. Proposed land use(s) with a tabulation of the percentage of surface area to be adapted to various uses, including but not limited to planned locations of utilities, roads, parking lots, stormwater management facilities, and easements Location of existing and proposed utilities [e.g., water (including wells), sewer (including septic systems), gas, electric, telecommunications, cable TV, etc.] and easements Earthwork specifications Selection, location and design of both structural and non-structural stormwater control measures, including maintenance access and limits of disturbance Storm drainage plans for site areas <i>not</i> draining to any BMP(s) Location of existing and proposed conveyance systems, such as storm drains, inlets, catch basins, channels, swales, and areas of overland flow, including grades, dimensions, and direction of flow Final drainage patterns and flow paths Location of floodplain/floodway limits and relationship of site to upstream and downstream properties and drainage areas and points of stormwater discharge, receiving surface waters or karst features into which stormwater discharges, the predevelopment and post-development conditions for drainage areas, and the potential impacts of site stormwater on adjoining parcels Location and dimensions of proposed channel modifications, such as bridge or culvert crossings 	
	 wetlands, lakes, ponds, aquifers, public drinking water supplies, etc.) and applicable setbacks (e.g., stream buffers, drinking water well setbacks, septic drainfield setbacks, building setbacks, etc.) Identification of any on-site or adjacent water bodies included on the Virginia 303(d) list of impaired waters Current land use and location of existing and proposed roads, buildings, parking lots and other impervious areas Location and description of any planned demolition of existing structures, roads, etc. Proposed land use(s) with a tabulation of the percentage of surface area to be adapted to various uses, including but not limited to planned locations of utilities, roads, parking lots, stormwater management facilities, and easements Location of existing and proposed utilities [e.g., water (including wells), sewer (including septic systems), gas, electric, telecommunications, cable TV, etc.] and easements Earthwork specifications Selection, location and design of both structural and non-structural stormwater control measures, including maintenance access and limits of disturbance Storm drainage plans for site areas <i>not</i> draining to any BMP(s) Location of existing and proposed conveyance systems, such as storm drains, inlets, catch basins, channels, swales, and areas of overland flow, including grades, dimensions, and direction of flow Final drainage patterns and flow paths Location of all contributing drainage areas and points of stormwater discharge, receiving surface waters or karst features into which stormwater discharge, the predevelopment and post-development conditions for drainage areas, and the potential impacts of site stormwater on adjoining parcels Location and dimensions of proposed channel modifications, such as bridge or culvert crossings Final stabilization and landscaping plans 	
	 wetlands, lakes, ponds, aquifers, public drinking water supplies, etc.) and applicable setbacks (e.g., stream buffers, drinking water well setbacks, septic drainfield setbacks, building setbacks, etc.) Identification of any on-site or adjacent water bodies included on the Virginia 303(d) list of impaired waters Current land use and location of existing and proposed roads, buildings, parking lots and other impervious areas Location and description of any planned demolition of existing structures, roads, etc. Proposed land use(s) with a tabulation of the percentage of surface area to be adapted to various uses, including but not limited to planned locations of utilities, roads, parking lots, stormwater management facilities, and easements Location of existing and proposed utilities [e.g., water (including wells), sewer (including septic systems), gas, electric, telecommunications, cable TV, etc.] and easements Earthwork specifications Selection, location and design of both structural and non-structural stormwater control measures, including maintenance access and limits of disturbance Storm drainage plans for site areas <i>not</i> draining to any BMP(s) Location of existing and proposed conveyance systems, such as storm drains, inlets, catch basins, channels, swales, and areas of overland flow, including grades, dimensions, and direction of flow Final drainage patterns and flow paths Location of floodplain/floodway limits and relationship of site to upstream and downstream properties and drainage areas and points of stormwater discharge, receiving surface waters or karst features into which stormwater discharges, the predevelopment and post-development conditions for drainage areas, and the potential impacts of site stormwater on adjoining parcels Location and dimensions of proposed channel modifications, such as bridge or culvert crossings 	
N/A N/A N/A N/A N/A N/A N/A	 wetlands, lakes, ponds, aquifers, public drinking water supplies, etc.) and applicable setbacks (e.g., stream buffers, drinking water well setbacks, septic drainfield setbacks, building setbacks, etc.) Identification of any on-site or adjacent water bodies included on the Virginia 303(d) list of impaired waters Current land use and location of existing and proposed roads, buildings, parking lots and other impervious areas Location and description of any planned demolition of existing structures, roads, etc. Proposed land use(s) with a tabulation of the percentage of surface area to be adapted to various uses, including but not limited to planned locations of utilities, roads, parking lots, stormwater management facilities (e.g., water (including wells), sewer (including septic systems), gas, electric, telecommunications, cable TV, etc.] and easements Location of existing and proposed utilities (e.g., water (including wells), sewer (including septic systems), gas, electric, telecommunications, cable TV, etc.] and easements Earthwork specifications Selection, location and design of both structural and non-structural stormwater control measures, including maintenance access and limits of disturbance Storm drainage plans for site areas <i>not</i> draining to any BMP(s) Location of existing and proposed conveyance systems, such as storm drains, inlets, catch basins, channels, swales, and areas of overland flow, including grades, dimensions, and direction of flow Final drainage patterns and flow paths Location of all contributing drainage areas and points of stormwater discharge, receiving surface waters or karst features into which stormwater discharges, the predevelopment and post-development conditions for drainage areas, and the potential impacts of site stormwater on adjoining parcels Location and landscaping plans 	
N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	 wetlands, lakes, ponds, aquifers, public drinking water supplies, etc.) and applicable setbacks (e.g., stream buffers, drinking water well setbacks, septic drainfield setbacks, building setbacks, etc.) Identification of any on-site or adjacent water bodies included on the Virginia 303(d) list of impaired waters Current land use and location of existing and proposed roads, buildings, parking lots and other impervious areas Location and description of any planned demolition of existing structures, roads, etc. Proposed land use(s) with a tabulation of the percentage of surface area to be adapted to various uses, including but not limited to planned locations of utilities, roads, parking lots, stormwater management facilities, and easements Location of existing and proposed utilities [e.g., water (including wells), sewer (including septic systems), gas, electric, telecommunications, cable TV, etc.] and easements Earthwork specifications Selection, location and design of both structural and non-structural stormwater control measures, including maintenance access and limits of disturbance Storm drainage plans for site areas <i>not</i> draining to any BMP(s) Location of existing and proposed conveyance systems, such as storm drains, inlets, catch basins, channels, swales, and areas of overland flow, including grades, dimensions, and direction of flow Final drainage patterns and flow paths Location of all contributing drainage areas and points of stormwater discharge, receiving surface waters or karst features into which stormwater discharges, the predevelopment and post-development conditions for drainage areas, and the potential impacts of site stormwater on adjoining parcels Location and dimensions of proposed channel modifications, such as bridge or culvert crossings Final stabilization and landscaping plans 	
	wetlands, lakes, ponds, aquifers, public drinking water supplies, etc.) and applicable setbacks (e.g., stream buffers, drinking water well setbacks, septic drainfield setbacks, building setbacks, etc.) Identification of any on-site or adjacent water bodies included on the Virginia 303(d) list of impaired waters Current land use and location of existing and proposed roads, buildings, parking lots and other impervious areas Location and description of any planned demolition of existing structures, roads, etc. Proposed land use(s) with a tabulation of the percentage of surface area to be adapted to various uses, including but not limited to planned locations of utilities, roads, parking lots, stormwater management facilities, and easements Location of existing and proposed utilities [e.g., water (including wells), sewer (including septic systems), gas, electric, telecommunications, cable TV, etc.] and easements Earthwork specifications Selection, location and design of both structural and non-structural stormwater control measures, including maintenance access and limits of disturbance Storm drainage plans for site areas <i>not</i> draining to any BMP(s) Location of existing and proposed conveyance systems, such as storm drains, inlets, catch basins, channels, swales, and areas of overland flow, including grades, dimensions, and direction of flow Final drainage patterns and flow paths Location of floodplain/floodway limits and relationship of site to upstream and downstream properties and drainage systems Location and lomensions of proposed channel modifications, such as bridge or culvert crossings Final stabilization and landscaping plans trologic and hydraulic analysis, including the following: Site map with locations of design points and drainage areas (size in acres) for runoff calculations Identification and calculation of stormwater site design credits, if any apply Estimates of unified stormwater sizing criteria requirements Time of concentration (and associated flow paths) Imperviousness of the entire site an	
	 wetlands, lakes, ponds, aquifers, public drinking water supplies, etc.) and applicable setbacks (e.g., stream buffers, drinking water well setbacks, septic drainfield setbacks, building setbacks, etc.) Identification of any on-site or adjacent water bodies included on the Virginia 303(d) list of impaired waters Current land use and location of existing and proposed roads, buildings, parking lots and other impervious areas Location and description of any planned demolition of existing structures, roads, etc. Proposed land use(s) with a tabulation of the percentage of surface area to be adapted to various uses, including but not limited to planned locations of utilities, roads, parking lots, stormwater management facilities, and easements Location of existing and proposed cultilities (e.g., water (including wells), sewer (including septic systems), gas, electric, telecommunications, cable TV, etc.] and easements Earthwork specifications Selection, location and design of both structural and non-structural stormwater control measures, including maintenance access and limits of disturbance Storm drainage plans for site areas <i>not</i> draining to any BMP(s) Location of existing and proposed conveyance systems, such as storm drains, inlets, catch basins, channels, swales, and areas of overland flow, including grades, dimensions, and direction of flow Final drainage patterns and flow paths Location of all contributing drainage areas and points for starmwater discharge, receiving surface waters or karst features into which stormwater discharges, the predevelopment and post-development conditions for drainage areas, and the potential impacts of site stormwater on adjoining parcels Location and dimensions of proposed channel modifications, such as bridge or culvert crossings Final stabilization and landscaping plans 	
	wetlands, lakes, ponds, aquifers, public drinking water supplies, etc.) and applicable setbacks (e.g., stream buffers, drinking water well setbacks, etc.) Identification of any on-site or adjacent water bodies included on the Virginia 303(d) list of impaired waters Current land use and location of existing and proposed roads, buildings, parking lots and other impervious areas Location and description of any planned demolition of existing structures, roads, etc. Proposed land use(s) with a tabulation of the percentage of surface area to be adapted to various uses, including but not limited to planned locations of utilities, roads, parking lots, stormwater management facilities, and easements Location of existing and proposed utilities (e.g., water (including wells), sewer (including septic systems), gas, electric, telecommunications, cable TV, etc.] and easements Earthwork specifications Selection, location and design of both structural and non-structural stormwater control measures, including maintenance access and limits of disturbance Storm drainage plans for site areas <i>not</i> draining to any BMP(s) Location of existing and proposed conveyance systems, such as storm drains, inlets, catch basins, channels, swales, and areas of overland flow, including grades, dimensions, and direction of flow paths Location of all contributing drainage areas and points of stormwater discharge, receiving surface waters or karst features into which stormwater discharges, the pre- development and post-development conditions for drainage areas, and the potential impacts of site stormwater on adjoining parcels Location and dimensions of proposed channel modifications, such as bridge or culvert crossings Final stabilization and landscaping plans drologic and hydraulic analysis, including the following: Site may with locations of design points and drainage areas (size in acres) for runoff calculations imperviousness of the entire site and each drainage area A hydrologic analysis for the existing (pre-development) conditions, including	
	 wetlands, lakes, ponds, aquifers, public drinking water supplies, etc.) and applicable setbacks (e.g., stream buffers, drinking water well setbacks, septic drainfield setbacks, etc.) Identification of any on-site or adjacent water bodies included on the Virginia 303(d) list of impaired waters Current land use and location of existing and proposed roads, buildings, parking lots and other impervious areas Location and description of any planned demolition of existing structures, roads, etc. Proposed land use(s) with a tabulation of the percentage of surface area to be adapted to various uses, including but not limited to planned locations of utilities, roads, parking lots, stormwater management facilities, and easements Location of existing and proposed utilities [e.g., water (including wells), sewer (including septic systems), gas, electric, telecommunications, cable TV, etc.] and easements Earthwork specifications Selection, location and design of both structural and non-structural stormwater control measures, including maintenance access and limits of disturbance Storm drainage plans for site areas <i>not</i> draining to any BMP(s) Location of existing and proposed conveyance systems, such as storm drains, inlets, catch basins, channels, swales, and areas of overland flow, including grades, dimensions, and direction of flow Final drainage patterns and flow paths Location of all contributing drainage areas and points of stormwater discharge, teceving surface waters or karst features into which stormwater discharges, the predevelopment and post-development conditions for drainage areas, and the potential impacts of site stormwater on adjoining parcels Location and calculations of proposed channel modifications, such as bridge or culvert crossings Final stabilization and landscaping plans 	
	 wetlands, lakes, ponds, aquifers, public drinking water supplies, etc.) and applicable setbacks (e.g., stream buffers, drinking water well setbacks, septic drainfield setbacks, building setbacks, etc.) Identification of any on-site or adjacent water bodies included on the Virginia 303(d) list of impaired waters Current land use and location of existing and proposed roads, buildings, parking lots and other impervious areas Location and description of any planned demolition of existing structures, roads, etc. Proposed land use(s) with a tabulation of the percentage of surface area to be adapted to various uses, including but not limited to planned locations of utilities, roads, parking lots, stormwater management facilities, and easements Location and description and proposed utilities [e.g., water (including wells), sewer (including septic systems), gas, electric, telecommunications, cable TV, etc.] and easements Earthwork specifications Selection, location and design of both structural and non-structural stormwater control measures, including maintenance access and limits of disturbance Storm drainage plans for site areas <i>not</i> draining to any BMP(s) Location of existing and proposed conveyance systems, such as storm drains, inlets, catch basins, channels, swales, and areas of overland flow, including grades, dimensions, and direction of flow Final drainage patterns and flow paths Location of all contributing drainage areas and points of stormwater discharge, the predeving surface waters or karst features into which stormwater discharges, the predeving surface waters or karst features into which stormwater discharges, the predeving surface avales on drainage plans. Final stabilization and landscaping plans thoogic and hydraulic analysis, including the following: Site map with locations of design points and drainage areas (size in acres) for runoff calculations Identif	
	 wetlands, lakes, ponds, aquifers, public drinking water supplies, etc.) and applicable setbacks (e.g., stream buffers, drinking water well setbacks, septic drainfield setbacks, etc.) Identification of any on-site or adjacent water bodies included on the Virginia 303(d) list of impaired waters Current land use and location of existing and proposed roads, buildings, parking lots and other impervious areas Location and description of any planned demolition of existing structures, roads, etc. Proposed land use(s) with a tabulation of the percentage of surface area to be adapted to various uses, including but not limited to planned locations of utilities, roads, parking lots, stormwater management facilities, and easements Location of existing and proposed utilities [e.g., water (including wells), sewer (including septic systems), gas, electric, telecommunications, cable TV, etc.] and easements Earthwork specifications Selection, location and design of both structural and non-structural stormwater control measures, including maintenance access and limits of disturbance Storm drainage plans for site areas <i>not</i> draining to any BMP(s) Location of existing and proposed conveyance systems, such as storm drains, inlets, catch basins, channels, swales, and areas of overland flow, including grades, dimensions, and direction of flow Final drainage patterns and flow paths Location of all contributing drainage areas and points of stormwater discharge, teceving surface waters or karst features into which stormwater discharges, the predevelopment and post-development conditions for drainage areas, and the potential impacts of site stormwater on adjoining parcels Location and calculations of proposed channel modifications, such as bridge or culvert crossings Final stabilization and landscaping plans 	
	 wetlands, lakes, ponds, aquifers, public drinking water supplies, etc.) and applicable setbacks (e.g., stream buffers, drinking water well setbacks, septic drainfield setbacks, building setbacks, etc.) Identification of any on-site or adjacent water bodies included on the Virginia 303(d) list of impaired waters Current land use and location of existing and proposed roads, buildings, parking lots and other impervious areas Location and description of any planned demolition of existing structures, roads, etc. Proposed land use(s) with a tabulation of the percentage of surface area to be adapted to various uses, including but not limited to planned locations of utilities, roads, parking lots, stormwater management facilities, and easements Location and description and proposed utilities [e.g., water (including wells), sewer (including septic systems), gas, electric, telecommunications, cable TV, etc.] and easements Earthwork specifications Selection, location and design of both structural and non-structural stormwater control measures, including maintenance access and limits of disturbance Storm drainage plans for site areas <i>not</i> draining to any BMP(s) Location of existing and proposed conveyance systems, such as storm drains, inlets, catch basins, channels, swales, and areas of overland flow, including grades, dimensions, and direction of flow Final drainage patterns and flow paths Location of all contributing drainage areas and points of stormwater discharge, the predeving surface waters or karst features into which stormwater discharges, the predeving surface waters or karst features into which stormwater discharges, the predeving surface avales on drainage plans. Final stabilization and landscaping plans thoogic and hydraulic analysis, including the following: Site map with locations of design points and drainage areas (size in acres) for runoff calculations Identif	

ement Handbook, Chapter 3

July 2013

eering and sizing calculations for stormwater control measures, ting drainage areas, storage, and outlet configurations, verifying e water quality and water quantity requirements of the regulations r outlet rating curves and inflow and outflow hydrographs for storage

the potential downstream impacts/effects of the project, where sis, where detention is proposed

each analysis, where necessary

-section and profile drawings and details of stormwater control ances which include the following:

sed structural elevations (e.g., inverts of pipes, manholes, etc.)

ace elevations of BMP designs, outlet structures, embankments, spillways, grade conveyance channels, etc.

nstruction and material specifications, including references to d construction standards (ASTM, etc.)

sediment control plan that, at a minimum, meets the I in the Virginia Erosion and Sediment Control Regulations and

plans for stormwater control measures and any site

enance plan/agreement that includes the following: ess and phone number of the party or parties responsible for longactivities

hedule of maintenance tasks ription of the source of funding to support maintenance activities ess and safety issues ting and disposal of sediments, if required orization for local government inspections/repairs, as needed

cquisition of all applicable local and non-local permits

tion requests

cquisition of all necessary legal agreements (e.g., easements, etc.)

upporting documents and studies (e.g., infiltration tests, tions, TMDLs, flood studies, etc.)

permits

3-F-6

enaineers J2 Engineers, Inc. 17739 Main Street Suite 180 Dumfries, Va. 22026 703.361.1550 (office) 703.956.6845 (fax) J2 Engineers, Inc. www.j2engineers.com 17739 Main Street Suite 180 Dumfries, Va. 22026 703.361.1550 (office) 703.956.6845 (fax) www.j2engineers.com SEBASTIAN SANDOVAL TO U. **PLAN#** BA2201 DATE: MARCH, 2023 OUTFALL 1 CONTOUR INT. = N/A ALLOWABLE RELEASE RATE PLAN# MG2101 SCALE: N/A DATE: OCTOBER, 2021 CONTOUR INT. = N/A SCALE: NTS DA 1 1 1 1 1 1 AN 6 6 6 F 2 CENTI $\boldsymbol{\alpha}$ ш OUTFALL 3 THERE IS A DRAMATIC DECREASE IN THE AREA DRAINAING TO OUTFALL 3. THE PRE-DEVELOPMENT ⊢ C ALLOWABLE RELEASE RATE Ž ш ACTUAL RELEASE RATE ш AN E PLAN SROADS VIRG G SF SVILLE DISTRIC HAYMARKET, V E PI SION 'MARKET, THAN THE ALLOWABLE 2 YEAR RELEASE RATE OF 1.962 CFS. THEREFORE, THE CHANNEL SITE SITE - \geq ш σ 2 Y 12 Al \cup THERE IS A DECREASE IN THE AREA DRAINING TO OUTFALL 4. THE PRE-DEVELOPMENT DRAINAGE D B O N AREA IS 0.37 ACRES AND THE POST DEVELOPMENT DRAINAGE AREA IS ONLY 0.044 ACRES. ō WM & FIN, AT A NMO ALLOWABLE RELEASE RATE 0 0 EMY S Y ACTUAL RELEASE RATE S AD S O \cup \blacktriangleleft 2 KIDDIE **OUTFALL 2** THE ONLY OUTFALL THAT DOES NOT MEET THE ENERGY BALANCE EQUATION FOR THE PROJECT IS DESC THAN THE ALLOWABLE 8.922 CFS. THEREFORE, FLOOD PROTECTION FOR OUTFALL 2 IS DEEMED SHEET **C9.9** 2 OF SHEET 106 77 **L** / OF 43

Q1=0.337 CFS Q2=1.343 CFS

Q1=0.048 CFS Q2=0.076 CFS

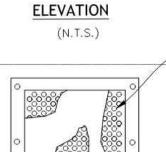
OUTFALL NARRATIVE DETENTION FOR THE SITE WILL BE PROVIDED BY 8 STORMTECH UNITS. THERE ARE FOUR OUTFALLS FROM THE SITE. OF THE 4 OUTFALLS, THE DISCHARGE TO 3 OF THEM MEET THE ENERGY BALANCE EQUATION. OUTFALL 2 DOES NOT MEET THE ENERGY BALANCE EQUATION, BUT IT DOES MEET THE DETENTION REQUIREMENTS FOR THE 10 YEAR STORM AND THE 100 YEAR STORM RUNOFF HAS BEEN DECREASED BELOW THE DESIGN FLOW USED TO SIZE THE DOWNSTREAM CHANNELS. Q1= 0.47 CFS TO MEET ENERGY BALANCE EQUATION Q2=6.141 CFS Q10=19.51 CFS ACTUAL RELEASE RATE (ST1, 6, 7, & 8) Q10=14.824 CFS CHANNEL PROTECTION: THE 2-YEAR RELEASE RATE FROM OUTFALL 1 IS 1.343 CFS, WHICH IS LESS THAN THE ALLOWABLE 2 YEAR RELEASE RATE OF 6.141 CFS. THEREFORE, THE CHANNEL PROTECTION FOR OUTFALL 1 IS DEEMED ADEQUATE. FLOOD PROTECTION: THE 10-YEAR RELEASE RATE FROM OUTFALL 1 IS 14.824 CFS WHICH IS LESS THAN THE ALLOWABLE 19.51 CFS AND MEETS ENERGY BALANCE. THEREFORE, FLOOD PROTECTION FOR OUTFALL 1 IS DEEMED ADEQUATE. DRAINAGE AREA IS 2.64 ACRES AND THE POST DEVELOPMENT DRAINAGE AREA IS ONLY 0.18 ACRES. Q1=7.221 CFS TO MEET ENERGY BALANCE EQUATION (INCREASE AS A RESULT OF LESS VOLUME) Q2=1.962 Q10=5.412 CFS Q1=0.059 CFS Q2=0.074 CFS Q10=0.119 CFS CHANNEL PROTECTION: THE 2-YEAR RELEASE RATE FROM OUTFALL 3 IS 0.074 CFS, WHICH IS LESS PROTECTION FOR OUTFALL 3 IS DEEMED ADEQUATE. FLOOD PROTECTION: THE 10-YEAR RELEASE RATE FROM OUTFALL 3 IS 0.119 CFS WHICH IS LESS THAN THE ALLOWABLE 5.412 CFS AND MEETS ENERGY BALANCE. THEREFORE, FLOOD PROTECTION FOR OUTFALL 3 IS DEEMED ADEQUATE. **OUTFALL 4** Q1=0.048 CFS TO MEET ENERGY BALANCE EQUATION Q2=0.354 CFS Q10=0.927 CFS Q10=0.172 CFS CHANNEL PROTECTION: THE 2-YEAR RELEASE RATE FROM OUTFALL 4 IS 0.076 CFS, WHICH IS LESS THAN THE ALLOWABLE 2 YEAR RELEASE RATE OF 0.354 CFS. THEREFORE, THE CHANNEL PROTECTION FOR OUTFALL 4 IS DEEMED ADEQUATE. FLOOD PROTECTION: THE 10-YEAR RELEASE RATE FROM OUTFALL 4 IS 0.172 CFS WHICH IS LESS THAN THE ALLOWABLE 0.927 CFS AND MEETS ENERGY BALANCE. THEREFORE, FLOOD PROTECTION FOR OUTFALL 4 IS DEEMED ADEQUATE. OUTFALL 2. THIS IS DUE TO AN AREA OF WATER THAT DOES NOT DRAIN TO A DETENTION FACILITY. IT DOES HOWEVER MEET THE DETENTION REQUIREMENTS FOR THE 1 & 10 YEAR STORM EVENT. ALLOWABLE RELEASE RATE Q1=0.13 CFS TO MEET ENERGY BALANCE EQUATION Q2=2.348 CFS Q10=8.922 CFS ACTUAL RELEASE RATE Q1=0.145 CFS Q2=0.301 CFS Q10=5.545 CFS CHANNEL PROTECTION: THE 2-YEAR RELEASE RATE FROM OUTFALL 2 IS 0.301 CFS, WHICH IS LESS THAN THE ALLOWABLE 2 YEAR RELEASE RATE OF 2.348 CFS. THEREFORE, THE CHANNEL PROTECTION FOR OUTFALL 2 IS DEEMED ADEQUATE. FLOOD PROTECTION: THE 10-YEAR RELEASE RATE FROM OUTFALL 2 IS 5.545 CFS WHICH IS LESS ADEQUATE.

REFERENCE SHEET - FOR INFORMATION PURPOSES ONLY

Packet Pg. 38





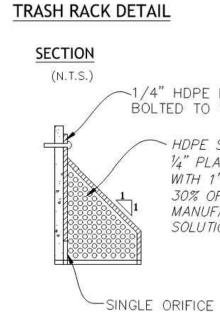


4 × 4

- • • • •

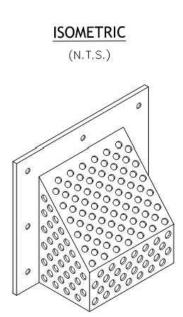
-SINGLE ORIFICE

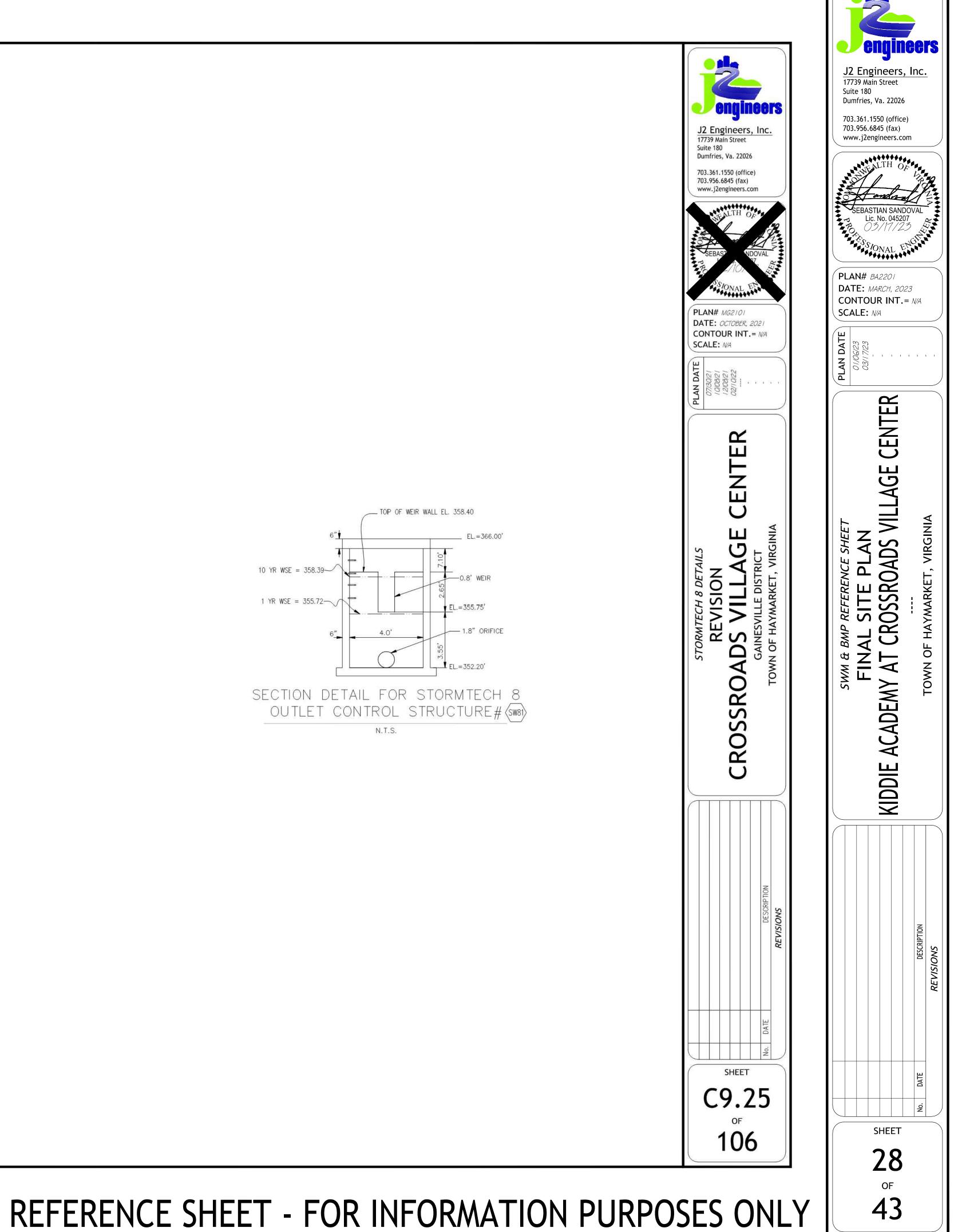
HDPE STRUCTURAL PLASTIC 1/4" PLATE AND GRATING WITH 1" HOLES AND MIN. OF 30% OF OPENING AREA MANUFACTURED BY PLASTIC SOLUTIONS INC. OR EQUAL



─1/4" HDPE PLATE BOLTED TO WEIR WALL

> HDPE STRUCTURAL PLASTIC 1/4" PLATE AND GRATING WITH 1" HOLES AND MIN. OF 30% OF OPENING AREA MANUFACTURED BY PLASTIC SOLUTIONS INC. OR EQUAL

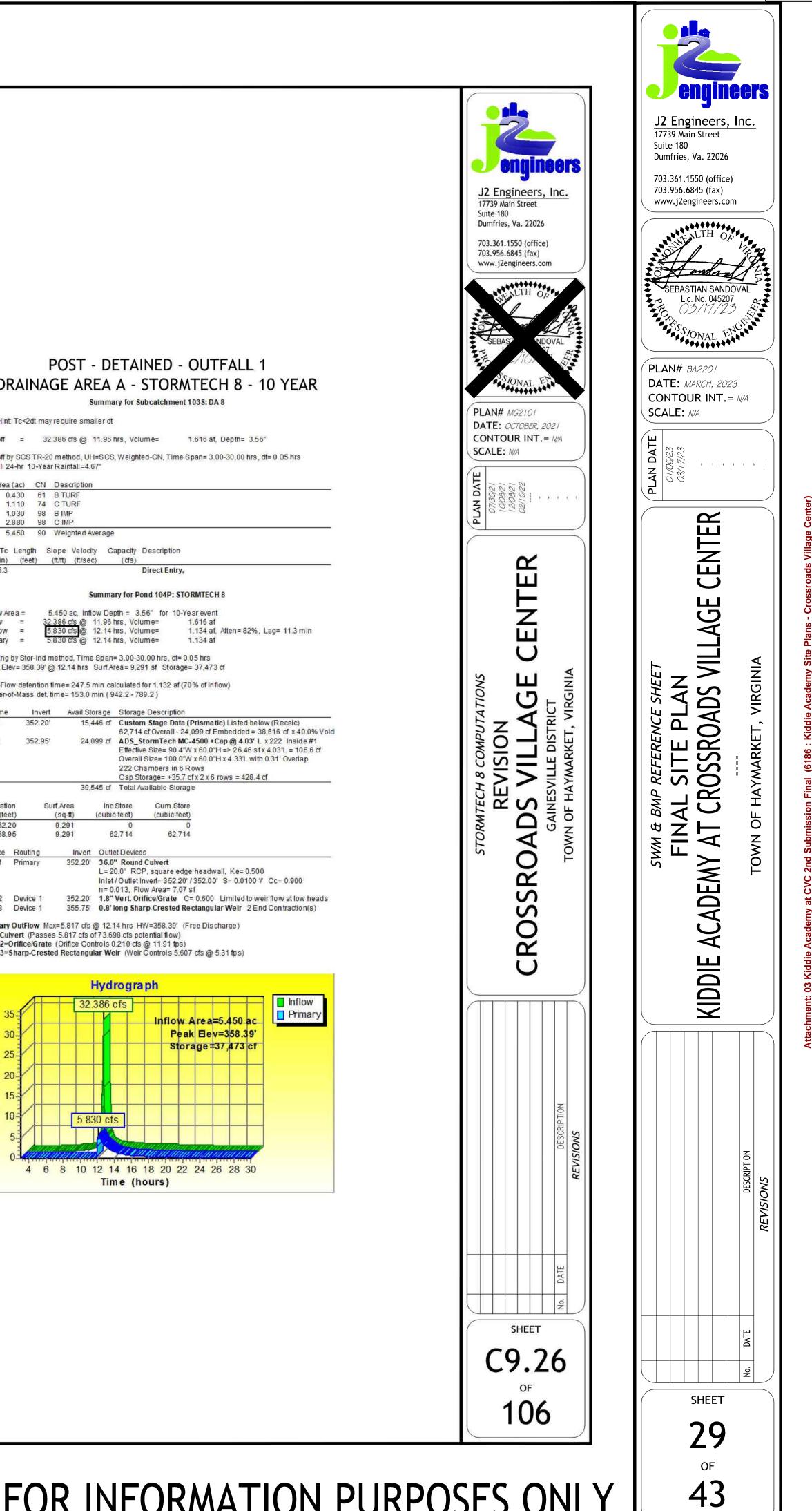


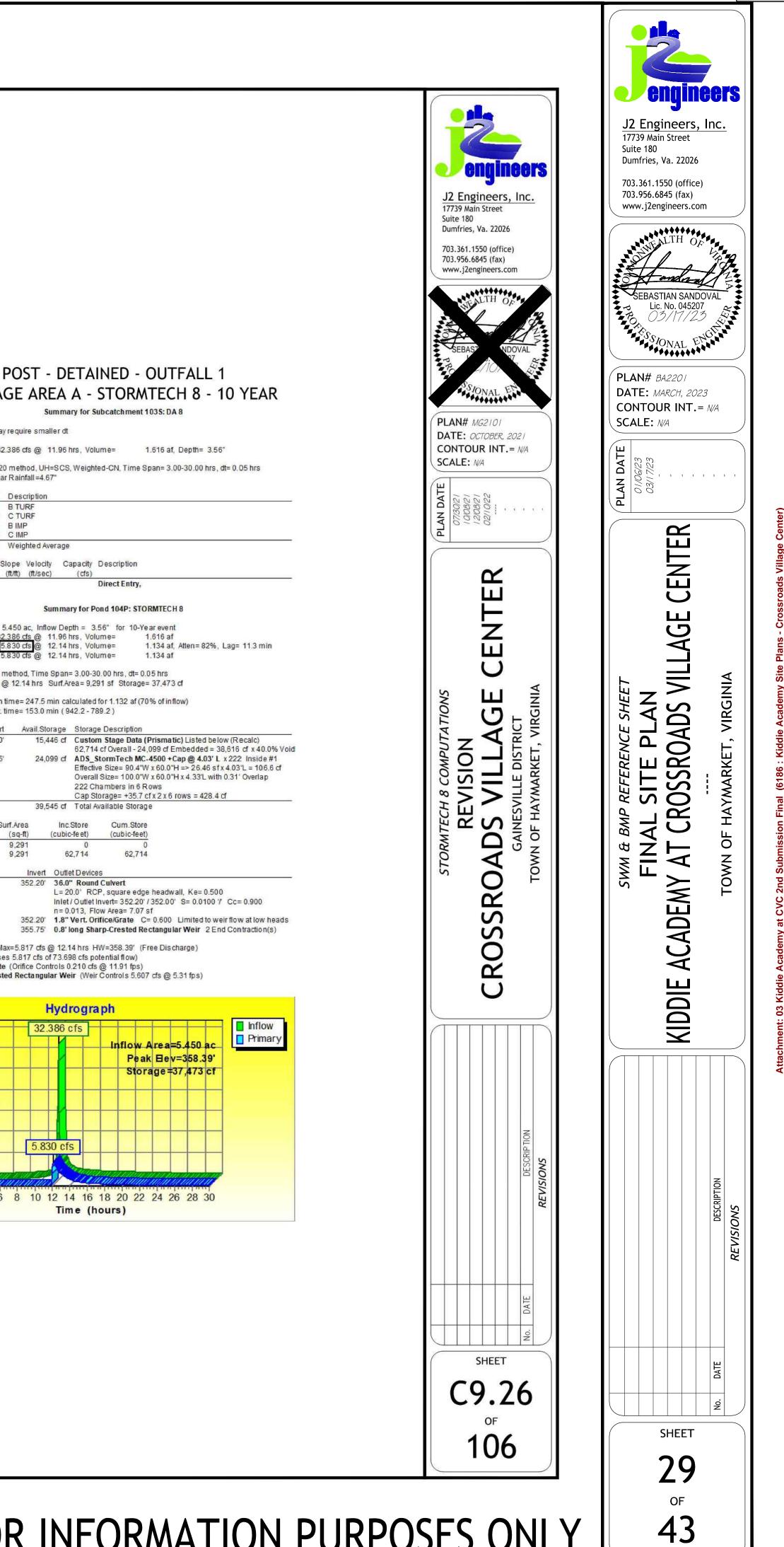


٩

POST - DETAINED - OUTFALL 1 DRAINAGE AREA A - STORMTECH 8 - 1 YEAR Summary for Subcatchment 103S: DA 8

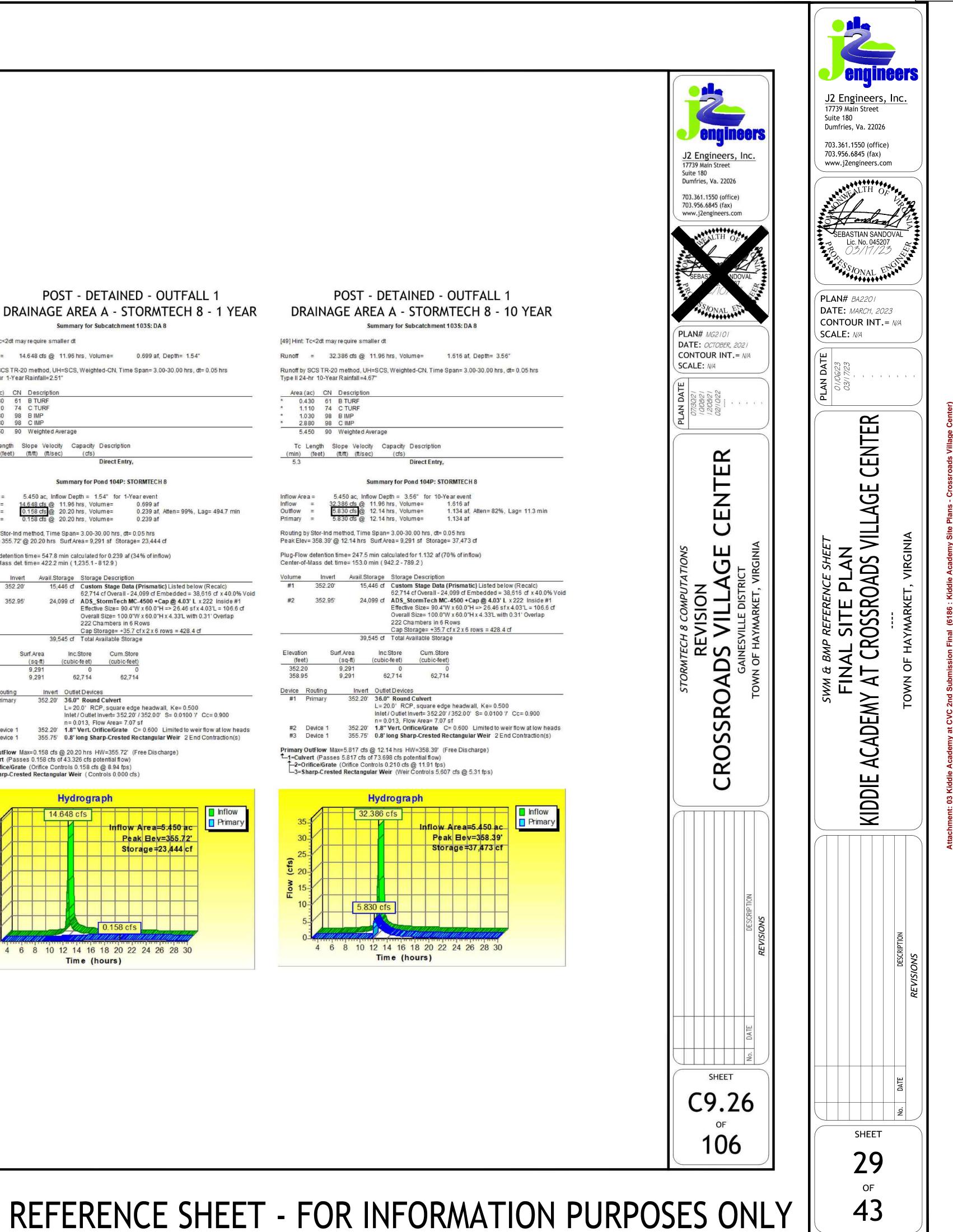
Summary for Subcatchment 103S: DA 8	
49] Hint: Tc<2dt may require smaller dt	[49] Hint
Runoff = 14.648 cfs @ 11.96 hrs, Volume= 0.699 af, Depth= 1.54"	Runoff
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-30.00 hrs, dt= 0.05 hrs ype II 24-hr 1-Year Rainfall=2.51"	Runoff by Type II 24
Area (ac) CN Description	Area (
0.430 61 B TURF	* 0.4
1.110 74 CTURF 1.030 98 BIMP	* 1.: * 1.(
2.880 98 C IMP	* 2.0
5.450 90 Weighted Average	5,4
Tc Length Slope Velocity Capacity Description	Тс
(min) (feet) (ft/ft) (ft/sec) (cfs) 5.3 Direct Entry,	(min) 5.3
o.o Dirot Lindy,	0.0
Summary for Pond 104P: STORMTECH 8	
nflow Area = 5.450 ac, Inflow Depth = 1.54" for 1-Year event	Inflow Are
nflow = <u>14.648 cfs</u> @ 11.96 hrs, Volume= 0.699 af	Inflow
Dutflow = 0.158 cfs@ 20.20 hrs, Volume= 0.239 af, Atten=99%, Lag= 494.7 min Primary = 0.158 cfs@ 20.20 hrs, Volume= 0.239 af	Outflow Primary
Routing by Stor-Ind method, Time Span= 3.00-30.00 hrs, dt= 0.05 hrs	Routing
Peak Elev= 355.72' @ 20.20 hrs Surf.Area= 9,291 sf Storage= 23,444 cf	Peak Ele
Plug-Flow detention time= 547.8 min calculated for 0.239 af (34% of inflow)	Plug-Flov
Center-of-Mass det time= 422.2 min (1,235.1 - 812.9)	Center-of
olume Invert Avail.Storage Storage Description	Volume
#1 352.20' 15,446 cf Custom Stage Data (Prismatic) Listed below (Recalc) 62,714 cf Overall - 24,099 cf Embedded = 38,616 cf x 40.0% Void	#1
#2 352.95' 24,099 cf ADS_StormTech MC-4500 + Cap @ 4.03' L x 222 Inside #1	#2
Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03"L = 106.6 cf Overall Size= 100.0"W x 60.0"H x 4.33"L with 0.31' Overlap	
222 Chambers in 6 Rows	
Cap Storage= +35.7 cf x 2 x 6 rows = 428.4 cf	
39,545 cf Total Available Storage	
Elevation Surf.Area Inc.Store Cum.Store	Elevation
(feet) (sq-ft) (cubic-feet) (cubic-feet) 352.20 9.291 0 0	(feet 352.2)
358.95 9,291 62,714 62,714	358.9
Device Routing Invert Outlet Devices	Device
#1 Primary 352.20' 36.0" Round Culvert	#1
L= 20.0" RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 352.20' / 352.00' S= 0.0100 '/ Cc= 0.900	
n=0.013, Flow Area= 7.07 sf	1011-0011
#2 Device 1 352.20' 1.8" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads	#2 #3
#3 Device 1 355.75' 0.8' long Sharp-Crested Rectangular Weir 2 End Contraction(s)	
rimary OutFlow Max=0.158 cfs @ 20.20 hrs HW=355.72' (Free Discharge)	Primary (1-1=Culv
-1=Culvert (Passes 0.158 cfs of 43.326 cfs potential flow) -2=Orifice/Grate (Orifice Controls 0.158 cfs @ 8.94 fps)	1-2=0
-3=Sharp-Crested Rectangular Weir (Controls 0.000 cfs)	3= <mark>S</mark>
Hydrograph	
14.648 cfs	
16-Inflow Area=5.450 ac	35
14-1 Peak Bev=355.72	30
12 Storage=23,444 cf	25
	(5
	(cts) 20
Elow (cts)	NOL 15
	EI O
4	10
	ę
2-1 0.158 cfs	





volume	miver	Avan.otor
#1	352.20'	15,44
#2	352. <mark>9</mark> 5'	24,09

		39	9,545
Elevati (fe		Surf.Area (sq-ft)	(0
352. 358.		9,291 9,291	
Device	Routing	Inve	rt (
#1	Primary	352.20	L
#2	Device 1	352.20) 1
#3	Device 1	355.7	5' (
1-1=Cu	lvert (Pas	Max=5.817 cf sees 5.817 cfs ate (Orifice C	of 7



0.158 cfs 4 6 8 10 12 14 16 18 20 22 24 26 28 30 Time (hours)

Project Plan Name: KIDDIE A Prince William County Service Authority:	CADEMY AT CROSSROADS VILLAGE CENTER SA2023-0014	-	ressure in the proposed water water water in the proposed water water water water water water water water water	-	65	9 psi 2 psi			(Based on AWWA	M22 Manual, Seco	nd Edition)	
Engineering Firm:	J2 Engineers The site is directly in the south-east quandrant of the I	Information above is provid	ded from the hydraulic model	with applied maximum day water de GE CENTER WATERY STUDY (APPl	emands.	-	Building Ider	ntifier:					
Project Location:	66 and Route 15 interchange.		TSED CROSSROADS VILLAC	SE CENTER WATERY STUDY (APPI		3	Multi-Dwellin	ng Residential	l or Non-R	esidential		High Demand	(e.g. Non-Residenti
			re during a fire flow scenar			0 gpm 2 psi		1		e meter location:			70 psi
Pressure Zone: High Hydraulic Grade Line (ft):	Haymarket 535 515	Information above is provid Are residential fire sprint		with applied maximum day and fire	flow water demands. No	<u>o</u>	(Obtained fron	n hydraulic stu	dy at the me	ter location)			
Low Hydraulic Grade Line (ft):	515					-	Fixture or Ap	opliance			Fixture Value (at 60 psi)	Number of Fixtures	Subtotal Fixture Value
Sewer Shed:	North Branch	High Hydraulic Grade L		L. 1		5 feet	Toilet (tank)					0	0
Local Facility Charge:	Not Applicable		Elevation proposed within t pressure at the finished flo	_	<u> </u>	b psi	Toilet (flush v Urinal (wall o	r stall)			5	10 0	50 0
Master Plan Utility Adjustment Applicable:	No	Low Hydraulic Grade L	ine			5 feet	Urinal (flush v Bidet	valve)				0	0
			Elevation proposed within t pressure at the finished floo			2 feet 2 psi	Shower (sing) Sink / Faucet	<i>r</i>			3	0 27	0 81
WATER MAIN	GRAVITY SANITARY SEWER MAIN		-	aulic grade line and do not take int			Kitchen Sink	(Lavatory)			4	2	8
Size: Length: Material:	Size: Length: Material:	loss or water booster pump	ps in the water system. Actual	pressures may vary and delivery pre	essure are not guaranteed.		Utility Sink Dishwasher				<u>3</u> 1.4	2	6 1.4
8-inch0DIP12-inch0DIP	8-inch 0 C-900 10-inch 0			num static pressure (as determine ter service shall be 40 psi (276 l		thority) at	Bathtub Clothes Wash	ner			1.4	0	0
16-inch 0 18-inch 0	12-inch 0 16-inch 0	International Desidem	tial Cada D2003 3 1 May	imum pressure. Maximum static	programs shall be 80 pg	; (551			9 - 61				
		kPa). When main pressu	ire exceeds 80 psi (551 kF	a), an approved pressure-reduc	ing valve conforming to	ASSE	Hose Connec 1/2 in.	tions (with 50) It of nose)			0	0
Total Length Feet	Total Length Feet	1003 shall be installed or	n the domestic water brand	h main or riser at the connectior	to the water-service pi	ipe.	5/8 in. 3/4 in.				2.5	0 2	0 5
LOW PRESSURE FORCE MAIN	PUMP STATION FORCE MAIN	Note: The professional eng	ineer is responsible to accour	nt for the effects of friction loss on th	e delivery pressure at the j	finished	Miscellaneous	ŝ					
Size: Length: Material: 1.5-inch 0	Size: Length: Material: 4-inch 0 DIP	ř –	-	mbing appurtenances. The Service 45 psi or less and the service line i.		lations to	Bedpan wash	ers			0.25	0	0
2-inch 0	6-inch 0	size the private service the	s when derivery pressures are	+5 psi or ress and the service tine i.	in excess of 7 0 jeer.		Drinking foun Dental units	tams			0.25	0	0
2.5-inch 0 4-inch	8-inch 0 12-inch 0	'The hydraulic	design and all finished floo	r elevations comply with the app	licable plumbing code f	for pressure							
Total Length 0 [°] Feet	Total Length 0 Feet	without a wat	er booster pump or pressu	re reducing device.			Combined Fi Demand (gpr		WA Curve				153.8 55.1 spm
				and/or pressure reducing device	s are required for the fo	ollowing	Pressure Adj	ustment Facto					153.8 55.1 gpm 1.09 60 gpm 60 gpm 0 gpm 0 gpm 70 gpm
Total Number of 4-inch or 6-inch proposed valves:	2 Each	lots to comply	with applicable plumbing	code for pressure.			Adjusted den Irrigation Der		hat will occ	eur simultaneously w	ith normal water use		$\frac{60}{10}$ gpm
Total Number of 8-inch or 12-inch proposed valves: Total Number of 16-inch or 24-inch proposed valves:	0 Each 0 Each		lev. @ High Low inished Hydraulic Hydrauli	5	Pres. Red. Device		Water deman Total estimate			cur simultaneously w	ith normal water use	;	0 gpm 70 gpm
Total Number of Proposed Manholes:	0 Each		Floor Grade Line Grade Lin (ft) (ft)	e (psi) (psi) Booster F Needed			Required AW	-				1.5-Inch Positive Displace	_
Total Number of Proposed Fire Hydrants:	0 Each		535 515 535 515		-				SILC			1.5-men i osnive Displace	
Total Number of Proposed Residential Meter Crocks to be Insta Total Number of 5/8"x 3/4" Residential Meters to be Certifie													
- C													
EPipe QuantityTotal P.Pipe Quantities IQuantities IBy This	Proposed Approved & Permitted			MULTI-DWEL	LING MET	ER SCHED	ULE						
5 Summary			Building			Number of	¹ Peak Demand	^{2&3} ERU	Meter		(Reserved for	· (Reserved for Future	⁴ Non-Binding Estimated
WATER MAIN INSPECTIONOWATER MAIN AS-BUILTO)	Building Identifier	Address	Meter Use	Account Type	Drug Iling Thuite		Purchase	Size	Meter Type	-	Use)	Availability Fee
						Dwelling Units	(GPM)		, since	Meter Type	Future Use)		/
WY SANITADY SEWED / FODCE MAIN INSP							(GPM)	#N/A #N/A		Meter Type	Future Use)		
SANITARY SEWER / FORCE MAIN INSP. SANITARY SEWER/FORCE MAIN AS-BUILT							(GPM)	#N/A #N/A #N/A #N/A			Future Use)		
							(GPM)	#N/A #N/A #N/A			Future Use)		
SANITARY SEWER/FORCE MAIN AS-BUILT (TV SANITARY SEWER MAIN INPECTION ())) 100 feet: YES						(GPM)	#N/A #N/A #N/A #N/A #N/A #N/A			Future Use)		
INNUM SANITARY SEWER/FORCE MAIN AS-BUILT () TV SANITARY SEWER MAIN INPECTION () Minimum water main inspection fee applies for water quantities less than								#N/A #N/A #N/A #N/A #N/A #N/A #N/A #N/A			Future Use)		
INNERGY SANITARY SEWER/FORCE MAIN AS-BUILT O TV SANITARY SEWER MAIN INPECTION O Minimum water main inspection fee applies for water quantities less than Minimum sanitary sewer / force main inspection fee applies for quantities	less than 100 linear feet: YES	2 The	number of ERU's for a multi-fam	culations shall be provided in the plan se ily building is 80% of the total number of	t for each proposed meter in a fdwelling units associated wi	accordance with the curre	nt AWWA M22 stan	<pre>#N/A #N/A #N/A #N/A #N/A #N/A #N/A #N/A</pre>			Future Use)		
INNUM SANITARY SEWER/FORCE MAIN AS-BUILT () TV SANITARY SEWER MAIN INPECTION () Minimum water main inspection fee applies for water quantities less than	less than 100 linear feet: YES	2 The 3 For	number of ERU's for a multi-fam water only accounts, the minimum		t for each proposed meter in a for each proposed meter in a formation with the interval of the allocation with the interval of the allocat	accordance with the curre ith the meter and is rounde meter size as defined in Ta	nt AWWA M22 stan d up to the next full ble VI: Availability	<pre>#N/A #N/A #N/A #N/A #N/A #N/A #N/A #N/A</pre>	omer Handbo	ok.			
INNERGY SANITARY SEWER/FORCE MAIN AS-BUILT O TV SANITARY SEWER MAIN INPECTION O Minimum water main inspection fee applies for water quantities less than Minimum sanitary sewer / force main inspection fee applies for quantities	less than 100 linear feet: YES	2 The 3 For	number of ERU's for a multi-fam water only accounts, the minimum	ily building is 80% of the total number of n purchased number of ERU units must e due. New connections may be subject to	t for each proposed meter in a fdwelling units associated with the react the allocation with the react the following fees: meter, me	accordance with the curre ith the meter and is rounde meter size as defined in T a teter installation, sewer and	nt AWWA M22 stan d up to the next full ible VI: Availability for water inspection	<pre>#N/A #N/A #N/A #N/A #N/A #N/A #N/A #N/A</pre>	omer Handbo	ok.			
INNERGY SEWER/FORCE MAIN AS-BUILT O TV SANITARY SEWER MAIN INPECTION O Minimum water main inspection fee applies for water quantities less than Minimum sanitary sewer / force main inspection fee applies for quantities Minimum as-built fee applies when total as-built cost are less than \$1000.	less than 100 linear feet: YES	2 The 3 For	number of ERU's for a multi-fam water only accounts, the minimum	ily building is 80% of the total number of number of ERU units must	t for each proposed meter in a fdwelling units associated with the react the allocation with the react the following fees: meter, me	accordance with the curre ith the meter and is rounde meter size as defined in Ta eter installation, sewer and ER SCHED	nt AWWA M22 stan d up to the next full ble VI: Availability for water inspection	<pre>#N/A #N/A #N/A #N/A #N/A #N/A #N/A #N/A</pre>	omer Handbo	ok.			⁴ Non-Binding
INNERGY SEWER/FORCE MAIN AS-BUILT O TV SANITARY SEWER MAIN INPECTION O Minimum water main inspection fee applies for water quantities less than Minimum sanitary sewer / force main inspection fee applies for quantities Minimum as-built fee applies when total as-built cost are less than \$1000.	less than 100 linear feet: YES	2 The 3 For 4 The	number of ERU's for a multi-fam water only accounts, the minimum Availability Fee is not the total fe Building	ily building is 80% of the total number of n purchased number of ERU units must e due. New connections may be subject to NON-RESIDE	t for each proposed meter in a f dwelling units associated wi match the allocation with the r the following fees: meter, me NTIAL MET	accordance with the curre ith the meter and is rounde meter size as defined in To ever installation, sewer and ERSCHED ¹ Est. Max Month Consumption	nt AWWA M22 stan d up to the next full ble VI: Availability for water inspection ULE h ² Pe ak De mand	<pre>#N/A #N/A #N/A #N/A #N/A #N/A #N/A #N/A</pre>	omer Handbo d Local Facili Meter	ok. ty charges. See the Custo	mer Handbook for addit	onal information.	
INNERGY SEWER/FORCE MAIN AS-BUILT O TV SANITARY SEWER MAIN INPECTION O Minimum water main inspection fee applies for water quantities less than Minimum sanitary sewer / force main inspection fee applies for quantities Minimum as-built fee applies when total as-built cost are less than \$1000.	less than 100 linear feet: YES	2 The 3 For 4 The Building Identifier	number of ERU's for a multi-fam water only accounts, the minimum Availability Fee is not the total fe	ily building is 80% of the total number of n purchased number of ERU units must e due. New connections may be subject to NON-RESIDE Meter Use	t for each proposed meter in a f dwelling units associated wi match the allocation with the r the following fees: meter, me NTIAL MET Account Type	accordance with the curre ith the meter and is rounde meter size as defined in To eter installation, sewer and ERSCHED ¹ Est. Max Mont	nt AWWA M22 stan d up to the next full ible VI: Availability for water inspection ULLE h ² Pe ak	<pre>#N/A #N/A #N/A #N/A #N/A #N/A #N/A #N/A</pre>	omer Handbo d Local Facili Meter Size	ok.	mer Handbook for addite	onal information.	e Estimated Availability Fee
INNERGY SEWER/FORCE MAIN AS-BUILT O TV SANITARY SEWER MAIN INPECTION O Minimum water main inspection fee applies for water quantities less than Minimum sanitary sewer / force main inspection fee applies for quantities Minimum as-built fee applies when total as-built cost are less than \$1000.	less than 100 linear feet: YES	2 The 3 For 4 The	number of ERU's for a multi-fam water only accounts, the minimum Availability Fee is not the total fe Building	ily building is 80% of the total number of n purchased number of ERU units must e due. New connections may be subject to NON-RESIDE	t for each proposed meter in a f dwelling units associated wi match the allocation with the r the following fees: meter, me NTIAL MET	accordance with the curre ith the meter and is rounde meter size as defined in To ever installation, sewer and ERSCHED ¹ Est. Max Month Consumption	nt AWWA M22 stan d up to the next full ble VI: Availability for water inspection ULE h ² Pe ak De mand	<pre>#N/A #N/A #N/A #N/A #N/A #N/A #N/A #N/A</pre>	omer Handbo d Local Facili Meter	ok. ty charges. See the Custo	mer Handbook for addit	onal information.	e Estimated Availability Fee
INITARY SEWER/FORCE MAIN AS-BUILT () TV SANITARY SEWER MAIN INPECTION () Minimum water main inspection fee applies for water quantities less than () Minimum as-built fee applies when total as-built cost are less than \$1000. () Notes: () The profile shall call out the station restraint is to start and the state	less than 100 linear feet: YES 00: Yes	2 The 3 For 4 The Building Identifier	number of ERU's for a multi-fam water only accounts, the minimus Availability Fee is not the total fe Building Address	ily building is 80% of the total number of n purchased number of ERU units must e due. New connections may be subject to NON-RESIDE Meter Use	t for each proposed meter in a f dwelling units associated wi match the allocation with the r the following fees: meter, me NTIAL MET Account Type	accordance with the curre ith the meter and is rounde meter size as defined in To ever installation, sewer and ERSCHED ¹ Est. Max Month Consumption	nt AWWA M22 stan d up to the next full ble VI: Availability //or water inspection ULLE h ² Pe ak De mand (GPM)	<pre>#N/A #N/A #N/A #N/A #N/A #N/A #N/A #N/A</pre>	omer Handbo d Local Facili Meter Size	ok. ty charges. See the Custor Meter Type	mer Handbook for addit	onal information.	e Estimated Availability Fee
SANITARY SEWER/FORCE MAIN AS-BUILT () TV SANITARY SEWER MAIN INPECTION () Minimum water main inspection fee applies for water quantities less than () Minimum as-built fee applies when total as-built cost are less than \$1000. () Notes: () The profile shall call out the station restraint is to start and the stat reducer, and dead end. ()	less than 100 linear feet: YES 00: Yes ion restraint is end for each fitting,	2 The 3 For 4 The Building Identifier	number of ERU's for a multi-fam water only accounts, the minimus Availability Fee is not the total fe Building Address	ily building is 80% of the total number of n purchased number of ERU units must e due. New connections may be subject to NON-RESIDE Meter Use	t for each proposed meter in a f dwelling units associated wi match the allocation with the r the following fees: meter, me NTIAL MET Account Type	accordance with the curre ith the meter and is rounde meter size as defined in To ever installation, sewer and ERSCHED ¹ Est. Max Month Consumption	nt AWWA M22 stan d up to the next full ble VI: Availability //or water inspection ULLE h ² Pe ak De mand (GPM)	<pre>#N/A #N/A #N/A #N/A #N/A #N/A #N/A #N/A</pre>	omer Handbo d Local Facili Meter Size	ok. ty charges. See the Custor Meter Type	mer Handbook for addit	onal information.	e Estimated Availability Fee
SANITARY SEWER/FORCE MAIN AS-BUILT 0 TV SANITARY SEWER MAIN INPECTION 0 Minimum water main inspection fee applies for water quantities less than 0 Minimum as-built fee applies when total as-built cost are less than \$1000. 0 Notes: 0 The profile shall call out the station restraint is to start and the stat reducer, and dead end. 0 Pipe Material: CL - Inorg	less than 100 linear feet: YES 00: Yes ion restraint is end for each fitting, DIP - POLYWRAP anic clays of low to medium plasticity,	2 The 3 For 4 The Building Identifier	number of ERU's for a multi-fam water only accounts, the minimus Availability Fee is not the total fe Building Address	ily building is 80% of the total number of n purchased number of ERU units must e due. New connections may be subject to NON-RESIDE Meter Use	t for each proposed meter in a f dwelling units associated wi match the allocation with the r the following fees: meter, me NTIAL MET Account Type	accordance with the curre ith the meter and is rounde meter size as defined in To ever installation, sewer and ERSCHED ¹ Est. Max Month Consumption	nt AWWA M22 stan d up to the next full ble VI: Availability //or water inspection ULLE h ² Pe ak De mand (GPM)	<pre>#N/A #N/A #N/A #N/A #N/A #N/A #N/A #N/A</pre>	omer Handbo d Local Facili Meter Size	ok. ty charges. See the Custor Meter Type	mer Handbook for addit	onal information.	e Estimated Availability Fee
SANITARY SEWER/FORCE MAIN AS-BUILT () TV SANITARY SEWER MAIN INPECTION () Minimum water main inspection fee applies for water quantities less than Minimum sanitary sewer / force main inspection fee applies for quantities Minimum as-built fee applies when total as-built cost are less than \$1000. Notes: The profile shall call out the station restraint is to start and the stat reducer, and dead end. Pipe Material:	less than 100 linear feet: YES 00: Yes ion restraint is end for each fitting, DIP - POLYWRAP	2 The 3 For 4 The Building Identifier KIDDIE ACADEMY	number of ERU's for a multi-fam water only accounts, the minimum Availability Fee is not the total fer Building Address DAYCARE	ily building is 80% of the total number of n purchased number of ERU units must e due. New connections may be subject to NON-RESIDE Meter Use	t for each proposed meter in a f dwelling units associated wi match the allocation with the r the following fees: meter, me NTIAL MET Water & Sewer	accordance with the curre accordance with the curre ith the meter and is rounde meter size as defined in To eter installation, sewer and ERSCHED ¹ Est. Max Month Consumption (Gallons)	nt AWWA M22 stan at a www.ater inspection ULLE h ² Pe ak De mand (GPM) 70 70	<pre>#N/A #N/A #N/A #N/A #N/A #N/A #N/A #N/A</pre>	omer Handbo d Local Facili 1.5-Inch	ok. ty charges. See the Custor Meter Type Positive	mer Handbook for additt	mal information.	e Estimated Availability Fee
SANITARY SEWER/FORCE MAIN AS-BUILT 0 TV SANITARY SEWER MAIN INPECTION 0 Minimum water main inspection fee applies for water quantities less than 0 Minimum as-built fee applies when total as-built cost are less than \$1000. 0 Notes: 0 The profile shall call out the station restraint is to start and the stat reducer, and dead end. 0 Pipe Material: CL - Inorg	less than 100 linear feet: YES 00: Yes ion restraint is end for each fitting, DIP - POLYWRAP anic clays of low to medium plasticity,	2 The 3 For 4 The Building Identifier KIDDIE ACADEMY NOTES: 1 For allo	a number of ERU's for a multi-fam water only accounts, the minimum Availability Fee is not the total fee Building Address DAYCARE DAYCARE	ily building is 80% of the total number of n purchased number of ERU units must e due. New connections may be subject to NON-RESIDES Meter Use WATER SERVICE kimum month water consumption shall b dler than 2-inch, the maximum month water	t for each proposed meter in a f dwelling units associated with match the allocation with the r the following fees: meter, me NTIAL MET Water & Sewer Water & Sewer	accordance with the curre ith the meter and is rounde meter size as defined in To ever installation, sewer and ERSCHED ¹ Est. Max Month Consumption (Gallons) ¹ Est. Max Month consumption (Gallons)	nt AWWA M22 stan d up to the next full ble VI: Availability //or water inspection Demand (GPM) 70 70 ased on the estimate	<pre>#N/A #N/A #N/A #N/A #N/A #N/A #N/A #N/A</pre>	omer Handbo d Local Facili 1.5-Inch	ok. ty charges. See the Custor Meter Type Positive	mer Handbook for additt	mal information.	e Estimated Availability Fee
SANITARY SEWER/FORCE MAIN AS-BUILT () TV SANITARY SEWER MAIN INPECTION () Minimum water main inspection fee applies for water quantities less than () Minimum sanitary sewer / force main inspection fee applies for quantities () Minimum as-built fee applies when total as-built cost are less than \$1000. () Notes: () The profile shall call out the station restraint is to start and the stat reducer, and dead end. () Pipe Material: () Soil Type: Fine_Grained_Soils	less than 100 linear feet: YES 00: Yes 00: Yes ion restraint is end for each fitting, Image: State of the state	2 The 3 For 4 The Building Identifier KIDDIE ACADEMY NOTES: 1 For allo 2 Aft 3 For	a number of ERU's for a multi-fam water only accounts, the minimum Availability Fee is not the total fee Building Address DAYCARE DAYCARE	ily building is 80% of the total number of n purchased number of ERU units must e due. New connections may be subject to NON-RESIDE WATER SERVICE WATER SERVICE kimum month water consumption shall b dler than 2-inch, the maximum month water culations shall be provided in the plan second	t for each proposed meter in a f dwelling units associated with match the allocation with the r the following fees: meter, me NTIAL MET Water & Sewer Water & Sewer	accordance with the curre ith the meter and is rounde meter size as defined in Ta eter installation, sewer and ER SCHED ¹ Est. Max Month Consumption (Gallons) ¹ Est. Max Month Consumption (Gallons)	nt AWWA M22 stan d up to the next full ble VI: Availability for water inspection ULLE h ² Pe ak De mand (GPM) 70 70 70 ased on the estimate ased on the estimate at AWWA M22 stan	<pre>#N/A #N/A #N/A #N/A #N/A #N/A #N/A #N/A</pre>	omer Handbo d Local Facili Meter Size 1.5-Inch	ok. ty charges. See the Custor Meter Type Positive on, but shall not be less the custor	mer Handbook for additte (Reserved fo Future Use)	onal information.	e Estimated Availability Fee
SANITARY SEWER/FORCE MAIN AS-BUILT O TV SANITARY SEWER MAIN INPECTION O Minimum water main inspection fee applies for water quantities less than Minimum sanitary sewer / force main inspection fee applies for quantities Minimum as-built fee applies when total as-built cost are less than \$1000. Notes: The profile shall call out the station restraint is to start and the stat reducer, and dead end. Pipe Material: CL - Inorg Soil Type: Fine_Grained_Soils Safety Factor: (1.5 to 1 is typical)	less than 100 linear feet: YES 00: Yes 00: Yes 10: Yes 10: Yes 10: Yes 10: Yes 10: Yes 10: Yes 11: Yes 11: Yes 11: Yes 11: Yes 11: Yes 11: Yes Yes Yes <	2 The 3 For 4 The Building Identifier KIDDIE ACADEMY NOTES: 1 For allo 2 Aft 3 For	a number of ERU's for a multi-fam water only accounts, the minimum Availability Fee is not the total fee Building Address DAYCARE DAYCARE	ily building is 80% of the total number of n purchased number of ERU units must e due. New connections may be subject to NON-RESIDEN Meter Use WATER SERVICE WATER SERVICE	t for each proposed meter in a f dwelling units associated with match the allocation with the r the following fees: meter, me NTIAL MET Water & Sewer Water & Sewer	accordance with the curre ith the meter and is rounde meter size as defined in Ta eter installation, sewer and ER SCHED ¹ Est. Max Month Consumption (Gallons) ¹ Est. Max Month Consumption (Gallons)	nt AWWA M22 stan d up to the next full ble VI: Availability for water inspection ULLE h ² Pe ak De mand (GPM) 70 70 70 ased on the estimate ased on the estimate at AWWA M22 stan	<pre>#N/A #N/A #N/A #N/A #N/A #N/A #N/A #N/A</pre>	omer Handbo d Local Facili Meter Size 1.5-Inch	ok. ty charges. See the Custor Meter Type Positive on, but shall not be less the custor	mer Handbook for additte (Reserved fo Future Use)	onal information.	e Estimated Availability Fee
SANITARY SEWER/FORCE MAIN AS-BUILT Image: Comparison of the station of the station restraint is to start and the station restraint is to start and the station reducer, and dead end. Pipe Material: CL - Inorg Soil Type: Fine_Grained_Soils Satety Factor: (1.5 to 1 is typical) Trench Type: (Type 4 is typical for the Service Authori	less than 100 linear feet: YES 00: Yes 00: Yes ion restraint is end for each fitting, DIP - POLYWRAP anic clays of low to medium plasticity, gravelly clays, sandy clays, lean clays	2 The 3 For 4 The Building Identifier KIDDIE ACADEMY NOTES: 1 For allo 2 Aft 3 For	a number of ERU's for a multi-fam water only accounts, the minimum Availability Fee is not the total fee Building Address DAYCARE DAYCARE	ily building is 80% of the total number of n purchased number of ERU units must e due. New connections may be subject to NON-RESIDE WATER SERVICE WATER SERVICE kimum month water consumption shall b dler than 2-inch, the maximum month water culations shall be provided in the plan second	t for each proposed meter in a f dwelling units associated with match the allocation with the r the following fees: meter, me NTIAL MET Water & Sewer Water & Sewer	accordance with the curre ith the meter and is rounde meter size as defined in Ta- eter installation, sewer and ERSCHED ¹ Est. Max Month Consumption (Gallons) ¹ Est. Max Month Consumption (Gallons)	nt AWWA M22 stan d up to the next full ble VI: Availability for water inspection ULLE h ² Pe ak De mand (GPM) 70 70 70 ased on the estimate ased on the estimate at AWWA M22 stan	<pre>#N/A #N/A #N/A #N/A #N/A #N/A #N/A #N/A</pre>	omer Handbo d Local Facili Meter Size 1.5-Inch	ok. ty charges. See the Custor Meter Type Positive on, but shall not be less the custor	mer Handbook for additte (Reserved fo Future Use)	onal information.	e Estimated Availability Fee
SANITARY SEWER/FORCE MAIN AS-BUILT () TV SANTARY SEWER MAIN INPECTION () Minimum water main inspection fee applies for water quantities less than () Minimum sanitary sewer / force main inspection fee applies for quantities () Minimum sanitary sewer / force main inspection fee applies for quantities () Minimum sanitary sewer / force main inspection fee applies for quantities () Minimum as-built fee applies when total as-built cost are less than \$1000. () Notes: () Notes: () Soil Type: Fine_Grained_Soils Safety Factor: (1.5 to 1 is typical) Trench Type: (Type 4 is typical for the Service Authori Test Pressure: (100 psi plus them max static pressure, The undersigned Engineer and/or firm, on behalf of itself and its success	less than 100 linear feet: YES 00: Yes 00: Yes ion restraint is end for each fitting, Image: Comparison of the second	2 The 3 For 4 The Building Identifier KIDDIE ACADEMY NOTES: 1 For allo 2 Aft 3 For	mumber of ERU's for a multi-fame water only accounts, the minimum Availability Fee is not the total fee Building Address DAYCARE DAYCARE	ily building is 80% of the total number of n purchased number of ERU units must e due. New connections may be subject to NON-RESIDEN Meter Use WATER SERVICE WATER SERVICE kimum month water consumption shall b iller than 2-inch, the maximum month water culations shall be provided in the plan se ed number of ERU units must match the e due. New connections may be subject to	t for each proposed meter in a f dwelling units associated with match the allocation with the r the following fees: meter, me NTIAL MET Water & Sewer Water & Sewer	accordance with the curre ith the meter and is rounde meter size as defined in Ta- eter installation, sewer and ER SCHED ¹ Est. Max Montl Consumption (Gallons) ¹ Est. Max Montl accordance with the curre as defined in Table VI: Av- eter installation, sewer and CHEDULE ¹ Est. Max Montl	h ² Pe ak nt AWWA M22 stan d up to the next full to ble VI: Availability //or water inspection DULE h ² Pe ak De mand (GPM) 70 70 10 10 10 10 10 10 10 10 10 1	#N/A #OUTHOUSE A statement of the custor	mer Handbo d Local Facili	ok. ty charges. See the Custor Meter Type Positive on, but shall not be less the custor	mer Handbook for additt	onal information.	e Estimated Availability Fee \$ 107,800.0
Initial Sanitary Sewer/Force Main AS-Built Image: Constraint of the second	less than 100 linear feet: YES 00: Yes ion restraint is end for each fitting, Image: State of the state of t	2 The 3 For 4 The Building Identifier KIDDIE ACADEMY NOTES: 1 For allo 2 Aft 3 For	a number of ERU's for a multi-fam water only accounts, the minimum Availability Fee is not the total fee Building Address DAYCARE DAYCARE	ily building is 80% of the total number of n purchased number of ERU units must e due. New connections may be subject to NON-RESIDEN Meter Use WATER SERVICE WATER SERVICE kimum month water consumption shall b iller than 2-inch, the maximum month water culations shall be provided in the plan se ed number of ERU units must match the e due. New connections may be subject to	t for each proposed meter in a f dwelling units associated with match the allocation with the r the following fees: meter, me NTIAL MET Water & Sewer Water & Sewer	accordance with the curre ith the meter and is rounde meter size as defined in Ta eter installation, sewer and ER SCHED ¹ Est. Max Month Consumption (Gallons) ¹ Est. Max Month Consumption (Gallons)	A WWA M22 stan d up to the next full tible VI: Availability for water inspection ULLE h ² Pe ak De m and (GPM) 70 70 70 70 70 70 70 70 70 70 70 70 70	<pre>#N/A #N/A #N/A #N/A #N/A #N/A #N/A #N/A</pre>	omer Handbo d Local Facili Meter Size 1.5-Inch	ok. ty charges. See the Custor Meter Type Positive on, but shall not be less the custor	mer Handbook for additte (Reserved fo Future Use)	mal information.	e Estimated Availability Fee \$ 107,800.0
Image: Santraky Sewer/Force Main AS-BUILT Image: Santraky Sewer/Force Main Main InPECTION Image: TV Santraky Sewer / force main inspection fee applies for quantities less than Minimum sanitary sewer / force main inspection fee applies for quantities Minimum sanitary sewer / force main inspection fee applies for quantities Minimum sanitary sewer / force main inspection fee applies for quantities Minimum sanitary sewer / force main inspection fee applies for quantities Minimum sanitary sewer / force main inspection fee applies for quantities Minimum sanitary sewer / force main inspection fee applies for quantities Minimum sanitary sewer / force main inspection fee applies for quantities Minimum sanitary sewer / force main inspection fee applies for quantities Minimum sanitary sewer / force main inspection fee applies for quantities Minimum sanitary sewer / force main inspection fee applies for quantities Minimum sanitary sewer / force main inspection fee applies for quantities Minimum sanitary sewer / force main inspection fee applies for quantities Minimum sanitary sewer / force main inspection fee applies Minimum sanitary sewer / force main inspection Fine_Grained_Soils Safety Factor: (1.5 to 1 is typical) Trench Type: (Type 4 is typical for the Service Authori Test Pressure: (100 psi plu	less than 100 linear feet: YES 00: Yes 00: Yes 10: Yes 10: Yes 10: New Yes 11: New Yes 12: New Yes 13: New Yes 14: New Yes 15: New Yes 14: New Yes 15: New Yes 14: New Yes 15: New Yes 16: New Yes 17: New Yes 16: New Yes 17: New Yes 18: New Yes 19: New Yes <td< td=""><td>2 The 3 For 4 The Building Identifier KIDDIE ACADEMY NOTES: 1 For allo 2 Aft 3 For 4 The</td><td>a number of ERU's for a multi-fam water only accounts, the minimum Availability Fee is not the total fee Building Address DAYCARE DAYCARE DAYCARE</td><td>ily building is 80% of the total number of n purchased number of ERU units must e due. New connections may be subject to NON-RESIDEN Meter Use WATER SERVICE WATER SERVICE intervention of the service winum month water consumption shall b iller than 2-inch, the maximum month water culations shall be provided in the plan sec ed number of ERU units must match the sec ted number of ERU units must match the sec barta CEENTEE</td><td>t for each proposed meter in a f dwelling units associated with match the allocation with the r the following fees: meter, me NTIAL MET Water & Sewer Water & Sewer Water & Sewer</td><td>accordance with the curre ith the meter and is rounde meter size as defined in Ta eter installation, sewer and ER SCHED ¹Est. Max Month Consumption (Gallons) ¹Est. Max Month Consumption (Gallons) ¹Est. Shall be be ad to be reported. accordance with the curre as defined in Table VI: Av eter installation, sewer and CHEDULE ¹Est. Max Month Consumption</td><td>h ²Pe ak De mand (GPM) 70 70 70 70 70 70 70 70 70 70 70 70 70</td><td><pre>#N/A #N/A #N/A #N/A #N/A #N/A #N/A #N/A</pre></td><td>Meter Size 1.5-Inch inth consumpti dbook. d Local Facili</td><td>ok. ty charges. See the Custon Positive Positive on, but shall not be less the ty charges. See the Custon</td><td>mer Handbook for addite mer Handbook for addite mer Handbook for addite mer Handbook for addite</td><td>mal information.</td><td>e Estimated Availability Fee \$ 107,800.0</td></td<>	2 The 3 For 4 The Building Identifier KIDDIE ACADEMY NOTES: 1 For allo 2 Aft 3 For 4 The	a number of ERU's for a multi-fam water only accounts, the minimum Availability Fee is not the total fee Building Address DAYCARE DAYCARE DAYCARE	ily building is 80% of the total number of n purchased number of ERU units must e due. New connections may be subject to NON-RESIDEN Meter Use WATER SERVICE WATER SERVICE intervention of the service winum month water consumption shall b iller than 2-inch, the maximum month water culations shall be provided in the plan sec ed number of ERU units must match the sec ted number of ERU units must match the sec barta CEENTEE	t for each proposed meter in a f dwelling units associated with match the allocation with the r the following fees: meter, me NTIAL MET Water & Sewer Water & Sewer Water & Sewer	accordance with the curre ith the meter and is rounde meter size as defined in Ta eter installation, sewer and ER SCHED ¹ Est. Max Month Consumption (Gallons) ¹ Est. Max Month Consumption (Gallons) ¹ Est. Shall be be ad to be reported. accordance with the curre as defined in Table VI: Av eter installation, sewer and CHEDULE ¹ Est. Max Month Consumption	h ² Pe ak De mand (GPM) 70 70 70 70 70 70 70 70 70 70 70 70 70	<pre>#N/A #N/A #N/A #N/A #N/A #N/A #N/A #N/A</pre>	Meter Size 1.5-Inch inth consumpti dbook. d Local Facili	ok. ty charges. See the Custon Positive Positive on, but shall not be less the ty charges. See the Custon	mer Handbook for addite mer Handbook for addite mer Handbook for addite mer Handbook for addite	mal information.	e Estimated Availability Fee \$ 107,800.0
NUMBER SANITARY SEWER/FORCE MAIN AS-BUILT () TV SANITARY SEWER MAIN INPECTION () Minimum water main inspection fee applies for water quantities less than Minimum sanitary sewer / force main inspection fee applies for quantities Minimum sanitary sewer / force main inspection fee applies for quantities Minimum sanitary sewer / force main inspection fee applies for quantities Minimum sanitary sewer / force main inspection fee applies for quantities Minimum as-built fee applies when total as-built cost are less than \$1000. Notes: Notes: Sold Type: Fine_Grained_Soils Safety Factor: (1.5 to 1 is typical) Trench Type: (Type 4 is typical for the Service Authori Test Pressure: (100 psi plus them max static pressure, The undersigned Engineer and /or firm, on behalf of itself and its success liability and responsibility for the accuracy of the calculations, selections in this information sheet and agrees to hold harmless the Service Authori	less than 100 linear feet: YES 00: Yes 00: Yes 10: POLYWRAP 11: Stone 12: Stone 13: Stone 14: Yes 15: Stone 14: Stone 15: Stone 14: Stone 15: Stone 16: Stone 17: Stone 14: Stone 15: Stone 16: Stone 17: Stone 17:	2 The 3 For 4 The Building Identifier KIDDIE ACADEMY NOTES: 1 For allo 2 Aft 3 For 4 The	a number of ERU's for a multi-fam water only accounts, the minimum Availability Fee is not the total fee Building Address DAYCARE DAYCARE DAYCARE	ily building is 80% of the total number of n purchased number of ERU units must e due. New connections may be subject to NON-RESIDEN Meter Use WATER SERVICE WATER SERVICE intervention of the service winum month water consumption shall b iller than 2-inch, the maximum month water culations shall be provided in the plan sec ed number of ERU units must match the sec ted number of ERU units must match the sec barta CEENTEE	t for each proposed meter in a f dwelling units associated with match the allocation with the r the following fees: meter, me NTIAL MET Water & Sewer Water & Sewer Water & Sewer	accordance with the curre ith the meter and is rounde meter size as defined in Ta eter installation, sewer and ER SCHED ¹ Est. Max Month Consumption (Gallons) ¹ Est. Max Month Consumption (Gallons) ¹ Est. Shall be be ad to be reported. accordance with the curre as defined in Table VI: Av eter installation, sewer and CHEDULE ¹ Est. Max Month Consumption	h ² Pe ak De mand (GPM) 70 70 70 70 70 70 70 70 70 70 70 70 70	<pre>#N/A #N/A #N/A #N/A #N/A #N/A #N/A #N/A</pre>	Meter Size 1.5-Inch inth consumpti dbook. d Local Facili	ok. ty charges. See the Custon Positive Positive on, but shall not be less the ty charges. See the Custon	mer Handbook for addite mer Handbook for addite mer Handbook for addite mer Handbook for addite	mal information.	e Estimated Availability Fee \$ 107,800.0
SANITARY SEWER/FORCE MAIN AS-BUILT 0 TV SANITARY SEWER MAIN INPECTION 0 Minimum water main inspection fee applies for water quantities less than 0 Minimum sanitary sewer / force main inspection fee applies for quantities 0 Minimum as-built fee applies when total as-built cost are less than \$1000. 0 Notes: 0 Soil Type: Fine_Grained_Soils Safety Factor: (1.5 to 1 is typical) Trench Type: (Type 4 is typical for the Service Authori Test Pressure: (100 psi plus them max static pressure, In undersigned Engineer and /or firm, on behalf of itself and its success 1 In this information sheet and agrees to hold hamiless the Service Authori 1 The undersigned Engineer and/or firm agrees that the Prince William Cou 1 The undersigned Engineer and/or firm agrees that the Prince William Cou 1 The undersigned Engineer and/or firm agrees that the Prince William Cou 1 The undersigned Engineer and/or firm agrees that the Prince William Cou 1 The undersigned Engineer and/or firm agrees that the Prince William Cou 1 The undersigned Engineer and/or firm agrees that the Prince William Cou 1 The undersigned Engineer and/or firm agrees that t	less than 100 linear feet: YES 00: Yes 00: Yes 10: POLYWRAP 11: Stone 12: Stone 13: Stone 14: Yes 15: Stone 14: Stone 15: Stone 14: Stone 15: Stone 16: Stone 17: Stone 14: Stone 15: Stone 16: Stone 17: Stone 17:	2 The 3 For 4 The Building Identifier KIDDIE ACADEMY NOTES: 1 For allo 2 Aft 3 For 4 The	a number of ERU's for a multi-fam water only accounts, the minimum Availability Fee is not the total fee Building Address DAYCARE DAYCARE DAYCARE	ily building is 80% of the total number of n purchased number of ERU units must e due. New connections may be subject to NON-RESIDEN Meter Use WATER SERVICE WATER SERVICE intervention of the service winum month water consumption shall b iller than 2-inch, the maximum month water culations shall be provided in the plan sec ed number of ERU units must match the sec ted number of ERU units must match the sec barta CEENTEE	t for each proposed meter in a f dwelling units associated with match the allocation with the r the following fees: meter, me NTIAL MET Water & Sewer Water & Sewer Water & Sewer	accordance with the curre ith the meter and is rounde meter size as defined in Ta eter installation, sewer and ER SCHED ¹ Est. Max Month Consumption (Gallons) ¹ Est. Max Month Consumption (Gallons) ¹ Est. Shall be be ad to be reported. accordance with the curre as defined in Table VI: Av eter installation, sewer and CHEDULE ¹ Est. Max Month Consumption	h ² Pe ak De mand (GPM) 70 70 70 70 70 70 70 70 70 70 70 70 70	<pre>#N/A #N/A #N/A #N/A #N/A #N/A #N/A #N/A</pre>	Meter Size 1.5-Inch inth consumpti dbook. d Local Facili	ok. ty charges. See the Custon Positive Positive on, but shall not be less the ty charges. See the Custon	mer Handbook for addite mer Handbook for addite mer Handbook for addite mer Handbook for addite	mal information.	e Estimated Availability Fee \$ 107,800.0
SANITARY SEWER/FORCE MAIN AS-BUILT Image: Comparison of the second s	less than 100 linear feet: YES 00: Yes 00: Yes 10: POLYWRAP 11: Stone 12: Stone 13: Stone 14: Yes 15: Stone 14: Stone 15: Stone 14: Stone 15: Stone 16: Stone 17: Stone 14: Stone 15: Stone 16: Stone 17: Stone 17:	2 The 3 For 4 The Building Identifier KIDDIE ACADEMY KIDDIE ACADEMY NOTES: 1 For allo 2 Afte 3 For 4 The Building Identifier 4 The	mumber of ERU's for a multi-fam water only accounts, the minimum Availability Fee is not the total fee Building Address DAYCARE DAYCARE DAYCARE	ily building is 80% of the total number of n purchased number of ERU units must e due. New connections may be subject to NON-RESIDE WATER SERVICE WATER SERVICE	t for each proposed meter in a f dwelling units associated with match the allocation with the n the following fees: meter, me NTIAL MET Water & Sewer Water & Sewer Water & Sewer Water & Sewer water consumption does not nee t for each proposed meter in a for each proposed meter in a following fees: meter, me NETER SC	accordance with the curre ith the meter and is rounde meter size as defined in Ta eter installation, sewer and ER SCHED ¹ Est. Max Montl Consumption (Gallons) ¹ Est of ERU's shall be based to be reported. accordance with the curre as defined in Table VI: Av- eter installation, sewer and CHEDULE ¹ Est. Max Montl Consumption (Gallons)	h ² Pe ak De mand (GPM) 70 70 70 70 70 70 70 70 70 70 70 70 70	<pre>#N/A #N/A #N/A #N/A #N/A #N/A #N/A #N/A</pre>	Meter Size 1.5-Inch 1.5-Inch 1.5-Lin	ok. ty charges. See the Custon Positive Positive in but shall not be less the ty charges. See the Custon Meter Type	mer Handbook for addite mer Handbook for addite future Use) future Use) fran the allocated number mer Handbook for addite Meter Manufacture	r (Reserved for Futur Use)	e Estimated Availability Fee \$ 107,800.0
SANTTARY SEWER/FORCE MAIN AS-BUILT () TV SANTTARY SEWER MAIN INPECTION () Minimum water main inspection fee applies for water quantities less than () Minimum sanitary sewer / force main inspection fee applies for quantities () Minimum sanitary sewer / force main inspection fee applies for quantities () Minimum sanitary sewer / force main inspection fee applies for quantities () Minimum as-built fee applies when total as-built cost are less than \$1000. () Notes: () Notes: () Soil Type: Fine_Grained_Soils Safety Factor: () () Test Pressure: () () The undersigned Engineer and /or firm, on behalf of itself and its success () Ibility and responsibility for the accuracy of the calculations, selections () The undersigned Engineer and/or firm agrees that the Prince William Couther right to use these plans and electronic files for the preparation of as-Figureer and/or firm further agrees that the right to use the plans and electronic files for the preparation of as-Figureer and/or firm further agrees that the right to use the plans and electronic files for the plans and electronic	less than 100 linear feet: YES 00: Yes 00: Yes 10: POLYWRAP 11: Stone 12: Stone 13: Stone 14: Yes 15: Stone 14: Stone 15: Stone 14: Stone 15: Stone 16: Stone 17: Stone 14: Stone 15: Stone 16: Stone 17: Stone 17:	2 The 3 For 4 The Building Identifier KIDDIE ACADEMY KIDDIE ACADEMY NOTES: 1 For allo 2 Aft 3 For 4 The NOTES: 1 For 2 Aft 3 For 2 Aft 3 For	mumber of ERU's for a multi-fame water only accounts, the minimum Availability Fee is not the total fee DAYCARE DAYCARE DAYCARE	ily building is 80% of the total number of n purchased number of ERU units must e due. New connections may be subject to NON-RESIDEN Meter Use WATER SERVICE WATER SERVICE kinum month water consumption shall b dler than 2-inch, the maximum month wa culations shall be provided in the plan se ed number of ERU units must match the e due. New connections may be subject to DATA CENTEF Meter Use	t for each proposed meter in a f dwelling units associated with match the allocation with the the following fees: meter, me NTIAL MET Water & Sewer Water & Sewer Water & Sewer Water & Sewer Water & Sewer	Consumption (Gallons) Test. Max Montl Consumption (Gallons) Consumption (Gallons) Consumption (Gallons) Consumption (Gallons) Check of ERU's shall be be a to be reported. accordance with the curre as defined in Table VI: Av- eter installation, sewer and Check of Consumption (Gallons) Check of Consumption (Gallons)	h ² Pe ak De m and (GPM) 70 70 70 70 70 70 70 70 70 70 70 70 70	#N/A #Indition <t< td=""><td>Meter Size 1.5-Inch allocal Facili 1.5-Inch allock. allocal Facili allock. allocal Facili allock. allocal Facili</td><td>ok. ty charges. See the Custon Positive Positive in the shall not be less the ty charges. See the Custon Meter Type Meter Type</td><td>mer Handbook for addite (Reserved for Future Use) han the allocated number mer Handbook for addite Meter Manufacture</td><td>r (Reserved for Future Use) of ERUs of ERUs Flow Rate (gpm) r Minimum Maximu ze.</td><td>e Estimated Availability Fee \$ 107,800.0</td></t<>	Meter Size 1.5-Inch allocal Facili 1.5-Inch allock. allocal Facili allock. allocal Facili allock. allocal Facili	ok. ty charges. See the Custon Positive Positive in the shall not be less the ty charges. See the Custon Meter Type Meter Type	mer Handbook for addite (Reserved for Future Use) han the allocated number mer Handbook for addite Meter Manufacture	r (Reserved for Future Use) of ERUs of ERUs Flow Rate (gpm) r Minimum Maximu ze.	e Estimated Availability Fee \$ 107,800.0

Account Type	Number of Dwelling Units	¹ Pe ak De mand (GPM)	^{2&3} ERU Purchase	Meter Size	Meter Type	(Reserved for Future Use)	(Reserved for Future Use)	⁴ Non-Binding Estimated Availability Fee
			#N/A			<u> </u>		
			#N/A					
			#N/A					
			#N/A					
			#N/A				X	
			#N/A					
			#N/A					
			#N/A					
			#N/A					
	Account Type		Number of Demand	Number of DeemandDemand (GPM)2&3 ERU PurchaseAccount TypeDwelling Units(GPM)PurchaseImage: Comparison of the temperatureImage: Comparison of temperature<	Number of Dwelling UnitsDe mand (GPM)2&3 ERU PurchaseMeter SizeImage: Constraint of the street of the s	Number of Dwelling UnitsDemand (GPM)2&3 PurchaseMeterAccount TypeDwelling Units(GPM)PurchaseSizeMeter TypeImage: SizeImage:	Number of Account TypeNumber of Dwelling UnitsDe mand (GPM)2&3 PurchaseMeter SizeMeter Type(Reserved for Future Use)	Number of Dwelling UnitsDemand (GPM)2&3 Further PurchaseMeter SizeMeter Type(Reserved for Future Use)(Reserved for Future Use)Image: Size#N/AImage: SizeMeter TypeFuture Use)Image: SizeImage: Size<

Meter Use	Account Type	¹ Est. Max Month Consumption	² Pe ak De mand (GPM)	³ ERU Purchase	Meter Size	Meter Type	(Reserved for Future Use)	(Reserved for Future Use)	⁴ Non-Binding Estimated Availability Fee
Meter Ose	Accountrype	(Gallons)		1 ul cliase	SIL	Mean Type	Future Ose)	Use)	Availability Fee
WATER SERVICE	Water & Sewer		70	7	1.5-Inch	Positive			\$ 107,800.00
							X	X	

		¹ Est. Max Month	² Pe ak							⁴ Non-Binding
		Consumption	Demand	³ ERU	Meter		Meter	Flow R	ate (gpm)	Estimated
Meter Use	Account Type	(Gallons)	(GPM)	Purchase	Size	Meter Type	Manufacture r	Minimum	M aximum	Availability Fee

- 1 Methods and materials used in the construction of water mains, sanitary sewer mains, force mains and appurtenances shall be in conformance with the current Prince William County Service Authority (Service Authority) Utility Standards Manual (USM) and the Virginia Department of Health Regulations.
- 2 Acceptance of these plans by the Service Authority will in no way relieve the owner from complying with the methods, policies or requirements stated in the Service Authority's USM.
- 3 Service Authority has Local Review Authority for water mains up to and including 18-inch and sanitary sewer mains up to and including 24-inch. Utilities outside the Service Authority's Local Review Authority, including low pressure force mains systems, are subject to the review, approval and permitting process of either the Virginia Department of Health Office of Drinking Water or Department of Environmental Quality. It is the Professional Engineer's responsibility to submit all necessary applications and plans and to secure all applicable plan approvals and permits from the different governing authorities.
- 4 Trees, fences, monuments, signs, entrance features, sheds, decks, overhanging canopies, or permanent structures shall not be placed in easements dedicated to the Service Authority without written permission from the Service Authority.
- 5 The contractor shall notify the Service Authority Inspection Manager at least two (2) business days, but not more than ten (10) business days, prior to the commencement of demolition, excavation or blasting in areas with underground water mains, sanitary sewer mains, and/or force mains.
- 6 All subdivision will require an address listing approved by the Prince William County Mapping Office. The address listing must be presented to the Service Authority at the time the utility permit is issued. Forms are available at the Service Authority. (Fax copies are not acceptable.)
- 7 Low pressure sewer force main systems are subject to the review and requirements of the Virginia Department of Environmental Quality.
- 8 The developer is responsible for all costs associated with damages to or relocation of water mains, sanitary sewer mains, force mains or service lines caused by the construction of this project.
- 9 The contractor shall coordinate all relocation of water mains, sanitary sewer mains and/or force mains with the Service Authority's Field Inspector. Water or sanitary sewer system shutdowns will not be executed without the prior approval of the Service Authority Field Inspector. The Field Inspector shall require the contractor to submit a relocation work plan for Service Authority acceptance prior to the commencement of the relocation work. The work plan will detail how the work will be done and the manpower, materials, and equipment that will be at the site to perform the work.
- 10 The Service Authority does not guarantee the availability or construction of utilities that are proposed by another entity even if those utilities are shown as existing in this plan set. If needed utilities shown as existing are not available or do not exist, it is the developer's responsibility to acquiring the necessary rights and permits to install on-site and off-site water and sanitary sewer utilities to provide the desired service.
- 11 Existing unused water service lines shall be exposed at the connection point on the water main and shall be cut and terminated (e.g. crimped) as directed by the Service Authority Field Inspector.
- 12 Existing unused laterals or sanitary service lines shall be cut and capped at the connection point to the sanitary sewer main or force main as directed by the Service Authority Field Inspector.
- 13 When an existing water service line, lateral, of sanitary service line will be reused as part of a new development, the Service Authority shall inspect the existing service line to insure that it is acceptable and meets current Service Authority material specifications. Any defects or out-of-date materials shall be repaired or replaced to the satisfaction of the Service Authority to ensure the service line is water tight before the existing service line is placed back in service.

Engineer's Seal & Signature	DESCR
Service Authority Prince William County	No. DATE
Water & Sanitary Sewer Information Sheet	SHEET
Sheet effective as of September 1, 2019 SHEET 1 OF 2	30 ₀ 43
	Pr

6.3.c

engineers

J2 Engineers, Inc. 17739 Main Street

Suite 180

Dumfries, Va. 22026

703.361.1550 (office)

www.j2engineers.com

....

Fandant SEBASTIAN SANDOVAL

SSIONAL ENGIN

(PLAN# BA2201

SCALE: N/A

DATE

Z

INFORMATION

PWCSA

WATER AND SANITARY SEWER INFORMATION FINAL SITE PLAN MY AT CROSSROADS VILLAGE

ACADEMY

KIDDIE

DATE: MARCH, 2023

CONTOUR INT. = N/A

.

NIA

VIRGI

AYMARKET, '

OF HA

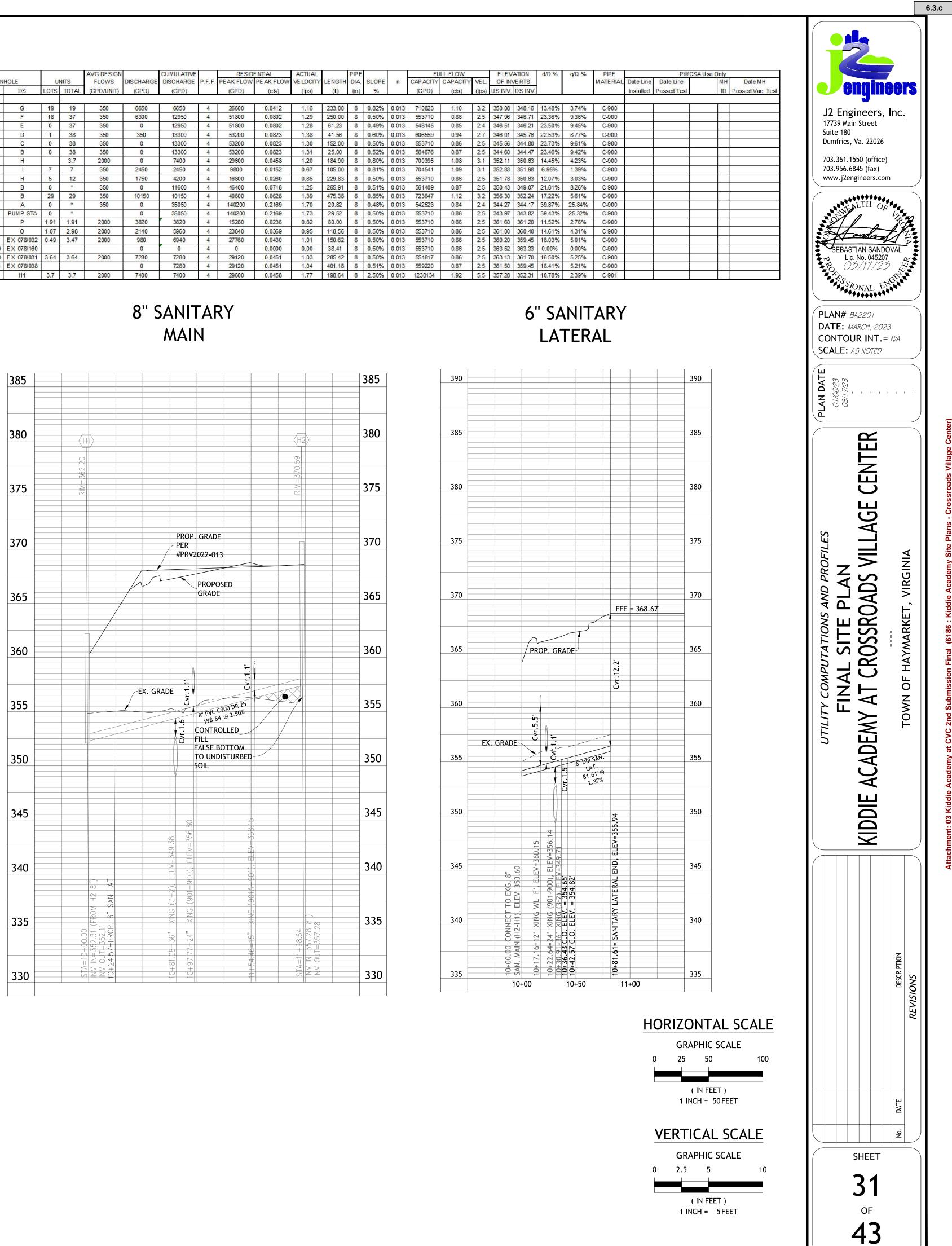
TOWN

CENTER

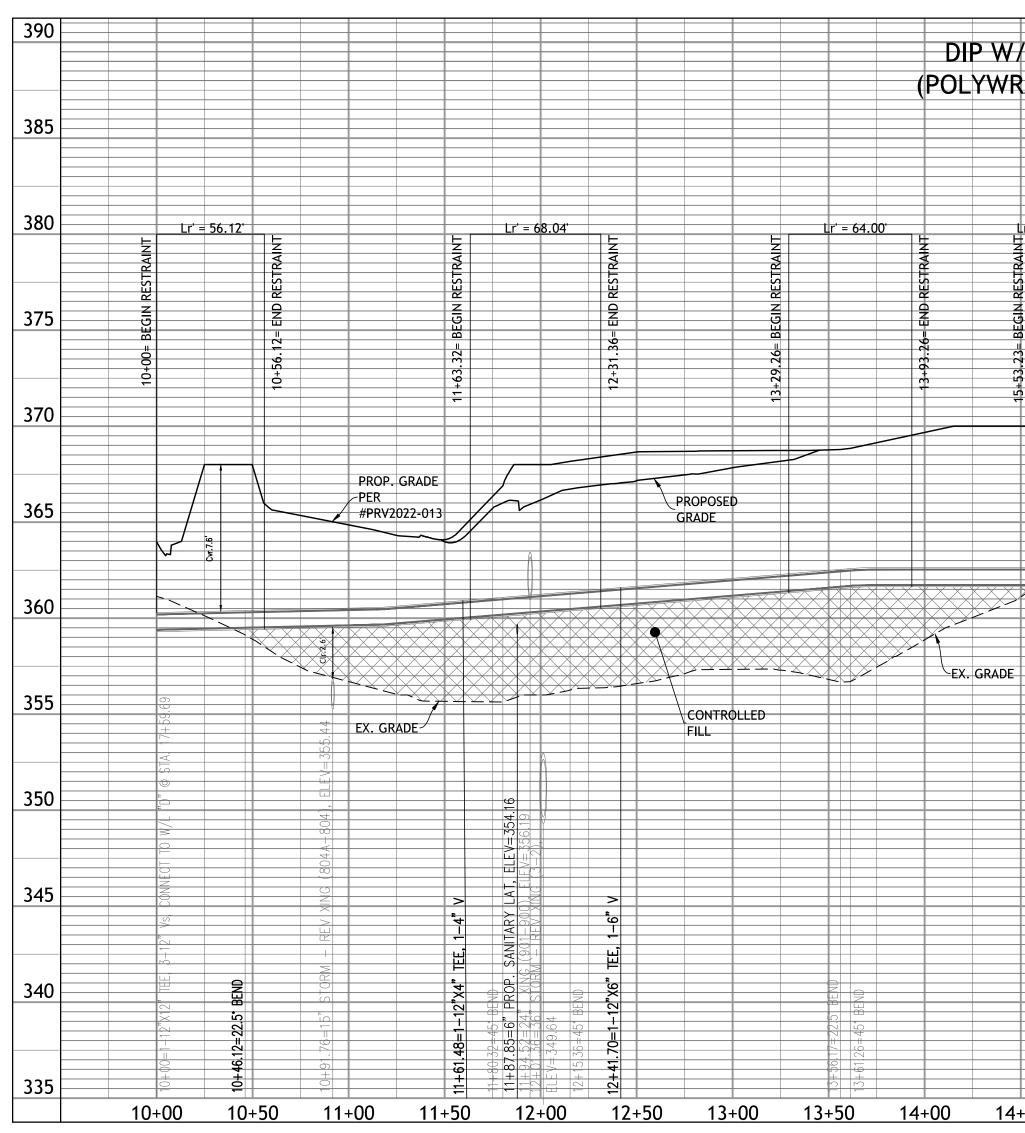
703.956.6845 (fax)

Ejector Pump	Lot	Station	Lower MH	Upper / MH	Slope	Overall Length		Crown	Distance to Vert.)		Inv @ Top of	Inv. @ Lateral	Lowest Fir.Elev. To	Diff. Lowest Floor to Crown	Lateral Material		ddt. Act ngth Inv	Diff If-end	Lot		HOLE		AVG.DES FLOWS	DISCHARGE	CUMULATIVE DISCHARGE		PEAK FLOW VE		TH DIA SLOP
Required			and the second		(%)	(FT.)	Main	Main	Bend	Vert. Ben	d (FT.)	Vert. Bend	End	Serve (Ft)	@ Main		installed % of Grade re	eq. 🛛 @ end	l of act		US	DS				(GPD)	,,	(cfs)	(tps) (t)	(in) %
	1	1+05.0	@MH	J	2.08%	39.0	352.36	6 353.0	3 N/A	N/A	0	N/A	353.84	369.20	16.17	C-900	5	5 354.9	9 14.21	1	G-1 G	G F	19 19 18 37	350	6650 6300	6650 12950	4 26600 4 51800	0.0802	1.29 250.00	00 8 0.82% 00 8 0.50%
	Bittle 24	0+91.0	1	/ J	2.08%		and the second sec	2 353.3		N/A	0	N/A	354.20	368.50	15.11	C-900		58 355.4			F	E D	0 37		0 350	12950 13300	4 51800 4 53200		1.2861.231.3841.56	
		0+71.1	1	/ J / J	2.08%			6 353.2 0 353.0		N/A N/A	0	N/A N/A	354.04 353.88	367.80 367.20	14.57 14.13	C-900 C-900		6 355.2 68 355.0			D	C	0 38	350	0	13300 13300	4 53200 4 53200	0.0823	1.30 152.00	0 8 0.50%
		0+31.0	1	/ J	2.08%	39.0	352.23	3 352.9	0 N/A	N/A	0	N/A	353.72	366.50	13.60	C-900		6 354.8			H1	H	3.7	2000	0	7400	4 29600	0.0458	1.20 184.90	8 0.80%
		0+11.0 2+04.7	H	/ J / I	2.08%			7 352.7 6 352.3		N/A N/A	0	N/A N/A	353.55 353.14	366.50 366.50	13.76 14.17	C-900 C-900		58 354.7 58 354.3			J	H	7 7 5 12	350	2450 1750	2450 4200	4 9800 4 16800			00 8 0.81% 33 8 0.50%
	8	1+18.7	Η	/	2.08%	39.0	351.23	3 351.9	0 N/A	N/A	0	N/A	352.71	365.80	13.90	C-900	6	5 353.8	5 11.95	8	H	B	0 *	000	0	11600 10150	4 46400 4 40600			91 8 0.51% 38 8 0.85%
	9 10	1+05.8 0+85.8	<u>н</u> Н		2.08%			6 351.8 6 351.7		N/A N/A	0	N/A N/A	352.64 352.54	365.80 365.80	13.97 14.07	C-900 C-900		58 353.8 56 353.7			В	A	0 *	350	0	35050	4 140200	0.2169	1.70 20.82	2 8 0.48%
	11	0+65.8	Н	/	2.08%	39.0	350.96	6 351.6	3 N/A	N/A	0	N/A	352.44	366.50	14.87	C-900	5	353.6	5 12.85	11	A Q	PUMP STA	1.91 1.9	1 2000	0 3820	35050 3820	4 140200 4 15280		1.7329.520.8280.00	2 8 0.50% 0 8 0.50%
	12 13	0+36.9 0+92.4	B	/ I / N	2.08%			2 351.4 3 353.7	12	N/A N/A	0	N/A N/A	352.30 354.15	367.20 367.20	15.71 13.50	C-900 C-900		6 353.4 57 355.3			P	0 EX 078/03	1.07 2.9 2 0.49 3.4	1A POINT AND A	2140 980	5960 6940	4 23840 4 27760		0.95 118.56 1.01 150.62	56 8 0.50% 52 8 0.50%
	14	1+20.4	B	/ N	2.08%	22.0	353.27	7 353.9	4 N/A	N/A	0	N/A	354.39	367.20	13.26	C-900	5	57 355.5	8 11.62	14	EX 078/159	EX 078/16			0	0	4 0	0.0000	0.00 38.41	
	15 16	1+40.4 1+60.4	B	/ N / N	2.08%			4 354.1 1 354.2		N/A N/A	0	N/A N/A	354.56 354.73	366.50 366.50	12.39 12.22	C-900 C-900		55 355.7 57 355.9				EX 078/03	and the second s		7280	7280 7280	4 29120 4 29120	0.0451	1.04 401.18	18 8 0.51%
	17	1+80.6	B	/ N	2.08%	22.0	353.78	8 354.4	5 N/A	N/A	0	N/A	354.91	366.50	12.05	C-900	Ę	5 356.0	5 10.45		H2	H1	3.7 3.7	2000	7400	7400	4 29600	0.0458	1.77 198.64	64 8 2.50%
	18 19	2+98.7 3+18.7	B	/ N	2.08%			9 355.4 6 355.6		N/A N/A	0	N/A N/A	355.92 356.09	366.60 366.60	11.14 10.97	C-900 C-900		55 357.0 55 357.2		18 19										
	20	3+38.7	B	/ N	2.08%	22.0	355.13	3 355.8	0 N/A	N/A	0	N/A	356.26	367.30	11.50	C-900	6	5 357.4	0 9.90	20					8" (SANI٦	ΓΔΡΥ			
	21	3+58.7 3+78.7	B	/ N	2.08%			0 355.9 7 356.1		N/A N/A	0	N/A N/A	356.43 356.60	367.30 368.00	11.33 11.86	C-900 C-900		57 357.6 55 357.7							U i					
	23	3+98.7	B	/ N	2.08%	22.0	355.64	4 356.3	1 N/A	N/A	0	N/A	356.77	368.70	12.39	C-900	Ę	57 357.9	6 10.74	23						MAII	N			
-	24 25	4+20.9 4+75.4	B @MH	/ N	2.08%			3 356.5 3 356.5		N/A N/A	0	N/A N/A	356.96 356.75	369.40 368.50	12.90 12.00	C-900 C-900		6 358.12 55 357.8												
	26 26	4+56.0	B	/ N	2.08%	12.0	356.13	3 356.8	0 N/A	N/A	0	N/A	357.05	367.80	11.00	C-900	Ę	57 358.2	4 9.56	26										
-	27	4+33.4 4+13.4	B	/ N	2.08%				1 N/A 4 N/A	N/A N/A	0	N/A N/A	356.86 356.69	367.20 367.20	10.59 10.76	C-900 C-900		5 358.0 57 357.8				385								385
	29	3+93.4	B	/ N	2.08%	12.0	355.60	0 356.2	7 N/A	N/A	0	N/A	356.52	366.50	10.23	C-900	Ę	55 357.6	6 8.84	29										
	30	3+73.4	B	/ N	2.08%				0 N/A 3 N/A	N/A	0	N/A	356.35 356.18	365.80 365.20	9.70 9.27	C-900 C-900		57 357.53 55 357.33	3 8.27	30										
	32	3+53.4 3+33.4	B	/ N	2.08%				5 N/A	N/A N/A	0	N/A N/A	356.00	364.50	8.75	C-900		57 357.1				380								380
	33	3+13.4	B	/ N	2.08%	_			8 N/A 1 N/A	N/A N/A	0	N/A	355.83 355.66	363.80 363.80	8.22 8.39	C-900 C-900		55 356.9 57 356.8				500							12	
	34 35	2+93.4 1+85.3	B	/ N	2.08%				9 N/A	N/A	0	N/A N/A	354.74	364.50	10.01	C-900	Ę	6 355.9	0 8.60	35								0.0	· · · · · · · · · · · · · · · · · · ·	
	36	1+66.4	B	/ N	2.08%				3 N/A	N/A	0	N/A	354.58 354.41	364.50	10.17 10.34	C-900		6 355.7						362				270	2	
	37	1+46.4 1+26.4	B	/ N	2.08%			2 353.9	6 N/A 9 N/A	N/A N/A	0	N/A N/A	354.41	364.50 365.20	10.34	C-900 C-900		6 355.5 8 355.4				375		N N						375
	39	1+06.4	B	/ N	2.08%	1.0	- 21	19 A	2 N/A	N/A	0	N/A	354.07	365.20	11.38	C-900		6 355.2												
	40 41	0+86.4 0+60.7	B	/ N / N	2.08%				5 N/A 3 N/A	N/A N/A	0	N/A N/A	353.90 353.68	364.50 363.80	10.85 10.37	C-900 C-900		58 355.1 55 354.8												
		0+15.7	D	/ E	2.08%				2 N/A	N/A	0	N/A	347.19	363.80	17.28	C-900		7 348.1				270					. GRADE			
	43 44	0+40.9 0+60.9	F F	/ G	2.08%			and the second sec	8 41.00 8 41.00	and the second second second		353.54 353.64	353.64 353.74	362.20 362.80	14.62 15.12	C-900 C-900		57 354.8 55 354.8				370				PER #PRV2	2022-013			370
	0	0+82.9	F	/ G	2.08%	51.0	347.12	2 347.7	9 41.00	348.64	5	353.75	353.85	363.50	15.71	C-900	Ę	57 355.04	4 8.46	45							.022-013	<u> </u>		
12. A	46 47	0+94.8 1+20.9	F	/ G / G	2.08%				5 42.00 8 41.00			353.83 353.94	353.93 354.04	364.20 364.20	16.35 16.22	C-900 C-900		55 355.0 57 355.2								1	PROPOSED			
	48	1+40.9	F	/ G	2.08%	51.0	347.4	1 348.0	8 41.00	348.93	5	354.04	354.14	364.20	16.12	C-900	Ę	55 355.2	9 8.91	48		365					GRADE			365
·	49 50	1+60.9 1+80.9	F	/ G	2.08%				8 41.00 8 41.00			354.14 354.24	354.24 354.34	363.50 363.50	15.32 15.22	C-900 C-900		57 355.43 55 355.4												
	51	0+42.9	G	/ G-1	2.08%	51.0	348.5	1 349.1	8 N/A	N/A	0	N/A	350.24	362.80	13.62	C-900	E	57 351.43	3 11.37	51										
-	52 53	0+62.5 0+82.5	G	/ G-1 / G-1	2.08%				4 N/A 1 N/A	N/A N/A	0	N/A N/A	350.40 350.57	363.50 363.50	14.16 13.99	C-900 C-900		55 351.5 57 351.7												
	54	1+08.8	G	/ G-1	2.08%	51.0	349.0	5 349.7	2 N/A	N/A	0	N/A	350.78	364.20	14.48	C-900	Ę	55 351.9	3 12.27	54		360								360
	55 56	1+22.5 1+42.5	G	/ G-1 / G-1	2.08%			7 349.8 3 350.0	4 N/A	N/A N/A	0	N/A N/A	350.90 351.06	364.80 365.50	14.96 15.50	C-900 C-900		57 352.0 55 352.2								A	<u> </u>			
	57	1+64.6	G	/ G-1	2.08%	51.0	349.5	1 350.1	8 N/A	N/A	0	N/A	351.24	366.80	16.62	C-900	E	57 352.4	3 14.37	57										
-	58 59	1+84.5 2+06.9	G	/ G-1 / G-1	2.08%			8 350.3 6 350.5		N/A N/A	0	N/A N/A	351.41 351.59	366.80 367.50	16.45 16.97	C-900 C-900		55 352.5 57 352.7				355			EX. G	<u> </u>	27.25			355
		2+33.0	@MH	G-1	2.08%	51.0	350.2	1 350.4	1 N/A	N/A	0	N/A	351.47	368.20	17.79	C-900	Ę	57 352.6	6 15.54	60		200					8" PVC C900 DR 25 8" 198.64" @ 2.50%			
11		2+25.8 2+01.8	G	/ G-1 / G-1					9 N/A 9 N/A	N/A N/A	0	N/A N/A	351.14 350.95	367.50 366.20	16.81 15.71	C-900 C-900		57 352.3 50 352.2												
-	63	1+77.8	G	/ G-1	2.08%	22.0	349.62	2 350.2	9 N/A	N/A	0	N/A	350.75	365.50	15.21	C-900	Ę	57 351.9	3 13.57	63							FILL FALSE BOTTOM			
	64	1+53.8 1+29.8	G	/ G-1 / G-1	2.08%				9 N/A 0 N/A	N/A N/A	0	N/A N/A	350.55 350.35		14.11 12.90	C-900 C-900	6	0 351.8 7 351.5	0 12.40	64 65		350					TO UNDISTURBED-			350
	66	1+05.8	G	/ G-1	2.08%	22.0	349.03	3 349.7	0 N/A	N/A	0	N/A	350.16	361.50	11.80	C-900	e	351.4	0 10.10	66							SOIL			
	67	0+95.6 0+57.8	G	/ G-1 / G-1	2.08%				1 N/A 0 N/A	N/A N/A	0	N/A	350.07 349.76	360.20 359.50	10.59 10.20	C-900 C-900		57 351.2 59 350.9												
	69	0+37.8	G	/ G-1	2.08%	22.0	348.5	5 349.2	2 N/A	N/A	0	N/A	349.68		10.20	C-900		57 350.8												
	70	1+99.8	F	/ G	2.08%				8 N/A	N/A	0	N/A	348.83		11.12	C-900		57 350.0				345								345
	72	1+75.8 1+51.8	F	/ G	2.08%				6 N/A 4 N/A	N/A N/A	0	N/A N/A	348.71 348.59	360.20 360.20	11.94 12.06	C-900 C-900		59 349.9 57 349.7												
	73	1+27.8	F	/ G					2 N/A	N/A	0	N/A	348.47		12.18	C-900		59 <u>349.7</u>												
	74 75	1+03.8 0+79.8	F F	/ G	2.08%				0 N/A 8 N/A	N/A N/A	0	N/A N/A	348.35 348.23		11.60 11.72	C-900 C-900		57 349.5 59 349.4				340								340
	76	0+55.8	F	/ <u>G</u>	2.08%	22.0	346.99	9 347.6	6 N/A	N/A	0	N/A	348.11	358.80	11.14	C-900	Ę	57 349.3	0 9.50	76		0 + 0								
	77 78	0+31.8 0+07.8	F	/ G / G					4 N/A 2 N/A	N/A N/A	0	N/A N/A	347.99 347.87	358.80 358.20	11.26 10.78	C-900 C-900		59 349.22 57 349.0								01-0				
		0+00.0	@MH	G	2.08%	22.0	346.3	7 347.0	4 N/A	N/A	0	N/A	347.50	358.20	11.16	C-900	6	348.7	5 9.45	79						<u> </u>				
			X.078/031 X.078/032	/ EX. 078/160					2 N/A 3 N/A	N/A N/A	0	N/A N/A	364.71 363.45	371.25 369.24	8.63 8.41	C-900 C-900		7 366.3 8 365.0				335								335
	BLDG.6	0+58.0	P	/ Q	1.00%	140.0	361.49	9 362.1	6 N/A	N/A	0	N/A	363.56	369.30	7.14	C-900	1	28 364.8	4 4.46	BLDG.6				0.00 82.1 100 100 100 100 100 100 100 100 100 1		26,			= 11 + 30.04 1N= 357.28 0UT=357.28	
	BLDG.7 SITE #1		P X.078/031	/ Q / EX. 078/160					8 N/A 7 N/A	N/A N/A	0	N/A N/A	363.46 364.84		5.52 8.23	C-900 C-900	1	14 365.1 97 367.8	7 2.53	BLDG.7				0+0 = 35%			+ + + + + + + + + + + + + + + + + + +			
	SITE #1	0+64.6	0	/ P	2.08%	21.0	360.73	3 361.4	0 N/A	N/A	0	N/A	361.83	368.58	7.18	C-900	1	42 364.7	9 3.79	SITE #2						0 + 0 				
	KA	0+24.6	H1	/ H2	0.070	Of C	352.93	2 252 6	O NUA	N/A	0	N/A	255 04	368.77	15.17	C-900	1	00 050 0	7 0 00	KA		330								330

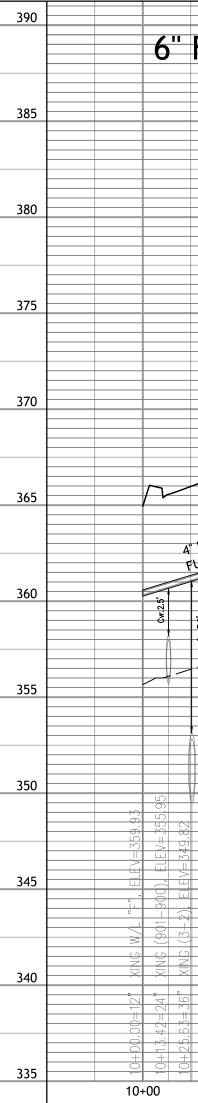
* SANITARY LATERAL PROPOSED WITH THIS SITE PLAN.



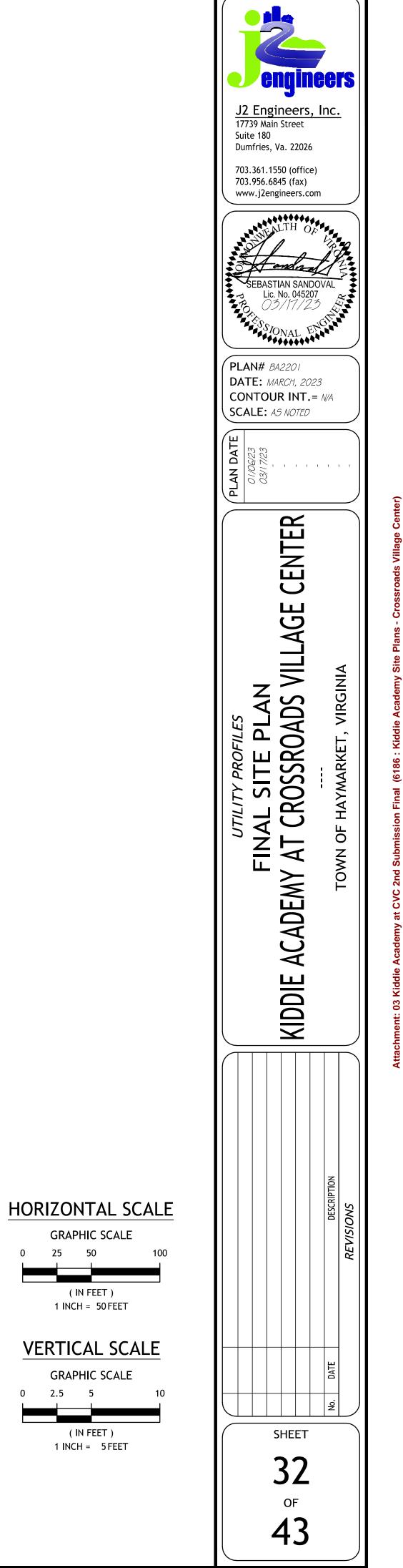
(6186



																	390
√/L	-																_
/RAF	PED)																_
																	205
																	385
																	_
																	_
																	200
15+53.23= BEGIN RESTRAINT = 1	[4' │⊑Ŀ	±	<u>Lr' = 71</u>	.07							5		<u>Lr' =</u>	108.46'		Ę	380
A R					END RESTRAINT						RESTRAINT					RESTRAINT	-
ES	EST EST	.			EST						EST					EST	
					<u>Q</u>												275
		<u>й</u>			1 11						BEGIN					11	375
3	7.23	8			5+76.95=		-				= 09					6.06	_
	15 + 6	= 00. CO+C			15+7						17+67.60=					18+76.	
					```						17						270
							P	ROP. GR	ADE				P. GRAD	E			370
								ER PRV2022	012			PER #PE	₩2022-0 [°]	13			_
							-<		-015				V2022-0				_
		Cvr.7.4'		-+						$\sim$						-	2/5
				4 ,0 ,		<u> </u>				3.5		3.1*					365
				- Cw.4.0'						/    kw.3.5'	<u> </u>	Cvr.3.1	EX.	GRADE		-	
						12" D.I.P. W/L "I	· (POLY)	VRAPPEL	)				- <u> </u>			-	_
$\times$																	
												Ctr.1.					360
																	_
DE												V				_	-
<i>Л</i> Е																96	
																4+21.96	355
											Â						
																D STA.	_
											100 100 100	= 35				0	_
											EV= 351.					Z	350
																	_
											4),						
											Ŀ	812				CONNECT	_
											ĐXI	2				s,	345
											REV XING					12" \	
																	_
											$\geq$						
12"X6"							+				STORM	BEND STORM				2	340
											30 <b>*</b>	<u> </u>				12"×	_
			15+37.88=45° 15+44.95=45°								2 <u>3</u> 3	$.60 \pm 22$ $.6 \pm 24$			78=45	06 = 1	-
20.5			57.86 14.95									91.6			37.76	9.0	
14+60.23=1-			15+7								17+6	17+83.(			18+67.		335
4+50	4 5	+00		+50		+00 16	+50	1	+00	17-			+00	18+		Ц	+



							390
_							370
_	FIR	EL	NF				
_	1 11 \						
_							
_							
_							385
_							
_							
_							200
							380
_							
_							
_							
_							375
_							
_							
_							
_							
_						FFE =	370
						368.67	
		$\checkmark$					
_		<b>F</b>			Cvr.4.0'		
				JED	2		365
			BESTRA	NLD			
-		- IILY	11-				
_		2. FUE	DED				
Å,	DIP CLE	2 FOR	PED				
4 F	DIP CLE	LYWRAP	PED				
4 4	DIP CLS	2 FOL	RESTRA				
4 4//	DIP CLS	2 FOL	PED				360
4 F//	L	12 FOL	PED				360
A F	L	2 FOL	PED				360
4 4	DIP CLE ULLY PC	2 FOL AP	PED				360
	L	2 POLAP	PED				360
	L	2 POLAP	PED				
	L	LYWRAP	PED				360
	L	LYWRAP	PED				
	L	2 POLAP	PED				
	L	2 POLA	PED				
	L	2 POLAP	PED				355
	L	2 FOLAP	PED				
	L	2 POLAP					355
	L						355
	L	2 POLAP					355
	L						355
	L						355 350
	L						355
	L						355 350
	L						355 350
	L						355 350
	L						355 350 345
	L						355 350
	L						355 350 345
	L						355 350 345
	L						355 350 345
0.D4740	L						355 350 345
	L						355 350 345 340
0.D4740							355 350 345
0.D4740						+50	355 350 345 340



GRAPHIC SCALE 0 25 50 100

(IN FEET) 1 INCH = 50 FEET

VERTICAL SCALE

GRAPHIC SCALE

(IN FEET) 1 INCH = 5 FEET

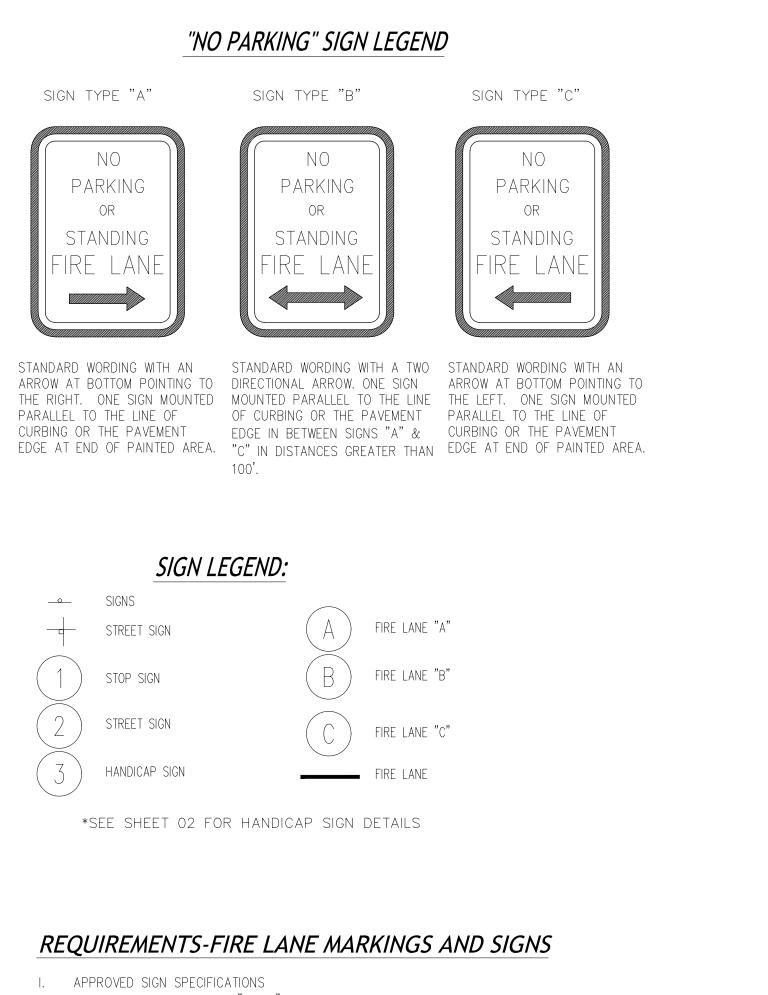
10

0 2.5 5

2nd

a

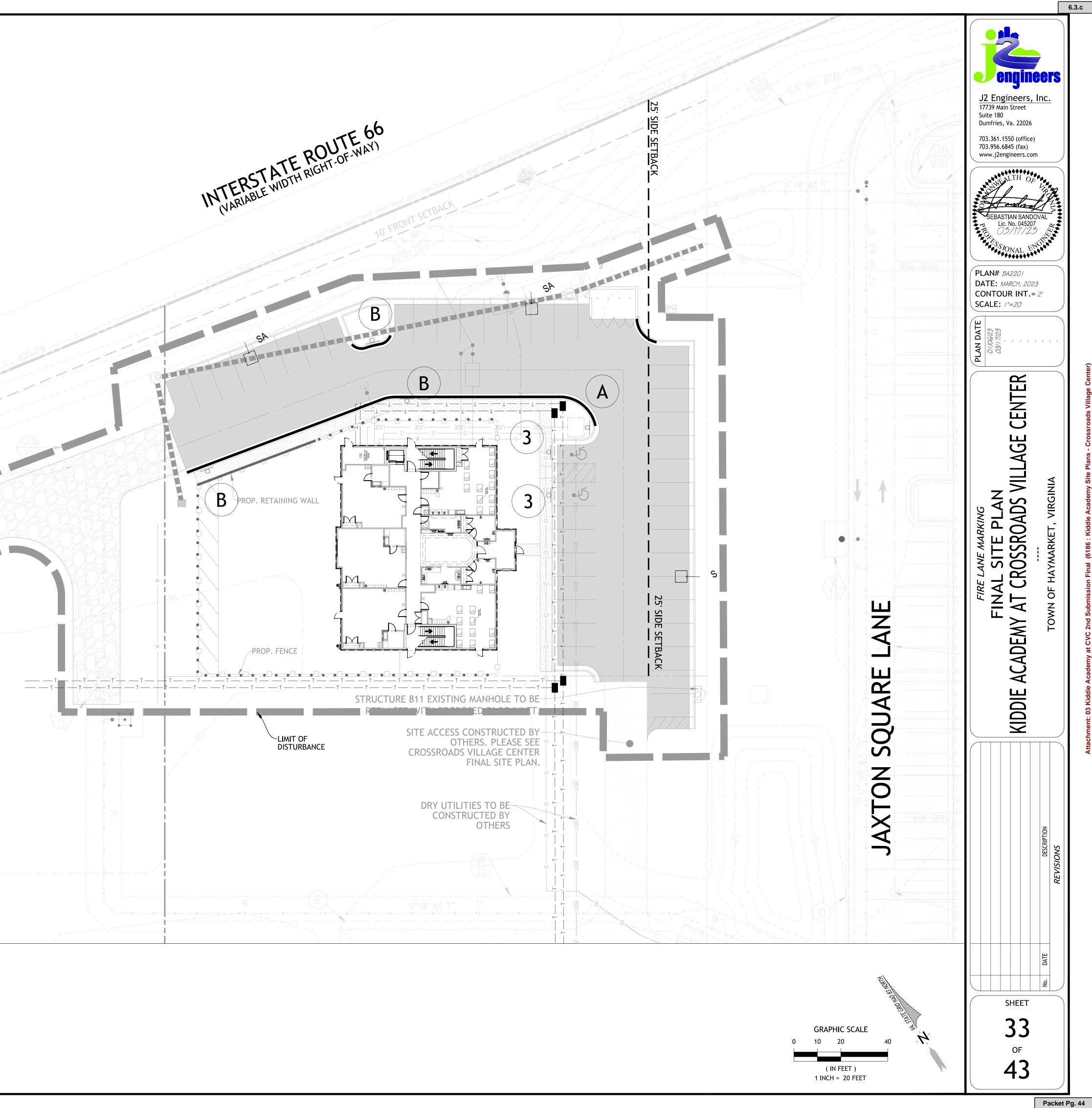
6.3.c



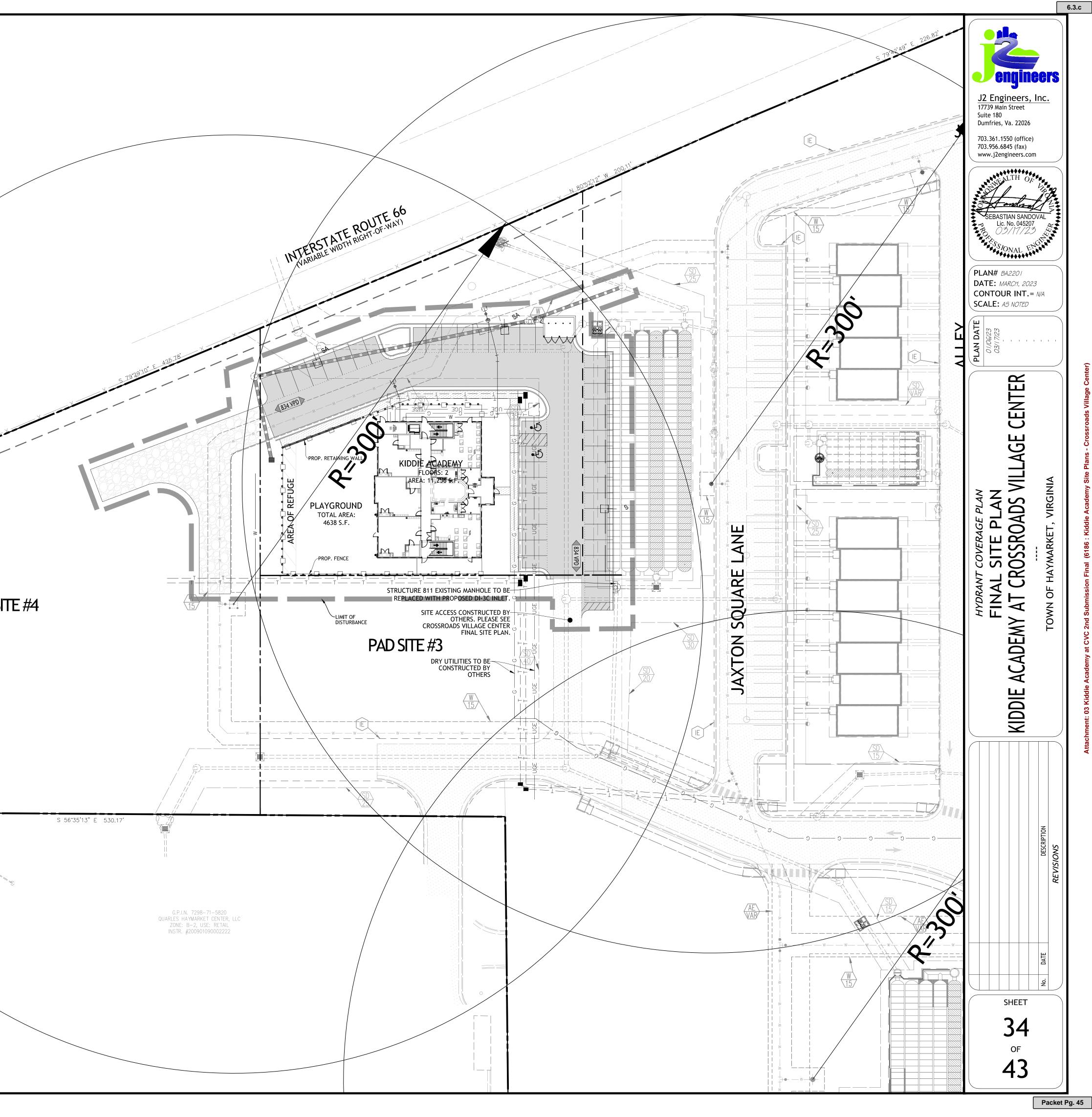
- A. METAL CONSTRUCTION, "12x18".
- B. RED LETTERS ON REFLECTIVE WHITE BACKGROUND WITH 3/8" RED TRIM STRIP AROUND ENTIRE OUTER EDGE OF SIGN. C. LETTERING ON SIGN TO BE: "NO PARKING OR STANDING FIRE LANE".
- D. LETTERING SIZE TO BE AS FOLLOWS: "NO PARKING" AND "STANDING" 2", "OR" -1", "FIRE LANE" – 2 1/2", ARROWS 1"x6" SOLID SHAFT WITH A SOLID HEAD 1 1/2" WIDE AND 2" DEEP.
- E. SIGNS ARE TO BE MOUNTED 7' FROM THE GROUND TO THE BOTTOM OF THE SIGN UNLESS OTHERWISE DIRECTED BY THE LOUDOUN COUNTY INSPECTOR. F. POSTS FOR SIGNS, WHEN REQUIRED, SHALL BE METAL AND SECURELY MOUNTED,
- UNLESS WRITTEN PERMISSION FOR ALTERNATIVES IS OBTAINED PRIOR TO INSTALLATION FROM THE CODE OFFICIAL.
- G. OTHER SPECIAL SIGNS AS APPROVED BY THE CODE OFFICIAL.
- II. CURB DESIGNATION
- FIRE LANE SIGNS SHALL BE INSTALLED AT THE BEGINNING OF A DESIGNATED FIRE LANE AND AT THE END OF A DESIGNATED FIRE LANE WITH DIRECTIONAL ARROWS POINTING IN.
- III. INSPECTION NOTICE

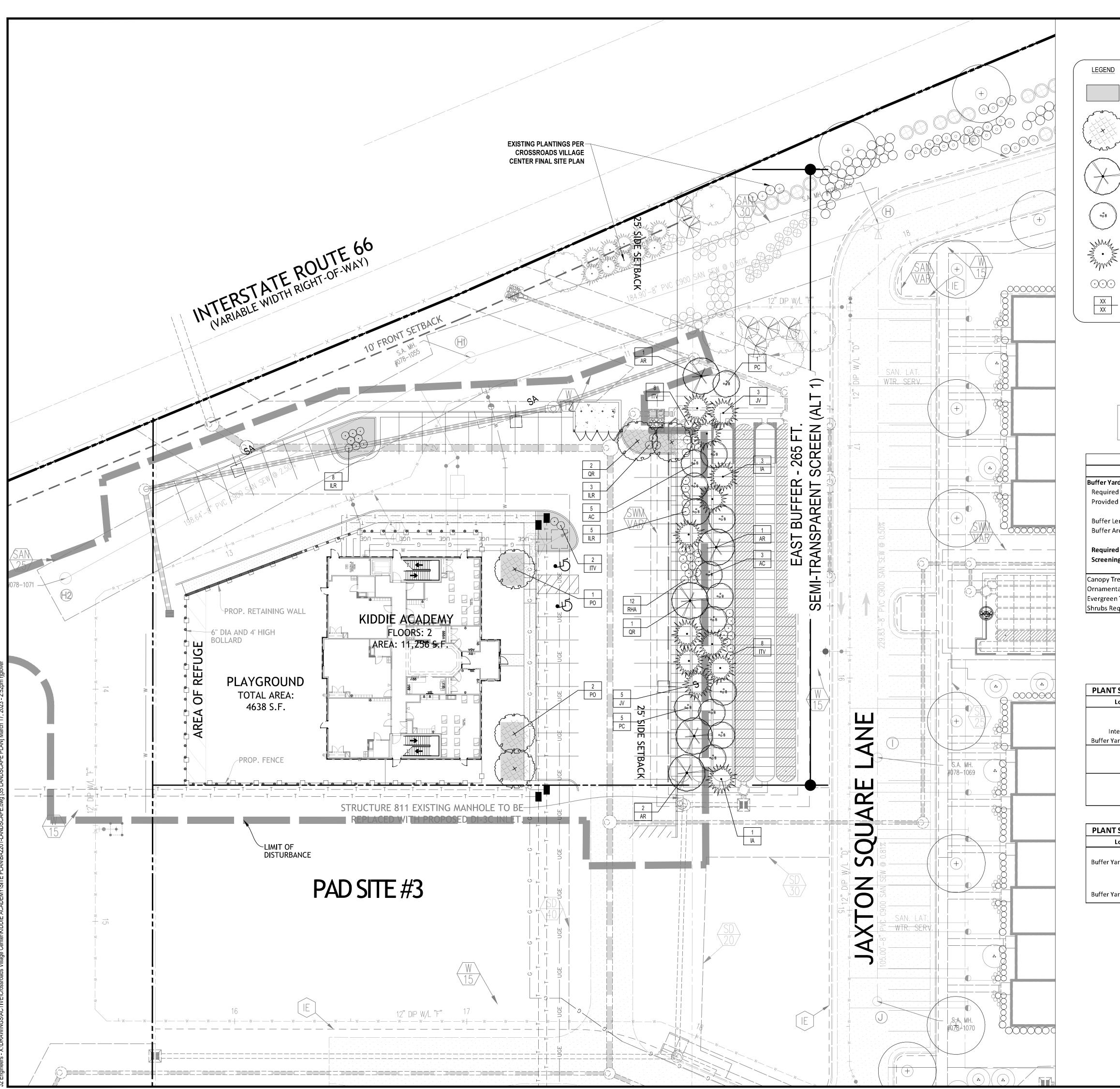
FIRE MARSHAL FIELD INSPECTION NECESSARY FOR FINAL APPROVAL OF FIRE LANES. FIRE LANES MUST HAVE FINAL APPROVAL PRIOR TO REQUEST FOR OCCUPANCY PERMIT.

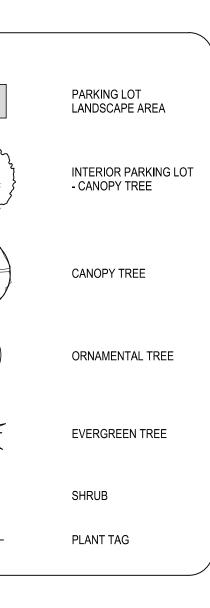




HATCH LEGEND: ROAD HATCH SIDEWALK HATCH FIRE HYDRANT COVERAGE NOTES: 1. FIRE HYDRANT COVERAGE: SHOULD COMPLY WITH DCSM SECTION 302.08 (PWC DCSM Table 3-2) -SINGLE FAMILY DWELLINGS ATTACHED - 300 FT 2. NO OBSTRUCTION OF ARE PERMITTED WITHIN 3' OF A FIRE HYDRANT (PLANTINGS, FENCES, RETAINING WALL, ETC.) OR 10' OF A AUTOMATIC SPRINKLER SYSTEM OR STANDPIPE SYSTEM FIRE DEPARTMENT CONNECTION. 3. ALL FIRE HYDRANTS AND WATER MAINS LOCATED IN OR ON PARKING STRUCTURES SHALL BE PROTECTED FROM FREEZING (NO HEAT TAPE). 4. FIRE HYDRANTS IN SINGLE FAMILY DWELLING AREAS SHALL BE LOCATED AS FOLLOWS: (A) LOT LINE AND/OR (B) CURVE OF PAVEMENT 5. FIRE HYDRANTS SUBJECT TO IMPACT BY VEHICLES MUST BE PROTECTED BY GUARD POSTS OR OTHER APPROVED MEANS. FIRE FLOW NOTES: 1. ADEQUATE FIRE FLOW (2500 GPM @ 20 PSI MINIMUM RESIDUAL PRESSURE) MUST BE AVAILABLE ON SITE. 2. FIRE LINE PROPERLY SIZED. (MINIMUM 6" IN DIAMETER) GRAPHIC SCALE (IN FEET) 1 INCH = 30 FEET PAD SITE #4 







## GENERAL NOTE

PROPOSED PLANT MATERIAL THAT ARE PROVIDED IN THE EASEMENTS OR ON TOP OF UNDERGROUND STORM STRUCTURE WILL NOT BE DETRIMENTAL TO THE EASEMENT OR STRUCTURE. IT WILL BE REPLACED IN KIND BY THE OWNER IF DAMAGED OR REMOVED AS PART OF UTILITY MAINTENANCE.

## INTERIOR PARKING LOT LANDSCAPING

- THIS PLAN ONLY PROVIDES INTERIOR PARKING LOT LANDSCAPING AND COMPUTATIONS FOR PROPOSED DEVELOPMENT - KIDDIE ACADEMY.
- SEE INTERIOR PARKING LOT SCHEMATIC PLAN ON SHEET 36.

SECTION 58-17.13	e)							
INTERIOR PARKING LOT LANDSCAPING								
KIDDIE ACADEMY								
REQUIRED								
Gross Area of parking lot:	17,118							
% landscape area required:	5%							
Landscape area required:	856 s.f.							
PROVIDED								
Landscape Area Provided:	1,108 s.f.							
Total number of parking spaces provided:	41							
Number of trees required:	5							
Trees Provided:	5							
Number of shrubs required:	13							
Shrubs Provided:	13							

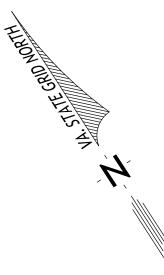
## **BUFFER YARD**

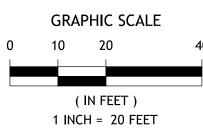
BUFFER YARD IS ONLY PROVIDED FOR PROPOSED DEVELOPMENT (KIDDIE ACADEMY) THAT IS PART OF THIS APPLICATION.

			SECTIO	N 58-1	7.10 / 58-1	7.8				
		E	BUFFER	YARDS	& SCREEN	ING				
rd		EAST								
d buffer width:		25	ft							
l buffer width:		25	ft							
ength:		265	ft							
rea:		6,625	sq.ft.							
l Screen		S.S. (Se	mi Trans	parent	Screen)					
ng Alternative		ALT 1								
ees Required:	1 per	1,000	s.f. =	7	Existing:	2	Proposed:	5	Total Provided:	7
al Trees Required:	1 per	500	s.f. =	14	Existing:	0	Proposed:	14	Total Provided:	14
Trees Required:	1 per	500	s.f. =	14	Existing:	2	Proposed:	12	Total Provided:	14
quired:	1 per	100	s.f. =	67	Existing:	34	Proposed:	33	Total Provided:	67

ANT SCHEDULE - TREES	•					
Location / Use	Qty.	Кеу	Scientific Name	Common Name	Size	Root Type
	CANOF	Y TREES	5			
Buffer Yard	4	AR	Acer rubrum	Red Maple	2.5" cal.	B&B
Interior Parking Lot	3	PO	Platanus occidentalis	American Sycamore	2.5" cal.	B&B
fer Yard/Interior Parking Lot	3	QR	Quercus rubra	Northern Red Oak	2.5" cal.	B&B
	<u>ORNAI</u>	MENTAL	TREES			
Buffer Yard	8	AC	Amelanchier canadensis	Serviceberry	5-6' ht.	B&B
Buffer Yard	6	PC	Prunus cerasifera	Cherry Plum	5-6' ht.	B&B
	EVERG	REEN TR	REES			
Buffer Yard	4	IA	llex x attenuata 'Fosteri'	Foster's Holly	6-8' ht.	B&B
Buffer Yard	8	JV	Juniperus virginiana	Eastern Red Cedar	6-8' ht.	B&B

<b>SCHEDULE - SHRU</b>	BS					
Location / Use	Qty.	Key	Scientific Name	Common Name	Size	Root Type
	DECIDU	IOUS SH	RUBS			
ard/Interior Parking Lot	18	ITV	llex verticillata	Winterberry	12-24" Ht.	Cont.
Buffer Yard	12	RHA	ITV Ilex verticillata	Dwarf Azalea	12-24" Ht.	Cont.
	<u>EVERGI</u>	REEN SH	IRUBS			
ard/Interior Parking Lot	16	ILR	llex crenata	Japanese Holly	12-24" Ht.	Cont.





engineers J2 Engineers, Inc. 17739 Main Street Suite 180 Dumfries, Va. 22026 703.361.1550 (office) 703.956.6845 (fax) www.j2engineers.com - ******** SEBASTIAN SANDOV Lic. No. 045207 SSIONAL **PLAN#** BA2201 DATE: MARCH, 2023 CONTOUR INT. = N/A **SCALE:** / "=20' DA . . . . . . Z CENTER - SITE PLAN ROSSROADS VILLAGE VIRGINIA AYMARKET, FINAL ACADEMY AT CR ЧO NMO KIDDIE SHEET

6.3.c

35

OF

43

## PLANTING SPECIFICATIONS

1. A.	<u>QUALITY ASSURANCE</u> : Landscape planting and related work shall be performed by a firm with a minimum of five years experience specializing
Λ.	in this type and scale of work.
В.	Applicable Specifications and Standards:
	Town of Haymarket Zoning Ordinance;
	Virginia Stormwater Management Handbook;
	American Joint Committee on Horticultural Nomenclature;
	American Standard for Nursery Stock (ANSI Z60.1), latest edition; Landscape Specification Guidelines for Baltimore Washington Metropolitan Areas, latest edition, by Landscape
	Contractors Association MD, DC, VA.
C.	The Contractor shall guarantee all landscape improvements, including sod/seeding, for one full year from the date of initial acceptance by the owner. Contractor must contact owner at least 10 business days in advance to schedule acceptance inspection(s). Contractor must replace all dead or unacceptable plants during the following planting season.
2.	SUBMITTALS: Submit the following to the Owner's Representative prior to beginning work:
A.	Copies of manufacturer's data for all materials required.
В. С.	Samples of required mulch material. Chemical and mechanical analysis and samples of all existing soil, topsoil, organic matter and soil mix to be used.
D.	Planting schedule showing the dates (earliest and latest) proposed for each type of plant specified, schedule each type of planting within the normal planting seasons for such work. Include requests for any proposed changes in the
E.	approved planting season and a list of proposed sources for all plant materials. List of proposed sources for all plant material.
⊑. 3.	DELIVERY, HANDLING, AND STORAGE:
Α.	Deliver packaged materials in manufacturer's unopened containers or bundles, fully identified with name, brand, type,
B.	weight, and analysis. Store packaged materials in such a manner as to prevent damage or intrusion of foreign matter. Dig balled and burlapped (B&B) plants with firm, natural balls of earth, of a diameter not less than that shown on the plant list nor less than recommended by the American Standard for Nursery Stock, and of sufficient depth to include the fibrous and feeding roots. B&B plants will not be accepted if the ball is cracked or broken before or during planting
C.	operation.
υ.	Deliver trees and shrubs after preparations for planting have been completed. Do not bend, bind, or tie trees or shrubs in such a manner as to damage bark, break branches or destroy natural shape. If planting is delayed more than 6 hours
D.	after delivery, set trees and shrubs in shade, protect from weather and mechanical damage, and keep roots moist by heeling-in bare root stock and covering plant balls with soil, peat moss or other acceptable material for balled stock. Plants shall be kept well watered and shall not remain unplanted for longer than ten (10) days after delivery. Plants shall be lifted and handled from the bottom of the ball only.
E.	Do not remove container-grown stock from containers until planting time.
4.	DRAINAGE: Before planting, determine that areas to receive plant material have adequate subdrainage.
Α.	The landscape contractor is responsible for drainage tests as necessary to identify any problems prior to beginning planting operations. Upon commencement of planting operations the landscape contractor assumes responsibility for soil conditions.
В.	Dig planting pits to full depth and dimensions indicated on drawings.
C.	At bottom of planting pit, excavate rectangular pit 12 inches by 12 inches by 18 inches deep. Quickly pour water into pit to a depth of 6 inches (approximately 3-3 3/4 gallon). Note time required for water to be completely absorbed. Divide time noted by 6 to achieve average rate of absorption for 1 inch of water. Where rate of absorption exceeds 60 minutes
	per inch, notify owner immediately for directions on how to proceed.
5.	PLANTING DATES: Planting shall be done only within the following dates except as approved by Owner.
А. В.	Deciduous Trees and Shrubs: March 1 to May 31 and October 15 to December 15. Evergreen Trees, Shrubs and Vines: March 1 to May 31 and September 1 to November 15.
C.	All plant material shall be guaranteed by the Contractor for a period of 1 year from the date final acceptance to be in
	good, healthy and flourishing condition.
6.	MATERIALS FOR PLANTING: Contractor must provide, load, haul, mix and spread all materials for plantings as required.
Α.	Topsoil: shall be a fertile, friable natural loam, uniform in composition, free of stones, lumps, plants and their roots,
	debris and other extraneous matter over 1 inch in diameter, capable of sustaining vigorous plant growth. Soil shall be harvested at a single source from the O and/or A horizons of the soil profile.
	1) Topsoil shall have a pH range of 5.5 to 7.5.
	2) Topsoil shall contain 1.5-5% organic matter by dry weight .
	3) Soil Texture: sandy loam, sandy clay loam with the following particle size distribution:
	Gravel Less than 10%
	Silt 15-30% Clay 20-35%
	4) Chemical Levels shall be:
	Magnesium Mg 100+ units
	Phosphorus P205 150+ units
	Potassium - K20 120+ units
	<ul> <li>5) Soluble Salts/ Conductivity - Not to exceed 900 ppm/0.9 mmhos/cm (in soil); not to exceed 3000 ppm/2.5 mmhos/cm (in high organic mix)</li> <li>6) Cation exchange capacity shall be a minimum of 8 meq/100g.</li> </ul>
В.	Clay Loam to Sandy Clay Loam Soil: shall be a fertile, friable natural loam, uniform in composition, free of stones, lumps, plants and their roots, debris and other extraneous matter over 1 inch in diameter, capable of sustaining vigorous plant growth.
	1) Soil shall have a pH range of 5.5 to 6.5.
	2) Soil shall contain 2-5% organic content by volume.

2) Soil shall contain 2-5% organic content by volume. 3) Soil Texture: Clay loam to sandy clay loam with the following particle size distribution: Grave Less than 10% 20-50% Sand Silt <35% 20-40% Clay 4) Chemical Levels shall be:

Magnesium Mg 100+ units Phosphorus P205 150+ units Potassium - K20 120+ units 5) Soluble Salts/ Conductivity - Not to exceed 900 ppm/0.9 mmhos/cm (in soil); not to exceed 3000 ppm/2.5 mmhos/cm

(in high organic mix)

6) Cation exchange capacity shall be 20-35 meq/100g.

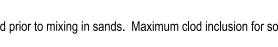
C. Compost: Compost shall be mature, stable, weed free, and produced by aerobic decomposition of organic matter. Compost feedstock shall be plant matter, such as high lignin forestry products or yard waste (leaves, brush and yard trimmings).

- 1) The product must not contain any visible refuse or other physical contaminants, substances toxic to plants, or over 5% sand, silt, clay or rock material by dry weight.
- 2) Compost shall be sampled and tested as required by the Seal of Testing Assurance Program of the United States
- Composting Council (USCC) and shall meet the physical requirements for compost as determined by USCC. 3) The product shall possess no objectionable odors. The product must meet all applicable USEPA CFR, Title 40, Part 503 Standards for Class A biosolids.
- 4) The moisture level shall be such that no visible water or dust is produced when handling the material. D. Composted Pine Bark Fines: Shall be approved composted, ground pine bark having no particle with a dimension greater than 3/4 inch. No more than 10% shall be wood.
- Mulch: Shall be shredded hardwood bark for trees and shrubs. Fine bark mulch is to be used for perennial beds. Sand: Shall be quartz based sharp concrete sand, ASTM C-33 Fine Aggregate, with a Fines Modulus Index between
- 2.8 and 3.2. G. Trace Elements: Shall be commercially available slow release materials containing zinc (Zn), Molybdenum (Mo), Copper (Cu), Boron (B), and Magnesium (Mn).
- H. Fertilizer: A commercial fertilizer for ornamental trees, shrubs and ground cover with an analysis of 10% Nitrogen, 6% Phosphorus and 4% Potassium shall be used. This fertilizer shall be granular with a minimum of 50% of the total Nitrogen in organic form. 14-14-0-smocote (or approved equal) shall be applied at a rate of 10 lbs. per square foot, tilled to a depth of 8 inch, shall be used for perennials.
- Soil Separator: Shall be rot resistant non-woven polypropylene filter fabric, water permeable, and unaffected by freezing and thawing. Acceptable products include: Mirafi 140N, Mirafi Civil Engineering Co., or Stabilenka Type T-80, American Enka Co., Enka, N.C.
- Planter Drainage Fabric: Shall be prefabricated planter drainage fabric Miradrain 9000, a composite system consisting of a Mirafi drainage fabric bonded to a three-dimensional highly impact-resistant plastic core. The core shall have the following attributes:
- 1) Compressive Strength: (ASTM D-1621), 15,000 + PSF.
- 2) Overlaps: Shall be capable of mechanically interlocking so as to prevent separation of the overlaps during backfill. PLANT MATERIALS: Refer to the PLANT LIST on the drawings for specific types and quantities of plants: Plants shall be nursery grown in accordance with good horticultural practices. Plants shall either be obtained from local
- nurseries and/or others, which have soil (heavy clay) and climatic conditions similar to those in the locality of the project. Plant material grown in sandy, well-drained soil will not be approved for this project. Plants shall be true to species and variety and unless specifically noted otherwise, all plants shall be of specimen quality, exceptionally heavy, symmetrical,
- tightly-knit plants, so trained or favored in their development and appearance as to be superior in form, number of branches, compactness and symmetry. Plants shall be sound, healthy and vigorous, well branched and densely foliated when in leaf, free of disease, insect
- pests, eggs or larvae and shall have healthy, well-developed root systems. They shall be free from physical damage or any conditions that would prevent thriving health and the desired appearance. Trees, which have a damaged or crooked leader, or multiple leaders, unless specified in the plant list, will be rejected.
- Trees with abrasion of the bark, sun scald, disfiguring knots, or pruning cuts more than 1 1/4 inch diameter which have not completely callused, will be rejected.
- Plants shall conform to measurements specified in the plant schedules except that plants larger than specified may be used if acceptable to the Landscape Architect or owner. Use of such plants shall not increase the contract price. If larger plants are accepted, the root ball shall be sized for the larger plant.

- F. Caliper Measurement: Shall be taken at a point on the trunk 6 inches above natural ground line for trees up to 4 inches diameter, and at a point 12 inches above the natural ground line for trees over 4 inches diameter.
- Plants shall be measured when branches are in the normal position. Height and spread dimensions specified refer to the main body of the plant and not from branch tip to tip. SOIL MIXING PROCEDURES:
- Topsoil used in sand/soil mixes shall be screened or shredded prior to mixing in sands. Maximum clod inclusion for soil mixes shall not exceed

IIIXE	s shall hot exceed.	
	Clod size (largest dimension)	% of the soil mix volume
	Less than 1"	Unlimited
	1 to 3 inches	20%
	3 to 6 inches	5%
	>6 inches	Less than 2%

- B. Source material and soil mix stockpiles shall be protected from rain by covering with filter cloth. INSPECTION:
- A. Examine the areas and conditions where soil mix is to be installed and notify the Landscape Architect of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions are corrected to permit proper installation of the work.
- Cooperate with other Contractors and trades working in and adjacent to other work areas. Examine drawings which show development of entire project and become familiar with scope of other work required. 10. SOIL INSTALLATION - GENERAL PROCEDURES
- A. If subgrade soil compaction exceeds 80%, existing soil shall be ripped to a depth of 14 inches to alleviate compaction which has taken place during construction. Prior to loosening of soil, Contractor must locate existing utilities and
- coordinate with Owner any underground electric lines, drainage pipes, conduits, etc. B. Prepare the subgrade by roughening the top 3 inches of the subsoil by dragging the teeth of a backhoe bucket across the surface.
- C. Begin soil installation as soon as subsoil is prepared. Use low impact equipment with track belts, large tires, or low tire pressure to lower compaction and soil damage during installation.
- D. Monitor compaction during installation and loosen soils as needed if compaction exceeds 80%. E. Install specified soil in 12-18 inch thick lifts. Compact each lift sufficiently to reduce settling but not enough to prevent the movement of water and feeder roots through the soil. The soils in each lift should feel firm to the foot in all areas and make only slight heel prints.
- 11. INSTALLATION OF SOIL MIX FOR LAWN AREAS ON GRADE: A. Soil Mix for Lawns on Grade: shall consist of 10% compost and 90% topsoil, by volume. These materials must meet
- specifications described in Section 2.00. B. Loosen subgrade lawn areas to a minimum of 3 inches. Remove stones more than 1-1/2 inches in any dimension and sticks, roots, rubbish, and other extraneous matter. Limit preparation to areas which will be planted promptly after
- preparation. C. Spread soil mix for lawn areas on grade to a minimum depth of 6 inches as required to meet grade and elevations shown on drawings, after lightly rolling and natural settlement. Allow for sod thickness in areas to be sodded.
- 12. INSTALLATION OF SOIL MIX FOR TREE PITS ON GRADE A. Confirm that native subsoil drains at a rate of at least ½ inch per hour. If drainage is less than ½ inch per hour, provide
- subsurface drainage lines. Install 30-36 inches of Soil Mix for Tree Pit Backfill on Grade, which shall consist of 3 parts existing clay loam to sandy clay loam soil, amended per soil test results instructions and incorporating 1 part Compost and/or Composted Pine Bark
- Fines C. Till 4 inches of compost into the top 6 inches of the installed Soil Mix. 13. INSTALLATION OF SOIL MIX FOR MULCHED SHRUB AND PERENNIAL BEDS
- A. Confirm that native subsoil drains at a rate of at least ½ inch per hour. If drainage is less than ½ inch per hour, provide subsurface drainage lines.
- Install 14-18 inches of Soil Mix for Mulched Shrub and Perennial Beds, which shall consist of 3 parts existing clay loam to sandy clay loam soil, amended per soil test results instructions and incorporating 1 part Compost and/or Composted Pine Bark Fines.
- C. Till 4 inches of compost into the top 6 inches of the installed Soil Mix. 14. EROSION CONTROL MATERIAL AND PLANTING ON STEEP SLOPES
- A. Material meeting the requirements of the specifications shall be installed and maintained on the designated areas as shown and specified. The areas to be covered shall be prepared and fertilized as specified before the erosion material is placed. Immediately prior to the planting operations, the material shall be laid evenly, smoothly and in contact with the soil throughout.
- B. Lay erosion control materials with one inch nominal openings in accordance with manufacturer's instructions. Unroll in direction of water flow. Overlap sheets by at least 6 inches. Where strips are to be spliced lengthwise, overlap strips by 8 inches. Upgrade section shall be on top of all splices.
- C. The Contractor shall maintain and protect the erosion control material until the final inspection. Maintenance shall consist of repairs made necessary by erosion, wind or any other cause. Following the restoration of damaged areas under plant and turf guarantee and establishment requirements for applicable underlying items; the erosion control material shall be repaired or replaced to meet the original requirements and maintained until the final inspection.
- GENERAL PLANT INSTALLATION: A. Excavation: Excavate all tree pits and planting areas to the width and depth shown in the planting details. B. Center plant in pit and orient for the best visual effect. Set plants plumb and hold rigidly in position until soil has been
- tamped firmly around root ball. C. Mix soil amendments and fertilizers with existing soil in accordance with soil recommendations for plant type, based
- upon soil test results as approved by Owner. Delay mixing of fertilizer if planting will not occur within a few days. D. Backfill pit with planting soil mix, consisting of 2/3 existing soil and 1/3 organic material, and fertilizer, until two-thirds full. Tamp and water each layer thoroughly to settle soil. After soil settles, fill pit with remaining planting soil mix, water and
- shape surface so that it slopes to drain from trunk and matches ground at edge of planting pit. E. Mulch within 48 hours after planting and after applying the pre-emergent herbicide, except ground cover areas (which shall have organic material placed before planting) with a 2 inch layer of mulch immediately after planting. All bed lines shall be cut with a smooth consistent edge to a minimum depth of 3 inches. Keep mulch out of the crowns of shrubs and off buildings, sidewalks, light standards, and other structures.
- F. All planting areas to conform to specified grades after full settlement has occurred and mulch has been applied. Provide saucers around tree pits as shown on planting details. Remove all tags, labels, strings, etc. from all plants.
- 16. PERMANENT SEEDING OR SODDING FOR GRASS AREAS: A. Lawn Seed or Sod varieties shall be an improved variety turf-type tall fescue blend. The landscape contractor shall
- select from varieties approved by the Maryland or Virginia Department of Agriculture. B. Refer to the Virginia Erosion and Sediment Control Handbook, for guidelines, specifications and installation techniques
- of seed and sod. C. Maintenance shall begin immediately after each plant and lawn area is installed and shall continue until 90 days after
- final acceptance of the last section.





ROOTBALL

THIN BRANCHES BY 1/3 RETAINING PROPER PLANT FORM.

SET SHRUB ABOVE FINISHED GRADE 1/8 DEPTH OF ROOT BALL 2" SHREDDED HARDWOOD MULCH

MAKE (3) - 1" CUTS IN SIDES OF THE

1. STAKING AND GUYING SHALL BE IMPLEMENTED

DETERMINED BY THE LANDSCAPE CONTRACTOR

WITHIN ONE YEAR OF THE TIME OF INSTALLATION

- FLAT WOVEN, GREEN POLYPROPYLENE

SET TREE ABOVE ORIGINAL GRADE 1/8 DEPTH

ROPES AT TOP OF BALL SHALL BE CUT. REMOVE TOP

1/2 OF BURLAP. NON-BIODEGRADABLE MATERIAL

- SOIL SAUCER: USE PREPARED SOIL, 6" MIN.

TIE, 900LB. BREAK STRENGTH

2" SHREDDED HARDWOOD MULCH

- HARDWOOD STAKES OR ANCHORS

SHALL BE TOTALLY REMOVED

UNDISTURBED SOIL PEDESTAL

PREPARED BACKFILL MIX

OF ROOT BALL

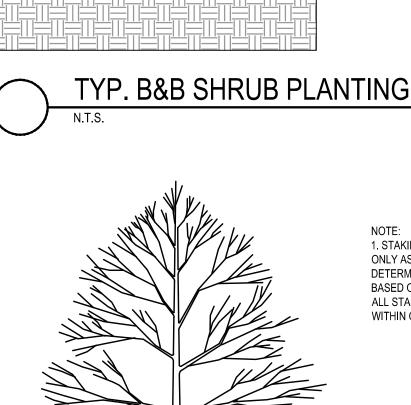
ONLY AS NEEDED FOR SUPPORT AND STABILITY AS

BASED ON LANDSCAPE SPECIFICATION GUIDELINES. ALL STAKING AND GUYING SHALL BE REMOVED

PREPARED BACKFILL MIXTURE

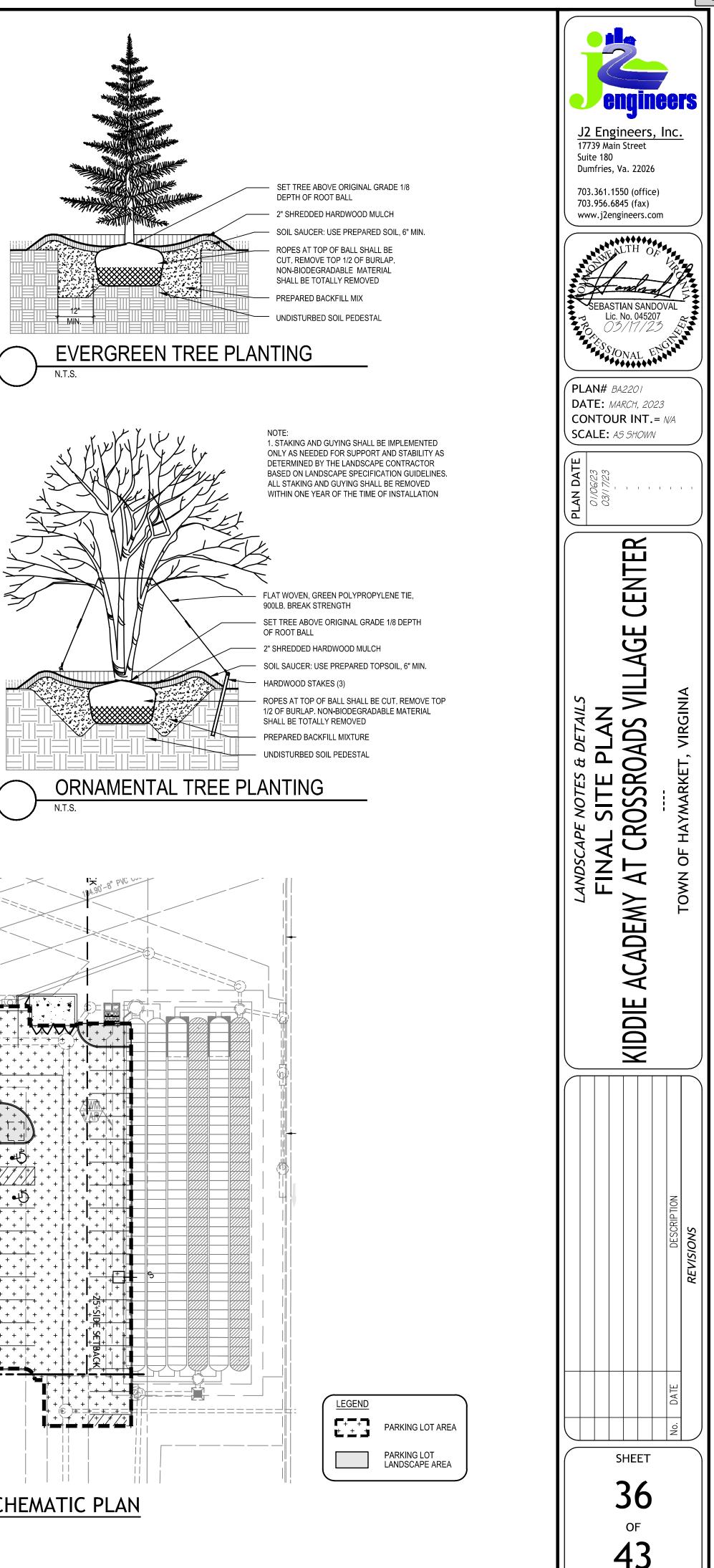
UNDISTURBED SOIL PEDESTAL

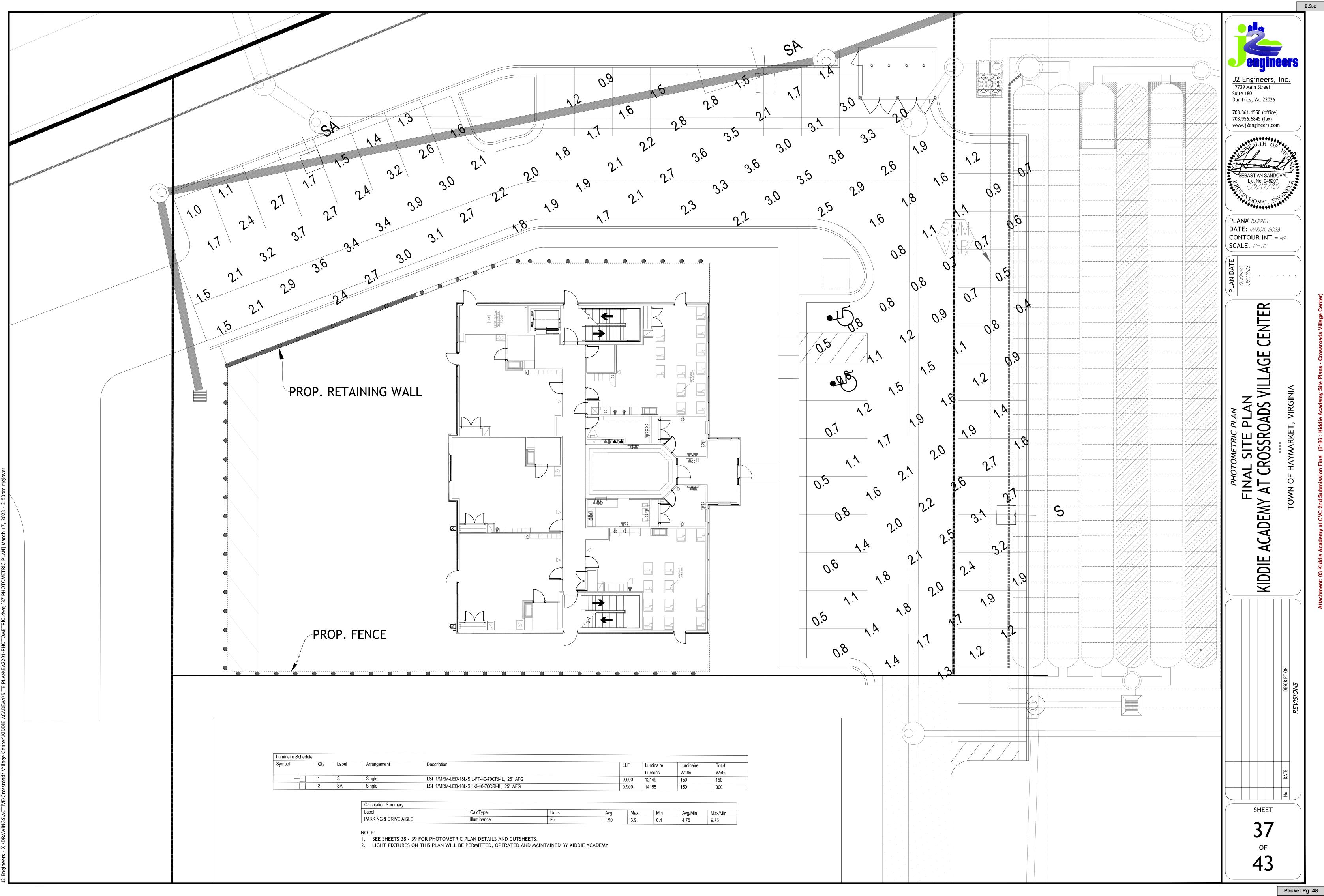
NOTE:



**DECIDUOUS TREE PLANTING** 

## **INTERIOR PARKING LOT AREA: SCHEMATIC PLAN** SCALE - 1:30





Catalog #: Prepared By :	Project :	Type : Date :	Mirada M Have questions? C ORDERING (	all us at (800) <b>4</b> 36	Outdoor L -7800	ED Area	a Light
Mirada Mediu	m (MRM)				M LED 36L SIL FTA U	INV DIM 50 700	CRI ALSCSOA RR7 II
Outdoor LED Area L		Sec.	Prefix	Light Source	Lumen Package	Lens	Distribution
	Dus IP66 IK08		<b>MRM</b> – Mirada Medium Area Light	LED	ZLI - 7,000 lms           9L - 9,000 lms           12L - 12,000 lms           18L - 12,000 lms           24L - 24,000 lms           30L - 30,000 lms           36L - 36,000 lms           42L - 42,000 lms           48L - 48,000 lms           Custom Lumen Packages ¹	SIL - Silicone	2 - Type 2 3 - Type 3 5W - Type 5 Wide FT - Forward Throw FTA - Forward Throw Automot AM - Automotive Merchandise
Wattage Range 48 - 401							
Efficacy Range (LPW) 117 - 160			Color Temp		Color Rendering	Finish	
Weight lbs(kg) 30 (13.6) FEATURES & SPECIFICATIONS	Ordering Guide Performance	Photometrics Dimensions	50 - 5,000 CCT 40 - 4,000 CCT 30 - 3,000 CCT AMB - Phosphor Converte	ed Amber ¹²	<b>70CRI</b> - 70 CRI	BLK - Bla BRZ - Dar GMG - Gu GPT - Gra	rk Bronze PLP - Plat un Metal Gray SVG - Sati
<ul> <li>contains factory prewired driver and of unit. Cast aluminum wiring access dou located underneath.</li> <li>Designed to mount to square or roum poles.</li> <li>Fixtures are finished with LSI's DuraG polyester powder coat finishing proce The DuraGrip finish withstands extrem weather changes without cracking or peeling. Other standard LSI finishes available. Consult factory.</li> </ul>	<ul> <li>r circuit and over temperature protection. Custom lumen and wattage packages available.</li> <li>0-10V dimming (10% - 100%) standard.</li> <li>Standard Universal Voltage (120-277 Vac) Input 50/60 Hz or optional High Voltage (347-480 Vac).</li> <li>L80 Calculated Life: &gt;100k Hours (See Lumen Maintenance chart)</li> </ul>	<ul> <li>Designed to mount to square or round poles.</li> <li>A single fastener secures the hinged door, underneath the housing and provides quick &amp; easy access to the electrical compartment.</li> <li>Included terminal block accepts up to 12 ga. wire.</li> <li>Utilizes LSI's traditional 3" drill pattern B3</li> </ul>	ALSCS04 - AirLink Synaps ALSCHS04 - AirLink Synap ALBCS1 - AirLink Blue Wi ALBCS2 - AirLink Blue Wi ALBCS2 - AirLink Blue Wi	Introl System Control System Host e Control System Wi ise Control System Wi ise Control System Wi ise Control System Wi ise Control System H reless Motion & Phot reless Motion & Phot	th 12-20' Motion Sensor ost / Satelite with 12-20' Motion h 20-40' Motion Sensor ost / Satelite with 20-40' Motion Sensor Controller (8-24' mount o Sensor Controller (25-40' mount ormation?	Sensor ³ ing height)	EXT - 0-10v Dimmin CR7P - 7 Pin Control IMSBT1- Integral Blu IMSBT2- Integral Blu
<ul> <li>Shipping weight: 37 lbs in carton.</li> </ul>	<ul> <li>Total harmonic distortion: &lt;20%</li> <li>Operating temperature: &lt;40°C to ±50°C</li> </ul>	for easy fastening of LSI products.					
<ul> <li>Optical System</li> <li>State-of-the-Art one piece silicone op sheet delivers industry leading optica control with an integrated gasket to p IP66 rated sealed optical chamber in component.</li> <li>Proprietary silicone refractor optics p exceptional coverage and uniformity Types 2, 3, 5W, FT, FTA and AM.</li> <li>Silicone optical material does not yell crack with age and provides a typical</li> </ul>	<ul> <li>Power factor: &gt;.90</li> <li>Input power stays constant over life.</li> <li>Field replaceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).</li> <li>High-efficacy LEDs mounted to metal-core circuit board to maximize heat dissipation</li> </ul>	<ul> <li>Warranty</li> <li>LSI LED Fixtures carry a 5-year warranty.</li> <li>Listings</li> <li>Listed to UL 1598 and UL 8750.</li> <li>Meets Buy American Act requirements.</li> <li>IDA compliant; with 3000K color temperature selection.</li> <li>Title 24 Compliant; see local ordinance for qualification information.</li> <li>Suitable for wet Locations.</li> <li>IP66 rated Luminaire per IEC 60598.</li> <li>3G rated for ANSI C136.31 high vibration</li> </ul>	ACCESSORY <u>CONTROLS ACCESSOF</u> <u>Description</u> PCI20 Photocell for use wi PC208-277 Photocell (747V Twist Lock Photocell (480V AirtLink 5 Pin Twist Lock Co AirtLink 7 Pin Twist Lock Co Shorting Cap for use with	THES th CR7P option (120V se with CR7P option ) for use with CR7P ¹ () for use with CR7P ¹ ntroller ⁸ ntroller ⁸	(208V, 240V, 277V) ⁸	Order 1 122 122 122 122 122 122 661 661 661	FUSING           Number         Single Fill           2514         Single Fill           2515         Double fill           2516         Double fill           1409         3328

Type : _____

## Mirada Medium Outdoor LED Area Light Have questions? Call us at (800) 436-7800

PERFORMANCE (CONT.)

DELIVERED LUMENS	•			~			-				-		
			3	5000K CCT		4000K CCT			5000K CCT				
Lumen Package	Distribution	CRI	Delivered Lumens	Efficacy	BUG Rating	Delivered Lumens	Efficacy	BUG Rating	Delivered Lumens	Efficacy	BUG Rating	Wattage	
	2		44118	125	B5-U0-G4	44118	125	B5-U0-G4	44118	125	B5-U0-G4		
	3		44444	126	B4-U0-G5	44444	126	B4-U0-G5	44444	126	B4-U0-G5	1	
42L	5W	70	42555	120	B5-U0-G4	42555	120	B5-U0-G4	42555	120	B5-U0-G4	1	
42L	FT	] /0	44130	125	B4-U0-G5	44130	125	B4-U0-G5	44130	125	B4-U0-G5	354	
		FTA	]	44322	125	B4-U0-G4	44322	125	B4-U0-G4	44322	125	B4-U0-G4	
	AM		44859	127	B4-U0-G3	44859	127	B4-U0-G3	44859	127	B4-U0-G3		
	2		48795	122	B5-U0-G4	48795	122	B5-U0-G4	48795	122	B5-U0-G4		
48L -	3		49156	123	B4-U0-G5	49156	123	B4-U0-G5	49156	123	B4-U0-G5		
	5W	70	47066	117	B5-U0-G4	47066	117	B5-U0-G4	47066	117	B5-U0-G4	401	
	FT	70	48809	122	B4-U0-G5	48809	122	B4-U0-G5	48809	122	B4-U0-G5	401	
	FTA		49021	122	B5-U0-G4	49021	122	B5-U0-G4	49021	122	B5-U0-G4		
	AM		49615	124	B4-U0-G3	49615	124	B4-U0-G3	49615	124	B4-U0-G3		

**DELIVERED LUMENS*** 

Lumens	120V	208	1 24	ov	277V	347V	480V
7L	0.40	0.23	i 0.	.20	0.17	0.14	0.10
9L	0.52	0.30	0.0.	.26	0.22	0.18	0.13
12L	0.71	0.41	0	.35	0.31	0.24	0.18
18L	1.13	0.65	i 0.	.56	0.49	0.39	0.28
24L	1.47	0.85	i 0	.73	0.64	0.51	0.37
30L	1.93	1.12	0	.97	0.84	0.67	0.48
36L	2.40	1.38	1.	20	1.04	0.83	0.60
42L	2.95	1.70	0 1.48 1.28	1.28	1.02	1.02	0.74
48L	3.4A	1.9A	. 1.	7A	1.5A	1.2A	0.8A
ELECTRICAL	DATA - PHO	SPHOR CON	VERTED AMB	ER (AMPS)*	1		
Lumens	Watts	120V	208V	240V	277V	347V	480
9L	74.3	0.6A	0.4A	0.3A	0.3A	0.2A	0.2A
12L	102.9	0.9A	0.5A	0.4A	0.4A	0.3A	0.2A
ectrical data a	t 25°C (77°F). A	ctual wattage	may differ by +	/-10%			
RECOMMENI	DED LUMEN I	AINTENAN	<b>CE</b> ¹ (7-18L)				
Ambient	Int	ial²	25h ²	50hr ²	7	5hr ²	100hr ²
0-50 C	10	0%	96%	92%	8	38%	84%
		AINTENAN	CE ¹ (24-48L)				
Ambient		ial ²	25h ²	50hr ²	7	5hr ²	100hr ²
Ampient		ldl* 0%	100%	97%		<b>5111°</b> 14%	92%

 In accordance with IESNA TM-21-TI, Projected Values represent interpolated value based on time durations that are within six times the IESNA LM-80-08 total test duration for the device under testing. 3. In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times the IESNA LM-80-08

total test duration for the device under testing.

LSI Industries Inc. 10000 Alliance Rd. Cincinnati, OH 45242 • (513) 372-3200 • www.lsicorp.com @LSI Industries Inc. All Rights Reserved. Specifications and dimensions subject to industry standard tolerances. Specifications subject to change without notice.

		Phosphor Convert				
nen Package	Distribution	Delivered Lumens	Efficacy	BUG Rating	Wattage	
	2	5848	80	B2-U0-G2		
	3	6018	82	B1-U0-G2		
	5W	5471	74	B3-U0-G1	74	
9L	FT	5801	79	B1-U0-G2	74	
	FTA	5924	81	B1-U0-G1		
	AM	5995	81	B1-U0-G1		
	2	7530	74	B2-U0-G2		
	3	7749	76	B1-U0-G2		
171	5W	7045	69	B3-U0-G2	102	
12L	FT	7470	73	B2-U0-G2	102	
	FTA	7628	75	B2-U0-G2		
	AM	7720	76	B1-U0-G1		
	2	9311	69	B2-U0-G2		
	3	9582	71	B2-U0-G2		
18L	5W	8712	65	B3-U0-G2	135	
18L	FT	9237	68	B2-U0-G2	00	
	FTA	9433	70	B2-U0-G2		
	AM	9546	71	B2-U0-G1		
	2	10955	63	B2-U0-G2		
	3	11273	64	B2-U0-G2		
24L	5W	10249	59	B3-U0-G2	175	
24L	FT	10867	62	B2-U0-G2	1/5	
	FTA	11097	63	B2-U0-G2		
	AM	11230	64	B2-U0-G1		

Page 5/8 Rev. 11/22/22

SPEC.1020.B.0422

*LEDs are frequently updated therefore values are nominal.

### Total Flux MRM-LED-30L-SIL-3-40-70CRI minaire Dai Type 3 Distribution Description Delivered Lumen IES Type

Have questions? Call us at (800) 436-7800

MRM-LED-30L-SIL-2-40-70CRI

4000 Kelvin, 70 CRI

PHOTOMETRICS

Luminaire Data Type 2 Distribution Description Delivered Lumens Watts

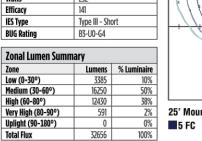
BUG Rating

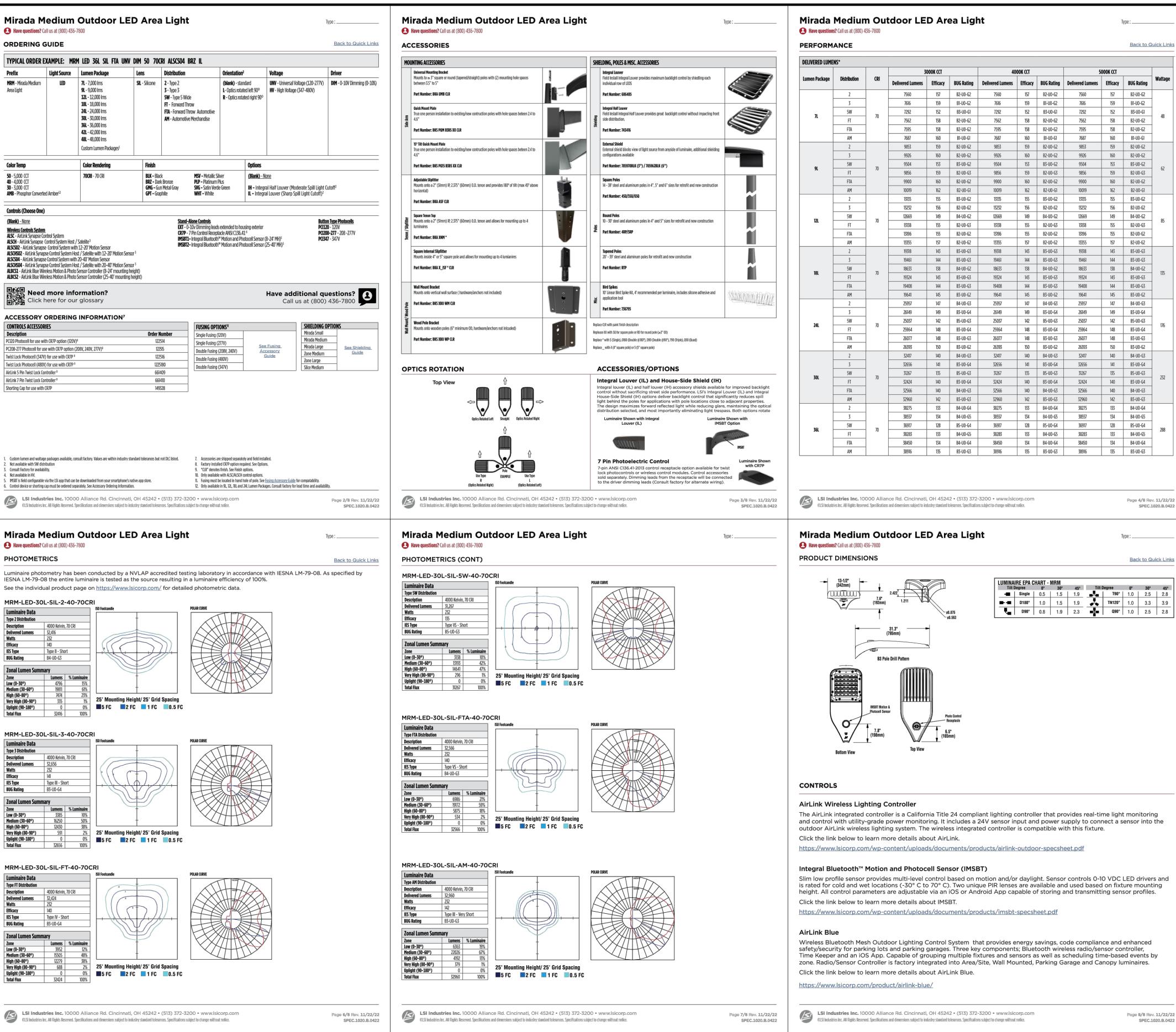
Zonal Lumen Su

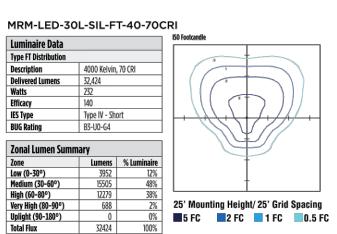
Low (0-30°) Medium (30-60°) High (60-80°)

Very High (80–90°)

Uplight (90-180°)







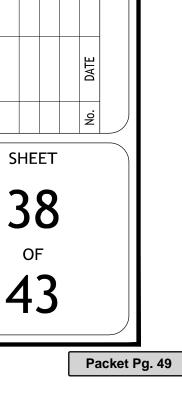
|--|

		30	OOOK CCT		40	4000K CCT			5000K CCT			
l.	CRI	Delivered Lumens	Efficacy	BUG Rating	Delivered Lumens	Efficacy	BUG Rating	Delivered Lumens	Efficacy	BUG Rating	Wattage	
		7560	157	B2-U0-G2	7560	157	B2-U0-G2	7560	157	B2-U0-G2		
	1	7616	159	B1-U0-G2	7616	159	B1-U0-G2	7616	159	B1-U0-G2	1	
	1 70	7292	152	B3-U0-G1	7292	152	B3-U0-G1	7292	152	B3-U0-G1		
	70	7562	158	B2-U0-G2	7562	158	B2-U0-G2	7562	158	B2-U0-G2	- 48	
	1	7595	158	B2-U0-G2	7595	158	B2-U0-G2	7595	158	B2-U0-G2		
	1	7687	160	B1-U0-G1	7687	160	B1-U0-G1	7687	160	B1-U0-G1		
		9853	159	B2-U0-G2	9853	159	B2-U0-G2	9853	159	B2-U0-G2		
	1	9926	160	B2-U0-G2	9926	160	B2-U0-G2	9926	160	B2-U0-G2	1	
	1	9504	153	B3-U0-G2	9504	153	B3-U0-G2	9504	153	B3-U0-G2	1	
	70	9856	159	B2-U0-G3	9856	159	B2-U0-G3	9856	159	B2-U0-G3	62	
	1	9900	160	B2-U0-G2	9900	160	B2-U0-G2	9900	160	B2-U0-G2	1	
		10019	162	B2-U0-G1	10019	162	B2-U0-G1	10019	162	B2-U0-G1		
		13135	155	B3-U0-G2	13135	155	B3-U0-G2	13135	155	B3-U0-G2		
		13232	156	B2-U0-G2	13232	156	B2-U0-G2	13232	156	B2-U0-G2	85	
	1	12669	149	B4-U0-G2	12669	149	B4-U0-G2	12669	149	B4-U0-G2		
	70	13138	155	B2-U0-G3	13138	155	B2-U0-G3	13138	155	B2-U0-G3		
	1	13196	155	B2-U0-G2	13196	155	B2-U0-G2	13196	155	B2-U0-G2	1	
	1	13355	157	B2-U0-G2	13355	157	B2-U0-G2	13355	157	B2-U0-G2	1	
	- 70	19318	143	B3-U0-G3	19318	143	B3-U0-G3	19318	143	B3-U0-G3		
		19461	144	B3-U0-G3	19461	144	B3-U0-G3	19461	144	B3-U0-G3	1	
		18633	138	B4-U0-G2	18633	138	B4-U0-G2	18633	138	B4-U0-G2	1	
		19324	143	B3-U0-G3	19324	143	B3-U0-G3	19324	143	B3-U0-G3	135	
		19408	144	B3-U0-G3	19408	144	B3-U0-G3	19408	144	B3-U0-G3	1	
		19641	145	B3-U0-G2	19641	145	B3-U0-G2	19641	145	B3-U0-G2		
		25957	147	B4-U0-G3	25957	147	B4-U0-G3	25957	147	B4-U0-G3		
	1	26149	149	B3-U0-G4	26149	149	B3-U0-G4	26149	149	B3-U0-G4	1	
	1	25037	142	B5-U0-G3	25037	142	B5-U0-G3	25037	142	B5-U0-G3	1	
	70	25964	148	B3-U0-G4	25964	148	B3-U0-G4	25964	148	B3-U0-G4	176	
	1	26077	148	B3-U0-G3	26077	148	B3-U0-G3	26077	148	B3-U0-G3	1	
	-	26393	150	B3-U0-G2	26393	150	B3-U0-G2	26393	150	B3-U0-G2	1	
		32417	140	B4-U0-G3	32417	140	B4-U0-G3	32417	140	B4-U0-G3		
	-	32656	141	B3-U0-G4	32656	141	B3-U0-G4	32656	141	B3-U0-G4	-	
	1	31267	135	B5-U0-G3	31267	135	B5-U0-G3	31267	135	B5-U0-G3	1	
	70	32424	140	B3-U0-G4	32424	140	B3-U0-G4	32424	140	B3-U0-G4	232	
	1	32566	140	B4-U0-G3	32566	140	B4-U0-G3	32566	140	B4-U0-G3	1	
_		32960	142	B3-U0-G3	32960	142	B3-U0-G3	32960	142	B3-U0-G3	1	
-		38275	133	B4-U0-G4	38275	133	B4-U0-G4	38275	133	B4-U0-G4		
	1	38557	134	B4-U0-G5	38557	134	B4-U0-G5	38557	134	B4-U0-G5	1	
	1	36917	128	B5-U0-G4	36917	128	B5-U0-G4	36917	128	B5-U0-G4	1	
	70	38283	133	B3-00-G5	38283	133	B3-00-65	38283	133	B3-00-65	288	
	1	38450	134	B4-U0-G4	38450	134	B4-U0-G4	38450	134	B4-U0-G4	1	
		70016	175	D7 110 C7	70016	175	P7-110-67	79016	175	D7 U0 C7	1	

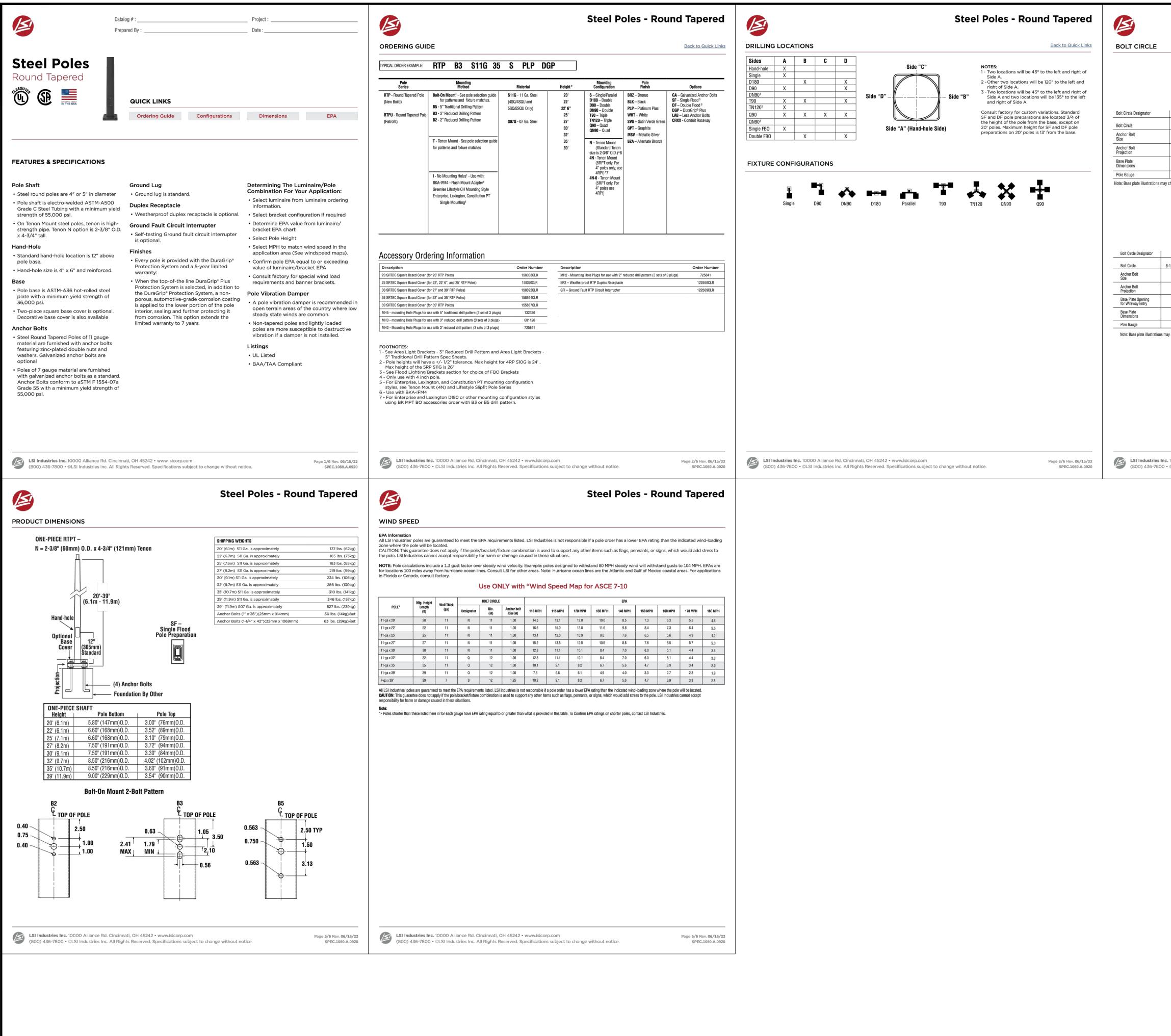
Page 4/8 Rev. 11/22/22 SPEC.1020.B.0422

6.3.c enai J2 Engineers, Inc. 17739 Main Street Suite 180 Dumfries, Va. 22026 703.361.1550 (office) 703.956.6845 (fax) www.j2engineers.com ....... SEBASTIAN SANDOVAL Son OL. **PLAN#** BA2201 DATE: MARCH, 2023 CONTOUR INT. = N/A SCALE: N/A 1 1 1 1 1 1 Z CENTEI VILLAGI PLAN COMETRIC DETAILS L SITE PLAN ROSSROADS VIRG AYMARKET,  $\cap$ OWN  $\blacktriangleleft$ EMY AD  $\cup$  $\blacktriangleleft$ KIDDIE









			EPA				
MPH	120 MPH	130 MPH	140 MPH	150 MPH	160 MPH	170 MPH	180 MPH
3.1	12.0	10.0	8.5	7.3	6.3	5.5	4.8
5.0	13.8	11.6	9.8	8.4	7.3	6.4	5.6
2.0	10.9	9.0	7.6	6.5	5.6	4.9	4.2
3.8	12.5	10.5	8.8	7.6	6.5	5.7	5.0
1.1	10.1	8.4	7.0	6.0	5.1	4.4	3.8
1.1	10.1	8.4	7.0	6.0	5.1	4.4	3.8
9.1	8.2	6.7	5.6	4.7	3.9	3.4	2.9
3.8	6.1	4.9	4.0	3.3	2.7	2.3	1.9
9.1	8.2	6.7	5.6	4.7	3.9	3.3	2.8

**Steel Poles - Round Tapered** 10-1/8" (257mm) sq 12" (305mm) sq 12" (305mm) sq. Holes Bolt Holes Bolt Circl L Bolt 0° Handhole 0° Handhole 0° Handhole 11" (279mm) Dia. Bolt Circle 12" (305mm) Dia. Bolt Circle 12" (305mm) Dia. Bolt Circle S M 0 Slotted 11" (279mm) Slotted 12" (305mm) Slotted 12" (305mm) 1-1/4" x 42" (32mm x 1067mm) 1" x 36" (25mm x 914mm) 1" x 36" (25mm x 914mm) (127mm) (102m) 12° sq. x 1-1/4° thk. (305mm x 32mm) 10-1/8" sq. x 1" thk. (257mm x 25mm) 12" sq. x 1" thk. (305mm x 25mm) 7 (39' only) Note: Base plate illustrations may change without notice. Do not use for setting anchor bolts. Consult factory for the appropriate anchor bolt template.

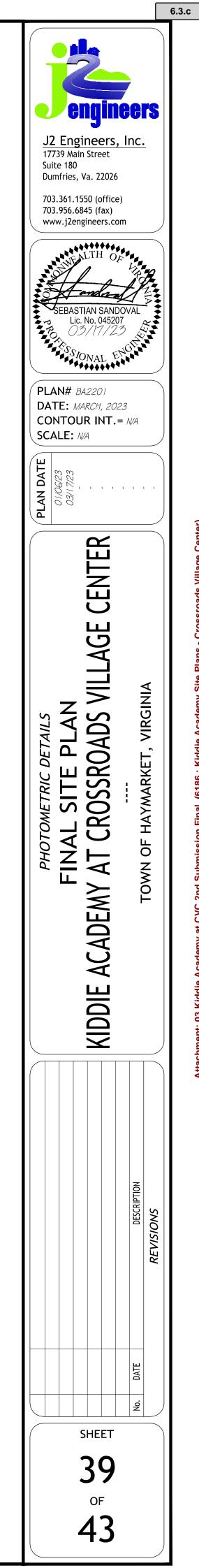
20' RTP	25' RTP	30' RTP	35' RTP	39' RTP	39' RTP
9-7/8" (251mm) sq.	11-1/4" (286mm) sq.	12" (305mm) sq.	12-1/8" (308mm) sq.	13" (330mm) sq.	14-3/8" (365mm) sq.
11" (279mm)	13" (330mm)	14" (356mm)	13-1/2" (343mm)	14-1/2" (368mm)	16" (406mm)
Dia. Bolt Circle	Dia. Bolt Circle	Dia. Bolt Circle	Dia. Bolt Circle	Dia. Bolt Circle	Dia. Bolt Circle
T	U U	V	W	Х	Ŷ
Slotted	Slotted	Slotted	Slotted	Slotted	Slotted
8-1/2° - 11° (216mm-279mm)	9" - 13" (229mm-330mm)	10" - 14" (254mm-356mm)	11" - 13-1/2" (279mm-343mm)	11-1/2" - 14-1/2" (292mm-368mm)	12" - 16" (305mm-406mm)
1" x 36"	1" x 36"	1" x 36"	1" x 36"	1" x 36"	1-1/4" x 42"
(25mm-914mm)	(25mm-914mm)	(25mm-914mm)	(25mm x 914mm)	(25mm x 914mm)	(32mm x 1067mm)
4*	4"	4"	4"	4"	5"
(102mm)	(102mm)	(102mm)	(102mm)	(102mm)	(127mm)
5-9/10"	6-7/10"	7-5/8"	8-5/8"	9-1/8"	9-1/8"
(150mm)	(171mm)	(194mm)	(219mm)	(232mm)	(232mm)
9-7/8" sq. x 1" thk.	11-1/4" sq. x 1" thk.	12" sq. x 1" thk.	12-1/8" sq. x 1" thk.	13" sq. x 1" thk.	14-3/8" sq. x 1-1/4" thk.
(251mm x 25mm)	(286mm x 25mm)	(305mm x 25mm)	(308mm x 25mm)	(330mm x 25mm)	(365mm x 32mm)

Note: Base plate illustrations may change without notice. Do not use for setting anchor bolts. Consult factory for the appropriate anchor bolt template

LSI Industries Inc. 10000 Alliance Rd. Cincinnati, OH 45242 • www.lsicorp.com (800) 436-7800 • ©LSI Industries Inc. All Rights Reserved. Specifications subject (800) 436-7800 • @LSI Industries Inc. All Rights Reserved. Specifications subject to change without notice.

Page 4/6 Rev. 06/15/22 SPEC.1069.A.0920

7 (39' Only)



9

<form>  Department th>PRINCE WILLIAM COUNTY</th><th>12"0</th><th>@ \$1,950 EA</th><th>\$ -</th><th>F. End Section (ES-2)</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></form>	PRINCE WILLIAM COUNTY	12"0	@ \$1,950 EA	\$ -	F. End Section (ES-2)							
Dynamic lease     Import of the state of t	Department of Development Services - Land Development Division	15"0	@ \$1,950 EA	\$ -	Quantity	Item	Price	Cost				
And set of the s	UNIT PRICE LIST	18"0					@ \$870 EA \$	-	H. Stormwater Management/BMP	Facilities Cost Estimates Per Impervious Ar	cre Treated (See Note 3)	
Import in the set of	UNIT PRICE LIST	21"0						-	Quantity	Item	Price	Cost
	(Performance Bonds, Landscape Escrows, Siltation & Erosion Control Escrows, and Floodplain Item Escrows)	24"0					¥	-	· · · · · · · · · · · · · · · · · · ·	mate for all SWM)	<u>.</u>	
Name	Effective: March 1, 2022	27"0						-	The second se		By itemized cost	
nonport Latent on the construct on the c	or Name: KIDDIF ACADEMV AT CROSSROADS VILLAGE	30"0						-	· · · · ·			
in brance i		33"0										
	C File #: Date Prepared: 10/22/2022	000										
with a constrained mean second mea	E: This form is to be used to estimate Performance Bond. Landscape Escrow, Siltation Erosion Escrow and Floodulain Items									*hannel		
Character       Cale							Subtotal for End Sections (ES-2).					
Network	inia Department of Transportation.			\$	G. AD N-12 (HDPE)							
math math math math math math math math				\$	Quantity	Item	Price	Cost				
ImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImage <th< td=""><td>IOBILIZATION/DEMOBILIZATION OF CONSTRUCTION EQUIPMENT</td><td></td><td></td><td></td><td>12"0</td><td></td><td>@ \$45 LF \$</td><td>-</td><td></td><td></td><td>-</td><td></td></th<>	IOBILIZATION/DEMOBILIZATION OF CONSTRUCTION EQUIPMENT				12"0		@ \$45 LF \$	-			-	
<form>  Note Note   No.   No.</form>	Quantity Item Price Cost	72"0						-			+ -	
Art		1/2 0		-				-				
Arba Arba Arba Arba Arba Arba Arba Arba			Subtotal for Ellu waits:	-				-		-		
Image       Image <t< td=""><td>FORM DRAINAGE</td><td>D. End Sections (ES-1)</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	FORM DRAINAGE	D. End Sections (ES-1)										
IndImage: Second of the second o	tructures		Item Price	Cost							- · ·	
Ai Ai S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S <												
Add <td></td>												
Idia       6 19.00       A       6 4.000       A       9 4.00       9 4.00       9 4.00       9 4.00       9 4.00       9 4.00       9 4.00       9 4.00       9 4.00       9 4.00       9 4.00       9 4.00       9 4.00       9 4.00       9 4.00       9 4.00       9 4.00       9 4.00       9 4.00       9 4.00												
Aiil       Aiili       Aiili <td></td> <td></td> <td></td> <td></td> <td>00 0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>					00 0							
find       0       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9 <td></td> <td> •</td> <td></td> <td></td> <td></td> <td></td> <td>Subtotal for AD N-12 (HDPE): \$</td> <td>-</td> <td></td> <td>mwater Treatment System</td> <td></td> <td></td>		•					Subtotal for AD N-12 (HDPE): \$	-		mwater Treatment System		
小二の       ● ダ いって       ● ジ いっ       ● ジ いって				 ¢								
前       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6       6				φ							By itemized cost	
10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1       10.1	1 DI-7 @ \$6,800 EA \$ 6,800.00									ader®	By itemized cost	
<form>         Import       import</form>									Hydroguard		By itemized cost	
Image: Normal Section 1       Normal Section 1       Section 2	Subtotal for Structures: \$ 25,500.00	500							Stormceptor® MA	X	By itemized cost	
Image:		42"0 - 60"							Stormceptor® OSF	<u>ک</u>	By itemized cost	
2°°	Concrete Pipe		Subtotal for End Section ES-1:	: \$ -					Stormceptor® STC	3	By itemized cost	
n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n       n		E Corrugated Metal Pipe							StormPro		By itemized cost	
3 3 3 4 7000       1 3 4 7000       1 3 4 7000       1 3 4 7000       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 1 2       1 3 1 1 2       1 3 1 1 2       1 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			Item Price	Cost					Storm Water Quali	ity Unit	By itemized cost	
1**       6       82       1       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9									V2B1		By itemized cost	
47°       6       50.3       L       5       24,980.50       []       10°       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0			¥						The Vortechs® Sy	/stem	By itemized cost	
1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1	242.53     24"0     @ \$103     LF     \$     -								Aqua-Filter Stormy	.water [™] Filtration System	By itemized cost	
mode									Storm Tech® Isola	ater Row TM	By itemized cost	
minipage       minipage <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>Up-Flo Filter® wif</td><td>th CPZ Media</td><td>By itemized cost</td><td>-</td></th<>									Up-Flo Filter® wif	th CPZ Media	By itemized cost	-
Conception         Concept	Ŭ								The Stormwater M	Ianagement StormFilter® with ZPG Media	By itemized cost	
1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1											By itemized cost	
in it is											By itemized cost	
Modular Wetland System Linear (MWS-Linear)       Modular (MWS-Linear)       Modul			¥							-		
image: mark base of the state of the st									•••••	System Linear (MWS-Linear)		
Subtotal for CM Pipe:     \$       The Stormwater Management StormFilter® with Phosphosorb     IF     \$       22"0     @ \$453     LF     \$       Media     By itemized cost		60"0								······		
Z2"0     @ \$453     LF     \$       Media     By itemized cost			Subtotal for CM Pipe:	: \$-						Anagement StormFilter® with Phosphosorb		
Subtotal for Stormwater Management/BMP Facilities Cost Estimates Per Impervious Acre Treated:       \$         29,449.59	72"0 @ \$453 LF \$ -									angement Stormi ner e whit i nosphosore	By itemized cost	
	Subtotal for Concrete Pipe: \$ 29,449.59								Subtotal for Stormwater Ma	anagement/BMP Facilities Cost Estimates Pe	r Impervious Acre Treated: 5	\$
Subtotal for this page: \$ 69,949.59	36"0       @ \$207       LF       \$       -         42"0       @ \$207       LF       \$       -         48"0       @ \$207       LF       \$       -         54"0       @ \$365       LF       \$       -         60"0       @ \$365       LF       \$       -         66"0       @ \$365       LF       \$       -         72"0       @ \$453       LF       \$       -         Subtotal for Concrete Pipe:       \$       29,449.59	42"0 48"0 54"0	@ \$140         LF           @ \$140         LF           @ \$250         LF           @ \$250         LF	\$         -           \$         -           \$         -           \$         -           \$         -					BayFilter™ Stormv         Filterra Bioretention         Jellyfish® Filter         Modular Wetland S         Perk Filter         The Stormwater Ma         Media	Anwater Cartridge System on Systems System Linear (MWS-Linear) Aanagement StormFilter® with Phosphosorb	By itemized co By itemized co By itemized co By itemized co By itemized co By itemized co	st s
			Subtotal for this page:	: \$ -			Subtotal for this page: \$	-				
Subtotal for this page:       \$       -	d Walls											
Subtotal for this page:       \$       -	Quantity         Item         Price         Cost           Price List         Page 1 of 13         v2022-03=01										Subtotal for this page: 1	\$
Item Price Cost	Price List Page 1 of 13 v2022-03-01	Unit Price List	Page 2 of 13	v2022-03-01	Unit Price List	Page 3 of 13	3	v2022-03-01	Unit Price List	Page 4 of 13		\$
Item Subtotal for this page: 5												

Quantity	Item	Price		Cos	t
	Seed, Fertilizer & Mulch (\$200 Min.)	@ \$3.00	SY	\$	
	Sod	@ \$8.00	SY	\$	
	Hydraulic Cem. Conc 4" depth	@ \$8.00	SF	\$	
	Bituminous Concreate - 1" depth	@ \$6.00	SY	\$	
	Rip-Rap	@ \$7.75	SF	\$	
	Grouted Rip-Rap	@ \$9.00	SF	\$	
	Erosion Control Stone (EC-1)	@ \$130	TON	\$	
	#57 - Coarse Aggregate	@ \$30	TON	\$	
	4' High Chain Link Fence (#9 gauge or better, including braces, end posts and gate)	@ \$45	LF	\$	
	6' High Chain Link Fence (#9 gauge or better, including braces, end posts and gate)	@ \$45	LF	\$	
	SWM Sign (WATER RISES RAPIDLY)				
	(Minimum 3 signs per facility)	@ \$390	EA	\$	
	Access Road	By Itemized Cos	ŧ		
	Subtotal for Miscellaneou	s Stormwater Ma	nagement	\$	
	is Drainage Items				
Quantity	Item	Price	Cos	t	
	Box Culvert	@ \$ 840 CY	of conc.	\$	
	Energy Dissipater	@ \$2,250	EA	\$	
	Wing Walls	@ \$990 CY	of conc.	\$	
tches:					
	Roadside Standard Ditches (Seed, Fertilize & Mulch)	@ \$8.00	LF	\$	
	Sod Ditches	@ \$10.50	LF	\$	
	Paved Ditches	@ \$8.50	SF	\$	
	Filter Cloth Fabric & Gabion Stone	@ \$22	SF	\$	
	Rip-Rap	@ \$7.75	SF	\$	
	Grouted Rip-Rap	@ \$9.00	SF	\$	
	Paved Flume	@ \$10	SF	\$	
			0 C 0		
		\$290/Hr.	(Min 8		
	Flush the Drainage System	\$290/Hr. Hrs.)	(Min 8	\$	

#### 3. CONSTRUCTION WITHIN THE PUBLIC RIGHT-OF-WAY AND/OR PRIVATE INGRESS/EGRESS EASEMENTS

Quantity	Item	Price		C	ost
	Clear & Grub	@ \$12,800		\$	-
	Excavation	@ \$35	CY	\$	-
	Embankment** (cut and fill)	@ \$25	CY	\$	-
	Embankment (haul off)	@ \$36	CY	\$	-
	Final Grading	@ \$5,000	AC	\$	-
	Rock Excavation	@ \$75	CY	\$	-
	Slope Stabilization - Hydroseeding (3:1 or flatter) \$1,000 Min.	@ \$1.25	SY	\$	-
	Slope Stab Jute Mesh, matting Blankets, etc.				
	(Between 2:1 to 3:1) \$200 Min	@ \$6.00	SY	\$	-
	Slope Stab Sod (Between 2:1 to 3:1) \$200 Min	@ \$8.00	SY	\$	-
	Steep Slopes (Grading and Stabilization with Jute Mesh,				
	Netting, Blankets, etc.)	@ \$20	SY	\$	-
		Subtotal for Si	te Work:	\$	-

Quantity	Item
1639	Subgrade preparation (Subbase and base course)
9834	Aggregate (21A/21B)
10653.5	Bituminous Concrete
192	Reinforced Concrete Pavement
	Gravel Shoulders (4" Depth)
	Soil Cement Stabilization (4%)
	Lime Stabilization (10%)
	Cement Treated Aggregate
Underdrains:	
	UD-1
	UD-2
	UD-3
	UD-4
	Subtotal for Subgrade, Subbase, Base Co

Page 5 of 13

Subtotal for this page: \$

- |

	Pric	e		Cost		
	@ \$3.50	SY	\$	5,736.50		
	@ \$3 SY per Inc	h Depth	\$	29,502.00		
	@ \$6.25 SY per	Inch Depth	\$	66,584.38		
	@ \$18 SY per Inch	Depth	\$	3,456.00		
	@ \$12 SY (4"	Depth)	\$	-		
	@ \$24 SY (6"	Depth)	\$ -			
	@ \$16 SY (6" ]	Depth)	\$	-		
	@ \$11 per Inch	1 Depth	\$ -			
	@ \$21	LF	\$	-		
	@ \$21	LF	\$	-		
	@ \$21	LF	\$	-		
	@ \$21	LF	\$	-		
urse Item	s & Underdrai	ns (Public):	\$	105,278.88		

		Subtotal for this page	: \$	105,278.88
Entrances an	d Pipe Stems			
Quality	Item	Price		Cost
	DE-1	@ \$1,800 EA	\$	-
	DE-2	@ \$1,950 EA	\$	-
	DE-3	@ \$2,000 EA	\$	_
	DE-4	@ \$2,300 EA	\$	-
	PP-1 (1 Lot)	@ \$2,000 EA	\$	-
	PP-1 (2-5 Lots)	@ \$2,300 EA	\$	-
	PP-2 (1 Lot)	@ \$1,725 EA	\$	-
	PP-2 (2-5 Lots)	@ \$1,725 EA	\$	-
	CG-9D or equal: 30' Width	@ \$5,750 EA	\$	-
	CG-9D or equal: 40' Width	@ \$7,475 EA	\$	-
	CG-10A or equal: 30' Width	@ \$4,738 EA	\$	-
	CG-10A or equal: 40' Width	@ \$6,095 EA	\$	-
	CG-11: Concrete Entrance	@ \$3,450 EA	\$	-
	Valley Gutter	@ \$61 SY	\$	-
	Pipestem Driveway - 10' (1 Lot)	@ \$61 LF	\$	-
	Pipestem Driveway - 18' (2-5 Lots)	@ \$81 LF	\$	-
		Subtotal for Entrance and Pipe Stems		-

	He
706	Cu
	CC
	Bio
	Ra
	Tra
	Tra
Retaining Walls:	
	Tin
	Cri
	MS
	Gr
	Ex
	An
	on
	Gu
	GF
	GF
	Ad
	Str
	Tra
	Bu
	Bu
	Tra
2	HC
	Bil
	Ro
	Ha
	Pa
	Pa
	Tra
	Str
	Uti
	VI

Unit Price List v2022-03-01

v2022-03-01

Unit Price List

		Subtotal for this pag	c. 9	-
Miscellaneo	us Construction Items			
Quantity	Item	Price		Cost
263	Sidewalk (5' Width)	@ \$40 LF	\$	10,520.0
	Header Curb (CG-2/CG-3)	@ \$25 LF	\$	-
706	Curb & Gutter	@ \$28 LF	\$	19,768.0
	CG-12 (Truncated Dome)	@ \$2,000 EA	\$	-
	Bicycle Trail/Walkway	0 \$11.00 SF	\$	-
	Raised Concrete Median (MS-1A)	@ \$81 SY	\$	-
	Trail (Wood Chip)	@ \$19 SY	\$	-
	Trail (Stone Dust)	@ \$19 SY	\$	-
etaining Walls				
	Timber	@ \$34 SF	\$	-
	Crib	@ \$44 SF	\$	-
	MSE/Geogrid	@ \$50 SF	\$	-
	Gravity Wall	@ \$72 SY	\$	-
	Excavation for tiebacks in walls in cut areas	@ \$29 CY	\$	-
	Anti-Graffiti Paint (Concrete Retaining Walls	@ \$18 SF		
	only-treatment/sealant)	(Min. \$2,500)	\$	-
	Guardrail	@ \$45 LF	\$	_
	GR-7 NCHRP 350	@ \$3,640 EA	\$	-
	GR-9	@ \$3,640 EA	\$	-
	Address Sign (Entrance to Pipestems)	@ \$460 EA	\$	-
	Street Name Sign	@ \$525	\$	-
	Traffic Control Sign	@ \$450	\$	-
	Bus Stop Sign	@ \$415	\$	-
	Bus Shelter	@ \$24,000	\$	-
	Traffic Signal	@ (Lump Sum)		
2	HC Parking Space Sign	@ \$720 EA	\$	1,440.0
	Bike Rack	@ \$350 EA	\$	-
	Roadside Delineators (ED-1)	@ \$75 EA	\$	-
	Hand Rail (HR-1)	@ \$120 LF	\$	-
	Pavement Marking (Paint)	@ \$2.50 SF	\$	-
	Pavement Marking (Thermoplastic)	@ \$7.00 SF	\$	-
	Traffic Barricade (TB-1)	@ \$1,725 EA	\$	-
	Street Lighting	@ \$5,500 EA	\$	-
		(Min. \$46,000) (Lump Sum or		
	Utilities Relocation	provide estimate from utility co.)	\$	
	VDOT Street Acceptance Package	@ \$7,000	\$	-
	P.E. Certified "As-Built" Plans	Lump Sum (Min. \$12,000)	\$	-

Page 8 of 13

v2022-03-01

	6.	3.c
engin 12 Faginger	eers	
J2 Engineers, 17739 Main Street Suite 180 Dumfries, Va. 22026 703.361.1550 (office		
703.956.6845 (fax) www.j2engineers.co		
SEBASTIAN SANE Lic. No. 04520 03/17/2		
PLAN# BA2201 DATE: MARCH, 202		
CONTOUR INT.	= N/A	
PLAN DATE 01/06/23 03/17/23	1 1 1 1	enter)
UNIT PRICE LIST FINAL SITE PLAN KIDDIE ACADEMY AT CROSSROADS VILLAGE CENTER	TOWN OF HAYMARKET, VIRGINIA	Attachment: 03 Kiddie Academy at CVC 2nd Submission Final (6186 : Kiddie Academy Site Plans - Crossroads Village Center)
	DATE DATE DESCRIPTION REVISIONS	
SHEET 40 OF 43	No	

		Subtotal for this pa	ige: \$	31,728.00	]		
. SANITARY SE	WER & WATER LINE CONSTRUCTION						
Quantity	Item	Price		Cost	Sanitary	Sewer Pipe Line (Exclusive of Manhole Structur	res)
	Fire Hydrant Assembly Central Sewer Lift/Pump Station Construction	@ \$9,200 EA @ (Lump Sum)	\$	-	Quar	tity Item 1.5"0 thru 4"0 LPFM (Low Pressure H	Force Main Syster
CONTRACTOR OF CONT	ve of Fire Hydrants)			<b>a</b> 1	,	8"0 PVC 8"0 DIP	
Quantity	4"0 DIP	Price           @ \$60         LF	\$	Cost -		10"0 PVC	
	6"0 DIP 8"0 DIP	@ \$75 LF @ \$90 LF		-		10"0 DIP 12"0 PVC	
	12"0 DIP 16"0 DIP	@ \$125 LF @ \$165 LF	\$	-		12"0 DIP 15"0 PVC	
	18'0 DIP 4"0 or 6"0 RW Valve (with accessories)	@ \$185 LF @ \$1,200 EA	\$	-		4' Dia. Sanitary Sewer Manhole 5' Dia. Sanitary Sewer Manhole	
	8"0 or 12"0 RW Valve (with accessories)	@ \$3,000 EA	\$	-		Street Manhole Frame & Cover Asser (Including rain bowl & chimney seal)	-
	16"0 or 24"0 RW Valve (with accessories)           Standard Meter Crock & Appurtenances (Angle valve,	@ \$7,000 EA		-		Easement Manhole Frame & Cover A (Including chimney seal)	
	backflow preventer, yoke, frame & cover, and service line) Meter Vault & Appurtenances (3 meters & larger)	@ \$2,500 EA @ \$40,000 EA		-		Abandonment of Manhole	
	Water Main Blow-off Assembly Air Release Assembly	@ \$3,000 EA @ \$6,800 EA		-		4"0 PVC Lateral (including clean-out 4"0 DIP Lateral (including clean-out s	stack)
	Dead End Anchor System	@ \$10,000 EA Subtotal for Water M	\$	-	38.	.7 6"0 PVC Lateral (including clean-out 6"0 DIP Later (including clean-out sta	
		Subtotal for water w	am: 5	-		LPFM Flushing Station Sewerage Air Release/Vacuum Break	er Assembly
						Steel Casing Grease Trap (500 gal. minimum)	
					Note: Fo	or sizes larger than 15"0, add \$4.60 per inch i	increase in diam
							Т
					5. MISC	ELLANEAOUS COSTS	
						nistrative Cost - 10% of the total construction on Cost - Compounded annually at 3.0% pe	
					B. Inflati	on cost - compounded annually at 3.0% pe	TOTAL PER
					6. FLOO	DDPLAIN ITEMS ESCROW	
t	Page 9 of 13			v2022-03-0	01 Unit Price Li	st	Page 10 of 1
	TOTAL SILTATION & EROSION CON		IT: \$	13,802.80	,		
er's Signatu	al	(703) 361-1550 x401 Telephone # J2 Engineers	r site pla	<i>n.</i>	-		
(Print)		Company or Firm			-		
	is identified with ** the quantity for the embankment ma and cut material available at the project site, if excavated						
	avation and embankment costs include necessary grading nce with County and State Standards and Specifications	g, spreading and/or compacti	on of soil	in			
material	t cost for each of the items in the Unit Price Lists is the in s, excavation, bedding backfilling, compaction, form wo	rk, etc.					
provide	has been calculated based on Northern Virginia Consur d by the Bureau of Labor and Statistics.		_				
escrow	r certifies the site development plans must also certify th and siltation and erosion control escrow and must sign "I	Preparer's Signature" on page					
Floodpl	ain Items Escrow not to be part of Bond/Escrow reduction	n.					
e List	Page 13 of 13			v2022-03-0	01		

Quantity	Item	Price	Cost
	LOMR	\$18,000	\$
	Elevation Certificate	\$1,000	\$
	LOMC (SF Detached)	\$1,800	\$
	Stream Restoration (By Itemized Cost)		

#### Subtotal for this page: \$ -

	Price			Cost
em)	@ \$35	LF	\$	
/	@ \$81	LF	\$	-
	@ \$95	LF	\$	-
	@ \$100	LF	\$	
	@ \$110	LF	\$	-
	@ \$170	LF	\$	-
	@ \$185	LF	\$	-
	@ \$225	LF	\$	
	@ \$11,000	EA	\$	-
	@ \$11,000	EA	\$	-
	@ \$1,200	EA	\$	-
	@ \$1,200	EA	\$	-
	@ \$290	VF	\$	-
	@ \$50	LF	\$	-
	@ \$60	LF	\$	-
	@ \$70	LF	\$	2,709.00
	@ \$75	LF	\$	
	@ \$2,900	EA	\$	-
	@ \$4,050	EA	\$	-
	@ \$600	LF	\$	-
	@ \$5,200	EA	\$	-
	@		\$	
	@		\$	
	@		\$	-
Subtota	l for Sanitary Sev	ver Pipe:	\$	2,709.00
ieter.				
	Subtotal for th		\$	2,709.00
TOTAL CO	ONSTRUCTION			
	(Pages 1 thr	ough 10)	\$	209,665.47
xceed \$50,0			\$	20,966.55
al Construc			\$	6,289.96
RFORMAN	ICE BOND AM	OUNT:	\$	236,921.98
13				v2022-03-

## 7. LANDSCAPING ESCROW

Quantity	Item	Price			Cost
	5'-6'	@ \$300	EA	\$	-
	1" - 1.5" or 1.5"- 2"	@ \$450	EA	\$	-
	2" - 2.5" or 2.5 - 3"	@ \$600	EA	\$	-
	3" - 3.5" or 3.5" - 4"	@ \$959	EA	\$	-
		Subtotal for Deciduo	us Trees:	\$	-
. Evergreen	Trees				
Quantity	Item	Price			Cost
	5' - 6'	@ \$250	EA	\$	-
13	6' - 7'	@ \$270	EA	\$	3,510.0
	7' - 8'	@ \$450	EA	\$	-
	8' - 10'	@ \$830	EA	\$	-
		Subtotal for Evergre	en Trees:	\$	3,510.
. Shrubs					
Quantity	Item	Price			Cost
78	18" - 24"	@ \$60	EA	\$	4,680.
	24" - 30"	@ \$80	EA	\$	-
		Subtotal for	r Shrubs:	\$	4,680.
Ormannanta	1				
0. Ornamenta Quantity	Item	Price			Cost
	Item				
Quantity				s	
Quantity	1 Gal. (#1)	@ \$35		\$ \$	
Quantity	1 Gal. (#1) 2 Gal. (#2)	@ \$35 @ \$45		\$	-
Quantity	1 Gal. (#1)	<ul> <li>@ \$35</li> <li>@ \$45</li> <li>@ \$50</li> </ul>	amentals:	\$ \$	-
	1 Gal. (#1) 2 Gal. (#2)	@ \$35 @ \$45	amentals:	\$ \$	-
. Perennial	1 Gal. (#1) 2 Gal. (#2) 3 Gal. (#3)	@ \$35 @ \$45 @ \$50 Subtotal for Orna	amentals:	\$ \$	- - -
	1 Gal. (#1) 2 Gal. (#2) 3 Gal. (#3) Item	@ \$35 @ \$45 @ \$50 Subtotal for Orna Price	amentals:	\$ \$ \$	-
. Perennial	1 Gal. (#1) 2 Gal. (#2) 3 Gal. (#3)	@ \$35 @ \$45 @ \$50 Subtotal for Orns Price @ \$15.00		\$ \$ \$	- - - Cost
. Perennial Quantity	1 Gal. (#1)         2 Gal. (#2)         3 Gal. (#3)             Item	@ \$35 @ \$45 @ \$50 Subtotal for Orna Price		\$ \$ \$	- - - Cost
. Perennial Quantity . Reforestatio	1 Gal. (#1)         2 Gal. (#2)         3 Gal. (#3)         Item         18" - 24"	@ \$35           @ \$45           @ \$50           Subtotal for Orna           Price           @ \$15.00           Subtotal for P		\$ \$ \$	- - - - Cost - -
. Perennial Quantity	1 Gal. (#1)         2 Gal. (#2)         3 Gal. (#3)         Item         18" - 24"         Item	@ \$35           @ \$45           @ \$50           Subtotal for Orna           Price           @ \$15.00           Subtotal for Price           Price	erennial:	\$ \$ \$ \$ \$	- - - Cost
. Perennial Quantity . Reforestatio	1 Gal. (#1)         2 Gal. (#2)         3 Gal. (#3)         Item         18" - 24"	@ \$35         @ \$45         @ \$50         Subtotal for Orns         Price         @ \$15.00         Subtotal for P         Price         @ \$15.00         Subtotal for P         @ \$15.00         Subtotal for P         @ \$15.00         Subtotal for P         @ \$15.00	erennial:	\$ \$ \$ \$ \$ \$	Cost Cost
. Perennial Quantity . Reforestatio	1 Gal. (#1)         2 Gal. (#2)         3 Gal. (#3)         Item         18" - 24"         Item	@ \$35           @ \$45           @ \$50           Subtotal for Orna           Price           @ \$15.00           Subtotal for Price           Price	erennial:	\$ \$ \$ \$ \$ \$ \$ \$ \$	- - - - - - - - - - - - - - - - - -
. Perennial Quantity . Reforestatio	1 Gal. (#1)         2 Gal. (#2)         3 Gal. (#3)         Item         18" - 24"         n         Item         # of Acres	@ \$35         @ \$45         @ \$50         Subtotal for Orns         Price         @ \$15.00         Subtotal for P         Price         @ \$15.00         Subtotal for P         @ \$15.00         Subtotal for P         @ \$15.00         Subtotal for P         @ \$15.00	erennial: AC prestation	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	- - - <u>Cost</u> -

Quantity	Item	Price			Cost
	Diversion Dike	@ \$7.00	LF	\$	-
	Cleaning out SWM Facilities, Silt Traps and Silt Basins	\$600/Hr. Lump Sun	1 (Min.		
		\$20,000 or actual estimate			
		provided by engineer to th	e		
		satisfaction of the plan rev	riew)	\$	-
	Silt Fence: 0' - 1000'				
906	(installation, maintenance for 1 year & removal)	@ \$8.00	LF	\$	7,248.
	Silt Fence: 1001' - 1000'				
	(installation, maintenance for 1 year & removal)	@ \$6.00	LF	\$	-
	Silt Fence: 10,000' +				
	(installation, maintenance for 1 year & removal)	@ \$4.00	LF	\$	
	Super Silt Fence: 0' - 1000'				
	(installation, maintenance for 1 year & removal)	@ \$20	LF	\$	-
	Super Silt Fence: 1001' - 10000				
	(installation, maintenance for 1 year & removal)	@ \$12	LF	\$	-
	Super Silt Fence: 10,000' +				
	(installation, maintenance for 1 year & removal)	@ \$11.00	LF	\$	-
	Sod	@ \$8.00	SY	\$	-
	Seed, Fertilizer & Mulch	@ \$3.00 SY (\$2	00 Min)	\$	-
	Steep Slopes (Grading and Stabilization with jute mesh,				
	netting, blankets, etc.)	@ \$18	SY	\$	-
	Coarse Aggregates (#1 or #57)	@ \$35	TON	\$	-
	Inlet Protection	@ \$190	EA	\$	-
	Check Dam	@ \$250	EA	\$	-
1	Temp. Construction Entrance	@ \$2,300	EA	\$	2,300.
1	Wash Rack	@ \$2,000	EA	\$	2,000
	Temp. Sediment Trap	@ \$1,000		\$	-
		@ \$1,500		\$	-
		@ \$2,000		\$	-
	Temporary Sediment Basin	By itemized cost			
	Channel Diversion	By itemized cost			
	6' Chain-link Safety Fence	@ \$50	LF	\$	-
	4' Plastic Orange Safety Fence	@ \$4.00	LF	\$	-
	Yard utility refurbishment	(a) \$875 EA Single F	amily Lot	\$	-
	Stockpile Removal (Quantity based on policy)	@ \$30	CY	\$	-
0.77	Removal of Erosion Control Measures (Min. \$1000) cost per acre	(a)		\$	1,000.
	Level Spreader	By itemized cost		-	,
				\$	-
			Total Cost:	\$	12,548.
	A duninista	ative Cost (10% of 7			1,254.

## 8. SILTATION AND EROSION CONTROL ESCROWS



(6186 a Ë ົ້ at CVC 2nd \$

6.3.c



#### PRINCE WILLIAM COUNTY SERVICE AUTHORITY Department of Engineering Development UNIT PRICE LIST

## Effective: March 1, 2022

Project Name: KIDDIE ACADEMY AT CROSSROADS VILLAGE CENTER PWC File #: Date Prepared: 10/20/2022

NOTE: This form is to be used to estimate Performance Bond, Landscape Escrow, Siltation Erosion Escrow and Floodplain Items Escrow prices posted with Prince William County. These prices do not include items that are to be bonded separately with the Virginia Department of Transportation.

1. MOBILIZATION/DEMOBILIZATION OF CONSTRUCTION EQUIPMENT

Quantity	Item	Price	Cost
	Mobilization/Demobilization	@ Lump Sum \$15,000 min.	S

A Cture

A. Structures			
Quantity	Item	Price	Cost
	DI-1	@ \$6,900 EA	\$-
	DI-3	@ \$6,900 EA	\$ -
	DI-4	@ \$6,900 EA	\$ -
	MH-1	@ \$4,900 EA	\$ -
	MH-2	@ \$4,500 EA	\$ -
	JB-1	@ \$7,175 EA	\$ -
	DI-7	@ \$6,800 EA	\$ -
	DI-12	@ \$6,800 EA	\$ -
		Subtotal for Structures	: \$ -

B. Concrete Pipe	e				
Quantity	Item	Price		C	Cost
	12"0	@ \$82	LF	\$	-
	15"0	@ \$82	LF	\$	-
	18"0	@ \$82	LF	\$	-
	21"0	@ \$82	LF	\$	-
	24"0	@ \$103	LF	\$	-
	27"0	@ \$103	LF	\$	-
	30"0	@ \$103	LF	\$	-
	33"0	@ \$207	LF	\$	-
	36"0	@ \$207	LF	\$	-
	42"0	@ \$207	LF	\$	-
	48"0	@ \$207	LF	\$	-
	54"0	@ \$365	LF	\$	-
	60"0	@ \$365	LF	\$	-
	66"0	@ \$365	$\mathbf{LF}$	\$	-
	72"0	@ \$453	LF	\$	-
		Subtotal for Conc	rete Pipe:	\$	-

Imp         Non         Price         Cont           Imp         Imp <th>12"0       @ \$1,950       EA       \$       -         15"0       @ \$1,950       EA       \$       -         18"0       @ \$1,950       EA       \$       -         21"0       @ \$1,950       EA       \$       -         24"0       @ \$1,950       EA       \$       -         24"0       @ \$1,950       EA       \$       -         30"0       @ \$2,100       EA       \$       -         36"0       @ \$2,200       EA       \$       -         42"0       @ \$7,236       EA       \$       -         44"0       @ \$7,236       EA       \$       -         66"0       @ \$7,236       EA       \$       -         66"0       @ \$7,236       EA       \$       -         72"0       @ \$7,236       EA       \$       -         72"0       @ \$7,236       EA       \$       -         66"0       @ \$7,236       EA       \$       -         72"0       @ \$1,048       EA       \$       -         15"0       @ \$1,048       EA       \$       -         15"0       @ \$1,048       EA       &lt;</th> <th>15"0       @ \$870       EA       \$         18"0       @ \$870       EA       \$         24"0       @ \$870       EA       \$         30"0       @ \$870       EA       \$         36"0       @ \$1,100       EA       \$         42"0       @ \$1,400       EA       \$         48"0       @ \$1,800       EA       \$         G. AD N-12 (HDPE)       Subtotal for End Sections (ES-2):       \$         G. AD N-12 (HDPE)       Item       Price       \$         12"0       @ \$1,800       EA       \$         12"0       @ \$106       LF       \$         12"0       @ \$106       LF       \$         1300       EA       \$       \$         12"0       @ \$106       LF       \$         1400       B       \$       \$         15"0       @ \$106       LF       \$         16       15"0       @ \$106       LF       \$         18"0       @ \$106       LF       \$       \$         24"0       @ \$106       LF       \$       \$         30"0       @ \$170       LF       \$       \$</th> <th>- - - - - - - - - - - - - - - - - - -</th>	12"0       @ \$1,950       EA       \$       -         15"0       @ \$1,950       EA       \$       -         18"0       @ \$1,950       EA       \$       -         21"0       @ \$1,950       EA       \$       -         24"0       @ \$1,950       EA       \$       -         24"0       @ \$1,950       EA       \$       -         30"0       @ \$2,100       EA       \$       -         36"0       @ \$2,200       EA       \$       -         42"0       @ \$7,236       EA       \$       -         44"0       @ \$7,236       EA       \$       -         66"0       @ \$7,236       EA       \$       -         66"0       @ \$7,236       EA       \$       -         72"0       @ \$7,236       EA       \$       -         72"0       @ \$7,236       EA       \$       -         66"0       @ \$7,236       EA       \$       -         72"0       @ \$1,048       EA       \$       -         15"0       @ \$1,048       EA       \$       -         15"0       @ \$1,048       EA       <	15"0       @ \$870       EA       \$         18"0       @ \$870       EA       \$         24"0       @ \$870       EA       \$         30"0       @ \$870       EA       \$         36"0       @ \$1,100       EA       \$         42"0       @ \$1,400       EA       \$         48"0       @ \$1,800       EA       \$         G. AD N-12 (HDPE)       Subtotal for End Sections (ES-2):       \$         G. AD N-12 (HDPE)       Item       Price       \$         12"0       @ \$1,800       EA       \$         12"0       @ \$106       LF       \$         12"0       @ \$106       LF       \$         1300       EA       \$       \$         12"0       @ \$106       LF       \$         1400       B       \$       \$         15"0       @ \$106       LF       \$         16       15"0       @ \$106       LF       \$         18"0       @ \$106       LF       \$       \$         24"0       @ \$106       LF       \$       \$         30"0       @ \$170       LF       \$       \$	- - - - - - - - - - - - - - - - - - -	
	15°0 $@$ \$1,950 $EA$ $\$$ 18°0 $@$ \$1,950 $EA$ $\$$ 21°0 $@$ \$1,950 $EA$ $\$$ 24°0 $@$ \$1,950 $EA$ $\$$ 30°0 $@$ \$1,950 $EA$ $\$$ 30°0 $@$ \$2,100 $EA$ $\$$ 30°0 $@$ \$2,300 $EA$ $\$$ 30°0 $@$ \$2,300 $EA$ $\$$ 30°0 $@$ \$2,300 $EA$ $\$$ 4%°0 $@$ \$7,236 $EA$ $\$$ 4%°0 $@$ \$7,236 $EA$ $\$$ 60°0 $@$ \$7,236 $EA$ $\$$ 60°0 $@$ \$7,236 $EA$ $\$$ 72°0 $@$ \$7,236 $EA$ $\$$ 5 $\bullet$ $\bullet$ $\bullet$ $\bullet$ 72°0 $@$ \$7,236 $EA$ $\$$ $\bullet$ 16°0 $@$ \$1,048 $EA$ $$$ $\bullet$ 12°0 $@$ \$1,048 $EA$ $$$ $\bullet$ 15°0 $@$ \$1,048 $EA$ $$$	18"0 $@$ \$870       EA       \$         24"0 $@$ \$870       EA       \$         30"0 $@$ \$870       EA       \$         36"0 $@$ \$1,100       EA       \$         42"0 $@$ \$1,400       EA       \$         42"0 $@$ \$1,400       EA       \$         48"0 $@$ \$1,800       EA       \$         Subtotal for End Sections (ES-2):       \$         G. AD N-12 (HDPE)         Quantity       Item       Price         12"0 $@$ \$45       LF       \$         15"0 $@$ \$106       LF       \$         18"0 $@$ \$106       LF       \$         24"0 $@$ \$106       LF       \$         30"0 $@$ \$106       LF       \$         36"0 $@$ \$170       LF       \$         42"0 $@$ \$170       LF       \$         42"0 $@$ \$170       LF       \$         48"0 $@$ \$170       LF       \$         60"0 $@$ \$250       LF       \$	- - - - - - - - - - - - - - - - - - -	
	18"0       @ \$1,950       EA       \$       -         21"0       @ \$1,950       EA       \$       -         24"0       @ \$1,950       EA       \$       -         27"0       @ \$1,950       EA       \$       -         30"0       @ \$1,950       EA       \$       -         30"0       @ \$2,800       EA       \$       -         36"0       @ \$2,800       EA       \$       -         42"0       @ \$7,236       EA       \$       -         44"0       @ \$7,236       EA       \$       -         66"0       @ \$7,236       EA       \$       -         66"0       @ \$7,236       EA       \$       -         72"0       @ \$7,236       EA       \$       -         15"0       @ \$7,236       EA       \$       -         160"0       @ \$7,236       EA       \$       -         15"0       @ \$1,048       EA       \$       -         12"0       @ \$1,948       EA       \$       -         18"0       @ \$1,048       EA       \$       -         21"0       @ \$1,048       EA       <	24"0       @ \$870       EA       \$         30"0       @ \$870       EA       \$         36"0       @ \$1,100       EA       \$         42"0       @ \$1,400       EA       \$         48"0       @ \$1,800       EA       \$         Subtotal for End Sections (ES-2):         Subtotal for End Sections (ES-2):         Quantity       Item       Price         12"0       @ \$45       LF       \$         15"0       @ \$106       LF       \$         18"0       @ \$106       LF       \$         24"0       @ \$106       LF       \$         30"0       @ \$170       LF       \$         36"0       @ \$170       LF       \$         48"0       @ \$170       LF       \$         48"0       @ \$170       LF       \$         60"0       @ \$250       LF       \$	- - - - - - - - - - - - - - - - - - -	
	24"0       @ \$1,950       EA       \$         27"0       @ \$1,950       EA       \$         30"0       @ \$2,100       EA       \$         38"0       @ \$2,300       EA       \$       -         38"0       @ \$2,300       EA       \$       -         42"0       @ \$2,300       EA       \$       -         42"0       @ \$7,236       EA       \$       -         48"0       @ \$7,236       EA       \$       -         66"0       @ \$7,236       EA       \$       -         66"0       @ \$7,236       EA       \$       -         70"0       @ \$7,236       EA       \$       -         66"0       @ \$7,236       EA       \$       -         70"0       @ \$7,236       EA       \$       -         18"0       Item       Price       Cost       -         18"0       @ \$1,048       EA       \$       -         18"0       @ \$1,048       EA       \$       -         21"0       @ \$1,048       EA       \$       -         21"0       @ \$1,048       EA       \$       -	36"0       @ \$1,100       EA       \$         42"0       @ \$1,400       EA       \$         48"0       @ \$1,800       EA       \$         Subtotal for End Sections (ES-2):         Subtotal for End Sections (ES-2):       \$         G. AD N-12 (HDPE)         Quantity       Item       Price         12"0       @ \$45       LF       \$         15"0       @ \$106       LF       \$         18"0       @ \$106       LF       \$         24"0       @ \$106       LF       \$         30"0       @ \$106       LF       \$         36"0       @ \$106       LF       \$         42"0       @ \$106       LF       \$         48"0       @ \$170       LF       \$         48"0       @ \$170       LF       \$         60"0       @ \$250       LF       \$	- - - - - - - - - - - - - - - - - - -	
	$30^{\circ}0$ $(@)$ $\$2,100$ $EA$ $\$$ $ 33^{\circ}0$ $(@)$ $\$2,300$ $EA$ $\$$ $ 42^{\circ}0$ $(@)$ $\$2,300$ $EA$ $\$$ $ 42^{\circ}0$ $(@)$ $\$7,236$ $EA$ $\$$ $ 48^{\circ}0$ $(@)$ $\$7,236$ $EA$ $\$$ $ 60^{\circ}0$ $(@)$ $\$7,236$ $EA$ $\$$ $ 60^{\circ}0$ $(@)$ $\$7,236$ $EA$ $\$$ $ 60^{\circ}0$ $(@)$ $\$7,236$ $EA$ $\$$ $ 66^{\circ}0$ $(@)$ $\$7,236$ $EA$ $\$$ $ 72^{\circ}0$ $(@)$ $\$7,236$ $EA$ $\$$ $ 72^{\circ}0$ $(@)$ $\$9,854$ $EA$ $\$$ $ 12^{\circ}0$ Item       Price       Cost $\bullet$ $18^{\circ}0$ Item $ei$ $\$1,048$ $EA$ $\$$ $ 18^{\circ}0$ Item $ei$ $\$1,048$ $EA$ $\$$ $ 18^{\circ}0$ Item $ei$ $\$1,048$ $EA$ $\$$ $-$	48"0       @ \$1,800       EA       \$         Subtotal for End Sections (ES-2):       \$         G. AD N-12 (HDPE)       Item       Price          12"0       @ \$45       LF       \$         15"0       @ \$106       LF       \$         18"0       @ \$106       LF       \$         24"0       @ \$106       LF       \$         30"0       @ \$106       LF       \$         36"0       @ \$106       LF       \$         42"0       @ \$170       LF       \$         48"0       @ \$170       LF       \$         60"0       @ \$250       LF       \$	- - - - - - - - - - - - - - - - - - -	
	33"0       @ \$2,300       EA       \$       -         36"0       @ \$2,800       EA       \$       -         42"0       @ \$7,236       EA       \$       -         48"0       @ \$7,236       EA       \$       -         60"0       @ \$7,236       EA       \$       -         60"0       @ \$7,236       EA       \$       -         66"0       @ \$7,236       EA       \$       -         72"0       @ \$7,236       EA       \$       -         72"0       @ \$7,236       EA       \$       -         12"0       @ \$7,236       EA       \$       -         12"0       @ \$1,048       EA       \$       -         18"0       @ \$1,048       EA       \$       -         21"0       @ \$1,048       EA       \$       -         21"0       @ \$1,048       EA       \$       -         30"0       @ \$1,048       EA       <	Subtotal for End Sections (ES-2):         \$           G. AD N-12 (HDPE)         Item         Price            12"0         @ \$45         LF         \$           15"0         @ \$106         LF         \$           18"0         @ \$106         LF         \$           24"0         @ \$106         LF         \$           30"0         @ \$106         LF         \$           36"0         @ \$170         LF         \$           42"0         @ \$170         LF         \$           48"0         @ \$170         LF         \$           60"0         @ \$250         LF         \$	- Cost - - - - - - - - - - - - - -	
	42°0 $\widehat{a}$ \$7,236       EA       \$       -         48°0 $\widehat{a}$ \$7,236       EA       \$       -         54°0 $\widehat{a}$ \$7,236       EA       \$       -         60°0 $\widehat{a}$ \$7,236       EA       \$       -         72°0 $\widehat{a}$ \$7,236       EA       \$       -         72°0 $\widehat{a}$ \$7,236       EA       \$       -         stortal for End Walls:       \$       -       -       -         dSections (ES-1) <b>Price Cost</b> -         12°0 $\widehat{a}$ \$1,048       EA       \$       -         18°0 $\widehat{a}$ \$1,048       EA       \$       -         21°0 $\widehat{a}$ \$1,048       EA       \$       -         30°0 $\widehat{a}$ \$1,048       EA       \$       -         33°0 $\widehat{a}$ \$1,048       EA       \$	Quantity         Item         Price           12"0         @ \$45         LF         \$           15"0         @ \$106         LF         \$           18"0         @ \$106         LF         \$           24"0         @ \$106         LF         \$           30"0         @ \$106         LF         \$           36"0         @ \$170         LF         \$           42"0         @ \$170         LF         \$           60"0         @ \$250         LF         \$	- - - - - - - - - - -	
	54"0       @ \$7,236       EA       \$       -         60"0       @ \$7,236       EA       \$       -         66"0       @ \$7,236       EA       \$       -         72"0       @ \$9,854       EA       \$       -         72"0       @ \$9,854       EA       \$       -         dections (ES-1)       Subtotal for End Walls:       \$       -         uantity       Item       Price       Cost         15"0       @ \$1,048       EA       \$       -         15"0       @ \$1,048       EA       \$       -         24"0       @ \$1,048       EA       \$       -         24"0       @ \$1,048       EA       \$       -         30"0       EA       \$       -       -         33"0       @ \$1,200       EA       \$       -         33"0       @ \$1,900       EA       \$       -         42"0 - 60"       @ \$1,900       EA       \$       -         33"0       EA       \$       -       -         42"0 - 60"       @ \$1,900       EA       \$       -         rugated Heipe       Item       Price	12"0       @ \$45       LF       \$         15"0       @ \$106       LF       \$         18"0       @ \$106       LF       \$         24"0       @ \$106       LF       \$         30"0       @ \$106       LF       \$         36"0       @ \$170       LF       \$         42"0       @ \$170       LF       \$         60"0       @ \$250       LF       \$	- - - - - - - - - - -	
	60"0 $@$ \$7,236       EA       \$       - $66"0$ $@$ \$7,236       EA       \$       - $72"0$ $@$ \$9,854       EA       \$       -         Subtotal for End Walls:       \$       -         To the Walls:       \$       -         d Sections (ES-1)         uantity       Item       Price       Cost         12"0 $@$ \$1,048       EA       \$       -         18"0 $@$ \$1,048       EA       \$       -         21"0 $@$ \$1,048       EA       \$       -         24"0 $@$ \$1,048       EA       \$       -         24"0 $@$ \$1,048       EA       \$       -         30"0 $@$ \$1,048       EA       \$       -         30"0 $@$ \$1,300       EA       \$       -         33"0 $@$ \$1,900       EA       \$       -         42"0 - 60" $@$ \$3,050       EA       \$       -         wantit for End Section ES-1:       \$       -       -         30"0 $@$ \$3,050       EA       \$       -	15"0       @ \$106       LF       \$         18"0       @ \$106       LF       \$         24"0       @ \$106       LF       \$         30"0       @ \$106       LF       \$         36"0       @ \$106       LF       \$         42"0       @ \$170       LF       \$         42"0       @ \$170       LF       \$         60"0       @ \$250       LF       \$	- - - - - - - -	
	72°0       @ \$9,854       EA       \$       -         Subtal for End Walls:       \$       -         d Sections (ES-1)         uantity       Item       Price       Cost         12°0       @ \$1,048       EA       \$       -         15°0       @ \$1,048       EA       \$       -         21°0       @ \$1,048       EA       \$       -         24°0       @ \$1,048       EA       \$       -         24°0       @ \$1,048       EA       \$       -         30°0       @ \$1,000       EA       \$       -         30°0       @ \$1,900       EA       \$       -         42°0 - 60″       @ \$3,050       EA       \$       -         rugated Matter Pipe         uantity       Item       Price       Cost         15°0       @ \$60       LF	24"0       @ \$106       LF       \$         30"0       @ \$106       LF       \$         36"0       @ \$170       LF       \$         42"0       @ \$170       LF       \$         48"0       @ \$170       LF       \$         60"0       @ \$250       LF       \$	- - - - - -	
	Subtotal for End Walls:       \$       -         d Sections (ES-1)         antity       Price       Cost         12"0       @ \$1,048       EA       \$       -         15"0       @ \$1,048       EA       \$       -         21"0       @ \$1,048       EA       \$       -         24"0       @ \$1,048       EA       \$       -         24"0       @ \$1,048       EA       \$       -         24"0       @ \$1,048       EA       \$       -         30"0       @ \$1,048       EA       \$       -         30"0       @ \$1,000       EA       \$       -         42"0 - 60"       @ \$1,000       EA       \$       -         subtotal for End Section ES-1:       \$       -         rugated Metric       E         ga for 0       @ \$100       LF       \$       -         subtotal for	30"0         @ \$106         LF         \$           36"0         @ \$170         LF         \$           42"0         @ \$170         LF         \$           48"0         @ \$170         LF         \$           60"0         @ \$250         LF         \$		
	nantity         Item         Price         Cost           12"0         @ \$1,048         EA         \$         -           15"0         @ \$1,048         EA         \$         -           18"0         @ \$1,048         EA         \$         -           21"0         @ \$1,048         EA         \$         -           24"0         @ \$1,048         EA         \$         -           30"0         @ \$1,000         EA         \$         -           30"0         @ \$1,300         EA         \$         -           30"0         @ \$1,900         EA         \$         -           30"0         EA         \$         -         -           30"0         EA         \$         -         -           42"0 - 60"         @ \$1,900         EA         \$         -           state         \$         -         -         -         -           state         \$         -         \$         -         -           30"0         EA         \$         -         -         -           rugated for End Section ES-1:         \$         -         -         -	42"0         @ \$170         LF         \$           48"0         @ \$170         LF         \$           60"0         @ \$250         LF         \$		
Imp         Imp <td>12"0       @ \$1,048       EA       \$       -         15"0       @ \$1,048       EA       \$       -         18"0       @ \$1,048       EA       \$       -         21"0       @ \$1,048       EA       \$       -         24"0       @ \$1,048       EA       \$       -         27"0       @ \$1,048       EA       \$       -         30"0       @ \$1,200       EA       \$       -         30"0       @ \$1,300       EA       \$       -         36"0       @ \$1,900       EA       \$       -         $42"0 - 60"$       @ \$3,050       EA       \$       -         subtotal for End Section ES-1:       \$       -         africe       -         (@ \$40       LF       \$         (@ \$40       LF       \$       -         12"0       @ \$60       LF       \$       -         18"0       @ \$60       LF       \$       -</td> <td>60"0 @ \$250 LF \$</td> <td>-</td>	12"0       @ \$1,048       EA       \$       -         15"0       @ \$1,048       EA       \$       -         18"0       @ \$1,048       EA       \$       -         21"0       @ \$1,048       EA       \$       -         24"0       @ \$1,048       EA       \$       -         27"0       @ \$1,048       EA       \$       -         30"0       @ \$1,200       EA       \$       -         30"0       @ \$1,300       EA       \$       -         36"0       @ \$1,900       EA       \$       - $42"0 - 60"$ @ \$3,050       EA       \$       -         subtotal for End Section ES-1:       \$       -         africe       -         (@ \$40       LF       \$         (@ \$40       LF       \$       -         12"0       @ \$60       LF       \$       -         18"0       @ \$60       LF       \$       -	60"0 @ \$250 LF \$	-	
Imp         End         End <th end<="" td="" th<=""><td>15"0$@$ \$1,048EA\$-18"0$@$ \$1,048EA\$-21"0$@$ \$1,048EA\$-24"0$@$ \$1,048EA\$-27"0$@$ \$1,200EA\$-30"0$@$ \$1,300EA\$-33"0$@$ \$1,500EA\$-36"0$@$ \$1,900EA\$-$42"0-60"$$@$ \$3,050EA\$-rrugated For End Section ES-1:\$Trugated TemPriceCost12"0$@$ \$40LF\$12"0$@$ \$60LF\$-18"0$@$ \$60LF\$-</td><td></td><td></td></th>	<td>15"0$@$ \$1,048EA\$-18"0$@$ \$1,048EA\$-21"0$@$ \$1,048EA\$-24"0$@$ \$1,048EA\$-27"0$@$ \$1,200EA\$-30"0$@$ \$1,300EA\$-33"0$@$ \$1,500EA\$-36"0$@$ \$1,900EA\$-$42"0-60"$$@$ \$3,050EA\$-rrugated For End Section ES-1:\$Trugated TemPriceCost12"0$@$ \$40LF\$12"0$@$ \$60LF\$-18"0$@$ \$60LF\$-</td> <td></td> <td></td>	15"0 $@$ \$1,048EA\$-18"0 $@$ \$1,048EA\$-21"0 $@$ \$1,048EA\$-24"0 $@$ \$1,048EA\$-27"0 $@$ \$1,200EA\$-30"0 $@$ \$1,300EA\$-33"0 $@$ \$1,500EA\$-36"0 $@$ \$1,900EA\$- $42"0-60"$ $@$ \$3,050EA\$-rrugated For End Section ES-1:\$Trugated TemPriceCost12"0 $@$ \$40LF\$12"0 $@$ \$60LF\$-18"0 $@$ \$60LF\$-		
Imp         Imp <td>21"0$@$ \$1,048EA\$$24"0$$@$ \$1,048EA\$$27"0$$@$ \$1,200EA\$$30"0$$@$ \$1,300EA\$$33"0$$@$ \$1,500EA\$$36"0$$@$ \$1,900EA\$$42"0-60"$$@$ \$3,050EA\$Subtral for End Section ES-1:Subtral for End Section ES-1:CostItemPriceCost12"0@ \$40LF15"0$@$ \$60LF\$18"0$@$ \$60LF\$</td> <td></td> <td></td>	21"0 $@$ \$1,048EA\$ $24"0$ $@$ \$1,048EA\$ $27"0$ $@$ \$1,200EA\$ $30"0$ $@$ \$1,300EA\$ $33"0$ $@$ \$1,500EA\$ $36"0$ $@$ \$1,900EA\$ $42"0-60"$ $@$ \$3,050EA\$Subtral for End Section ES-1:Subtral for End Section ES-1:CostItemPriceCost12"0@ \$40LF15"0 $@$ \$60LF\$18"0 $@$ \$60LF\$			
imp         imp <td>24"0$@$ \$1,048EA\$-$27"0$$@$ \$1,200EA\$-$30"0$$@$ \$1,300EA\$-$33"0$$@$ \$1,500EA\$-$36"0$$@$ \$1,900EA\$-$42"0 - 60"$$@$ \$3,050EA\$-subtral for End Section ES-1:\$$42"0 - 60"$$@$ \$3,050EA\$-subtral for End Section ES-1:\$rrugated Metal PipeantityItemPriceCost12"0$@$ \$40LF\$-15"0$@$ \$60LF\$-18"0$@$ \$60LF\$-</td> <td></td> <td></td>	24"0 $@$ \$1,048EA\$- $27"0$ $@$ \$1,200EA\$- $30"0$ $@$ \$1,300EA\$- $33"0$ $@$ \$1,500EA\$- $36"0$ $@$ \$1,900EA\$- $42"0 - 60"$ $@$ \$3,050EA\$-subtral for End Section ES-1:\$ $42"0 - 60"$ $@$ \$3,050EA\$-subtral for End Section ES-1:\$rrugated Metal PipeantityItemPriceCost12"0 $@$ \$40LF\$-15"0 $@$ \$60LF\$-18"0 $@$ \$60LF\$-			
Note of the set of th	30"0 $@$ \$1,300       EA       \$       - $33"0$ $@$ \$1,500       EA       \$       - $36"0$ $@$ \$1,900       EA       \$       - $42"0-60"$ $@$ \$3,050       EA       \$       -         Subtral for End Section ES-1:         Su			
No.         No.         No.         No.           No.         Status         No.         Status         No.           No.         No.         No.         No.         No.         No.           No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No. <td>33"0       @ \$1,500       EA       \$       -         36"0       @ \$1,900       EA       \$       -         42"0 - 60"       @ \$3,050       EA       \$       -         Subtotal for End Section ES-1:       \$       -         rrugated Metal Pipe         Item       Price       Cost         12"0       @ \$40       LF       \$       -         15"0       @ \$60       LF       \$       -         18"0       @ \$60       LF       \$       -</td> <td></td> <td></td>	33"0       @ \$1,500       EA       \$       -         36"0       @ \$1,900       EA       \$       -         42"0 - 60"       @ \$3,050       EA       \$       -         Subtotal for End Section ES-1:       \$       -         rrugated Metal Pipe         Item       Price       Cost         12"0       @ \$40       LF       \$       -         15"0       @ \$60       LF       \$       -         18"0       @ \$60       LF       \$       -			
No. 0         No. 0         No. 0         No. 0           Data of the function last is a construction last is a constructis a construction last construction last is a construct	42"0 - 60"       @ \$3,050       EA       \$       -         Subtotal for End Section ES-1:       \$       -         Subtotal for End Section ES-1:       \$       -         rrugated Metal Pipe         uantity       Price       Cost         12"0       @ \$40       LF       \$       -         15"0       @ \$60       LF       \$       -         18"0       @ \$60       LF       \$       -			
	Item       Price       Cost         12"0       @ \$40       LF       \$       -         15"0       @ \$60       LF       \$       -         18"0       @ \$60       LF       \$       -			
namenamenamenamename11111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111<	uantity         Item         Price         Cost           12"0         @ \$40         LF         \$         -           15"0         @ \$60         LF         \$         -           18"0         @ \$60         LF         \$         -			
Image: Status         Image: Status	12"0       @ \$40       LF       \$       -         15"0       @ \$60       LF       \$       -         18"0       @ \$60       LF       \$       -			
Image: State in the s	15"0         @ \$60         LF         \$         -           18"0         @ \$60         LF         \$         -			
Image: State of the page         Image: State of the page         State of the p				
Import         Import<	24°0   (2) \$80 LF   \$ -			
aro       g ks 0 is 1       1       1         aro       g ks 0 is 1       1       1       1         aro       g ks 0 is 1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1 </td <td>30"0 @ \$80 LF \$ -</td> <td></td> <td></td>	30"0 @ \$80 LF \$ -			
International control         Solutional for this page         S				
interaction	48"0 @ \$140 LF \$ -			
Image: Set biologic of the file page         S           at Section (SS.3)         Set biologic of the file page         S           intermediate of the file page         S         S           intermediate of the file page         S         S	60"0 @ \$250 LF \$ -			
Isotesti for this page         1           a Social (ES-2)         1. Sommater Management (TMP) Facilities Cot Extinuites Per Inpervisos Acter Trated (Sec Not. 3)           matrix         Image: Contract Co				
Statular this page       1         a South (15:3)       1. Summary Management (10:10) Pacifies Cot Extantes Per Inpervises Acte: Traded (Sec Net 3)         mainty       Irea       Price       Cost         inpervises Acte: Traded (Sec Net 3)       1. Summary Management (10:10) Pacifies Cot Extantes Per Inpervises Acte: Traded (Sec Net 3)       1. Summary Management (10:10) Pacifies Cot Extantes Per Inpervises Acte: Traded (Sec Net 3)         inpervises Acte: Traded (Sec Net 3)       1. Summary Management (10:10) Pacifies Cot Extantes Per Inpervises Acte: Traded (Sec Net 3)       1. Summary Management (10:10)         inpervises Acte: Traded (Sec Net 3)       1. Summary Management (10:10)       1. Summary Management (10:10)       1. Summary Management (10:10)         inpervises Acte: Traded (Sec Net 3)       1. Summary Management (10:10)       1. Summary Management (1				
Isotesti for this page         1           a Social (ES-2)         1. Sommater Management (TMP) Facilities Cot Extinuites Per Inpervisos Acter Trated (Sec Not. 3)           matrix         Image: Contract Co		Subtotal for this nagor &		
Intermediation of the second of the secon	Subtotal for this pages 8			
Item         Price         Cot           accordion         0         35.20         V         \$         -           accordion         0         35.20         V         \$         -           accordion         0         35.20         V         \$         -           accordion         0         35.25         V//         \$         -           accordion         0         35.25         V//         \$         -           accordion         0         35.25         V//         \$         -           accordion         0         95.00         AC         \$         -           Suppositional-hytomologing of anne 50,000         AC         \$         -         -           CG-Diancordial SWidthian-Hytomologing of anne 50,000         AC         \$         -         -           Suppositional-Hytomologing of anne 50,000         AC         \$         -         -           Su			Cost	
Clere & Grob       @ 812.800 · V       \$       -         Enshankment (aut auf fill)       @ 825 CY       \$       -         Enshankment (aut auf d)       @ 825 CY       \$       -         Find Grading       @ 855 CY       \$       -         Rock Excavatio       @ 850 CY       \$       -         Rock Excavatio       @ 857 CY       \$       -         Slop Stah - Lew Mesh, matting Blankets, etc.       -       -       -         Rock Dispose Charles and Sublization + Hydroxeding 0:1 or theory \$1,000 Min.       @ 857 S       Y       \$         Slop Stah - Lew Mesh, matting Blankets, etc.       -       -       -       -         Slop Stah - Sublization + Hydroxeding 0:1 or theory \$1,000 Min.       @ 850 SY       \$       -       -         Slop Stah - Sublivation stahlization with lateMash,       -       -       -       -       -         Slop Stah - Suble Mesh, matting Blankets, etc.       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -	1 Section (ES-2)			
Enbalament*(sci and fill) ^(a)				
●時助和你の们如山 (可)       ● 95 0       ・ マ       9       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ●       ● <td></td> <td></td> <td></td>				
Rock Exervation       @ 57.7       Y       \$	Embankment (haul off) @ \$36 CY \$ -	PP-2 (1 Lot) @ \$1,725 EA \$		
Slope Stabilization - Hydroseeding 0:1 ar haw; 91,000 Min.       @ \$1.25 \$Y       \$       -         Slope Stab Jue Msh, matting Blankes, etc.				
	Slope Stabilization - Hydroseeding (3:1 or flatter) \$1,000 Min. @ \$1.25 SY \$ -	CG-9D or equal: 40' Width @ \$7,475 EA \$		
Slop Stab Sod (Between 2:11 2:300 Min       @ \$8.00       SY       \$       -         Steep Slops (Grading and Stabilization with Jue Mesh, Netting, Blankets, etc.)       @ \$20       SY       \$       -         Wating, Blankets, etc.)       @ \$200       SY       \$       -         wating, Blankets, etc.)       Subtat for Site Werk       \$       -         wating. Blankets, etc.)       Subtat for Site Werk       \$       -         wating. Stap Carge Team Carge Stap Carge Sta				
Netting, Blankets, etc.)       @ 820       SY       \$       .         Watting, Blankets, etc.)       Subtrait for Site Work:       \$       .       @ 81       LF       \$       .         ubgrade, Subsec, and Base Course Items       Item       Price       Cost       @ 813       SP       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .       .	Slope Stab Sod (Between 2:1 to 3:1) \$200 Min         @ \$8.00         SY         \$         -			
Subtral for Entrance and Pipe Stems         bagrade preparation (Subbase and base course)       @ \$3.50 \$Y       \$	Netting, Blankets, etc.) @ \$20 SY \$ -	Pipestem Driveway - 10' (1 Lot) @ \$61 LF \$		
unityItem $\mathbf{Price}$ $\mathbf{Cost}$ Subgrade preparation (Subbase and base course) $\widehat{0}$ \$3.50 $\mathbb{N}$ Y $\mathbf{S}$ $\mathbf{S}$ Aggregate (21 A/21B) $\widehat{0}$ \$3.53 $\mathbb{N}$ pri Imberto $\mathbf{S}$ $\mathbf{S}$ $\mathbf{S}$ Bitumious Concrete Avenemto $\widehat{0}$ \$6.253 $\mathbb{N}$ pri Imberto $\mathbf{S}$ $\mathbf{S}$ $\mathbf{S}$ Reinforced Concrete Pavemento $\widehat{0}$ \$1.25 $\mathbb{V}$ Imberto $\mathbf{S}$ $\mathbf{S}$ $\mathbf{S}$ Gravel Shoulders (4 ^m Depth) $\widehat{0}$ \$1.25 $\mathbb{V}$ Imberto $\mathbf{S}$ $\mathbf{S}$ $\mathbf{S}$ Imberto $\widehat{0}$ \$2.45 $\mathbb{V}$ Imberto $\mathbf{S}$ $\mathbf{S}$ $\mathbf{S}$ Imberto $\widehat{0}$ \$1.25 $\mathbb{V}$ $\mathbf{S}$ $\mathbf{S}$ $\mathbf{S}$ Imberto $\widehat{0}$ \$1.25 $\mathbb{V}$ $\mathbf{S}$ $\mathbf{S}$ $\mathbf{S}$ Imberto $\widehat{0}$ \$1.25 $\mathbb{V}$ $\mathbf{S}$ $\mathbf{S}$ $\mathbf{S}$ Imberto $\widehat{0}$ \$2.1 $\mathbb{V}$ $\mathbf{S}$ $\mathbf{S}$ $\mathbf{S}$ Imberto $\widehat{0}$ \$2.1 $\mathbb{V}$ $\mathbf{S}$ $\mathbf{S}$ $\mathbf{S}$ Imberto $\widehat{0$ \$2.1 $\mathbb{V}$ $\mathbf{S}$ $\mathbf{S}$ $\mathbf{S}$ Imberto $\widehat{0$ \$2.1 $\mathbb{V}$ $\mathbf{S}$ $\mathbf{S}$ $\mathbf{S}$ Imberto $\widehat{0$ \$2.1 $\mathbb{V}$ $\mathbf{S}$				
Aggregate (21A/21B)@ \$3 SY per Inch $> Im$ \$-Bituminous Concrete@ \$6.25 SY per Im> $> Im$ \$-Reinforced Concrete Pavement@ \$18 SY per Imh> $> Im$ \$-Gravel Shoulders (4" Depth)@ \$12 SY (4" $> Imp$ )\$-Soil Cement Stabilization (4%)@ \$24 SY (6" $> Imp$ )\$-Cement Treated Aggregate@ \$16 SY (6" $> Imp$ )\$- $mathinsImp Imp Imp Imp Imp Imp Imp Imp Imp Imp $				
Image: Non-Section Section Sectin Section Section Section Section Section Sec	Subgrade preparation (Subbase and base course) @ \$3.50 SY \$ -			
Reinforced Concrete Pavement       @ 18 SY per Indo Dett       \$       -         Gravel Shoulders (4" Depth)       @ 12 SY (4" Depth)       \$       -         Soil Cement Stabilization (4%)       @ 24 SY (6" Depth)       \$       -         Image: Stabilization (10%)       @ 11 SY (10" Depth)       \$       -         Image: Stabilization (10%)       @ 11 SY (10" Depth)       \$       -         Image: Stabilization (10%)       @ 11 SY (10" Depth)       \$       -         Image: Stabilization (10%)       @ 11 Depth)       \$       -         Image: S				
Soil Cement Stabilization (4%) $@$ S24 SY (6" Dept) $$$ -Lime Stabilization (10%) $@$ S16 SY (6" Dept) $$$ -Cement Treated Aggregate $@$ S11 per Inch Dept $$$ -certarians: $@$ S21 LF $$$ -UD-2 $@$ S21 LF $$$ - $@$ Dp-3 $@$ S21 LF $$$ - $W$ S2 $W$ - $W$ S2 $W$ -	Reinforced Concrete Pavement @ \$18 SY per Inch Depth \$ -			
Lime Stabilization (10%)@ \$16 SY (6" Depth)\$Cement Treated Aggregate@ \$11 per Inch $Depth$ \$wdrains:UD-1@ \$21LF\$UD-2@ \$21LF\$UD-3@ \$21LF\$				
understand       0       \$       -         0       UD-1       0       \$21       LF       \$       -         UD-2       0       \$21       LF       \$       -         UD-3       0       \$21       LF       \$       -	Lime Stabilization (10%) @ \$16 SY (6" Depth) \$			
UD-2         @ \$21         LF         \$         -           UD-3         @ \$21         LF         \$         -	rdrains:			
UD-3 @ \$21 LF \$ -				
	a terrer tarana a da a tara a da a			
UD-4     @ \$21     LF     \$       Subtotal for Subgrade, Subbase, Base Course Items & Underdrains (Public):   5 - 1	uantityItemPriceCostSubgrade preparation (Subbase and base course)@ \$3.50 SY\$ -Aggregate (21A/21B)@ \$3 SY per Inch Depth\$ -Bituminous Concrete@ \$6.25 SY per Inch Depth\$ -Reinforced Concrete Pavement@ \$18 SY per Inch Depth\$ -Gravel Shoulders (4" Depth)@ \$12 SY (4" Depth)\$ -Soil Cement Stabilization (4%)@ \$24 SY (6" Depth)\$ -Lime Stabilization (10%)@ \$16 SY (6" Depth)\$ -cement Treated Aggregate@ \$11 per Inch Depth\$ -UD-1@ \$21 LF\$ -			

Item           12"0           15"0           18"0           21"0           24"0           27"0           30"0           33"0           36"0           42"0           48"0	Price         Cost           @ \$1,950         EA         \$         -	Quantity         Item           15"0         18"0           24"0         30"0	Price         Cost           @ \$870         EA         \$         -
15"0         18"0         21"0         24"0         27"0         30"0         33"0         36"0         42"0	@ \$1,950         EA         \$         -	18"0 24"0	@ \$870 EA \$ - @ \$870 EA \$ -
21"0 24"0 27"0 30"0 33"0 36"0 42"0	@ \$1,950         EA         \$         -           @ \$1,950         EA         \$         -		@ \$870 EA \$ -
24"0 27"0 30"0 33"0 36"0 42"0			@ \$870 EA \$ -
30"0 33"0 36"0 42"0	@ \$1,950 EA \$ -	36"0	@ \$1,100 EA \$ -
33"0 36"0 42"0	@ \$1,950         EA         \$         -           @ \$2,100         EA         \$         -	42"0 48"0	@ \$1,400         EA         \$         -           @ \$1,800         EA         \$         -
42"0	@ \$2,300 EA \$ - @ \$2,800 EA \$ -		Subtotal for End Sections (ES-2): \$ -
4910	@ \$7,236 EA \$ -	G. AD N-12 (HDPE) Quantity Item	Price Cost
54"0	@ \$7,236 EA \$ - @ \$7,236 EA \$ -	Quantity         Item           12"0         12"0	@ \$45 LF \$ -
60"0	@ \$7,236 EA \$ -	15"0 18"0	@ \$106 LF \$ - @ \$106 LF \$ -
66"0 72"0	@ \$7,236 EA \$ - @ \$9,854 EA \$ -	24"0	@ \$106 LF \$ -
	Subtotal for End Walls: \$ -	30"0 36"0	@ \$106 LF \$ - @ \$170 LF \$ -
and Sections (ES-1)	Deter Cont	42"0	@ \$170 LF \$ -
2000 Item 12"0	Price         Cost           @ \$1,048         EA         \$         -	48"0	@ \$170 LF \$
15"0 18"0	@ \$1,048 EA \$ - @ \$1,048 EA \$ -		Subtotal for AD N-12 (HDPE): \$ -
21"0	@ \$1,048 EA \$ -		
24"0 27"0	@ \$1,048 EA \$ - @ \$1,200 EA \$ -		
30"0	@ \$1,300 EA \$ -		
33"0 36"0	@ \$1,500         EA         \$         -           @ \$1,900         EA         \$         -		
42"0 - 60"	@ \$3,050 EA \$ -		
	Subtotal for End Section ES-1: \$ -		
orrugated Metal Pipe Quantity Item	Price Cost		
12"0	@ \$40 LF \$ -		
15"0 18"0	@ \$60         LF         \$         -           @ \$60         LF         \$         -		
24"0	@ \$80 LF \$ -		
30"0 36"0	@ \$80         LF         \$         -           @ \$140         LF         \$         -		
42"0 48"0	@ \$140 LF \$ -		
54"0	@ \$140         LF         \$         -           @ \$250         LF         \$         -		
60"0	@ \$250 LF \$ - Subtotal for CM Pipe: \$ -		
			Subtotal for this page: \$ -
	Subtotal for this page: \$ -	H. Stormwater Management/BMP Facilities Cost Estimates Per Im	npervious Acre Treated (See Note 3)
nd Section (ES-2)		Quantity Item	Price Cost
	Price Cost	DE-3	@ \$2,000 EA \$ -
Clear & Grub Excavation	@ \$12,800         \$         -           @ \$35         CY         \$         -	DE-4 PP-1 (1 Lot)	@ \$2,300 EA \$ - @ \$2,000 EA \$ -
Clear & Grub Excavation Embankment** (cut and fill)	@ \$12,800         \$         -           @ \$35         CY         \$         -           @ \$25         CY         \$         -	DE-4	@ \$2,300 EA \$ -
Clear & Grub Excavation Embankment** (cut and fill) Embankment (haul off) Final Grading	@ \$12,800         \$         -           @ \$35         CY         \$         -           @ \$25         CY         \$         -           @ \$36         CY         \$         -           @ \$5,000         AC         \$         -	DE-4           PP-1 (1 Lot)           PP-1 (2-5 Lots)           PP-2 (1 Lot)           PP-2 (2-5 Lots)	@ \$2,300       EA       \$       -         @ \$2,000       EA       \$       -         @ \$2,300       EA       \$       -         @ \$1,725       EA       \$       -         @ \$1,725       EA       \$       -
Clear & Grub Excavation Embankment** (cut and fill) Embankment (haul off)	@ \$12,800         \$         -           @ \$35         CY         \$         -           @ \$25         CY         \$         -           @ \$36         CY         \$         -           @ \$5,000         AC         \$         -           @ \$75         CY         \$         -	DE-4           PP-1 (1 Lot)           PP-1 (2-5 Lots)           PP-2 (1 Lot)	@ \$2,300       EA       \$       -         @ \$2,000       EA       \$       -         @ \$2,300       EA       \$       -         @ \$2,300       EA       \$       -         @ \$1,725       EA       \$       -
Clear & Grub Excavation Embankment** (cut and fill) Embankment (haul off) Final Grading Rock Excavation Slope Stabilization - Hydroseeding (3:1 or flatter) \$1,000 Min. Slope Stab Jute Mesh, matting Blankets, etc.	@ \$12,800       \$       -         @ \$35       CY       \$       -         @ \$25       CY       \$       -         @ \$36       CY       \$       -         @ \$36       CY       \$       -         @ \$5,000       AC       \$       -         @ \$75       CY       \$       -         @ \$1.25       SY       \$       -	DE-4           PP-1 (1 Lot)           PP-1 (2-5 Lots)           PP-2 (1 Lot)           PP-2 (2-5 Lots)           CG-9D or equal: 30' Width           CG-10A or equal: 30' Width	@ \$2,300       EA       \$       -         @ \$2,000       EA       \$       -         @ \$2,300       EA       \$       -         @ \$2,300       EA       \$       -         @ \$1,725       EA       \$       -         @ \$1,725       EA       \$       -         @ \$1,725       EA       \$       -         @ \$5,750       EA       \$       -         @ \$7,475       EA       \$       -         @ \$4,738       EA       \$       -
Clear & Grub         Excavation         Embankment** (cut and fill)         Embankment (haul off)         Final Grading         Rock Excavation         Slope Stabilization - Hydroseeding (3:1 or flatter) \$1,000 Min.         Slope Stab Jute Mesh, matting Blankets, etc.         (Between 2:1 to 3:1) \$200 Min         Slope Stab Sod (Between 2:1 to 3:1) \$200 Min	@ \$12,800         \$         -           @ \$35         CY         \$         -           @ \$25         CY         \$         -           @ \$36         CY         \$         -           @ \$5,000         AC         \$         -           @ \$75         CY         \$         -	DE-4           PP-1 (1 Lot)           PP-1 (2-5 Lots)           PP-2 (1 Lot)           PP-2 (2-5 Lots)           CG-9D or equal: 30' Width           CG-10A or equal: 40' Width           CG-10A or equal: 40' Width           CG-11: Concrete Entrance	@ \$2,300       EA       \$       -         @ \$2,000       EA       \$       -         @ \$2,000       EA       \$       -         @ \$2,300       EA       \$       -         @ \$2,300       EA       \$       -         @ \$1,725       EA       \$       -         @ \$1,725       EA       \$       -         @ \$1,725       EA       \$       -         @ \$5,750       EA       \$       -         @ \$5,750       EA       \$       -         @ \$7,475       EA       \$       -         @ \$4,738       EA       \$       -         @ \$6,095       EA       \$       -         @ \$3,450       EA       \$       -
Clear & Grub         Excavation         Embankment** (cut and fill)         Embankment (haul off)         Final Grading         Rock Excavation         Slope Stabilization - Hydroseeding (3:1 or flatter) \$1,000 Min.         Slope Stab Jute Mesh, matting Blankets, etc.         (Between 2:1 to 3:1) \$200 Min         Slope Stab Sod (Between 2:1 to 3:1) \$200 Min         Steep Slopes (Grading and Stabilization with Jute Mesh,	@ \$12,800       \$       -         @ \$35       CY       \$       -         @ \$25       CY       \$       -         @ \$36       CY       \$       -         @ \$36       CY       \$       -         @ \$5,000       AC       \$       -         @ \$75       CY       \$       -         @ \$1.25       SY       \$       -         @ \$6.00       SY       \$       -         @ \$8.00       SY       \$       -	DE-4           PP-1 (1 Lot)           PP-1 (2-5 Lots)           PP-2 (1 Lot)           PP-2 (2-5 Lots)           CG-9D or equal: 30' Width           CG-10A or equal: 30' Width           CG-10A or equal: 40' Width	@ \$2,300       EA       \$       -         @ \$2,000       EA       \$       -         @ \$2,300       EA       \$       -         @ \$2,300       EA       \$       -         @ \$2,300       EA       \$       -         @ \$1,725       EA       \$       -         @ \$1,725       EA       \$       -         @ \$1,725       EA       \$       -         @ \$5,750       EA       \$       -         @ \$5,475       EA       \$       -         @ \$4,738       EA       \$       -         @ \$6,095       EA       \$       -
Clear & Grub         Excavation         Embankment** (cut and fill)         Embankment (haul off)         Final Grading         Rock Excavation         Slope Stabilization - Hydroseeding (3:1 or flatter) \$1,000 Min.         Slope Stab Jute Mesh, matting Blankets, etc.         (Between 2:1 to 3:1) \$200 Min         Slope Stab Sod (Between 2:1 to 3:1) \$200 Min	@ \$12,800       \$       -         @ \$35       CY       \$       -         @ \$25       CY       \$       -         @ \$36       CY       \$       -         @ \$36       CY       \$       -         @ \$5,000       AC       \$       -         @ \$75       CY       \$       -         @ \$1.25       SY       \$       -         @ \$6.00       SY       \$       -         @ \$6.00       SY       \$       -         @ \$8.00       SY       \$       -	DE-4PP-1 (1 Lot)PP-1 (2-5 Lots)PP-2 (1 Lot)PP-2 (1 Lot)CG-9D or equal: 30' WidthCG-9D or equal: 30' WidthCG-10A or equal: 40' WidthCG-11: Concrete EntranceValley GutterPipestem Driveway - 10' (1 Lot)Pipestem Driveway - 18' (2-5 Lots)	@ \$2,300       EA       \$       -         @ \$2,000       EA       \$       -         @ \$2,300       EA       \$       -         @ \$2,300       EA       \$       -         @ \$1,725       EA       \$       -         @ \$1,725       EA       \$       -         @ \$1,725       EA       \$       -         @ \$5,750       EA       \$       -         @ \$6,095       EA       \$       -         @ \$61       SY       \$       -         @ \$61       LF       \$       -         @ \$81       LF       \$       -
Clear & Grub         Excavation         Embankment** (cut and fill)         Embankment (haul off)         Final Grading         Rock Excavation         Slope Stabilization - Hydroseeding (3:1 or flatter) \$1,000 Min.         Slope Stab Jute Mesh, matting Blankets, etc.         (Between 2:1 to 3:1) \$200 Min         Slope Stab Sod (Between 2:1 to 3:1) \$200 Min         Steep Slopes (Grading and Stabilization with Jute Mesh, Netting, Blankets, etc.)         ubgrade, Subbase, and Base Course Items	@ \$12,800       \$       -         @ \$35       CY       \$       -         @ \$25       CY       \$       -         @ \$36       CY       \$       -         @ \$36       CY       \$       -         @ \$5,000       AC       \$       -         @ \$75       CY       \$       -         @ \$1.25       SY       \$       -         @ \$6.00       SY       \$       -         @ \$20       SY       \$       -         Where the second se	DE-4PP-1 (1 Lot)PP-1 (2-5 Lots)PP-2 (1 Lot)PP-2 (1 Lot)CG-9D or equal: 30' WidthCG-9D or equal: 30' WidthCG-10A or equal: 40' WidthCG-11: Concrete EntranceValley GutterPipestem Driveway - 10' (1 Lot)Pipestem Driveway - 18' (2-5 Lots)	@ \$2,300       EA       \$       -         @ \$2,000       EA       \$       -         @ \$2,300       EA       \$       -         @ \$2,300       EA       \$       -         @ \$1,725       EA       \$       -         @ \$1,725       EA       \$       -         @ \$1,725       EA       \$       -         @ \$5,750       EA       \$       -         @ \$6,095       EA       \$       -         @ \$4,738       EA       \$       -         @ \$6,095       EA       \$       -         @ \$6,095       EA       \$       -         @ \$61       SY       \$       -         @ \$61       LF       \$       -
Clear & Grub         Excavation         Embankment** (cut and fill)         Embankment (haul off)         Final Grading         Rock Excavation         Slope Stabilization - Hydroseeding (3:1 or flatter) \$1,000 Min.         Slope Stab Jute Mesh, matting Blankets, etc. (Between 2:1 to 3:1) \$200 Min         Slope Stab Sod (Between 2:1 to 3:1) \$200 Min         Steep Slopes (Grading and Stabilization with Jute Mesh, Netting, Blankets, etc.)         abgrade, Subbase, and Base Course Items         Quantity       Item         Subgrade preparation (Subbase and base course)	@ \$12,800       \$       -         @ \$35       CY       \$       -         @ \$25       CY       \$       -         @ \$25       CY       \$       -         @ \$36       CY       \$       -         @ \$5,000       AC       \$       -         @ \$5,000       AC       \$       -         @ \$75       CY       \$       -         @ \$1.25       SY       \$       -         @ \$6.00       SY       \$       -         @ \$6.00       SY       \$       -         @ \$6.00       SY       \$       -         @ \$20       SY       \$       -	DE-4PP-1 (1 Lot)PP-1 (2-5 Lots)PP-2 (1 Lot)PP-2 (1 Lot)CG-9D or equal: 30' WidthCG-9D or equal: 30' WidthCG-10A or equal: 40' WidthCG-11: Concrete EntranceValley GutterPipestem Driveway - 10' (1 Lot)Pipestem Driveway - 18' (2-5 Lots)	@ \$2,300       EA       \$       -         @ \$2,000       EA       \$       -         @ \$2,300       EA       \$       -         @ \$2,300       EA       \$       -         @ \$1,725       EA       \$       -         @ \$1,725       EA       \$       -         @ \$1,725       EA       \$       -         @ \$5,750       EA       \$       -         @ \$6,095       EA       \$       -         @ \$61       SY       \$       -         @ \$61       LF       \$       -         @ \$81       LF       \$       -
Clear & Grub         Excavation         Embankment** (cut and fill)         Embankment (haul off)         Final Grading         Rock Excavation         Slope Stabilization - Hydroseeding (3:1 or flatter) \$1,000 Min.         Slope Stab Jute Mesh, matting Blankets, etc. (Between 2:1 to 3:1) \$200 Min         Slope Stab Sod (Between 2:1 to 3:1) \$200 Min         Steep Slopes (Grading and Stabilization with Jute Mesh, Netting, Blankets, etc.)         ubgrade, Subbase, and Base Course Items         Quantity       Item         Subgrade preparation (Subbase and base course)         Aggregate (21A/21B)	@ \$12,800       \$       -         @ \$35       CY       \$       -         @ \$25       CY       \$       -         @ \$36       CY       \$       -         @ \$36       CY       \$       -         @ \$5,000       AC       \$       -         @ \$75       CY       \$       -         @ \$1.25       SY       \$       -         @ \$6.00       SY       \$       -         @ \$6.00       SY       \$       -         @ \$6.00       SY       \$       -         @ \$20       SY       \$       -         @ \$3.50       SY       \$       -         @ \$3.50       SY       \$       -         @ \$3 SY per Inch Depth       \$       -	DE-4PP-1 (1 Lot)PP-1 (2-5 Lots)PP-2 (1 Lot)PP-2 (1 Lot)CG-9D or equal: 30' WidthCG-9D or equal: 30' WidthCG-10A or equal: 40' WidthCG-11: Concrete EntranceValley GutterPipestem Driveway - 10' (1 Lot)Pipestem Driveway - 18' (2-5 Lots)	@ \$2,300       EA       \$       -         @ \$2,000       EA       \$       -         @ \$2,300       EA       \$       -         @ \$2,300       EA       \$       -         @ \$1,725       EA       \$       -         @ \$1,725       EA       \$       -         @ \$1,725       EA       \$       -         @ \$5,750       EA       \$       -         @ \$6,095       EA       \$       -         @ \$61       SY       \$       -         @ \$61       LF       \$       -         @ \$81       LF       \$       -
Clear & Grub         Excavation         Embankment** (cut and fill)         Embankment (haul off)         Final Grading         Rock Excavation         Slope Stabilization - Hydroseeding (3:1 or flatter) \$1,000 Min.         Slope Stab Jute Mesh, matting Blankets, etc.         (Between 2:1 to 3:1) \$200 Min         Slope Stab Sod (Between 2:1 to 3:1) \$200 Min         Steep Slopes (Grading and Stabilization with Jute Mesh, Netting, Blankets, etc.)         ubgrade, Subbase, and Base Course Items         Quantity       Item         Subgrade preparation (Subbase and base course)         Aggregate (21A/21B)       Bituminous Concrete         Reinforced Concrete Pavement	@ \$12,800       \$       -         @ \$35       CY       \$       -         @ \$25       CY       \$       -         @ \$36       CY       \$       -         @ \$36       CY       \$       -         @ \$5,000       AC       \$       -         @ \$75       CY       \$       -         @ \$1.25       SY       \$       -         @ \$6.00       SY       \$       -         @ \$6.00       SY       \$       -         @ \$6.00       SY       \$       -         @ \$20       SY       \$       -         @ \$3.50       SY       \$       -         @ \$3.50       SY       \$       -         @ \$3.52       SY per Inch Depth       \$       -         @ \$18 SY per Inch Depth       \$       -	DE-4PP-1 (1 Lot)PP-1 (2-5 Lots)PP-2 (1 Lot)PP-2 (1 Lot)CG-9D or equal: 30' WidthCG-9D or equal: 30' WidthCG-10A or equal: 40' WidthCG-11: Concrete EntranceValley GutterPipestem Driveway - 10' (1 Lot)Pipestem Driveway - 18' (2-5 Lots)	@ \$2,300       EA       \$       -         @ \$2,000       EA       \$       -         @ \$2,300       EA       \$       -         @ \$2,300       EA       \$       -         @ \$1,725       EA       \$       -         @ \$1,725       EA       \$       -         @ \$1,725       EA       \$       -         @ \$5,750       EA       \$       -         @ \$6,095       EA       \$       -         @ \$61       SY       \$       -         @ \$61       LF       \$       -         @ \$81       LF       \$       -
Clear & Grub         Excavation         Embankment** (cut and fill)         Embankment (haul off)         Final Grading         Rock Excavation         Slope Stabilization - Hydroseeding (3:1 or flatter) \$1,000 Min.         Slope Stab Jute Mesh, matting Blankets, etc. (Between 2:1 to 3:1) \$200 Min         Slope Stab Sod (Between 2:1 to 3:1) \$200 Min         Steep Slopes (Grading and Stabilization with Jute Mesh, Netting, Blankets, etc.)         ubgrade, Subbase, and Base Course Items         Quantity       Item         Subgrade preparation (Subbase and base course)         Aggregate (21A/21B)       Bituminous Concrete         Reinforced Concrete Pavement       Gravel Shoulders (4" Depth)	@ \$12,800       \$       -         @ \$35       CY       \$       -         @ \$25       CY       \$       -         @ \$25       CY       \$       -         @ \$36       CY       \$       -         @ \$36       CY       \$       -         @ \$36       CY       \$       -         @ \$5,000       AC       \$       -         @ \$75       CY       \$       -         @ \$1.25       SY       \$       -         @ \$6.00       SY       \$       -         @ \$6.00       SY       \$       -         @ \$6.00       SY       \$       -         @ \$20       SY       \$       -         @ \$3.50       SY       \$       -         @ \$3.50       SY       \$       -         @ \$6.25 SY per Inch Depth       \$       -         @ \$12 SY (4" Depth)       \$       - </td <td>DE-4PP-1 (1 Lot)PP-1 (2-5 Lots)PP-2 (1 Lot)PP-2 (1 Lot)CG-9D or equal: 30' WidthCG-9D or equal: 30' WidthCG-10A or equal: 40' WidthCG-11: Concrete EntranceValley GutterPipestem Driveway - 10' (1 Lot)Pipestem Driveway - 18' (2-5 Lots)</td> <td>@ \$2,300       EA       \$       -         @ \$2,000       EA       \$       -         @ \$2,300       EA       \$       -         @ \$2,300       EA       \$       -         @ \$1,725       EA       \$       -         @ \$1,725       EA       \$       -         @ \$1,725       EA       \$       -         @ \$5,750       EA       \$       -         @ \$6,095       EA       \$       -         @ \$61       SY       \$       -         @ \$61       LF       \$       -         @ \$81       LF       \$       -</td>	DE-4PP-1 (1 Lot)PP-1 (2-5 Lots)PP-2 (1 Lot)PP-2 (1 Lot)CG-9D or equal: 30' WidthCG-9D or equal: 30' WidthCG-10A or equal: 40' WidthCG-11: Concrete EntranceValley GutterPipestem Driveway - 10' (1 Lot)Pipestem Driveway - 18' (2-5 Lots)	@ \$2,300       EA       \$       -         @ \$2,000       EA       \$       -         @ \$2,300       EA       \$       -         @ \$2,300       EA       \$       -         @ \$1,725       EA       \$       -         @ \$1,725       EA       \$       -         @ \$1,725       EA       \$       -         @ \$5,750       EA       \$       -         @ \$6,095       EA       \$       -         @ \$61       SY       \$       -         @ \$61       LF       \$       -         @ \$81       LF       \$       -
Clear & Grub         Excavation         Embankment** (cut and fill)         Embankment (haul off)         Final Grading         Rock Excavation         Slope Stabilization - Hydroseeding (3:1 or flatter) \$1,000 Min.         Slope Stab Jute Mesh, matting Blankets, etc.         (Between 2:1 to 3:1) \$200 Min         Slope Stab Jute Mesh, matting Blankets, etc.         (Between 2:1 to 3:1) \$200 Min         Slope Stab Sod (Between 2:1 to 3:1) \$200 Min         Steep Slopes (Grading and Stabilization with Jute Mesh, Netting, Blankets, etc.)         bgrade, Subbase, and Base Course Items         uantity       Item         Subgrade preparation (Subbase and base course)         Aggregate (21A/21B)         Bituminous Concrete         Reinforced Concrete Pavement         Gravel Shoulders (4" Depth)         Soil Cement Stabilization (4%)         Lime Stabilization (10%)	@ \$12,800       \$       -         @ \$35       CY       \$       -         @ \$25       CY       \$       -         @ \$25       CY       \$       -         @ \$36       CY       \$       -         @ \$36       CY       \$       -         @ \$5,000       AC       \$       -         @ \$75       CY       \$       -         @ \$1.25       SY       \$       -         @ \$6.00       SY       \$       -         @ \$8.00       SY       \$       -         @ \$20       SY       \$       -         @ \$3.50       SY       \$       - <tr< td=""><td>DE-4PP-1 (1 Lot)PP-1 (2-5 Lots)PP-2 (1 Lot)PP-2 (1 Lot)CG-9D or equal: 30' WidthCG-9D or equal: 30' WidthCG-10A or equal: 40' WidthCG-11: Concrete EntranceValley GutterPipestem Driveway - 10' (1 Lot)Pipestem Driveway - 18' (2-5 Lots)</td><td>@ \$2,300       EA       \$       -         @ \$2,000       EA       \$       -         @ \$2,300       EA       \$       -         @ \$2,300       EA       \$       -         @ \$1,725       EA       \$       -         @ \$1,725       EA       \$       -         @ \$1,725       EA       \$       -         @ \$5,750       EA       \$       -         @ \$6,095       EA       \$       -         @ \$61       SY       \$       -         @ \$61       LF       \$       -         @ \$81       LF       \$       -</td></tr<>	DE-4PP-1 (1 Lot)PP-1 (2-5 Lots)PP-2 (1 Lot)PP-2 (1 Lot)CG-9D or equal: 30' WidthCG-9D or equal: 30' WidthCG-10A or equal: 40' WidthCG-11: Concrete EntranceValley GutterPipestem Driveway - 10' (1 Lot)Pipestem Driveway - 18' (2-5 Lots)	@ \$2,300       EA       \$       -         @ \$2,000       EA       \$       -         @ \$2,300       EA       \$       -         @ \$2,300       EA       \$       -         @ \$1,725       EA       \$       -         @ \$1,725       EA       \$       -         @ \$1,725       EA       \$       -         @ \$5,750       EA       \$       -         @ \$6,095       EA       \$       -         @ \$61       SY       \$       -         @ \$61       LF       \$       -         @ \$81       LF       \$       -
Clear & Grub         Excavation         Embankment** (cut and fill)         Embankment (haul off)         Final Grading         Rock Excavation         Slope Stabilization - Hydroseeding (3:1 or flatter) \$1,000 Min.         Slope Stab Jute Mesh, matting Blankets, etc.         (Between 2:1 to 3:1) \$200 Min         Slope Stab Sod (Between 2:1 to 3:1) \$200 Min         Steep Slopes (Grading and Stabilization with Jute Mesh, Netting, Blankets, etc.)         uantity         Item         Subgrade, Subbase, and Base Course Items         uantity         Item         Subgrade preparation (Subbase and base course)         Aggregate (21A/21B)         Bituminous Concrete         Reinforced Concrete Pavement         Gravel Shoulders (4" Depth)         Soil Cement Stabilization (4%)         Lime Stabilization (10%)         Cement Treated Aggregate	@ \$12,800       \$       -         @ \$35       CY       \$       -         @ \$25       CY       \$       -         @ \$25       CY       \$       -         @ \$25       CY       \$       -         @ \$36       CY       \$       -         @ \$36       CY       \$       -         @ \$5,000       AC       \$       -         @ \$75       CY       \$       -         @ \$1.25       SY       \$       -         @ \$6.00       SY       \$       -         @ \$6.00       SY       \$       -         @ \$6.00       SY       \$       -         @ \$8.00       SY       \$       -         @ \$20       SY       \$       -         @ \$3.50       SY       \$       -         @ \$3.50       SY       \$       - <tr< td=""><td>DE-4PP-1 (1 Lot)PP-1 (2-5 Lots)PP-2 (1 Lot)PP-2 (1 Lot)CG-9D or equal: 30' WidthCG-9D or equal: 30' WidthCG-10A or equal: 40' WidthCG-11: Concrete EntranceValley GutterPipestem Driveway - 10' (1 Lot)Pipestem Driveway - 18' (2-5 Lots)</td><td>@ \$2,300       EA       \$       -         @ \$2,000       EA       \$       -         @ \$2,300       EA       \$       -         @ \$2,300       EA       \$       -         @ \$1,725       EA       \$       -         @ \$1,725       EA       \$       -         @ \$1,725       EA       \$       -         @ \$5,750       EA       \$       -         @ \$6,095       EA       \$       -         @ \$61       SY       \$       -         @ \$61       LF       \$       -         @ \$81       LF       \$       -</td></tr<>	DE-4PP-1 (1 Lot)PP-1 (2-5 Lots)PP-2 (1 Lot)PP-2 (1 Lot)CG-9D or equal: 30' WidthCG-9D or equal: 30' WidthCG-10A or equal: 40' WidthCG-11: Concrete EntranceValley GutterPipestem Driveway - 10' (1 Lot)Pipestem Driveway - 18' (2-5 Lots)	@ \$2,300       EA       \$       -         @ \$2,000       EA       \$       -         @ \$2,300       EA       \$       -         @ \$2,300       EA       \$       -         @ \$1,725       EA       \$       -         @ \$1,725       EA       \$       -         @ \$1,725       EA       \$       -         @ \$5,750       EA       \$       -         @ \$6,095       EA       \$       -         @ \$61       SY       \$       -         @ \$61       LF       \$       -         @ \$81       LF       \$       -
Clear & Grub         Excavation         Embankment** (cut and fill)         Embankment (haul off)         Final Grading         Rock Excavation         Slope Stabilization - Hydroseeding (3:1 or flatter) \$1,000 Min.         Slope Stab Jute Mesh, matting Blankets, etc. (Between 2:1 to 3:1) \$200 Min         Slope Stab Sod (Between 2:1 to 3:1) \$200 Min         Steep Slopes (Grading and Stabilization with Jute Mesh, Netting, Blankets, etc.)         Ibgrade, Subase, and Base Course Items         Subgrade preparation (Subbase and base course)         Aggregate (21A/21B)         Bituminous Concrete         Reinforced Concrete Pavement         Gravel Shoulders (4" Depth)         Soil Cement Stabilization (4%)         Lime Stabilization (10%)         Cement Treated Aggregate         ardrains:         UD-1	@ \$12,800       \$       -         @ \$35       CY       \$       -         @ \$25       CY       \$       -         @ \$25       CY       \$       -         @ \$36       CY       \$       -         @ \$5,000       AC       \$       -         @ \$5,000       AC       \$       -         @ \$75       CY       \$       -         @ \$6.00       SY       \$       -         @ \$20       SY       \$       -         @ \$3.50       SY       \$       - <t< td=""><td>DE-4PP-1 (1 Lot)PP-1 (2-5 Lots)PP-2 (1 Lot)PP-2 (1 Lot)CG-9D or equal: 30' WidthCG-9D or equal: 30' WidthCG-10A or equal: 40' WidthCG-11: Concrete EntranceValley GutterPipestem Driveway - 10' (1 Lot)Pipestem Driveway - 18' (2-5 Lots)</td><td>@ \$2,300       EA       \$       -         @ \$2,000       EA       \$       -         @ \$2,300       EA       \$       -         @ \$2,300       EA       \$       -         @ \$1,725       EA       \$       -         @ \$1,725       EA       \$       -         @ \$1,725       EA       \$       -         @ \$5,750       EA       \$       -         @ \$6,095       EA       \$       -         @ \$61       SY       \$       -         @ \$61       LF       \$       -         @ \$81       LF       \$       -</td></t<>	DE-4PP-1 (1 Lot)PP-1 (2-5 Lots)PP-2 (1 Lot)PP-2 (1 Lot)CG-9D or equal: 30' WidthCG-9D or equal: 30' WidthCG-10A or equal: 40' WidthCG-11: Concrete EntranceValley GutterPipestem Driveway - 10' (1 Lot)Pipestem Driveway - 18' (2-5 Lots)	@ \$2,300       EA       \$       -         @ \$2,000       EA       \$       -         @ \$2,300       EA       \$       -         @ \$2,300       EA       \$       -         @ \$1,725       EA       \$       -         @ \$1,725       EA       \$       -         @ \$1,725       EA       \$       -         @ \$5,750       EA       \$       -         @ \$6,095       EA       \$       -         @ \$61       SY       \$       -         @ \$61       LF       \$       -         @ \$81       LF       \$       -
Clear & Grub         Excavation         Embankment** (cut and fill)         Embankment (haul off)         Final Grading         Rock Excavation         Slope Stabilization - Hydroseeding (3:1 or flatter) \$1,000 Min.         Slope Stab Jute Mesh, matting Blankets, etc. (Between 2:1 to 3:1) \$200 Min         Slope Stab Sod (Between 2:1 to 3:1) \$200 Min         Steep Slopes (Grading and Stabilization with Jute Mesh, Netting, Blankets, etc.)         ubgrade, Subbase, and Base Course Items         Quantity       Item         Subgrade preparation (Subbase and base course)         Aggregate (21A/21B)         Bituminous Concrete         Reinforced Concrete Pavement         Gravel Shoulders (4" Depth)         Soil Cement Stabilization (4%)         Lime Stabilization (10%)         Cement Treated Aggregate	@ \$12,800       \$       -         @ \$35       CY       \$       -         @ \$25       CY       \$       -         @ \$25       CY       \$       -         @ \$36       CY       \$       -         @ \$36       CY       \$       -         @ \$36       CY       \$       -         @ \$5,000       AC       \$       -         @ \$75       CY       \$       -         @ \$1.25       SY       \$       -         @ \$6.00       SY       \$       -         @ \$6.00       SY       \$       -         @ \$6.00       SY       \$       -         @ \$8.00       SY       \$       -         @ \$20       SY       \$       -	DE-4PP-1 (1 Lot)PP-1 (2-5 Lots)PP-2 (1 Lot)PP-2 (1 Lot)CG-9D or equal: 30' WidthCG-9D or equal: 30' WidthCG-10A or equal: 40' WidthCG-11: Concrete EntranceValley GutterPipestem Driveway - 10' (1 Lot)Pipestem Driveway - 18' (2-5 Lots)	@ \$2,300       EA       \$       -         @ \$2,000       EA       \$       -         @ \$2,300       EA       \$       -         @ \$2,300       EA       \$       -         @ \$1,725       EA       \$       -         @ \$1,725       EA       \$       -         @ \$1,725       EA       \$       -         @ \$5,750       EA       \$       -         @ \$6,095       EA       \$       -         @ \$61       SY       \$       -         @ \$61       LF       \$       -         @ \$81       LF       \$       -

Subtotal for this page: \$ -

C. End Walls

		1			
	Sod	@ \$8.00	SY	\$	-
	Hydraulic Cem. Conc 4" depth	@ \$8.00	SF	\$	-
	Bituminous Concreate - 1" depth	@ \$6.00	SY	\$	-
	Rip-Rap	@ \$7.75	SF	\$	-
	Grouted Rip-Rap	@ \$9.00	SF	\$	-
	Erosion Control Stone (EC-1)	@ \$130	TON	\$	-
	#57 - Coarse Aggregate	@ \$30	TON	\$	-
	4' High Chain Link Fence (#9 gauge or better, including braces, end posts and gate)	@ \$45	LF	\$	-
	6' High Chain Link Fence (#9 gauge or better, including braces, end posts and gate)	@ \$45	LF	\$	-
	SWM Sign (WATER RISES RAPIDLY)				
	(Minimum 3 signs per facility)	@ \$390	EA	\$	-
	Access Road	By Itemized C	Cost		
	Subtotal for Miscellaneou	s Stormwater I	Management	\$	-
	is Drainage Items				-
I. Miscellaneou Quantity		s Stormwater M		\$ Cos	- st
	is Drainage Items	Pri			- st
	Is Drainage Items	Pri	ice	Cos	- st - -
	Is Drainage Items Item Box Culvert	Pri @ 840 @ \$2,250	ice CY of conc.	Cos \$	- st - -
Quantity	Is Drainage Items Item Box Culvert Energy Dissipater	Pri @ 840 @ \$2,250	ice CY of conc. EA	Cos \$ \$	- st - -
Quantity	Is Drainage Items Item Box Culvert Energy Dissipater	Pri @ 840 @ \$2,250	ice CY of conc. EA	Cos \$ \$	- st - - -
Quantity	Is Drainage Items Item Box Culvert Energy Dissipater Wing Walls	Pri @ 840 @ \$2,250 @ 990	CY of conc. EA CY of conc. LF	Cos	- st - - - - -
Quantity	Item Item Box Culvert Energy Dissipater Wing Walls Roadside Standard Ditches (Seed, Fertilize & Mulch)	Pri @ 840 @ \$2,250 @ 990 @ \$8.00	CY of conc. EA CY of conc. LF	Cos \$ \$ \$ \$	-
Quantity	Item Item Box Culvert Energy Dissipater Wing Walls Roadside Standard Ditches (Seed, Fertilize & Mulch) Sod Ditches	Pri @ 840 @ \$2,250 @ 990 @ \$8.00 @ \$10.50	CY of conc. EA CY of conc. LF LF	Cos \$ \$ \$ \$ \$ \$	-
Quantity	Item Item Box Culvert Energy Dissipater Wing Walls Roadside Standard Ditches (Seed, Fertilize & Mulch) Sod Ditches Paved Ditches	Pri @ 840 @ \$2,250 @ 990 @ \$8.00 @ \$8.00 @ \$8.50	CY of conc. EA CY of conc. LF LF SF	Cos \$ \$ \$ \$ \$ \$ \$ \$	-
Quantity	Is Drainage Items Item Box Culvert Energy Dissipater Wing Walls Roadside Standard Ditches (Seed, Fertilize & Mulch) Sod Ditches Paved Ditches Filter Cloth Fabric & Gabion Stone	Pri @ 840 @ \$2,250 @ 990 @ \$8.00 @ \$10.50 @ \$8.50 @ \$22	CY of conc. EA CY of conc. LF LF SF SF	Cos \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	- - - - - - -
Quantity	Is Drainage Items Item Box Culvert Energy Dissipater Wing Walls Roadside Standard Ditches (Seed, Fertilize & Mulch) Sod Ditches Paved Ditches Filter Cloth Fabric & Gabion Stone Rip-Rap	Pri @ 840 @ \$2,250 @ 990 @ \$8.00 @ \$10.50 @ \$8.50 @ \$22 @ \$7.75	ice CY of conc. EA CY of conc. LF LF SF SF SF SF	Cos \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	
	Is Drainage Items Item Box Culvert Energy Dissipater Wing Walls Roadside Standard Ditches (Seed, Fertilize & Mulch) Sod Ditches Paved Ditches Filter Cloth Fabric & Gabion Stone Rip-Rap Grouted Rip-Rap	Pri           @ 840           @ \$2,250           @ 990           @ \$8.00           @ \$10.50           @ \$8.50           @ \$22           @ \$7.75           @ \$9.00           @ \$10	ice CY of conc. EA CY of conc. LF LF SF SF SF SF SF	Cos \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	- - - - - - -
Quantity	Is Drainage Items Item Box Culvert Energy Dissipater Wing Walls Roadside Standard Ditches (Seed, Fertilize & Mulch) Sod Ditches Paved Ditches Filter Cloth Fabric & Gabion Stone Rip-Rap Grouted Rip-Rap	Pri           @ 840           @ \$2,250           @ 990           @ \$8.00           @ \$10.50           @ \$8.50           @ \$22           @ \$7.75           @ \$9.00           @ \$10	ice CY of conc. EA CY of conc. LF LF SF SF SF SF SF SF SF	Cos \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	- - - - - - -

Nea         Nea         Cat         A 10		1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1 <th>\$870       EA       \$       -         \$870       EA       \$       -         \$870       EA       \$       -         \$870       EA       \$       -         \$870       EA       \$       -         \$1,100       EA       \$       -         \$1,400       EA       \$       -         \$106       LF       \$       -         \$106       LF       \$       -         \$170       LF       \$       -         \$250       LF       \$       -         r AD N-12 (HDPE):       \$       -         ated (See Note 3)       -       -</th>	\$870       EA       \$       -         \$1,100       EA       \$       -         \$1,400       EA       \$       -         \$106       LF       \$       -         \$106       LF       \$       -         \$170       LF       \$       -         \$250       LF       \$       -         r AD N-12 (HDPE):       \$       -         ated (See Note 3)       -       -
		19.0         0.1500         1.0         5         -         -         12.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0	8870       EA       \$       -         8870       EA       \$       -         \$870       EA       \$       -         \$1,100       EA       \$       -         \$1,400       EA       \$       -         \$1,800       EA       \$       -         \$106       LF       \$       -         \$106       LF       \$       -         \$106       LF       \$       -         \$107       LF       \$       -         \$250       LF       \$       -         r AD N-12 (HDPE):       \$       -         ated (See Note 3)       -       -
		10°         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100         60,100 <td>8870       EA       \$       -         \$870       EA       \$       -         \$1,100       EA       \$       -         \$1,400       EA       \$       -         \$1,800       EA       \$       -         \$140       EA       \$       -         \$106       LF       \$       -         \$106       LF       \$       -         \$170       LF       \$       -         \$250       LF       \$       -         \$AD N-12 (HDPE):       \$       -         \$Add for this page:       \$       -</td>	8870       EA       \$       -         \$870       EA       \$       -         \$1,100       EA       \$       -         \$1,400       EA       \$       -         \$1,800       EA       \$       -         \$140       EA       \$       -         \$106       LF       \$       -         \$106       LF       \$       -         \$170       LF       \$       -         \$250       LF       \$       -         \$AD N-12 (HDPE):       \$       -         \$Add for this page:       \$       -
		No         6 1308         A         5         -           No         6 1308         A         5         -           00         6 20         A         5         -           00         8 20 20         A         5         -           00         8 20 20         A         5         -           00         10         10         10         10           10         10         10         10         10           10         10         10         10         10           10         10         10         10         10           10         10         10         10         10           10         10         10         10         10           1	\$1,100       EA       \$       -         \$1,400       EA       \$       -         \$1,800       EA       \$       -         \$1,800       EA       \$       -         S1,800       EA       \$       -         \$106       LF       \$       -         \$106       LF       \$       -         \$106       LF       \$       -         \$106       LF       \$       -         \$170       LF       \$       -         \$170       LF       \$       -         \$170       LF       \$       -         \$250       LF       \$       -         \$A D N-12 (HDPE):       \$       -         \$0 a cols       S       -         \$0 cols       S       -         \$0 cols       S       -
		10%     0     0.159     1.0     5     -       10%     0     0.10     1.0     5     -       10%     0     0.10     1.0     5     -       10%     0     0.10     1.0     5     -       10%     0     0.10     1.0     5     -       10%     0     0.10     1.0     5     -       10%     0     0.10     1.0     5     -       10%     0     0.0     1.0     5     -       10%     0     0.0     1.0     5     -       10%     0     0.0     0.0     0.0     0.0       10%     0     0.0     0.0     0.0     0.0       10%     0     0.0     0.0     0.0     0.0       10%     0     0.0     0.0     0.0     0.0       10%     0     0.0     0.0     0.0     0.0       10%     0     0.0     0.0     0.0     0.0       10%     0     0.0     0.0     0.0     0.0       10%     0     0.0     0.0     0.0     0.0       10%     0     0.0     0.0     0.0       10%	\$1,400       EA       \$       -         \$1,800       EA       \$       -         Ind Sections (ES-2):       \$       -         \$106       LF       \$       -         \$107       LF       \$       -         \$170       LF       \$       -         \$250       LF       \$       -         r AD N-12 (HDPE):       \$       -         stad (See Note 3)       \$       -
pip         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q         q		00     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0 </td <td>\$1,800       EA       \$       -         Ind Sections (ES-2):       \$       -         \$106       LF       \$       -         \$107       LF       \$       -         \$170       LF       \$       -         \$250       LF       \$       -         r AD N-12 (HDPE):       \$       -         stade (See Note 3)       \$       -</td>	\$1,800       EA       \$       -         Ind Sections (ES-2):       \$       -         \$106       LF       \$       -         \$107       LF       \$       -         \$170       LF       \$       -         \$250       LF       \$       -         r AD N-12 (HDPE):       \$       -         stade (See Note 3)       \$       -
		87°     9     9     10     5        47°     3     5         67°     3     3     10     1       67°     3     3     1     1     1       67°     3     3     1     1     1       70°     3     3     1     1     1       70°     3     3     1     1     1       70°     3     3     1     1     1       70°     3     3     1     1     1       70°     3     3     1     1     1       70°     3     3     1     1     1       70°     3     3     1     1     1       70°     3     3     1     1     1       70°     3     3     1     1     1       70°     3     3     1     1     1       70°     3     3     1     1     1       70°     3     3     1     1     1       70°     3     3     1     1     1       70°     3     3     1     1     1       70°     3	Price         Cost           \$45         LF         \$         -           \$106         LF         \$         -           \$170         LF         \$         -           \$170         LF         \$         -           \$250         LF         \$         -           r AD N-12 (HDPE):         \$         -
		aro     aro     aro     aro       aro     aro     aro       aro     aro     aro       aro     aro     aro       aro     aro     aro       aro     aro     aro       aro     aro     aro       aro     aro     aro       aro     aro     aro       aro     aro     aro       aro     aro     aro       aro     aro     aro       aro     aro     aro       aro     aro     aro       aro     aro     aro       aro     aro     aro       aro     aro     aro       aro     aro     aro       aro     aro     aro       aro     aro     aro       aro     aro     aro       aro     aro     aro       aro     aro     aro       aro     aro     aro       aro     aro     aro       aro     aro     aro       aro     aro     aro       aro     aro     aro       aro     aro     aro       aro     aro     aro       aro     aro     <	\$45       LF       \$       -         \$106       LF       \$       -         \$170       LF       \$       -         \$170       LF       \$       -         \$250       LF       \$       -         r AD N-12 (HDPE):       \$       -         stad (See Note 3)       -       -
		and the second of the page     S     -       540     697.255     K.8     5       607     697.255     K.8     5       107     697.156     K.8     5       108     108 1.50     K.8     5       1090     697.50     K.8     5       1010     697.50     K.8     5       1020     108 1.50     K.8     5       1010     697.50     K.8       1	\$45       LF       \$       -         \$106       LF       \$       -         \$170       LF       \$       -         \$170       LF       \$       -         \$250       LF       \$       -         r AD N-12 (HDPE):       \$       -         stad (See Note 3)       -       -
No.         Other State         O		wo         9 37.25         k.4         s            wo         9 37.25         k.4         s            170         9 37.25         k.4         s            wom         9 37.25         k.4         s            170         10         9 37.25         k.4         s            170         0         31.26         k.5             170         0         31.26         k.5             1800         120         5              1970         0         3126         17         5            1970         0         31	\$106       LF       \$       -         \$170       LF       \$       -         \$170       LF       \$       -         \$250       LF       \$       -         r AD N-12 (HDPE):       \$       -         otal for this page:       \$       -
		isto         isto         isto         isto           720         83545         1.6         .           Subout for for Wink: 5         .           ity         Bit Math         .           Ity         Bit Math         .           Ity         Bit Math         .           Ity         Bit Math         .           Subout for fue Xunk: 5         .           Ity         Bit Math         .           Subout for fue Xunk: 5         . <t< td=""><td>\$106       LF       \$       -         \$106       LF       \$       -         \$106       LF       \$       -         \$106       LF       \$       -         \$170       LF       \$       -         \$170       LF       \$       -         \$170       LF       \$       -         \$250       LF       \$       -         r AD N-12 (HDPE):       \$       -         ortal for this page:       \$       -</td></t<>	\$106       LF       \$       -         \$106       LF       \$       -         \$106       LF       \$       -         \$106       LF       \$       -         \$170       LF       \$       -         \$170       LF       \$       -         \$170       LF       \$       -         \$250       LF       \$       -         r AD N-12 (HDPE):       \$       -         ortal for this page:       \$       -
Dist         Dist <thdis< th="">         Dist         Dist         D</thdis<>		ib         Subtrain for East Walk         S         S           extra (RS.1)         Ibm         Mark         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S	\$106       LF       \$       -         \$170       LF       \$       -         \$170       LF       \$       -         \$250       LF       \$       -         r AD N-12 (HDPE):       \$       -         solal for this page:       \$       -         ated (See Note 3)       -
		Monormality is a final of a start of a sta	\$170       LF       \$       -         \$170       LF       \$       -         \$250       LF       \$       -         r AD N-12 (HDPE):       \$       -
		ity         Icon         Orice         Cost           12 0         6 \$1.04         K.         \$          \$           12 0         6 \$1.04         K.         \$          \$          \$          \$          \$          \$          \$          \$          \$          \$          \$          \$          \$          \$          \$          \$          \$          \$          \$          \$          \$          \$          \$          \$          \$          \$          \$          \$          \$          \$          \$         \$          \$         \$         \$         \$          \$         \$         \$         \$         \$         \$         \$         \$         \$         \$         \$         \$         \$         \$         \$         \$         \$         \$         \$ <td>\$170       LF       \$       -         \$250       LF       \$       -         r AD N-12 (HDPE):       \$       -</td>	\$170       LF       \$       -         \$250       LF       \$       -         r AD N-12 (HDPE):       \$       -
102         00 1048         5.         1           102         0.0 1048         5.         1           102         0.0 1048         5.         1           102         0.0 1048         5.         1           102         0.0 1048         5.         1           102         0.0 1048         5.         1           102         0.0 1048         5.         1           102         0.0 1048         5.         1           102         0.0 1048         5.         1           102         0.0 1048         5.         1           102         0.0 1048         5.         1           102         0.0 1048         5.         1           102         0.0 1048         5.         1           102         0.0 1048         5.         1           102         0.0 1048         5.         1           103         0.0 1028         1         1           104         0.0 1028         1         1           105         0.0 1028         1         1           105         0.0 1028         1         1<	No         O         O         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N	International product of the page         Subtral for this page         Subtra for this page         Subtral for this page </td <td>\$250       LF       \$       -         r AD N-12 (HDPE):       \$       -         source       -       -         otal for this page:       \$       -         ated (See Note 3)       -       -</td>	\$250       LF       \$       -         r AD N-12 (HDPE):       \$       -         source       -       -         otal for this page:       \$       -         ated (See Note 3)       -       -
101         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0		190         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0	r AD N-12 (HDPE): \$ -
Image: Display		12 m         0         0         0         1         0         1         0         1         0         1         0         1         0         1         0         1         0         1         0         1         0         1         0         1         0         0         1         0         1         0         1         0         1         0         1         0         1         0         1         0         1         0         0         1         0         1         0         1         0         1         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0 <td>ated (See Note 3)</td>	ated (See Note 3)
Import         Existing		240         69         34.045         EA         5         -           270         69         51.00         EA         5         -           370         69         51.00         EA         5         -           370         69         51.00         EA         5         -           370         69         51.00         EA         5         -           470°-0°         69         50.00         EA         5         -           aron         69         50.00         EA         5         -           aron         69         50.0         EA         5         -           aron         69         50         EF         5         -           370         69         50 <td< td=""><td>ated (See Note 3)</td></td<>	ated (See Note 3)
No         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0		int         Icon         Price         Cost           120         0         0         5.500         EA         5           120         0         0.500         EA         5         -           120         0         0.5000         EA         5         -           200         0         5.500         EA         5         -           200         0         5.500         EA         5         -           200         0         5.500         EA         5         -           200         0         540         17         5         -           120         0         540         17         5         -           070         0         540         17         5         -           070         0         540         17         5         -           070         0         540         17         5         -           070         0         540         17         5         -           0400         0         550         17         5         -           0400         0         550         17         5         -	ated (See Note 3)
Image: Norm         Image: Norm         States         Image: Norm         States         Image: Norm         States         Image: Norm         States         Image: Norm         Image: Norm<	No.         No.         No.         No.           No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.         No.	Image: Start	ated (See Note 3)
Import		isro         isro         isro         isro           427-6.0°         000000000000000000000000000000000000	ated (See Note 3)
No.         No. <td>Notes         Notes         <th< td=""><td>item         item         Price         Cost           ignod         0         940         1.5         5         -           ignod         0         940         1.5         5         -           isro         0         940         1.5         5         -           isro         0         940         1.5         5         -           2010         0         940         1.5         5         -           2010         0         940         1.5         5         -           2010         0         950         1.7         5         -           2010         0         950         1.7         5         -           470         0         9520         1.7         5         -           470         0         95250         1.7         5         -           470         0         95250         1.7         5         -           4870         0         95250         1.7         5         -           1600         0         95250         1.7         5         -           1600         0         95250         1.7         5&lt;</td><td>ated (See Note 3)</td></th<></td>	Notes         Notes <th< td=""><td>item         item         Price         Cost           ignod         0         940         1.5         5         -           ignod         0         940         1.5         5         -           isro         0         940         1.5         5         -           isro         0         940         1.5         5         -           2010         0         940         1.5         5         -           2010         0         940         1.5         5         -           2010         0         950         1.7         5         -           2010         0         950         1.7         5         -           470         0         9520         1.7         5         -           470         0         95250         1.7         5         -           470         0         95250         1.7         5         -           4870         0         95250         1.7         5         -           1600         0         95250         1.7         5         -           1600         0         95250         1.7         5&lt;</td><td>ated (See Note 3)</td></th<>	item         item         Price         Cost           ignod         0         940         1.5         5         -           ignod         0         940         1.5         5         -           isro         0         940         1.5         5         -           isro         0         940         1.5         5         -           2010         0         940         1.5         5         -           2010         0         940         1.5         5         -           2010         0         950         1.7         5         -           2010         0         950         1.7         5         -           470         0         9520         1.7         5         -           470         0         95250         1.7         5         -           470         0         95250         1.7         5         -           4870         0         95250         1.7         5         -           1600         0         95250         1.7         5         -           1600         0         95250         1.7         5<	ated (See Note 3)
Note         Note <th< td=""><td></td><td>specific Metal Price         Item         Price         Cost           1970         0.9540         1.8         5         -           1970         0.9540         1.8         5         -           2070         0.9540         1.8         5         -           2070         0.9510         1.8         5         -           2070         0.9510         1.8         5         -           2070         0.9510         1.8         5         -           2070         0.9510         1.8         5         -           2070         0.95120         1.8         5         -           2070         0.9520         1.8         5         -           2070         0.9520         1.8         5         -           2070         0.9520         1.8         5         -           2000         0.9520         1.8         5         -           2000         0.9520         1.8         5         -           2000         1.8         5         -         -           2000         1.8         5         -         -           2000         1.8         5<td>ated (See Note 3)</td></td></th<>		specific Metal Price         Item         Price         Cost           1970         0.9540         1.8         5         -           1970         0.9540         1.8         5         -           2070         0.9540         1.8         5         -           2070         0.9510         1.8         5         -           2070         0.9510         1.8         5         -           2070         0.9510         1.8         5         -           2070         0.9510         1.8         5         -           2070         0.95120         1.8         5         -           2070         0.9520         1.8         5         -           2070         0.9520         1.8         5         -           2070         0.9520         1.8         5         -           2000         0.9520         1.8         5         -           2000         0.9520         1.8         5         -           2000         1.8         5         -         -           2000         1.8         5         -         -           2000         1.8         5 <td>ated (See Note 3)</td>	ated (See Note 3)
Intention         Res	nim         Nem         Per         Cot           10         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0	iting         item         Price         Cot           120         0         0         50         1         5         .           150         0         0         50         1         5         .           240         0         50         1         5         .         .           240         0         510         1         5         .         .           240         0         510         1         5         .         .           480         0         5         1         5         .         .           480         0         1         5         .         .         .         .           480         0         1         5         .         .         .         .         .           480         0         1         5         .         .         .         .         .         .         .           5         5         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .	ated (See Note 3)
Import         Import<	Import         Import<	12%       0       94 M0       1F       S       -         15%       0       0       950       1F       S       -         24%       0       0       950       1F       S       -         36%       0       0       950       1F       S       -         36%       0       0       950       1F       S       -         36%       0       0       9510       1F       S       -         42%       0       0       9510       1F       S       -         42%       0       0       9525       1F       S       -         60%       0       0       9525       1F       S       -         60%       0       0       9525       1F       S       -         Subtotal for this page:       S       -	ated (See Note 3)
ist         ist <td>ivin         0 % 0         iv         5           ivin         0 % 0         ivin         0 %           ivin         0 % 0         ivin         0 %           ivin         0 % 0         0 %         0 %         0 %           ivin         0 % 0         0 %         0 %         0 %           ivin         0 % 0         0 %         0 %         0 %           ivin         0 % 0         0 %         0</td> <td>isro         00 tuP         8 so            1870         0.950         LP         \$            2470         0.950         LP         \$            3070         0.9580         LP         \$            4270         0.9510         LP         \$            4270         0.9510         LP         \$            4270         0.9510         LP         \$            4870         0.9520         LP         \$            5470         0.9520         LP         \$            5570         LP         \$             cetion (ES-2)         Item         1         1         1           1100         19.95200         \$             111000         19.82200</td> <td>ated (See Note 3)</td>	ivin         0 % 0         iv         5           ivin         0 % 0         ivin         0 %           ivin         0 % 0         ivin         0 %           ivin         0 % 0         0 %         0 %         0 %           ivin         0 % 0         0 %         0 %         0 %           ivin         0 % 0         0 %         0 %         0 %           ivin         0 % 0         0 %         0	isro         00 tuP         8 so            1870         0.950         LP         \$            2470         0.950         LP         \$            3070         0.9580         LP         \$            4270         0.9510         LP         \$            4270         0.9510         LP         \$            4270         0.9510         LP         \$            4870         0.9520         LP         \$            5470         0.9520         LP         \$            5570         LP         \$             cetion (ES-2)         Item         1         1         1           1100         19.95200         \$             111000         19.82200	ated (See Note 3)
Into         6 80         U         5         -           200         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000	Imp         Imp <td>Isto         0         So         LF         8         .           270         0         90         0.0         1.8         2.0           370         0         9.00         1.F         8            470         0         9.140         1.F         8            470         0         9.140         1.F         8            470         0         9.140         1.F         8            670         0         9.140         1.F         8            070         0         9.250         1.F         8            670         0         9.250         1.F         8            sector (ES-2)          Subtotal for this page:         S            sector (ES-2)         Item         Price         Cost           item         Price         Cost         Price         S            sector (ES-2)         Item         Price         Cost         Price         Price           sector (ES-2)         Item         Price         Cost         Price         Price         Price</td> <td>ated (See Note 3)</td>	Isto         0         So         LF         8         .           270         0         90         0.0         1.8         2.0           370         0         9.00         1.F         8            470         0         9.140         1.F         8            470         0         9.140         1.F         8            470         0         9.140         1.F         8            670         0         9.140         1.F         8            070         0         9.250         1.F         8            670         0         9.250         1.F         8            sector (ES-2)          Subtotal for this page:         S            sector (ES-2)         Item         Price         Cost           item         Price         Cost         Price         S            sector (ES-2)         Item         Price         Cost         Price         Price           sector (ES-2)         Item         Price         Cost         Price         Price         Price	ated (See Note 3)
int 0       int 30       int 30       if 2       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i       i	No         Statute         Sta	30°0         0         0         0         0         1         1         1           30°0         0         1F         8         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -<	ated (See Note 3)
Nu         @ 516         D         S            420         @ 516         D         S            420         @ 106         D         S            100         @ 106         D         S            100         @ 106         D         S            100         Statust for this page         S            11         Scorest for this page         S            12         Scorest for this page         S            13         Scorest for this page         S            14         Scorest for this page         S            13         Scorest for this page         S            14         Scorest for this page         S            15         Scorest for this page         Scorest for this page         Scorest for this	iso         iso         iso         iso           iso         iso         iso         iso         iso           iso         iso         iso         iso         iso         iso           iso         iso         iso         iso         iso         iso           iso         iso         iso         iso         iso         iso         iso           iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso         iso	36°0       (9) 140       LF       S       -         42°0       (9) 5140       LF       S       -         44°0       (9) 5140       LF       S       -         54°0       (9) 520       LF       S       -         60°0       (9) 5220       LF       S       -         0°0       (9) 520       LF       S       -         Total for this page:       S       -       -         celoin (ES-2)       Item       Price       Cost         1       1       1       1       1         1       1       1       1       1         1       1       1       1       1         1       1       1       1       1         1       1       1       1       1         1       1       1       1       1         1       1       1       1       1       1         1       1       1       1       1       1       1         1       1       1       1       1       1       1       1         1       1       1       1       1	ated (See Note 3)
is vo         is k k k is is is is is k k k is is is is is k k k k	interm         interm<	48°0       @ \$140       IF       \$       -         56°0       @ \$250       IF       \$       -         60°0       @ \$250       IF       \$       -         Subtoal for CM Pipe:       \$       -       -         Subtoal for this page:       \$       -       -         cection (ES-2)       Subtoal for this page:       \$       -         nitiy       Item       Price       Cost         Clear & Grub       @ \$12,800       \$       -         Enconviton       @ \$12,800       \$       -      >	ated (See Note 3)
is run	Status         Status         S         S           60°         Status         fr         S         S           60°         Status         fr         S         S           50°         Status         S         S         S         S           50°         Status         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S         S	Image: state of the s	ated (See Note 3)
Image: 1         Image: 3	Import in the set of the page:         S         S           Substant for (M) page:         S         -           Substant for (M) page:         S         S	60°0         @ \$250         LF         S         .           Subtral for CM Pipe         S         .         .         .         .           Subtral for CM Pipe         S         .         .         .         .         .           Subtral for CM Pipe         S         .         .         .         .         .         .           Subtral for this page:         S         .         .         .         .         .         .           Section (ES-2)         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .	ated (See Note 3)
Sector (S-2)         Status for this page         S         S           number of the sector (S-2)         Item of the sector (S-2)         Status for t		Subtotal for this page:         S         -           Section (ES-2)         Subtotal for this page:         S         -           Inity         Item         Subtotal for this page:         S           Inity         Item         Item         Item           Inity         Item         Item </td <td>ated (See Note 3)</td>	ated (See Note 3)
Iteration     Section (Bs-2)       antiv     Itera     Price     Cort       Cort of Christ     00 S12,000     5     0       Instances** (cort of Bill)     00 S12,000     1     5       Instances     00 S12,000     1     5     0       Instances     00 S12,000	Notes     Sector (BS-2)       antip term (b)     Control	Subtotal for this page: \$         Section (ES-2)       H. Stornwater Management/BMP Facilities Cost Estimates Per Impervious Acet Tre         Quantity       Item         antity       Item         Clear & Grub       @ \$12,800       \$       -         Excavation       @ \$12,800       \$       -         Embankment*(out and fill)       @ \$25       CY       \$       -         Final Grading       @ \$25,000       AC       \$       -         Final Grading       @ \$25,000       AC       \$       -         Stope Stabilization - Hydroseeding (3:1 or futuer) \$1,000 Min.       @ \$175       CY       \$       -         Gloop Stabilization - Hydroseeding (3:1 or futuer) \$1,000 Min.       @ \$175       Y       \$       -	ated (See Note 3)
It     Sector (Bx-2)            antiv         Item         Price         Cont            (Der & Cond)         0////////////////////////////////////	Section (25.2)     1. Summetry Management BMP Partition Cost Estimates Per Inspection Solve Or Texate (Sec. Note. 3). <ul> <li> <b>Not</b> (100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100</li></ul>	Subtotal for this page: \$         Section (ES-2)       H. Stormwater Management/BMP Facilities Cost Estimates Per Impervious Acec Tre         Quantity       Item         antity       Item         Clear & Grub       @ \$12,800       \$         Excavation       @ \$12,800       \$       -         Excavation       @ \$12,800       \$       -         Embankment* (aut off)       @ \$25       CY       \$       -         Embankment (haul off)       @ \$26       CY       \$       -         Final Grading       @ \$5,000       AC       \$       -         Final Grading       @ \$5,000       AC       \$       -         Stop Stabilization - Hydroseeding (3:1 or faster) \$1,000 Min.       @ \$75       CY       \$       -         Stop Stabilization - Hydroseeding (3:1 or faster) \$1,000 Min.       @ \$75       CY       \$       -         Stop Stabilization - Hydroseeding (3:1 or faster) \$1,000 Min.       @ \$75       Y       \$       -	ated (See Note 3)
Nuberal for fuis page     Cont       15 science (15-2)     11. Science (15-2)       namp     Image: Control (15-2)	Subtrain (16-2)       16 Science (16-2)       16 Science (16-2)       17 Science (16-2)       18 Science (16-2)       18 Science (16-2)       19 Science (16-2)       19 Science (16-2)       10 Science (16-2)       11 Scie	Subtotal for this page: S         A Section (ES-2)       H. Stormwater Management/BMP Facilities Cost Estimates Per Impervious Acre Tre         Quantity       Item         Item       Item         Austrity       Item         Clear & Grub       @ \$12,800       \$       -         Excavation       @ \$12,800       \$       -         Excavation       @ \$12,800       \$       -         Embankment** (out and fill)       @ \$25       CY       \$       -         Final Grading       @ \$5,000       AC       \$       -         Final Grading       @ \$5,000       AC       \$       -         Rock Excavation       @ \$5,000       AC       \$       -         Rock Excavation       @ \$75       CY       \$       -         Ope Stabilization - Hydroseeding (b1: or future) \$1,000 Min.       @ \$12,50 Y       \$       -	ated (See Note 3)
Intermediation (ES-2)     Item     Price     Cert       Intermediation (CS-2)     Item     Item     Price     Cert       Intermediation (CS-2)     Item     Item     Item     Item     Cert       Intermediation (CS-2)     Item     Item     Item     Item     Item     Item       Intermediation (CS-2)	if Section (25.2)         unativ       Item       I	Item       Price       Cost         Quantity       Item       Item         Item       Item       Item         Item       Item       Item       Item         Item       Item       Item       Item         Item       Item       Item       Item         Item       Item       Item       Item         Item       Item       Item       Item       Item         Item       Item       Item       Item       Item </td <td></td>	
All section (25-2)     Quarity     Item     Price     Cott       Impaint on the section (25-2)     Impaint on the	A set of (1):3.1     Image: Constrained and a set of (1):3.1     Constrained an	Quantity       Item         Quantity       Item	
Junity         Item         Price         Cont           Char & Goh         @ \$153         CY         \$         -           Infantonent* (cur and fill)         @ \$155         CY         \$         -           Infantonent* (cur and fill)         @ \$155         CY         \$         -           Infantonent* (cur and fill)         @ \$155         CY         \$         -           Infantonent* (cur and fill)         @ \$155         CY         \$         -           Infantonent* (cur and fill)         @ \$155         CY         \$         -           Infantonent* (cur and fill)         @ \$155         CY         \$         -           Infantonent* (cur and fill)         @ \$155         CY         \$         -           Incol Curation         @ \$155         CY         \$         -           Incol Curation         @ \$155         CY         \$         -           Incol Curation         @ \$155         CY         \$         -           Incol Subjecting (1) et non (\$1,000 Min.         @ \$155         S         -           Incol Subjecting (1) et non (\$1,000 Min.         @ \$155         S         -           Incol Subjecting (1) et non (\$1,000 Min.         \$ \$155         S </td <td>Intention         Interview         Cont           Clarx &amp; Conho        </td> <td>Quantity         Item         Price         Cost           Clear &amp; Grub         @ \$12,800         \$         -           Excavation         @ \$255         CY         \$         -           Embankment (haul off)         @ \$255         CY         \$         -           Final Grading         @ \$250         CY         \$         -           Rock Excavation         @ \$250         CY         \$         -           Mankment (haul off)         @ \$250         CY         \$         -           Rock Excavation         @ \$250         CY         \$         -           Slope Stabilization - Hydroseeding (3: 1 or flatter) \$1,000 Min.         @ \$1.25         SY         \$         -           Slope Stabilization - Hydroseeding (3: 1 or flatter) \$1,000 Min.         @ \$1.25         SY         \$         -</td> <td></td>	Intention         Interview         Cont           Clarx & Conho	Quantity         Item         Price         Cost           Clear & Grub         @ \$12,800         \$         -           Excavation         @ \$255         CY         \$         -           Embankment (haul off)         @ \$255         CY         \$         -           Final Grading         @ \$250         CY         \$         -           Rock Excavation         @ \$250         CY         \$         -           Mankment (haul off)         @ \$250         CY         \$         -           Rock Excavation         @ \$250         CY         \$         -           Slope Stabilization - Hydroseeding (3: 1 or flatter) \$1,000 Min.         @ \$1.25         SY         \$         -           Slope Stabilization - Hydroseeding (3: 1 or flatter) \$1,000 Min.         @ \$1.25         SY         \$         -	
Clar & Grub         @ \$12.90         \$         -           Excession         @ \$23.00         CY         \$         -           Enhandment** (aut and fill)         @ \$25.00         CY         \$         -           Enhandment** (aut and fill)         @ \$25.00         CY         \$         -           Find Grading         @ \$52.00         CY         \$         -           Find Grading         @ \$57.50         CY         \$         -           Stops Stubi-studing (2) = thano \$1,000 Min.         @ \$1.25         SY         \$         -           Stops Stubi-studing Blankets, etc.          -         -         CC0-90 or equal: 30 Width         @ \$7.75         CA         \$         -           Stops Stubi-studing Blankets, etc.          -         -         -         -         CC0-90 or equal: 30 Width         @ \$7.475         CA         \$         -           Stops Stubi-studi (ps Stubing Stubine)         @ \$5.005         SY         \$         -         -         CC1-00 or equal: 30 Width         @ \$4.735         EA         \$         -           Stops Stubi-Studi (ps Stubine)         @ \$2.00         SY         \$         -         -         CD1-10A or equal: 30 Width         @ \$4.035 <td>Clear &amp; Cranh       (6) \$12.00       \$       -         Excovation       (6) \$23.5       Y       \$       -         Excovation       (6) \$23.5       Y       \$       -         Excovation       (6) \$25.0       Y       \$       -         Excovation       (6) \$25.0       Y       \$       -         Excovation       (6) \$25.0       X       \$       -         Stop \$20.0       FA       \$       -         (11104)       (9) \$12.5       FA       \$       -         (11004)       (9) \$2.0       FA       \$       -</td> <td>Clear &amp; Grub         @ \$12,800         \$         -           Excavation         @ \$35         CY         \$         -           Embankment** (cut and fill)         @ \$25         CY         \$         -           Embankment (haul off)         @ \$36         CY         \$         -           Final Grading         @ \$5,000         AC         \$         -           Rock Excavation         @ \$75         CY         \$         -           Slope Stabilization - Hydroseeding (3:1 or flatter) \$1,000 Min.         @ \$1.25         SY         \$         -</td> <td></td>	Clear & Cranh       (6) \$12.00       \$       -         Excovation       (6) \$23.5       Y       \$       -         Excovation       (6) \$23.5       Y       \$       -         Excovation       (6) \$25.0       Y       \$       -         Excovation       (6) \$25.0       Y       \$       -         Excovation       (6) \$25.0       X       \$       -         Stop \$20.0       FA       \$       -         (11104)       (9) \$12.5       FA       \$       -         (11004)       (9) \$2.0       FA       \$       -	Clear & Grub         @ \$12,800         \$         -           Excavation         @ \$35         CY         \$         -           Embankment** (cut and fill)         @ \$25         CY         \$         -           Embankment (haul off)         @ \$36         CY         \$         -           Final Grading         @ \$5,000         AC         \$         -           Rock Excavation         @ \$75         CY         \$         -           Slope Stabilization - Hydroseeding (3:1 or flatter) \$1,000 Min.         @ \$1.25         SY         \$         -	
Excavation       @ 335       CY       \$       -         Enhomatin entified (cut an fill)       @ 525       CY       \$       -         Enhomatin entified (cut an fill)       @ 525       CY       \$       -         Pinal Grading       @ 550       CY       \$       -         Rock Excavation       @ 550       CY       \$       -         Boby Stabilization - Hydrosceding (3: or famer) 81,000 Min.       @ 51.25       SY       \$       -         Boby Stabilization - Hydrosceding (3: or famer) 81,000 Min.       @ 51.25       SY       \$       -         Boby Stabi Just Mathemer (4: an famer) 81,000 Min.       @ 51.25       SY       \$       -         Boby Stabilization - Hydrosceding (3: or famer) 81,000 Min.       @ 50.00       SY       \$       -         Boby Stabilization Wild Methods, etc.       @ 50.00       SY       \$       -         Boby Stabilization wild Methods, etc.       @ 50.00       SY       \$       -         Stop Stabilization Wild Methods, etc.       @ 50.00       SY       \$       -         Matter Stabilization wild Methods, etc.       @ 50.00       SY       \$       -         Matter Stabilization Wild Methods, etc.       @ 50.00       SY       \$       - </th <th>□ Encountion       ○○ 353 ○ CY       S      </th> <th>Excavation       @ \$35       CY       \$       -         Embankment** (cut and fill)       @ \$25       CY       \$       -         Embankment(haul off)       @ \$36       CY       \$       -         Final Grading       @ \$5,000       AC       \$       -         Rock Excavation       @ \$75       CY       \$       -         Slope Stabilization - Hydroseeding (3:1 or flatter) \$1,000 Min.       @ \$1.25       SY       \$       -</th> <th></th>	□ Encountion       ○○ 353 ○ CY       S	Excavation       @ \$35       CY       \$       -         Embankment** (cut and fill)       @ \$25       CY       \$       -         Embankment(haul off)       @ \$36       CY       \$       -         Final Grading       @ \$5,000       AC       \$       -         Rock Excavation       @ \$75       CY       \$       -         Slope Stabilization - Hydroseeding (3:1 or flatter) \$1,000 Min.       @ \$1.25       SY       \$       -	
Inbankment* (cut and fill)       @ 925 °Y       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$	Endurances (sur and III)       (i)       (i) <td< td=""><td>Embankment** (cut and fill)       @ \$25       CY       \$       -         Embankment (haul off)       @ \$36       CY       \$       -         Final Grading       @ \$5,000       AC       \$       -         Rock Excavation       @ \$75       CY       \$       -         Slope Stabilization - Hydroseeding (3:1 or flatter) \$1,000 Min.       @ \$1.25       SY       \$       -</td><td></td></td<>	Embankment** (cut and fill)       @ \$25       CY       \$       -         Embankment (haul off)       @ \$36       CY       \$       -         Final Grading       @ \$5,000       AC       \$       -         Rock Excavation       @ \$75       CY       \$       -         Slope Stabilization - Hydroseeding (3:1 or flatter) \$1,000 Min.       @ \$1.25       SY       \$       -	
find Grading       @ \$5,00       AC       \$       -         Rock Excavation       @ \$1,75       CV       \$       -         @ Kock Excavation       @ \$1,75       CV       \$       -         @ Stop Stabilization Hydroseeding (3:1 or flamer) \$1,000 Min.       @ \$1,75       V       \$       -         @ Stop Stabilization Hydroseeding (3:1 or flamer) \$1,000 Min.       @ \$1,75       V       \$       -         @ Stop Stabilization Hydroseeding (3:1 or flamer) \$1,000 Min.       @ \$1,80       SV       \$       -         @ Stop Stabilization with Jute Mesh,       @ \$1,80       SV       \$       -         Stop Stop Stop Conding and Stabilization with Jute Mesh,       @ \$20       SV       \$       -         withing, Blankers, etc.       @ \$20       SV       \$       -       -         withing, Blankers, etc.       @ \$20       SV       \$       -       -         withing, Blankers, etc.       @ \$1,025       With       \$       -       -         withing and Stabilization with Jute Mesh,       @ \$23.50       SV       \$       -       -         withing and Stabilization (Stabbase and Base Oursel       @ \$3.50       SV       \$       -       -         Bitterineta Staper price	Find Grading       0       95,500       AC       8       -         RecEncention       0       95,707       K       8       -         Stope Stabilization - Hydroweeding (-1) or flawer) \$1,000 Min.       0       91,12.5       SV       \$       -         Stope Stabilization - Hydroweeding (-1) or flawer) \$1,000 Min.       0       91,12.5       SV       \$       -         (Revert 2) to 1) \$1000 Min       0       91,12.5       SV       \$       -       CG-10 or equit; 407 Width       0       95,070       K       \$       -         (Revert 2) to 1) \$1000 Min       0       95,00       SV       \$       -       CG-10 or equit; 407 Width       0       95,00       K       \$       -         Stope Stab Sold (Revere 2) to 3) \$1000 Min       0       95,00       SV       \$       -       CG-110 or equit; 407 Width       0       95,00       K       \$       -         Stopes (Sonding and Sublization with Jute Mash, ret.       -       Stopes Table 10       0       95,00       K       \$       -         Walter Gamera       Stopes Table 10	Final Grading         @ \$5,000         AC         \$         -           Rock Excavation         @ \$75         CY         \$         -           Slope Stabilization - Hydroseeding (3:1 or flatter) \$1,000 Min.         @ \$1.25         SY         \$         -	\$2,300 EA \$ -
Rock Excavation       @ \$75       CY       \$	Rock Excavation       @ 975 OV       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$       \$ <td>Rock Excavation         @ \$75         CY         \$ -         CG-9D or equal: 30' Width         @           Slope Stabilization - Hydroseeding (3:1 or flatter) \$1,000 Min.         @ \$1.25         SY         \$ -         CG-9D or equal: 40' Width         @</td> <td></td>	Rock Excavation         @ \$75         CY         \$ -         CG-9D or equal: 30' Width         @           Slope Stabilization - Hydroseeding (3:1 or flatter) \$1,000 Min.         @ \$1.25         SY         \$ -         CG-9D or equal: 40' Width         @	
Sipe Stabilization - Hydroseding (2:1 or fature) \$1,000 Min.       (a) \$1.2 s. Y       \$       -         Sipe Stabilization - Hydroseding (2:1 or fature) \$1,000 Min.       (a) \$1.2 s. Y       \$       -         Biope Stabilization (3:1 or fature) \$1,000 Min.       (a) \$2.0 s. Y       \$       -         Biope Stabilization (3:1 bi:1) \$200 Min.       (a) \$2.0 s. Y       \$       -         Biope Stabilization (3:1 bi:1) \$200 Min.       (a) \$2.0 s. Y       \$       -         Metrice, Elto 3:1) \$200 Min.       (a) \$2.0 s. Y       \$       -         Metrice, Blankets, etc.).       (a) \$2.0 s. Y       \$       -         Metrice, Blankets, etc.).       (a) \$2.0 s. Y       \$       -         Valter, Blankets, etc.).       (a) \$2.0 s. Y       \$       -         Valter, Blankets, etc.).       (a) \$2.0 s. Y       \$       -         Valter, Blankets, etc.).       (a) \$2.0 s. Y       \$       -         Valter, Blankets, etc.).       (a) \$2.0 s. Y       \$       -         Valter, Blankets, etc.).       (a) \$2.0 s. Y       \$       -         Valter, Blankets, etc.).       (a) \$2.0 s. Y       \$       -         Valter, Blankets, etc.).       (a) \$2.0 s. Y       \$       -         Valter, Blankets, etc.).       (a) \$2.0 s.	Slops Sublination - Hydroseding 0:1 or news \$1,000 Min.       @ \$12.5       \$Y       \$       -         Slops Stab Jue Missh, matting Blankets, etc.       @ \$5.00       \$Y       \$       -         @everal: 10: 31/300 Min       @ \$5.00       \$Y       \$       -         Slops Slab Sold (hevera: 21: 10: 31/300 Min       @ \$8.00       \$Y       \$       -         Slops Slab Sold (hevera: 21: 10: 31/300 Min       @ \$8.00       \$Y       \$       -         Metring, Blankets, etc.)       @ \$20       \$Y       \$       -         whing, Blankets, etc.)       @ \$20       \$Y       \$       -         whing, Blankets, etc.)       @ \$20       \$Y       \$       -         whing, Blankets, etc.)       @ \$3.50       \$Y       \$       -         whing, Blankets, etc.)       @ \$3.50       \$Y       \$       -         whing Source       @ \$3.50       \$Y       \$       -         Aggregite (21/21B)       \$1.50       \$       \$       -         Metring Source       @ \$3.50       \$Y       \$       -         Aggregite (21/21B)       \$1.50       \$       -       -         Gried Shulfizzion (Who)       \$2.53.57       \$       - <td< td=""><td>Slope Stabilization - Hydroseeding (3:1 or flatter) \$1,000 Min. @ \$1.25 SY \$ - CG-9D or equal: 40' Width @</td><td>\$5,750 EA \$ -</td></td<>	Slope Stabilization - Hydroseeding (3:1 or flatter) \$1,000 Min. @ \$1.25 SY \$ - CG-9D or equal: 40' Width @	\$5,750 EA \$ -
	(memo 1: 0) 10200 Min       (min 0: 0) SAO       SV       S       -         (min 0: 0) SAO (min 0: 0) SAO (min 0: 0) SAO       SV       S       -         (min 0: 0) SAO (min 0: 0) SAO (min 0: 0) SAO       SV       S       -         (min 0: 0) SAO (min 0: 0) SAO (min 0: 0) SAO       SV       S       -         (min 0: 0) SAO (min 0: 0) SAO (min 0: 0) SAO       SV       S       -         (min 0: 0) SAO (min 0: 0) SAO       SV       S       -         (min 0: 0) SAO (min 0: 0) SAO       SV       S       -         (min 0: 0) SAO (min 0: 0) SAO       SV       S       -         (min 0: 0) SAO	Nope Stab Jute Mesh, matting Blankets, etc.	\$7,475 EA \$ -
Slope Stab Sod (Retween 2: 16 3:1) S200 Min       @ \$8.00       SY       \$       -         Steep Slopes (Grading and Stabilization with Jute Mesh, Netting, Blankets, etc.)       @ \$20       SY       \$       -         Walley Gutter       @ \$61       LF       \$       -         upgrade. Suppravise of the supervise of the suppravise of the suppravise of the supervise	Slope Stab Sod (Retween 2: 10: 31) \$200 Min       @ \$8.00 \$Y       \$       -         Steep Slope (Grading and Stabilization with Jute Mesh, Dignal Reparation with Jute Mesh, Steep Slope (Grading and Stabilization with Jute Mesh, Batter Steep Slope (Grading and Stabilization with Jute Mesh, Batter Steep Slope Steep Slope		
Netting, Blankets, etc.)       @ \$20 SY       \$       .         Wetting, Blankets, etc.)       Subtal for Site Work:       \$       .         Unpraced, Subgrade preparation (Subbase and base course)       @ \$3.50 SY       \$       .         Aggregate (21 A/21B)       @ \$12 SY (4" Depth)       \$       .         Meinforced Concrete Parvement       @ \$18 SY per lueb Depth       \$       .         Gravel Shoulders (4" Depth)       @ \$12 SY (6" Depth)       \$       .         Gil Cement Stabilization (10%)       @ \$16 SY (6" Depth)       \$       .         Lime Stabilization (10%)       @ \$16 SY (6" Depth)       \$       .         cement Treated Aggregate       @ \$11 per lueb Depth       \$       .         erdrains::       Editation (10%)       @ \$11 per lueb Depth       \$       .	Netting, Blankets, etc.)       @ \$20       SY       \$	Slope Stab Sod (Between 2:1 to 3:1) \$200 Min         @ \$8.00         SY         \$         -         CG-11: Concrete Entrance         @	\$3,450 EA \$ -
Image: Subtraining on the subtraining of site Work:       \$ -         Subgrade course Items       Subtraining of site Work:       \$ -         Subgrade preparation (Subbase and base course)       @ \$3.50       \$Y       \$ -         Aggregate (21A/21B)       @ \$3.50       \$Y       \$ -         Bituminous Concrete       @ \$6.25       \$Y per luch Depth       \$ -         Gravel Shoulders (4" Depth)       @ \$12       \$ -         Soil Cernent Stabilization (10%)       @ \$16       \$ -         Cernent Treated Aggregate       @ \$11 per luch Depth       \$ -         Cernent Treated Aggregate       \$ 11 per luch Depth       \$ -         erdrains:       \$ -       \$ -	Nubtal for Site Work       \$          ubgrade, Subject Rems       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0 </td <td></td> <td></td>		
subgrade programment       Image: Note of the programment of the pro	ubgrade.programment         Image: Note Note Note Note Note Note Note Note	Subtotal for Site Work:     \$     -     Pipestem Driveway - 18' (2-5 Lots)     @	\$81 LF \$ -
Subgrade preparation (Subbase and base course)	Subgrade preparation (Subbase and base course)       @ \$3.0       SY       \$       -         Aggregate (21A/21B)       @ \$3.8 Ype Tach Deph       \$       -         Bituminous Concrete       @ \$6.25 SY per hel-Deph       \$       -         Reinforced Concrete Pavement       @ \$6.25 SY per hel-Deph       \$       -         Gravel Shoulders (4" Deph)       @ \$18 SY per hel-Deph       \$       -         Soil Cement Stabilization (4%)       @ \$24 SY (6" Depth)       \$       -         Image Stabilization (10%)       @ \$11 per hel-Depth       \$       -         vertarist:       -       -       -       -         UD-1       @ \$21       LF       \$       -         UD-2       @ \$21       LF       \$       -         UD-3       @ \$21       LF       \$       -         UD-4       @ \$21       LF       \$       -	abgrade, Subbase, and Base Course Items	nce and Pipe Stems: \$ -
Aggregate (21A/21B)@ \$3 SY per Inch Depth\$Bituminous Concrete@ \$6.25 SY per Inch Depth\$Reinforced Concrete Pavement@ \$18 SY per Inch Depth\$Gravel Shoulders (4" Depth)@ \$12 SY (4" Depth)\$Soil Cement Stabilization (4%)@ \$24 SY (6" Depth)\$Lime Stabilization (10%)@ \$16 SY (6" Depth)\$Cement Treated Aggregate@ \$11 per Inch Depth\$	Aggregate (21A/21B) $(2)$ 3S SY per helber $S$ Bituminous Concrete $(2)$ 6S 2S SY per hebber $S$ Reinforced Concrete Pavement $(2)$ 6S 2S SY per hebber $S$ Gravel Shoulders (4" Depth) $(2)$ SI 2S Y (4" Depth) $S$ Soil Cenent Stabilization (4%) $(2)$ S2 SY (3" Depth) $S$ Soil Cenent Stabilization (4%) $(2)$ S1 SY (5" Depth) $S$ Cenent Treated Aggregate $(2)$ S1 SY (5" Depth) $S$ Treated Aggregate $(2)$ S1 Per hebber $S$ UD-1 $(2)$ S2 S1 $S$ UD-2 $(2)$ LF $S$ UD-3 $(2)$ S2 S1 $S$ UD-4 $(2)$ S2 S1 $S$ UD-4 $(2)$ S2 S1 $S$ UD-4 $(2)$ S2 S1 $S$ Soil Cenent S1 $(2)$ S2 S1UD-3 $(2)$ LF $S$ UD-4 $(2)$ S2 S1 $S$		
Bituminous Concrete@ (s.25 SY per Inch Depth)\$Reinforced Concrete Pavement@ (s.25 SY per Inch Depth)\$Gravel Shoulders (4" Depth)@ (s.12 SY (4" Depth))\$Soil Cement Stabilization (4%)@ (s.24 SY (6" Depth))\$Lime Stabilization (10%)@ (s.16 SY (6" Depth))\$Cement Treated Aggregate@ (s.11 per Inch Depth))\$rdrains:	Bituminous ConcreteBituminous Co		
Gravel Shoulders (4" Depth)@ \$12 SY (4" Depth)\$Soil Cement Stabilization (4%)@ \$24 SY (6" Depth)\$Lime Stabilization (10%)@ \$16 SY (6" Depth)\$Cement Treated Aggregate@ \$11 per Inch Depth\$erdrains:	Gravel Shoulders (4" Depth) $(@ $12 SY (4" Depth)$ $$ < < < Soil Cement Stabilization (4%)(@ $24 SY (6" Depth))$ < < $ < Lime Stabilization (10%)(@ $16 SY (6" Depth))$ < $ Cement Treated Aggregate(@ $11 per Inch Depth))$ $ erdrains:(@ $21 IP)$ $ UD-1(@ $21 IP)$ $ UD-2(@ $21 IP)$ $ UD-3(@ $21 IP)$ $ UD-4(@ $21 IP)$ $ $	Bituminous Concrete @ \$6.25 SY per Inch Depth \$-	
Soil Cement Stabilization (4%)@ \$24 SY (6" Depth)\$Lime Stabilization (10%)@ \$16 SY (6" Depth)\$Cement Treated Aggregate@ \$11 per Inch Depth\$erdrains:	Soil Cement Stabilization (4%) $@$ \$24 SY (6" Dept) $$$ $-$ Lime Stabilization (10%) $@$ \$16 SY (6" Dept) $$$ $-$ Cement Treated Aggregate $@$ \$11 per Ind Dept) $$$ $-$ erdrains: $=$ $=$ $=$ $=$ UD-1 $@$ \$21 LF $$$ $-$ UD-2 $@$ \$21 LF $$$ $-$ UD-3 $@$ \$21 LF $$$ $-$ UD-4 $@$ \$21 LF $$$ $-$		
Lime Stabilization (10%)       @ \$16 SY (6" Depth)       \$       -         Cement Treated Aggregate       @ \$11 per Inch Depth       \$       -         erdrains:       -       -       -       -	Lime Stabilization (10%)       @ \$16 SY (6" Deph       \$       -         Cement Treated Aggregate       @ \$11 per Inch Deph       \$       -         UD-1       @ \$21       LF       \$       -         UD-2       @ \$21       LF       \$       -         UD-3       @ \$21       LF       \$       -         UD-4       @ \$21       LF       \$       -	Soil Cement Stabilization (4%) @ \$24 SY (6" Depth) \$ -	
erdrains:	understand       understand <td>Lime Stabilization (10%) @ \$16 SY (6" Depth) \$-</td> <td></td>	Lime Stabilization (10%) @ \$16 SY (6" Depth) \$-	
	UD-1       @ \$21       LF       \$       -         UD-2       @ \$21       LF       \$       -         UD-3       @ \$21       LF       \$       -         UD-4       @ \$21       LF       \$       -		
UD-1 @ \$21 LF \$ -	UD-3     @ \$21     LF     \$       UD-4     @ \$21     LF     \$	UD-1 @ \$21 LF \$ -	
	UD-4 @ \$21 LF \$ -		
Subtotal for Subgrade, Subbase, Base Course Items & Underdrains (Public): \$ -		Subtotal for Subgrade, Subbase, Base Course Items & Underdrains (Public): 8 -	
		Sub	otal for this page: \$ -
Subtotal for this page: \$	Subtotal for this page: \$	Subtotal for this page: \$ -	
Subtotal for this page: \$ -	Subtotal for this page: \$ -		Price Cost
Subtotal for this page:     \$     -       D. Miscellaneous Construction Items	Subtotal for this page:     \$     -       D. Miscellaneous Construction Items	Quality     Item     Price     Cost       Sidewalk (5' Width)     @ \$40	
Subtral for this page       \$       -         Subtral for this page       \$         Subtral for this page	Subtral for this page <ul> <li>Subtral for this page</li> <li>Subtra for th</li></ul>	DE-1 @ \$1,800 EA \$ - Header Curb (CG-2/CG-3) @ \$25	LF \$ -
Subtral for this page       \$       -         Intrances and Fipe Stems       Item       Price       Cost         Quality       Item       Quality       Cost         DE-1       @\$1,800       EA       \$       -	Subtral for this page     \$       ntrances and Fipe Stems     Item       Quality     Item       0E-1     @\$1,800       EA     \$       0     Header Curb (CG-2/CG-3)       @\$25     LF       \$	DE-2 @ \$1,950 EA \$ - Curb & Gutter @ \$28	LF \$ -
Subtral for this page       \$       -         Itrances and Pipe Stems       Item       Price       Cost         Del1       @\$1,800       EA       \$       -	Subtral for this page       \$       -         Itrances and Pipe Stems       Item       Price       Cost         Del       @\$1,800       EA       \$       -         Del       @\$1,800       EA       \$       -		LF \$ -
Subtral for this page       \$       -         rances and Fipe Stems       Item       Price       D. Miscellaneous Construction Items         Quantity       Item       Price       Cost         0E-1       @ \$1,800       EA       \$       -	Subtral for this page     \$     -       Subtral for this page     Subtral for this page     Subtral for this page       Subtral for this page     Subtral for this page     Subtral for this page       Subtral for this page     Subtral for this page     Subtral for this page       Subtral for this page     Subtral for this page     Subtral for this page       Subtral for this page     Subtral for this page     Subtral for this page		LF \$ -

3. CONSTRUCTION WITHIN THE PUBLIC RIGHT-OF-WAY AND/OR PRIVATE INGRESS/EGRESS

Subtotal for this page: \$ -

EASEMENTS

A. Site Work

	Dry Retention Pond	By itemized cost	
	Dry Extended Detention Pond	By itemized cost	
	Wet Pond/Wetlands	By itemized cost	
	Bioswale	By itemized cost	
	Vegetated Grass Channel	By itemized cost	
	Micro-Bio-Retention (Raingarden)	By itemized cost	
	Infiltration Practices without Sand	By itemized cost	
	Infiltration Practices with Sand	By itemized cost	
	Filtering Practices with Sand Below Ground	By itemized cost	
	Filtering Practices with Sand Above Ground	By itemized cost	
	Permeable Pavement Level 2 Design	By itemized cost	
	Vegetated Roof Level 1 Design	By itemized cost	
	Vegetated Roof Level 2 Design	By itemized cost	
	Soil Compost Amendment	By itemized cost	
	Rooftop Impervious Surface Disconnection	By itemized cost	
	Sheet Flow to a Vegetated Filter Strip	By itemized cost	
roprietary	Manufactured BMP-manufacturer's Certified Cost Plus Construction Co	st	·
	Aqua-Swirl® Stormwater Treatment System	By itemized cost	
	BaySeparator™	By itemized cost	
	Continuous Defective Separator® (CDS)	By itemized cost	
	Downstream Defender®	By itemized cost	
	Hydroguard	By itemized cost	
	Stormceptor® MAX	By itemized cost	
	Stormceptor® OSR	By itemized cost	
	Stormceptor® STC	By itemized cost	
	StormPro	By itemized cost	
	Storm Water Quality Unit	By itemized cost	
	V2B1	By itemized cost	
	The Vortechs® System	By itemized cost	
	Aqua-Filter Stormwater™ Filtration System	By itemized cost	
	Storm Tech® Isolater Row™	By itemized cost	
	Up-Flo Filter® with CPZ Media	By itemized cost	
	The Stormwater Management StormFilter® with ZPG Media	By itemized cost	
	BayFilter [™] Stormwater Cartridge System	By itemized cost	
	Filterra Bioretention Systems	By itemized cost	
	Jellyfish® Filter	By itemized cost	
	Modular Wetland System Linear (MWS-Linear)	By itemized cost	
	Perk Filter	By itemized cost	
	The Stormwater Management StormFilter® with Phosphosorb Media	By itemized cost	

		Subtotal for this page:			\$		-
s	Stormwater Management						
	Item		Price			Cost	
	Seed, Fertilizer & Mulch (\$200 Min.)	0	\$3.00	SY	¢		

Subtotal for Stormwater Management/BMP Facilities Cost Estimates Per Impervious Acre Treated: \$

. Miscellaneou

Quantity

Retaining Walls:

	Subtota	for Miscellaneous Construction Items	: \$
	P.E. Certified "As-Built" Plans	Lump Sum (Min. \$12,000)	\$
	VDOT Street Acceptance Package	@ \$7,000	\$
	Utilities Relocation	provide estimate from utility co.)	\$
		(Min. \$46,000) (Lump Sum or	
	Street Lighting	@ \$5,500 EA	\$
	Traffic Barricade (TB-1)	@ \$1,725 EA	\$
	Pavement Marking (Thermoplastic)	@ \$7.00 SF	\$
	Pavement Marking (Paint)	@ \$2.50 SF	\$
	Hand Rail (HR-1)	@ \$120 LF	\$
	Roadside Delineators (ED-1)	@ \$75 EA	s
	Bike Rack	@ \$350 EA	\$
	HC Parking Space Sign	@ \$720 EA	\$
	Traffic Signal	@ (Lump Sum)	
	Bus Shelter	@ \$24,000	\$
	Bus Stop Sign	@ \$415	\$
	Traffic Control Sign	@ \$450	\$
	Street Name Sign	@ \$525	\$
	Address Sign (Entrance to Pipestems)	@ \$460 EA	\$
	GR-9	@ \$3,640 EA	\$
	GR-7 NCHRP 350	@ \$3,640 EA	\$
	Guardrail	@ \$45 LF	\$
	only-treatment/sealant)	(Min. \$2,500)	\$
	Anti-Graffiti Paint (Concrete Retaining Walls	@ \$18 SF	4
	Excavation for tiebacks in walls in cut areas	@ \$29 CY	\$
	Gravity Wall	@ \$50 SY	\$
	MSE/Geogrid	@ \$50 SF	\$
	Crib	@ \$44 SF	\$
tanning Wa	Timber	@ \$34 SF	\$
taining Wa		@ \$19 SY	Ŷ
	Trail (Wood Chip)		\$ \$
	Trail (Wood Chip)	@ \$81 SY @ \$19 SY	
	Bicycle Trail/Walkway Raised Concrete Median (MS-1A)	0 +	\$ \$
	CG-12 (Truncated Dome)	@ \$2,000 EA @ \$11.00 SF	\$

Quantity	Item	Price		Cost
	Fire Hydrant Assembly	@ \$9,200	EA	\$ -
	Central Sewer Lift/Pump Station Construction	@ (Lump Sur	n)	
	4"0 DIP	@ \$60	LF	\$ -
	6"0 DIP	@ \$75	LF	\$ -
	8"0 DIP	@ \$90	LF	\$ -
	12"0 DIP	@ \$125	LF	\$ -
	16"0 DIP	@ \$165	LF	\$ -
	18'0 DIP	@ \$185	LF	\$ -
2	4"0 or 6"0 RW Valve (with accessories)	@ \$1,200	EA	\$ 2,400.00
	8"0 or 12"0 RW Valve (with accessories)	@ \$3,000	EA	\$ -
	16"0 or 24"0 RW Valve (with accessories)	@ \$7,000	EA	\$ -
	Standard Meter Crock & Appurtenances (Angle valve,			
1	backflow preventer, yoke, frame & cover, and service line)	@ \$2,500	EA	\$ 2,500.00
	Meter Vault & Appurtenances (3 meters & larger)	@ \$40,000	EA	\$ -
	Water Main Blow-off Assembly	@ \$3,000	EA	\$ -
	Air Release Assembly	@ \$6,800	EA	\$ -
	Dead End Anchor System	@ \$10,000	EA	\$ -
	· ·	Subtotal for Wat	er Main:	\$ 4,900.00

Atternet: OR HAT CROSSROADS VILLAGE CENTER Rev. 31202 HARM 312 CONTROL 102 Rev. 31202 HARM 312 CONTROL 102 HARM 312 CONTROL 102	17 Su Du 70 70 W	739 Ma iite 180 Janfries 03.361. 03.956. ww.j26 WW SEBA	s, Va. 2 1550 (c 6845 (f enginee ALTH STIAN S ic. No. C	et 2026 (ax) rs.cor	n Like		6.3.c
Induscription of the second se	PL DA CC SC	AN# TE: DNTO ALE:	BA22C MARCH P <b>UR II</b> N/A	, 202			er)
Induscription of the second se						I UWN UF HAYMAKKE I, VIKUINIA	Attachment: 03 Kiddie Academy at CVC 2nd Submission Final(6186:Kiddie Academy Site Plans - Crossroads Village Cente
SHEET 42 OF					DESCRIPTION	REVISIONS	
			<b>4</b>	2			

		Subtotal for this page	: \$	4,9
Conitor - Course -	ing Ling (Evolution of Manhol- Structure)			
Quantity	Pipe Line (Exclusive of Manhole Structures) Item	Price		Cost
~	1.5"0 thru 4"0 DIPFM (DIP Force Main System)	@ \$35 LF	\$	
	8"0 PVC	@ \$81 LF	\$	
	8"0 DIP	@ \$95 LF	\$	
	10"0 PVC	@ \$100 LF	\$	
	10"0 DIP	@ \$110 LF	\$	
	12"0 PVC	@ \$170 LF	\$	
	12"0 DIP	@ \$185 LF	\$	
	15"0 PVC	@ \$225 LF	\$	
	4' Dia. Sanitary Sewer Manhole	@ \$11,000 EA	\$	
	5' Dia. Sanitary Sewer Manhole	@ \$11,000 EA	\$	
	Street Manhole Frame & Cover Assembly		1	
	(Including rain bowl & chimney seal)	@ \$1,200 EA	\$	
	Easement Manhole Frame & Cover Assembly	0	1	
	(Including chimney seal)	@ \$1,200 EA	s	
	Abandonment of Manhole	@ \$290 VF	\$	
	4"0 PVC Lateral (including clean-out stack)	@ \$50 LF	\$	
	4"0 DIP Lateral (including clean-out stack)	@ \$60 LF	\$	
42.92	6"0 PVC Lateral (including clean-out stack)	@ \$70 LF	\$	3,0
1 101 2 10	6"0 DIP Later (including clean-out stack)	@ \$75 LF	\$	
	LPFM Flushing Station	@ \$2,900 EA	\$	
	Sewerage Air Release/Vacuum Breaker Assembly	@ \$4,050 EA	\$	
	Steel Casing	@ \$600 LF	\$	
	Grease Trap (500 gal. minimum)	@ \$5,200 EA	\$	
	Create map (Coo gan minimum)	@	\$	
		@	\$	
		@	\$	
		Subtotal for Sanitary Sewer Pipe		3,0
Note: For sizes	larger than 15"0, add \$4.00 per inch increase in diameter			
			-	
	<b></b>	Subtotal for this page		3,0
	101	AL CONSTRUCTION COST		7.0
		(Pages 1 through 1)	<u>)) \$</u>	7,9
5. MISCELLA	NEAOUS COSTS			
A A .1 1 1		- 1 \$50,000	¢	
	ive Cost - 10% of the total construction cost, not to exce	- 2	\$	7
B. Inflation Cos	st - Compounded annually at 3.0% per year of the total C		\$	2
	IOIAL PERFC	RMANCE BOND AMOUNT	r: \$	8,93
6. FLOODPLA	AIN ITEMS ESCROW			
Quantity	Item	Price		Cost
	LOMR	\$18,000	) \$	
	Elevation Certificate	\$1,000	) \$	
		\$1,800		
	LOMC (SF Detached)	\$1,000	1 4	
Stream Restorati	- de	\$1,000	/ 0	

			Subtotal for Deciduo	us Trees:	\$	_
B. Evergreen	Trees					
Quantity		Item	Price		 Cost	
	5' - 6'		@ \$250	EA	\$	
	6' - 7'		@ \$270	EA	\$	
	7' - 8'		@ \$450	EA	\$ 	
	8' - 10'		@ \$830	EA	\$	
			Subtotal for Evergre	en Trees:	\$	
C. Shrubs						
Quantity		Item	Price		Cost	
	18" - 24"		@ \$60	EA	\$	_
	24" - 30"		@ \$80	EA	\$	
			Subtotal fo	r Shrubs:	\$	
D. Ornamenta	1					
Quantity		Item	Price		 Cost	
	1 Gal. (#1)		@ \$35		\$	
	2 Gal. (#2)		@ \$45		\$	
	3 Gal. (#3)		@ \$50		\$	
			Subtotal for Orn	amentals:	\$	
E. Perennial						
Quantity		Item	Price		Cost	
	18" - 24"		@ \$15.00		\$	_
			Subtotal for 1	Perennial:	\$	
F. Reforestatio	n					
Quantity		Item	Price		Cost	
	# of Acres		@ \$11,700	AC	\$	
			Subtotal for Ref	orestation	\$	
			LANDSCAPE ESCROW AN		\$	_

## 8. SILTATION AND EROSION CONTROL ESCROWS

Quantity	Item	Price		Cost
	Diversion Dike	@ \$7.00	LF	- \$
	Cleaning out SWM Facilities, Silt Traps and Silt Basins	\$600/Hr. Lump Sum (Min.		
		\$20,000 or actual estimate		
		provided by engineer to the		
		satisfaction of the plan review)		\$ -
	Silt Fence: 0' - 1000'			
	(installation, maintenance for 1 year & removal)	@ \$8.00	LF	\$ -

## 7. LANDSCAPING ESCROW

A. Deciduous T	rees				
Quantity	Item	Price		C	Cost
	5'-6'	@ \$300	EA	\$	-
	1" - 1.5" or 1.5"- 2"	@ \$450	EA	\$	-
	2" - 2.5" or 2.5 - 3"	@ \$600	EA	\$	-
	3" - 3.5" or 3.5" - 4"	@ \$959	EA	\$	-

TOTAL FLOODPLAIN ITEMS ESCROW: \$

-

Hart	+	(703) 361-1550 2		-	
	y that the above is my best estimate of the quantiti tems, Siltation & Erosion Control Escrow and floo				
	Minimum acceptable amount for Siltation	n and Erosion Control is	\$2,000.00		
	<b>TOTAL SILTATION &amp; EROSION</b>	CONTROL ESCROW	AMOUNT:	\$	-
	Admir	nistrative Cost (10% of			-
	1	ļ	Total Cost:	Ŧ	
	The set of the second s	by noninzed cost		\$	
	Level Spreader	By itemized cost	210 (ann 4500)	~	
	Removal of Erosion Control Measures	@ \$50	AC (min \$500)	\$	
	Stockpile Removal (Quantity based on policy)	@ \$30	CY	\$	-
	Yard utility refurbishment	(a) \$875 EA Singl		\$	
	4' Plastic Orange Safety Fence	@ \$4.00	LF	\$	
	6' Chain-link Safety Fence	@ \$50	LF	\$	
	Channel Diversion	By itemized cost		Ψ	
	Temporary Sediment Basin	By itemized cost		\$	
		@ \$2,000		\$	
	romp. Southout rrup	@ \$1,500		\$	
	Temp. Sediment Trap	@ \$1,000	LITA	\$	
	Wash Rack	@ \$2,000	EA	\$	
	Temp. Construction Entrance	@ \$2,300	EA	\$	
	Check Dam	@ \$250	EA	\$	
	Inlet Protection	@ \$190	EA	\$	
	Coarse Aggregates (#1 or #57)	@ \$35	TON	\$	
	netting, blankets, etc.)	@ \$18	SY	\$	
	Steep Slopes (Grading and Stabilization with jute mesh,	(6, 55.00 51 (	φ200 IVIII)	ψ	
	Seed, Fertilizer & Mulch	@ \$3.00 SY (	~ -	\$	
	Sod	@ \$11.00	SY	\$ \$	
	(installation, maintenance for 1 year & removal)	@ \$11.00	LF	S	
	(installation, maintenance for 1 year & removal) Super Silt Fence: 10,000' +	@ \$12	Lr	\$	-
		@ \$12	LF	\$	
	(installation, maintenance for 1 year & removal) Super Silt Fence: 1001' - 10000	@ \$20	LF	\$	
	Super Silt Fence: 0' - 1000'	G (20)		¢	
	(installation, maintenance for 1 year & removal)	@ \$4.00	LF	\$	-
	Silt Fence: 10,000' +				
	(installation, maintenance for 1 year & removal)	@ \$6.00	LF	\$	
	Silt Fence: 1001' - 1000'				

1. For items identified with ** the quantity for the embankment material is the net difference of total fill material needed and cut material available at the project site, if excavated or cut material is suitable for embankment.

3. The unit cost for each of the items in the Unit Price Lists is the installation cost which includes factors such as

4. Inflation has been calculated based on Northern Virginia Consumer Price Index of the Washington D.C. area

5. Whoever certifies the site development plans must also certify the total cost of the bonded items, landscaping escrow and siltation and erosion control escrow and must sign "Preparer's Signature" on page 10 of this form.

2. The excavation and embankment costs include necessary grading, spreading and/or compaction of soil in

accordance with County and State Standards and Specifications

provided by the Bureau of Labor and Statistics.

6. Floodplain Items Escrow not to be part of Bond/Escrow reduction.

materials, excavation, bedding backfilling, compaction, form work, etc.

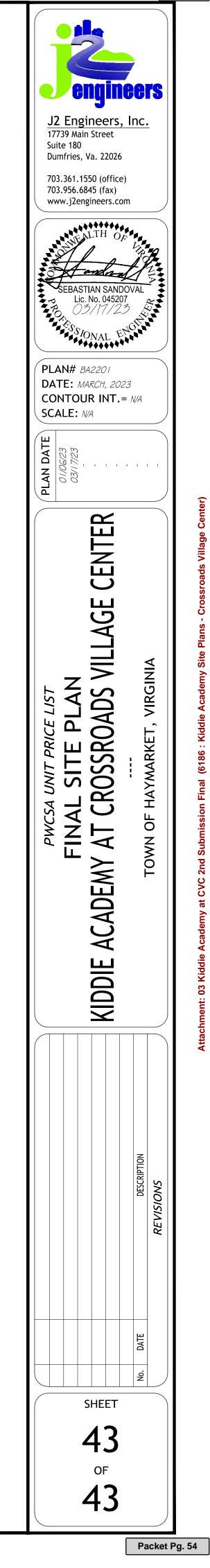
J2 Engineers

**Company or Firm** 

Sebastian Sandoval

Name (Print)

NOTES:





Town of Haymarket 15000 Washington Street, #100 Haymarket, VA 20169 703-753-2600

Thomas Britt Town Planner 7.1.a

## MEMORANDUM

TO:Planning CommissionFROM:Thomas Britt, Town PlannerDATE:June 13, 2023SUBJECT:R-2 Zoning Text Discussion

Background: The language and structure of the R-2 zone in the Haymarket Zoning Ordinance were brough up in the May 15th Planning Commission meeting.

Town Staff have provided sections of the Zoning Ordinance that pertain to R-2 Zoning, it's purpose, function, and requirements within the R-2 Zone.

Article 1, General Terms, in the Zoning Ordinance states the following:

**Residential R-2**. The residential district R-2 is intended for use within those areas near the central core of the Town. This district should provide a suitable environment for families and persons seeking the amenities and convenience of townhouse living, or as an option, smaller detached single-family lots, or conventional singlefamily lots without fear of encroachment or dissimilar uses. This district is designed to stabilize, protect, and promote this type of development.

Additional Zoning Ordinance text regarding the R-2 Residential District is attached in the June 20th PC Agenda.

### **ARTICLE X. - RESIDENTIAL DISTRICT R-2**

Sec. 58-10.1 - Intent.

The residential district R-2 is intended for use within those areas near the central core of the Town. This district should provide a suitable environment for families and persons seeking the amenities and convenience of townhouse living, or as an option, small lot detached single-family lots or conventional single-family lots without fear of encroachment or dissimilar uses. This district is designed to stabilize, protect, and promote this type of development.

Sec. 58-10.2 - Area regulations.

#### General

- (a) The minimum lot area in the R-2 district shall be 8,000 square feet. Maximum coverage shall be 30% unless otherwise noted.
- (b) For lots containing or intended to contain a permitted use, except townhouses and small lot detached single-family dwellings, not more than 30 percent of the gross lot area may be covered by buildings, including accessory structures.

Townhouse

- (c) For lots designed for the development of townhouse structures, the average lot area of all lots within any development phase must equal 2,000 square feet or more with no lot containing less than 1,500 square feet, exclusive of designated common area and open space.
- (d) For lots designed as part of a townhouse development not more than 40 percent of the gross parcel area may be covered by townhouse structures and their accessory structures. In computing the total coverage on any lot or development, an area of 400 square feet per required parking areas and travel ways shall be included as part of such coverage unless private garage facilities are otherwise provided on such a lot.
- (e) Within any townhouse development, the maximum number of units per gross acre shall be eight. The term "gross acre" for the purpose of this section shall include all lands within the exterior boundaries of the lot under development, including drives, parking areas, walkways, parks, school sites and such other open space as may be designated for common use, and public streets established as part of the development.

Small lot detached single family

- (f) For lots designed for the development of small lot detached single-family dwellings, the average lot area of all lots within any development phase must equal 4,200 square feet or more with no lot containing less than 4,000 square feet, exclusive of designated common area and open space.
- (g) For lots designed as part of a small lot detached single-family dwelling, not more than 40 percent of the gross parcel area may be covered by townhouse structures or small lot detached single-family dwellings and their accessory structures. In computing the total coverage on any lot or development, an area of 400 square feet per required parking areas and travel ways shall be included as part of such coverage unless private garage facilities are otherwise provided on such a lot.
- (h) Within any single-family development, the maximum number of units permitted per gross acre shall be four. Within any small lot detached single-family dwelling development, the maximum number of units per gross acre shall be six. The term "gross acre" for the purpose of this section shall include all lands within the exterior boundaries of the lot under development, including drives, parking areas, walkways, parks, school sites and such other open space as may be designated for common use, and public streets established as part of the development.

7.1.b

Sec. 58-10.3 - Frontage regulations.

- (a) For lots containing or intended to contain a permitted use in the R-2 district, except townhouse units and small lot detached single-family dwelling developments, a minimum 75 feet of lot frontage on a public street shall be provided. Frontage shall be measured on a line parallel with the proposed front street line at the minimum required setback line.
- (b) For lots containing a townhouse structure, the minimum lot frontage on a public street, private accessway, or common area shall be 20 feet, and on end units a minimum total lot width of 35 feet is required.
- (c) For small lot detached single-family dwellings, the minimum lot frontage at the building restriction line on a public street, private accessway, or common area shall be 40 feet, and on corner lots a minimum total lot width of 55 feet is required.

Sec. 58-10.4 - Yard regulations.

- (a) Front. Each lot in the R-2 district shall have a front yard with a minimum depth of 15 feet from building face to the front property line. Such yard area may be encumbered by required driveway areas to garages, but not by accessory structures.
- (b) Side. Each lot shall provide a minimum side yard of 15 feet from building wall to side property line, except in the case of:
  - (1) Interior townhouse units where the party wall creates a zero-lot line;
  - (2) End loading units which may have an open porch not more than five feet or more in which an open deck may encroach an additional ten feet towards the property line; and
  - (3) Small lot detached single-family dwellings where the minimum setback from building wall to property line shall not be less than three feet to any property and shall be not less than 20 feet ir the aggregate between adjoining structures.
- (c) Rear. Each lot intended for a permitted use, except a townhouse and a small lot detached single-family dwelling, shall provide a minimum rear yard not less than 25 feet in depth measured from the rear building line to the rear property line. Each townhouse and a small lot detached single-family dwelling shall have a rear yard of 20 feet. Accessory buildings may be located within five feet of the rear property line and shall be 80 square feet or less.

Sec. 58-10.5 - Height regulations.

For a main building in the R-2 district, the maximum height shall be 2½ stories, but not over 35 feet; except that a building height may be extended to three stories or a maximum of 40 feet if each side yard is increased one-half foot for each additional foot of building height. Accessory buildings shall be limited to a maximum height of 15 feet within a required yard area.

Sec. 58-10.6 - Maximum lot coverage.

The maximum lot coverage shall be 30 percent. An approved surfaced area shall include asphalt, poured or precast concrete, brick, stone, gravel, other approved impervious surfaces, grass pavers or other approved pervious surfaces.

Sec. 58-10.7 - Residential Parking and Storage of Vehicles

For townhouse developments and small lot detached single-family dwellings on lots containing 8,000 square feet or less in the R-2 district, all parking for recreational vehicles and commercial vehicles in a common shared parking lot or front yard shall be on a surfaced area for a period not to exceed 48 hours for loading, unloading,

cleaning or repair of vehicles or trailers. All trailers should be unhitched from the towing vehicle. No vehicle parked on a surfaced area shall block the public right of way to include the street and sidewalk. The storage of any number of inoperable motor vehicles, to include inoperable commercial motor vehicles, for more than 7 consecutive days is prohibited and subject to a zoning violation.

Sec 58-10.8 - Property Improvements

a) *Fences*. Fences in the R-2 district shall be no more than six (6) feet in height and adhere to the Architectural Review Board stipulations, where applicable.

7.1.b

## **ARTICLE XXI. – USES AND DESIGN STANDARDS**

Sec. 58-21.1 – Civic Uses.

- a. Public maintenance and service facility.
  - (1) The outside storage for supplies, materials, or heavy equipment must be located in the rear yard and screened from any non-industrial zoned parcels or rights-of-way.
  - (2) Outside storage areas shall not exceed thirty-five (35) percent of the total area of the site.
- b. Recreation Facility, Public.
  - (1) General standards: Any outdoor activity area, swimming pool, ball field, or court which adjoins a residential use type shall be landscaped according to Article XIX of this chapter.
  - (2) Where nighttime lighting is proposed it shall be fully shielded and large evergreen trees shall be required to appropriately screen adjoining residences. Any such night-time lighting shall also be constructed in accordance with standards for a residential district described in Sec. 58-20.11 of this chapter.

Sec. 58-21.2 – Commercial Uses.

a. Commercial vehicle service repair.

All automobile repair services shall meet the following minimum standards:

- (1) All vehicles stored on the premises in excess of seventy-two (72) hours shall be placed in a storage yard.
- (2) No exterior display or storage of new or used automobile parts is permitted.
- (3) There shall be no storage of motor vehicles in landscaped areas or within ten (10) feet of the public road right-of-way.
- (4) Parking shall be located to the rear of the principal building.
- (5) The use shall be designed to ensure proper functioning of the site in regard to vehicle stacking, circulation, and turning movements.
- b. Car Wash.

All car washes shall comply with the following general standards:

- (1) Car washes shall be located and designed so that vehicular circulation does not conflict with traffic movements in adjacent streets, service drives, and/or parking areas.
- (2) Car washes shall be constructed in a design similar to the building character of the surrounding area.
- (3) Parking shall be located behind the front line of the principal building.
- (4) Any use that has a car wash shall treat the car wash as a primary use
- (5) No sales, repair, or outside storage of motor vehicles shall be conducted on the site.

c. Clubs.

All clubs shall comply with the following general standards:

(1) Parking shall be located behind the front line of the principal building.

#### Additional standards in the R-2 district:

- (1) The building design shall be compatible with the surrounding neighborhood. The structure shall be street oriented with pedestrian entrances from the street.
- (2) Applicants must clearly demonstrate the use will be compatible with the neighborhood, including consideration of traffic circulation, parking, and appearance.
- (3) Exterior lighting shall comply with the standards outlined in Article XX of this chapter.
- d. Commercial recreation.
  - (1) Commercial outdoor sports and recreation areas shall have the appropriate landscaping and screening in accordance with Article XX of this chapter.
  - (2) Where nighttime lighting is proposed, it shall be fully shielded, and large evergreen trees shall be required to appropriately screen adjoining residences.
- e. Construction sales and service.

Construction sales and services shall be subject to the following general standards:

- (1) Outdoor storage and/or display of goods, supplies, materials, or heavy equipment shall be located to the rear of the principal building.
- (2) Outside storage areas shall not exceed twenty-five (25) percent of the total site area.
- f. Day care center.

The following general standards shall be applicable to all day care centers.

- (1) All day care centers shall comply with any and all requirements of the Town and State Codes, including but not limited to, obtaining a zoning permit, maintenance of a Town Business License and maintain a state license in accordance with the State Code, as applicable.
- (2) Minimum lot size: One (1) acre.
- (3) Parking. Designated arrival and departure zones shall be located adjacent to the day care center in such a manner that children do not have to cross vehicle traffic aisles to enter or exit the center. Arrival and departure area shall include at least one parking/stacking space per 10 children.
- (4) Outdoor recreation areas shall be safely separated from all parking, loading, and service areas.
- (5) Fencing. A fence a minimum of four (4) feet in height shall completely enclose the outdoor recreation area so that children are safely contained.

Additional standards for the B1 district:

(1) Any new buildings shall be street-oriented with pedestrian entrances from the street, and

compatible with the surrounding development.

(2) Maximum lot coverage: Forty-five (45) percent including building and all paved as.

7.1.c

#### Penalties

1. Non-compliance will result in action according to Article VI of this chapter.

#### b. Domestic Chickens Accessory Use

Domestic chickens are permitted in R-1 zoning districts for the sole purpose of producing eggs. The keeping of domestic chickens shall be in accordance with the following regulations. This section does not allow for the keeping of guinea fowl, peacocks, ducks, geese, game birds, pheasants, or other domestic fowl.

#### Use

- 1. The minimum lot size for the keeping of chickens shall be 1 acre or greater, and only acceptable in the R-1 zoning district.
- 2. The maximum number of chickens allowed is four (4) hens. No roosters or capons shall be allowed.
- 3. Property owners must obtain HOA approval.

#### Structure

- 1. Chicken coop minimums and maximums are 32 sq. ft and 64 sq ft, respectively.
- 2. Chicken runs should allow for a minimum of six (6) square feet per bird and be attached to the chicken coop so that chickens can access the run directly from the coop.
- 3. Coops shall be located a minimum of 50 feet from any storm drain or RPA stream.
- 4. Coops shall be located 10 feet from any property line and not located in a front or side yard.
- 5. Coops shall be located a minimum 10 feet from the principal dwelling on the property.
- 6. Owner must fence their entire property before obtaining chickens.

#### Care and Maintenance

- 1. Chickens shall only be kept and raised for the production of eggs. Slaughtering chicken on the property is prohibited. Commercial activities such as selling eggs or selling chickens for meat shall be prohibited.
- 2. Chicken coops should be predator proof, well ventilated, provide adequate shade and sun, and shall be designed to be easily accessed to clean. All chickens shall be cooped overnight. The structure shall be enclosed on all sides (minimum four (4) feet high), have a roof, and at least one access door.
- 3. Clean water shall be provided at all times, and feed shall be kept secure so as to prevent the attraction c rodents or other animals.
- 4. All structures for chickens shall be kept clean and in a sanitary condition at all times so as to prevent odors detectable at or beyond the property lines. No person shall store, accumulate, or permit a stockpill of chicken litter or waste in any manner. Chicken litter shall be disposed of in conformance with the Town of Haymarket's waste disposal contractor.

#### Penalties

Non-compliance will result in action according to Article VI of this chapter.

#### c. Short Term Rental, Residential (STRR)

Short term rentals are an allowed accessory use in the R-1 and R-2 zoning districts and shall be in accordance with the following regulations.

(1) Annual registration with the Town. A property management plan shall be provided at the time of registration and shall be kept current. This plan shall include the name and 24- hour contact information of the property owner or responsible party, method of booking, procedure by which guests will check-in (check-ins shall be in person with the property owner), procedures for collecting and paying taxes and fees, floor plan of the property, plans for addressing routine and emergency maintenance (contractors, etc), and an HOA approval letter. Homeowners

7.1.c

Associations (HOAs) that do not allow short term rentals are not eligible.

- (2) Property owner shall sign a declaration that the dwelling meets all applicable building and fire codes. The property shall be made available for entry and inspection to the Zoning Administrator and any other officials the Administrator may deem necessary to verify the use is in keeping with the standards of this section.
- (3) Proof of residence as owners' primary residence (absentee ownership is not permitted)
- (4) Homes may be rented for a maximum (cumulative) 180 days in a calendar year.
- (5) Maximum number of guests allowed: 2 per bedroom.
- (6) Residents are responsible for keeping a record of rental contracts, the dates the home was rented, and the price at which the home or rooms were rented.
- (7) Each contract should be for a minimum two-night stay. Single day or night rentals are prohibited.
- (8) Residents are responsible for paying all taxes associated with STRRs including but not limited to all local and state sales taxes, and the transient occupancy taxes.
- (9) Signage on the exterior of the property advertising the use of the home as an STRR is not permitted.
- (10) Permit shall be revoked if more than two substantial complaints are received within a one-year period. Revocation is for a minimum of one year but may be permanent at the discretion of the Town.
- (11) Non-compliance will result in action according to Article VI of this chapter.

## d. Solar Energy Systems

### Purpose and Intent.

The Town of Haymarket finds it in the public interest to encourage the use of renewable energy systems. Solar energy is a clean renewable energy source that enhances the reliability and resiliency of the power grid, reduce peak power demand, and diversifies the town's energy portfolio. Solar also promotes customers' choice for electric supply. The town also finds that there should be a balance between the use of solar energy systems an the protection of historic buildings, and the general health and safety of town residents.

The purpose and intent of this section is to facilitate the effective and efficient use of solar energy systems, other than utility-scale electrical generating stations, as an allowed accessory use within any zoning district subject to the provisions of section 58-21.4(d). This section regulates solar energy systems, both photovoltaic and solar hot water systems, installed on properties within the Town of Haymarket limits.

## Definitions

*Solar energy system*: An energy system that consists of one or more solar collection devices, solar energy related "balance of system" equipment, and other associated infrastructure with the primary intention of generating electricity, storing electricity, or otherwise converting solar energy to a different form of energy. Solar energy systems may generate energy in excess of the energy requirements of a property if it is to be sold back to a public utility in accordance with the law.

*Solar Energy*: Radiant energy received from the sun that can be collected in the form of heat or light by a solar collector

Solar energy system, roof-mounted: A solar energy system that is structurally mounted to the roof of a building or structure.

*Building-Integrated Photovoltaic (BIPV) Systems*: A solar energy system that consists of integrating Solar PV modules into the building envelope, where the solar panels themselves act as a building material (roof shingles) or structural element (i.e., façade).