



TOWN OF HAYMARKET PLANNING COMMISSION
REGULAR MEETING
~ AGENDA ~

Emily Lockhart, Town Planner
<http://www.townofhaymarket.org/>

15000 Washington Street, Suite 100
Haymarket, VA 20169

Monday, June 21, 2021

7:00 PM

Council Chambers

I. Call To Order

II. Pledge of Allegiance/Moment of Silence

III. Citizen's Time

IV. Minute Approval

1. Planning Commission - Work Session - May 17, 2021 6:00 PM
2. Planning Commission - Regular Meeting - May 17, 2021 7:00 PM

V. Agenda Items

1. Karter School Site Plan, 6905 Karter Robinson Drive

VI. Old Business

VII. New Business

VIII. ARB Update

IX. Town Council Update

X. Adjournment



TOWN OF HAYMARKET PLANNING COMMISSION

WORK SESSION ~ MINUTES ~

Emily Lockhart, Town Planner
<http://www.townofhaymarket.org/>

15000 Washington Street, Suite 100
Haymarket, VA 20169

Monday, May 17, 2021

6:00 PM

Council Chambers

A Work Session of the Planning Commission of the Town of Haymarket, VA, was held this evening in the Council Chambers, commencing at 6:00 PM.

Chairman Matt Caudle called the meeting to order.

I. Call To Order

Chairman Matt Caudle: Present, Commissioner Aayush Kharel: Absent, Councilman Bob Weir: Present, Commissioner Robert Hallet: Present, Commissioner Alexander Beyene: Present, Commissioner Chuck Mason: Absent, Town Planner Emily Lockhart: Present, Clerk of Council Kimberly Henry: Present.

II. Zoning Text Amendment Work Session

Prior to the Planning Commission continuing their work on the Zoning Text Amendment, Town Planner introduced Samantha Lewis, the Town's summer intern, to the Planning Commission. Ms. Lewis gave a brief update on some of the research she found on religious assemblies in the Industrial areas in other jurisdictions. There was a discussion on allowing a religious assembly in the Industrial area. Ms. Lockhart shared information on how staff would review the request. She stated that the staff would see if the building is adequate for the use, parking and building capacity, the flow of traffic, and would recommend that it be permitted by special use. Discussion continued on the subject. The Planning Commission decided to re-evaluate this before making a decision.

The Planning Commission started that discussion on editing the historic overlay district. There was a suggestion to limit the historic district to the main corridors of Washington and Old Carolina and the planned interchanged parks so that there would be some control on the design features of the architecture. It would remove most of the neighborhoods with exception of a small portion of Haymarket Station that fronts Washington Street. Ms. Lockhart gave shared with the Planning Commission a list that is identified as historic buildings. The Planning Commission discussed that they should re-define a historic building to a particular date not identifying it as a building that is 50 years old. Councilman Weir stated that he have a map available to review and redefine the text at the next meeting to discuss with the ARB. The Planning Commission decided to continue this discussion into the evening's regular meeting since there are no agenda items before them.

III. Adjournment

Commissioner Hallet moved to adjourn this evening's work session with a second by Commissioner Beyene. The motion carried.

1. Motion to Adjourn

RESULT:	ADOPTED [UNANIMOUS]
MOVER:	Robert Hallet, Commissioner
SECONDER:	Alexander Beyene, Commissioner
AYES:	Matt Caudle, Bob Weir, Robert Hallet, Alexander Beyene
ABSENT:	Aayush Kharel, Chuck Mason

Submitted:

Approved:

Minutes Acceptance: Minutes of May 17, 2021 6:00 PM (Minute Approval)

Kimberly Henry, Clerk of the Council

Matt Caudle, Chairman

DRAFT

Minutes Acceptance: Minutes of May 17, 2021 6:00 PM (Minute Approval)



TOWN OF HAYMARKET PLANNING COMMISSION

REGULAR MEETING ~ MINUTES ~

Emily Lockhart, Town Planner
<http://www.townofhaymarket.org/>

15000 Washington Street, Suite 100
Haymarket, VA 20169

Monday, May 17, 2021

7:00 PM

Council Chambers

A 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 Matt Caudle called the meeting to order.

I. Call To Order

Due to the COV-ID 19 pandemic and Governor Northam's executive order on social distancing, Commissioner Aayush Kharel attended this evening's meeting via Zoom meeting from his home office. Chairman Matt Caudle: Present, Commissioner Aayush Kharel: Remote, Councilman Bob Weir: Present, Commissioner Robert Hallet: Present, Commissioner Alexander Beyene: Present, Commissioner Chuck Mason: Absent.

II. Pledge of Allegiance/Moment of Silence

Chairman Matt Caudle invited everyone to stand for the Pledge of Allegiance followed by a moment of silence.

III. Citizen's Time

There were no citizens wishing to address the Planning Commission at this evenings meeting.

IV. Minute Approval

1. Planning Commission - Work Session - Apr 19, 2021 6:00 PM

Councilman Weir moved to approve the Work Session minutes from April 19, 2021. Commissioner Beyene seconded the motion The motion carried.

RESULT:	ACCEPTED [UNANIMOUS]
MOVER:	Bob Weir, Councilman
SECONDER:	Alexander Beyene, Commissioner
AYES:	Caudle, Kharel, Weir, Hallet, Beyene
ABSENT:	Chuck Mason

2. Planning Commission - Regular Meeting - Apr 19, 2021 7:00 PM

Councilman Weir moved to approve the Regular meeting minutes from April 19, 2021. Commissioner Beyene seconded the motion. The motion carried.

RESULT:	ACCEPTED [UNANIMOUS]
MOVER:	Bob Weir, Councilman
SECONDER:	Alexander Beyene, Commissioner
AYES:	Caudle, Kharel, Weir, Hallet, Beyene
ABSENT:	Chuck Mason

V. Agenda Items

1. Zoning Text Amendment Work Session Cont'

Town Planner Emily Lockhart gave a brief update on the edits to the Zoning Text Amendment from the Work Session. She shared that the Planning Commission discussed if religious assemblies would be permissible by right in the B-1, B-2 and the Industrial Zone. She stated that the Planning Commission decided to come back to that subject. The Planning Commission continued discussing the historic overlay district from this evenings work session. Ms. Lockhart stated that currently the historic overlay district is the entirety of the Town. She stated that, during the evening's work session, the Planning Commission began discussion on whether the

Minutes Acceptance: Minutes of May 17, 2021 7:00 PM (Minute Approval)

district should be reduced to the main corridors, leaving the residential developments out of the district and governed by the respective HOA's. A previous iteration of a revised historic overlay district was presented to the Commission for discussion. The Planning Commission discussed revising the map. The Planning Commission asked for staff to provide an inventory and draft a map of the Town locating all the historic buildings. There was also a request for staff to provide a draft definition of the historic district. The Planning Commission also discussed the process of residential zoning permit. The discussion was on how the burden is put on the homeowner and staff for items that should not be a concern of the Town's when it is not seen from the main street and is under the regulations of the respective HOA's. A short discussion followed on the new Van Metre town homes that could be seen from Washington Street. Ms. Lockhart suggested that the Commissioners walk the area to see what can be seen from the street and to also drive by. A suggestion was made that the Commissioners establish a minimal map and then add parcels in so that they can control the architecture in the commercial area and around the historic sites in the Town. After the discussion, Ms. Lockhart suggested that the Planning Commission pull this section out, involve the ARB and the citizens by having a community forum to further discuss the subject. The Planning Commission decided to take up the subject at the August meeting by having a community forum with the ARB present.

The Planning Commission continued on with a discussion on the signage. Ms. Lockhart stated that staff has received complaints on the restrictive signage regulations in the commercial district. Ms. Lockhart gave some examples of the requested signs from proposed commercial businesses. She suggested that this subject will be very in depth and should be a separate work session. There was a suggestion for this to be reviewed by staff and do an analysis based on what other jurisdictions have in their ZTA and come back with a recommendation to be discussed at the same time as the historic district.

Councilman Weir suggested that the Planning Commission revisit data centers. Ms Lockhart stated that the Planning Commission needs to strictly define what they consider a data center even though it is not permitted in any district so that there is no question that is not permitted.

VI. Old Business

Town Planner Emily Lockhart gave a brief update on the Karter School site plan progress. Ms. Lockhart stated that the final site plans should be before the Planning Commission at their June meeting. Ms. Lockhart also shared that Transform Power Yoga and Robinson Village site plans have been submitted and will be coming before the Commission

VII. New Business

Town Planner Emily Lockhart gave a brief update on revised Robinson Paradise from a previous approved plan dated in the early 2000.

VIII. ARB Updates

Commissioner Kharel asked Ms. Lockhart to give the ARB updates. Ms. Lockhart shared that the ARB will be doing a work session training at their next meeting. She also shared that they discuss the Town's gateway sign program. Ms. Lockhart stated that they will be considering two applications. Lastly, Ms. Lockhart shared information regarding the DMV Select in Town Hall and that the ARB will be looking at building signs for the Town Hall, Police Department and DMV Select.

IX. Town Council Updates

Councilman Weir shared that the Planning Commission stated that a public hearing is needed to update the Zoning Text Amendment on sidewalks. Ms. Lockhart gave the information that needs to be changed and asked that the Commissioners review and make any suggested edits. She stated that she will have final draft ready for review at the June meeting and suggested a joint public hearing with the Town Council at the July Town Council Regular Monthly meeting. A short discussion followed on the subject. Councilman Weir updated the Planning Commission on the 2Crossroads Village Center SUP's that was before them at a previous meeting. Mr. Weir shared that the Town Council denied the two over two town home SUP and tabled the Starbuck's SUP with recommended adjustments. He also shared that the Town Council is looking at installing a sun shade over the playground. Mr. Weir shared that the Town Council will probably start the engineering process for a sidewalk in front of the park from Blight Drive to Haymarket Baptist Church. Lastly, Mr. Weir shared that the Town Council is starting the engineering

process of upgrading the Town Hall property with storm water, paving and possible turn lane on Jefferson Street.

X. Adjournment

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

1. Motion to Adjourn

RESULT:	ADOPTED [UNANIMOUS]
MOVER:	Bob Weir, Councilman
SECONDER:	Robert Hallet, Commissioner
AYES:	Caudle, Kharel, Weir, Hallet, Beyene
ABSENT:	Chuck Mason

Submitted:

Approved:

Kimberly Henry, Clerk of the Council

Matt Caudle, Chairman

Minutes Acceptance: Minutes of May 17, 2021 7:00 PM (Minute Approval)



Emily K. Lockhart
Town Planner and Zoning Administrator

MEMORANDUM

TO: Planning Commission
FROM: Emily K. Lockhart
DATE: June 16, 2021
SUBJECT: Karter School Site Plan, 6905 Karter Robinson Dr.

Background:

Karter School (Belmont Day School Corp.) has applied for a site plan to locate a new private school at 6905 Karter Robinson Drive, formerly 14850 Washington Street. Karter School and Van Metre previously presented their development plans to the Planning Commission and Town Council when Van Metre was requesting a Special Use Permit for townhouse dwelling units on the Smith Property. In 2020, Van Metre received approval for their site plan. Karter School has separately submitted their site plan but will use the Karter Robinson Drive as access to the site. The site plan was initially submitted for review by the Town in December of 2020, following Town Planner and Engineer Comments, and review by the Planning Commission the Plan is now ready for final approval.

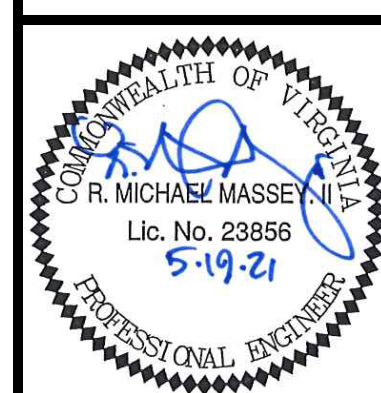
The Town Engineer and Town Planner have reviewed the site plan and provided three rounds of comments for the applicant, which the applicant has addressed. The applicant was received the Prince William County Service Authority Approval. The VDOT and DEQ approval were incorporated with the Van Metre Robinson Village development plan for Karter Robinson Drive. The Van Metre project will be installing the stormwater measures, see Stormwater Pages for the Robinson Village Plan inserts.

At this time, I recommend the Planning Commission conditionally approve the Robinson Village Site Plan, with the condition that all outside agencies approvals be received and all outstanding comments be addressed adequately prior to final signature and approval by the Town Zoning Administrator.

Motion: "I move the Planning Commission to conditionally approve the Karter School Site Plan, dated, May 19, 2021, as presented in the Planning Commission Agenda dated, June 21, 2021, with the following conditions; all outside agency approvals must be received and all outstanding

Town Engineer and Town Planner comments must be adequately addressed prior to the approval signature from the Town Zoning Administrator.”

Or other motion.

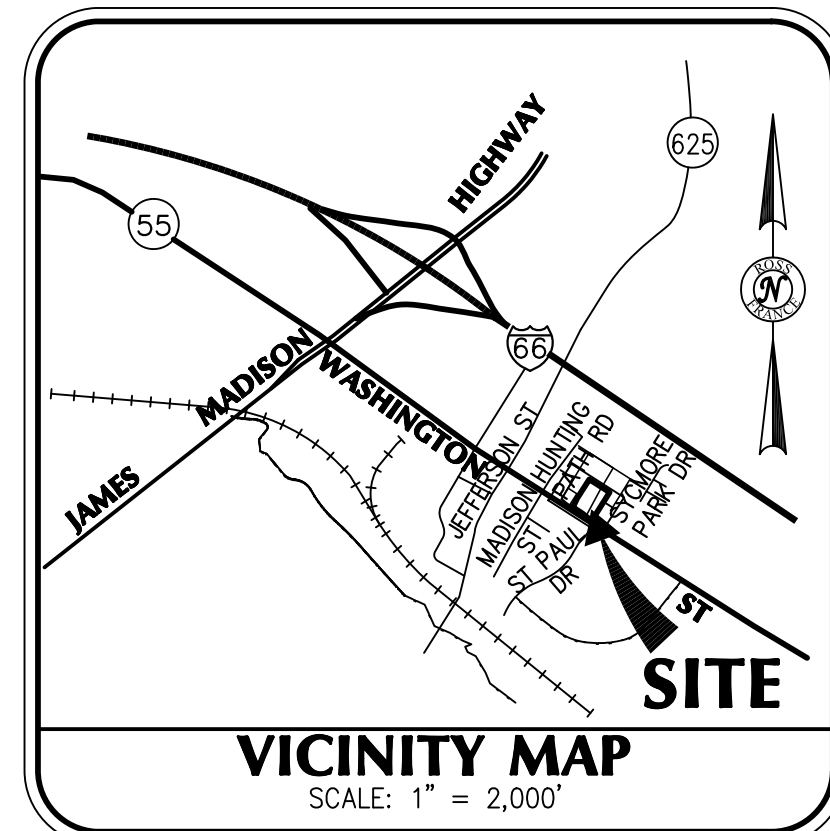


KARTER SCHOOL
TOWN OF HAYMARKET
GAINESVILLE MAGISTERIAL DISTRICT
PRINCE WILLIAM COUNTY, VIRGINIA
AUGUST 6, 2020
SCALE: NO SCALE

KARTER SCHOOL
TOWN OF HAYMARKET
GAINESVILLE MAGISTERIAL DISTRICT
PRINCE WILLIAM COUNTY, VIRGINIA
AUGUST 6, 2020
SCALE: NO SCALE

Table with columns: REVISION, DATE, BY, CHK, DES, FILE NO., SHEET. Includes revision table and drawing information.

KARTER SCHOOL FINAL SITE PLAN TOWN OF HAYMARKET PRINCE WILLIAM COUNTY, VIRGINIA PRINCE WILLIAM COUNTY SERVICE AUTHORITY PLAN #SA2020-0236



OWNER:
BELMONT DAY SCHOOL, CORP,
DBA KARTER OF HAYMARKET
23058 WELBOURNE WALK CT
ASHBURN, VIRGINIA 20148
(571) 216-1066

APPLICANT:
BELMONT DAY SCHOOL, CORP,
DBA KARTER OF HAYMARKET
23058 WELBOURNE WALK CT
ASHBURN, VIRGINIA 20148
(571) 216-1066

PROPERTY ADDRESS:
6905 KARTER ROBINSON DR
TOWN OF HAYMARKET, VIRGINIA 20169

GENERAL NOTES

- 1) ELEVATION DATUM = U.S.G.S.
- 2) CONTOUR INTERVAL IS 2 FEET.
- 3) METES AND BOUNDS SHOWN HEREON ARE THE RESULT OF A CURRENT FIELD SURVEY.
- 4) THE PROPERTY SHOWN HEREON LIES WITHIN FLOOD HAZARD AREA ZONE "X" (AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN), AS DEPICTED ON FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NUMBER 51153C0067D, HAVING AN EFFECTIVE DATE OF JANUARY 5, 1995 AND PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
- 5) NO PORTION OF THE PROPERTY SHOWN HEREON LIES WITHIN A RESOURCE PROTECTION AREA (RPA). THERE ARE NO KNOWN CEMETERIES OR HISTORIC SITES ON THIS PROPERTY.
- 6) THIS PLAN WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND DOES NOT THEREFORE NECESSARILY INDICATE ALL ENCUMBRANCES ON THE PROPERTY.
- 7) MINIMAL OFFSITE DISTURBANCE WILL OCCUR AS A RESULT OF THIS PROJECT.
- 8) DUMPSTER WALL TO BE CONSTRUCTED OF MATERIAL IDENTICAL TO THE PROPOSED BUILDINGS.
- 9) THE FEE TITLE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL DRAINAGE, STORM WATER MANAGEMENT, AND BEST MANAGEMENT PRACTICES FACILITIES AND SYSTEMS IN ACCORDANCE WITH THE MAINTENANCE AGREEMENT TO ENSURE THAT THEY FUNCTION PROPERLY. SUBJECT TO OTHER LIMITATIONS, THE FEE TITLE OWNER MAY LANDSCAPE THE EASEMENT TO INCLUDE VEGETATION, SIGNS AND FENCES, PROVIDED THAT DRAINAGE AND THE TOWN OR THE OWNER'S ABILITY TO ACCESS THE EASEMENT IS NOT COMPROMISED AND THAT THE TOWN IS NOT IN ANY WAY RESPONSIBLE FOR THE REPAIRS OF THESE LANDSCAPE ITEMS EVEN IF DAMAGED BY TOWN FORCES.
- 10) THE OWNER OF FEE TITLE TO ANY PROPERTY ON WHICH PLANT MATERIAL HAS BEEN ESTABLISHED IN ACCORDANCE WITH AN APPROVED LANDSCAPE/PLANTING PLAN SHALL BE RESPONSIBLE FOR THE MAINTENANCE, REPAIR AND REPLACEMENT OF THE APPROVED PLANT MATERIAL AS REQUIRED BY THE ORDINANCE.
- 11) LAND DESIGNATED AS BUFFER AREA SHALL BE LANDSCAPED AND MAY ONLY BE USED FOR STRUCTURES, USES OR FACILITIES IN ACCORDANCE WITH THE REQUIREMENTS OF THE ZONING ORDINANCE
- 12) SIGHT DISTANCE EASEMENT IS TO BE MAINTAINED AND KEPT CLEAR AND FREE OF ALL OBSTRUCTIONS OF SIGHT BY THE OWNER OF FEE TITLE.
- 13) THE FREE STANDING LIGHTS HAVE A MAXIMUM HEIGHT OF 50'.
- 14) EXISTING UTILITIES ARE INDICATED IN GENERAL WAY ONLY. BEFORE DIGGING CALL MISS UTILITY @ 1-800-257-7777.
- 15) THE CONTRACTORS LICENSED SURVEYOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS IN THE FIELD BEFORE STARTING EACH PHASE OF WORK AND NOTIFY THE ENGINEER OF ALL DIFFERENCES. A PERMIT MUST BE OBTAINED FROM VDOT BEFORE STARTING ANY CONSTRUCTION WITHIN ANY STATE RIGHT-OF-WAY.
- 16) FINISH GRADE ELEVATIONS INDICATED ARE ON STRAIGHT GRADES. THE CONTRACTOR SHALL ROUND ALL VERTICAL BREAKS WITH SMOOTH SPLINE CURVES. THE MAXIMUM GRADE FOR ALL SLOPES SHALL BE 3:1:1.
- 17) ALL FINISH GRADING AND PLANTING SHALL BE DONE IN SUCH A MANNER AS TO PRECLUDE THE PONDING OF WATER ON THE SITE, ESPECIALLY ADJACENT TO THE BUILDING.
- 18) PROVIDE A 10' MINIMUM TRANSITION BETWEEN REVERSED PITCH CURB & GUTTER AND STANDARD CURB & GUTTER.
- 19) THE CONTRACTOR OR HIS AGENT/REPRESENTATIVE SHALL BE RESPONSIBLE FOR PROVIDING DOCUMENTATION OF EXISTING CONDITIONS PRIOR TO CONSTRUCTION. ALL COSTS FOR REPAIR FOR DAMAGES INCURRED DUE TO FAULTY CONSTRUCTION PRACTICES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- 20) ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT TOWN OF HAYMARKET AND VIRGINIA DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS.
- 21) ALL TRAFFIC CONTROLS AND TRAFFIC SAFETY MEASURES REQUIRED DURING CONSTRUCTION WITHIN VDOT RIGHT-OF-WAY SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR IN ACCORDANCE WITH VDOT STANDARDS AND PERMITS.
- 22) ALL STRIPING TRAFFIC DIRECTIONAL ARROWS SHALL BE PAINTED AS DENOTED ON THE PLANS. REFER TO VDOT SPEC 704.
- 23) ALL CG-12 SHALL BE CONSTRUCTED WITH VDOT STANDARD TRUNCATED DOMES.
- 24) A SMOOTH GRADE SHALL BE MAINTAINED FROM THE CENTERLINE OF THE EXISTING ROAD TO THE PROPOSED EDGE OF PAVEMENT TO PRECLUDE THE FORMING OF FALSE GUTTERS AND/OR THE PONDING OF ANY WATER IN THE ROADWAY.
- 25) STANDARD GUARDRAILS AND/OR HANDRAILS SHALL BE INSTALLED AT HAZARDOUS LOCATIONS AS DESIGNATED DURING FIELD REVIEW BY THE INSPECTOR.
- 26) CONTROLLED FILL: BACKFILL TO AREAS SUBJECT TO VEHICULAR TRAFFIC OR STRUCTURAL LOADING SHALL BEGIN AT THE TOP OF THE STANDARD GRANULAR BEDDING AND SHALL BE PLACED IN UNCOMPACTED LIFTS NO GREATER THAN EIGHT INCHES THICK. THESE LIFTS SHALL BE COMPACTED 95% OF THE MAXIMUM DRY DENSITY, AS DETERMINED BY ASTM D698, AASHTO T99, OR VTM-1.
- 27) THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COST INCURRED DUE TO DAMAGES TO OR RELOCATION OF ANY WATER OR SANITARY SEWER LINE BECAUSE OF CONSTRUCTION.
- 28) ALL WATER FACILITY CONSTRUCTION SHALL CONFORM TO PRINCE WILLIAM COUNTY SERVICE AUTHORITY STANDARDS AND SPECIFICATIONS.
- 29) CONTACT PRINCE WILLIAM COUNTY SERVICE AUTHORITY AT (703)898-3433 TO COORDINATE CONSTRUCTION AND INSPECTION OF WATER FACILITIES. AFTER HOURS-EMERGENCY (703)335-7990.
- 30) NO FENCES OR OTHER PERMANENT STRUCTURES ARE TO BE LOCATED ON ANY WATER OR SANITARY SEWER EASEMENT WITHOUT OBTAINING PRIOR WRITTEN PERMISSION OF THE PRINCE WILLIAM COUNTY SERVICE AUTHORITY.
- 31) LATERALS OR PORTIONS OF LATERALS ARE THE RESPONSIBILITY OF THE OWNER.

PARCEL 69A

REQUIREMENTS:
PERMITTED USES (B-2):
HOTEL/ASSISTED LIVING
DAY CARE CENTER
RETAIL
RETAIL/GAS
RETAIL/MEDICAL
RESTAURANT/RETAIL/MEDICAL
RESTAURANT
GROSS FLOOR AREA (GFA) TOTAL GFA=14,584 SQ. FT.
TOTAL GFA SHALL NOT EXCEED 14,584 SQ. FT. AND DENSITY OR INDUSTRIAL USES MAY BE INCREASED OR REDUCED PROVIDED THE PARKING STANDARDS IN SECTION 58.6.1(B) ARE MET.
LOT AREA NO REQUIREMENT (85,068 SQ. FT. OR 1.95 AC EXISTING)
LOT COVERAGE
BUILDABLE LOT COVERAGE 75%
BUFFER YARD 25' MIN. TO ADJOINING RESIDENTIAL USES
SETBACK & YARD
FRONT SETBACK 10' MIN
SIDE YARD 10' MIN @ STREET, 25' @ COMMERCIAL
RESIDENTIAL
REAR YARD 10' MIN @ STREET, 25' @ COMMERCIAL
RESIDENTIAL
BUILDING HEIGHT 25'
PARKING REQUIRED/PROVIDED
LOT 69-A
DAY CARE CENTER (271 CHILDREN)* 1 PER 5 CHILDREN UP TO 40 & 1 PER 10 AFTER 40, 32 REQUIRED 49 PROVIDED
LOADING SPACES REQUIRED/PROVIDED
DAY CARE CENTER* 0 REQUIRED/ 1 PROVIDED

SHEET INDEX

NO:	TITLE:
C1.1	COVER SHEET
C1.1A	AGENCY REVIEW APPROVALS
C1.2	STANDARD EROSION CONTROL DETAILS/NOTES
C1.3	EROSION CONTROL NARRATIVE & LEGEND
C1.4	SITE DETAILS & LEGEND
C1.5	EXISTING CONDITIONS & DEMOLITION PLAN (RE: ROBINSON VILLAGE)
C2.1	FIRE LANE MARKING PLAN
C2.2	SITE LAYOUT & UTILITY PLAN
C2.3	GRADING PLAN
C2.4	SIGHT DISTANCE PROFILE (REF: ROBINSON VILLAGE SITE PLAN)
C3.1	PHASE I EROSION & SEDIMENT CONTROL PLAN
C3.2	PHASE II EROSION, SEDIMENT CONTROL & DRAINAGE DIVIDE PLAN
C3.3	EROSION & SEDIMENT CONTROL - PHASE 2 (REF: ROBINSON VILLAGE SITE PLAN)
C3.4	POLLUTION PREVENTION PLAN DETAIL SHEET
C3.5	VRRM WORKSHEET
C4.1	PROFILES
C4.2	SIGHT DISTANCE PLAN AND PROFILE
C5.1	LANDSCAPE PLAN
C5.2	LANDSCAPE DETAILS, LEGEND & SCHEDULES
C6.1	PWCSA WATER & SANITARY SEWER INFORMATION SHEET
C6.2	PWCSA WATER & SANITARY SEWER INFORMATION SHEET
C7.1	UNIT PRICE LIST
C8.1	PHOTOMETRIC PLAN
C8.2	PHOTOMETRIC PLAN
C9.1	BMP MAP (REF: ROBINSON VILLAGE SITE PLAN)
C9.2	PRE DEVELOPMENT DRAINAGE DIVIDES (REF: ROBINSON VILLAGE SITE PLAN)
C9.3	POST DEVELOPMENT DRAINAGE DIVIDES (REF: ROBINSON VILLAGE SITE PLAN)
C9.4	SWM COMPS & DETAILS (REF: ROBINSON VILLAGE SITE PLAN)
C9.5	SWM COMPS & DETAILS (REF: ROBINSON VILLAGE SITE PLAN)
C9.6	SWM COMPS & DETAILS (REF: ROBINSON VILLAGE SITE PLAN)
C9.7	SWM COMPS & DETAILS & NARRATIVE (REF: ROBINSON VILLAGE SITE PLAN)
C9.8	VRRM COMPUTATIONS (REF: ROBINSON VILLAGE SITE PLAN)
C9.9	SWM CHECKLIST (REF: ROBINSON VILLAGE SITE PLAN)
C10.1	SPECIAL USE PERMIT PLAN
C10.2	SPECIAL USE PERMIT PLAN
C10.3	SPECIAL USE PERMIT PLAN
C10.4	SPECIAL USE PERMIT PLAN
C10.5	SUP CONDITIONS AND ANALYSIS



June 09, 2021

Michael Massey
mmassey@rossfranceva.com

RE: KARTER SCHOOL (HAYMARKET)
PWCSA CASE #: SA2020-0236

Dear Michael Massey:

All comments have been satisfactorily addressed. The Service Authority has no objections to the approval of the above referenced plans. Quotes for the Service Authority's Utility Permit and Certification Fees will be issued to the Developer upon receipt of the plans.

Prior to the release of a Service Authority Utility Permit, the following is required:

- Two paper sets of the accepted plans shall be delivered to Utility Services staff at Service Authority's Engineering Department with the Developer's full contact information and email. Developer information can also be delivered by e-mail to utilityservices@pwcsa.org

Shipping Address: Prince William County Service Authority
Attn: Utility Services
12610 Greatbridge Road
Woodbridge, VA 22192

Mailing Address: Prince William County Service Authority
Attn: Utility Services
P.O. Box 2266
Woodbridge, VA 22192

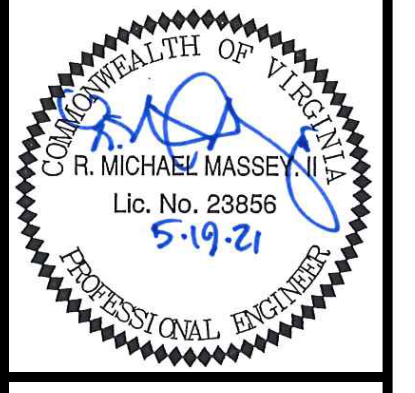
- The instrument number from the recordation of all on-site and off-site easements, if applicable, shall be provided to the Service Authority Land Development Manager, Samantha Kearney, skearney@pwcsa.org
- Applicant shall furnish a Performance Bond for the water and sanitary sewer facilities using the PWC Unit Price sheet as the cost basis, with the Service Authority named as beneficiary. The Performance Bond package shall include an executed **PWCSA Developer Performance Agreement** and the **PWCSA Surety Bond Form**. Please contact the Service Authority's Land Development Manager, Samantha Kearney, skearney@pwcsa.org to obtain the PWCSA Developer Performance Agreement and the PWCSA Surety Bond Form templates.

Should you have any questions regarding these requirements, please contact me at:
amujsc@pwcsa.org

Sincerely,

Andrew Mujsc

cc: Ms. Samantha Kearney, PWCSA
Ms. Karla Coker, PWCSA
Mr. Conrad Holtziag, PWCSA
Town Manager

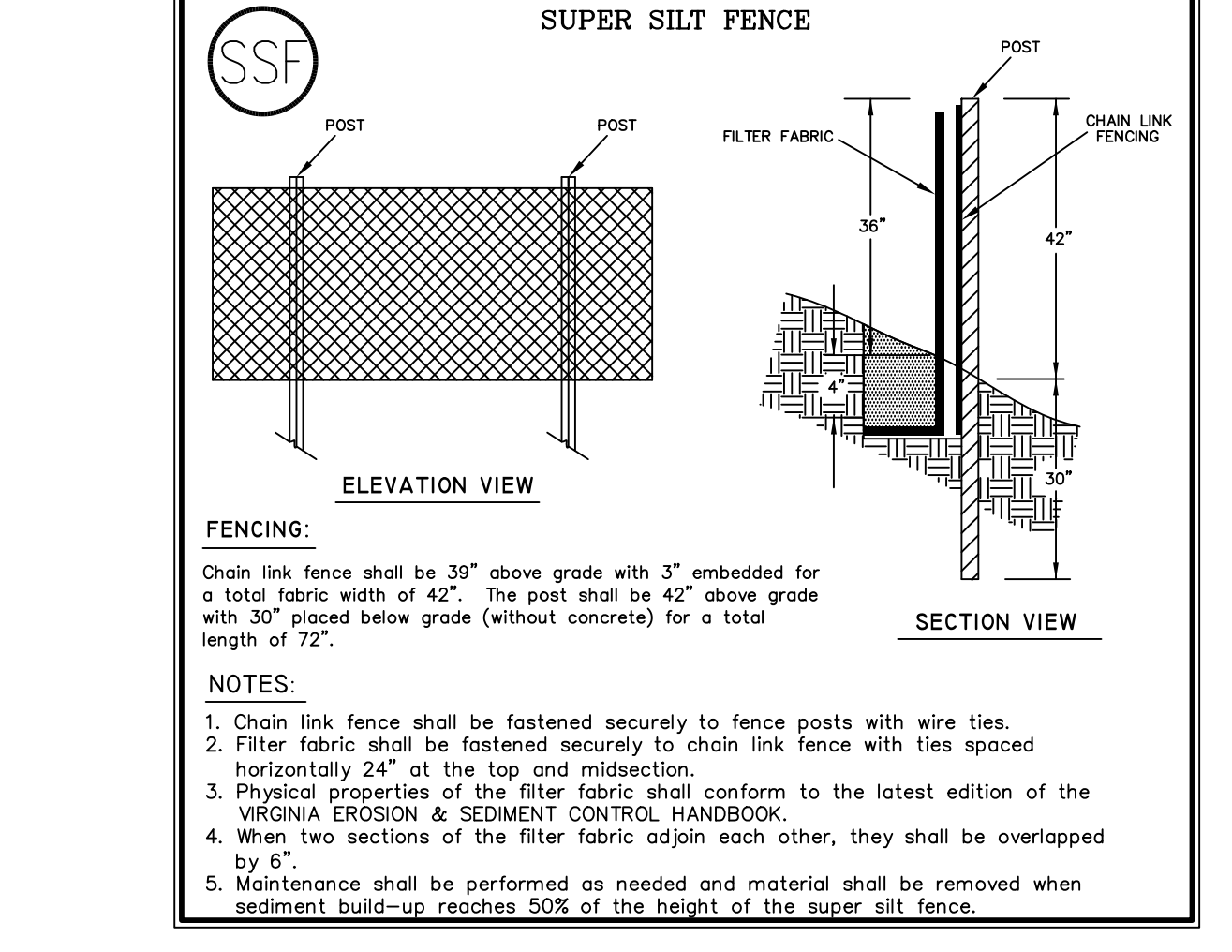
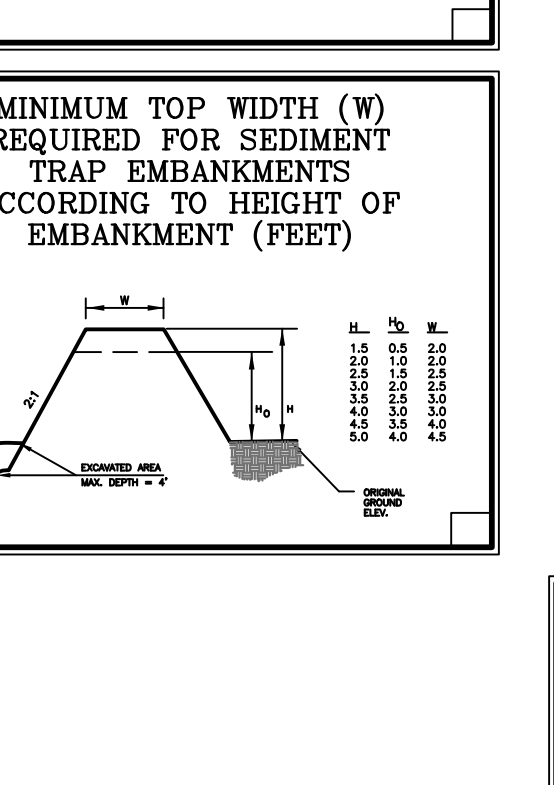
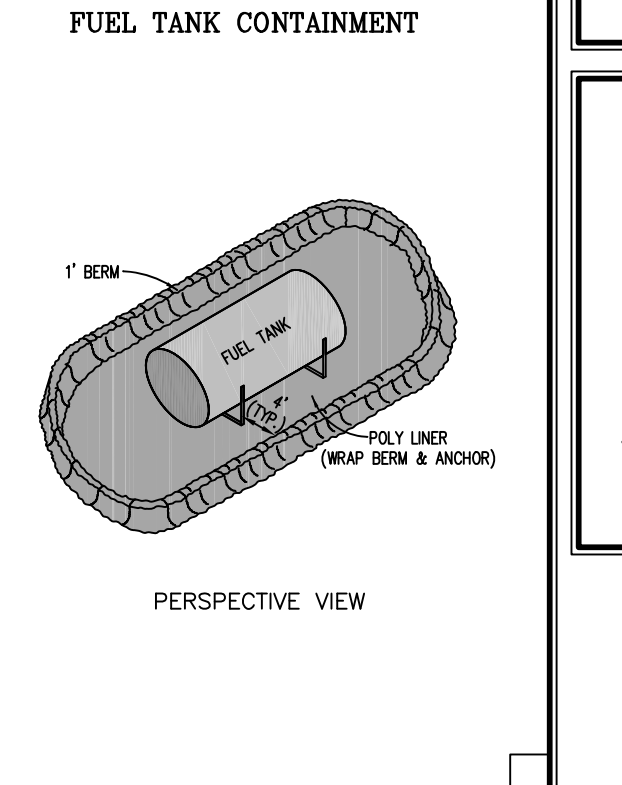
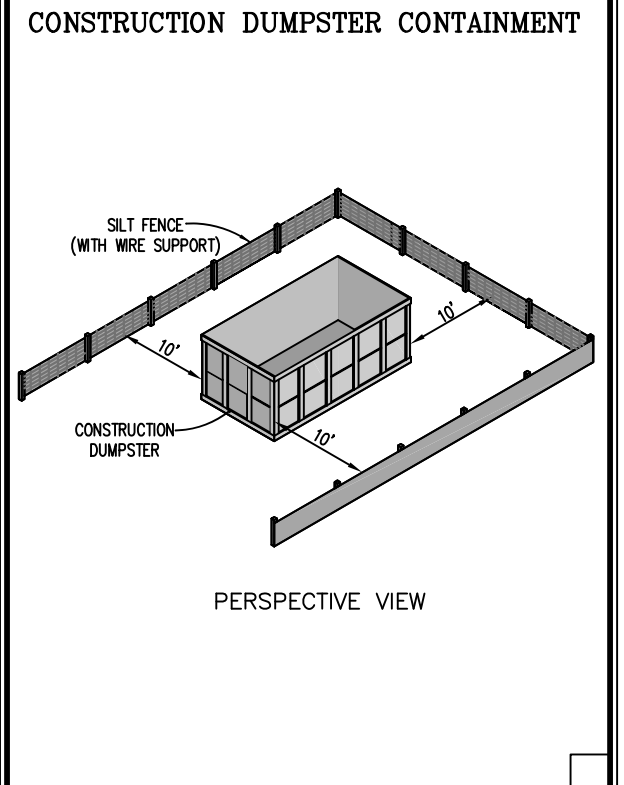
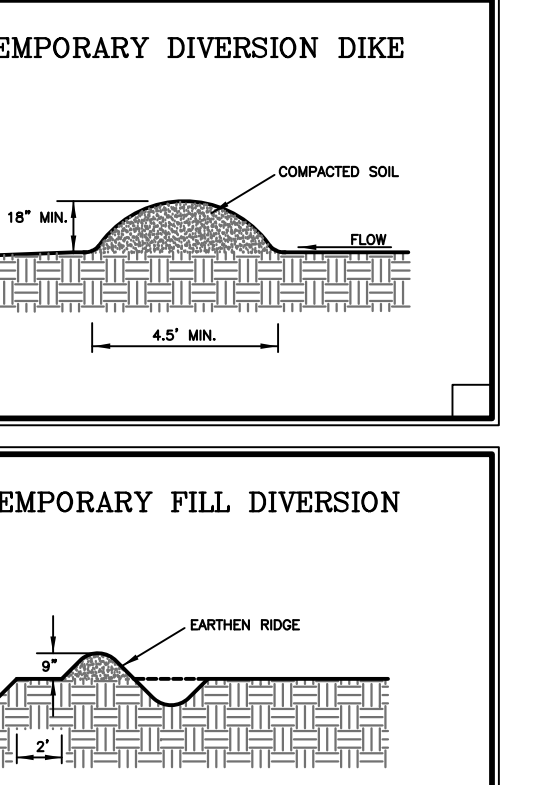
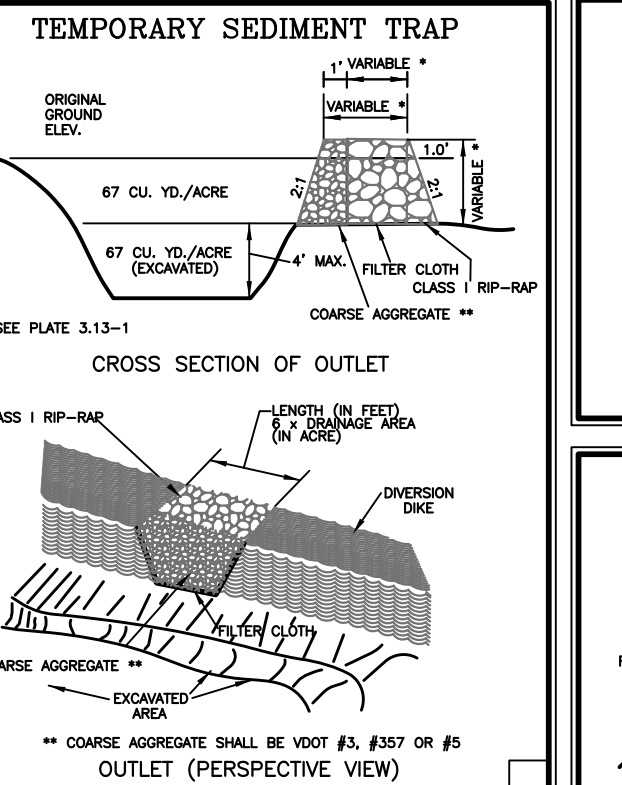
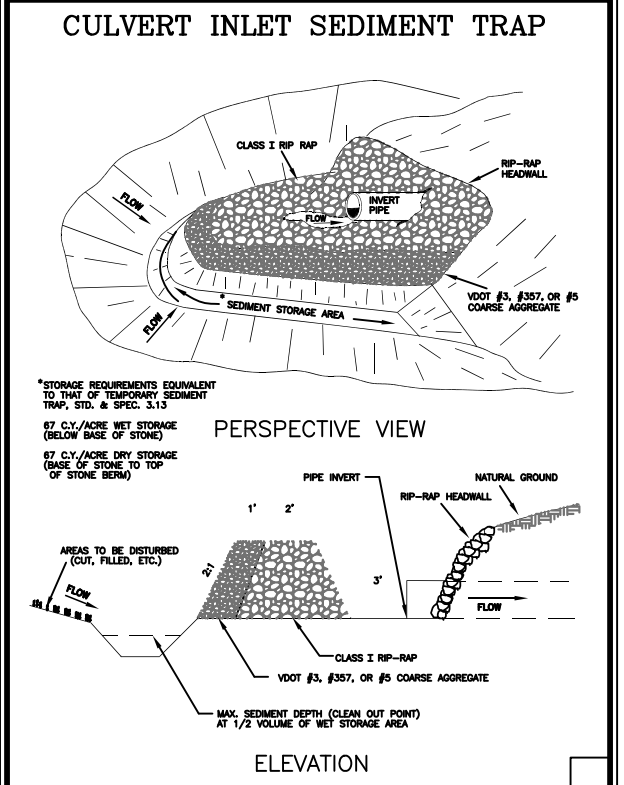
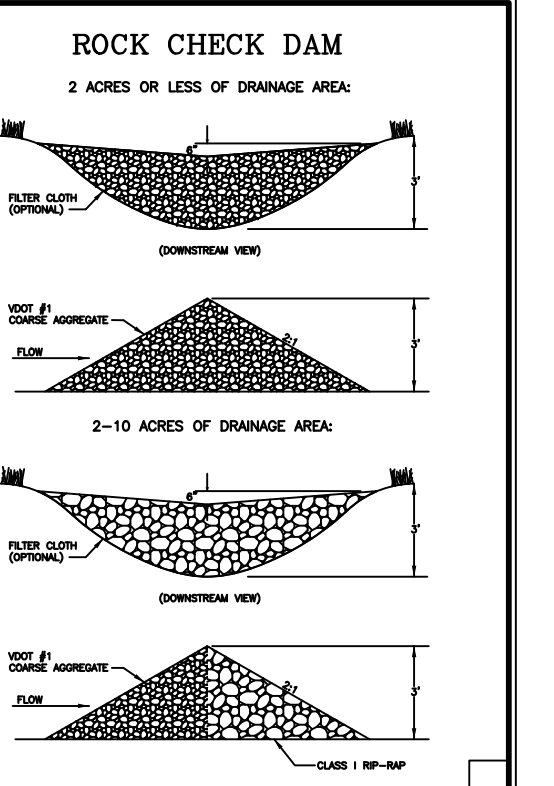
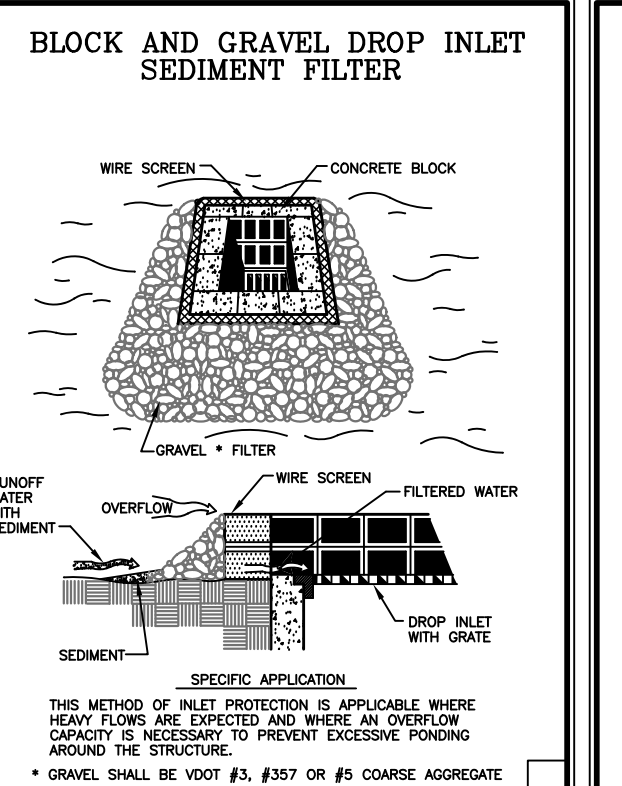
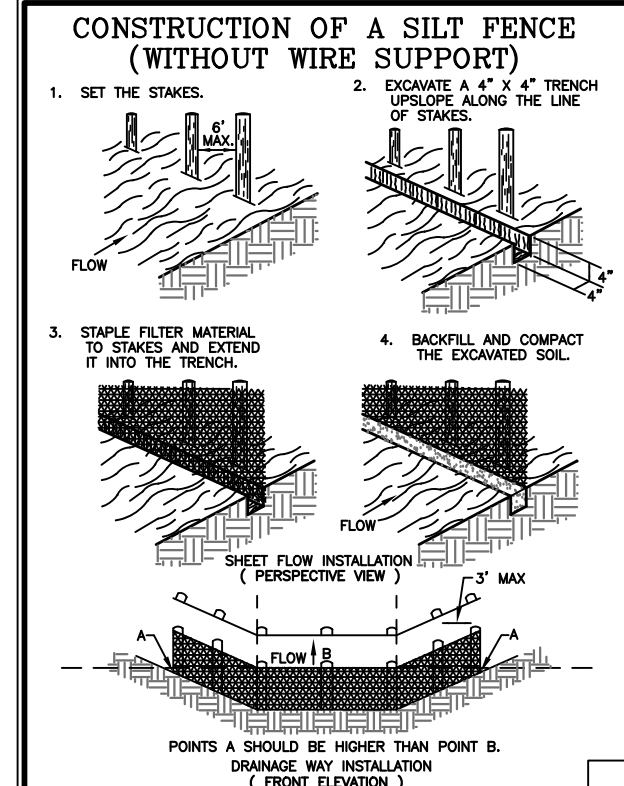
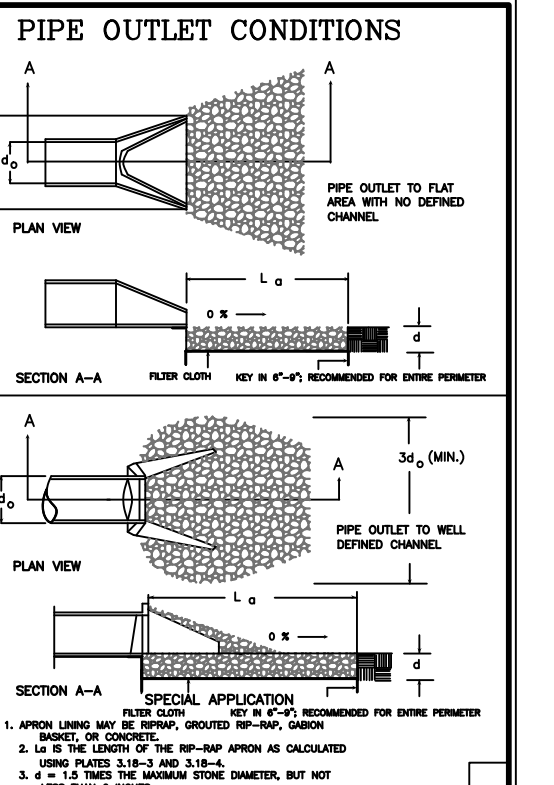
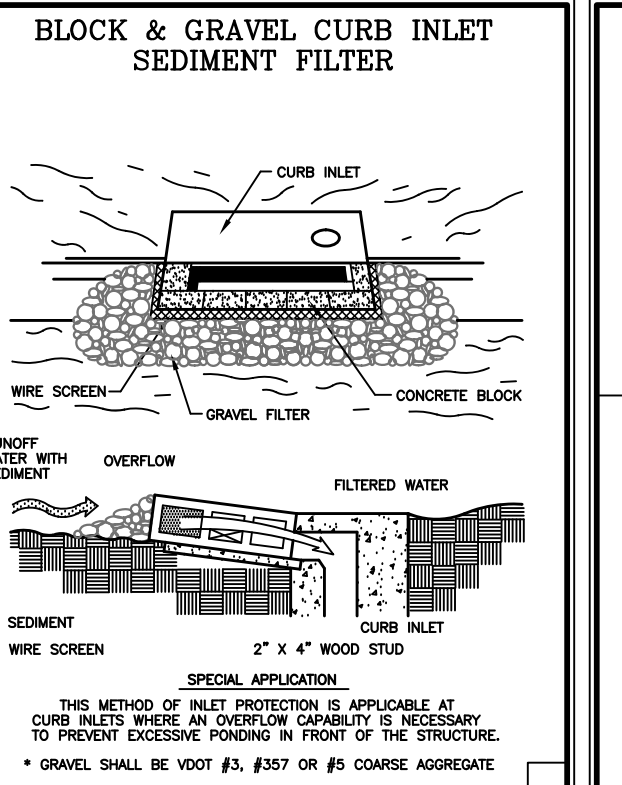
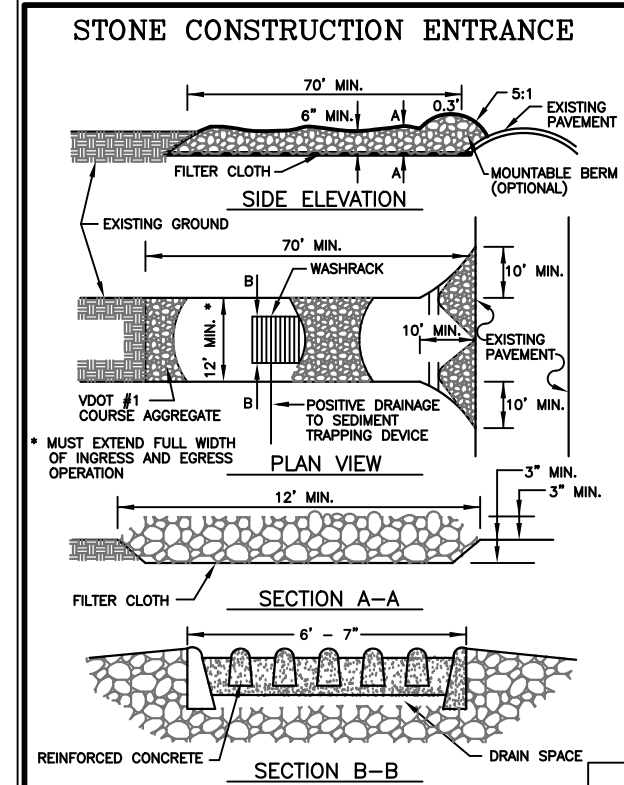


KARTER SCHOOL
TOWN OF HAYMARKET
GAINESVILLE MAGISTERIAL DISTRICT
PRINCE WILLIAM COUNTY, VIRGINIA
SCALE: NO SCALE
AUGUST 6, 2020

AGENCY REVIEW APPROVALS

DATE	BY	REVISION

DES: FW DWN: MSL CHK: RMM
FILE NO.: SP # 2049
SHEET C1.1A



PLAN REVIEW MINIMUM STANDARD CHECKLIST

PROJECT: **KARTER SCHOOL** PROJECT # _____
 LOCATION: **6905 KARTER ROBINSON DR** RECEIVED: _____
 REVIEWED: _____ APPROVED: _____

YES	NO	NA	DESCRIPTION
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	MS-1 HAVE TEMPORARY AND PERMANENT STABILIZATION BEEN ADDRESSED IN NARRATIVE? ARE PRACTICES SHOWN ON THE PLAN? SEED SPECIFICATIONS? MULCHING? GRAVEL?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	MS-2 HAS STABILIZATION OF SOIL STOCKPILES BEEN ADDRESSED IN NARRATIVE? ARE SEDIMENT TRAPPING MEASURES PROVIDED?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	MS-3 HAS MAINTENANCE OF PERMANENT STABILIZATION BEEN ADDRESSED?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	MS-4 ARE SEDIMENT TRAPPING FACILITIES TO BE CONSTRUCTED AS A FIRST STEP IN LDP? HAS MAINTENANCE OF PRACTICES BEEN ADDRESSED? (I.E. REPAIR OF STRUCTURES AND REMOVAL ACCUMULATED SEDIMENT)
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	MS-5 HAS STABILIZATION OF EARTHEN STRUCTURES BEEN ADDRESSED?
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	MS-6 ARE SEDIMENT BASINS REQUIRED WHERE NEEDED?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	MS-7 HAS STABILIZATION OF CUT AND FILL SLOPES BEEN ADEQUATELY ADDRESSED?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	MS-8 ARE PAVED FLUMES, CHANNELS, OR SLOPE DRAINS REQUIRED WHERE NECESSARY.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	MS-9 HAVE WATER SEEPS FROM SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION ADDRESSED?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	MS-10 IS ADEQUATE INLET PROTECTION REQUIRED ON ALL OPERATIONAL STORM SEWER INLETS?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	MS-11 ARE CHANNEL LINING AND/OR OUTLET PROTECTION REQUIRED ON STORM WATER CONVEYANCE CHANNELS?
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	MS-12 ARE IN-STREAM CONSTRUCTION MEASURES REQUIRED SO THAT CHANNEL DAMAGE IS MINIMIZED?
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	MS-13 ARE TEMPORARY STREAM CROSSINGS OF NON-ERODIBLE MATERIAL REQUIRED WHERE NECESSARY?
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	MS-14 ARE ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS PERTAINING TO WORKING IN OR CROSSING LIVE WATERCOURSES BEING MET?
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	MS-15 HAS RE-STABILIZATION OF AREAS SUBJECT TO IN-STREAM CONSTRUCTION BEEN ADEQUATELY ADDRESSED?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	MS-16 HAS STABILIZATION OF UTILITY TRENCHES BEEN ADDRESSED?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	MS-17 HAS THE PREVENTION OF TRANSPORTING OF SOIL AND MUD ONTO PUBLIC ROADWAYS BEEN ADEQUATELY ADDRESSED? (I.E. CONSTRUCTION ENTRANCES, WASH RACKS, DAILY CLEANING OF ROADWAYS, TRANSPORT OF SEDIMENT TO A TRAPPING FACILITY)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	MS-18 HAS THE REMOVAL OF TEMPORARY PRACTICES BEEN ADDRESSED?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	MS-19 ARE PROPERTIES AND WATERWAYS DOWNSTREAM FROM THE DEVELOPMENT ADEQUATELY PROTECTED FROM EROSION AND SEDIMENT DEPOSITION DUE TO INCREASE IN PEAK RUNOFF?

CHECKLIST

FOR EROSION AND SEDIMENT CONTROLS PLANS

Minimum Standards - All applicable Minimum Standards must be addressed.

NARRATIVE

Project description - Briefly describes the nature and purpose of the land-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 the neighboring areas such as streams, lakes, residential areas, roads, etc., which might be affected by the land disturbance.

Off-site areas - Describe any off-site land-disturbing activities that will occur (including borrow sites, waste or surplus areas, etc.) Will any other areas be disturbed?

Soils - A brief description of the soils on the site giving such information as soil name, mapping unit, erodibility, permeability, depth, texture and soil structure.

Critical areas - A description of areas on the site which have potentially serious erosion problems (e.g., steep slopes, channels, wet weather/underground springs, etc.)

Erosion and sediment control measures - A description of the methods which will be used to control erosion and sedimentation on the site. (Controls should satisfy minimum standards in Chapter 3.)

Permanent stabilization - A brief description, including specifications, of how the site will be stabilized after construction is completed.

Stormwater runoff considerations - Will the development site cause an increase in peak runoff rates? Will the increase in runoff cause flooding or channel degradation downstream? Describe the strategy to control stormwater runoff.

Calculations - Detailed calculations for the design of temporary sediment basins, permanent stormwater detention basins, diversions, channels, etc. Include calculations for pre- and post- development runoff.

SITE PLAN

Vicinity map - A small map locating the site in relation to the surrounding area. Include any landmarks which might assist in locating the site.

Indicate north - The direction of north in relation to the site.

Limits of clearing and grading - Areas which 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 size (acres) 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 shown on the site. Use the standard symbols and abbreviations in Chapter 3 of the E&S Handbook.

Off-site areas - 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 detail drawings.

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

EROSION & SEDIMENT CONTROL STANDARD NOTES

- The owner/developer must notify the Town of Haymarket at 703-753-2600 at least 24 hours prior to the start of construction in accordance with applicable county ordinances and policies.
- The owner/developer grants the right-of-entry on to this property to the designated Town of Haymarket personnel for the purpose of inspecting and monitoring for compliance with Title 10.01, Chapter 5, Article 4 of the Code of Virginia, Erosion and Sediment Control Law and the Design and Construction Standards Manual Section 750.04 (c).
- All erosion control measures shown on the approved plan must be in place and inspected and approved by the Town of Haymarket prior to clearing, stripping of topsoil or grading.
- A copy of the approved erosion and sediment control plan and permit shall be kept on the site at all times.
- The developer/developer's representative is responsible for the installation of any additional erosion control measures necessary to prevent erosion and sedimentation as determined by the Town of Haymarket.
- All disturbed areas are to drain to approved sediment control measures at all times during land disturbing activities and during site development until complete and adequate stabilization is achieved.
- Water must be pumped into an approved filtering device during dewatering operations.
- All erosion and sediment control practices must be constructed and maintained according to the minimum standards and specifications of the Virginia Erosion and Sediment Control Handbook and the Virginia Regulations VR 625-02-00 Erosion and Sediment Control Regulations and to the Town of Haymarket Zoning and Subdivision Ordinance.
- The developer/developer's representative will be responsible for the installation and maintenance of all erosion and sediment control practices at all times. The developer/developer's representative shall inspect all erosion and sediment control measures daily and after each significant rainfall. The following items will be checked in particular:
 - Sediment basins will be cleaned out when the level of sediment buildup reaches the cleanout elevation indicated on the riser pipe. Sediment shall be disposed in suitable areas and in such a manner that will not erode or cause sedimentation problems. The basin embankment should be checked regularly to ensure that it is structurally sound and has not been damaged by erosion or construction equipment.
 - Emergency spillways should be checked regularly to ensure that its lining is well established and erosion resistant.
 - Sediment traps will be checked regularly for sediment cleanout. Sediment shall be removed and the trap restored to its original dimensions when the sediment has accumulated to one half the design volume of the wet storage. Sediment removed from the trap shall be deposited in a suitable area and in such a manner that it will not erode and cause sedimentation problems.
 - Gravel outlets will be checked regularly for sediment buildup which will prevent drainage. If the gravel is clogged by sediment, it shall be removed and cleaned or replaced.
 - Silt fence barriers will be checked regularly for undermining or deterioration of the fabric. Sediment shall be removed when the level of sediment deposition reaches half way to the top of the barrier.
 - Seeded areas will be checked regularly to ensure that a good stand is maintained. Areas should be fertilized and reseeded as needed.
 - Stream diversion and storm conveyance channels shall be inspected daily and after each rain to ensure they're functioning properly and that the integrity of the linings are not impaired.
 - Any necessary repairs or cleanup to maintain the effectiveness of the erosion control devices must be made immediately after the inspection.
- Sediment trapping measures will be installed as a first step in grading and will be seeded and mulched immediately following installation. Temporary soil stabilization shall be applied within seven (7) days to denuded areas that may not be at final grade but will remain undisturbed for longer than fourteen (14) days. Seeding and selection of the seed mixture shall be in accordance with the Virginia Erosion and Sediment Control Handbook Standard and Specification 3.32. Roads and parking areas shall be stabilized within seven (7) days after final grade is reached.
- All temporary erosion and sediment control measures will be removed within 30 days after adequate site stabilization and after the temporary measures are no longer needed, as authorized by the Town of Haymarket inspectors. Trapped sediment and the disturbed soil areas resulting from the disposition of temporary measures will be permanently stabilized to prevent further erosion and sedimentation.
- When sediment is transported onto a paved road surface, the road will be cleaned thoroughly at the end of each day. Sediment will be removed from the roads by shoveling or sweeping and transported to a sediment control disposal area. Street washing will be allowed only after sediment is removed in this manner.
- Areas which are not to be disturbed will be clearly marked by flags, signs, etc.
- RPA and flood plain limits shall be clearly marked in the field by flags, signs, etc.
- Tree save areas shall be clearly marked in the field prior to construction beginning with orange safety fence and tree preservation area signs. It is highly recommended that they alternate between English and Spanish every 30 feet.
- Orange safety fence must be installed around all silt traps and sediment basins.

TABLE 3.31-B
ACCEPTABLE TEMPORARY SEEDING PLANT MATERIALS
'QUICK REFERENCE FOR ALL REGIONS'

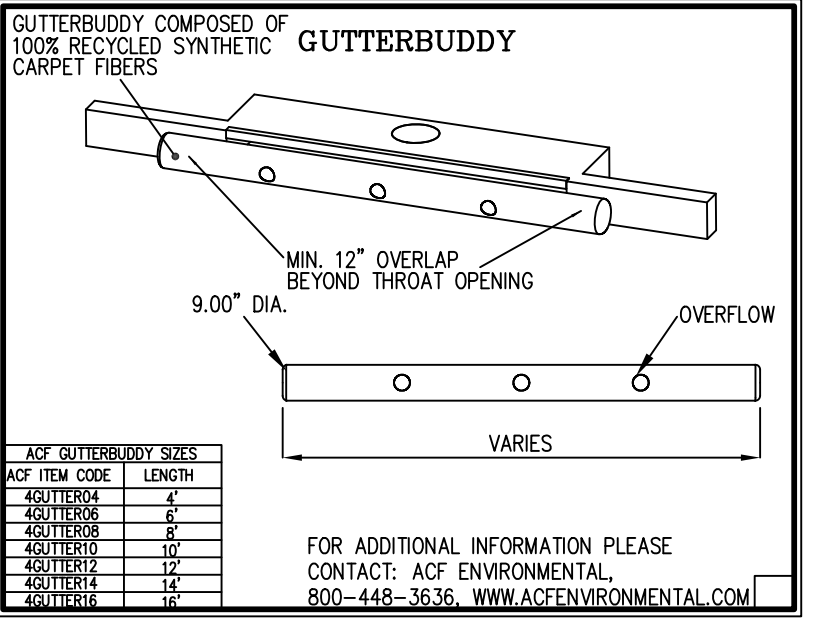
Planting Dates	Species	Rate (lbs./acre)
Sept. 1 - Feb. 15	50/50 Mix of Annual Ryegrass (<i>Lolium multi-florum</i>) & Cereal (Winter) Rye (<i>Secale cereale</i>)	50 - 100
Feb. 16 - Apr. 30	Annual Ryegrass (<i>Lolium multi-florum</i>)	60 - 100
May 1 - Aug 31	German Millet (<i>Setaria italica</i>)	50

TABLE 3.32-D
SITE SPECIFIC SEEDING MIXTURES FOR PIEDMONT AREA

Minimum Care Lawn	Total Lbs. Per Acre.
- Commercial or Residential.	175-200 lbs.
- Kentucky 31 or Turf-Type Tall Fescue	95-100%
- Improved Perennial Ryegrass	0-5%
- Kentucky Bluegrass	0-5%
High-Maintenance Lawn	200-250 lbs.
- Kentucky 31 or Turf-Type Tall Fescue	100%
General Slope (3:1 or less)	
- Kentucky 31 Fescue	128 lbs.
- Red Top Grass	2 lbs.
- Seasonal Nurse Crop *	20 lbs.
Low-Maintenance Slope (Steeper than 3:1)	
- Kentucky 31 Fescue	108 lbs.
- Red Top Grass	2 lbs.
- Seasonal Nurse Crop *	20 lbs.
- Crowntech **	150 lbs.

* Use seasonal nurse crop in accordance with seeding dates as stated below:
 February 16th through April Annual Rye
 May 1st through August 15th Fescue Millet
 August 16th through October Annual Rye
 November through February 15th Winter Rye

** Substitute *Setaria lespedeza* for Crowntech east of Farmville, Va. (May through September use hulled *Setaria*, all other periods, use unhulled *Setaria*). If Fescue is used in lieu of Crowntech, increase rate to 30 lbs./acre. All legume seed must be properly inoculated. Weeping Lovegrass may be added to any slope or low-maintenance mix during warmer seeding periods; add 10-20 lbs./acre in mixes.



ACF ENVIRONMENTAL
LET'S GET IT DONE

FOR ADDITIONAL INFORMATION PLEASE CONTACT: ACF ENVIRONMENTAL, 800-448-3636, WWW.ACFENVIRONMENTAL.COM

ACF GUTTERBUDDY SIZES	APPROX. LENGTH
48\"/>	

ROSS-FRANCE
CIVIL ENGINEERING • LAND SURVEYING
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rossfranceva.com
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COMMONWEALTH OF VIRGINIA
H. MICHAEL MASSENE
Lic. No. 23856
5-19-21
PROFESSIONAL ENGINEER

KARTER SCHOOL
TOWN OF HAYMARKET
GAINESVILLE MAGISTERIAL DISTRICT
PRINCE WILLIAM COUNTY, VIRGINIA
SCALE: NO SCALE
AUGUST 6, 2020
Attachment: KARTER SCHOOL SITE PLAN 6.10.21 (5072 : Karter School Site Plan, 6905 Karter Robinson Drive)

STANDARD EROSION CONTROL DETAILS/NOTES

REVISION	DATE	BY	DESCRIPTION

DES: FW DWN: CHK: RMM
 FILE NO: SP # 2049
 SHEET Packet Pg. 11

EROSION CONTROL NARRATIVE

PROJECT DESCRIPTION:

THIS PROPOSED SITE CONSISTS OF 1.95 ACRES FOR A PROPOSED SCHOOL, OF WHICH 1.94 ACRES WILL BE DISTURBED. THE SITE IS LOCATED ON THE NORTH SIDE OF WASHINGTON STREET.

EXISTING SITE CONDITIONS: THE SITE IS OPEN WITH SMALL STANDS OR INDIVIDUAL TREES AND IS MODERATELY SLOPED. SLOPES GENERALLY RANGE FROM 1 TO 10 PERCENT. STORM DRAINAGE IS PROVIDED BY AN OFFSITE REGIONAL STORM WATER MANAGEMENT FACILITY LOCATED TO THE NORTH EAST.

ADJACENT PROPERTY: THE SITE IS BORDERED BY WASHINGTON STREET TO THE SOUTH, PROPOSED ROAD BEING DEVELOPED TO THE EAST, PROPOSED SUBDIVISION BEING DEVELOPED TO THE NORTH AND NORTH EAST, GENERAL BUSINESS OFFICE TO THE EAST.

OFF-SITE AREAS: OFFSITE DISTURBANCE SHALL BE LIMITED TO GRADING REQUIRED TO CONSTRUCT THE REQUIRED SWM FACILITY IS ANTICIPATED FOR THIS PROPERTY.

SOILS: SEE SOILS MAP LOCATED ON THE COVER SHEET.

CRITICAL EROSION AREAS: THE SITE INSPECTOR SHALL HAVE THE AUTHORITY TO ADJUST OR REQUIRE ADDITIONAL EROSION MEASURES IF REQUIRED TO PREVENT SEDIMENT FROM LEAVING THE DISTURBED AREAS.

UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE TOWN OF HAYMARKET AND THE THIRD EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VE&SCH).

THE SPECIFIC AREAS TO BE CLEARED SHALL BE IDENTIFIED PRIOR TO BEGINNING CONSTRUCTION. REFER TO THE PLAN FOR THE PROPOSED LIMITS OF CLEARING AND GRADING.

STRUCTURAL PRACTICES:

- 1) SAFETY FENCE - 3.01 A PROTECTIVE BARRIER INSTALLED TO PROHIBIT UNDESIRABLE USE OF AN EROSION CONTROL MEASURE.
2) CONSTRUCTION ENTRANCE - 3.02 A STABILIZED STONE PAD WITH A FILTER FABRIC UNDERLINER LOCATED AT POINTS OF VEHICULAR INGRESS AND EGRESS ON A CONSTRUCTION SITE (TO INCLUDE WASH RACK).
3) SILT FENCE - 3.05 SILT FENCE WILL BE INSTALLED DOWN SLOPE FROM DISTURBED AREAS TO FILTER SEDIMENT-LADEN RUNOFF FROM SHEET FLOW AS SHOWN ON THE PLAN.
4) STORM DRAIN INLET PROTECTION - 3.07 A SEDIMENT FILTER OR AN EXCAVATED IMPOUNDING AREA AROUND A STORM DRAIN DROP INLET OR CURB INLET TO PREVENT SEDIMENT FROM ENTERING THE STORM DRAINAGE SYSTEM PRIOR TO PERMANENT STABILIZATION OF THE DISTURBED AREA.
5) CULVERT INLET PROTECTION - 3.08 A SEDIMENT FILTER LOCATED AT THE INLET TO STORM SEWER CULVERTS TO PROVIDE EROSION CONTROL AT CULVERT INLETS.
6) TEMPORARY DIVERSION DIKE - 3.09 A TEMPORARY RIDGE OF COMPACTED SOIL CONSTRUCTION AT THE TOP OR BASE OF A SLOPING DISTURBED AREA TO DIVERT RUNOFF FROM A DISTURBED AREA TO A SEDIMENT TRAPPING FACILITY SUCH AS A SEDIMENT TRAP OR SEDIMENT BASIN.
7) DIVERSION - 3.12 A CHANNEL CONSTRUCTED ACROSS A SLOPE WITH A SUPPORTING EARTHEN RIDGE ON THE LOWER SIDE TO REDUCE SLOPE LENGTH AND INTERCEPT AND DIVERT RUNOFF TO STABILIZED OUTLETS.
8) TEMPORARY SEDIMENT TRAP - 3.13 A TEMPORARY PONDING AREA FORMED BY CONSTRUCTING AN EARTHEN EMBANKMENT WITH A STONE OUTLET USED TO DETAIN SEDIMENT LADEN RUNOFF FROM SMALL DISTURBED AREAS LONG ENOUGH TO ALLOW THE MAJORITY OF THE SEDIMENT TO SETTLE OUT.
9) OUTLET PROTECTION - 3.18 STRUCTURALLY LINED APRONS OR OTHER ENERGY DISSIPATING DEVICES PLACED AT THE OUTLETS OF PIPES OR PAVED CHANNEL SECTIONS TO PREVENT SCOUR, PROTECT THE OUTLET STRUCTURE, AND TO MINIMIZE THE POTENTIAL FOR DOWNSTREAM EROSION BY REDUCING THE VELOCITY AND ENERGY OF CONCENTRATED STORMWATER FLOWS.
10) RIP RAP - 3.19 A PERMANENT EROSION-RESISTANT GROUND COVER OF LARGE, LOOSE, ANGULAR STONE WITH FILTER FABRIC USED TO PROTECT THE SOIL FROM EROSION FORCES, TO SLOW THE VELOCITY OF THE RUNOFF, AND TO STABILIZE SLOPES WITH SEEPAGE PROBLEMS.
11) ROCK CHECK DAMS - 3.20 SMALL TEMPORARY STONE DAMS CONSTRUCTED ACROSS A SWALE OR DRAINAGE DITCH TO REDUCE THE VELOCITY OF STORMWATER FLOWS AND REDUCE EROSION ON THE SWALE OR DITCH.
12) SUBSURFACE DRAIN - 3.28 A PERFORATED CONDUIT SUCH AS PIPE, TUBING OR TILE INSTALLED BENEATH THE GROUND TO INTERCEPT AND CONVEY GROUND WATER TO DRAIN STORMWATER DETENTION AREAS AND PREVENT SLOPING SOILS FROM BECOMING EXCESSIVELY WET.
13) SURFACE ROUGHENING - 3.29 PROVIDING A ROUGH SOIL SURFACE WITH HORIZONTAL DEPRESSIONS CREATED BY OPERATING A TILLAGE OR OTHER SUITABLE IMPLEMENT ON THE CONTOUR, OR BY LEAVING SLOPES IN A ROUGHENED CONDITION BY NOT FINE-GRADING THEM TO REDUCE EROSION AND RUNOFF VELOCITY AND INCREASE FILTRATION.
14) TOPSOILING - 3.30 METHODS OF PRESERVING AND USING THE SURFACE LAYER OF UNDISTURBED SOIL, OFTEN ENRICHED IN ORGANIC MATTER, IN ORDER TO OBTAIN A MORE DESIRABLE PLANTING AND GROWTH MEDIUM FOR FINAL SITE STABILIZATION WITH VEGETATION.
15) TEMPORARY SEEDING - 3.31 THE ESTABLISHMENT OF A TEMPORARY VEGETATIVE COVER ON DISTURBED AREAS TO REDUCE EROSION AND SEDIMENTATION BY STABILIZING AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE FOR MORE THAN 30 DAYS.
16) PERMANENT SEEDING - 3.32 THE ESTABLISHMENT OF PERENNIAL VEGETATIVE COVER ON DISTURBED AREAS BY PLANTING SEED. USED TO REDUCE EROSION AND DECREASE SEDIMENT YIELD FROM DISTURBED AREA, TO PERMANENTLY STABILIZED DISTURBED AREAS, TO IMPROVE WILDLIFE HABITAT AND TO ENHANCE NATURAL BEAUTY.
17) SODDING - 3.33 STABILIZING FINE-GRADED DISTURBED AREAS BY ESTABLISHING PERMANENT GRASS STANDS WITH SOD. THE PURPOSE IS TO ESTABLISH PERMANENT TURF IMMEDIATELY TO PREVENT EROSION AND DAMAGE FROM SEDIMENT, TO REDUCE DUST, AND TO STABILIZE THE SOIL.

19) MULCHING - 3.35 APPLICATION OF PLANT RESIDUES OR OTHER SUITABLE MATERIALS TO THE SOIL SURFACE TO PREVENT EROSION BY PROTECTING THE SOIL FROM RAINDROP IMPACT AND REDUCING THE VELOCITY OF OVERLAND FLOW AND TO FOSTER THE GROWTH OF VEGETATION BY INCREASING AVAILABLE MOISTURE AND PROVIDING INSULATION.

20) TREE, SHRUBS, VINES & GROUND COVERS - 3.37 STABILIZING DISTURBED AREAS BY ESTABLISHING VEGETATIVE COVER WITH TREES, SHRUBS, VINES, OR GROUND COVERS TO STABILIZE SOIL AND PROVIDE FOOD AND SHELTER FOR WILDLIFE.

21) TREE PROTECTION - 3.38 PROTECTION OF DESIRABLE TREES FROM MECHANICAL AND OTHER INJURY DURING CONSTRUCTION TO ENSURE THE SURVIVAL OF THE TREES WHERE THEY WILL BE EFFECTIVE FOR EROSION AND SEDIMENT CONTROL, WATERSHED PROTECTION, BEAUTIFICATION, DUST AND POLLUTION CONTROL, SHADE, AND NOISE REDUCTION.

22) DUST CONTROL - 3.39 REDUCING SURFACE AND AIR MOVEMENT OF DUST DURING LAND DISTURBING, DEMOLITION AND CONSTRUCTION ACTIVITIES TO REDUCE AIRBORNE SUBSTANCES WHICH MAY PRESENT HEALTH HAZARDS AND TRAFFIC SAFETY PROBLEMS.

PERMANENT STABILIZATION:

PERMANENT OR TEMPORARY SOIL STABILIZATION BY SEEDING AND MULCHING SHALL BE APPLIED TO THE DENUDED AREAS WITHIN 7 CALENDAR DAYS OF COMPLETING ROUGH GRADING. ROADS, TRAVELWAYS AND PARKING FACILITIES SHALL BE STABILIZED WITH BASE COURSE STONE WITHIN 7 DAYS AFTER FINAL GRADING. TEMPORARY SEEDING SHALL BE APPLIED WITHIN 7 CALENDAR DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE, BUT WILL REMAIN DORMANT FOR LONGER THAN 14 DAYS. PERMANENT SOIL STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN 6 MONTHS. IMMEDIATELY AFTER FINAL GRADING HAS BEEN COMPLETED, SEEDING/SOD WILL BE APPLIED TO ALL DENUDED AREAS AS PERMANENT STABILIZATION. THESE AREAS INCLUDE BUT ARE NOT LIMITED TO YARDS, PARKING ISLANDS, AND UTILITY EASEMENTS. FOR WINTER STABILIZATION, ANY AREA DENUDED FOR LONGER THAN 14 DAYS AFTER NOVEMBER 1 TO MARCH 1 SHALL BE MULCHED AND SEEDED APPROPRIATE TO THE SEASON AND SITE CONDITIONS.

SEDIMENT CONTROL PHASE 1:

THE PHASE 1 MEASURES SHALL BE INSTALLED AS THE FIRST STEP AND PRIOR TO BEGINNING ANY LAND DISTURBING ACTIVITIES. THE PHASE 1 EROSION AND SEDIMENT CONTROL MEASURES INCLUDE THE FOLLOWING: SAFETY FENCE, INLET PROTECTION, SEDIMENT BASIN, CHECK DAMS, SILT FENCE, DIVERSION DIKES, SEDIMENT TRAPS, CONSTRUCTION ENTRANCE, AND TREE PROTECTION.

INSTALLATION SCHEDULE

- 1. OBTAIN AN EROSION CONTROL PERMIT FROM TOWN OF HAYMARKET.
2. OBTAIN TEMPORARY CONSTRUCTION ENTRANCE PERMIT FROM VIRGINIA DEPARTMENT OF TRANSPORTATION. (IF APPLICABLE)
3. INSTALL THE TEMPORARY CONSTRUCTION ENTRANCE. THE CONTRACTOR SHALL, EITHER BY MEANS OF ONSITE FACILITIES OR TEMPORARY STORAGE, PROVIDE WASH WATER TO WASH MUD FROM VEHICLES AND CONSTRUCTION EQUIPMENT PRIOR TO THEM ENTERING THE RIGHT-OF-WAY.
4. STAKE-OUT THE LIMITS OF CLEARING AND/OR GRADING.
5. STAKE-OUT THE LOCATION OF PERIMETER CONTROLS.
6. INSTALL THE PERIMETER CONTROLS INCLUDING THE TEMPORARY SEDIMENT BASIN, SEDIMENT TRAPS AND BYPASS PIPES AS INDICATED ON THE PHASE 1 EROSION AND SEDIMENT CONTROL PLAN.
NOTE: CONTRACTOR TO STABILIZE TEMPORARY DIVERSION DIKES IMMEDIATELY AFTER INSTALLATION.
7. OBTAIN APPROVAL FROM TOWN OF HAYMARKET OF THE PERIMETER CONTROLS.
8. INSPECT AND RESTORE EXISTING CONTROLS AS NEEDED ON SITE. THE STRUCTURES SHALL BE INSPECTED AND APPROVED BY TOWN OF HAYMARKET AND THE ARCHITECT.
9. CLEAR AND GRUB ANY AREAS SHOWN TO BE CLEARED ON THE SITE PLAN.
10. PROVIDE TEMPORARY SEEDING AS REQUIRED FOR ANY AREAS IN ACCORDANCE WITH VE&SCH.
11. NO BURYING OF STUMPS, OR ANY OTHER TRASH, JUNK OR DEBRIS WILL BE ALLOWED ON THE SCHOOL SITE.
12. REMOVE ALL CLEARING DEBRIS, TRASH, CONCRETE, AND DEBRIS FROM THE SCHOOL SITE.
13. MAINTAIN SILTATION AND EROSION CONTROL MEASURES IN AN OPERATIVE CONDITION THROUGHOUT THE ENTIRE PERIOD OF THE CONSTRUCTION PROJECT.
14. THE TOWN INSPECTOR SHALL HAVE THE AUTHORITY TO MAKE ADJUSTMENTS IN THE FIELD TO THE EROSION AND SEDIMENT CONTROL MEASURES IF HE FEELS CORRECTIVE ACTION IS REQUIRED TO PREVENT SEDIMENT FROM LEAVING THE SITE.

SEDIMENT CONTROL PHASE II:

PHASE II IS THE CONSTRUCTION OF THE BUILDINGS, PARKING AREAS, SERVICE AREAS, WATERLINES, SANITARY SEWER AND STORM SEWER SYSTEM.

- 1. ONCE THE PHASE I ITEMS HAVE BEEN CONSTRUCTED, PHASE II LAND DISTURBING ACTIVITIES MAY BEGIN. MAINTAIN PHASE 1 EROSION CONTROL IN AN OPERATIVE CONDITION.
2. AS THE STORM SEWER IS BEING INSTALLED AND INSPECTED, AND THE INLETS ARE FUNCTIONAL, INSTALL THE INLET PROTECTION. RIP-RAP OUTLET PROTECTION MUST BE INSTALLED ONCE THE OUTLET STRUCTURE IS IN PLACE.
3. ONCE ROUGH GRADING OF THE PARKING LOTS AND TRAVELWAYS HAS BEEN COMPLETED, THE AGGREGATE SUBBASE SHALL BE INSTALLED TO STABILIZE THE AREA.
4. THE FILL SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION TO REDUCE THE CHANGE OF SHEET AND RILL EROSION. CONCENTRATED FLOWS SHALL BE DIVERTED AWAY FROM FILL SLOPES AND INTO A STABILIZED CHANNEL. TEMPORARY SLOPE DRAINS SHALL BE INSTALLED TO CONVEY CONCENTRATED RUNOFF DOWN CUT AND FILL SLOPES IN EXCESS OF 10'.
5. UPON COMPLETION OF ALL CONSTRUCTION AND LAND DISTURBING ACTIVITIES, AND WHEN THE DISTURBED AREAS HAVE BEEN STABILIZED, THE SEDIMENT CONTROL MEASURES MAY BE REMOVED WITH THE APPROVAL OF THE INSPECTOR.
6. ALL SEDIMENT TRAPS SHALL BE BACKFILLED WITH SUITABLE MATERIAL AS DETERMINED BY THE SOILS ENGINEER PRIOR TO FINAL CONSTRUCTION.

STORMWATER RUNOFF:

THE INCREASE IN IMPERVIOUS AREA, DUE TO THE CONSTRUCTION OF THE PROPOSED SCHOOL, WILL BE CONTROLLED BY ONSITE STORMWATER MANAGEMENT FACILITIES.

MAINTENANCE:

- ALL MEASURES ARE TO BE INSPECTED DAILY BY THE SITE SUPERINTENDENT AND INSPECTOR. ANY DAMAGED DEVICES WILL BE REPAIRED BY THE CLOSE OF THE DAY. ALL TRAPS SHALL BE CLEANED OUT MONTHLY AND AFTER ANY RAINFALL OF 1 INCH OR MORE. IN ADDITION, THE FOLLOWING MAINTENANCE SCHEDULE SHALL BE EMPLOYED:
a) STONE FILTERS SHALL BE CLEANED WHEN SEDIMENT REACHES ONE HALF OF THE HEIGHT OF THE FILTER.
b) SILT FENCE SHALL BE CLEANED WHEN SEDIMENT REACHES ONE HALF THE HEIGHT OF THE FENCE.
c) THE SEEDED AREAS WILL BE CHECKED REGULARLY TO INSURE THAT A GOOD STAND IS MAINTAINED.
d) TEMPORARY STOCKPILES SHALL BE GRADED TO DRAIN FREELY AND HAVE PERIMETER EROSION CONTROLS INSTALLED IF TO REMAIN LONGER THAN 14 DAYS.

TEMPORARY SEEDING:

SPECIFICATIONS: PRIOR TO SEEDING, INSTALL NECESSARY EROSION CONTROL PRACTICES SUCH AS DIKES, WATERWAYS, AND BASINS.

PLANT SELECTION:

SELECT PLANTS APPROPRIATE TO THE SEASON AND SITE CONDITIONS FROM TABLES 3.31-B.

SEEDBED PREPARATION:

TO CONTROL EROSION ON BARE SOIL SURFACES, PLANTS MUST BE ABLE TO GERMINATE AND GROW. SEEDBED PREPARATION IS ESSENTIAL.

- 1. FERTILIZER: SHALL BE APPLIED AT 600 LBS./ACRE OF 10-20-10 (14LBS./1000 SQ. FT.) OR EQUIVALENT NUTRIENTS. FERTILIZER SHALL BE INCORPORATED INTO THE TOP 2 TO 4 INCHES OF THE SOIL IF POSSIBLE.
2. SURFACE ROUGHENING: IF THE AREA HAS BEEN RECENTLY LOOSENED OR DISTURBED, NO FURTHER ROUGHENING IS REQUIRED. WHEN THE AREA IS COMPACTED, CRUSTED, OR HARDENED, THE SOIL SURFACE SHALL BE LOOSENED BY DISCING, RAKING, HARROWING OR OTHER ACCEPTABLE MEANS.
3. TRACKING: TRACKING WITH BULLDOZER CLEATS IS MOST EFFECTIVE ON SANDY SOILS, AND DOES NOT AID PLANT GROWTH AS EFFECTIVELY AS OTHER METHODS OF SURFACE ROUGHENING.

SEEDING:

SEED SHALL BE EVENLY APPLIED WITH A BROADCAST SEEDER, DRILL, CULTIPACKER SEEDER OR HYDROSEEDER. SMALL GRAINS SHALL BE PLANTED NO MORE THAN ONE INCH DEEP. GRASSES AND LEGUMES SHALL BE PLANTED WITH NO LESS THAN 1/4" SOIL COVER.

MULCHING:

- 1. TEMPORARY SEEDINGS MADE UNDER FAVORABLE SOIL AND SITE CONDITIONS DURING OPTIMUM SPRING AND FALL SEEDING DATES MAY NOT REQUIRE MULCH.
2. SEEDING MADE IN THE FALL FOR WINTER COVER AND DURING HOT AND DRY SUMMER MONTHS SHALL BE MULCHED AT THE RATE OF 1-1/2 TO 2 TONS PER ACRE. APPLICATION SHALL BE AS FOLLOWS:

APPLICATION:

MULCH MATERIAL SHALL BE SPREAD UNIFORMLY, BY HAND OR MACHINE.

WHEN SPREADING STRAW MULCH BY HAND, DIVIDE THE AREA TO BE MULCHED INTO APPROXIMATELY 1,000 SQ. FT. SECTIONS AND PLACE 70-90 LBS. (1-1/2 TO 2 BALES) OF STRAW IN EACH SECTION TO FACILITATE UNIFORM DISTRIBUTION.

MULCH ANCHORING:

STRAW MULCH MUST BE ANCHORED IMMEDIATELY AFTER SPREADING TO PREVENT DISPLACEMENT. THE FOLLOWING METHODS OF ANCHORING STRAW MAY BE USED:

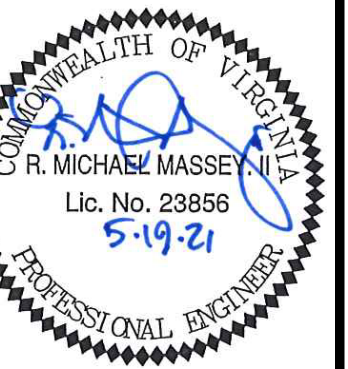
- 1. MULCH ANCHORING TOOL (OFTEN REFERRED TO AS A KRIMPER OR KRIMPER TOOL): THIS IS A TRACTOR-DRIVEN IMPLEMENT DESIGNED TO PUNCH MULCH INTO THE SOIL SURFACE. THIS METHOD PROVIDES GOOD EROSION CONTROL WITH STRAW. IT IS LIMITED TO USE ON SLOPES NO STEEPER THAN 3:1, WHERE EQUIPMENT CAN OPERATE SAFELY.
2. FIBER MULCH: A VERY COMMON PRACTICE WITH WIDESPREAD USE TODAY. APPLY FIBER MULCH BY MEANS OF A HYDROSEEDER AT A RATE OF 500-750 LBS./ACRE OVER TOP OF STRAW MULCH OR HAY. IT HAS AN ADDED BENEFIT OF PROVIDING ADDITIONAL MULCH TO THE NEWLY SEEDED AREAS.
3. LIQUID MULCH BINDERS: APPLICATION OF LIQUID MULCH BINDERS AND TACKIFIERS SHOULD BE HEAVIEST AT EDGES OF AREAS AND AT CRESTS OF RIDGES AND BANKS, TO PREVENT DISPLACEMENT. THE REMAINDER OF THE AREA SHOULD HAVE BINDER APPLIED UNIFORMLY. BINDERS MAY BE APPLIED AFTER MULCH IS SPREAD OR MAY BE SPRAYED INTO THE MULCH AS IT IS BEING BLOWN ONTO THE SOIL.

RE-SEEDING

AREAS WHICH FAIL TO ESTABLISH VEGETATIVE COVER ADEQUATE TO PREVENT RILL EROSION WILL BE RE-SEEDED AS SOON AS SUCH AREAS ARE IDENTIFIED.

EROSION CONTROL LEGEND

Table with 4 columns: NO., TITLE, KEY, SYMBOL. It lists various erosion control measures such as Safety Fence, Temporary Slope Drain, Paved Flume, Stormwater Conveyance Channel, etc., with their corresponding symbols and keys.



KARTER SCHOOL

EROSION CONTROL NARRATIVE & LEGEND

REVISION

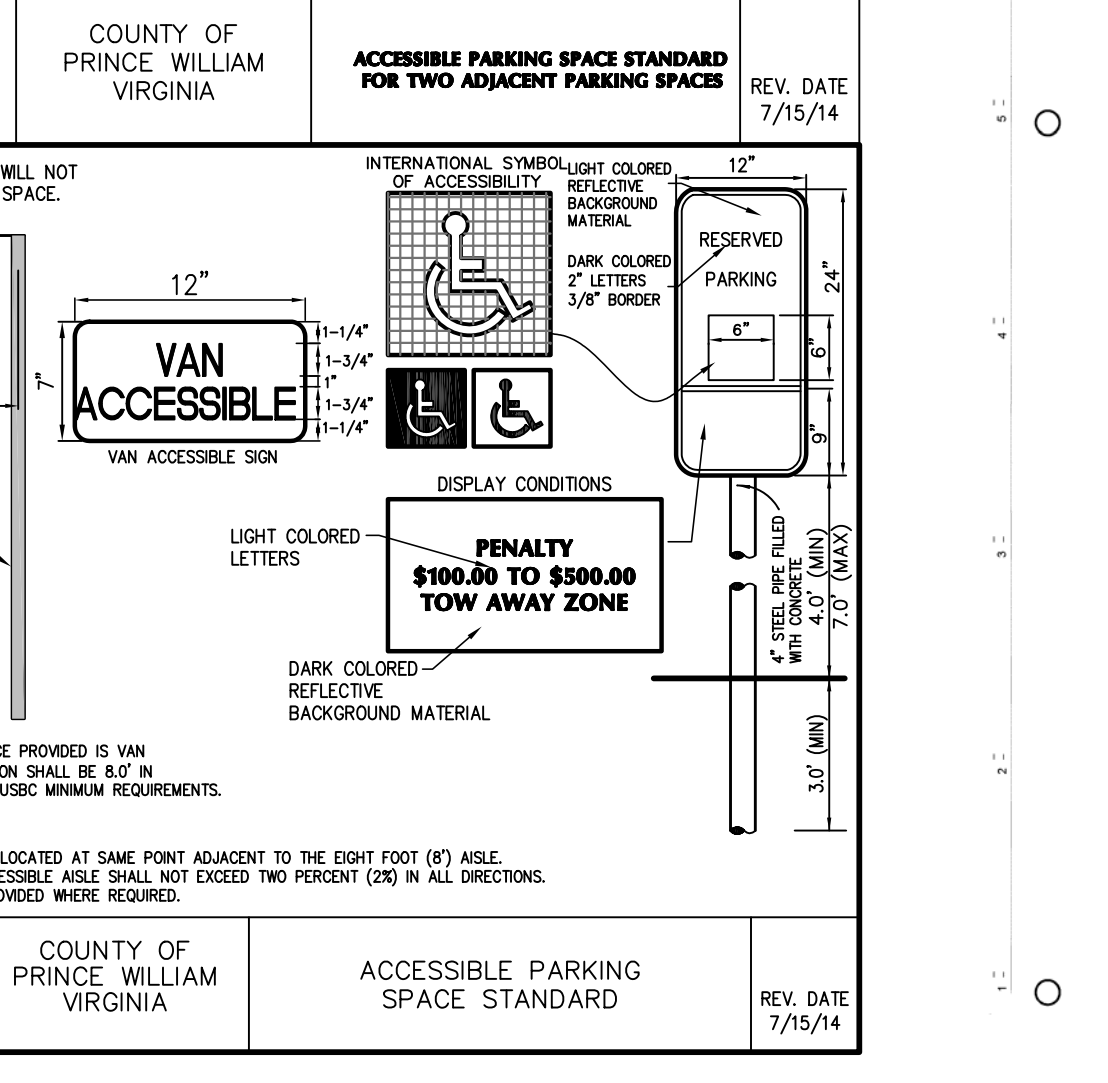
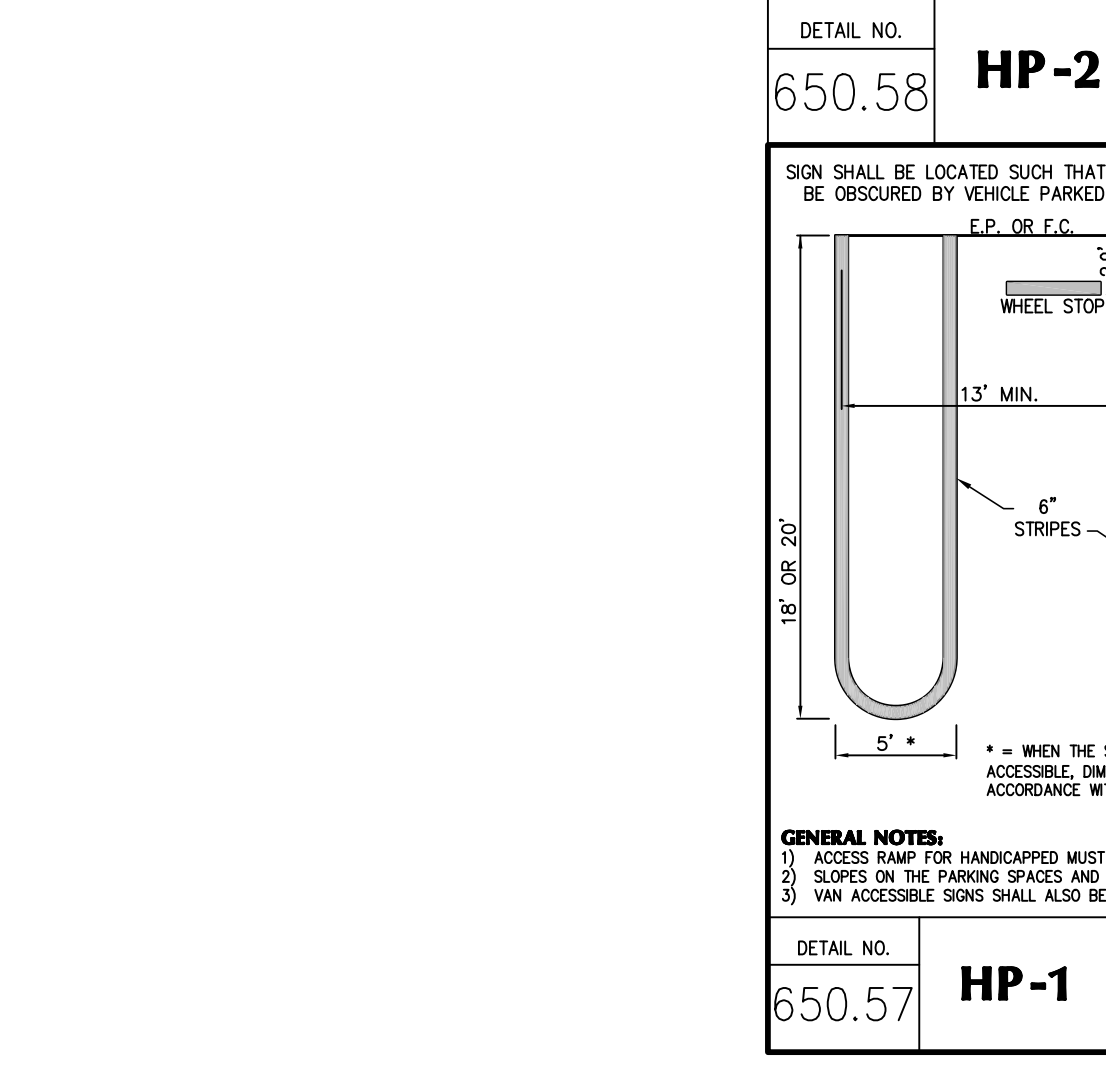
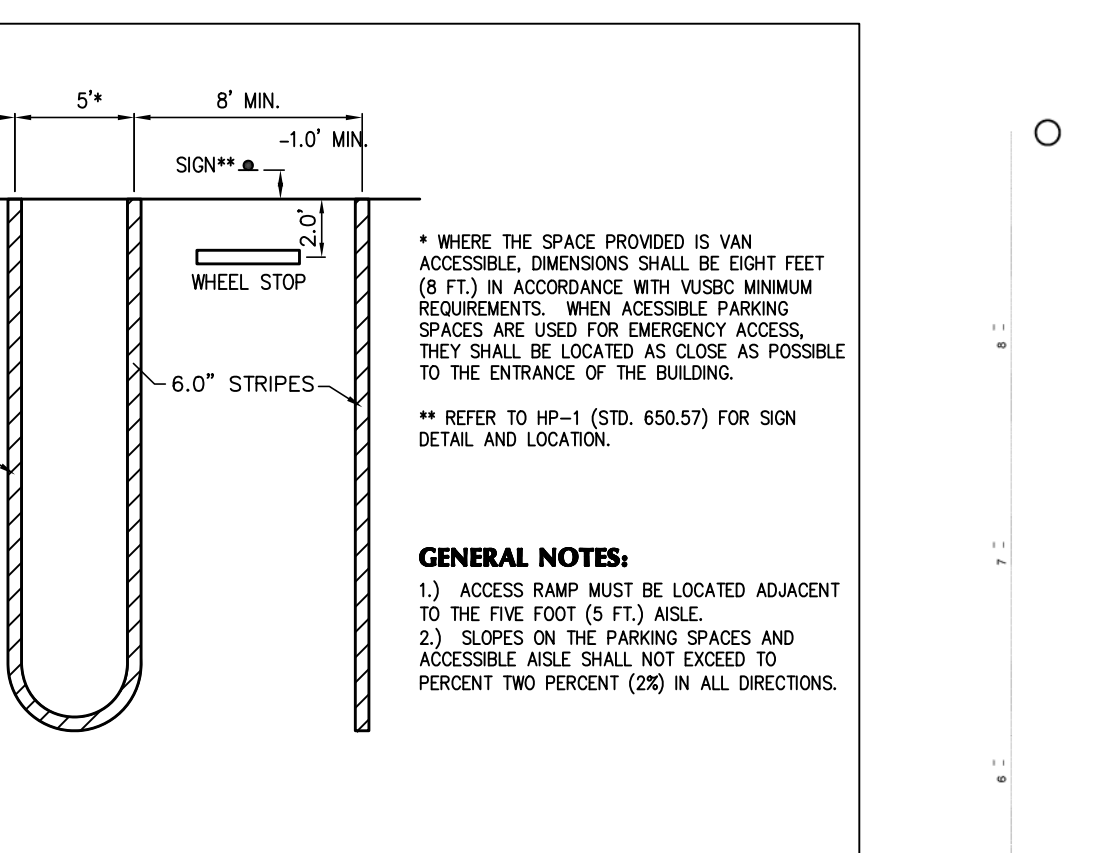
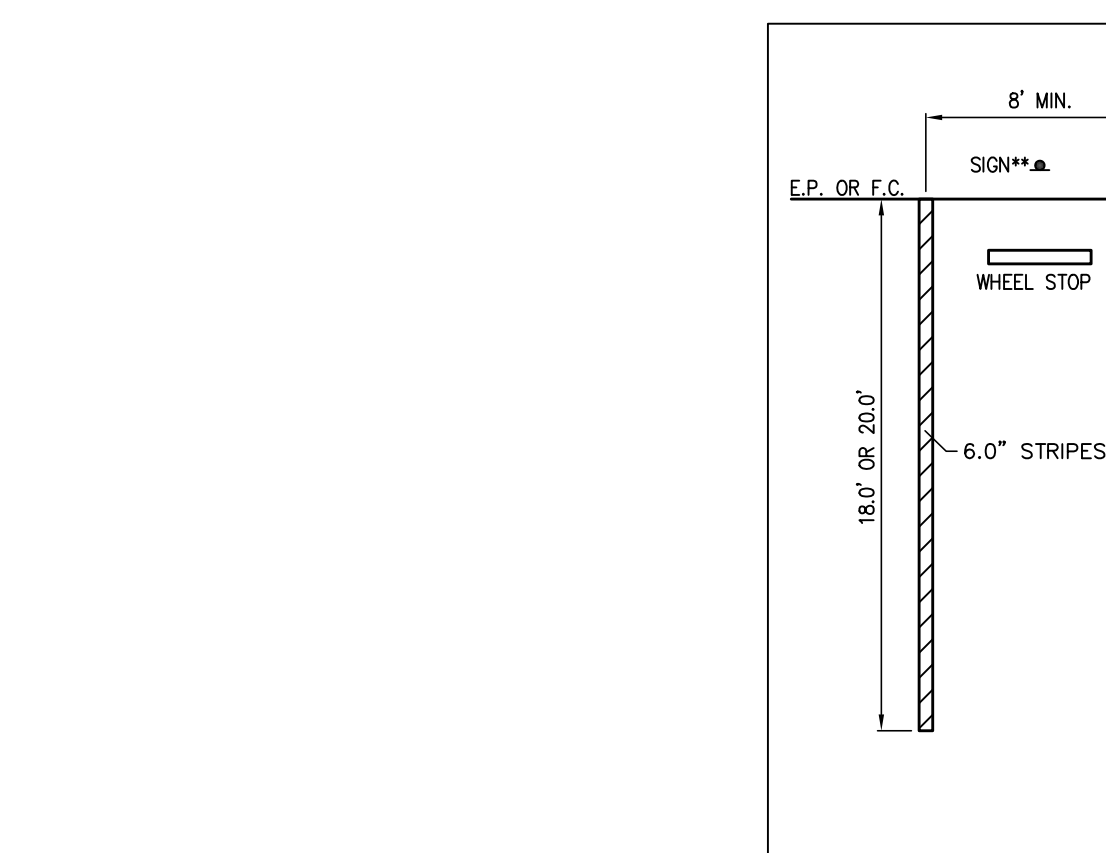
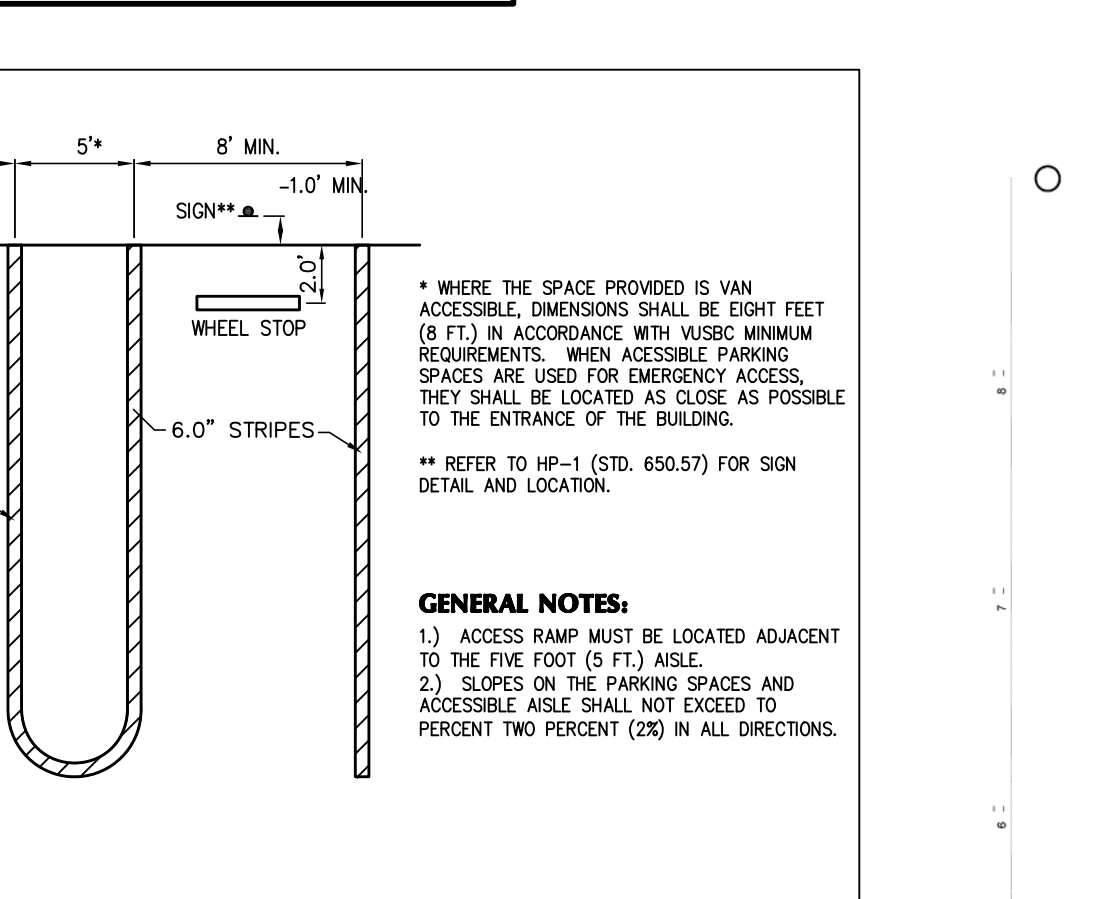
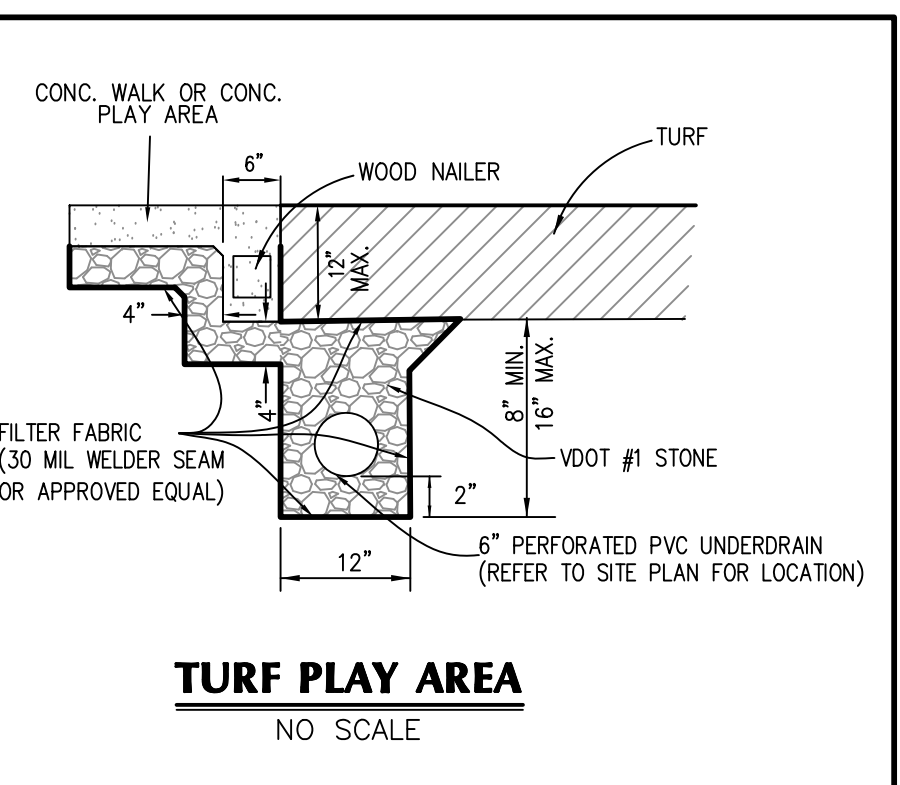
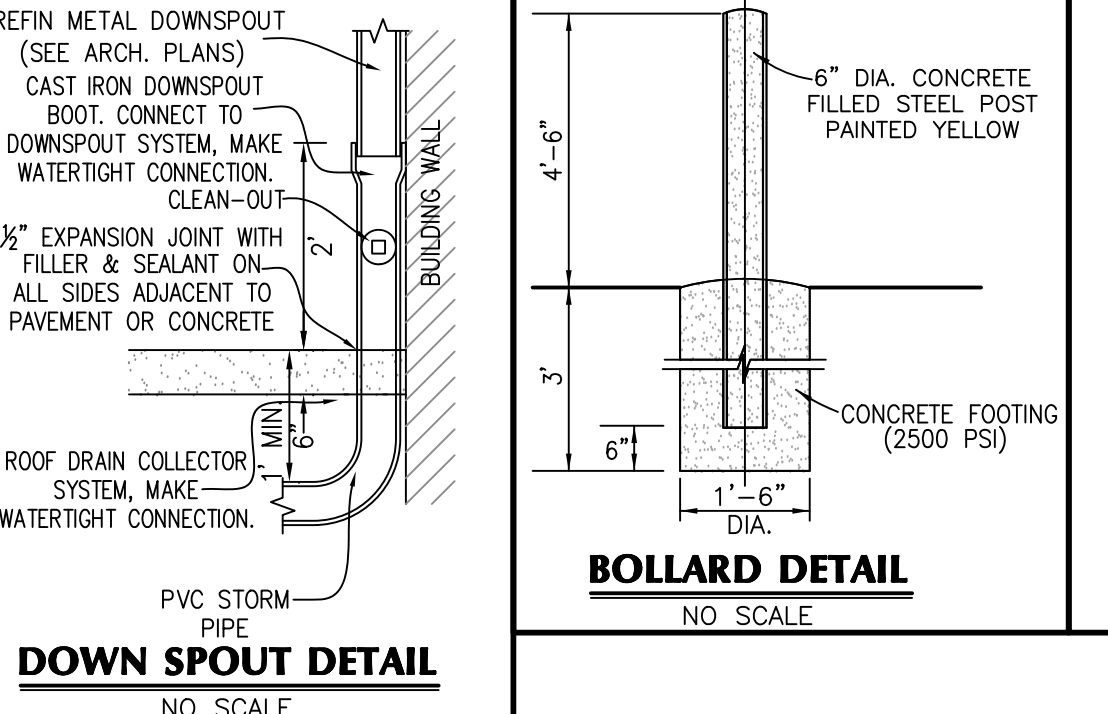
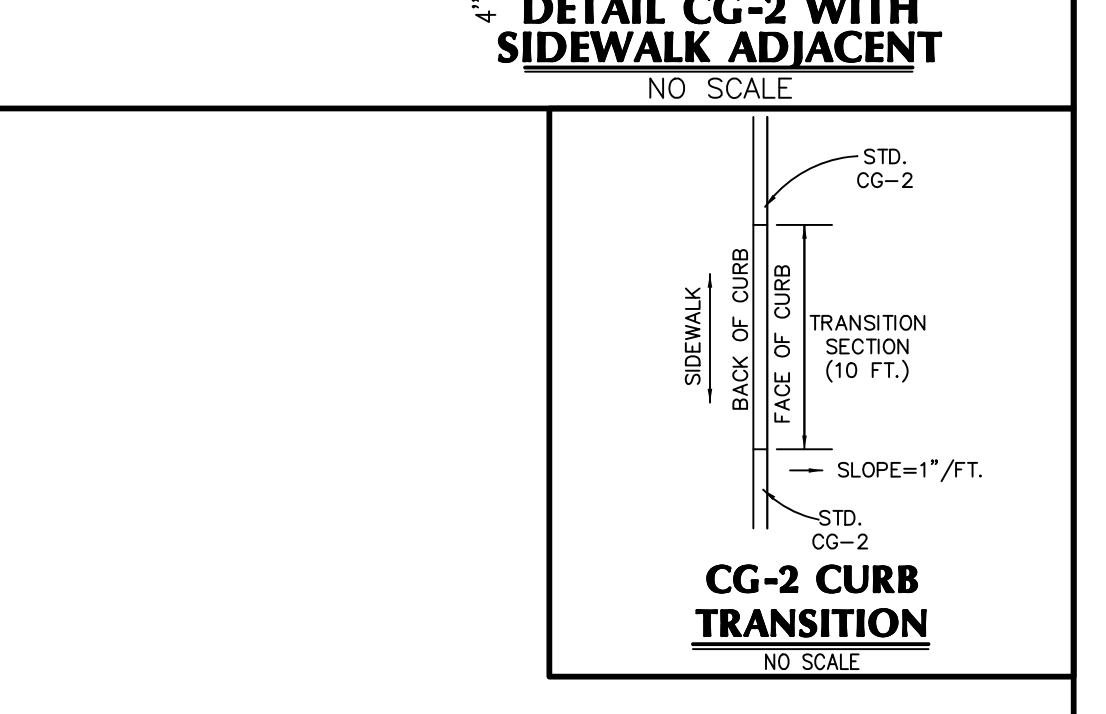
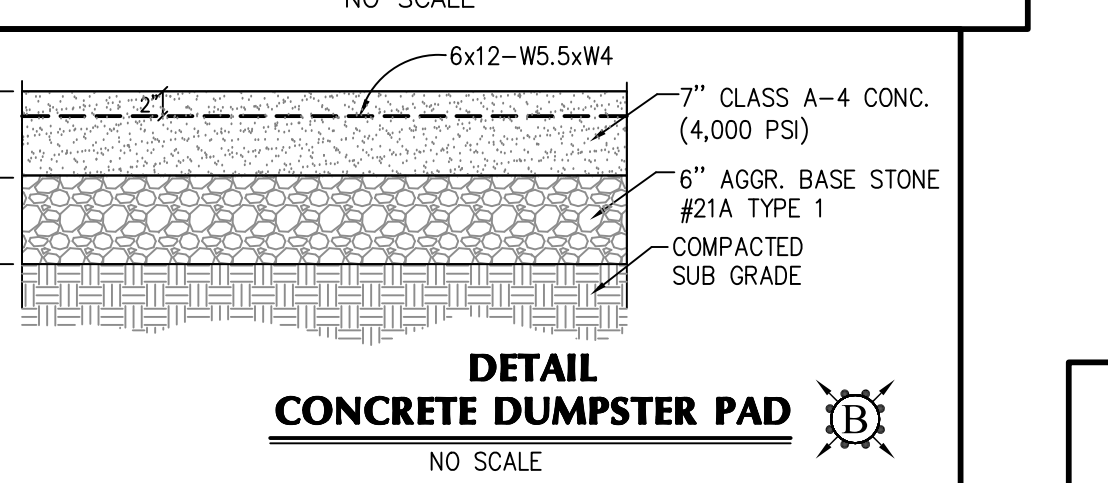
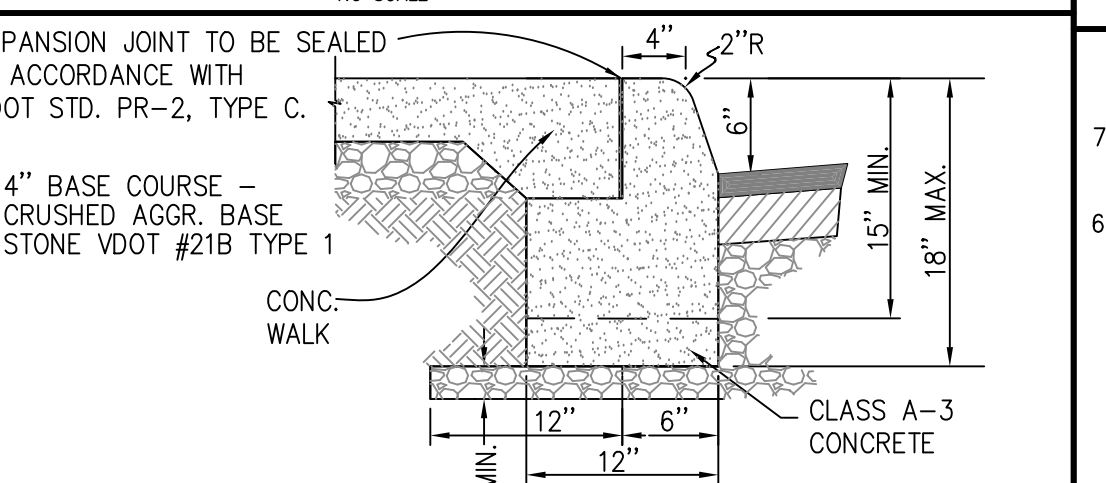
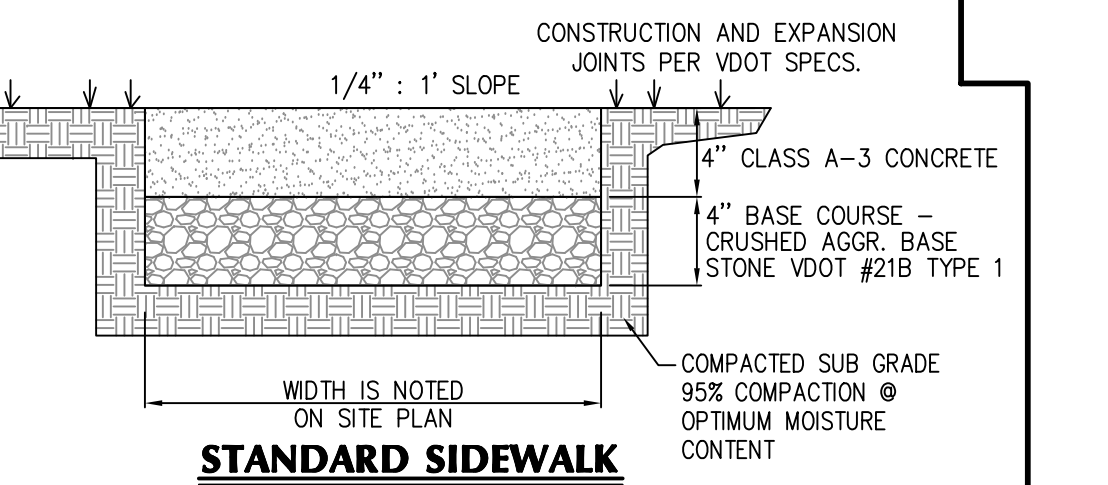
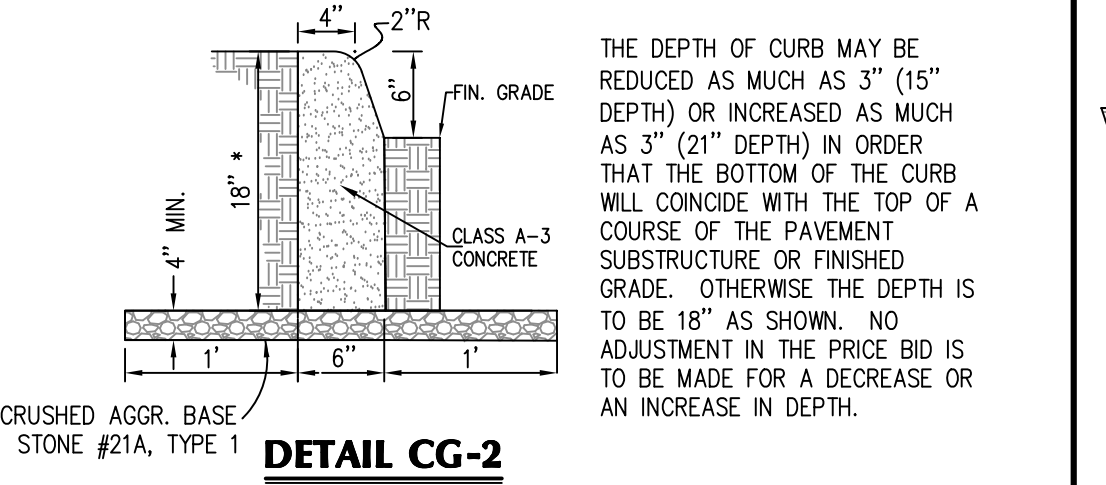
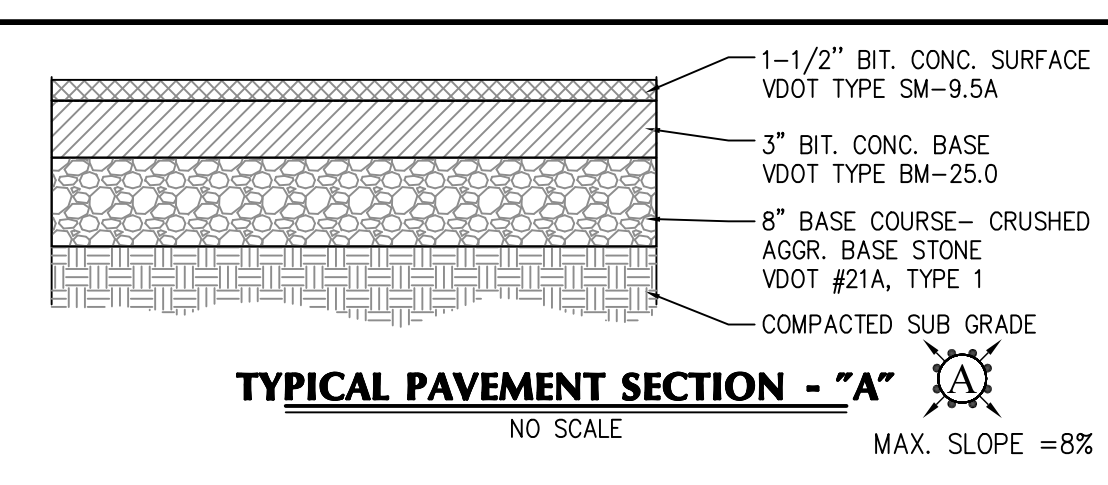
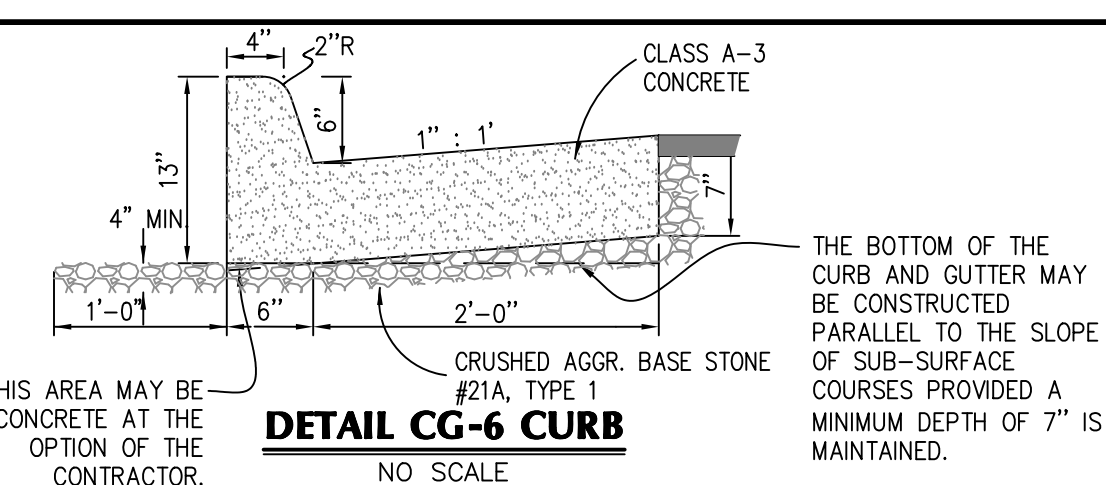
DATE BY

DES: FW DWN: MSL CHK: RMM

FILE NO.: SP # 2049

SHEET Packet Pg. 12

Attachment: KARTER SCHOOL SITE PLAN 6.10.21 (5072) : Karter School Site Plan, 6905 Karter Robinson Drive

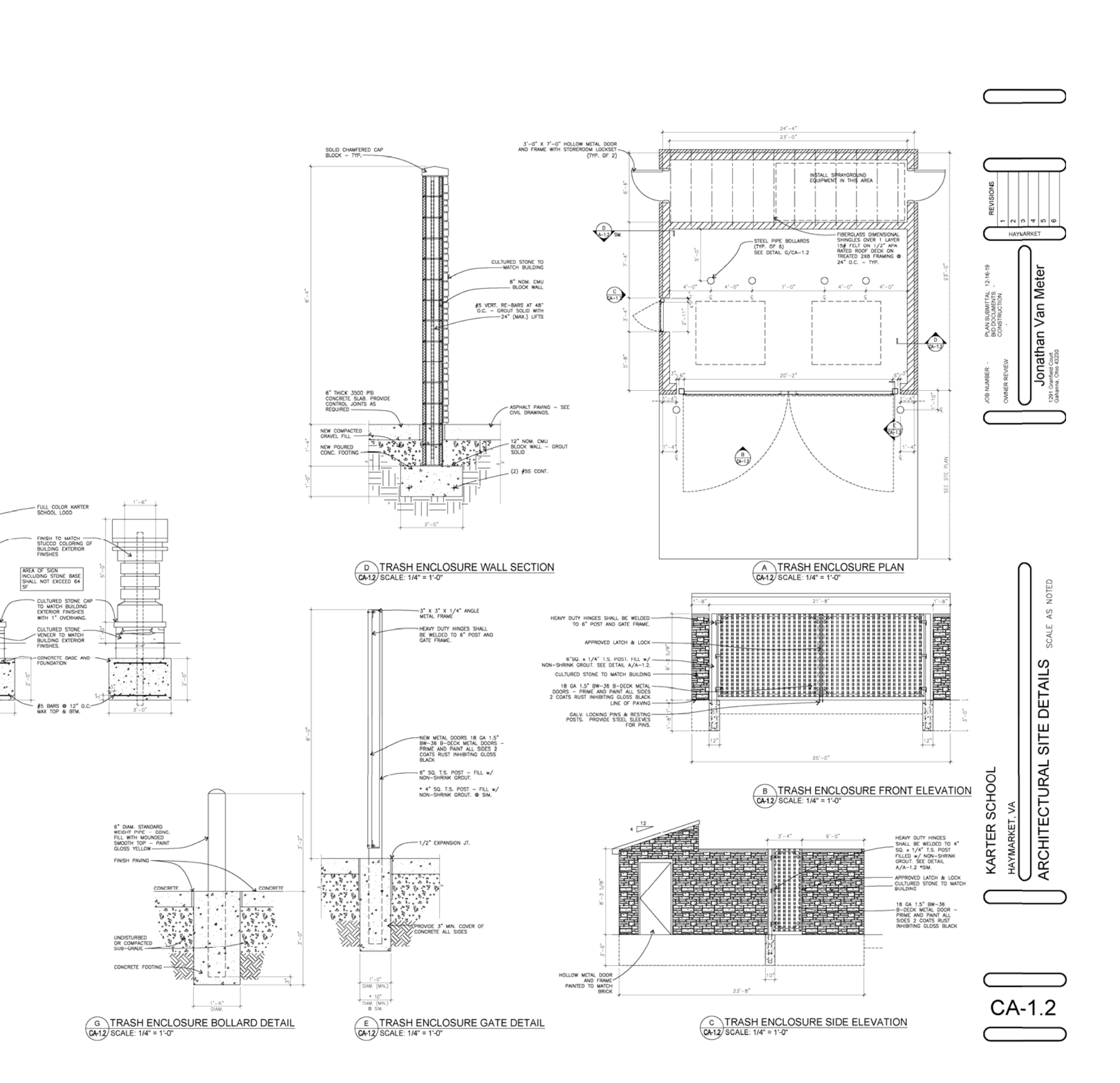
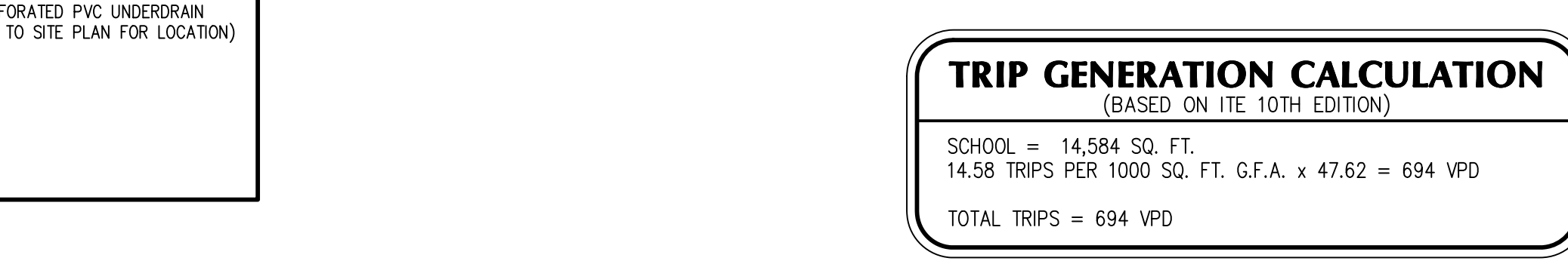


CIVIL ABBREVIATION LEGEND table listing symbols for various materials and utilities like asphalt, concrete, fence, fire hydrant, etc.

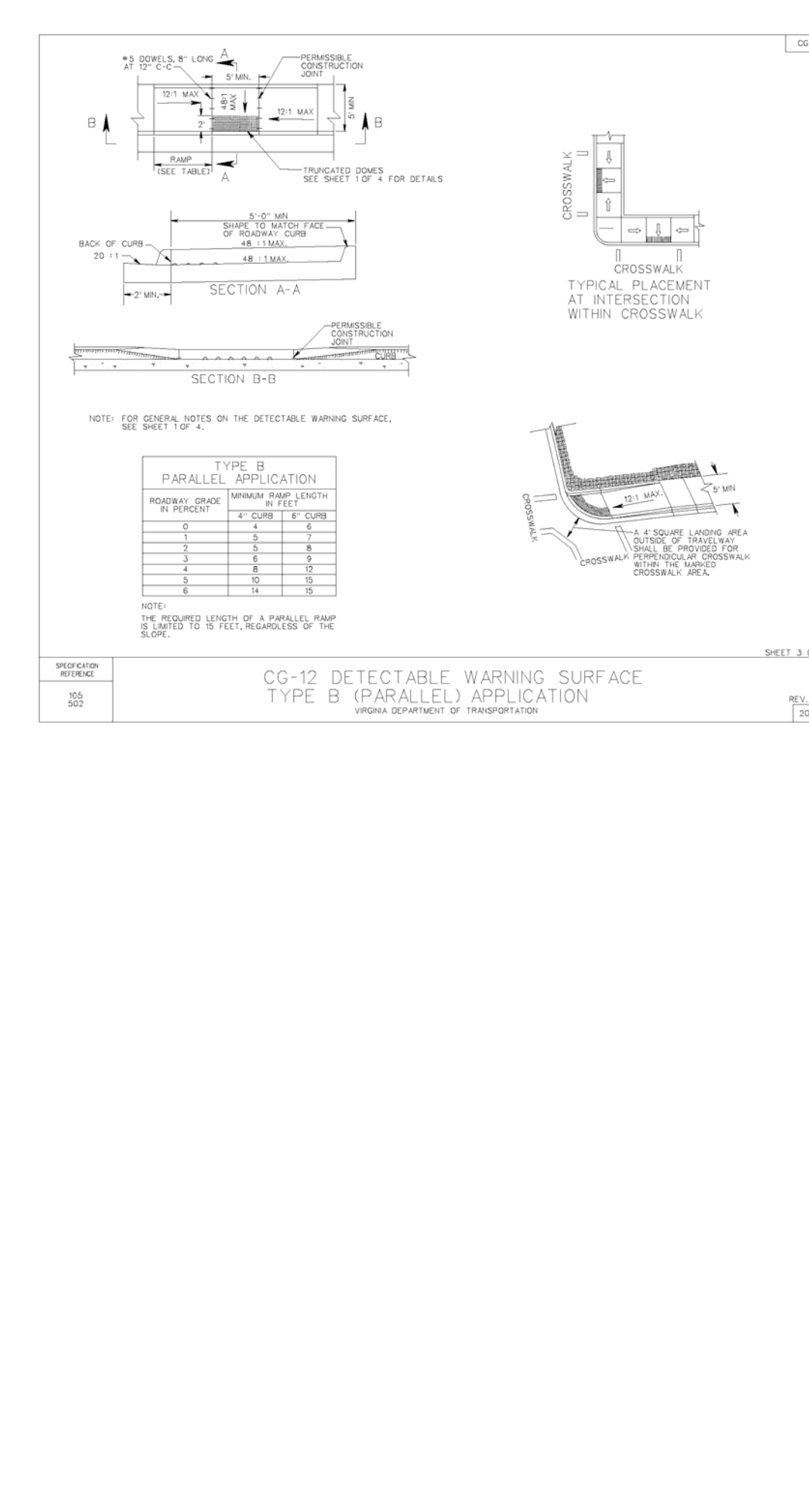
CIVIL SYMBOL LEGEND table listing symbols for ADA accessible parking space, asphalt, concrete, fence, etc.

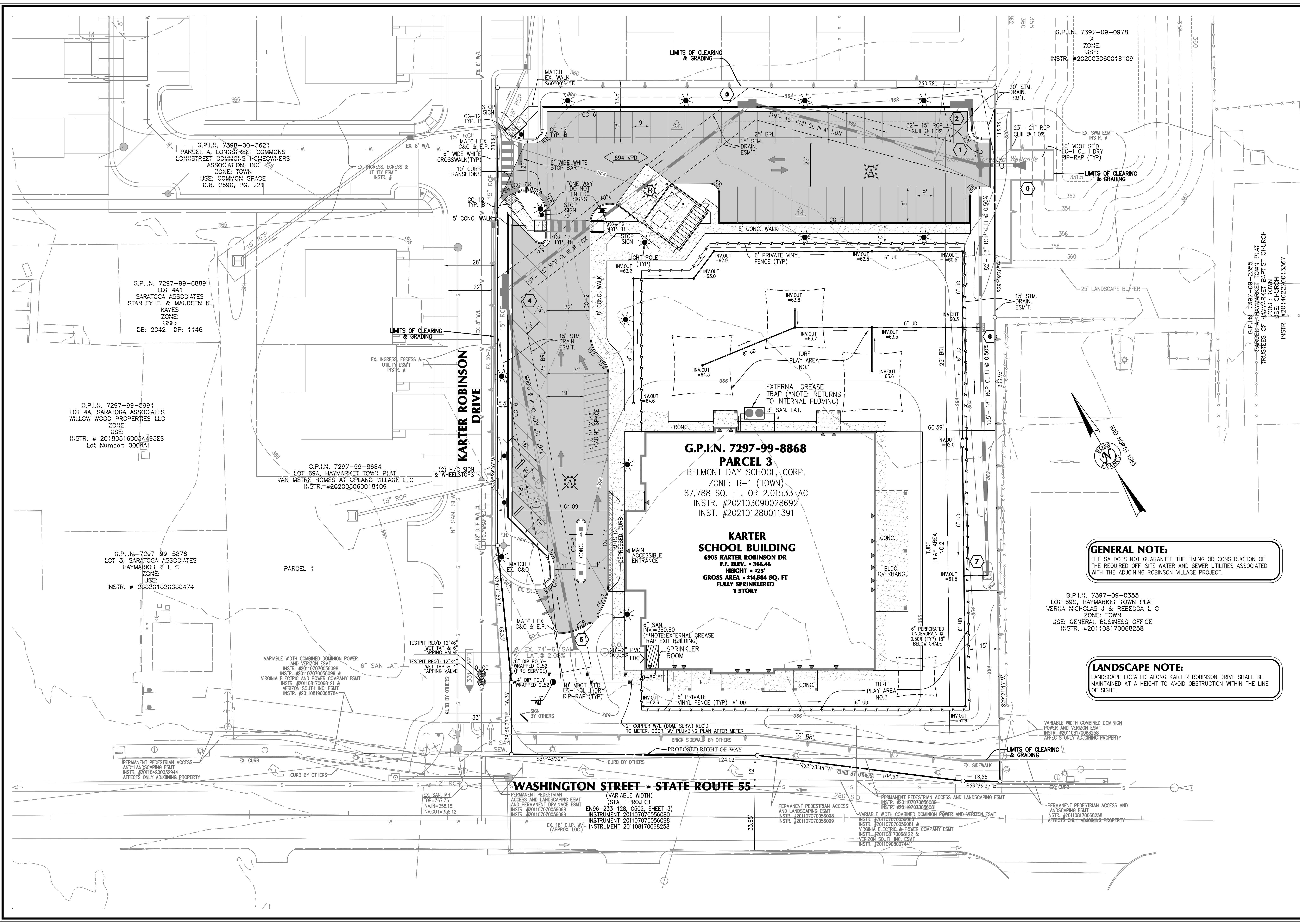
UTILITY NOTE text explaining that the contractor is responsible for verifying the location and existence of underground utilities.

TRIP GENERATION CALCULATION table showing school area of 14,584 sq. ft. and resulting 694 VPD.



TRIP GENERATION CALCULATION table showing school area of 14,584 sq. ft. and resulting 694 VPD.





G.P.I.N. 7297-99-8868
PARCEL 3
 BELMONT DAY SCHOOL, CORP.
 ZONE: B-1 (TOWN)
 87,788 SQ. FT. OR 2.01533 AC
 INSTR. #202103090028692
 INST. #202101280011391

KARTER SCHOOL BUILDING
 6905 KARTER ROBINSON DR
 F.F. ELEV. = 366.46
 HEIGHT = ±25'
 GROSS AREA = ±14,584 SQ. FT
 FULLY SPRINKLERED
 1 STORY

GENERAL NOTE:
 THE SA DOES NOT GUARANTEE THE TIMING OR CONSTRUCTION OF THE REQUIRED OFF-SITE WATER AND SEWER UTILITIES ASSOCIATED WITH THE ADJOINING ROBINSON VILLAGE PROJECT.

LANDSCAPE NOTE:
 LANDSCAPE LOCATED ALONG KARTER ROBINSON DRIVE SHALL BE MAINTAINED AT A HEIGHT TO AVOID OBSTRUCTION WITHIN THE LINE OF SIGHT.

G.P.I.N. 7397-09-0355
 LOT 69C, HAYMARKET TOWN PLAT
 VERA NICHOLAS J & REBECCA L C
 ZONE: TOWN
 USE: GENERAL BUSINESS OFFICE
 INSTR. #201108170068258

G.P.I.N. 7398-00-3621
 PARCEL A, LONGSTREET COMMONS
 LONGSTREET COMMONS HOMEOWNERS
 ASSOCIATION, INC
 ZONE: TOWN
 USE: COMMON SPACE
 D.B. 2690, PG. 721

G.P.I.N. 7297-99-6889
 LOT 4A1, SARATOGA ASSOCIATES
 STANLEY F. & MAUREEN K.
 KAYES
 ZONE: TOWN
 USE: COMMON SPACE
 DB: 2042 DP: 1146

G.P.I.N. 7297-99-5991
 LOT 4A, SARATOGA ASSOCIATES
 WILLOW WOOD PROPERTIES LLC
 ZONE: TOWN
 USE: COMMON SPACE
 INSTR. # 201805160034493ES
 Lot Number: 0004A

G.P.I.N. 7297-99-8684
 LOT 69A, HAYMARKET TOWN PLAT
 VAN METRE HOMES AT UPLAND VILLAGE LLC
 INSTR. #202003060018109

G.P.I.N. 7297-99-5876
 LOT 3, SARATOGA ASSOCIATES
 HAYMARKET 2 L C
 ZONE: TOWN
 USE: COMMON SPACE
 INSTR. # 200201020000474

VARIABLE WIDTH COMBINED DOMINION POWER AND VERIZON ESMT
 INSTR. #2011070056098
 INSTR. #2011070056098 & VIRGINIA ELECTRIC AND POWER COMPANY ESMT
 INSTR. #20108170068121 & VERIZON SOUTH INC. ESMT
 INSTR. #201108190068784

WASHINGTON STREET - STATE ROUTE 55
 (VARIABLE WIDTH)
 STATE PROJECT
 EN96-233-128, CS02, SHEET 3)
 INSTRUMENT 2011070056080
 INSTRUMENT 2011070056098
 INSTRUMENT 201108170068258

PERMANENT PEDESTRIAN ACCESS AND LANDSCAPING ESMT
 INSTR. #201104200032944
 AFFECTS ONLY ADJOINING PROPERTY

VARIABLE WIDTH COMBINED DOMINION POWER AND VERIZON ESMT
 INSTR. #201108170068258
 AFFECTS ONLY ADJOINING PROPERTY

PERMANENT PEDESTRIAN ACCESS AND LANDSCAPING ESMT
 INSTR. #2011070056098
 INSTR. #2011070056098

PERMANENT PEDESTRIAN ACCESS AND LANDSCAPING ESMT
 INSTR. #201108170068258
 AFFECTS ONLY ADJOINING PROPERTY

VARIABLE WIDTH COMBINED DOMINION POWER AND VERIZON ESMT
 INSTR. #2011070056098
 INSTR. #2011070056098 & VIRGINIA ELECTRIC & POWER COMPANY ESMT
 INSTR. #20108170068122 & VERIZON SOUTH INC. ESMT
 INSTR. #20110800074411

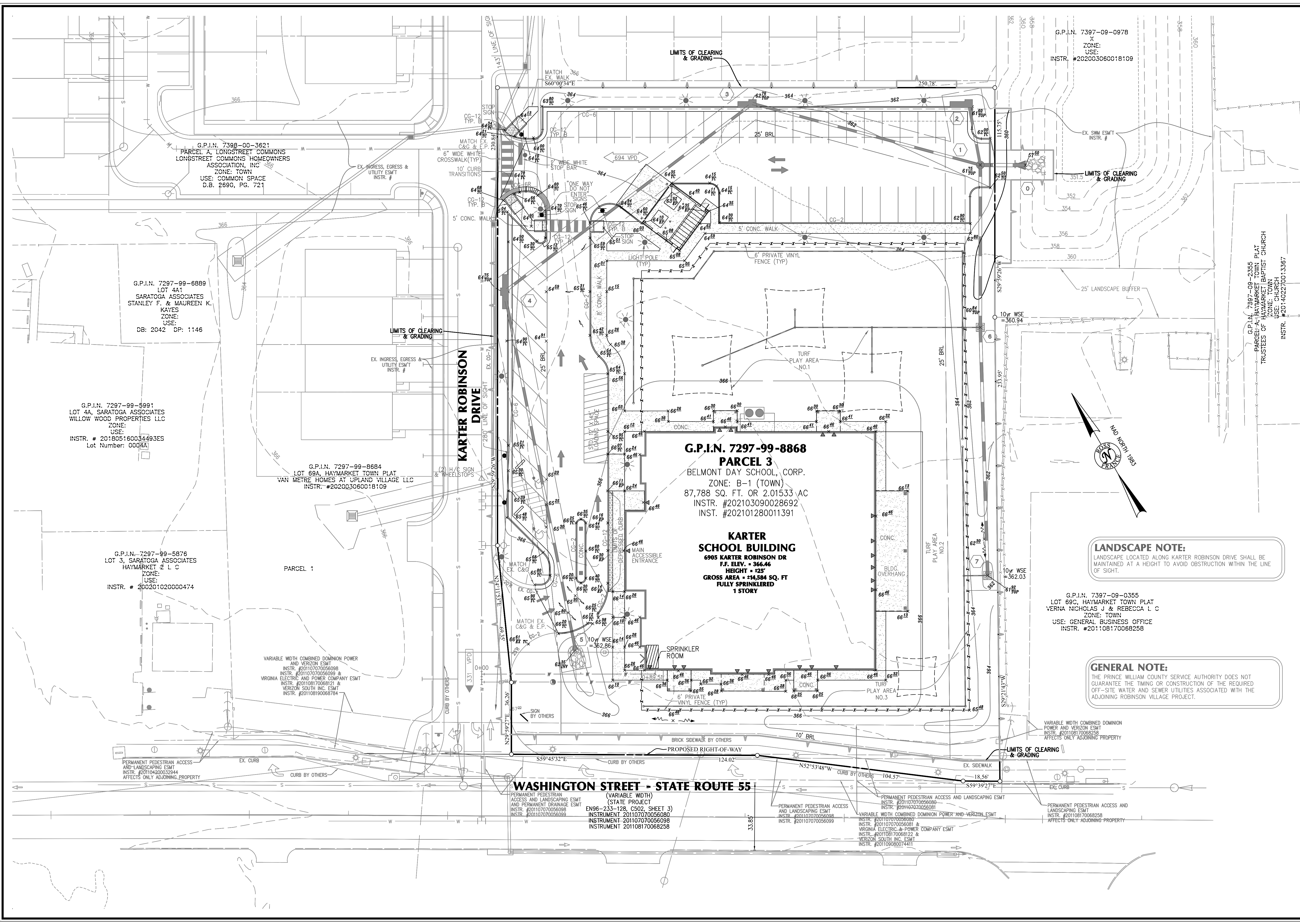


KARTER SCHOOL
 TOWN OF HAYMARKET
 GAINESVILLE MAGISTERIAL DISTRICT
 PRINCE WILLIAM COUNTY, VIRGINIA
 SCALE: 1"=20'
 CONTOUR INTERVAL = 2'
 AUGUST 6, 2020

GRADING PLAN
 Attachment: KARTER SCHOOL SITE PLAN 6.10.21 (507) : Karter School Site Plan, 6905 Karter Robinson Drive

DATE	BY	REVISION

DES: FW DWN: MSL CHK: RMM
 FILE NO.: SP # 2049
 SHEET C2.3



The Engineering Groupe Inc.
 Engineers | Surveyors | Planners
 www.enggroup.com
 Central Office: 13380 South Lakes Blvd, Suite 200, Woodbridge, VA 22192
 South Office: 21001 Sully Rd, Suite 121, Ashburn, VA 20147
 PH: 703.670.0985

KARTER SCHOOL
 TOWN OF HAYMARKET
 GAINESVILLE MAGISTRAL DISTRICT
 PRINCE WILLIAM COUNTY, VIRGINIA
 SCALE: NO SCALE
 AUGUST 6, 2020

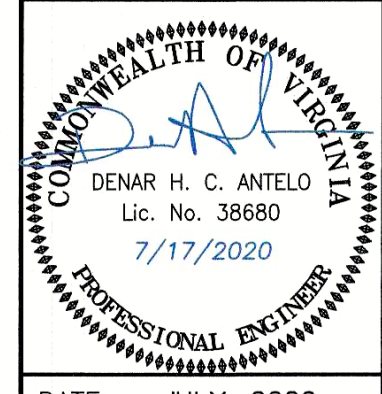
SIGHT DISTANCE PROFILE

DATE	BY	REVISION

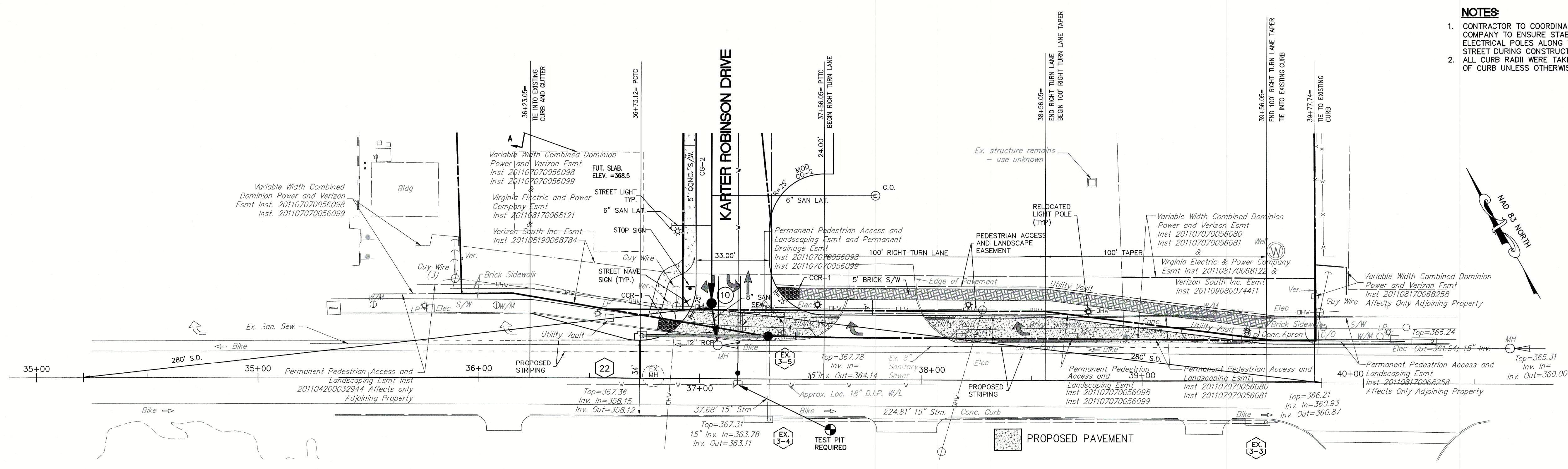
DES:	DWN:	CHK:
FW	MSL	RMM

FILE NO.: SP # 2049
 SHEET C2.4

PLAN & PROFILE - WASHINGTON STREET STATE ROUTE 55
ROBINSON VILLAGE
 TOWN OF HAYMARKET, VA

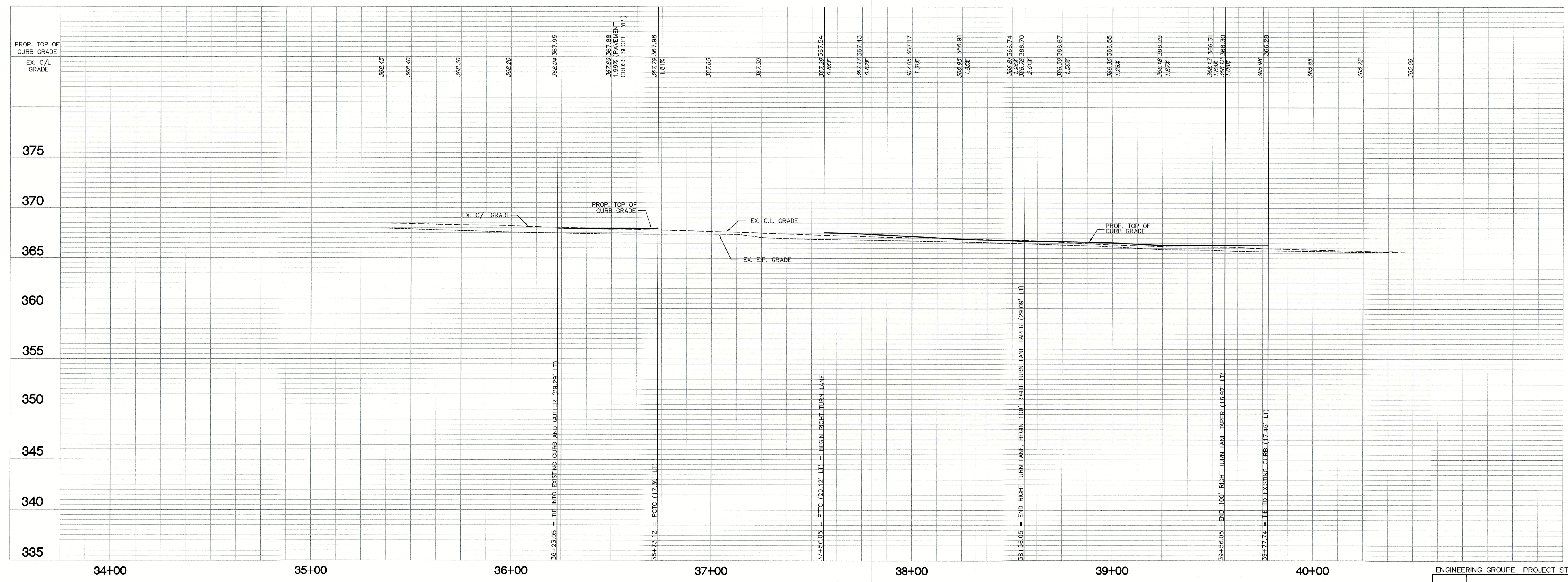
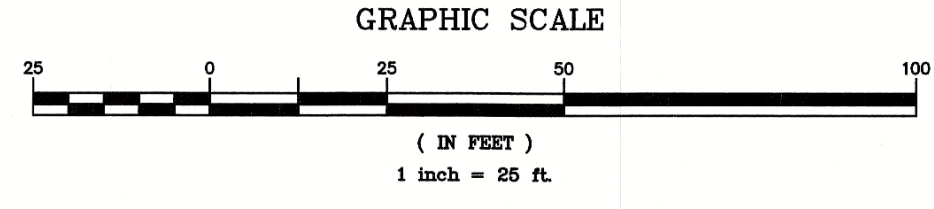


- NOTES:**
- CONTRACTOR TO COORDINATE WITH ELECTRIC COMPANY TO ENSURE STABILITY OF EXISTING ELECTRICAL POLES ALONG WASHINGTON STREET DURING CONSTRUCTION
 - ALL CURB RADI WERE TAKEN ALONG FACE OF CURB UNLESS OTHERWISE NOTED.



WASHINGTON STREET - STATE ROUTE 55

VARIABLE WIDTH
 POSTED SPEED = 25 MPH
 11,000 ADT'S
 SEE SHEET 3 FOR TYP. SECTION



**FOR INFORMATION ONLY
 PURPOSES ONLY !!!**

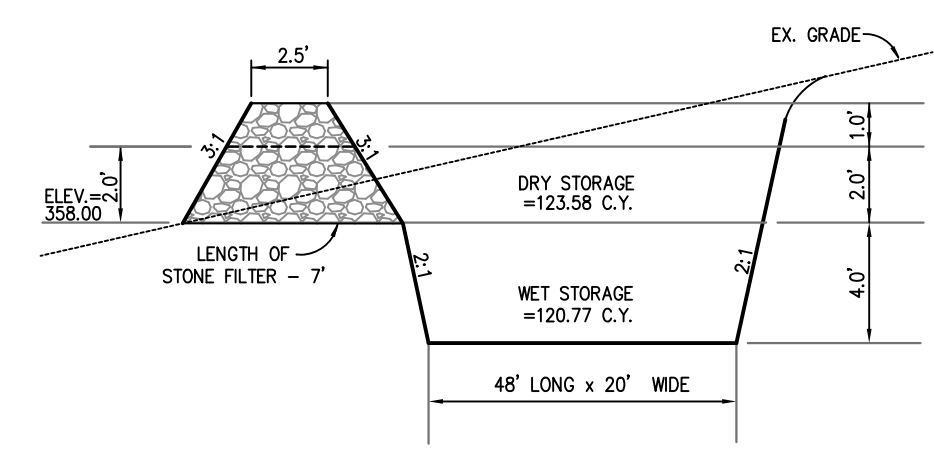
SCALE:
 H: 1" = 25'
 V: 1" = 5'

DATE	ACTION	ENGINEERING GROUPE	PROJECT STATUS

DATE:	JULY, 2020
SCALE:	AS SHOWN
DESIGNER:	CF, SQ, MP
DRAFTSMAN:	ZEF, DP, MP
FILE NO.:	SP-393
SHEET:	9 OF 41

Sediment trap calculator	
KARTER SCHOOL Trap number 1	2/18/2021
User Input	
Drainage Area (ac.)	1.75
Wet storage depth D1 (ft.)	4
Dry storage depth D2 (ft.)	2
Wet storage slope S1	2:1
Dry storage slope S2	3:1
Length A1 (ft.)	48
Width A1 (ft.)	20
VESCH adjustment factor for V1	0.85
Calculations	
Required storage	
Wet storage (cu. yds.)	117.25
Dry storage (cu. yds.)	117.25
Total storage (cu. yds.)	234.5
Calculated storage	
Area A1 (sq. ft.)	960
Wet Volume V1 (cu. ft.)	3264
Wet Volume (cu. yds.)	120.77 Wet Storage OK
Length A2 (ft.)	70
Width A2 (ft.)	34
Area A2 (sq. ft.)	2380
Dry volume (cu. ft.)	3340
Dry volume (cu. yds.)	123.58 Dry Storage OK
Total storage (cu. yds.)	244.348
Embankment calculations	
Outlet width (ft.)	11
Embankment height (ft.)	3
Top width of embankment (ft.)	2.5
Bottom width of embankment (ft.)	20.5

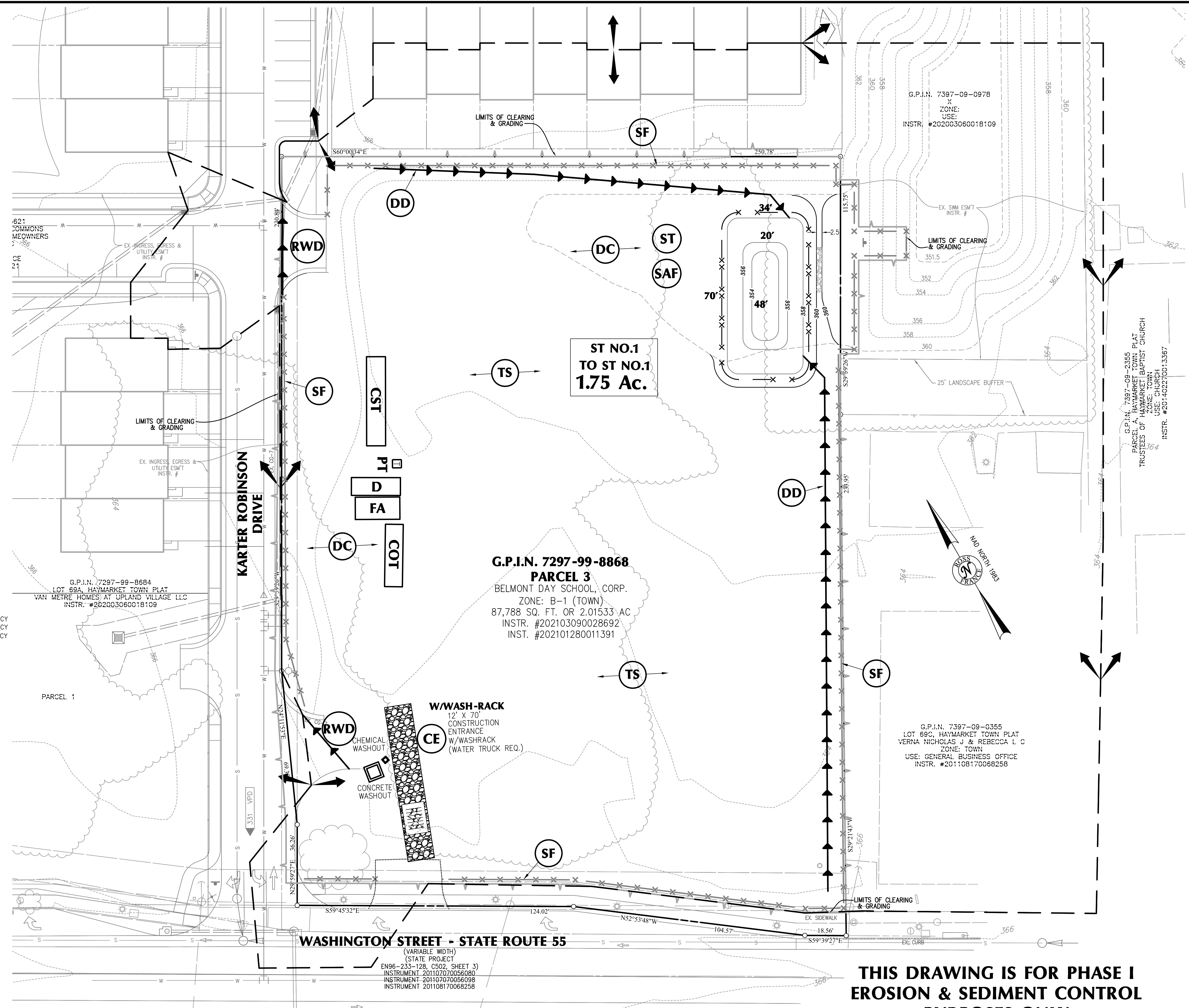
TYPICAL SECTION SEDIMENT TRAP



SEDIMENT TRAP NO.1

AREA = 1.75 AC.

REQUIRED WET STORAGE	67 CY/AC x 1.75 AC	=	117.25 CY
REQUIRED DRY STORAGE	67 CY/AC x 1.75 AC	=	117.25 CY
TOTAL REQUIRED STORAGE			234.50 CY
TOTAL STORAGE PROVIDED			244.35 CY



ROSS-FRANCE
CIVIL ENGINEERING - LAND SURVEYING
9417 INNOVATION DRIVE, MANASSAS, VA 20110
(703) 361-4188
rossfranceva.com

COMMONWEALTH OF VIRGINIA
R. MICHAEL MASSENA
Lic. No. 23886
5-19-21
PROFESSIONAL ENGINEER

KARTER SCHOOL
TOWN OF HAYMARKET
GAINESVILLE MAGISTRAL DISTRICT
PRINCE WILLIAM COUNTY, VIRGINIA
G.P.I.N. 7397-09-2355
PARCEL A, HAYMARKET TOWN PLAT
TRUSTEES OF HAYMARKET BAPTIST CHURCH
CORP. TOWN
INSTR. #201402270013367

**PHASE I
EROSION & SEDIMENT
CONTROL PLAN**

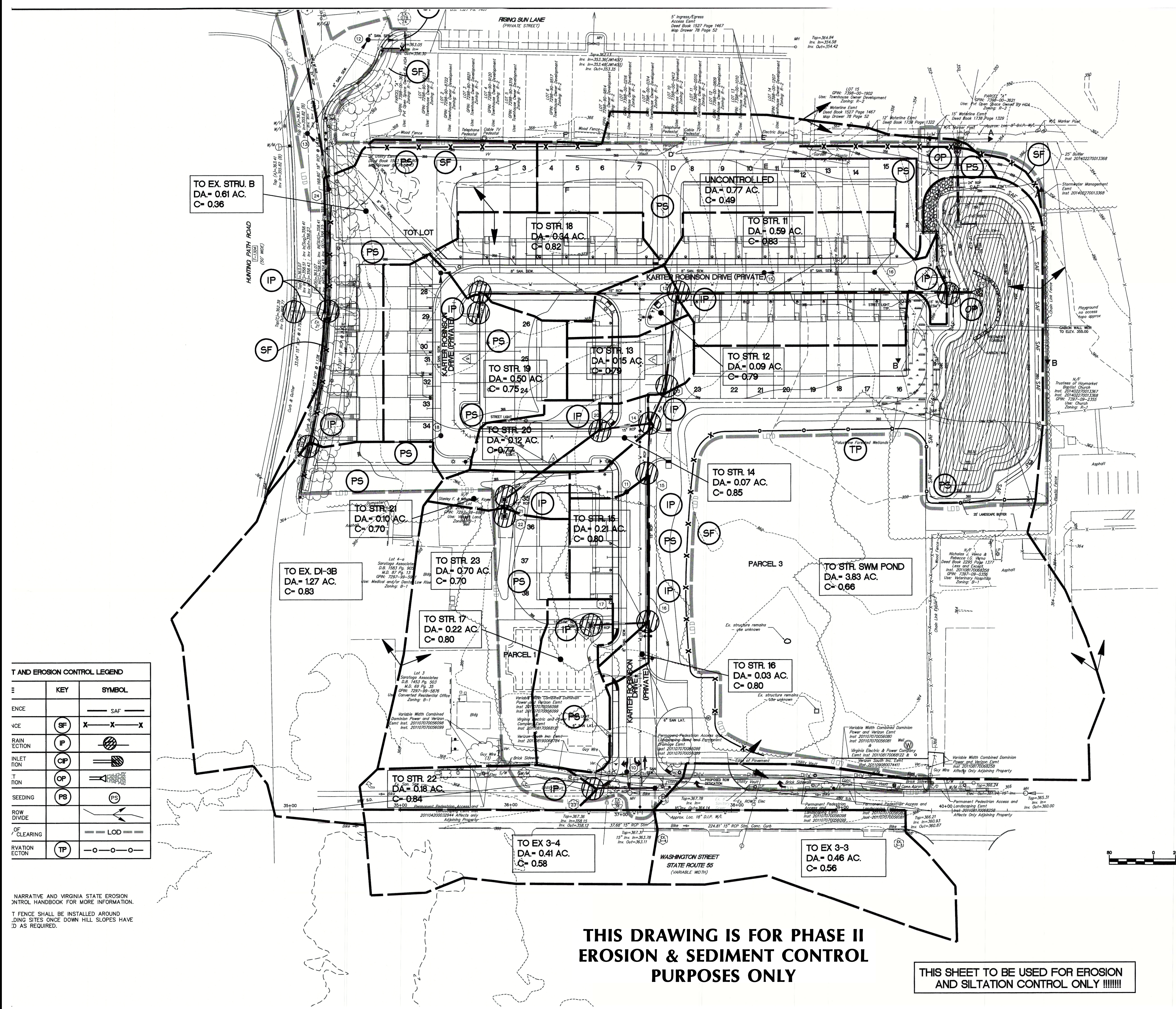
DATE	BY	REVISION

DES: FW DWN: MSL CHK: RMM
FILE NO.: SP # 2049
SHEET C3.1

SCALE: 1" = 20'

**THIS DRAWING IS FOR PHASE I
EROSION & SEDIMENT CONTROL
PURPOSES ONLY**

P:\Engineer\PCW\Haymarket\Karter School\2020\DWG\Karter-ES2.dwg Tue, May 18, 2021 1:50:07 PM



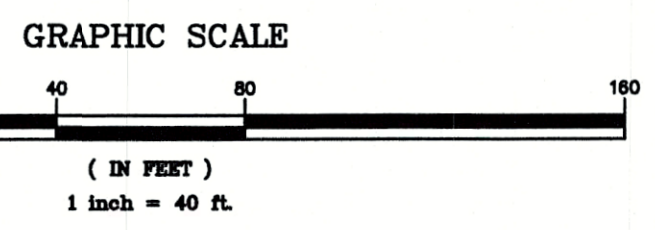
T AND EROSION CONTROL LEGEND

KEY	SYMBOL
ENCE	— SAF —
ICE	⊗ X X X
RAIN ECTION	⊗
INLET ION	⊗
TION	⊗
SEEDING	⊗
ROW DIVIDE	— LOD —
OF CLEARING	⊗
RVATION ECTION	⊗

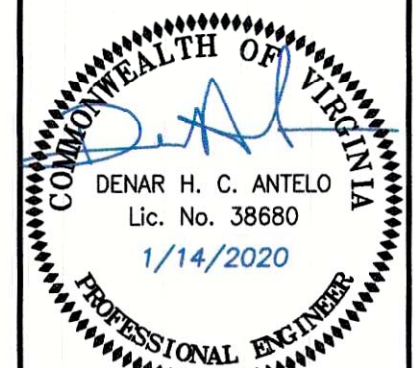
NARRATIVE AND VIRGINIA STATE EROSION CONTROL HANDBOOK FOR MORE INFORMATION.
 T FENCE SHALL BE INSTALLED AROUND DRAINING SITES ONCE DOWN HILL SLOPES HAVE BEEN AS REQUIRED.

THIS DRAWING IS FOR PHASE II EROSION & SEDIMENT CONTROL PURPOSES ONLY

THIS SHEET TO BE USED FOR EROSION AND SILTATION CONTROL ONLY !!!!!!!



EROSION & SEDIMENT CONTROL PLAN - PHASE 2
ROBINSON VILLAGE
 TOWN OF HAYMARKET, VIRGINIA



ENGINEERING GROUPE PROJECT STATUS	DATE: DEC, 2020
SCALE: 1"=40'	DESIGNER: CF, SO, MP
DRAFTSMAN: ZEF, DP, MP	FILE NO.: SP # 2049
12/14/20 REVISED SANITARY SEWER LAYOUT	SHEET C3.3

The Engineering Groupe Inc.
 Engineers | Surveyors | Planners
 www.enggroup.com

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 South Office: 10333 Southpoint Landing Blvd, Suite 121, Fredericksburg, VA 22407, PH: 703.670.0985
 West Office: 21001 Sycamore Road, Suite 200, Ashburn, VA 20147, PH: 703.670.0985

NO.	DATE	TOWN REVISIONS

ROSS-FRANCE
 CIVIL ENGINEERING • LAND SURVEYING
 9417 INNOVATION DRIVE, MANASSAS, VA 20110
 (703) 361-4186
 rossfranceva.com

KARTER SCHOOL
 TOWN OF HAYMARKET
 GAINESVILLE MAGISTERIAL DISTRICT
 PRINCE WILLIAM COUNTY, VIRGINIA

EROSION & SEDIMENT CONTROL PLAN - PHASE 2

DATE	BY	REVISION

Attachment: KARTER SCHOOL SITE PLAN 6.10.21 (5072 : Karter School Site Plan, 6905 Karter Robinson Drive)

PURPOSE

4VAC50-60-54 of the Virginia Stormwater Management Program (VSMP) Permit Regulations requires that Stormwater Pollution Prevention Plan (SWPPP) be developed for all regulated land disturbing activities. The SWPPP must include, but not be limited to, an approved erosion and sediment control plan, an approved stormwater management plan, and this **Pollution Prevention Plan (PPP)** for regulated land disturbing activities, and a description of any additional control measures necessary to address a TMDL as applicable.

The plan for implementing pollution prevention measures during construction activities developed on this sheet must be implemented and updated as necessary. Any PPP requirements not included on this sheet must be incorporated into the SWPPP required by 4VAC50-60-54 that must be developed before land disturbance commences. This PPP identifies potential sources of pollutants that may reasonably be expected to affect the quality stormwater discharges from the construction site (both on- and off-site activities) and describes control measures that will be used to minimize pollutants in stormwater discharges from the construction site.

OTHER REFERENCED PLANS

SWPPP requirements may be fulfilled by incorporating, by reference, other plans. All plans incorporated by reference become enforceable under the VSMP Permit Regulations and General Permit VAR10 for Discharges of Stormwater from Construction Activities. If a plan incorporated by reference does not contain all of the required elements of the PPP, the operator must develop the missing elements and include them in the SWPPP.

Independent Plans Incorporated by Reference	Date Approved
Stormwater Management Plans (Regional or Master)	N/A
Spill Prevention, Control, and Countermeasure Plans	TBD
Off-Site Stockpile	N/A
Off-Site Borrow Area	N/A

POTENTIAL POLLUTANT SOURCES

The following sources of potential pollutants must be addressed in the Pollution Prevention Plan. Various controls and/or measures designed to prevent and/or minimize pollutants in stormwater discharges from the project site must be applied to the sources found on the site. Additional information concerning the following controls and/or measures may be found in the SWPPP. Deviations from the location criteria may be approved by the Henrico County Environmental Inspector.

LEAKS, SPILLS, AND OTHER RELEASES

- The operator(s) shall ensure procedures are in place to prevent and respond to all leaks, spills and other releases of pollutants.
- The operator(s) shall ensure all leaks, spills and other releases of pollutant are contained and cleaned immediately upon discovery. Any contaminated materials are to be disposed in accordance with federal, state, and/or local requirements.
- The operator(s) shall ensure spill containment kits containing appropriate materials (e.g., absorbent material and pads, brooms, gloves, sand, etc.) are available at appropriate locations, including, but not limited to: designated areas for vehicle and equipment maintenance; vehicle and equipment fueling; storage and disposal of construction materials, products, and waste; and storage and disposal of hazardous and toxic materials; and sanitary waste facilities.
- The locations of the spill containment kits are identified as described below:

Date	Shown on Plan Sheet # (s)	Location
Approved Plan	3.1, 3.2	6905 KATER ROBINSON RD, TOWN OF HAYMARKET, VA

Date	Shown on Plan Sheet # (s)	Location	Operator(s) Initials

- The operator(s) shall notify the Department of Environmental Quality (DEQ) of leaks, spills, and other releases that discharge to or have the potential to discharge to surface waters immediately upon discovery of the discharge but in no case later than 24 after the discovery. Written notice of the discharge must be sent to DEQ and Prince William County Department of Public Works within five (5) days of the discovery.

Virginia Department of Environmental Quality Northern Regional Office (703) 583-3800 (voice) (703) 583-3821 (fax) http://www.deq.virginia.gov/Programs/PollutionResponsePreparedness/MakingReport.aspx For emergencies 1-800-468-8892 (outside normal working hours)	PW County Department of Public Works 5 Complex Court Prince William, Virginia 22192 703-792-7070 PW County Department of Fire & Rescue 1 County Complex Court Prince William, Virginia 22192 703-792-8800 703-792-8813 (outside normal working hours)
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EQUIPMENT / VEHICLE WASHING

- Washing must be conducted in a **dedicated area** that is located to maximize the distance from storm drain inlets, ditches, waterbodies or wetlands but no less than 50 feet from those features.
- All wash water used in vehicle wheel washing must be directed to a sediment basin/trap.
- All vehicle washing activities other than wheel washing must have secondary containment.
- Each facility must have appropriate signage to inform users where the **dedicated area(s)** are located.

Activity	Location of Dedicated Area(s)	Shown on Plan Sheet # (s)	Water Source Location
Wheel Wash	CONSTRUCTION ENTRANCE	3.1, 3.2	WATER TRUCK
Other Wash Areas	N/A		

Activity	Location of Dedicated Area(s)	Shown on Plan Sheet # (s)	Water Source Location	Operator's Initials

VEHICLE FUELING AND MAINTENANCE

- Conduct regular maintenance in a **dedicated area** that is located to maximize the distance from storm drain inlets, ditches, waterbodies or wetlands but no less than 50 feet from those features.
- If fueling is conducted at a **dedicated area**, the location must be located to maximize the distance from storm drain inlets, ditches, waterbodies or wetlands but no less than 50 feet from those features.
- The **dedicated areas** must be designed to eliminate the discharge of spilled and leaked fuels and chemicals from vehicle fueling and maintenance activities by providing secondary containment (spill berms, decks, spill containment pallets, providing cover where appropriate, and having spill kits readily available).
- Each facility must have appropriate signage to inform users where the **dedicated area(s)** are located.

Date	Shown on Plan Sheet # (s)	Location of Dedicated Area(s)
Approved Plan	3.1, 3.2	6905 KATER ROBINSON RD, TOWN OF HAYMARKET, VA

Date	Shown on Plan Sheet # (s)	Location of Dedicated Area(s)	Operator's Initials

- If mobile fueling will be used, the fueling must be done in an area that located to maximize the distance from storm drain inlets, ditches, waterbodies or wetlands but no less than 50 feet from those features.
- Spill kits must be readily available at all mobile fueling locations.
- On-site storage tanks must have a means of secondary containment (spill berms, decks, spill containment pallets, etc.) and must be covered where appropriate.
- All vehicles on site must be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage.

DISCHARGE FROM STORAGE, HANDLING, AND DISPOSAL OF CONSTRUCTION PRODUCTS, MATERIALS, AND WASTE

- Storage of construction products, materials, and waste is to be conducted in **dedicated areas**.
- The **dedicated area** must be located to maximize the distance from storm drain inlets, ditches, waterbodies or wetlands but no less than 50 feet from those features. Separations of less than 50 feet may be approved by the Environmental Inspector.
- The **dedicated areas** must be designed to minimize the discharge of pollutants from storage, handling, and disposal of construction products, materials and wastes including (i) building products such as asphalt sealants, copper flashing, roofing materials, adhesives, concrete admixtures; (ii) pesticides, herbicides, insecticides, fertilizers, and landscape materials; and (iii) construction and domestic wastes such as packaging materials, scrap construction materials, masonry products, timber, pipe and electrical cuttings, plastics, Styrofoam, concrete and other trash or building products.
- Each facility must have appropriate signage to inform users where the **dedicated area(s)** are located.

Date	Shown on Plan Sheet # (s)	Location(s) of Dedicated Area(s) for storage of construction products and materials
Approved Plan	3.1, 3.2	6905 KATER ROBINSON RD, TOWN OF HAYMARKET, VA

Date	Shown on Plan Sheet # (s)	Location(s) of Dedicated Area(s) for storage of construction products and materials	Operator(s) Initials

Date	Shown on Plan Sheet # (s)	Location(s) of Dedicated Area(s) for waste from construction products and materials
Approved Plan	3.1, 3.2	6905 KATER ROBINSON RD, TOWN OF HAYMARKET, VA

Date	Shown on Plan Sheet # (s)	Location(s) of Dedicated Area(s) for waste from construction products and materials	Operator(s) Initials

- Follow all federal, state, and local requirements that apply to the use, handling and disposal of pesticides, herbicides, and fertilizers.
- Keep chemicals on-site in small quantities and in closed, well marked containers.
- Clean up solid waste, including building materials, garbage, and debris on a daily basis and deposit into covered dumpsters that are periodically emptied.
- Schedule waste collection to prevent exceeding the capacity of onsite containers. Additional containers may be necessary depending on the phase of construction (e.g., demolition, etc.)
- Dispose of all solid waste at an authorized disposal site.
- Ensure that containers have lids or are otherwise protected from exposure to precipitation.

DISCHARGES FROM OTHER POTENTIAL POLLUTANT SOURCES

- Discharges from other pollutant sources (e.g., water line flushing, storm sewer flushing, above ground storage tanks, etc.) not mentioned elsewhere must be addressed.

Other Potential Pollutant Sources	Location(s) of Potential Pollutant Sources

- Above ground oil storage tanks with a storage capacity exceeding 1,320 gallons and have a reasonable expectation of a discharge into or upon Waters of the United States are required to have a Spill Prevention Control and Countermeasure (SPCC) Plan.
- The discharge of contaminated flush water and material removed during flushing operations must be collected and disposed of in accordance with appropriate federal, state, and local requirements.

DISCHARGES FROM CONCRETE RELATED WASH ACTIVITIES

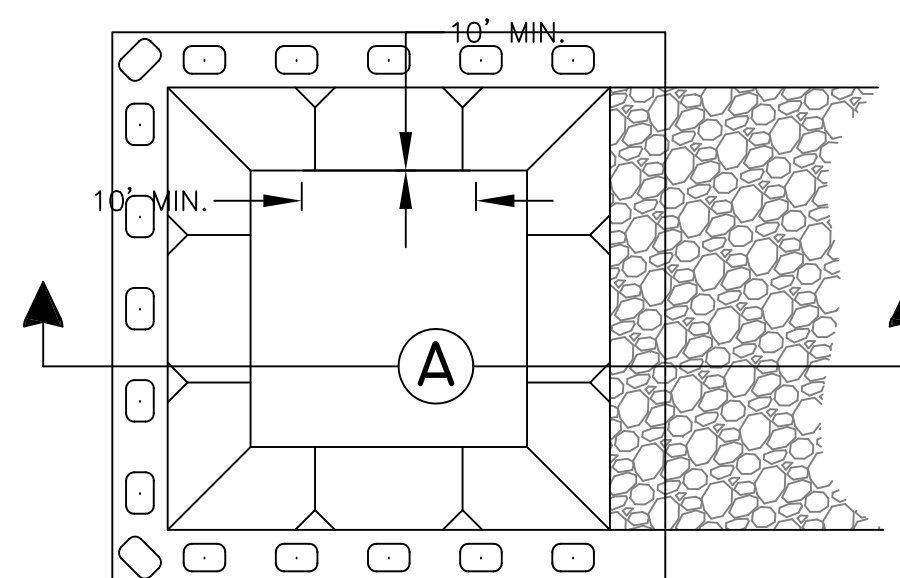
- Concrete trucks are not allowed to wash out or discharge surplus concrete or drum wash water on site except in a **dedicated area(s)** that is located to prevent discharge to storm drain inlets, ditches, waterbodies or wetlands but no less than 50 feet from those features.
- Each facility must have a stabilized access to prevent mud tracking into the street.
- Each facility must have appropriate signage to inform users where the **dedicated area(s)** are located.

Date	Shown on Plan Sheet # (s)	Location of Dedicated Area(s)
Approved Plan	3.1, 3.2	6905 KATER ROBINSON RD, TOWN OF HAYMARKET, VA

Date	Shown on Plan Sheet # (s)	Location of Dedicated Area(s)	Operator's Initials

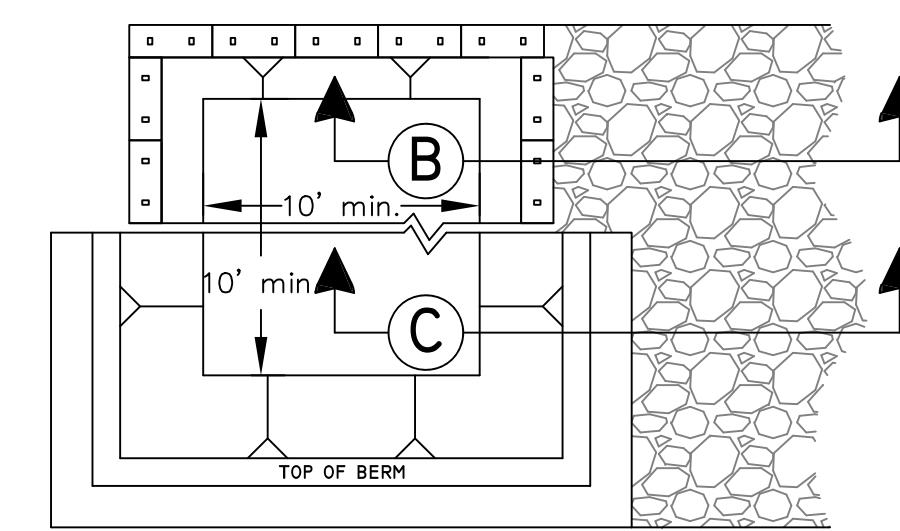
- Facilities must be cleaned, or new facilities constructed, once the washout area is two-thirds (2/3) full.

BELOW GRADE CONCRETE WASHOUT AREA

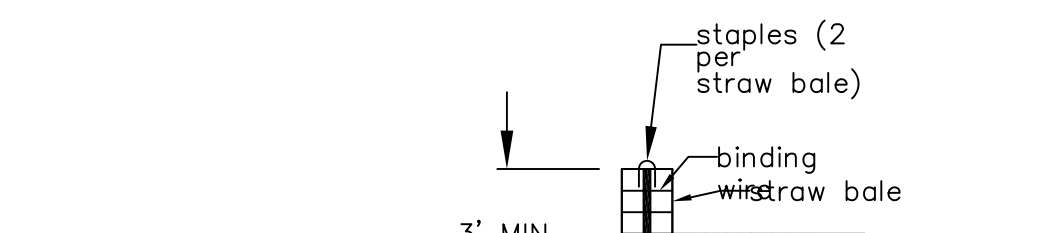


SECTION A

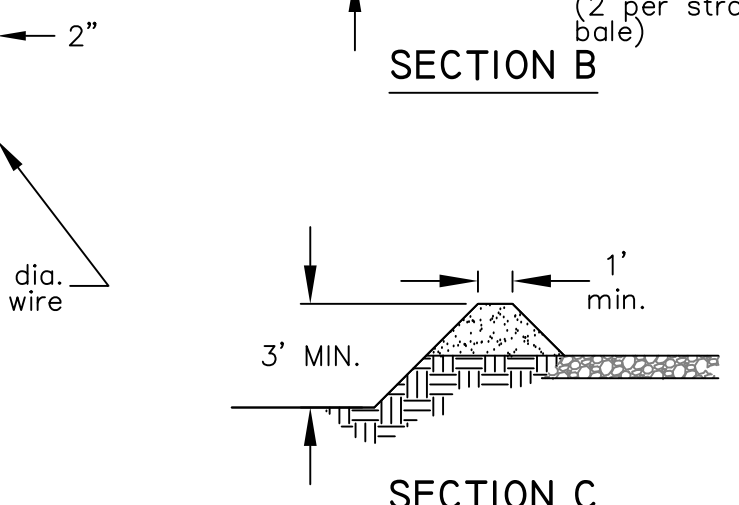
ABOVE GRADE CONCRETE WASHOUT AREA



SECTION B



SECTION C



CONCRETE WASHOUT AREA NOTES

- The facility must be lined with 10 mil plastic lining that is free from holes, tears, or other defects that might compromise the material's impermeability.
- The lining must be anchored with staples (2" spacing) or sandbags.
- Side slopes must be 1:1 (horizontal:vertical) or flatter.
- Stone access must be provided between the street and the concrete washout area.
- A "Concrete Washout" sign must be installed within 30 feet of the washout facility. The sign must be no smaller than 2' tall by 4' wide.

DISCHARGES OF SOAPS, DETERGENTS, SOLVENTS, AND WASH WATER FROM CONSTRUCTION ACTIVITIES SUCH AS CLEANUP OF STUCCO, PAINT, FORM RELEASE OILS, AND CURING COMPOUNDS

- Washing activities associated with construction activities other than vehicle and equipment washing, such as clean up of stucco, paint, form release oils, and curing compounds are to be conducted in a **dedicated area**.
- The **dedicated area** must be located to maximize the distance from storm drain inlets, ditches, waterbodies or wetlands but no less than 50 feet from those features. Separations of less than 50 feet may be approved by the Environmental Inspector.
- The **dedicated areas** must be designed to prevent the discharge of soaps, detergents, solvents, and wash water.

Date	Shown on Plan Sheet # (s)	Location(s) of Dedicated Area(s)
Approved Plan	3.1, 3.2	6905 KATER ROBINSON RD, TOWN OF HAYMARKET, VA

Date	Shown on Plan Sheet # (s)	Location(s) of Dedicated Area(s)	Operator(s) Initials

- The **dedicated area** must be covered (e.g., plastic sheeting, temporary roof, etc.) to prevent contact with stormwater.
- The contaminated wastewater from the **dedicated area** must be collected for disposal by a waste hauler or discharged to the sanitary sewer.

DISCHARGES OF HAZARDOUS, TOXIC, AND SANITARY WASTE

- Storage and disposal of hazardous, toxic and sanitary wastes are to be conducted in **dedicated areas**.
- The **dedicated areas** must be located to maximize the distance from storm drain inlets, ditches, waterbodies or wetlands but no less than 50 feet from those features. Separations of less than 50 feet may be approved by the Environmental Inspector.
- The **dedicated areas** must be designed to prevent the discharge of hazardous, toxic and sanitary waste by avoiding contact with precipitation.
- Each facility must have appropriate signage to inform users where the **dedicated area(s)** are located.

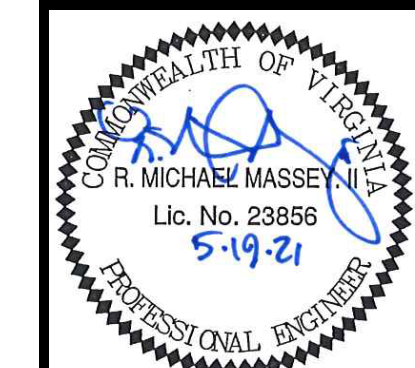
Date	Shown on Plan Sheet # (s)	Location(s) of Dedicated Area(s) for storage and disposal of hazardous and toxic wastes
Approved Plan	3.1, 3.2	6905 KATER ROBINSON RD, TOWN OF HAYMARKET, VA

Date	Shown on Plan Sheet # (s)	Location(s) of Dedicated Area(s) for storage and disposal of hazardous and toxic wastes	Operator(s) Initials

Date	Shown on Plan Sheet # (s)	Location(s) of Dedicated Area(s) for portable toilets
Approved Plan		

Date	Shown on Plan Sheet # (s)	Location(s) of Dedicated Area(s) for portable toilets	Operator(s) Initials

- Consult with local waste management authorities or private firms about the requirements for disposing of hazardous materials and/or soils that may be contaminated with hazardous materials.
- Never remove the original product label from the container. Follow the manufacturer's recommended method of disposal.
- Schedule periodic pumping of portable toilets and dispose of waste.
- Dispose of all solid waste at an authorized disposal site.



KARTER SCHOOL

POLLUTION PREVENTION PLAN DETAIL SHEET

DATE	BY	REVISION

DEQ Virginia Runoff Reduction Method New Development Compliance Spreadsheet - Version 3.0

2013 BMP Standards and Specifications © 2013 Draft BMP Standards and Specifications

Project Name: **KARTER SCHOOL** CLEAR ALL (Ctrl+Shift+R)

Date: **6/22/2020** data input cells constant values calculation cells final results

BMP Design Specifications List: 2013 Draft Stds & Specs

Site Information

Post-Development Project (Treatment Volume and Loads)

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				0.60	0.60
Impervious Cover (acres)				1.35	1.35
					1.95

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
P (unitless correction factor)	0.90

Runoff Coefficients (Rv)

	A Soils	B Soils	C Soils	D Soils
Forest/Open Space	0.02	0.03	0.04	0.05
Managed Turf	0.15	0.20	0.22	0.25
Impervious Cover	0.95	0.95	0.95	0.95

Post-Development Requirement for Site Area

TP Load Reduction Required (lb/yr)	2.47
------------------------------------	------

LAND COVER SUMMARY - POST DEVELOPMENT

Land Cover Summary	Treatment Volume and Nutrient Loads
Forest/Open Space Cover (acres)	0.00
Weighted Rv (forest)	0.00
% Forest	0%
Managed Turf Cover (acres)	0.60
Weighted Rv (turf)	0.25
% Managed Turf	31%
Impervious Cover (acres)	1.35
Rv (impervious)	0.95
% Impervious	69%
Site Area (acres)	1.95
Site Rv	0.73

Treatment Volume and Nutrient Loads

Treatment Volume (acre-ft)	0.1194
Treatment Volume (cubic feet)	5,200
TP Load (lb/yr)	3.27
TN Load (lb/yr) (Informational Purposes Only)	23.37

Drainage Area A

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)				0.60	0.60	0.25
Impervious Cover (acres)				1.35	1.35	0.95
Total					1.95	

total Phosphorus Available for Removal in D.A. A (lb/yr) **3.27**

Post Development Treatment Volume in D.A. A (ft³) **5,200**

Stormwater Best Management Practices (RR = Runoff Reduction)

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Practice (ft ³)	Runoff (ft ³)	Remaining Volume (ft ³)	Total BMP Treatment Volume (ft ³)	Phosphorus Removal Efficiency (%)	Phosphorus Load from Upstream Practices (lb)	Untreated Phosphorus Load to Practice (lb)	Phosphorus Removed by Practice (lb)	Remaining Phosphorus Load (lb)	Downstream Practice to be Employed
13. Wet Ponds (no RR)													
13.a. Wet Pond #1 (Spec #14)	0			0	0	0	0	50	0.00	0.00	0.00	0.00	
13.b. Wet Pond #1 (Coastal Plain) (Spec #14)	0	0.60	1.35	0	0	5,200	5,200	45	0.00	3.26	1.47	1.79	
13.c. Wet Pond #2 (Spec #14)	0			0	0	0	0	75	0.00	0.00	0.00	0.00	
13.d. Wet Pond #2 (Coastal Plain) (Spec #14)	0			0	0	0	0	65	0.00	0.00	0.00	0.00	

TOTAL IMPERVIOUS COVER TREATED (ac) 1.35 **AREA CHECK: OK.**

TOTAL MANAGED TURF AREA TREATED (ac) 0.60 **AREA CHECK: OK.**

TOTAL PHOSPHORUS REMOVAL REQUIRED ON SITE (lb/yr) 2.47

TOTAL PHOSPHORUS AVAILABLE FOR REMOVAL IN D.A. A (lb/yr) 3.27

TOTAL PHOSPHORUS REMOVED WITHOUT RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr) 1.47

TOTAL PHOSPHORUS REMOVED WITH RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr) 0.00

TOTAL PHOSPHORUS LOAD REDUCTION ACHIEVED IN D.A. A (lb/yr) 1.47

TOTAL PHOSPHORUS REMAINING AFTER APPLYING BMP LOAD REDUCTIONS IN D.A. A (lb/yr) 1.80

SEE WATER QUALITY COMPLIANCE TAB FOR SITE COMPLIANCE CALCULATIONS

NITROGEN REMOVED WITH RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr) 0.00

NITROGEN REMOVED WITHOUT RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr) 4.67

TOTAL NITROGEN REMOVED IN D.A. A (lb/yr) 4.67

Site Results (Water Quality Compliance)

Area Checks	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	AREA CHECK
FOREST/OPEN SPACE (ac)	0.00	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER (ac)	1.35	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER TREATED (ac)	1.35	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA (ac)	0.60	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA TREATED (ac)	0.60	0.00	0.00	0.00	0.00	OK.
AREA CHECK	OK.	OK.	OK.	OK.	OK.	

Site Treatment Volume (ft³) 5,200

Runoff Reduction Volume and TP by Drainage Area

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	TOTAL
RUNOFF REDUCTION VOLUME ACHIEVED (ft ³)	0	0	0	0	0	0
TP LOAD AVAILABLE FOR REMOVAL (lb/yr)	3.27	0.00	0.00	0.00	0.00	3.27
TP LOAD REDUCTION ACHIEVED (lb/yr)	1.47	0.00	0.00	0.00	0.00	1.47
TP LOAD REMAINING (lb/yr)	1.80	0.00	0.00	0.00	0.00	1.80
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	4.67	0.00	0.00	0.00	0.00	4.67

Total Phosphorus

FINAL POST-DEVELOPMENT TP LOAD (lb/yr)	3.27
TP LOAD REDUCTION REQUIRED (lb/yr)	2.47
TP LOAD REDUCTION ACHIEVED (lb/yr)	1.47
TP LOAD REMAINING (lb/yr)	1.80
REMAINING TP LOAD REDUCTION REQUIRED (lb/yr)	1.00

Total Nitrogen (For Informational Purposes)

POST-DEVELOPMENT LOAD (lb/yr)	23.37
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	4.67
REMAINING POST-DEVELOPMENT NITROGEN LOAD (lb/yr)	18.70

Runoff Volume and Curve Number Calculations

Enter design storm rainfall depths (in):

1-year storm	2-year storm	10-year storm
2.51	3.04	4.67

Use NOAA Atlas 14 (<http://hdsc.nws.noaa.gov/hdsc/pdfs/>)

***Notes (see below):**

[1] The curve numbers and runoff volumes computed in this spreadsheet for each drainage area are limited in their applicability for determining and demonstrating compliance with water quantity requirements. See VRRM User's Guide and Documentation for additional information.

[2] Runoff Volume (RV) for pre- and post-development drainage areas must be in volumetric units (e.g., acre-feet or cubic feet) when using the Energy Balance Equation. Runoff measured in watershed-inches and shown in the spreadsheet as RV(watershed-inch) can only be used in the Energy Balance Equation when the pre- and post-development drainage areas are equal. Otherwise RV(watershed-inch) must be multiplied by the drainage area.

[3] Adjusted CNs are based on runoff reduction volumes as calculated in D.A. tabs. An alternative CN adjustment calculation for Vegetated Roofs is included in BMP specification No. 5.

Drainage Area Curve Numbers and Runoff Depths*

Curve numbers (CN, CNadj) and runoff depths (RV_{Developed}) are computed with and without reduction practices.

Drainage Area A	A Soils	B Soils	C Soils	D Soils	Total Area (acres):
Forest/Open Space - undisturbed, protected forest/open space or reforested land	0.00	0.00	0.00	0.00	1.95
Managed Turf - disturbed, graded for yards or other turf to be mowed/managed	30	55	70	77	Runoff Reduction Volume (ft ³): 0
Impervious Cover	98	98	98	98	
CN (D.A. A)	92				

	1-year storm	2-year storm	10-year storm
RV _{Developed} (watershed-inch) with no Runoff Reduction*	1.70	2.20	3.77
RV _{Developed} (watershed-inch) with Runoff Reduction* Adjusted CN*	1.70	2.20	3.77
Adjusted CN*	92	92	92

*See Notes above

DEQ Virginia Runoff Reduction Method New Development Compliance Spreadsheet - Version 3.0

BMP Design Specifications List: 2013 Draft Stds & Specs

Project Title: **KARTER SCHOOL** Update Summary Sheet

Date: **4/4/2024** Print Preview Print

Total Rainfall = 43 inches

Site Land Cover Summary

	A Soils	B Soils	C Soils	D Soils	Totals	% of Total
Forest/Open (acres)	0.00	0.00	0.00	0.00	0.00	0
Managed Turf (acres)	0.00	0.00	0.00	0.60	0.60	31
Impervious Cover (acres)	0.00	0.00	0.00	1.35	1.35	69
Total					1.95	100

Site Tv and Land Cover Nutrient Loads

Site Rv	0.73
Treatment Volume (ft ³)	5,200
TP Load (lb/yr)	3.27
TN Load (lb/yr)	23.37

Total TP Load Reduction Required (lb/yr) **2.47**

Site Compliance Summary

Total Runoff Volume Reduction (ft ³)	0
Total TP Load Reduction Achieved (lb/yr)	1.47
Total TN Load Reduction Achieved (lb/yr)	4.67
Remaining Post Development TP Load (lb/yr)	1.80
Remaining TP Load Reduction (lb/yr) Required	1.00

Drainage Area Summary

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	Total
Forest/Open (acres)	0.00	0.00	0.00	0.00	0.00	0.00
Managed Turf (acres)	0.00	0.00	0.00	0.60	0.00	0.60
Impervious Cover (acres)	1.35	0.00	0.00	0.00	0.00	1.35
Total Area (acres)	1.95	0.00	0.00	0.00	0.00	1.95

Drainage Area Compliance Summary

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	Total
TP Load Reduced (lb/yr)	1.47	0.00	0.00	0.00	0.00	1.47
TN Load Reduced (lb/yr)	4.67	0.00	0.00	0.00	0.00	4.67

Drainage Area A Summary

Land Cover Summary

	A Soils	B Soils	C Soils	D Soils	Total	% of Total
Forest/Open (acres)	0.00	0.00	0.00	0.00	0.00	0
Managed Turf (acres)	0.00	0.00	0.00	0.60	0.60	31
Impervious Cover (acres)	0.00	0.00	0.00	1.35	1.35	69
Total					1.95	

BMP Selections

Practice	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	BMP Treatment Volume (ft ³)	TP Load from Upstream Practices (lbs)	Untreated TP Load to Practice (lbs)	TP Removed (lb/yr)	TP Remaining (lb/yr)	Downstream Treatment to be Employed
Total Impervious Cover Treated (acres)		1.35						
Total Turf Area Treated (acres)	0.60							
Total TP Load Reduction Achieved in D.A. (lb/yr)	1.47							
Total TN Load Reduction Achieved in D.A. (lb/yr)	4.67							

Runoff Volume and CN Calculations

Target Rainfall Event (in)	1-year storm	2-year storm	10-year storm
	2.51	3.04	4.67

Drainage Areas	RV & CN	Drainage Area A	Drainage Area B	Drainage Area C	Drainage Area D	Drainage Area E
RR (ft ³)	0	0	0	0	0	0
RV w/ RR (w/ RR)	1.70	0.00	0.00	0.00	0.00	0.00
RV w/ RR (w/ RR)	1.70	0.00	0.00	0.00	0.00	0.00
CN adjusted	92	0	0	0	0	0
RV w/ RR (w/ RR)	2.20	0.00	0.00	0.00	0.00	0.00
RV w/ RR (w/ RR)	2.20	0.00	0.00	0.00	0.00	0.00
CN adjusted	92	0	0	0	0	0
RV w/ RR (w/ RR)	3.77	0.00	0.00	0.00	0.00	0.00
RV w/ RR (w/ RR)	3.77	0.00	0.00	0.00	0.00	0.00
CN adjusted	92	0	0	0	0	0

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MONROE, VIRGINIA 22129-0379

Telephone: Office (804) 493-0888, Cell (804) 445-5337
Facsimile (804) 493-0999, jh.morris@riverbanks.com

February 22, 2021

Franklin Walker, III
Project Engineer
Ross-France
9417 Innovation Dr.
Manassas, VA 20110

Potomac Tucker Hill Nutrient Bank - Credit Availability
Riverbanks VA, LLC

Project Reference: 6905 Karter Robinson Drive, Haymarket, VA; Karter School

Attention: Franklin Walker, III

This letter is to confirm the current availability of Nutrient Credits sufficient to meet your project requirements at the Potomac Tucker Hill Nutrient Bank located in Westmoreland County, Virginia. The nutrient reductions resulting from this activity generated nonpoint source Nutrient "Credits" which are transferable to those entities requiring nutrient reductions in accordance with the Chesapeake Bay Watershed Nutrient Credit Exchange Program (VA Code § 62.1-44.19-14) and the Virginia Stormwater Credit Program (VA Code § 62.1-44.15-35).

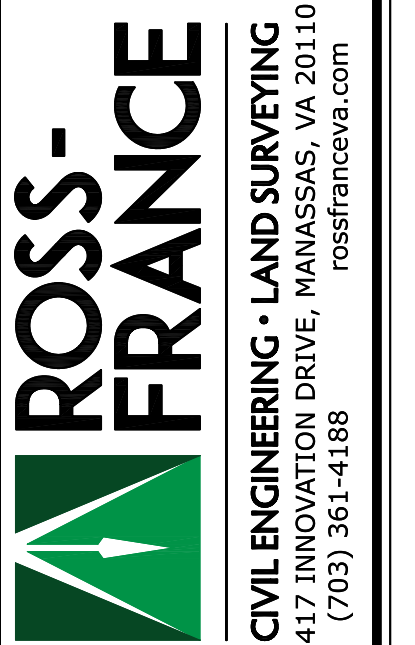
On May 28, 2020 the Potomac Tucker Hill Nutrient Bank was authorized to Transfer 9.08 pounds of phosphorus Credits. Currently the facility has 7.89 pounds of Credits available to meet your removal requirement of 1.00 Credits.

Feel free to contact me if you require further assistance.

Jackie Morris, Manager
Jackie Morris
Manager
Riverbanks VA, LLC
804-445-5337

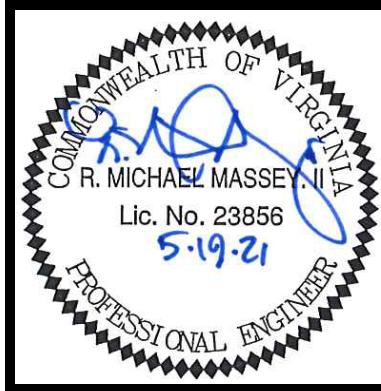
KARTER SCHOOL
TOWN OF HAYMARKET
GAINESVILLE MAGISTRAL DISTRICT
PRINCE WILLIAM COUNTY, VIRGINIA
SCALE: NO SCALE
AUGUST 6, 2020

VRRM WORKSHEET



DATE	BY	REVISION

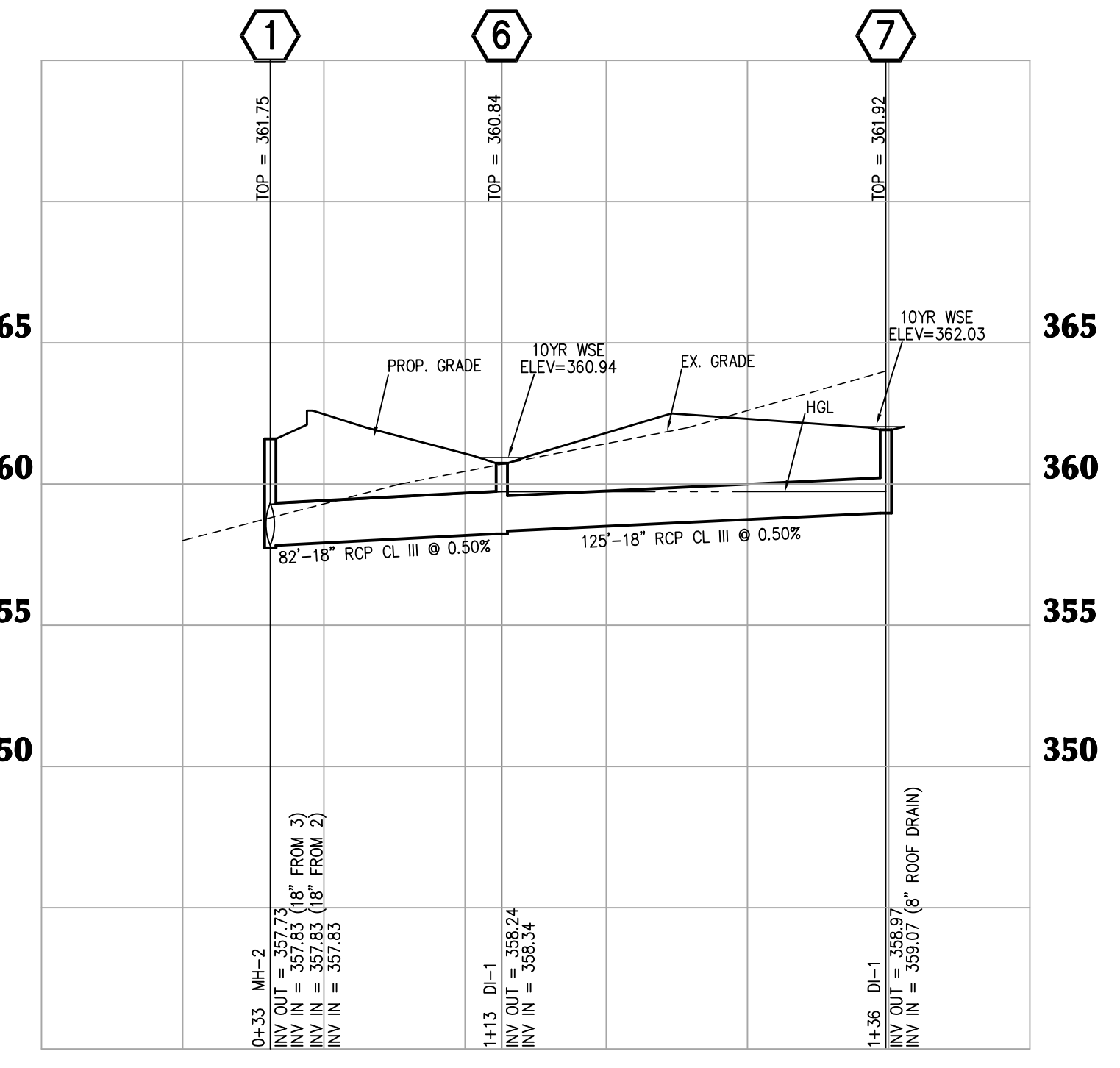
DES: FW DWN: MSL CHK: RMM
FILE NO.: SP # 2049
SHEET C3.5



CIVIL ENGINEERING • LAND SURVEYING
9417 INNOVATION DRIVE, MANASSAS, VA 20110
(703) 361-4188
KARTER SCHOOL
TOWN OF HAYMARKET
GAINESVILLE MAGISTERIAL DISTRICT
PRINCE WILLIAM COUNTY, VIRGINIA
Lic. No. 23856
5-19-21
AUGUST 6, 2020
SCALE: HORIZ.-1"=50', VERT.-1"=5'
Attachment: KARTER SCHOOL SITE PLAN 6.10.21 (5072 - Karter School Site Plan, 6005 Karter Robinson Drive)

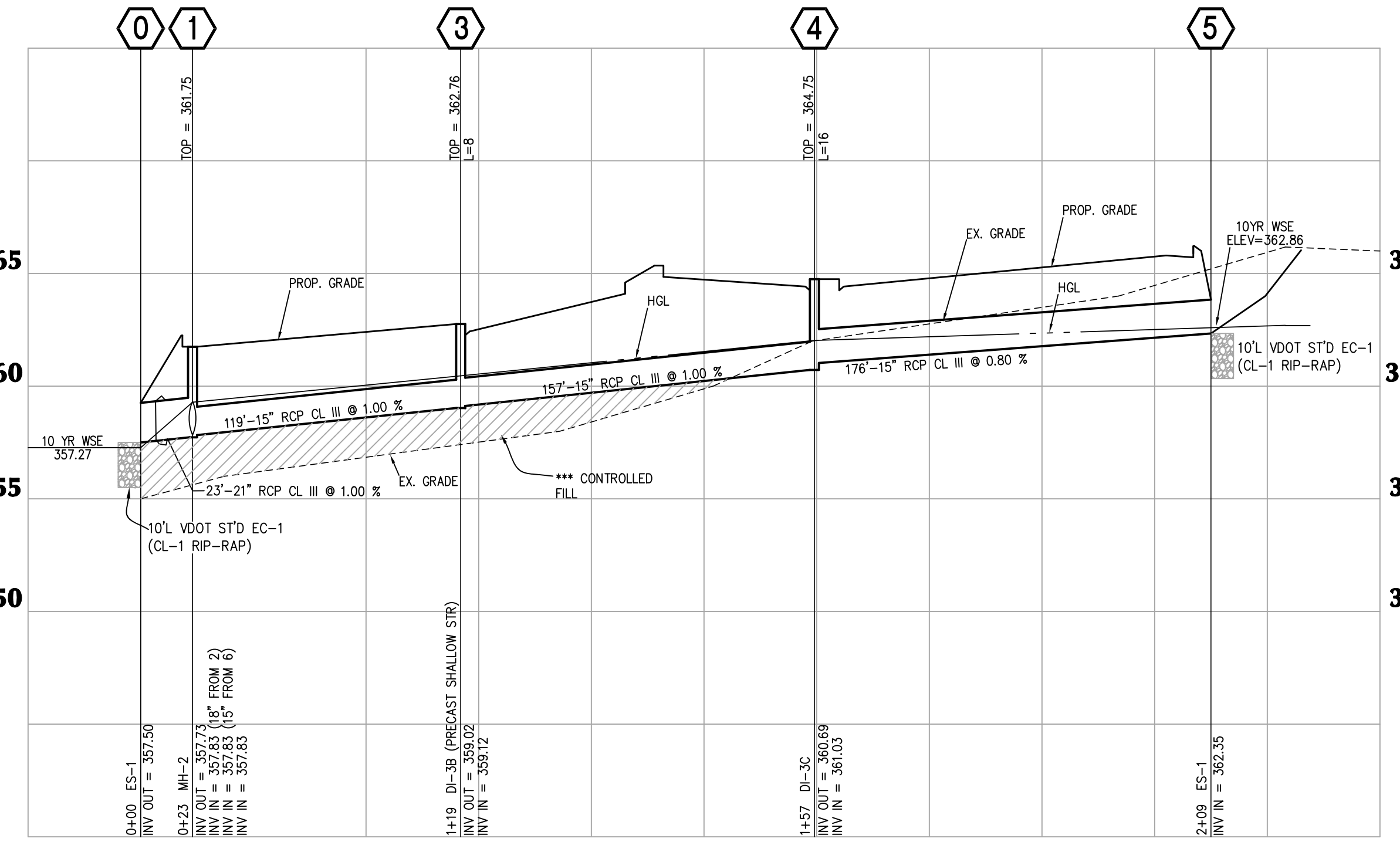
PROFILES

Table with columns: DATE, BY, REVISION, DES: FW, DWN: MSL, CHK: RMM, FILE NO.: SP # 2049, SHEET, Packet Pg. 24



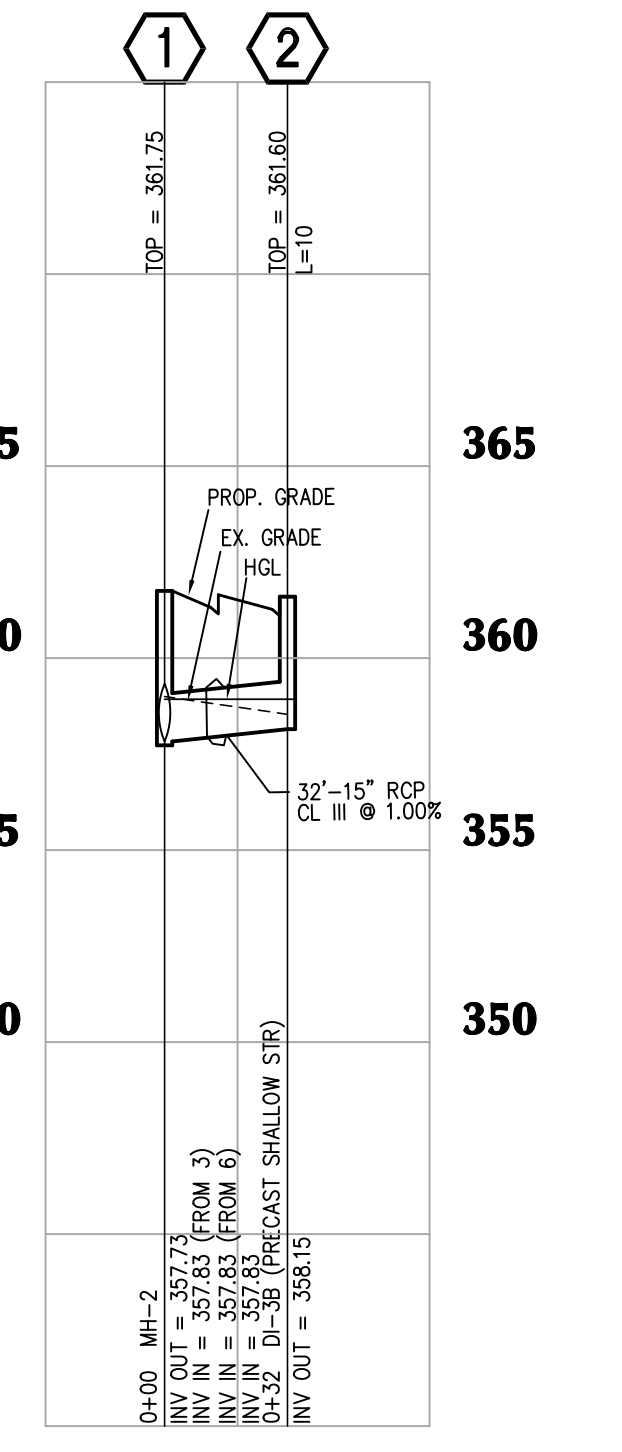
STORM SEWER PROFILES
SCALE: HORIZ.- 1"=50', VERT.- 1"=5'

ALL STORM STRUCTURES SHALL HAVE IS-1 INLET SHAPING



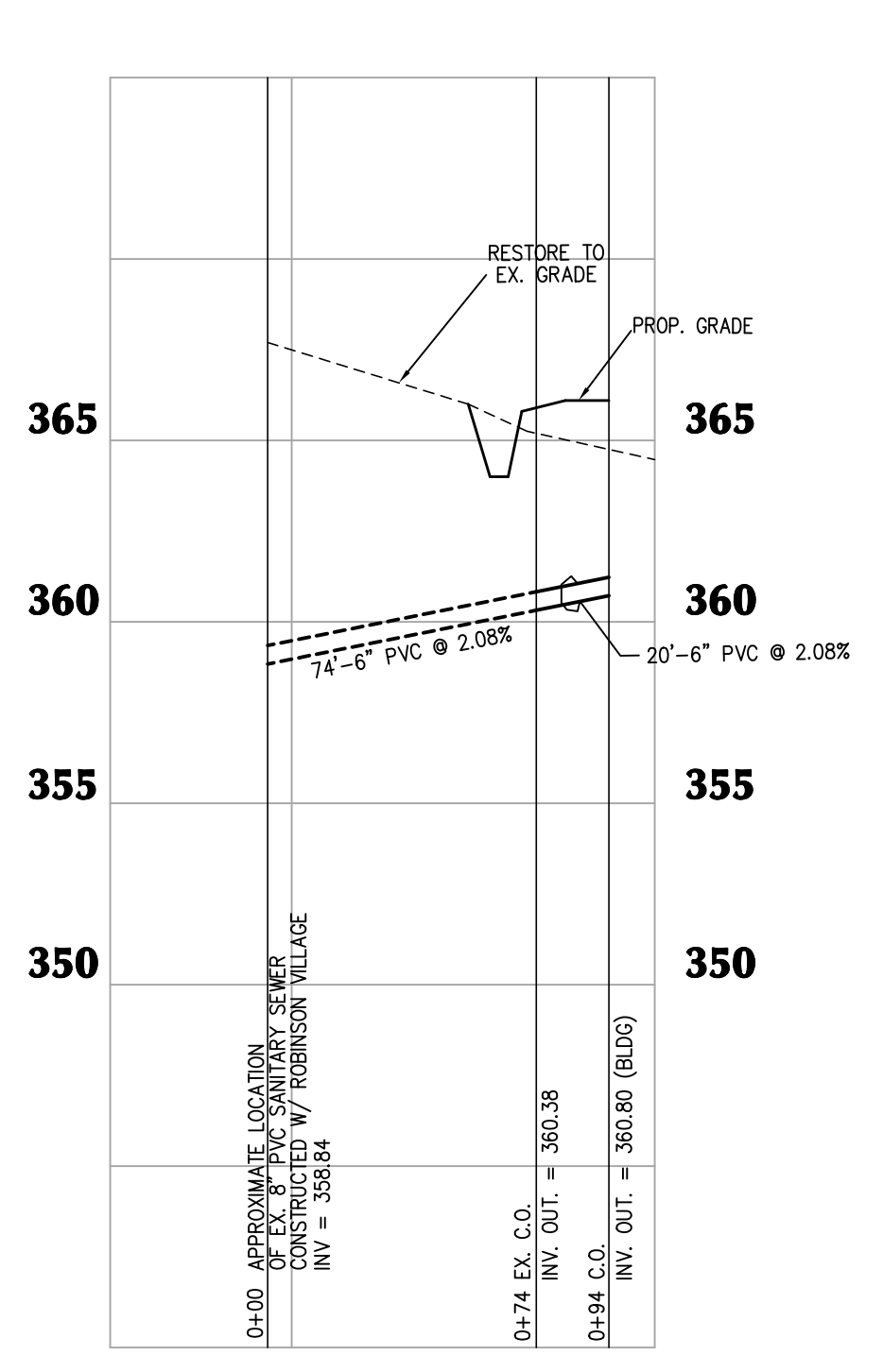
STORM SEWER PROFILES
SCALE: HORIZ.- 1"=50', VERT.- 1"=5'

ALL STORM STRUCTURES SHALL HAVE IS-1 INLET SHAPING



STORM SEWER PROFILES
SCALE: HORIZ.- 1"=50', VERT.- 1"=5'

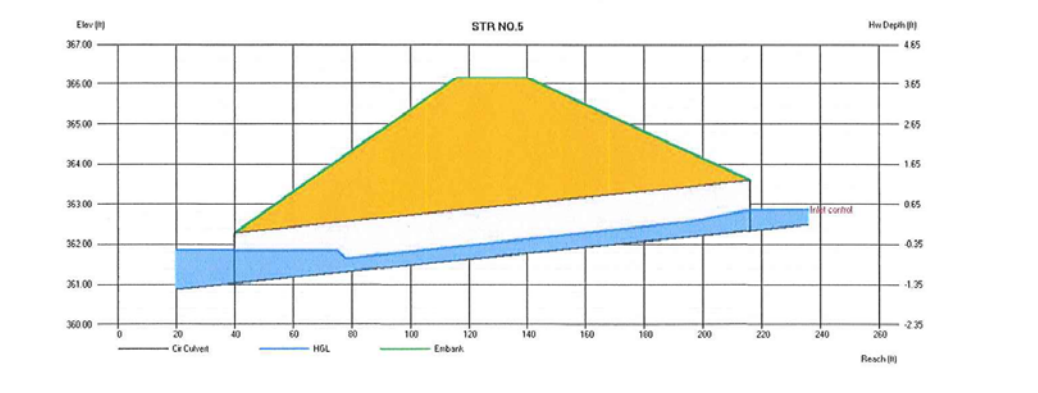
ALL STORM STRUCTURES SHALL HAVE IS-1 INLET SHAPING



PRIVATE SANITARY SEWER
SCALE: HORIZ.- 1"=50', VERT.- 1"=5'

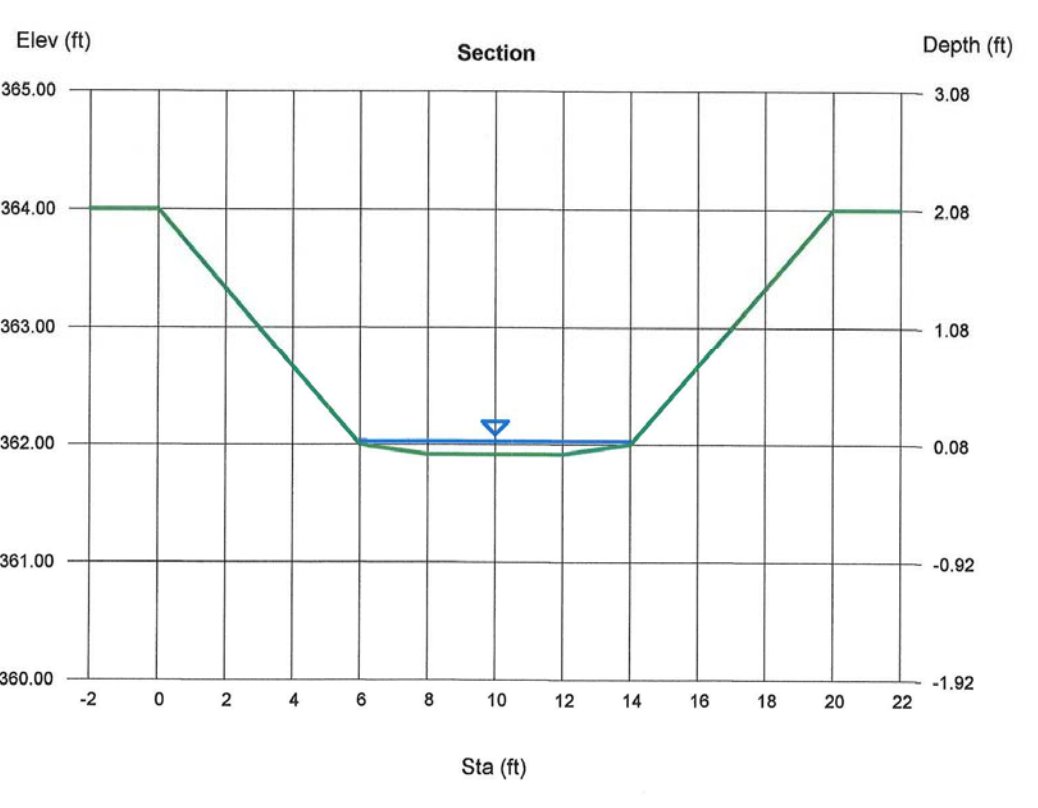
Culvert Report
Hydroware Express Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. Tuesday, Dec 8, 2020

Table with columns: STR NO.5, Invert Elev Dn (ft), Pipe Length (ft), Slope (%), Invert Elev Up (ft), Rise (in), Shape, Span (in), No. Barrels, n-Value, Inlet Edge, Coeff. K,M,c,Yk, Embankment, Top Elevation (ft), Top Width (ft), Crest Width (ft)



Channel Report
Hydroware Express Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. Thursday, Aug 6, 2020

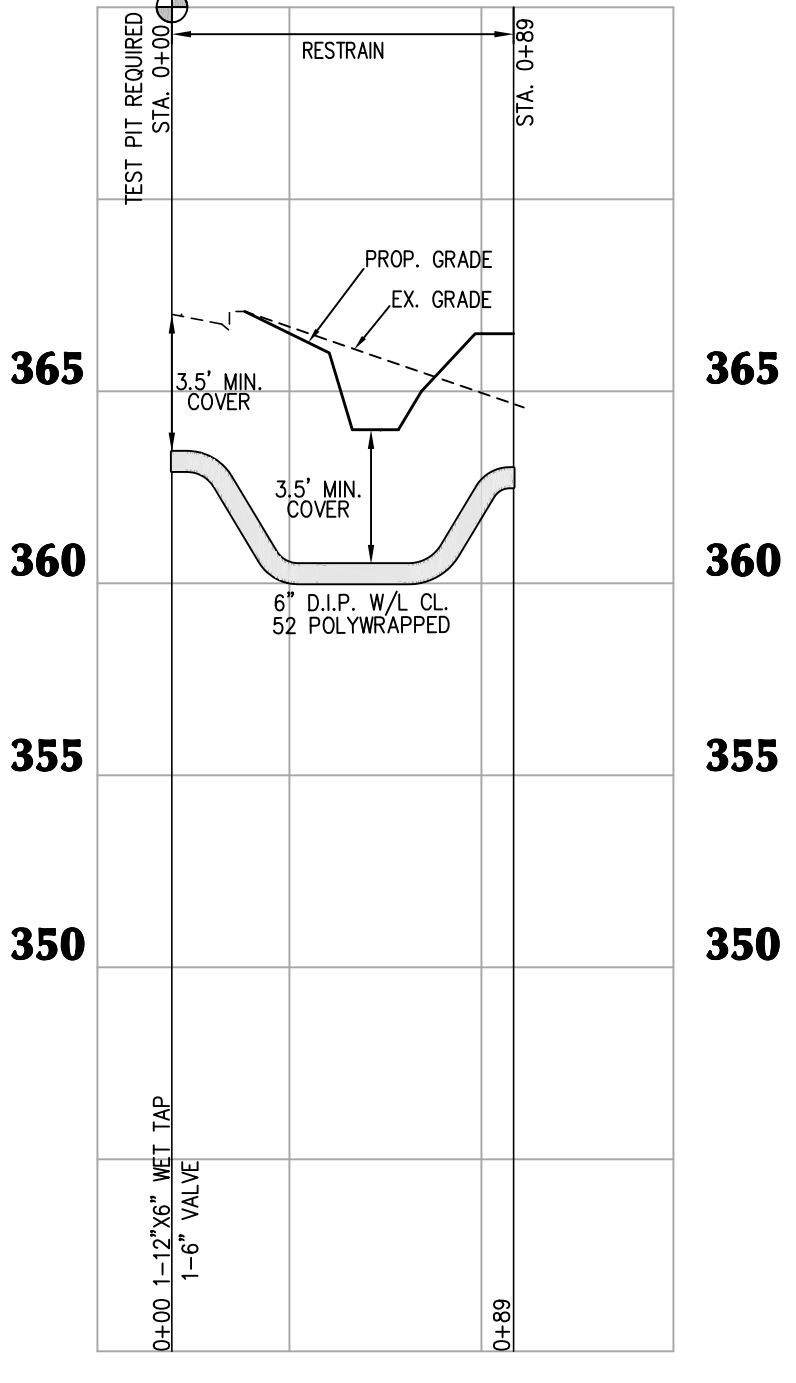
Table with columns: STR #7, User-defined, Invert Elev (ft), Slope (%), N-Value, Calculations, Compute by, Known Q, Known Q (cfs), (Sta. El. n)-(Sta. El. n...)



STORM INLET COMPUTATIONS table with columns: NUMBER, TYPE, LENGTH (FT), STATION, DRAINAGE (AC), C, CA, Σ CA, INTENSITY (IN./HR.), Q INCREMENTAL (CFS), Q CARRYOVER (CFS), Q1 GUTTER FLOW (CFS), S GUTTER SLOPE (FT./FT.), Sx CROSS SLOPE (FT./FT.), T (SPREAD), W (FT.), WIT, Sw (FT./FT.), Sw/Sx, Eo (#10), a = 12W(Sw-Sx) + Loc. Dep., S'w = a/(12W), Sg (FT./FT.) = Sx+S'y/Eo, Lr (FT) #15, P (EFFEC LENGTH FT.), L/Lr, d (FT.), E (#16), h (FT.), Q INTERCEPTED (CFS), d/h, Qc CARRYOVER (CFS), T SFEED @ SAG (FT.), REMARKS

Table with columns: FROM, TO, INC. AC, TOTAL AC, C, INCR., ACCUM., MINUTES, RAIN FALL, INCHES, INCR., ACCUM., UPPER, LOWER, LENGTH, SLOPE, DIAM., VELO., CAPAC., TIME, REMARKS

Hydraulic Grade Line table with columns: Inlet Station, Outlet Water Surface Elev, Do, Qo, Lo, Sfo, Hf, Vo, Ho, Di, Qi, Vi, Q/Vi, V12/2g, Hi, Angle, Hdelt, Ht, 1.3Ht, .5Ht, Final H, Inlet Water Surface Elev., Rim Elev.

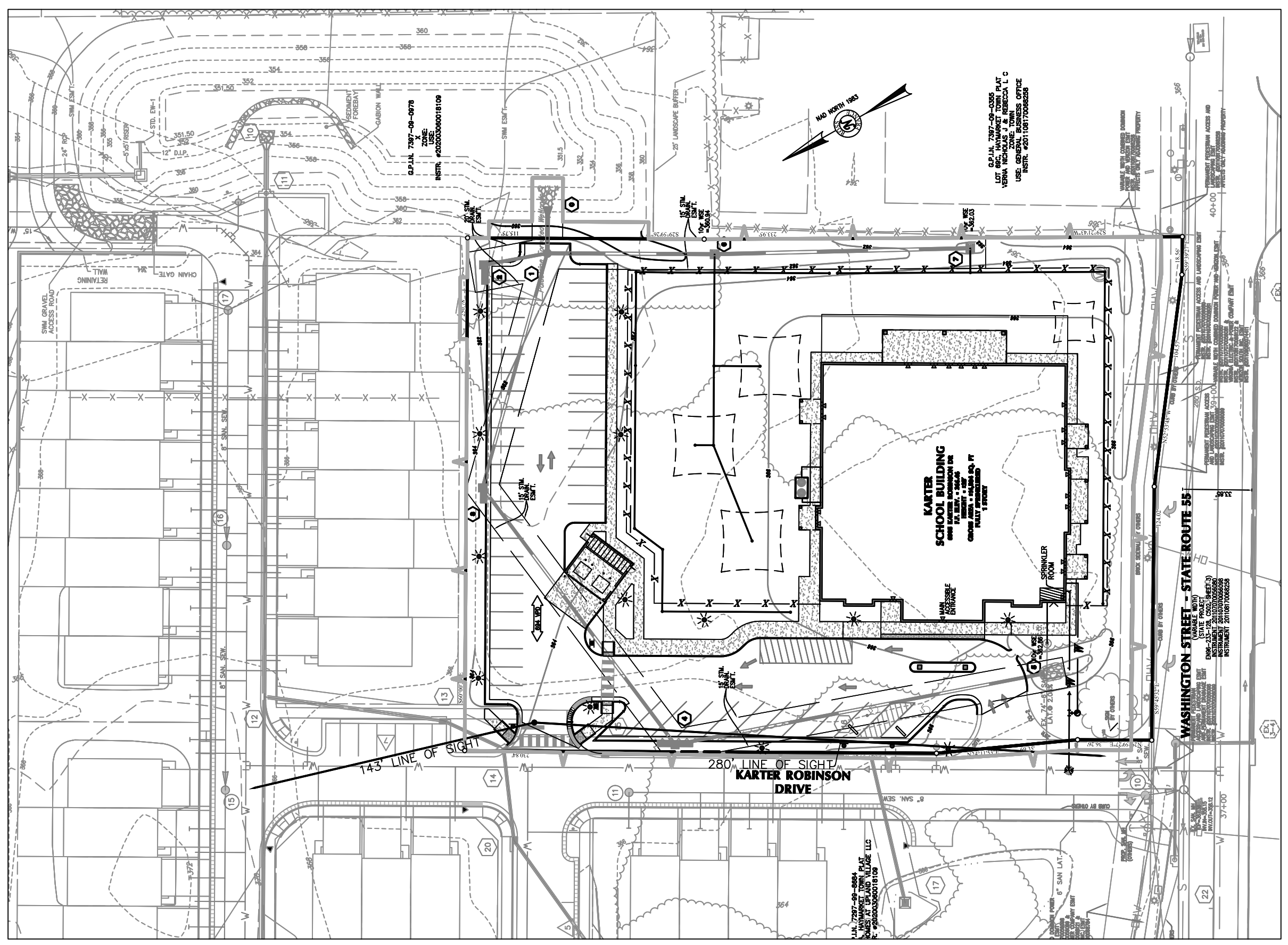


PRIVATE 6" FIRE SERVICE
SCALE: HORIZ.- 1"=50', VERT.- 1"=5'

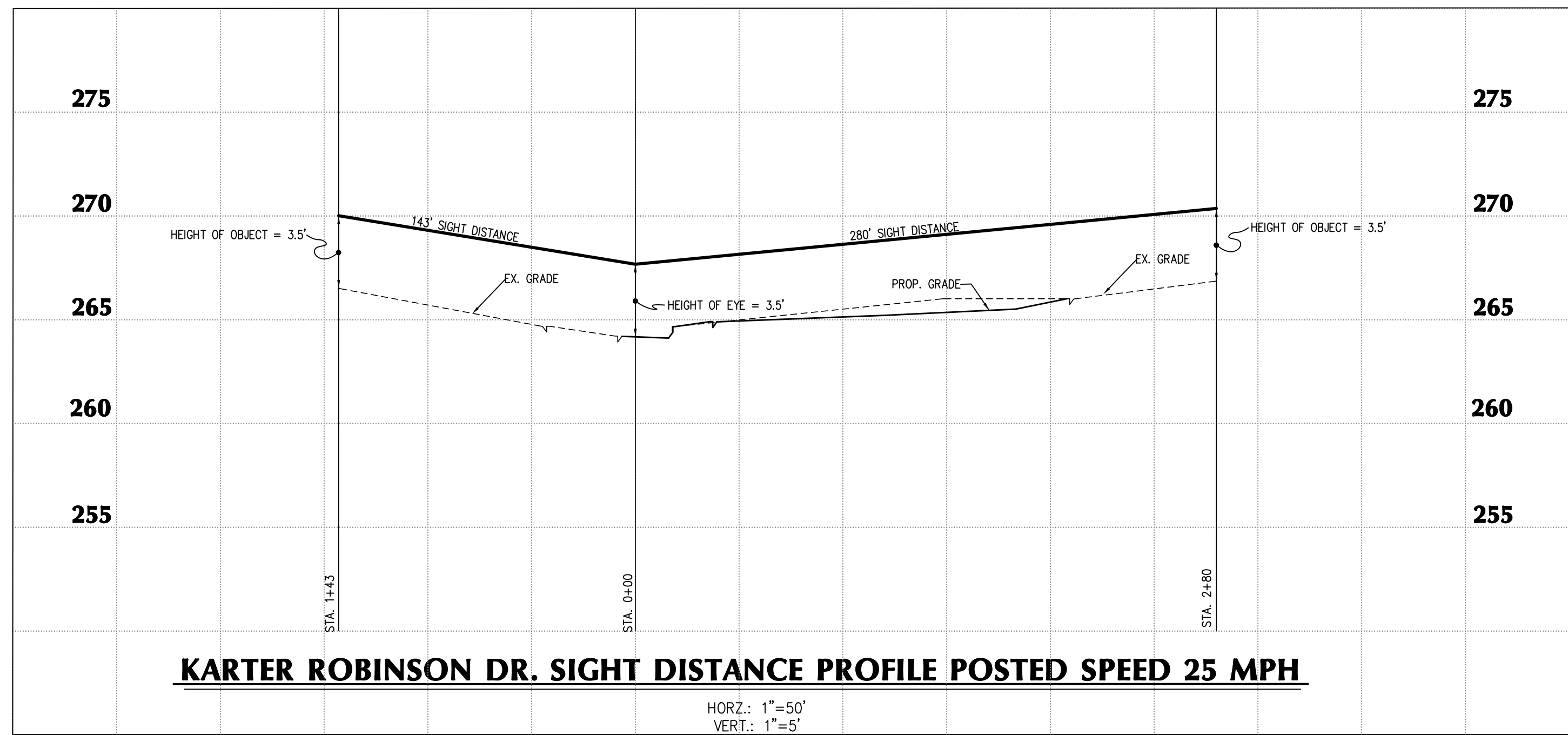
NOTES:
***CONTROLLED FILL @ 95% COMPACTION @ OPTIMUM MOISTURE CONTENT PER DCSM 704.07
ALL DI-7 INLETS SHALL HAVE TYPE III GRATES
PROVIDE STD IS-1 INLET SHAPING FOR ALL STORM SEWER STRUCTURES

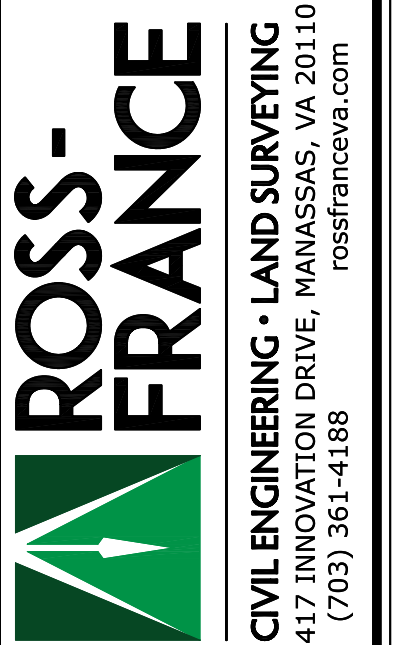
DATE	BY	REVISION

DES: FW	DWN: MSL	CHK: RMM
FILE NO.: SP # 2049		
SHEET C4.2		



LANDSCAPE NOTE:
 LANDSCAPE LOCATED ALONG KARTER ROBINSON DRIVE SHALL BE MAINTAINED AT A HEIGHT TO AVOID OBSTRUCTION WITHIN THE LINE OF SIGHT.



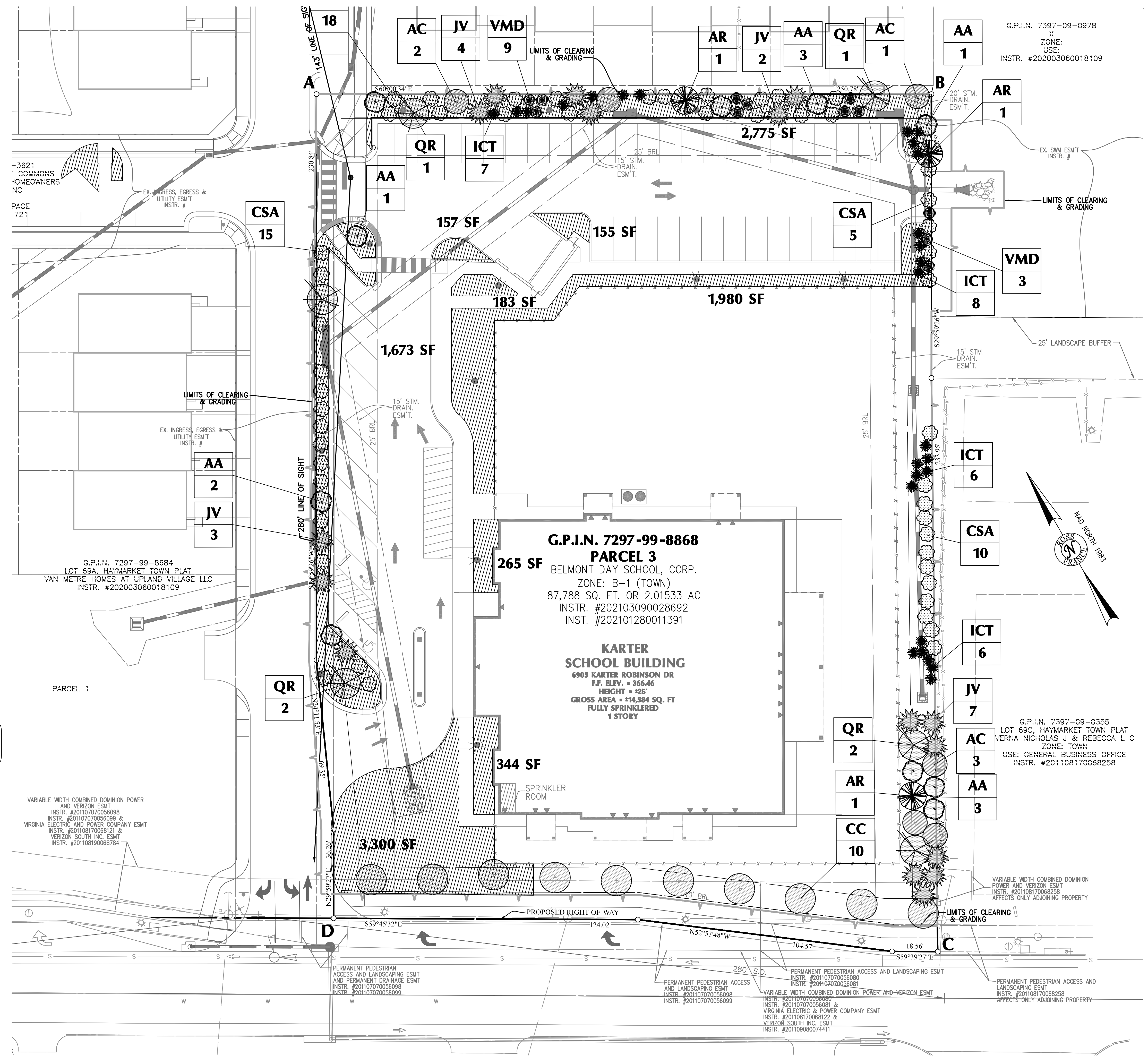


KARTER SCHOOL
TOWN OF HAYMARKET
GAINESVILLE MAGISTRAL DISTRICT
PRINCE WILLIAM COUNTY, VIRGINIA
SCALE: 1" = 20'
CONTOUR INTERVAL = 2'
AUGUST 6, 2020

LANDSCAPE PLAN

DATE	BY	REVISION

DES: FW	DWN: MSL	CHK: RMM
FILE NO.: SP # 2049		
SHEET C5.1		

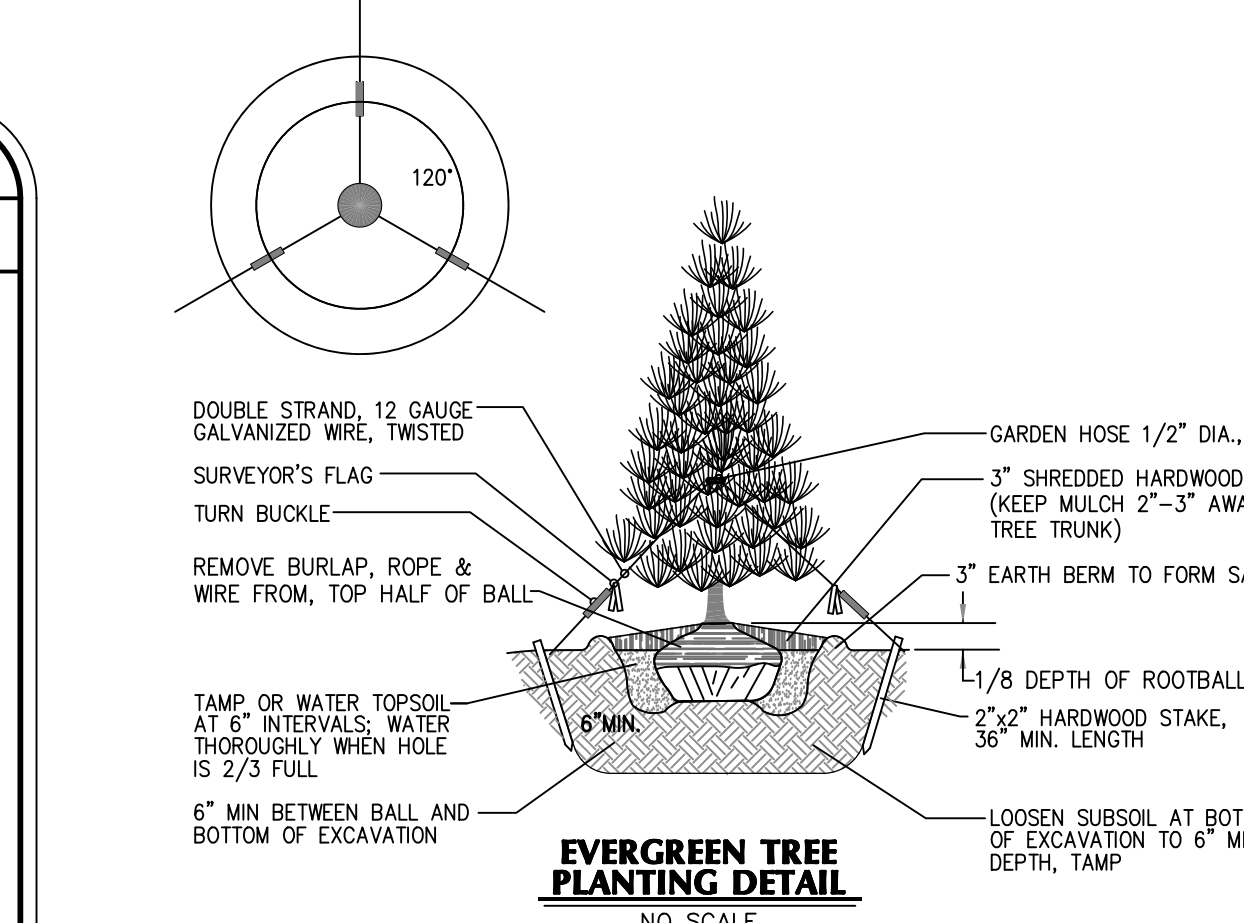
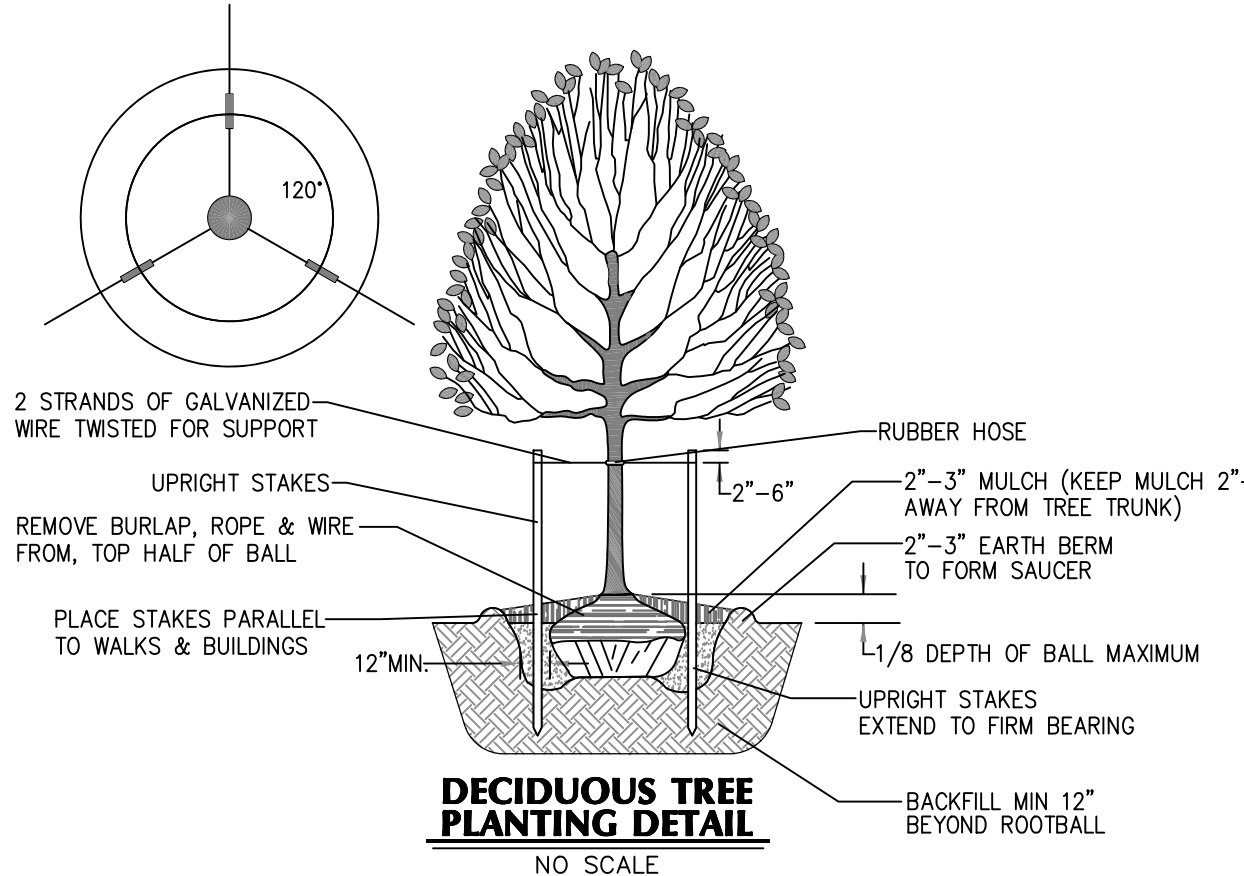
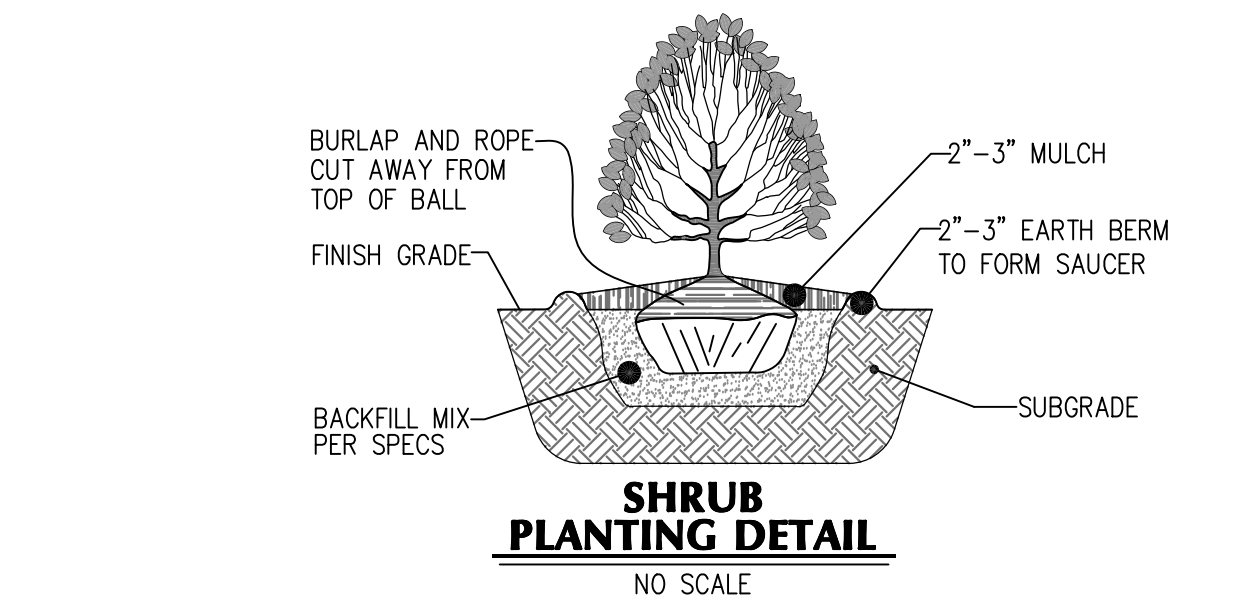


THIS DRAWING IS FOR LANDSCAPE PURPOSES ONLY

LANDSCAPE AREAS, BUFFERS AND SCREENING																
PROPOSED USE: EDUCATIONAL FACILITY																
LANDSCAPE AREAS, BUFFERS AND SCREENING	LENGTH	TOTAL WIDTH	REQUIRED				PROVIDED				MODIFICATION REQUESTED					
			AREA	SCREEN TYPE	PLANTING RATIO	PLANTINGS	AREA	SCREEN TYPE	PLANTING RATIO	PLANTINGS						
A to B	251	10	2,510	SS (ALT 1)	1	CANOPY / 1000 sf	3	A to B	251	10	2,510	SS (ALT 1)	1	CANOPY / 1000 sf	3	YES
					1	ORNAMENTAL / 500 sf	5						1	ORNAMENTAL / 500 sf	6	
					1	EVERGREEN / 500 sf	5						1	EVERGREEN / 500 sf	6	
B to C	350	10	3,500	SS (ALT 1)	1	CANOPY / 1000 sf	4	B to C	350	10	3,500	SS (ALT 1)	1	CANOPY / 1000 sf	4	NO
					1	ORNAMENTAL / 500 sf	7						1	ORNAMENTAL / 500 sf	7	
					1	EVERGREEN / 500 sf	7						1	EVERGREEN / 500 sf	7	
C to D	247	10	WASHINGTON STREET	NA	1	CANOPY / 1000 sf	-	C to D	247	WASHINGTON STREET	NA	1	CANOPY / 1000 sf	-	YES	
					1	ORNAMENTAL / 25 If	10					1	ORNAMENTAL / 25 If	10		
					1	EVERGREEN / 500 sf	-					1	EVERGREEN / 500 sf	-		
D to A	337			SS (ALT 1)	1	CANOPY / 1000 sf	-	D to A	337			1	CANOPY / 1000 sf	-	YES	
					1	ORNAMENTAL / 500 sf	-					1	ORNAMENTAL / 500 sf	-		
					1	EVERGREEN / 500 sf	-					1	EVERGREEN / 500 sf	-		
					TOTAL		100						TOTAL		107	

NOTES:
 1. PLANT MATERIAL TO BE COORDINATED WITH FINAL SWM DESIGN. LOCATIONS, QUANTITY AND SPECIES ARE SUBJECT TO REVISION DUE TO CONSTRAINTS OF DAM EMBANKMENT OR EASEMENT

INTERIOR PARKING LOT LANDSCAPING	
REQUIREMENT: Z.O. 58-17.13(e)	5% OF THE GROSS PARKING LOT AREA SHALL BE LANDSCAPED AREA AND: 1 TREE PER 10 PARKING SPACES 3 SHRUBS
GROSS PARKING AREA (sf)	22,039
PROPOSED PARKING SPACES	49
REQUIRED LANDSCAPE AREA (sf)	1,102
PROVIDED INTERIOR PARKING LOT LANDSCAPE AREA (sf)	6,766
REQUIRED LANDSCAPING	TREES 5 SHRUBS 15
PROVIDED LANDSCAPING	TREES 5 SHRUBS 15



SCHEDULE H - LANDSCAPE LEGEND						
SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	TYPE	QUANTITY	
<i>SHADE TREES</i>						
AR	ACER RUBRUM	RED MAPLE	2-1/2"-3" (CAL)	B&B	3	
QR	QUERCUS RUBRA	RED OAK	2-1/2"-3" (CAL)	B&B	6	
<i>EVERGREEN TREES</i>						
JV	ACER RUBRUM	JUNIPERUS VIRGINIANA	6'-8' (HT.)		16	
<i>ORNAMENTAL TREES</i>						
AC	AMELANCHIER CANADENSIS	SHADBLow	6'-7' (HT.)		6	
AA	AMELANCHIER ARBOREA	DOWNY SERVICEBERRY	6'-7' (HT.)		10	
CC	CERCIS CANADENSIS	RED BUD	3" (CAL) 12'-15' (HT.)		10	
<i>SHRUBS</i>						
CSA	CORNUS SERICEA	RED TWIG DOGWOOD	1'-2' (HT.)	CONT.	48	
ICT	ILEX CRENATA	JAPANESE HOLLY	1'-2' (HT.)	CONT.	27	
VMD	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	1'-2' (HT.)	CONT.	12	

LANDSCAPE MAINTENANCE NOTE
 THE OWNER OF FEE TITLE TO ANY PROPERTY ON WHICH PLANT MATERIAL HAS BEEN ESTABLISHED IN ACCORDANCE WITH AN APPROVED LANDSCAPE/PLANTING PLAN SHALL BE RESPONSIBLE FOR THE MAINTENANCE, REPAIR AND REPLACEMENT OF THE APPROVED PLANT MATERIAL AS REQUIRED BY THE ORDINANCE.

ROSS-FRANCE
 CIVIL ENGINEERING • LAND SURVEYING
 9417 INNOVATION DRIVE, MANASSAS, VA 20110
 (703) 361-4188
 rossfranceva.com

COMMONWEALTH OF VIRGINIA
 R. MICHAEL MASSE
 Lic. No. 23856
 5-19-21
 PROFESSIONAL ENGINEER

KARTER SCHOOL
 TOWN OF HAYMARKET
 GAINESVILLE MAGISTRAL DISTRICT
 PRINCE WILLIAM COUNTY, VIRGINIA

LANDSCAPE DETAILS, LEGEND & SCHEDULES

DATE	BY	REVISION

DES: FW	DWN: MSL	CHK: RMM
FILE NO.: SP # 2049		
SHEET C5.2		



PRINCE WILLIAM COUNTY
Department of Development Services - Land Development Division
UNIT PRICE LIST
Performance Bonds, Landscaping Escrows, Siltation & Erosion Control Escrows, and Floodplain Item Escrows
Effective: March 15, 2017

Project Name: KARTER SCHOOL
PWC File #:
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
Table with columns: Item, Quantity, Price, Cost. Includes Mobilization/Demobilization and Storm Drainage structures.

B. Concrete Pipe
Table with columns: Item, Quantity, Price, Cost. Lists various pipe sizes from 12" to 48" and their associated costs.

C. End Walls
Table with columns: Item, Quantity, Price, Cost. Lists various end wall sizes from 12" to 45"x29" and their associated costs.

D. End Sections (ES-1)
Table with columns: Item, Quantity, Price, Cost. Lists various end section sizes from 12" to 36" and their associated costs.

E. Corrugated Metal Pipe
Table with columns: Item, Quantity, Price, Cost. Lists various pipe sizes from 12" to 28"x20" and their associated costs.

F. End Sections (ES-2)
Table with columns: Item, Quantity, Price, Cost. Lists various end section sizes from 15" to 28"x20" and their associated costs.

G. AD N-12 (HDPE)
Table with columns: Item, Quantity, Price, Cost. Lists various pipe sizes from 12" to 60" and their associated costs.

H. Stormwater Management/BMP Facilities Cost Estimates Per Impervious Acre Treated
Table with columns: Item, Quantity, Price, Cost. Lists various stormwater management items like retention ponds, wetlands, and filters.

I. Miscellaneous Stormwater Management
Table with columns: Item, Quantity, Price, Cost. Lists items like seed, sod, hydraulic concrete, and rip-rap.

J. Miscellaneous Drainage Items
Table with columns: Item, Quantity, Price, Cost. Lists items like box culvert, energy dissipater, wing walls, and ditches.

3. Construction Within The Public Right-Of-Way And/Or Private Ingress/Egress Easements:
A. Site Work
Table with columns: Item, Quantity, Price, Cost. Lists site work items like clear & grub, excavation, and grading.

B. Subgrade, Subbase and Base Course Items Underdrains (Public)
Table with columns: Item, Quantity, Price, Cost. Lists subgrade, subbase, base course, and underdrain items.

C. Entrances and Pipe Stems
Table with columns: Item, Quantity, Price, Cost. Lists entrance and pipe stem items like DE-1, DE-2, PP-1, etc.

D. Miscellaneous Construction Items
Table with columns: Item, Quantity, Price, Cost. Lists various construction items like sidewalks, curbs, and retaining walls.

4. Sanitary Sewer and Water Line Construction
Table with columns: Item, Quantity, Price, Cost. Lists sanitary sewer and water line construction items like fire hydrants, manholes, and pipe lines.

Water Main (Exclusive of Fire Hydrants)
Table with columns: Item, Quantity, Price, Cost. Lists water main items like 4" DIP, 6" DIP, 8" DIP, etc.

Sanitary Sewer Pipe Line (Exclusive for Manhole Structures)
Table with columns: Item, Quantity, Price, Cost. Lists sanitary sewer pipe line items like 1.5" thru 4" LPPM, 8" PVC, etc.

5. Miscellaneous Costs
Table with columns: Item, Quantity, Price, Cost. Lists miscellaneous costs like administrative cost and inflation cost.

6. Floodplain Items Escrow
Table with columns: Item, Quantity, Price, Cost. Lists floodplain items like LOMR, elevation certificate, and stream restoration.

7. Landscaping Escrow
A. Deciduous Trees
Table with columns: Item, Quantity, Price, Cost. Lists deciduous tree items like 5'-6", 1"-1 1/2" OR 1 1/2"-2", etc.

B. Evergreen Trees
Table with columns: Item, Quantity, Price, Cost. Lists evergreen tree items like 5'-6", 6'-7", 7'-8", 8'-10".

C. Shrubs
Table with columns: Item, Quantity, Price, Cost. Lists shrub items like 18"-24", 24"-30".

D. Ornamental
Table with columns: Item, Quantity, Price, Cost. Lists ornamental items like 1 Gallon (#1), 2 Gallon (#2), 3 Gallon (#3).

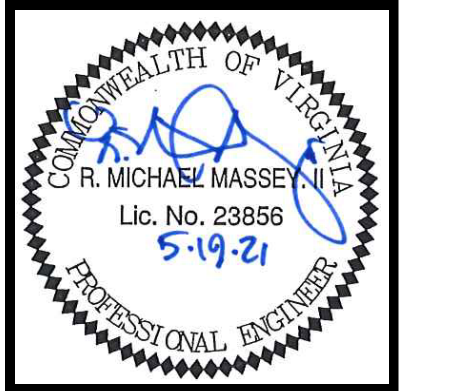
E. Perennial
Table with columns: Item, Quantity, Price, Cost. Lists perennial items like 18"-24".

F. Reforestation
Table with columns: Item, Quantity, Price, Cost. Lists reforestation items like # of Acres.

8. Siltation and Erosion Control Escrows
Table with columns: Item, Quantity, Price, Cost. Lists siltation and erosion control items like diversion dikes, silt traps, and fences.

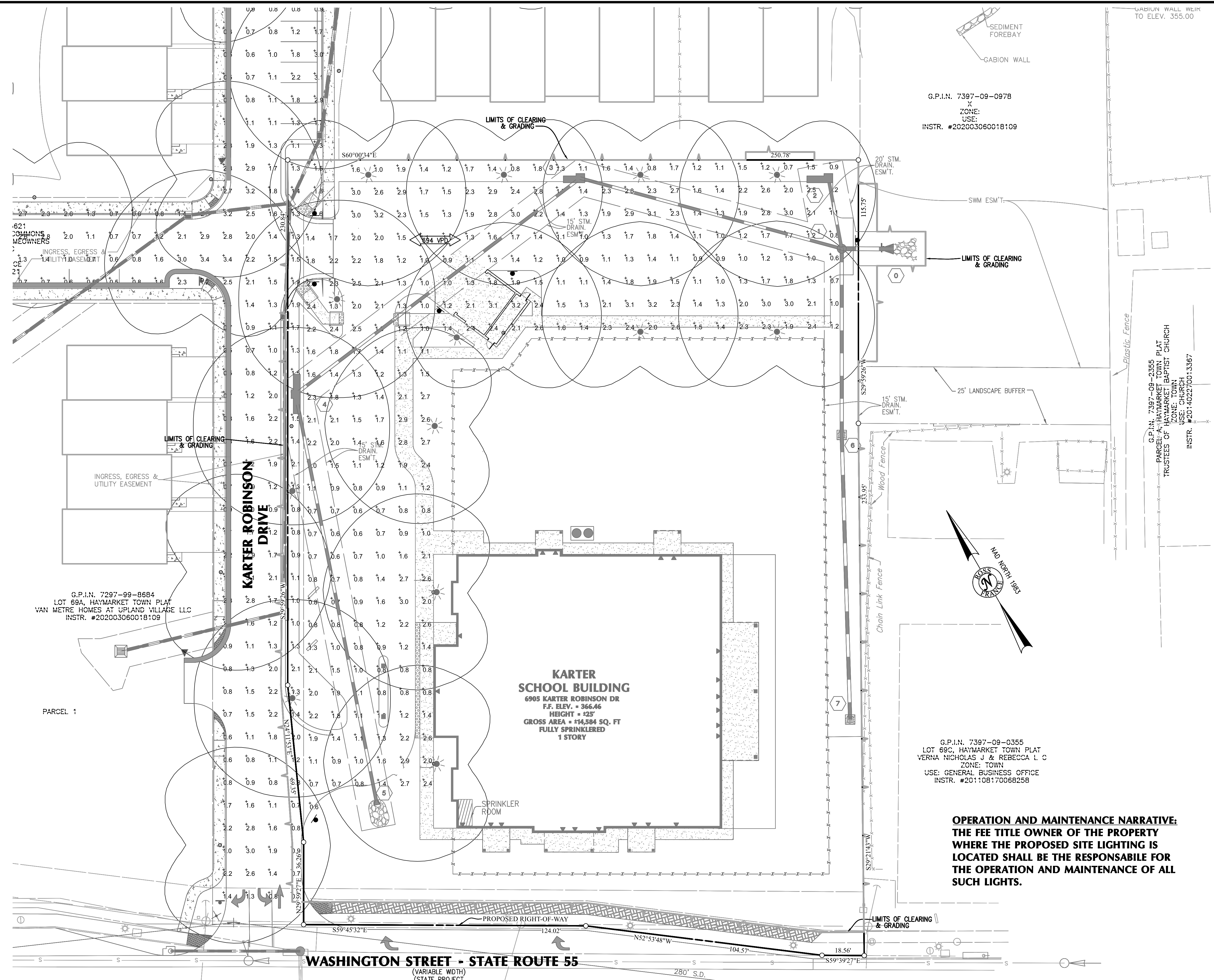
Summary table showing Total Landscape Escrow Amount (\$10,482.00), Total Siltation and Erosion Control Escrow Amount (\$20,487.50), and Total Construction Cost (\$117,757.00). Includes administrative cost and total performance bond amount (\$133,065.41).

I hereby certify that the above is my best estimate of the quantities and current cost of bondable improvements, landscaping items, and siltation & erosion control escrow and floodplain items in this subdivision or site plan.
PREPARER'S SIGNATURE: R. MICHAEL MASSEY, II
TELEPHONE #: (703) 361-4188
ROSS-FRANCE, PC
COMPANY OR FIRM



KARTER SCHOOL
TOWN OF HAYMARKET
GAINESVILLE MAGISTERIAL DISTRICT
PRINCE WILLIAM COUNTY, VIRGINIA
AUGUST 6, 2020
Attachment: KARTER SCHOOL SITE PLAN 6.10.21 (5072) : Karter School (Site Plan) 6005 Karter Robinson Drive

UNIT PRICE LIST
Table with columns: DATE, BY, REVISION.



G.P.I.N. 7397-09-0978
 ZONE:
 USE:
 INSTR. #202003060018109

G.P.I.N. 7297-99-8684
 LOT 69A, HAYMARKET TOWN PLAT
 VAN METRE HOMES AT UPLAND VILLAGE LLC
 INSTR. #202003060018109

KARTER SCHOOL BUILDING
 6905 KARTER ROBINSON DR
 F.F. ELEV. = 366.46
 HEIGHT = 42'
 GROSS AREA = 414,584 SQ. FT
 FULLY SPRINKLERED
 1 STORY

G.P.I.N. 7397-09-0355
 LOT 89C, HAYMARKET TOWN PLAT
 VERNA NICHOLAS J & REBECCA L C
 ZONE: TOWN
 USE: GENERAL BUSINESS OFFICE
 INSTR. #201108170068258

OPERATION AND MAINTENANCE NARRATIVE:
 THE FEE TITLE OWNER OF THE PROPERTY
 WHERE THE PROPOSED SITE LIGHTING IS
 LOCATED SHALL BE THE RESPONSIBLE FOR
 THE OPERATION AND MAINTENANCE OF ALL
 SUCH LIGHTS.

WASHINGTON STREET - STATE ROUTE 55
 (VARIABLE WIDTH)
 (STATE PROJECT)

EN96-233-128, C502, SHEET 3)
 INSTRUMENT 201107070056080
 INSTRUMENT 201107070056098
 INSTRUMENT 201108170068258

**THIS DRAWING IS FOR
 PHOTOMETRIC PURPOSES ONLY**





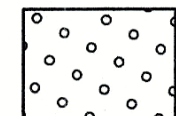
KARTER SCHOOL
 TOWN OF HAYMARKET
 GAINESVILLE MAGISTERIAL DISTRICT
 PRINCE WILLIAM COUNTY, VIRGINIA

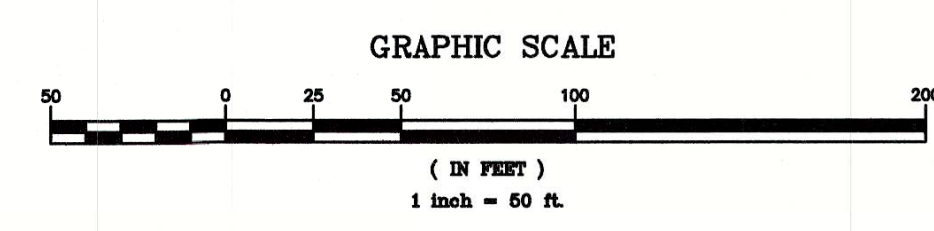
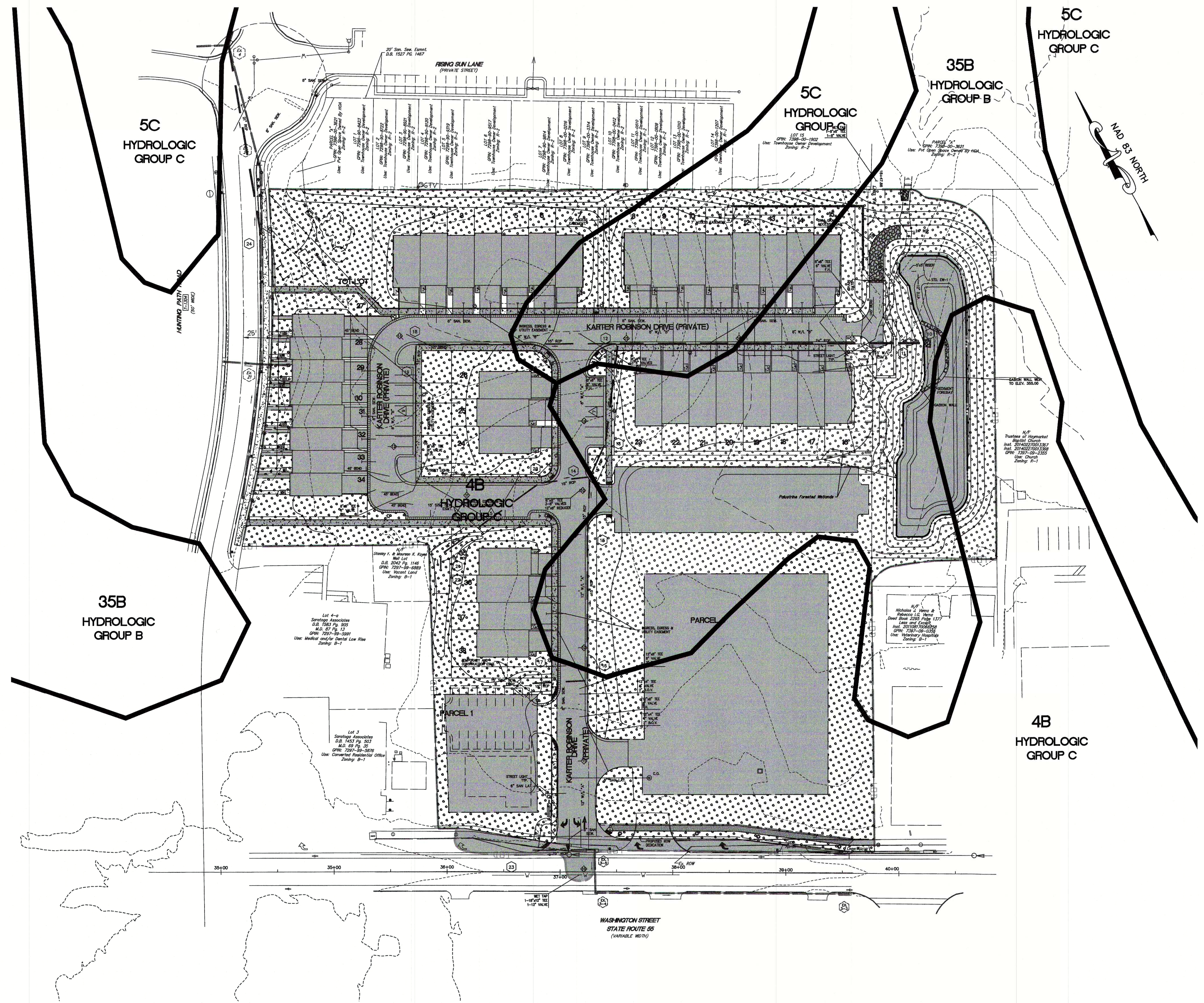
PHOTOMETRIC PLAN

REVISION

DATE BY

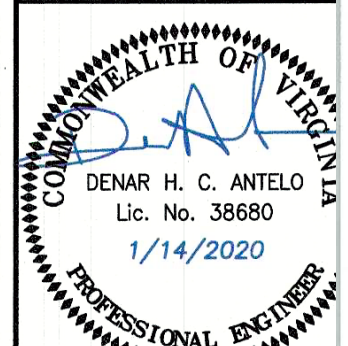
DES:	DWN:	CHK:
FW	MSL	RMM
FILE NO.:	SP #	
SHEET	C8.1	

LEGEND	
	LIMITS OF DISTURBANCE
	IMPERVIOUS COVER = 3.84 ACRES B-SOILS = 1.16 ACRES C-SOILS = 2.68 ACRES
	MANAGED TURF = 3.10 ACRES B-SOILS = 1.05 ACRES C-SOILS = 2.05 ACRES



**FOR INFORMATION ONLY
 PURPOSES ONLY !!!**

ENGINEERING GROUPE	PROJECT STATUS	DATE:	DEC, 2020
SCALE:	1"=50'	DESIGNER:	CF, SQ, MP
FILE NO.:	SP-393	DRAFTSMAN:	ZEP, DP, MP
DATE:	ACTION	SHEET:	21 OF 41



ROBINSON VILLAGE
 TOWN OF HAYMARKET, VIRGINIA

BMP MAP

The Engineering Groupe Inc.
 Engineers | Surveyors | Planners
 www.theengineeringgroupe.com
 Central Office: 13580 Groups Drive, Suite 200, Woodbridge, VA 22192
 West Office: 21001 Sycoran Road, Suite 200, Ashburn, VA 20147

DATE	BY	REVISION

DES:	DWN:	CHK:
FW	MSL	RMM
FILE NO.:	SP # 2049	
SHEET	C9.1	

KARTER SCHOOL
 TOWN OF HAYMARKET
 GAINESVILLE MAGISTERIAL DISTRICT
 PRINCE WILLIAM COUNTY, VIRGINIA
 SCALE: NO SCALE
 AUGUST 6, 2020

ROSS-FRANCE
 CIVIL ENGINEERING • LAND SURVEYING
 9417 INNOVATION DRIVE, MANASSAS, VA 20110
 (703) 361-4188
 rossfranceva.com

RUNOFF CURVE NUMBER (CN)

Prince William NOAA_C County, Virginia
Sub-Area Land Use and Curve Number Details

Sub-Area Identifier	Land Use	Hydrologic Soil Group	Sub-Area Area (ac)	Curve Number
PRE STUDY1	Open space; grass cover > 75%	(good)	2.287	61
	Open space; grass cover > 75%	(good)	4.025	74
	Paved parking lots, roofs, driveways	B	843	98
Total Area / Weighted Curve Number			7.116	73

SCS TIME OF CONCENTRATION (Tc)

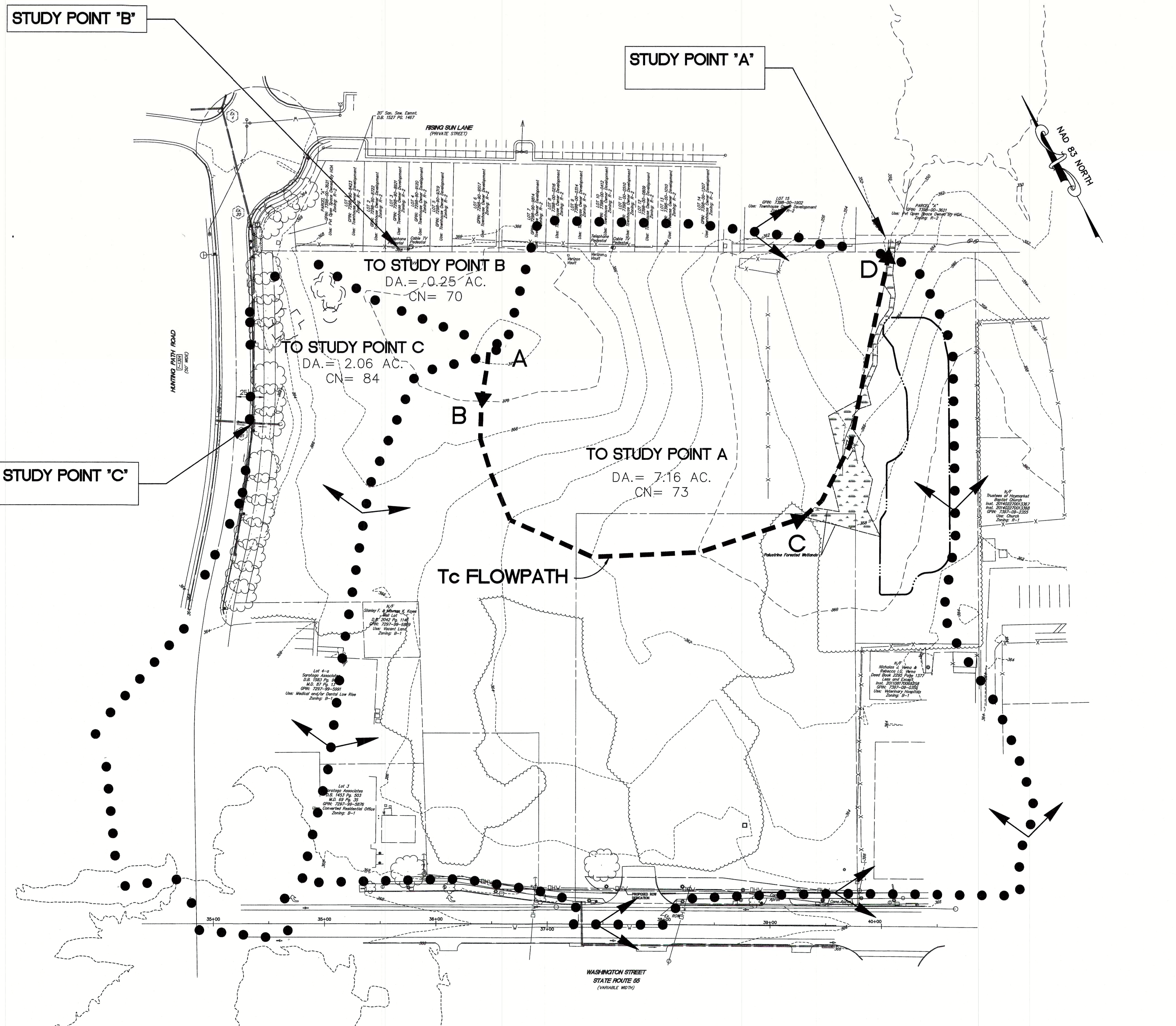
Prince William NOAA_C County, Virginia
Sub-Area Time of Concentration Details

Sub-Area Identifier	Flow Length (ft)	Slope (ft/ft)	Manning's n	Sub Area (sq ft)	Wetted Perimeter (ft)	Velocity (ft/sec)	Travel Time (hr)
PRE STUDY1 SHEET	55	0.0600	0.800				0.238
SHALLOW CHANNEL	385	0.0280	0.050			3.500	0.020
Time of Concentration							0.296

STUDY POINT 'B'

STUDY POINT 'A'

STUDY POINT 'C'



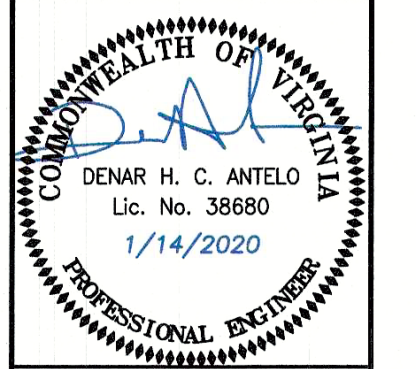
**FOR INFORMATION ONLY
PURPOSES ONLY !!!**

The Engineering Group Inc.
Engineers | Surveyors | Planners

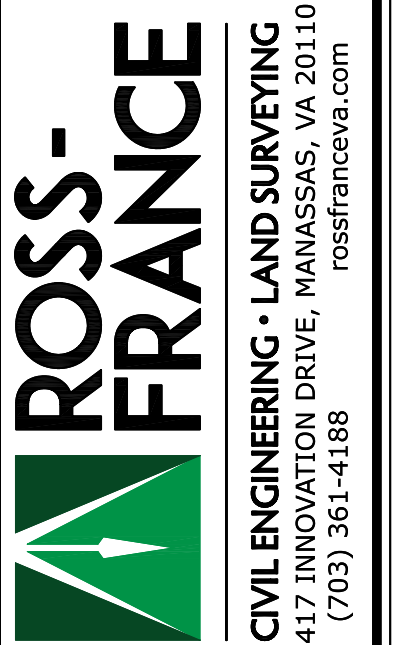
West Office: 21001 S. Lakeside Blvd., Suite 200, Ashburn, VA 20147
South Office: 10333 South Lakes Blvd., Suite 121, Fredericksburg, VA 22407
Central Office: 11850 C. Woodbridge, Suite 300, Woodbridge, VA 22192
PH: 703.670.0985

NO.	DATE	TOWN REVISIONS

PRE DEVELOPMENT DRAINAGE DIVIDES
ROBINSON VILLAGE
TOWN OF HAYMARKET, VIRGINIA



ENGINEERING GROUPE PROJECT STATUS	DATE: DEC, 2020
SCALE: 1"=50'	DESIGNER: CF, SQ, MP
12/14/20 REVISED SANITARY SEWER LAYOUT	DRAFTSMAN: ZEF, DP, MP
09/02/20 REVISED PER TOWN COMMENTS	FILE NO. SP-393
DATE ACTION	SHEET 22 OF 41



KARTER SCHOOL
TOWN OF HAYMARKET
GAINESVILLE MAGISTERIAL DISTRICT
PRINCE WILLIAM COUNTY, VIRGINIA
SCALE: NO SCALE
AUGUST 6, 2020

**PRE DEVELOPMENT
DRAINAGE DIVIDES**

DATE	BY	REVISION

DES:	DWN:	CHK:
FW	MSL	RMM
FILE NO.:	SP # 2049	
SHEET	C9.2	

RUNOFF CURVE NUMBER (CN)

Sub-Area Land Use and Curve Number Details

Sub-Area Identifier	Land Use	Hydrologic Soil Group	Sub-Area Area (ac)	Curve Number
SP.A.UNC.	Open space; grass cover > 75%	(good) B	.119	61
	Open space; grass cover > 75%	(good) C	.476	74
	Paved parking lots, roofs, driveways	B	.026	98
	Paved parking lots, roofs, driveways	C	.148	98
Total Area / Weighted Curve Number				.77 / 77
SP.A.POND	Open space; grass cover > 75%	(good) B	1.097	61
	Open space; grass cover > 75%	(good) C	2.32	74
	Paved parking lots, roofs, driveways	B	1.218	98
	Paved parking lots, roofs, driveways	C	2.338	98
Total Area / Weighted Curve Number				6.97 / 84

SCS Time of Concentration (Tc)

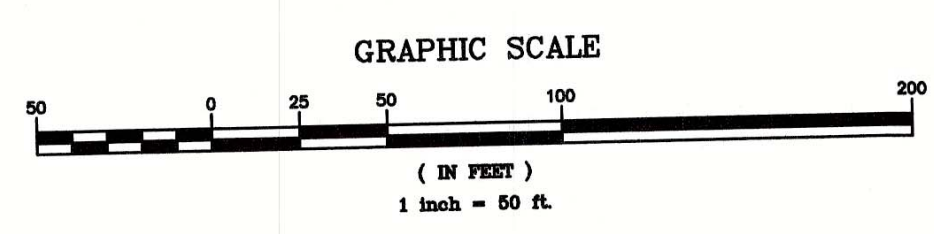
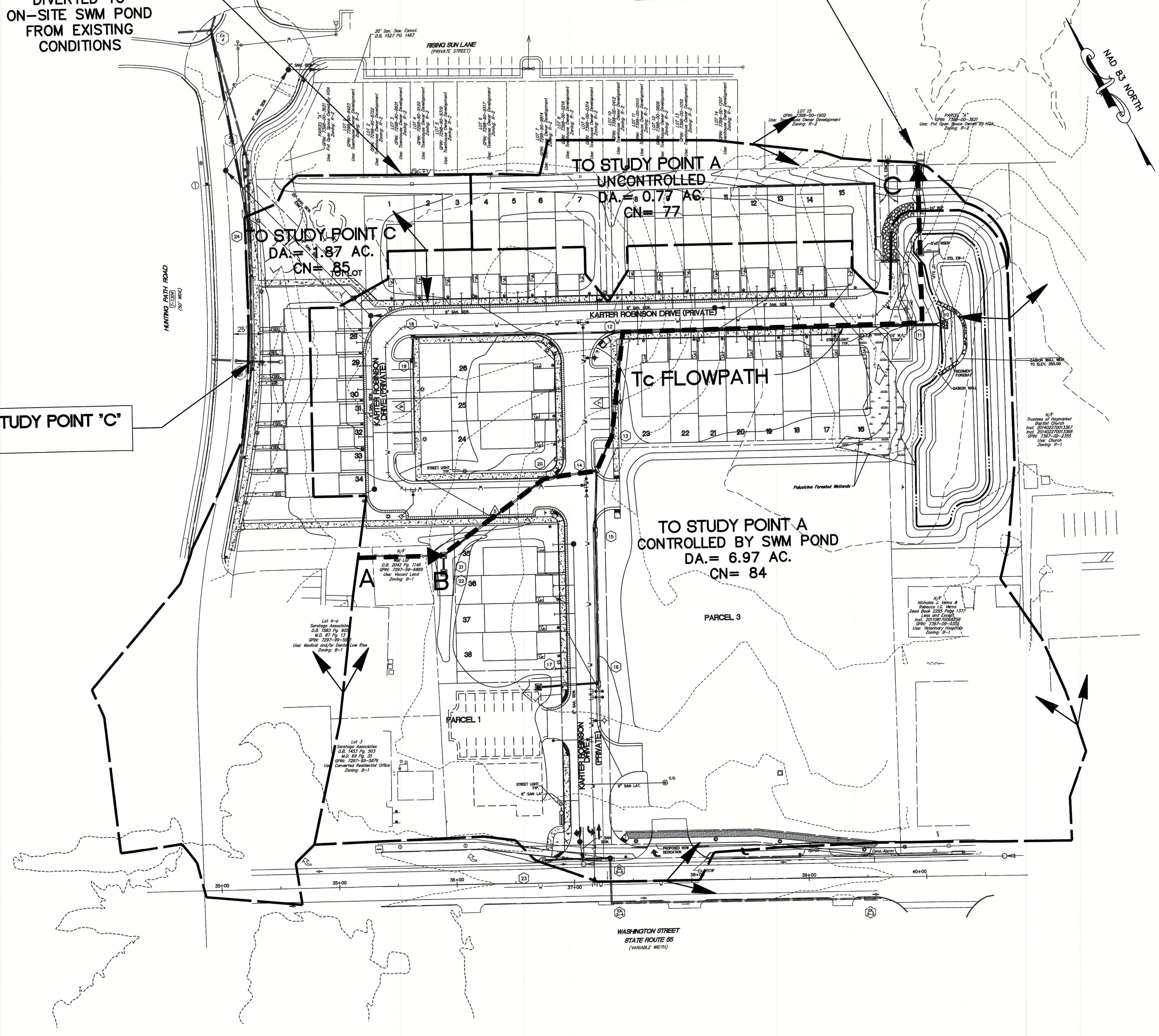
Prince William NOAA_C County, Virginia
Sub-Area Time of Concentration Details

Sub-Area Identifier/Channel	Flow Length (ft)	Slope (ft/ft)	Manning's n	End Area (sq ft)	Wetted Perimeter (ft)	Velocity (ft/sec)	Travel Time (hr)
POST DEV SHEET	71	0.0230	0.240			10.000	0.177
CHANNEL	731					0.020	0.020
Time of Concentration							.197

STUDY POINT 'B'
DA = 0.00 AC.
WATER HAS BEEN DIVERTED TO ON-SITE SWM POND FROM EXISTING CONDITIONS

STUDY POINT 'A'

STUDY POINT 'C'



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13380 Groupe Drive, Suite 200
Arlington, VA 22204
10333 Southpoint Landing Blvd, Suite 121
South Office
21001 Spoolin Road, Suite 200
Arlington, VA 22204

POST DEVELOPMENT DRAINAGE DIVIDES
ROBINSON VILLAGE
COUNTY OF FAYETTE COUNTY VIRGINIA

COMMERCIAL SEAL OF
DENAR H. C. ANTON
Lic. No. 38688
1/14/2020
PROFESSIONAL ENGINEER

DATE	BY	REVISION

ENGINEERING GROUPE PROJECT STATUS	DATE:	DEC, 20
	SCALE:	1" = 50'
	DESIGNER:	CFR
	DRAFTSMAN:	ZEP
12/14/20 REVISED SANITARY SEWER LAYOUT	FILE NO.:	SP-1
09/02/20 REVISED PER TOWN COMMENTS	SHEET:	23 OF
DATE	ACTION	

ROSS-FRANCE
CIVIL ENGINEERING • LAND SURVEYING
9417 INNOVATION DRIVE, MANASSAS, VA 20110
(703) 361-4188
rossfranceva.com

KARTER SCHOOL
TOWN OF HAYMARKET
GAINESVILLE MAGISTERIAL DISTRICT
PRINCE WILLIAM COUNTY, VIRGINIA
SCALE: NO SCALE
AUGUST 6, 2020

POST DEVELOPMENT DRAINAGE DIVIDES

DATE	BY	REVISION

DES:	DWN:	CHK:
FW	MSL	RMM
FILE NO.:	SP #	2049
SHEET	C9.3	

1-2- AND 10-YEAR POST DEVELOPMENT HEC-1 ROUTING: POND 1

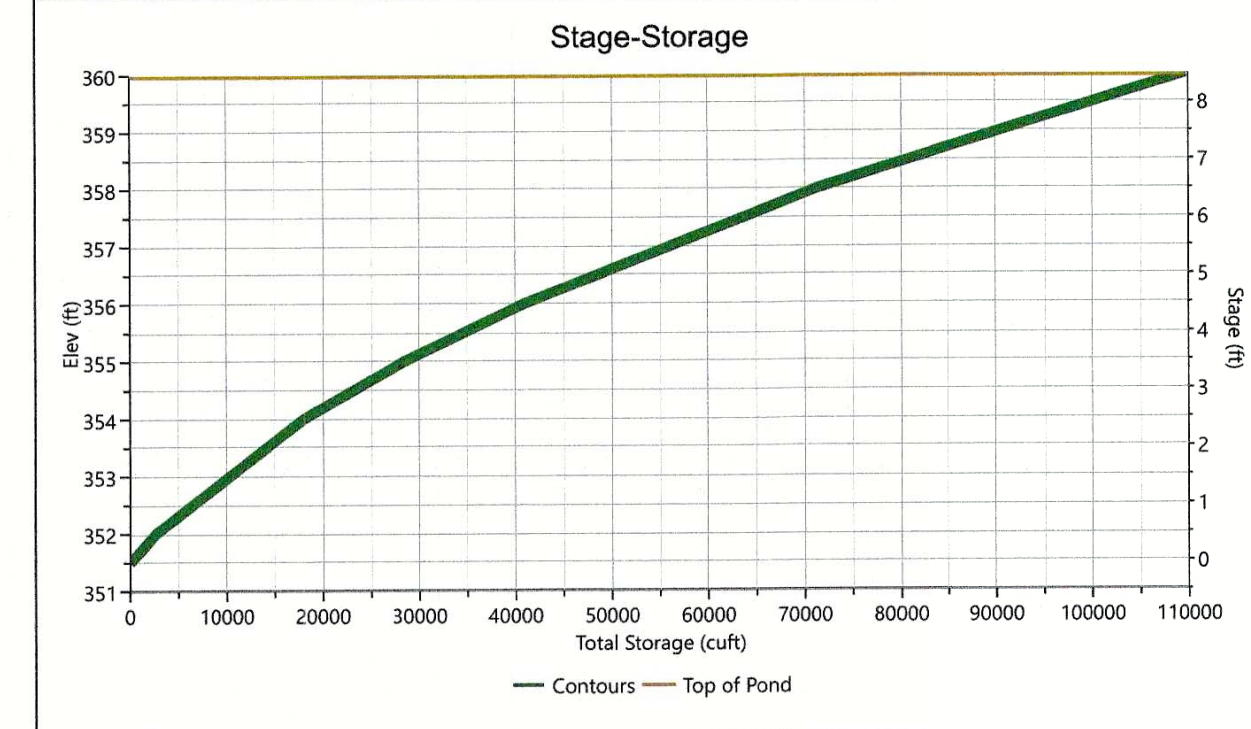
Pond Report

Hydrology Studio v 3.0.0.14

Project Name: 06-19-2020

Pond 1 Stage-Storage

Table with columns: User Defined Contours (Description, Input), Stage / Storage Table (Stage (ft), Elevation (ft), Contour Area (acft), Incr. Storage (cuft), Total Storage (cuft)).



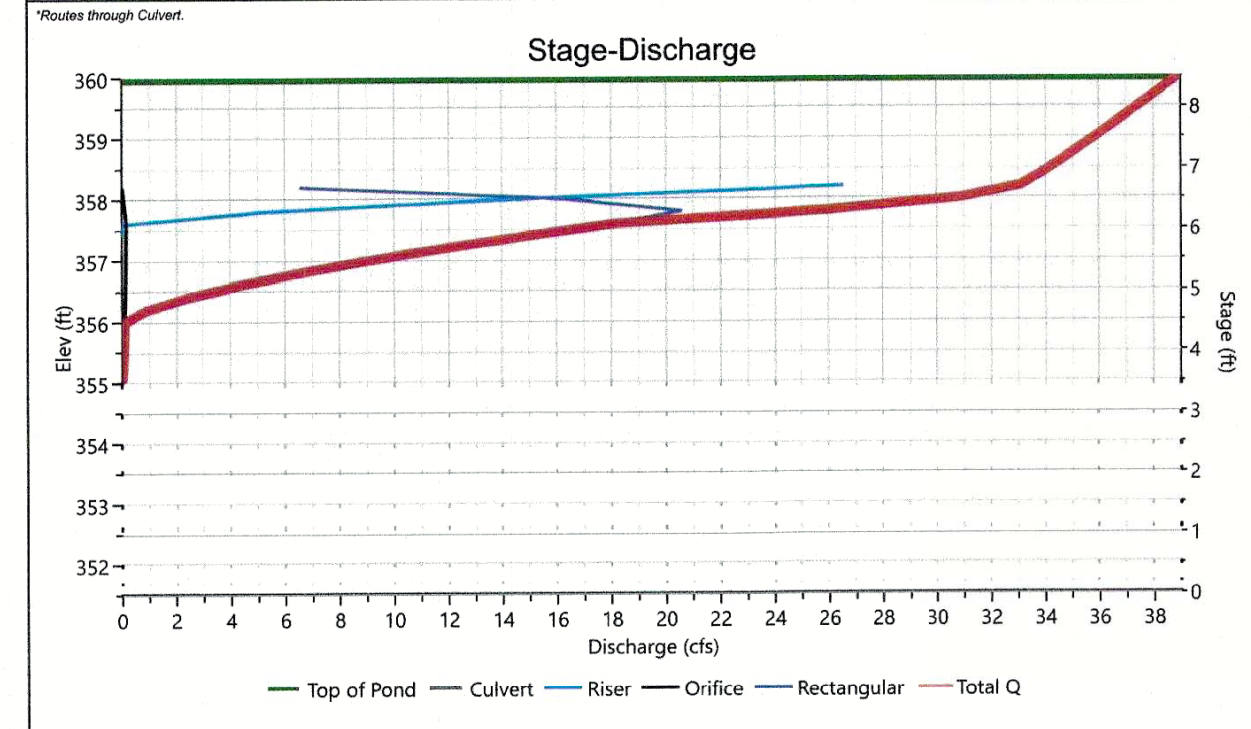
Pond Report

Hydrology Studio v 3.0.0.14

Project Name: 06-19-2020

Pond 1 Stage-Discharge

Table with columns: Culvert / Orifices (Culvert, Orifices, Orifice Plate), Weirs (Weirs, Ancillary).



Pond Report

Hydrology Studio v 3.0.0.14

Project Name: 06-19-2020

Pond 1 Stage-Storage-Discharge Summary

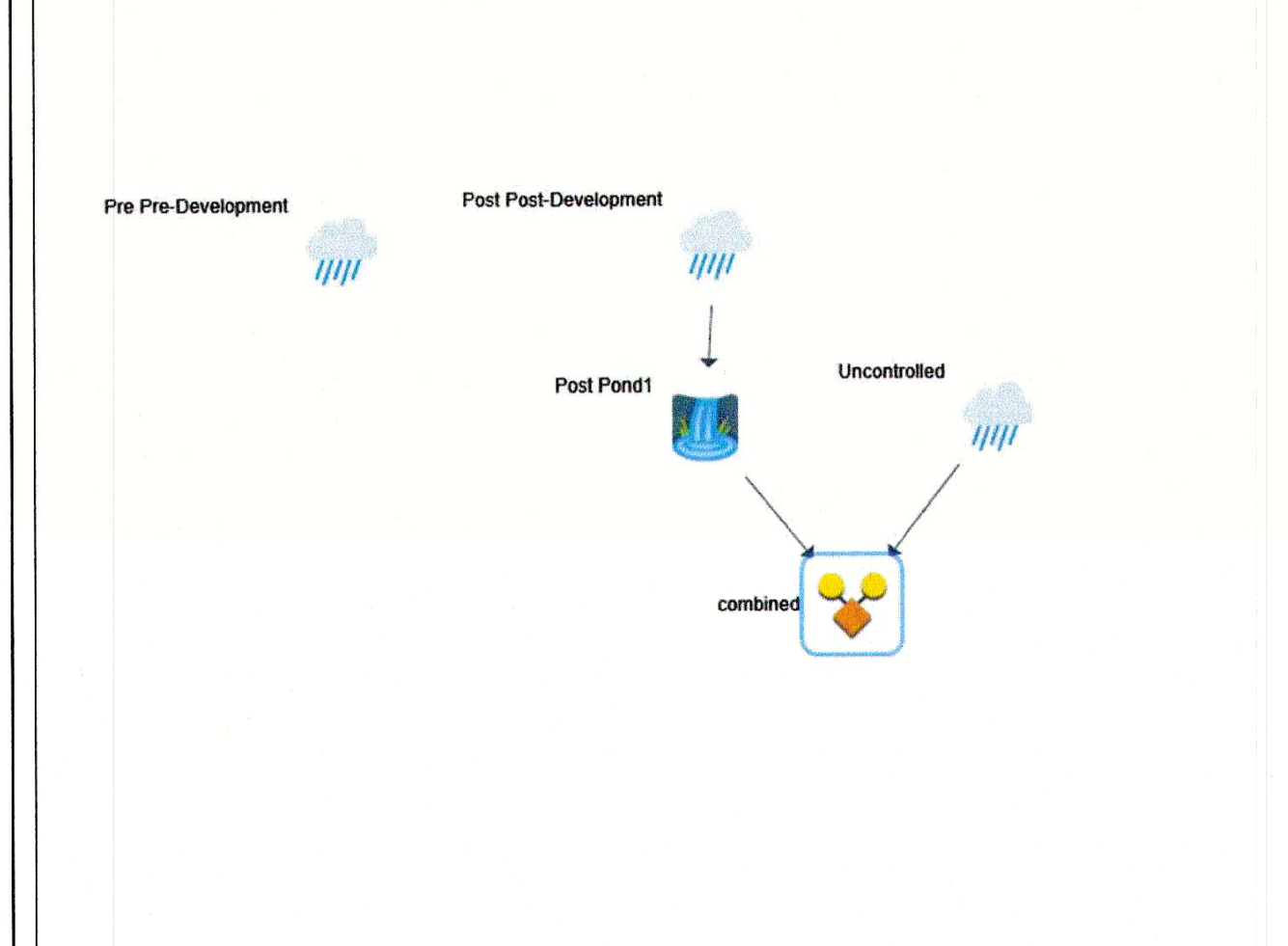
Summary table with columns: Stage (ft), Elev. (ft), Storage (cuft), Culvert (cfs), Orifices (cfs), Weirs (cfs), Riser (cfs), P/R Riser (cfs), Exfil (cfs), User (cfs), Total (cfs).

100-YEAR POST DEVELOPMENT HEC-1 ROUTING: POND 1

Basin Model

Hydrology Studio v 3.0.0.14

Project Name: 06-19-2020



Hydrograph by Return Period

Table with columns: Hyd. No., Hydrograph Type, Hydrograph Name, Peak Outflow (cfs) for 1-yr, 2-yr, 3-yr, 5-yr, 10-yr, 25-yr, 50-yr, 100-yr.

Hydrograph Report

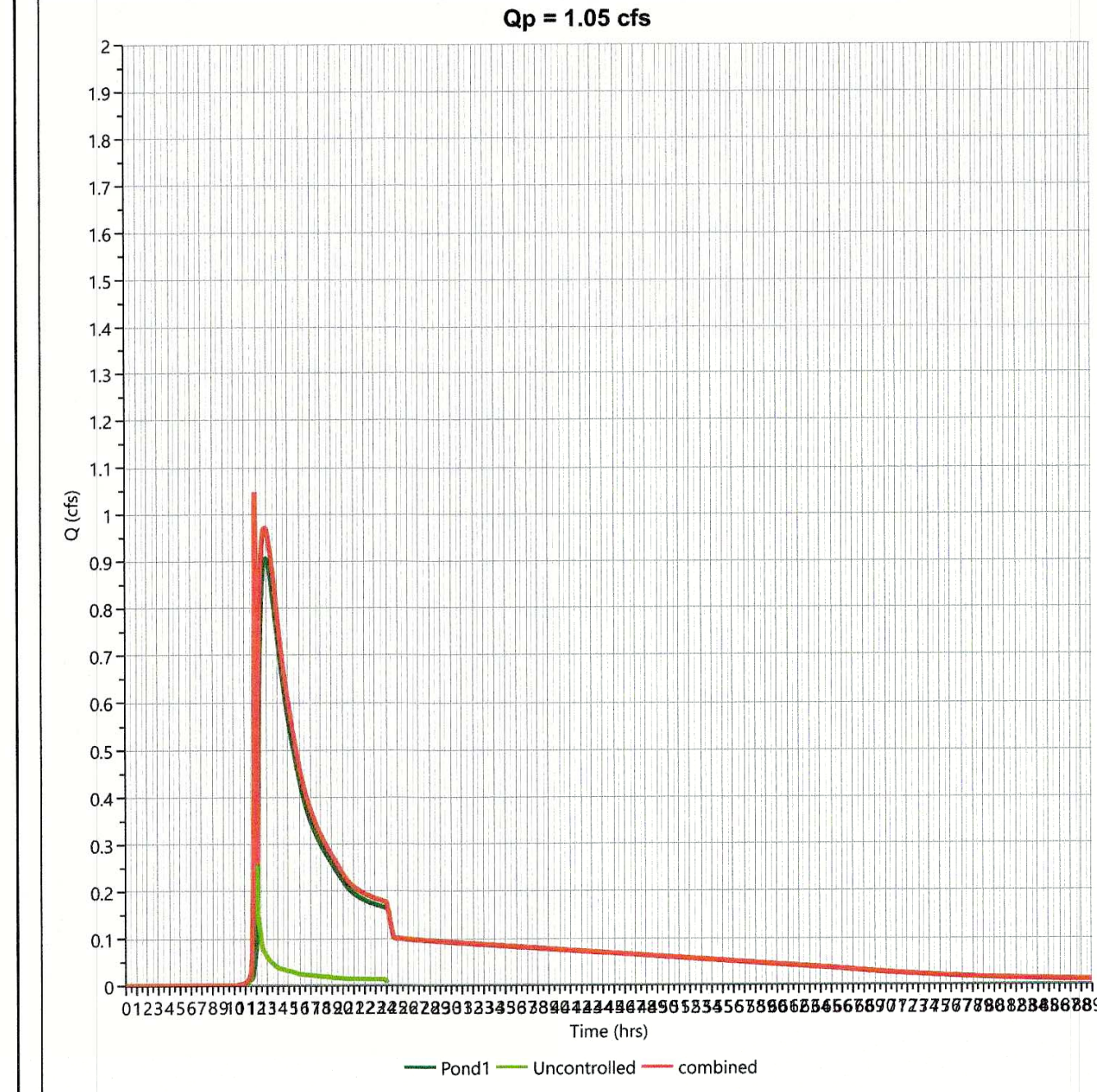
Hydrology Studio v 3.0.0.14

Project Name: 06-19-2020

combined

Hyd. No. 5

Table with columns: Hydrograph Type, Storm Frequency, Time Interval, Inflow Hydrographs, Peak Flow, Time to Peak, Hydrograph Volume, Total Contrib. Area.



Hydrograph 1-yr Summary

Hydrology Studio v 3.0.0.14

Project Name: 06-19-2020

Summary table with columns: Hyd. No., Hydrograph Type, Hydrograph Name, Peak Flow (cfs), Time to Peak (hrs), Hydrograph Volume (cuft), Inflow Hyd(s), Maximum Elevation (ft), Maximum Storage (cuft).

MAINTENANCE NOTES

Maintenance Inspections

- Maintenance of a wet pond is driven by annual inspections that evaluate the condition and performance of the pond, including the following:
- Measure sediment accumulation levels in the forebay.
- Monitor the growth of wetland plants, trees and shrubs planted.
- Inspect the condition of stormwater inlets to the pond for material damage, erosion or undercutting.
- Inspect the banks of upstream and downstream channels for evidence of sloughing, animal burrows, boggy areas, woody growth, or gully erosion that may undermine embankment integrity.
- Inspect the pond outfall channel for erosion, undercutting, rip-rap displacement, woody growth, etc.
- Inspect the condition of the principal spillway and riser for evidence of spalling, joint failure, leakage, corrosion, etc.
- Inspect the condition of all trash racks, reverse-sloped pipes, or flashboard risers for evidence of clogging, leakage, debris accumulation, etc.
- Inspect maintenance access to ensure it is free of woody vegetation, and check to see whether valves, manholes and locks can be opened and operated.
- Inspect internal and external side slopes of the pond for evidence of sparse vegetative cover, erosion, or slumping, and make needed repairs immediately.

Based on inspection results, specific maintenance tasks will be triggered. Example maintenance inspection checklists for Wet Ponds can be accessed in Appendix C of Chapter 9 of the Virginia Stormwater Management Handbook (2010).

Table 14.6. Typical Wet Pond Maintenance Tasks and Frequency

Table with columns: Maintenance Items, Frequency. Includes items like Remove debris and blockages, Repair undercut, eroded, and bare soil areas, Mowing embankment, etc.

Common Ongoing Maintenance Tasks

Maintenance is needed so stormwater ponds continue to operate as designed on a long-term basis. Routine stormwater pond maintenance, such as removing debris and trash, is needed several times each year (See Table 14.6). More significant maintenance (e.g., removing accumulated sediment) is needed less frequently but requires more skilled labor and special equipment.

The maintenance plan should clearly outline how vegetation in the pond and its buffer will be managed or harvested in the future. Periodic mowing of the stormwater buffer is only required along maintenance rights-of-way and the embankment. The remaining buffer can be managed as a meadow (mowing every other year) or forest. The maintenance plan should schedule a shoreline cleanup at least once a year to remove trash and floatables.

FOR INFORMATION ONLY PURPOSES ONLY !!!

Buoyancy Computations Rectangular Riser with Rectangular Base

Table for Buoyancy Computations with columns for Project, Smith Property, Top of Riser Elevation, Inside Length, Inside Width, Riser Wall Thickness, BMP Elevation, Culvert Invert, Base Depth, Base Length, Base Width, Avg. Soil Ht. over Base, Bouyant Soil Wt., Factor of Safety at Against Flotation, and Ballast Depth for FS=1.3.

Sediment Forebay Water Quality Volume (WQV) = (Imp Area x 1/4 in / 12in) (Imp. Area = 3.6 AC) Min. WQV = Imp. Area x 0.1 in =

Table for Sediment Forebay Volume with columns: Elevation, Area, Incremental Volume, Total Volume.

The Engineering Groupe Inc. logo and contact information for various offices.

Table with columns: NO., DATE, TOWN, REVISIONS.

ROBINSON VILLAGE TOWN OF HAYMARKET, VIRGINIA

Professional Engineer seal for DENAR H. C. ANTELO, Lic. No. 38680, 1/14/2020.

Table with columns: DATE, ACTION, SHEET 25 OF 41.

ROSS-FRANCE CIVIL ENGINEERING - LAND SURVEYING logo and address.

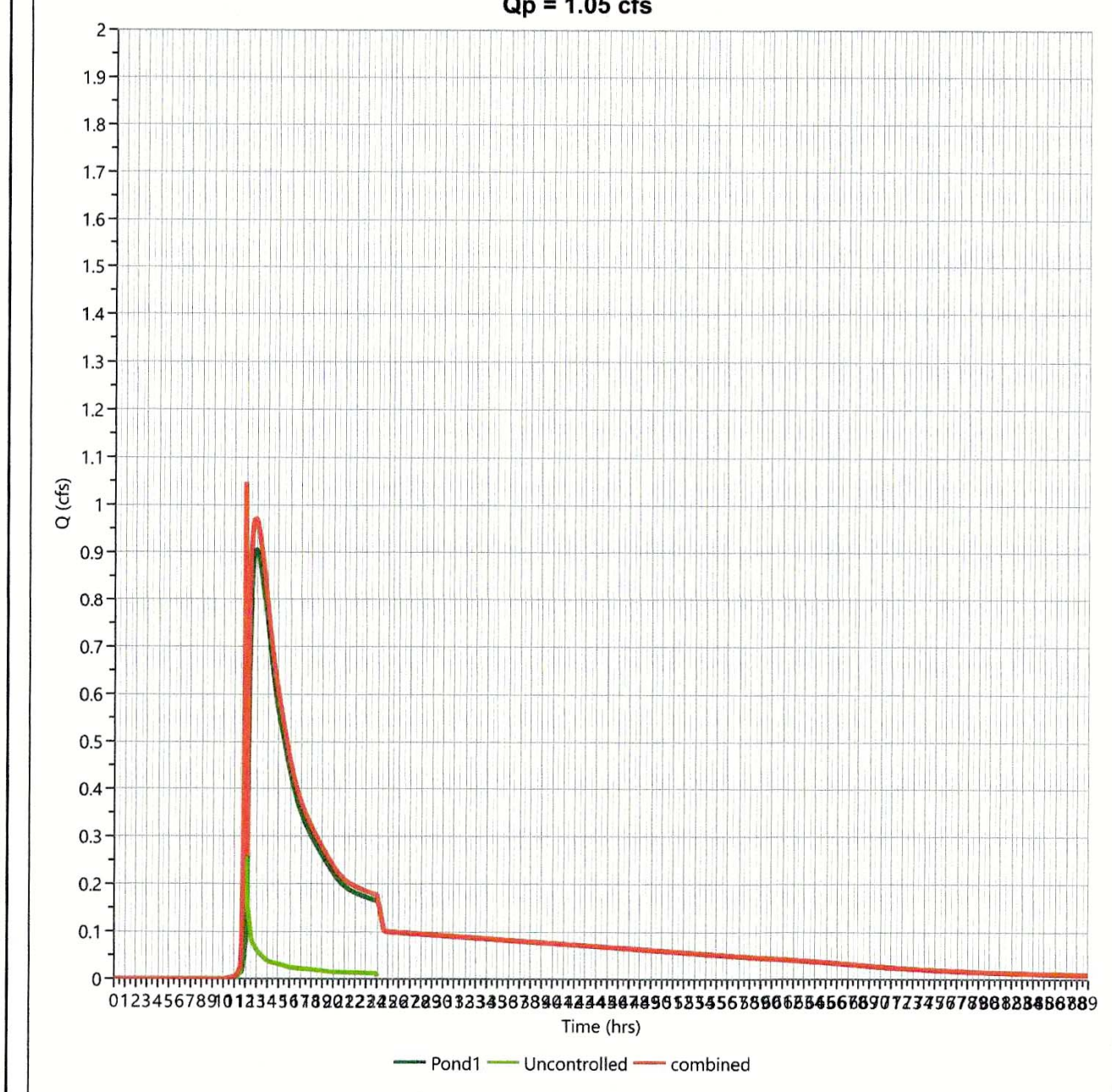
KARTER SCHOOL TOWN OF HAYMARKET, GAINESVILLE MAGISTRAL DISTRICT, PRINCE WILLIAM COUNTY, VIRGINIA

SWM COMPS & DETAILS

Table with columns: DATE, BY, REVISION, DES, DWN, CHK, FILE NO., SHEET 25 OF 41.

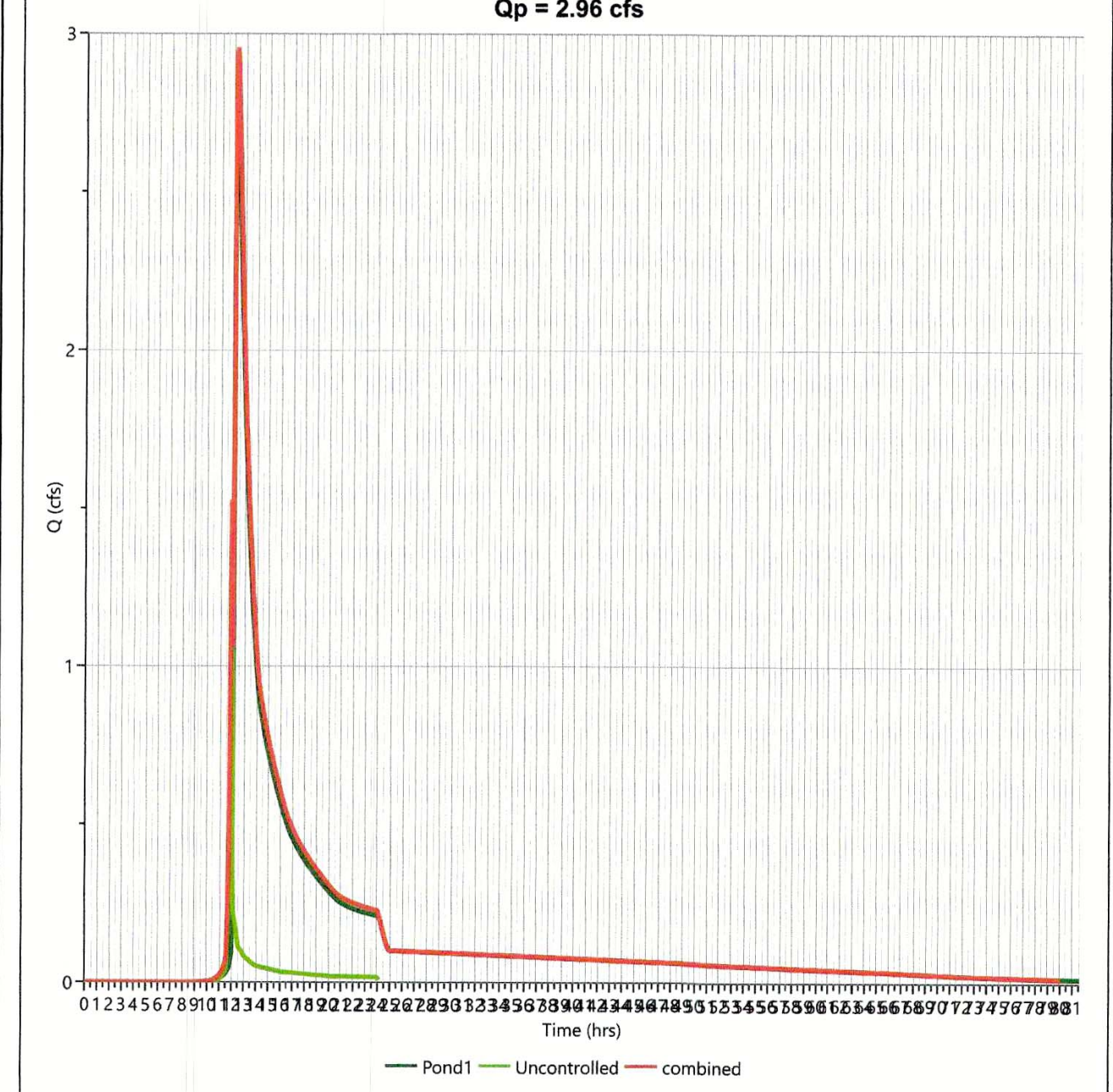
Hydrograph Report

Hydrology Studio v 3.0.0.14 Project Name: 06-19-2020
combined Hyd. No. 5
Hydrograph Type = Junction Peak Flow = 1.047 cfs
Storm Frequency = 1-yr Time to Peak = 11.97 hrs
Time Interval = 2 min Hydrograph Volume = 30,872 cuft
Inflow Hydrographs = 3, 4 Total Contrib. Area = 0.77 ac



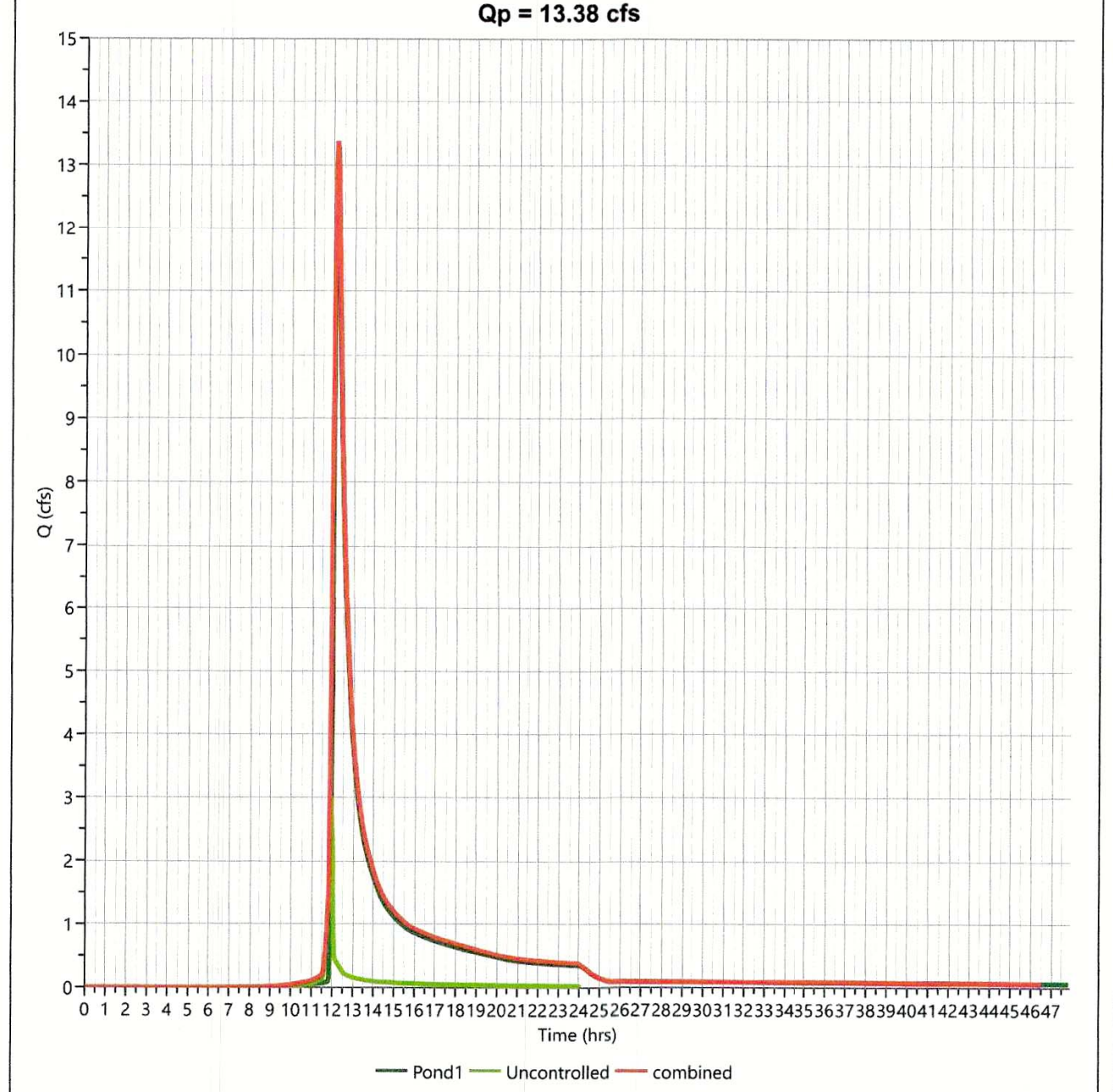
Hydrograph Report

Hydrology Studio v 3.0.0.14 Project Name: 06-19-2020
combined Hyd. No. 5
Hydrograph Type = Junction Peak Flow = 2.955 cfs
Storm Frequency = 2-yr Time to Peak = 12.30 hrs
Time Interval = 2 min Hydrograph Volume = 42,672 cuft
Inflow Hydrographs = 3, 4 Total Contrib. Area = 0.77 ac



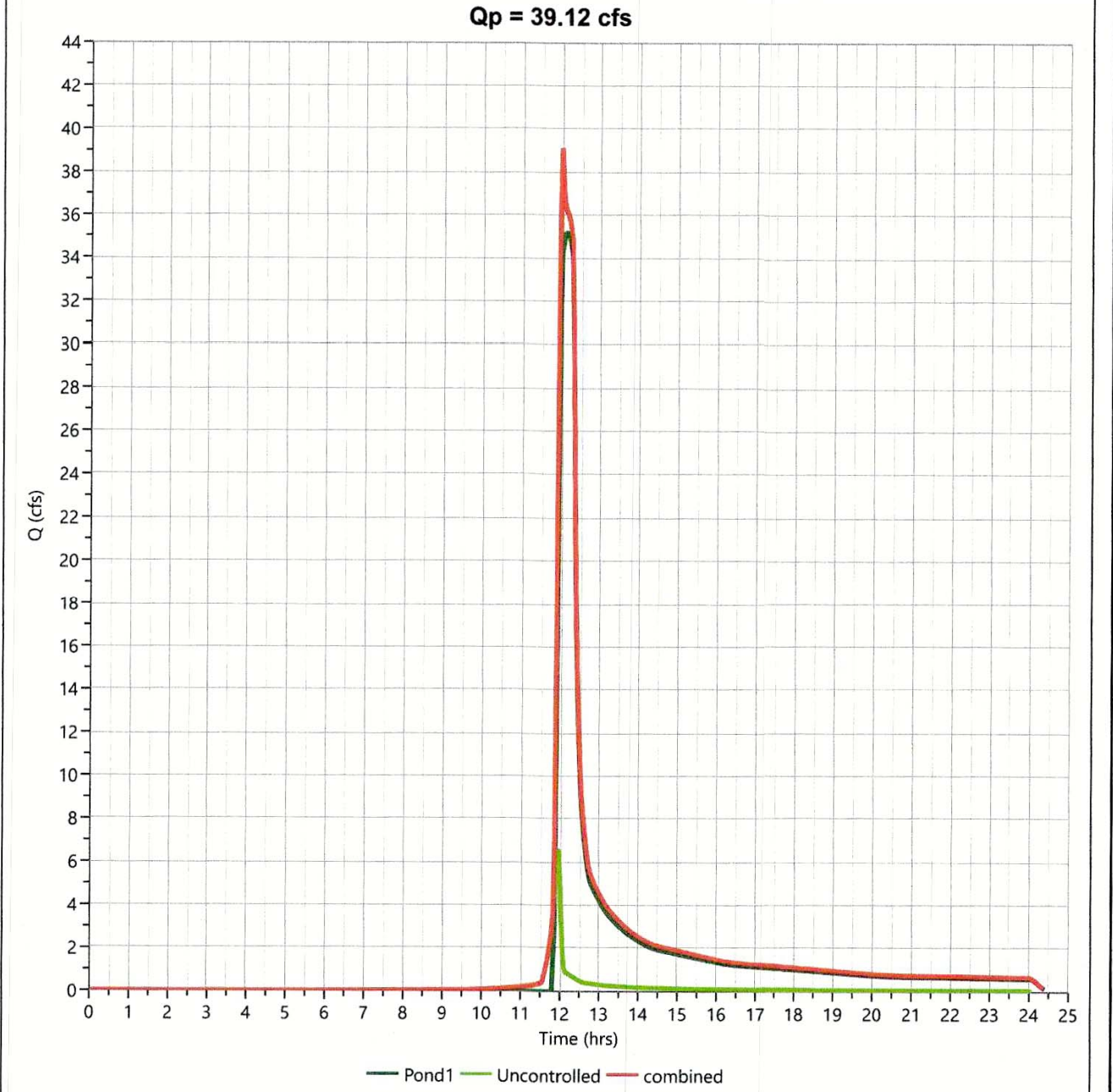
Hydrograph Report

Hydrology Studio v 3.0.0.14 Project Name: 06-19-2020
combined Hyd. No. 5
Hydrograph Type = Junction Peak Flow = 13.38 cfs
Storm Frequency = 10-yr Time to Peak = 12.17 hrs
Time Interval = 2 min Hydrograph Volume = 82,233 cuft
Inflow Hydrographs = 3, 4 Total Contrib. Area = 0.77 ac



Hydrograph Report

Hydrology Studio v 3.0.0.14 Project Name: 06-19-2020
combined Hyd. No. 5
Hydrograph Type = Junction Peak Flow = 39.12 cfs
Storm Frequency = 100-yr Time to Peak = 12.00 hrs
Time Interval = 2 min Hydrograph Volume = 133,565 cuft
Inflow Hydrographs = 3, 4 Total Contrib. Area = 0.77 ac



Hydrograph 1-yr Summary

Table with 10 columns: Hyd. No., Hydrograph Type, Hydrograph Name, Peak Flow (cfs), Time to Peak (hrs), Hydrograph Volume (cuft), Inflow Hyd(s), Maximum Elevation (ft), Maximum Storage (cuft). Rows include NRCS Runoff, Pond Route, and Junction.

Hydrograph 2-yr Summary

Table with 10 columns: Hyd. No., Hydrograph Type, Hydrograph Name, Peak Flow (cfs), Time to Peak (hrs), Hydrograph Volume (cuft), Inflow Hyd(s), Maximum Elevation (ft), Maximum Storage (cuft). Rows include NRCS Runoff, Pond Route, and Junction.

Hydrograph 10-yr Summary

Table with 10 columns: Hyd. No., Hydrograph Type, Hydrograph Name, Peak Flow (cfs), Time to Peak (hrs), Hydrograph Volume (cuft), Inflow Hyd(s), Maximum Elevation (ft), Maximum Storage (cuft). Rows include NRCS Runoff, Pond Route, and Junction.

Hydrograph 100-yr Summary

Table with 10 columns: Hyd. No., Hydrograph Type, Hydrograph Name, Peak Flow (cfs), Time to Peak (hrs), Hydrograph Volume (cuft), Inflow Hyd(s), Maximum Elevation (ft), Maximum Storage (cuft). Rows include NRCS Runoff, Pond Route, and Junction.

Table with 10 columns: STUDY POINT, PRE-DEV DRAINAGE AREA (ACRES), POST-DEV DRAINAGE AREA (ACRES), PRE-DEV CURVE NUMBER, POST-DEV CURVE NUMBER, STORM EVENT (YEAR), PRE-DEV FLOW (cfs), POST-DEV FLOW (cfs), POND DISCHARGE (cfs), WSE (ft), FREEBOARD PROVIDED (ft).

FOR INFORMATION ONLY PURPOSES ONLY !!!

STORMWATER MANAGEMENT NARRATIVE

PROJECT DESCRIPTION
THIS PROJECT CONSISTS OF THE CONSTRUCTION OF 38 TOWNHOMES AND ASSOCIATED INFRASTRUCTURE. ONE SWM/BMP FACILITY LOCATED AT N: 38.811803 E: -77.632274 WILL BE CONSTRUCTED TO PROVIDE WATER QUANTITY AND QUALITY MEASURES FOR THIS PROJECT.

WATER QUALITY ANALYSIS
FROM THE VRRM SPREADSHEET, A TOTAL PHOSPHORUS (TP) LOAD REDUCTION OF 6.98 LB/YR IS REQUIRED. A REDUCTION IN THE REQUIRED LOAD IS ACHIEVED THROUGH THE CONSTRUCTION ON AN ON-SITE SWM/BMP WET POND.

HYDROLOGIC ANALYSIS
THE PROJECT LOCATION IS WITHIN THE BULL RUN WATERSHED. THE SCS METHOD WAS USED TO COMPUTE PRE- AND POST-DEVELOPMENT PEAK DISCHARGES. THE RAINFALL DISTRIBUTION USED FOR THE HYDROLOGIC ANALYSIS WAS TYPE II, 24-HOUR, INCORPORATING TOWN OF HAYMARKET RAINFALL DEPTHS FOR 24-HOUR STORM EVENTS OBTAINED FROM NOAA ATLAS 14 PRECIPITATION ESTIMATES.

THE PRE-DEVELOPMENT DRAINAGE DIVIDES AND HYDROLOGIC COMPUTATIONS ARE SHOWN ON SHEET 22. THE POST-DEVELOPMENT DRAINAGE DIVIDES AND HYDROLOGIC COMPUTATIONS ARE SHOWN ON SHEET 23. THE SITE IS DIVIDED INTO THREE DRAINAGE AREAS IN THE POST DEVELOPMENT CONDITION.

WATER QUANTITY ANALYSIS
IN PRE-DEVELOPMENT CONDITIONS, THE SITE DRAINS AS FOLLOWS:

STUDY POINT A
STUDY POINT "A": THE RUNOFF IN THIS MAINLY DEVELOPED AREA WITH SOME WOODED SECTIONS IS UNCONTROLLED. RUNOFF FLOWS NATURALLY ACROSS THE SITE TO AN EXISTING DRAINAGE SWALE WHERE IT ENTERS SOME EXISTING WETLANDS PRIOR TO DISCHARGING ALONG THE EASTERN PORTION OF THE NORTHERN PROPERTY LINE.

STUDY POINT B
STUDY POINT "B": THE RUNOFF IN THIS DEVELOPED AREA IS UNCONTROLLED. THE RUNOFF IN THIS AREA CONSISTS OF SHEET FLOW WHICH DISCHARGES ALONG THE NORTHERN PROPERTY LINE. THE RUNOFF DOES NOT FORM A CONCENTRATED SWALE PRIOR TO LEAVING THE SITE.

STUDY POINT C
STUDY POINT "C": THE RUNOFF IN THIS DEVELOPED AREA IS UNCONTROLLED. THE RUNOFF IN THIS PRIMARILY WOODED AREA ON-SITE WITH OFF-SITE IMPERVIOUS AREA FROM EXISTING STRUCTURES. THE RUNOFF IN THIS AREA IS DIRECTED TO THE WEST OF THE PROPERTY. THE RUNOFF ENTERS THE STORM SEWER SYSTEM VIA A STORM SEWER INLET LOCATED IN HUNTING PATH ROAD.

IN POST-DEVELOPMENT CONDITIONS THE SITE DRAINS AS FOLLOWS:

STUDY POINT A
STUDY POINT "A": THE RUNOFF FROM THIS AREA IS COLLECTED BY A STORM SEWER SYSTEM ON-SITE AND CONVEYED TO THE SWM/BMP POND. AS SHOWN IN THE CHART BELOW, THE FLOW FOR DRAINAGE AREA A THE 1-YEAR 24-HOUR STORM EVENT MEETS THE ALLOWABLE RELEASE RATE OF THE ENERGY BALANCE EQUATION AT STUDY POINT A. THEREFORE, FURTHER ANALYSIS IS NOT REQUIRED.

STUDY POINT B
STUDY POINT "B": IN POST DEVELOPMENT THIS AREA HAS BEEN GRADED TO DIVERT WATER TO THE SWM/BMP POND. A BERM HAS BEEN DESIGNED ALONG THE PROPERTY LINE TO PREVENT WATER FROM LEAVING THE SITE AT THIS STUDY POINT. AS SHOWN IN THE CHART BELOW, THE 1-YEAR 24-HOUR STORM EVENT MEETS THE ALLOWABLE RELEASE RATE OF THE ENERGY BALANCE EQUATION AT STUDY POINT B DUE TO THE REDUCTION IN RUNOFF TO THIS STUDY POINT. THEREFORE, FURTHER ANALYSIS IS NOT REQUIRED.

STUDY POINT C
STUDY POINT "C": THE RUNOFF FROM THIS AREA IS DIRECTED TO THE STORM SEWER SYSTEM ALONG HUNTING PATH ROAD. THIS DRAINAGE AREA HAS BEEN REDUCED BY DIVERTING A PORTION OF THE DRAINAGE AREA TO THE SWM/BMP POND. AS SHOWN IN THE CHART BELOW, THE 1-YEAR 24-HOUR STORM EVENT MEETS THE ALLOWABLE RELEASE RATE OF THE ENERGY BALANCE EQUATION AT STUDY POINT C. THEREFORE, FURTHER ANALYSIS IS NOT REQUIRED.

CHANNEL PROTECTION
THE POST-DEVELOPMENT PEAK FLOW RATE FROM THE 2-YEAR STORM EVENT HAS BEEN REDUCED FROM THE PRE-DEVELOPMENT PEAK FLOW RATE AT OUTFALL POINTS A, B, AND C. FURTHERMORE, THE SITE'S CONTRIBUTING DRAINAGE AREA WAS TAKEN TO THE 1.0% OF THE TOTAL WATERSHED AT THE LIMITS OF ANALYSIS. SEE SHEETS 23A-23B. FURTHER ANALYSIS DOWNSTREAM IS NOT REQUIRED. THEREFORE, PER 9VAC25-870-66B.1, CHANNEL PROTECTION HAS BEEN SATISFIED.

FLOOD PROTECTION
THE POST-DEVELOPMENT PEAK FLOW RATE FROM THE 10-YEAR STORM EVENT HAS BEEN REDUCED FROM THE PRE-DEVELOPMENT PEAK FLOW RATE AT OUTFALL POINTS A, B, C TO REDUCE THE LOCALIZED FLOODING THAT THIS SITE EXPERIENCES. FURTHERMORE, THE SITE'S CONTRIBUTING DRAINAGE AREA WAS TAKEN TO THE 1.0% OF THE TOTAL WATERSHED AT THE LIMITS OF ANALYSIS. SEE SHEETS 23A-23B. FURTHER ANALYSIS DOWNSTREAM IS NOT REQUIRED. THEREFORE, PER 9VAC25-870-66C.1, FLOOD PROTECTION AND VSCE REGULATION MS-19 HAVE BEEN SATISFIED.

ENERGY BALANCE EQUATION RESULTS table with columns: STUDY POINT, STORM EVENT, PRE-DEV DRAINAGE AREA (ac), PRE-DEV RV (ft), PRE-DEV ON, PRE-DEV FLOW (cfs), POST-DEV DRAINAGE AREA (ac), POST-DEV ON, POST-DEV RV (ft), POST-DEV FLOW (cfs), POST-DEV ALLOWABLE FLOW (cfs), ENERGY BALANCE EQUATION SATISFIED.

* BASED ON THE ENERGY BALANCE EQUATION: Qp = 1.48 * (RA)^0.78 * (RV)^0.78 * (ON)^0.78
** IMPROVEMENT FACTOR WAS ONLY APPLIED TO ON-SITE AREA

The Engineering Group Inc.
www.engrgrp.com
13380 Greater Dence Suite 200 Woodbridge, VA 22192
10333 Southpark Landing Blvd, Suite 121 Fredericksburg, VA 22407

Table with 2 columns: NO., DATE, TOWN REVISIONS.

ROBINSON VILLAGE
TOWN OF HAYMARKET, VIRGINIA

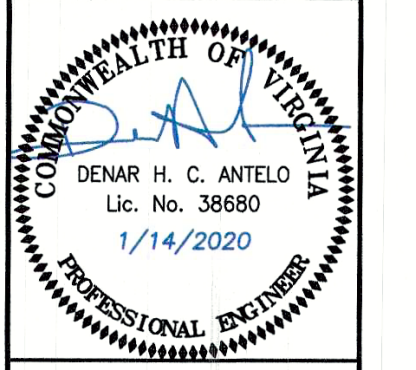
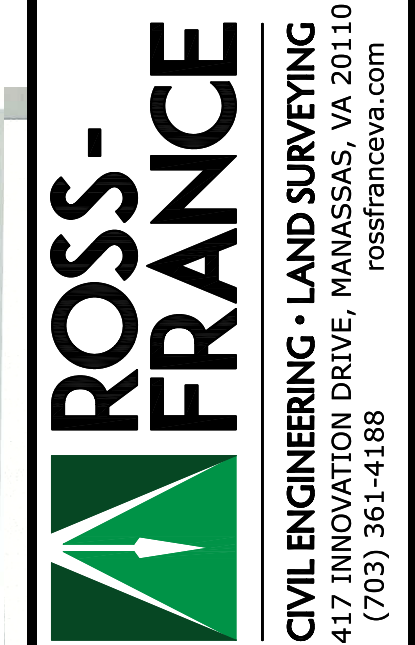


Table with 2 columns: ENGINEERING GROUPE PROJECT STATUS, DATE: DEC, 2020. Includes scale, designer, and sheet information.



KARTER SCHOOL
TOWN OF HAYMARKET
GAINESVILLE MAGISTERIAL DISTRICT
PRINCE WILLIAM COUNTY, VIRGINIA

SWM COMPS & DETAILS

Table with 3 columns: DATE, BY, REVISION. Includes drawing information like DES: FW, DWN: MSL, CHK: RMM.

DEQ Virginia Runoff Reduction Method New Development Compliance Spreadsheet - Version 3.0

2011 BMP Standards and Specifications | 2013 Draft BMP Standards and Specifications
Project Name: Robinson Village
Date: 7/6/2020
BMP Design Specifications List: 2013 Draft Stds & Specs

Site Information
Land Cover (acres)
Forest/Open Space (acres)
Managed Turf (acres)
Impervious Cover (acres)

Constants
Annual Rainfall (inches)
Target Rainfall Event (inches)
Total Phosphorus (TP) EMC (mg/L)
Total Nitrogen (TN) EMC (mg/L)
Target TP Load (lb/acre/yr)
Pj (unitless correction factor)

Runoff Coefficients (Rv)
Forest/Open Space
Managed Turf
Impervious Cover

TP Load Reduction Required (lb/yr) | 6.98

LAND COVER SUMMARY -- POST DEVELOPMENT
Land Cover Summary
Treatment Volume and Nutrient Loads

Site Results (Water Quality Compliance)
Area Checks
Forest/Open Space
Impervious Cover
Managed Turf Area
Managed Turf Area Treated

Site Treatment Volume (ft³)
Runoff Reduction Volume and TP By Drainage Area
Nitrogen Load Reduction Achieved
Total Phosphorus
Total Nitrogen (For Information Purposes)

Drainage Area A
Drainage Area A Land Cover (acres)
Forest/Open Space
Managed Turf
Impervious Cover

Stormwater Best Management Practices (RR = Runoff Reduction)
Practice
Runoff Reduction Credit (%)
Managed Turf Credit Area (acres)

TOTAL IMPERVIOUS COVER TREATED (ac) 3.60 AREA CHECK: OK
TOTAL MANAGED TURF AREA TREATED (ac) 2.51 AREA CHECK: OK

TOTAL PHOSPHORUS REMOVAL REQUIRED ON SITE (lb/yr) 6.98
TOTAL PHOSPHORUS AVAILABLE FOR REMOVAL IN D.A. A (lb/yr) 9.01
TOTAL PHOSPHORUS REMOVED WITHOUT RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr) 4.50

SEE WATER QUALITY COMPLIANCE TAB FOR SITE COMPLIANCE CALCULATIONS

NITROGEN REMOVED WITH RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr) 0.00
NITROGEN REMOVED WITHOUT RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr) 19.32
TOTAL NITROGEN REMOVED IN D.A. A (lb/yr) 19.32

Runoff Volume and Curve Number Calculations

Enter design storm rainfall depths (in):
1-year storm 2-year storm 10-year storm
2.55 3.09 4.76

*Notes (see below):
[1] The curve numbers and runoff volumes computed in this spreadsheet for each drainage area are limited in their applicability for determining and demonstrating compliance with water quantity requirements.
[2] Runoff Volume (RV) for pre- and post-development drainage areas must be in volumetric units (e.g., acre-feet or cubic feet) when using the Energy Balance Equation.

Drainage Area Curve Numbers and Runoff Depths*

Drainage Area A
Area (acres)
A Soils B Soils C Soils D Soils
Forest/Open Space
Managed Turf
Impervious Cover

BMP LOAD REQUIREMENTS

TOTAL SITE AREA= 6.94 ACRES
LOAD REDUCTION REQUIRED= 6.98 LB/YR
WET POND REMOVAL= 4.50 LB/YR
CREDITS FOR PURCHASE= 2.48 LB/YR

PARCEL 1
TOTAL AREA= 0.32 ACRES
LOAD REDUCTION REQUIRED= 0.35 LB/YR
WET POND REMOVAL= 0.24 LB/YR
CREDITS FOR PURCHASE= 0.11 LB/YR

PARCEL 2
TOTAL AREA= 4.66 ACRES
LOAD REDUCTION REQUIRED= 4.64 LB/YR
WET POND REMOVAL= 2.86 LB/YR
CREDITS FOR PURCHASE= 1.78 LB/YR

PARCEL 3
TOTAL AREA= 1.96 ACRES
LOAD REDUCTION REQUIRED= 1.99 LB/YR
WET POND REMOVAL= 1.40 LB/YR
CREDITS FOR PURCHASE= 0.59 LB/YR

Stormwater Best Management Practices (RR = Runoff Reduction)
Practice
Runoff Reduction Credit (%)
Managed Turf Credit Area (acres)

DEQ Virginia Runoff Reduction Method New Development Compliance Spreadsheet - Version 3.0

BMP Design Specifications List: 2013 Draft Stds & Specs
Site Summary
Project Title: Upland Village
Date: 4/00/20

Site Land Cover Summary
A Soils B Soils C Soils D Soils Totals % of Total
Forest/Open (acres)
Managed Turf (acres)
Impervious Cover (acres)

Site Tv and Land Cover Nutrient Loads
Site Rv
Treatment Volume (ft³)
TP Load (lb/yr)
TN Load (lb/yr)

Site Compliance Summary
Total Runoff Volume Reduction (ft³)
Total TP Load Reduction Achieved (lb/yr)
Total TN Load Reduction Achieved (lb/yr)

Drainage Area Summary
D.A. A D.A. B D.A. C D.A. D D.A. E Total
Forest/Open (acres)
Managed Turf (acres)
Impervious Cover (acres)
Total Area (acres)

Drainage Area Compliance Summary
D.A. A D.A. B D.A. C D.A. D D.A. E Total
TP Load Reduced (lb/yr)
TN Load Reduced (lb/yr)

Drainage Area A Summary
Land Cover Summary
Forest/Open (acres)
Managed Turf (acres)
Impervious Cover (acres)

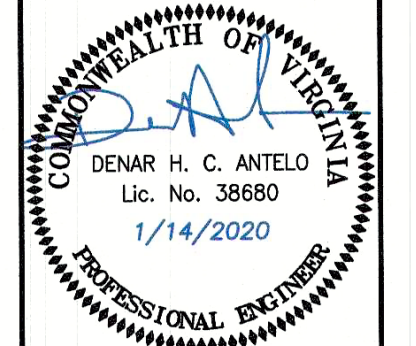
BMP Selections
Practice
Managed Turf Credit Area (acres)
Impervious Cover Credit Area (acres)
BMP Treatment Volume (ft³)
TP Load from Upstream Practices (lbs)

Runoff Volume and CN Calculations

Target Rainfall Event (in)
1-year storm 2-year storm 10-year storm
2.55 3.09 4.76
Drainage Areas
RV & CN
Drainage Area A Drainage Area B Drainage Area C Drainage Area D Drainage Area E

FOR INFORMATION ONLY
PURPOSES ONLY !!!

ENGINEERING GROUPE PROJECT STATUS
DATE: DEC, 2020
SCALE: N/A
DESIGNER: CF, SO, MP
DRAFTSMAN: ZEF, DP, MP



ROBINSON VILLAGE
TOWN OF HAYMARKET, VIRGINIA

TOWN REVISIONS
NO. DATE

The Engineering Groupe Inc.
Engineers | Surveyors | Planners
West Office
2001 Spotswood Road, Suite 200
Woodbridge, VA 22192
PH: 703.670.0285



KARTER SCHOOL
TOWN OF HAYMARKET
GAINESVILLE MAGISTERIAL DISTRICT
PRINCE WILLIAM COUNTY, VIRGINIA

VRRM COMPUTATIONS
ROBINSON VILLAGE
TOWN OF HAYMARKET, VIRGINIA

REVISION
DATE BY
12/14/20 REVISED SANITARY SEWER LAYOUT
08/02/20 REVISED PER TOWN COMMENTS

DETENTION, RETENTION, and IMPOUNDMENT BMPs APPENDIX 3B

Design and Plan Review Checklist Page 1 of 7

Applicant: VAN METRE HOMES AT UPLAND VILLAGE Phone No.: (703) 425-2614
Designer: THE ENGINEERING GROUPE, INC. Phone No.: (703) 670-0985
Project Name: ROBINSON VILLAGE
Location: 6701 HUNTING PATH ROAD
Type of Facility and Identification No.: SWM/BMP WET POND #1

Plan status: approved, not approved
Legend: I - Complete, Inc. - Incomplete/Incorrect, N/A - Not Applicable

I. SUPPORTING DATA

- Narrative describing stormwater management strategy including all assumptions made in the design.
A. Drainage Area Map
B. Soils Investigation

3B - 1

DETENTION, RETENTION, and IMPOUNDMENT BMPs APPENDIX 3B

Design and Plan Review Checklist Page 3 of 7

- D. Water Quality
Impervious cover tabulation
Technology-based criteria: proper selection of BMP based on impervious cover
Performance-based criteria: pre- and post-developed pollutant load and pollutant removal requirement calculations (provide worksheets)

III. PLAN REQUIREMENTS

- A. General Items
Plan view drawn at 1"=50' or less (40', 30', etc.)
North arrow
Legend
Location plan and vicinity map
Property lines
Existing & proposed contours (2' contour interval min.)

3B - 3

DETENTION, RETENTION, and IMPOUNDMENT BMPs APPENDIX 3B

Design and Plan Review Checklist Page 5 of 7

C. BMP - Section Views & Related Details

- 1. Embankment (or dam) and Ponding Areas
Elevations of permanent pool, water quality volume and max. design water surface elevations for all appropriate design storms and safety storms
Top of dam elevations- constructed height and settled height (10% settlement)
Adequate freeboard
Top width labeled
Elevation of crest of emergency spillway
Emergency spillway w/ side slopes labeled
Emergency spillway inlet, level, and outlet sections labeled
Existing ground and proposed improvements profile along center line of embankment
Existing ground and proposed improvements profile along center line of principal spillway
Typical grading section through pond including typical side slopes with aquatic bench, safety ledge, shoreline protection, etc.
Existing ground and proposed improvements along center line of emergency spillway
Dimensions of zones for zoned embankment

3B - 5

DETENTION, RETENTION, and IMPOUNDMENT BMPs APPENDIX 3B

Design and Plan Review Checklist Page 7 of 7

COMMENTS

BY: CHRISTOPHER FERRARA DATE: 6/26/20

3B - 7

DETENTION, RETENTION, and IMPOUNDMENT BMPs APPENDIX 3B

Design and Plan Review Checklist Page 2 of 7

II. COMPUTATIONS

- A. Hydrology
Runoff curve number determinations: pre- and post-developed conditions, with worksheets.
Time of concentration: pre- and post-developed conditions, with worksheets.
Hydrograph generation: pre- and post-developed condition for appropriate design and safety storms (SCS methods or modified rational-critical storm duration method)
B. Hydraulics
Specify assumptions and coefficients used.
Stage-storage table and curve
Riser structure and barrel
Weir/orifice control analysis for riser structure discharge openings
Weir/orifice control analysis for riser crest
Barrel: inlet/outlet control analysis
Riser/Outlet Structure flotation analysis (factor of safety = 1.25 min.)
Anti-seep collar or filter diaphragm design.
Outlet protection per VESCH Std. & Spec. 3.18.
Provisions for use as a temporary sediment basin riser with clean out schedule & instructions for conversion to a permanent facility.
Emergency spillway adequacy/capacity analysis with required embankment freeboard.
Stage - discharge table and curve (provide equations & cite references).
Storm drainage & hydraulic grade line calculations.
Reservoir routing of post-development hydrographs for appropriate design storms (2-yr., 10-yr., or as required by watershed conditions) & safety storms (100-yr. or as required).
C. Downstream impacts
Danger reach study.
100 year floodplain impacts.
"Adequate channel" calculations for receiving channel
Provide downstream hydrographs at critical study points.
Storm drainage plans for site areas not draining to BMP
Safe conveyance - MS-19
Areas compensated for in water quality performance-based criteria calculations

3B - 2

DETENTION, RETENTION, and IMPOUNDMENT BMPs APPENDIX 3B

Design and Plan Review Checklist Page 4 of 7

- B. BMP Plan Views
Dimensions of basin features: perm. Pool, sediment forebay, embankment, etc.
Location of all conveyance system outfalls into basin
Proper orientation to avoid short circuiting
Outlet protection per VE&SCH
Top of bank & basin bottom elevations
Elevations of permanent pool, water quality volume and max. design water surface elevations for all appropriate design storms and safety storms
Side slope (H:V) of basin storage area and embankment (upstream and downstream slopes)
Proper length-to-width ratio as specified in BMP design criteria
Pervious low flow channel
Sediment forebay
Basin bottom slope
Maintenance access to sediment forebay, riser structure, and one side of the basin ponding area
Peripheral ledge for safety
Aquatic Bench
Shoreline protection
Safety fence
Riser and barrel materials and dimensions labeled
Constructed stormwater wetland / shallow marsh
Basin liner specifications
Pool depth zones identified on plan
Pool geometry - wet/dry weather flow path

3B - 4

DETENTION, RETENTION, and IMPOUNDMENT BMPs APPENDIX 3B

Design and Plan Review Checklist Page 6 of 7

- 4. Multi Stage Riser and Barrel System
Materials labeled
Bedding or cradle details provided
Gauge & corrugation size for metal pipes specified
Barrel diameter, inverts, and slope (%) labeled
Outlet protection per VESCH Std. & Spec. 3.18, 3.19 w/ filter cloth underlayment
Crest elevation of riser structure shown
Inverts and dimensions of control release orifices/weirs shown
Structure dimensions shown
Control orifice/weir dimensions shown
Extended detention orifice protection (detail required for construction)
Riser trash rack or screen (detail reqd., for construction).
Riser anti-vortex device (detail reqd., for construction).
Proper riser structure footing.
Access to riser structure interior for maintenance.
Basin drain pipe
D. Landscape Plan
Planting schedule and specifications (transport / storage / installation / maintenance)
Plant selection for planting zones 1 thru 6
Preservation measures for existing vegetation
Top soil / planting soil included in final grading
E. Maintenance Items
Person or organization responsible for maintenance.
Maintenance narrative which describes the long-term maintenance requirements of the facility and all components.
Facility access from public R/W or roadway.
Maintenance easement.

3B - 6

FOR INFORMATION ONLY PURPOSES ONLY !!!

The Engineering Groupe Inc. Engineers | Surveyors | Planners
West Office: 21001 Sycamore Road, Suite 200, Ashburn, VA 20147
Central Office: 10333 Southpoint Landing Blvd, Suite 121, Fredericksburg, VA 22407

Table with columns: NO., DATE, TOWN, REVISIONS

SWM CHECKLIST
ROBINSON VILLAGE
TOWN OF HAYMARKET, VIRGINIA

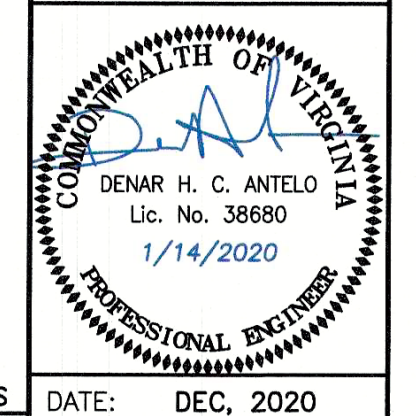


Table with columns: ENGINEERING GROUPE PROJECT STATUS, DATE, SCALE, DESIGNER, DRAFTSMAN, FILE NO., SHEET 30 OF 41



KARTER SCHOOL
TOWN OF HAYMARKET
GAINESVILLE MAGISTERIAL DISTRICT
PRINCE WILLIAM COUNTY, VIRGINIA
SCALE: NO SCALE

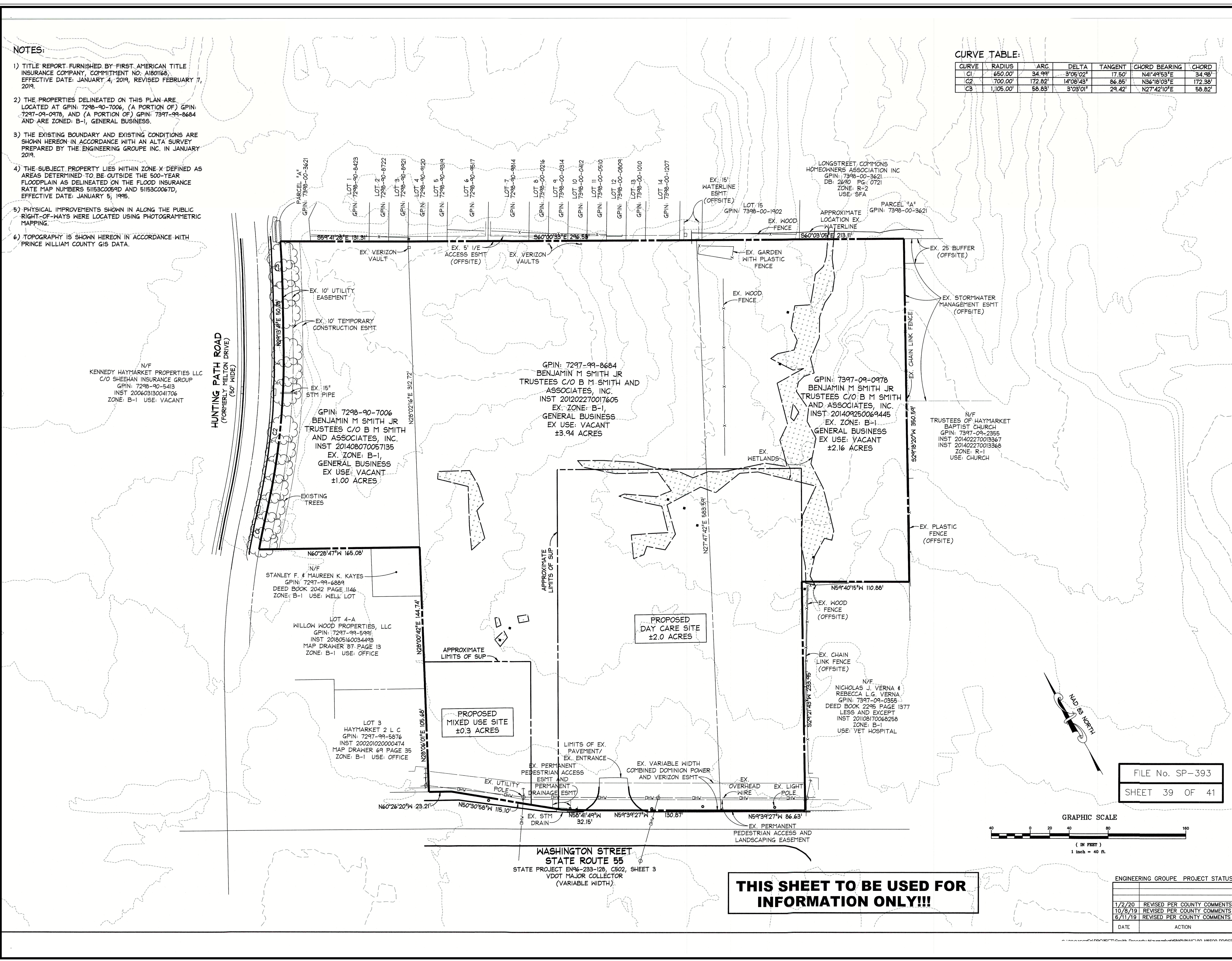
SWM CHECKLIST

Table with columns: DATE, BY, REVISION, DES, DWN, CHK, FILE NO., SHEET

- NOTES:**
- 1) TITLE REPORT FURNISHED BY FIRST AMERICAN TITLE INSURANCE COMPANY, COMMITMENT NO. A180168, EFFECTIVE DATE: JANUARY 4, 2019, REVISED FEBRUARY 7, 2019.
 - 2) THE PROPERTIES DELINEATED ON THIS PLAN ARE LOCATED AT GPIN: 7298-90-7006, (A PORTION OF) GPIN: 7297-09-0978, AND (A PORTION OF) GPIN: 7397-99-8684 AND ARE ZONED: B-1, GENERAL BUSINESS.
 - 3) THE EXISTING BOUNDARY AND EXISTING CONDITIONS ARE SHOWN HEREON IN ACCORDANCE WITH AN ALTA SURVEY PREPARED BY THE ENGINEERING GROUPE INC. IN JANUARY 2019.
 - 4) THE SUBJECT PROPERTY LIES WITHIN ZONE X DEFINED AS AREAS DETERMINED TO BE OUTSIDE THE 500-YEAR FLOODPLAIN AS DELINEATED ON THE FLOOD INSURANCE RATE MAP NUMBERS 5153C0059D AND 5153C0067D, EFFECTIVE DATE: JANUARY 5, 1996.
 - 5) PHYSICAL IMPROVEMENTS SHOWN IN ALONG THE PUBLIC RIGHT-OF-WAYS WERE LOCATED USING PHOTOGRAMMETRIC MAPPING.
 - 6) TOPOGRAPHY IS SHOWN HEREON IN ACCORDANCE WITH PRINCE WILLIAM COUNTY GIS DATA.

CURVE TABLE:

CURVE	RADIUS	ARC	DELTA	TANGENT	CHORD BEARING	CHORD
C1	650.00'	34.99'	3'06"02"	17.50'	N41°49'53"E	34.98'
C2	700.00'	172.82'	14'08"43"	86.85'	N36°18'03"E	172.38'
C3	1,105.00'	58.83'	3'03"01"	29.42'	N27°42'10"E	58.82'



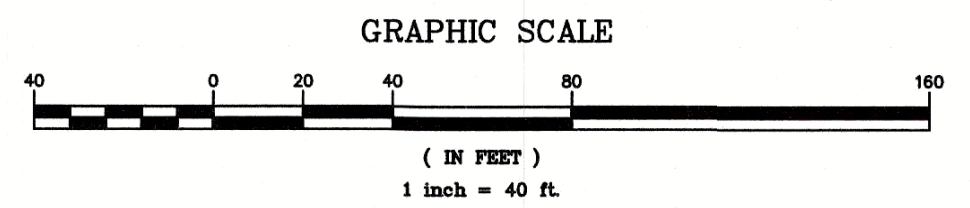
The Engineering Groupe Inc.
 Engineers | Surveyors | Planners
 South Office: 4936 Southpoint Parkway, Fredericksburg, VA 22407
 West Office: 21001 Sycamore Road, Suite 200, Ashburn, VA 20147
 Central Office: 13380 Groupers Drive, Suite 200, Woodbridge, VA 22192

NO.	DATE	COUNTY	REVISIONS

EXISTING CONDITIONS
SMITH PROPERTY
AT HAYMARKET

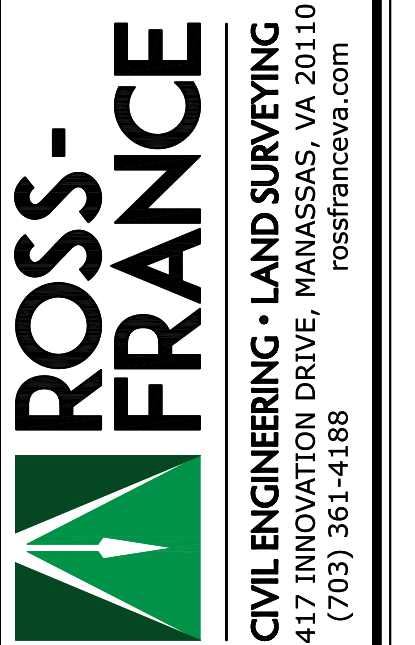
TOWN OF HAYMARKET, VIRGINIA
 Attachment: Smith Property SUP 20200102 (002) (4323 : Consideration of Amended SUP- Van Metro)

FILE No. SP-393
 SHEET 39 OF 41



DATE	BY	ACTION	PROJECT STATUS	DATE	CHK.
1/2/20	DWB	DESIGNED		APRIL 12, 2019	DA
10/8/19	DMB	REVISED PER COUNTY COMMENTS		SCALE: 1"=40'	DMB
6/11/19	DMB	REVISED PER COUNTY COMMENTS		DESIGNER: DA	DMB
				FILE NO.: SP # 2049	
				SHEET C10.2	

THIS SHEET TO BE USED FOR INFORMATION ONLY!!!



KARTER SCHOOL
 TOWN OF HAYMARKET
 GAINESVILLE MAGISTERIAL DISTRICT
 PRINCE WILLIAM COUNTY, VIRGINIA

SPECIAL USE PERMIT PLAN

DATE	BY	REVISION

NOTES:

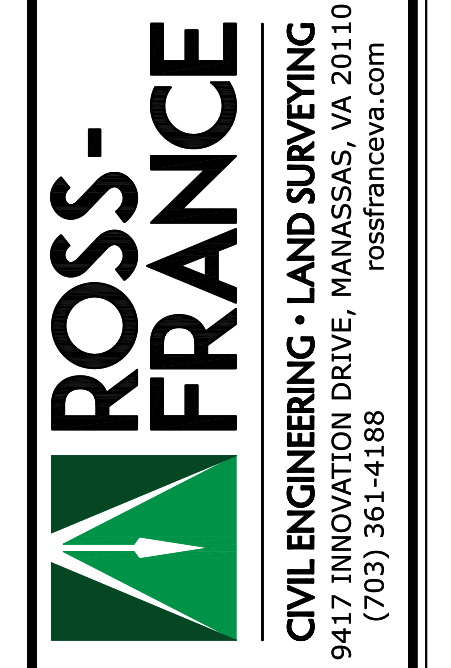
- 1) THE LAYOUT, AS SHOWN HEREON, IS CONCEPTUAL, SUBJECT TO MODIFICATIONS BASED ON ADDITIONAL RESEARCH INTO EXISTING CONDITIONS, TOWN OF HAYMARKET ZONING/DESIGN STANDARDS AND FINAL ENGINEERING.
- 2) STORMWATER MANAGEMENT AREAS, AS SHOWN HEREON, ARE APPROXIMATE AND SUBJECT TO CHANGE WITH FINAL ENGINEERING.
- 3) IN ACCORDANCE WITH SEC. 58-8.8, THE SIDE YARDS HAVE BEEN INCREASED FROM 15' TO 18' TO ACCOMMODATE THE EXTRA DISTANCE REQUIRED TO DEVELOP A THREE STORY STRUCTURE.
- 4) ALL FRONT LOAD TOWNHOUSE REAR YARDS WILL BE FENCED.
- 5) STREET LIGHT LOCATIONS, AS SHOWN HEREON, ARE PRELIMINARY, SUBJECT TO MODIFICATIONS IN ACCORDANCE WITH DESIGN STANDARDS AND FINAL ENGINEERING.
- 6) ENTRANCE SIGN WILL BE DESIGNED IN ACCORDANCE WITH TOWN OF HAYMARKET ZONING STANDARDS, SEC. 58-15.10.
- 7) REQUIRED BUFFER AREAS WILL BE MODIFIED IN ACCORDANCE WITH THE WAIVER APPLICATIONS FOR BUFFER MODIFICATIONS AND APPROVAL OF SAID WAIVERS BY THE TOWN OF HAYMARKET PLANNING COMMISSION AND TOWN COUNCIL.
- 8) FUTURE COMMERCIAL AREA, AS SHOWN HEREON, MAY INCLUDE SECOND STORY RESIDENTIAL UNITS WHICH WILL BE SUBJECT TO A SEPARATE SUP APPLICATION.

THIS SHEET TO BE USED FOR INFORMATION ONLY!!!

DEVELOPMENT SUMMARY:

PARCEL GPINS.....	7298-90-7006, 7297-99-8684 (A PORTION), 7397-09-0978 (A PORTION)
SUP AREA.....	±4.75 AC 7298-90-7006: 1.00 AC 7297-99-8684: 2.26 AC 7397-09-0978: 1.57 AC
EXISTING ZONE.....	B-1
PROPOSED ZONE.....	B-1 (WITH SUP)
PROPOSED USE.....	TOWNHOUSE
MAXIMUM DENSITY.....	8 DU/AC, 38 LOTS (4.75 AC x 8 DU/AC=38 LOTS)
TOTAL LOTS SHOWN.....	38 TOTAL (30 FRONT LOAD, 8 REAR LOAD-LOTS 27-34)
TOWNHOUSE STANDARDS (R-2): ±4.8 ACRES	
MIN. AVERAGE LOT AREA.....	2,000 SQ. FT.
AVERAGE LOT AREA PROV'D.....	±2,500 SQ. FT.
MAX. LOT COVERAGE.....	40% (1.9 AC)
LOT COVERAGE PROV'D.....	44% (2.1 AC)
MIN. LOT FRONTAGE.....	20', 35' END UNITS
LOT FRONTAGE PROV'D.....	20'/24', 38'/42' END UNITS
MAX. HEIGHT.....	2.5 STORIES / 35'
PROP. BLDG HEIGHT.....	3 STORIES, 40' MAX. (SEE NOTE 3)
YARDS:	
FRONT.....	15'
SIDE.....	18' (SEE NOTE 3)
REAR.....	20'
PARKING REQUIRED.....	86 SPACES (2.25 SP/DU)
PARKING PROVIDED.....	106 SPACES (76 GARAGES/DRIVEWAYS, 30 SURFACE)

The Engineering Groupe Inc.
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 www.theengineeringgroupe.com
 South Office: 4936 S. Main St., Suite 200, Fredericksburg, VA 22407
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 Phone: 703.670.0985



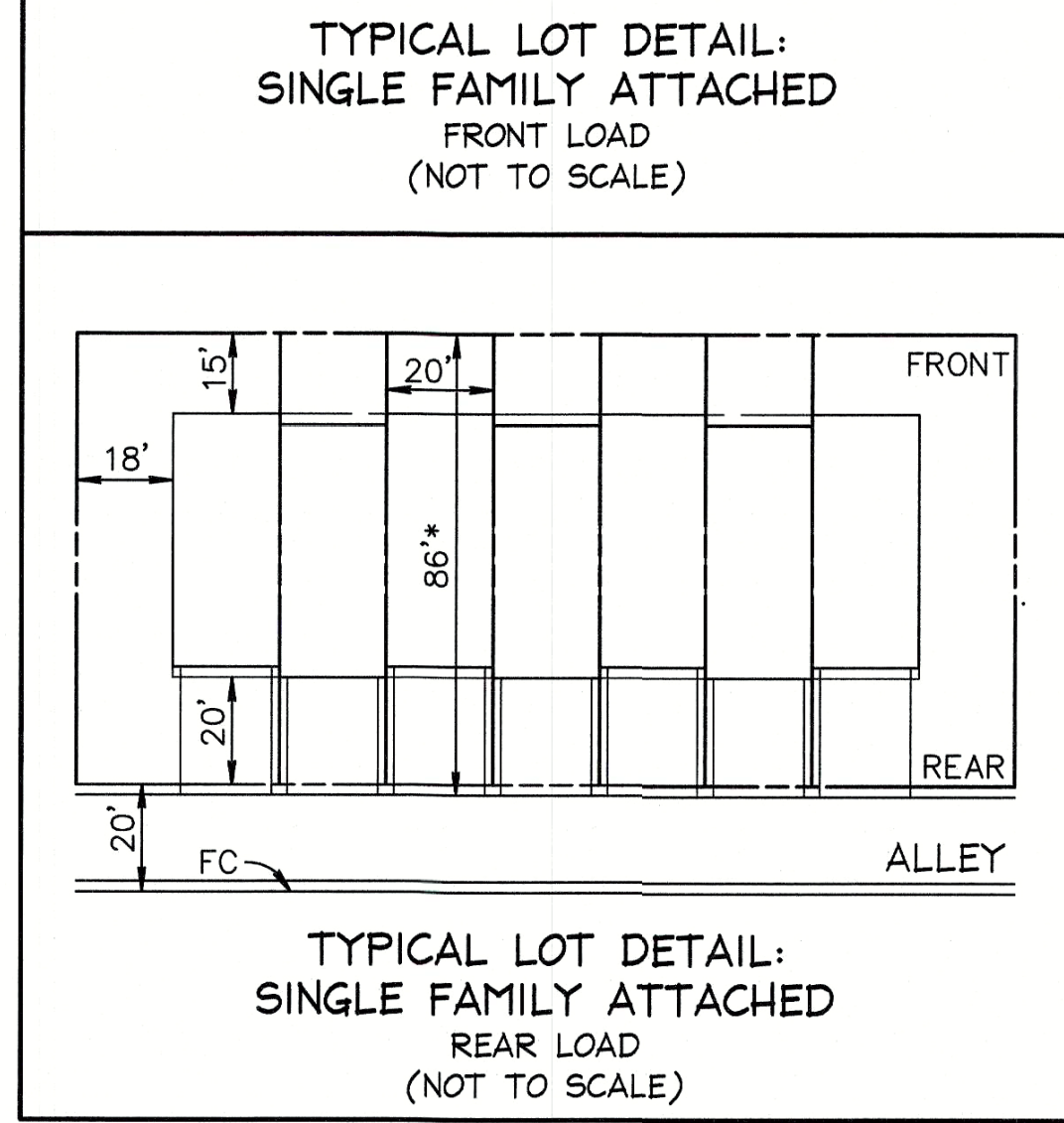
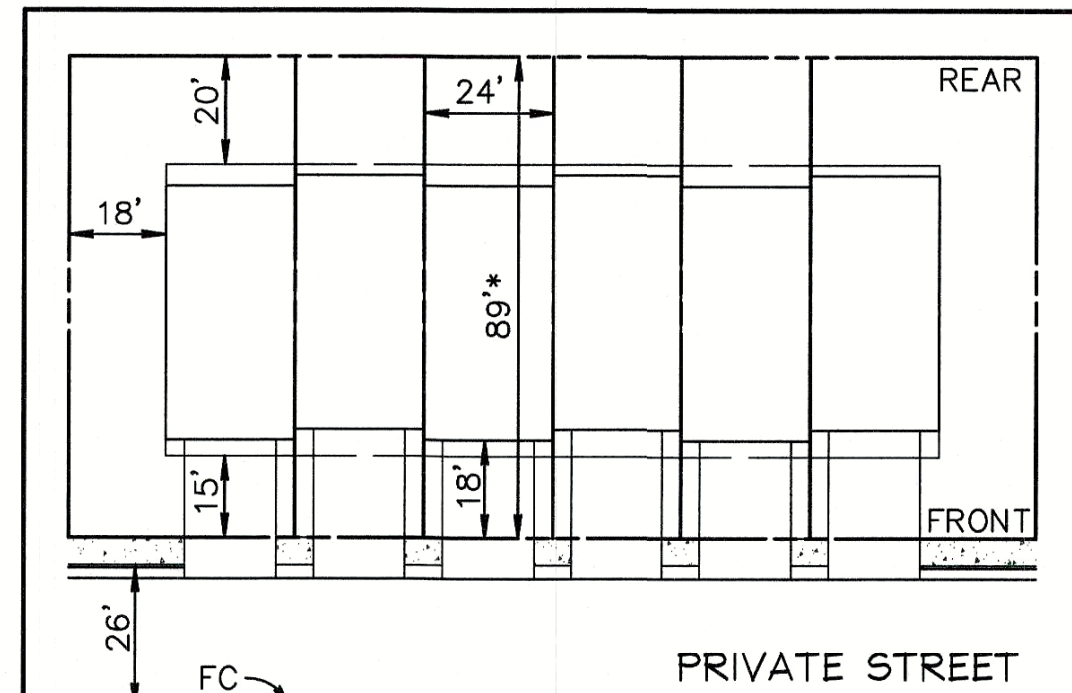
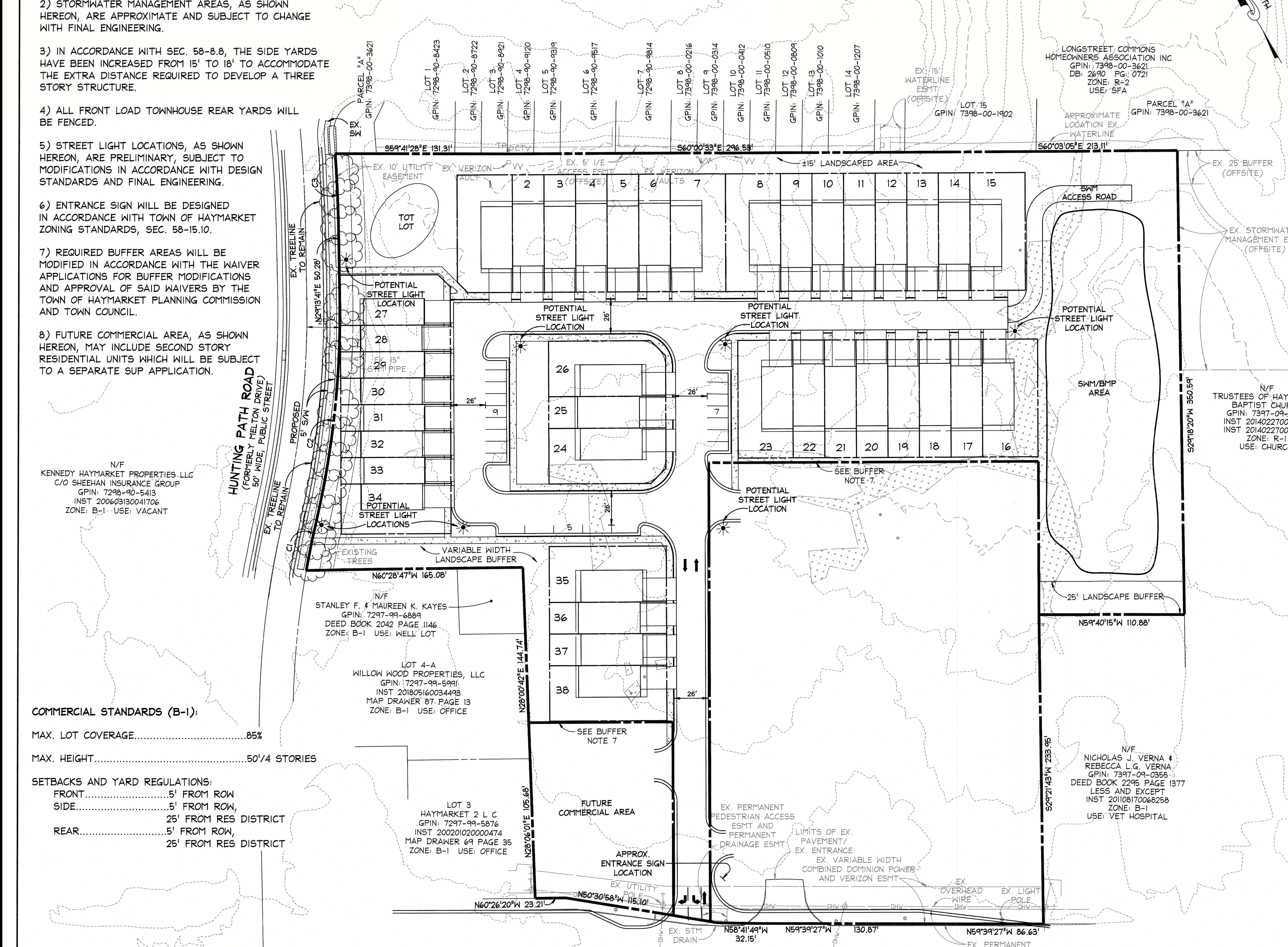
N/F
 KENNEDY HAYMARKET PROPERTIES LLC
 C/O SHEEHAN INSURANCE GROUP
 GPIN: 7298-90-5413
 INST 200609310041706
 ZONE: B-1 USE: VACANT

COMMERCIAL STANDARDS (B-1):

MAX. LOT COVERAGE.....	85%
MAX. HEIGHT.....	50/4 STORIES
SETBACKS AND YARD REGULATIONS:	
FRONT.....	5' FROM ROW
SIDE.....	5' FROM ROW, 25' FROM RES DISTRICT
REAR.....	5' FROM ROW, 25' FROM RES DISTRICT

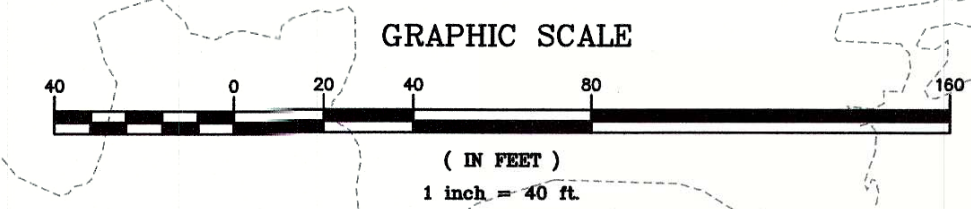
CURVE TABLE:

CURVE	RADIUS	ARC	DELTA	TANGENT	CHORD BEARING	CHORD
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C3	1,105.00'	58.83'	3°03'01"	29.42'	N27°42'10"E	58.82'



* LOT DEPTH AS SHOWN IS APPROXIMATE, SUBJECT TO CHANGE WITH FINAL ENGINEERING.

FILE No. SP-393
 SHEET 40 OF 41



WASHINGTON STREET
 STATE ROUTE 55
 STATE PROJECT ENR-233-123, CS02, SHEET 3
 VDOT MAJOR COLLECTOR
 (VARIABLE WIDTH)

SPECIAL USE PERMIT PLAN
SMITH PROPERTY AT HAYMARKET
 TOWN OF HAYMARKET, VIRGINIA

NO.	DATE	COUNTY	REVISIONS

KARTER SCHOOL
 TOWN OF HAYMARKET
 GAINESVILLE MAGISTERIAL DISTRICT
 PRINCE WILLIAM COUNTY, VIRGINIA

SPECIAL USE PERMIT PLAN

DATE	BY	REVISION

DES:	DWN:	CHK:
FW	MSL	RMM

FILE NO.: SP # 2049
 SHEET C10.3

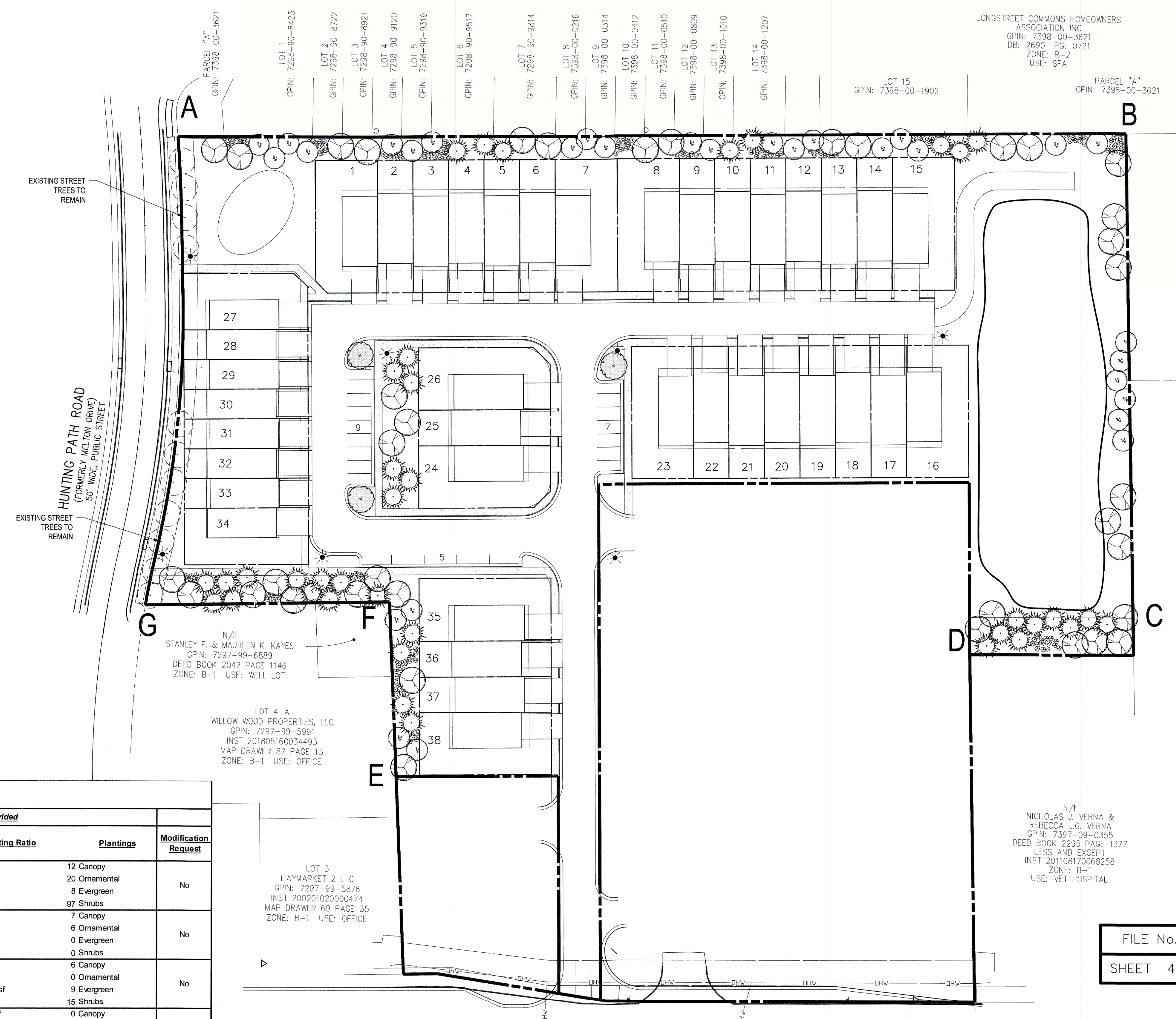
Attachment: Smith Property SUP 20200102 (002) (4323 : Consideration of Amended SUP - Van Metre)

Attachment: KARTER SCHOOL SITE PLAN 6.10.21 (5072 : Karter School Site Plan, 6905 Karter Robinson Drive)

LEGEND

- EXISTING CANOPY TREE
- INTERIOR PARKING LOT TREE
- DECIDUOUS CANOPY TREE
- DECIDUOUS ORNAMENTAL TREE
- EVERGREEN TREE
- DECIDUOUS SHRUBS
- EVERGREEN SHRUBS
- ORNAMENTAL GRASSES
- A** BUFFER KEY TAG

- NOTES:**
- THIS LANDSCAPE PLAN IS PRELIMINARY AND REFLECTS THE GENERAL CHARACTER AND INTENT OF THE PROPOSED DEVELOPMENT BASED ON PRELIMINARY ENGINEERING, ARCHITECTURE AND LANDSCAPE ARCHITECTURE DESIGN. MODIFICATIONS AND VARIATIONS MAY OCCUR WITH FINAL DESIGN AND SITE PLAN. DRAWINGS ARE NOT FOR CONSTRUCTION.
 - STORMWATER MANAGEMENT AREAS, AS SHOWN HEREON, ARE APPROXIMATE AND SUBJECT TO CHANGE WITH FINAL ENGINEERING. PLANT MATERIAL WILL BE PROVIDED TO ENHANCE THE APPEARANCE AND AS ALLOWED PER CONSTRAINTS OF DAM EMBANKMENT AND EASEMENTS.
 - PARKING LOT LANDSCAPING WILL BE PROVIDED PER SECTION 58-17.13 OF THE ZONING ORDINANCE.
 - SCREENING AND BUFFER YARDS SHOWN WILL BE PLANTED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTIONS 58-17.8 AND 58-17.10 OF THE ZONING ORDINANCE.

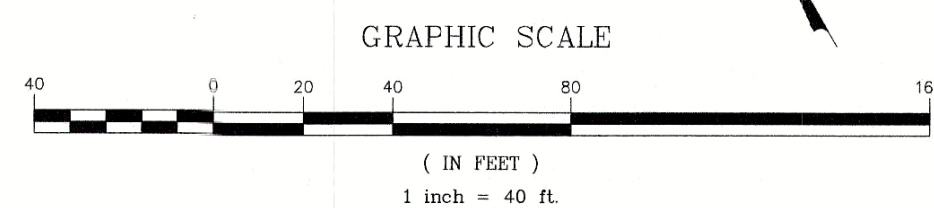


LANDSCAPE AREAS, BUFFERS AND SCREENING												
Proposed Use: Townhouse (B-1 with SUP to R-2 Standards)												
Landscape Area Segment	Length (ft)	Total Width (ft)	Area (sf)	Required			Provided			Modification Request		
				Screen Type	Planting Ratio	Plantings	Width (ft)	Area (sf)	Planting Ratio		Plantings	
A to B	630	N/A									12 Canopy 20 Ornamental 8 Evergreen 97 Shrubs	No
B to C	275	N/A									7 Canopy 6 Ornamental 0 Evergreen 0 Shrubs	No
C to D (Note 1)	120	25	3,000	TS (Alt 3)		1 Canopy / 500 sf 0 Ornamental 1 Evergreen / 350 sf 1 Shrubs / 200 sf	25	3,000	0 Ornamental 9 Evergreen 1 Shrubs / 200 sf		6 Canopy 0 Ornamental 0 Evergreen 15 Shrubs	No
D to E	1,000	25	25,000	SS (Alt 1)		1 Canopy / 1000 sf 1 Ornamental / 500 sf 1 Evergreen / 500 sf 1 Shrubs / 100 sf	0		0 Canopy / 1000 sf 0 Ornamental / 500 sf 0 Evergreen / 500 sf 0 Shrubs / 100 sf		25 Canopy 50 Ornamental 50 Evergreen 250 Shrubs	Yes
E to F	115	25	2,875	SS (Alt 1)		1 Canopy / 1000 sf 1 Ornamental / 500 sf 1 Evergreen / 500 sf 1 Shrubs / 100 sf	16	1,840	1 Ornamental / 500 sf 1 Evergreen / 500 sf 1 Shrubs / 100 sf		2 Canopy 4 Ornamental 4 Evergreen 19 Shrubs	Yes
F to G	150	25	3,750	TS (Alt 3)		1 Canopy / 500 sf 0 Ornamental 1 Evergreen / 350 sf 1 Shrubs / 200 sf	25	3,750	1 Canopy / 500 sf 0 Ornamental 1 Evergreen / 350 sf 1 Shrubs / 200 sf		8 Canopy 0 Ornamental 11 Evergreen 19 Shrubs	No
G to A	230	N/A									14 Canopy (Existing) 0 Ornamental 0 Evergreen 0 Shrubs	No

Notes:
1. Plant material to be coordinated with final SWM design. Locations, quantity and species are subject to revision due to constraints of dam embankment or easements.

FILE No. SP-393
SHEET 41 OF 41

THIS SHEET TO BE USED FOR INFORMATION ONLY!!!



J2 Engineers, Inc.
4080 Lafayette Center Drive
Suite 330
Chantilly, Va. 20151

703.361.1550 (office)
703.956.6845 (fax)
www.j2engineers.com

PLAN# VM1907
DATE: JANUARY 02, 2020
CONTOUR INT. =
SCALE: 1" = 40'

PLAN DATE
04.11.19
06.11.19
10.28.19
01.02.20

PRELIMINARY LANDSCAPE PLAN
SMITH PROPERTY
TOWN OF HAYMARKET
PRINCE WILLIAM COUNTY, VIRGINIA

NO.	DATE	DESCRIPTION

SHEET 41 OF 41

ROSS-FRANCE
CIVIL ENGINEERING • LAND SURVEYING
9417 INNOVATION DRIVE, MANASSAS, VA 20110
(703) 361-4188
rossfranceva.com

KARTER SCHOOL
TOWN OF HAYMARKET
GAINESVILLE MAGISTERIAL DISTRICT
PRINCE WILLIAM COUNTY, VIRGINIA

SPECIAL USE PERMIT PLAN

DATE	BY	REVISION

DES: FW DWN: RMM
CHK: MSL
FILE NO.: SP # 2049
SHEET C10.4

Conditions of Approval
SUP#2019-004
January 9, 2020

1. LANDUSE

- 1.1 Development shall be in substantial accord with the Generalized Development and Special Use Permit Plan ("SUP") entitled "Smith Property at Haymarket" prepared by The Engineering Groupe and last revised January 2, 2020 (4 sheets) (the "GDP") with the size, construction details and locations of buildings, roadways and other features being approximate subject to final engineering at site plan and with the color, construction materials and appearance of structures being subject to the issuance of certificates of appropriateness by the Town of Haymarket ("Town") Architectural Review Board (ARB) at advertised public meetings.
1.2 Residential Development on the Property under the SUP shall not exceed 38 townhouse units in the location generally shown on the GDP.
1.3 Townhouse dwellings shall be a combination of 20'-wide rear load units (8) and 24'-wide front load units (30), all with 2-car integral garages.
1.4 Development of the Property shall be in substantial conformity with the GDP. Precise locations of roads, lot lines, lot widths and depths, utility lines, and other features generally depicted on the GDP will be determined at the time of site or subdivision plan approval.
1.5 The Property shall be developed as a single-unified development to include a common architectural theme as specifically approved through certificates of appropriateness by the ARB and integrated vehicular and pedestrian access ways as depicted on the GDP and finalized through site plan approval.

2. ARCHITECTURAL DESIGN, SIGNAGE AND LANDSCAPING

- 2.1 The Applicant will use best efforts to ensure that the height of townhouse units will not exceed 40-feet as measured from the finished grade. To the extent final grading results in height, as measured from the finished grade over 40 feet, then the applicable side yard setback shall be increased by .5 feet for every foot over 40 feet. Architectural details of the townhouse units will be determined through the issuance of certificates of appropriateness issued by the ARB.

3. STORMWATER MANAGEMENT

- 3.1 Storm water management for the Property shall employ best management practices ("BMP").
3.2 Storm water management shall be designed as part of the site plan for he proposed townhouses as approved by the Town.
3.3 Storm water management facilities shall be maintained by the appropriate owners' associations provided below.

4. CREATION OF HOMEOWNERS' ASSOCIATION

- 4.1 The residential townhouses shall be made subject a homeowners' association ("HOA") that shall be created and be made responsible for the maintenance and repair of common areas, including common open space that may be established in accordance with the requirements of the Town zoning ordinance. The HOA shall be granted such other responsibilities, duties and powers as a customary for such associations, or as may be required to affect the purposes for which the HOA is created. Such HOA shall also be granted sufficient powers that may be necessary, by regular dues, special dues or assessments, to raise revenue sufficient to perform the duties assigned hereby, or by the documents creating the association.
4.2 The HOA documents shall prohibit the use or conversion of garages for living space, or for the primary purpose of storage of anything other than parked vehicles.
4.3 The covenants, conditions and restrictions of the HOA shall be subject to review and approval of the Zoning Administrator prior to recordation thereof, to ensure conformance of the requirements of these proffers.

5. PARKS AND RECREATION

- 5.1 The Applicant shall make a contribution for park purposes in the amount of \$3,792 per residential townhouse unit, payable upon the issuance of an occupancy permit for each such unit.
5.2 The Applicant shall provide a "Tot Lot" equipped with playground equipment in the area shown on the GDP.

6. PUBLIC SAFETY

- 6.1 The Applicant shall make a contribution for public safety purposes in the amount of \$280.00 per residential townhouse unit payable upon the issuance of an occupancy permit for each such unit.
6.2 The Applicant will install two streetlights to be located along Hunting Path Road.

7. TRANSPORTATION

- 7.1 The Applicant will construct a 5-foot wide concrete sidewalk along the western edge of the property, on the east side of Hunting Path Road.
7.2 The Applicant will construct a 5-foot wide concrete sidewalk from Hunting Path Road east along the southern portion of the tot lot to connect to the interior sidewalk network.
7.3 The Applicant shall make a contribution for transportation purposes in the amount of \$3,799 per townhouse unit, payable upon issuance of an occupancy permit for each townhouse unit.
7.4 The Applicant will construct a right turn lane and taper along the frontage of the site as shown on the GDP subject to review and approval by VDOT.
7.5 The Applicant will construct separate right and left turn exit lanes.

8. FIRE AND RESCUE

- 8.1 The Applicant shall make a contribution for fire and rescue purposes in the amount of \$974 per townhouse unit, payable upon the issuance of an occupancy permit for each unit.

9. TOWN ADMINISTRATION

- 9.1 The Applicant shall make a contribution for Town administration in the amount of \$171 per townhouse unit, payable upon the issuance of an occupancy building permit for each unit.

10. SCHOOLS

- 10.1 The Applicant shall make a contribution for schools in the amount of \$10,300 per residential townhouse unit, payable upon the issuance of an occupancy permit for each unit.

MODIFICATION REQUESTS

January 9, 2020

- 1. Modification Request: Request an increase from 40 percent of the gross parcel area may be covered by townhouse structures to 44 percent. Sec. 58-8.5 - Area regulations. (d) 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. For lots designed as part of a townhouse development or of small lot detached single-family dwellings, 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 lot.
2. Modification Request: Request a decrease from the 25' Transparent Screen requirement as shown in the table below to a variable width to be determined at site plan. Sec. 58-17.11 - Screening and buffer yard matrix.

Table with columns: Proposed Land Use, Adjacent District (R-1, R-2, B-1, B-2, I-1, C-1), and various land use codes (Industrial, Commercial, Residential).

PROFFER ANALYSIS
ROBINSON VILLAGE - HAYMARKET
SUP #2019-004
April 15, 2020

Main table with columns: Proffer/SUP condition, Trigger, Analysis, Plan & Sheet Number, Under Construction and/or completion date, Receipt Number, Deed Book & page number. Rows include Land Use, Architectural Design, Stormwater Management, Creation of Homeowners' Association, Parks and Recreation, Public Safety, Transportation, Fire & Rescue, Town Administration, and Schools.

The Engineering Groupe Inc. logo and contact information including address, phone, and website.

Table with columns: NO., DATE, TOWN REVISIONS.

SUP CONDITIONS AND ANALYSIS
ROBINSON VILLAGE
TOWN OF HAYMARKET, VA

Professional Engineer seal for DENAR H. C. ANTELO, License No. 38680, dated 7/17/2020.

Engineering Groupe Project Status table with columns: DATE, ACTION, ENGINEERING GROUPE PROJECT STATUS.

ROSS-FRANCE logo and contact information for Civil Engineering & Land Surveying.

KARTER SCHOOL
TOWN OF HAYMARKET
GAINESVILLE MAGISTERIAL DISTRICT
PRINCE WILLIAM COUNTY, VIRGINIA

SPECIAL USE PERMIT PLAN

Table with columns: DATE, BY, REVISION, DES, DWN, CHK, FILE NO., SHEET, C10.5.