



REGULAR PLANNING COMMISSION MEETING

Wednesday, January 15, 2025 @ 7:00pm

Warren County Government Center

I. CALL TO ORDER

II. ROLL CALL – DETERMINATION OF QUORUM

III. ADDITION/DELETION OF ITEMS FROM THE AGENDA

[Items added will be placed as the last item under Business Items. Unanimous vote is required to add/delete]

IV. APPROVAL OF MINUTES

- December 18, 2024 – Regular Meeting

V. CITIZEN COMMENTS

VI. PUBLIC HEARING

- **2400673** – A Special Use Permit Application submitted by Pennoni Associates Inc. c/o Mike Artz for Multi-Family Apartments containing thirty-six (36) units in three (3) separate apartment houses containing twelve (12) units each and an office building on a vacant parcel off of Royal Lane, identified by Tax Map 20A17-1-14B1. The property is zoned C-1, Community Business District.
- **2400687** – A Rezoning application submitted by Skyline Realty Investments, LLC requesting an amendment to the zoning map to reclassify addresses 10, 30, 44, 52, 60 and a vacant lot on W. Strasburg Road identified by Tax Map 20A12, Section 3, Parcels 22, 26, 27A, 31C, 31 and 23 from C-1, Community Business District to R-3, Residential District.

VII. OLD BUSINESS

- **2400421** - A request for preliminary plan approval for a major subdivision submitted by Ali Billoo for a subdivision containing nine (9) lots and sixteen (16) dwelling units located at 336 W Strasburg Road, identified on tax map 20A11, section 4, parcel 23B. The property is zoned R-2, Residential District.

VIII. COMMISSION MEMBER REPORTS

IX. PLANNING DIRECTOR REPORT

- December Monthly Report

X. ADJOURNMENT

**PLANNING COMMISSION REGULAR MEETING MINUTES
DECEMBER 18, 2024**



The following minutes are a summary of items on the agenda. This meeting may be viewed in its entirety by accessing the video of the same date online via the Town's website at www.frontroyalva.com for a limited time.

The Planning Commission meeting of the Town of Front Royal, Virginia was held on December 18, 2024, at 7:00 PM at the Warren County Government Center.

CALL TO ORDER

Chairman Marshner called the meeting of the Planning Commission to order at 7:00 pm.

ROLL CALL

Present: Connie Marshner, Chairman
Megan Marrazzo, Commissioner
Allen Neel, Commissioner
Andrew Brooks, Commissioner
Vacancy

Staff Present: Lauren Kopishke, Planning Director / Zoning Administrator
John Ware, Deputy Zoning Administrator
George Sonnett, Town Attorney
Connie L. Potter, Executive Assistant, Clerk of the Planning Commission

ADDITION/DELETION OF ITEMS FROM THE AGENDA

There were no additions or deletions to the agenda.

APPROVAL OF MINUTES

- November 20, 2024 – Regular Meeting

Commissioner Marrazzo moved, seconded by Commissioner Brooks to approve the meeting minutes as written.

VOTE: Yes – Marrazzo, Neel, Brooks, Marshner
No – N/A
Abstain – N/A
Absent – N/A

VOICE VOTE

CITIZEN COMMENTS

There were no citizen comments.



CONSENT AGENDA

- **2400673** – A Special Use Permit Application submitted by Pennoni Associates Inc. c/o Mike Artz for Multi-Family Apartments containing thirty-six (36) units in three (3) separate apartment houses containing twelve (12) units each and an office on a vacant parcel off of Royal Lane, identified by Tax Map 20A17-1-14B1. The property is zoned C-1, Community Business District. (*Consent to advertise for a public hearing at the January 15, 2025 regular Planning Commission meeting.*)
- **2400687** – A Rezoning application submitted by Skyline Realty Investments, LLC requesting an amendment to the zoning map to reclassify 10, a vacant lot, 30, 44, 60, and 52 on W. Strasburg Road identified by Tax Map 20A12, Section 3, Parcels 22, 23, 26, 27A, 31 and 31C from C-1, Community Business District to R-3, Residential District. (*Consent to advertise for a public hearing at the January 15, 2025 regular Planning Commission meeting.*)

Commissioner Neel moved, seconded by Commissioner Marrazzo to approve the consent agenda as presented to publicly advertise for a public hearing in December.

Vote: Yes – Marshner, Neel, Marrazzo, Brooks

No – N/A

Abstain – N/A

Absent – N/A

VOICE VOTE

PUBLIC HEARING

- **2400599** – A zoning text amendment to include performance standards for tobacco, smoke or vape shops in the Commercial and Industrial Districts within Town limits.

Mr. Ware explained that the proposed text amendment is to define and permit tobacco, smoke or vape shops either as a by-right use with performance standards or by a Special Use Permit in the Town's C-1 and C-3 Commercial Districts. The Planning Commission has held three (3) work sessions to discuss the proposed zoning text amendment.

The main distinction between the by-right vs. Special Use Permit can be discerned by the definition. Once the primary retail product becomes tobacco, smoke or vape merchandise the Special Use Permit becomes necessary. The by-right mechanism would regulate any retailer selling any type of tobacco, smoke or vape products to a distance of 1000 linear feet from the property boundary of a daycare or school. In keeping with the regulations of community health, safety and welfare all tobacco, smoke or vape products will be regulated in some form within the C-1 and C-3 zoning districts. By-right would be for performance



standards and the other with a Special Use Permit. By-right regulates the distance and the Special Use Permit regulates the floor space and the merchandise.

Chairman Marshner opened the public hearing.

There were no speakers present.

Chairman Marshner closed the public hearing.

Commissioner Neel moved, seconded by Commissioner Brooks to approve as presented the amendment for the performance standard for tobacco, smoke and vape shops in commercial and industrial districts within the town limits and forward the recommendation to the town council for the ordinance to promote the health, safety and general welfare of the public.

Commissioner Marrazzo expressed that she disagrees with having every single business that sells tobacco or vape at any level being regulated. She does not think that gas stations are presenting the same risk to children or to the health, safety, and welfare of the community as a business where their primary and/or sole product are nicotine items like you would see in a vape shop. She believes those are the only retailers that need to be looked at.

Vote: Yes – Marshner, Neel, Brooks
No – Marrazzo
Abstain – N/A
Absent – N/A

VOICE VOTE

- **2400652** – A Comprehensive Plan Amendment to amend the area between Strasburg Road and Duck Street to Rugby Street from a future land use designation of commercial to neighborhood residential.

Chairman Marshner opened the public hearing.

Mr. Ware explained that the Comprehensive Plan Amendment was initiated by the Planning Commission to amend the area between W. Strasburg Road, Duck Street and Rugby Street from future land use designation of commercial to neighborhood residential. Previously there have been two (2) rezonings in this area. With a Power Point presentation Mr. Ware showed the Comprehensive Plan planning areas.

This area was originally zoned R-2 and was rezoned in 1980 to commercial. Since 40 some years later there has been no movement on commercial businesses on that part of the street there is limited potential at this location for commercial development because of the redesign of W. Strasburg Road.



There were no speakers present.

Chairman Marshner closed the public hearing.

There was no discussion.

Commissioner Marrazzo moved, seconded by Commissioner Neel to forward a recommendation of approval to the Town Council of the proposed Comprehensive Plan Amendment within the Riverton Planning District for the promotion of good zoning practice and community planning.

Vote: Yes – Marshner, Neel, Marrazzo, Brooks

No – N/A

Abstain – N/A

Absent – N/A

VOICE VOTE

NEW BUSINESS

- **2400641** – A request for Final Subdivision Plat approval for a major subdivision submitted by Jay McCarty, Neal McCarty, and Dennis McCarty to divide approximately 4.34 acres into thirty-four (34) lots and thirty-three (33) dwelling units (16 duplexes and 1 existing SFD) located at 344 W. Main Street. The property is zoned R-2, Residential District requiring a minimum lot size of 8,000 SF which can be further subdivided for duplexes to 4,000 SF.

Mr. Ware stated this was a request for a final plat approval for a major subdivision containing eighteen (18) lots, thirty-three (33) dwelling units (16 duplexes and 1 existing SFD) located at 344 W. Main Street.

The proposed subdivision has road frontage on W. Main Street and Orchard Street. Per Town Code Chapter 148-315 the first step is for a preliminary plan which was previously approved by the Planning Commission. The applicant has a specific time to submit the final subdivision plat and plan which is the second step in the process and was before the Planning Commission for review. The final subdivision plat/plan is required to be in compliance with the Comprehensive Plan. If the review is favorable the Planning Commission would authorize staff to send the plat to Town Council for consideration. Included in the meeting packets were the final subdivision plat and checklist. The plat was found to be in compliance with all Town Code regulations for this type of subdivision.

There was no discussion.

Commissioner Neel moved, seconded by Commissioner Brooks to forward a recommendation of approval to Town Council for Final Subdivision Plat application #2400641, titled "Squirrell Hill Development" located at 344 W. Main Street.



Vote: Yes – Marshner, Neel, Marrazzo, Brooks

No – N/A

Abstain – N/A

Absent – N/A

VOICE VOTE

- **2400642** – Sign Permit Application submitted by HTLC-5, LLC for construction of a new monument sign within the Entrance Corridor at 1303 N Royal Avenue, identified by tax map 20A3, section 4, block 55, parcel A (Hang 10 Carwash).

Mr. Ware stated this application was for a monument sign located in the entrance corridor at 1303 N. Royal Avenue which requires approval by the Planning Commission. The applicant has changed some colors of the sign because of being located in the entrance corridor and the proposed sign is in compliance with Town Code. Mr. Ware showed in a Power Point presentation where the sign would be located. The sign area is 49 square feet and is well in compliance with Town Code for a ground mounted sign.

Commissioner Neel asked about illumination of the sign.

Representing the applicant, Seth Roderick of Monteverde Engineering & Design Studio explained there is no external light shining on the sign or emitting from the sign. It will be a backlit sign that will have a “glowing presence”.

There was no additional discussion.

Commissioner Brooks moved, seconded by Commissioner Neel to approve Sign Application #2400642 for the proposed ground mounted sign at 1303 N. Royal Avenue as submitted.

Vote: Yes – Marshner, Neel, Marrazzo, Brooks

No – N/A

Abstain – N/A

Absent – N/A

VOICE VOTE

OLD BUSINESS

- **2400523** – A Special Exception Application submitted by COL Samuel R. Millar VFW Post 1860, Commander Jeffrey D. Cook for relief of existing parking Town Code requirements located at 654-B W. 11th Street, identified by Tax Map 20A1-2-3-3 and 4. The property is zoned C-2, Community Business District.

Commander Cook stated he had met with the church and unfortunately could not come to an agreement with them to meet the parking requirements. If the Town Council denies the Special Exception application the VFW will look for another location.



Ms. Kopishke noted that the public hearing was closed at a previous Planning Commission meeting.

Commissioner Neel moved, seconded by Commissioner Brooks to forward a recommendation of denial to the Town Council due to the applicant's inability to mitigate the negative impacts to the surrounding neighborhood.

Commissioner Neel expressed that his concern was that he did not see how this would work at this location for the neighborhood when the VFW held events.

Chairman Marshner stated that the Planning Commission only makes a recommendation to the Town Council. The Planning Commission has to follow the letter of the law. She encouraged the applicant to make their case to the Town Council.

Commissioner Marrazzo felt that what the VFW had presented to the Planning Commission clearly demonstrated their diligence and integrity for trying to serve both their own members and to be a good neighbor to the community. With this specific location they have the support of the original owner of that business who would like to continue helping them. They have specifically indicated that when they have larger events they will implement a reservation system or ideally be using their former property as their contractually allowed to do. Any group that is going to have an event wants the people attending to be comfortable and to be at ease. She does not see any reason or evidence that the VFW would go against this and in affect be a poor neighbor or servant to the community. They have shown time and time again that is what they want, and the Town Code specifically allows for Special Exceptions when in cases of a substantial injustice or hardship. Commissioner Marrazzo believes that hardship has been very clearly outlined in their history with trying to work with the EDA, the church and trying every avenue possible and the Special Exception request was their last resort. She thinks it to be appropriate for the Planning Commission to be using the code that allows for the Special Exception.

There was no additional discussion.

Vote: Yes – Neel, Brooks, Marshner
No – Marrazzo
Abstain – N/A
Absent – N/A

ROLL CALL

ELECTION OF OFFICERS

- Vice Chairman

Chairman Marshner moved, seconded by Commissioner Brooks to nominate Mr. Neel as Vice Chairman.



Commissioner Neel stated he brings to the office of Vice Chairman the interest and the background necessary in the various industries as well as industry and certainly interest in the town that goes along with it which he believes is required for this office.

Vote: Yes – Neel, Brooks, Marshner, Marrazzo
No – N/A
Abstain – N/A
Absent – N/A

VOICE VOTE

COMMISSION MEMBER REPORTS

There were no additional comments.

PLANNING DIRECTOR REPORT

Ms. Kopishke reviewed the November monthly report.

Ms. Kopishke is finalizing the draft for the 2025-2029 Capital Improvement Plan and her goal is to send the draft to the Planning Commission the beginning of February. In February staff and the Planning Commission will continue working on the draft Zoning Ordinance. Staff will be meeting with the consultant to begin discussing edits to the Subdivision Ordinance.

ADJOURNMENT

Commissioner Marrazzo moved, seconded by Commissioner Neel to adjourn the meeting.

VOTE: Yes – Marrazzo, Neel, Brooks, Marshner
No – N/A
Abstain – N/A
Absent – N/A

VOICE VOTE

The meeting was adjourned at 8:34 p.m.

Approved by Planning Commission
Date: _____

PUBLIC HEARING

2400673 – A SPECIAL USE PERMIT APPLICATION SUBMITTED BY PENNONI ASSOCIATES INC. C/O MIKE ARTZ FOR MULTI-FAMILY APARTMENTS CONTAINING THIRTY-SIX (36) UNITS IN THREE (3) SEPARATE APARTMENT HOUSES CONTAINING TWELVE (12) UNITS EACH AND AN OFFICE BUILDING ON A VACANT PARCEL OFF OF ROYAL LANE, IDENTIFIED BY TAX MAP 20A17-1-14B1. THE PROPERTY IS ZONED C-1, COMMUNITY BUSINESS DISTRICT.

Town of Front Royal, Virginia

Planning Commission Monthly Meeting Agenda

☐ Consent Action ☐ Administrative Action ☒ Public Hearing ☐ Discussion

Agenda Item: Special Use Permit – #2400673

MEETING DATE: January 15, 2025

SUMMARY: A Special Use Permit Application submitted by Pennoni Associates Inc. c/o Mike Artz for Multi-Family Apartments containing thirty-six (36) units in three (3) separate apartment houses containing twelve (12) units each and an office building on a vacant parcel off of Royal Lane, identified by Tax Map 20A17-1-14B1. The property is zoned C-1, Community Business District.

STAFF RECOMMENDATION:

Staff recommends approval of SUP Application #2400673. The application presents a scenario that constitutes one of the highest and best uses possible. The main consideration for the Planning Commission is whether the proposed use is suitable within this district. Apartments are the only type of large-scale residential use permitted in the commercial districts, but only with approval from Town Council. This site does not front a main thorough fare so retail commercial development activities would be limited due to lacking visibility and restrictions the Town has for off-premises signs. Commercial development activities would also generate additional traffic, above and beyond residential.

DRAFT MOTION: "I move that the Planning Commission forward a recommendation of approval to Town Council for Special Use Permit #2400673 for Multi-Family Apartments containing thirty-six (36) units in three (3) separate apartment houses containing twelve (12) units each and an office building on a vacant parcel off of Royal Lane, identified by Tax Map 20A17-1-14B1."

NOTE: This is only a draft motion. Alternative motions are also welcome.

PLANNING COMMISSION ACTION:

Moved _____ Seconded _____

Neel _____ Marrazzo _____ Marshner _____ Brooks _____ Vacancy _____

☐ Approved ☐ Approved w/ Conditions ☐ Denied ☐ Other



**TOWN OF FRONT ROYAL
DEPARTMENT OF PLANNING & ZONING**

**Planning Commission Regular Meeting
January 15, 2025**

APPLICATION #:

Special Use Permit Application #2400673

APPLICANT:

Pennoni Associates Inc. /Mike Artz

APPLICATION SUMMARY:

A Special Use Permit Application submitted by Pennoni Associates Inc. c/o Mike Artz for Multi-Family Apartments containing thirty-six (36) units in three (3) separate apartment houses containing twelve (12) units each and an office building on a vacant parcel off of Royal Lane, identified by Tax Map 20A17-1-14B1. The property is zoned C-1, Community Business District.

GENERAL INFORMATION:

Site Addresses	Vacant Parcel off of Royal Lane
Property Owner(s)	Boisseau Family LC
Zoning District	C-1, Community Business District
Historic District	No
Tax Identification	Tax Map #20A17-1-14B1

Aerial Map – Warren County GIS (tax map 20A17-1-14B1)

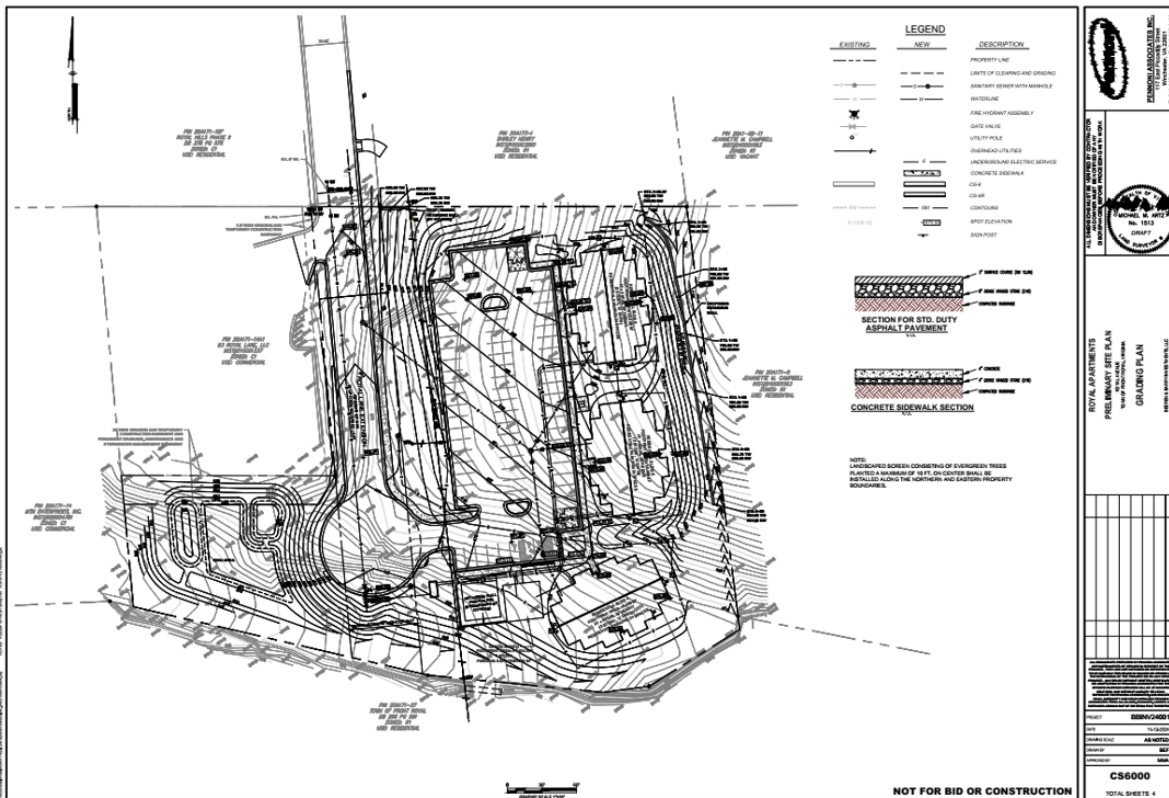


This map displays land parcels in Mount Pleasant, South Carolina, categorized by zoning districts. The map includes several key features:

- Zoning Districts:** Labeled areas include R-1 (yellow), R-3 (orange), C-1 (red), and R-17 (light green).
- Parcel Identifiers:** Numerous lots are labeled with codes such as 20A185 5A1, 20A171 10E, 20A171 10F, 20A171 16BBO, 20A171 14A1, 20A171 14B1, 20A171 9, 20A171 17, 20A171 19, 20A171 21, 20A171 24B, 20A171 20, 20A171 23, 20A171 24A, 20A171 25, 20A171 26, 20A171 27, 20A173 A through I, 20A106 B, 20A106 E, 20A102 A, D, 11, 8, and 2.
- Streets:** Major roads shown include Mount Road running vertically and Cruse Road running horizontally at the bottom left.
- Other Features:** A "ROW" (Right-of-Way) area is indicated near the intersection of Mount Road and Cruse Road. Green star symbols are scattered throughout the map, particularly in the yellow and light green zones.

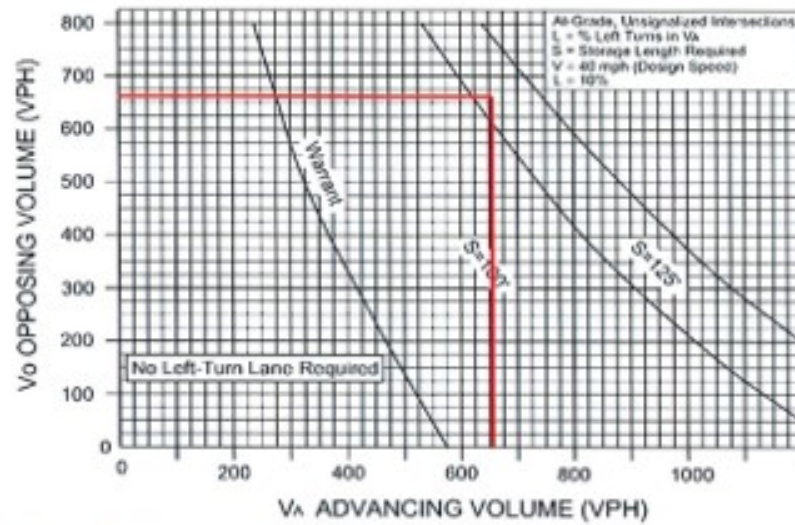
The map uses color-coding to distinguish between different planning zones and individual property lots.

Grading Plan



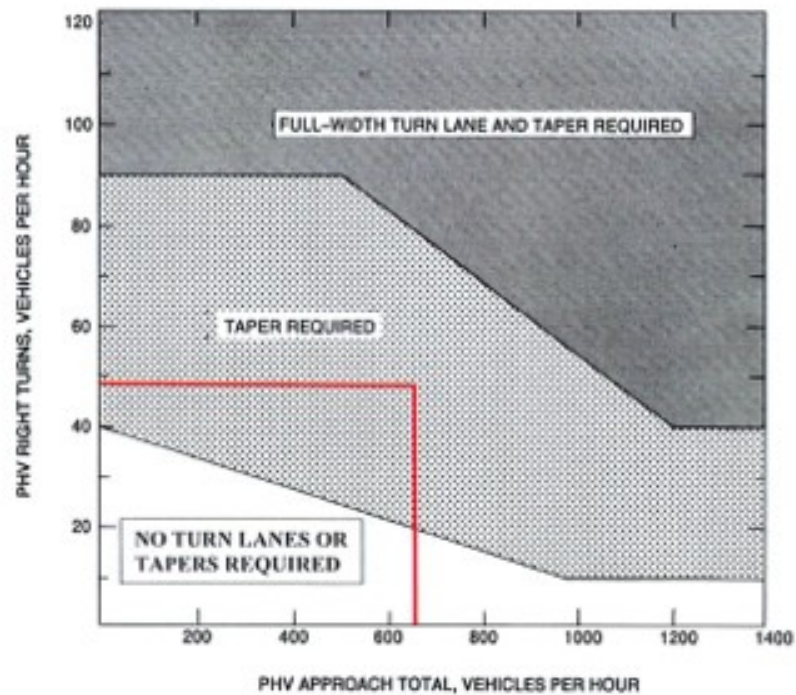
Impact Analysis Statement

Warrant for Left Turn Lane



Note: 125 Foot Left Turn Lane Required (Westbound Route 55).

Warrant for Right Turn Lane



Note: Right Turn Taper Required (Eastbound Route 55).

Photograph 1 and Photograph 2, provided below, depict the existing road improvements for John Marshall Highway at its intersection with Royal Lane. As shown, John Marshall Highway currently includes an eastbound right turn lane as well as a shared center turn lane which would accommodate westbound left turn movements onto Royal Lane. These existing improvements would satisfy the requirements for the right and left turn lane warrant analysis above.



Photograph 1. John Marshall Highway at Royal Lane (View facing east)



Photograph 2. John Marshall Highway at Royal Lane (View facing west)

**Warren County
Comments**

David Beahm, Warren County Building Official:
Comments – Beeren & Barry Investments, LLC – Rezoning C-1 to Residential Apartments – Tax Map 20A171 14B1 – 0 Royal Lane, Front Royal – 2400673:

- Erosion and Sediment Control (ESC) Items:
 - Application and permits are required for ESC permit, which would be a normal submission including a full plan review application.
 - The area of disturbance exceeds one (1) acre which will additionally require a Stormwater permit through the Department of Environmental Quality (DEQ). Approval by DEQ (Construction General Permit) would be required prior to any ESC Permit and any type of Building Permit being issued by Warren County.
 - Each lot when developed for a residential dwelling unit would then be required to have an Agreement In Lieu Of can be obtained.
- Site Plan Review:
 - If or when any building construction related activity were to take place, a Site Plan Review and Permit for Building Code Compliance would be required to be completed for including emergency access, utilities, structure placement for required fire separation, fire hydrants, fire lane markings, required fire signage, etc.
- Building Inspections Items:
 - If or when any building construction related activity (structure, electrical, plumbing, mechanical, fire suppression, energy, etc.) were to start, it would be subject to the normal requirements of application, review and approval prior to work beginning.
- Fire Marshal's Office Comments (standard):
 - We would defer all comments for the site development/new construction/retrofit/change of use to the Building Official. Upon approval and issuance of the CO, the facility (as applicable) shall be maintained in accordance with the Virginia Statewide Fire Prevention Code.

If anything should change in the scope, additional requirements may be required.

	All submissions for these items would be made to the Building Inspections Department through the email address: inspections@warrencountyva.gov
RELEVANT CODE SECTION:	Chapter 175-39.B “The following uses are permitted within the C-1 District only by approval of a Special Use Permit, except as prohibited or restricted by separate restrictions of record that may pertain to property within the C-1 District.” <u>RESIDENTIAL</u> Apartments or dwelling units, with four (4) or more units or when located on the ground floor, subject to provisions of Section 175-113.
RECOMMENDATION:	Staff recommends approval of SUP Application #2400673. The application presents a scenario that constitutes one of the highest and best uses possible. The main consideration for the Planning Commission is whether the proposed use is suitable within this district. Apartments are the only type of large-scale residential use permitted in the commercial districts, but only with approval from Town Council. This site does not front a main thorough fare so retail commercial development activities would be limited due to lacking visibility and restrictions the Town has for off premises signs. Commercial development activities would also generate additional traffic, above and beyond residential.

ATTACHMENTS: Application and associated documents from the Applicant.

Town of Front Royal, Virginia

SPECIAL USE PERMIT APPLICATION MATERIALS

FOR REVIEW OF

ROYAL LANE APARTMENTS

November 2024

Prepared by:
Pennoni Associates Inc.
117 E. Piccadilly Street
Suite 200
Winchester, Virginia 22601

Phone: 540-667-2139 Fax: 540-665-0493



TABLE OF CONTENTS

- I. Application
 - II. Impact Analysis
 - III. Preliminary Site Plan
-
-

I.

APPLICATION



TOWN OF FRONT ROYAL

DEPARTMENT OF PLANNING & ZONING
102 EAST MAIN STREET
P.O. BOX 1560
FRONT ROYAL, VA 22630

Main: 540.635.4236
Fax: 540.631.2727
Internet: www.frontroyalva.com

SUP _____

SPECIAL USE PERMIT REQUEST

APPLICANT

NAME Pennoni Associates Inc. c/o Mike Artz PHONE 540-667-2139

ADDRESS 117 E. Piccadilly St., Suite 200, Winchester, VA 22601

E-MAIL MArtz@pennoni.com

PROPERTY DESCRIPTION

PROPERTY ADDRESS Royal Lane (vacant)

TAX MAP 20 SECTION A BLOCK 171 LOT 14B1

SUBDIVISION NAME _____ ACREAGE 3.601

REQUEST

ZONING DISTRICT C-1

PROPOSED USE OF PROPERTY Residential Apartments

SPECIFIC SPECIAL USE PERMIT REQUEST Three 12 unit apartment buildings

and an office.

ATTACHMENTS --The following ***must*** be submitted with the application. Additional information may be required depending on the nature of the request.

1. Survey/Plat of property showing all **existing** improvements.
(10 copies if larger than 11" X 17")
2. Site Plan Application
3. Application Fee of \$400.00 (Checks payable to the Town of Front Royal)
4. Additional information as required by the Department of Planning & Zoning.

CERTIFICATION

I certify that the information provided with this application is correct to the best of my knowledge and should the special use permit be granted, the project will comply with the conditions imposed upon it and will be implemented only as approved by Town Council.

Signature _____ Date _____

By submitting this application, the applicant grants permission to Town officials and employees to enter upon the property, which is the subject of this application, during reasonable hours and for purposes related to the application process.

Receipt # _____ Date Paid _____

II.

IMPACT ANALYSIS

ROYAL LANE APARTMENTS – IMPACT ANALYSIS STATEMENT

November 19, 2024

The following is a summary of the proposed special use permit for Royal Lane Apartments which proposes 36 total apartment units comprised of three 3-story buildings, as well as an office building, on the vacant parcel at the existing terminus of Royal Lane within the Town of Front Royal (the “Town”). The project site totals 3.4984 acres zoned C-1 (Community Business) and is identified by the Town as tax map parcel 20A171-14B (the “Property”). The development is proposed by Beeren & Barry Investments, LLC to provide for needed workforce housing in the area. The Town of Front Royal Zoning Ordinance permits apartment developments containing four or more units within the C-1 Zoning District subject to approval of a Special Use Permit.

Proposed Development

The proposed development plan for the Property is depicted on the attached Preliminary Site Plan for Royal Lane Apartments. As shown, the project would consist of three buildings, each containing 12 apartment units along with associated surface parking served by a southerly extension of Royal Lane, an office space, and a playground. The proposed 36 apartment units represent a density of 10 dwelling units per acre. The extension of Royal Lane would be constructed to Town standards to provide for the future dedication of the roadway and its associated right of way through the Property, allowing for an extension of the roadway south of the project site at a future date, if desired.

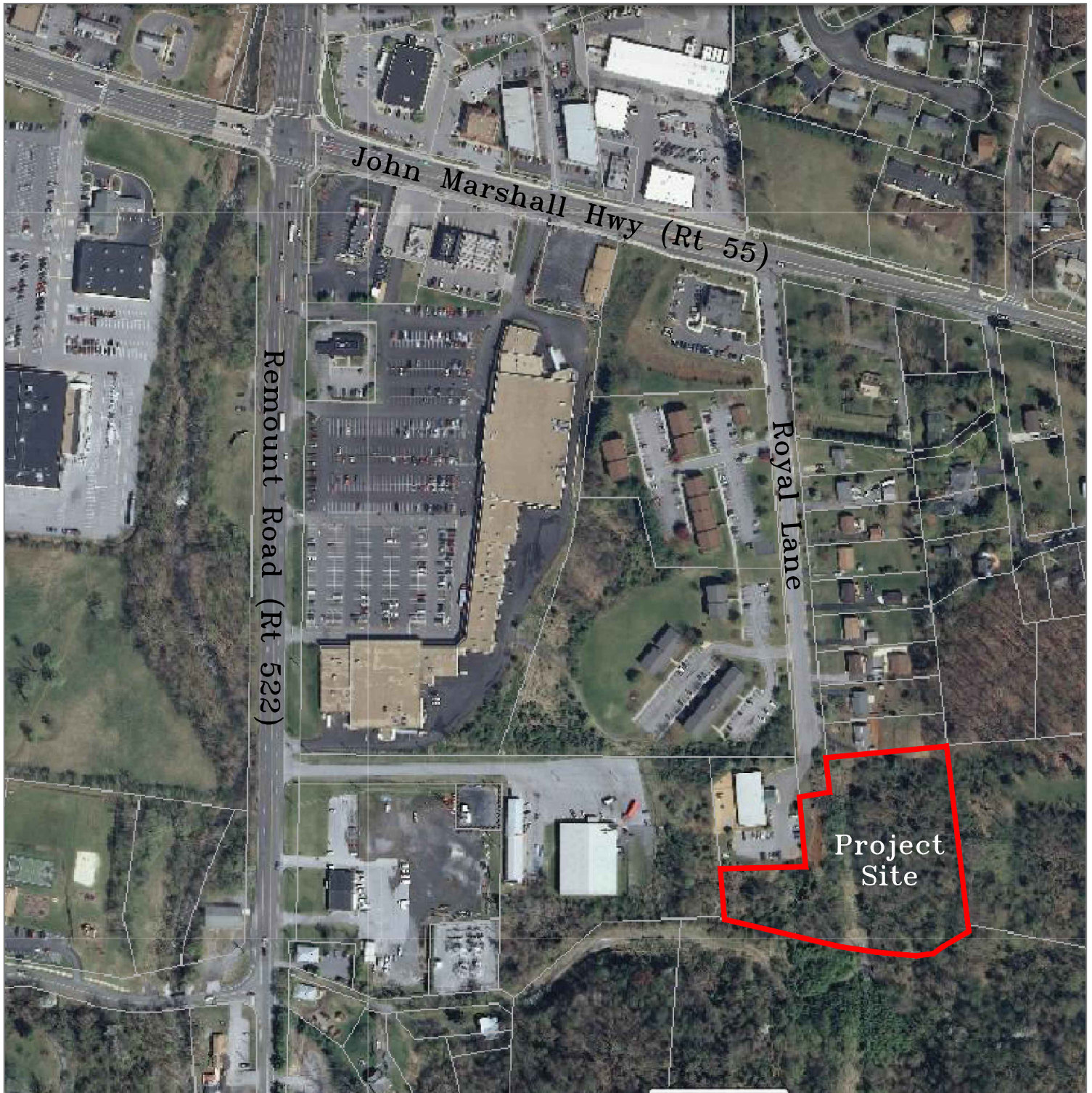
Site Location

A location map is attached as *Exhibit A*. As shown, the project is located at the existing terminus of Royal Lane approximately 1,100 feet south of the intersection of Royal Lane with John Marshall Highway (Route 55). Existing development along Royal Lane is predominantly residential in nature. Business type development on the roadway is limited to a professional office building located at Royal Lane’s intersection with Route 55 as well as a day care facility located west and adjacent to the subject Property at the terminus of Royal Lane. The remaining development along Royal Lane includes apartments on the west side of the roadway and single-family dwellings on the east side. The proposed apartment use for the Property would be consistent with the residential nature of Royal Lane.

A zoning map is attached as *Exhibit B*. The subject Property as well as all parcels located west of Royal Lane are zoned C-1 (Community Business) while the parcels located east of Royal Lane are zoned R-1 (Residential). Despite the commercial zoning for half the parcels fronting Royal Lane, the predominant development pattern is residential in the area. The proposed apartment use of the subject property would ensure that the project is developed in a manner that is consistent with the existing development pattern.

Site Characteristics

Sheet 2 of the attached preliminary site plan depicts the existing site conditions. The Property is currently vacant, wooded and includes an existing power line bisecting the site in a north/south direction. The Property contains sloping topography with a high



Source: Warren Co. GIS

Royal Lane Apartments

Exhibit A – Location Map

TOWN OF FRONT ROYAL, VIRGINIA

PENNONI ASSOCIATES INC.

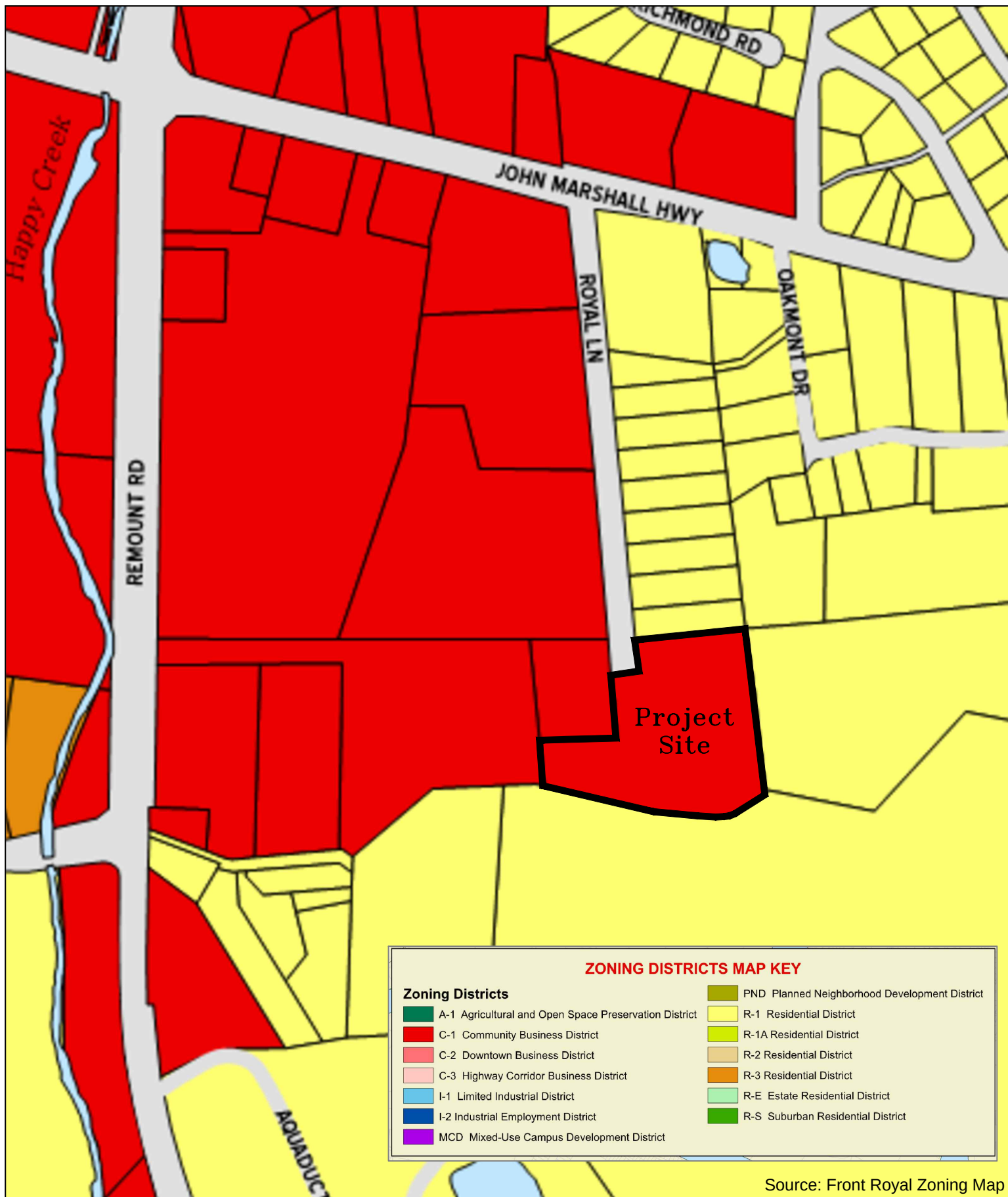
117 E. Picadilly St. Winchester, Virginia 22601
VOICE: (540) 667-2139 FAX: (540) 665-0493

Revised

–

10/24/2024

1"=300'



Source: Front Royal Zoning Map

Royal Lane Apartments

Exhibit B – Zoning Map

TOWN OF FRONT ROYAL, VIRGINIA

PENNONI ASSOCIATES INC.

117 E. Picadilly St. Winchester, Virginia 22601
VOICE: (540) 667-2139 FAX: (540) 665-0493

Revised

10/24/2024

1"=300'

elevation at its western boundary of 707 feet and a low elevation at the eastern property boundary of approximately 643 feet. The proposed development plan takes the sloping topography into account and would utilize a retaining wall with a maximum height of approximately 8 feet in proximity to the eastern property boundary, as well as a retaining wall to the south of the property around the playground area.

Soils on the site are identified as Unison-Chagrin-Dyke soils which are characterized as deep, well drained soils that have a loamy or clayey subsoil. The specific soil type for the subject includes Chester loam and Dekalb channery loam. The characteristics of this soil type and any implications for site development are manageable through the site engineering process.

Pursuant to FEMA flood map numbers 51187C0116C and 51187C0118C, both with effective date June 3, 2008, the entire site is located in areas of minimal flooding outside of the 100-year and 500-year flood plain.

Access and Transportation

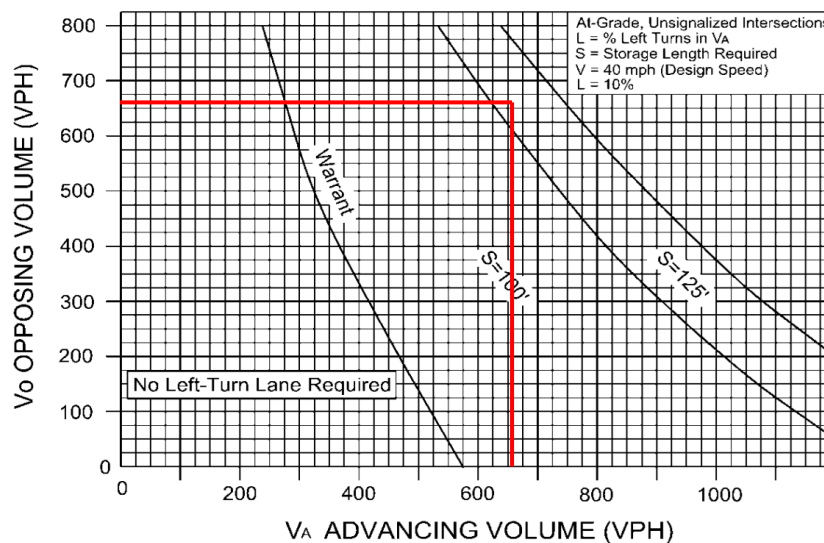
Access to the Property would be provided by an extension of Royal Lane into the Property. Currently, Royal Lane terminates at the northern property boundary. The proposed development plan would extend Royal through the Property to a cul-de-sac near the southern site boundary. A reserve area will be provided that would enable the dedication of the extension of Royal Lane through the site as a public street. The right of way reservation area extends to the southern property boundary, providing the opportunity for a future extension of Royal Lane if desired.

The proposed 36 apartment units would generate 252 average daily vehicle trips. Compared with the commercial uses that could be realized on the Property on a by-right basis, this special use permit application substantially reduces the trip generation potential for the site.

Other existing uses on Royal Lane include 9 single family dwellings, 90 apartment dwellings, a day care facility of approximately 7,000 SF, and a professional office building of approximately 10,000 SF. These existing uses would generate approximately 1,502 ADT (average daily trips). Combined with the 252 trips associated with the proposed 36 apartment units, the total traffic volume on Royal Lane would be approximately 1,754 ADT. Applying a peak hour factor of 0.11, the peak hour trips would be approximately 193 trips (97 trips in/96 trips out based on a 50/50 split of inbound and outbound movements).

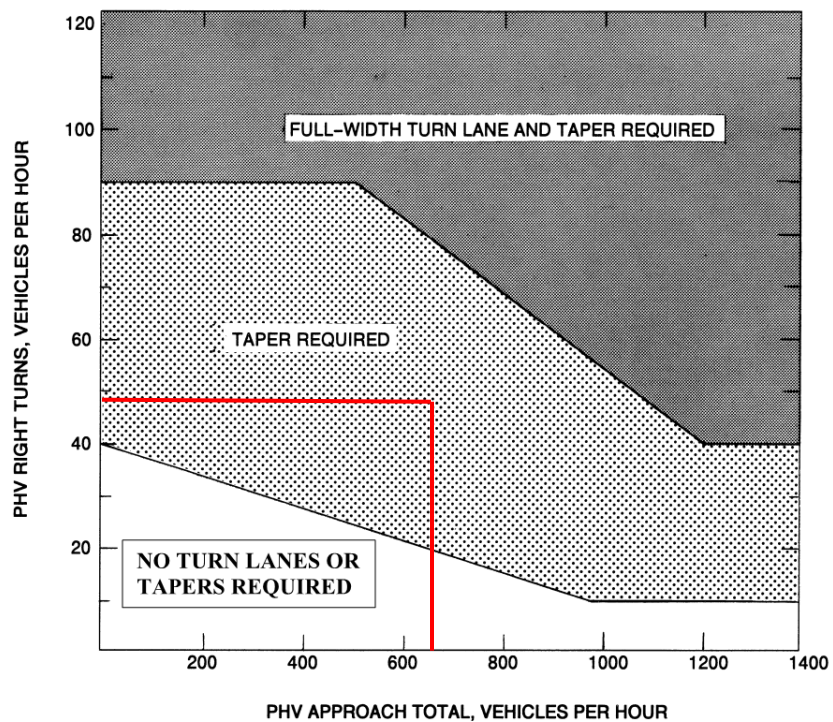
2014 VDOT traffic data identifies 12,000 total trips on John Marshall Highway at Royal Lane. Assuming a 50/50 split between eastbound and westbound trips results in 6,000 eastbound and 6,000 westbound trips resulting in 660 peak hour trips in each direction. Utilizing the VDOT Road Design Manual and 2014 VDOT Traffic Counts on John Marshall Highway (assuming a 50/50 split on eastbound and westbound trips), left and right turn lane warrants for the subject intersection are as follows:

Warrant for Left Turn Lane



Note: 125 Foot Left Turn Lane Required (Westbound Route 55).

Warrant for Right Turn Lane



Note: Right Turn Taper Required (Eastbound Route 55).

Photograph 1 and *Photograph 2*, provided below, depict the existing road improvements for John Marshall Highway at its intersection with Royal Lane. As shown, John Marshall Highway currently includes an eastbound right turn lane as well as a shared center turn lane which would accommodate westbound left turn movements onto Royal Lane. These existing improvements would satisfy the requirements for the right and left turn lane warrant analysis above.



Photograph 1. John Marshall Highway at Royal Lane (View facing east)



Photograph 2. John Marshall Highway at Royal Lane (View facing west)

Royal Lane is currently unstriped, but has sufficient pavement width to provide for separate turn lanes at its intersection with John Marshall Highway. *Photograph 3* depicts the existing improvements for Royal Lane at the subject intersection.



Photograph 3. Royal Lane at John Marshall Highway (View facing north).

Existing improvements are in place to accommodate the traffic generated by the proposed 36 apartment units. Moreover, the proposed special use permit would substantially diminish the traffic impact potential under the existing C-1 zoning for the Property. Accordingly, the minor trip generation associated with the proposal is manageable under existing road improvements.

Stormwater Management

Under existing conditions, the site drains from east to west. The proposed development program for the project would generally maintain the existing drainage pattern and direct stormwater flows to a stormwater management facility, likely a bio-retention filter to accommodate both stormwater quantity and quality requirements, at the southwestern limits of the project.

Sewage Conveyance and Water Supply

Using a standard rate of 200 gallons per day/dwelling unit it is projected that the proposed development would produce up to 7,200 gallons per day of sewer flow. Water usage would be approximately equivalent to the sewer flows. The site would be served by an extension of the existing water and sanitary facilities within Royal Lane. The water

system will be designed to provide adequate pressure for potable water service and fire-fighting services.

Summary

The proposed Royal Lane Apartments project would provide for the development of 36 apartment units to aid in satisfying workforce housing needs. Properties along Royal Lane are developed predominantly for residential uses despite all parcels located on the west side of the roadway being zoned for commercial uses. The proposed apartment use would continue the existing residential development pattern for the area while diminishing the traffic generation potential for the site under the existing C-1 zoning thereby minimizing impacts to the intersection of Royal Lane and John Marshall Highway.

In the case of this proposed application, the special use permit proposal would be more in keeping with surrounding properties than most of the by-right commercial uses that could occur on the Property. Therefore, the proposed special permit application for the apartments use merits favorable consideration.

III.

PRELIMINARY SITE PLAN

ROYAL APARTMENTS
PRELIMINARY SITE PLAN

SITE PLAN #__ - __

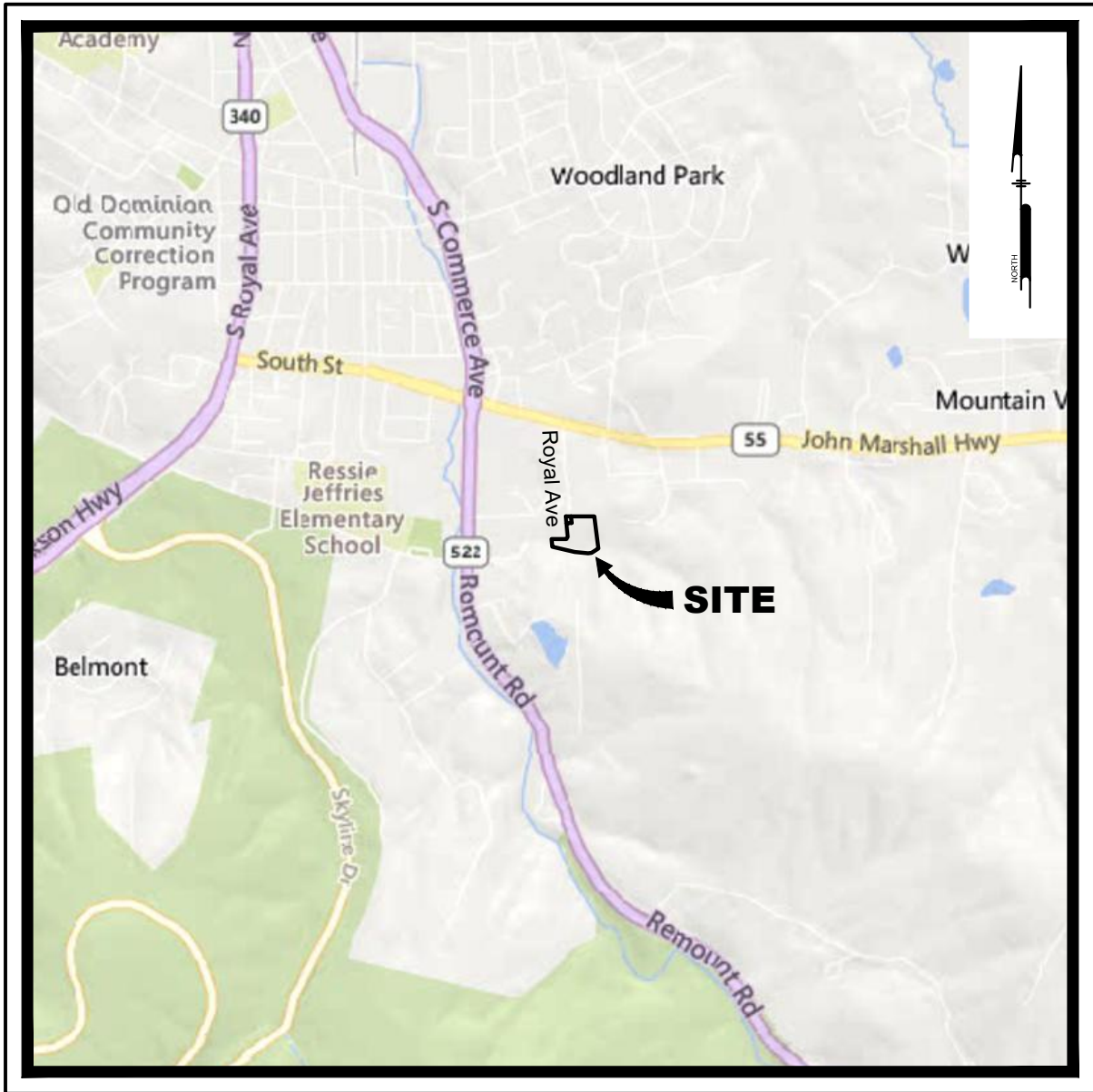
TOWN OF FRONT ROYAL, VIRGINIA -

ORIG SUBMISSION DATE: TBD

REVISED SUBMISSION DATE: TBD

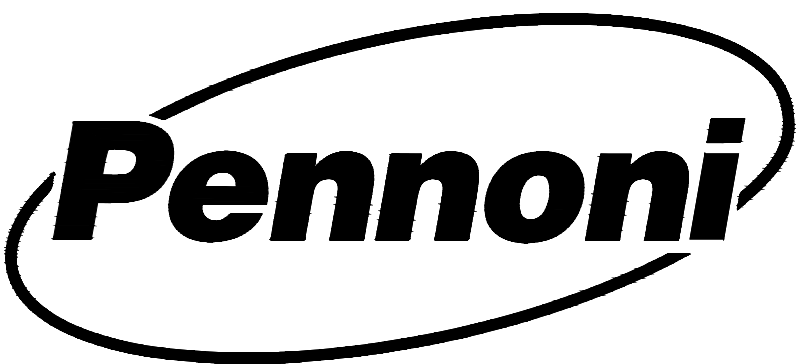
PREPARED FOR:
OWNER/DEVELOPER
BEEREN & BARRY INVESTMENTS, LLC
11654 PLAZA AMERICA DR. #653
RESTON, VA 20190

Sheet List Table	
Sheet Number	Sheet Title
CS0000	COVER SHEET
CS1000	EXISTING CONDITIONS
CS4000	GEOMETRIC PLAN
CS6000	GRADING PLAN

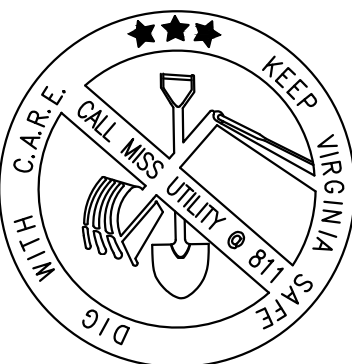


LOCATION MAP
Scale: 1" = 2000'

PREPARED BY:
PENNONI ASSOCIATES INC.



117 East Piccadilly Street
Winchester, VA 22601
T 540.667.2139
F 540.665.0493



CALL BEFORE YOU DIG

ALWAYS CALL 811 BEFORE YOU DIG IN VIRGINIA

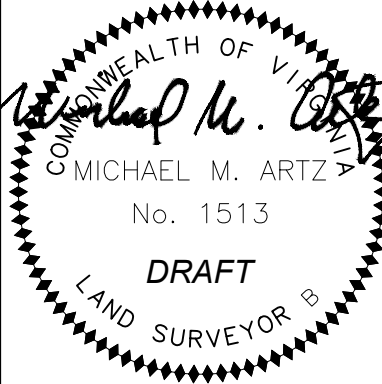
CALL 1-800-552-7001

SECTION 56-265.17 REQUIRES THREE WORKING DAYS
NOTICE TO UTILITIES BEFORE YOU EXCAVATE, DRILL OR
BLAST VIRGINIA UTILITY PROTECTION SERVICE, INC.
TICKET NUMBER(S):



PENNONI ASSOCIATES INC.
117 East Piccadilly Street
Winchester, VA 22601
T 540.667.2139 F 540.665.0493

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR
AND OWNER MUST BE NOTIFIED OF ANY
DISCREPANCIES BEFORE PROCEEDING WITH WORK



ROYAL APARTMENTS

PRELIMINARY SITE PLAN

ROYAL AVENUE
TOWN OF FRONT ROYAL, VIRGINIA

COVER SHEET

BEEREN & BARRY INVESTMENTS, LLC
11654 PLAZA AMERICA DR. #653 | RESTON, VA 20190

NO.	DATE	REVISIONS	BY

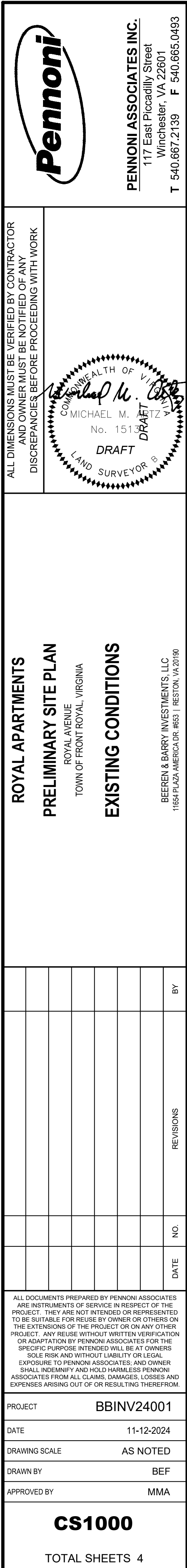
ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES
ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE
PROJECT. THEY ARE NOT INTENDED OR REPRESENTED
TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON
THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER
PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION
OR ADAPTATION BY PENNONI ASSOCIATES FOR THE
SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS
SOLE RISK AND WITHOUT LIABILITY OR LEGAL
EXPOSURE TO PENNONI ASSOCIATE. AND OWNER SHALL
INDemnIFY AND HOLD HARMLESS PENNONI ASSOCIATES
FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES
ARISING OUT OF OR RESULTING THEREFROM.

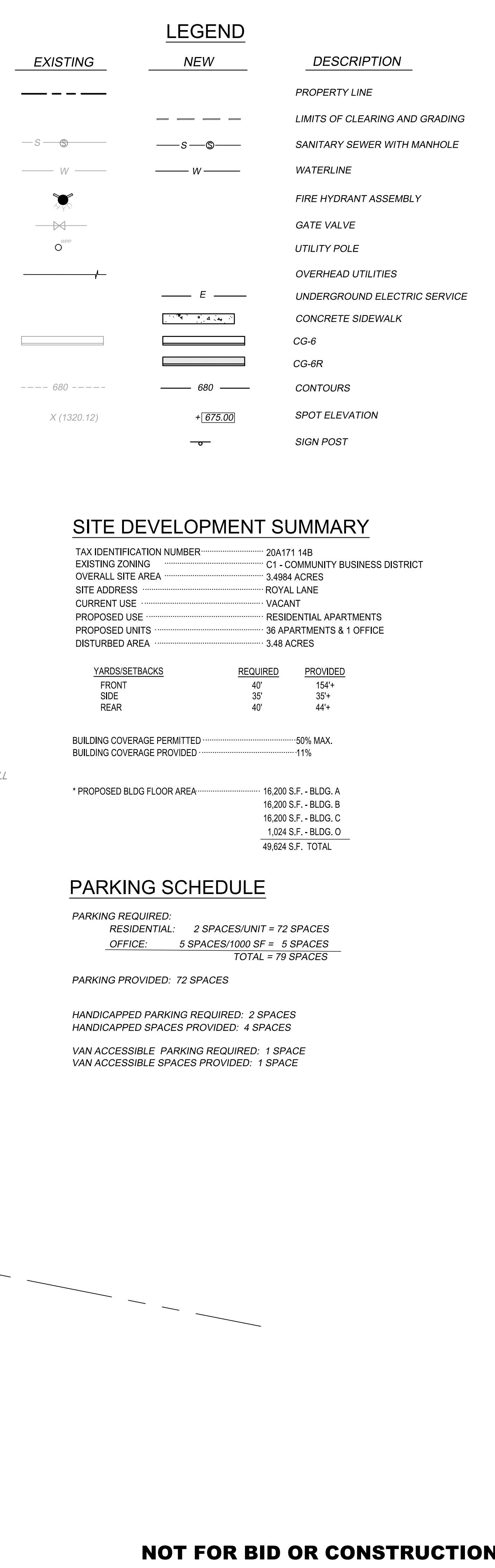
PROJECT	BBINV24001
DATE	11-12-2024
DRAWING SCALE	AS NOTED
DRAWN BY	BEF
APPROVED BY	MMA

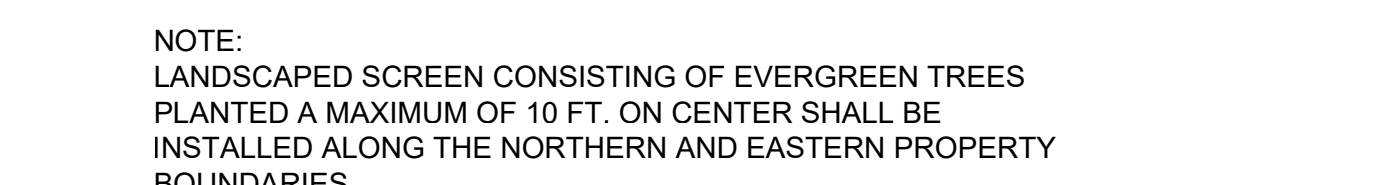
CS0000

TOTAL SHEETS 4

NOT FOR BID OR CONSTRUCTION







PUBLIC HEARING

2400687 - A REZONING APPLICATION SUBMITTED BY SKYLINE REALTY INVESTMENTS, LLC REQUESTING AN AMENDMENT TO THE ZONING MAP TO RECLASSIFY ADDRESSES 10, 30, 44, 52, 60 AND A VACANT LOT ON W. STRASBURG ROAD IDENTIFIED BY TAX MAP 20A12, SECTION 3, PARCELS 22, 26, 27A, 31C, 31 AND 23 FROM C-1, COMMUNITY BUSINESS DISTRICT TO R-3, RESIDENTIAL DISTRICT.

Town of Front Royal, Virginia

Planning Commission Regular Meeting Agenda

☐ Consent Action ☐ Administrative Action ☒ Public Hearing ☐ Discussion

Agenda Item: Rezoning Application # 2400687

MEETING DATE: January 15, 2025

SUMMARY: The application for review is requesting a zoning map amendment to the Zoning Map of the Town of Front Royal to reclassify addresses 10, 30, 44, 52, 60 and a vacant lot on W. Strasburg Road identified by Tax Map 20A12, Section 3, Parcels 22, 26, 27A, 31C, 31 and 23 from C-1, Community Business District to R-3, Residential District.

STAFF RECOMMENDATION:

Staff supports the recommendation of the rezoning from C-1, Community Business District to R-3, Residential District. This would permit the applicant to begin the permitting process for the construction of 24 Townhomes. Both the Town and County Comprehensive Plans encourage high density residential development in Town.

DRAFT MOTION: "I move that the Planning Commission forward a recommendation of approval to the Front Royal Town Council for Rezoning Application # 2400687 to reclassify addresses 10, 30, 44, 52, 60 and a vacant lot on W. Strasburg Road identified by Tax Map 20A12, Section 3, Parcels 22, 26, 27A, 31C, 31 and 23 from C-1, Community Business District to R-3, Residential District."

NOTE: This is only a draft motion. Alternative motions are also welcome.

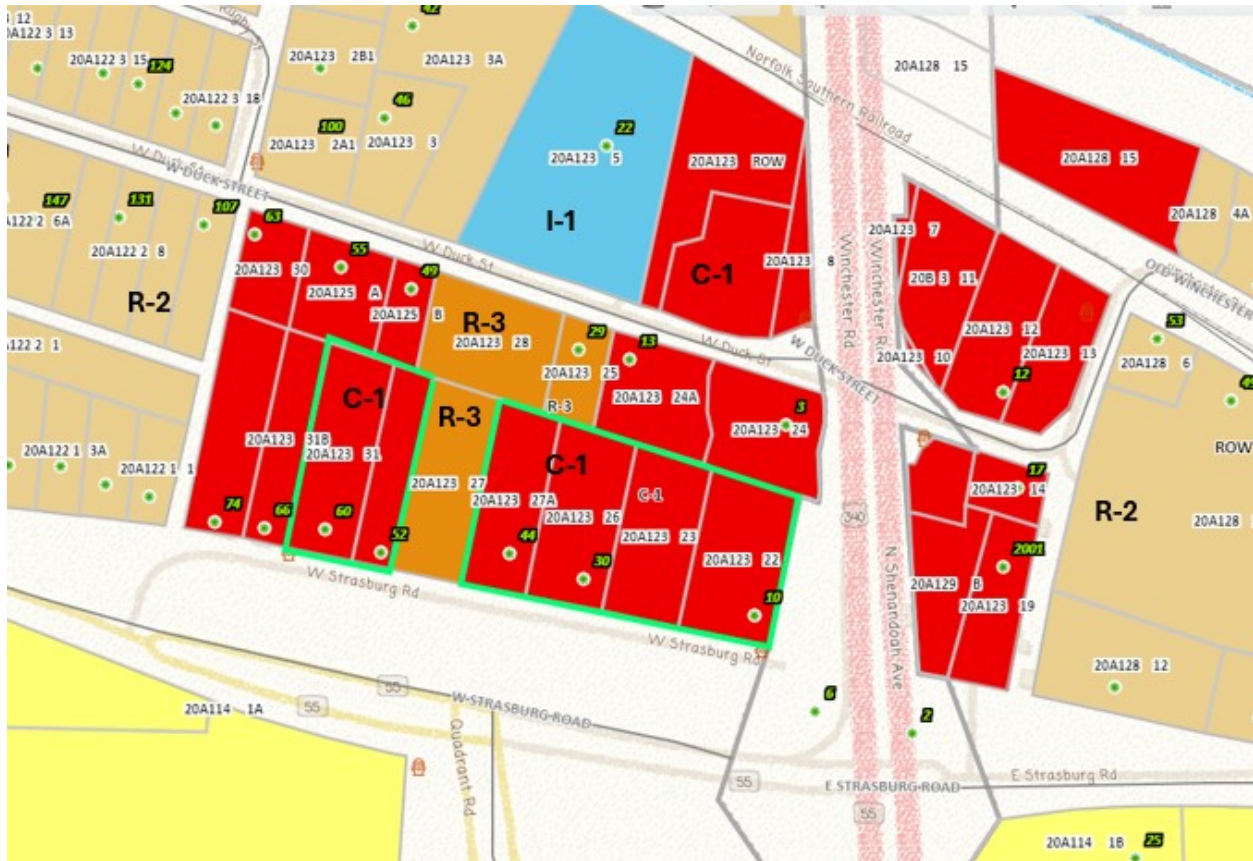
PLANNING COMMISSION ACTION:

Moved _____ Seconded _____

Marshner _____ Marrazzo _____ Neel _____ Brooks _____ Vacancy _____

☐ Approved ☐ Approved w/ Conditions ☐ Denied ☐ Other

AERIAL MAP – ZONING DISTRICTS



Application Documents

ATTACHMENT A: APPLICATION

- **Application Form.** This is the standard application form used to initiate rezoning applications in the Town.
- No proffers were made by the applicant.

ATTACHMENT B: STATEMENT OF JUSTIFICATION LETTER.

Statement of Justification

Rezoning Request for: 10 W Strasburg Road, 30 W Strasburg Road, 44 W Strasburg Road, 52 W Strasburg Road, & 56 W Strasburg Road

I am requesting a rezoning of six (6) parcels from C-1 Community Business District to R-3 Residential District. Due to right-of-way improvements completed by VDOT, the parcels are accessed off of a hammerhead, dead end drive which severely limits commercial viability. The parcels included in this application are either vacant or currently used for single family residential uses. Other parcels in this vicinity have been previously rezoned to R-3, this rezoning would continue this trend.

See the attached proposed plan which shows the potential for residential townhome development.

Requested Parcels:

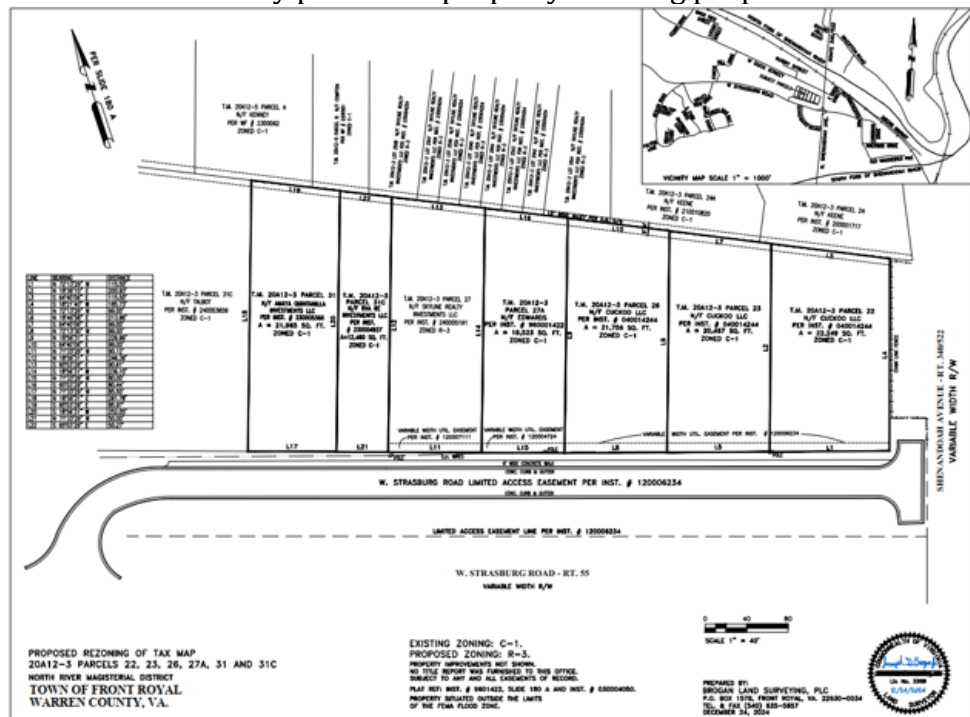
20A123 22
20A123 23
20A123 26
20A123 27A
20A123 31
20A123 31C

Skyline Realty Investments, LLC

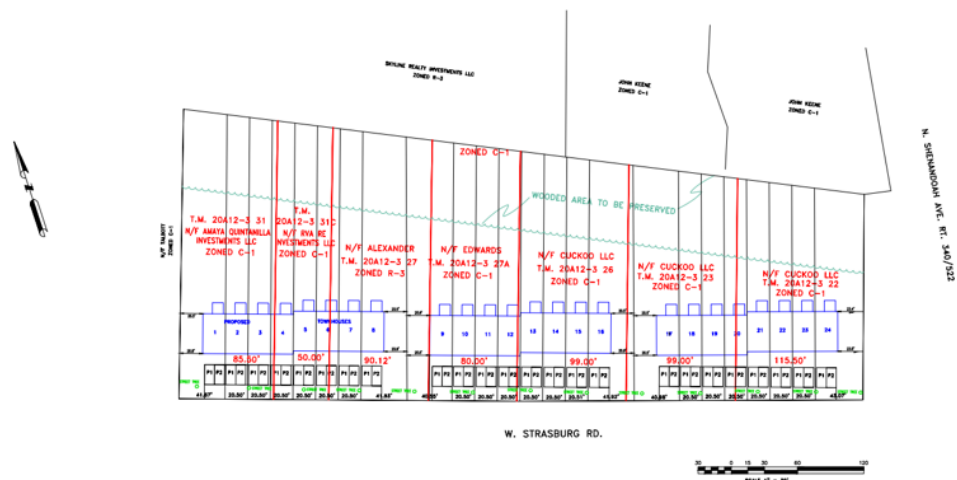
Chris Holloway

ATTACHMENT C: PLAT

- # Zoning Ordinance



Conceptual Sketch



The statements of intent of the two (2) identified zoning districts as set forth in the Front Royal Zoning Ordinance are as follows:

C-1 Community Business District, Zoning Ordinance Sec. 175-38

The Community Business C-1 District is intended to accommodate general business areas, highway-oriented commercial uses, and

	selected retailing operations. The Community Business C-1 District recognizes the demand for a variety of land uses near or adjacent to the major traffic arteries in Town. <u>R-3 District, Zoning Ordinance Sec. 175-28</u> The R-3 Residential District is composed of medium-to-high density concentrations of residential uses. The standards for this district are designed to stabilize and protect the essential character of the area so designated and to promote and encourage, insofar as compatible with the intensity of land use, a suitable environment for families desiring the amenities of apartment living and the convenience of being closest to shopping, employment centers and other community facilities. Development is, therefore, limited to medium- to high-density concentration, and permitted uses are limited to single-family, two-family and multifamily dwellings, plus selected additional uses, such as schools, parks, churches and certain public facilities. Home occupations, as defined by this chapter, are permitted. Mobile homes are prohibited. <u>Differences between C-1 and R-3 Zoning Districts</u> The main difference in these districts is the distinction between commercial and residential uses. The R-3 designation allows for and encourages, higher density residential uses. <i>Town Comp. Plan</i> The area is currently used as residential, not commercial. Despite the Comprehensive Plan calling for this area to be utilized in a commercial fashion, the lots are simply too small for any commercial use to conform to the standards for commercial development.
<i>County Comments</i>	Matt Wendling, Warren County Planning Director: After reviewing the site location and statement of justification for the rezoning request, Warren County had no problems with the land-use change for use as residential Townhomes for higher density housing. Both of our Comp Plans address housing and the need for additional dwelling units within the Town which are served by public sewer and water and for workforce housing. It is for this reason that on review of the application we are in support. David Beahm, Warren County Building Official: Comments – Skyline Investment Realty, LLC – Rezoning Application C-1 to R-3 – 2400687: • Erosion and Sediment Control (ESC) Items: ○ The Statement of Justification indicates that this change is to develop the lots for residential townhomes. Given

*County
Comments
(Continued)*

that these are individual lots and currently on an existing street, each would require an Agreement In Lieu of to be obtained if work is in conjunction with those structures.

- If work is done prior to the building permit being applied for an application and permit are required for ESC, which would be a normal submission including a full plan review application.
- Any determination for Stormwater requirements would need to be determined by the Department of Environmental Quality.

- Site Plan Review:

- It does not appear that this will be required for the scope of work that appears to be completed after this request is approved. However, if the scope of work expands it would need to be reevaluated at that time. At that time, it may require a Site Plan Review and Permit for Building Code Compliance to be completed for emergency access, utilities, structure placement for required fire separation, fire hydrants, fire lane markings, required fire signage, etc.

- Building Inspections Items:

- If or when any building construction related activity (structure, electrical, plumbing, mechanical, fire suppression, energy, etc.) were to start, it would be subject to the normal requirements of application, review and approval prior to work beginning.

- Fire Marshal's Office Comments (standard):

- We would defer all comments for the site development/new construction/retrofit/change of use to the Building Official. Upon approval and issuance of the CO, the facility (as applicable) shall be maintained in accordance with the Virginia Statewide Fire Prevention Code.

If anything should change in the scope, additional requirements may be required.

All submissions for these items would be made to the Building Inspections Department through the email address:

inspections@warrencountyva.gov

Findings and Analysis & Staff Recommendation

Staff supports the recommendation of the rezoning from C-1, Community Business District to R-3, Residential District. This would permit the applicant to begin the permitting process for the by-right construction of twenty-four (24) Townhomes.

Attachments: A. Application
B. Statement of Justification Letter
C. Plat
D. Conceptual Drawing



TOWN OF FRONT ROYAL ~102 East Main Street, Front Royal, Va. 22630 ~ 540-635-4236
Department of Planning & Zoning

FRREZON 2400687

REZONING APPLICATION

APPLICANT

Name Skyline Investment Realty LLC Phone 540-771-7653

Address: 8043 Main St, Middletown VA 22645

E-mail: info@skylineRealtyInvestments.com

PROPERTY OWNER OF RECORD

Name same as above Phone _____

Address _____

PROPERTY DESCRIPTION

Location/Street Address 52, 44, 56, 30, 10, W Strasburg Road

Number of lots: 6 Total Acreage _____

Tax Map Identification for each parcel (Map, Section, Block, & Lot):
20A123 22, 20A123 23, 20A123 26, 20A123 27A, 20A123 31, 20A123 31C

Subdivision Name (if applicable) _____

REQUEST

Existing Zoning C-1

Proposed Zoning R-3

Existing Use Vacant and Residential

Proposed Use Multifamily residential

January 2019

RECEIVED
DEC 10 2024
TOWN OF FRONT ROYAL
PLANNING & ZONING DEPARTMENT

PLEASE COMPLETE REVERSE SIDE

ATTACHMENTS

The following should be submitted with a completed copy of this application. Additional information may be determined necessary depending on the nature of the request.

1. Application Fee (Checks should be made out to the Town of Front Royal. Fees are as follows: 1 acre or less = \$500, over 1 acre = \$500 + \$100 per acre after 1st acre, Downzoning = \$400)
2. Survey/Plat of the property with metes and bounds descriptions for all existing and proposed property lines and zoning district boundaries (8 copies and a digital copy).
3. Environmental Site Assessment Phase I and Phase II (unless waived by Director).
4. Traffic Impact Analysis (if required)
5. Written proffers. Proffers are voluntary but should be submitted in a written format approved by the Director.
6. Statement of Justification. As a separate document, provide a statement or statements that explain why you believe the property should be rezoned.

CERTIFICATION

I certify that the information provided with this application is correct to the best of my knowledge. The proffering system has been explained to me and I have read Sections 175-149 and 175-150 of the Town of Front Royal Zoning Ordinance pertaining to conditional zoning and proffering.



A handwritten signature in blue ink, appearing to read "Chris William Holloway", written over a horizontal line.

Signature of Property Owner

Signature of Applicant (if different)

City/County of WARREN, Commonwealth of Virginia
The foregoing instrument was acknowledged before me this 10th day of December, 2024 by
Chris William Holloway.
(Name of person seeking acknowledgement)

A handwritten signature in blue ink, appearing to read "Connie L. Potter", written over a horizontal line.

Notary Public

Notary registration number: 7076929 My commission expires: 8/31/2027

NOTICES

- Staff will notify adjacent property owners of the rezoning request and the scheduled public hearing dates with the Planning Commission and Town Council.
- Town Staff will place an advertisement in the local newspaper as required under Virginia Code §15.2-2204.
- Town Staff will place a public hearing sign(s) at the location of the proposed rezoning.
- Submission of this application does not establish a vested right as outlined under Virginia Code §15.2-2307.
- By submitting this application, the applicant grants permission to the Town officials and employees to enter upon the property, which is the subject of this application, during reasonable hours and for purposes related to the application process.
- When the applicant is different than the fee simple property owner, the signature by the fee simple property owner on this application shall be considered as authorization for the applicant to act as an agent for matters concerning this application.

OFFICE USE ONLY

Receipt # 1677 iwork Date Paid 12/10/2024
Planning Commission Hearing Date: 1/15/2025 Recommendation: _____
Town Council Hearing Date: _____ Date Sent to Clerk: _____

Statement of Justification

Rezoning Request for: 10 W Strasburg Road, 30 W Strasburg Road, 44 W Strasburg Road, 52 W Strasburg Road, & 56 W Strasburg Road

I am requesting a rezoning of six (6) parcels from C-1 Community Business District to R-3 Residential District. Due to right-of-way improvements completed by VDOT, the parcels are accessed off of a hammerhead, dead end drive which severely limits commercial viability. The parcels included in this application are either vacant or currently used for single family residential uses. Other parcels in this vicinity have been previously rezoned to R-3, this rezoning would continue this trend.

See the attached proposed plan which shows the potential for residential townhome development.

Requested Parcels:

20A123 22

20A123 23

20A123 26

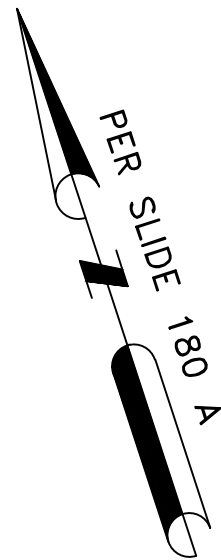
20A123 27A

20A123 31

20A123 31C

Skyline Realty Investments, LLC

Chris Holloway



T.M. 20A12-5 PARCEL A
N/F KENNEY
PER WF # 2300062
ZONED C-1

T.M. 20A12-5 PARCEL B N/F COMPTON
PER WF # 2200001
ZONED C-1

T.M. 20A12-3 LOT 2548 N/F SKYLINE REALTY
INVESTMENTS LLC PER INST. # 230004254
ZONED R-3

T.M. 20A12-3 LOT 2547 N/F SKYLINE REALTY
INVESTMENTS LLC PER INST. # 230004254
ZONED R-3

T.M. 20A12-3 LOT 2546 N/F SKYLINE REALTY
INVESTMENTS LLC PER INST. # 230004254
ZONED R-3

T.M. 20A12-3 LOT 2545 N/F SKYLINE REALTY
INVESTMENTS LLC PER INST. # 230004254
ZONED R-3

T.M. 20A12-3 LOT 2544 N/F SKYLINE REALTY
INVESTMENTS LLC PER INST. # 230004254
ZONED R-3

T.M. 20A12-3 LOT 2543 N/F SKYLINE REALTY
INVESTMENTS LLC PER INST. # 230004254
ZONED R-3

T.M. 20A12-3 LOT 2542 N/F SKYLINE REALTY
INVESTMENTS LLC PER INST. # 230004254
ZONED R-3

T.M. 20A12-3 LOT 2541 N/F SKYLINE REALTY
INVESTMENTS LLC PER INST. # 230004254
ZONED R-3

T.M. 20A12-3 PARCEL 24A
N/F KEENE
PER INST. # 210010820
ZONED C-1

T.M. 20A12-3 PARCEL 24
N/F KEENE
PER INST. # 200001717
ZONED C-1

LINE	BEARING	DISTANCE
L1	N 72°13'29" W	115.50'
L2	N 18°36'10" E	200.93'
L3	S 64°40'06" E	115.50'
L4	S 18°21'40" W	185.73'
L5	N 72°13'29" W	99.00'
L6	N 18°46'58" E	213.96'
L7	S 64°40'06" E	99.00'
L8	N 72°13'30" W	99.00'
L9	N 18°56'31" E	226.99'
L10	S 64°40'06" E	99.00'
L11	N 71°33'29" W	90.12'
L12	N 18°56'31" E	246.36'
L13	S 65°03'29" E	90.61'
L14	S 18°56'31" W	236.10'
L15	N 71°33'29" W	80.00'
L16	S 65°03'29" E	80.44'
L17	N 71°33'29" W	85.50'
L18	N 18°56'31" E	261.78'
L19	S 65°03'29" E	85.97'
L20	S 18°56'31" W	252.05'
L21	N 71°33'29" W	50.00'
L22	S 65°03'29" E	50.27'

T.M. 20A12-3 PARCEL 31C
N/F TALBOT
PER INST. # 240003659
ZONED C-1

T.M. 20A12-3 PARCEL 31
N/F AMAYA QUINTANILLA
INVESTMENTS LLC
PER INST. # 230005366
A = 21,965 SQ. FT.
ZONED C-1

T.M. 20A12-3
PARCEL 31C
N/F RVA RE
INVESTMENTS LLC
PER INST.
230004937
A=12,460 SQ. FT.
ZONED C-1

T.M. 20A12-3 PARCEL 27
N/F SKYLINE REALTY
INVESTMENTS LLC
PER INST. # 240005191
ZONED R-3

T.M. 20A12-3
PARCEL 27A
N/F EDWARDS
PER INST. # 960001422
A = 18,523 SQ. FT.
ZONED C-1

T.M. 20A12-3 PARCEL 26
N/F CUCKOO LLC
PER INST. # 040014244
A = 21,756 SQ. FT.
ZONED C-1

T.M. 20A12-3 PARCEL 23
N/F CUCKOO LLC
PER INST. # 040014244
A = 20,467 SQ. FT.
ZONED C-1

T.M. 20A12-3 PARCEL 22
N/F CUCKOO LLC
PER INST. # 040014244
A = 22,249 SQ. FT.
ZONED C-1

VARIABLE WIDTH UTIL. EASEMENT
PER INST. # 120007111

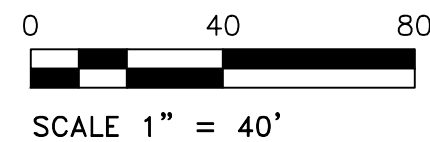
VARIABLE WIDTH UTIL. EASEMENT
PER INST. # 120004724

VARIABLE
WIDTH UTIL. EASEMENT PER INST. # 120006234

W. STRASBURG ROAD LIMITED ACCESS EASEMENT PER INST. # 120006234

W. STRASBURG ROAD - RT. 55

VARIABLE WIDTH R/W

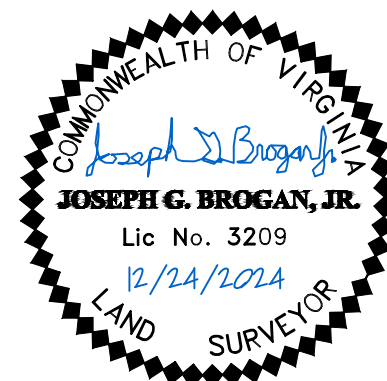


PROPOSED REZONING OF TAX MAP
20A12-3 PARCELS 22, 23, 26, 27A, 31 AND 31C
NORTH RIVER MAGISTERIAL DISTRICT
TOWN OF FRONT ROYAL
WARREN COUNTY, VA.

EXISTING ZONING: C-1.
PROPOSED ZONING: R-3.
PROPERTY IMPROVEMENTS NOT SHOWN.
NO TITLE REPORT WAS FURNISHED TO THIS OFFICE.
SUBJECT TO ANY AND ALL EASEMENTS OF RECORD.

PLAT REF: INST. # 9601422, SLIDE 180 A AND INST. # 030004050.
PROPERTY SITUATED OUTSIDE THE LIMITS
OF THE FEMA FLOOD ZONE.

PREPARED BY:
BROGAN LAND SURVEYING, PLC
P.O. BOX 1578, FRONT ROYAL, VA. 22630-0034
TEL. & FAX (540) 635-5657
DECEMBER 24, 2024



SHENANDOAH AVENUE - RT. 340/522
VARIABLE WIDTH R/W

PREPARED BY
BROGAN LAND SURVEYING PLC
P.O. BOX 1578, FRONT ROYAL, VA. 22630
TEL. & FAX 540-635-5657
NOVEMBER 7, 2024

OLD BUSINESS

2400421 - A REQUEST FOR PRELIMINARY PLAN APPROVAL FOR A MAJOR SUBDIVISION SUBMITTED BY ALI BILLOO FOR A SUBDIVISION CONTAINING NINE (9) LOTS AND SIXTEEN (16) DWELLING UNITS LOCATED AT 336 W STRASBURG ROAD, IDENTIFIED ON TAX MAP 20A11, SECTION 4, PARCEL 23B. THE PROPERTY IS ZONED R-2, RESIDENTIAL DISTRICT.

Town of Front Royal, Virginia

Planning Commission Regular Meeting Agenda

☐ Consent Action ☒ Administrative Action ☐ Public Hearing ☐ Discussion

Agenda Item: Application for Preliminary Plan Approval Major Subdivision #2400421

MEETING DATE: January 15, 2025

SUMMARY: The application for review is a request for preliminary plan approval for a major subdivision submitted by Ali Billoo for a subdivision containing nine (9) lots and sixteen (16) dwelling units located at 336 W Strasburg Road, identified on tax map 20A11, section 4, parcel 23B. The property is zoned R-2, Residential District.

STAFF RECOMMENDATION: Staff has reviewed the preliminary plan for conformance with Town Code and recommends approval.

DRAFT MOTION: "I move that the Planning Commission approve Preliminary Plan Approval Major Subdivision Application #2400421".

NOTE: This is only a draft motion. Alternative motions are also welcome.

PLANNING COMMISSION ACTION:

Moved _____ Seconded _____

Neel _____ Brooks _____ Marshner _____ Marrazzo _____ Vacancy _____

☐ Approved ☐ Approved w/ Conditions ☐ Denied ☐ Other



**TOWN OF FRONT ROYAL
DEPARTMENT OF PLANNING & ZONING**

**STAFF REPORT - REZONING APPLICATION #2400421
PLANNING COMMISSION– JANUARY 15, 2025**

APPLICATION #:

Preliminary Plan Approval Major
Subdivision #2400421

APPLICANT:

Ali Billoo

SUMMARY OF REQUEST:

A request for preliminary plan approval for a major subdivision submitted by Ali Billoo for a subdivision containing nine (9) lots and sixteen (16) dwelling units located at 336 W Strasburg Road, identified on tax map 20A11, section 4, parcel 23B. The property is zoned R-2, Residential District.

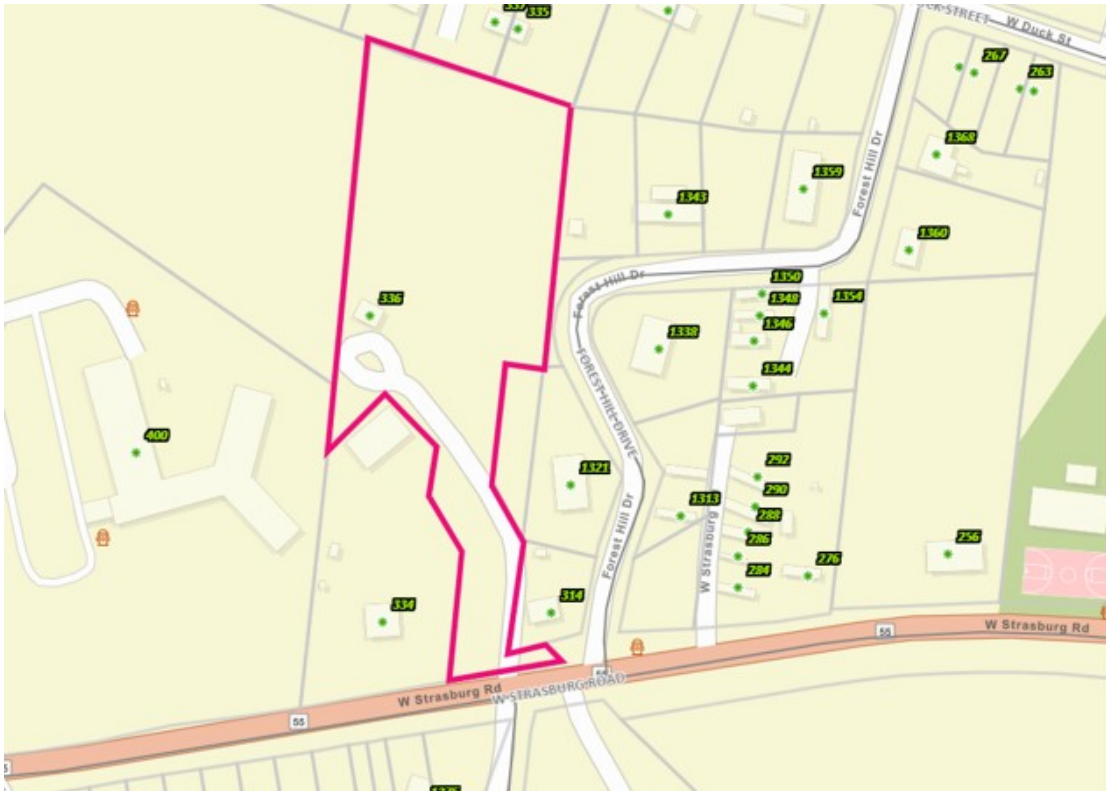
GENERAL INFORMATION:

<i>Site Addresses</i>	336 W. Strasburg Road
<i>Property Owner(s)</i>	Bills Investments LLC
<i>Zoning District</i>	R-2, Residential District
<i>Tax Identification</i>	20A11-4-23B
<i>Location</i>	The subject property is located on W. Main Street between North Street and Viscose Avenue with Orchard Street running behind the property.
<i>Existing Use</i>	Single Family Dwelling
<i>Proposed Use</i>	Sixteen (16) Dwelling Units (Duplexes)

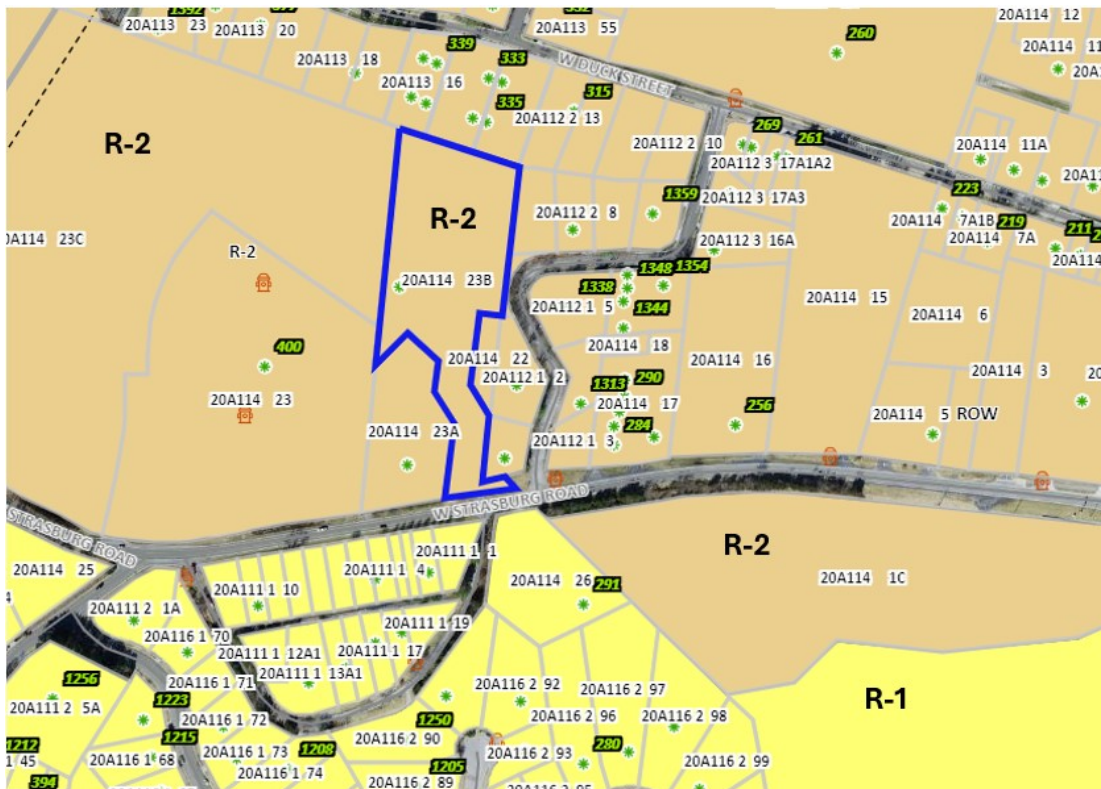
AERIAL MAP – 336 W. Strasburg Road – Warren County GIS



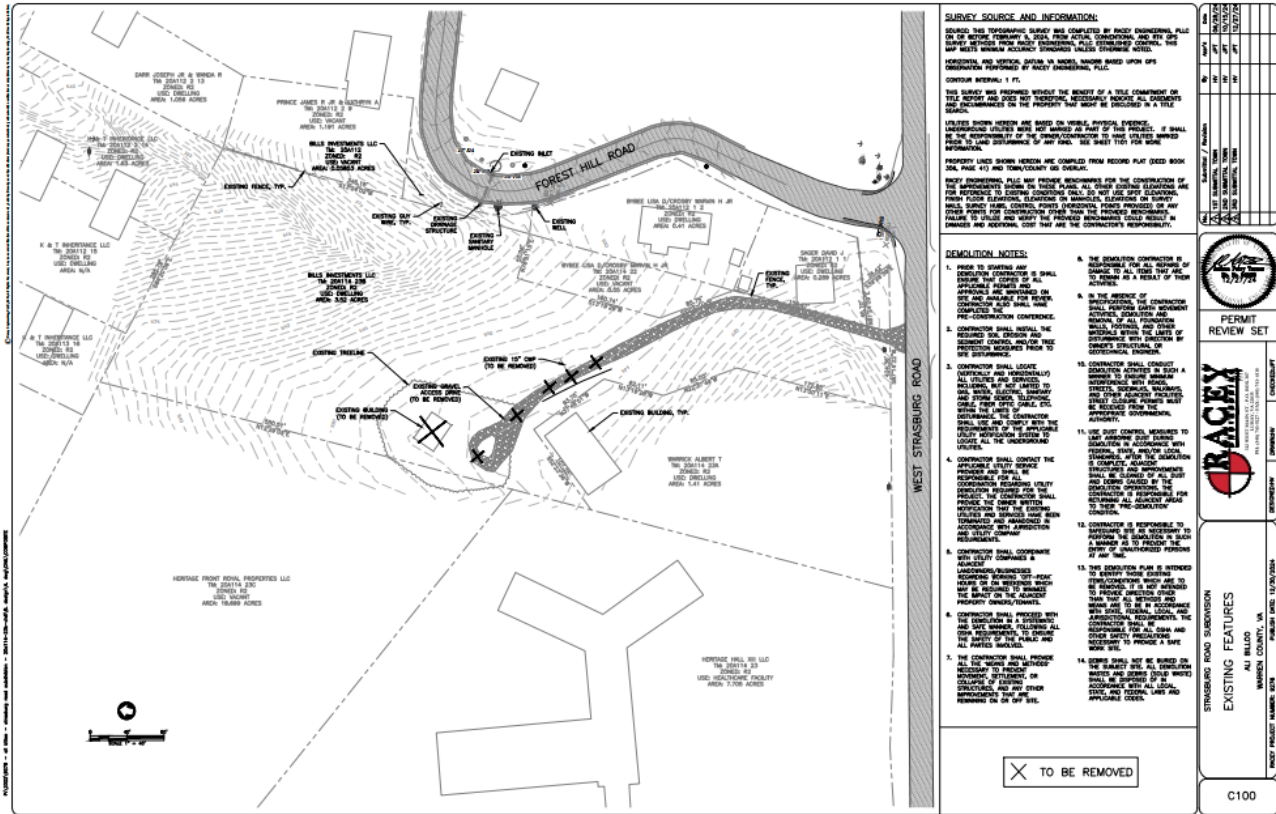
VACINITY MAP – 336 W. Strasburg Road – Warren County GIS



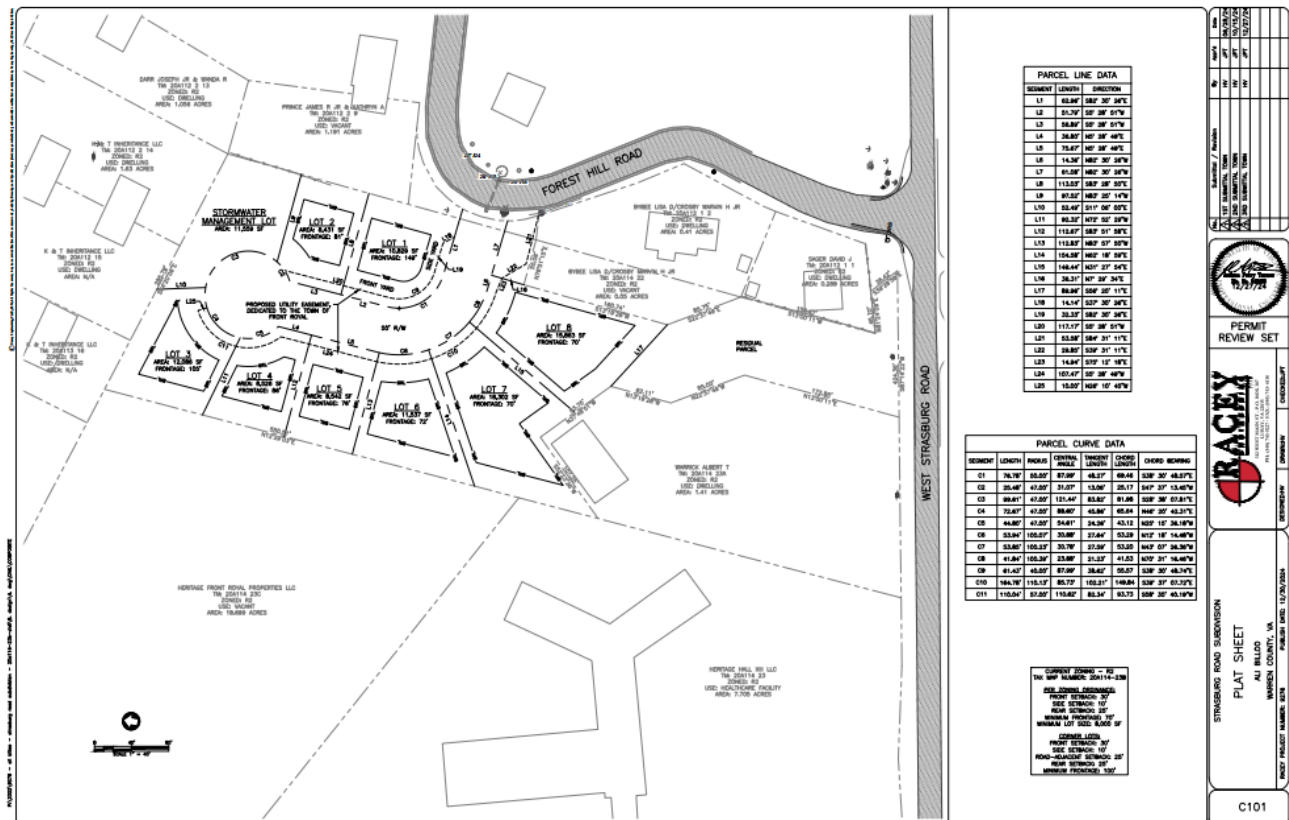
ZONING MAP – 336 W. Strasburg Road – Warren County GIS



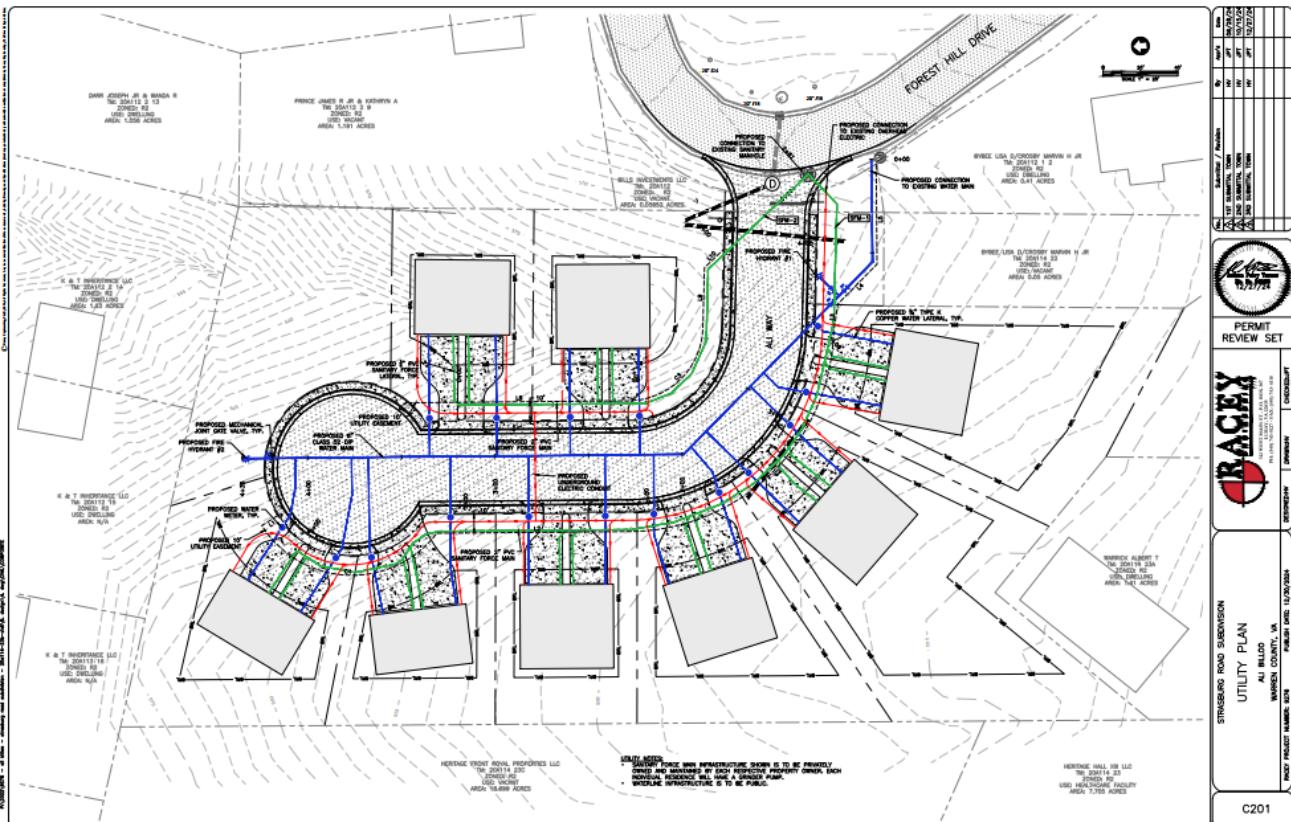
EXISTING CONDITIONS



PLAT SHEET



UTILITY PLAN



INFORMATION ON THE APPLICATION:

<i>PRELIMINARY SUBDIVISION PLAN</i>	Town Code, Chapter 148, Section 310, specifies that “(a) Preliminary Plan is required for all proposed major subdivisions. The Preliminary Plan review process includes review and approval of the subdivision design before submission of a Subdivision Plan and Final Plats. The Planning Commission has approval authority for Preliminary Plans.
<i>FINAL SUBDIVISION PLAN</i>	Town Code 148-315 of the Town Code requires major subdivisions to obtain approval of a subdivision plan and final plats within thirty-six (36) months of approval of the preliminary plan. This will be the current step in the process for approval of this subdivision prior to recordation of the lots and development. Unlike Preliminary Plans, Subdivision Plans and Final Plats require approval by Town Council. In addition, bonding is required.
<i>CONCLUSION</i>	Staff has reviewed the preliminary plan for correctness and supports approval.

ATTACHMENTS: 1) Application.

- 2) Staff Review Comments Dated December 19, 2024.
- 3) Response Letter from Racey Engineering Addressing Staff Comments.
- 4) Review Comments from Virginia Department of Transportation (VDOT).
- 5) Review Comments from David Beahm, Warren County Building Official.
- 6) Applicants Revised Plans Dated December 27, 2024. (3rd Submission)



TOWN OF FRONT ROYAL
DEPARTMENT OF PLANNING & ZONING
102 EAST MAIN STREET
P.O. BOX 1560
FRONT ROYAL, VA 22630

2400421
RECEIVED
Main: 540.635.4236
Fax: 540.631.2727
Internet: www.frontroyalva.com

TOWN OF FRONT ROYAL
PLANNING & ZONING DEPARTMENT

APPLICATION FOR PRELIMINARY PLAN APPROVAL
(involving new streets, utilities or more than 8 lots)
MAJOR SUBDIVISIONS

The undersigned hereby applies for review by the Town of Front Royal Planning Commission of the Preliminary Major Subdivision Plat submitted herewith:

1. Applicant's Name Ali Billoo Phone 703-346-6254
Address 7214 Sipes Lane, Annandale VA, 22003 billshomes@hotmail.com
2. Present Owner (if other than applicant) _____
Address _____ Phone _____
3. Interest of applicant if other than owner _____

4. Name and profession of person designing preliminary plat Racey Engineering, PLLC
Joshua Turner, P.E.: Civil Engineer
Address 312 West Main Street, Luray VA, 22835 Phone 540-743-9227
5. Location of subdivision 336 West Strasburg Road, Front Royal VA, 22630

6. Total acreage 3.52 Zoning Classification R2
No. of Lots 9 Tax Map Number 20A114 23B
7. Acreage of adjoining land in same ownership (if any) 0.05853
8. Development Plans:
(A) Proposed number of dwellings. 14
(B) Length of new public roads. 340'
(C) Amount of open space. 1,780 sf

PLEASE COMPLETE REVERSE SIDE

9. Deed restrictions that apply or are contemplated. (If no restrictions, state "none", if "Yes" attach copy) none

10. Date of Sketch Plat Approval _____ (Optional)

11. Attach: (A) Two Full Size Copies of Preliminary Plat
(B) Digital Copy of Preliminary Plat
(C) One 11 x 17 Copy of Preliminary Plat
(D) Additional documents required by Section 148-310.C of the Subdivision and Land Development Ordinance.

I hereby state that all of the above information and the statements contained herein submitted with this application are true.

2/11/24
Date

[Signature]
Signature of Applicant

Designated contact for applicant: _____

By submitting this application, the applicant grants permission to Town officials and employees to enter upon the property, which is the subject of this application, during reasonable hours and for purposes related to the application process.

Fee \$725.00 * pd check # 3897 Date Paid 7-11-24
725.00

*Preliminary Plat fee is \$500 per plat and \$25 per lot.

1. Action of the Town Planning Commission

Date _____ Approved _____ Disapproved _____

2. Notification of approval/disapproval sent to:

Town Council _____ Date _____

Applicant _____ Date _____

3. Amount of performance bond required for approval of final plat \$ _____

Comments:



Town of Front Royal, VA | Dept. of Planning & Zoning
102 E. Main St | Front Royal, VA 22630
Office: (540) 635-4236

Strasburg Road Subdivision

Permit #2400421 (Owner-Ali Billoo)

DATE: 19 December 2024

TO: Joshua P. Turner P.E. and Bradley Ritchie CE

CC: Lauren Kopishke, Director of Planning & Zoning

FROM: John M. Ware, Deputy Zoning Administrator

RE: Comments on Preliminary Plan dated October 15, 2024 (2nd Submittal)

Mr. Turner,

We have reviewed the above-noted submission and offer the following comments:

1. Comments are based on Policy Guidelines for a Major Subdivision Preliminary Plan per 148-300, Street Design per 148-820, Utilities and Services per 148-840, Street Improvements 148-850 and Zoning per Chapter 175 of the Towns Municipal Code and the associated checklist. [All other Local Agencies' Comments \(Warren County Building and E&S, Fire Marshall's Office, VDOT, DEQ\) from the previous submittal still apply.](#)
2. As per Checklist 148-1010-1 item (e), Provide minimum lot size requirements on the Cover Sheet.
3. As per Checklist 148-1010-1 item (i), provide an area tabulation showing total area and number of lots, streets, open space and residue on the Cover Sheet. [Provide a tabulation list showing the area \(square footage\) of all the lots, streets, open space, etc. on the Cover Sheet.](#)

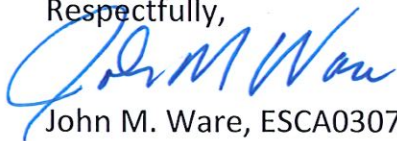
4. As per Checklist 148-1010 item (12), Show location type, grade, and all proposed and existing sanitary sewers, manholes, gas lines, storm sewers, inlets ditches, **culverts** and other unities. Show location of proposed connections to existing utilities. *Provide invert information, type, size, percent of grade, length of pipe, etc. for the culverts shown on the plans.*
5. As per Checklist 148-1010 item (25), provide typical street section of proposed street showing entire width of right-of-way, depth and type of pavement, base and subbase and curb line or ditch section, sidewalk and cut or fill slope. *The Typical Road Section provided on Sheet C303 needs to include curb and gutter.*
6. As per Checklist 148-1010 item (37), Show significant physical features on the property (watercourses, wetlands, wooded areas, etc.) and other significant man-made or natural features within the subdivision. *Since most of the parcel is wooded, show the wooded areas on an appropriate sheet.*

As per PUBLIC WORKS COMMENTS

7. Sheet C200 needs to have the CG-6 curb and gutter and CG-9 driveway aprons labeled and shown.
8. Sidewalk still needs to be shown on the plans, there's no approved waiver for the sidewalk at this time.
9. Town standards need to be added to the detail sheet, W-6, S-10, S-1, RC-1, RC-2, RC-4, and RC-5.

Please resubmit with corrections at your earliest convenience.

Respectfully,



John M. Ware, ESCA0307, SWPA0226, CZO
Deputy Zoning Administrator



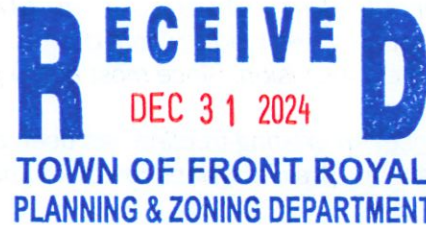
Date: 12/27/24

Racey Project Number: 9276

Project Name: Strasburg Road Subdivision

Subject: 2nd Submittal Town Comment Response Letter

John M. Ware, Deputy Zoning Administrator
Front Royal Department of Planning and Zoning



We have revised the Strasburg Road Subdivision Site Development Plan located in Front Royal, VA based on the review comments dated 19 December, 2024. See below our revisions and responses to the review comments.

See Below a summary of the comments with the Engineer's response following each comment in *Italics*.

1. Comments are based on Policy Guidelines for a Major Subdivision Preliminary Plan per 148-300, Street Design per 148-820, Utilities and Services per 148-840, Street Improvements per 148-850, and Zoning per Chapter 175 of the Town's Municipal Code and associated checklist. All other Local Agencies' Comments (Warren County Building and E&S, Fire Marshall's Office, VDOT, DEQ) from the previous submittal still apply.
Response: Understood.
2. As per Checklist 148-1010-1 item (e), provide minimum lot size requirements on the Cover Sheet.
Response: The minimum lot size requirements for this development have been added to the cover sheet, under the Project Site Summary.
3. As per Checklist 148-1010-1 item (i), provide an area tabulation showing total area and number of lots, streets, open space, and residue on the Cover Sheet. Provide a tabulation list showing the area (square footage) of all the lots, streets, open space, etc. on the Cover Sheet.
Response: A table has been added to the cover sheet with the proposed area tabulation.
4. As per Checklist 148-1010 item (12), Show location, type, grade, and all proposed and existing sanitary sewers, manholes, gas lines, storm sewers, inlets, ditches, culverts, and other utilities. Show location of proposed connections to existing utilities. Provide invert information, type, size, percent of grade, length of pipe, etc. for the culverts shown on the plans.
Response: Culvert size and material type are called out on sheet C200, and inverts, lengths, and slopes have been added to sheet C300.
5. As per Checklist 148-1010 item (25), provide typical street section of proposed street showing entire width of right-of-way, depth and type of pavement, base and subbase, and curb line or ditch section, sidewalk, and cut or fill slope. The Typical Road Section provided on Sheet C303 needs to include curb and gutter.





Response: Curb and gutter has been added to the Proposed Road Typical Section on sheet C303.

6. As per Checklist 148-1010 item (37), show significant physical features on the property (watercourses, wetlands, wooded areas, etc.) and other significant man-made or natural features within the subdivision. Since most of the parcel is wooded, show the wooded areas on an appropriate sheet.

Response: An existing treeline has been added to C100 to show the limit of the existing woods. Sheet C601 shows all existing landcovers on the site as well.

As per PUBLIC WORKS COMMENTS

7. Sheet C200 needs to have the CG-6 curb and gutter and CG-9 driveway aprons labeled and shown.

Response: CG-6 and CG-9 labels have been added to sheet C200.

8. Sidewalk still needs to be shown on the plans, there's no approved waiver for the sidewalk at this time.

Response: Sidewalk has been added to the plans, see sheet C200.

9. Town standards need to be added to the detail sheet, W-6, S-10, S-1, RC-1, RC-2, RC-4, and RC-5.

Response: Standard details have been added to sheet C503.

Please find attached the Strasburg Road Subdivision Site Development Plan for your review. If you have any questions regarding the responses to these comments, please feel free to contact me personally. Thank you.

Sincerely,

Racey Engineering, PLLC

Hunter VanEtten

Civil Engineer



Connie Potter

From: Spielman, Joseph (VDOT) <Joseph.Spielman@vdot.virginia.gov>
Sent: Monday, August 5, 2024 1:55 PM
To: Connie Potter; Lauren Kopishke
Cc: Funkhouser, Rhonda (VDOT); Johnson, Joseph (VDOT)
Subject: Major Subdivision Preliminary Plan Review

Connie,

We have reviewed the above referenced Major Subdivision Preliminary Plan, Application #2400421, for impacts to the transportation system.

While we do not have any general objections to the proposal, we would recommend that you have a turn lane warrant analysis conducted for all users on Fisher Road, to see if it would warrant a turn lanes or tapers, if so, we would recommend they would be included as a condition for the application/permit. The subdivision could add 130 additional trips daily.

Also, looking at the road in person, it is curb and gutter for its entirety, the entrance should be installed to a CG-11 commercial entrance standard, providing an entrance profile to verify grades.

Please reach out if you have any further concerns or questions.

Thanks
Ryan



Joseph Ryan Spielman
Land Development Engineer / Edinburg Residency
Virginia Department of Transportation
540-535-1829
joseph.spielman@vdot.virginia.gov

Connie Potter

From: David Beahm <Dbeahm@warrencountyva.gov>
Sent: Monday, July 15, 2024 1:09 PM
To: Connie Potter
Cc: Gerry Maiatico; Gordon Foster; Inspections; Kevin Perry; Matthew Byers
Subject: RE: Request for Comments – Major Subdivision Preliminary Plan Review – Tax Map 20A114----23B – 336 West Strasburg Rd., Front Royal, VA – 2400421
Attachments: 2400421_Application_Preliminary Plan_Major Subdivision_336 W Strasburg Rd.pdf; 2400421_Plan_STRASBURG ROAD SUBDIVISION_062824.pdf; 2400421_Stormwater Computations Packet.pdf

Comments – Ali Billoo – Preliminary Plan Approval Major Subdivision – 2400421:

- Erosion and Sediment Control (ESC) Items:
 - Application and permits are required for ESC permit, which would be a normal submission including a full plan review application.
 - The area of disturbance exceeds one (1) acre, more than two dwellings and a new subdivision which will additionally require a Stormwater permit through the Department of Environmental Quality (DEQ). Approval by DEQ (Construction General Permit) would be required prior to any ESC Permit and any type of Building Permit being issued by Warren County.
 - Each lot when developed for a residential dwelling unit would then be required to have an Agreement In Lieu Of which would be obtained at that time.
- Site Plan Review:
 - If or when any building construction related activity were to take place, a Site Plan Review and Permit for Building Code Compliance would be required to be completed for including emergency access, utilities, structure placement for required fire separation, fire hydrants, fire lane markings, required fire signage, etc.
- Building Inspections Items:
 - If or when any building construction related activity (structure, electrical, plumbing, mechanical, fire suppression, energy, etc.) were to start, it would be subject to the normal requirements of application, review and approval prior to work beginning.
- Fire Marshal's Office Comments (standard):
 - We would defer all comments for the site development/new construction/retrofit/change of use to the Building Official. Upon approval and issuance of the CO, the facility (as applicable) shall be maintained in accordance with the Virginia Statewide Fire Prevention Code.

If anything should change in the scope, additional requirements may be required.

Respectfully,

David C. Beahm, CBO
Building Official
County of Warren
540-636-9973
Fax 540-636-4698
dbeahm@warrencountyva.gov
www.warrencountyva.gov

P:\2022\9276 - di billoo - strasburg road subdivision - 200114-23b-civil\8. design\4. dwg\CIVIL\COMPOSITE

© Racey Engineering, PLLC 2019. All Rights Reserved. Any reuse or modification of these documents, including drawings and specifications, based copy or electronic, without written verification or approval by Racey Engineering, PLLC, is strictly prohibited.

STRASBURG ROAD SUBDIVISION

FOR

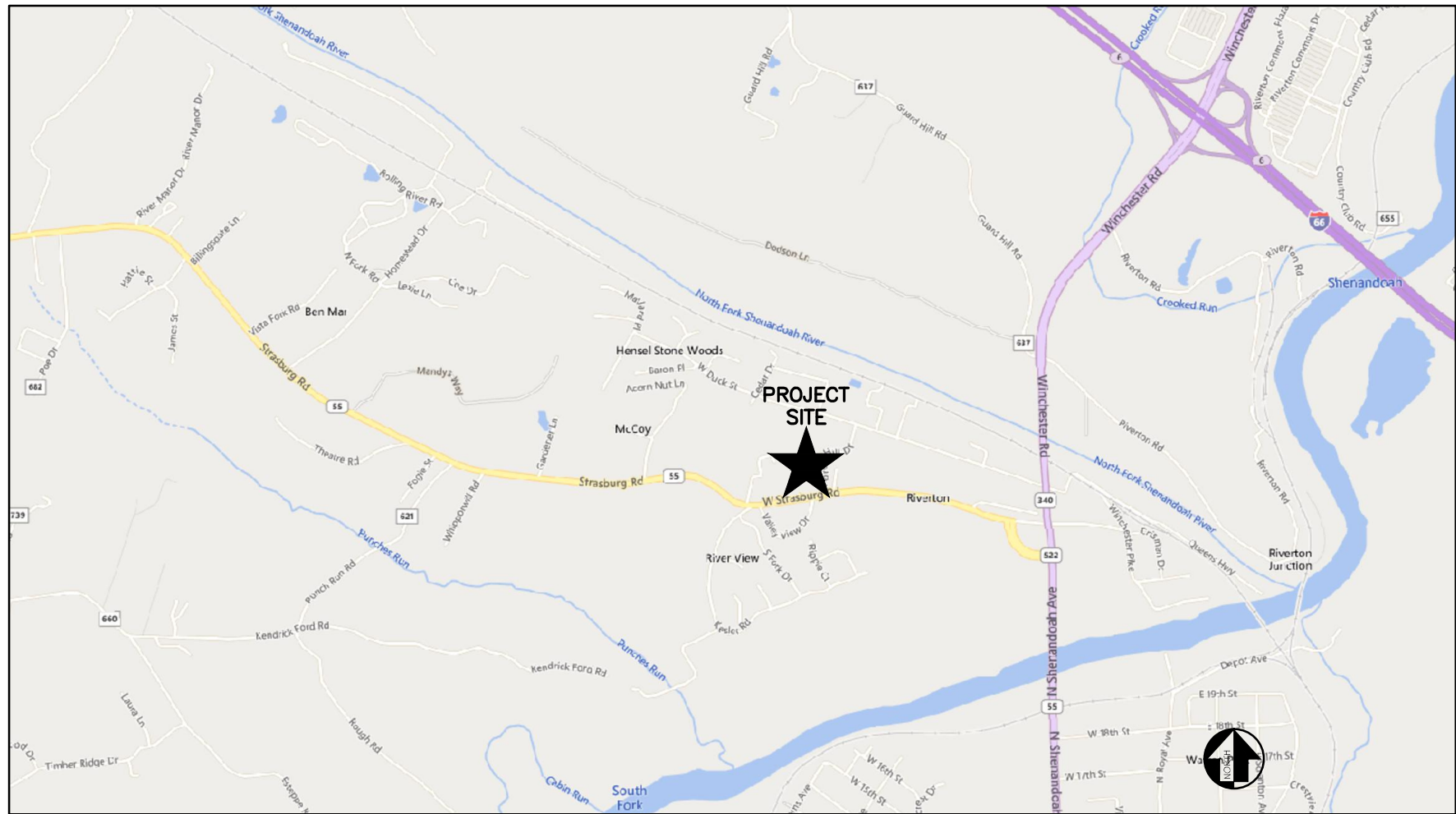
ALI BILLOO

TOWN OF FRONT ROYAL

WARREN COUNTY, VA

PROJECT SITE SUMMARY:

SITE ADDRESS:	336 W. STRASBURG ROAD FRONT ROYAL, VA 22630
OWNER/APPLICANT: ADDRESS:	ALI BILLOO 7214 SIPES LANE ANNANDALE, VA 22003 (703) 346-6254
TELEPHONE NO:	
PROJECT ENGINEER: CONTACT: ADDRESS:	RACEY ENGINEERING, PLLC JOSHUA P. TURNER, P.E. 312 WEST MAIN STREET LURAY, VIRGINIA 22835 (540) 743-9227
TELEPHONE NO:	
TAX MAP/PARCEL ID:	20A114 23B
DEED BOOK/INST NO:	INST#: 4952
PRESENT ZONING:	R2 (RESIDENTIAL)
MINMUM LOT SIZE:	8,000 SF
MAG DISTRICT:	NORTH RIVER-TOWN
PROPERTY CLASS:	RESIDENTIAL
FLOOD ZONE; FEMA MAP NO.:	X; 51187C0104C
PRESENT USE: PROPOSED USE:	DWELLING SUBDIVISION
PROPERTY AREA:	3.52 ACRES
TOTAL DISTURBED AREA:	2.94 ACRES
SETBACKS:	FRONT - 30' BUILDING BACK - 10' BUILDING SIDE - 25' BUILDING
BEST MANAGEMENT PRACTICES:	[STORMTECH ISOLATOR ROW PLUS, BMP SPEC. NO. 12 - FILTERING PRACTICE] LATITUDE: 38°56'58.92" N LONGITUDE: 78°12'35.64" W



VICINITY MAP
SCALE: 1" = 2000'

PROJECT COORDINATES
38° 56' 56.35" N
78° 12' 37.02" W

PROPOSED USE:

THE PROPOSED SITE INCLUDES THE CONSTRUCTION OF A NEW SUBDIVISION CONSISTING OF 8 DUPLEX UNITS WITH ASSOCIATED PARKING, ACCESS ROADWAY, AND STORMWATER MANAGEMENT. THE ESTIMATED START TIME FOR THIS PROJECT IS MID TO LATE 2024, AND THE ESTIMATED COMPLETION TIME IS EARLY 2025. THERE IS AN EXPECTED 0.84 ACRE INCREASE IN IMPERVIOUS AREA FROM THIS PROJECT.



SINCE THE SITE DISTURBANCE IS GREATER THAN ONE (1) ACRE, A VSMP GENERAL CONSTRUCTION PERMIT IS REQUIRED. CONTRACTOR TO OBTAIN PERMIT COVERAGE NUMBER FROM THE DEPARTMENT OF ENVIRONMENTAL QUALITY (DEQ) THROUGH THE VSMP PROGRAM ADMINISTRATOR. SEE "VPDES GENERAL PERMIT REQUIREMENTS" ON SHEET T101 FOR MORE INFORMATION.

TOWN APPROVAL BLOCK	
ALL TOWN REAL ESTATE TAXES HAVE BEEN PAID IN FULL	
DIRECTOR OF FINANCE	DATE
REVIEWED AND APPROVED BY THE TOWN OF FRONT ROYAL	
DIRECTOR OF PLANNING & ZONING	DATE
PLANNING COMMISSION CHAIR	DATE
DIRECTOR OF PUBLIC WORKS	DATE
DIRECTOR OF ENERGY SERVICES	DATE

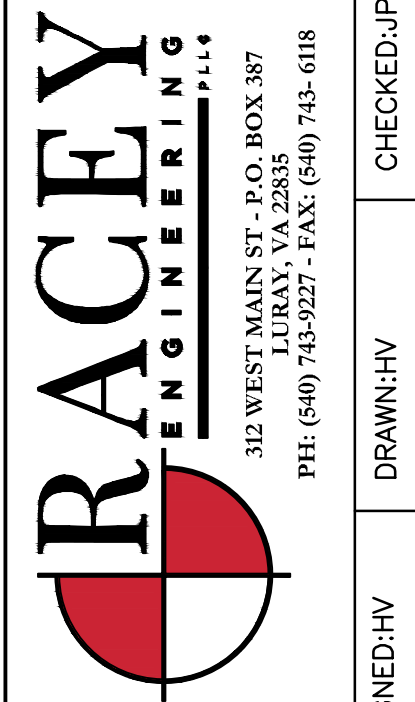
Sheet List Table	
Sheet Number	Sheet Title
T100	COVER SHEET
T101	PROJECT NOTES
C100	EXISTING FEATURES
C101	PLAT SHEET
C200	LAYOUT PLAN
C201	UTILITY PLAN
C202	UTILITY PROFILES
C300	GRADING PLAN
C301	STORMTECH UG-1 DETAILS
C302	STORMTECH UG-1 DETAILS
C303	ROAD AND ENTRANCE PLAN
C304	SIGHT DISTANCE AND TRAFFIC IMPACT
C400	ESC NARRATIVE
C401	ESC PLAN PHASE 1
C402	ESC PLAN PHASE 2
C500	ESC DETAILS
C501	ESC DETAILS
C502	CONSTRUCTION DETAILS
C503	CONSTRUCTION DETAILS
C600	DRAINAGE MAP
C601	VRRM MAP
C602	DEQ COVER SHEET

AREA TABULATION	
LOT 1	10,829 SF
LOT 2	8,431 SF
LOT 3	12,086 SF
LOT 4	8,526 SF
LOT 5	8,542 SF
LOT 6	11,537 SF
LOT 7	18,302 SF
LOT 8	15,863 SF
SWM LOT	12,958 SF
RESIDUE	1,780 SF
ALI WAY	21,454 SF

No.	Submittal / Revision	By	App'd	Date
1	1ST SUBMITTAL TOWN	HV	JPT	06/28/24
2	2ND SUBMITTAL TOWN	HV	JPT	10/15/24
3	3RD SUBMITTAL TOWN	HV	JPT	12/27/24



PERMIT
REVIEW SET

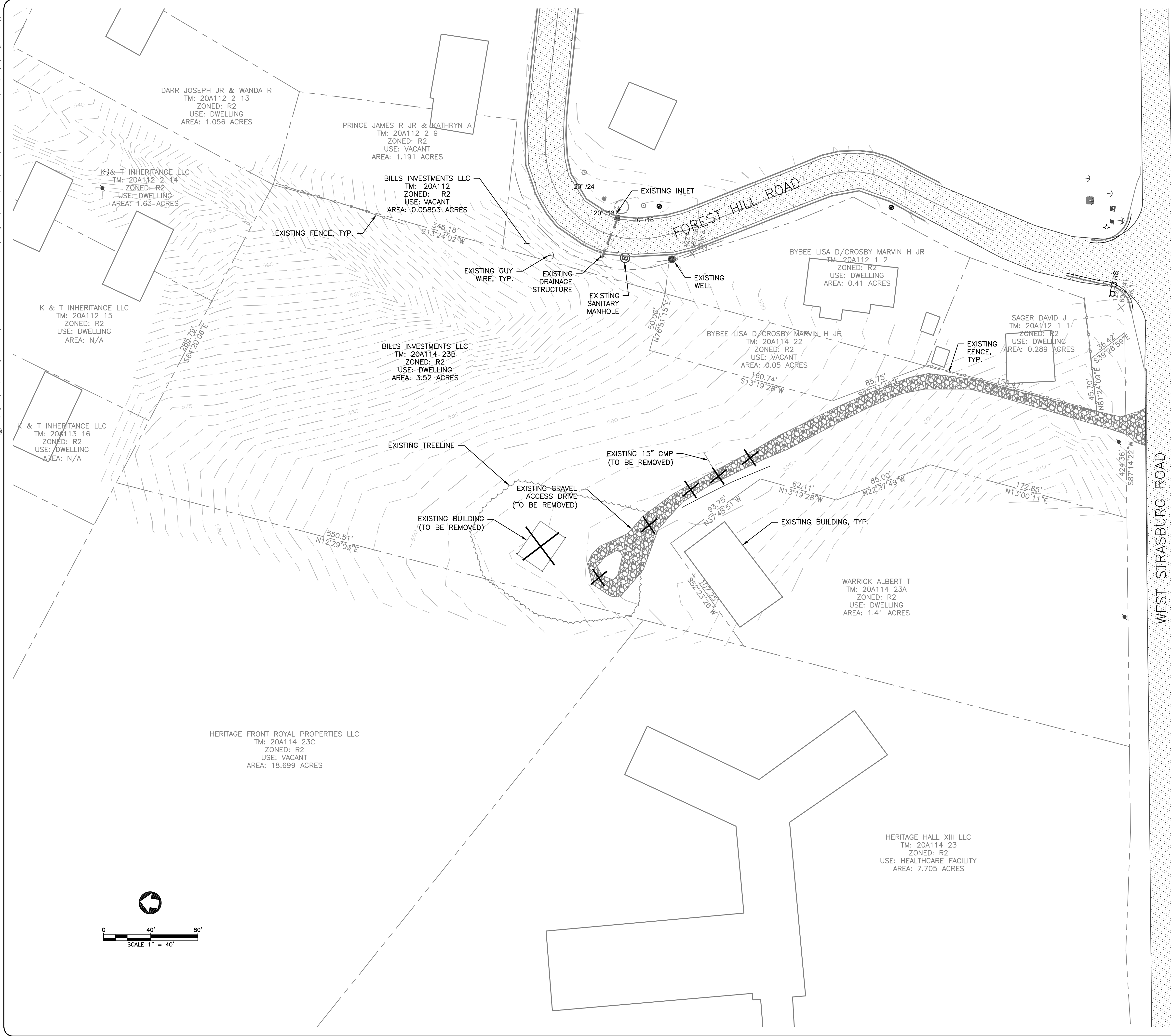


STRASBURG ROAD SUBDIVISION	CHECKED:JPT
COVER SHEET	DRAWN:HV
ALI BILLOO	DESIGNED:HV
WARREN COUNTY, VA	PUBLISH DATE: 12/30/2024
RACEY PROJECT NUMBER: 9276	

T100

P:\2022\9276 - di billoo - strasburg road subdivision - 20a114-23b-civil\8. design\4. dwg\CIVIL\COMPOSITE

© Racey Engineering, PLLC 2016. All Rights Reserved. Any reuse or modification of these documents, including drawings and specifications, without written verification or adaptation by Racey Engineering, PLLC is strictly prohibited.



SURVEY SOURCE AND INFORMATION:

SOURCE: THIS TOPOGRAPHIC SURVEY WAS COMPLETED BY RACEY ENGINEERING, PLLC ON OR BEFORE FEBRUARY 9, 2024, FROM ACTUAL CONVENTIONAL AND RTK GPS SURVEY METHODS FROM RACEY ENGINEERING, PLLC ESTABLISHED CONTROL. THIS MAP MEETS MINIMUM ACCURACY STANDARDS UNLESS OTHERWISE NOTED.

HORIZONTAL AND VERTICAL DATUM: VA NAD83, NAVD88 BASED UPON GPS OBSERVATION PERFORMED BY RACEY ENGINEERING, PLLC.

CONTOUR INTERVAL: 1 FT.

THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE COMMITMENT OR TITLE REPORT AND DOES NOT THEREFORE, NECESSARILY INDICATE ALL EASEMENTS AND ENCUMBRANCES ON THE PROPERTY THAT MIGHT BE DISCLOSED IN A TITLE SEARCH.

UTILITIES SHOWN HEREON ARE BASED ON VISIBLE, PHYSICAL EVIDENCE. UNDERGROUND UTILITIES WERE NOT MARKED AS PART OF THIS PROJECT. IT SHALL BE THE RESPONSIBILITY OF THE OWNER/CONTRACTOR TO HAVE UTILITIES MARKED PRIOR TO LAND DISTURBANCE OF ANY KIND. SEE SHEET T101 FOR MORE INFORMATION.

PROPERTY LINES SHOWN HEREON ARE COMPILED FROM RECORD PLAT (DEED BOOK 306, PAGE 41) AND TOWN/COUNTY GIS OVERLAY.

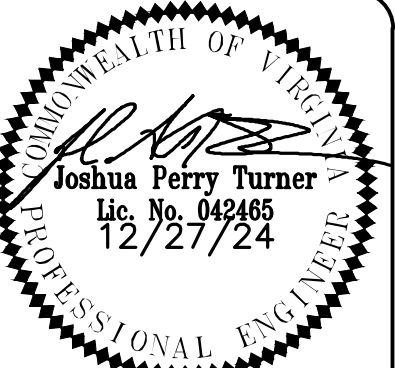
RACEY ENGINEERING, PLLC MAY PROVIDE BENCHMARKS FOR THE CONSTRUCTION OF THE IMPROVEMENTS SHOWN ON THESE PLANS. ALL OTHER EXISTING ELEVATIONS ARE FOR REFERENCE TO EXISTING CONDITIONS ONLY. DO NOT USE SPOT ELEVATIONS, FINISH FLOOR ELEVATIONS, ELEVATIONS ON MANHOLES, ELEVATIONS ON SURVEY NAILS, SURVEY HUBS, CONTROL POINTS (HORIZONTAL POINTS PROVIDED) OR ANY OTHER POINTS FOR CONSTRUCTION OTHER THAN THE PROVIDED BENCHMARKS. FAILURE TO UTILIZE AND VERIFY THE PROVIDED BENCHMARKS COULD RESULT IN DAMAGES AND ADDITIONAL COST THAT ARE THE CONTRACTOR'S RESPONSIBILITY.

DEMOLITION NOTES:

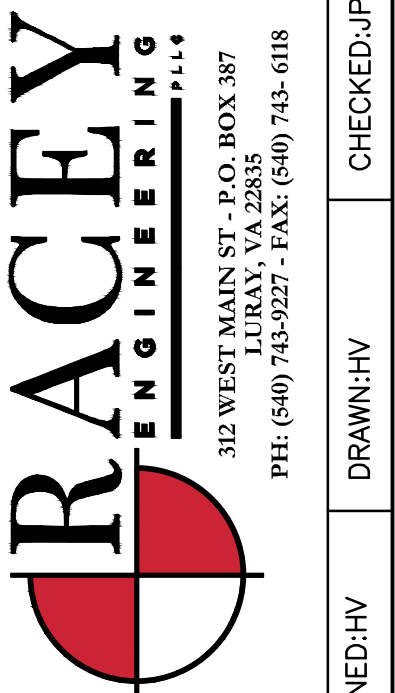
- PRIOR TO STARTING ANY DEMOLITION CONTRACTOR IS SHALL ENSURE THAT COPIES OF ALL APPLICABLE PERMITS AND APPROVALS ARE MAINTAINED ON SITE AND AVAILABLE FOR REVIEW. CONTRACTOR ALSO SHALL HAVE COMPLETED THE PRE-CONSTRUCTION CONFERENCE.
- CONTRACTOR SHALL INSTALL THE REQUIRED SOIL EROSION AND SEDIMENT CONTROL AND/OR TREE PROTECTION MEASURES PRIOR TO SITE DISTURBANCE.
- CONTRACTOR SHALL LOCATE (VERTICALLY AND HORIZONTALLY) ALL UTILITIES AND SERVICES, INCLUDING, BUT NOT LIMITED TO GAS, WATER, ELECTRIC, SANITARY AND STORM SEWER, TELEPHONE, CABLE, FIBER OPTIC CABLE, ETC. WITHIN THE LIMITS OF DISTURBANCE. THE CONTRACTOR SHALL USE AND COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY NOTIFICATION SYSTEM TO LOCATE ALL THE UNDERGROUND UTILITIES.
- CONTRACTOR SHALL CONTACT THE APPLICABLE UTILITY SERVICE PROVIDER AND SHALL BE RESPONSIBLE FOR ALL COORDINATION REGARDING UTILITY DEMOLITION REQUIRED FOR THE PROJECT. THE CONTRACTOR SHALL PROVIDE THE OWNER WRITTEN NOTIFICATION THAT THE EXISTING UTILITIES AND SERVICES HAVE BEEN TERMINATED AND ABANDONED IN ACCORDANCE WITH JURISDICTION AND UTILITY COMPANY REQUIREMENTS.
- CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES & ADJACENT LANDOWNERS/BUSINESSES REGARDING WORKING "OFF-PEAK" HOURS OR ON WEEKENDS WHICH MAY BE REQUIRED TO MINIMIZE THE IMPACT ON THE ADJACENT PROPERTY OWNERS/TENANTS.
- CONTRACTOR SHALL PROCEED WITH THE DEMOLITION IN A SYSTEMATIC AND SAFE MANNER, FOLLOWING ALL OSHA REQUIREMENTS, TO ENSURE THE SAFETY OF THE PUBLIC AND ALL PARTIES INVOLVED.
- THE CONTRACTOR SHALL PROVIDE ALL THE "MEANS AND METHODS" NECESSARY TO PREVENT MOVEMENT, SETTLEMENT, OR COLLAPSE OF EXISTING STRUCTURES, AND ANY OTHER IMPROVEMENTS THAT ARE REMAINING ON OR OFF SITE.
- THE DEMOLITION CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS OF DAMAGE TO ALL ITEMS THAT ARE TO REMAIN AS A RESULT OF THEIR ACTIVITIES.
- IN THE ABSENCE OF SPECIFICATIONS, THE CONTRACTOR SHALL PERFORM EARTH MOVEMENT ACTIVITIES, DEMOLITION AND REMOVAL OF ALL FOUNDATION WALLS, FOOTINGS, AND OTHER MATERIALS WITHIN THE LIMITS OF DISTURBANCE WITH DIRECTION BY OWNER'S STRUCTURAL OR GEOTECHNICAL ENGINEER.
- CONTRACTOR SHALL CONDUCT DEMOLITION ACTIVITIES IN SUCH A MANNER TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, SIDEWALKS, WALKWAYS, AND OTHER ADJACENT FACILITIES. STREET CLOSURE PERMITS MUST BE RECEIVED FROM THE APPROPRIATE GOVERNMENTAL AUTHORITY.
- USE DUST CONTROL MEASURES TO LIMIT AIRBORNE DUST DURING DEMOLITION IN ACCORDANCE WITH FEDERAL, STATE, AND/OR LOCAL STANDARDS. AFTER THE DEMOLITION IS COMPLETE, ADJACENT STRUCTURES AND IMPROVEMENTS SHALL BE CLEANED OF ALL DUST AND DEBRIS CAUSED BY THE DEMOLITION OPERATIONS. THE CONTRACTOR IS RESPONSIBLE FOR RETURNING ALL ADJACENT AREAS TO THEIR "PRE-DEMOLITION" CONDITION.
- CONTRACTOR IS RESPONSIBLE TO SAFEGUARD SITE AS NECESSARY TO PERFORM THE DEMOLITION IN SUCH A MANNER AS TO PREVENT THE ENTRY OF UNAUTHORIZED PERSONS AT ANY TIME.
- THIS DEMOLITION PLAN IS INTENDED TO IDENTIFY THOSE EXISTING ITEMS/CONDITIONS WHICH ARE TO BE REMOVED. IT IS NOT INTENDED TO PROVIDE DIRECTION OTHER THAN THAT ALL METHODS AND MEANS ARE TO BE IN ACCORDANCE WITH STATE, FEDERAL, LOCAL, AND JURISDICTIONAL REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OSHA AND OTHER SAFETY PRECAUTIONS NECESSARY TO PROVIDE A SAFE WORK SITE.
- DEBRIS SHALL NOT BE BURIED ON THE SUBJECT SITE. ALL DEMOLITION WASTES AND DEBRIS (SOLID WASTE) SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL LAWS AND APPLICABLE CODES.

X TO BE REMOVED

No.	Submital	Revision	By	App'd	Date
1	1ST SUBMITTAL TOWN		HV	JPT	06/28/24
2	2ND SUBMITTAL TOWN		HV	JPT	10/15/24
3	3RD SUBMITTAL TOWN		HV	JPT	12/27/24



PERMIT
REVIEW SET



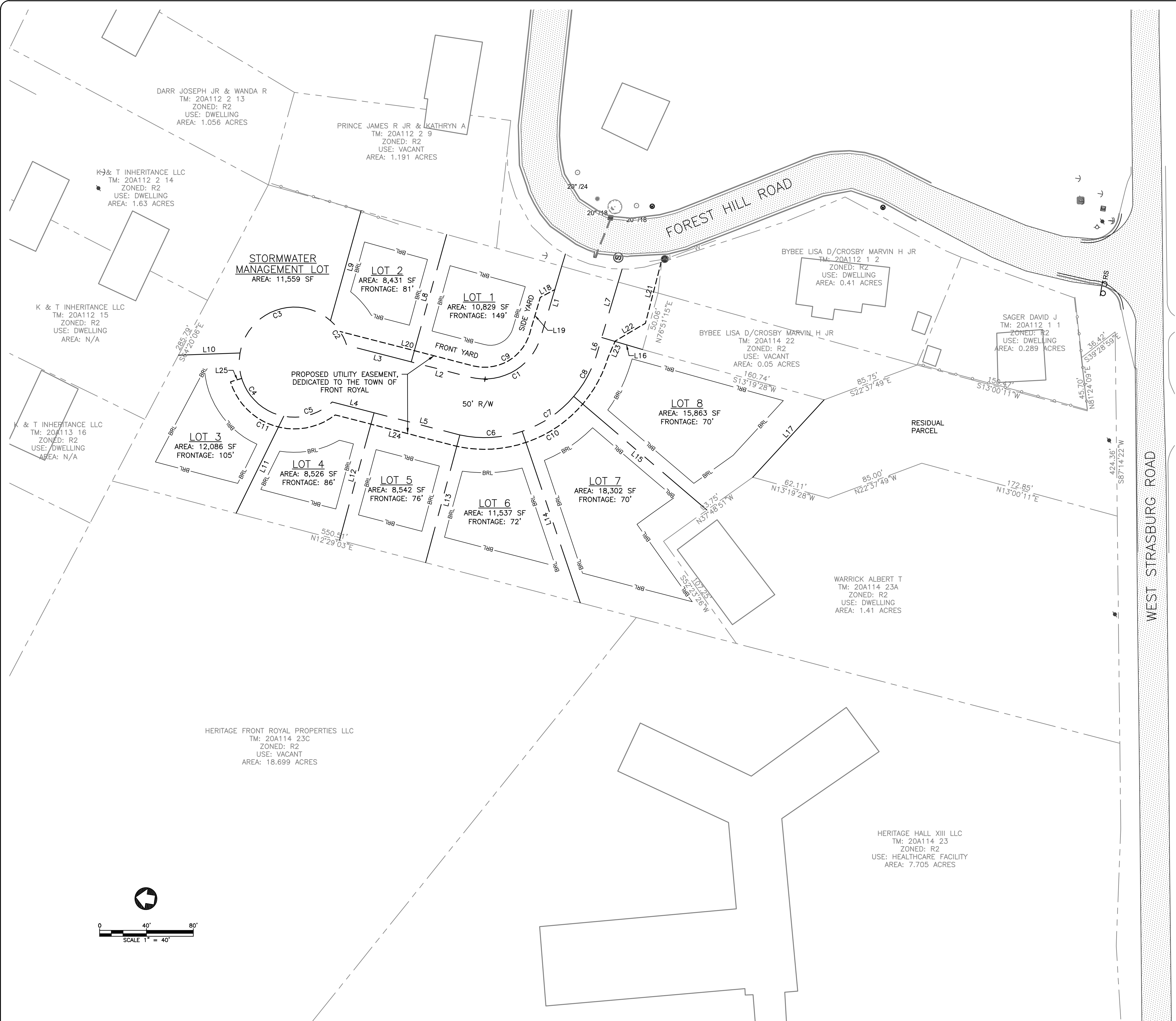
STRASBURG ROAD SUBDIVISION
EXISTING FEATURES
ALI BILLOO
WARREN COUNTY, VA

RACEY PROJECT NUMBER: 9276
PUBLISH DATE: 12/30/2024

C100

P:\2022\9276 - di billoo - strasburg road subdivision - 20a114-23b-civil\8. design\4. dwg\CIVIL\COMPOSITE

© Racey Engineering, PLLC 2016. All Rights Reserved. Any reuse or modification of these documents, including drawings and specifications, must copy or electronic, without written verification or adaptation by Racey Engineering, PLLC is strictly prohibited.



PARCEL LINE DATA		
SEGMENT	LENGTH	DIRECTION
L1	62.96'	S82° 30' 26"E
L2	51.79'	S5° 28' 51"W
L3	56.89'	S5° 28' 51"W
L4	36.80'	N5° 28' 49"E
L5	75.67'	N5° 28' 49"E
L6	14.36'	N82° 30' 26"W
L7	61.08'	N82° 30' 26"W
L8	113.03'	S83° 28' 50"E
L9	97.52'	N83° 25' 14"W
L10	52.49'	S11° 06' 00"E
L11	92.32'	N72° 52' 29"W
L12	112.67'	S83° 51' 58"E
L13	112.83'	N83° 57' 50"W
L14	154.58'	N62° 18' 59"E
L15	149.44'	N31° 27' 54"E
L16	36.31'	N7° 29' 34"E
L17	89.96'	S56° 20' 11"E
L18	14.14'	S37° 30' 26"E
L19	32.33'	S82° 30' 26"E
L20	117.17'	S5° 28' 51"W
L21	53.58'	S84° 31' 11"E
L22	29.85'	S39° 31' 11"E
L23	14.94'	S75° 12' 18"E
L24	107.47'	S5° 28' 49"W
L25	10.00'	N26° 10' 45"W

PARCEL CURVE DATA						
SEGMENT	LENGTH	RADIUS	CENTRAL ANGLE	TANGENT LENGTH	CHORD LENGTH	CHORD BEARING
C1	76.78'	50.00'	87.99°	48.27'	69.46	S38° 30' 48.57"E
C2	25.48'	47.00'	31.07°	13.06'	25.17	S47° 37' 13.45"W
C3	99.61'	47.00'	121.44°	83.82'	81.98	S28° 38' 07.81"E
C4	72.67'	47.00'	88.60°	45.86'	65.64	N46° 20' 42.31"E
C5	44.80'	47.00'	54.61°	24.26'	43.12	N25° 15' 36.18"W
C6	53.94'	100.07'	30.88°	27.64'	53.29	N12° 18' 14.48"W
C7	53.85'	100.23'	30.78°	27.59'	53.20	N43° 07' 26.36"W
C8	41.84'	100.39'	23.88°	21.23'	41.53	N70° 31' 16.46"W
C9	61.43'	40.00'	87.99°	38.62'	55.57	S38° 30' 48.74"E
C10	164.78'	110.13'	85.73°	102.21'	149.84	S39° 37' 07.72"E
C11	110.04'	57.00'	110.62°	82.34'	93.73	S08° 30' 40.19"W

CURRENT ZONING - R2
TAX MAP NUMBER: 20A114-23B

PER ZONING ORDINANCE:
FRONT SETBACK: 30'
SIDE SETBACK: 10'
REAR SETBACK: 25'
MINIMUM FRONTAGE: 70'
MINIMUM LOT SIZE: 8,000 SF

CORNER LOTS:
FRONT SETBACK: 30'
SIDE SETBACK: 10'
ROAD-ADJACENT SETBACK: 25'
REAR SETBACK: 25'
MINIMUM FRONTAGE: 100'

STRASBURG ROAD SUBDIVISION

PLAT SHEET

ALI BILLOO

WARREN COUNTY, VA

DATE: 12/30/2024

PUBLISH DATE: 12/30/2024

RACEY ENGINEERING PLLC

312 WEST MAIN ST - P.O. BOX 387

LURAY, VA 22835

PH: (540) 743-5227 - FAX: (540) 743-6118

DESIGNED:HV

DRAWN:HV

CHECKED:JPT

C101

By

App'd

Date

1ST SUBMITTAL TOWN

JPT

06/28/24

2ND SUBMITTAL TOWN

JPT

10/15/24

3RD SUBMITTAL TOWN

JPT

12/27/24

Submittal / Revision

No.

1

2

3

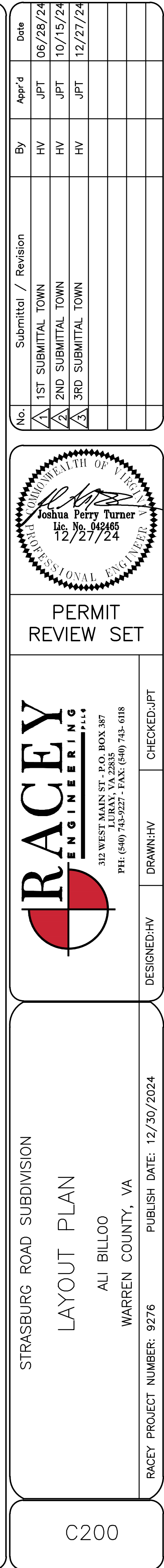
PERMIT REVIEW SET

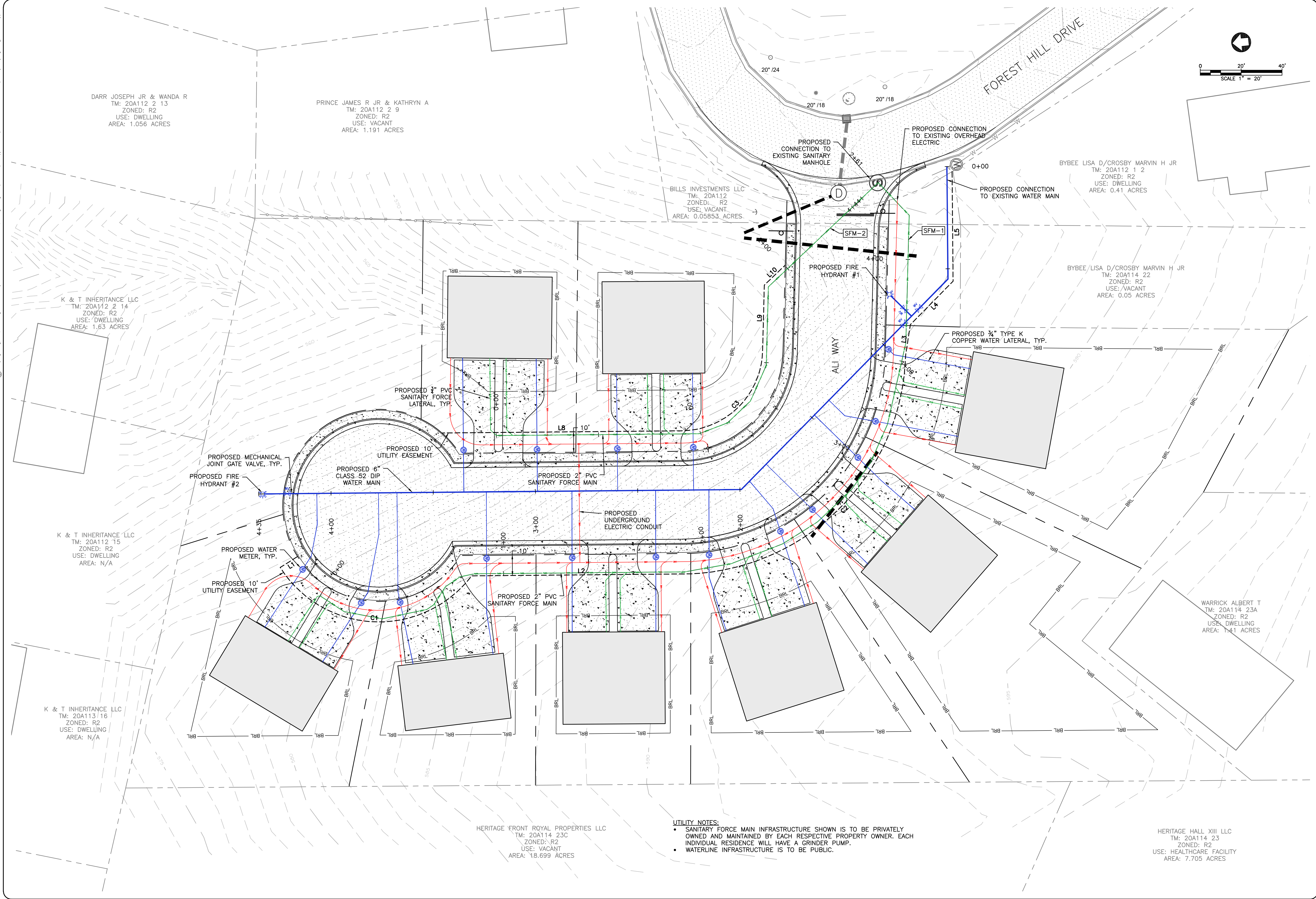
PROFESSIONAL ENGINEER

Joshua Perry Turner

Lic. No. 042465

12/27/24





No.	Submittal / Revision	By	App'd	Date
1	1ST SUBMITTAL TOWN	HV	JPT	06/28/24
2	2ND SUBMITTAL TOWN	HV	JPT	10/15/24
3	3RD SUBMITTAL TOWN	HV	JPT	12/27/24

PERMIT REVIEW SET

RACEY ENGINEERING P.L.L.C.
312 WEST MAIN ST. - P.O. BOX 387
LURAY, VA 22835
PH: (540) 743-5227 • FAX: (540) 743-6118

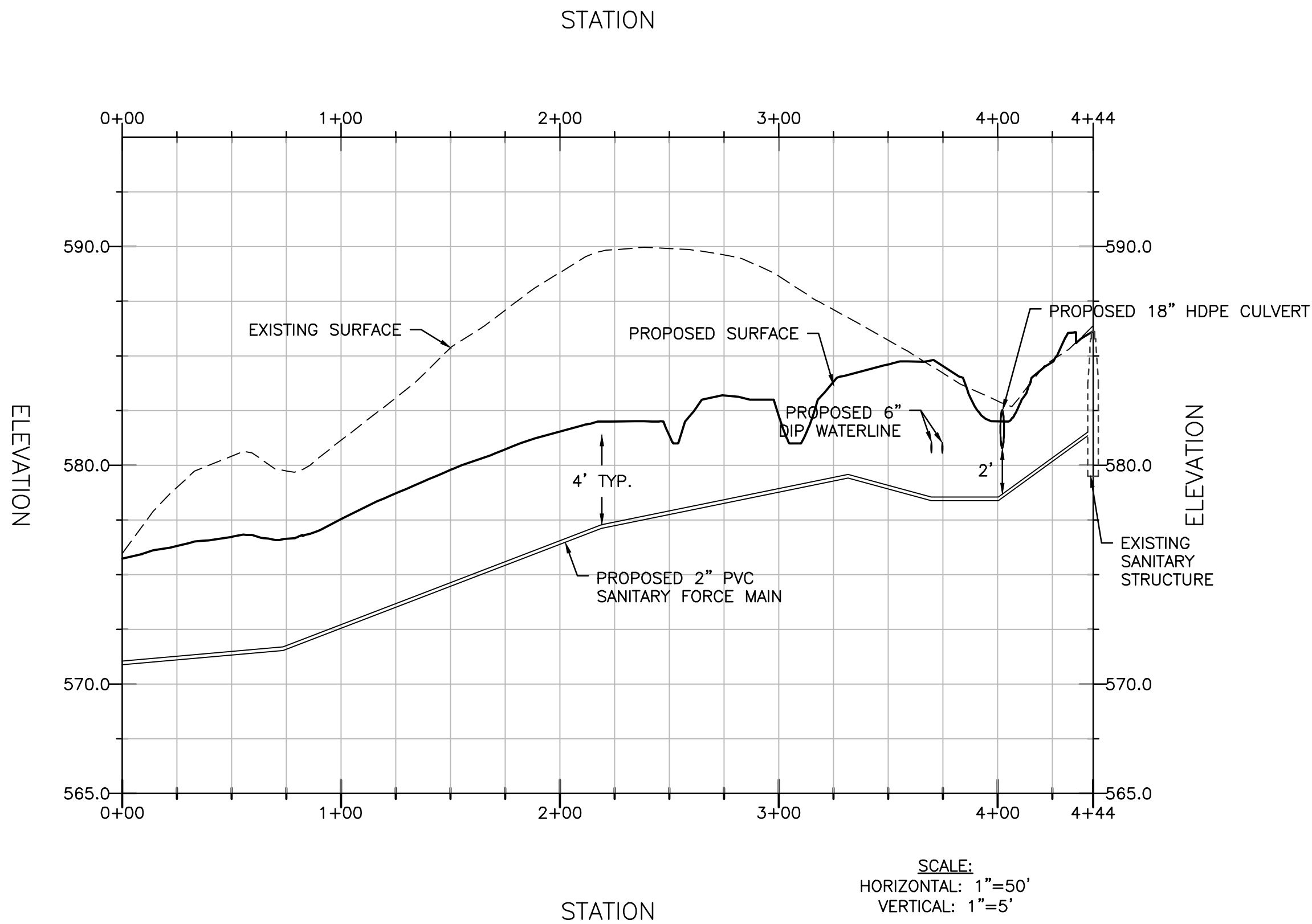
DESIGNED:HV	DRAWN:HV	CHECKED:JPT

STRASBURG ROAD SUBDIVISION	UTILITY PLAN	ALI BILLOO	WARREN COUNTY, VA	PUBLISH DATE: 12/30/2024	RACEY PROJECT NUMBER: 9276
C201					

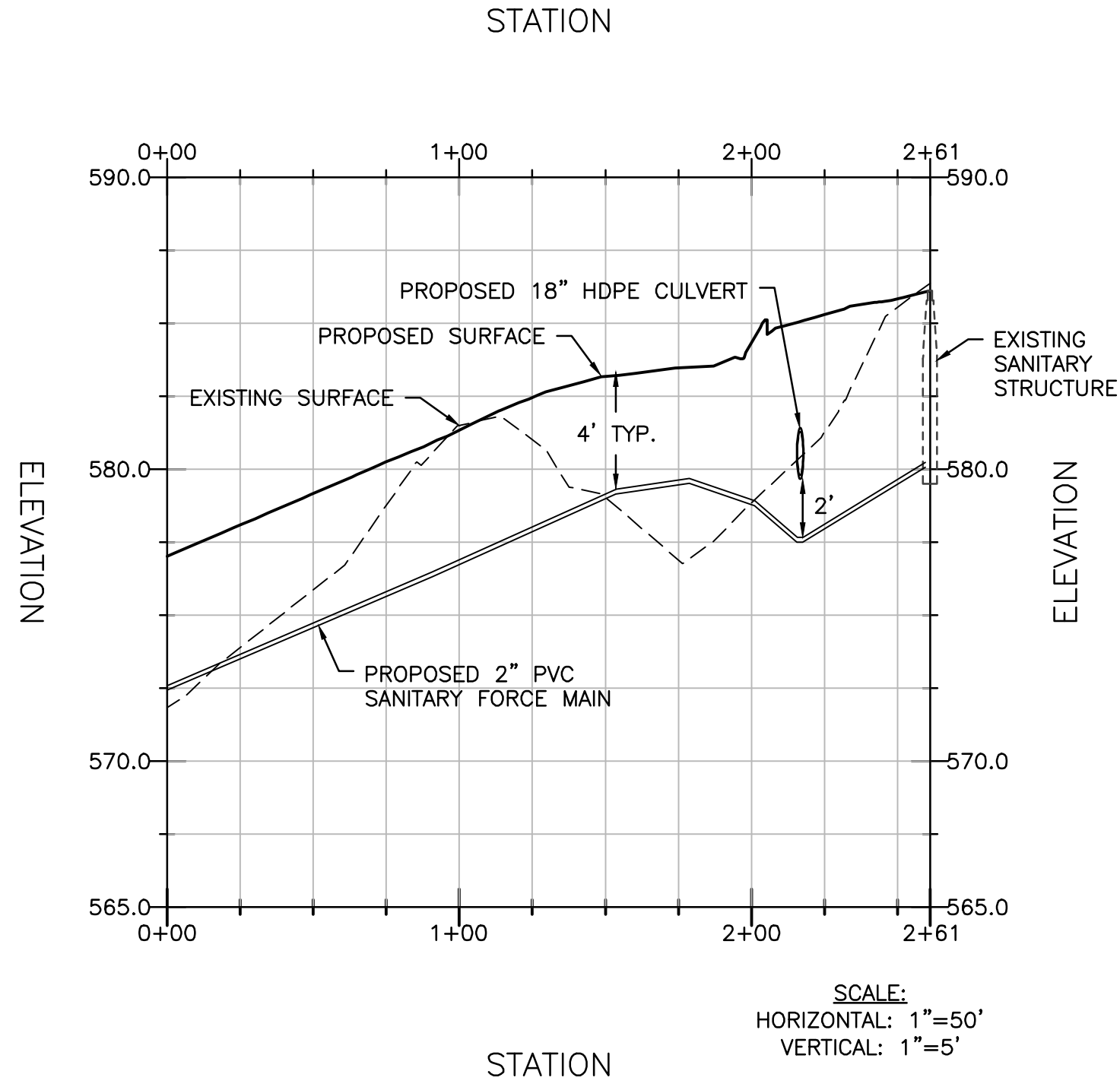
P:\2022\9276 - di biloo - strasburg road subdivision - 20a14-23b-civil\8. design\4. dwg\CIVIL\COMPOSITE

© Race Engineering, PLLC 2019. All Rights Reserved. Any reuse or modification of these documents, including drawings and specifications, without written verification or adaptation by Race Engineering, PLLC is strictly prohibited.

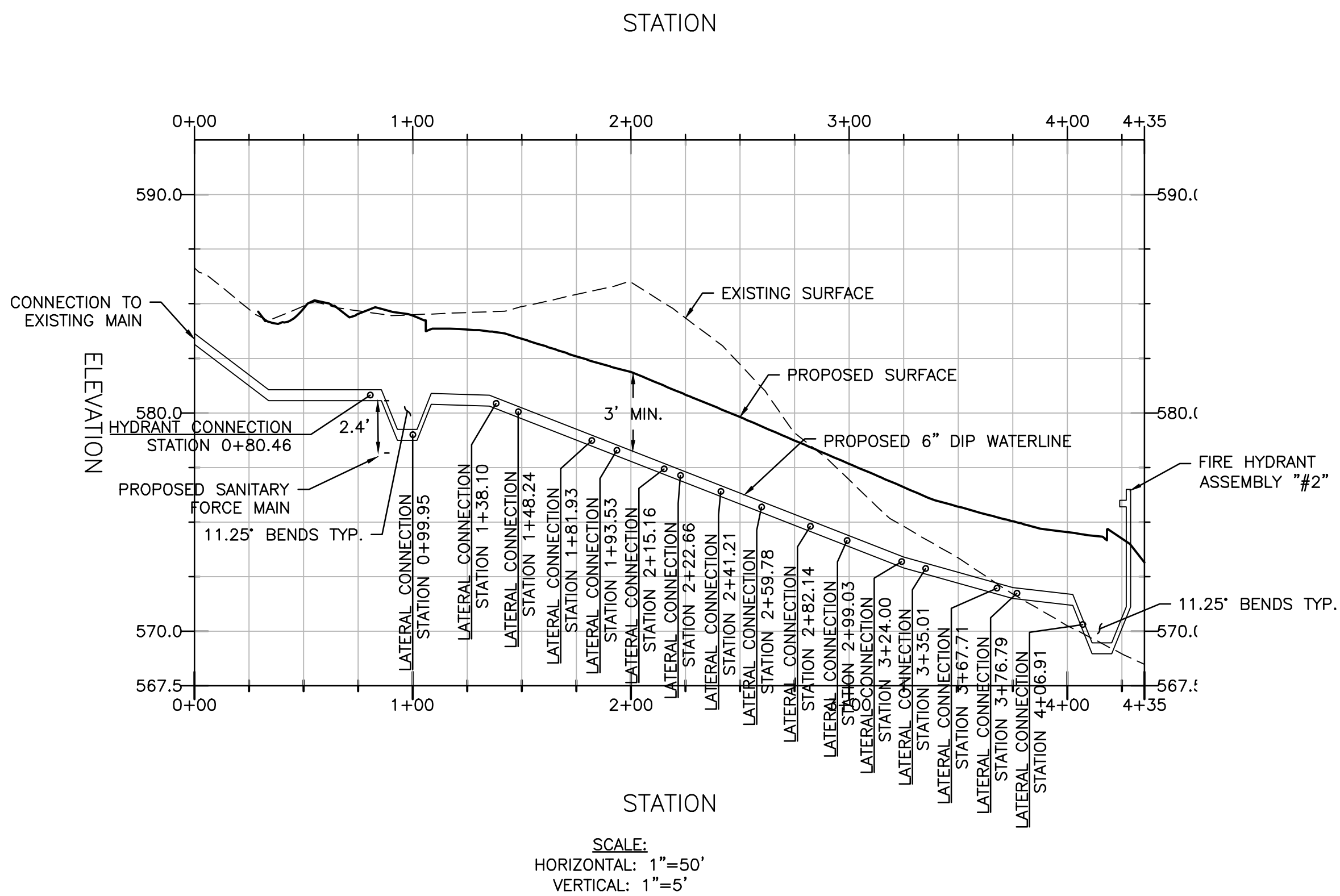
SANITARY SEWER SFM-1 PROFILE



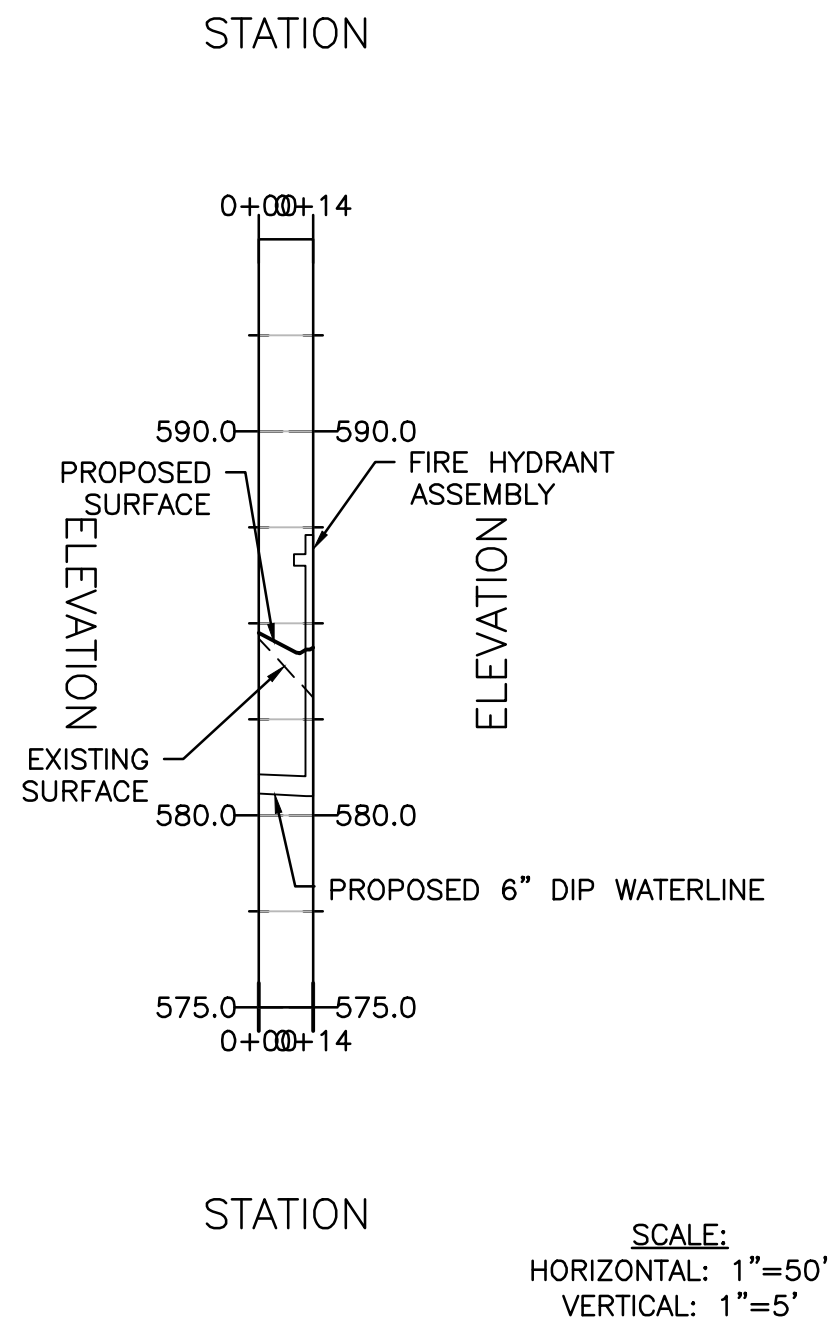
SANITARY SEWER SFM-2 PROFILE



WATER MAIN PROFILE



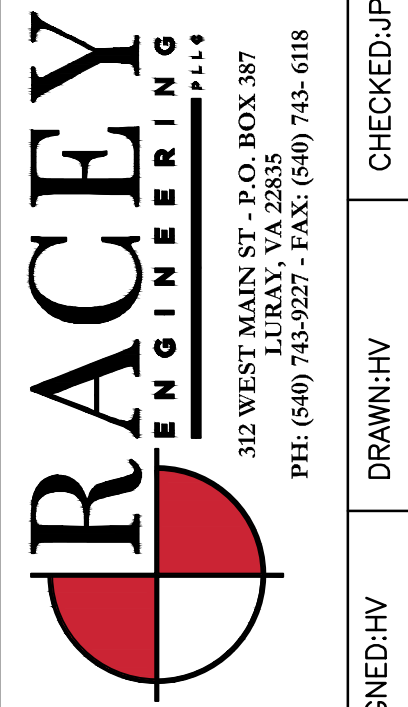
FIRE HYDRANT #1



No.	By	Submittal / Revision	App'r'd	Date
1	HV	1ST SUBMITTAL TOWN	JPT	06/28/24
2	HV	2ND SUBMITTAL TOWN	JPT	10/15/24
3	HV	3RD SUBMITTAL TOWN	JPT	12/27/24



PERMIT
REVIEW SET



STRASBURG ROAD SUBDIVISION

UTILITY PROFILES

ALI BILLOO

WARREN COUNTY, VA

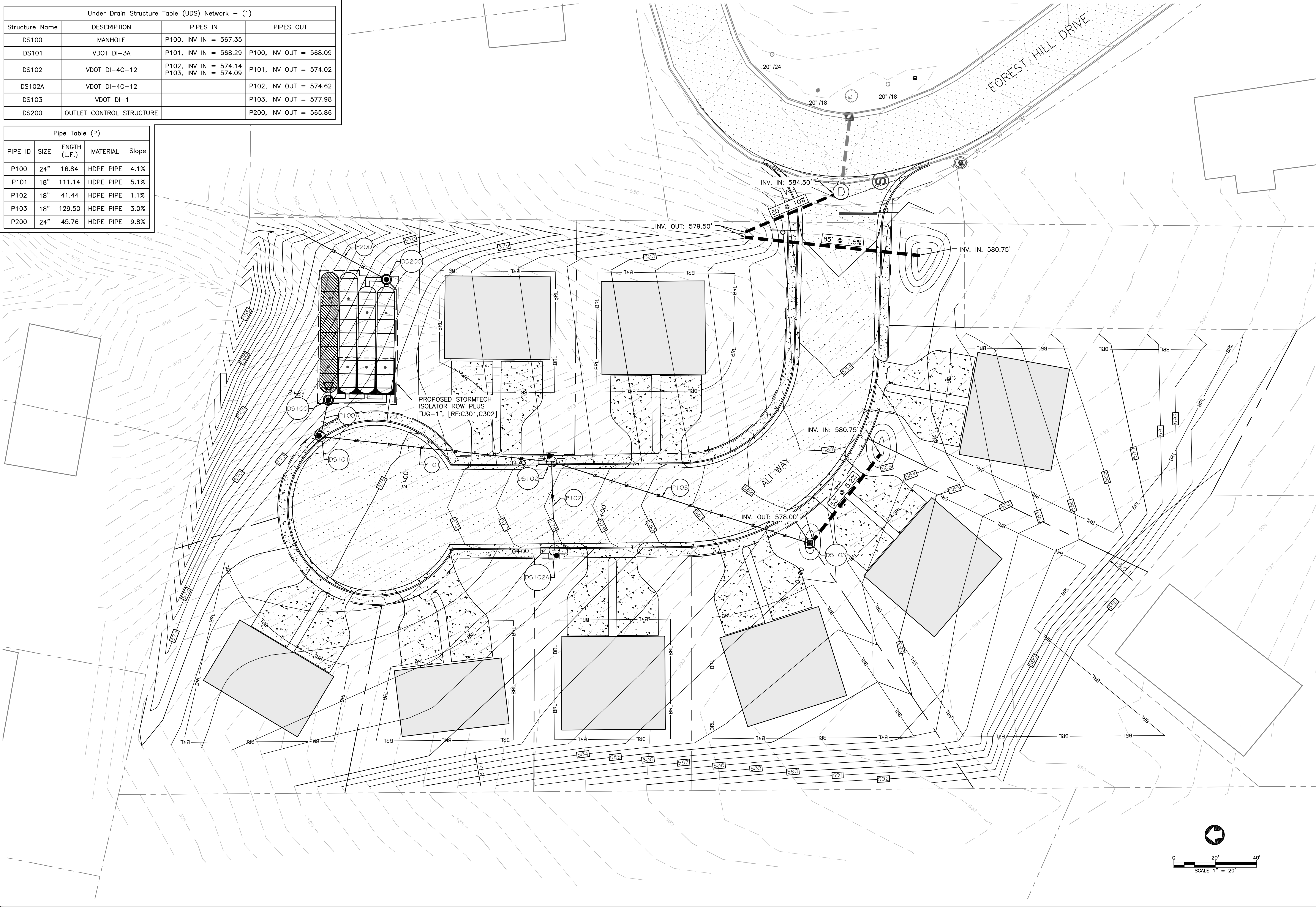
RACEY PROJECT NUMBER: 9276

PUBLISH DATE: 12/30/2024

C202

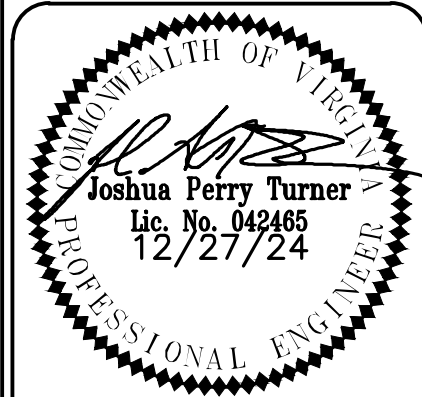
Under Drain Structure Table (UDS) Network - (1)			
Structure Name	DESCRIPTION	PIPES IN	PIPES OUT
DS100	MANHOLE	P100, INV IN = 567.35	
DS101	VDOT DI-3A	P101, INV IN = 568.29	P100, INV OUT = 568.09
DS102	VDOT DI-4C-12	P102, INV IN = 574.14 P103, INV IN = 574.09	P101, INV OUT = 574.02
DS102A	VDOT DI-4C-12		P102, INV OUT = 574.62
DS103	VDOT DI-1		P103, INV OUT = 577.98
DS200	OUTLET CONTROL STRUCTURE		P200, INV OUT = 565.86

Pipe Table (P)				
PIPE ID	SIZE	LENGTH (L.F.)	MATERIAL	Slope
P100	24"	16.84	HDPE PIPE	4.1%
P101	18"	111.14	HDPE PIPE	5.1%
P102	18"	41.44	HDPE PIPE	1.1%
P103	18"	129.50	HDPE PIPE	3.0%
P200	24"	45.76	HDPE PIPE	9.8%

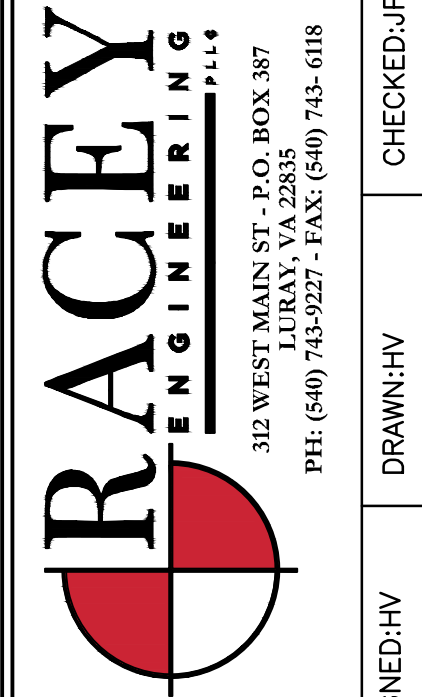


No.	By	App'd	Date
1	HV	JPT	06/28/24
2	HV	JPT	10/15/24
3	HV	JPT	12/27/24

Submittal / Revision	By	App'd	Date
1ST SUBMITTAL TOWN	HV	JPT	06/28/24
2ND SUBMITTAL TOWN	HV	JPT	10/15/24
3RD SUBMITTAL TOWN	HV	JPT	12/27/24



PERMIT
REVIEW SET



STRASBURG ROAD SUBDIVISION
GRADING PLAN
ALI BILLOO
WARREN COUNTY, VA
RACEY PROJECT NUMBER: 9276
PUBLISH DATE: 12/30/2024

C300



MC-7200 STORMTECH CHAMBER SPECIFICATIONS

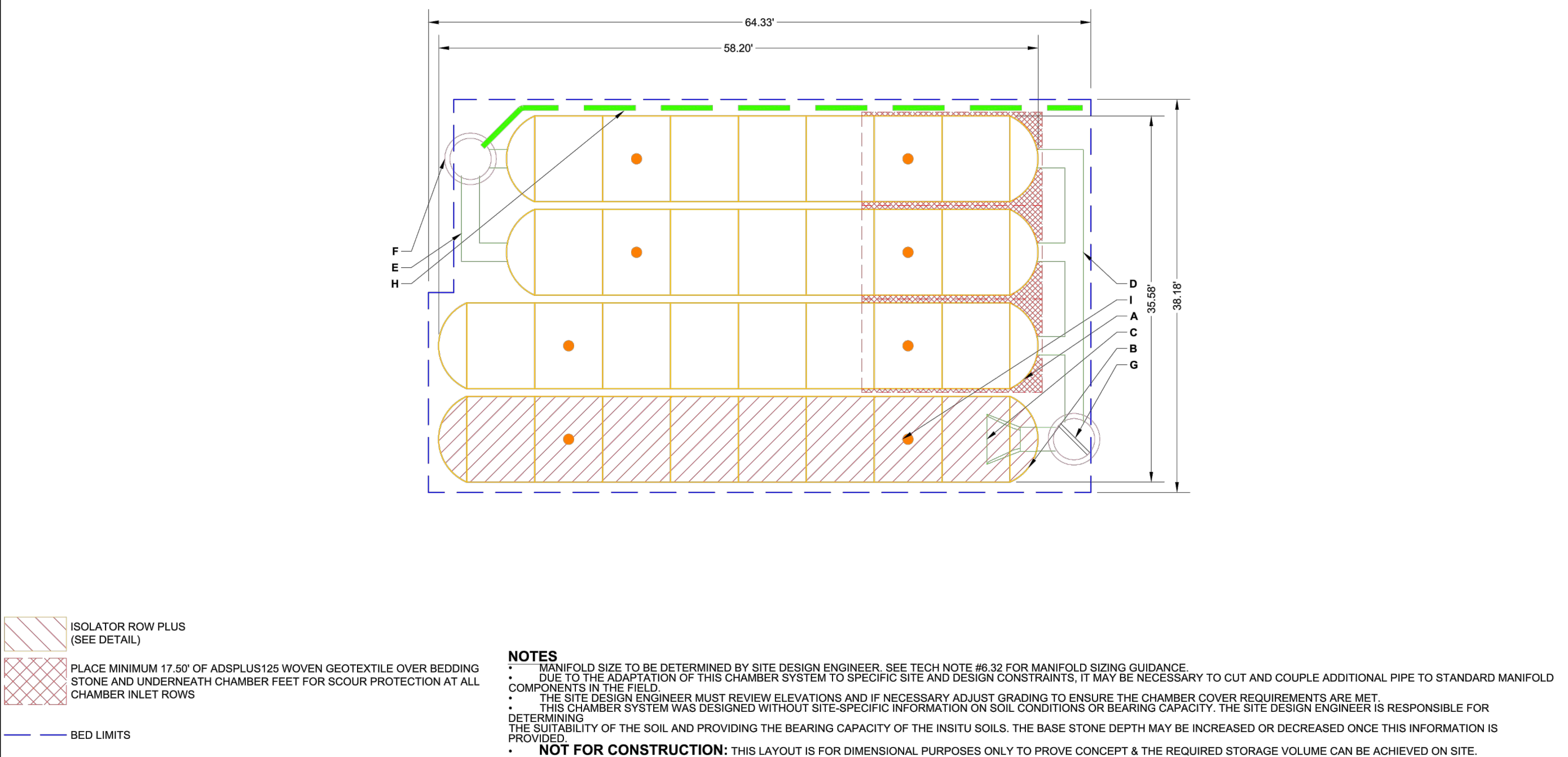
2. CHAMBERS SHALL BE STORMTECH MC7200.
3. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
4. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" (CHAMBER CLASSIFICATION 60x101).
5. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
6. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE CHAMBER BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS OF THE POLYPROPYLENE BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR 1-LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
7. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD SPECIFICATION FOR POLYPROPYLENE THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" (LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) ASHRAO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) ASHRAO DESIGN TRUCK.
8. REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STAKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 1".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO THAT SPECIFIED IN SECTION 6.12 OF ASTM F2418, AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
9. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED, UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT. THE EVALUATION SHALL FOLLOW:
 - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
 - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
 - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
10. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

1. STORMTECH MC-7200 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
 2. STORMTECH MC-7200 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-7200 CONSTRUCTION GUIDE".
 3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
 - STONESHOOTER LOCATED OFF THE CHAMBER BED.
 - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
 - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
 4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
 5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
 6. MAINTAIN MINIMUM - 9" (230 mm) SPACING BETWEEN THE CHAMBER ROWS.
 7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
 8. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE MEETING THE ASHOTO M43 DESIGNATION OF #3 OR #4.
 9. STONE SHALL BE BROUGHT UP EVENLY AROUND CHAMBERS SO AS NOT TO DISTORT THE CHAMBER SHAPE. STONE DEPTHS SHOULD NEVER DIFFER BY MORE THAN 12" (300 mm) BETWEEN ADJACENT CHAMBER ROWS.
 10. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
 11. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIAL BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
 12. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.
- ## NOTES FOR CONSTRUCTION EQUIPMENT
1. STORMTECH MC-7200 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-7200 CONSTRUCTION GUIDE".
 2. THE USE OF EQUIPMENT OVER MC-7200 CHAMBERS IS LIMITED:
 - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
 - NO RUBBER Tired LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-7200 CONSTRUCTION GUIDE"
 - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-7200 CONSTRUCTION GUIDE".
 3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

PROPOSED LAYOUT		CONCEPTUAL ELEVATIONS:		INVERT ABOVE BASE OF CHAMBER				
			PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT	MAX FLOW	
30	STORMTECH MC-7200 CHAMBERS	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT UNPAVED):	12.75					
8	STORMTECH MC-7200 END CAPS	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	8.95					
12	STONE ABOVE (C)	MINIMUM ALLOWABLE GRADE (UNPAVED TO TOP OF STONE):	7.75	A	18" BOTTOM PARTIAL CUT END CAP. PART# MC7200PEP18 / TYP OF ALL 18" BOTTOM CONNECTIONS	1.97"		
9	STONE BELOW (B)	MINIMUM ALLOWABLE GRADE (TO TOP OF RIGID CONCRETE PAVEMENT):	7.75	B	24" BOTTOM PARTIAL CUT END CAP. PART# MC7200PEP24 / TYP OF ALL 24" BOTTOM CONNECTIONS AND ISOLATOR PLUS ROWS	2.26"		
9864	(PERMETER STONE VOLUME) (CF) (COVER STONE INCLUDED) (BASE STONE INCLUDED)	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT): TOP OF STONE TOP OF MC-7200 CHAMBER 24" SQUARE MANHOLE INVERT: 18" x 18" BOTTOM MANHOLE INVERT: 18" x 18" BOTTOM MANHOLE INVERT: 18" BOTTOM CONCRETE STRUCTURE INVERT: W/WHER	7.75 7.75 7.75 8.91 8.91 8.91 8.91 7.75	C A B D E F G H	FLAMP MANHOLE MANHOLE CONCRETE STRUCTURE CONCRETE STRUCTURE CONCRETE STRUCTURE CONCRETE STRUCTURE DESIGN BY ENGINEER PROVIDED BY OTHERS DESIGN BY ENGINEER PROVIDED BY OTHERS 18" ADS N-12 DUAL WALL PERFORATED HOOD UNDERDRAIN 4" SEE DETAIL (TYP & PLACES)	1.97" 1.97" 1.97" 8.0 CFS UPT 16.5 CFS IN		
2410	SYSTEM AREA (SF)							
265.0	SYSTEM PERIMETER (ft)							



NOTES

- * MANHOLE SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6.32 FOR MANHOLE SIZING GUIDANCE.
- * DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANHOLE COMPONENTS IN THE FIELD.
- * THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- * THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.

NOT FOR CONSTRUCTION: THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.



4640 TREMAY BLVD
DALLAS, TX 75246
1-800-733-7175

StormTech®
Chamber System

888-892-2994 | WWW.STORMTECH.COM

9276 - FRONT ROYAL
SUBDIVISION
FRONT ROYAL, VA, USA

DATE: _____ PROJECT #: _____

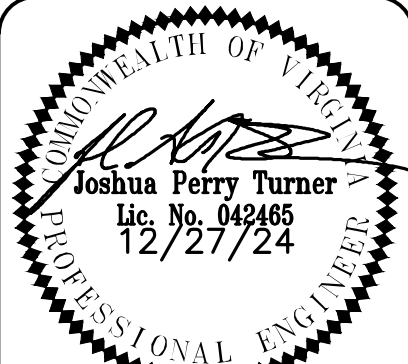
DRAWN: HW CHECKED: NA

DATE	DRW	CHK	DESCRIPTION
0	10	20	

THIS DRAWING IS THE PROPERTY OF ADS. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREON. NO PART OF THIS DRAWING IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF ADS. THE USER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE USER TO ENSURE THAT THE PRODUCTS SPECIFIED AND ASSOCIATED DETAILS MEET ALL APPLICABLE LOCAL, STATE, FEDERAL, AND INDUSTRY REQUIREMENTS.

2 OF 5
SHEET

No.	Submital / Revision	By	Appr'd	Date
1	1ST SUBMITTAL TOWN	HV	JPT	06/28/24
2	2ND SUBMITTAL TOWN	HV	JPT	10/15/24
3	3RD SUBMITTAL TOWN	HV	JPT	12/27/24



PERMIT REVIEW SET



LURAY, VA 22835
H: (540) 743-9227 - FAX: (540) 743-6118

—

WARREN COUNTY VA

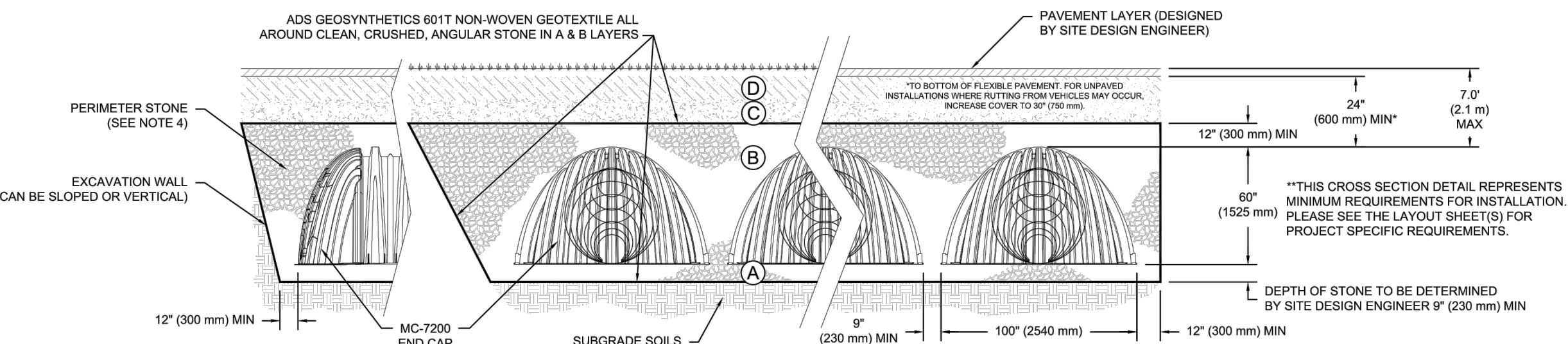
WARREN COUNTY VA

1

ACCEPTABLE FILL MATERIALS: STORMTECH MC-7200 CHAMBER SYSTEMS				
	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE (B LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145 ¹ A-1, A-2-4, A-3 OR AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 98% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS (FROM THE FOUNDATION STONE (A LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE ⁵	AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE ⁵	AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{5,3}

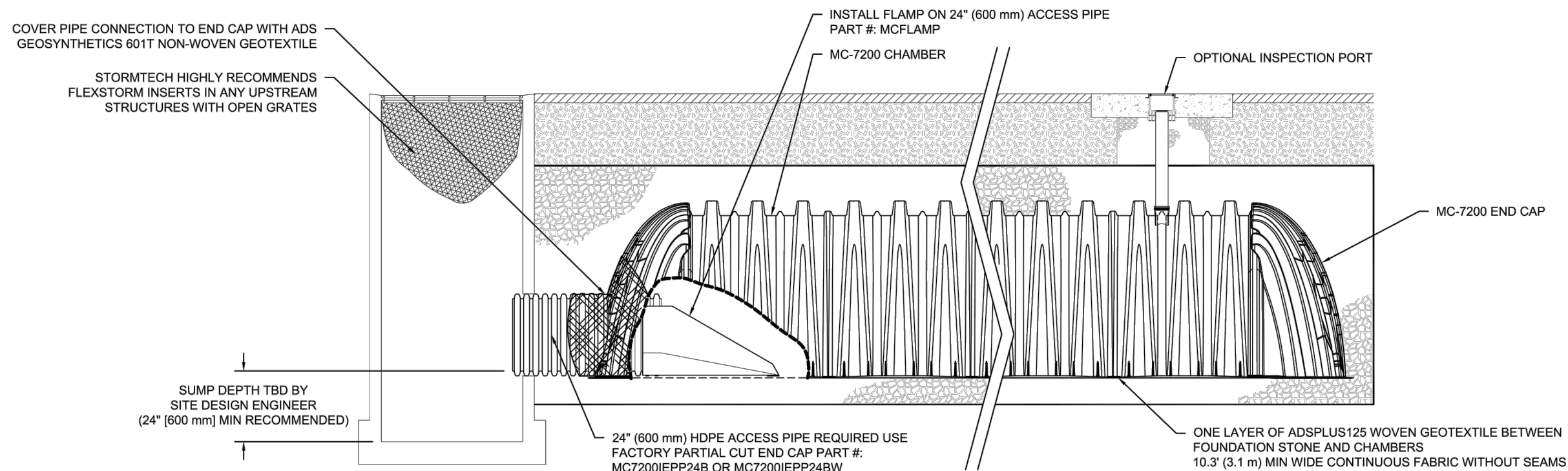
PLEASE NOTE:

1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 8" (203 mm) MAXIMUM LIFTS USING TWO FULL COVERSAGES WITH A VIBRATORY COMPACTOR.
3. WHERE THE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FINAL IMAGE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOLI/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR AT 'D' AT THE SITE DESIGN ENGINEERS DISCRETION.
5. WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60X10.
2. M-280 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE ENGINEER SHALL DETERMINE THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH HORIZONTAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR SHIPPING AND HANDLING:
- TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 450 LB/IN². THE AISC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418, AND TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

[illegible]

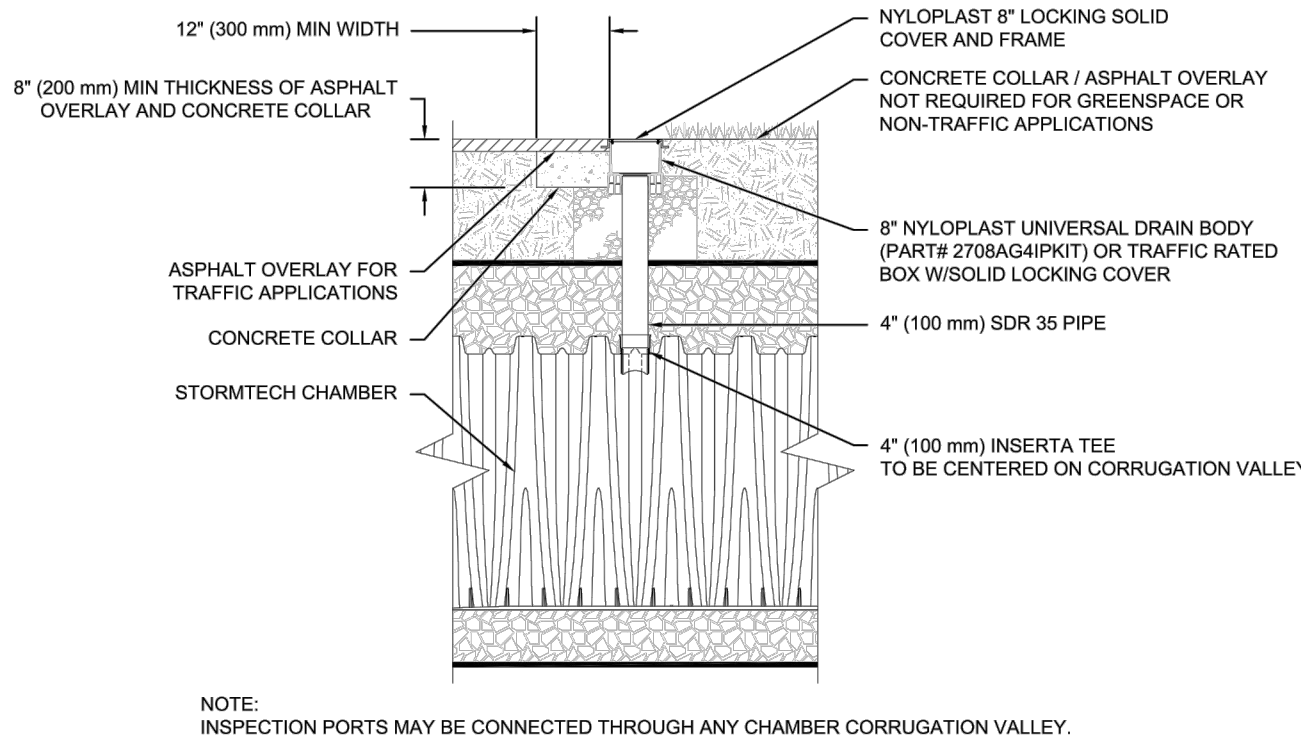
MC-7200 ISOLATOR ROW PLUS DETAIL
NTS

INSPECTION & MAINTENANCE

- STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
 - 1. REMOVE COVER LID ON NYLON/PLAST INLINE DRAIN
 - 2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
 - 3. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS TO A DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
 - 4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
 - 5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2; IF NOT, PROCEED TO STEP 3
 - B. ISOLATOR PLUS ROW
 - 1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
 - 2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
 - i) MIRROR OR VIDEO OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
 - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
 - 3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2; IF NOT, PROCEED TO STEP 3
- STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- 1. ATTACHED CULVERT OR RAINING NOZZLE WITH REAR FACING SPREAD OF 45° (1" m) OR MORE IS PREPARED
 - 2. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLOW WATER IS CLEAN
 - 3. VACUUM STRUCTURE SUMP AS REQUIRED
- STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTOW SYSTEM.

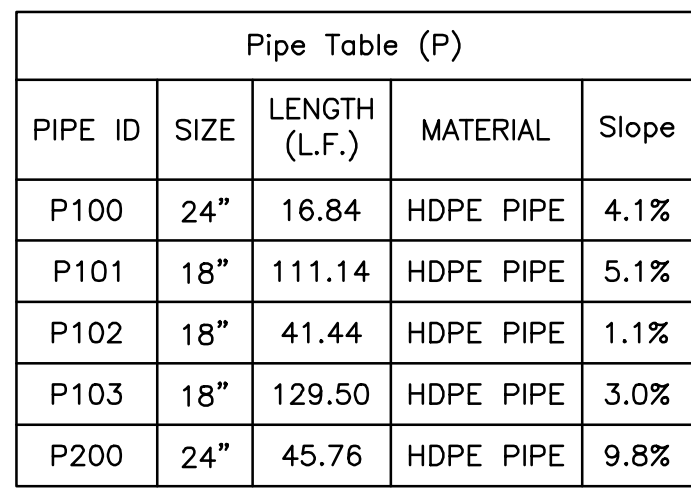
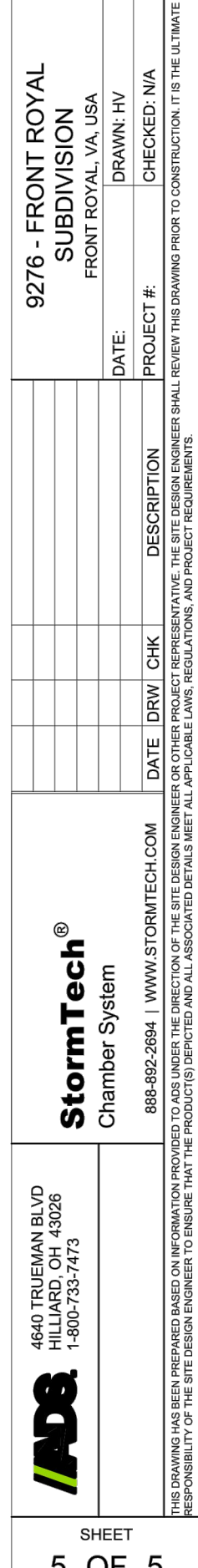
NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



4" PVC INSPECTION PORT DETAIL (MC SERIES CHAMBER)

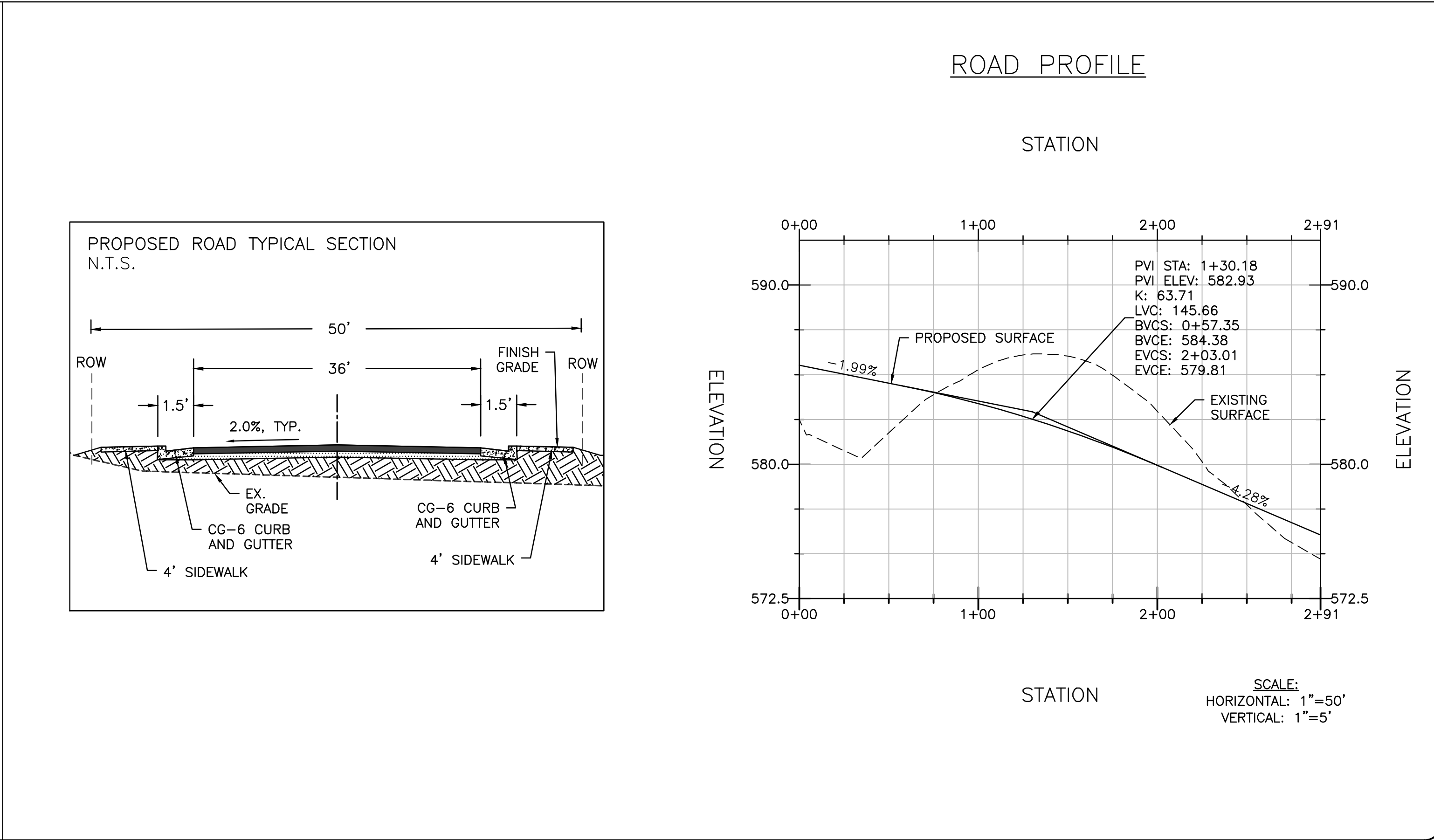
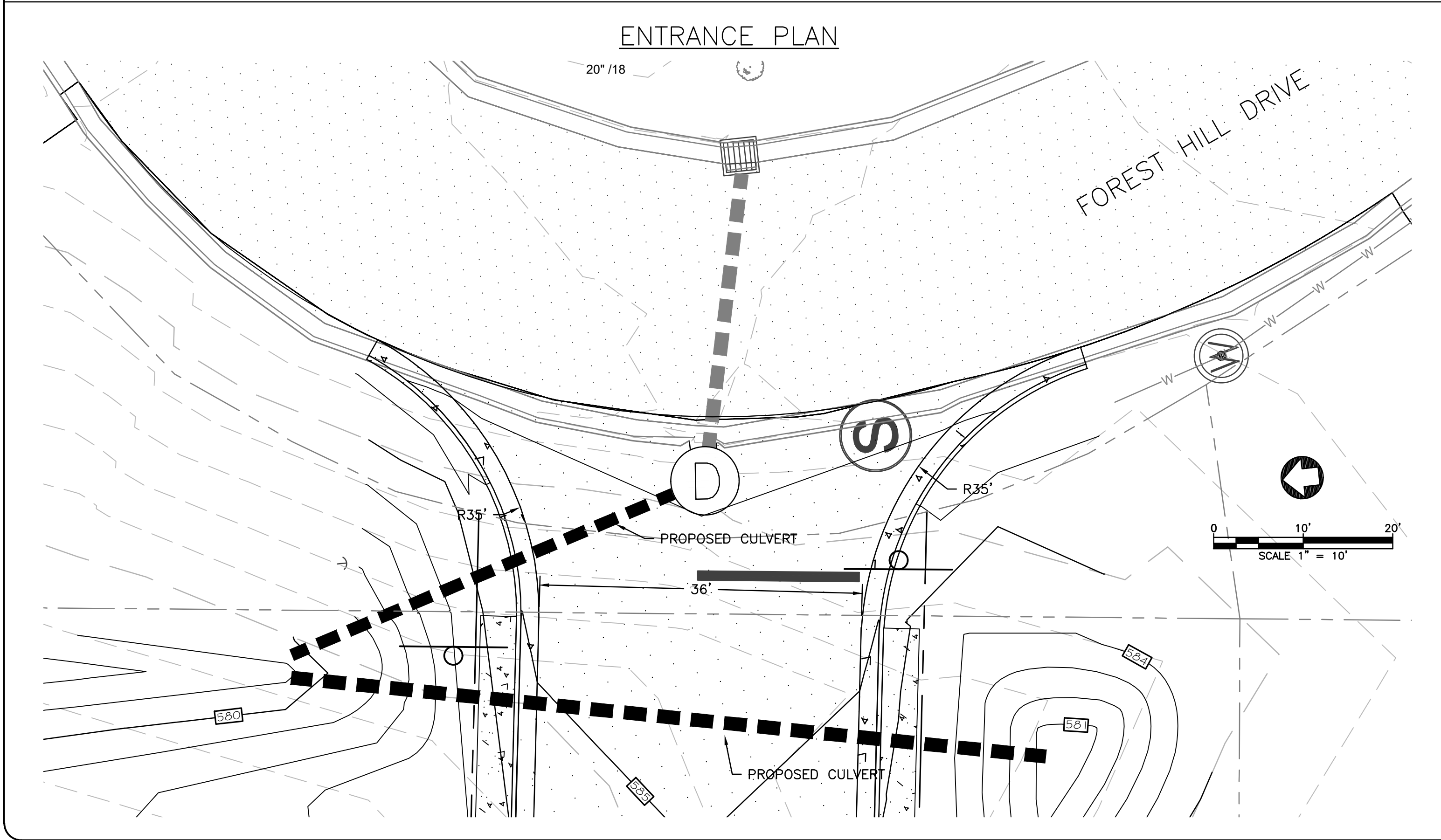
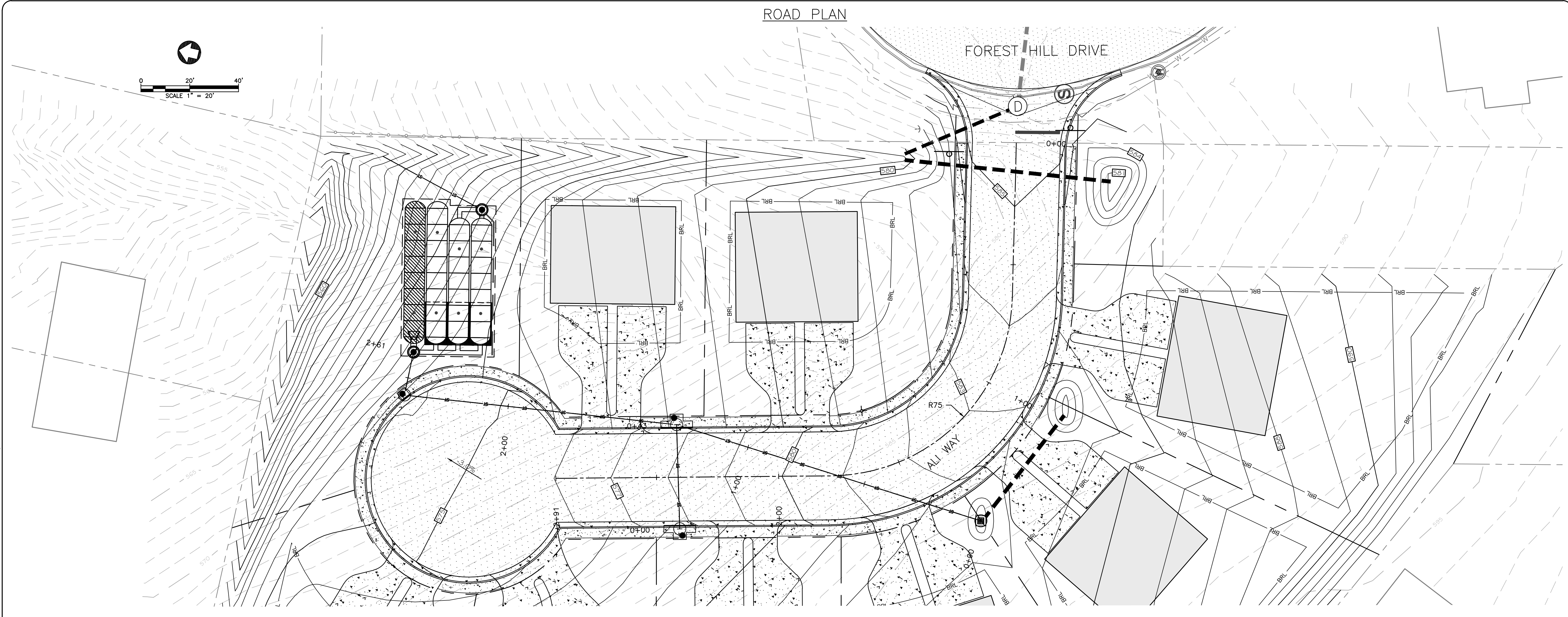
 StormTech® Chamber System		888-892-2694 WWW.STORMTECH.COM		DATE	DRY	CHK	DESCRIPTION	PROJECT #:	CHECKED	DATE
4640 TRELEMAN BLVD SUITE 100 FARMERS BRANCH, TX 75446 1-800-733-4173		THIS DRAWING IS THE PROPERTY OF STORMTECH, INC. AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF STORMTECH, INC. THE USER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE USER TO ENSURE THAT THE PRODUCTS SPECIFIED ARE ALL APPROVED DETAILS. ALL CITY, STATE, AND FEDERAL REGULATIONS, ORDINANCES, AND INSURANCE REQUIREMENTS SHALL BE FOLLOWED.								



NOTE: CONTRACTOR MUST
PROVIDE SHOP DRAWINGS FOR
THIS CONTROL STRUCTURE FOR
APPROVAL BEFORE INSTALLATION

P:\2022\9276 - di billoo - strasburg road subdivision - 20a114-23b-civil\8. design\4. dwg\CIVIL\COMPOSITE

P:\2022\9276 - di billoo - strasburg road subdivision - 20a114-23b-civil\8. design\4. dwg\CIVIL\COMPOSITE



No.	Submittal / Revision	By	App'd	Date
1	1ST SUBMITTAL TOWN	HV	JPT	06/28/24
2	2ND SUBMITTAL TOWN	HV	JPT	10/15/24
3	3RD SUBMITTAL TOWN	HV	JPT	12/27/24

PERMIT REVIEW SET

RACEY ENGINEERING PLLC
312 WEST MAIN ST. - P.O. BOX 387
LURAY, VA 22835
PH: (540) 743-5227 • FAX: (540) 743-6118

DESIGNED:HV DRAWN:HV CHECKED:JPT

STRASBURG ROAD SUBDIVISION
ROAD AND ENTRANCE PLAN
ALI BILLOO
WARREN COUNTY, VA

PUBLISH DATE: 12/30/2024

RACEY PROJECT NUMBER: 9276

C303

****TERMS OF ENGINEER DESIGNS (INDUSTRY STANDARDS):**
THE ENGINEER IS PROVIDING NOTICE TO THE CLIENT OF THE FOLLOWING SPECIFIC TERMS: THE PLAN PREPARATIONS HAVE BEEN MADE WITH ALL REASONABLE AND PROFESSIONAL CARE GIVEN TO DESIGN DETAILS AND COORDINATION. HOWEVER, UNINTENTIONAL ERRORS, OR OMISSIONS, ARE A NORMAL PART OF ANY WELL PREPARED ENGINEERING DESIGN/CONSTRUCTION DOCUMENTS. THIS PLAN REPRESENTATION IS BASED ON THE CLIENT'S UNDERSTANDING AND ACCEPTANCE OF THIS PREMISE, AND THAT THE CONSTRUCTION CONTRACT BUDGET WILL CONTAIN A REASONABLE CONTINGENCY COST TO COVER THESE TYPES OF NORMAL DESIGN OR COORDINATION ERRORS OR OMISSIONS.

THE STANDARDS OF CARE FOR ALL PROFESSIONAL ENGINEERING AND RELATED SERVICES PERFORMED OR FURNISHED BY ENGINEER ARE OF THE CARE AND SKILL ORDINARILY USED BY MEMBERS OF THE SUBJECT PROFESSION PRACTICING UNDER SIMILAR CIRCUMSTANCES AT THE SAME TIME AND IN THE SAME LOCALITY. ENGINEER MAKES NO WARRANTIES, EXPRESS OR IMPLIED, IN CONNECTION WITH ENGINEER'S SERVICES. ENGINEER AND ITS CONSULTANTS MAY USE OR RELY UPON THE DESIGN SERVICES OF OTHERS, INCLUDING, BUT NOT LIMITED TO, CONTRACTOR'S, MANUFACTURERS, AND SUPPLIERS.

EROSION AND SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION:
THE PROJECT IS LOCATED ON FOREST HILL DRIVE APPROXIMATELY 500 FT FROM THE INTERSECTION WITH WEST STRASBURG ROAD IN FRONT ROYAL, VA ON LAND HAVING TAX MAP# 20A114 23B. THE AREA OF THE PROPERTY IS 3.52 ACRES. THE PROJECT CONSISTS OF CONSTRUCTING A SUBDIVISION WITH ASSOCIATED ACCESS, PARKING, UTILITIES, AND STORMWATER BMP'S. THE EXPECTED LIMITS OF DISTURBANCE AS OUTLINED ON THE SITE PLAN IS 2.94 ACRES. THE PROJECT WILL HAVE A 0.83 ACRE INCREASE IN IMPERVIOUS AREA IN THE POST-DEVELOPMENT CONDITION.

EXISTING SITE CONDITIONS:
THE EXISTING SITE CURRENTLY IS COVERED BY WOODS WITH ONE EXISTING BUILDING AND AN EXISTING GRAVEL ACCESS DRIVE. EXISTING SLOPES RANGE FROM 4% TO 20%.

ADJACENT AREA:
THE IMMEDIATE ADJACENT AREAS TO THE NORTH, EAST, AND SOUTH ARE A RESIDENTIAL NEIGHBORHOOD. THE ADJACENT AREA TO THE WEST IS A COMMUNITY CENTER BUILDING.

OFF-SITE AREAS:
NO OFF-SITE CONSTRUCTION IS PROPOSED, BUT IF BORROW FILL OR A WASTE PIT IS UTILIZED OFF-SITE, THE AREA SHALL BE CONTROLLED UNDER A SEPARATE OR EXISTING LAND DISTURBING PERMIT.

SOILS:
THE SOILS MAP AND SOILS DESCRIPTIONS HAVE BEEN INCLUDED ON THIS SHEET. THE SOIL DATA WAS OBTAINED FROM THE USDA (WEB) SOIL SURVEY.

Note: K-factor is a factor that indicates susceptibility of soil to sheet and rill erosion by water with values ranging from 0.02 to 0.69 (the higher the value the more susceptible the soil is to erosion). Hydrologic Soil Groups indicate runoff potential of the soil with Group A having high infiltration, Group B having Moderate infiltration, Group C having slow infiltration, and Group D having very slow infiltration. The pH value is used to approximate the required lime rate to be applied to the soil when seeding.

CRITICAL AREAS:
ALL SLOPES STEEPER THAN 3:1 ARE CONSIDERED TO BE CRITICAL AND HAVE ADDITIONAL MEASURES PROPOSED TO ENSURE ADEQUATE STABILIZATION IS ACHIEVED. EXTRA CARE SHOULD BE TAKEN DURING CONSTRUCTION TO ENSURE THAT THE PERIMETER EROSION AND SEDIMENT CONTROLS ARE BEING IMPLEMENTED CORRECTLY TO PREVENT SEDIMENT FROM ESCAPING THE PROJECT WORK AREA AND PASSING THROUGH OR ACCUMULATING IN THE EXISTING DRAINWAY. GOOD JUDGMENT PERTAINING TO WEATHER AND SITE CONDITIONS SHOULD ALWAYS BE USED WHEN PERFORMING A LAND DISTURBING ACTIVITY.

EROSION AND SEDIMENT CONTROL MEASURES:
UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. THIS PLAN DEPICTS ADEQUATE PERIMETER CONTROLS WITH THE UNDERSTANDING THAT FIELD CONDITIONS MAY REQUIRE ADDITIONAL CONTROLS OR MODIFICATIONS TO MEASURES AS SPECIFIED HEREIN. THE ENGINEER, LOCAL EROSION AND SEDIMENT CONTROL ADMINISTRATOR, AND DEQ RESERVES THE RIGHT TO PRESCRIBE ADDITIONAL MEASURES DURING CONSTRUCTION.

STRUCTURAL MEASURES:
TEMPORARY CONSTRUCTION ENTRANCE (3.02) SHALL BE INSTALLED AS SHOWN ON THE PLANS TO AID IN PREVENTING MUD AND SEDIMENT FROM BEING TRACKED ONTO THE STATE HIGHWAY. EXTRA PRECAUTIONS MAY BE REQUIRED BY THE CONTRACTOR TO ENSURE THAT NO MUD IS BEING TRACKED ONTO THE HIGHWAY BY CONSTRUCTION VEHICLES.

SILT FENCE (3.05) SHALL BE INSTALLED AS SHOWN ON THE PLANS TO FILTER SEDIMENT LADEN RUNOFF FROM DISTURBED AREAS BEFORE IT LEAVES THE SITE.

STORM DRAIN INLET PROTECTION (3.07) SHALL BE INSTALLED TO PREVENT SEDIMENT FROM ENTERING STORM DRAINAGE SYSTEMS PRIOR TO PERMANENT STABILIZATION OF THE DISTURBED AREA.

CULVERT INLET PROTECTION (3.08) SHALL BE INSTALLED AS A SEDIMENT FILTER LOCATED AT THE INLET TO STORM SEWER CULVERTS.

TEMPORARY DIVERSION DIKE (3.09) SHALL BE INSTALLED AS INDICATED ON THE SITE PLAN TO DIVERT SEDIMENT LADEN RUNOFF INTO THE PROPOSED SEDIMENT TRAP. TEMPORARY DIVERSION DIKES MUST BE MAINTAINED THROUGHOUT THE LIFE OF THE PROJECT.

TEMPORARY RIGHT-OF-WAY DIVERSION (3.11) SHALL BE INSTALLED AS SHOWN ON THE PLAN TO SHORTEN THE FLOW LENGTH WITHIN A SLOPING RIGHT-OF-WAY, THEREBY REDUCING THE EROSION POTENTIAL BY DIVERTING THE STORM RUNOFF TO A STABILIZED OUTLET.

TEMPORARY SEDIMENT TRAP (3.13) SHALL BE INSTALLED AS SHOWN ON THE SITE PLAN AND MUST BE CONSTRUCTED TO AT LEAST THE MINIMUM SIZE REQUIREMENTS PROVIDED. THE SEDIMENT TRAP WILL SERVE AS THE PRIMARY EROSION AND SEDIMENT CONTROL FOR THE AREA. ONCE THE DESIRED GRADE IS REACHED IN THE FILLING OPERATION, ALL DISTURBED AREAS ARE TO BE PERMANENTLY SEEDED. ONCE STABILIZED, THE SEDIMENT TRAP MAY BE FILLED IN.

OUTLET PROTECTION (3.18) SHALL BE INSTALLED TO PREVENT SCOUR AT STORMWATER OUTLETS, TO PROTECT THE OUTLET STRUCTURE, AND TO MINIMIZE THE POTENTIAL FOR SOWNSTREAM EROSION BY REDUCING THE VELOCITY AND ENERGY OF CONCENTRATED STORMWATER FLOWS.

TEMPORARY ROCK CHECK DAM (3.20) SHALL BE INSTALLED ALONG DITCHLINES AND DIVERSION DIKES AS SHOWN ON THE PLAN. THEY SHOULD BE REMOVED UPON COMPLETION OF CONSTRUCTION.

PERMANENT SEEDING (3.32) SHALL BE USED IN DISTURBED AREAS WHERE PERMANENT, LONG-LIVED VEGETATION COVER IS NEEDED AND ROUGH-GRADED AREAS WHICH WILL NOT BE BROUGHT TO FINAL GRADE FOR MORE THAN 6 MONTHS TO REDUCE EROSION, DECREASE SEDIMENT YIELD, AND PERMANENTLY STABILIZE DISTURBED AREAS

MULCHING (3.35) SHALL BE USED IN AREAS OF TEMPORARY AND PERMANENT SEEDING TO PREVENT EROSION BY PROTECTING THE SOIL SURFACE FROM RAINDROP IMPACT AND REDUCING THE VELOCITY OF OVERLAND FLOW. THIS WILL PROMOTE GROWTH OF VEGETATION BY INCREASING AVAILABLE MOISTURE AND PROVIDING INSULATION AGAINST EXTREME HEAT AND COLD.

SOIL STABILIZATION BLANKET MATTING (3.36) SHALL BE USED ON ALL SLOPES STEEPER THAN 3:1 AS OUTLINED ON THE PLANS TO AID IN CONTROLLING EROSION ON CRITICAL SLOPES.

DUST CONTROL (3.39) SHALL BE USED TO PREVENT DUST AND AIRBORNE SUBSTANCES FROM SPREADING OUTSIDE OF THE LIMITS OF DISTURBANCE.

VEGETATIVE MEASURES:
PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE [FIVE (5) DAYS FOR CUT OR FILL SLOPES]. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN (7) DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN FOURTEEN (14) DAYS. PERMANENT SOIL STABILIZATION SHALL BE APPLIED TO ALL AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN SIX (6) MONTHS. STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION. VEGETATIVE STABILIZATION SHALL BE UNIFORM, MATURE ENOUGH TO SURVIVE, AND ADEQUATE TO INHIBIT EROSION.

TOPSOIL THAT HAS BEEN STOCKPILED SHALL BE SURROUNDED WITH SILT FENCE ON THE DOWNSTREAM SIDE AND PROTECTED BY MULCH AND/OR TEMPORARY VEGETATION IMMEDIATELY AFTER GRADING. TOPSOIL SHALL NOT BE STOCKPILED IN DRAINWAYS.

MAINTENANCE:
ALL CONTROL MEASURES SHALL BE INSPECTED DAILY BY THE SITE SUPERINTENDENT OR HIS REPRESENTATIVE AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 1/4 INCH OF RAIN PER 24 HOUR PERIOD. IT IS RECOMMENDED THAT THE CONTRACTOR UTILIZE INSPECTION REPORTS AND KEEP QUALITY RECORDS OF ALL MAINTENANCE. ANY DAMAGED STRUCTURAL MEASURES ARE TO BE REPAIRED BY THE END OF THE DAY. SEEDED AREAS SHALL BE CHECKED REGULARLY TO ENSURE THAT A GOOD STAND OF GRASS IS MAINTAINED. ALL AREAS SHALL BE FERTILIZED AND RE-SEEDED AS NEEDED UNTIL GRASS IS ESTABLISHED.

TEMPORARY SILT FENCE (AND ALL PERIMETER CONTROL MEASURES) SHALL BE CHECKED REGULARLY FOR SEDIMENT BUILD-UP. IF THE TEMPORARY SILT FENCE IS CLOGGED BY SEDIMENT 1/2 THE HEIGHT OF THE INSTALLATION, IT SHALL BE REMOVED AND CLEANED OR REPLACED IMMEDIATELY.

THE CONTRACTOR IS RESPONSIBLE FOR KEEPING EXISTING PUBLIC ROADS IN A CLEAN, DUST, AND MUD FREE CONDITION AT ALL TIMES.

TEMPORARY STABILIZATION:
ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE STABILIZED WITH TEMPORARY SEEDING IF THE AREA WILL NOT BE BROUGHT TO FINAL GRADE FOR A PERIOD OF MORE THAN 14 DAYS. SEEDING REQUIREMENTS SHALL FOLLOW TABLE 3.31-B AND 3.31-C SHOWN ON SHEET C500.

PERMANENT STABILIZATION:
ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY FOLLOWING FINAL GRADING. SEEDING SHALL BE DONE ACCORDING TO SPECIFICATION NO. 3.32 OF THE VESCH AND TABLE 3.32-C ON SHEET C500. IN LIEU OF TESTING THE TOPSOIL TO DETERMINE IF AND WHAT RATE TO APPLY SOIL SUPPLEMENTS, THE CONTRACTOR CAN PROVIDE THE FOLLOWING MINIMUM SPECIFICATIONS:

TOPSOIL SHALL BE SPREAD AT A MINIMUM DEPTH OF 4" UNLESS OTHERWISE SPECIFIED IN ANY AREA WHERE THE EXISTING TOPSOIL HAS BEEN STRIPPED DURING CONSTRUCTION.

PULVERIZED AGRICULTURE LIMESTONE SHALL BE INCORPORATED INTO THE SOIL AT A MINIMUM RATE OF 92 LBS PER 1000 SF (2 TONS PER ACRE). FERTILIZE WITH 10-20-10 AT A MINIMUM RATE OF 23 LBS PER 1000 SF (1000 LBS PER ACRE)

STORMWATER MANAGEMENT:

SWM NARRATIVE:
THE TOTAL SITE HAS BEEN MANAGED FOR WATER QUANTITY IN ACCORDANCE WITH VIRGINIA STORMWATER MANAGEMENT ACT. THE SITE IS LOCATED WITHIN THE NORTH FORK SHENANDOAH RIVER WATERSHED. THE HUC 8 CODE OF THE WATERSHED IS 02070007.

WATER QUANTITY:
THE PROJECT SITE IS ANALYZED AT ONE (1) EVALUATION POINT TO THE NORTH OF THE SITE IN AN EXISTING SWALE. THE SITE MEETS CHANNEL PROTECTION BY 9VAC25-66-B.3.A. WHERE THE UNDERGROUND DETENTION TANKS AND OUTLET CONTROL STRUCTURE ARE UTILIZED TO SATISFY THE ENERGY BALANCE EQUATION. THE SITE MEETS FLOOD PROTECTION BY 9VAC25-870-66.C.1. WHERE THE SITE UTILIZES THE DETENTION FROM THE UNDERGROUND STORAGE TO RELEASE THE PEAK FLOWRATE FROM THE 10-YEAR 24-HOUR STORM EVENT AT LESS THAN THE PRE-DEVELOPMENT 10-YEAR 24-HOUR STORM EVENT TO AN EXISTING DRAINWAY THAT DOES NOT EXPERIENCE LOCALIZED FLOODING.

WATER QUALITY:
THE TOTAL SITE, WHICH CONSISTS OF 2.94 ACRES OF DISTURBANCE, HAS BEEN MANAGED FOR WATER QUALITY IN ACCORDANCE WITH THE VIRGINIA STORMWATER MANAGEMENT ACT. THE VIRGINIA RUNOFF REDUCTION METHOD RE- DEVELOPMENT WORKSHEET - V3.0 WAS USED TO DETERMINE THE NUTRIENT LOAD REMOVAL REQUIRED. THE PHOSPHORUS LOAD REDUCTION REQUIRED WAS DETERMINED TO BE 2.19 LB/YR. THE STORMTECH ISOLATOR ROW PLUS WILL PROVIDE A REDUCTION OF 1.84 LB/YR. THE REMAINING 0.35 LB/YR WILL BE OFFSET WITH THE PURCHASE OF NUTRIENT CREDITS.

MANAGEMENT STRATEGIES AND SITE USE REQUIREMENTS:
SEQUENCE OF CONSTRUCTION:

1. A PRE-CONSTRUCTION CONFERENCE MUST BE HELD PRIOR TO ANY LAND DISTURBANCE ON-SITE. CONTRACTOR TO SCHEDULE THIS MEETING WITH THE WARREN COUNTY E&S ADMINISTRATOR, DEQ, THE OWNER, AND ENGINEER AT LEAST 2 WEEKS PRIOR TO START OF CONSTRUCTION.
2. PERIMETER EROSION AND SEDIMENT CONTROLS SHALL BE INSTALLED (LOD MARKED, SILT FENCE, SEDIMENT TRAPS, DIVERSIONS, ETC.) AS A FIRST STEP IN THE LAND DISTURBANCE ACTIVITY.
3. DEMOLITION WORK MAY COMMENCE FOLLOWING INSTALLATION OF PERIMETER CONTROLS.
4. CLEAR AND GRUB. STRIP AND STOCKPILE TOPSOIL FOR RE-SPREAD USE UPON CLOSEOUT. TOPSOIL MAY BE USED, SHAPED AND COMPACTED AS DIVERSION BERMS AND DIKES IN THE FIELD.
5. BEGIN CONSTRUCTION AND GRADING OPERATIONS. (NOTE: R-TANK STORAGE CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURERS REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS).
6. ONCE ENTIRE AREA IS STABILIZED, THE TEMPORARY SEDIMENT TRAP CAN BE REMOVED AND FINAL GRADES CAN BE REACHED.

CONSTRUCTION SHALL BE SEQUENCED SUCH THAT GRADING OPERATIONS WILL BEGIN AND END AS QUICKLY AS POSSIBLE.

THE SITE SUPERINTENDENT AND THE DEQ CERTIFIED RESPONSIBLE LAND DISTURBER SHALL BE RESPONSIBLE FOR THE INSTALLATION, MAINTENANCE, AND REMOVAL OF ALL EROSION AND SEDIMENT CONTROL MEASURES. MAINTENANCE OF THESE MEASURES THROUGHOUT THE PROJECT IS CRITICAL TO THE EFFECTIVENESS OF THE PROGRAM.

DEVICES SPECIFIED IN THIS PLAN ARE CONSIDERED MINIMUM EROSION AND SEDIMENT CONTROLS. ADDITIONAL CONTROL MEASURES MAY BE NECESSARY DUE TO OBSTACLES, PHASING, OR OTHER UNFORESEEN CONDITIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ADDITIONAL MEASURES TO THOSE SHOWN, AS NEEDED, IN ORDER TO CONTROL THE EROSION ON THE SITE. ALL MEASURES SHALL BE INSTALLED ACCORDING TO THE STANDARDS AND SPECIFICATION OF THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.

ALL APPLICABLE EROSION AND SEDIMENT CONTROLS SHALL BE ADHERED TO THROUGHOUT THE LIFE OF THE PROJECT.

IN NO CASE SHALL ANY, DESIGNATED OR STIPULATED, HAZARDOUS MATERIALS BE PLACED AT ANY LOCATION ON THE PROJECT SITE.

GENERAL EROSION AND SEDIMENT CONTROL NOTES

ES-1: UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS EROSION AND SEDIMENT CONTROL REGULATIONS (9VAC25-840).

ES-2: THE PLAN-APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION. THE NAME OF THE RESPONSIBLE LAND DISTURBER MUST BE PROVIDED TO THE PLAN-APPROVING AUTHORITY PRIOR TO ACTUAL ENGAGEMENT IN THE LAND-DISTURBING ACTIVITY SHOWN ON THE APPROVED PLAN. IF THE NAME IS NOT PROVIDED PRIOR TO ENGAGING IN THE LAND-DISTURBING ACTIVITY, THE PLAN'S APPROVAL WILL BE REVOKED.

ES-3: ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS SOON AS THE FIRST STEP IN CLEARING.

ES-4: A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.

ES-5: PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO OFF SITE BORROW OR WASTED AREAS), THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE PLAN APPROVING AUTHORITY.

ES-6: THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE PLAN APPROVING AUTHORITY.

ES-7: ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED, AFTER WHICH, UPON APPROVAL OF THE PLAN-APPROVING AUTHORITY, THE CONTROLS SHALL BE REMOVED. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE REMOVAL OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.

ES-8: DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.

ES-9: THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES AT LEAST EVERY 2 WEEKS AND IMMEDIATELY AFTER EACH RUNOFF-PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.

ES-10: THE CONTRACTOR IS RESPONSIBLE FOR THE DAILY REMOVAL OF SEDIMENT THAT HAS BEEN TRANSPORTED ONTO A PAVED OR PUBLIC ROAD SURFACE.

ES-11: SEEDING OPERATIONS SHALL BE INITIATED WITHIN 7 DAYS AFTER REACHING FINAL GRADE OR UPON SUSPENSION OF GRADING OPERATIONS FOR AN ANTICIPATED DURATION OF GREATER THAN 14 DAYS OR UPON COMPLETION OF GRADING OPERATIONS FOR A SPECIFIC AREA.

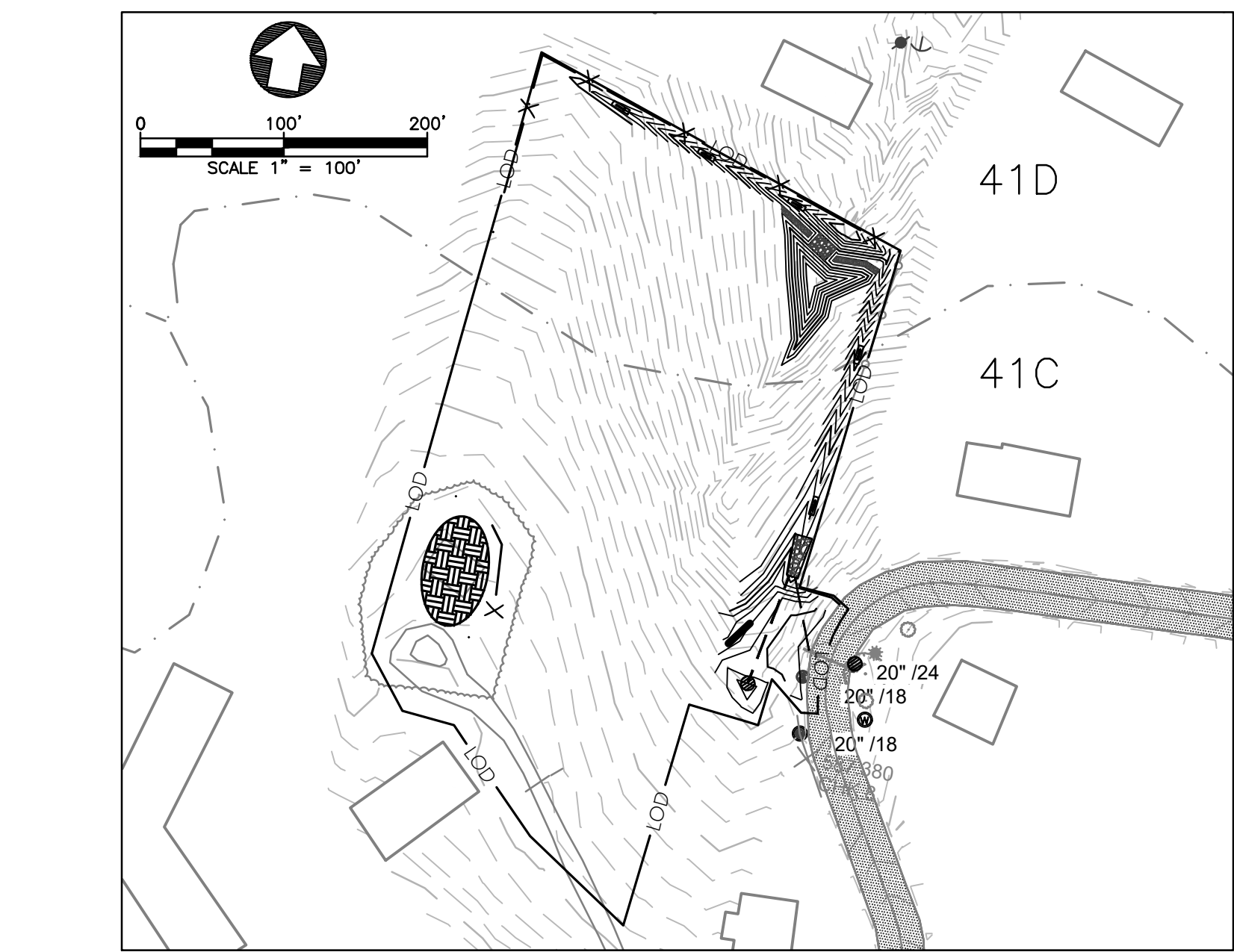
ES-12: THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING SURFACE AND AIR MOVEMENT OF DUST FROM EXPOSED SOILS WHICH MAY PRESENT HEALTH HAZARDS, TRAFFIC SAFETY PROBLEMS, OR HARM ANIMAL OR PLANT LIFE.

ES-13: A VSPM IS REQUIRED FOR PROJECTS DISTURBING 2,500 SQUARE FEET OR GREATER IN A DESIGNATED CHESAPEAKE BAY PRESERVATION AREA (CBPA) OR 1 ACRE, OR GREATER OUTSIDE THE CBPA, UNLESS THE DEVELOPMENT IS WITHIN A COMMON PLAN OF DEVELOPMENT. FOR MORE INFORMATION VISIT THE VIRGINIA STORMWATER MANAGEMENT PROGRAM PERMITTING WEB PAGE AT: [HTTP://WWW.DEQ.VIRGINIA.GOV/PROGRAMS/WATER/STORMWATERMANAGEMENT/VSPMPERMIT/CONSTRUCTIONGENERALPERMIT.ASPX](http://www.deq.virginia.gov/PROGRAMS/WATER/STORMWATERMANAGEMENT/VSPMPERMIT/CONSTRUCTIONGENERALPERMIT.ASPX)

VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS
SECTION 9VAC25-840-40
MINIMUM STANDARDS

A VESCP must be consistent with the following criteria, techniques and methods:

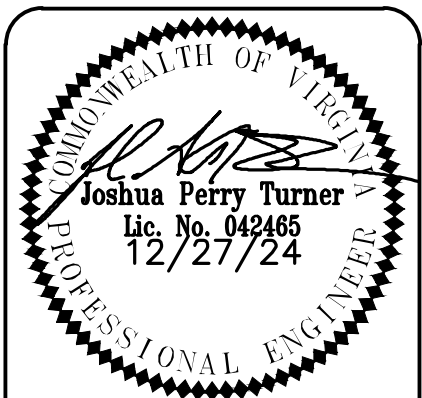
1. Permanent or temporary soil stabilization shall be applied to denuded areas within seven days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven days to denuded areas that may not be at final grade but will remain dormant for longer than 14 days. Permanent stabilization shall be applied to areas that are to be left dormant for more than one year.
2. During construction of the project, soil stock piles and borrow areas shall be stabilized or protected with sediment trapping measures. The applicant is responsible for the temporary protection and permanent stabilization of all soil stockpiles on site as well as borrow areas and soil intentionally transported from the project site.
3. A permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized. Permanent vegetation shall not be considered established until a ground cover is achieved that is uniform, mature enough to survive and will inhibit erosion.
4. Sediment basins and traps, perimeter dikes, sediment barriers and other measures intended to trap sediment shall be constructed as a first step in any land-disturbing activity and shall be made functional before upslope land disturbance takes place.
5. Stabilization measures shall be applied to earthen structures such as dams, dikes and diversions immediately after installation.
6. Sediment traps and sediment basins shall be designed and constructed based upon the total drainage area to be served by the trap or basin.
 - a. The minimum storage capacity of a sediment trap shall be 134 cubic yards per acre of drainage area and the trap shall only control drainage areas less than three acres.
 - b. Surface runoff from disturbed areas that is comprised of flow from drainage areas greater than or equal to three acres shall be controlled by a sediment basin. The minimum storage capacity of a sediment basin shall be 134 cubic yards per acre of drainage area. The outfall system shall, at a minimum, maintain the structural integrity of the basin during a 25-year storm of 24-hour duration. Runoff coefficients used in runoff calculations shall correspond to a bare earth condition or those conditions expected to exist while the sediment basin is utilized.
7. Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion. Slopes that are found to be eroding excessively within one year of permanent stabilization shall be provided with additional slope stabilizing measures until the problem is corrected.



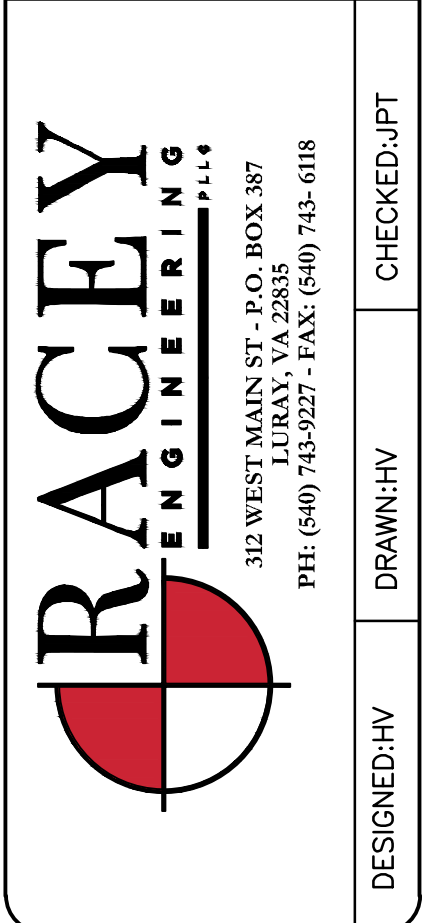
MAP UNIT	SOIL DESCRIPTION	pH	K-FACTOR	HYDROLOGIC SOIL GROUP
41C	WEIKERT-BERKS CHANNERY SILT LOAMS, 8 TO 15 PERCENT SLOPES	5.0	0.17	D
41D	WEIKERT-BERKS CHANNERY SILT LOAMS, 15 TO 25 PERCENT SLOPES	4.3	N/A	D

8. Concentrated runoff shall not flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume or slope drain structure.
9. Whenever water seeps from a slope face, adequate drainage or other protection shall be provided.
10. All storm sewer inlets that are made operable during construction shall be protected so that sediment-laden water cannot enter the conveyance system without first being filtered or otherwise treated to remove sediment.
11. Before newly constructed stormwater conveyance channels or pipes are made operational, adequate outlet protection and any required temporary or permanent channel lining shall be installed in both the conveyance channel and receiving channel.
12. When work in a live watercourse is performed, precautions shall be taken to minimize encroachment, control sediment transport and stabilize the work area to the greatest extent possible during construction. Nonerodible material shall be used for the construction of causeways and cofferdams. Earthen fill may be used for these structures if armored by nonerodible cover materials.
13. When a live watercourse must be crossed by construction vehicles more than twice in any six-month period, a temporary vehicular stream crossing constructed of nonerodible material shall be provided.
14. All applicable federal, state and local requirements pertaining to working in or crossing live watercourses shall be met.
15. The bed and banks of a watercourse shall be stabilized immediately after work in the watercourse is completed.
16. Underground utility lines shall be installed in accordance with the following standards in addition to other applicable criteria:
 - a. No more than 500 linear feet of trench may be opened at one time.
 - b. Excavated material shall be placed on the uphill side of trenches.
 - c. Effluent from dewatering operations shall be filtered or passed through an approved sediment trapping device, or both, and discharged in a manner that does not adversely affect flowing streams or off-site property.
 - d. Material used for backfilling trenches shall be properly compacted in order to minimize erosion and promote stabilization.
 - e. Rehabilitation shall be accomplished in accordance with this chapter.
 - f. Applicable safety requirements shall be complied with.
17. Where construction vehicle access routes intersect paved or public roads, provisions shall be made to minimize the transport of sediment by vehicular tracking onto the paved surface. Where sediment is transported onto a paved or public road surface, the road surface shall be cleaned thoroughly at the end of each day. Sediment shall be removed from the roads by shoveling or sweeping and transported to a sediment control disposal area. Street washing shall be allowed only after sediment is removed in this manner. This provision shall apply to individual development lots as well as to larger land-disturbing activities.
18. All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization or after the temporary measures are no longer needed, unless otherwise required by the VESCP authority. Trapped sediment and the disturbed soil areas resulting from the disposition of temporary measures shall be permanently stabilized to prevent further erosion and sedimentation.
19. Properties and waterways downstream from development sites shall be protected from sediment deposition, erosion and damage due to increases in volume, velocity and peak flow rate of stormwater runoff for the stated frequency storm of 24-hour duration in accordance with the following standards and criteria. Stream restoration and relocation projects that incorporate natural channel design concepts are not man-made channels and shall be exempt from any flow rate capacity and velocity requirements for natural or man-made channels:
 - a. Concentrated stormwater runoff leaving a development site shall be discharged directly into an adequate natural or man-made receiving channel, pipe or storm sewer system. For those sites where runoff is discharged into a pipe or pipe system, downstream stability analyses at the outfall of the pipe or pipe system shall be performed.
 - b. Adequacy of all channels and pipes shall be verified in the following manner:
 - (1) The applicant shall demonstrate that the total drainage area to the point of analysis within the channel is one hundred times greater than the contributing drainage area of the project in question; or
 - (2) a) Natural channels shall be analyzed by the use of a two-year storm to verify that stormwater will not overtop channel banks nor cause erosion of channel bed or banks.
 - b) All previously constructed man-made channels shall be analyzed by the use of a ten-year storm to verify that stormwater will not overtop its banks and by the use of a two-year storm to demonstrate that stormwater will not cause erosion of channel bed or banks; and
 - c) Pipes and storm sewer systems shall be analyzed by the use of a ten-year storm to verify that stormwater will be contained within the pipe or system.
 - c. If existing natural receiving channels or previously constructed man-made channels or pipes are not adequate, the applicant shall:
 - (1) Improve the channels to a condition where a ten-year storm will not overtop the banks and a two-year storm will not cause erosion to the channel, the bed, or the banks; or
 - (2) Improve the pipe or pipe system to a condition where the ten-year storm is contained within the appurtenances;
 - d. Develop a site design that will not cause the pre-development peak runoff rate from a two-year storm to increase when runoff outfalls into a natural channel or will not cause the pre-development peak runoff rate from a ten-year storm to increase when runoff outfalls into a man-made channel; or
 - (4) Provide a combination of channel improvement, stormwater detention or other measures which is satisfactory to the VESCP authority to prevent downstream erosion.
- d. The applicant shall provide evidence of permission to make the improvements.
- e. All hydrologic analyses shall be based on the existing watershed characteristics and the ultimate development condition of the subject project.
- f. If the applicant chooses an option that includes stormwater detention, he shall obtain approval from the VESCP of a plan for maintenance of the detention facilities. The plan shall set forth the maintenance requirements of the facility and the person responsible for performing the maintenance.
- g. Outfall from a detention facility shall be discharged to a receiving channel, and energy dissipators shall be placed at the outfall of all detention facilities as necessary to provide a stabilized transition from the facility to the receiving channel.
- h. All on-site channels must be verified to be adequate.
 - i. Increased volumes of sheet flows that may cause erosion or sedimentation on adjacent property shall be diverted to a stable outlet, adequate channel, pipe or pipe system, or a detention facility.
 - j. In applying these stormwater management criteria, individual lots or parcels in a residential, commercial or industrial development shall not be considered to be separate development projects. Instead, the development, as a whole, shall be considered to be a single development project. Hydrologic parameters that reflect the ultimate development condition shall be used in all engineering calculations.
- k. All measures used to protect properties and waterways shall be employed in a manner which minimizes impacts on the physical, chemical and biological integrity of rivers, streams and other waters of the state.
- l. Any plan approved prior to July 1, 2014, that provides for stormwater management that addresses any flow rate capacity and velocity requirements for natural or man-made channels shall satisfy the flow rate capacity and velocity requirements for natural or man-made channels if the practices are designed to (i) detain the water quality volume and to release it over 48 hours; (ii) detain and release over a 24-hour period the expected rainfall resulting from the one year, 24-hour storm; and (iii) reduce the allowable peak flow rate resulting from the 1.5, 2, and 10-year, 24-hour storms to a level that is less than or equal to the peak flow rate from the site assuming it was in a good forested condition, achieved through multiplication of the forested peak flow rate by a reduction factor that is equal to the runoff volume from the site when it was in a good forested condition divided by the runoff volume from the site in its proposed condition, and shall be exempt from any flow rate capacity and velocity requirements for natural or man-made channels as defined in any regulations promulgated pursuant to § 62.1-44.15:54 or 62.1-44.15:65 of the Act.
- m. For plans approved on and after July 1, 2014, the flow rate capacity and velocity requirements of § 62.1-44.15:52 A of the Act and this subsection shall be satisfied by compliance with water quantity requirements in the Stormwater Management Act (§ 62.1-44.15:24 et seq. of the Code of Virginia) and attendant regulations, unless such land-disturbing activities are in accordance with 9VAC25-870-48 of the Virginia Stormwater Management Program (VSPM) Regulations.
- n. Compliance with the water quantity minimum standards set out in 9VAC25-870-66 of the Virginia Stormwater Management Program (VSPM) Regulations shall be deemed to satisfy the requirements of subdivision 19 of this subsection.

No.	By	Submital / Revision	Date
1	JPT	1ST SUBMITTAL TOWN	06/28/24
2	JPT	2ND SUBMITTAL TOWN	10/15/24
3	JPT	3RD SUBMITTAL TOWN	12/27/24



PERMIT
REVIEW SET



STRASBURG ROAD SUBDIVISION	ESC NARRATIVE	ALI BILLOO	WARREN COUNTY, VA	DESIGNED:HV	DRAWN:HV	CHECKED:JPT
PUBLISH DATE: 12/30/2024				RACEY PROJECT NUMBER: 9276		
C400						

SEDIMENT TRAP CALCULATIONS			
ELEVATION	AREA (SF)	INCR. VOLUME (CY)	CUMMULATIVE VOLUME (CY)
555	152	0	0
558	886	57.67	57.67
559	1,252	39.59	97.26
560	1,674	54.19	151.44
561	2,171	71.20	222.65
562	2,745	91.04	313.69

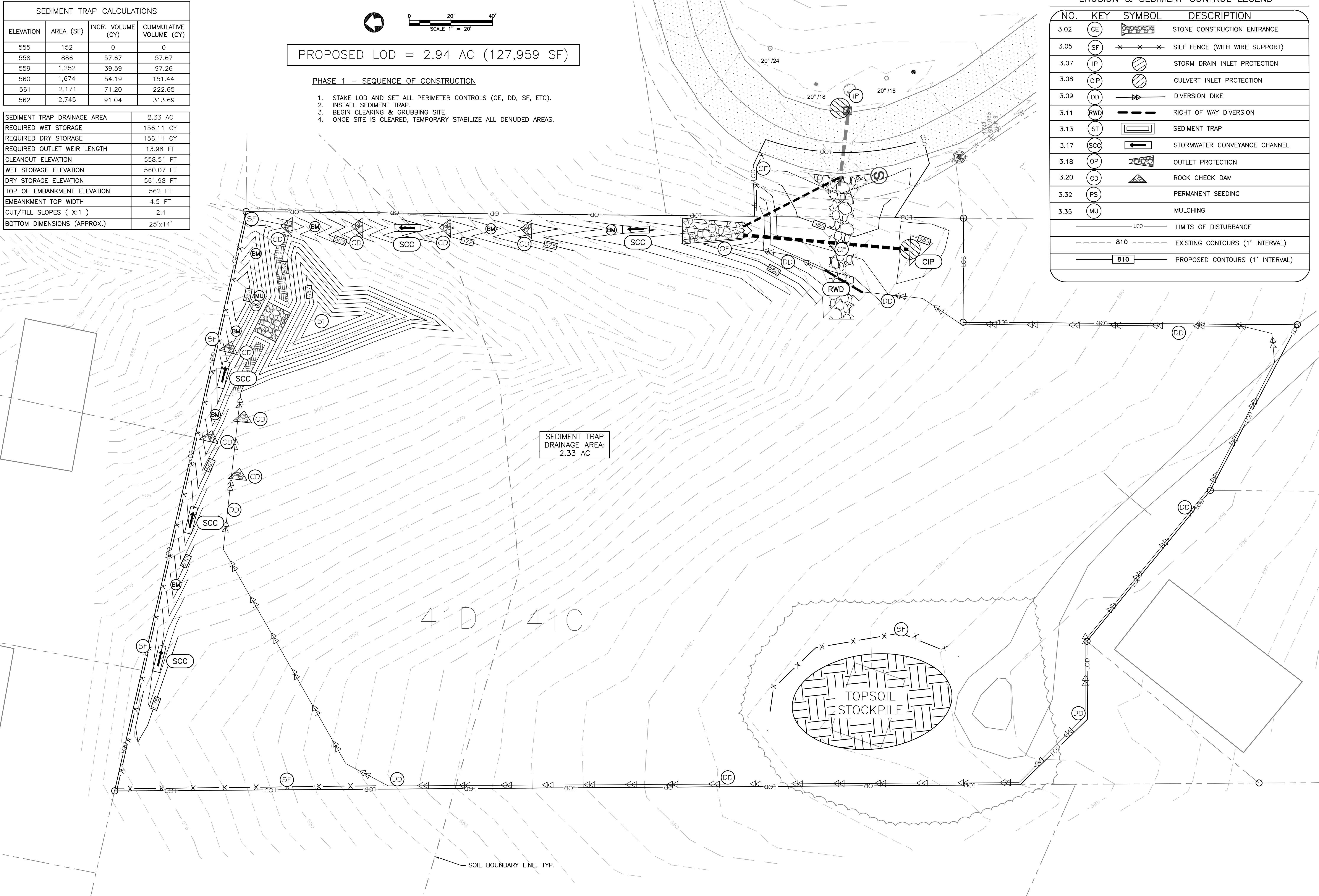
SEDIMENT TRAP DRAINAGE AREA		2.33 AC
REQUIRED WET STORAGE	156.11 CY	
REQUIRED DRY STORAGE	156.11 CY	
REQUIRED OUTLET WEIR LENGTH	13.98 FT	
CLEANOUT ELEVATION	558.51 FT	
WET STORAGE ELEVATION	560.07 FT	
DRY STORAGE ELEVATION	561.98 FT	
TOP OF EMBANKMENT ELEVATION	562 FT	
EMBANKMENT TOP WIDTH	4.5 FT	
CUT/FILL SLOPES (X:1)	2:1	
BOTTOM DIMENSIONS (APPROX.)	25'x14'	

PROPOSED LOD = 2.94 AC (127,959 SF)

PHASE 1 - SEQUENCE OF CONSTRUCTION

1. STAKE LOD AND SET ALL PERIMETER CONTROLS (CE, DD, SF, ETC).
2. INSTALL SEDIMENT TRAP.
3. BEGIN CLEARING & GRUBBING SITE.
4. ONCE SITE IS CLEARED, TEMPORARY STABILIZE ALL DENUDED AREAS.

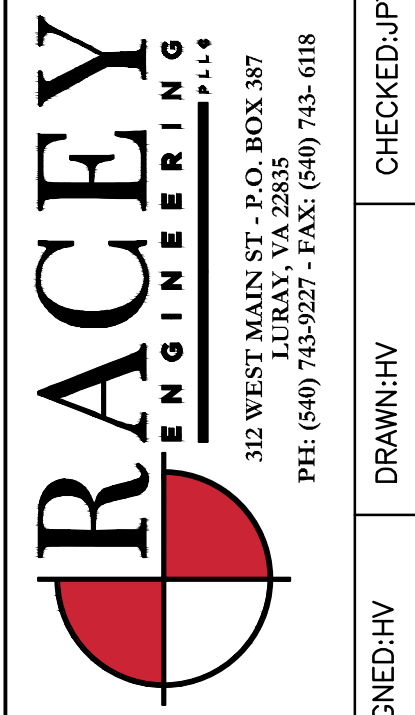
EROSION & SEDIMENT CONTROL LEGEND			
NO.	KEY	SYMBOL	DESCRIPTION
3.02	CE		STONE CONSTRUCTION ENTRANCE
3.05	SF		SILT FENCE (WITH WIRE SUPPORT)
3.07	IP		STORM DRAIN INLET PROTECTION
3.08	CIP		CULVERT INLET PROTECTION
3.09	DD		DIVERSION DIKE
3.11	RWD		RIGHT OF WAY DIVERSION
3.13	ST		SEDIMENT TRAP
3.17	SCC		STORMWATER CONVEYANCE CHANNEL
3.18	OP		OUTLET PROTECTION
3.20	CD		ROCK CHECK DAM
3.32	PS		PERMANENT SEEDING
3.35	MU		MULCHING
--- LOD --- LIMITS OF DISTURBANCE			
--- 810 --- EXISTING CONTOURS (1' INTERVAL)			
--- 810 --- PROPOSED CONTOURS (1' INTERVAL)			



No.	Submittal / Revision	By	App'd	Date
1	1ST SUBMITTAL TOWN	HV	JPT	06/28/24
2	2ND SUBMITTAL TOWN	HV	JPT	10/15/24
3	3RD SUBMITTAL TOWN	HV	JPT	12/27/24

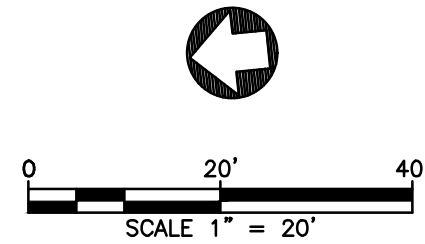


PERMIT REVIEW SET



STRASBURG ROAD SUBDIVISION	PUBLISH DATE: 12/30/2024
ESC PLAN PHASE 1	
ALI BILLOO	
WARREN COUNTY, VA	
RACEY PROJECT NUMBER: 9276	

C401



PROPOSED LOD = 2.94 AC (127,959 SF)

PHASE 2 - SEQUENCE OF CONSTRUCTION

1. CONTINUE CONSTRUCTION AND GRADING OPERATIONS.
2. THE ENTIRE SITE IS TO BE STABILIZED PRIOR TO THE CONVERSION OF THE SEDIMENT TRAP.
3. ONCE SITE IS STABILIZED, DETENTION CAN BE INSTALLED AND SEDIMENT TRAP CAN BE REMOVED. SILT FENCE IS TO REMAIN FOR THE DURATION OF THE PROJECT.
4. WHEN THE ENTIRE SITE HAS BEEN PERMANENTLY STABILIZED AND APPROVED, THE PERIMETER CONTROLS MAY BE REMOVED.

EROSION & SEDIMENT CONTROL LEGEND

NO.	KEY	SYMBOL	DESCRIPTION
3.02	CE		STONE CONSTRUCTION ENTRANCE
3.05	SF		SILT FENCE (WITH WIRE SUPPORT)
3.07	IP		STORM DRAIN INLET PROTECTION
3.08	CIP		CULVERT INLET PROTECTION
3.09	DD		DIVERSION DIKE
3.11	RWD		RIGHT OF WAY DIVERSION
3.13	ST		SEDIMENT TRAP
3.17	SCC		STORMWATER CONVEYANCE CHANNEL
3.18	OP		OUTLET PROTECTION
3.20	CD		ROCK CHECK DAM
3.32	PS		PERMANENT SEEDING
3.35	MU		MULCHING
			— LOD — LIMITS OF DISTURBANCE
			- - - 810 - - - EXISTING CONTOURS (1' INTERVAL)
			810 PROPOSED CONTOURS (1' INTERVAL)

No.	Submital / Revision	By	App'd	Date
1	1ST SUBMITTAL TOWN	HV	JPT	06/28/24
2	2ND SUBMITTAL TOWN	HV	JPT	10/15/24
3	3RD SUBMITTAL TOWN	HV	JPT	12/27/24



PERMIT
REVIEW SET

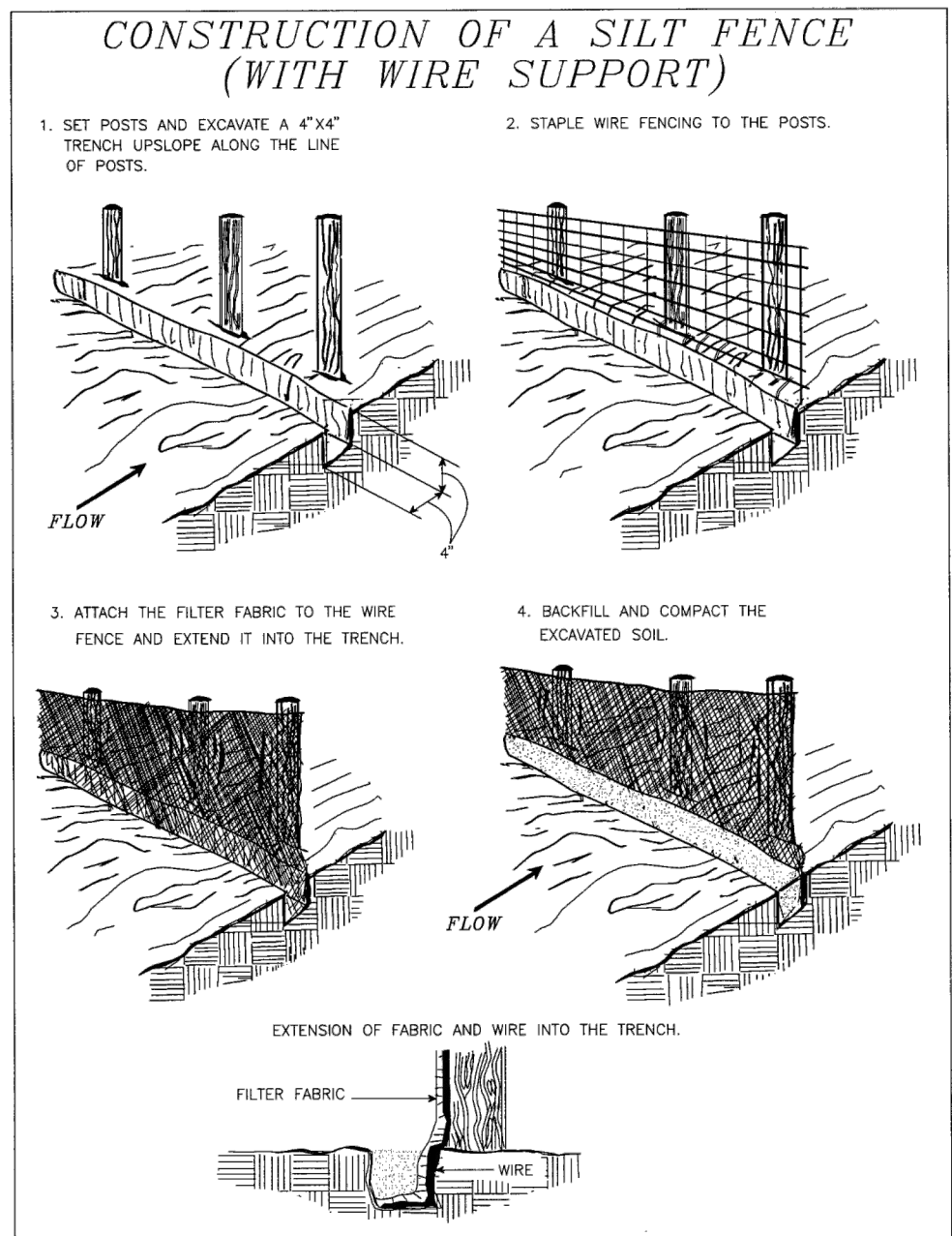


STRASBURG ROAD SUBDIVISION
ESC PLAN PHASE 2
ALI BILLOO
WARREN COUNTY, VA

RACEY PROJECT NUMBER: 9276 PUBLISH DATE: 12/30/2024

DESIGNED:HV DRAWN:HV CHECKED:JPT

C402



Source: Adapted from Installation of Straw and Fabric Filter Barriers for Sediment Control, Sherwood and Wyant

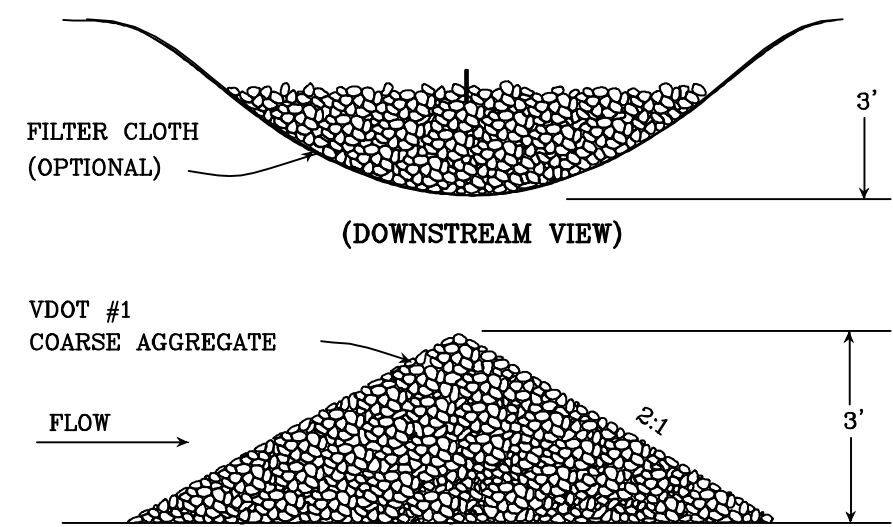
Plate 3.05-1

SILT FENCE - WITHOUT WIRE SUPPORT

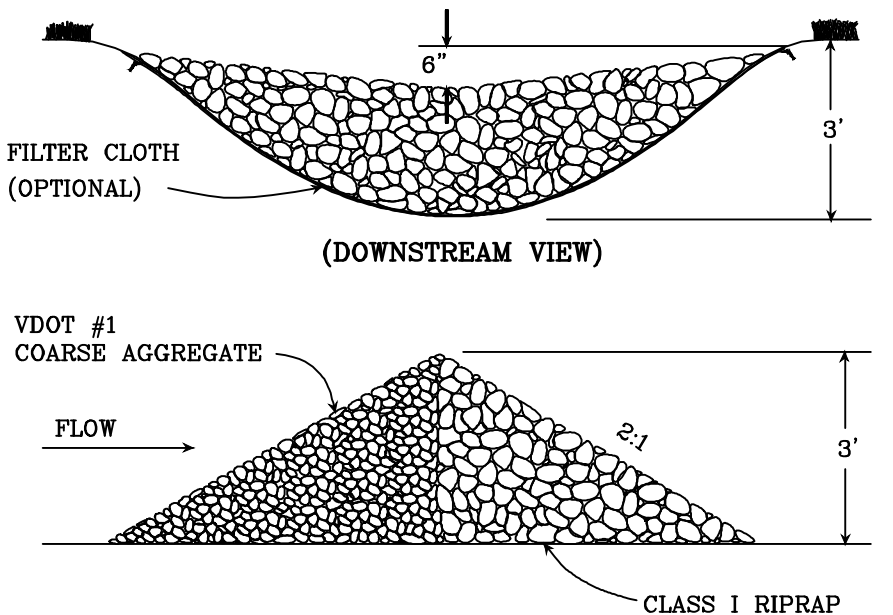
N.T.S. - SOURCE: VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK - PLATE 3.05-2

ROCK CHECK DAM

2 ACRES OR LESS OF DRAINAGE AREA:



2-10 ACRES OF DRAINAGE AREA:

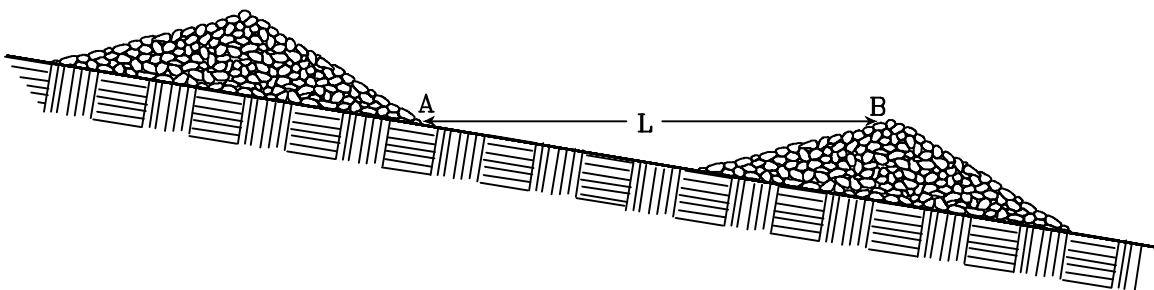


SOURCE: VA. DSWC

PLATE. 3.20-1

SPACING BETWEEN CHECK DAMS

L = THE DISTANCE SUCH THAT POINTS A AND B ARE OF EQUAL ELEVATION

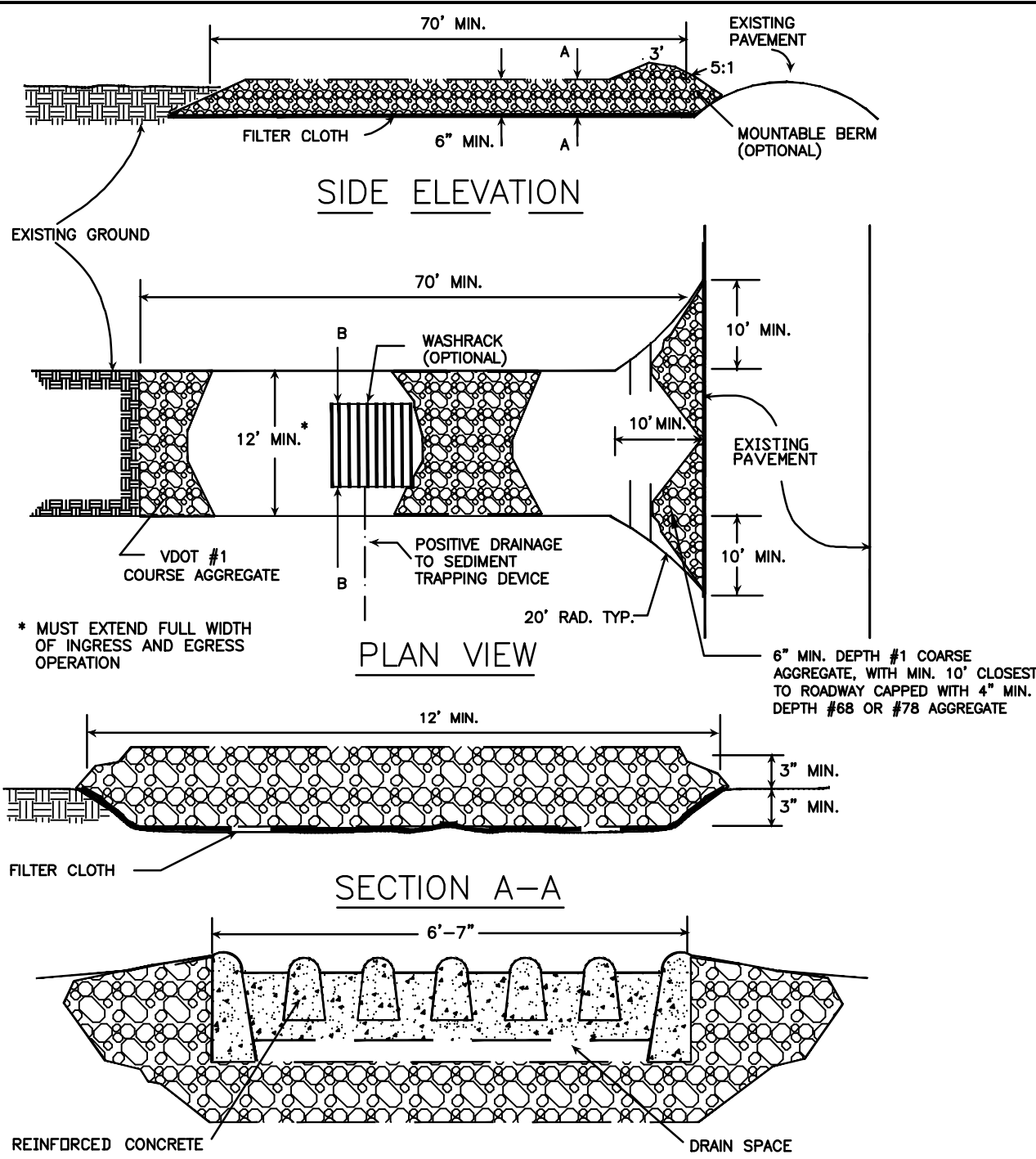


SOURCE: VA. DSWC

PLATE. 3.20-2

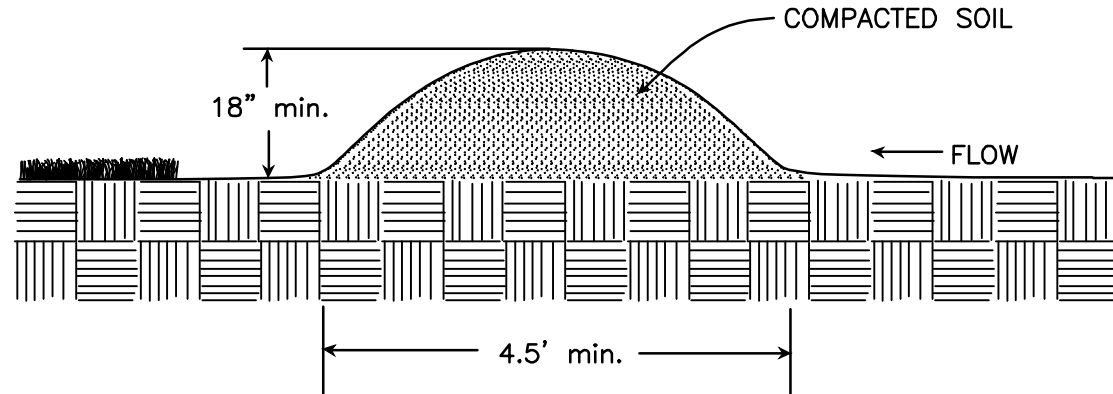
ROCK CHECK DAM

N.T.S. - SOURCE: VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK - PLATE 3.20



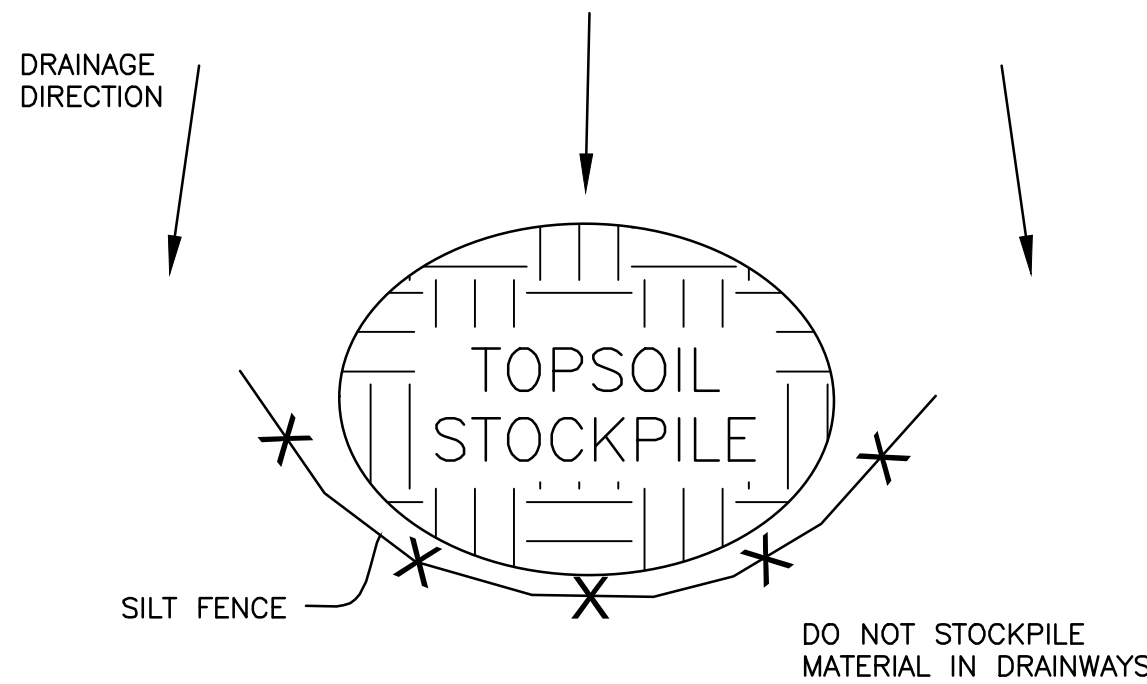
TEMPORARY STONE CONSTRUCTION ENTRANCE

N.T.S. - SOURCE: VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK - PLATE 3.02-1



TEMPORARY DIVERSION DIKE

N.T.S. - SOURCE: VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK - PLATE 3.09-1



MATERIAL STOCKPILE

N.T.S.

Table C-SSM-09-2 Liming		
Liming Requirements for Temporary Sites		
pH Test	Recommended Application of Agricultural Limestone	
below 4.2	3 tons per acre	
4.2 to 5.2	2 tons per acre	
5.2 to 6	1 ton per acre	

Source: Va. DSWC

Table C-SSM-09-3 Plant Material for Temporary Seeding		
Acceptable Temporary Seeding Plant Materials "Quick Reference for all Regions"		
Planting Dates	Species	Rate (pounds per 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

* The shift date for annual rye to German millet should be April 15 for the Piedmont and Coastal Plain, rather than May 1.

Table C-SSM-09-4 Temporary Seeding Applications									
Temporary Seeding Plant Materials, Seeding Rates, and Dates									
Species	Seeding Rate lbs./acre	North ^a					South ^b		
		lbs./1,000 ft ²	3/1	5/1	8/15	2/15	5/1	9/1	11/15
Oats (<i>Avena sativa</i>)	50 - 100	2.0	X	-	-	X	-	-	
Rye ^d (<i>Secale cereale</i>)	50 - 110	2.5	X	-	X	X	-	X	
German millet (<i>Setaria italica</i>)	50	1.0	-	X*	-	-	X*	-	
Annual ryegrass ^c (<i>Lolium multi-florum</i>)	60	1.5	X*	-	X	X*	-	X	
Korean Lespedeza ^e (<i>Lespedeza stipulacea</i>)	25	1.5	X	X	-	X	X	-	

- a. Northern Piedmont and Mountain regions. See Figure C-ENV-01-1 and Figure C-ENV-01-2.
b. Southern Piedmont and Coastal Plain.
c. May be used as a cover crop with spring seeding.
d. May be used as a cover crop with fall seeding.
e. May not be planted between these dates.
f. May be planted between these dates.
* The shift date for annual rye to German millet should be April 15 for the Piedmont and Coastal Plain, rather than May 1.

TEMPORARY SEEDING

Table C-SSM-10-6 Suggested and Example Site-Specific Seeding Mixtures for Appalachian/Mountain Area			
Site Condition	Seed Mix		Application Rate (pounds per acre)
Minimum-Care Lawn Commercial or Residential	Turf-Type Tall Fescue	90-100%	150 - 200
	Improved Perennial Ryegrass*	0-10%	
	Kentucky Bluegrass	0-10%	
High-Maintenance Lawn	Bluegrass - minimum of three to five varieties from VCI list for use in Virginia		125
	Improved VCI Turf-Type Tall Fescue		150 - 200
General Slope (3H:1V or less)	Tall Fescue****		50 - 75
	Red Top and/or Hard Fescue		10 - 20
	White Clover and/or Birdsfoot Trefoil***		10 - 20
	Seasonal Nurse Crop **		30 - 40
	Tall Fescue****		50 - 75
Low-Maintenance Slope (> 3:1) or Inaccessible Area***	Red Top or Hard Fescue		10 - 20
	Annual Lespedeza		10 - 15
	White Clover and/or Birdsfoot Trefoil***		10 - 20
	Seasonal Nurse/Cover Crop**		30 - 40

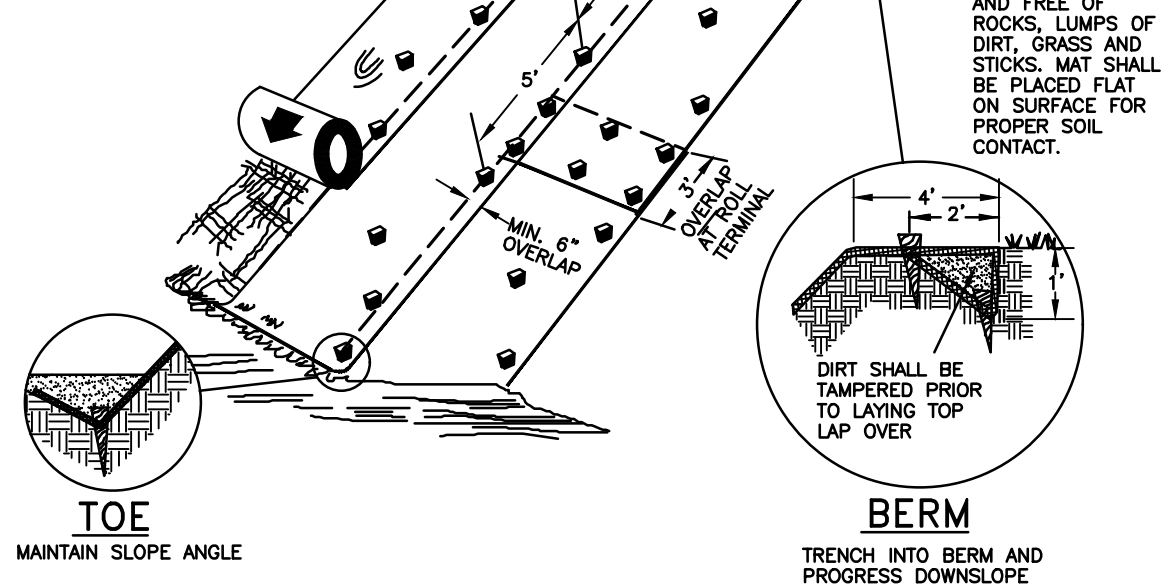
* Perennial ryegrass will germinate faster and at lower soil temperatures than fescue, thereby providing cover and erosion resistance for seedbed.
** Use seasonal nurse crop in accordance with seeding dates as stated below:
March 1 through May 15 - annual/cereal rye
May 16 through August 15 - foxtail/German millet
August 16 through February 28 - annual/cereal rye
*** All legume seed must be properly inoculated. Legumes recommended unless periodic N fertilization maintenance intended.
Flatpea at 20 lbs/acre may be utilized where warranted. All legume seed must be properly inoculated. Weeping lovegrass may also be included in any slope or low-maintenance mixture during warmer seeding periods; add 10 to 20 lbs/acre in mixes.
**** Increase seeding rate if Kentucky 31 is used rather than VCI/VCI improved varieties.
Note: Seed mixes are suggested and subject to modification based on site-specific conditions by an agronomist or other qualified revegetation professionals. All seed rates expressed as PLS (Pure Live Seed; see Table C-SSM-10-9).

PERMANENT SEEDING

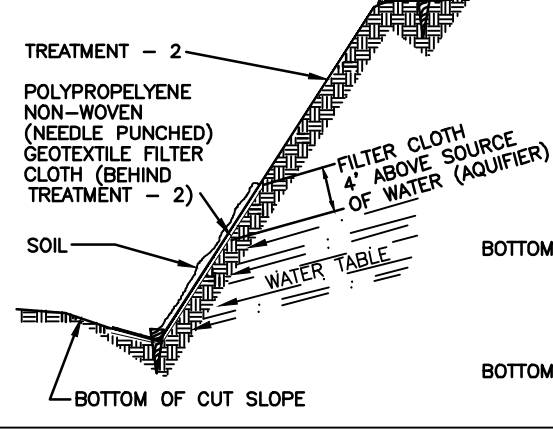
TYPICAL TREATMENT - 2 SOIL STABILIZATION MATTING SLOPE INSTALLATION

FILL SLOPE SECTION

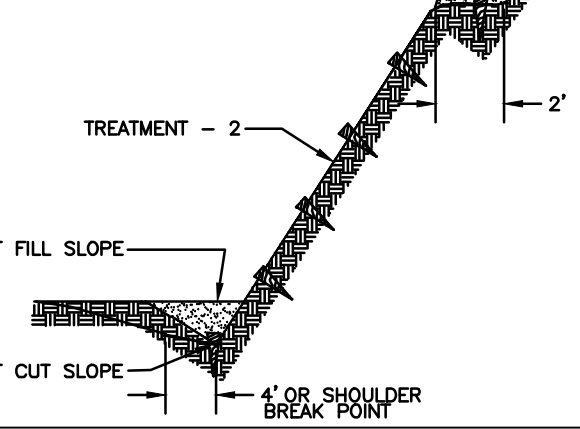
SOIL STABILIZATION MATS SHOULD BE INSTALLED VERTICALLY DOWNSLOPE FOR BEST RESULTS.



SLOPE LINING (WET SLOPE)



SLOPE LINING (DRY SLOPE)



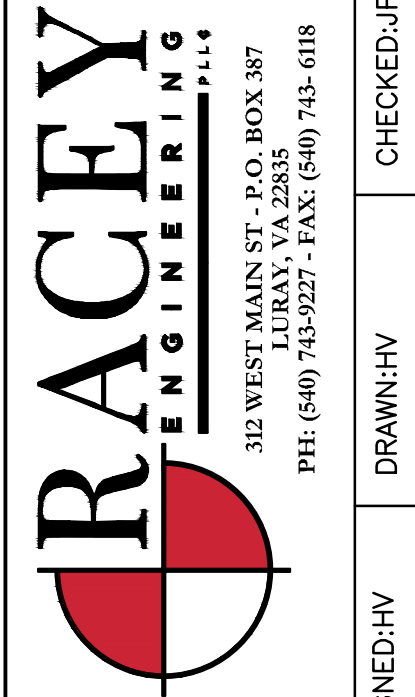
EC-3 STABILIZATION MATTING

N.T.S. - SOURCE: VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK - PLATE 3.36-5

Date	06/28/24
App'd	JPT
By	HV
Submital / Revision	
1ST SUBMITTAL TOWN	
2ND SUBMITTAL TOWN	
3RD SUBMITTAL TOWN	



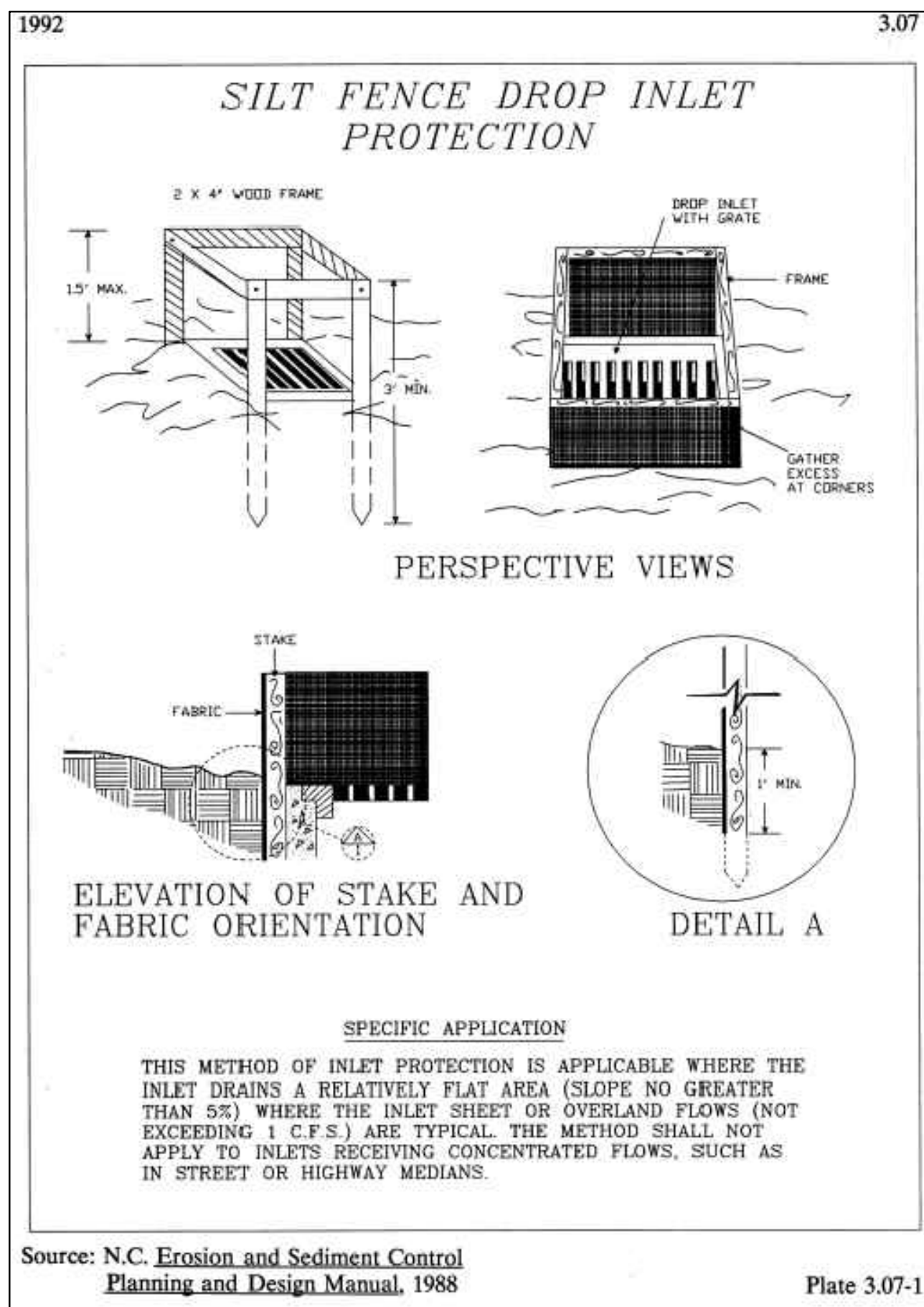
PERMIT REVIEW SET



STRASBURG ROAD SUBDIVISION
ESC DETAILS
ALI BILLOO
WARREN COUNTY, VA

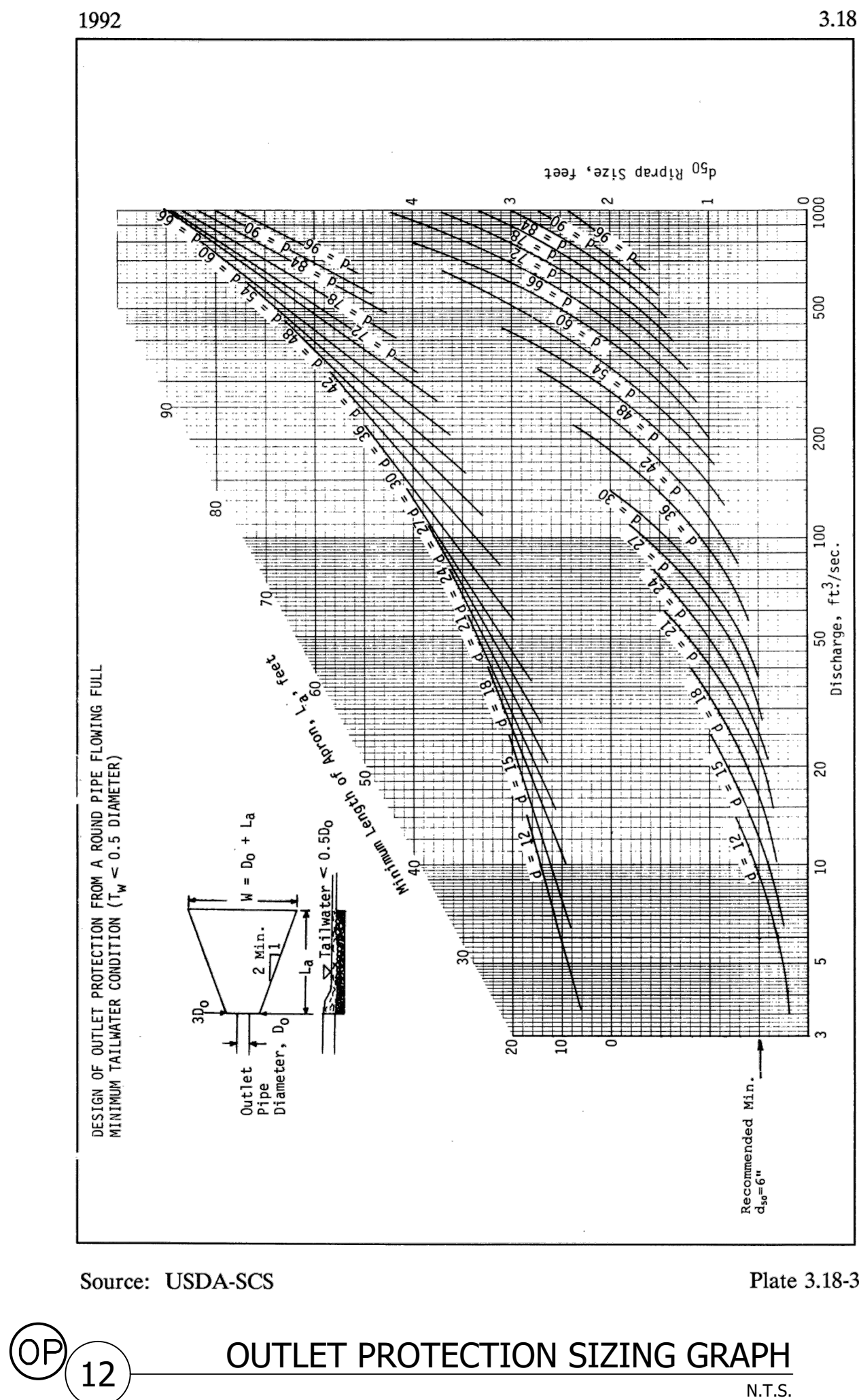
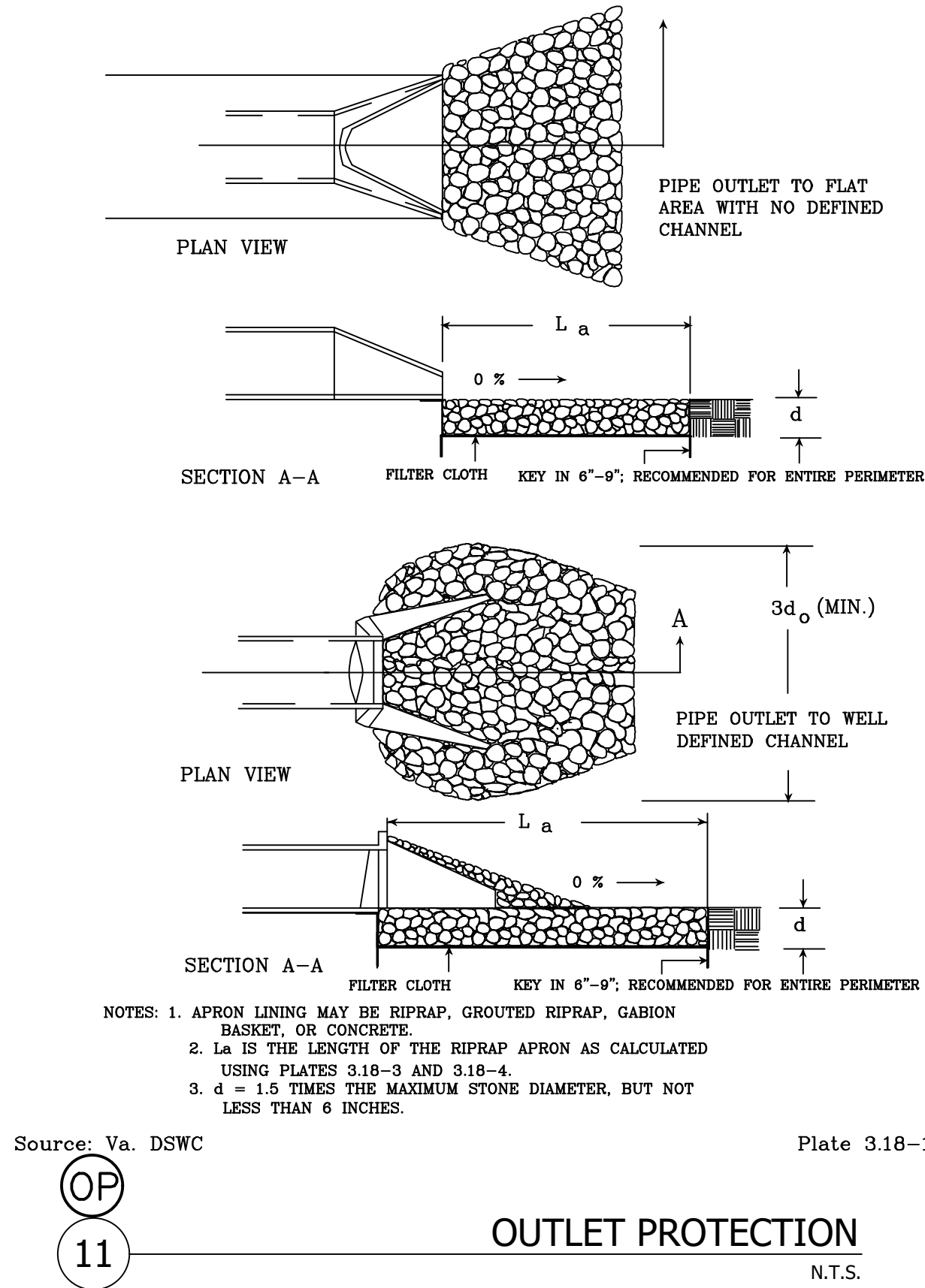
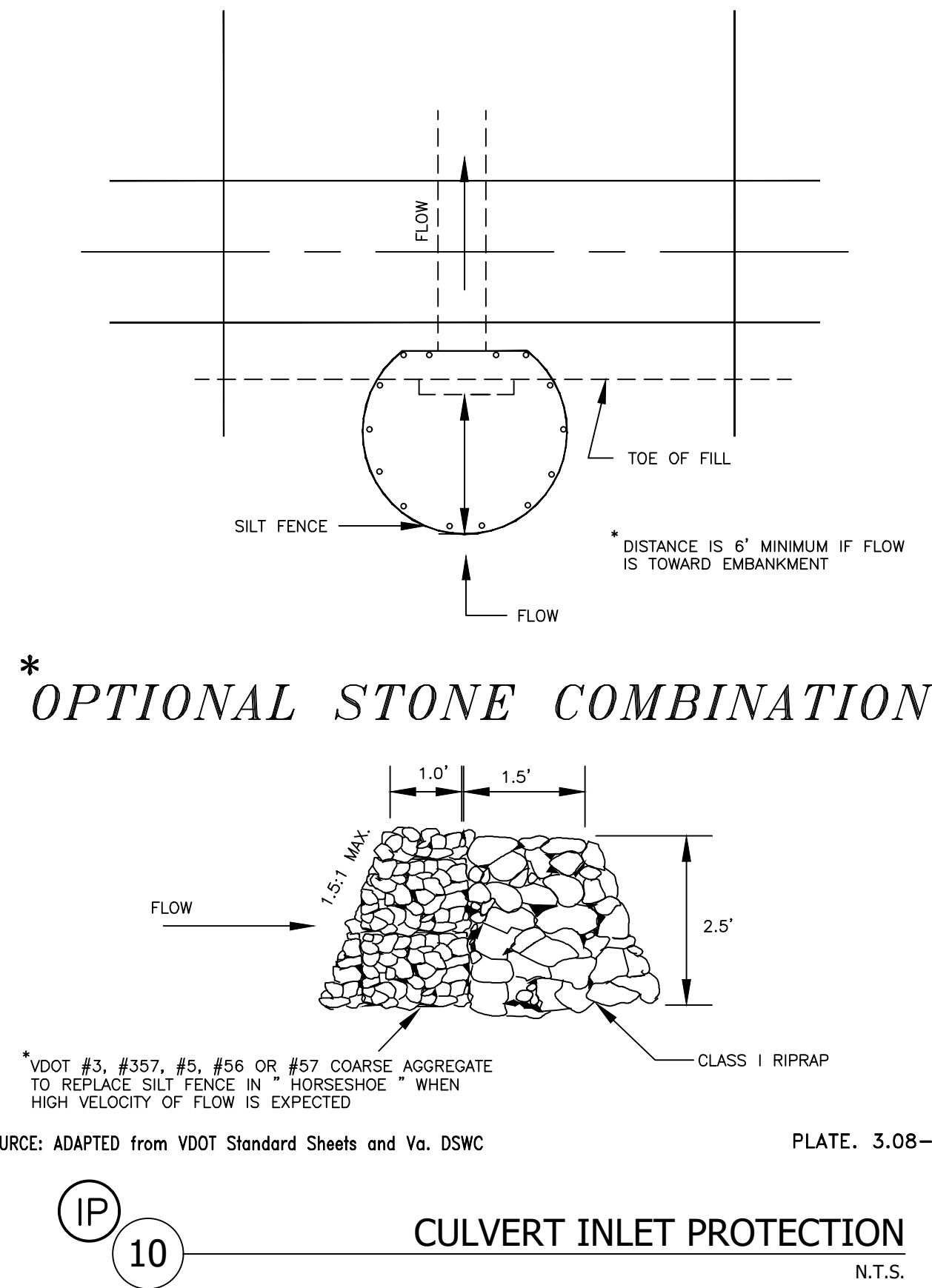
RACEY PROJECT NUMBER: 9276
PUBLISH DATE: 12/30/2024

C500

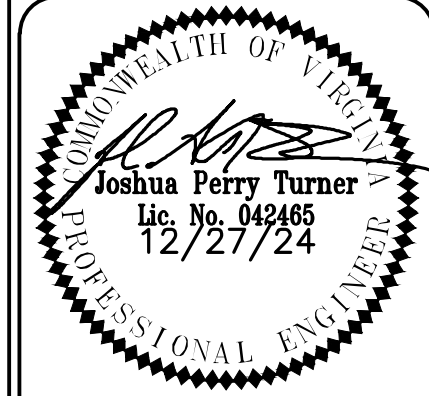


IP 9 DROP INLET PROTECTION

N.C. EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL 1988 - PLATE 3.07-1



No.	Submittal / Revision	By	App'd	Date
1	1ST SUBMITTAL TOWN	HV	JPT	06/28/24
2	2ND SUBMITTAL TOWN	HV	JPT	10/15/24
3	3RD SUBMITTAL TOWN	HV	JPT	12/27/24



PERMIT REVIEW SET

RACEY ENGINEERING P.L.L.C.

312 WEST MAIN ST. - P.O. BOX 387
LURAY, VA 22835
PH: (540) 743-5227 - FAX: (540) 743-6118

DESIGNED:HV DRAWN:HV CHECKED:JPT

STRASBURG ROAD SUBDIVISION

ESC DETAILS

ALI BILLOO

WARREN COUNTY, VA

RACEY PROJECT NUMBER: 9276 PUBLISH DATE: 12/30/2024

C501

P:\2022\9276 - di biloo - strasburg road subdivision - 200114-23b-civil\8. design\4. dwg\Civil\COMPOSITE

Typical Traffic Control
Stationary Operation on a Shoulder
(Figure TTC-4.1)
NOTES

Standard

- For long-term stationary work (more than 3 days) on divided highways having a median wider than 8', sign assemblies on both sides of the roadway shall be required as shown (ROAD WORK AHEAD (W20-1), RIGHT SHOULDER CLOSED AHEAD (W21-5bR), RIGHT SHOULDER CLOSED (W21-5aR)), even though only one shoulder is being closed. For operations less than 3 days in duration, sign assemblies will only be required on the side where the shoulder is being closed and a RIGHT SHOULDER CLOSED (W21-5aR) sign shall be added to that side.

Guidance

- Sign spacing should be 1300'-1500' for Limited Access highways. For all other roadways, the sign spacing should be 500'-800' where the posted speed limit is greater than 45 mph, and 350'-500' where the posted speed limit is 45 mph or less.

Option:

- The SHOULDER WORK (W21-5) sign on an intersecting roadway may be omitted where drivers emerging from that roadway will encounter another advance warning sign prior to this activity area.
- For short duration operations of 60 minutes or less, all signs and channelizing devices may be eliminated if a vehicle with activated high-intensity amber rotating, flashing, or oscillating lights is used.

Standard:

- Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity amber rotating, flashing, or oscillating lights. Vehicle hazard warning signals can be used to supplement high-intensity amber rotating, flashing, or oscillating lights.
- Taper length (L) and channelizing device spacing shall be as follows:

Speed Limit (mph)	Taper Length (L)			
	9	10	11	12
25	95	105	115	125
30	135	150	165	180
35	185	205	225	245
40	240	270	295	320
45	405	450	495	540
50	450	500	550	600
55	495	550	605	660
60	540	600	660	720
65	585	650	715	780
70	630	700	770	840
Minimum taper lengths for Limited Access highways shall be 1000 feet.				
Shoulder Taper = 1/2 L Minimum				

Location	Channelizing Device Spacing	
	Speed Limit (mph)	
	0 - 35	36 +
Transition Spacing	20'	40'
Travelway Spacing	40'	80'
Construction Access*	80'	120'
* Spacing may be increased to this distance, but shall not exceed one access per 1/4 mile.		

On roadways with paved shoulders having a width of 8 feet or more, channelizing devices shall be used to close the shoulder in advance of the merging taper to direct vehicular traffic to remain within the traveled way.

- The buffer space length shall be as shown in Table 6H-3 on Page 6H-5 for the posted speed limit.
- A truck-mounted attenuator (TMA) shall be used on the shadow vehicle on Limited Access highways and multi-lane roadways with posted speed limit equal to or greater than 45 mph for operations with a duration greater than 60 minutes.
- When a side road intersects the highway within the temporary traffic control zone, additional traffic control devices shall be placed as needed.

1: Revision 1 - 4/1/2015

Typical Traffic Control
Lane Closure on a Two-Lane Roadway Using Flaggers
(Figure TTC-23.1)
NOTES

Guidance:

- Sign spacing distance should be 350'-500' where the posted speed limit is 45 mph or less, and 500'-800' where the posted speed limit is greater than 45 mph.
- Care should be exercised when establishing the limits of the work zone to insure maximum possible sight distance in advance of the flagger station and transition, based on the posted speed limit and at least equal to or greater than the values in Table 6H-3. Generally speaking, motorists should have a clear line of sight from the graphic flagger symbol sign to the flagger.

Option:

- Where Right-of-Way or geometric conditions prevent the use of 48" x 48" signs, 36" x 36" signs may be used.

Standard:

- Flagging stations shall be located far enough in advance of the work space to permit approaching traffic to reduce speed and/or stop before passing the work space and allow sufficient distance for departing traffic in the left lane to return to the right lane before reaching opposing traffic (see Table 6H-3 on Page 6H-5).
- All flaggers shall be state certified and have their certification card in their possession when performing flagging duties (see Section 6E.01, Qualifications for Flaggers).
- Cone spacing shall be based on the posted speed and the values in Table 6H-4 on Page 6H-6.
- A shadow vehicle with at least one high intensity amber rotating, flashing, or oscillating light shall be parked 80'-120' in advance of the first work crew.

Option:

- A supplemental flagger may be required in this area to give advance warning of the operation ahead by slowing approaching traffic prior to reaching the flagger station or queued traffic.

Guidance:

- If the queue of traffic reaches the BE PREPARED TO STOP (W3-4) sign then the signs, and if used the portable temporary rumble strips (PTRS), should be readjusted at greater distances.
- When a highway-rail crossing exists within or upstream of the transition area and it is anticipated that queues resulting from the lane closure might extend through the highway-rail grade crossing, the temporary traffic control zone should be extended so that the transition area precedes the highway-rail crossing (see Figure TTC-56 for additional information on highway-rail crossings).

Standard:

- At night, flagger stations shall be illuminated, except in emergencies (see Section 6E.08).

Option:

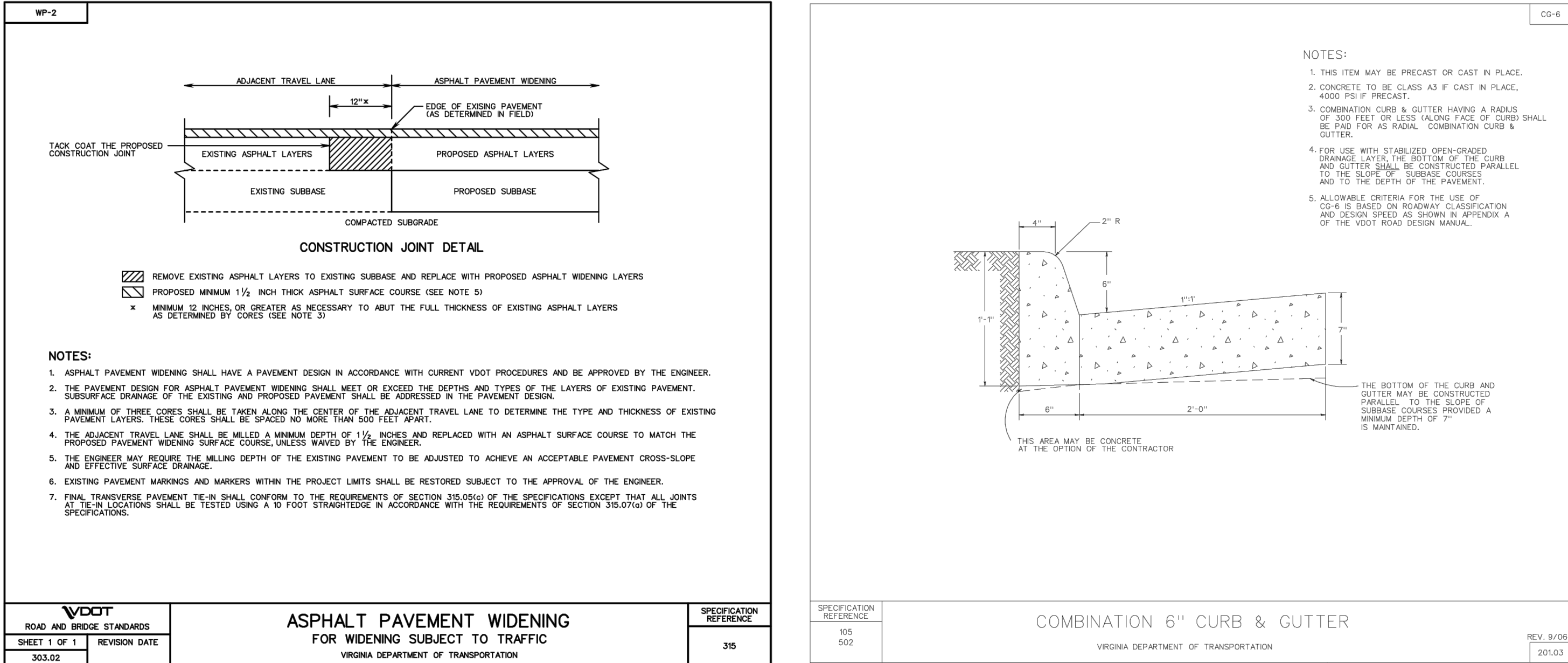
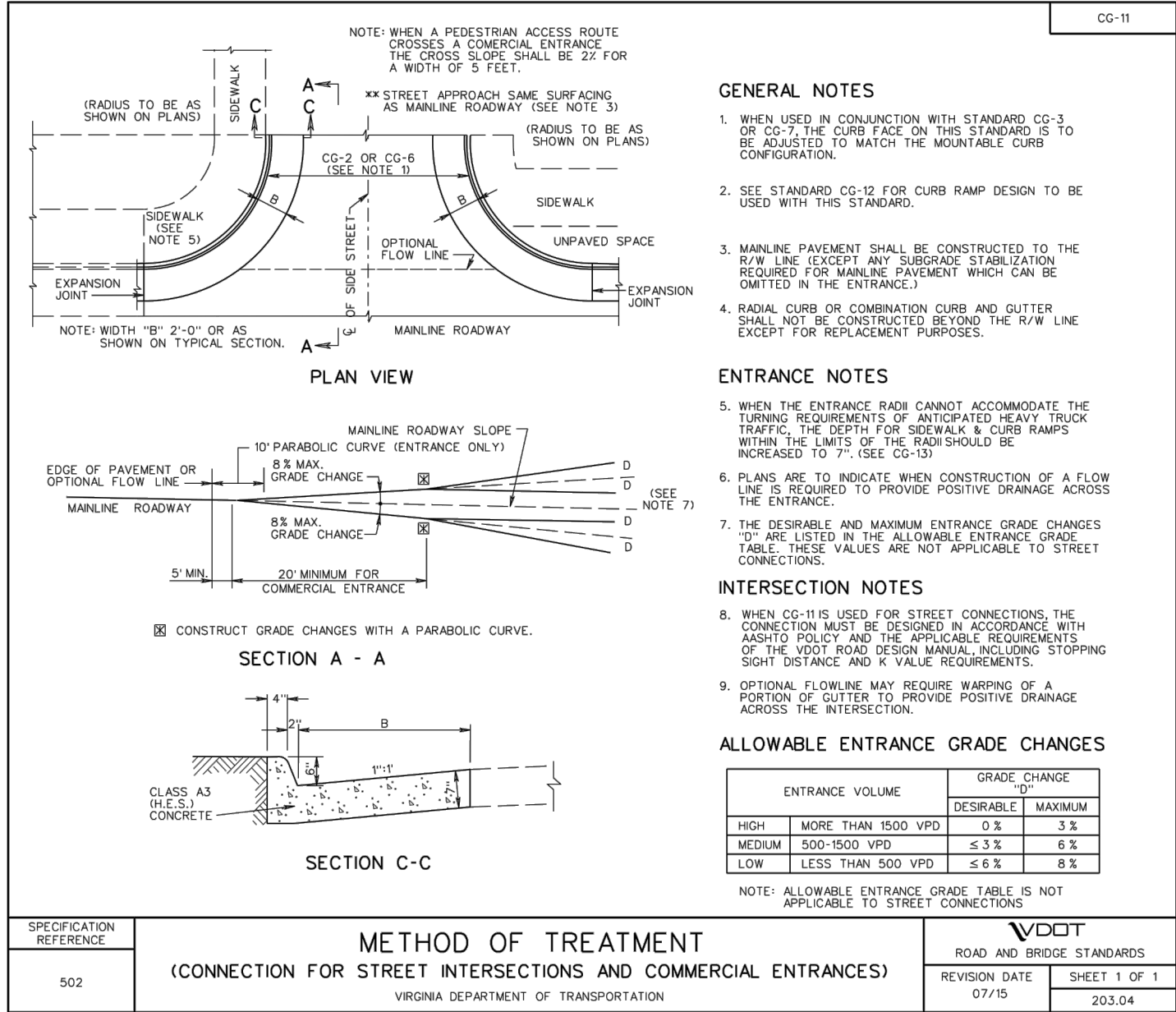
- Cones may be eliminated when using a pilot vehicle operation or when the total roadway width is 20 feet or less.
- For low-volume situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger, positioned to be visible to road users approaching from both directions, may be used (see Chapter 6E).

Standard:

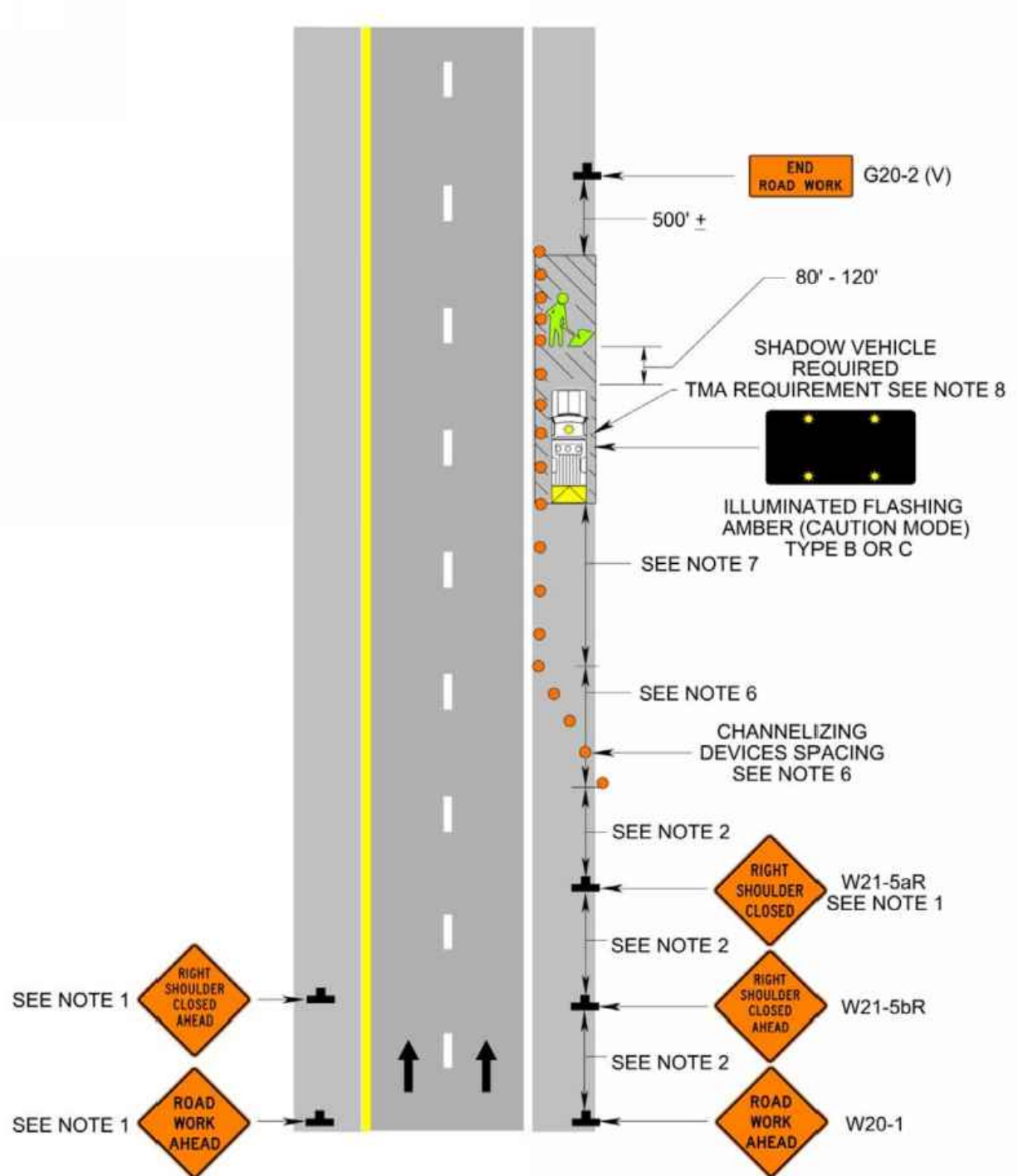
- When approved for use, three portable temporary rumble (PTRS) strips shall be installed across the entire travel lane adjacent to the BE PREPARED TO STOP (W3-4) sign. The portable temporary rumble strips shall be monitored and adjusted as necessary during the work shift to ensure proper placement on the roadway. When the PTRS are installed, the RUMBLE STRIPS AHEAD (W20-V26) sign shall also be utilized.

Posted Speed	0 - 35 mph	36 - 55 mph
PTRS Spacing (Center to Center)	5 Feet	8 Feet

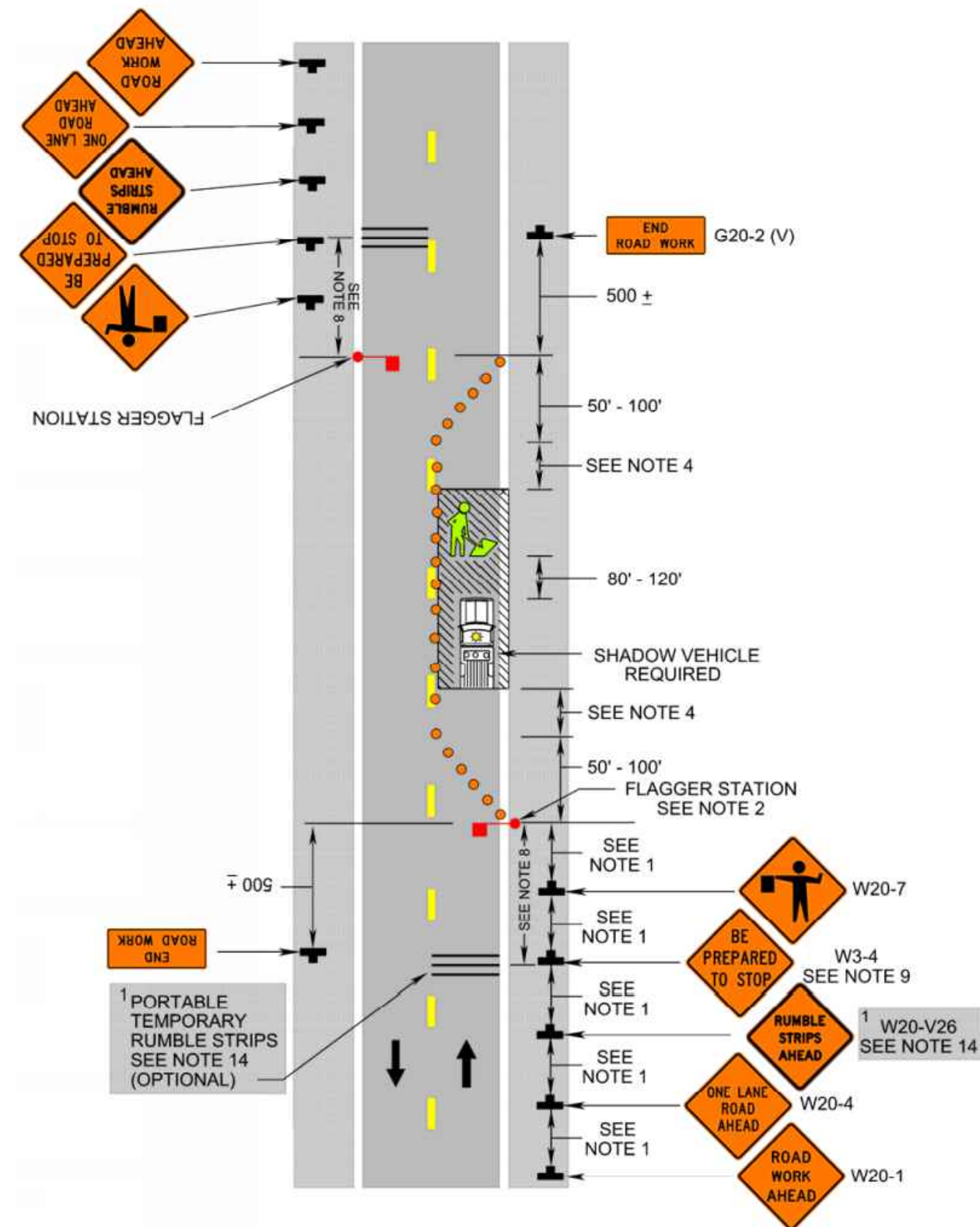
1: Revision 1 - 4/1/2015



Stationary Operation on a Shoulder
(Figure TTC-4.1)



Lane Closure on a Two-Lane Roadway Using Flaggers
(Figure TTC-23.1)

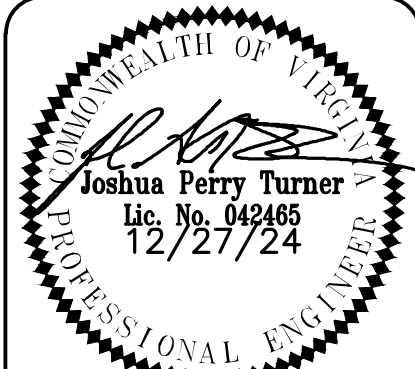


1: Revision 1 - 4/1/2015

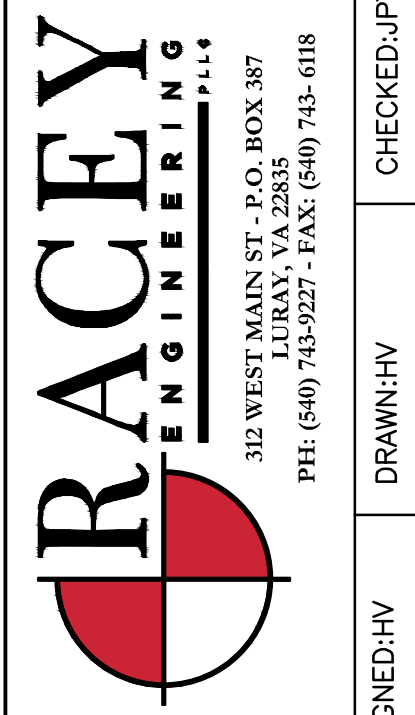
PROPOSED ROAD PAVEMENT SECTION

Scale: Not to Scale

Date	06/28/24
App'd	JPT
By	HV
Submital / Revision	1ST SUBMITTAL TOWN
No.	2ND SUBMITTAL TOWN
	3RD SUBMITTAL TOWN

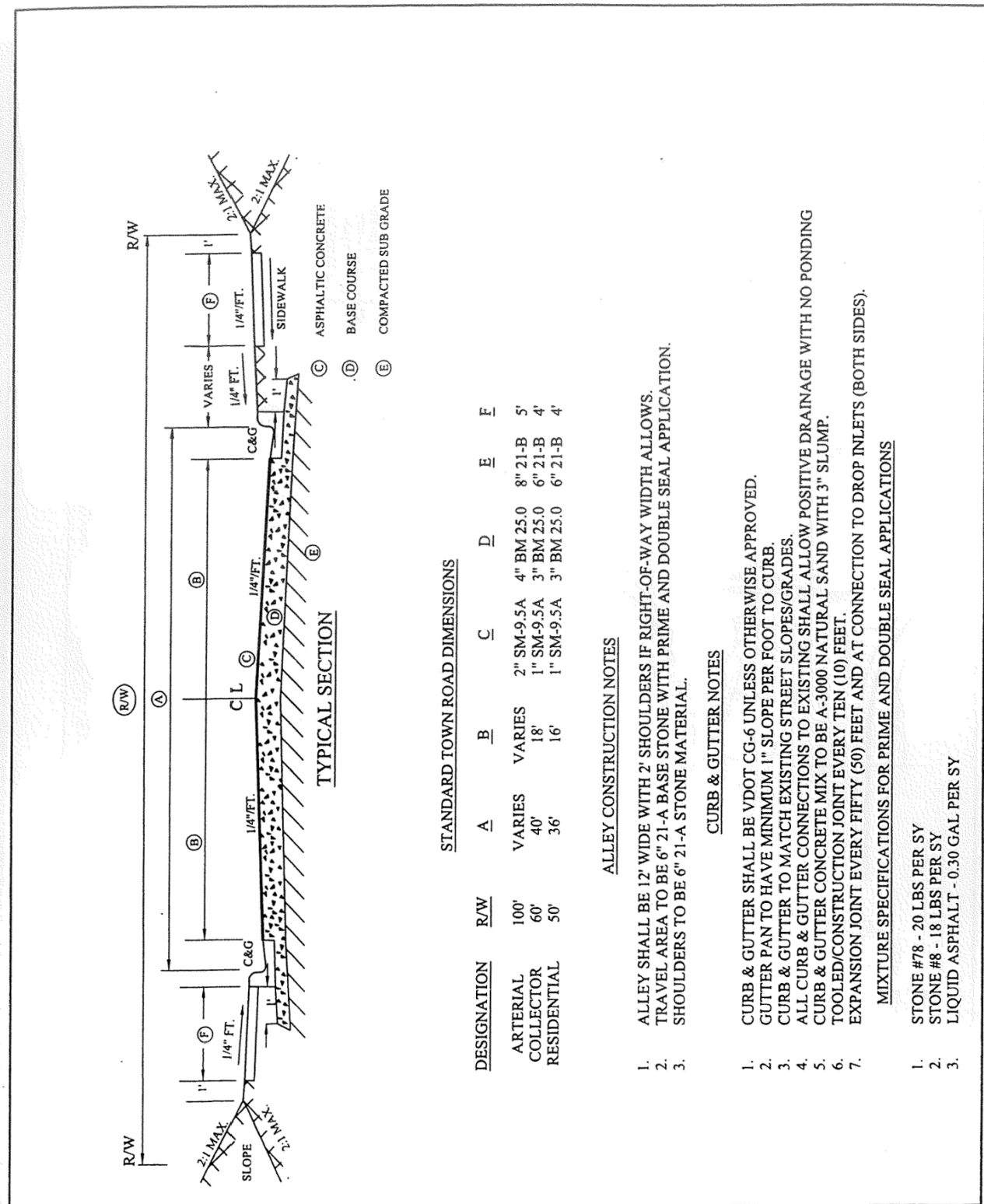


PERMIT
REVIEW SET

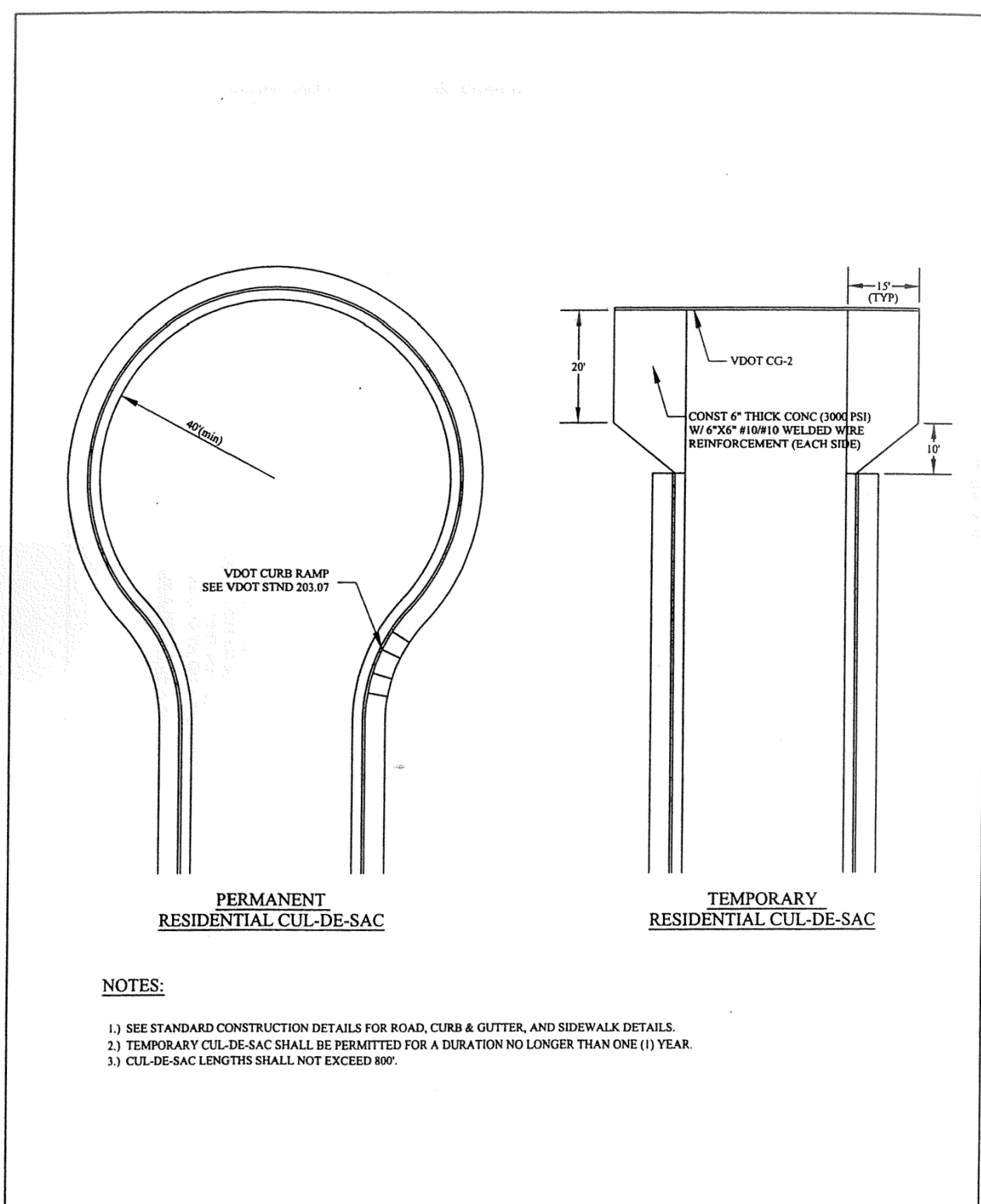


STRASBURG ROAD SUBDIVISION
CONSTRUCTION DETAILS
ALI BILLOO
WARREN COUNTY, VA
RACEY PROJECT NUMBER: 9276
PUBLISH DATE: 12/30/2024

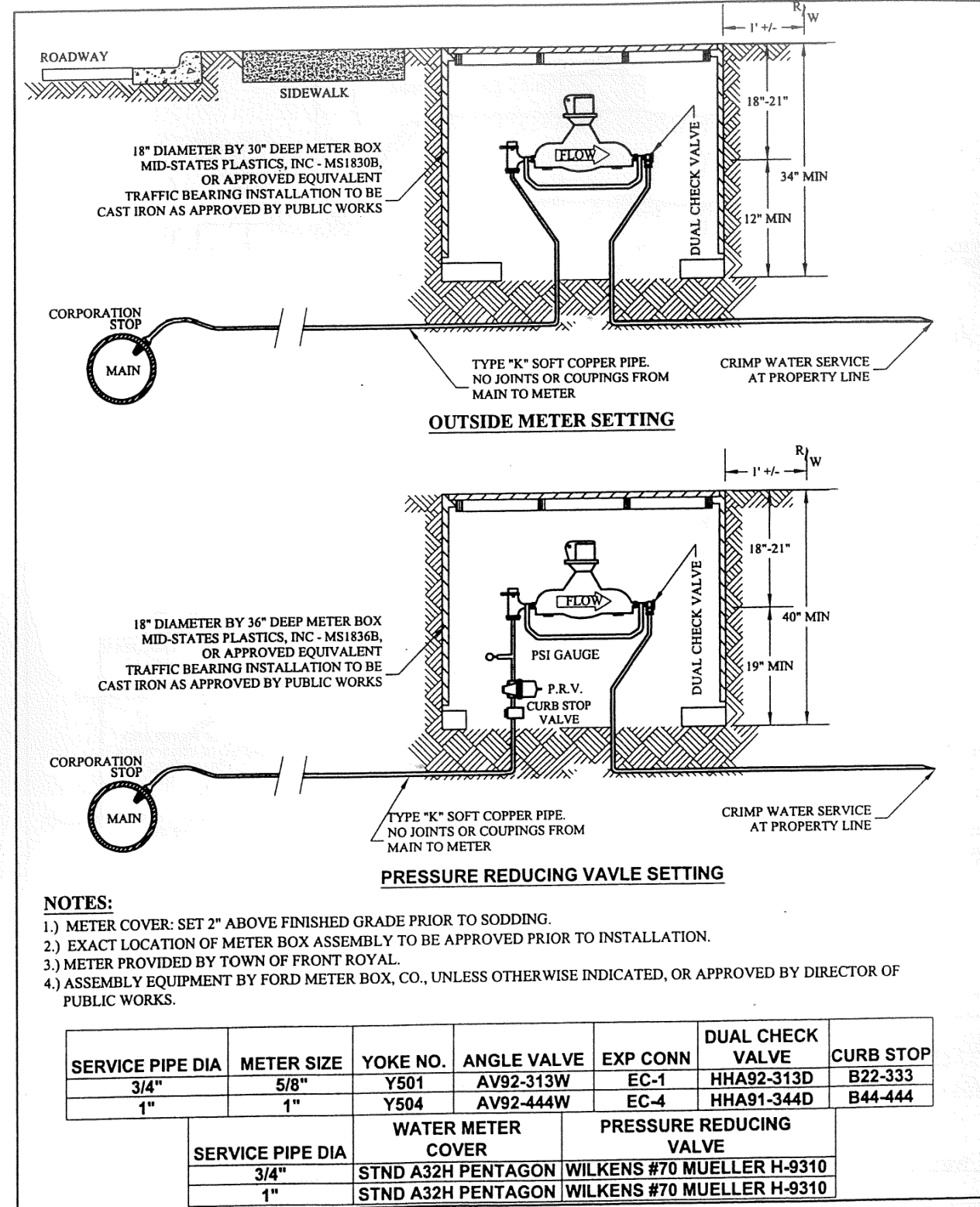
C502



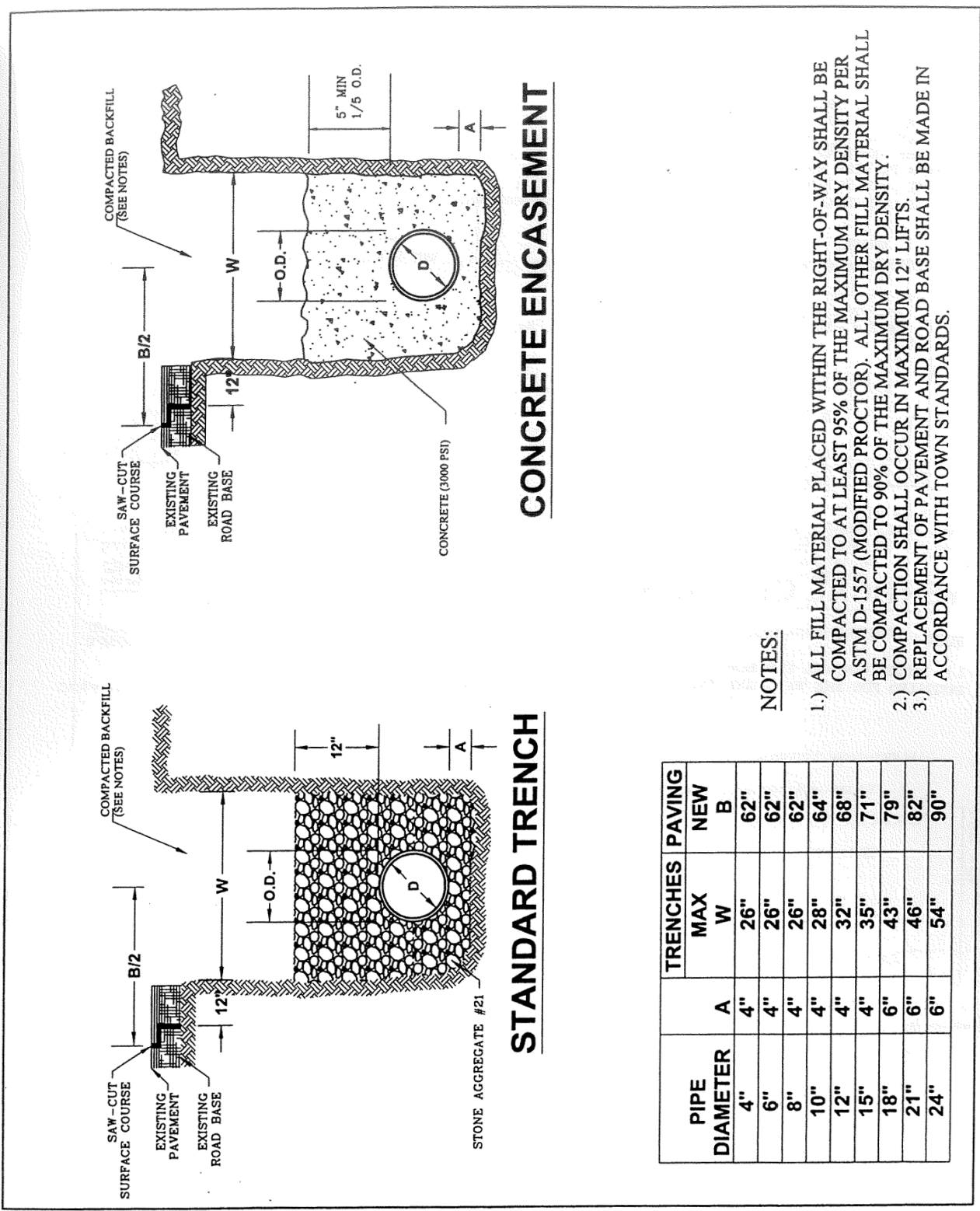
	TOWN OF FRONT ROYAL STANDARD CONSTRUCTION DETAILS	RC-1
	ROAD CONSTRUCTION - TYPICAL SECTIONS	DATE: MAY 2004 REVISION:



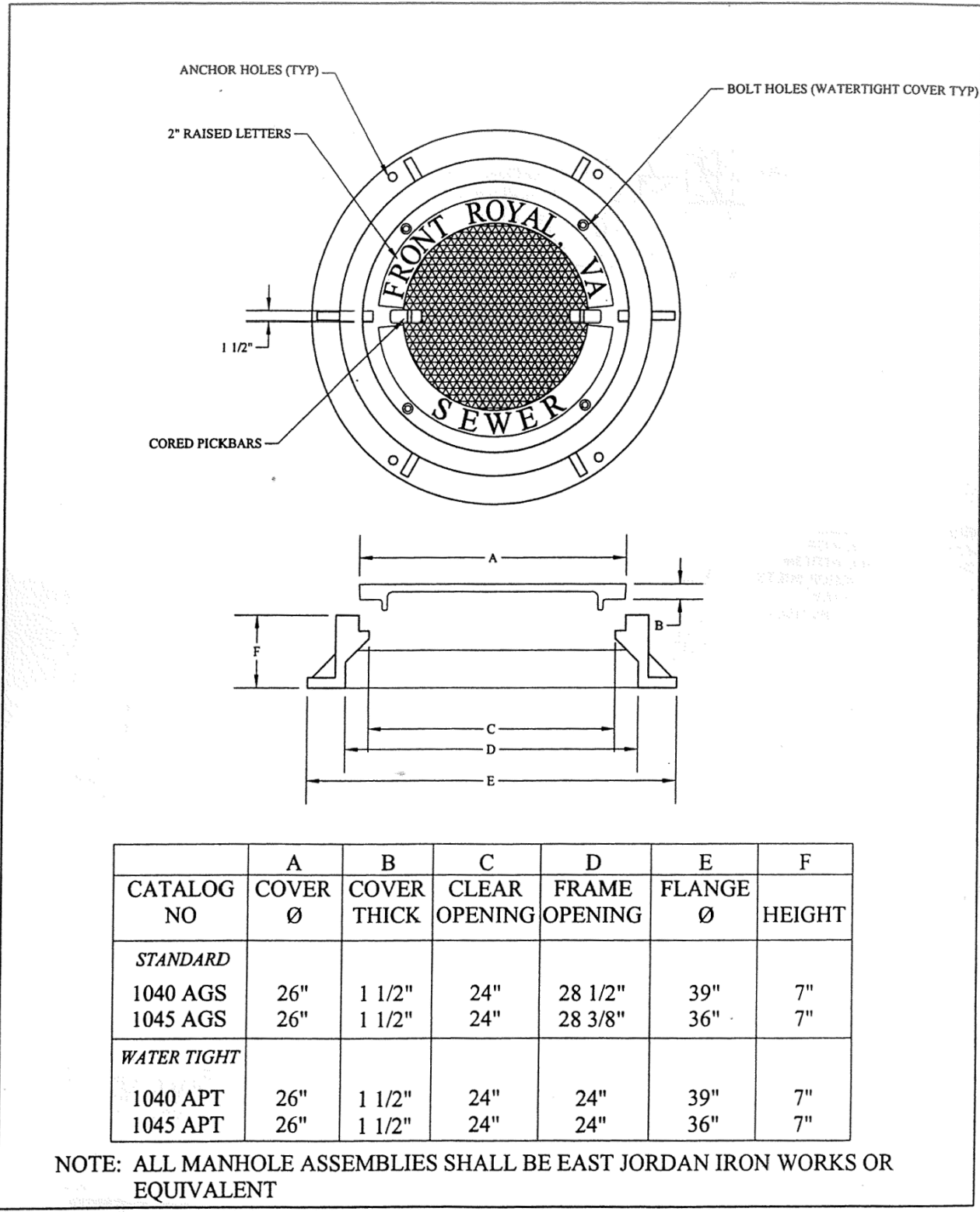
	TOWN OF FRONT ROYAL STANDARD CONSTRUCTION DETAILS	RC-2
	RESIDENTIAL CUL-DE-SAC	DATE: MAY 2004 REVISION:



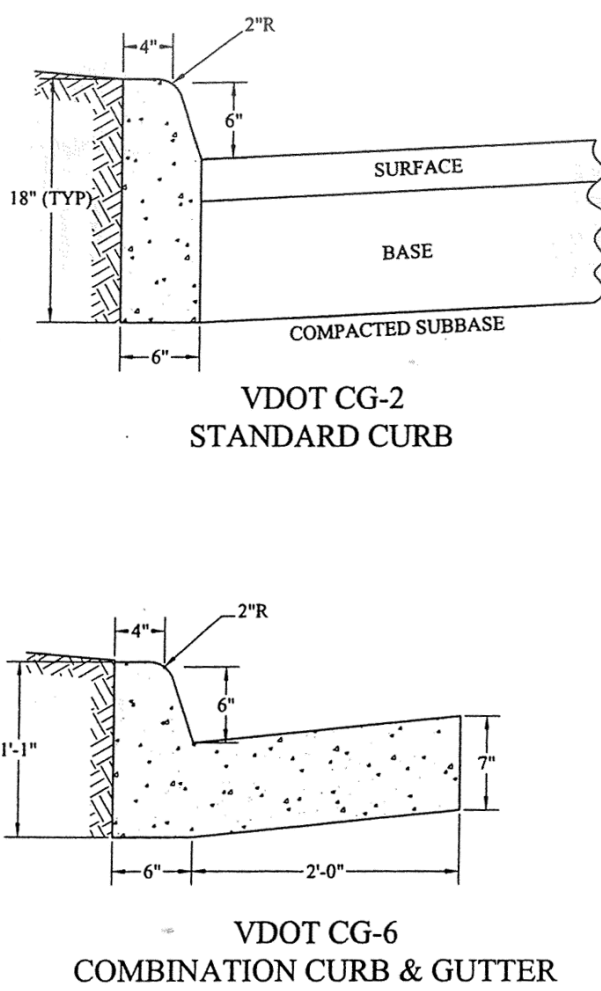
	TOWN OF FRONT ROYAL STANDARD WATER DETAILS	W-6
	TYPICAL 3/4" & 1" SERVICE CONNECTION DETAIL	DATE: MAY 2004 REVISION:



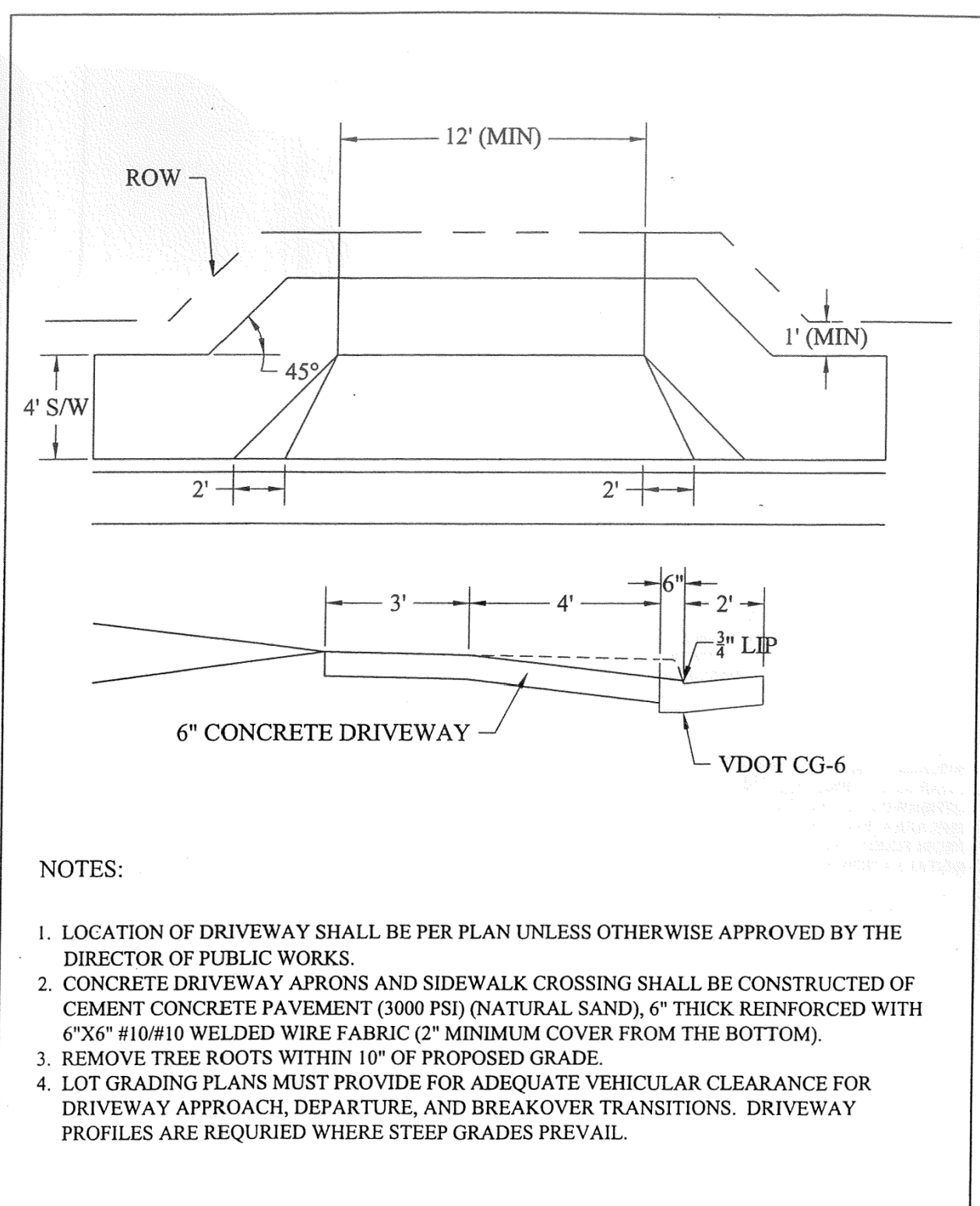
	TOWN OF FRONT ROYAL STANDARD SEWER DETAILS	S-1
	TRENCH AND BEDDING DETAILS	DATE: MAY 2004 REVISION:



	TOWN OF FRONT ROYAL STANDARD SEWER DETAILS	S-10
	MANHOLE FRAME & COVER STANDARD DETAIL	DATE: MAY 2004 REVISION:



	TOWN OF FRONT ROYAL STANDARD CONSTRUCTION DETAILS	RC-4
	CURB & GUTTER CONSTRUCTION	DATE: MAY 2004 REVISION:

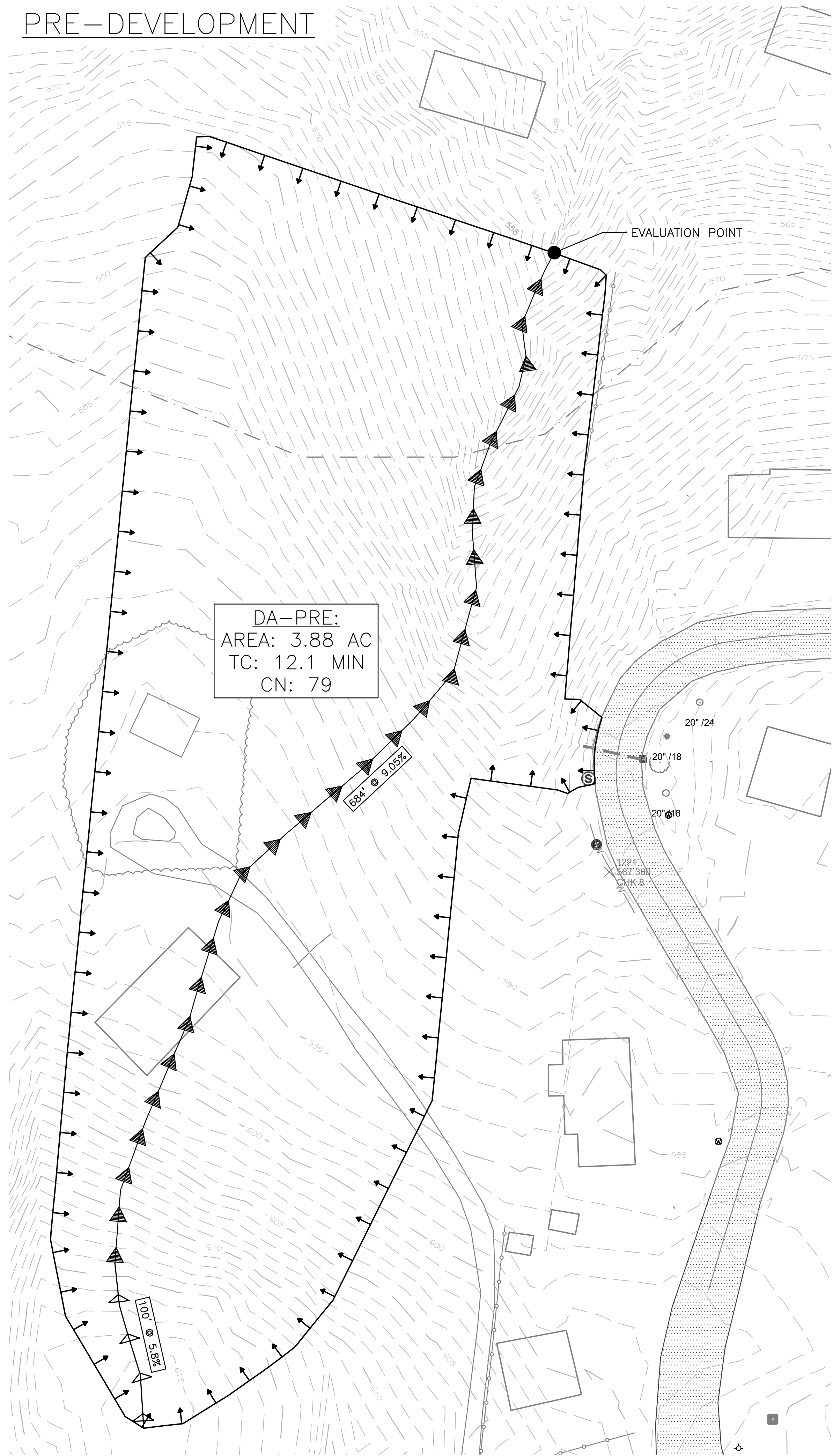


	TOWN OF FRONT ROYAL STANDARD CONSTRUCTION DETAILS	RC-5
	RESIDENTIAL DRIVEWAY CONSTRUCTION	DATE: MAY 2004 REVISION:

P:\2022\9276 - di biloo - strasburg road subdivision - 20a114-23b-civil\8. design\4. dwg\CIVIL\COMPOSITE

© Racey Engineering, PLLC 2016. All Rights Reserved. Any reuse or modification of these documents, including Drawings and Specifications, must only be electronic, without written verification or adaptation by Racey Engineering, PLLC is strictly prohibited.

PRE-DEVELOPMENT



EVALUATION POINT

CHANNEL PROTECTION - 9VAC25-66-B-3.A. **
FLOOD PROTECTION - 9VAC25-870-66.C.1. **

**SEE STORMWATER QUANTITY NARRATIVE THIS SHEET

Tc FLOW PATH LEGEND

→→→ SHEET FLOW
→→→ SHALLOW CONCENTRATED FLOW
→→→ CHANNEL FLOW

Tc FLOW PATH COMPUTATIONS CAN BE FOUND IN THE 1-YEAR HYDROGRAPH REPORTS SECTION OF THE COMPUTATIONS BOOK.

STORMWATER MANAGEMENT (SWM) PLAN NARRATIVE:

THE TOTAL SITE HAS BEEN MANAGED FOR WATER QUANTITY IN ACCORDANCE WITH VIRGINIA STORMWATER MANAGEMENT ACT. THE SITE IS LOCATED WITHIN THE SHENANDOAH WATERSHED. THE HUC 8 CODE OF THE WATERSHED IS 02070006.

WATER QUANTITY NARRATIVE:

FOR WATER QUANTITY ANALYSIS, THE PROJECT SITE AREA (2.94 ACRES) IS ANALYZED AT ONE (1) SITE EVALUATION POINT. THE EVALUATION POINT IS LOCATED TO THE NORTH OF THE SITE IN AN EXISTING SWALE.

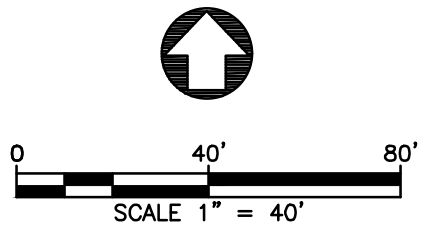
CHANNEL PROTECTION:

THE SITE MEETS CHANNEL PROTECTION BY SECTION 9VAC25-66-B-3.A. WHERE THE SITE UTILIZES THE DETENTION FROM THE PROPOSED UNDERGROUND STORAGE CONTROL STRUCTURE TO RELEASE FLOW UNDER THE Q-ALLOWABLE DETERMINED USING THE ENERGY BALANCE EQUATION.

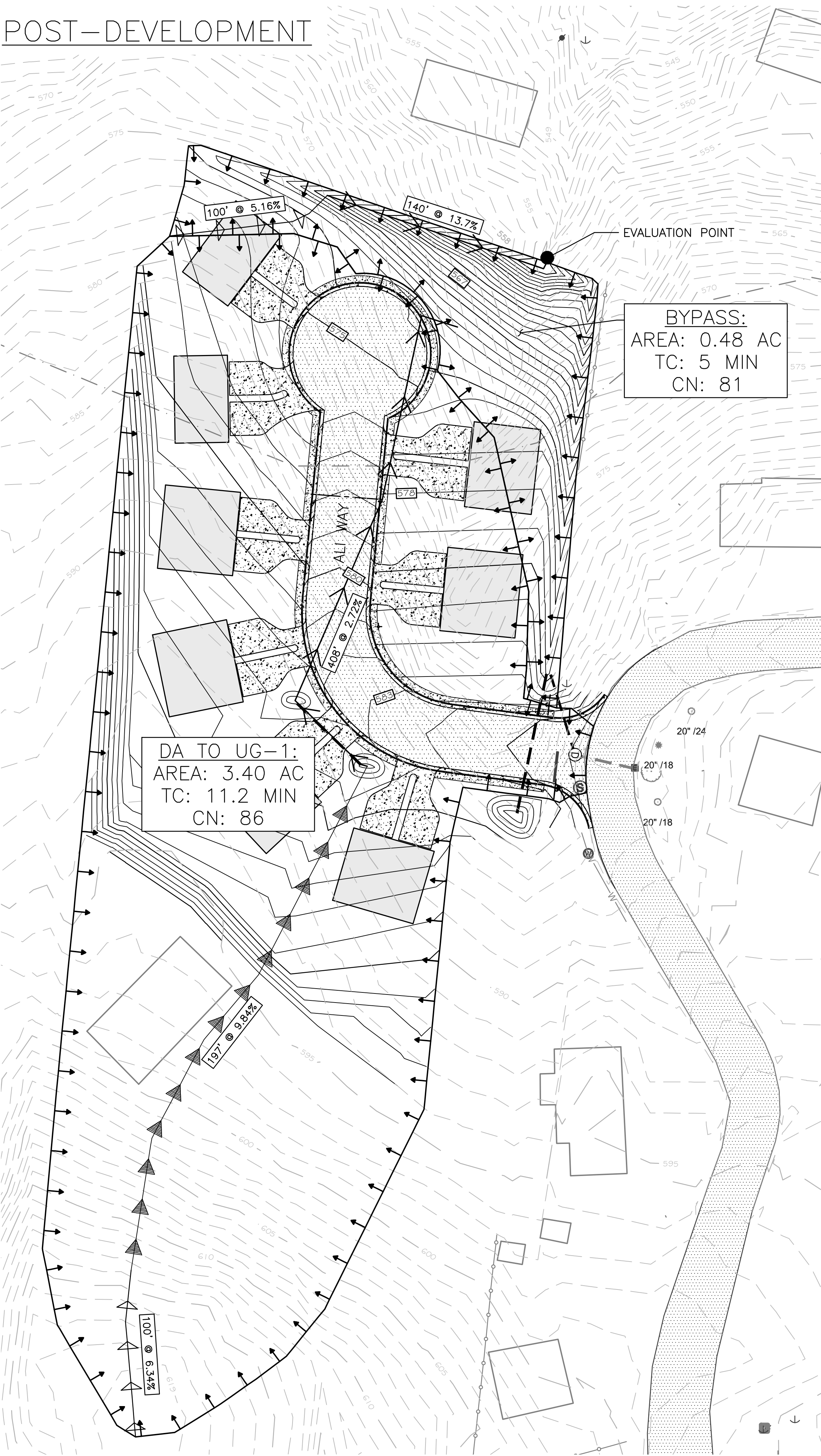
FLOOD PROTECTION

THE SITE MEETS FLOOD PROTECTION BY 9VAC25-870-66.C.1 WHERE 10-YEAR POST DEVELOPMENT FLOW RATE IS RELEASED AT LESS THAN THE PRE-DEVELOPMENT 10-YEAR FLOWRATE DUE TO THE DETENTION FROM THE PROPOSED UNDERGROUND STORAGE. DOWNSTREAM CONVEYANCE HAS BEEN ANALYZED AND SHOWS NO SIGN OF FLOODING AND THEREFORE, IN ACCORDANCE WITH METHODOLOGY ESTABLISHED IN 9VAC25-870-66.C.1 FLOOD PROTECTION HAS BEEN MET.

DRAINAGE SUMMARY TABLE					
EVALUATION POINT					
DRAINAGE AREA ID	AREA	1 YR (CFS)	2 YR (CFS)	10 YR (CFS)	100 YR (CFS)
PRE-DEVELOPMENT					
DA PRE	3.88	4,262	6,245	12,470	24,830
TOTAL AREA PRE	3.88				
POST-DEVELOPMENT					
DA TO UG-1	3.40	5,776	7,826	13,780	24,840
UG-1 OUT		2,106	2,578	11,700	24,430
BYPASS	0.48	0,724	1,019	1,928	3,689
DA POST		2,208	2,757	12,220	27,080
TOTAL AREA POST	3.88				



POST-DEVELOPMENT



No.	1	2	3						
Submittal / Revision	1ST SUBMITTAL TOWN	2ND SUBMITTAL TOWN	3RD SUBMITTAL TOWN						
By	HV	HV	HV						
App'd	JPT	JPT	JPT						
Date	06/28/24	10/15/24	12/27/24						

PERMIT REVIEW SET

STRASBURG ROAD SUBDIVISION
DRAINAGE MAP
ALI BILLOO
WARREN COUNTY, VA

RACEY PROJECT NUMBER: 9276

PUBLISH DATE: 12/30/2024

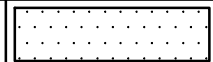
C600

DESIGNED:HV

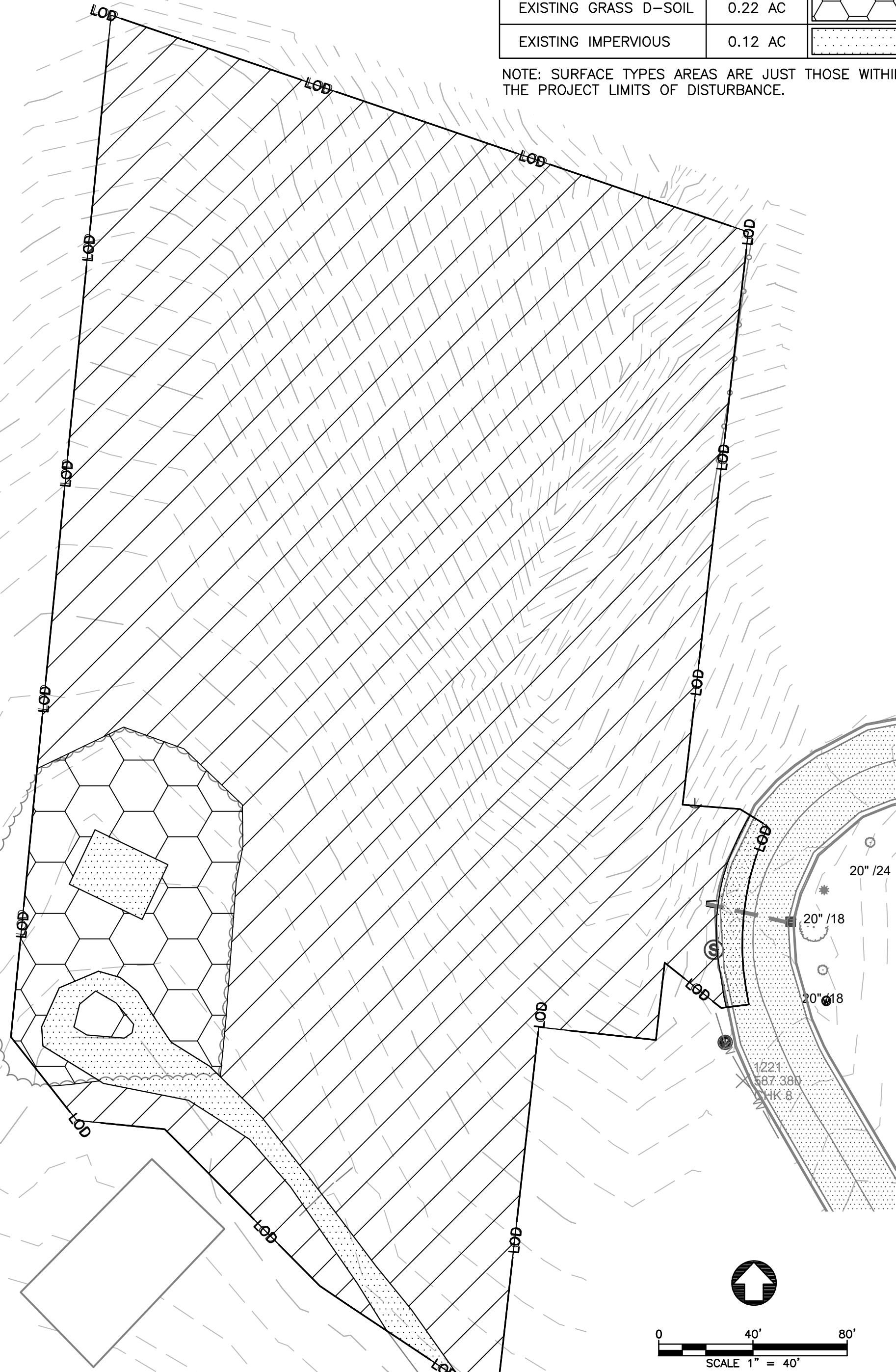
DRAWN:HV

CHECKED:JPT

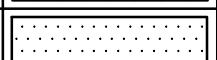
PRE-DEVELOPMENT

SURFACE TYPES:		
EXISTING WOODS D-SOIL	2.59 AC	
EXISTING GRASS D-SOIL	0.22 AC	
EXISTING IMPERVIOUS	0.12 AC	

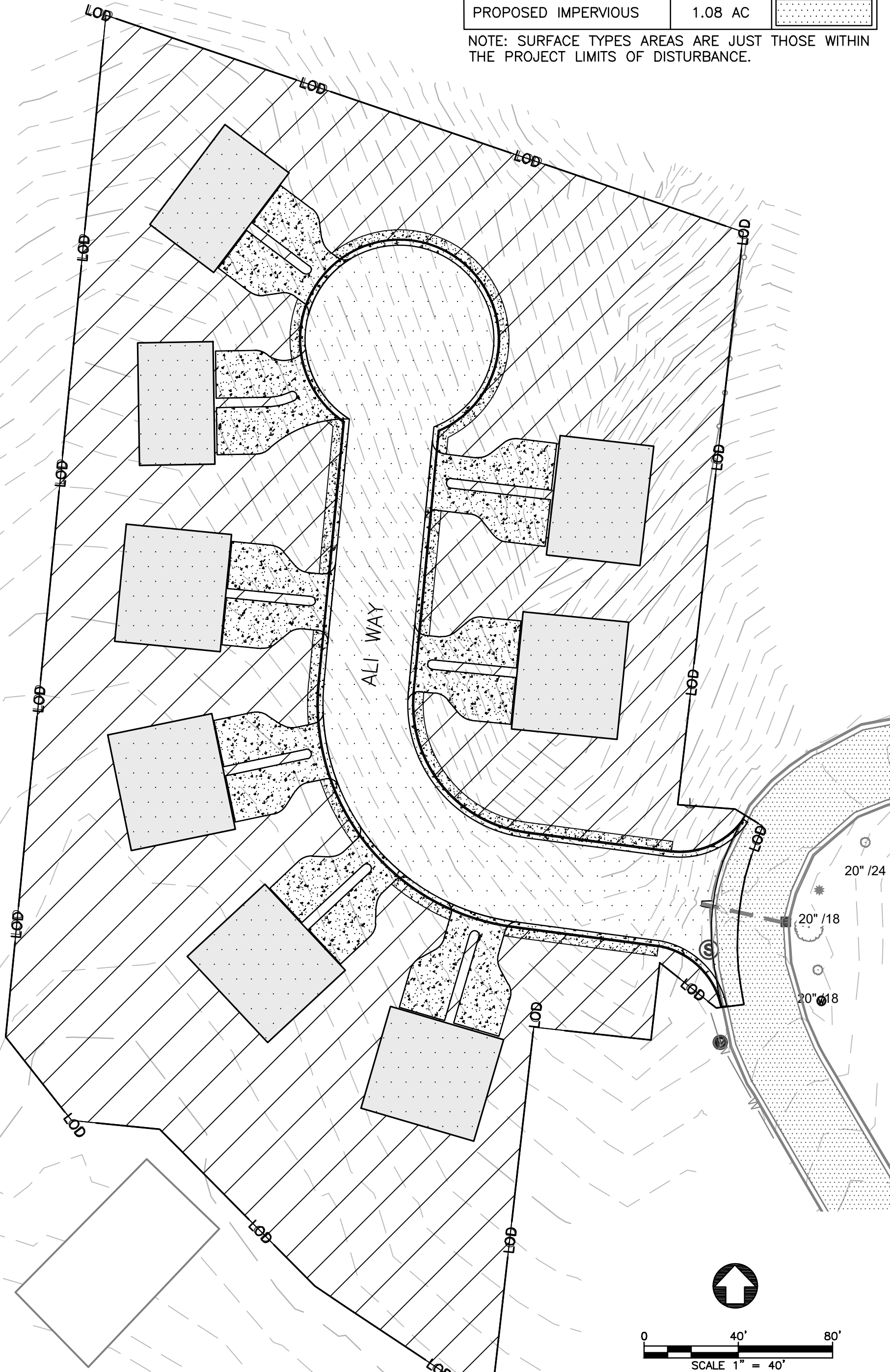
NOTE: SURFACE TYPES AREAS ARE JUST THOSE WITHIN THE PROJECT LIMITS OF DISTURBANCE.



POST-DEVELOPMENT

SURFACE TYPES:		
PROPOSED GRASS D-SOIL	1.85 AC	
PROPOSED IMPERVIOUS	1.08 AC	

NOTE: SURFACE TYPES AREAS ARE JUST THOSE WITHIN THE PROJECT LIMITS OF DISTURBANCE.



ECOSYSTEM SERVICES, LLC
1102 Carlton Avenue
Charlottesville, VA 22902
540.578.4296
www.ecosystemsolutions.us
jon@ecosystemsolutions.us

December 20, 2024

Hunter VanEtten
Project Engineer
Racey Engineering, PLLC
312 W. Main Street
Luray, VA 22835

RE: **Nutrient Offset Credit - Credit Availability Letter**
Project Name: Strasburg Road Subdivision
Project Address: 336 W. Strasburg Road, Front Royal, VA 22630
Project HUC: 02070006
Bank HUC: 02070005

Dear Mr. VanEtten,

We appreciate the opportunity to provide a credit availability letter for **0.35** pounds of phosphorus for the above-referenced project. This letter is to certify that as of the date of this letter, Christians Creek Nutrient Bank has 32.82 pounds of phosphorus (TP), 181.10 pounds of nitrogen (TN), and 19,227.53 pounds of TSS available for transfer to those entities requiring offsets in accordance with the Chesapeake Bay Watershed Nutrient Credit Exchange Program (VA Code § 62.1-44.19:14 et seq.). Those offsets are also transferable in accordance with the Virginia stormwater offset program (VA Code § 62.1-44.15:35) and the Virginia Soil and Water Conservation Board's Guidance Document on Stormwater Nonpoint Nutrient Offsets approved on July 23, 2009, to those regulated entities qualifying for nutrient credits.

We can certainly accommodate your needs and could offer to fulfil the order of **0.35** pounds of phosphorus.

Please feel free to contact us with any questions. I hope we have the opportunity to work together on this project.

Sincerely,
Ecosystem Services, LLC
By:

Jonathan R. Roller

Jonathan R. Roller, AOSE PSS CNMP
Manager - Authorized Representative

Ecosystem Services | 1102 Carlton Avenue, Charlottesville, VA 22902 | 540.578.4296 | www.ecosystemsolutions.us
Page 1 of 1

WATER QUALITY:

THE TOTAL SITE (3.52 ACRES), WHICH CONSISTS OF 2.94 ACRES OF DISTURBANCE, HAS BEEN MANAGED FOR WATER QUALITY IN ACCORDANCE WITH VIRGINIA STORMWATER MANAGEMENT ACT. THE SITE IS LOCATED WITHIN THE NORTH FORK SHENANDOAH WATERSHED. THE HUC8 CODE FOR THE WATERSHED IS 02070006.

THE VIRGINIA RUNOFF REDUCTION METHOD RE-DEVELOPMENT WORKSHEET - V3.0 WAS USED TO DETERMINE THE NUTRIENT LOAD REMOVAL REQUIRED. THE PHOSPHORUS LOAD REDUCTION REQUIRED WAS DETERMINED TO BE 2.19 LB/YR. THE STORMTECH ISOLATOR ROW PLUS WILL PROVIDE A REDUCTION OF 1.84 LB/YR. THE REMAINING 0.35 LB/YR WILL BE OFFSET WITH THE PURCHASE OF NUTRIENT CREDITS.

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

BMP Design Specifications List: 2013 Draft Sids & Specs

Site Summary

Project Title: STRASBURG ROAD SUBDIVISION	
Date: 4/5/46	
Total Rainfall (in)	43
Total Disturbed Acreage:	2.93

Site Land Cover Summary

Pre-Development Land Cover (acres)	A Soils	B Soils	C Soils	D Soils	Totals	% of Total
Forest/Open (acres)	0.00	0.00	0.00	2.59	2.59	88
Managed Turf (acres)	0.00	0.00	0.00	0.22	0.22	8
Impervious Cover (acres)	0.00	0.00	0.00	0.12	0.12	4
				2.93		100

Post-Development Land Cover (acres)	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	1.85	1.85	63
Impervious Cover (acres)	0.00	0.00	0.00	1.08	1.08	37
				2.93		100

Site Tv and Land Cover Nutrient Loads

	Final Post-Development (Post-ReDevelopment & New Impervious)	Post- ReDevelopment	Post- Development (New Impervious)	Adjusted Pre- ReDevelopment
Site Rv	0.51	0.29	0.95	0.13
Treatment Volume (ft ³)	5,403	2,093	3,311	909
TP Load (lb/yr)	1.31	0.67	2.08	0.57
Baseline TP Load (lb/yr): 0.80777				

Total TP Load Reduction Required (lb/yr) 2.19 0.51 1.69

	Final Post-Development Load (Post-ReDevelopment & New Impervious)	Pre- ReDevelopment
TN Load (lb/yr)	24.29	4.87

Site Compliance Summary

Maximum % Reduction Required Below Pre-ReDevelopment Load	20%
--	-----

* Note: % Reduction will reduce post-development TP load to less than or equal to baseline load of 0.81 lb/yr (0.41 lb/ac/yr)
(Required reduction for Post-ReDev. = Post-ReDev TP load - baseline load of 0.8077 lb/yr, baseline load = site area x 0.41 lb/ac/yr)

Total Runoff Volume Reduction (ft ³)	0
Total TP Load Reduction Achieved (lb/yr)	1.84
Total TN Load Reduction Achieved (lb/yr)	0.00
Remaining Post Development TP Load (lb/yr)	1.55
Remaining TP Load Reduction (lb/yr) Required	0.35

*Reduction below new development load limitation not required

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)	1.85	0.00	0.00	0.00	0.00	1.85
Impervious Cover (acres)	1.08	0.00	0.00	0.00	0.00	1.08
Total Area (acres)	2.93	0.00	0.00	0.00	0.00	2.93

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)	1.84	0.00	0.00	0.00	0.00	1.84
TN Load Reduced (lb/yr)	0.00	0.00	0.00	0.00	0.00	0.00

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	1.85	1.85	63
Impervious Cover (acres)	0.00	0.00	0.00	1.08	1.08	37
				2.93		

BMP Selections

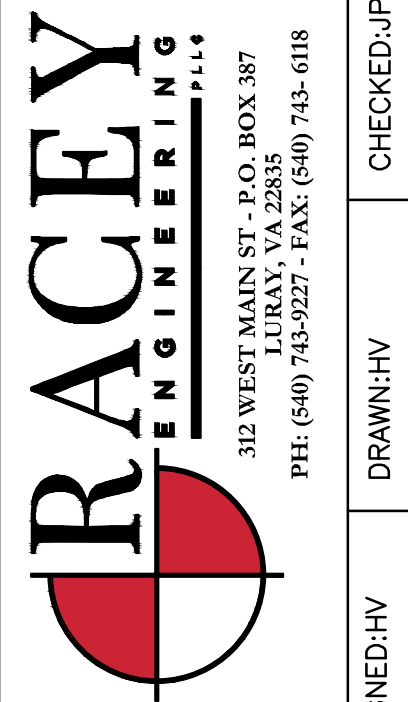
Practice	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	BMP Treatment Volume (ft ³)	TP Load from Upstream Practices (lbs)	Untreated TP Load to Practice (lbs)	TP Removed (lb/yr)	TP Remaining (lb/yr)	Downstream Treatment to be Employed
14.b. Manufactured Treatment Device- Filtering	0.21	1.88	6,643.49	0.00	4.17	1.67	2.50	

Total Impervious Cover Treated (acres)	1.00
Total Turf Area Treated (acres)	1.59
Total TP Load Reduction Achieved in D.A. (lb/yr)	1.84
Total TN Load Reduction Achieved in D.A. (lb/yr)	0.00

No.	Submittal / Revision	By	Date
1	1ST SUBMITTAL TOWN	HV	06/28/24
2	2ND SUBMITTAL TOWN	HV	10/15/24
3	3RD SUBMITTAL TOWN	HV	12/27/24



PERMIT
REVIEW SET



STRASBURG ROAD SUBDIVISION
VRM MAP
ALI BILLOO
WARREN COUNTY, VA

PUBLISH DATE: 12/30/2024

RACEY PROJECT NUMBER: 9276

C601

A. APPLICATION TYPE

☒ INITIAL SUBMISSION
____ RESUBMISSION DEQ PLAN # : _____
____ MODIFICATION with ACREAGE INCREASE DEQ PLAN # : _____
____ MODIFICATION without ACREAGE INCREASE DEQ PLAN # : _____

B. DESIGN PROFESSIONAL

CONTACT NAME: JOSHUA P. TURNER, P.E.
MAILING ADDRESS: 312 WEST MAIN STREET, LURAY VA
TELEPHONE NO: 540-743-9227
EMAIL ADDRESS: JTURNER@RACEYENGINEERING.COM

C. PROJECT DEVELOPER

PROJECT DEVELOPER:
CONTACT NAME:
MAILING ADDRESS:
TELEPHONE NO:
EMAIL ADDRESS:

D. PROPERTY OWNER

PROPERTY OWNER: ALI BILLOO
CONTACT NAME: ALI BILLOO
MAILING ADDRESS: 7214 SIPES LANE, ANNANDALE VA
TELEPHONE NO: 703-346-6254
EMAIL ADDRESS: BILLSHOMES@HOTMAIL.COM

E. PROJECT INFORMATION

PROJECT NAME: STRASBURG ROAD SUBDIVISION
ADDRESS (911 ADDRESS IF AVAILABLE):
COUNTY (IF NOT LOCATED WITHIN A CITY):
TAX MAP NO. (OR GPIN): 20A114 23B
LATITUDE (6 DIGITS, DECIMAL DEGREES): 38.9490
LONGITUDE (6 DIGITS, DECIMAL DEGREES): 78.2103
TOTAL LAND AREA OF DEVELOPMENT (1/100th ACRE): 3.52 AC
ESTIMATED AREA TO BE DISTURBED (1/100th ACRE): 2.94 AC
PROJECT STATUS: ____ FEDERAL ____ STATE ____ PUBLIC ☒ PRIVATE
PART OF A LARGER COMMON PLAN OF DEVELOPMENT? ____ YES ____ NO
OFFSITE IMPROVEMENTS PROPOSED? ____ YES ____ NO

F. OFFSITE SUPPORT ACTIVITY INFORMATION

OFFSITE SUPPORT ACTIVITY NAME:
ADDRESS (911 ADDRESS IF AVAILABLE):
COUNTY (IF NOT LOCATED WITHIN A CITY):
TAX MAP NO. (OR GPIN):
LATITUDE (6 DIGITS, DECIMAL DEGREES):
LONGITUDE (6 DIGITS, DECIMAL DEGREES):
ESTIMATED AREA TO BE DISTURBED (1/100th ACRE):

G. PLAN INFORMATION

GENERAL PLAN INFORMATION	SHEET NO.
1. VICINITY MAP	T100
2. NORTH SCALE	T100
3. PLAN LEGEND	T101
4. PLAN SCALE	T100
5. SHEET INDEX	T100

PRE-DEVELOPMENT SITE INFORMATION	SHEET NO.
6. NARRATIVE OF PRE-DEVELOPMENT SITE CONDITIONS	C400
7. EXISTING PROPERTY BOUNDARIES (INC. LEASE BOUNDARIES)	C100
8. EXISTING TOPOGRAPHY (EXISTING CONTOURS)	C100
9. EXISTING STREAMS, PONDS, DITCHES, WETLANDS & OTHER WATERS	N/A
10. EXISTING KARST FEATURES	N/A
11. EXISTING 100-YEAR FEMA FLOODPLAIN	N/A
12. RESOURCE PROTECTION AREAS	N/A
13. EXISTING IMPROVEMENTS (BUILDINGS, ROADS, PARKING & UTILITIES)	C100
14. EXISTING VEGETATIVE AREAS (FOREST, OPEN SPACE & TURF)	C601
15. EXISTING LAND COVER / USE TABULATION	C601
16. EXISTING EASEMENTS (DEED BOOK/PAGE REF. OR INSTRUMENT #)	T100
17. PRE-DEV. DRAINAGE AREAS (ACREAGE, DIVIDES & FLOW PATHS)	C600

POST-DEVELOPMENT SITE INFORMATION	SHEET NO.
18. NARRATIVE OF POST-DEVELOPMENT SITE CONDITIONS	C400
19. PROPOSED PROPERTY BOUNDARIES (INC. LEASE BOUNDARIES)	C100
20. PROPOSED LIMITS OF LAND DISTURBANCE (CLEARING & GRADING)	C401
21. PROPOSED GRADING (PROPOSED CONTOURS INC. SWM PRACTICES)	C300
22. PROPOSED 100-YEAR FLOODPLAIN	N/A
23. PROPOSED IMPROVEMENTS (BLDGS, ROADS, PARKING & UTILITIES)	C200
24. PROPOSED VEGETATIVE AREAS (FOREST, OPEN SPACE & TURF)	C601
25. PROPOSED LAND COVER / USE TABULATION	C601
26. PROPOSED EASEMENTS	N/A
27. POST-DEV. DRAINAGE AREAS (ACREAGE, DIVIDES & FLOW PATHS)	C600

EROSION & SEDIMENT CONTROL INFORMATION	SHEET NO.
28. NARRATIVE OF PROP. EROSION & SEDIMENT CONTROLS	C400
29. MINIMUM STANDARDS (9VAC25-840-40)	C400
30. CRITICAL EROSION AREAS (VESCH, CHAPTER 6)	C400
31. PROP. EROSION & SEDIMENT CONTROLS (VESCH, CHAPTER 3)	C401
32. EROSION & SEDIMENT CONTROL DETAIL DRAWINGS	C500
33. HYDROLOGIC & HYDRAULIC COMPUTATIONS	COMPS BOOK
34. INSPECTION, OPERATION & MAINTENANCE REQUIREMENTS	C400

PLAN SUBMISSION CHECKLIST

[SEE DEQ GUIDANCE MEMO NO. 22-2012 FOR ADDITIONAL INSTRUCTIONS]

G. PLAN INFORMATION (CONT.)

POST-DEVELOPMENT WATER QUANTITY & WATER QUALITY INFO.	SHEET NO.
35. NARRATIVE OF PROP. SWM FACILITIES / PRACTICES	C600
36. PROP. SWM FACILITIES / PRACTICES	C600
37. HYDROLOGIC & HYDRAULIC COMPUTATIONS *	COMPS BOOK
38. LONG-TERM INSP., OPERATION & MAINTENANCE REQUIREMENTS	C400
39. OUTFALL SUMMARY TABLE WITH PRE, POST, AND ALLOWABLE DISCHARGE RATES USED FOR QUANTITY ASSESSMENT; IDENTIFY THE TYPE OF CONVEYANCE SYSTEM AT EACH POINT OF DISCHARGE	C600

* STORM DRAIN DESIGN COMPUTATIONS AND HYDRAULIC GRADE LINE COMPUTATIONS SHOULD BE PROVIDED AND SHOULD INCLUDE EACH PIPE SEGMENT. IN ADDITION, STORM SEWER LONGITUDINAL PROFILES WITH HYDRAULIC GRADE LINE ELEVATIONS SHOULD BE INCLUDED FOR VISUAL REPRESENTATION. DESIGN CALCULATIONS AND CROSS-SECTIONS SHOULD BE PROVIDED FOR ALL OPEN MANMADE CHANNELS. CROSS-SECTIONS SHOULD SHOW AND LABEL THE 1-YEAR, 2-YEAR, AND 10-YEAR WATER SURFACE ELEVATIONS.

SOILS & GEOTECHNICAL INFORMATION	SHEET NO.
40. SOILS MAP (INC. NRCS SOIL TYPES)	C400
41. SOILS TABULATION	C400
42. GEOTECHNICAL INVESTIGATION / REPORT	COMPS BOOK

OTHER SUPPORTING INFORMATION	SHEET NO.
43. BOUNDARY SURVEY (18VAC10-20-370)	C100
44. PHYSICAL IMPROVEMENT SURVEY (18VAC10-20-380)	C100
45. TOPOGRAPHIC SURVEY (18VAC10-20-382)	C100

H. LAND COVER TABULATION

EXISTING LAND COVER / USE	ACRES
1. IMPERVIOUS COVER	0.14
IMPERVIOUS COVER (% OF TOTAL LAND AREA OF DEVELOPMENT)	4.6%
2. MANAGED TURF	0.23
3. OPEN SPACE	0
4. FOREST COVER	2.66
5. PRIME FARMLAND (NRCS FARMLAND CLASSIFICATION)	N/A

PROPOSED LAND COVER / USE ("SITE" TAB OF VRRM SPREADSHEET)	ACRES
1. IMPERVIOUS COVER	1.10
IMPERVIOUS COVER (% OF TOTAL LAND AREA OF DEVELOPMENT)	36.3%
2. MANAGED TURF	1.93
3. OPEN SPACE	0
4. FOREST COVER	0

I. SOILS TABULATION

MAP UNIT SYMBOL	MAP UNIT NAME	HSG	K FACTOR	ERODIBILITY	ACRES IN LOD	% OF LOD
41C	WEIKERT-BERKS CHANNERY SILT LOAMS	D	0.17	LOW	0.94	32%
41D	WEIKERT-BERKS CHANNERY SILT LOAMS	D	N/A	LOW	2.00	68%

J. EROSION & SEDIMENT CONTROL

ESC PLAN VARIANCE REQUEST: ____ YES ☒ NO

IF "YES", PLEASE PROVIDE JUSTIFICATION FOR THE VARIANCE REQUEST:

K. STORMWATER MANAGEMENT

APPLICABLE DESIGN CRITERIA: ____ PART II B
____ PART II C (GRANDFATHERING)
____ PART II C (TIME LIMITS ON APPLICABILITY)
____ "SAFE HARBOR"

OFFSITE COMPLIANCE OPTION(S)? ____ YES ☒ NO

IF "YES", PLEASE DESCRIBE THE OFFSITE COMPLIANCE OPTION(S):

DISCHARGE TO A KARST FEATURE(S)? ____ YES ☒ NO

IF "YES", PLEASE DESCRIBE THE KARST FEATURE(S):

IF "YES", PLEASE DESCRIBE ANY KNOWN NATURAL HERITAGE RESOURCES IN THE KARST FEATURE(S):

SWM PLAN EXCEPTION REQUEST? ____ YES ☒ NO

IF "YES", PLEASE PROVIDE THE JUSTIFICATION FOR THE EXCEPTION REQUEST:

L. STORMWATER MANAGEMENT FACILITIES / PRACTICES

FACILITY NO.	FACILITY TYPE	LAT.	LONG.	REC. WATER	TOT. ACRES TREATED	IMP. ACRES TREATED	PLAN SHEET NO.
12	FILTER DEVICE	38.9497	-78.2099	02070006	3.40	1.16	C301

M. OWNER / DEVELOPER CERTIFICATION

I hereby certify that coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities will be obtained, if required, prior to commencing land-disturbing activities.

I hereby certify that all wetlands permits required by law will be obtained, if required, prior to commencing land disturbing activities.

I hereby certify that permission to construct any offsite improvements, if proposed, will be obtained prior to commencing land disturbing activities.

I hereby certify that all offsite nonpoint source nutrient credits will be obtained, if proposed, prior to commencing land disturbing activities.

I hereby certify that construction record drawings (as-built drawings) for all permanent stormwater management facilities/practices will be prepared and submitted to DEQ prior to project closeout. The construction record drawings will be appropriately sealed and by a professional registered in the Commonwealth of Virginia, certifying that the stormwater management facilities/practices have been constructed in accordance with the approved plan(s).

I hereby certify that a long-term maintenance agreement(s) for all permanent stormwater management facilities/practices and other techniques specified to manage the quality and quantity of runoff will be submitted to DEQ, if required, prior to project closeout. The long-term maintenance agreement(s) will be recorded in the local land records prior to termination of coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities.

OWNER / DEVELOPER NAME:
OWNER / DEVELOPER TITLE:
SIGNATURE:
DATE:

N. DESIGN PROFESSIONAL CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I hereby certify that the plans and hydrologic & hydraulic computations herein are in compliance with the Stormwater Management Act and attendant regulations, the Erosion and Sediment Control Law and attendant regulations, and applicable DEQ guidance.

DESIGN PROFESSIONAL NAME:
LICENSE NO.:
SIGNATURE:
DATE:

O. DUAL COMBINED ADMINISTRATOR (DCA) CERTIFICATION

[INCLUDE THIS SECTION / CERTIFICATION IF REQUESTING A STREAMLINED PLAN REVIEW IN ACCORDANCE WITH DEQ GUIDANCE MEMO NO. 22-2011, OTHERWISE DELETE]

I hereby certify that I have reviewed the plans and hydrologic & hydraulic computations herein for compliance with the Stormwater Management Act and attendant regulations, the Erosion and Sediment Control Law and attendant regulations, and applicable DEQ guidance, and recommend the plans and computations for DEQ approval.

DCA NAME:
DCA CERTIFICATION NO.:
SIGNATURE:
DATE:

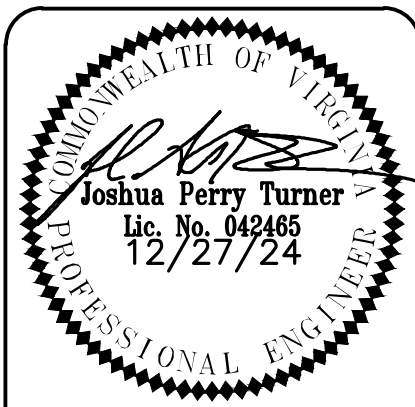
APPROVAL BLOCK

DEQ PLAN # 20____ - 0____

DEPT. OF ENVIRONMENTAL QUALITY

DATE

Date	App'd	By	Submittal / Revision	No.
06/28/24	JPT	HV	1ST SUBMITTAL TOWN	A
10/15/24	JPT	HV	2ND SUBMITTAL TOWN	A
12/27/24	JPT	HV	3RD SUBMITTAL TOWN	A



PERMIT REVIEW SET

RACEY ENGINEERING, PLLC
312 WEST MAIN ST - P.O. BOX 387
LURAY, VA 22835
PH: (540) 743-9227 - FAX: (540) 743-6118

DESIGNED:HV
DRAWN:HV
CHECKED:JPT

STRASBURG ROAD SUBDIVISION

DEQ COVER SHEET

ALI BILLOO
WARREN COUNTY, VA

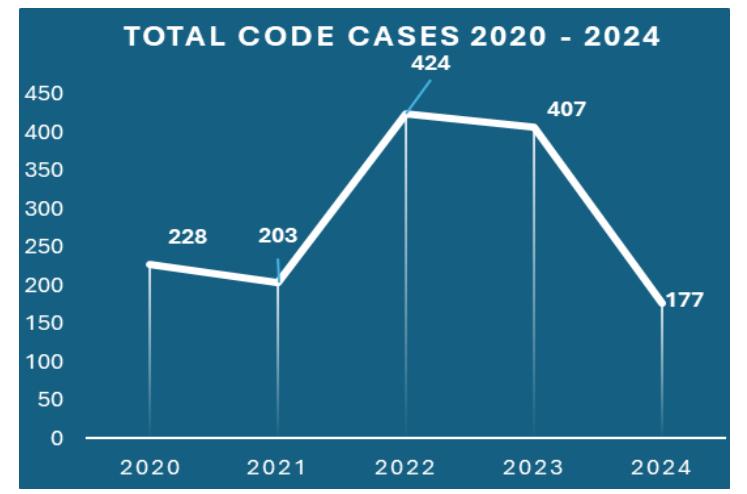
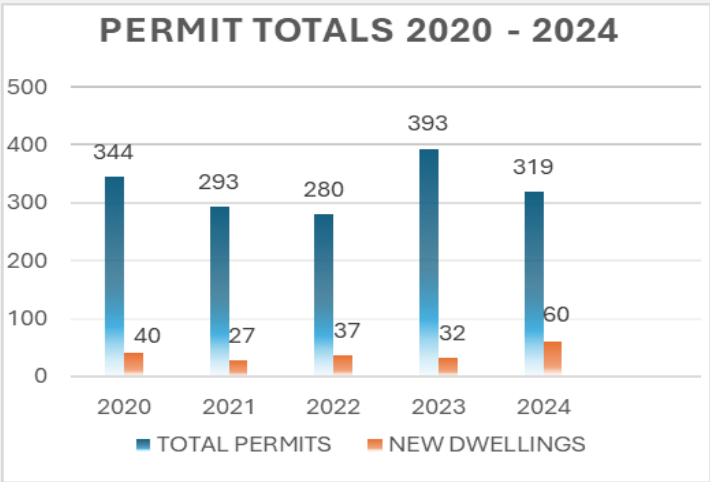
RACEY PROJECT NUMBER: 9276
PUBLISH DATE: 12/30/2024

C602

DECEMBER 2024 MONTHLY REPORT

GENERAL INDICATORS

	2020	2021	2022	2023	2024	DECEMBER
Zoning Permits	344	293	280	393	319	31
New Dwelling Units	40	27	37	32	60	5
New Code Enforcement Cases Open	228	203	424	407	177	9
Code Enforcement Cases In Compliance/Closed			361	378	112	3
Code Enforcement Inspections & Re-Inspections	--	--	--	--	388	19
Land Use Applications	26	29	56	36	45	2
Code Amendments	1	7	2	4	1	0
Sign Permits	39	47	41	62	42	0
Business Licenses	151	172	155	148	129	5
Short-Term Rentals	--	1	13	5	5	0
Administrative Variance	--	--	--	4	1	0
COA Administrative Review	--	--	--	39	18	1
COA Board Review	--	--	--	11	15	4
Solicitor/Itinerant Merchant	--	--	--	10	27	2
Urban Agriculture	--	--	--	18	11	0
Alley Vacation	--	--	--	5	2	0
Right of Way Utilization Permits				46	105	1
Walk-Ins to Planning & Zoning	--	--	--	--	2606	144



SPECIAL PROJECTS UPDATES/NEWS

- **Chapter 175 and 148 Rewrite:** A rough draft of Chapter 175 was distributed to the Planning Commission August 7, 2024 and is currently in review.
- **Capital Improvement Plan (CIP):** Work has begun on the 2025-2029 CIP.
- Staff is reviewing application forms; the goal is to roll out new forms with the new ordinance.

- **BAR** – The Board of Architectural Review held one (1) regular meeting in December. The BAR approved a COA application for construction of a duplex at 240 Blue Ridge Avenue. The BAR continues to review the current Historic District Guidelines for future updates.
- **BZA** - The Board of Zoning Appeals did not meet in December.

- **PC** – In December the Planning Commission (PC) held one (1) regular meeting and one (1) work session. At their regular meeting the PC approved to advertise for a public hearing at the January 15, 2025 regular meeting a Special Use Permit Application for multi-family apartments off of Royal Lane and a Rezoning Application for parcels located on W Strasburg Road from C-1, Community Business District to R-3, Residential District. The PC recommended approval of a Zoning Text Amendment to Chapter 175 to include performance standards for tobacco, smoke or vape shops in the C-1 and C-3 Commercial Districts within Town limits and recommended approval of a Comprehensive Plan Amendment to amend the area between Strasburg Road and Duck Street from a future land use designation of commercial to neighborhood residential. The PC recommended denial of a Special Exception application for relief of parking requirements in Town Code Chapter 148-870A.2 located at 654-B W. 11th Street. In addition, the PC approved a Final Subdivision Plat for thirty-four (34) lots located at 344 W. Main Street for thirty-three (33) dwelling units (16 duplexes and 1 existing SFD). The PC also approved a Sign Permit Application for a monument sign at 1303 N Royal Avenue for the Hang 10 Carwash. At their work session the PC discussed the Zoning Text Amendment, the Comprehensive Plan Amendment, construction of the monument sign at 1303 N Royal Avenue and the Final Subdivision Plat for parcels located at 344 W. Main Street.