The Site Design for a Hotel on Pantops, Charlottesville Final Report

Coleman Boatwright, Charlotte Gillum, Caroline Lystash, Henry Voter, and Garrett Warren

Introduction

For this design project, we will work alongside professional engineers to develop and design construction documents for a private developer who would like to build a hotel in the Pantops area of Charlottesville. The developer believes this location would be a successful place for a hotel due to its location being between US Interstate 64 and Route 29.

The site design will require determining the best location and orientation of the building that complies with county code, designing a parking lot that meets county requirements, developing final grading of the site, stormwater management design that complies with DEQ requirements and utility design. Our team will also be required to provide site details and calculations that reflect our final design. As with most projects in land development, the design team will also need to coordinate with the architects and other engineering disciplines throughout the design to make sure all plans are coordinated before submission at the end of the year. Erosion and sediment control (ESC) plans will also be required as a part of the construction documents package to serve as a guide to the contractor during construction to ensure that sediment is contained from the construction and does not pollute downstream waterways.

The project consists of developing a parcel of land within the Pantops region of Albemarle County, Virginia. The parcel of land is located just off of Richmond Road (US Route 250) and is surrounded by Town and Country Lane, Olympia Drive, and Jalisco Way. The lot is identified in figure 1 below.



Figure 1. Project Site

The parcel is 2.397 acres and is owned by Pantops Hotel LLC. Success of the project entails developing and designing construction documents that adhere to all codes and regulations for a private developer, Pantops Hotel LLC, who would like to build a hotel on this parcel of land. The stakeholders of this project include Pantops Hotel LLC, the architects, civil engineers involved from the Timmons Group, Albemarle County, VDOT, local residents and businesses, and the CE 4991 capstone team.

There are some potential risks to the project such as the county changing zoning codes and ordinances pertaining to managing stormwater quantity and quality, environmental regulations, and building types. These changes may delay the project and result in design alterations to the site plan. Secondly, there is a risk that when installing stormwater management systems and underground utilities, we may come across unforeseen rock or other physical material that would delay progress of construction in order to remove the impediment.

Design

Our design for the new Pantops hotel had to meet certain objectives set by the client and architect, constraints set forth by the client, and the engineering standards set by Albemarle County and the State of Virginia. The constraints set forth by the owner from the beginning include meeting all locality code requirements, meeting 75% stormwater quality requirements onsite, meeting 100% stormwater quantity requirements onsite, a 14,000 sf building on site, and a drop off area. We each took personal notes of the current topography, landscape, and other existing conditions on-site. Moreover, we took note of the location of the proposed hotel relative to local traffic patterns and other businesses/establishments adjacent to the parcel. With this information, we created several different initial conceptual designs using Civil 3D that we presented to our Timmons Group mentors, and these designs can be found in Appendix B on pages 14-16. Once we received the actual building footprint from the architect, we were able to elevate our designs from conceptual to schematic which can be seen in Appendix B on page 16. With the building footprint, we also received the information that the hotel will have 80 guest rooms. The number of guest rooms drives how many parking spaces are needed, so from Section 4.12.6 of the Albemarle County Code, we determined that 80 parking spaces are needed. Additionally, 4 ADA-accessible spots were added to the layout to be in accordance with Section 4.12.16 of the county code. To design an initial parking lot, we also needed to know the spacing requirements for the actual parking spaces and the drive aisles, which we found in Sec. 4.12.16 of the Albemarle County Code.

As a group, we decided on two final schematic designs, as seen in Appendix B on page 17, to present to Timmons Group based on various factors such as how well everything fit onto the site, ease of driving access around the site, and appearance of the site from the street. At this

stage, both designs would work, so we did some spotchecking preliminary grading with Timmons to help us decide which design would work better grading wise. Ultimately, this was one of the main reasons we chose to move forward with the design seen in Appendix B on page 44.

Now that we chose our final design, we split up tasks such as creating the demolition plan, the utility plan, a more detailed grading plan, and a more detailed layout plan among our team members. Each of these plans required researching the local codes and regulations to guide the designs, which can be found in Appendix C. These plans were included in our 25% design documents that we submitted at the end of first semester, along with a cover page and existing conditions page.

At the beginning of the second semester, we reviewed Timmons Group's comments on our 25% design documents and made the necessary changes to move our team closer to the 50% checkpoint by the end of February. We improved the layout and grading plans and began creating an erosion and sediment control (E&S) plan and a stormwater management plan. The design iterations are documented in Appendix B and the current design documents are in Appendix D.

The E&S plan was created using guidelines from the Environmental Protection Agency (EPA). Implementation of waterproof storm and silt fencing will surround the perimeter of the site in order to control loose sediment from stormwater runoff. A mulch barrier will be installed along the inside of the fence perimeter in order to further absorb and reduce runoff velocity approaching the silt fencing (VA Erosion & Sediment Control handbook, 1992). Existing storm drains and inlets on-site and on the streets around the site will be protected with geotextile fabric and/or filter socks in order to clean runoff before entering said inlets.

Stormwater management plans were made in accordance with the Virginia Runoff Reduction Method (VRRM), which include the BMP and the necessary drainage system. The percentages of proposed pervious and non-pervious areas on-site were taken into account, along with data on soil type and historical precipitation in Albemarle County. Drainage inlets were placed at various low points within the parking lot and along curb and gutters in order to capture runoff. Additionally, a drainage network with 15-inch Reinforced Concrete pipes was implemented to direct runoff towards the bioretention pond.

Following these revisions to the 25% Design Documents, our team evolved the design to 50% complete by the end of February. The Timmons Team provided feedback on the 50% plan set, noting the need for increased development in stormwater, erosion and sediment control, and grading. Our stormwater team proceeded to improve the design by calculating impervious and pervious areas, drainage areas, performing BMP calculations, and grading the bioretention pond into the site. Our grading team improved the site in order to abide by regulations such as those set by the county and the ADA. It was determined that multiple retaining walls needed to be added in order to ensure that slopes throughout the site were within guidelines. In addition, the grading team ensured that all sidewalks met the necessary cross slopes of 2% and parallel slopes of 5%, with a few exceptions. One being that the west entry to the site is steep, so it was not possible to make the sidewalk along this entrance less than 5%. However, this deviation is deemed acceptable as it aligns with the adjacent road. This is important as the project's final use is for hospitality purposes, and therefore guests of the hotel must be able to access the parking lot and hotel entrances in a safe manner. The erosion and sediment control team was tasked with creating a notes page serving as a guideline for best practices. Additionally, we included general notes and details pages at the beginning of the plan set to give more detailed information about

some aspects of our design. Finally, our team was able to deliver 100% design documents on April 24, 2024 and complete the necessary construction documents required to fulfill the project.

Design Constraints

Land Development projects require careful consideration of many local, state, and federal codes. The hotel at Pantops must comply with Albemarle County Codes, State of Virginia codes, and federal environmental regulations. Appendix C provides specific code requirements for parking, drive aisles, loading areas, landscaping, grading, utilities, sidewalks, setbacks, environmental, and erosion and sediment control. This appendix lists the necessary codes along with the source and how our design satisfies the given constraints.

Conclusion and Discussion

This project has provided our team with an introduction to the many components of land development. Going into the project, we had limited experience with Civil 3D, creating a learning curve for many of us in the group. Our mentors at Timmons were helpful and patient, allowing us to become proficient at the basic skills required for land development projects in Civil 3D. This includes aspects of grading, stormwater, and line work. In addition, many of us were unfamiliar with the many requirements set by local, state, and federal offices regarding features such as the number of parking spaces required, slopes, building setbacks, and stormwater practices. We were able to learn the necessary resources required for us to develop a design relying heavily on Albemarle County Code for this unique project. By working closely with Timmons Group, our team was able to provide 100% construction documents at the end of the semester. We feel as if this project was valuable to our knowledge as civil engineers, regardless of concentration.

Appendix A
Schedule

Appendix B
Design Evolution

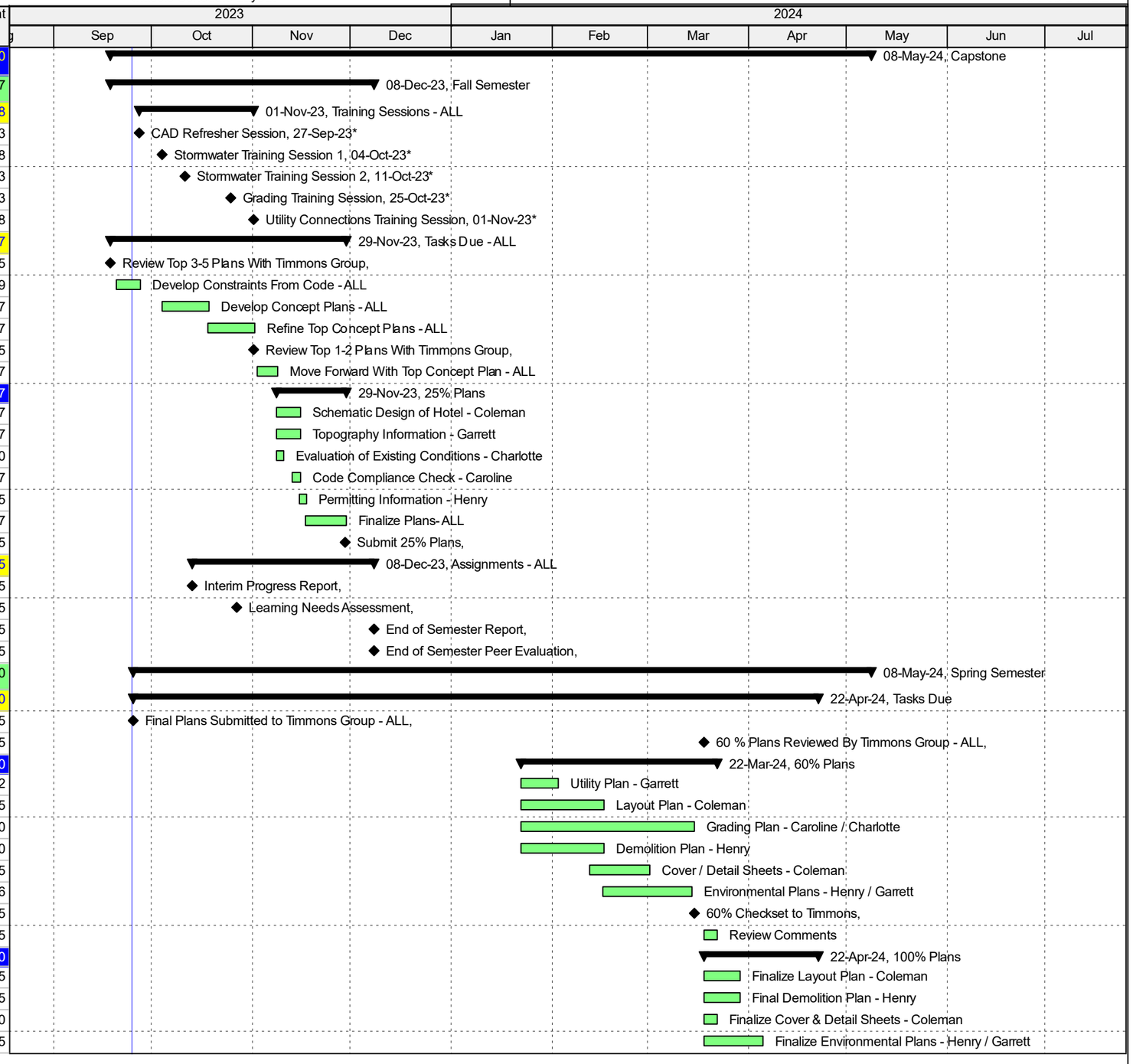
Appendix C
Engineering Standards

Appendix D
Technical Variables:
PDF Plan Set
PDF VRMM Spreadsheet Calculations
Links to Design .dwg files and VRMM Excel Spreadsheet

Appendix A

Schedule

Activity Name	Original Duration	Start	Finish	Total Float
Capstone	168	18-Sep-23	08-May-24	0
Fall Semester	59	18-Sep-23	08-Dec-23	107
Training Sessions - ALL	25	27-Sep-23	01-Nov-23	128
CAD Refresher Session	0	27-Sep-23*		153
Stormwater Training Session 1	0	04-Oct-23*		148
Stormwater Training Session 2	0	11-Oct-23*		143
Grading Training Session	0	25-Oct-23*		133
Utility Connections Training Session	0	01-Nov-23*		128
Tasks Due - ALL	53	18-Sep-23	29-Nov-23	107
Review Top 3-5 Plans With Timmons Group	0		18-Sep-23	155
Develop Constraints From Code - ALL	6	20-Sep-23	27-Sep-23	149
Develop Concept Plans - ALL	11	04-Oct-23*	18-Oct-23	137
Refine Top Concept Plans - ALL	11	18-Oct-23*	01-Nov-23	127
Review Top 1-2 Plans With Timmons Group	0		01-Nov-23	155
Move Forward With Top Concept Plan - ALL	5	02-Nov-23*	08-Nov-23	117
25% Plans	16	08-Nov-23	29-Nov-23	107
Schematic Design of Hotel - Coleman	6	08-Nov-23*	15-Nov-23	117
Topography Information - Garrett	6	08-Nov-23*	15-Nov-23	117
Evaluation of Existing Conditions - Charlotte	3	08-Nov-23*	10-Nov-23	120
Code Compliance Check - Caroline	3	13-Nov-23*	15-Nov-23	117
Permitting Information - Henry	3	15-Nov-23*	17-Nov-23	115
Finalize Plans- ALL	9	17-Nov-23*	29-Nov-23	107
Submit 25% Plans	0		29-Nov-23	155
Assignments - ALL	40	13-Oct-23	08-Dec-23	155
Interim Progress Report	0		13-Oct-23	155
Learning Needs Assessment	0		27-Oct-23	155
End of Semester Report	0		08-Dec-23	155
End of Semester Peer Evaluation	0		08-Dec-23	155
Spring Semester	163	25-Sep-23	08-May-24	0
Tasks Due	151	25-Sep-23	22-Apr-24	0
Final Plans Submitted to Timmons Group - ALL	0		25-Sep-23	155
60 % Plans Reviewed By Timmons Group - ALL	0		18-Mar-24	155
60% Plans	45	22-Jan-24	22-Mar-24	20
Utility Plan - Garrett	10	22-Jan-24*	02-Feb-24	42
Layout Plan - Coleman	20	22-Jan-24*	16-Feb-24	55
Grading Plan - Caroline / Charlotte	40	22-Jan-24*	15-Mar-24	20
Demolition Plan - Henry	20	22-Jan-24*	16-Feb-24	50
Cover / Detail Sheets - Coleman	15	12-Feb-24*	01-Mar-24	125
Environmental Plans - Henry / Garrett	20	16-Feb-24*	14-Mar-24	26
60% Checkset to Timmons	0		15-Mar-24	155
Review Comments	5	18-Mar-24*	22-Mar-24	145
100% Plans	26	18-Mar-24	22-Apr-24	0
Finalize Layout Plan - Coleman	10	18-Mar-24*	29-Mar-24	25
Final Demolition Plan - Henry	10	18-Mar-24*	29-Mar-24	25
Finalize Cover & Detail Sheets - Coleman	5	18-Mar-24*	22-Mar-24	150
Finalize Environmental Plans - Henry / Garrett	15	18-Mar-24*	05-Apr-24	5



Actual Level of Effort | Actual Work | Remaining Work | Critical Remaining Work | Milestone | summary

TASK filter: All Activities

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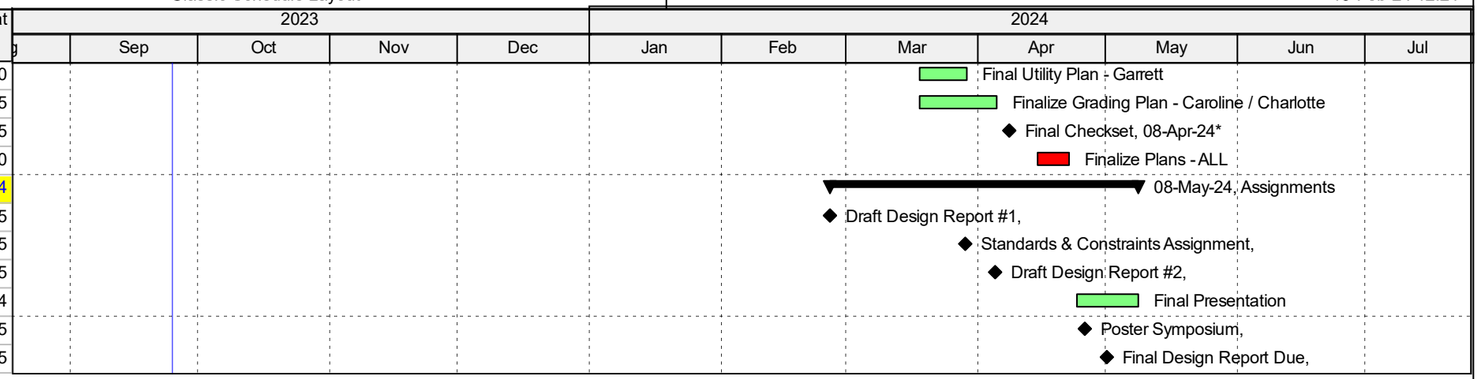
Activity Name	Original Duration	Start	Finish	Total Float
Final Utility Plan - Garrett	10	18-Mar-24*	29-Mar-24	20
Finalize Grading Plan - Caroline / Charlotte	15	18-Mar-24*	05-Apr-24	15
Final Checkset	0	08-Apr-24*		155
Finalize Plans - ALL	6	15-Apr-24*	22-Apr-24	0
Assignments	53	26-Feb-24	08-May-24	144
Draft Design Report #1	0		26-Feb-24	155
Standards & Constraints Assignment	0		29-Mar-24	155
Draft Design Report #2	0		05-Apr-24	155
Final Presentation	11	24-Apr-24*	08-May-24	144
Poster Symposium	0		26-Apr-24	155
Final Design Report Due	0		01-May-24	155



Actual Level of Effort
Actual Work
Remaining Work
Critical Remaining Work
Milestone
summary

TASK filter: All Activities

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Appendix B

Design Iterations

Appendix B

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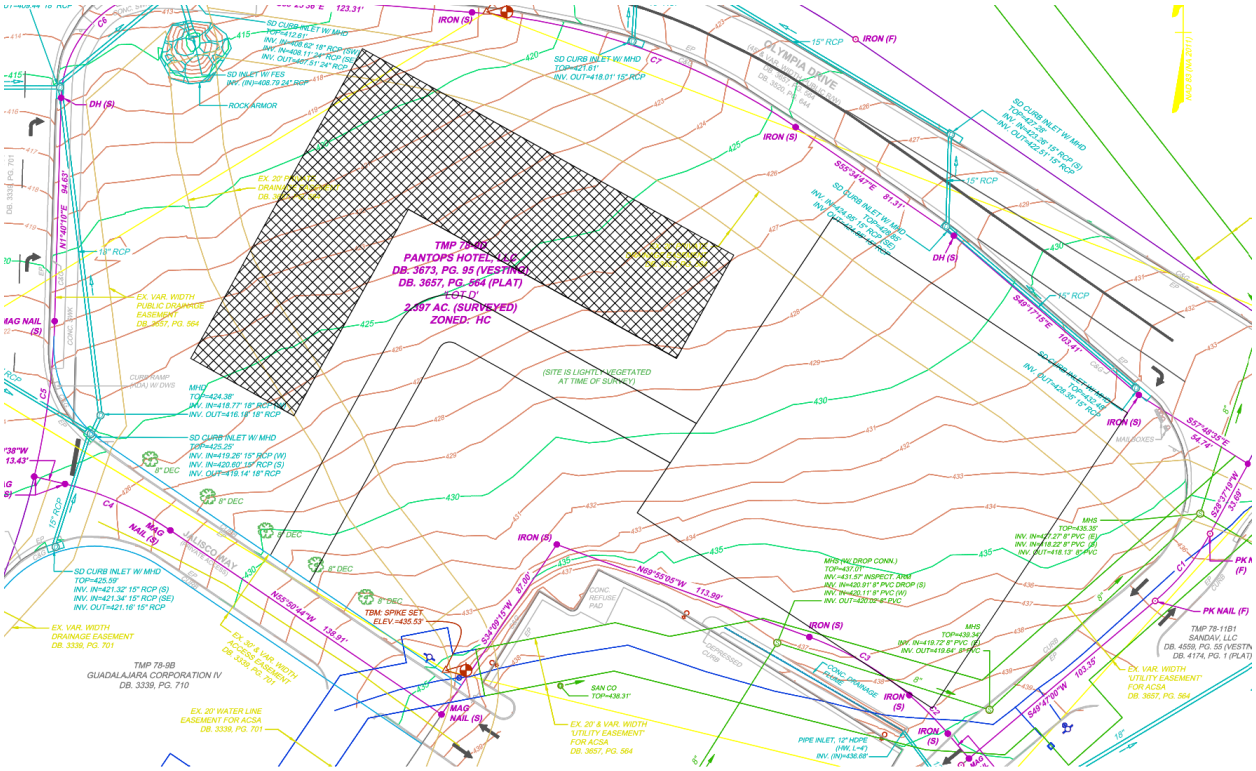
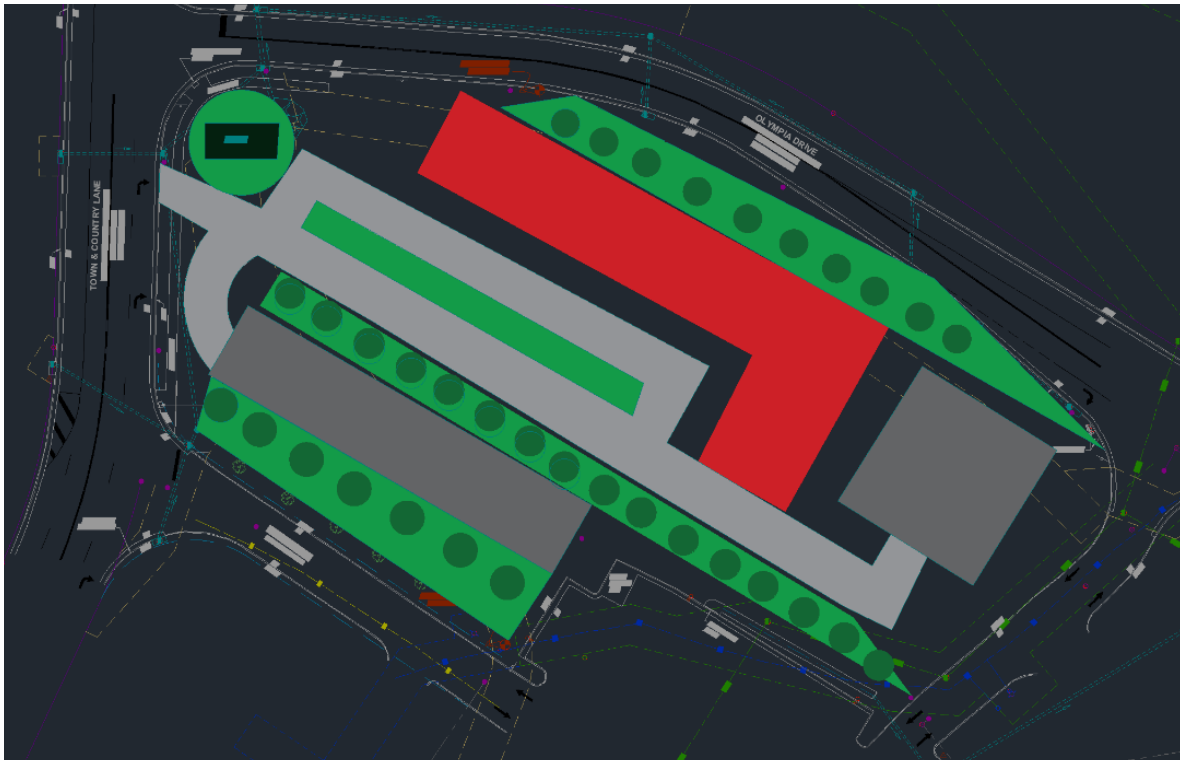
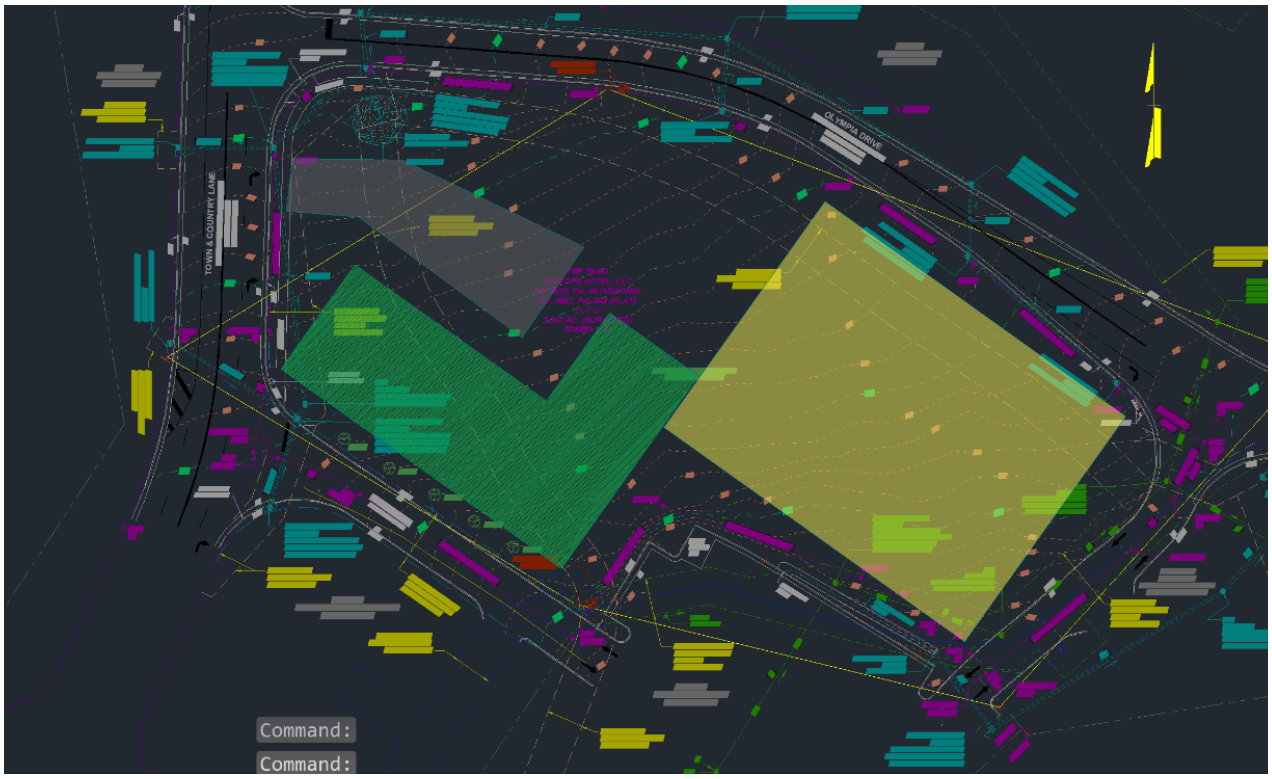
Previous Designs

Location of 14,000 SF hotel, parking lot, and drop off area on site




OLYMPIA DRIVE
TOWN & COUNTRY LANE


OLYMPIA DRIVE
TOWN & COUNTRY LANE
Command:
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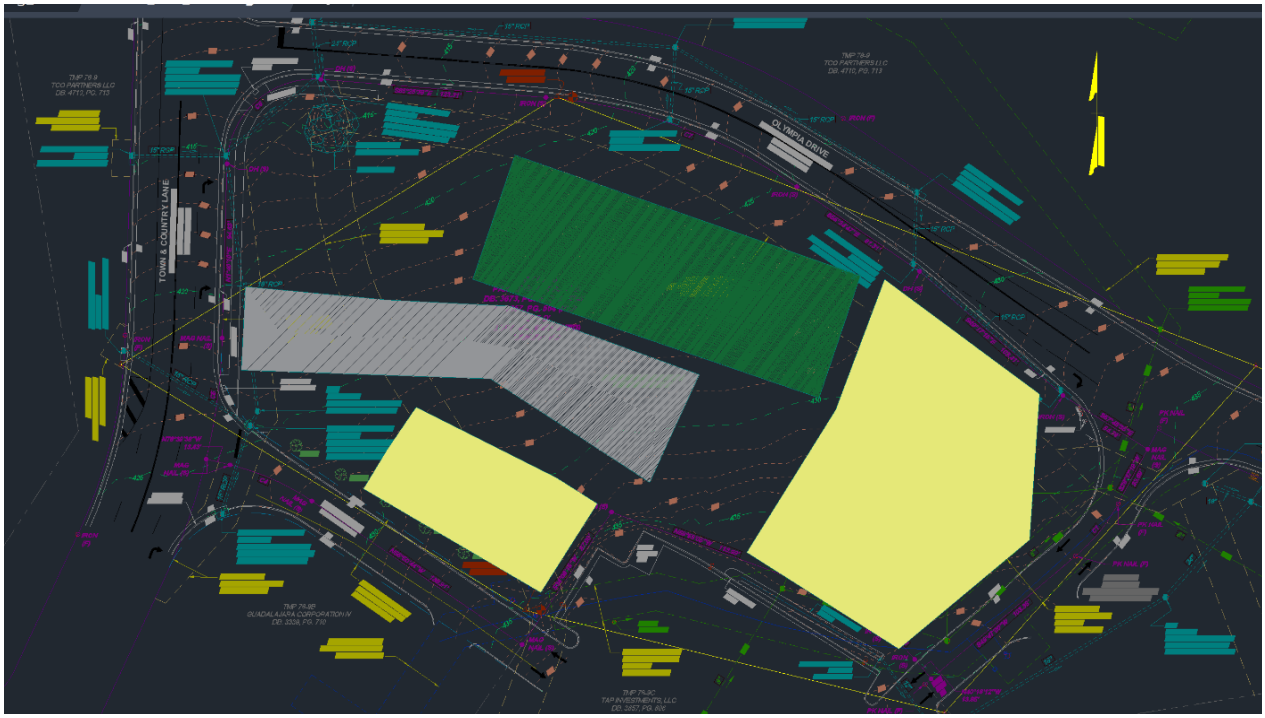
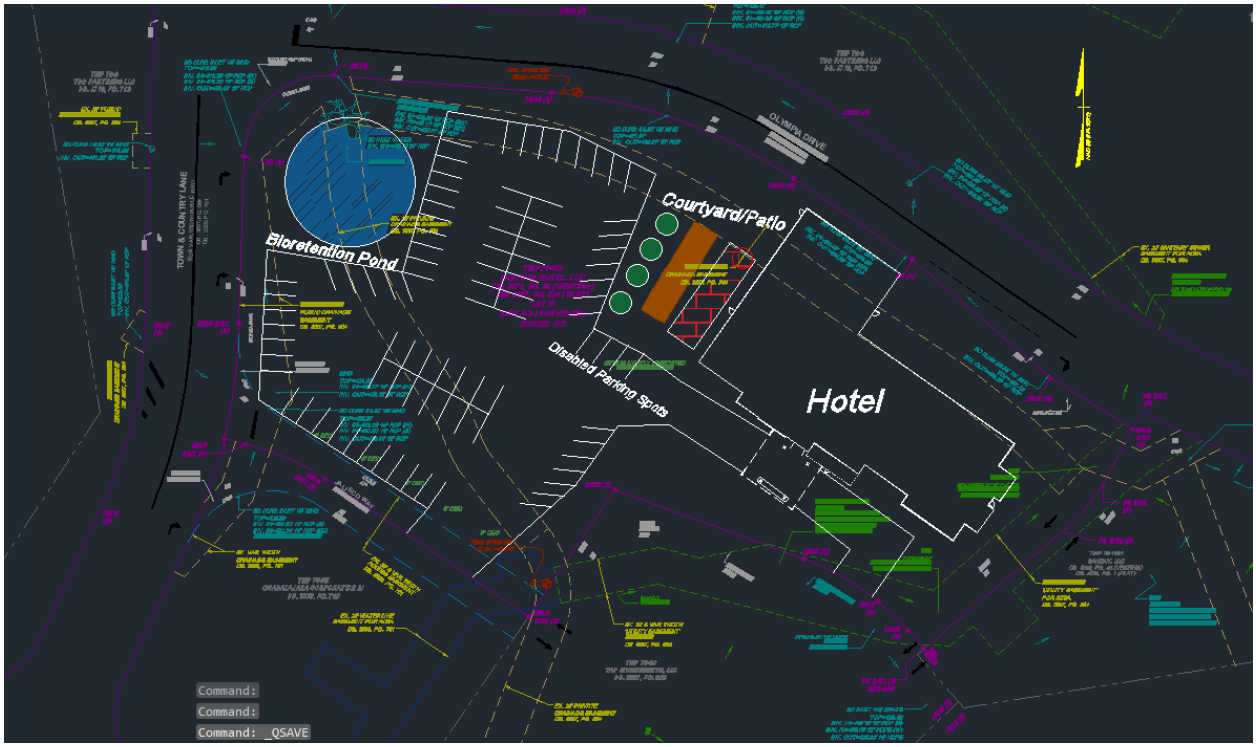
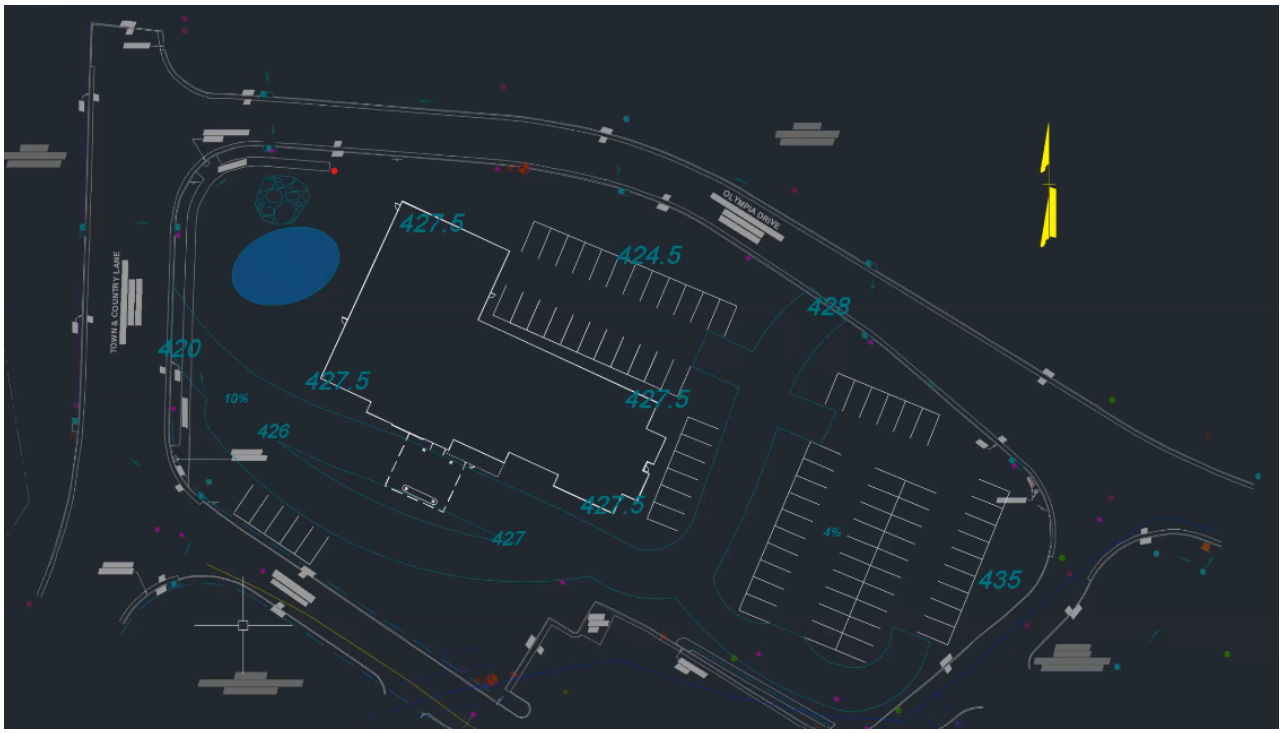
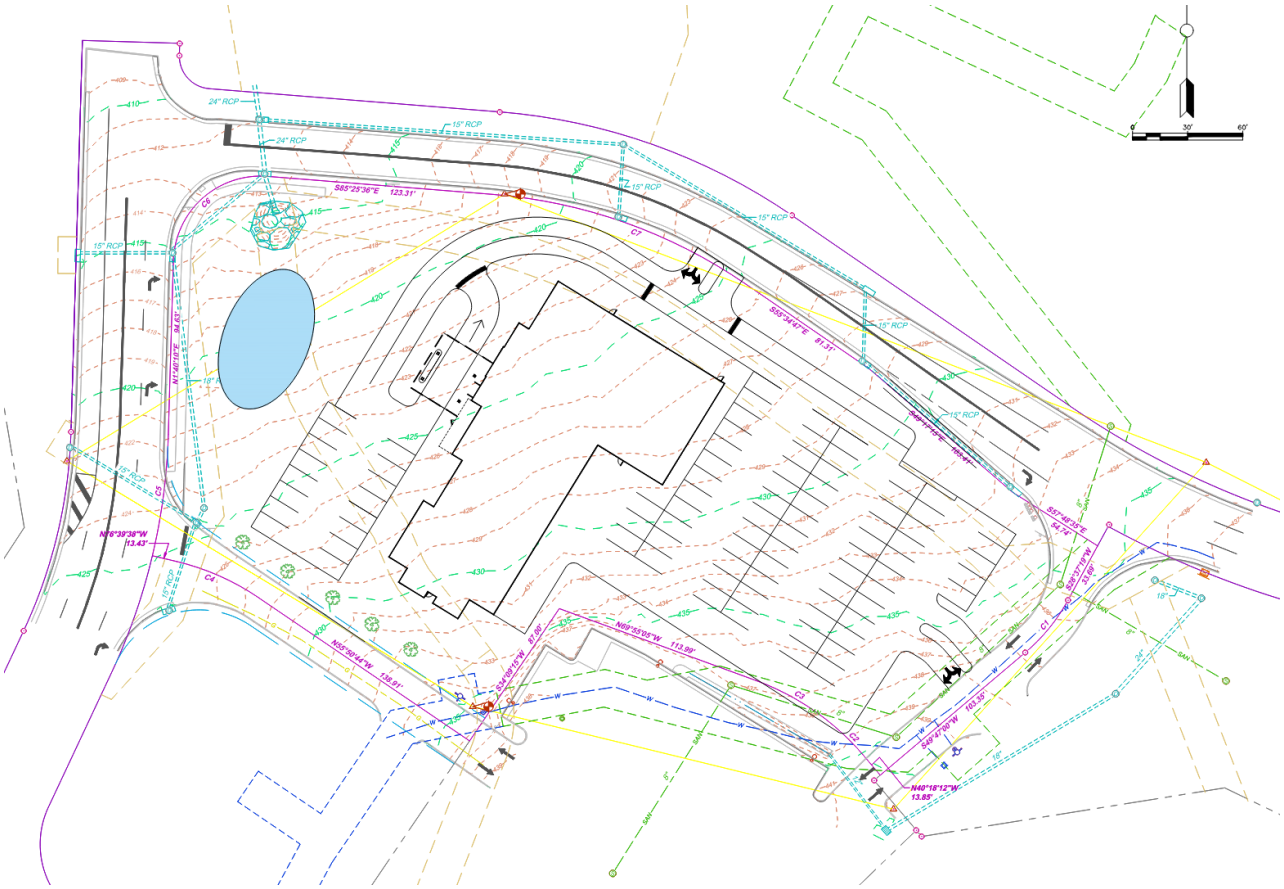

OLYMPIA DRIVE
TOWN & COUNTRY LANE


Courtyard/Patio
Bioretention Pond
Disabled Parking Spots
Hotel
OLYMPIA DRIVE
TOWN & COUNTRY LANE
Command:
Command:
Command: _QSAVE

Final Two Conceptual Designs





PANTOPS HOTEL

SITE PLAN

PARCEL #78-9D
CHARLOTTESVILLE, VA
11/28/2023

COLLABORATORS:

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Sheet List Table	
Sheet Number	**Sheet Title**
1	COVER SHEET
2	EXISTING CONDITIONS
3	DEMOLITION PLAN
4	LAYOUT
5	GRADING PLAN
6	UTILITY PLAN

REVISION DESCRIPTION
DATE
DATE 11/28/2023
DRAWN BY
DESIGNED BY
CHECKED BY
SCALE

PANTOPS HOTEL
CHARLOTTESVILLE, VA
COVER SHEET

JOB NO. ----
SHEET NO. 1

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PANTOPS HOTEL

SITE PLAN

PARCEL #78-9D
CHARLOTTESVILLE, VA
11/28/2023

Albemarle County

Typically we will add some site and project specific information on the cover like:
Listing the zoning
identifying the Limits of disturbance
is the site in an overlay district?
listing the parking requirements vs. the parking provided

What is listed is typically driven by Site Plan checklists given by the locality which you can find online

See screen shot for an example project.

From Albemarle County:

2.40 Acres
Owner Pantops Hotel LLC
Zoned Highway Commercial
Steep Slopes On Site
Entrance Corridor

TAX MAP PARCEL AND OWNER INFO:

Parcel 05600-00-00-064E0
Crozet Elementary School
1407 Crozet Avenue, Crozet, VA, 22932

TOTAL SITE AREA:

21.16 acres

LIMITS OF DISTURBANCE: Make sure this matches with final stormwater calcs

2.497 acres

EXISTING IMPERVIOUS AREA:

0.935 acres

PROPOSED IMPERVIOUS AREA:

2.017 acres

SOURCE OF SURVEY, BOUNDARY, AND TOPOGRAPHY:

Timmons Group
28 Imperial Drive
Staunton, VA, 24401
Joseph C. Medley, L.S.
Conducted 04/21/2020

CURRENT USE: Elementary School

PROPOSED USE: Elementary School

ZONING: Educational

ADJACENT PROPERTIES:

North - Residential
South - Residential
East - Agricultural/Undeveloped
West - Educational

PROJECT REQUIREMENTS:

Parking: 136 parking spaces including 5 ADA parking spaces (1 van accessible),
12 dedicated bus parking spaces
Traffic Circulation: Separate bus and car traffic as much as possible

CONSTRAINTS:

Adhere to Virginia and Albemarle County stormwater regulations
Adhere to Virginia Department of Transportation and Albemarle County design standards

this is typically where a seal will go. I know you guys wont have that in the end but typically we will put a descriptor in here like so. You can do this in the titleblock sheet so that you dont have to do it on every main sheet

25% set

lets also add a detail sheet (may need a few) for utilities, storm structures, and basic site details such as ada parking, signage, curbs, etc. Water and sanitary sewer details can be found under ACSA design and construction details. These specs are great to reference when designing/ drawing utilities. storm sewer details can be found under VDOT website (although I think they are starting to take away access to this stuff). For site details, you can search "ada parking detail", "cg-6 and cg-2 curb details" etc. and save the image or pdf to a folder on your computer.

you can delete out these numbers



put the utility plan before the grading plan

note the scale of the aerial and on the aerial add a label pointing / calling out the site

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Sheet Number	Sheet Title
1	COVER SHEET
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5	GRADING PLAN
6	UTILITY PLAN
7	Erosion and Sediment Control Notes and Details
8	Erosion and Sediment Control Plan (3 Phases)
9	Pre-Developed Stormwater Management Plan
10	Post-Developed Stormwater Management Plan
11	Stormwater Management Plan - Quality
12	Stormwater Management Facility Details

lets discuss a plan of attack for these sheets.

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Project is in Albemarle County.
You can reference Albemarle County GIS website for general site information. You can reference Albemarle County Municode website - Chapter 18 "Zoning" section for basic regulations, or just search up key words such as "parking requirements" or "setback requirements" within the website. Another reference for Albemarle County is their engineering Design Standards Manual which you can also search up on Google.

REVISION DESCRIPTION

DATE

DATE
11/28/2023

DRAWN BY

DESIGNED BY

CHECKED BY

SCALE

PANTOPS HOTEL
CHARLOTTESVILLE, VA
COVER SHEET

JOB NO.

SHEET NO.
1

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PANTOPS HOTEL

SITE PLAN

PARCEL #78-9D
ALBEMARLE COUNTY, VA
2/21/2024

COLLABORATORS:

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DATE
2/21/2024
DRAWN BY
DESIGNED BY
CHECKED BY
SCALE

PANTOPS HOTEL
ALBEMARLE COUNTY, VA
COVER SHEET

JOB NO.

SHEET NO.
1

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PANTOPS HOTEL

SITE PLAN

PARCEL #78-9D
ALBEMARLE COUNTY, VA
4/24/2024

SITE DATA:

TAX MAP PARCEL AND OWNER INFO:	PARCEL #78-9D OWNER: PANTOPS HOTEL LLC P.O. BOX 3535 WILLIAMSBURG VA, 23185
TOTAL SITE AREA:	2.397 AC
LIMITS OF DISTURBANCE:	1.443 AC
EXISTING ZONING:	HIGHWAY COMMERCIAL
ZONING CORRIDORS:	ENTRANCE CORRIDORS
OVERLAY:	STEEP SLOPES ON SITE
SOURCE OF SURVEY, BOUNDARY, AND TOPOGRAPHY:	TIMMONS GROUP 28 IMPERIAL DRIVE STAUNTON, VA 24401 JOSEPH C. MEDLEY L.S. CONDUCTED 2/28/22
HORIZONTAL DATUM REFERENCE:	NAD83
VERTICAL DATUM REFERENCE:	NAVD88

ZONING SITE REQUIREMENTS:

USE	
CURRENT:	VACANT
PROPOSED:	HOTEL
SETBACKS	
FRONT MINIMUM:	10 FEET
SIDE MINIMUM:	NONE
REAR MINIMUM:	NONE
BUILDING HEIGHT	
MAXIMUM ALLOWABLE BUILDING HEIGHT:	SPECIAL PERMISSION FROM ALBEMARLE COUNTY FIRE OFFICIAL OVER 35'
PROPOSED BUILDING HEIGHT:	----
PARKING CALCULATION	
REQUIRED PARKING:	1 SPOT PER GUESTROOM, 80 GUESTROOMS PROPOSED TOTAL PARKING REQUIRED: 80 SPACES 4 ADA SPOTS FOR 76 - 100 TOTAL SPACES
PARKING PROVIDED:	80 STANDARD SPACES 4 VAN ACCESSIBLE ADA SPOTS



OWNER:

PANTOPS HOTEL LLC

SITE ADDRESS: TOWNE AND COUNTRY LANE & OLYMPIA DRIVE
ALBEMARLE COUNTY, VA

MAILING ADDRESS: P.O. BOX 3535
WILLIAMSBURG,VA 23185

COLLABORATORS:

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Sheet Number	Sheet Title
1	COVER SHEET
2.1 - 2.3	NOTES & DETAILS
3	EXISTING CONDITIONS
4	DEMOLITION PLAN
5	LAYOUT
6	UTILITY PLAN
7	GRADING PLAN
8	E&S NOTES & DETAILS
9	E&S PLAN PHASE 1
10	E&S PLAN PHASE 2
11	STORMWATER SUMMARY
12	STORMWATER NOTES & DETAILS
13	DRAINAGE LAYOUT

REVISION DESCRIPTION

DATE

DATE 4/24/2024

DRAWN BY

DESIGNED BY

CHECKED BY

SCALE

PANTOPS HOTEL
ALBEMARLE COUNTY, VA
COVER SHEET

JOB NO. ----

SHEET NO. 1

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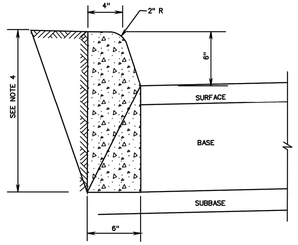
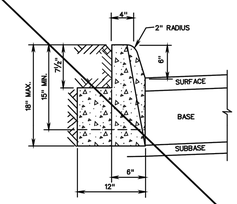
CG-2

NOTES:

1. THIS ITEM MAY BE PRECAST OR CAST IN PLACE.
2. CONCRETE TO BE CLASS A3 IF CAST IN PLACE, 4000 PSI IF PRECAST.
3. CURB HAVING A RADIUS OF 300 FEET OR LESS (ALONG FACE OF CURB) WILL BE PAID FOR AS RADIAL CURB.
4. THE DEPTH OF CURB MAY BE REDUCED AS MUCH AS 3" (10" DEPTH) OR INCREASED AS MUCH AS 3" (21" DEPTH) IN ORDER THAT THE BOTTOM OF CURB WILL COINCIDE WITH THE TOP OF A COURSE OF THE PAVEMENT SUBSTRUCTURE. OTHERWISE THE DEPTH IS TO BE AS SHOWN. NO ADJUSTMENT IN THE PRICE BID IS TO BE MADE FOR A DECREASE OR AN INCREASE IN DEPTH.
5. CG-2 IS TO BE USED ON ROADWAYS MEETING THE REQUIREMENTS FOR CG-6 AS SHOWN IN APPENDIX A OF THE VDOT ROAD DESIGN MANUAL, IN THE SECTION ON GS URBAN STANDARDS.





ACCEPTABLE ALTERNATIVE IF CURB IS EXTRUDED

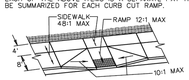
SPECIFICATION REFERENCE	STANDARD 6" CURB	VDOT ROAD AND BRIDGE STANDARDS
105 502	VIRGINIA DEPARTMENT OF TRANSPORTATION	REVISION DATE: — SHEET 1 OF 1 201.01

CG-12

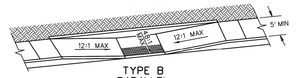
GENERAL NOTES:

1. THE DETECTABLE WARNING SHALL BE PROVIDED BY TRUNCATED DOMES.
2. ALL DETECTABLE WARNING SURFACE PRODUCTS SHALL MEET THE REQUIREMENTS OF SECTION 504 OF THE SPECIFICATIONS FOR CG-12 DETECTABLE WARNING SURFACE. DETECTABLE WARNING SURFACE PRODUCTS USED SHALL BE FROM THE MATERIALS APPROVED PRODUCT LIST NUMBER 72.
3. SLOPING SIDES OF CURB RAMP MAY BE POURED MONOLITHICALLY WITH RAMP FLOOR OR BY USING PERMISSIBLE CONSTRUCTION JOINT WITH REQUIRED BARS.
4. REQUIRED BARS ARE TO BE NO.5 X 8' PLACED 1' CENTER TO CENTER ALONG BOTH SIDES OF THE RAMP FLOOR, MID-DEPTH OF RAMP FLOOR. MINIMUM CONCRETE COVER 1½".
5. ROADWAY CURB / CURB AND GUTTER SLOPE TRANSITIONS ADJACENT TO CURB RAMPS ARE INCLUDED IN PAYMENT FOR CURB / CURB AND GUTTER.
6. CURB RAMPS ARE REQUIRED FOR SIDEWALKS AND SHARED USE PATHS. THE WIDTH OF THE CURB RAMP SHALL MATCH SIDEWALK WIDTH WHEN CURB RAMPS ARE USED IN CONJUNCTION WITH A SHARED USE PATH, THE MINIMUM WIDTH SHALL BE THE WIDTH OF THE SHARED USE PATH.
7. DETECTABLE WARNINGS SHALL EXTEND THE FULL WIDTH OF THE CURB RAMP LANDING FLOOR.
8. CURB RAMPS WILL BE INSTALLED AND LOCATED WITHIN PEDESTRIAN CROSSWALKS AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER. CURB RAMPS SHOULD NOT BE LOCATED BEHIND VEHICLE STOP LINES, LIGHT POLES, FIRE HYDRANTS, DROP INLETS, ETC.
9. RAMPS MAY BE PLACED ON RADIAL OR TANGENTIAL SECTIONS PROVIDED THAT THE CURB OPENING IS PLACED WITHIN THE LIMITS OF THE CROSSWALK AND THAT THE SLOPE AT THE CONNECTION OF THE CURB OPENING IS PERPENDICULAR TO THE CURB.
10. DETECTABLE WARNING SURFACE PANELS SHALL BE INSTALLED FLUSH WITH THE BACK OF CURB.
11. WHERE CURB RAMPS INTERSECT A RADIAL SECTION OF CURB AT ENTRANCES OR STREET CONNECTIONS THE DETECTABLE WARNING SURFACE SHALL HAVE A FACTORY RADIUS OR BE FIELD-MODIFIED AS RECOMMENDED BY THE MANUFACTURER TO MATCH THE BACK OF CURB. SEE CG-12-INS PAGES 204.06 AND 204.07 FOR METHODS OF INSTALLING DETECTABLE WARNINGS ON A RADIUS.

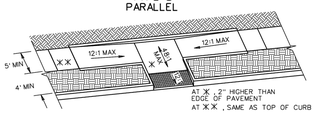
NOTE: COMPONENTS OF CURB RAMPS CONSIST OF THE FOLLOWING: HYDRAULIC CEMENT SIDEWALK (DEPTH IN INCHES, AREA IN SQUARE YARDS) CURB WHEN REQUIRED (CG-2 OR CG-3 IN LINEAR FEET) DETECTABLE WARNING SURFACE (AREA IN SQUARE YARDS) EACH OF THE ABOVE ITEMS IS A SEPARATE PAY ITEM AND SHOULD BE SUMMARIZED FOR EACH CURB CUT RAMP.



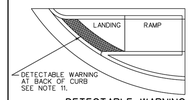
TYPE A
PERPENDICULAR



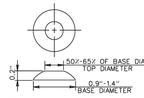
TYPE B
PARALLEL



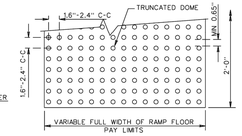
TYPE C
PARALLEL & PERPENDICULAR



DETECTABLE WARNING
INSTALLED ON A RADIUS



TRUNCATED DOME
DETAIL



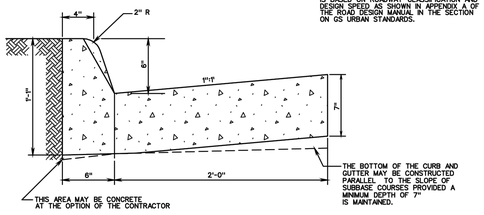
DETECTABLE WARNING
DETAIL

VDOT ROAD AND BRIDGE STANDARDS	A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.	SPECIFICATION REFERENCE
SHEET 1 OF 5 — REVISION DATE 04/19 204.01	CG-12 DETECTABLE WARNING SURFACE (GENERAL NOTES) VIRGINIA DEPARTMENT OF TRANSPORTATION	105 502 504

CG-6

NOTES:

1. THIS ITEM MAY BE PRECAST OR CAST IN PLACE.
2. CONCRETE TO BE CLASS A3 IF CAST IN PLACE, 4000 PSI IF PRECAST.
3. COMBINATION CURB & GUTTER HAVING A RADIUS OF 300 FEET OR LESS (ALONG FACE OF CURB) SHALL BE PAID FOR AS RADIAL COMBINATION CURB & GUTTER.
4. FOR USE WITH STABILIZED OPEN-GRADED DRAINAGE LAYER, THE BOTTOM OF THE CURB & GUTTER SHALL BE CONSTRUCTED PARALLEL TO THE SLOPE OF SUBBASE COURSES AND TO THE DEPTH OF THE PAVEMENT.
5. ALLOWABLE CRITERIA FOR THE USE OF CG-6 IS BASED ON ROADWAY CLASSIFICATION AND DESIGN SPEED, AS SHOWN IN APPENDIX A OF THE ROAD DESIGN MANUAL, IN THE SECTION ON GS URBAN STANDARDS.



SPECIFICATION REFERENCE	COMBINATION 6" CURB AND GUTTER	VDOT ROAD AND BRIDGE STANDARDS
105 502	VIRGINIA DEPARTMENT OF TRANSPORTATION	REVISION DATE: — SHEET 1 OF 1 201.03

REVISION DESCRIPTION

DATE

DATE
2/21/2024

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DESIGNED BY

CHECKED BY

SCALE
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PANTOPS HOTEL
ALBEMARLE COUNTY, VA
NOTES & DETAILS

JOB NO.

SHEET NO.
2

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NOTES TO BE ADDED

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2/28/2024

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PANTOPS HOTEL

ALBEMARLE COUNTY, VA

NOTES & DETAILS

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2.2

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2016 ROAD & BRIDGE STANDARDS

CG-2

NOTES:

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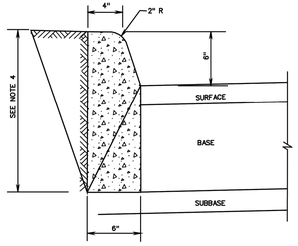
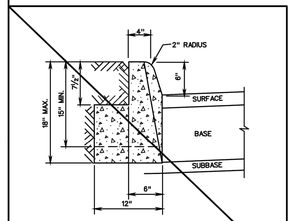
5. CG-2 IS TO BE USED ON ROADWAYS MEETING THE REQUIREMENTS FOR CG-6 AS SHOWN IN APPENDIX A OF THE VDOT ROAD DESIGN MANUAL, IN THE SECTION ON GS URBAN STANDARDS.





ACCEPTABLE ALTERNATIVE IF CURB IS EXTRUDED

SPECIFICATION REFERENCE	STANDARD 6" CURB	VDOT ROAD AND BRIDGE STANDARDS
105 502	VIRGINIA DEPARTMENT OF TRANSPORTATION	REVISION DATE: — SHEET 1 OF 1 201.01

2016 ROAD & BRIDGE STANDARDS

2016 ROAD & BRIDGE STANDARDS

CG-12

GENERAL NOTES:

1. THE DETECTABLE WARNING SHALL BE PROVIDED BY TRUNCATED DOMES.
2. ALL DETECTABLE WARNING SURFACE PRODUCTS SHALL MEET THE REQUIREMENTS OF SECTION 504 OF THE SPECIFICATIONS FOR CG-12 DETECTABLE WARNING SURFACE. DETECTABLE WARNING SURFACE PRODUCTS USED SHALL BE FROM THE MATERIALS APPROVED PRODUCT LIST NUMBER 72.
3. SLOPING SIDES OF CURB RAMP MAY BE POURED MONOLITHICALLY WITH RAMP FLOOR OR BY USING PERMISSIBLE CONSTRUCTION JOINT WITH REQUIRED BARS.
4. REQUIRED BARS ARE TO BE NO. 5 X 8' PLACED 1' CENTER TO CENTER ALONG BOTH SIDES OF THE RAMP FLOOR, MID-DEPTH OF RAMP FLOOR. MINIMUM CONCRETE COVER 1½".
5. ROADWAY CURB / CURB AND GUTTER SLOPE TRANSITIONS ADJACENT TO CURB RAMPS ARE INCLUDED IN PAYMENT FOR CURB / CURB AND GUTTER.
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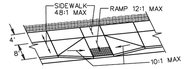
NOTE: COMPONENTS OF CURB RAMPS CONSIST OF THE FOLLOWING: HYDRAULIC CEMENT SIDEWALK (DEPTH IN INCHES, AREA IN SQUARE YARDS) CURB WHEN REQUIRED (CG-2 OR CG-3 IN LINEAR FEET) DETECTABLE WARNING SURFACE (AREA IN SQUARE YARDS) EACH OF THE ABOVE ITEMS IS A SEPARATE PAY ITEM AND SHOULD BE SUMMARIZED FOR EACH CURB CUT RAMP.



TYPE A
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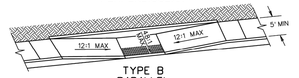

TYPE B
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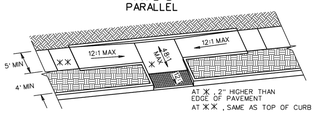
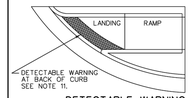
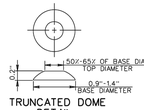


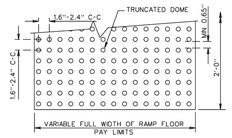
TYPE C
PARALLEL & PERPENDICULAR



DETECTABLE WARNING
INSTALLED ON A RADIUS



TRUNCATED DOME
DETAIL



DETECTABLE WARNING
DETAIL

VDOT ROAD AND BRIDGE STANDARDS	A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.	SPECIFICATION REFERENCE
SHEET 1 OF 5 — REVISION DATE 204.01 — 04/19	CG-12 DETECTABLE WARNING SURFACE (GENERAL NOTES) VIRGINIA DEPARTMENT OF TRANSPORTATION	105 502 504

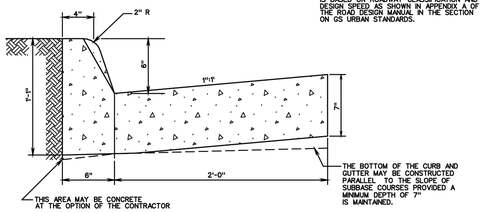
2016 ROAD & BRIDGE STANDARDS

2016 ROAD & BRIDGE STANDARDS

CG-6

NOTES:

1. THIS ITEM MAY BE PRECAST OR CAST IN PLACE.
2. CONCRETE TO BE CLASS A3 IF CAST IN PLACE, 4000 PSI IF PRECAST.
3. COMBINATION CURB & GUTTER HAVING A RADIUS OF 300 FEET OR LESS (ALONG FACE OF CURB) SHALL BE PAID FOR AS RADIAL COMBINATION CURB & GUTTER.
4. FOR USE WITH STABILIZED OPEN-GRADED DRAINAGE LAYER, THE BOTTOM OF THE CURB & GUTTER SHALL BE CONSTRUCTED PARALLEL TO THE SLOPE OF SUBBASE COURSES AND TO THE DEPTH OF THE PAVEMENT.
5. ALLOWABLE CRITERIA FOR THE USE OF CG-6 IS BASED ON ROADWAY CLASSIFICATION AND DESIGN SPEED AS SHOWN IN APPENDIX A OF THE ROAD DESIGN MANUAL, IN THE SECTION ON GS URBAN STANDARDS.



SPECIFICATION REFERENCE	COMBINATION 6" CURB AND GUTTER	VDOT ROAD AND BRIDGE STANDARDS
105 502	VIRGINIA DEPARTMENT OF TRANSPORTATION	REVISION DATE: — SHEET 1 OF 1 201.03

2016 ROAD & BRIDGE STANDARDS

NOTE: SIDEWALKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH VDOT STANDARDS.

CONCRETE SIDEWALK PAVEMENT SECTION

NO SCALE

LIGHT DUTY ASPHALT PAVEMENT SECTION

NO SCALE

HEAVY DUTY ASPHALT PAVEMENT SECTION

NO SCALE

HEAVY DUTY CONCRETE SECTION

NO SCALE

TYPICAL MANHOLE FRAME & COVER

N.T.S
FIG S-I-D

TD-31

PANTOPS HOTEL
ALBEMARLE COUNTY, VA
NOTES & DETAILS

REVISION DESCRIPTION	DATE

DATE: 2/28/2024
DRAWN BY:
DESIGNED BY:
CHECKED BY:
SCALE: NOT TO SCALE

JOB NO.

SHEET NO. 2.2

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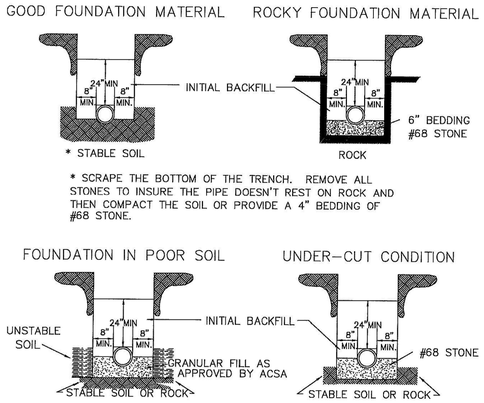


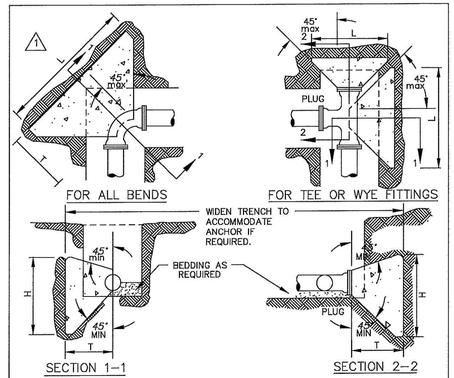
* SCRAPE THE BOTTOM OF THE TRENCH. REMOVE ALL STONES TO INSURE THE PIPE DOESN'T REST ON ROCK AND THEN COMPACT THE SOIL OR PROVIDE A 4" BEDDING OF #68 STONE.

NOTE :

1. NO ROCKS SHALL BE ALLOWED WITHIN 24" OF THE WATER LINES.
2. NO ROCKS LARGER THAN 6" IN ANY DIMENSION SHALL BE ALLOWED ABOVE THE INITIAL BACKFILL.
3. THE INITIAL BACKFILL SHALL BE PLACED AND COMPACTED IN 6" LIFTS.
4. NO ORGANIC OR FROZEN MATERIAL OR DEBRIS SHALL BE ALLOWED IN THE TRENCH.
5. BELL HOLES SHALL BE DUG OUT IN ALL CASES.

DUCTILE IRON WATER PIPE INSTALLATION & BEDDING

NTS
FIG. W-2

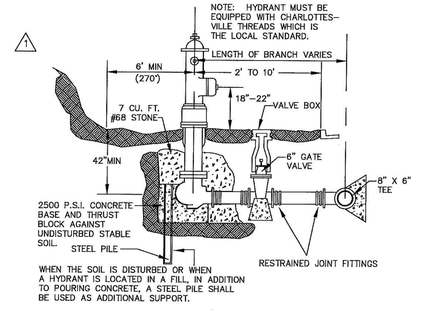


PIPE SIZE	DEGREE OF BEND	BEND DIMENSIONS (FEET) L	H	T	VOL. CU.YD.	TEE AND PLUGS (FEET) L	H	T	VOL. CU.YD.
4" & 6"	90	2.50	2.50	3.01	0.24	2.00	2.25	2.50	0.15
	45	2.00	2.25	2.60	0.15				
	22 1/2	1.50	2.00	2.52	0.10				
	11 1/4	1.50	2.00	2.50	0.10				
8"	90	3.66	3.16	3.21	0.48	3.16	2.91	2.66	0.32
	45	2.66	2.66	2.77	0.26				
	22 1/2	1.66	2.16	2.69	0.13				
	11 1/4	1.66	2.16	2.67	0.13				
10" & 12"	90	4.83	3.83	3.42	0.83	3.83	4.00	2.83	0.52
	45	3.33	3.58	2.95	0.43				
	22 1/2	2.33	2.58	2.86	0.24				
	11 1/4	1.83	2.33	2.84	0.18				

1. THRUST BLOCKS ARE REQUIRED WHENEVER THE PIPELINE : CHANGES DIRECTION, CHANGES SIZE, DEAD ENDS AND AT VALVES.
2. USE 2500 P.S.I. CONCRETE.
3. NO CONCRETE SHALL BE POURED ON ANY PART OF THE JOINT.
4. THE CONSULTING ENGINEER SHALL BE RESPONSIBLE TO THE VERIFY THE TYPE & SIZE OF ALL THRUST BLOCKS.

CONCRETE THRUST BLOCKS

NTS
FIG. W-3

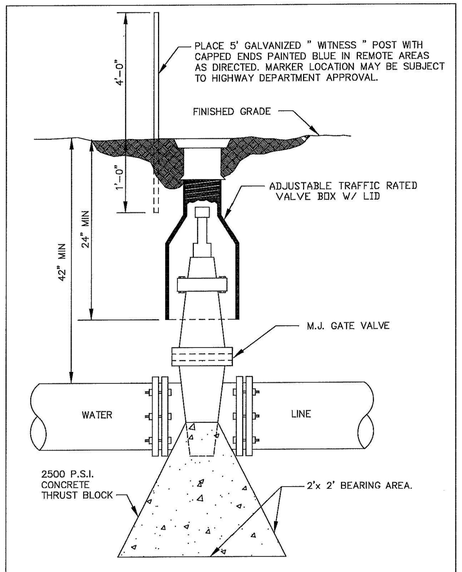


NOTE :

1. SURROUND WEEP HOLES WITH GRAVEL AND KEEP FREE OF CONCRETE.
2. MAINTAIN A 3 1/2' MIN. COVER FROM THE MAIN TO THE FIRE HYDRANT (INCLUDING DITCHES)
3. FINISHED GRADE SHALL SLOPE AWAY FROM THE FIRE HYDRANT AND VALVE BOX.
4. THE GATE VALVE IS ALLOWED IN SHOULDER OR BEHIND THE DITCH. IT IS NOT ALLOWED IN THE DITCH.
5. FIRE HYDRANTS SHALL BE INSTALLED AT LOCATIONS WHERE WEEP HOLES ARE ABOVE THE PREVAILING GROUNDWATER ELEVATION. IF REQUIRED TO BE IN WET AREAS, THE WEEP HOLES SHALL BE PLUGGED AND THE HYDRANT SHALL BE PUMPED DRY.

TYPICAL FIRE HYDRANT ASSEMBLY DETAIL

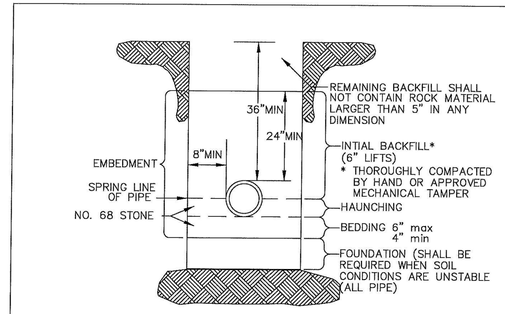
N.T.S.
FIG. W-4



NOTE : IN REMOTE AREAS, VALVE BOXES SHALL EXTEND SIX (6) INCHES ABOVE GRADE.

TYPICAL GATE VALVE

NTS
FIG. W-5

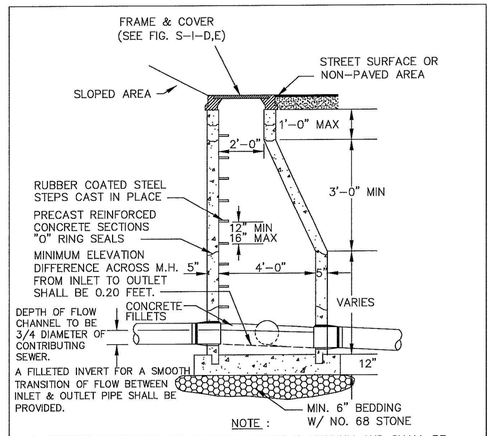


NOTE :

1. OPEN CUTS IN PAVED AREAS WITHIN EXISTING VDOT RIGHT-OF-WAY SHALL BE BACKFILLED ENTIRELY WITH NO. 21A STONE.
2. FOR DUCTILE IRON PIPE THE BOTTOM OF THE TRENCH SHALL BE SCRAPED AND COMPACTED, AND ALL STONES REMOVED OR A 4" BEDDING OF NO. 68 STONE SHALL BE PROVIDED.
3. WHERE ROCK IS ENCOUNTERED PIPE SHALL BE INSTALLED ON A MINIMUM 6" BEDDING OF NO. 68 STONE.

TYPICAL SEWER PIPE INSTALLATION IN TRENCH

NTS
FIG. S-3



NOTE :

1. BEDDING THICKNESS REQUIREMENT SHOWN IS MINIMUM AND SHALL BE SPECIFICALLY DETERMINED BY THE CONSULTANT FOR THE SOIL CONDITIONS.
2. THE CONSULTANT WILL DETERMINE WHETHER MANHOLES SHALL HAVE EXTENDED OR NON-EXTENDED BASES.
3. ALL JOINTS, LIFT HOLES, INLETS, OUTLETS TO BE SEALED & GROUTED INSIDE AND OUT.

TYPICAL MANHOLE SECTION SHOWING BRANCH TIE-IN

N.T.S
FIG. S-I-A

REVISION DESCRIPTION	DATE
	2/28/2024

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DESIGNED BY

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SCALE
NOT TO SCALE

PANTOPS HOTEL

ALBEMARLE COUNTY, VA

NOTES & DETAILS

JOB NO.

SHEET NO.
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Albemarle County General notes

ACSA General Notes

Add ACSA General Water & Sewer Conditions located on the Albemarle County Service Authority website

NOTES TO BE ADDED

REVISION DESCRIPTION

DATE

DATE
2/28/2024

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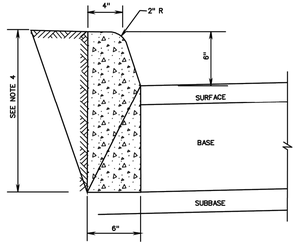
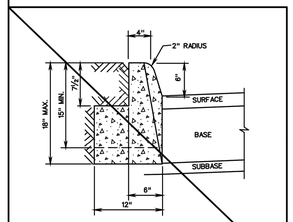
2016 ROAD & BRIDGE STANDARDS

CG-2

NOTES:

1. THIS ITEM MAY BE PRECAST OR CAST IN PLACE.
2. CONCRETE TO BE CLASS A3 IF CAST IN PLACE, 4000 PSI IF PRECAST.
3. CURB HAVING A RADIUS OF 300 FEET OR LESS (ALONG FACE OF CURB) WILL BE PAID FOR AS RADIAL CURB.
4. THE DEPTH OF CURB MAY BE REDUCED AS MUCH AS 3" (10" DEPTH) OR INCREASED AS MUCH AS 3" (21" DEPTH) IN ORDER THAT THE BOTTOM OF CURB WILL COINCIDE WITH THE TOP OF A COURSE OF THE PAVEMENT SUBBASE WHICH IS OTHERWISE THE PAVEMENT IS TO BE AS SHOWN. NO ADJUSTMENT IN THE PRICE BID IS TO BE MADE FOR A DECREASE OR AN INCREASE IN DEPTH.
5. CG-2 IS TO BE USED ON ROADWAYS MEETING THE REQUIREMENTS FOR CG-6 AS SHOWN IN APPENDIX A OF THE VDOT ROAD DESIGN MANUAL, IN THE SECTION ON GS URBAN STANDARDS.





ACCEPTABLE ALTERNATIVE IF CURB IS EXTRUDED

SPECIFICATION REFERENCE		VDOT ROAD AND BRIDGE STANDARDS
105 502	STANDARD 6" CURB VIRGINIA DEPARTMENT OF TRANSPORTATION	REVISION DATE: — SHEET 1 OF 1 201.01

2016 ROAD & BRIDGE STANDARDS

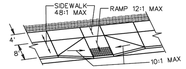
2016 ROAD & BRIDGE STANDARDS

CG-12

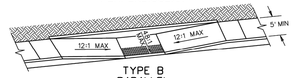
GENERAL NOTES:

1. THE DETECTABLE WARNING SHALL BE PROVIDED BY TRUNCATED DOMES.
2. ALL DETECTABLE WARNING SURFACE PRODUCTS SHALL MEET THE REQUIREMENTS OF SECTION 504 OF THE SPECIFICATIONS FOR CG-12 DETECTABLE WARNING SURFACE. DETECTABLE WARNING SURFACE PRODUCTS USED SHALL BE FROM THE MATERIALS APPROVED PRODUCT LIST NUMBER 72.
3. SLOPING SIDES OF CURB RAMP MAY BE POURED MONOLITHICALLY WITH RAMP FLOOR OR BY USING PERMISSIBLE CONSTRUCTION JOINT WITH REQUIRED BARS.
4. REQUIRED BARS ARE TO BE NO. 5 X 8' PLACED 1' CENTER TO CENTER ALONG BOTH SIDES OF THE RAMP FLOOR, MID-DEPTH OF RAMP FLOOR. MINIMUM CONCRETE COVER 1½".
5. ROADWAY CURB / CURB AND GUTTER SLOPE TRANSITIONS ADJACENT TO CURB RAMPS ARE INCLUDED IN PAYMENT FOR CURB / CURB AND GUTTER.
6. CURB RAMPS ARE REQUIRED FOR SIDEWALKS AND SHARED USE PATHS. THE WIDTH OF THE CURB RAMP SHALL MATCH SIDEWALK WIDTH WHEN CURB RAMPS ARE USED IN CONJUNCTION WITH A SHARED USE PATH, THE MINIMUM WIDTH SHALL BE THE WIDTH OF THE SHARED USE PATH.
7. DETECTABLE WARNINGS SHALL EXTEND THE FULL WIDTH OF THE CURB RAMP LANDING FLOOR.
8. CURB RAMPS WILL BE INSTALLED AND LOCATED WITHIN PEDESTRIAN CROSSWALKS AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER. CURB RAMPS SHOULD NOT BE LOCATED BEHIND VEHICLE STOP LINES, LIGHT POLES, FIRE HYDRANTS, DROP INLETS, ETC.
9. RAMPS MAY BE PLACED ON RADIAL OR TANGENTIAL SECTIONS PROVIDED THAT THE CURB OPENING IS PLACED WITHIN THE LIMITS OF THE CROSSWALK AND THAT THE SLOPE AT THE CONNECTION OF THE CURB OPENING IS PERPENDICULAR TO THE CURB.
10. DETECTABLE WARNING SURFACE PANELS SHALL BE INSTALLED FLUSH WITH THE BACK OF CURB.
11. WHERE CURB RAMPS INTERSECT A RADIAL SECTION OF CURB AT ENTRANCES OR STREET CONNECTIONS THE DETECTABLE WARNING SURFACE SHALL HAVE A FACTORY RADIUS OR BE FIELD-MODIFIED AS RECOMMENDED BY THE MANUFACTURER TO MATCH THE BACK OF CURB. SEE CG-12-INS PAGES 204.06 AND 204.07 FOR METHODS OF INSTALLING DETECTABLE WARNINGS ON A RADIUS.

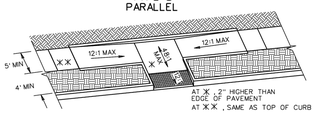
NOTE: COMPONENTS OF CURB RAMPS CONSIST OF THE FOLLOWING: HYDRAULIC CEMENT SIDEWALK (DEPTH IN INCHES, AREA IN SQUARE YARDS) CURB WHEN REQUIRED (CG-2 OR CG-3 IN LINEAR FEET) DETECTABLE WARNING SURFACE (AREA IN SQUARE YARDS) EACH OF THE ABOVE ITEMS IS A SEPARATE PAY ITEM AND SHOULD BE SUMMARIZED FOR EACH CURB CUT RAMP.



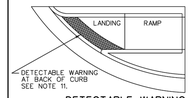
TYPE A
PERPENDICULAR



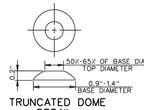
TYPE B
PARALLEL



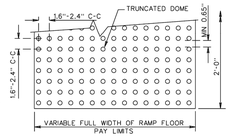
TYPE C
PARALLEL & PERPENDICULAR



DETECTABLE WARNING
INSTALLED ON A RADIUS



TRUNCATED DOME
DETAIL



DETECTABLE WARNING
DETAIL

VDOT ROAD AND BRIDGE STANDARDS	A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.	SPECIFICATION REFERENCE
SHEET 1 OF 5 — REVISION DATE 204.01 — 04/19	CG-12 DETECTABLE WARNING SURFACE (GENERAL NOTES) VIRGINIA DEPARTMENT OF TRANSPORTATION	105 502 504

2016 ROAD & BRIDGE STANDARDS

parking striping detail

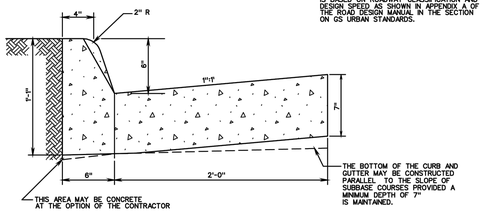
ada sign detail

2016 ROAD & BRIDGE STANDARDS

CG-6

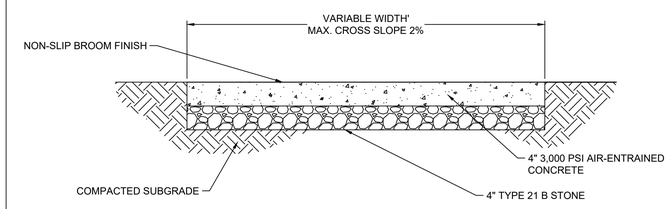
NOTES:

1. THIS ITEM MAY BE PRECAST OR CAST IN PLACE.
2. CONCRETE TO BE CLASS A3 IF CAST IN PLACE, 4000 PSI IF PRECAST.
3. COMBINATION CURB & GUTTER HAVING A RADIUS OF 300 FEET OR LESS (ALONG FACE OF CURB) SHALL BE PAID FOR AS RADIAL COMBINATION CURB & GUTTER.
4. FOR USE WITH STABILIZED OPEN-GRADED DRAINAGE LAYER, THE BOTTOM OF THE CURB & GUTTER SHALL BE CONSTRUCTED PARALLEL TO THE SLOPE OF SUBBASE COURSES AND TO THE DEPTH OF THE PAVEMENT.
5. ALLOWABLE CRITERIA FOR THE USE OF CG-6 IS BASED ON ROADWAY CLASSIFICATION AND DESIGN SPEED AS SHOWN IN APPENDIX A OF THE ROAD DESIGN MANUAL, IN THE SECTION ON GS URBAN STANDARDS.



SPECIFICATION REFERENCE		VDOT ROAD AND BRIDGE STANDARDS
105 502	COMBINATION 6" CURB AND GUTTER VIRGINIA DEPARTMENT OF TRANSPORTATION	REVISION DATE: — SHEET 1 OF 1 201.03

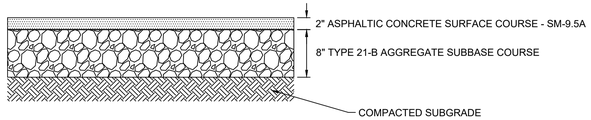
2016 ROAD & BRIDGE STANDARDS



NOTE: SIDEWALKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH VDOT STANDARDS.

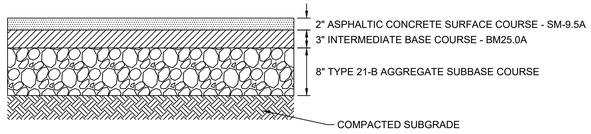
CONCRETE SIDEWALK PAVEMENT SECTION

NO SCALE



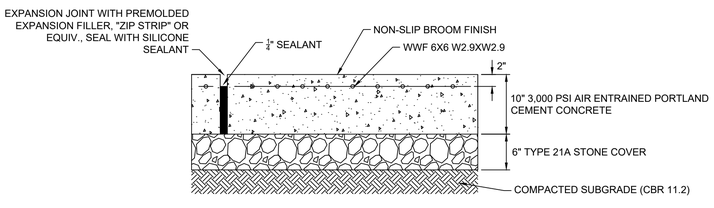
LIGHT DUTY ASPHALT PAVEMENT SECTION

NO SCALE



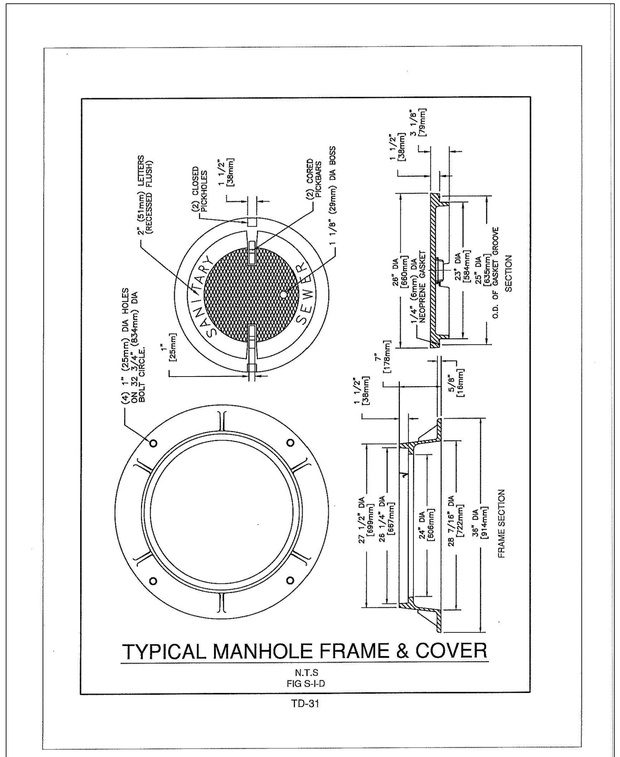
HEAVY DUTY ASPHALT PAVEMENT SECTION

NO SCALE



HEAVY DUTY CONCRETE SECTION

NO SCALE



TYPICAL MANHOLE FRAME & COVER

N.T.S
FIG S-I-D

TD-31

PANTOPS HOTEL
ALBEMARLE COUNTY, VA
NOTES & DETAILS

DATE	REVISION DESCRIPTION

DATE: 2/28/2024
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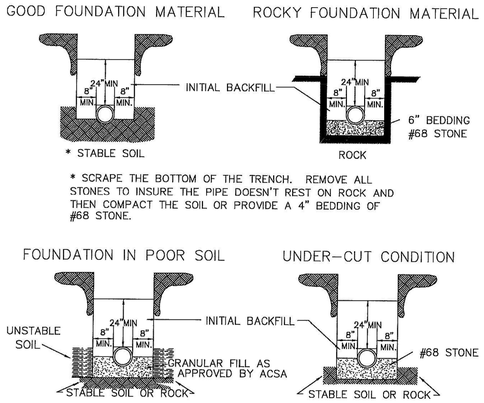


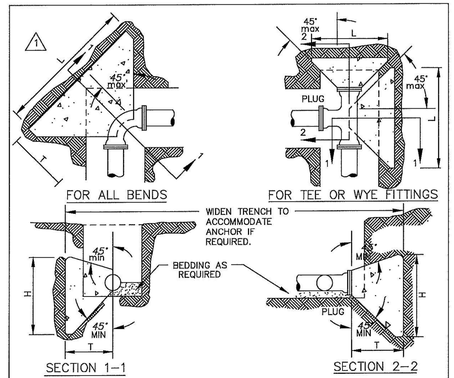
* SCRAPE THE BOTTOM OF THE TRENCH. REMOVE ALL STONES TO INSURE THE PIPE DOESN'T REST ON ROCK AND THEN COMPACT THE SOIL OR PROVIDE A 4" BEDDING OF #68 STONE.

NOTE :

1. NO ROCKS SHALL BE ALLOWED WITHIN 24" OF THE WATER LINES.
2. NO ROCKS LARGER THAN 6" IN ANY DIMENSION SHALL BE ALLOWED ABOVE THE INITIAL BACKFILL.
3. THE INITIAL BACKFILL SHALL BE PLACED AND COMPACTED IN 6" LIFTS.
4. NO ORGANIC OR FROZEN MATERIAL OR DEBRIS SHALL BE ALLOWED IN THE TRENCH.
5. BELL HOLES SHALL BE DUG OUT IN ALL CASES.

DUCTILE IRON WATER PIPE INSTALLATION & BEDDING

NTS
FIG. W-2

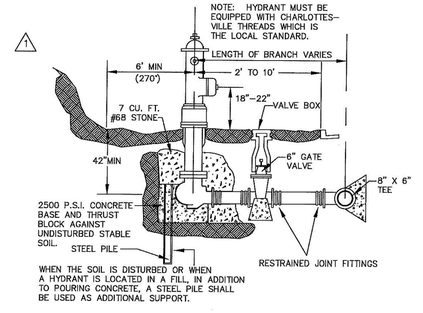


PIPE SIZE	DEGREE OF BEND	BEND DIMENSIONS (FEET) L	H	T	VOL. CU.YD.	TEE AND PLUGS (FEET) L	H	T	VOL. CU.YD.
4" & 6"	90	2.50	2.50	3.01	0.24	2.00	2.25	2.50	0.15
	45	2.00	2.25	2.60	0.15				
	22 1/2	1.50	2.00	2.52	0.10				
	11 1/4	1.50	2.00	2.50	0.10				
8"	90	3.66	3.16	3.21	0.48	3.16	2.91	2.66	0.32
	45	2.66	2.66	2.77	0.26				
	22 1/2	1.66	2.16	2.69	0.13				
	11 1/4	1.66	2.16	2.67	0.13				
10" & 12"	90	4.83	3.83	3.42	0.83	3.83	4.00	2.83	0.52
	45	3.33	3.58	2.95	0.43				
	22 1/2	2.33	2.58	2.86	0.24				
	11 1/4	1.83	2.33	2.84	0.18				

1. THRUST BLOCKS ARE REQUIRED WHENEVER THE PIPELINE : CHANGES DIRECTION, CHANGES SIZE, DEAD ENDS AND AT VALVES.
2. USE 2500 P.S.I. CONCRETE.
3. NO CONCRETE SHALL BE POURED ON ANY PART OF THE JOINT.
4. THE CONSULTING ENGINEER SHALL BE RESPONSIBLE TO THE VERIFY THE TYPE & SIZE OF ALL THRUST BLOCKS.

CONCRETE THRUST BLOCKS

NTS
FIG. W-3



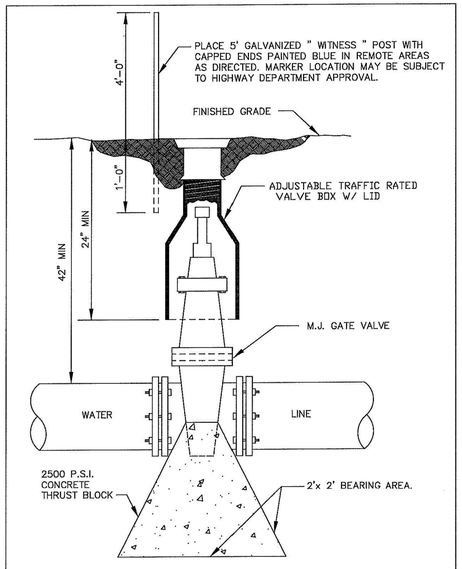
NOTE :

1. SURROUND WEEP HOLES WITH GRAVEL AND KEEP FREE OF CONCRETE.
2. MAINTAIN A 3 1/2" MIN. COVER FROM THE MAIN TO THE FIRE HYDRANT (INCLUDING DITCHES)
3. FINISHED GRADE SHALL SLOPE AWAY FROM THE FIRE HYDRANT AND VALVE BOX.
4. THE GATE VALVE IS ALLOWED IN SHOULDER OR BEHIND THE DITCH. IT IS NOT ALLOWED IN THE DITCH.
5. FIRE HYDRANTS SHALL BE INSTALLED AT LOCATIONS WHERE WEEP HOLES ARE ABOVE THE PREVAILING GROUNDWATER ELEVATION. IF REQUIRED TO BE IN WET AREAS, THE WEEP HOLES SHALL BE PLUGGED AND THE HYDRANT SHALL BE PUMPED DRY.

TYPICAL FIRE HYDRANT ASSEMBLY DETAIL

N.T.S.
FIG. W-4

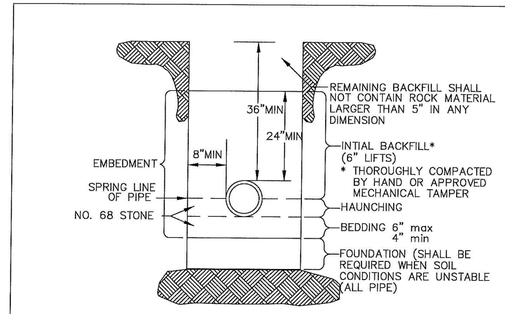
water meter detail



NOTE : IN REMOTE AREAS, VALVE BOXES SHALL EXTEND SIX (6) INCHES ABOVE GRADE.

TYPICAL GATE VALVE

NTS
FIG. W-5

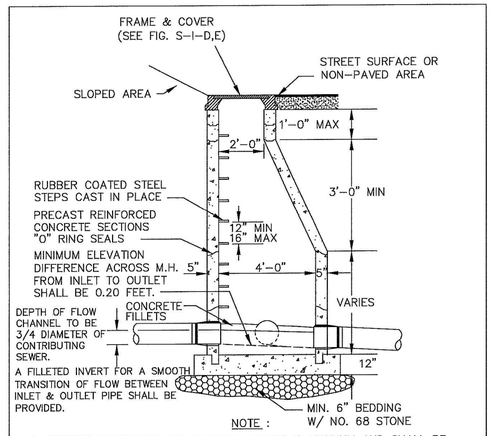


NOTE :

1. OPEN CUTS IN PAVED AREAS WITHIN EXISTING VDOT RIGHT-OF-WAY SHALL BE BACKFILLED ENTIRELY WITH NO. 21A STONE.
2. FOR DUCTILE IRON PIPE THE BOTTOM OF THE TRENCH SHALL BE SCRAPED AND COMPACTED, AND ALL STONES REMOVED OR A 4" BEDDING OF NO. 68 STONE SHALL BE PROVIDED.
3. WHERE ROCK IS ENCOUNTERED PIPE SHALL BE INSTALLED ON A MINIMUM 6" BEDDING OF NO. 68 STONE.

TYPICAL SEWER PIPE INSTALLATION IN TRENCH

NTS
FIG. S-3



NOTE :

1. BEDDING THICKNESS REQUIREMENT SHOWN IS MINIMUM AND SHALL BE SPECIFICALLY DETERMINED BY THE CONSULTANT FOR THE SOIL CONDITIONS.
2. THE CONSULTANT WILL DETERMINE WHETHER MANHOLES SHALL HAVE EXTENDED OR NON-EXTENDED BASES.
3. ALL JOINTS, LIFT HOLES, INLETS, OUTLETS TO BE SEALED & GROUTED INSIDE AND OUT.

TYPICAL MANHOLE SECTION SHOWING BRANCH TIE-IN

N.T.S
FIG. S-I-A

REVISION DESCRIPTION

DATE

DATE
2/28/2024
DRAWN BY
DESIGNED BY
CHECKED BY
SCALE
NOT TO SCALE

PANTOPS HOTEL
ALBEMARLE COUNTY, VA
NOTES & DETAILS

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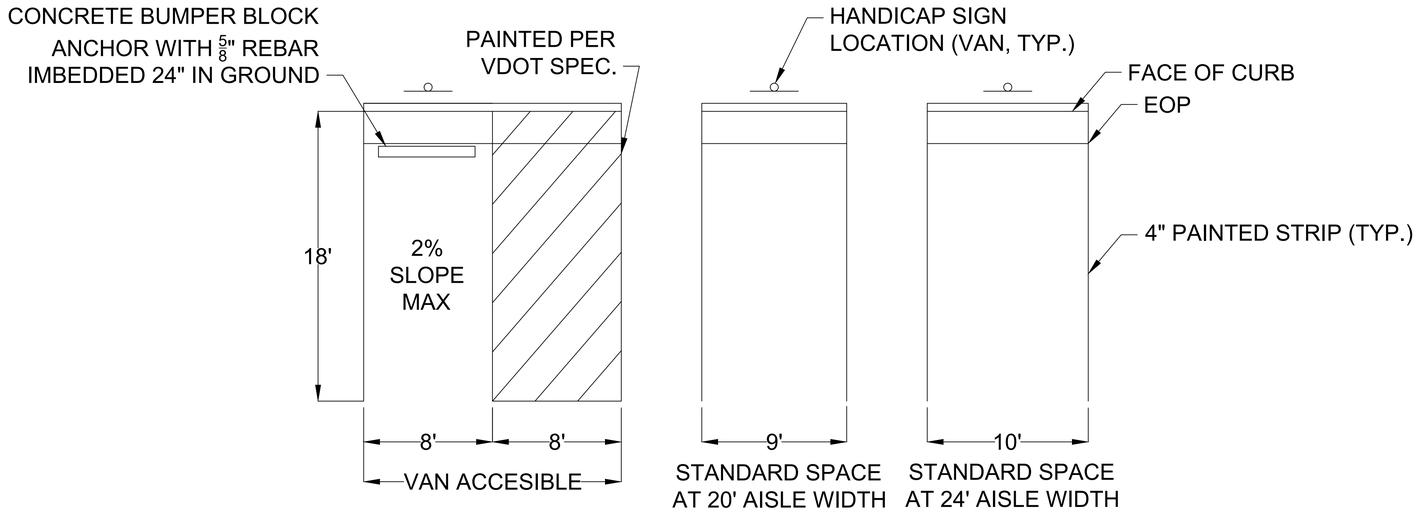
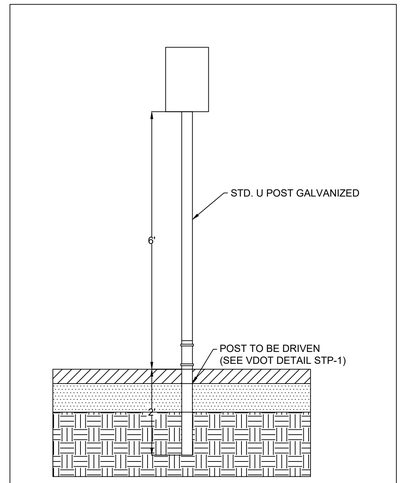


TYPICAL PARKING SPACE DETAILS

No Scale

UTILITY NOTES

1. WORK SHALL BE SUBJECT TO INSPECTION BY ALBEMARLE COUNTY SERVICE AUTHORITY (ACSA) INSPECTORS. THE CONTRACTOR WILL BE RESPONSIBLE FOR NOTIFYING THE PROPER ACSA OFFICIALS AT THE START OF THE WORK.
2. THE ALBEMARLE COUNTY SERVICE AUTHORITY SHALL HAVE ACCESS TO USE THE AIRSPACE ABOVE THE LOCATIONS OF CONSTRUCTION FOR THE FLIGHT OF UNMANNED AERIAL VEHICLES FOR THE PURPOSE OF IMAGERY COLLECTION.
3. THE LOCATION OF EXISTING UTILITIES ACROSS THE LINE OF THE PROPOSED WORK ARE NOT NECESSARILY SHOWN ON THE PLANS AND WHERE SHOWN ARE ONLY APPROXIMATELY CORRECT. THE CONTRACTOR SHALL, ON HIS OWN INITIATIVE, LOCATE ALL UNDERGROUND LINES AND STRUCTURES, AS NECESSARY.
4. ALL MATERIALS AND CONSTRUCTION SHALL COMPLY WITH THE CURRENT EDITION OF THE GENERAL WATER AND SEWER CONSTRUCTION SPECIFICATIONS, AS ADOPTED BY THE ACSA.
5. DATUM FOR ALL ELEVATIONS SHOWN IN NATIONAL GEODETIC SURVEY.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY (1-800-552-7001).
7. ALL WATER AND SEWER PIPES SHALL HAVE A MINIMUM OF THREE AND A HALF (3.5) FEET OF COVER MEASURED FROM THE TOP OF PIPE, OVER THE CENTERLINE OF PIPE. THIS INCLUDES ALL FIRE HYDRANT LINES, SERVICE LATERALS AND WATER LINES, ETC.
8. ALL WATER AND SEWER APPURTENANCES ARE TO BE LOCATED OUTSIDE OF ROADSIDE DITCHES.
9. VALVES ON DEADEND LINES SHALL BE RODDED TO PROVIDE ADEQUATE RESTRAINT FOR THE VALVE DURING A FUTURE EXTENSION OF THE LINE.
10. TREES ARE NOT PERMITTED IN THE ACSA EASEMENT.
11. THE CONTRACTOR SHALL BE RESPONSIBLE TO COMPLY WITH THE NOLEAD REGULATION REGARDING BRASS FITTINGS EFFECTIVE JANUARY 4, 2014 (SENATE BILL 3874 WHICH AMENDS THE SAFE DRINKING WATER ACT).
12. THE SEWER LATERAL BEYOND THE CONNECTION AT THE SEWER MAIN SHALL BE PRIVATE. THE SEWER LATERAL STUB-OUT SHALL UNDERGO THE ACSA LOW-PRESSURE AIR TEST TO SATISFY COUNTY TESTING REQUIREMENTS. VISUAL INSPECTION OF THE SEWER LATERAL STUB-OUT SHALL BE WITNESSED BY THE COUNTY BUILDING INSPECTIONS DEPARTMENT. THIS INSPECTION SHALL OCCUR UNDER AN "OTHER PLUMBING" PERMIT WHICH MUST BE OBTAINED BY THE CONTRACTOR.
13. THE SEWER LATERAL BEYOND THE CONNECTION AT A MANHOLE SHALL BE PRIVATE. VISUAL INSPECTION AND PRESSURE TESTING OF THE SEWER LATERAL SHALL BE WITNESSED BY THE COUNTY BUILDING INSPECTIONS DEPARTMENT. THIS INSPECTION SHALL OCCUR UNDER AN "OTHER PLUMBING" PERMIT WHICH MUST BE OBTAINED BY THE CONTRACTOR.
14. THE FIRE SPRINKLER MAIN DOWNSTREAM OF THE GATE VALVE IS PRIVATE. VISUAL INSPECTION AND TESTING OF THE FIRE SPRINKLER MAIN DOWNSTREAM OF THE GATE VALVE SHALL BE WITNESSED BY THE COUNTY BUILDING INSPECTIONS DEPARTMENT. THIS INSPECTION SHALL OCCUR UNDER AN "OTHER PLUMBING" PERMIT WHICH MUST BE OBTAINED BY THE CONTRACTOR.
15. ALL FLUSHING OF FIRE SPRINKLER MAINS SHALL NOT OCCUR UNTIL APPROVAL IS GIVEN BY THE ACSA.
16. PRIOR TO BACKFLOW PREVENTION DEVICE TESTING AND THE ESTABLISHMENT OF WATER SERVICE, ALL BACKFLOW PREVENTION DEVICE INSTALLATIONS SHALL MEET THE ACSA BACKFLOW REQUIREMENTS AS DETAILED IN SECTION 8 OF THE MOST RECENT REVISION OF THE ACSA RULES AND REGAULTIONS.
17. A DEED OF EASEMENT AND EASEMENT PLAT FOR THE UTILITY EASEMENTS, APPROVED BY THE ACSA, SHALL BE RECORDED PRIOR TO ANY WATER AND/OR SEWER SERVICE BEING ESTABLISHED.



SIGN AND POST DETAIL

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REVISION DESCRIPTION

DATE

DATE
4/4/2024
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PANTOPS HOTEL
ALBEMARLE COUNTY, VA
NOTES & DETAILS

JOB NO.

SHEET NO.
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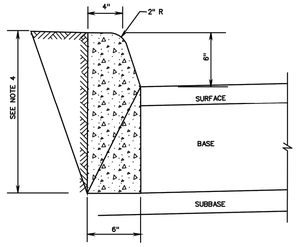
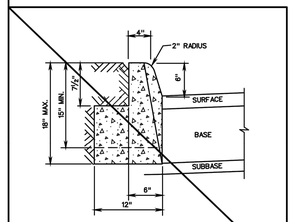
2016 ROAD & BRIDGE STANDARDS

CG-2

NOTES:

1. THIS ITEM MAY BE PRECAST OR CAST IN PLACE.
2. CONCRETE TO BE CLASS A3 IF CAST IN PLACE, 4000 PSI IF PRECAST.
3. CURB HAVING A RADIUS OF 300 FEET OR LESS (ALONG FACE OF CURB) WILL BE PAID FOR AS RADIAL CURB.
4. THE DEPTH OF CURB MAY BE REDUCED AS MUCH AS 3" (10" DEPTH OR INCREASED AS MUCH AS 3" (21" DEPTH IN ORDER THAT THE BOTTOM OF CURB WILL COINCIDE WITH THE TOP OF A DOWNSTREAM INLET THROAT. SUBBASE SHOULD OTHERWISE THE DEPTH IS TO BE AS SHOWN. NO ADJUSTMENT IN THE PRICE BID IS TO BE MADE FOR A DECREASE OR AN INCREASE IN DEPTH.
5. CG-2 IS TO BE USED ON ROADWAYS MEETING THE REQUIREMENTS FOR CG-6 AS SHOWN IN APPENDIX A OF THE VDOT ROAD DESIGN MANUAL, IN THE SECTION ON GS URBAN STANDARDS.





ACCEPTABLE ALTERNATIVE IF CURB IS EXTRUDED

SPECIFICATION REFERENCE	STANDARD 6" CURB	VDOT ROAD AND BRIDGE STANDARDS
105 502	VIRGINIA DEPARTMENT OF TRANSPORTATION	REVISION DATE: — SHEET 1 OF 1 201.01

2016 ROAD & BRIDGE STANDARDS

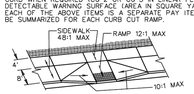
2016 ROAD & BRIDGE STANDARDS

CG-12

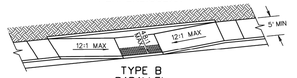
GENERAL NOTES:

1. THE DETECTABLE WARNING SHALL BE PROVIDED BY TRUNCATED DOMES.
2. ALL DETECTABLE WARNING SURFACE PRODUCTS SHALL MEET THE REQUIREMENTS OF SECTION 504 OF THE SPECIFICATIONS FOR CG-12 DETECTABLE WARNING SURFACE. DETECTABLE WARNING SURFACE PRODUCTS USED SHALL BE FROM THE MATERIALS APPROVED PRODUCT LIST NUMBER 72.
3. SLOPING SIDES OF CURB RAMP MAY BE POURED MONOLITHICALLY WITH RAMP FLOOR OR BY USING PERMISSIBLE CONSTRUCTION JOINT WITH REQUIRED BARS.
4. REQUIRED BARS ARE TO BE NO.5 X 8' PLACED 1' CENTER TO CENTER ALONG BOTH SIDES OF THE RAMP FLOOR, MID-DEPTH OF RAMP FLOOR. MINIMUM CONCRETE COVER 1½".
5. ROADWAY CURB / CURB AND GUTTER SLOPE TRANSITIONS ADJACENT TO CURB RAMPS ARE INCLUDED IN PAYMENT FOR CURB / CURB AND GUTTER.
6. CURB RAMPS ARE REQUIRED FOR SIDEWALKS AND SHARED USE PATHS. THE WIDTH OF THE CURB RAMP SHALL MATCH SIDEWALK WIDTH WHEN CURB RAMPS ARE USED IN CONJUNCTION WITH A SHARED USE PATH, THE MINIMUM WIDTH SHALL BE THE WIDTH OF THE SHARED USE PATH.
7. DETECTABLE WARNINGS SHALL EXTEND THE FULL WIDTH OF THE CURB RAMP LANDING FLOOR.
8. CURB RAMPS WILL BE INSTALLED AND LOCATED WITHIN PEDESTRIAN CROSSWALKS AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.CURB RAMPS SHOULD NOT BE LOCATED BEHIND VEHICLE STOP LINES, LIGHT POLES, FIRE HYDRANTS, DROP INLETS, ETC.
9. RAMPS MAY BE PLACED ON RADIAL OR TANGENTIAL SECTIONS PROVIDED THAT THE CURB OPENING IS PLACED WITHIN THE LIMITS OF THE CROSSWALK AND THAT THE SLOPE AT THE CONNECTION OF THE CURB OPENING IS PERPENDICULAR TO THE CURB.
10. DETECTABLE WARNING SURFACE PANELS SHALL BE INSTALLED FLUSH WITH THE BACK OF CURB.
11. WHERE CURB RAMPS INTERSECT A RADIAL SECTION OF CURB AT ENTRANCES OR STREET CONNECTIONS THE DETECTABLE WARNING SURFACE SHALL HAVE A FACTORY RADIUS OR BE FIELD-MODIFIED AS RECOMMENDED BY THE MANUFACTURER TO MATCH THE BACK OF CURB.SEE CG-12-INS PAGES 204.06 AND 204.07 FOR METHODS OF INSTALLING DETECTABLE WARNINGS ON A RADIUS.

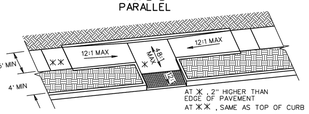
NOTE: COMPONENTS OF CURB RAMPS CONSIST OF THE FOLLOWING: HYDRAULIC CEMENT SIDEWALK (DEPTH IN INCHES, AREA IN SQUARE YARDS) CURB WHEN REQUIRED (CG-2 OR CG-3 IN LINEAR FEET) DETECTABLE WARNING SURFACE (AREA IN SQUARE YARDS) EACH OF THE ABOVE ITEMS IS A SEPARATE PAY ITEM AND SHOULD BE SUMMARIZED FOR EACH CURB CUT RAMP.



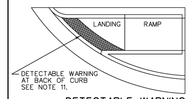
TYPE A
PERPENDICULAR



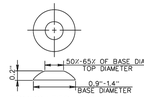
TYPE B
PARALLEL



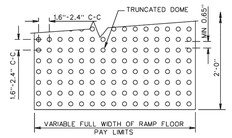
TYPE C
PARALLEL & PERPENDICULAR



DETECTABLE WARNING
INSTALLED ON A RADIUS



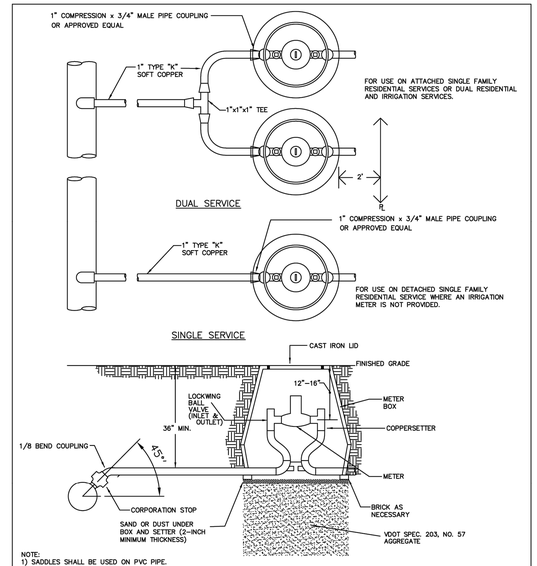
TRUNCATED DOME
DETAIL



DETECTABLE WARNING
DETAIL

VDOT ROAD AND BRIDGE STANDARDS	A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.	SPECIFICATION REFERENCE
SHEET 1 OF 5 — REVISION DATE 04/19 204.01	CG-12 DETECTABLE WARNING SURFACE (GENERAL NOTES) VIRGINIA DEPARTMENT OF TRANSPORTATION	105 502 504

2016 ROAD & BRIDGE STANDARDS



NOTE:
1) SADDLES SHALL BE USED ON PVC PIPE.
2) NO SWEATED FITTINGS.
3) LATERALS INSTALLED WITHIN EXISTING, OR PROPOSED, VDOT RIGHT-OF-WAY SHALL BE INSTALLED IN A 2-INCH PVC SDR-21 OR HDPE DR11 CASING PIPE.

TYPICAL SERVICE LATERAL INSTALLATION (3/4" & 1" METERS)

NTS
FIG. W-6A

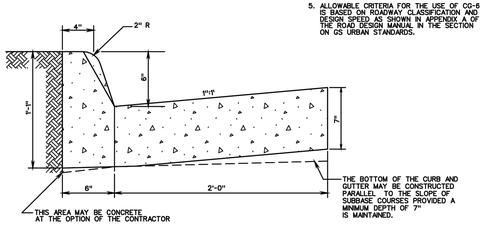
TD-10

2016 ROAD & BRIDGE STANDARDS

CG-6

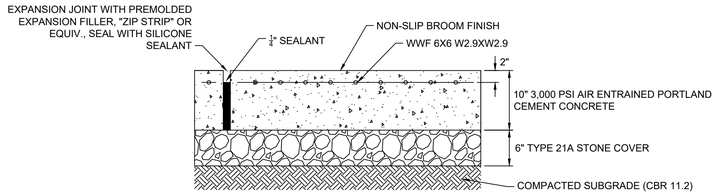
NOTES:

1. THIS ITEM MAY BE PRECAST OR CAST IN PLACE.
2. CONCRETE TO BE CLASS A3 IF CAST IN PLACE, 4000 PSI IF PRECAST.
3. COMBINATION CURB & GUTTER HAVING A RADIUS OF 300 FEET OR LESS (ALONG FACE OF CURB) SHALL BE PAID FOR AS RADIAL COMBINATION CURB & GUTTER.
4. FOR USE WITH STABILIZED OPEN-GRADED DRAINAGE LAYER, THE BOTTOM OF THE CURB & GUTTER SHALL BE CONSTRUCTED PARALLEL TO THE SLOPE OF SUBBASE COURSES AND TO THE DEPTH OF THE PAVEMENT.
5. ALLOWABLE CRITERIA FOR THE USE OF CG-6 IS BASED ON ROADWAY CLASSIFICATION AND DESIGN SPEED AS SHOWN IN APPENDIX A OF THE ROAD DESIGN MANUAL, IN THE SECTION ON GS URBAN STANDARDS.



SPECIFICATION REFERENCE	COMBINATION 6" CURB AND GUTTER	VDOT ROAD AND BRIDGE STANDARDS
105 502	VIRGINIA DEPARTMENT OF TRANSPORTATION	REVISION DATE: — SHEET 1 OF 1 201.03

2016 ROAD & BRIDGE STANDARDS



HEAVY DUTY CONCRETE SECTION

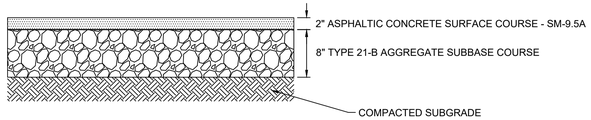
NO SCALE



NOTE: SIDEWALKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH VDOT STANDARDS.

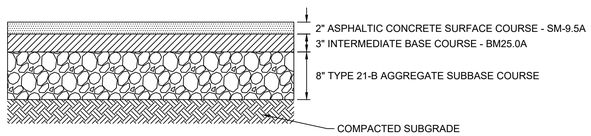
CONCRETE SIDEWALK PAVEMENT SECTION

NO SCALE



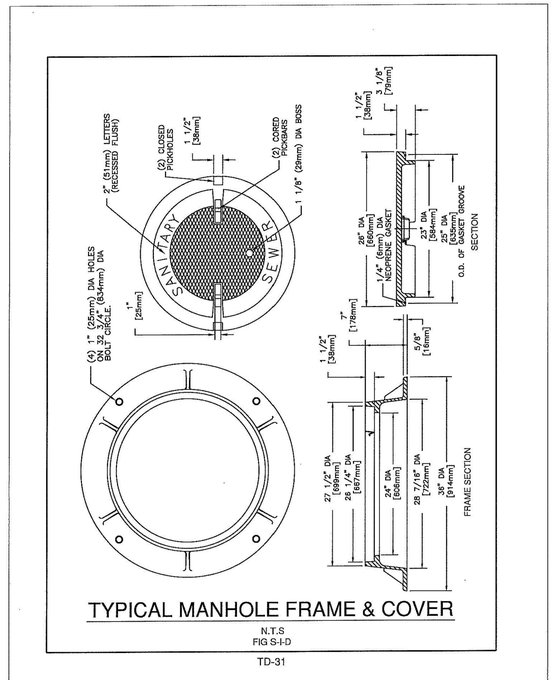
LIGHT DUTY ASPHALT PAVEMENT SECTION

NO SCALE



HEAVY DUTY ASPHALT PAVEMENT SECTION

NO SCALE



TYPICAL MANHOLE FRAME & COVER

N.T.S
FIG S-I-D

TD-31

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ALBEMARLE COUNTY, VA

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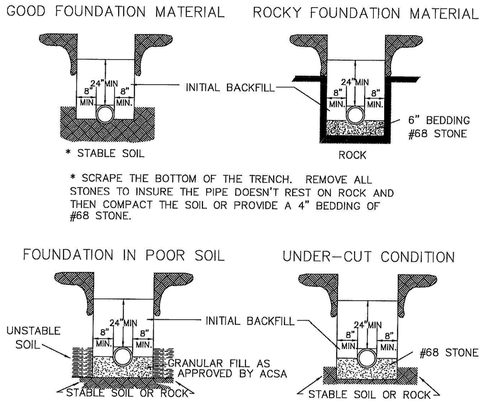


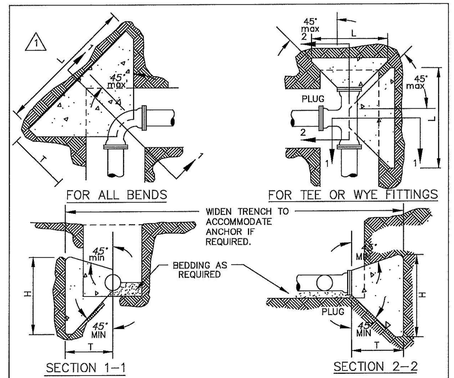
* SCRAPE THE BOTTOM OF THE TRENCH. REMOVE ALL STONES TO INSURE THE PIPE DOESN'T REST ON ROCK AND THEN COMPACT THE SOIL OR PROVIDE A 4" BEDDING OF #68 STONE.

NOTE :

1. NO ROCKS SHALL BE ALLOWED WITHIN 24" OF THE WATER LINES.
2. NO ROCKS LARGER THAN 6" IN ANY DIMENSION SHALL BE ALLOWED ABOVE THE INITIAL BACKFILL.
3. THE INITIAL BACKFILL SHALL BE PLACED AND COMPACTED IN 6" LIFTS.
4. NO ORGANIC OR FROZEN MATERIAL OR DEBRIS SHALL BE ALLOWED IN THE TRENCH.
5. BELL HOLES SHALL BE DUG OUT IN ALL CASES.

DUCTILE IRON WATER PIPE INSTALLATION & BEDDING

NTS
FIG. W-2

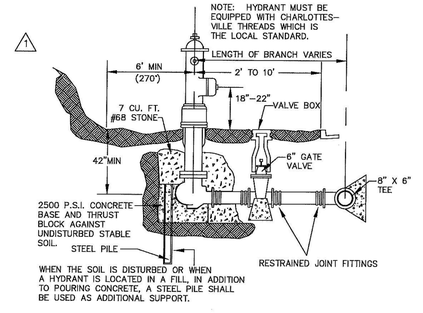


PIPE SIZE	DEGREE OF BEND	BEND DIMENSIONS (FEET) L	H	T	VOL. CU.YD.	TEE AND PLUGS (FEET) L	H	T	VOL. CU.YD.
4" & 6"	90	2.50	2.50	3.01	0.24	2.00	2.25	2.50	0.15
	45	2.00	2.25	2.60	0.15				
	22 1/2	1.50	2.00	2.52	0.10				
	11 1/4	1.50	2.00	2.50	0.10				
8"	90	3.66	3.16	3.21	0.48	3.16	2.91	2.66	0.32
	45	2.66	2.66	2.77	0.26				
	22 1/2	1.66	2.16	2.69	0.13				
	11 1/4	1.66	2.16	2.67	0.13				
10" & 12"	90	4.83	3.83	3.42	0.83	3.83	4.00	2.83	0.52
	45	3.33	3.58	2.95	0.43				
	22 1/2	2.33	2.58	2.86	0.24				
	11 1/4	1.83	2.33	2.84	0.18				

1. THRUST BLOCKS ARE REQUIRED WHENEVER THE PIPELINE : CHANGES DIRECTION, CHANGES SIZE, DEAD ENDS AND AT VALVES.
2. USE 2500 P.S.I. CONCRETE.
3. NO CONCRETE SHALL BE POURED ON ANY PART OF THE JOINT.
4. THE CONSULTING ENGINEER SHALL BE RESPONSIBLE TO THE VERIFY THE TYPE & SIZE OF ALL THRUST BLOCKS.

CONCRETE THRUST BLOCKS

NTS
FIG. W-3

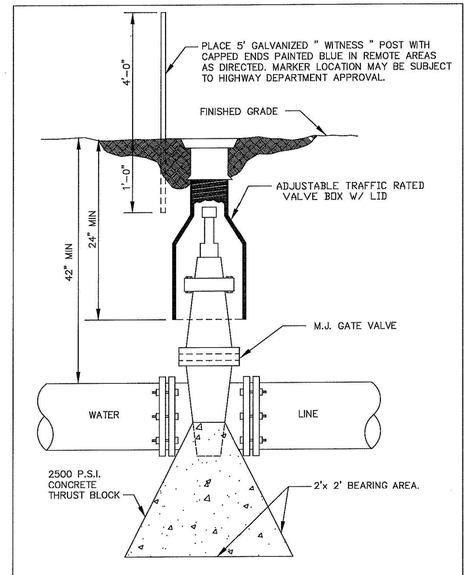


NOTE :

1. SURROUND WEEP HOLES WITH GRAVEL AND KEEP FREE OF CONCRETE.
2. MAINTAIN A 3 1/2' MIN. COVER FROM THE MAIN TO THE FIRE HYDRANT (INCLUDING DITCHES)
3. FINISHED GRADE SHALL SLOPE AWAY FROM THE FIRE HYDRANT AND VALVE BOX.
4. THE GATE VALVE IS ALLOWED IN SHOULDER OR BEHIND THE DITCH. IT IS NOT ALLOWED IN THE DITCH.
5. FIRE HYDRANTS SHALL BE INSTALLED AT LOCATIONS WHERE WEEP HOLES ARE ABOVE THE PREVAILING GROUNDWATER ELEVATION. IF REQUIRED TO BE IN WET AREAS, THE WEEP HOLES SHALL BE PLUGGED AND THE HYDRANT SHALL BE PUMPED DRY.

TYPICAL FIRE HYDRANT ASSEMBLY DETAIL

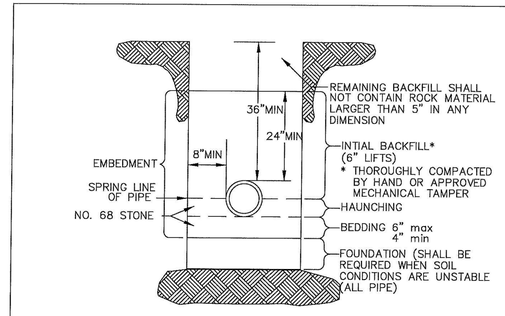
N.T.S.
FIG. W-4



NOTE : IN REMOTE AREAS, VALVE BOXES SHALL EXTEND SIX (6) INCHES ABOVE GRADE.

TYPICAL GATE VALVE

NTS
FIG. W-5

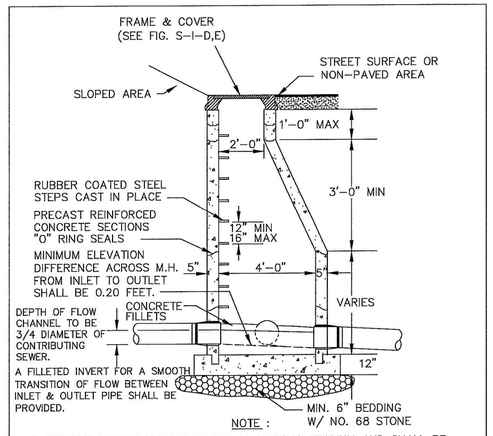


NOTE :

1. OPEN CUTS IN PAVED AREAS WITHIN EXISTING VDOT RIGHT-OF-WAY SHALL BE BACKFILLED ENTIRELY WITH NO. 21A STONE.
2. FOR DUCTILE IRON PIPE THE BOTTOM OF THE TRENCH SHALL BE SCRAPED AND COMPACTED, AND ALL STONES REMOVED OR A 4" BEDDING OF NO. 68 STONE SHALL BE PROVIDED.
3. WHERE ROCK IS ENCOUNTERED PIPE SHALL BE INSTALLED ON A MINIMUM 6" BEDDING OF NO. 68 STONE.

TYPICAL SEWER PIPE INSTALLATION IN TRENCH

NTS
FIG. S-3



NOTE :

1. BEDDING THICKNESS REQUIREMENT SHOWN IS MINIMUM AND SHALL BE SPECIFICALLY DETERMINED BY THE CONSULTANT FOR THE SOIL CONDITIONS.
2. THE CONSULTANT WILL DETERMINE WHETHER MANHOLES SHALL HAVE EXTENDED OR NON-EXTENDED BASES.
3. ALL JOINTS, LIFT HOLES, INLETS, OUTLETS TO BE SEALED & GROUTED INSIDE AND OUT.

TYPICAL MANHOLE SECTION SHOWING BRANCH TIE-IN

N.T.S
FIG. S-I-A

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PANTOPS HOTEL

ALBEMARLE COUNTY, VA

NOTES & DETAILS

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UTILITY NOTES

1. WORK SHALL BE SUBJECT TO INSPECTION BY ALBEMARLE COUNTY SERVICE AUTHORITY (ACSA) INSPECTORS. THE CONTRACTOR WILL BE RESPONSIBLE FOR NOTIFYING THE PROPER ACSA OFFICIALS AT THE START OF THE WORK.

2. THE ALBEMARLE COUNTY SERVICE AUTHORITY SHALL HAVE ACCESS TO USE THE AIRSPACE ABOVE THE LOCATIONS OF CONSTRUCTION FOR THE FLIGHT OF UNMANNED AERIAL VEHICLES FOR THE PURPOSE OF IMAGERY COLLECTION.

3. THE LOCATION OF EXISTING UTILITIES ACROSS THE LINE OF THE PROPOSED WORK ARE NOT NECESSARILY SHOWN ON THE PLANS AND WHERE SHOWN ARE ONLY APPROXIMATELY CORRECT. THE CONTRACTOR SHALL, ON HIS OWN INITIATIVE, LOCATE ALL UNDERGROUND LINES AND STRUCTURES, AS NECESSARY.

4. ALL MATERIALS AND CONSTRUCTION SHALL COMPLY WITH THE CURRENT EDITION OF THE GENERAL WATER AND SEWER CONSTRUCTION SPECIFICATIONS, AS ADOPTED BY THE ACSA.

5. DATUM FOR ALL ELEVATIONS SHOWN IN NATIONAL GEODETIC SURVEY.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY (1-800-552-7001).

7. ALL WATER AND SEWER PIPES SHALL HAVE A MINIMUM OF THREE AND A HALF (3.5) FEET OF COVER MEASURED FROM THE TOP OF PIPE, OVER THE CENTERLINE OF PIPE. THIS INCLUDES ALL FIRE HYDRANT LINES, SERVICE LATERALS AND WATER LINES, ETC.

8. ALL WATER AND SEWER APPURTENANCES ARE TO BE LOCATED OUTSIDE OF ROADSIDE DITCHES.

9. VALVES ON DEADEND LINES SHALL BE RODDED TO PROVIDE ADEQUATE RESTRAINT FOR THE VALVE DURING A FUTURE EXTENSION OF THE LINE.

10. TREES ARE NOT PERMITTED IN THE ACSA EASEMENT.

11. THE CONTRACTOR SHALL BE RESPONSIBLE TO COMPLY WITH THE NOLEAD REGULATION REGARDING BRASS FITTINGS EFFECTIVE JANUARY 4, 2014 (SENATE BILL 3874 WHICH AMENDS THE SAFE DRINKING WATER ACT).

12. THE SEWER LATERAL BEYOND THE CONNECTION AT THE SEWER MAIN SHALL BE PRIVATE. THE SEWER LATERAL STUB-OUT SHALL UNDERGO THE ACSA LOW-PRESSURE AIR TEST TO SATISFY COUNTY TESTING REQUIREMENTS. VISUAL INSPECTION OF THE SEWER LATERAL STUB-OUT SHALL BE WITNESSED BY THE COUNTY BUILDING INSPECTIONS DEPARTMENT. THIS INSPECTION SHALL OCCUR UNDER AN “OTHER PLUMBING” PERMIT WHICH MUST BE OBTAINED BY THE CONTRACTOR.

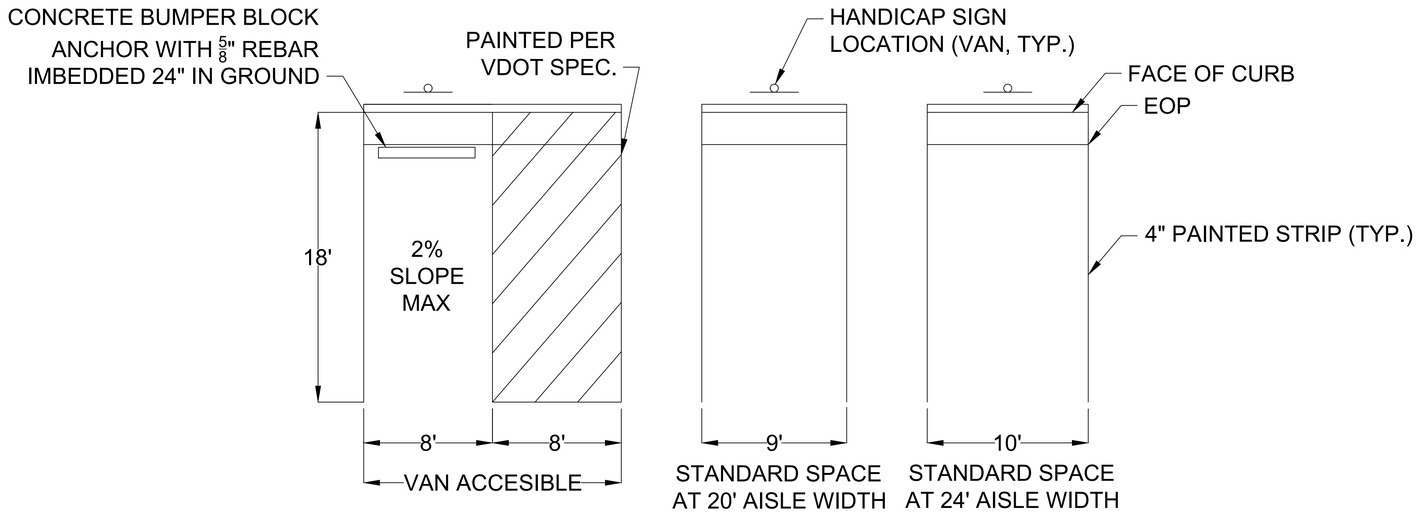
13. THE SEWER LATERAL BEYOND THE CONNECTION AT A MANHOLE SHALL BE PRIVATE. VISUAL INSPECTION AND PRESSURE TESTING OF THE SEWER LATERAL SHALL BE WITNESSED BY THE COUNTY BUILDING INSPECTIONS DEPARTMENT. THIS INSPECTION SHALL OCCUR UNDER AN “OTHER PLUMBING” PERMIT WHICH MUST BE OBTAINED BY THE CONTRACTOR.

14. THE FIRE SPRINKLER MAIN DOWNSTREAM OF THE GATE VALVE IS PRIVATE. VISUAL INSPECTION AND TESTING OF THE FIRE SPRINKLER MAIN DOWNSTREAM OF THE GATE VALVE SHALL BE WITNESSED BY THE COUNTY BUILDING INSPECTIONS DEPARTMENT. THIS INSPECTION SHALL OCCUR UNDER AN “OTHER PLUMBING” PERMIT WHICH MUST BE OBTAINED BY THE CONTRACTOR.

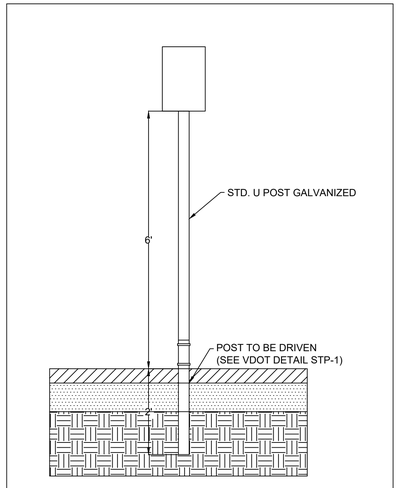
15. ALL FLUSHING OF FIRE SPRINKLER MAINS SHALL NOT OCCUR UNTIL APPROVAL IS GIVEN BY THE ACSA.

16. PRIOR TO BACKFLOW PREVENTION DEVICE TESTING AND THE ESTABLISHMENT OF WATER SERVICE, ALL BACKFLOW PREVENTION DEVICE INSTALLATIONS SHALL MEET THE ACSA BACKFLOW REQUIREMENTS AS DETAILED IN SECTION 8 OF THE MOST RECENT REVISION OF THE ACSA RULES AND REGAULTIONS.

17. A DEED OF EASEMENT AND EASEMENT PLAT FOR THE UTILITY EASEMENTS, APPROVED BY THE ACSA, SHALL BE RECORDED PRIOR TO ANY WATER AND/OR SEWER SERVICE BEING ESTABLISHED.



TYPICAL PARKING SPACE DETAILS
No Scale



SIGN AND POST DETAIL
No Scale

REVISION DESCRIPTION

DATE

DATE
4/24/2024

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SCALE
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PANTOPS HOTEL
ALBEMARLE COUNTY, VA
NOTES & DETAILS

JOB NO.

SHEET NO.
2.1

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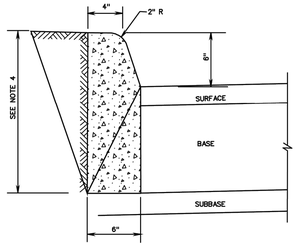
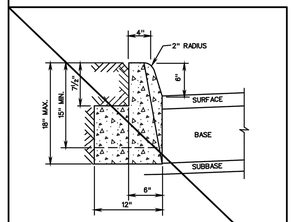
2016 ROAD & BRIDGE STANDARDS

CG-2

NOTES:

1. THIS ITEM MAY BE PRECAST OR CAST IN PLACE.
2. CONCRETE TO BE CLASS A3 IF CAST IN PLACE, 4000 PSI IF PRECAST.
3. CURB HAVING A RADIUS OF 300 FEET OR LESS (ALONG FACE OF CURB) WILL BE PAID FOR AS RADIAL CURB.
4. THE DEPTH OF CURB MAY BE REDUCED AS MUCH AS 3" (25" DEPTH OR INCREASED AS MUCH AS 3" (21" DEPTH IN ORDER THAT THE BOTTOM OF CURB WILL COINCIDE WITH THE TOP OF A CG-6 CURB AND GUTTER. THE SUBBASE THICKNESS, OTHERWISE THE PAVEMENT STRUCTURE AS SHOWN, NO ADJUSTMENT IN THE PRICE BID IS TO BE MADE FOR A DECREASE OR AN INCREASE IN DEPTH.
5. CG-2 IS TO BE USED ON ROADWAYS MEETING THE REQUIREMENTS FOR CG-6 AS SHOWN IN APPENDIX A OF THE VDOT ROAD DESIGN MANUAL, IN THE SECTION ON GS URBAN STANDARDS.





ACCEPTABLE ALTERNATIVE IF CURB IS EXTRUDED

SPECIFICATION REFERENCE	STANDARD 6" CURB	VDOT ROAD AND BRIDGE STANDARDS
105 502	VIRGINIA DEPARTMENT OF TRANSPORTATION	REVISION DATE: — SHEET 1 OF 1 201.01

2016 ROAD & BRIDGE STANDARDS

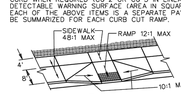
2016 ROAD & BRIDGE STANDARDS

CG-12

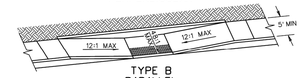
GENERAL NOTES:

1. THE DETECTABLE WARNING SHALL BE PROVIDED BY TRUNCATED DOMES.
2. ALL DETECTABLE WARNING SURFACE PRODUCTS SHALL MEET THE REQUIREMENTS OF SECTION 504 OF THE SPECIFICATIONS FOR CG-12 DETECTABLE WARNING SURFACE. DETECTABLE WARNING SURFACE PRODUCTS USED SHALL BE FROM THE MATERIALS APPROVED PRODUCT LIST NUMBER 72.
3. SLOPING SIDES OF CURB RAMP MAY BE POURED MONOLITHICALLY WITH RAMP FLOOR OR BY USING PERMISSIBLE CONSTRUCTION JOINT WITH REQUIRED BARS.
4. REQUIRED BARS ARE TO BE NO.5 X 8' PLACED 1' CENTER TO CENTER ALONG BOTH SIDES OF THE RAMP FLOOR, MID-DEPTH OF RAMP FLOOR. MINIMUM CONCRETE COVER 1½".
5. ROADWAY CURB / CURB AND GUTTER SLOPE TRANSITIONS ADJACENT TO CURB RAMPS ARE INCLUDED IN PAYMENT FOR CURB / CURB AND GUTTER.
6. CURB RAMPS ARE REQUIRED FOR SIDEWALKS AND SHARED USE PATHS. THE WIDTH OF THE CURB RAMP SHALL MATCH SIDEWALK WIDTH WHEN CURB RAMPS ARE USED IN CONJUNCTION WITH A SHARED USE PATH, THE MINIMUM WIDTH SHALL BE THE WIDTH OF THE SHARED USE PATH.
7. DETECTABLE WARNINGS SHALL EXTEND THE FULL WIDTH OF THE CURB RAMP LANDING FLOOR.
8. CURB RAMPS WILL BE INSTALLED AND LOCATED WITHIN PEDESTRIAN CROSSWALKS AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER. CURB RAMPS SHOULD NOT BE LOCATED BEHIND VEHICLE STOP LINES, LIGHT POLES, FIRE HYDRANTS, DROP INLETS, ETC.
9. RAMPS MAY BE PLACED ON RADIAL OR TANGENTIAL SECTIONS PROVIDED THAT THE CURB OPENING IS PLACED WITHIN THE LIMITS OF THE CROSSWALK AND THAT THE SLOPE AT THE CONNECTION OF THE CURB OPENING IS PERPENDICULAR TO THE CURB.
10. DETECTABLE WARNING SURFACE PANELS SHALL BE INSTALLED FLUSH WITH THE BACK OF CURB.
11. WHERE CURB RAMPS INTERSECT A RADIAL SECTION OF CURB AT ENTRANCES OR STREET CONNECTIONS THE DETECTABLE WARNING SURFACE SHALL HAVE A FACTORY RADIUS OR BE FIELD-MODIFIED AS RECOMMENDED BY THE MANUFACTURER TO MATCH THE BACK OF CURB. SEE CG-12-INS PAGES 204.06 AND 204.07 FOR METHODS OF INSTALLING DETECTABLE WARNINGS ON A RADIUS.

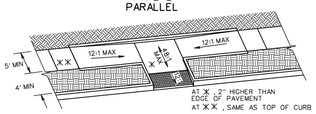
NOTE: COMPONENTS OF CURB RAMPS CONSIST OF THE FOLLOWING: HYDRAULIC CEMENT SIDEWALK (DEPTH IN INCHES, AREA IN SQUARE YARDS) CURB WHEN REQUIRED (CG-2 OR CG-3 IN LINEAR FEET) DETECTABLE WARNING SURFACE (AREA IN SQUARE YARDS) EACH OF THE ABOVE ITEMS IS A SEPARATE PAY ITEM AND SHOULD BE SUMMARIZED FOR EACH CURB CUT RAMP.



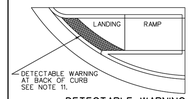
TYPE A
PERPENDICULAR



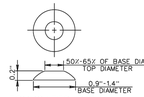
TYPE B
PARALLEL



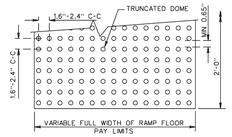
TYPE C
PARALLEL & PERPENDICULAR



DETECTABLE WARNING
INSTALLED ON A RADIUS



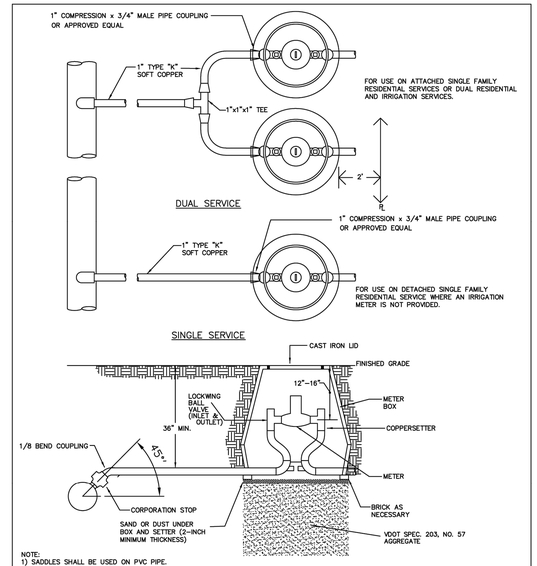
TRUNCATED DOME
DETAIL



DETECTABLE WARNING
DETAIL

VDOT ROAD AND BRIDGE STANDARDS	A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.	SPECIFICATION REFERENCE
SHEET 1 OF 5 — REVISION DATE 04/19 204.01	CG-12 DETECTABLE WARNING SURFACE (GENERAL NOTES) VIRGINIA DEPARTMENT OF TRANSPORTATION	105 502 504

2016 ROAD & BRIDGE STANDARDS



NOTE:
1) SADDLES SHALL BE USED ON PVC PIPE.
2) NO SWEATED FITTINGS.
3) LATERALS INSTALLED WITHIN EXISTING, OR PROPOSED, VDOT RIGHT-OF-WAY SHALL BE INSTALLED IN A 2-INCH PVC SDR-21 OR HDPE DR11 CASING PIPE.

TYPICAL SERVICE LATERAL INSTALLATION (3/4" & 1" METERS)

NTS
FIG. W-6A

TD-10

2016 ROAD & BRIDGE STANDARDS

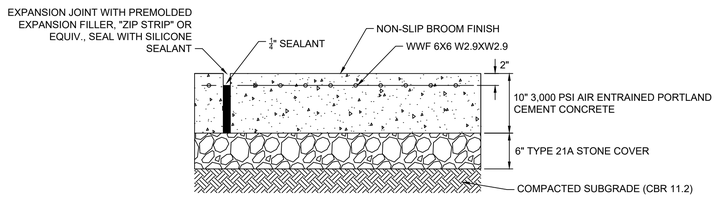
CG-6

NOTES:

1. THIS ITEM MAY BE PRECAST OR CAST IN PLACE.
2. CONCRETE TO BE CLASS A3 IF CAST IN PLACE, 4000 PSI IF PRECAST.
3. COMBINATION CURB & GUTTER HAVING A RADIUS OF 300 FEET OR LESS (ALONG FACE OF CURB) SHALL BE PAID FOR AS RADIAL COMBINATION CURB & GUTTER.
4. FOR USE WITH STABILIZED OPEN-GRADED DRAINAGE LAYER, THE BOTTOM OF THE CURB & GUTTER SHALL BE CONSTRUCTED PARALLEL TO THE SLOPE OF SUBBASE COURSES AND TO THE DEPTH OF THE PAVEMENT.
5. ALLOWABLE CRITERIA FOR THE USE OF CG-6 IS BASED ON ROADWAY CLASSIFICATION AND DESIGN SPEED AS SHOWN IN APPENDIX A OF THE ROAD DESIGN MANUAL, IN THE SECTION ON GS URBAN STANDARDS.

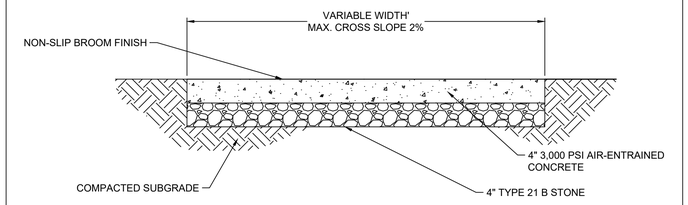
SPECIFICATION REFERENCE	COMBINATION 6" CURB AND GUTTER	VDOT ROAD AND BRIDGE STANDARDS
105 502	VIRGINIA DEPARTMENT OF TRANSPORTATION	REVISION DATE: — SHEET 1 OF 1 201.03

2016 ROAD & BRIDGE STANDARDS



HEAVY DUTY CONCRETE SECTION

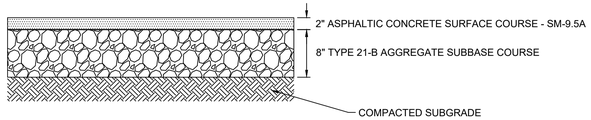
NO SCALE



NOTE: SIDEWALKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH VDOT STANDARDS.

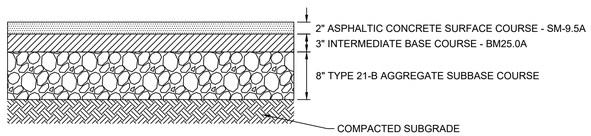
CONCRETE SIDEWALK PAVEMENT SECTION

NO SCALE



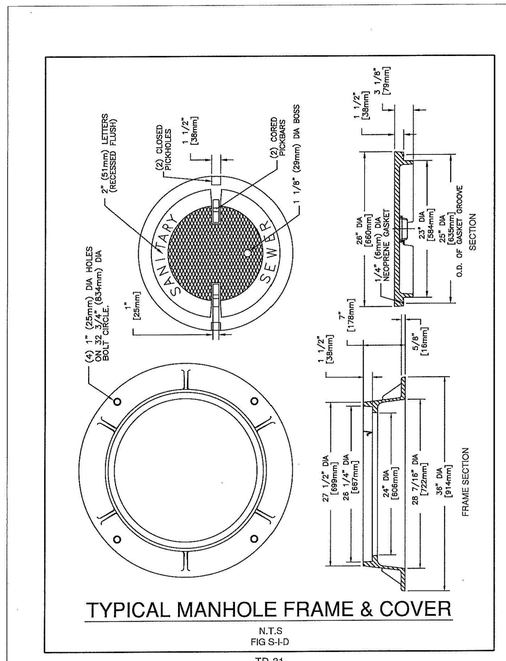
LIGHT DUTY ASPHALT PAVEMENT SECTION

NO SCALE



HEAVY DUTY ASPHALT PAVEMENT SECTION

NO SCALE



TYPICAL MANHOLE FRAME & COVER

N.T.S
FIG S-I-D

TD-31

REVISION DESCRIPTION	DATE
	4/24/2024

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PANTOPS HOTEL

ALBEMARLE COUNTY, VA

NOTES & DETAILS

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2.2

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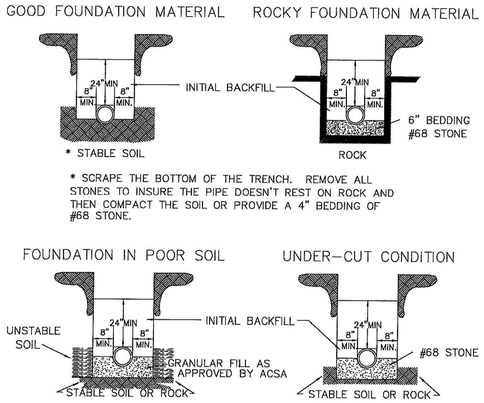


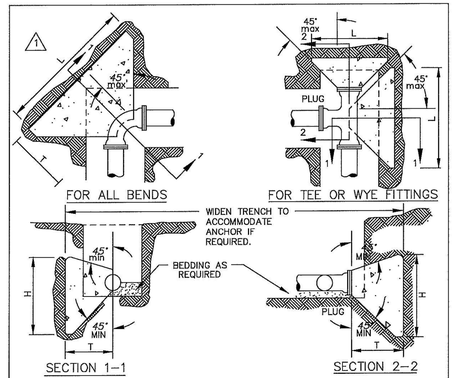
* SCRAPE THE BOTTOM OF THE TRENCH. REMOVE ALL STONES TO INSURE THE PIPE DOESN'T REST ON ROCK AND THEN COMPACT THE SOIL OR PROVIDE A 4" BEDDING OF #68 STONE.

NOTE :

1. NO ROCKS SHALL BE ALLOWED WITHIN 24" OF THE WATER LINES.
2. NO ROCKS LARGER THAN 6" IN ANY DIMENSION SHALL BE ALLOWED ABOVE THE INITIAL BACKFILL.
3. THE INITIAL BACKFILL SHALL BE PLACED AND COMPACTED IN 6" LIFTS.
4. NO ORGANIC OR FROZEN MATERIAL OR DEBRIS SHALL BE ALLOWED IN THE TRENCH.
5. BELL HOLES SHALL BE DUG OUT IN ALL CASES.

DUCTILE IRON WATER PIPE INSTALLATION & BEDDING

NTS
FIG. W-2

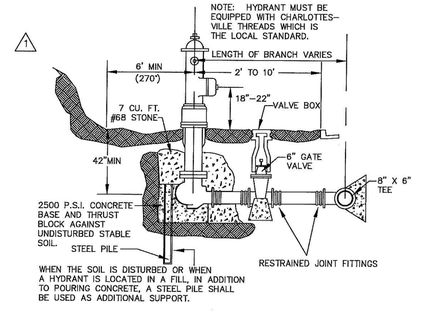


PIPE SIZE	DEGREE OF BEND	BEND DIMENSIONS (FEET) L	H	T	VOL. CU.YD.	TEE AND PLUGS (FEET) L	H	T	VOL. CU.YD.
4" & 6"	90	2.50	2.50	3.01	0.24	2.00	2.25	2.50	0.15
	45	2.00	2.25	2.60	0.15				
	22 1/2	1.50	2.00	2.52	0.10				
	11 1/4	1.50	2.00	2.50	0.10				
8"	90	3.66	3.16	3.21	0.48	3.16	2.91	2.66	0.32
	45	2.66	2.66	2.77	0.26				
	22 1/2	1.66	2.16	2.69	0.13				
	11 1/4	1.66	2.16	2.67	0.13				
10" & 12"	90	4.83	3.83	3.42	0.83	3.83	4.00	2.83	0.52
	45	3.33	3.58	2.95	0.43				
	22 1/2	2.33	2.58	2.86	0.24				
	11 1/4	1.83	2.33	2.84	0.18				

1. THRUST BLOCKS ARE REQUIRED WHENEVER THE PIPELINE : CHANGES DIRECTION, CHANGES SIZE, DEAD ENDS AND AT VALVES.
2. USE 2500 P.S.I. CONCRETE.
3. NO CONCRETE SHALL BE POURED ON ANY PART OF THE JOINT.
4. THE CONSULTING ENGINEER SHALL BE RESPONSIBLE TO THE VERIFY THE TYPE & SIZE OF ALL THRUST BLOCKS.

CONCRETE THRUST BLOCKS

NTS
FIG. W-3

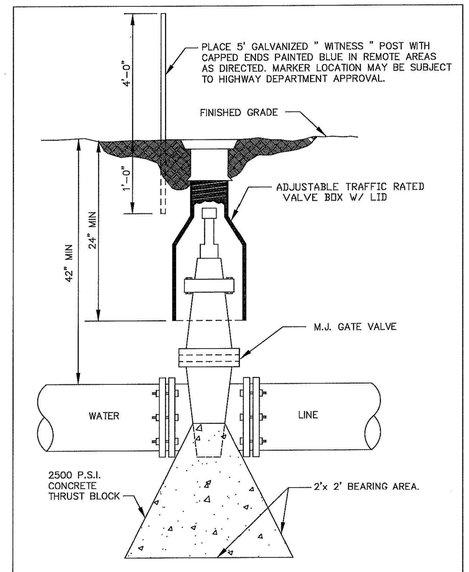


NOTE :

1. SURROUND WEEP HOLES WITH GRAVEL AND KEEP FREE OF CONCRETE.
2. MAINTAIN A 3 1/2' MIN. COVER FROM THE MAIN TO THE FIRE HYDRANT (INCLUDING DITCHES)
3. FINISHED GRADE SHALL SLOPE AWAY FROM THE FIRE HYDRANT AND VALVE BOX.
4. THE GATE VALVE IS ALLOWED IN SHOULDER OR BEHIND THE DITCH. IT IS NOT ALLOWED IN THE DITCH.
5. FIRE HYDRANTS SHALL BE INSTALLED AT LOCATIONS WHERE WEEP HOLES ARE ABOVE THE PREVAILING GROUNDWATER ELEVATION. IF REQUIRED TO BE IN WET AREAS, THE WEEP HOLES SHALL BE PLUGGED AND THE HYDRANT SHALL BE PUMPED DRY.

TYPICAL FIRE HYDRANT ASSEMBLY DETAIL

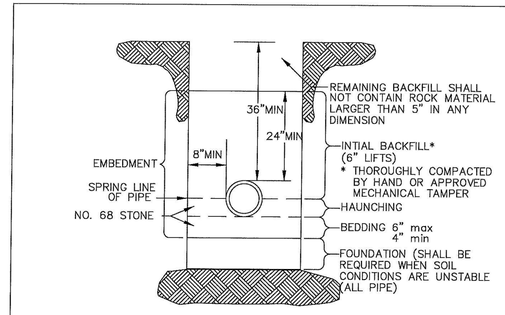
N.T.S.
FIG. W-4



NOTE : IN REMOTE AREAS, VALVE BOXES SHALL EXTEND SIX (6) INCHES ABOVE GRADE.

TYPICAL GATE VALVE

NTS
FIG. W-5

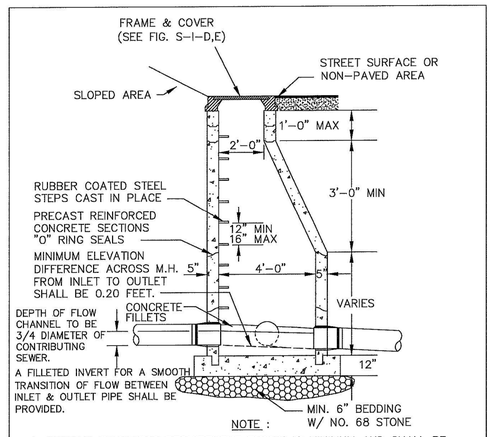


NOTE :

1. OPEN CUTS IN PAVED AREAS WITHIN EXISTING VDOT RIGHT-OF-WAY SHALL BE BACKFILLED ENTIRELY WITH NO. 21A STONE.
2. FOR DUCTILE IRON PIPE THE BOTTOM OF THE TRENCH SHALL BE SCRAPED AND COMPACTED, AND ALL STONES REMOVED OR A 4" BEDDING OF NO. 68 STONE SHALL BE PROVIDED.
3. WHERE ROCK IS ENCOUNTERED PIPE SHALL BE INSTALLED ON A MINIMUM 6" BEDDING OF NO. 68 STONE.

TYPICAL SEWER PIPE INSTALLATION IN TRENCH

NTS
FIG. S-3



NOTE :

1. BEDDING THICKNESS REQUIREMENT SHOWN IS MINIMUM AND SHALL BE SPECIFICALLY DETERMINED BY THE CONSULTANT FOR THE SOIL CONDITIONS.
2. THE CONSULTANT WILL DETERMINE WHETHER MANHOLES SHALL HAVE EXTENDED OR NON-EXTENDED BASES.
3. ALL JOINTS, LIFT HOLES, INLETS, OUTLETS TO BE SEALED & GROUTED INSIDE AND OUT.

TYPICAL MANHOLE SECTION SHOWING BRANCH TIE-IN

N.T.S
FIG. S-I-A

REVISION DESCRIPTION	DATE
	4/24/2024

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PANTOPS HOTEL

ALBEMARLE COUNTY, VA

NOTES & DETAILS

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TMP 78-9D
PANTOPS HOTEL, LLC
DB. 3673, PG. 95 (VESTING)
DB. 3657, PG. 564 (PLAT)
"LOT D"
2.397 AC. (SURVEYED)
ZONED: HC

(SITE IS LIGHTLY VEGETATED AT TIME OF SURVEY)

TMP 78-9
TCO PARTNERS LLC
DB. 4710, PG. 713

TMP 78-9B
GUADALAJARA CORPORATION IV
DB. 3339, PG. 710

TMP 78-9C
TAP INVESTMENTS, LLC
DB. 3657, PG. 606

TMP 78-11B1
SANDAY, LLC
DB. 4559, PG. 55 (VESTING)
DB. 4174, PG. 1 (PLAT)

TOWN & COUNTRY LANE
(53' R/W, VAR. WIDTH PUBLIC ROAD)
DB. 3657, PG. 564
DB. 3339, PG. 701

OLYMPIA DRIVE
(49.5' R/W, VAR. WIDTH PUBLIC ROAD)
DB. 3657, PG. 564
DB. 3520, PG. 444

JALISCO WAY
(INFRASTRUCTURE)

IRON (F)
IRON (S)
MAG NAIL (S)
PK NAIL (F)
DH (S)
TBM: SPIKE SET ELEV.=418.27'
TBM: SPIKE SET. ELEV.=435.53'
ROCK ARMOR
CURB RAMP (ADA) W/ DWS
CONC. REFUSE PAD
DEPRESSED CURB
CONC. DRAINAGE FLUME
MAILBOXES
SAN CO TOP=438.31'
PIPE INLET, 12" HDPE (HW, L=4') INV. (IN)=436.68'
SD INLET W/ GRATE TOP=439.48' INV. IN=436.18' 12" RCP (S) INV. IN=436.08' 12" HDPE (W) INV. OUT=435.90' 18" HDPE
SD INLET W/ FES INV. (IN)=408.79' 24" RCP
MHS (W/ DROP CONN.) TOP=433.05' INV. IN=416.70' 8" PVC (S) INV. OUT=416.59' 8" PVC
MHS TOP=441.19' INV. IN=433.74' 6" PVC (E) INV. IN=432.70' 6" PVC (S) INV. OUT=432.90' 8" PVC
MHS TOP=442.41' INV. IN=436.92' 6" PVC (W) INV. IN=436.95' 6" PVC (E) INV. IN=437.06' 6" PVC (S) INV. OUT=436.80' 8" PVC
MHS TOP=435.35' INV. IN=427.27' 8" PVC (E) INV. IN=418.22' 8" PVC (S) INV. OUT=418.13' 8" PVC
MHS TOP=439.34' INV. IN=419.72' 8" PVC (E) INV. OUT=419.64' 8" PVC
MHS W/ DROP CONN.) TOP=437.01' INV.=431.57' INSPECT. ARM INV. IN=420.91' 8" PVC DROP (S) INV. IN=420.11' 8" PVC (W) INV. OUT=420'02"-8" PVC
MHD TOP=421.47' INV. IN=415.49' 15" RCP (E) INV. IN=415.36' 15" RCP (S) INV. OUT=414.77' 15" RCP
MHD TOP=424.38' INV. IN=418.77' 18" RCP (W) INV. OUT=416.18' 18" RCP
MHD TOP=438.74' INV. IN=433.47' 24" HDPE (SW) INV. IN=434.37' 18" HDPE INV. OUT=433.13' 30" RCP (N)
MHD TOP=439.20' INV. IN=434.12' 24" RCP (E) INV. IN=434.19' 18" HDPE INV. OUT=433.95' 24" HDPE
SD CURB INLET W/ MHD TOP=412.53' INV. IN=408.43' 15" RCP (E) INV. IN=408.79' 24" RCP (S) INV. OUT=408.07' 24" RCP
SD CURB INLET W/ MHD TOP=415.58' INV. IN=411.23' 15" RCP (W) INV. IN=411.38' 18" RCP (S) INV. OUT=409.44' 18" RCP
SD CURB INLET W/ MHD TOP=414.96' INV. OUT=411.36' 15" RCP
SD CURB INLET W/ MHD TOP=412.61' INV. IN=408.62' 18" RCP (SW) INV. IN=408.11' 24" RCP (SE) INV. OUT=407.51' 24" RCP
SD CURB INLET W/ MHD TOP=421.61' INV. OUT=418.01' 15" RCP
SD CURB INLET W/ MHD TOP=422.28' INV. IN=423.26' 15" RCP (S) INV. OUT=422.51' 15" RCP
SD CURB INLET W/ MHD TOP=432.49' INV. OUT=428.15' 15" RCP
SD CURB INLET W/ MHD TOP=436.92' INV. OUT=434.4' ± 18" HDPE
SD CURB INLET W/ MHD TOP=425.59' INV. IN=421.32' 15" RCP (S) INV. IN=421.34' 15" RCP (SE) INV. OUT=421.16' 15" RCP
SD CURB INLET W/ MHD TOP=425.25' INV. IN=419.26' 15" RCP (W) INV. IN=420.60' 15" RCP (S) INV. OUT=419.14' 18" RCP
SD CURB INLET W/ MHD TOP=422.00' INV. OUT=419.07' 15" RCP
SD CURB INLET W/ MHD TOP=424.96' INV. IN=424.85' 15" RCP (SE) INV. OUT=424.85' 15" RCP
OUTLET, 24" RCP INV. (OUT)=404.36'
EX. VAR. WIDTH SWM MAINTENANCE EASEMENT DB. 3657, PG. 564
EX. 20' PUBLIC DRAINAGE EASEMENT DB. 3657, PG. 564
EX. 20' PRIVATE DRAINAGE EASEMENT DB. 3652, PG. 564
EX. 20' PRIVATE DRAINAGE EASEMENT DB. 3657, PG. 564
EX. VAR. WIDTH PUBLIC DRAINAGE EASEMENT DB. 3657, PG. 564
EX. VAR. WIDTH DRAINAGE EASEMENT DB. 3339, PG. 701
EX. 20' & VAR. WIDTH ACCESS EASEMENT DB. 3339, PG. 701
EX. 20' WATER LINE EASEMENT FOR ACSA DB. 3339, PG. 701
EX. 20' & VAR. WIDTH 'UTILITY EASEMENT' FOR ACSA DB. 3657, PG. 564
EX. VAR. WIDTH 'UTILITY EASEMENT' FOR ACSA DB. 3657, PG. 564
EX. 20' SANITARY SEWER EASEMENT FOR ACSA DB. 3657, PG. 564
EX. 20' PRIVATE DRAINAGE EASEMENT DB. 3657, PG. 564
EX. 20' PUBLIC DRAINAGE EASEMENT DB. 3657, PG. 564
VAID 81 (NA 2011)
24" RCP
15" RCP
18" RCP
C1
C2
C3
C4
C5
C6
C7
S85°25'36"E 123.31'
N1°40'10"E 94.63'
N76°39'38"W 13.43'
N55°50'44"W 138.91'
S34°09'15"W 87.00'
N69°55'05"W 113.99'
S55°34'47"E 81.31'
S49°17'15"E 103.41'
S57°45'35"E 54.14'
S28°37'19"W 33.69'
S49°47'00"W 103.35'
N40°18'12"W 13.85'
CURB
CURB CUT
EP
C&G
CONC. SWK
EX.
W
S
SAN
8" DEC
6"
8"
18"
24"

REVISION DESCRIPTION
DATE
11/28/2023
DRAWN BY
DESIGNED BY
CHECKED BY
SCALE
1" = 25'

PANTOPS HOTEL
CHARLOTTESVILLE, VA
EXISTING CONDITIONS

JOB NO.

SHEET NO.
2

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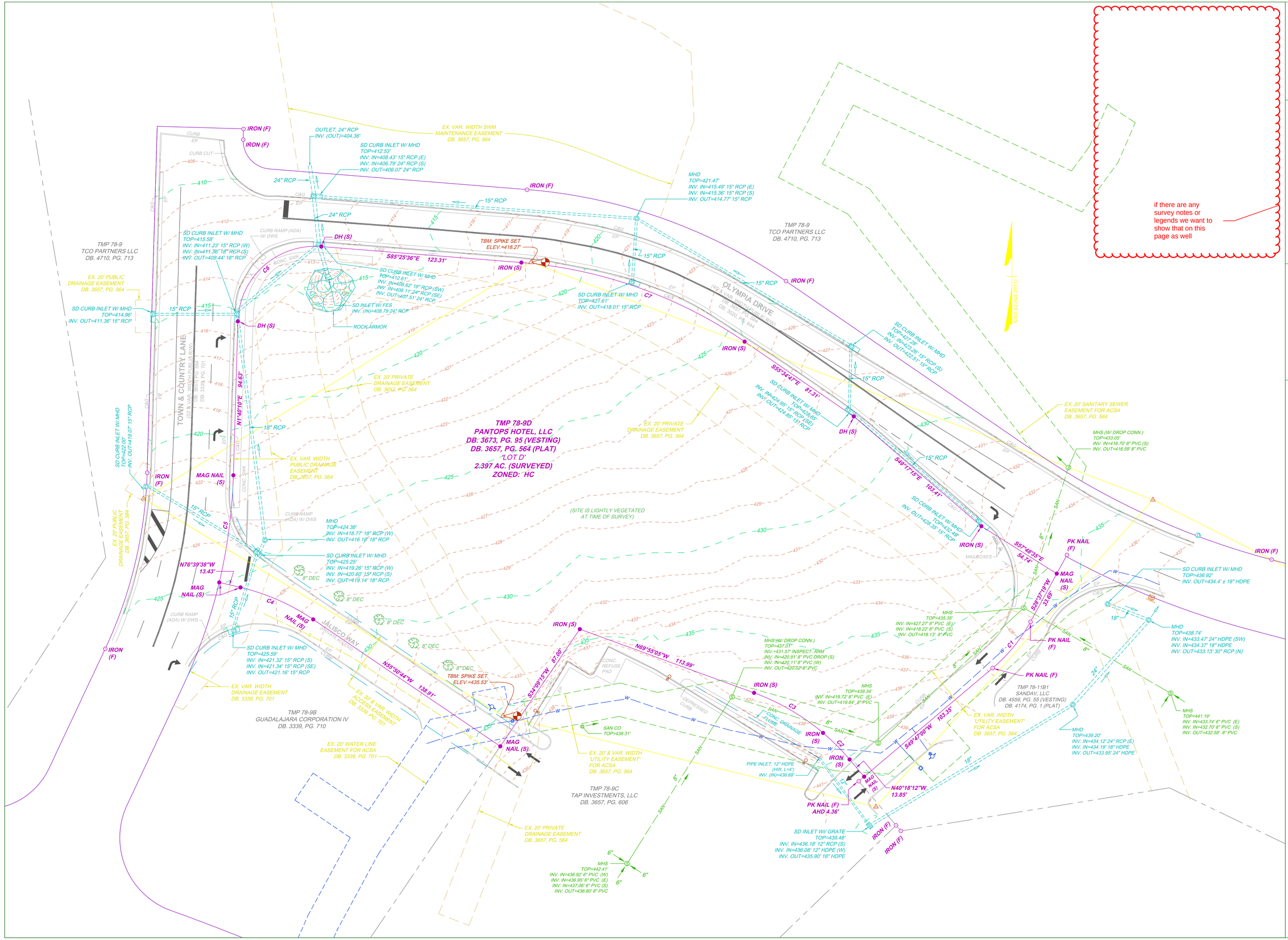

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SURVEY NOTES:

1. PROPERTY & ZONING INFORMATION:

SUBJECT PROPERTY:

OWNER:	PANTOPS HOTEL, LLC
REFERENCE:	DEED BOOK 3673, PAGE 95
TAX MAP PARCEL:	TMP 78-9D (07800-00-00-009D0)
PROPERTY ADDRESS:	NOT ASSIGNED
AREA:	2.397 ACRES (SURVEYED)
ZONED:	HC

2. THE BOUNDARY SHOWN HEREON IS BASED ON A FIELD SURVEY BY TIMMONS GROUP COMPLETED ON NOVEMBER 12, 2021.

3. HORIZONTAL DATUM IS BASED ON NAD83 (NA2011), VIRGINIA STATE GRID, SOUTH ZONE. DATUM ESTABLISHED THROUGH NETWORK GPS (LEICA SmartNET) OBSERVATIONS.

4. BASED ON FEMA FLOOD INSURANCE RATE MAP (FIRM), MAP NO. 51003C0287D, PANEL 287OF 576, EFFECTIVE DATE: FEBRUARY 4, 2005, THE PROPERTY SHOWN HEREON LIES IN UNSHADED ZONE X, AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.

5. THIS PLAT WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT. EASEMENTS MAY EXIST WHICH ARE NOT SHOWN HEREON.

6. THE PROPERTY SHOWN HEREON IS LOCATED WITHIN THE UPPER RIVANNA WATERSHED PER COUNTY GIS.

7. THE PROPERTY SHOWN HEREON IS NOT LOCATED WITHIN A WATER SUPPLY PROTECTION AREA.

8. THE PROPERTY SHOWN HEREON IS NOT LOCATED WITHIN AN AGRICULTURAL-FORESTAL DISTRICT.

10. THE PROPERTY SHOWN HEREON IS LOCATED WITHIN AN ENTRANCE CORRIDOR OVERLAY AREA.

11. MANAGED / STEEP SLOPES ARE NOT PRESENT ON PROPERTY PER ALBEMARLE COUNTY GIS DETAILS.

12. THE PROPERTY SHOWN HEREON IS NOT LOCATED WITHIN AN AIRPORT IMPACT AREA.

NAD 83 (NA 2011)

SCALE 1"=25'
0 25' 50'

TMP 78-9D
PANTOPS HOTEL, LLC
DB. 3673, PG. 95 (VESTING)
DB. 3657, PG. 564 (PLAT)
LOT D'
2.397 AC. (SURVEYED)
ZONED: HC

(SITE IS LIGHTLY VEGETATED AT TIME OF SURVEY)

TMP 78-9
TCO PARTNERS LLC
DB. 4710, PG. 713

TMP 78-9B
GUADALAJARA CORPORATION IV
DB. 3339, PG. 710

TMP 78-9C
TAP INVESTMENTS, LLC
DB. 3657, PG. 606

TMP 78-11B1
SANDAV, LLC
DB. 4559, PG. 55 (VESTING)
DB. 4174, PG. 1 (PLAT)

OLYMPIA DRIVE
(45' & VAR. WIDTH PUBLIC R/W)
DB. 3520, PG. 564

TOWN & COUNTRY LANE
(53' & VAR. WIDTH PUBLIC R/W)
DB. 3657, PG. 564
DB. 3338, PG. 701

JALISCO WAY
(VARIABLE WIDTH)

CURVE TABLE

CURVE	RADIUS	LENGTH	TANGENT	DELTA	CHORD BEARING	CHORD
C1	100.00'	36.97'	18.70'	21°10'47"	N39°16'53"E	36.76'
C2	140.00'	23.11'	11.58'	9°27'23"	N45°01'52"W	23.08'
C3	140.00'	49.25'	24.88'	20°09'26"	N59°50'18"W	49.00'
C4	135.00'	49.04'	24.79'	20°48'46"	N66°15'07"W	48.77'
C5	326.50'	66.50'	33.37'	11°40'14"	N7°30'16"E	66.39'
C6	47.50'	77.02'	49.97'	92°53'56"	S48°08'00"W	68.85'
C7	282.57'	147.14'	75.28'	29°50'04"	N70°29'50"W	145.48'

LEGEND

- WATER VALVE
- FIRE HYDRANT
- WATER METER
- SANITARY SEWER MANHOLE (MHS)
- STORM DRAINAGE MANHOLE
- STORM DRAINAGE (SD) GRATE INLET
- DRAINAGE / FLOW DIRECTION
- RCP — REINFORCED CONCRETE PIPE
- HPDE — HIGH DENSITY POLYETHYLENE PIPE
- PVC — POLYVINYL PIPE
- LIGHT POLE
- TELECOM / FIBER VAULT
- ROCK ARMOR
- W — UNDERGROUND WATER UTILITY
- UGT — UNDERGROUND FIBER / TELECOM
- SAN — SANITARY SEWER PIPE
- G — UNDERGROUND GAS LINE
- EDGE OF PAVEMENT (EP)
- DECIDUOUS (DEC) TREE
- SIGN
- C&G — CURB & GUTTER
- SWK — SIDEWALK
- DB. — DEED BOOK
- PG. — PAGE
- INST. — INSTRUMENT
- (F) — PROPERTY COR. FOUND, AS NOTED
- (S) — PROPERTY COR. SET, AS NOTED

THIS TOPOGRAPHIC SURVEY WAS COMPLETED UNDER THE DIRECT AND RESPONSIBLE CHARGE OF JOSEPH C. MEDLEY FROM AN ACTUAL GROUND SURVEY MADE UNDER MY SUPERVISION; THAT THE ORIGINAL DATA WAS OBTAINED ON THE FOLLOWING DATES: NOVEMBER 8-9, & 12, 2021. THIS BASE-MAP AND DIGITAL GEOSPATIAL DATA INCLUDING METADATA MEETS MINIMUM ACCURACY STANDARDS UNLESS OTHERWISE NOTED.

REVISION DESCRIPTION

DATE

DATE: 4/24/2024
DRAWN BY:
DESIGNED BY:
CHECKED BY:
SCALE: 1" = 25'

PANTOPS HOTEL

ALBEMARLE COUNTY, VA

EXISTING CONDITIONS

JOB NO. ----

SHEET NO. 3

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Legend

- Tree Removal
- Limits of Disturbance
- Clear and Remove Dense Vegetation

TMP 78-9
TCO PARTNERS LLC
DB. 4710, PG. 713

TMP 78-9
TCO PARTNERS LLC
DB. 4710, PG. 713

OLYMPIA DRIVE
(49' & VAR. WIDTH PUBLIC R/W)
DB. 3657, PG. 564
DB. 3320, PG. 844

TOWN & COUNTRY LANE
(53' & VAR. WIDTH PUBLIC R/W)
DB. 3657, PG. 564
DB. 3339, PG. 701

JALISCO WAY
PRIVATE ACCESS

CURB RAMP (ADA) W/ DWS

CONC. SIDEWALK

CONC. REFUSE PAD

DEPRESSED CURB

MAILBOXES

TMP 78-9B
GUADALAJARA CORPORATION IV
DB. 3339, PG. 710

TMP 78-9C
TAP INVESTMENTS, LLC
DB. 3657, PG. 606

TMP 78-11B1
SANDAV, LLC
DB. 4559, PG. 55 (VESTING)
DB. 4174, PG. 1 (PLAT)

REVISION DESCRIPTION	DATE
###	##

DATE
11/28/2023

DRAWN BY

DESIGNED BY

CHECKED BY

SCALE
1" = 25'

PANTOPS HOTEL
CHARLOTTESVILLE, VA
DEMOLITION PLAN

JOB NO.

SHEET NO.
3

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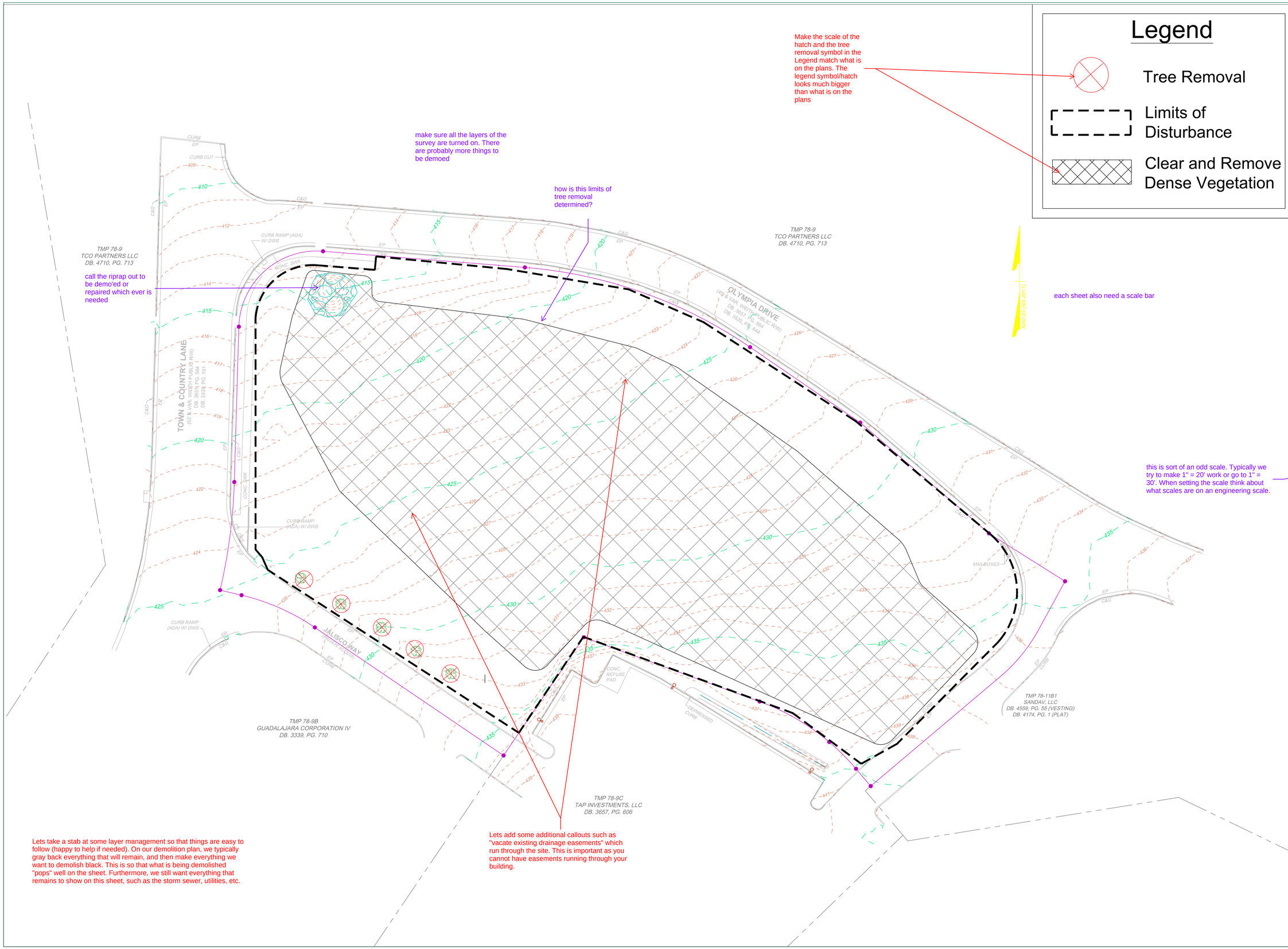

REVISION DESCRIPTION

DATE

DATE
11/28/2023

DRAWN BY

DESIGNED BY

CHECKED BY

SCALE
1" = 25'

PANTOPS HOTEL
CHARLOTTESVILLE, VA
DEMOLITION PLAN

JOB NO.

SHEET NO.
3

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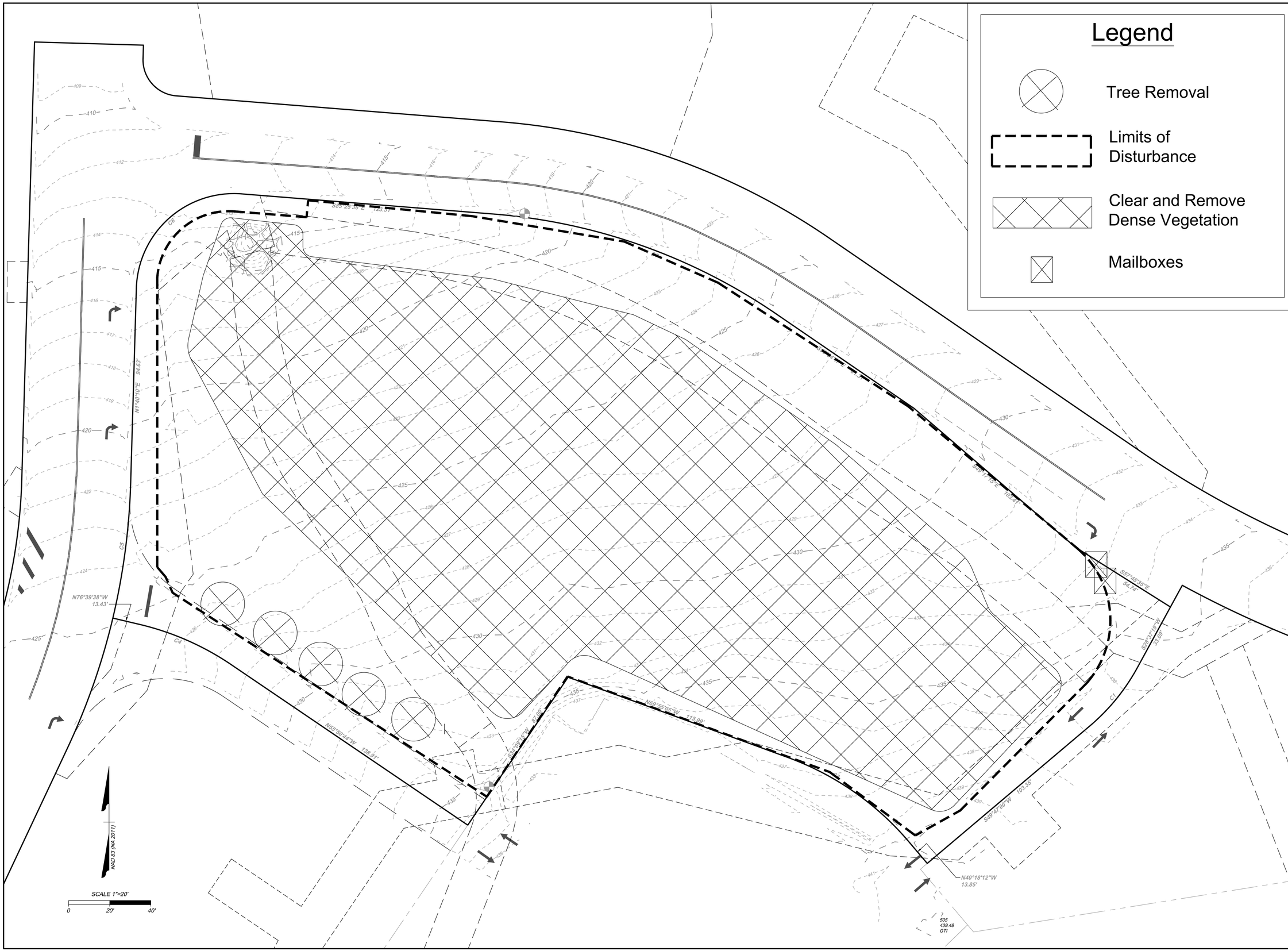

REVISION DESCRIPTION

DATE

DATE
2/21/2024

DRAWN BY

DESIGNED BY

CHECKED BY

SCALE
1" = 20'

PANTOPS HOTEL

ALBEMARLE COUNTY, VA

DEMOLITION PLAN

JOB NO.

SHEET NO.
4

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Legend

- Tree Removal
- Limits of Disturbance
- Clear and Remove Dense Vegetation
- Mailboxes

EXISTING RIPRAP TO BE REMOVED

VACATE ALL EXISTING DRAINAGE EASEMENTS

DEMOLISH EXISTING C&G AND SIDEWALK BETWEEN THESE POINTS

ALL STORM DRAIN INLETS TO REMAIN-IN-PLACE

ALL SANITARY UTILITIES TO REMAIN-IN-PLACE

REMOVE MAILBOXES AND PLACE AT PROPOSED NEW SITE ENTRANCE

OLYMPIA DRIVE
(45' & VAR. WIDTH PUBLIC R/W)
DB. 3657, PG. 564
DB. 3520, PG. 644

JUNTRY LANE
(VDTH PUBLIC R/W)
M, PG. 564
39, PG. 701

JALISCO WAY
PRIVATE ACCESS

TMP 78-9D
PANTOPS HOTEL, LLC
DB. 3673, PG. 95 (VESTING)
DB. 3657, PG. 564 (PLAT)
LOT D'
2.397 AC. (SURVEYED)
ZONED: HC

(SITE IS LIGHTLY VEGETATED AT TIME OF SURVEY)

TMP 78-9
TCO PARTNERS LLC
DB. 4710, PG. 713

TMP 78-9B
GUADALAJARA CORPORATION IV
DB. 3339, PG. 710

TMP 78-9C
TAP INVESTMENTS, LLC
DB. 3657, PG. 606

TMP 78-11B1
SANDAV, LLC
DB. 4559, PG. 55 (VESTING)
DB. 4174, PG. 1 (PLAT)

EX. 20' PRIVATE DRAINAGE EASEMENT DB. 3657, PG. 564

EX. VAR. WIDTH SWM MAINTENANCE EASEMENT DB. 3657, PG. 564

EX. VAR. WIDTH PUBLIC DRAINAGE EASEMENT DB. 3657, PG. 564

EX. VAR. WIDTH DRAINAGE EASEMENT DB. 3339, PG. 701

EX. 30' & VAR. WIDTH ACCESS EASEMENT DB. 3339, PG. 701

EX. 20' WATER LINE EASEMENT FOR ACSA DB. 3339, PG. 701

EX. 20' & VAR. WIDTH 'UTILITY EASEMENT' FOR ACSA DB. 3657, PG. 564

EX. 20' SANITARY SEWER EASEMENT FOR ACSA DB. 3657, PG. 564

EX. VAR. WIDTH 'UTILITY EASEMENT' FOR ACSA DB. 3657, PG. 564

EX. 20' PRIVATE DRAINAGE EASEMENT DB. 3657, PG. 564

SD CURB INLET W/ MHD TOP=412.53' INV. IN=408.43' 15" RCP (E) INV. IN=406.79' 24" RCP (S) INV. OUT=406.07' 24" RCP

OUTLET, 24" RCP INV. (OUT)=404.36'

MHD TOP=421.47' INV. IN=415.49' 15" RCP (E) INV. IN=415.36' 15" RCP (S) INV. OUT=414.77' 15" RCP

SD CURB INLET W/ MHD TOP=415.58' INV. IN=411.23' 15" RCP (W) INV. IN=411.36' 18" RCP (S) INV. OUT=409.44' 18" RCP

CURB RAMP (ADA) W/ DWS

TBM: SPIKE SET ELEV.=418.27'

SD CURB INLET W/ MHD TOP=421.61' INV. OUT=418.01' 15" RCP

SD INLET W/ FES INV. IN=403.78' 24" RCP

ROCK RIPRAP

SD CURB INLET W/ MHD TOP=425.59' INV. IN=421.32' 15" RCP (S) INV. IN=421.34' 15" RCP (SE) INV. OUT=421.16' 15" RCP

MHD TOP=424.38' INV. IN=418.77' 18" RCP (W) INV. OUT=416.18' 18" RCP

SD CURB INLET W/ MHD TOP=425.25' INV. IN=419.26' 15" RCP (W) INV. IN=420.60' 15" RCP (S) INV. OUT=419.14' 18" RCP

8" DEC

TBM: SPIKE SET ELEV.=435.53'

SAN CO TOP=438.31'

CONC. REFUSE PAD

DEPRESS. CURB

CONC. DRAINAGE FLUME

PIPE INLET, 12" HDPE (HW, L=4') INV. (IN)=436.68'

SD CURB INLET W/ MHD TOP=424.95' INV. IN=424.95' 15" RCP (SE) INV. OUT=424.85' 15" RCP

SD CURB INLET W/ MHD TOP=423.28' INV. IN=423.26' 15" RCP (S) INV. OUT=422.51' 15" RCP

MHS (W/ DROP CONN.) TOP=433.05' INV. IN=416.70' 8" PVC (S) INV. OUT=416.59' 8" PVC

SD CURB INLET W/ MHD TOP=432.48' INV. OUT=428.35' 15" RCP

MHD TOP=435.35' INV. IN=422.27' 8" PVC (E) INV. IN=418.22' 8" PVC (S) INV. OUT=418.13' 8" PVC

MHS (W/ DROP CONN.) TOP=437.07' INV.=431.67' INSPECT. ITEM INV. IN=420.91' 8" PVC DROP (S) INV. IN=420.11' 8" PVC (W) INV. OUT=420.02' 8" PVC

MHD TOP=439.34' INV. IN=419.72' 8" PVC (E) INV. OUT=418.64' 8" PVC

SD INLET W/ GRATE TOP=439.48' INV. IN=436.48' 15" RCP (E)

MHD TOP=439.20' INV. IN=434.12' 24" RCP (E) INV. IN=434.19' 18" HDPE INV. OUT=433.95' 24" HDPE

PK NAIL (F) AHD 4.36'

MAG NAIL (S)

IRON (F)

IRON (S)

PK NAIL (F)

MAILBOXES

N76°39'38"W 13.43'

N40°18'12"W 13.85'

S57°48'15"E 54.74'

S49°47'00"W 103.35'

S40°10'E 94.63'

N69°55'08"W 413.99'

N55°50'14"W 138.81'

S49°47'00"W 97.60'

SCALE 1"=20'
0 20' 40'

NAD 83 (NA 2011)

41

PANTOPS HOTEL
ALBEMARLE COUNTY, VA
DEMOLITION PLAN

REVISION DESCRIPTION

DATE
2/28/2024

DRAWN BY

DESIGNED BY

CHECKED BY

SCALE
1" = 20'

JOB NO.

SHEET NO.
4

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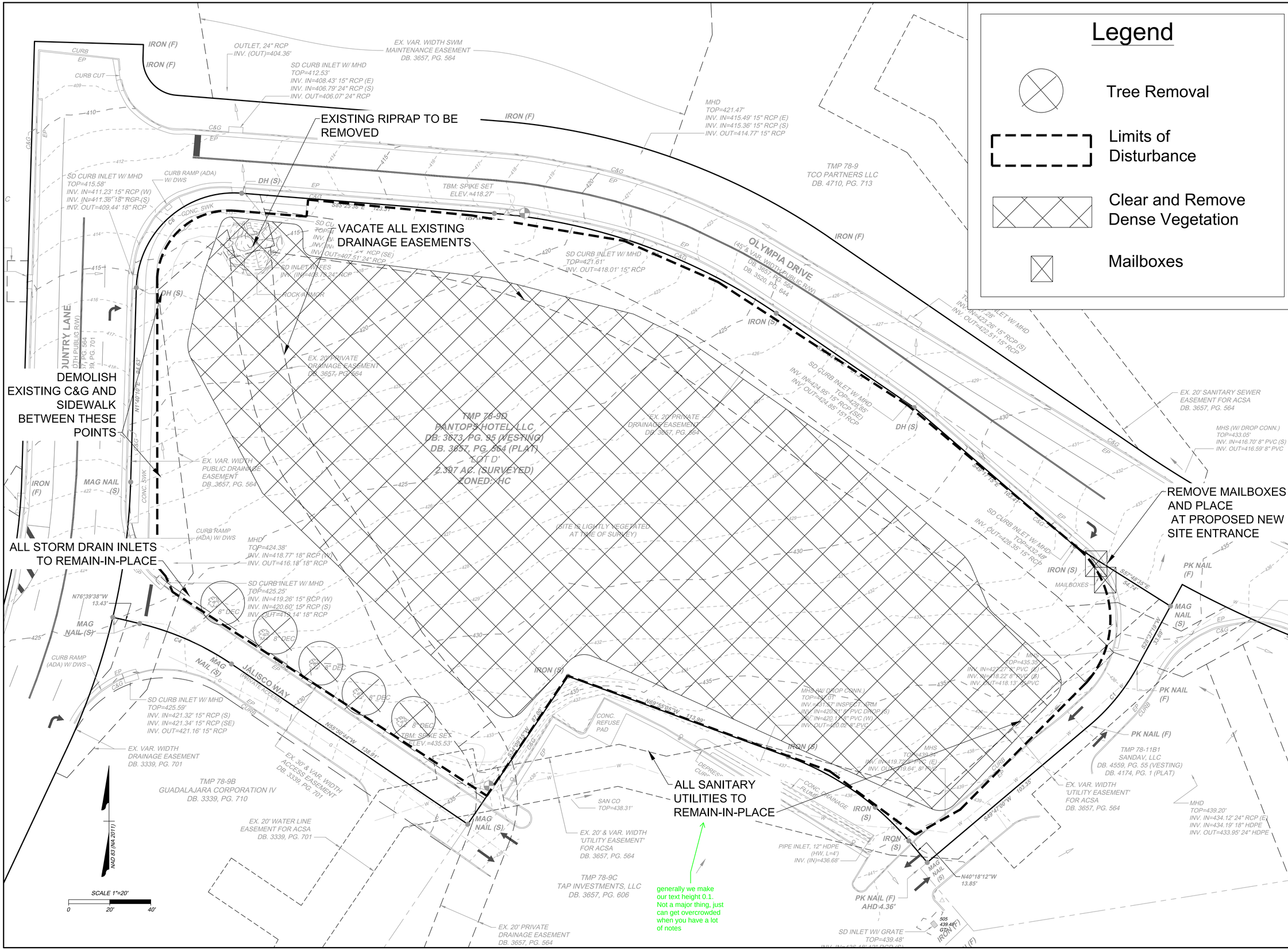

REVISION DESCRIPTION

DATE

DATE 2/28/2024

DRAWN BY

DESIGNED BY

CHECKED BY

SCALE 1" = 20'

PANTOPS HOTEL

ALBEMARLE COUNTY, VA

DEMOLITION PLAN

JOB NO. ----

SHEET NO. 4

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Legend

- Tree Removal
- Limits of Disturbance
- Clear and Remove Dense Vegetation
- Mailboxes

EX. VAR. WIDTH SWM MAINTENANCE EASEMENT DB. 3657, PG. 564

OUTLET, 24" RCP INV. (OUT)=404.36'

SD CURB INLET W/ MHD TOP=412.53' INV. IN=408.43' 15" RCP (E) INV. IN=406.79' 24" RCP (S) INV. OUT=406.07' 24" RCP

EXISTING RIPRAP TO BE REMOVED

MHD TOP=421.47' INV. IN=415.49' 15" RCP (E) INV. IN=415.36' 15" RCP (S) INV. OUT=414.77' 15" RCP

TMP 78-9 TCO PARTNERS LLC DB. 4710, PG. 713

SD CURB INLET W/ MHD TOP=415.58' INV. IN=411.23' 15" RCP (W) INV. IN=411.36' 18" RCP (S) INV. OUT=409.44' 18" RCP

CURB RAMP (ADA) W/ DWS

TBM: SPIKE SET ELEV.=418.27'

VACATE ALL EXISTING DRAINAGE EASEMENTS

SD CURB INLET W/ MHD TOP=421.61' INV. IN=408.62' 18" RCP (SW) INV. IN=408.11' 24" RCP (SE) INV. OUT=407.51' 24" RCP

SD CURB INLET W/ MHD TOP=421.61' INV. OUT=418.01' 15" RCP

SD INLET W/ FES INV. IN=403.78' 24" RCP

ROCK ARMOR

OLYMPIA DRIVE (45' & VAR. WIDTH PUBLIC R/W) DB. 3657, PG. 564 DB. 3520, PG. 644

DEMO EXISTING SIDEWALK

DEMOLISH EXISTING CURB & GUTTER

DEMOLISH EXISTING CURB & GUTTER

TOWN & COUNTRY LANE (53' & VAR. WIDTH PUBLIC R/W) DB. 3657, PG. 564 DB. 3339, PG. 701

EX. 20' PRIVATE DRAINAGE EASEMENT DB. 3657, PG. 564

TMP 78-9D PANTOPS HOTEL, LLC DB. 3673, PG. 95 (VESTING) DB. 3657, PG. 564 (PLAT) LOT D' 2.397 AC. (SURVEYED) ZONED: HC

EX. 20' PRIVATE DRAINAGE EASEMENT DB. 3657, PG. 564

SD CURB INLET W/ MHD TOP=428.95' INV. IN=424.95' 15" RCP (SE) INV. OUT=424.85' 15" RCP

DEMOLISH EXISTING CURB & GUTTER

EX. 20' SANITARY SEWER EASEMENT FOR ACSA DB. 3657, PG. 564

MHS (W/ DROP CONN.) TOP=433.05' INV. IN=416.70' 8" PVC (S) INV. OUT=416.59' 8" PVC

EX. VAR. WIDTH PUBLIC DRAINAGE EASEMENT DB. 3657, PG. 564

(SITE IS LIGHTLY VEGETATED AT TIME OF SURVEY)

REMOVE MAILBOXES AND PLACE AT PROPOSED NEW SITE ENTRANCE

SD CURB INLET W/ MHD TOP=432.48' INV. OUT=428.35' 15" RCP

ALL STORM DRAIN INLETS TO REMAIN-IN-PLACE

MHD TOP=424.38' INV. IN=418.77' 18" RCP (W) INV. OUT=416.18' 18" RCP

SD CURB INLET W/ MHD TOP=425.25' INV. IN=419.26' 15" RCP (W) INV. IN=420.60' 15" RCP (S) INV. OUT=419.14' 18" RCP

DEMO CURB, GUTTER, ROAD FOR SANITARY SEWER INSTALLATION. REPLACE IN KIND.

JALISCO WAY (PRIVATE ACCESS)

SD CURB INLET W/ MHD TOP=425.59' INV. IN=421.32' 15" RCP (S) INV. IN=421.34' 15" RCP (SE) INV. OUT=421.16' 15" RCP

MHS TOP=435.35' INV. IN=422.27' 8" PVC (E) INV. IN=418.22' 8" PVC (S) INV. OUT=418.13' 8" PVC

MHS W/ DROP CONN.) TOP=431.01' INV.=431.67' INSPECT. ITEM INV. IN=420.91' 8" PVC DROP (S) INV. IN=420.13' 8" PVC (W) INV. OUT=420.02' 8" PVC

MHS TOP=439.34' INV. IN=419.72' 8" PVC (E) INV. OUT=419.64' 8" PVC

EX. VAR. WIDTH DRAINAGE EASEMENT DB. 3339, PG. 701

TMP 78-9B GUADALAJARA CORPORATION IV DB. 3339, PG. 710

EX. 30' & VAR. WIDTH ACCESS EASEMENT DB. 3339, PG. 701

DEMO CURB & GUTTER AS REQUIRED TO TIE IN WATER LINE. REPLACE IN KIND.

ALL SANITARY UTILITIES TO REMAIN-IN-PLACE

CONC. REFUSE PAD

SAN CO TOP=438.31'

EX. 20' & VAR. WIDTH 'UTILITY EASEMENT' FOR ACSA DB. 3657, PG. 564

EX. 20' WATER LINE EASEMENT FOR ACSA DB. 3339, PG. 701

DEPRESSED CURB

CONC. FLUME

CONC. DRAINAGE

PIPE INLET, 12" HDPE (HW, L=4') INV. (IN)=436.68'

TMP 78-9C TAP INVESTMENTS, LLC DB. 3657, PG. 606

EX. 20' PRIVATE DRAINAGE EASEMENT DB. 3657, PG. 564

TMP 78-11B1 SANDAV, LLC DB. 4559, PG. 55 (VESTING) DB. 4174, PG. 1 (PLAT)

EX. VAR. WIDTH 'UTILITY EASEMENT' FOR ACSA DB. 3657, PG. 564

MHD TOP=439.20' INV. IN=434.12' 24" RCP (E) INV. IN=434.19' 18" HDPE INV. OUT=433.95' 24" HDPE

PK NAIL (F) AHD 4.36'

SD INLET W/ GRATE TOP=439.48'

505 439.44 GDN

IRON (F)

IRON (S)

MAG NAIL (S)

PK NAIL (F)

N76°39'38"W 13.43'

N55°58'44"W 138.91'

N68°55'08"W 113.99'

N40°18'12"W 13.85'

S49°47'06"W 103.35'

S57°48'35"E 34.74'

S39°27'19"E 45.68'

NAD 83 (MA 2011)

SCALE 1"=20'

0 20' 40'

REVISION DESCRIPTION	DATE
	4/24/2024

DRAWN BY

DESIGNED BY

CHECKED BY

SCALE 1" = 20'

PANTOPS HOTEL

ALBEMARLE COUNTY, VA

DEMOLITION PLAN

JOB NO. ----

SHEET NO. 4

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TMP 78-9
TCO PARTNERS LLC
DB. 4710, PG. 713

TMP 78-9
TCO PARTNERS LLC
DB. 4710, PG. 713

TOWN & COUNTRY LANE
(53' R.VAR. WIDTH PUBLIC ROAD)
DB. 3657, PG. 564
DB. 3339, PG. 701

OLYMPIA DRIVE
(48' R.VAR. WIDTH PUBLIC RAMP)
DB. 3657, PG. 564
DB. 3520, PG. 644

TMP 78-9D
PANTOPS HOTEL, LLC
DB. 3673, PG. 95 (VESTING)
DB. 3657, PG. 564 (PLAT)
"LOT D"
2.397 AC. (SURVEYED)
ZONED: HC

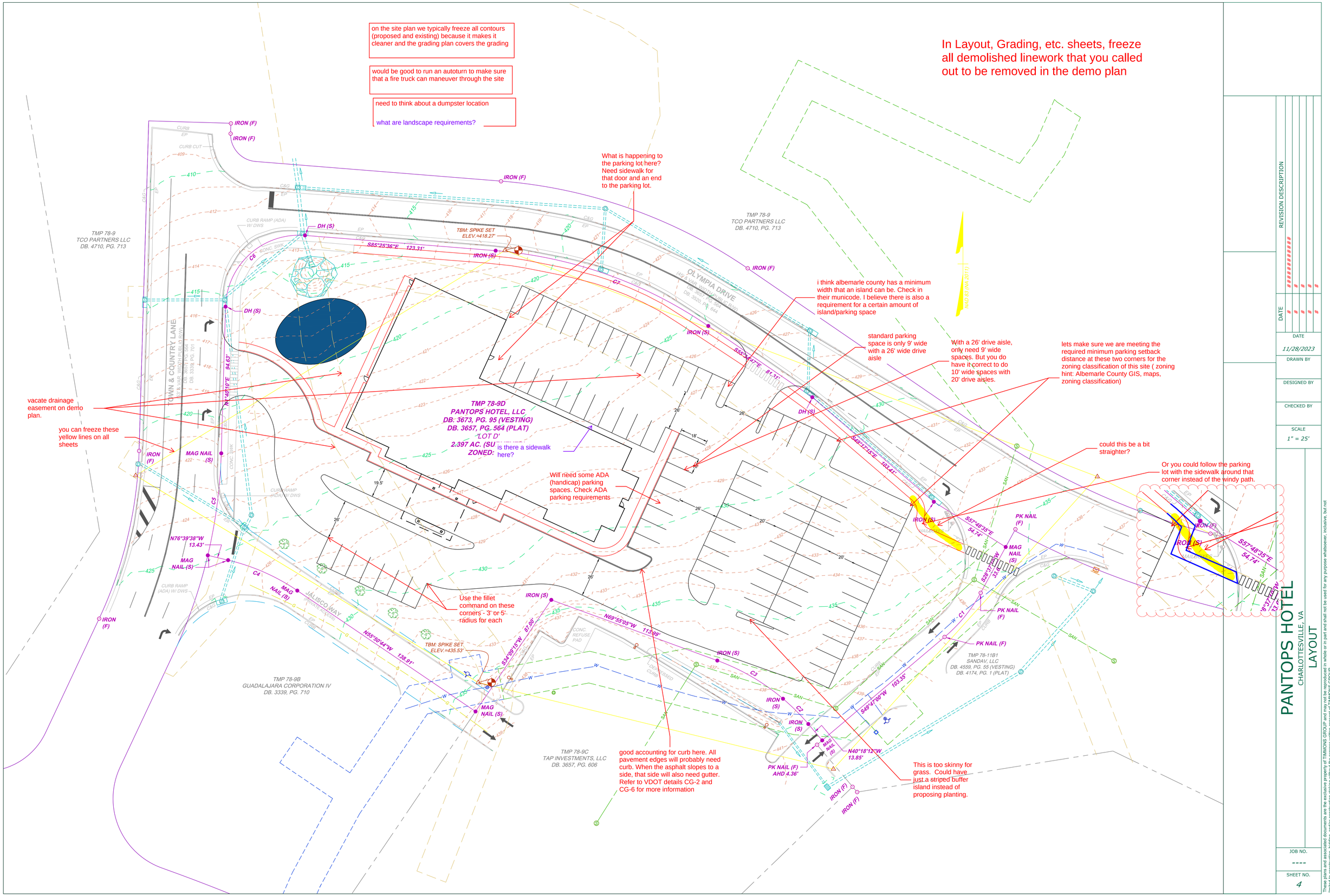
TMP 78-9B
GUADALAJARA CORPORATION IV
DB. 3339, PG. 710

TMP 78-9C
TAP INVESTMENTS, LLC
DB. 3657, PG. 606

TMP 78-11B1
SANDAV, LLC
DB. 4559, PG. 55 (VESTING)
DB. 4174, PG. 1 (PLAT)

JÁLISCO WAY
(PRIVATE ACCESS)

IRON (F)
IRON (F)
IRON (F)



REVISION DESCRIPTION

DATE

DATE 11/28/2023

DRAWN BY

DESIGNED BY

CHECKED BY

SCALE 1" = 25'

PANTOPS HOTEL

CHARLOTTESVILLE, VA

LAYOUT

JOB NO. ----

SHEET NO. 4

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IRON (F)
IRON (F)
IRON (F)
TMP 78-9
TCO PARTNERS LLC
DB. 4710, PG. 713
CURB RAMP (ADA) W/ DWS
DH (S)
TBM: SPIKE SET
ELEV.=418.27'
S85°25'36"E 123.31'
IRON (S)
C6
C7
IRON (F)
TMP 78-9
TCO PARTNERS LLC
DB. 4710, PG. 713
NAD 83 (NA 2011)
DH (S)
IRON (S)
18'
26'
22 SPOTS
TMP 78-9D
PANTOPS HOTEL, LLC
DB. 3673, PG. 95 (VESTING)
DB. 3657, PG. 564 (PLAT)
'LOT D'
2.397 AC. (SURVEYED)
ZONED: HC
26'
18'
9'
6'
5 SPOTS
DH (S)
4 SPOTS
SAN
IRON (S)
S57°48'39"E
44.74'
PK NAIL (F)
IRON (F)
IRON (F)
MAG NAIL (S)
CURB RAMP (ADA) W/ DWS
C5
19.5'
26'
8 SPOTS
9 SPOTS
20'
18 SPOTS
11 SPOTS
20'
MAG NAIL (S)
S32°37'44"E
30.60'
N76°39'38"W
13.43'
MAG NAIL (S)
C4
CURB RAMP (ADA) W/ DWS
IRON (F)
MAG NAIL (S)
N55°50'44"W 138.91'
TBM: SPIKE SET
ELEV.=435.53'
S34°09'15"W 97.89'
IRON (S)
N69°55'05"W 113.99'
IRON (S)
C1
PK NAIL (F)
TMP 78-11B1
SANDAV, LLC
DB. 4559, PG. 55 (VESTING)
DB. 4174, PG. 1 (PLAT)
PK NAIL (F)
TMP 78-9B
GUADALAJARA CORPORATION IV
DB. 3339, PG. 710
DEPRESSED CURB
C2
IRON (S)
IRON (S)
S49°47'00"W 103.35'
MAG NAIL (S)
N40°18'12"W
13.85'
TMP 78-9C
TAP INVESTMENTS, LLC
DB. 3657, PG. 606
PK NAIL (F)
AHD 4.36'
IRON (F)
IRON (F)

REVISION DESCRIPTION	DATE

DATE
11/28/2023
DRAWN BY
DESIGNED BY
CHECKED BY
SCALE
1" = 25'

PANTOPS HOTEL
ALBEMARLE COUNTY, VA
LAYOUT

JOB NO.

SHEET NO.
4

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IRON (F)
IRON (F)
IRON (F)
TMP 78-9
TCO PARTNERS LLC
DB. 4710, PG. 713
DH (S)
TBM: SPIKE SET
ELEV.=418.27'
S85°25'36"E 123.31'
IRON (S)
C6
C7
TMP 78-9
TCO PARTNERS LLC
DB. 4710, PG. 713
IRON (F)
SCALE 1"=25'
0 25' 50'
NAD 83 (NA 2011)
DH (S)
STOP SIGN
(R1-1)
WHITE PICKET FENCE
18'
26'
IRON (S)
STOP SIGN
(R1-1)
DH (S)
TMP 78-9D
PANTOPS HOTEL, LLC
DB. 3673, PG. 95 (VESTING)
DB. 3657, PG. 564 (PLAT)
'LOT D'
2.397 AC. (SURVEYED)
ZONED: HC
26'
18'
9'
19.5'
26'
20'
20'
20'
IRON
(F)
MAG NAIL
(S)
C5
N76°39'38"W
13.43'
MAG
NAIL (S)
C4
MAG
NAIL (S)
IRON
(F)
IRON (S)
N69°55'05"W 113.99'
S47°09'15"W 97.89'
TBM: SPIKE SET
ELEV.=435.53'
N55°50'44"W 138.91'
TMP 78-9B
GUADALAJARA CORPORATION IV
DB. 3339, PG. 710
MAG
NAIL (S)
TMP 78-9C
TAP INVESTMENTS, LLC
DB. 3657, PG. 606
IRON (S)
C2
IRON
(S)
C3
IRON
(S)
S49°47'00"W 103.35'
MAG
NAIL
(S)
N40°18'12"W
13.85'
PK NAIL (F)
AHD 4.36'
IRON (F)
IRON (F)
SAN
SAN
SAN
SAN
SAN
SAN
SAN
SAN
IRON (S)
S57°48'39"E
94.74'
PK NAIL
(F)
MAG
NAIL
(S)
S32°37'14"W
32.60'
PK NAIL
(F)
C1
PK NAIL (F)
TMP 78-11B1
SANDAV, LLC
DB. 4559, PG. 55 (VESTING)
DB. 4174, PG. 1 (PLAT)
IRON (F)
W
W
W

IRON (F)
IRON (F)
IRON (F)
DH (S)
TBM: SPIKE SET
ELEV.=418.27'
S85°25'36"E 123.31'
IRON (S)
TMP 78-9
TCO PARTNERS LLC
DB. 4710, PG. 713
IRON (F)
NAD 83 (NA 2011)
SCALE 1"=20'
0 20' 40'
DH (S)
C6
C5
STOP SIGN
(R1-1)
S76°39'38"E 94.63'
18'
26'
IRON (S)
S44°38'15"E 104.41'
STOP SIGN
(R1-1)
DH (S)
TMP 78-9D
PANTOPS HOTEL, LLC
DB. 3673, PG. 95 (VESTING)
DB. 3657, PG. 564 (PLAT)
'LOT D'
2.397 AC. (SURVEYED)
ZONED: HC
26'
18'
9'
19.5'
26'
20'
26'
20'
20'
S49°47'15"E 103.41'
IRON (S)
S57°48'25"E 54.74'
PK NAIL
(F)
IRON
(F)
MAG NAIL
(S)
C5
N76°39'38"W
13.43'
MAG
NAIL (S)
C4
MAG
NAIL (S)
S28°27'35"E 53.69'
MAG
NAIL
(S)
PK NAIL
(F)
PK NAIL (F)
TMP 78-11B1
SANDAV, LLC
DB. 4559, PG. 55 (VESTING)
DB. 4174, PG. 1 (PLAT)
IRON (S)
N69°55'05"W 113.99'
S47°09'15"W 87.09'
TBM: SPIKE SET
ELEV.=435.53'
N55°50'44"W 139.91'
TMP 78-9B
GUADALAJARA CORPORATION IV
DB. 3339, PG. 710
MAG
NAIL (S)
IRON
(S)
C3
C2
IRON
(S)
S49°47'00"W 103.35'
MAG
NAIL
(S)
N40°18'12"W
13.85'
PK NAIL (F)
AHD 4.36'
IRON (F)
TMP 78-9C
TAP INVESTMENTS, LLC
DB. 3657, PG. 606

REVISION DESCRIPTION
DATE

DATE
2/21/2024
DRAWN BY
DESIGNED BY
CHECKED BY
SCALE
1" = 20'

PANTOPS HOTEL
ALBEMARLE COUNTY, VA
LAYOUT

JOB NO.

SHEET NO.
5

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IRON (F)
IRON (F)
IRON (F)
DH (S)
TBM: SPIKE SET
ELEV.=418.27'
S85°25'36"E 123.31'
IRON (S)
TMP 78-9
TCO PARTNERS LLC
DB. 4710, PG. 713
IRON (F)
NAD 83 (NA 2011)
SCALE 1"=20'
0 20' 40'
DH (S)
C2
C3
18'
26'
IRON (S)
STOP SIGN
(R1-1)
S42°48'35"E 54.74'
DH (S)
STOP SIGN
(R1-1)
S40°19'15"W 94.63'
TMP 78-9D
PANTOPS HOTEL, LLC
DB. 3673, PG. 95 (VESTING)
DB. 3657, PG. 564 (PLAT)
'LOT D'
2.397 AC. (SURVEYED)
ZONED: HC
26'
18'
9'
19.5'
6'
20'
S40°17'15"E 103.41'
IRON
(F)
MAG NAIL
(S)
C5
IRON (S)
PK NAIL
(F)
N76°39'38"W
13.43'
MAG
NAIL (S)
S28°27'15"E 53.69'
MAG
NAIL (S)
C4
N55°50'44"W 139.91'
TBM: SPIKE SET
ELEV.=435.53'
S34°09'15"W 87.09'
N69°55'05"W 113.99'
IRON (S)
C1
C3
PK NAIL (F)
TMP 78-11B1
SANDAV, LLC
DB. 4559, PG. 55 (VESTING)
DB. 4174, PG. 1 (PLAT)
TMP 78-9B
GUADALAJARA CORPORATION IV
DB. 3339, PG. 710
MAG
NAIL (S)
IRON
(S)
C2
S49°47'00"W 103.35'
IRON
(S)
MAG
NAIL
(S)
N40°18'12"W
13.85'
PK NAIL (F)
AHD 4.36'
TMP 78-9C
TAP INVESTMENTS, LLC
DB. 3657, PG. 606
IRON (F)

REVISION DESCRIPTION	DATE

DATE
2/28/2024
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DESIGNED BY
CHECKED BY
SCALE
1" = 20'

PANTOPS HOTEL
ALBEMARLE COUNTY, VA
LAYOUT

JOB NO.

SHEET NO.
5

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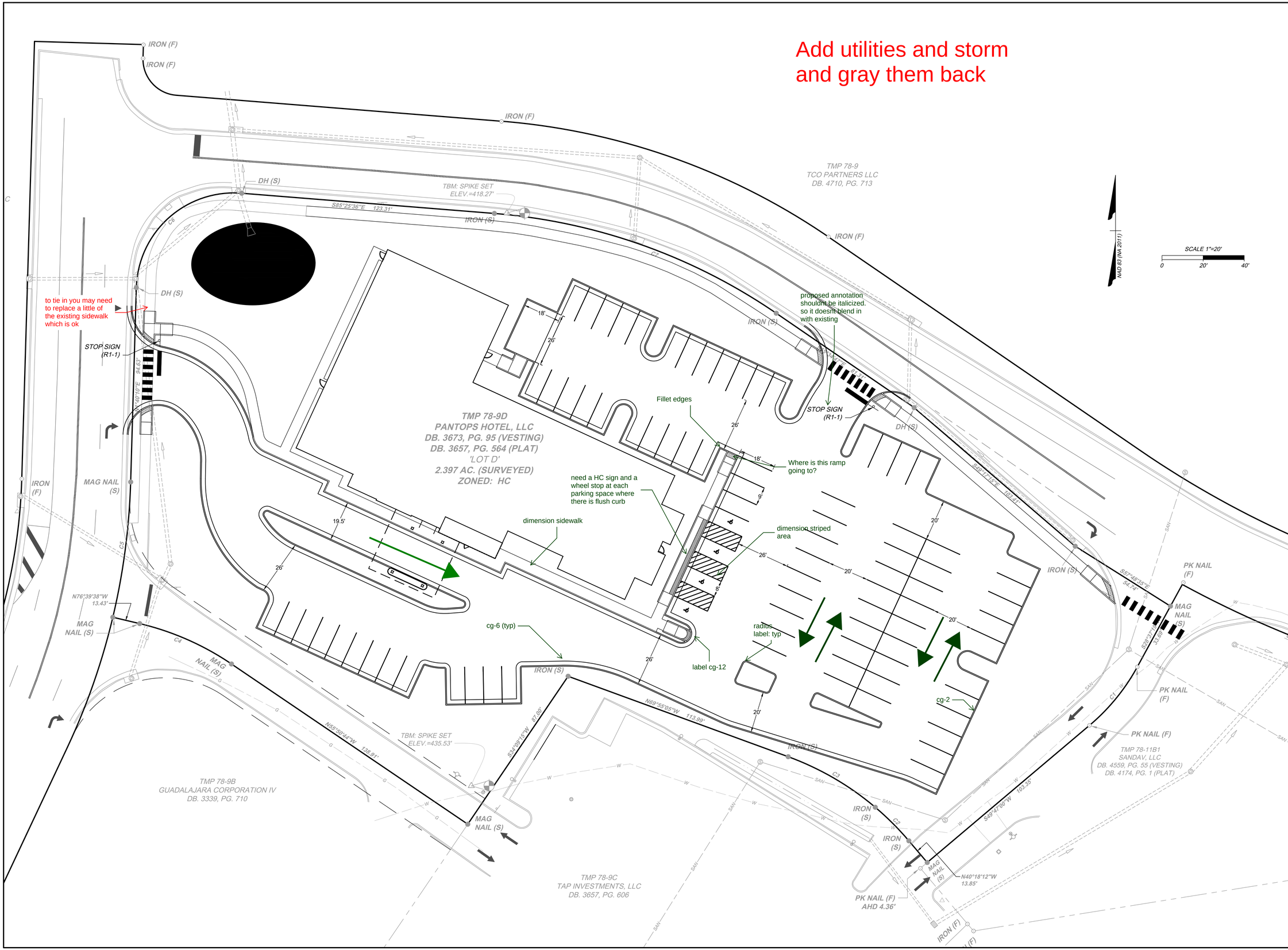

REVISION DESCRIPTION

DATE

DATE
2/28/2024

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SCALE
1" = 20'

PANTOPS HOTEL

ALBEMARLE COUNTY, VA

LAYOUT

JOB NO.

SHEET NO.
5

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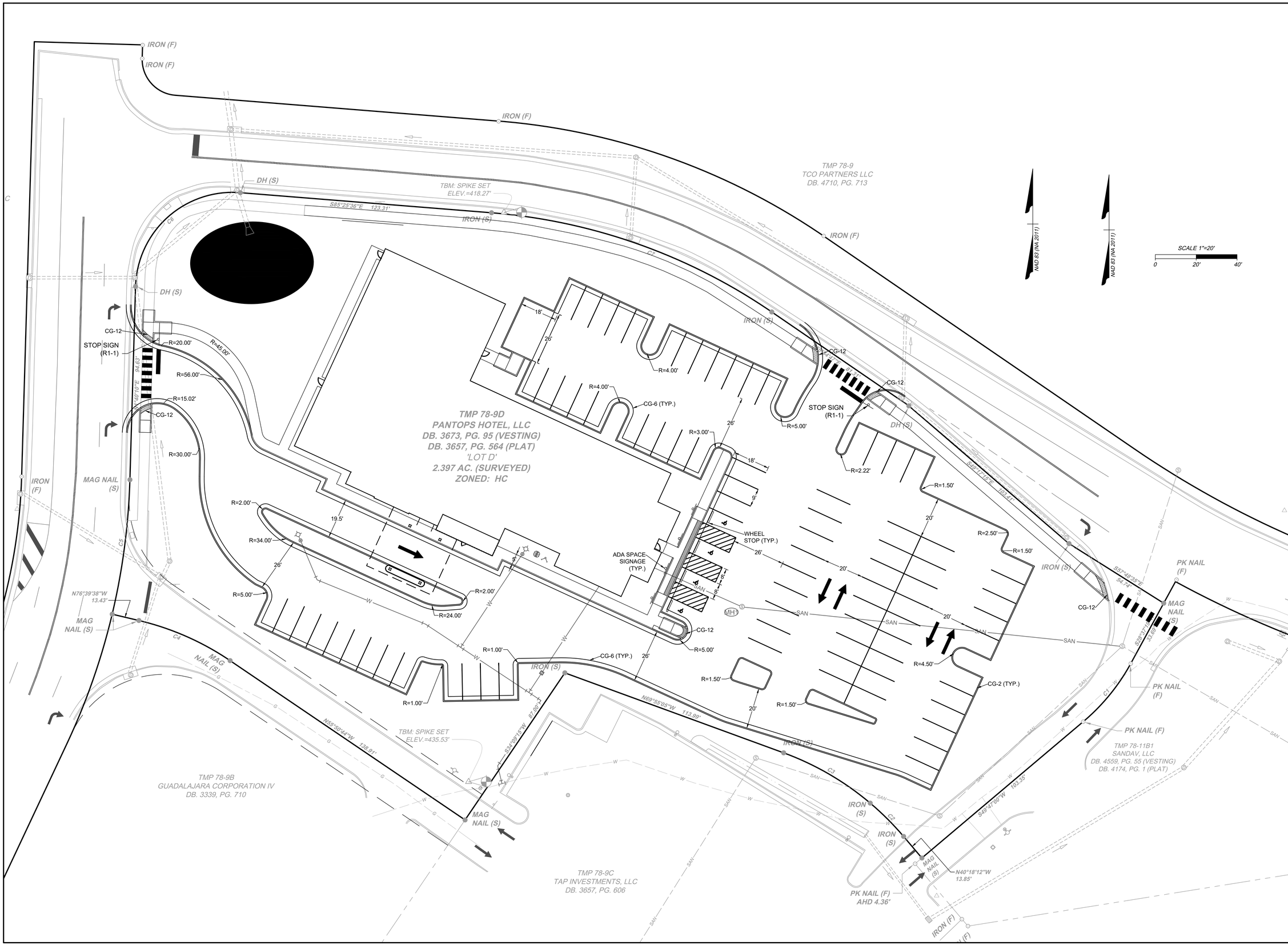

REVISION DESCRIPTION

DATE

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4/4/2024

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SCALE
1" = 20'

PANTOPS HOTEL

ALBEMARLE COUNTY, VA

LAYOUT

JOB NO.

SHEET NO.
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MATERIALS LEGEND

- LIGHT DUTY ASPHALT
- HEAVY DUTY ASPHALT
- CONCRETE SIDEWALK
- HEAVY DUTY CONCRETE

SCALE 1"=20'
0 20' 40'

NAD 83 (NA 2011)

IRON (F)
IRON (F)
IRON (F)
DH (S)
TBM: SPIKE SET
ELEV.=418.27'
S85°25'36"E 123.31'
IRON (S)
IRON (F)
TMP 78-9
TCO PARTNERS LLC
DB. 4710, PG. 713
RETAINING WALL
BIORETENTION
LEVEL 1
BIORETENTION BASIN
DH (S)
CG-12
R=20.00'
STOP SIGN
(R1-1)
94.63'
S04°34'24"E
RETAINING WALL
R=15.02'
CG-12
CG-6 (TYP.)
R=30.00'
IRON
(F)
MAG NAIL
(S)
DECIDUOUS
TREE (TYP.)
R=2.00'
19.5'
R=34.00'
26'
R=5.00'
R=2.00'
R=24.00'
N76°39'38"W
13.43'
MAG
NAIL (S)
C4
MAG
NAIL (S)
N55°50'44"W 139.91'
TMP 78-9B
GUADALAJARA CORPORATION IV
DB. 3339, PG. 710
TMP 78-9D
PANTOPS HOTEL, LLC
DB. 3673, PG. 95 (VESTING)
DB. 3657, PG. 564 (PLAT)
'LOT D'
2.397 AC. (SURVEYED)
ZONED: HC
18'
26'
DECIDUOUS
TREE (TYP.)
R=4.00'
R=4.00'
CG-6 (TYP.)
26'
R=5.00'
18'
WHEEL
STOP (TYP.)
9'
ADA SPACE
SIGNAGE
(TYP.)
CG-12
MH
SAN
SAN
SAN
SAN
CG-12
R=1.00'
R=1.00'
CG-6 (TYP.)
26'
IRON (S)
RETAINING WALL
S24°09'11"E 102.41'
TBM: SPIKE SET
ELEV.=435.53'
IRON (S)
C3
IRON
(S)
IRON
(S)
MAG
NAIL (S)
PK NAIL (F)
AHD 4.36'
TMP 78-9C
TAP INVESTMENTS, LLC
DB. 3657, PG. 606
IRON (S)
CG-12
STOP SIGN
(R1-1)
DH (S)
R=2.22'
R=1.50'
20'
R=2.50'
R=1.50'
IRON (S)
S37°46'55"E
54.74'
S28°27'47"E
53.68'
PK NAIL
(F)
MAG
NAIL
(S)
CG-12
20'
20'
20'
R=4.50'
DECIDUOUS
TREE (TYP.)
CG-2 (TYP.)
R=1.50'
R=1.50'
20'
PK NAIL (F)
PK NAIL (F)
TMP 78-11B1
SANDAV, LLC
DB. 4559, PG. 55 (VESTING)
DB. 4174, PG. 1 (PLAT)
S49°47'00"W 103.35'
N40°18'12"W
13.85'
IRON (F)

REVISION DESCRIPTION	
DATE	
DATE	4/24/2024
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DESIGNED BY	
CHECKED BY	
SCALE	1" = 20'

PANTOPS HOTEL
ALBEMARLE COUNTY, VA
LAYOUT

JOB NO. ----
SHEET NO. 5

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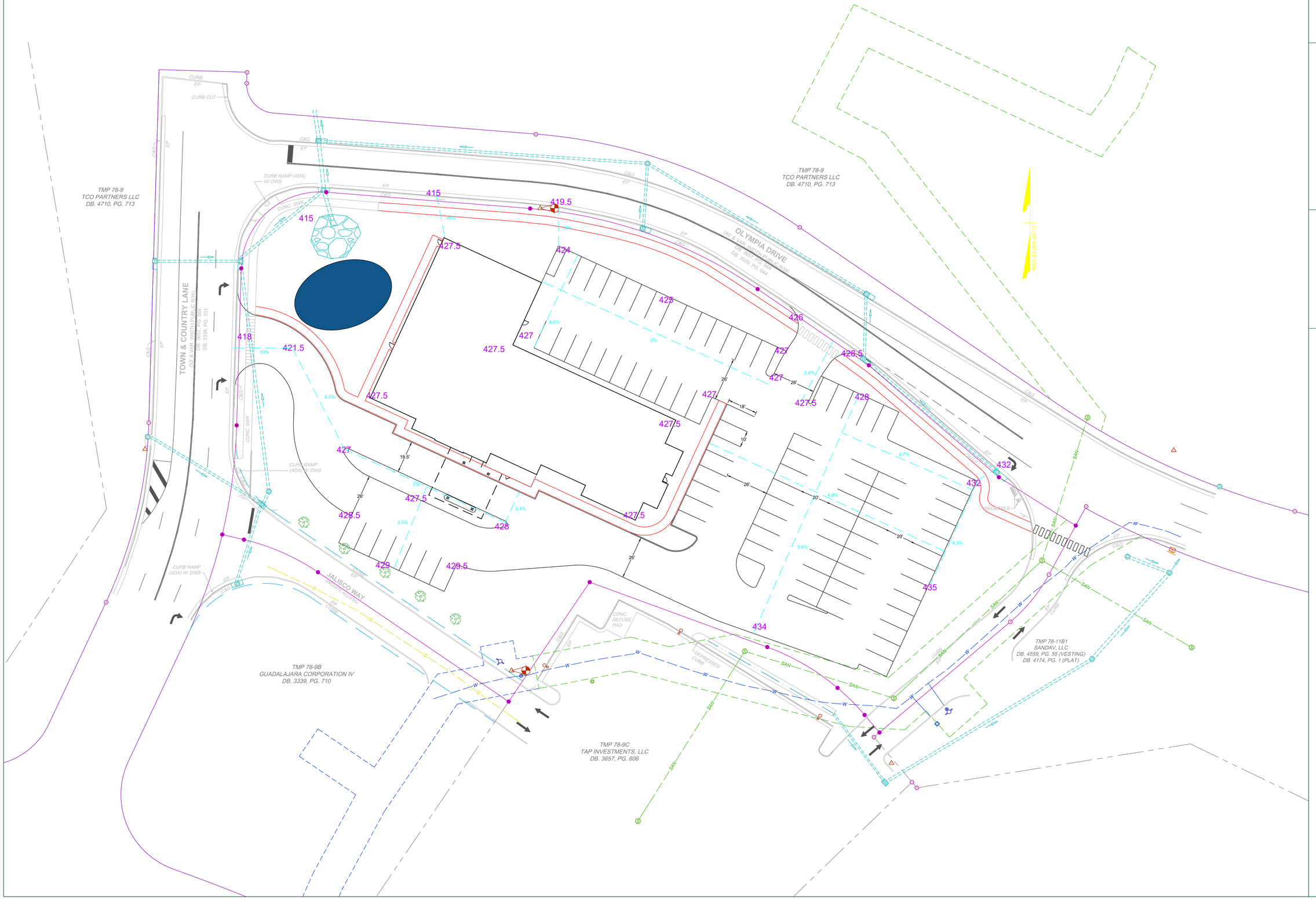

REVISION DESCRIPTION

DATE

DATE
11/28/2023

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SCALE
1" = 25'

PANTOPS HOTEL

CHARLOTTESVILLE, VA

GRADING PLAN

JOB NO.

SHEET NO.
5

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SWM Quality Tips: Ultimately, you will want to find the amount of impervious cover for both pre and post developed conditions. These numbers can then be entered into the VRRM spreadsheet. This will tell you how much phosphorous needs to be treated for your development. Of this requirement, 75% will need to be treated onsite via this SWM facility (Lets try a level 1 bioretention) and potentially other small practices only if needed. The remaining phosphorous can be "purchased" with nutrient credits. This means you may not have to drain your entire site to this bioretention which can help with grading. The VRRM spreadsheet is pretty simple and will tell you everything you need to know. You just need to input pre and post development land cover areas (impervious and managed turf), and specify how much of the post developed areas are draining to the bioretention (Lets first assume you can drain all of the parking lot, drive aisles, and building area to this SWM facility, but the grass area/ sidewalk to the North of the site we say is not captured by the SWM facility) The spreadsheet will then calc approximately how much phosphorous removal you are getting from the bioretention and you can divide this number by the total requirement to see if you are meeting 75%. If not, we either need add another small SWM practice such as a grass swale and/or another small bioretention. Lets first get the VRRM spreadsheet filled out with land cover areas if you havent done so already. We are more than happy to run though this with you!

here we will want existing contours and eventually proposed contours

SWM Quantity Tips: Along side phosphorous removal (SWM Quality), you need to also make sure your SWM facility is sized to handle the amount of water draining to it. There needs to be control structures that ensure the flow rate to the "Analysis Point" meets energy balance and flood protection requirements. We can help walk you through these steps/ design modeling in more detail as this is a good chunk of information! I'd say start with choosing an analysis point (such as called out on this sheet - point downstream that all of your disturbance drains to) and then begin delineating the different areas that drain to it for both the Pre-Developed condition and Post-Developed condition sheets. For the Pre-developed SWM sheet, just delineate your LOD as one drainage area, and then delineate any offsite area that may drain through your site. For the Post-Developed SWM sheet, you should have one drainage area named similarly to "Onsite to Bioretention", another that is "Onsite Undetained" which is for areas that you disturbed but dont drain to the bioretention, and then as well any offsite area that drains through your site (which should be the same as the pre-developed sheet if any). We can then calc a Time of Concentration "Tc" for each area, and then a Curve Number based on the land cover and soil type. Lastly, we can build a hydograph to understand the flow rates for these different areas which are used to help model the bioretention and its control structures in order to meet energy balance and flood protection requirements. For potential offsite areas, I would use GIS contours and Google street view to see if there looks to be any offsite areas that drain onto your site. As for the energy balance and flood protection requirements, you can google search virginia SWM regulations and under Chapter 870 - Sections 65 and 66 of LIS Virginia Law you can find the requirements / formulas for SWM quality and quantity.

This SWM Facility can eat up more of this space if needed. Will need to run pre-developed and post-developed stormwater numbers to get an idea of the needed size.

is there enough room to grade in this sidewalk? The max cross slope allowed is 2%

"Analysis Point"

some of your disturbed area will drain to this road, so need to consider the drainage through the existing storm infrastructure here, which is why the analysis point called out on this sheet is a good point to pick for energy balance and flood protection requirements.

TMP 78-9
TCO PARTNERS LLC
DB. 4710, PG. 713

not sure this sidewalk will work; max running slope on a sidewalk for ADA is 5% greater than 5% you will need a ramp.

going to need stairs for this door here so that you can grade (preferably 3:1) down to the side walk, then 2% across sidewalk, and then still tie into the 415' contour. Each step can be a max of 7" tall.

does this intersection spacing?

Grading should be along centerline.

this path may work though if we want to connect to the sidewalk

Could bring sidewalk out to here to tie in if grades are better.

need to think about ADA parking spaces. They can only have a max 2% slope in all directions

TOWN & COUNTRY LANE
(53' R/W & VAR. WIDTH PUBLIC ROW)
DB. 3000, PG. 554
DB. 3339, PG. 701

OLYMPIA DRIVE
(45' R/W & VAR. WIDTH PUBLIC R/W)
DB. 3587, PG. 2851
DB. 3520, PG. 644

JALISCO WAY
(PRIVATE ACCESS)

TMP 78-9B
GUADALAJARA CORPORATION IV
DB. 3339, PG. 710

TMP 78-9C
TAP INVESTMENTS, LLC
DB. 3657, PG. 606

TMP 78-11B1
SANDAV, LLC
DB. 4559, PG. 55 (VESTING)
DB. 4174, PG. 1 (PLAT)

will we be grading over the property line here? what are these tie in slopes?

you can turn this linework into feature lines in CAD and can give each end point an elevation and then create a rough surface that will give you contours to look at. From there you can start fine tuning the surface by adding more and more elevation points. We can show you how to do this if needed. There are some good videos on YouTube that show you how to create a surface from "feature lines".

Can freeze dimensions on the grading sheet (only need them shown on the Layout Plan)

we typically make this a grading and drainage plan and then show our proposed storm pipes and structures

RANTOPS HOTEL
CHARLOTTESVILLE, VA
GRADING PLAN

REVISION DESCRIPTION

DATE

DATE 11/28/2023
DRAWN BY
DESIGNED BY
CHECKED BY
SCALE 1" = 25'

JOB NO. ----
SHEET NO. 5

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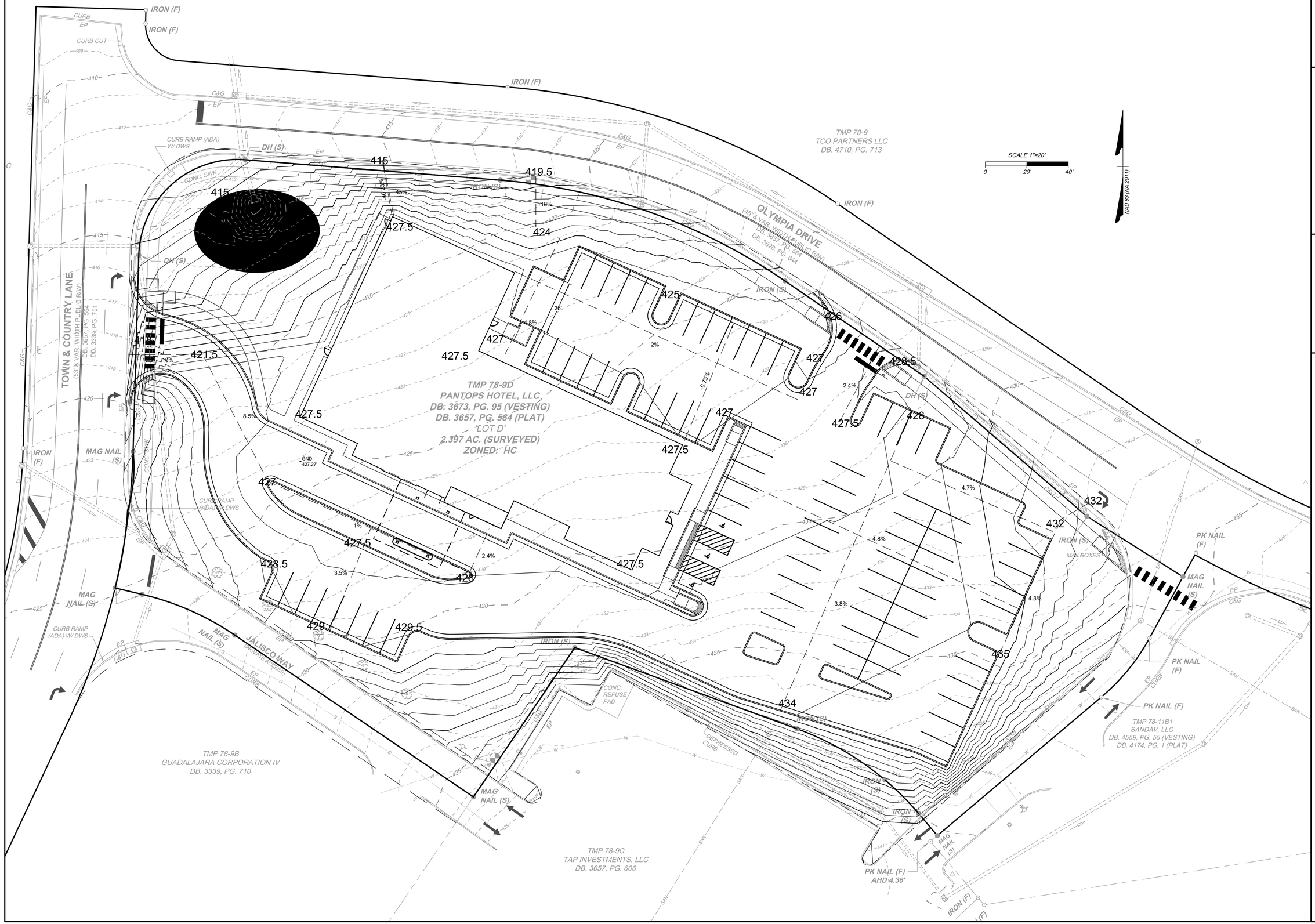

REVISION DESCRIPTION	DATE

DATE
2/21/2024

DRAWN BY

DESIGNED BY

CHECKED BY

SCALE
1" = 20'

PANTOPS HOTEL

ALBEMARLE COUNTY, VA

GRADING PLAN

JOB NO.

SHEET NO.
7

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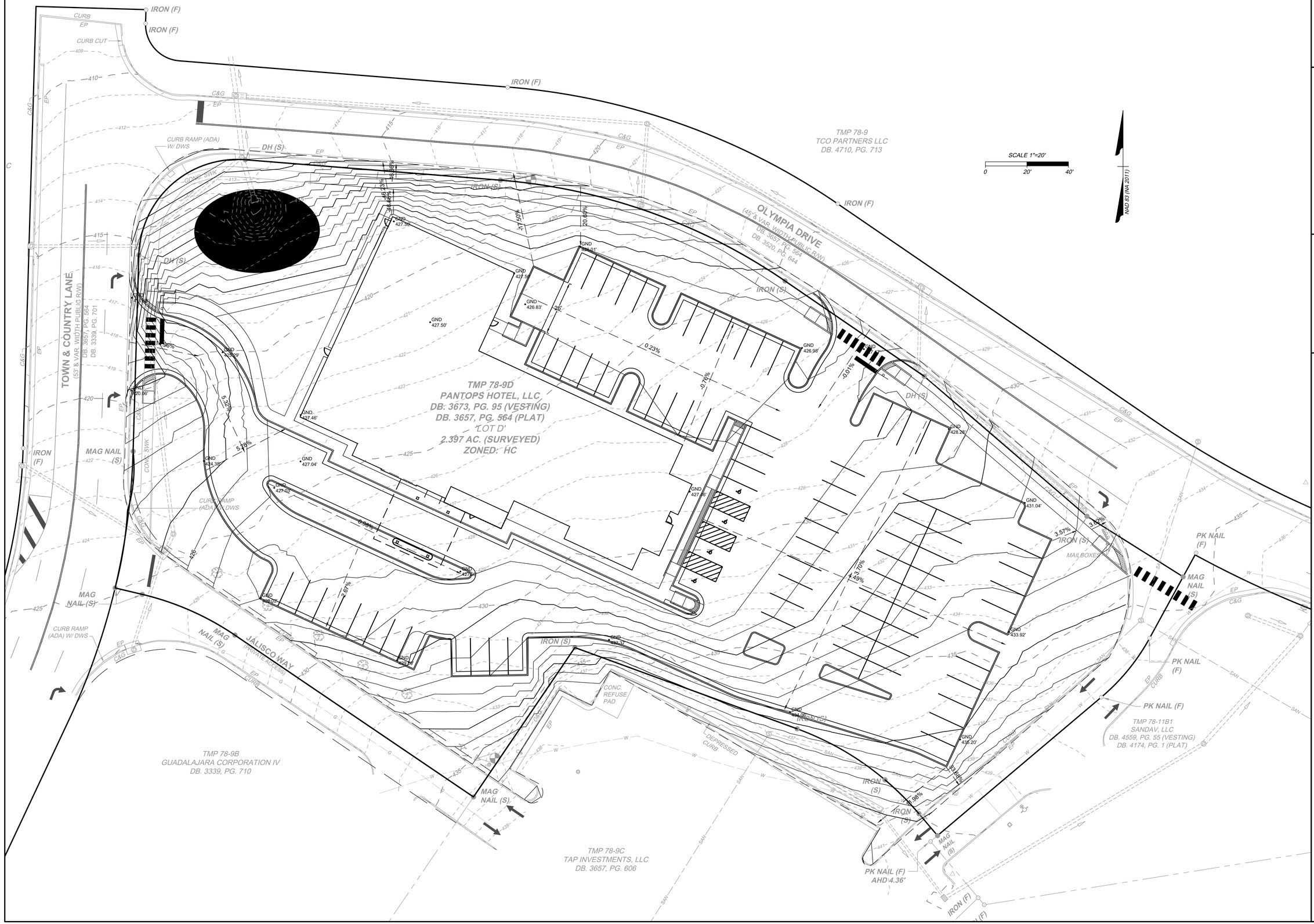

REVISION DESCRIPTION

DATE

DATE
2/28/2024

DRAWN BY

DESIGNED BY

CHECKED BY

SCALE
1" = 20'

PANTOPS HOTEL

ALBEMARLE COUNTY, VA

GRADING PLAN

JOB NO.

SHEET NO.
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All sidewalk (and crosswalk) needs 2% cross slope maximum

Add storm sewer layout

add contour labels

sidewalk needs to have 2% slope

max 2% cross slope in all directions for ADA parking spaces

add in a lead walk to this door and make sure slopes work

cross slope should be around 2%. 3% max

grade in islands

grade in curb and gutter

TOWN & COUNTRY LANE
(53' & VAR. WIDTH PUBLIC R/W)
DB. 3657, PG. 564
DB. 3339, PG. 701

OLYMPIA DRIVE
(45' & VAR. WIDTH PUBLIC R/W)
DB. 3657, PG. 564
DB. 3520, PG. 644

JALISCO WAY
(PRIVATE ACCESS)

TMP 78-9D
PANTOPS HOTEL, LLC
DB. 3673, PG. 95 (VESTING)
DB. 3657, PG. 564 (PLAT)
'LOT D'
2.397 AC. (SURVEYED)
ZONED: HC

TMP 78-9
TCO PARTNERS LLC
DB. 4710, PG. 713

TMP 78-9B
GUADALAJARA CORPORATION IV
DB. 3339, PG. 710

TMP 78-9C
TAP INVESTMENTS, LLC
DB. 3657, PG. 606

TMP 78-11B1
SANDAV, LLC
DB. 4559, PG. 55 (VESTING)
DB. 4174, PG. 1 (PLAT)

SCALE 1"=20'
0 20' 40'

NAD 83 (NA 2011)

REVISION DESCRIPTION	DATE
	2/28/2024

DRAWN BY

DESIGNED BY

CHECKED BY

SCALE
1" = 20'

PANTOPS HOTEL
ALBEMARLE COUNTY, VA
GRADING PLAN

JOB NO.

SHEET NO.
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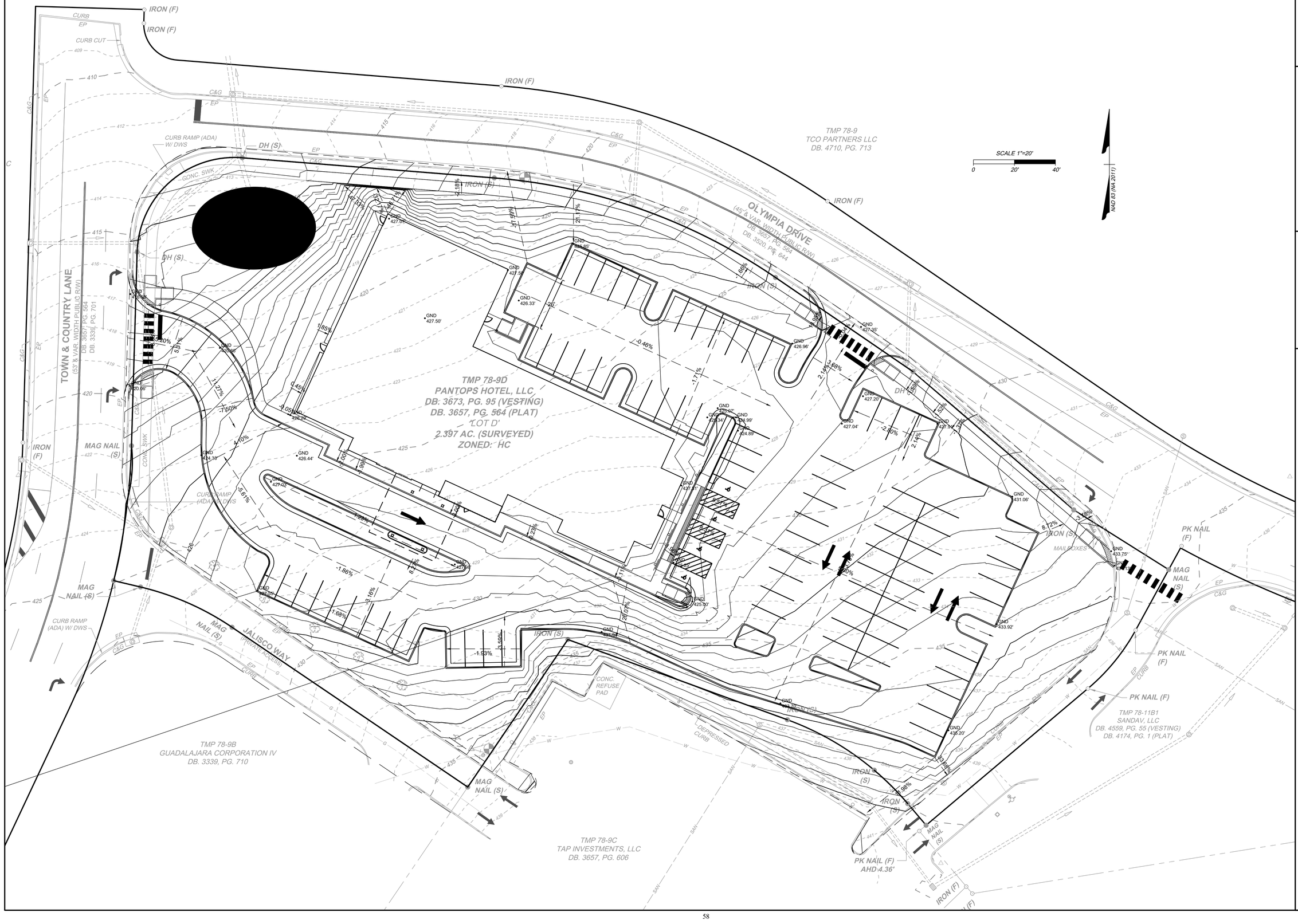

REVISION DESCRIPTION	
DATE	
DATE	4/4/2024
DRAWN BY	
DESIGNED BY	
CHECKED BY	
SCALE	1" = 20'
JOB NO.	----
SHEET NO.	7

PANTOPS HOTEL

ALBEMARLE COUNTY, VA

GRADING PLAN

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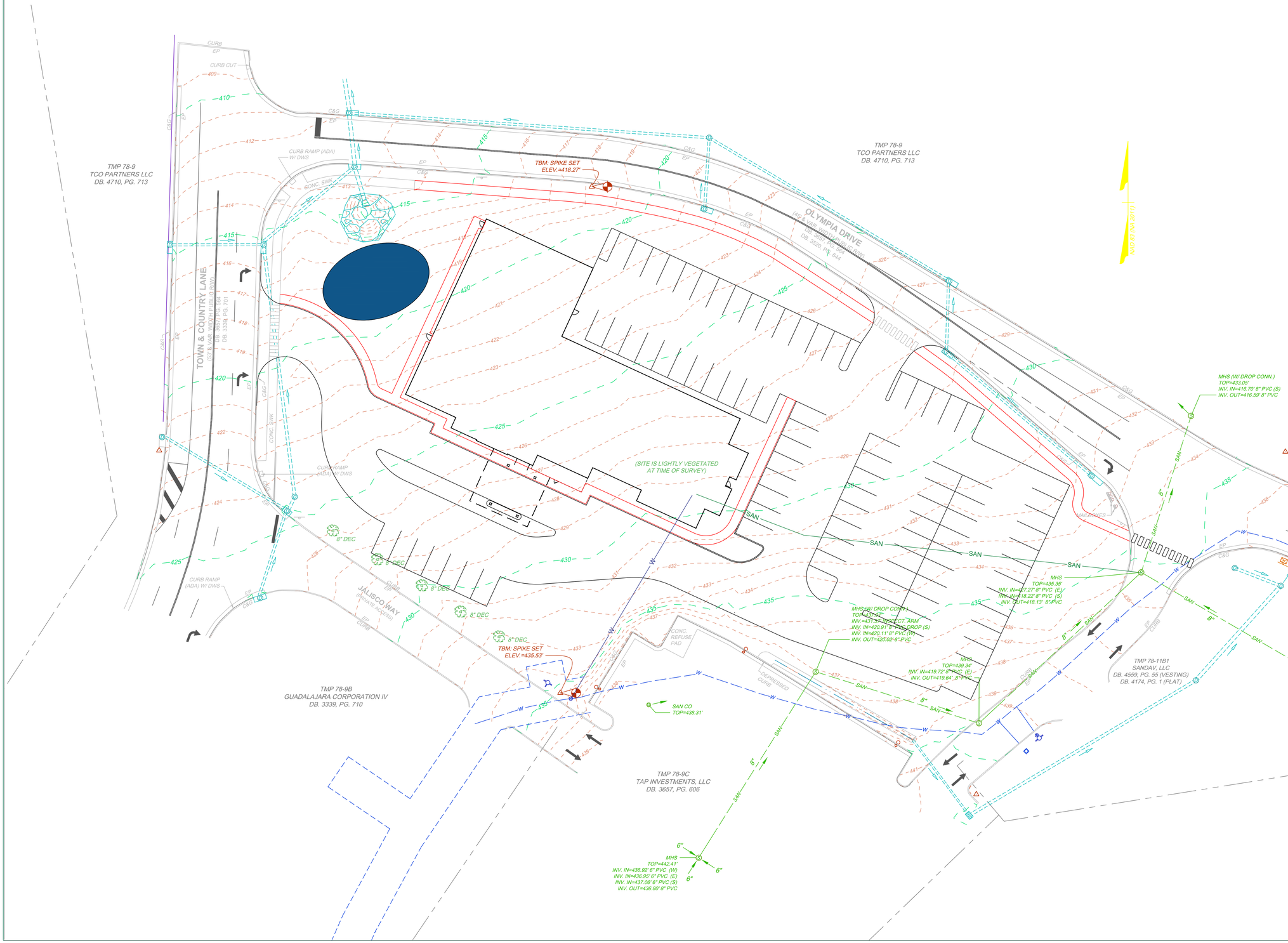

REVISION DESCRIPTION	DATE
###	##
###	##
###	##
###	##
###	##
###	##

DATE
11/28/2023

DRAWN BY

DESIGNED BY

CHECKED BY

SCALE
1" = 25'

PANTOPS HOTEL

CHARLOTTESVILLE, VA

UTILITY PLAN

JOB NO.

SHEET NO.
6

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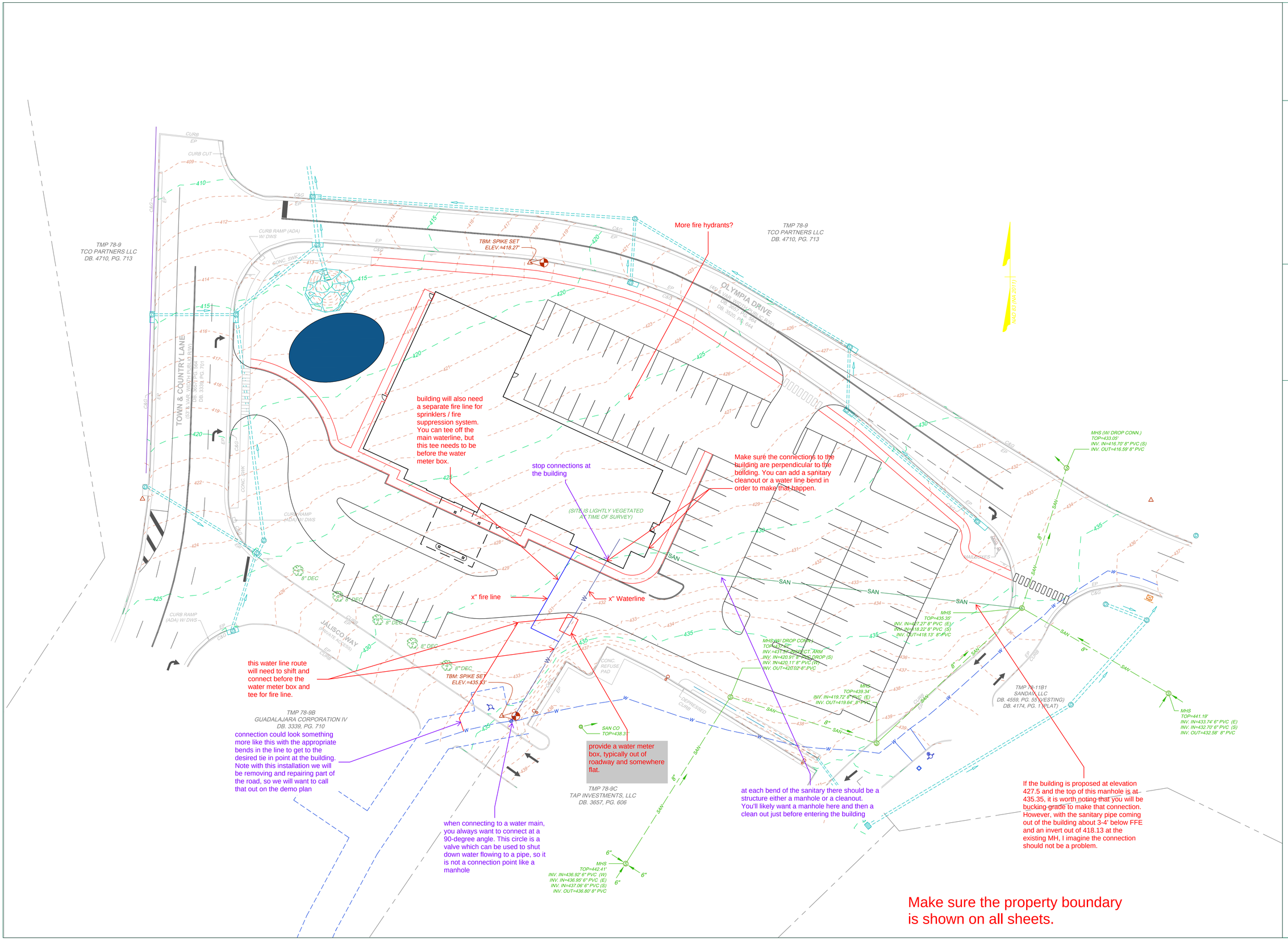

REVISION DESCRIPTION

DATE

DATE
11/28/2023

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DESIGNED BY

CHECKED BY

SCALE
1" = 25'

PANTOPS HOTEL
CHARLOTTESVILLE, VA
UTILITY PLAN

JOB NO.

SHEET NO.
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SCALE
1" = 20'

PANTOPS HOTEL

ALBEMARLE COUNTY, VA

GRADING PLAN

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SHEET NO.
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NAD 83

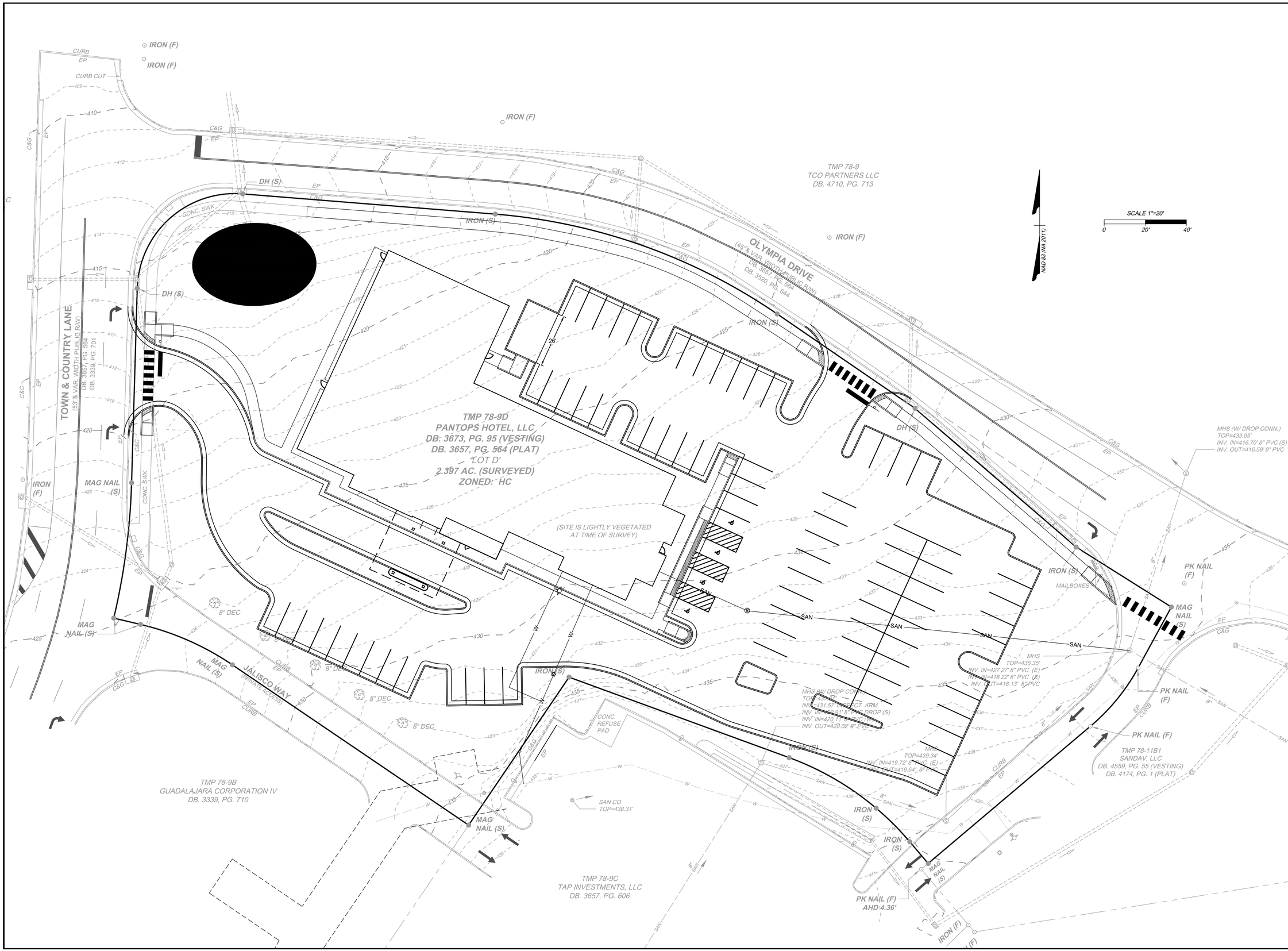
SCALE 1"=20'
0 20' 40'

SCALE 1"=20'

0 20' 40'

NAD 83 (NA 2011)

18'
26'
26'
18'
9'
20'
26'
20'
20'
20'
20'
19.5'
26'
26'
20'
SAN 8"
SAN
SAN
SAN
SAN
8"
8"
8"
8"
W
W
W



REVISION DESCRIPTION

DATE

DATE
2/28/2024

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SCALE
1" = 20'

PANTOPS HOTEL

ALBEMARLE COUNTY, VA

UTILITY PLAN

JOB NO.

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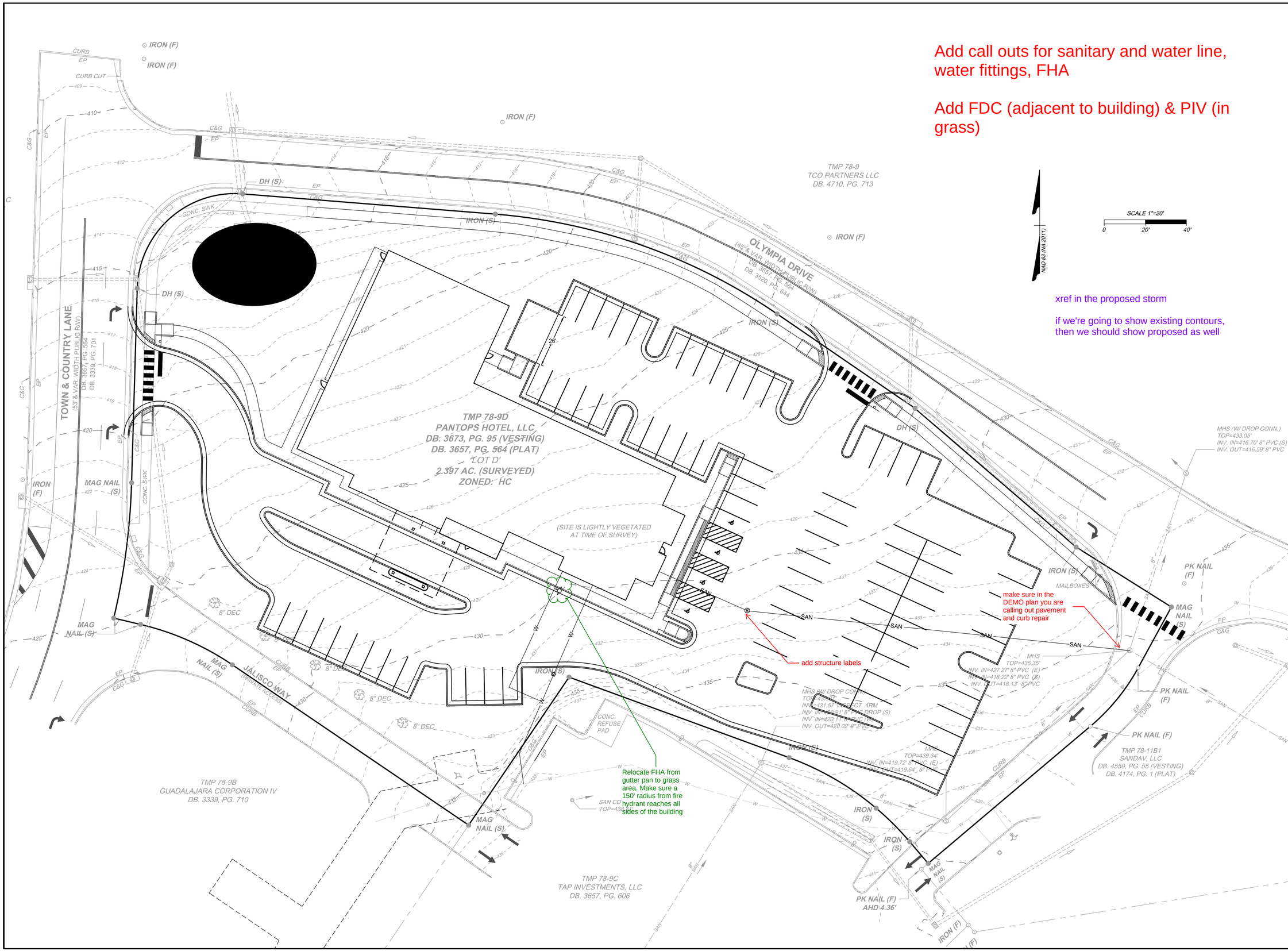

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SCALE
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ALBEMARLE COUNTY, VA

UTILITY PLAN

JOB NO.

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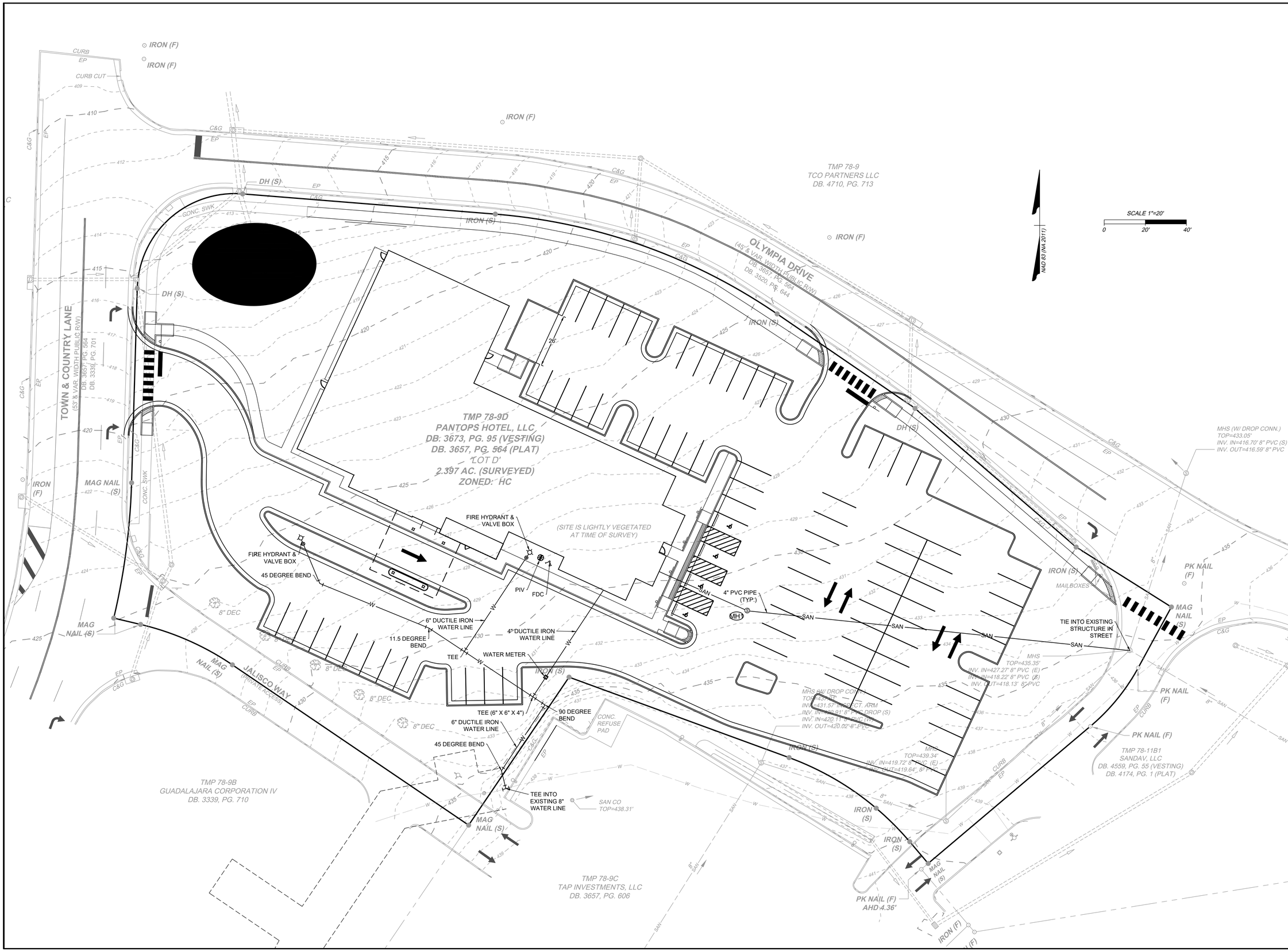

REVISION DESCRIPTION

DATE

DATE
4/4/2024

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SCALE
1" = 20'

PANTOPS HOTEL

ALBEMARLE COUNTY, VA

UTILITY PLAN

JOB NO.

SHEET NO.
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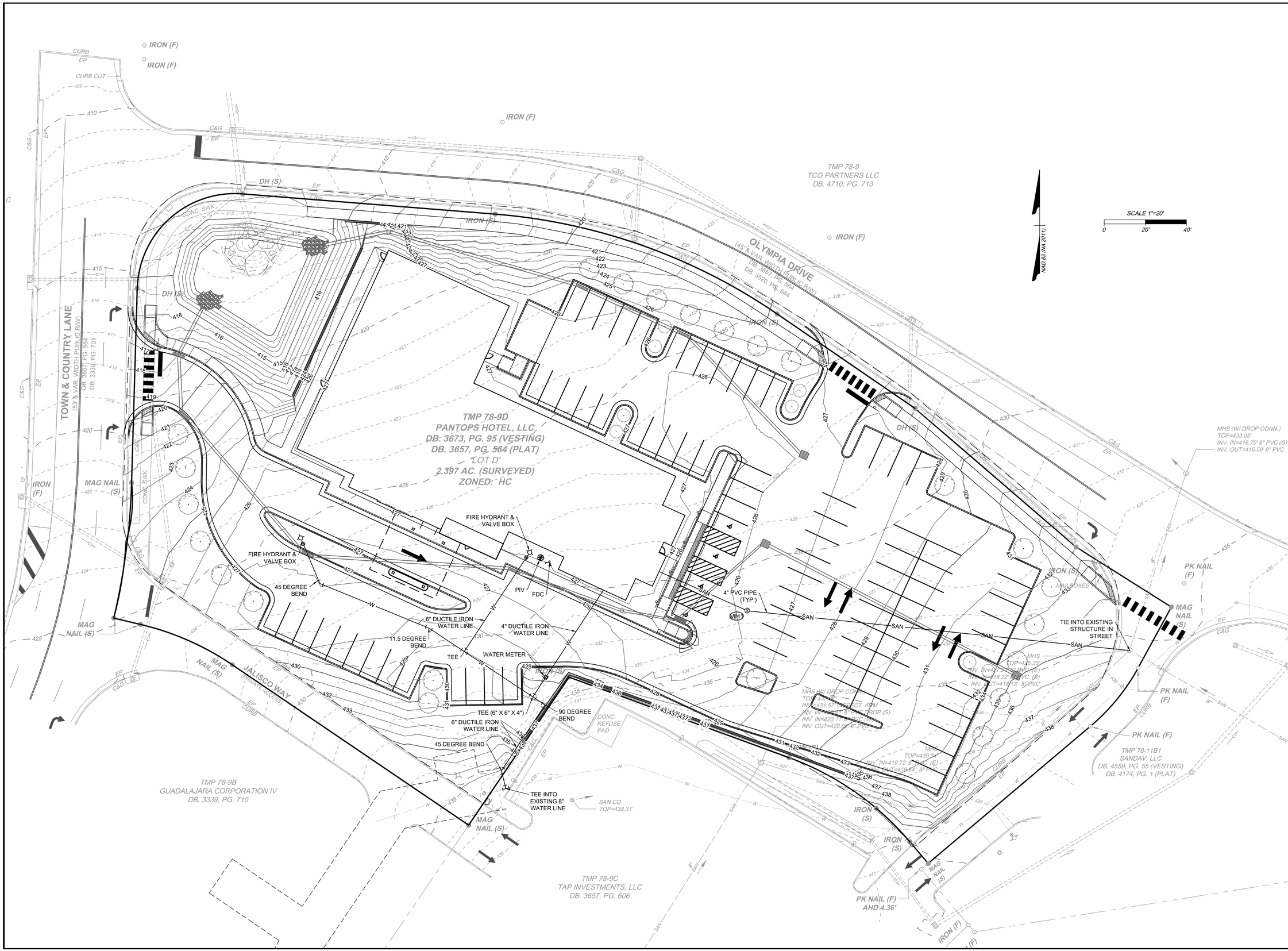

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SCALE
1" = 20'

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ALBEMARLE COUNTY, VA

UTILITY PLAN

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E&S NOTES & DETAILS TO BE ADDED
ADDITIONAL E&S PHASES TO BE ADDED

REVISION DESCRIPTION

DATE

DATE
2/28/2024

DRAWN BY

DESIGNED BY

CHECKED BY

SCALE
NOT TO SCALE

PANTOPS HOTEL
ALBEMARLE COUNTY, VA
E&S NOTES & DETAILS

JOB NO.

SHEET NO.
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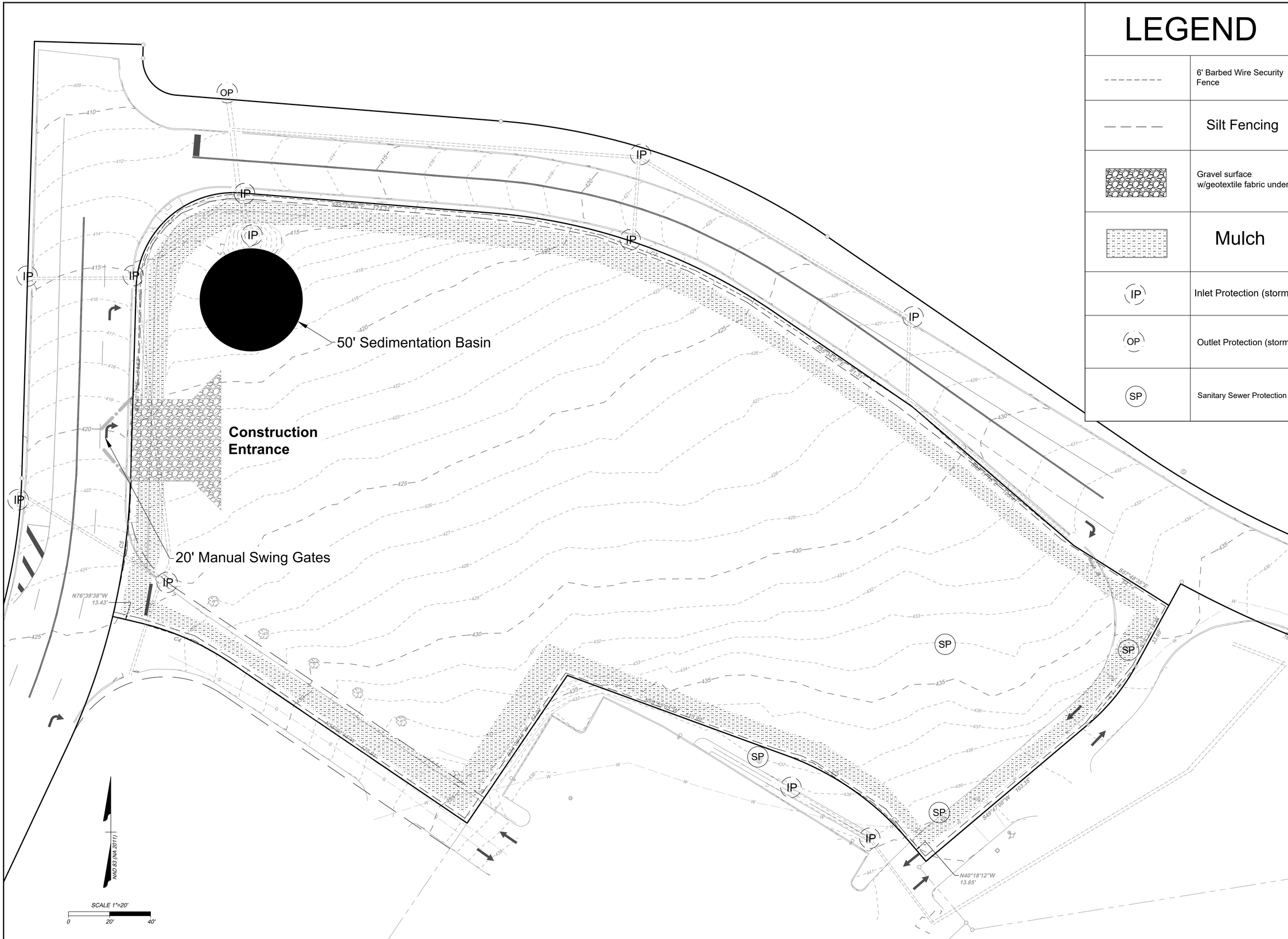

LEGEND

- - - - - - -	6' Barbed Wire Security Fence
— — — —	Silt Fencing
	Gravel surface w/geotextile fabric under
	Mulch
IP	Inlet Protection (storm)
OP	Outlet Protection (storm)
SP	Sanitary Sewer Protection

REVISION DESCRIPTION

DATE

DATE
2/28/2024

DRAWN BY

DESIGNED BY

CHECKED BY

SCALE
1" = 20'

PANTOPS HOTEL

ALBEMARLE COUNTY, VA

E&S PHASE 1

JOB NO.

SHEET NO.
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EROSION AND SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION
"THIS PROJECT INCLUDES THE CONSTRUCTION OF XXX AND ASSOCIATED SITE INFRASTRUCTURE. THE LIMITS OF DISTURBANCE IS X.XX ACRES."

ADJACENT PROPERTY
"THE PROPERTY IS BOUNDED BY XXX ON THE NORTH, XX TO THE EAST, XXX TO THE WEST, AND XXX TO THE SOUTH."

EXISTING SITE CONDITIONS
"THE SITE IS CURRENTLY..."

CRITICAL EROSION AREAS
"NONE" (UNLESS THERE ARE, THEN DESCRIBE WHERE THEY ARE LOCATED ON THE SITE)

Add 9VAC25-840-40 Minimum Standards

Add Soils Information (List each soil type's abbreviated name, full name, percent slopes, how many inches to restrictive feature/bedrock, how it drains (poorly/well/etc.), and Hydrologic Soil Group

E&S NOTES & DETAILS TO BE ADDED
ADDITIONAL E&S PHASES TO BE ADDED

REVISION DESCRIPTION

DATE

DATE
2/28/2024

DRAWN BY

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SCALE
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PANTOPS HOTEL
ALBEMARLE COUNTY, VA
E&S NOTES & DETAILS

JOB NO.

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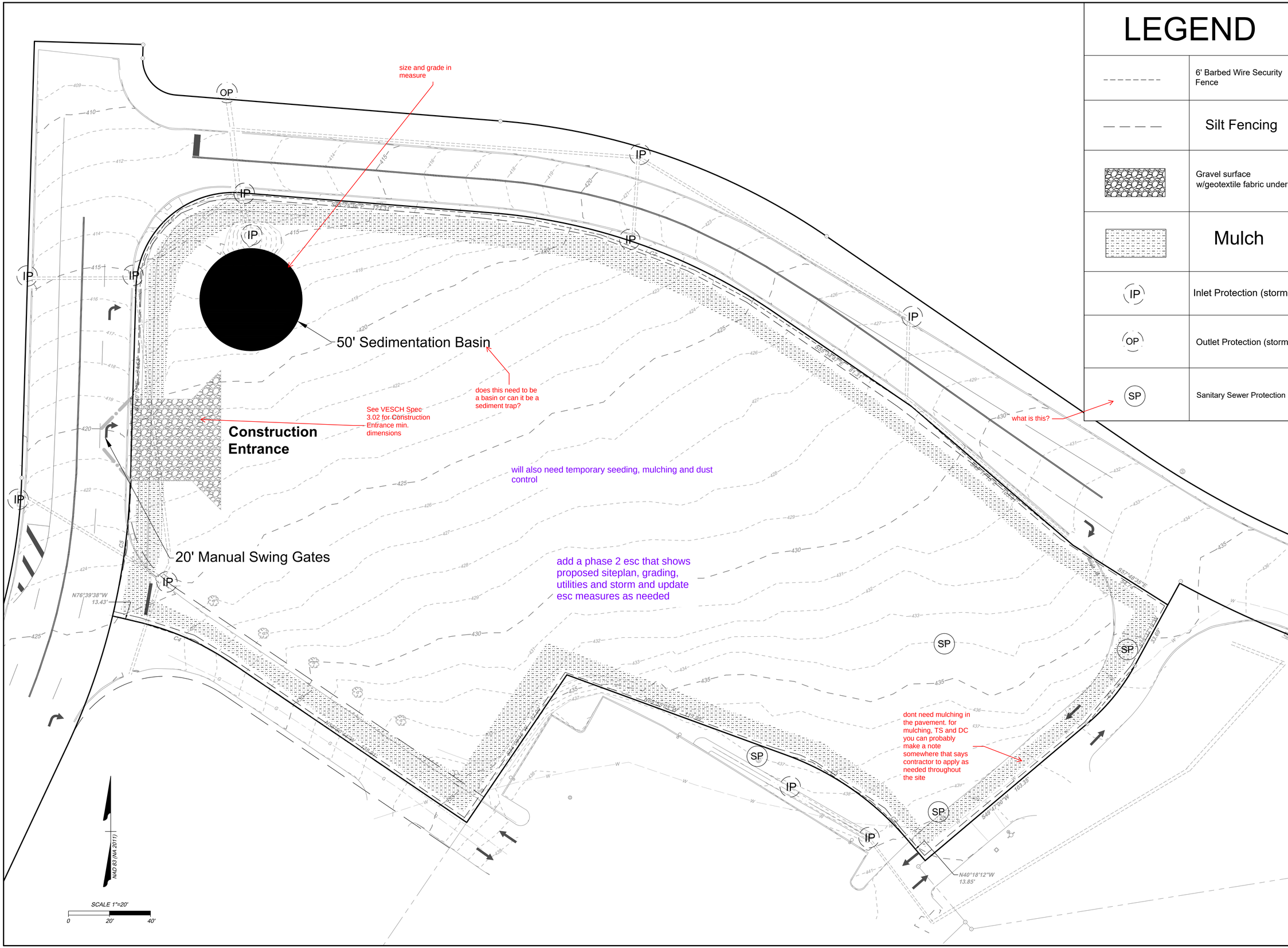

LEGEND

- - - - - - -	6' Barbed Wire Security Fence
— — — —	Silt Fencing
	Gravel surface w/geotextile fabric under
	Mulch
IP	Inlet Protection (storm)
OP	Outlet Protection (storm)
SP	Sanitary Sewer Protection

REVISION DESCRIPTION

DATE

DATE 2/28/2024

DRAWN BY

DESIGNED BY

CHECKED BY

SCALE 1" = 20'

PANTOPS HOTEL

ALBEMARLE COUNTY, VA

E&S PHASE 1

JOB NO. ----

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E&S NOTES & DETAILS TO BE ADDED
ADDITIONAL E&S PHASES TO BE ADDED

REVISION DESCRIPTION	DATE

DATE
4/4/2024

DRAWN BY

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SCALE
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PANTOPS HOTEL

ALBEMARLE COUNTY, VA

E&S NOTES & DETAILS

JOB NO.

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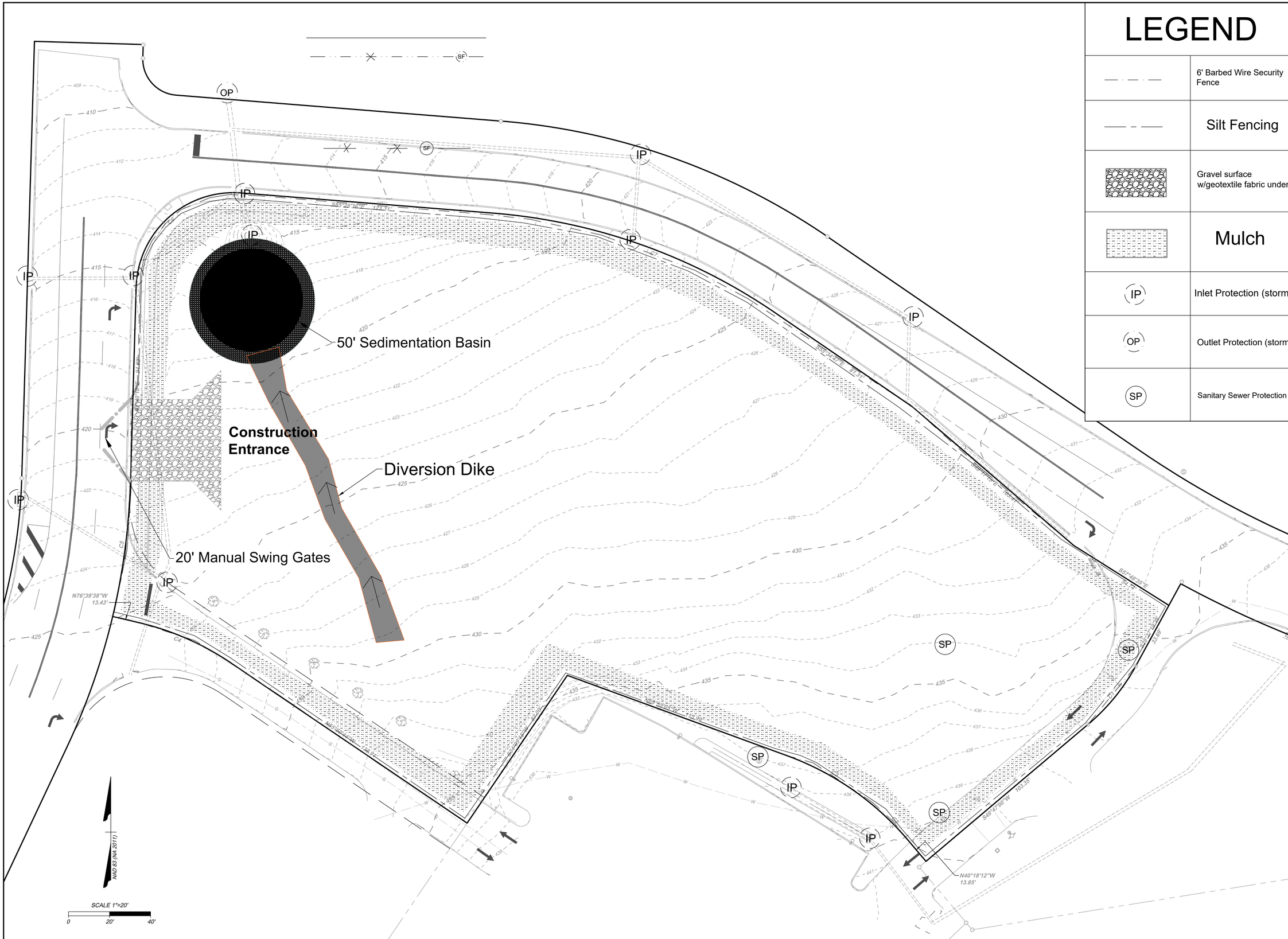

LEGEND

	6' Barbed Wire Security Fence
	Silt Fencing
	Gravel surface w/geotextile fabric under
	Mulch
IP	Inlet Protection (storm)
OP	Outlet Protection (storm)
SP	Sanitary Sewer Protection

REVISION DESCRIPTION

DATE

DATE 4/4/2024

DRAWN BY

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SCALE 1" = 20'

PANTOPS HOTEL

ALBEMARLE COUNTY, VA

E&S PHASE 1

JOB NO. ----

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Erosion and Sediment Control Narrative

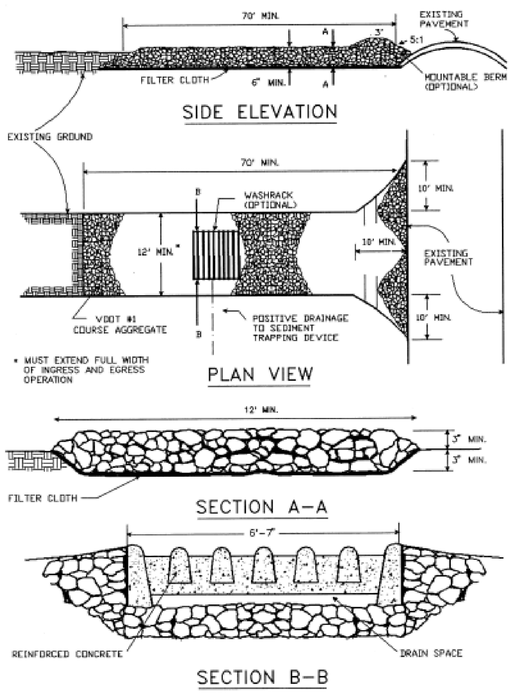
This project includes the construction of a private hotel and associated site infrastructure on a property owned by Pantops Hotel, LLC. The property is a total of 2.397 AC in size, with a limits-of-disturbance (LOD) of 1.443 AC.

Adjacent Property

The property is bounded by public roads Olympia Drive to the north and Town and Country Lane to the west. The property is bounded by privately-owned Jalisco Way to the southwest, and a private parking area and access drive to the southeast and east, respectively.

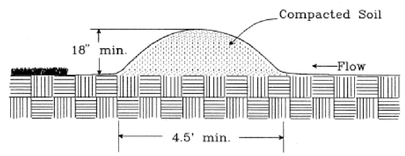
Existing Site Conditions

The site is currently densely vegetated throughout with grass, shrubbery, and other miscellaneous overgrowth which is to be removed prior to construction. Additionally, a cluster of small trees exists along the southwest edge of the LOD, which are also to be removed prior to construction. A pile of rocks near the northwest corner of the site is to removed prior to construction. Mailboxes along the northeast bounds of site should be removed prior to construction.



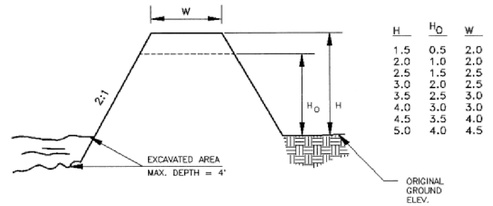
Shown to the left are dimensions of construction entrance in accordance with VA Erosion & Sediment Control Handbook Chapter 3.13. Note geotextile filter fabric and 6" gravel aggregate throughout the entrance area as proposed.

TEMPORARY DIVERSION DIKE



Temporary diversion dike should be placed on-site as shown in order to facilitate the proper flow of runoff into the specified temporary sediment trap, and to protect the site entrance from unwanted sediment build-up and/or flooding.
In accordance with Virginia Erosion & Sediment Control Handbook Chapter 3.09, the diversion should be stabilized with mulching and/or light vegetation throughout immediately after construction.
The base of the diversion should have a minimum width of 4.5 feet, and a minimum, proposed height of at least 18 inches.

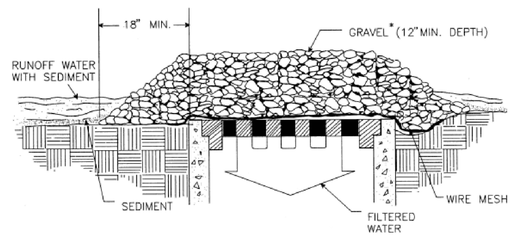
MINIMUM TOP WIDTH (W) REQUIRED FOR SEDIMENT TRAP EMBANKMENTS ACCORDING TO HEIGHT OF EMBANKMENT (FEET)



H	H_O	W
1.5	0.5	2.0
2.0	1.0	2.0
2.5	1.5	2.5
3.0	2.0	2.5
3.5	2.5	3.0
4.0	3.0	3.0
4.5	3.5	4.0
5.0	4.0	4.5

A temporary sediment trap is proposed in the northwest corner of the site where the existing grade is lowest. According to Virginia Erosion and Sediment Control Handbook Chapter 3.13, the trap should have a minimum of 193 cubic yards of volume. Proposed is a circular 25' diameter trap of 3 feet in depth, which totals to 218 cubic yards. Trap should be lined with geotextile filter fabric underneath.
The proposed diversion dike directs turbid runoff into the trap. Runoff from the dike's outflow point should be directed down a vegetated, stabilized slope with a 2:1 grade ratio.

GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER



SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED, BUT NOT WHERE PONDING AROUND THE STRUCTURE MIGHT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED AREAS.

Shown to the left is a typical storm drain and manhole inlet protection for areas with greater than 5% slope throughout. The design should be in accordance with Virginia Erosion and Sediment Control Handbook Chapter 3.07. Note the presence of filter fabric underneath the gravel aggregate, either VDOT #3, #5, or #357. Silt fencing can surround the inlet if deemed necessary by the general contractor.

REVISION DESCRIPTION

DATE

DATE 4/24/2024
DRAWN BY
DESIGNED BY
CHECKED BY
SCALE NOT TO SCALE

PANTOPS HOTEL
ALBEMARLE COUNTY, VA
E&S NOTES & DETAILS

JOB NO. ----
SHEET NO. 8

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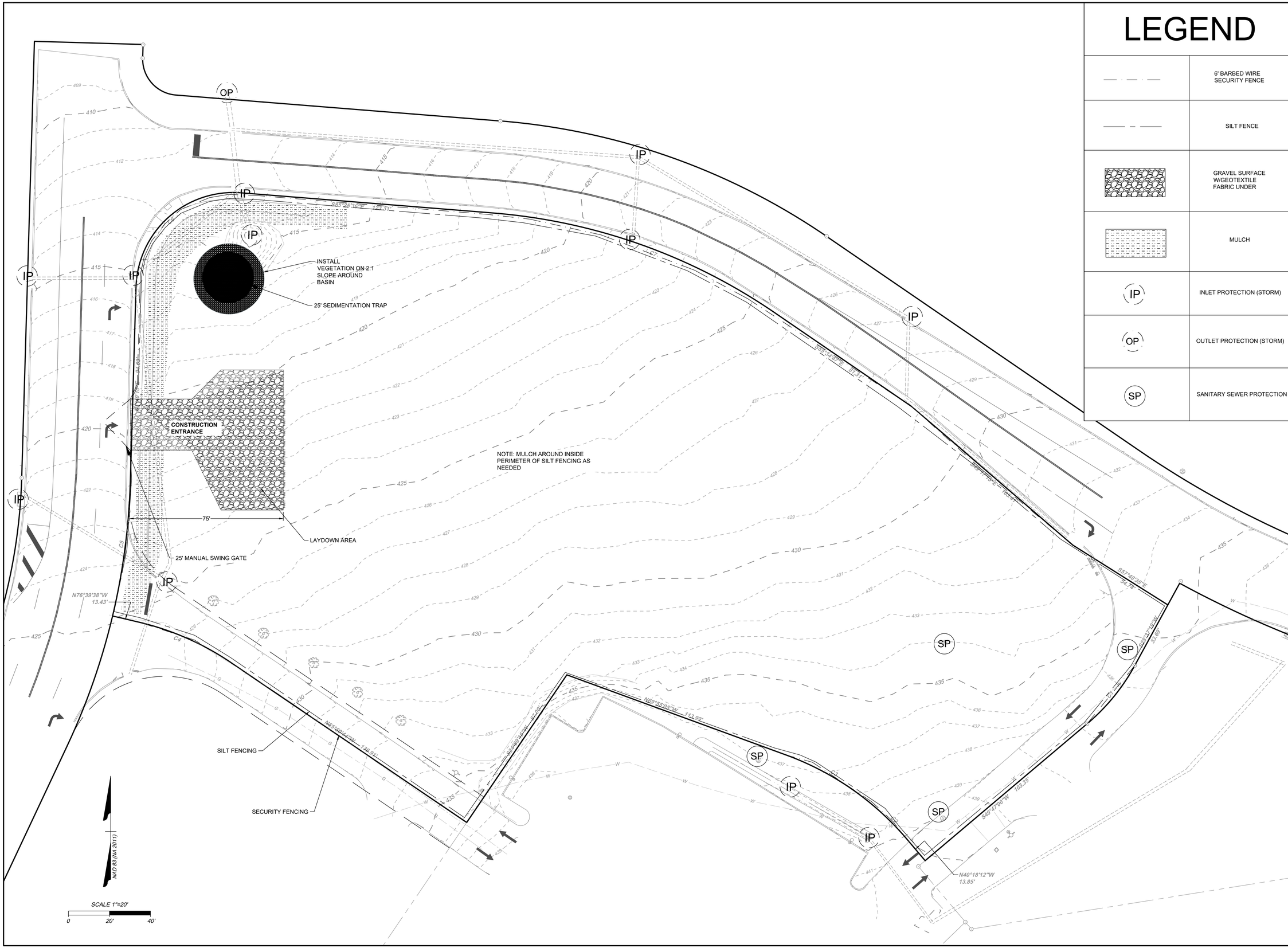

LEGEND

	6' BARBED WIRE SECURITY FENCE
	SILT FENCE
	GRAVEL SURFACE W/GEOTEXTILE FABRIC UNDER
	MULCH
IP	INLET PROTECTION (STORM)
OP	OUTLET PROTECTION (STORM)
SP	SANITARY SEWER PROTECTION

REVISION DESCRIPTION

DATE

DATE
4/24/2024

DRAWN BY

DESIGNED BY

CHECKED BY

SCALE
1" = 20'

PANTOPS HOTEL

ALBEMARLE COUNTY, VA

E&S PHASE 1

JOB NO.

SHEET NO.
9

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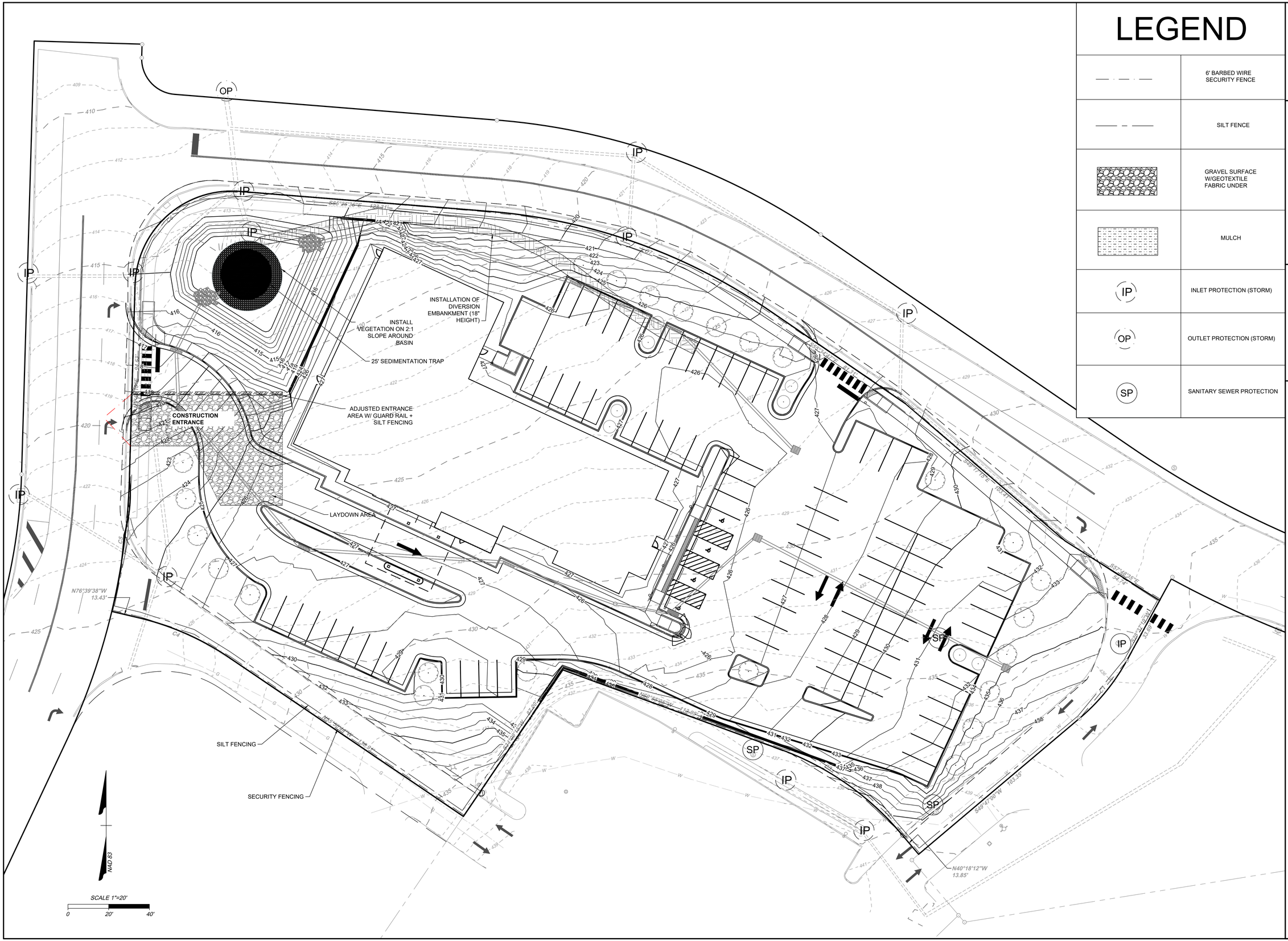

LEGEND

	6' BARBED WIRE SECURITY FENCE
	SILT FENCE
	GRAVEL SURFACE W/GEOTEXTILE FABRIC UNDER
	MULCH
IP	INLET PROTECTION (STORM)
OP	OUTLET PROTECTION (STORM)
SP	SANITARY SEWER PROTECTION

REVISION DESCRIPTION

DATE

DATE
4/24/2024

DRAWN BY

DESIGNED BY

CHECKED BY

SCALE
1" = 20'

PANTOPS HOTEL

ALBEMARLE COUNTY, VA

E&S PHASE 2

JOB NO.

SHEET NO.
10

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24" RCP
15" RCP
24" RCP
S85°25'36"E 123.31'
15" RCP
15" RCP
15" RCP
15" RCP
N1°40'10"E 94.63'
18" RCP
15" RCP
S35°44'47"E 81.31'
15" RCP
15" RCP
S49°17'15"E 103.41'
S57°48'35"E 54.74'
S39°27'18"E 24.69'
N76°39'38"W 13.43'
15" RCP
N65°58'44"W 139.91'
S24°09'15"W 97.60'
N69°55'08"W 113.99'
S49°47'08"W 103.35'
N40°18'12"W 13.85'

REVISION DESCRIPTION

DATE

DATE
4/4/2024
DRAWN BY
DESIGNED BY
CHECKED BY
SCALE
1" = 20'

PANTOPS HOTEL

ALBEMARLE COUNTY, VA

STORMWATER

JOB NO.

SHEET NO.
10

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STORMWATER QUALITY CALCULATIONS:

SUMMARY FROM RUNOFF REDUCTION SPREADSHEET
FOR REDEVELOPMENT (SEE CALC. BOOK)

DISTURBED AREA: 2.39 ACRES

PRE-DEVELOPMENT LAND COVER:

B SOILS:
- .08 AC MANAGED TURF
- .04 AC IMPERVIOUS COVER

D SOILS:
- 1.43 AC MANAGED TURF
- .10 AC IMPERVIOUS COVER

TP REQUIRED REMOVAL: 2.21 LBS/YEAR

75% OF REMOVE REQUIREMENTS TO BE MET ON SITE:

$.75 * C_{PRE\text{-}DEV\text{-}TOTAL} \leq C_{POST\text{-}DEV\text{-}TOTAL}$

OK 1.65 LB ≤ 1.86 LB

WATER QUANTITY CALCULATIONS:

CHANNEL PROTECTION (ENERGY BALANCE):

$Q_{POST\text{-}DEV\text{-}TOTAL} \leq .8 * (Q_{PRE\text{-}DEV\text{-}ON\text{-}SITE} * RV_{PRE\text{-}DEV}) / RV_{POST\text{-}DEV}$

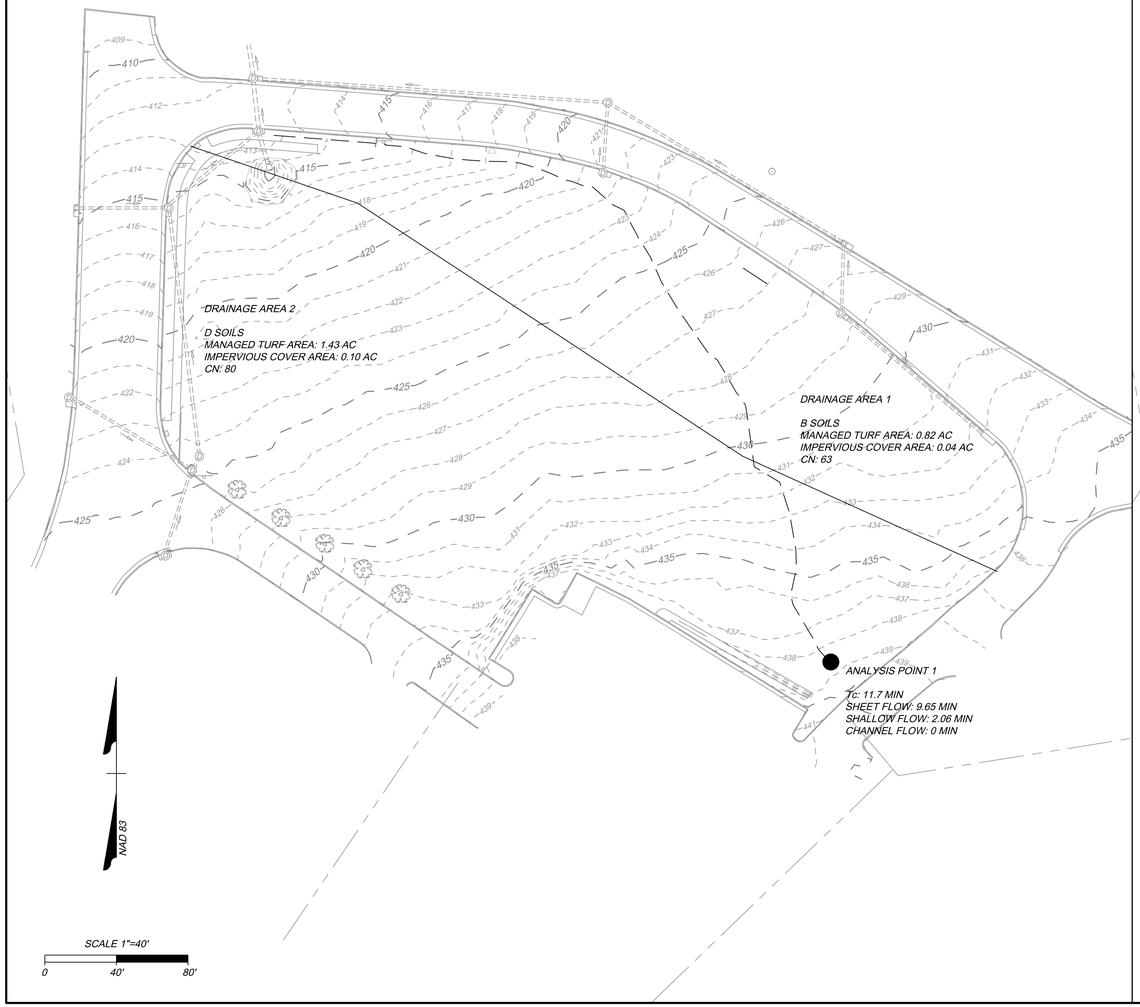
X CFS ≤ .8 * (3.28 * .20 AC/FT) / .32 AC/FT

OK .52 CFS ≤ 1.64 CFS

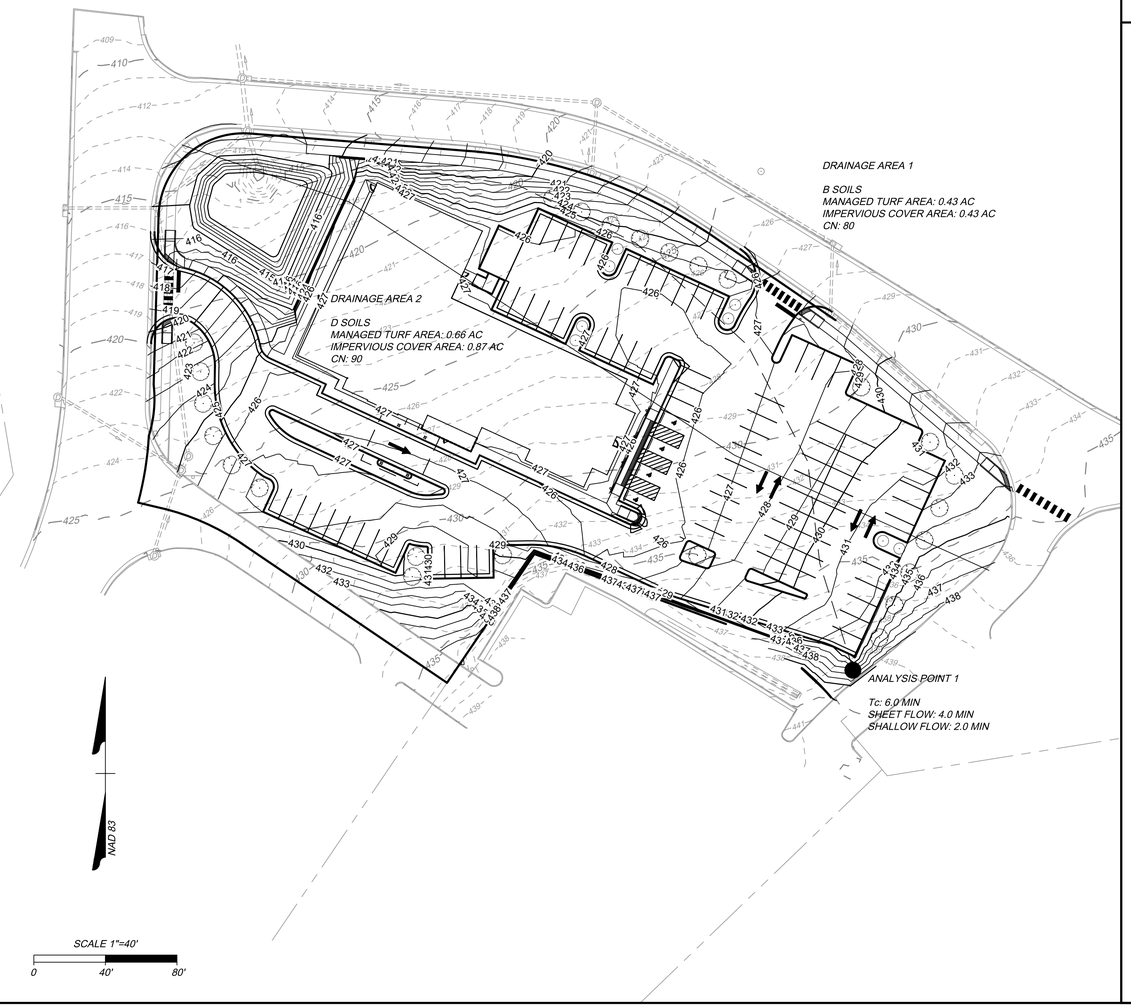
FLOOD PROTECTION:

OK POST-DEVELOPED Q_{10} ≤ PRE-DEVELOPED Q_{10} + OFFSITE Q_{10}
9.73 CFS ≤ 9.98 CFS

Pre Developed Conditions



Post Developed Conditions



DATE	REVISION DESCRIPTION

DATE 4/24/2024
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PANTOPS HOTEL

ALBEMARLE COUNTY, VA

STORMWATER SUMMARY

JOB NO. ----

SHEET NO. 11

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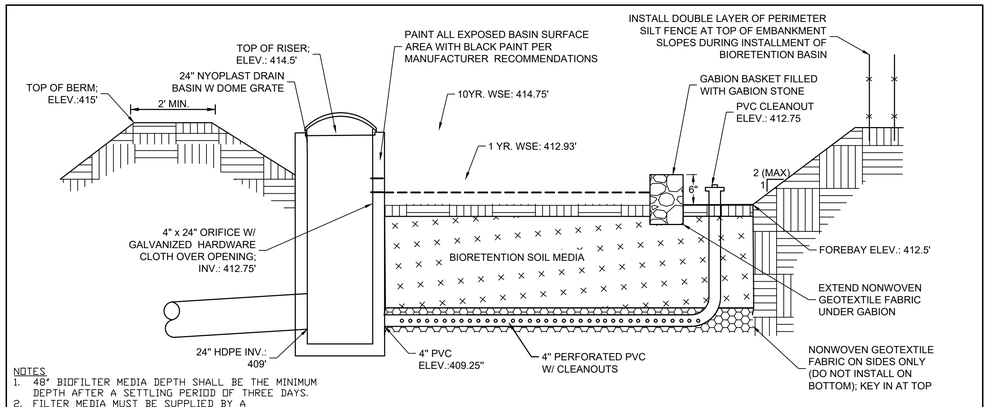
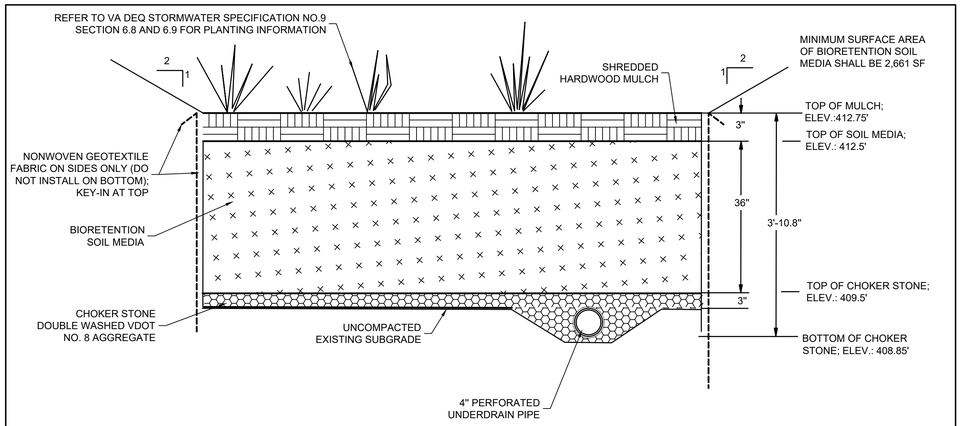


NOTES:
1. 48" BIOFILTER MEDIA DEPTH SHALL BE THE MINIMUM DEPTH AFTER A SETTLING PERIOD OF THREE DAYS.
2. FILTER MEDIA MUST BE SUPPLIED BY A PRE-APPROVED VENDOR.

BIORETENTION FILTER ELEVATIONS
NO SCALE



BIORETENTION FILTER CROSS-SECTION
NO SCALE

STORMWATER MANAGEMENT NOTES:

1. ALL DAMS OR EMBANKMENTS CONSTRUCTED OF FILL, OR BACK FILL OF PIPE TRENCHING THROUGH DAMS TO BE COMPACTED WITHIN 95% OF MAXIMUM DRY DENSITY AND 2% OF OPTIMUM MOISTURE CONTENT. ALL MATERIAL TO BE SILTS AND CLAYS APPROVED BY A GEOTECHNICAL ENGINEER OR INSPECTOR.

2. A GEOTECHNICAL ENGINEER OR INSPECTOR IS TO BE PRESENT DURING CONSTRUCTION OF DAMS TO TEST FILL COMPACTIONS, OBSERVE AND CERTIFY THAT EMBANKMENT AND STORM OUTFALL STRUCTURES AND PIPES ARE CONSTRUCTED IN ACCORDANCE WITH 2011 BMP DESIGN SPECS (APPENDIX A) EARTHEN EMBANKMENTS.

3. CONTRACTOR SHALL SCHEDULE INSPECTIONS WITH INSPECTOR, OWNER, AND ARCHITECT AT LEAST 48 HOURS BEFORE CONSTRUCTION.

4. PIPE AND RISER JOINTS ARE TO BE WATERTIGHT.

5. FOR TEMPORARY SEDIMENT TRAPS OR BASINS WHICH ARE TO BE CONVERTED TO PERMANENT STORMWATER MANAGEMENT FACILITIES; CONVERSION IS NOT TO TAKE PLACE UNTIL THE SITE IS STABILIZED, AND PERMISSION HAS BEEN OBTAINED FROM THE COUNTY EROSION CONTROL INSPECTOR.

BIORETENTION MAINTENANCE NARRATIVE:

THE FOLLOWING INSPECTIONS AND MAINTENANCE SHALL BE PREFORMED ANNUALLY OR WHENEVER A POTENTIAL PROBLEM IS OBSERVED BY THE OWNER:

- *INSPECT BIORETENTION, DAM, RISER AND PIPE SYSTEM FOR SEDIMENT ACCUMULATION, DEBRIS AND TRASH.*
- *REMOVE ANY DEBRIS OR TRASH IN THE SYSTEM DREDGE POND WHEN SEDIMENT DEPOSITS ACCUMULATE TO MORE THAN 6" FROM ORIGINAL BOTTOM ELEVATION.*
- *INSPECT FACILITY FOR VEGETATION. ONLY GRASS SHALL BE ALLOWED TO GROW IN THE FACILITY. GRASS SHOULD BE MOWED AT LEAST TWICE A YEAR AND GRASS CLIPPING SHOULD BE REMOVED. REMOVE ANY OTHER VEGETATION.*
- *INSPECT RISER AND PIPE SYSTEM TO ENSURE THAT ALL COMPONENTS ARE IN GOOD CONDITION AND FUNCTIONING ACCORDING TO ORIGINAL DESIGN. REPAIR ANY DAMAGE OR DETERIORATION AS NECESSARY.*
- *INSPECT DAM FOR ANY SIGNS OF DAMAGE, SEEPAGE OR ANY VEGETATION WHOSE ROOTS MAY CAUSE HARM TO DAM. REPAIR DAM AND REMOVE VEGETATION AS NECESSARY.*
- *INSPECT OUTFALL FOR EROSION AND OBSTRUCTIONS. REPAIR AND REINFORCE ANY EROSION AND REMOVE OBSTRUCTIONS*

Hydrograph type	Peak flow	Time interval	Time of conc. Tc	Time to peak	Volume
(origin)	(cfs)	(min)	(min)	(min)	(cuft)
SCS Runoff	3.281	2	11.70	722.00	8,772
SCS Runoff	6.769	2	6.00	716.00	13,731

ONE YEAR HYDROGRAPH NUMBERS

Hydrograph type	Peak flow	Time interval	Time of conc. Tc	Time to peak	Volume
(origin)	(cfs)	(min)	(min)	(min)	(cuft)
SCS Runoff	9.987	2	11.71	720.00	25,891
SCS Runoff	15.39	2	6.00	716.00	32,321

TEN YEAR HYDROGRAPH NUMBERS

Stage	Elevation	Contour Area	Incremental Storage	Total Storage
(ft)	(ft)	(sqft)	(cuft)	(cuft)
0.00	409.50	1,585	0.000	0.000
1.00	410.50	1,914	1,747	1,747
2.00	411.50	2,272	2,090	3,837
3.00	412.50	2,661	2,464	6,301
3.50	413.00	2,867	1,382	7,682
5.50	415.00	3,759	6,605	14,287

BIORETENTION STAGE ELEVATION AND CONTOURS

LAND COVER SUMMARY -- POST DEVELOPMENT

Land Cover Summary-Post (Final)	
Post ReDev. & New Impervious	
Forest/Open Space Cover (acres)	0.00
Weighted Rv(forest)	0.00
% Forest	0%
Managed Turf Cover (acres)	1.09
Weighted Rv (turf)	0.23
% Managed Turf	46%
Impervious Cover (acres)	1.30
Rv(impervious)	0.95
% Impervious	54%
Final Site Area (acres)	**2.39**
Final Post Dev Site Rv	**0.62**

Land Cover Summary-Post	
Post-ReDevelopment	
Forest/Open Space Cover (acres)	0.00
Weighted Rv(forest)	0.00
% Forest	0%
Managed Turf Cover (acres)	1.09
Weighted Rv (turf)	0.23
% Managed Turf	89%
ReDev. Impervious Cover (acres)	0.14
Rv(impervious)	0.95
% Impervious	11%
Total ReDev. Site Area (acres)	**1.23**
ReDev Site Rv	**0.31**

Land Cover Summary-Post	
Post-Development New Impervious	
New Impervious Cover (acres)	1.16
Rv(impervious)	0.95

Treatment Volume and Nutrient Load

Final Post-Development Treatment Volume (acre-ft)	0.1238
Final Post-Development Treatment Volume (cubic feet)	5,394
Final Post-Development TP Load (lb/yr)	**3.39**
Final Post-Development TP Load per acre (lb/acre/yr)	1.42

Post-ReDevelopment Treatment Volume (acre-ft)	0.0320
Post-ReDevelopment Treatment Volume (cubic feet)	1,394
Post-ReDevelopment Load (TP) (lb/yr)*	**0.88**
Post-ReDevelopment TP Load per acre (lb/acre/yr)	0.71
Max. Reduction Required (Below Pre-ReDevelopment Load)	**20%**
TP Load Reduction Required for Redeveloped Area (lb/yr)	**0.18**

Post-Development Treatment Volume (acre-ft)	0.0918
Post-Development Treatment Volume (cubic feet)	4,000
Post-Development TP Load (lb/yr)	**2.51**
TP Load Reduction Required for New Impervious Area (lb/yr)	**2.04**

POST DEVELOPMENT LAND COVER SUMMARY

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft3)	Runoff Reduction (ft3)	Remaining Runoff Volume (ft3)	Total BMP Treatment Volume (ft3)	Phosphorus Removal Efficiency (%)	Phosphorus Load from Upstream Practices (lb)	Untreated Phosphorus Load to Practice (lb)	Phosphorus Removed By Practice (lb)	Remaining Phosphorus Load (lb)
6.a. Bioretention #1 or Micro-Bioretention #1 or Urban Bioretention (Spec #9)	40	1.09	1.30	0	2,158	3,237	5,394	25	0.00	3.39	1.86	1.52

BIORETENTION STAGE ELEVATION AND CONTOURS

REVISION DESCRIPTION	DATE
	4/24/2024

DRAWN BY
DESIGNED BY
CHECKED BY
SCALE
1" = 20'

PANTOPS HOTEL
ALBEMARLE COUNTY, VA
STORMWATER NOTES & DETAILS

JOB NO. ----
SHEET NO. 12

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IRON (F)
IRON (F)
IRON (F)
IRON (F)
IRON (S)
IRON (S)
IRON (S)
IRON (S)
IRON (S)
IRON (F)
IRON (F)
MAG NAIL (S)
MAG NAIL (S)
MAG NAIL (S)
MAG NAIL (S)
MAG NAIL (S)
PK NAIL (F)
PK NAIL (F)
PK NAIL (F)
PK NAIL (F) AHD 4.36'
DH (S)
DH (S)
DH (S)
DH (S)
C3
C4
C1
C2
C3
S85°25'36"E 123.31'
S49°07'E 94.63'
N76°39'38"W 13.43'
N55°50'44"W 139.91'
S24°09'16"W 102.00'
S49°47'00"W 103.35'
S57°46'25"E 54.74'
S28°07'E 53.69'
S45°11'15"E 103.47'
N40°18'12"W 13.85'
RIPRAP AROUND OUTLETS
STD. CURB DROP INLET
4'X4' GRATE INLET
15" RCP PIPE TYP.
22" MANHOLE COVER TYP.
TMP 78-9
TCO PARTNERS LLC
DB. 4710, PG. 713
TMP 78-9D
PANTOPS HOTEL, LLC
DB. 3673, PG. 95 (VESTING)
DB. 3657, PG. 564 (PLAT)
'LOT D'
2.397 AC. (SURVEYED)
ZONED: HC
TMP 78-9B
GUADALAJARA CORPORATION IV
DB. 3339, PG. 710
TMP 78-9C
TAP INVESTMENTS, LLC
DB. 3657, PG. 606
TMP 78-11B1
SANDAV, LLC
DB. 4559, PG. 55 (VESTING)
DB. 4174, PG. 1 (PLAT)
NAD 83
SCALE 1"=20'
0 20' 40'

REVISION DESCRIPTION	DATE

DATE
4/24/2024
DRAWN BY
DESIGNED BY
CHECKED BY
SCALE
1" = 20'

PANTOPS HOTEL
ALBEMARLE COUNTY, VA
DRAINAGE LAYOUT

JOB NO.

SHEET NO.
13

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Appendix C
Engineering Standards

Appendix C - Design Specifications

Design Specifications

Our design will be influenced by Albemarle County code on land grading, parking lot size and design, stormwater quality and quantity management, utility set-up and maintenance, and for erosion and sediment (E&SC) during construction.

Parking:

Albemarle County Code Sec. 4.12.6: Parking

- Hotel, motel: one space per guest room
- The architect is proposing a total of 80 guest rooms in the hotel. We meet the minimum requirement of one space per guest room by providing 80 parking spaces.
    - Shown in parking lot

Albemarle County Code Sec. 4.12.16 - Minimum design requirements and improvements for perpendicular parking spaces within parking areas or parking bays

Locations Where Aisle Width is 20 Feet:

- Width: 10 feet
- Length: 18 feet
    - Parking spaces are drawn accordingly.

Locations Where Aisle Width is 24 Feet:

- Width: 9 feet
- Length: 18 feet
    - Parking spaces are drawn accordingly.

Albemarle County Code Sec. 4.12.16- Handicap Spaces

- For handicapped, parking, vehicular access aisle widths shall be the same as for perpendicular parking. In addition, a handicapped access aisle shall be provided adjacent to each handicapped parking space, provided that the aisle may be shared between adjacent handicapped parking spaces. The minimum space and aisle widths shall be
- Width: 8 feet
- Length: 18 feet
- Handicap Access Aisle Width: 5 feet
- Van Access Aisle Width: 8 feet
    - Located on the west side, directly next to the building

Albemarle County Code Sec. 4.12.4 - Parking areas.

- Spaces to satisfy minimum ADA requirements. The number, location, and dimensions of fully accessible parking spaces, and the provision of access aisles, curb ramps, signage

and other specifications for those spaces shall be as required by the Americans with Disabilities Act and the current editions of the Americans with Disabilities Act Accessibility Guidelines and Virginia Uniform Statewide Building Code.

- ADA Requirements: https://www.ada.gov/topics/parking/
    - Given 76-100 total number of parking spaces provided in a parking lot or facility, a minimum number of of accessible parking spaces required: 4
        - Seen in 4 ADA Parking Spaces, labeled within the plan.
    - Cross slope in all ADA spaces required to be less than or equal to 2.08%
        - Slope of ADA spaces is met and demonstrated in the site grading plan.

Drive Aisle Standards

Albemarle County Code Sec. 4.12.17 - Minimum design requirements and improvements for vehicle access aisles.

- The following design requirements and minimum improvements shall be provided for all vehicle access aisles:
    - "Grade for vehicle access aisles not adjacent to parking spaces. Vehicle access aisles that are not adjacent to parking spaces, shall not exceed a grade of ten percent. The Board of Supervisors may increase the maximum grade, upon a finding that no reasonable design alternative would reduce or alleviate the need and that the increase in grade would be in the best interest of public health, safety and welfare. The developer must request the waiver in writing and provide all information necessary to justify that no reasonable design alternative exists. In no case shall the grade exceed private road standards set forth in section 14-514 of the Code."
    - "Entrances. Entrances to parking areas from public streets or private roads shall be designed and constructed in accordance with Virginia Department of Transportation standards. An adequate landing and/or grade transition shall be provided for vehicle access aisles at the intersection with public streets or private roads to allow for the stopping of vehicles and sight distance, as deemed necessary by the county engineer to assure public safety. As a guideline, the approach grade should not exceed four percent for a distance of not less than 40 feet measured from the edge of the street or road being intersected."
    - "Vehicle access aisle standards. Vehicular access aisles that are not adjacent to parking spaces shall comply with the following:"
        - "Two-way access aisles. The minimum travelway width for two-way access aisles shall be 20 feet"
        - "One-way access aisles. One-way circulation is allowed provided the circulation loop or pattern is contained within the site or sites. Public streets or private roads shall not be used as part of the circulation loop or

pattern. The minimum travelway width for one-way access aisles shall be 12 feet, with the following exceptions:"

- "Bypass traffic. A travelway width of up to 16 feet may be required to allow for bypass traffic, when deemed necessary by the county engineer. In making this determination, the county engineer shall consider the site specific factors including, but not limited to, the length of the travelway, nature of the land use, and internal traffic circulation."

- "Turning radii. Turning radii shall be limited by the requirement to maintain 100-foot sight distance. Turning movements for delivery vehicles or other expected truck traffic shall be evaluated by the county engineer using AASHTO single unit truck standards or other AASHTO standard vehicle as appropriate."
    - Drive Aisle Standards present throughout the design in parking and road spaces

Loading Areas

Albemarle County Code Sec. 4.12.18 - Minimum design requirements and improvements for loading areas

- "Size. Loading spaces shall be a minimum of 12 feet in width, 14½ feet in clearance height and a length sufficient to accommodate the largest delivery trucks serving the establishment, but in no case will such length be less than 25 feet"
- "Surface materials. All loading and unloading berths shall be surfaced with a bituminous or other dust free surface"
- "Design of loading spaces. Loading spaces shall be designed so that no part of any vehicle will extend over any lot line, right-of-way line, sidewalk, driveway or aisle space"
- "Delineation of loading spaces. Loading spaces shall be delineated in a manner that identifies and preserves the required dimensions with paint striping, signage, or by other means approved by the zoning administrator. The zoning administrator may authorize that bumper blocks or posts be used to delineate loading spaces on surfaces that are not conducive to paint striping"
    - Directly south of building, 19.5' drive aisle with cover over top

Dumpster Pads

Albemarle County Code Sec. 4.12.19 - Minimum design requirements and improvements for dumpster pads

- "Materials. Dumpster pads shall be concrete"
- "Design. The pad shall extend beyond the front of each dumpster so that the front wheels of a truck servicing the dumpster will rest on the concrete, but in no case shall the length

of a concrete pad be less than eight feet beyond the front of the dumpster. The site shall be designed so that stormwater does not run through, and drains away from, areas where dumpsters are located in order to minimize the potential for contaminating stormwater runoff due to contact with solid waste"

- "Screening. Dumpsters shall be screened as required by section 32.7.9 and, where applicable, section 30.6."
    - Located north of building next to north parking lot as a 18' x 26' pad

Landscaping

Albemarle County Code Sec. 32.7.9.7: Screening

- "Commercial and industrial uses. Commercial and industrial uses shall be screened from the adjacent rural areas zoning district. Commercial and industrial uses shall be screened from residential uses when deemed necessary by the agent upon considering the proximity of the commercial or industrial use to the residential use, the nature of the commercial or industrial use, whether the uses are in single-use or mixed use developments, and other considerations he determines to be relevant under sound zoning principles"
- "Parking areas. Parking areas consisting of four spaces or more shall be screened from adjacent residential and rural areas districts."
- "Types of screening permitted. Screening shall consist of a planting strip, existing vegetation, a slightly opaque wall or fence, or a combination thereof, to the reasonable satisfaction of the agent"
- "If only a planting strip or existing vegetation is provided as screening, the planting strip or the existing vegetation shall not be less than 20 feet in depth. If a planting strip is provided, the plant materials shall consist of a double staggered row of evergreen trees planted 15 feet on center, or a double staggered row of evergreen shrubs planted ten feet on center, or an alternative vegetative screening approved by the agent"
    - Screening requirements present throughout the site

Albemarle County Code Sec. 32.7.9.6: Landscaping within a parking area.

- "The minimum landscaping standards for each parking area having five or more parking spaces are as follows:"
    - "Minimum area. An area of at least five percent of the paved parking and vehicular circulation area shall be landscaped with trees or shrubs. Neither the areas of street trees and shrubs required by sections 32.7.9.5(d) and (e) nor shrubs planted between a parking area and a building on the site shall be counted toward the minimum area landscaped area for a parking area"
    - "Types of plant materials. The plant materials may be a mixture of shade trees and shrubs and shall include one large or medium shade tree per ten parking spaces or portion thereof, if five spaces or more. The shade trees shall be selected from a

current list of recommended large shade trees approved by the agent or other species approved by the agent and the agent may allow trees smaller than medium shade trees to be planted when site conditions warrant smaller trees. All shade trees to be planted shall meet the specifications of the American Association of Nurserymen"

- "Minimum caliper of street trees. Large street trees shall be 1½ inches to 1¾ inches minimum caliper (measured six inches above ground level) when planted. Medium street trees shall be one inch to 1¼ inches minimum caliper when planted"
- "Spacing. The plant materials shall be located in reasonably dispersed planting islands within the parking area or abutting areas"
    - Trees will be present in the parking islands throughout the parking lots.

Albemarle County Code Sec. 32.7.9.9: Installation and maintenance of required landscaping and screening.

- "Method of installation. All trees shall be planted in accordance with either the standardized landscape specifications jointly adopted by the Virginia Nurserymen's Association, the Virginia Society of Landscape Designers and the Virginia Chapter of the American Society of Landscape Architects, or the road and bridge specifications of the Virginia Department of Transportation. Planting islands shall contain a minimum of 50 square feet per tree, with a minimum dimension of five feet in order to protect the landscaping and allow for proper growth. Wheel stops, curbing or other barriers shall be provided to prevent damage to landscaping by vehicles. Where necessary, trees shall be welled or otherwise protected against change of grade. All pervious areas of the site shall be permanently protected from soil erosion with grass or other ground cover or mulch material."

Tree Canopy

Albemarle County Code Sec. 32.7.9.8: Tree canopy

- "Minimum tree canopy. Each site shall have a tree canopy covering the minimum percentage of the site as follows:"
    - "Commercial or industrial uses. If the site is to be developed for commercial or industrial uses, the minimum tree canopy is ten percent"
    - Trees will be located in the design such that the 10% minimum tree canopy requirement is met.

Grading:

Albemarle County Code Sec 4.3.3: Grading Standards

- Steepness. Cut and fill slopes shall not be steeper than a 2:1 (50 percent) slope. If the slope is to be mowed, the slope shall be no steeper than a 3:1 (33 percent) slope
- Our grading plan will follow this guideline throughout the site

Albemarle County Code Sec. 4.12.15 - Minimum design requirements and improvements for parking areas.

- Maximum grade. The maximum grade for parking spaces, loading spaces, and access aisles abutting parking or loading spaces shall not exceed five percent in any direction.
- Location of handicapped parking spaces. Parking areas shall be designed so that handicapped parking spaces are located to provide persons with direct unobstructed access to buildings by the shortest practical route, and to eliminate the need to cross vehicular access aisles wherever possible
    - Grading guidelines followed throughout the site in parking spaces, etc.

Setbacks

Albemarle County Code Sec. 4.20 - Setbacks and stepbacks in conventional commercial and industrial districts

- Front Minimum: “10 feet from the right-of-way or the exterior edge of the sidewalk if the sidewalk is outside of the right-of-way; for off-street parking or loading spaces, 10 feet from any public street right-of-way”
- Front Maximum: “30 feet from the right-of-way or the exterior edge of the sidewalk if the sidewalk is outside of the right-of-way, provided that this maximum setback shall not apply to any structure existing on June 3, 2015 and to any structure depicted on an approved final site plan that is valid on June 3, 2015 as having a front setback greater than 30 feet; none, on any lot, including a corner lot, abutting a principal arterial highway or interstate”
- Side or Rear Minimum: “If the abutting lot is zoned commercial or industrial, any primary structure shall be constructed and separated in accordance with the current edition of the Building Code”
- Side or Rear Maximum: None
    - 10’ setback from existing edge of right of way is followed for all new development.
    - Setbacks followed throughout the property line of the site.

Sidewalk

VDOT Road Design Manual - Appendix A2: Clear Zone - Lateral Offset Guidelines

- Buffer: Per Figure A2-2 Curb With Buffer Strip And Sidewalk – Case 2
    - A 4’ minimum buffer is required between the back of the curb and sidewalk.
- A 4’ buffer is drawn between the back of the curb and the edge of the sidewalk closest to the road.

Appendix A(1) - VDOT Complete Streets: Bicycle and Pedestrian Facility Guidelines, Bus Stop Design and Parking Guidelines:

- Width: “New Pedestrian Access Routes shall be a minimum of 5 feet wide”
    - Sidewalks have been designed to a width of 5 feet and is shown in the plans.
- Grade: “Sidewalk that is included in the roadway typical section or right of way is expected to follow the roadway grade; in this case the sidewalk shall not exceed the adjacent roadway profile grade. Sidewalk that is not part of the roadway typical section or is on an independent alignment shall have a maximum grade of 5.0% measured parallel to the direction of travel.”
    - The sidewalk has been designed to not exceed the adjacent slope of the roadway. In areas not directly adjacent to the roadway, the grade of the sidewalk does not exceed 5%. This is reflected in the design sheets.
- Cross Slope: “The cross slope of pedestrian access routes and pedestrian street crossings shall not exceed 2.0 % measured perpendicular to the direction of travel except. Designers should design sidewalks with a plus 1.5% to minus 1.5% cross slope to accommodate variations that may result during construction.”
    - The sidewalk cross slope has been designed as 2% to meet the requirement.

Utility:

Albemarle County Service Authority Rules and Regulations Sec 3.01.1

- “The developer of any new subdivision intended for residential or commercial use or any combination thereof, or the developer of any industrial site shall construct all sanitary sewers and domestic fresh water distribution lines within the subdivision or development at the developers expense.”
    - Shown in our utility plan

2018 Virginia Plumbing Code Sec. 603 Water Service

- “The water service pipe shall be sized to supply water to the structure in the quantities and at the pressures required in this code. The water service pipe shall be not less than ¾ inch (19.1 mm) in diameter.”
- “Where water service piping is located in the same trench with the building sewer, such sewer shall be constructed of materials listed in Table 702.2. Where the building sewer piping is not constructed of materials listed in Table 702.2, the water service pipe and the building sewer shall be horizontally separated by not less than 5 feet (1524 mm) of

undisturbed or compacted earth. The required separation distance shall not apply where a water service pipe crosses a sewer pipe, provided that the water service is sleeved to a point not less than 5 feet (1524 mm) horizontally from the sewer pipe centerline on both sides of such crossing. The sleeve shall be of pipe materials listed in Table 605.3, 702.2 or 702.3. The required separation distance shall not apply where the bottom of the water service pipe, located within 5 feet (1524 mm) of the sewer, is not less than 12 inches (305 mm) above the highest point of the top of the building sewer."

2018 Virginia Plumbing Code Sec. 703 Building Sewer

- "Where separate systems of sanitary drainage and storm drainage are installed in the same property, the sanitary and storm building sewers or drains shall be permitted to be laid side by side in one trench."

Environmental:

Sec. 17-502 - VSMP permit application; offsite nutrient credits

- Eligibility to use offsite nutrient credits. An owner is eligible to use offsite nutrient credits if one or more of the following are satisfied:
    - "Most phosphorus nutrient reductions are achieved onsite. At least 75 percent of the required phosphorus nutrient reductions are achieved onsite"

The Virginia Stormwater Management Program (VSMP) regulation requires use of the Virginia Runoff Reduction Method (VRRM) or another equivalent methodology approved by the State Water Control Board for water quality compliance with Part II B (9VAC25-870-65). This project used the VRRM (Version 3.0, April 2016) to determine the stormwater management needs.

The selected stormwater management controls were then designed following VA DEQ STORMWATER DESIGN SPECIFICATION NO.9 for bioretention level 1 design.

- $T_v = (R_v * A)/12$
- $SA = T_v/Storage\ Depth$
- Maximum Ponding Depth - 6 inches
- Filter Media Depth - 48 inches

VDOT Road and Bridge Standards Sec. 104.05
https://www.vdot.virginia.gov/media/vdotvirginiagov/doing-business/technical-guidance-and-support/technical-guidance-documents/location-and-design/2016-road-and-bridge-standards/autopublish/section100/CS100.pdf

- Outlines proper dimensions for standard curb inlets in stormwater systems with 15” RCP piping

VDOT Road and Bridge Standards Sec. 105.04
https://www.vdot.virginia.gov/media/vdotvirginiagov/doing-business/technical-guidance-and-support/technical-guidance-documents/location-and-design/2016-road-and-bridge-standards/autopublish/section100/CS100.pdf

- Outlines proper dimensions for standard 22” diameter manhole covers at necessary cleanouts in stormwater piping system

Erosion and Sediment Control/Demolition:

EPA Suggestions/Guidelines - Controlling Dust and Stormwater Sediment Runoff
https://www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater-construction

- Waterproof storm and silt fencing should surround the perimeter of the site in order to control loose sediment from stormwater runoff
- Fencing should be sufficiently partly buried underground to form a foundation for the fence, with several feet of fence exposed above-ground

EPA Guidelines for Sediment Basins & Rock Dams - Usage and Implementation of Sediment Basins
https://www.epa.gov/system/files/documents/2021-11/bmp-sediment-basins-and-rock-dams.pdf

- Building a basin of roughly 50-100ft in diameter to capture large quantities of turbid runoff during periods of high precipitation
- Should be placed at lowest point of topography on the site
- Basin can be a precursor to a permanent stormwater retainage area
- Recommend to be surrounded with rip-rap barrier

Virginia Erosion & Sediment Control Handbook (1992) Chapter 3.13 - Temporary Sediment Trap
https://www.deq.virginia.gov/home/showpublisheddocument/2402/637437334433600000

- Sediment traps, along with other perimeter controls 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
- At inlet into trap, an at least 2:1 slope into the basin should be in-place
    - Slope should be vegetated and lined with geotextile fabric underneath

EPA Storm Drain Inlet Protection BMPs - Storm Drain Inlet Protection
https://www.epa.gov/system/files/documents/2021-11/bmp-storm-drain-inlet-protection.pdf

- Suggests use of filter socks and geotextile fabric to cover curb storm drain inlets by trapping sediment but allowing water to pass through
- Grate inlets should be protected along their perimeter with filter socks or silt fencing to clean runoff before entering the grate

Virginia Erosion & Sediment Control Handbook Chapter Chapter 3.07 Storm Drain Inlet Protection
https://www.deq.virginia.gov/home/showpublisheddocument/2390/637437334413900000

- For areas with greater than 5% slope, a storm drain inlet or manhole protection should consist of geotextile fabric covering the opening with at least 12" of aggregate gravel on top
    - Gravel should be either VDOT type #3, #5, or #357
- Silt fencing can be added around the perimeter of the protected inlet if needed

Massachusetts Clean Water Toolkit - **S**anitary Sewer Protection
https://megamanual.geosyntec.com/npsmanual/inletprotection.aspx#:~:text=The%20type%20of%20inlet%20protection,over%20the%20storm%20sewer%20opening.

- Same protections as with storm drain inlets
- After demolition, access cleanouts and remove any blockage due to construction activities

Virginia Erosion & Sediment Control Handbook (1992) Chapter 3.35 - Mulching
https://www.deq.virginia.gov/home/showpublisheddocument/2442/637437336832670000

- To prevent erosion by protecting the soil surface from raindrop impact and reducing the velocity of overland flow.
- Advises placement of much and/or temporary vegetation within perimeter of silt fencing in order to absorb runoff and capture sediment
- Organic mulch materials, such as straw, wood chips, bark, and fiber mulch have been found to be the most effective.

Virginia Erosion & Sediment Control Handbook (1992) Chapter 3.09 - Temporary Diversion Dikes
https://www.deq.virginia.gov/home/showpublisheddocument/2394/637437334420470000

- A temporary ridge of compacted soil constructed at the top or base of a sloping disturbed area.
- Used to divert sediment-laden runoff from a disturbed area to a sediment-trapping facility such as a sediment trap or sediment basin.
- Should be stabilized immediately following installation with temporary or permanent vegetation to prevent erosion of the dike itself

Vision Detection Systems, Inc. - Construction Site Security BMPs

https://visiondetectionsystems.com/how-to-pick-the-right-security-fences/#:~:text=Security%20Fence%20Basics&text=Fences%20need%20to%20be%20tall,it%20will%20dissuade%20potential%20trespassers.

- Suggested at least 6-foot tall security fencing along the outside perimeter of E&S fencing
- Barbed-wire can be added for extra security
- Site entrance needs to be wide enough to accommodate any and all vehicles, equipment, and materials that will enter the site. Swing gates with either manual or electronic controls can be applied, an entrance of 40' width would be adequate
- Site entrance gates should be padlocked during off-hours

Virginia Erosion & Sediment Control Handbook (1992) Chapter 3.02 - Construction Entrances
https://www.deq.virginia.gov/home/showpublisheddocument/2380/637437334397670000

- The area of the entrance must be excavated a minimum of 3 inches and must be cleared of all vegetation, roots, and other objectionable material. The filter fabric underliner will then be placed the full width and length of the entrance.
- A minimum of 6" stone aggregate layer must be placed above the filter fabric
- Construction entrances must be at least 70 feet in total length between the entrance gate and the exposed ground of the worksite
- Regular cleaning or replacement of the gravel is necessary in order to maximize the aggregate's ability to detract mud and sediment from the tires of vehicles moving on-and-off the site

Appendix D

Technical Deliverables

PANTOPS HOTEL

SITE PLAN

PARCEL #78-9D
ALBEMARLE COUNTY, VA
4/24/2024

SITE DATA:

TAX MAP PARCEL AND OWNER INFO:	PARCEL #78-9D OWNER: PANTOPS HOTEL LLC P.O. BOX 3535 WILLIAMSBURG VA, 23185
TOTAL SITE AREA:	2.397 AC
LIMITS OF DISTURBANCE:	1.443 AC
EXISTING ZONING:	HIGHWAY COMMERCIAL
ZONING CORRIDORS:	ENTRANCE CORRIDORS
OVERLAY:	STEEP SLOPES ON SITE
SOURCE OF SURVEY, BOUNDARY, AND TOPOGRAPHY:	TIMMONS GROUP 28 IMPERIAL DRIVE STAUNTON, VA 24401 JOSEPH C. MEDLEY L.S. CONDUCTED 2/28/22
HORIZONTAL DATUM REFERENCE:	NAD83
VERTICAL DATUM REFERENCE:	NAVD88

ZONING SITE REQUIREMENTS:

USE	
CURRENT:	VACANT
PROPOSED:	HOTEL
SETBACKS	
FRONT MINIMUM:	10 FEET
SIDE MINIMUM:	NONE
REAR MINIMUM:	NONE
BUILDING HEIGHT	
MAXIMUM ALLOWABLE BUILDING HEIGHT:	SPECIAL PERMISSION FROM ALBEMARLE COUNTY FIRE OFFICIAL OVER 35'
PROPOSED BUILDING HEIGHT:	----
PARKING CALCULATION	
REQUIRED PARKING:	1 SPOT PER GUESTROOM, 80 GUESTROOMS PROPOSED TOTAL PARKING REQUIRED: 80 SPACES 4 ADA SPOTS FOR 76 - 100 TOTAL SPACES
PARKING PROVIDED:	80 STANDARD SPACES 4 VAN ACCESSIBLE ADA SPOTS



OWNER:

PANTOPS HOTEL LLC

SITE ADDRESS: TOWNE AND COUNTRY LANE & OLYMPIA DRIVE
ALBEMARLE COUNTY, VA

MAILING ADDRESS: P.O. BOX 3535
WILLIAMSBURG,VA 23185

COLLABORATORS:

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CHARLOTTE GILLUM - cg7xz@virginia.edu

CAROLINE LYSTASH - cel9wx@virginia.edu

HENRY VOTER - hwv4ug@virginia.edu

GARRETT WARREN - gmw8m@virginia.edu

Sheet List Table

Sheet Number	Sheet Title
1	COVER SHEET
2.1 - 2.3	NOTES & DETAILS
3	EXISTING CONDITIONS
4	DEMOLITION PLAN
5	LAYOUT
6	UTILITY PLAN
7	GRADING PLAN
8	E&S NOTES & DETAILS
9	E&S PLAN PHASE 1
10	E&S PLAN PHASE 2
11	STORMWATER SUMMARY
12	STORMWATER NOTES & DETAILS
13	DRAINAGE LAYOUT

REVISION DESCRIPTION

DATE

DATE 4/24/2024

DRAWN BY

DESIGNED BY

CHECKED BY

SCALE

PANTOPS HOTEL
ALBEMARLE COUNTY, VA
COVER SHEET

JOB NO. ----

SHEET NO. 1

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UTILITY NOTES

1. WORK SHALL BE SUBJECT TO INSPECTION BY ALBEMARLE COUNTY SERVICE AUTHORITY (ACSA) INSPECTORS. THE CONTRACTOR WILL BE RESPONSIBLE FOR NOTIFYING THE PROPER ACSA OFFICIALS AT THE START OF THE WORK.

2. THE ALBEMARLE COUNTY SERVICE AUTHORITY SHALL HAVE ACCESS TO USE THE AIRSPACE ABOVE THE LOCATIONS OF CONSTRUCTION FOR THE FLIGHT OF UNMANNED AERIAL VEHICLES FOR THE PURPOSE OF IMAGERY COLLECTION.

3. THE LOCATION OF EXISTING UTILITIES ACROSS THE LINE OF THE PROPOSED WORK ARE NOT NECESSARILY SHOWN ON THE PLANS AND WHERE SHOWN ARE ONLY APPROXIMATELY CORRECT. THE CONTRACTOR SHALL, ON HIS OWN INITIATIVE, LOCATE ALL UNDERGROUND LINES AND STRUCTURES, AS NECESSARY.

4. ALL MATERIALS AND CONSTRUCTION SHALL COMPLY WITH THE CURRENT EDITION OF THE GENERAL WATER AND SEWER CONSTRUCTION SPECIFICATIONS, AS ADOPTED BY THE ACSA.

5. DATUM FOR ALL ELEVATIONS SHOWN IN NATIONAL GEODETIC SURVEY.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY (1-800-552-7001).

7. ALL WATER AND SEWER PIPES SHALL HAVE A MINIMUM OF THREE AND A HALF (3.5) FEET OF COVER MEASURED FROM THE TOP OF PIPE, OVER THE CENTERLINE OF PIPE. THIS INCLUDES ALL FIRE HYDRANT LINES, SERVICE LATERALS AND WATER LINES, ETC.

8. ALL WATER AND SEWER APPURTENANCES ARE TO BE LOCATED OUTSIDE OF ROADSIDE DITCHES.

9. VALVES ON DEADEND LINES SHALL BE RODDED TO PROVIDE ADEQUATE RESTRAINT FOR THE VALVE DURING A FUTURE EXTENSION OF THE LINE.

10. TREES ARE NOT PERMITTED IN THE ACSA EASEMENT.

11. THE CONTRACTOR SHALL BE RESPONSIBLE TO COMPLY WITH THE NOLEAD REGULATION REGARDING BRASS FITTINGS EFFECTIVE JANUARY 4, 2014 (SENATE BILL 3874 WHICH AMENDS THE SAFE DRINKING WATER ACT).

12. THE SEWER LATERAL BEYOND THE CONNECTION AT THE SEWER MAIN SHALL BE PRIVATE. THE SEWER LATERAL STUB-OUT SHALL UNDERGO THE ACSA LOW-PRESSURE AIR TEST TO SATISFY COUNTY TESTING REQUIREMENTS. VISUAL INSPECTION OF THE SEWER LATERAL STUB-OUT SHALL BE WITNESSED BY THE COUNTY BUILDING INSPECTIONS DEPARTMENT. THIS INSPECTION SHALL OCCUR UNDER AN “OTHER PLUMBING” PERMIT WHICH MUST BE OBTAINED BY THE CONTRACTOR.

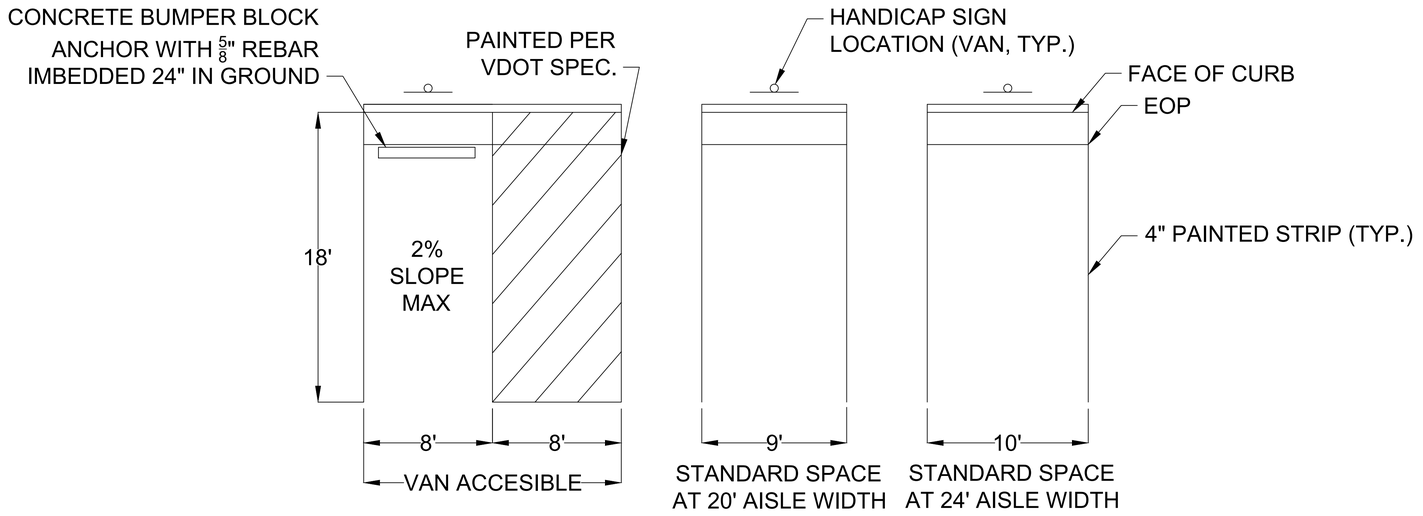
13. THE SEWER LATERAL BEYOND THE CONNECTION AT A MANHOLE SHALL BE PRIVATE. VISUAL INSPECTION AND PRESSURE TESTING OF THE SEWER LATERAL SHALL BE WITNESSED BY THE COUNTY BUILDING INSPECTIONS DEPARTMENT. THIS INSPECTION SHALL OCCUR UNDER AN “OTHER PLUMBING” PERMIT WHICH MUST BE OBTAINED BY THE CONTRACTOR.

14. THE FIRE SPRINKLER MAIN DOWNSTREAM OF THE GATE VALVE IS PRIVATE. VISUAL INSPECTION AND TESTING OF THE FIRE SPRINKLER MAIN DOWNSTREAM OF THE GATE VALVE SHALL BE WITNESSED BY THE COUNTY BUILDING INSPECTIONS DEPARTMENT. THIS INSPECTION SHALL OCCUR UNDER AN “OTHER PLUMBING” PERMIT WHICH MUST BE OBTAINED BY THE CONTRACTOR.

15. ALL FLUSHING OF FIRE SPRINKLER MAINS SHALL NOT OCCUR UNTIL APPROVAL IS GIVEN BY THE ACSA.

16. PRIOR TO BACKFLOW PREVENTION DEVICE TESTING AND THE ESTABLISHMENT OF WATER SERVICE, ALL BACKFLOW PREVENTION DEVICE INSTALLATIONS SHALL MEET THE ACSA BACKFLOW REQUIREMENTS AS DETAILED IN SECTION 8 OF THE MOST RECENT REVISION OF THE ACSA RULES AND REGAULTIONS.

17. A DEED OF EASEMENT AND EASEMENT PLAT FOR THE UTILITY EASEMENTS, APPROVED BY THE ACSA, SHALL BE RECORDED PRIOR TO ANY WATER AND/OR SEWER SERVICE BEING ESTABLISHED.



TYPICAL PARKING SPACE DETAILS
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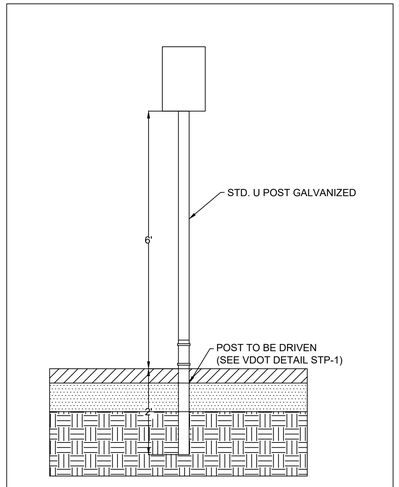

SIGN AND POST DETAIL
No Scale

REVISION DESCRIPTION | DATE

DATE 4/24/2024
DRAWN BY
DESIGNED BY
CHECKED BY
SCALE NOT TO SCALE

PANTOPS HOTEL
ALBEMARLE COUNTY, VA
NOTES & DETAILS

JOB NO.

SHEET NO. 2.1

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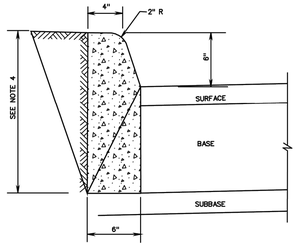
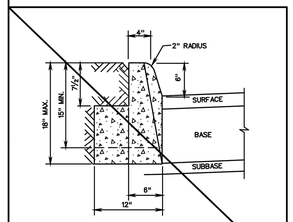
2016 ROAD & BRIDGE STANDARDS

CG-2

NOTES:

1. THIS ITEM MAY BE PRECAST OR CAST IN PLACE.
2. CONCRETE TO BE CLASS A3 IF CAST IN PLACE, 4000 PSI IF PRECAST.
3. CURB HAVING A RADIUS OF 300 FEET OR LESS (ALONG FACE OF CURB) WILL BE PAID FOR AS RADIAL CURB.
4. THE DEPTH OF CURB MAY BE REDUCED AS MUCH AS 3" (25" DEPTH OR INCREASED AS MUCH AS 3" (21" DEPTH IN ORDER THAT THE BOTTOM OF CURB WILL COINCIDE WITH THE TOP OF A COMPACTED SUBBASE COURSE. SUBBASE SHOULD OTHERWISE THE PAVEMENT IS TO BE AS SHOWN. NO ADJUSTMENT IN THE PRICE BID IS TO BE MADE FOR A DECREASE OR AN INCREASE IN DEPTH.
5. CG-2 IS TO BE USED ON ROADWAYS MEETING THE REQUIREMENTS FOR CG-6 AS SHOWN IN APPENDIX A OF THE VDOT ROAD DESIGN MANUAL, IN THE SECTION ON GS URBAN STANDARDS.





ACCEPTABLE ALTERNATIVE IF CURB IS EXTRUDED

SPECIFICATION REFERENCE	STANDARD 6" CURB	VDOT ROAD AND BRIDGE STANDARDS
105 502	VIRGINIA DEPARTMENT OF TRANSPORTATION	REVISION DATE: — SHEET 1 OF 1 201.01

2016 ROAD & BRIDGE STANDARDS

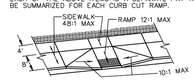
2016 ROAD & BRIDGE STANDARDS

CG-12

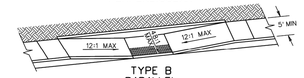
GENERAL NOTES:

1. THE DETECTABLE WARNING SHALL BE PROVIDED BY TRUNCATED DOMES.
2. ALL DETECTABLE WARNING SURFACE PRODUCTS SHALL MEET THE REQUIREMENTS OF SECTION 504 OF THE SPECIFICATIONS FOR CG-12 DETECTABLE WARNING SURFACE. DETECTABLE WARNING SURFACE PRODUCTS USED SHALL BE FROM THE MATERIALS APPROVED PRODUCT LIST NUMBER 72.
3. SLOPING SIDES OF CURB RAMP MAY BE POURED MONOLITHICALLY WITH RAMP FLOOR OR BY USING PERMISSIBLE CONSTRUCTION JOINT WITH REQUIRED BARS.
4. REQUIRED BARS ARE TO BE NO. 5 X 8' PLACED 1' CENTER TO CENTER ALONG BOTH SIDES OF THE RAMP FLOOR, MID-DEPTH OF RAMP FLOOR. MINIMUM CONCRETE COVER 1½".
5. ROADWAY CURB / CURB AND GUTTER SLOPE TRANSITIONS ADJACENT TO CURB RAMPS ARE INCLUDED IN PAYMENT FOR CURB / CURB AND GUTTER.
6. CURB RAMPS ARE REQUIRED FOR SIDEWALKS AND SHARED USE PATHS. THE WIDTH OF THE CURB RAMP SHALL MATCH SIDEWALK WIDTH WHEN CURB RAMPS ARE USED IN CONJUNCTION WITH A SHARED USE PATH, THE MINIMUM WIDTH SHALL BE THE WIDTH OF THE SHARED USE PATH.
7. DETECTABLE WARNINGS SHALL EXTEND THE FULL WIDTH OF THE CURB RAMP LANDING FLOOR.
8. CURB RAMPS WILL BE INSTALLED AND LOCATED WITHIN PEDESTRIAN CROSSWALKS AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER. CURB RAMPS SHOULD NOT BE LOCATED BEHIND VEHICLE STOP LINES, LIGHT POLES, FIRE HYDRANTS, DROP INLETS, ETC.
9. RAMPS MAY BE PLACED ON RADIAL OR TANGENTIAL SECTIONS PROVIDED THAT THE CURB OPENING IS PLACED WITHIN THE LIMITS OF THE CROSSWALK AND THAT THE SLOPE AT THE CONNECTION OF THE CURB OPENING IS PERPENDICULAR TO THE CURB.
10. DETECTABLE WARNING SURFACE PANELS SHALL BE INSTALLED FLUSH WITH THE BACK OF CURB.
11. WHERE CURB RAMPS INTERSECT A RADIAL SECTION OF CURB AT ENTRANCES OR STREET CONNECTIONS THE DETECTABLE WARNING SURFACE SHALL HAVE A FACTORY RADIUS OR BE FIELD-MODIFIED AS RECOMMENDED BY THE MANUFACTURER TO MATCH THE BACK OF CURB. SEE CG-12-INS PAGES 204.06 AND 204.07 FOR METHODS OF INSTALLING DETECTABLE WARNINGS ON A RADIUS.

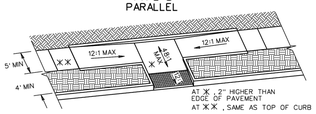
NOTE: COMPONENTS OF CURB RAMPS CONSIST OF THE FOLLOWING: HYDRAULIC CEMENT SIDEWALK (DEPTH IN INCHES, AREA IN SQUARE YARDS) CURB WHEN REQUIRED (CG-2 OR CG-3 IN LINEAR FEET) DETECTABLE WARNING SURFACE (AREA IN SQUARE YARDS) EACH OF THE ABOVE ITEMS IS A SEPARATE PAY ITEM AND SHOULD BE SUMMARIZED FOR EACH CURB CUT RAMP.



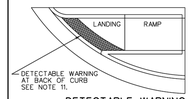
TYPE A
PERPENDICULAR



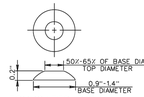
TYPE B
PARALLEL



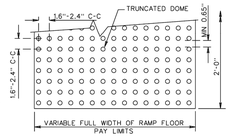
TYPE C
PARALLEL & PERPENDICULAR



DETECTABLE WARNING
INSTALLED ON A RADIUS



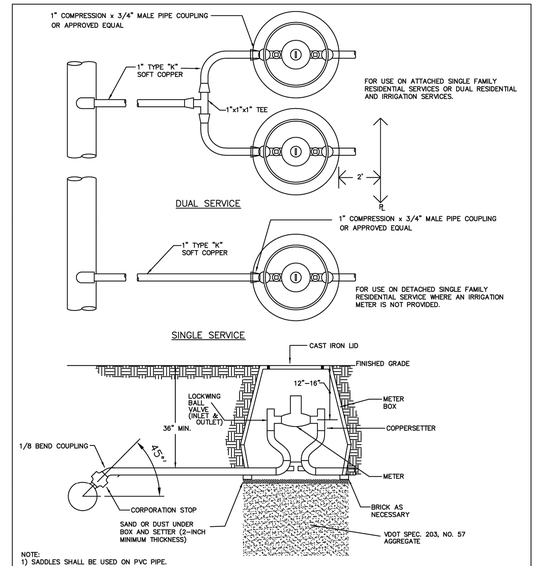
TRUNCATED DOME
DETAIL



DETECTABLE WARNING
DETAIL

VDOT ROAD AND BRIDGE STANDARDS	A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.	SPECIFICATION REFERENCE
SHEET 1 OF 5 — REVISION DATE 04/19 204.01	CG-12 DETECTABLE WARNING SURFACE (GENERAL NOTES) VIRGINIA DEPARTMENT OF TRANSPORTATION	105 502 504

2016 ROAD & BRIDGE STANDARDS



NOTE:
1) SADDLES SHALL BE USED ON PVC PIPE.
2) NO SWEATED FITTINGS.
3) LATERALS INSTALLED WITHIN EXISTING, OR PROPOSED, VDOT RIGHT-OF-WAY SHALL BE INSTALLED IN A 2-INCH PVC SDR-21 OR HDPE DR11 CASING PIPE.

TYPICAL SERVICE LATERAL INSTALLATION (3/4" & 1" METERS)

NTS
FIG. W-6A

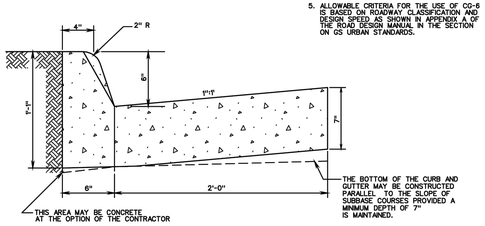
TD-10

2016 ROAD & BRIDGE STANDARDS

CG-6

NOTES:

1. THIS ITEM MAY BE PRECAST OR CAST IN PLACE.
2. CONCRETE TO BE CLASS A3 IF CAST IN PLACE, 4000 PSI IF PRECAST.
3. COMBINATION CURB & GUTTER HAVING A RADIUS OF 300 FEET OR LESS (ALONG FACE OF CURB) SHALL BE PAID FOR AS RADIAL COMBINATION CURB & GUTTER.
4. FOR USE WITH STABILIZED OPEN-GRADED DRAINAGE LAYER, THE BOTTOM OF THE CURB & GUTTER SHALL BE CONSTRUCTED PARALLEL TO THE SLOPE OF SUBBASE COURSES AND TO THE DEPTH OF THE PAVEMENT.
5. ALLOWABLE CRITERIA FOR THE USE OF CG-6 IS BASED ON ROADWAY CLASSIFICATION AND DESIGN SPEED AS SHOWN IN APPENDIX A OF THE ROAD DESIGN MANUAL, IN THE SECTION ON GS URBAN STANDARDS.



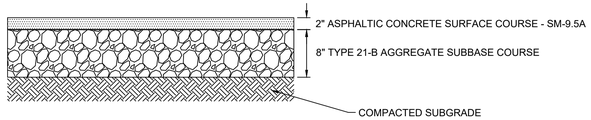
SPECIFICATION REFERENCE	COMBINATION 6" CURB AND GUTTER	VDOT ROAD AND BRIDGE STANDARDS
105 502	VIRGINIA DEPARTMENT OF TRANSPORTATION	REVISION DATE: — SHEET 1 OF 1 201.03

2016 ROAD & BRIDGE STANDARDS

NOTE: SIDEWALKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH VDOT STANDARDS.

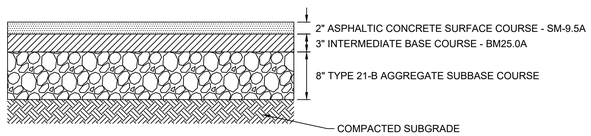
CONCRETE SIDEWALK PAVEMENT SECTION

NO SCALE



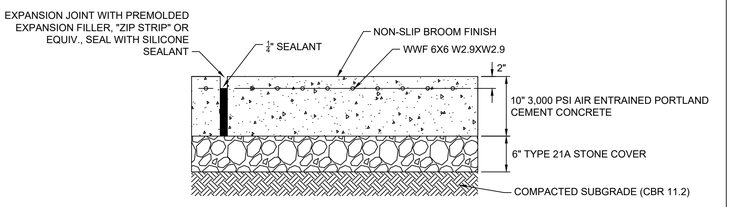
LIGHT DUTY ASPHALT PAVEMENT SECTION

NO SCALE



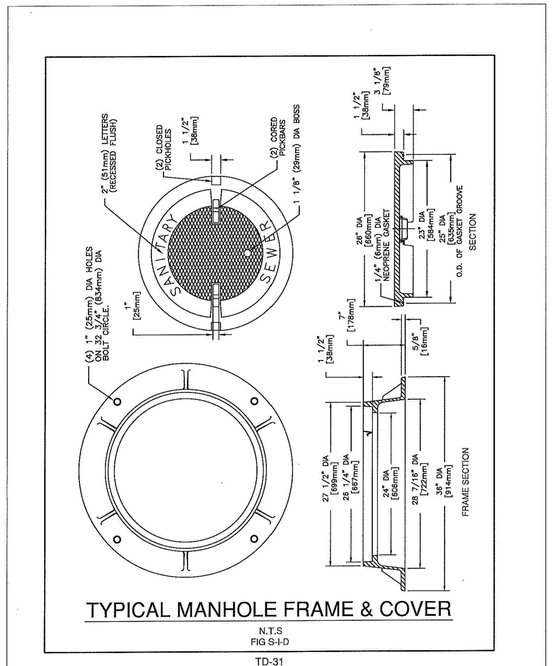
HEAVY DUTY ASPHALT PAVEMENT SECTION

NO SCALE



HEAVY DUTY CONCRETE SECTION

NO SCALE



TYPICAL MANHOLE FRAME & COVER

N.T.S
FIG S-I-D

TD-31

REVISION DESCRIPTION	DATE
	4/24/2024

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CHECKED BY

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NOT TO SCALE

PANTOPS HOTEL

ALBEMARLE COUNTY, VA

NOTES & DETAILS

JOB NO.

SHEET NO.
2.2

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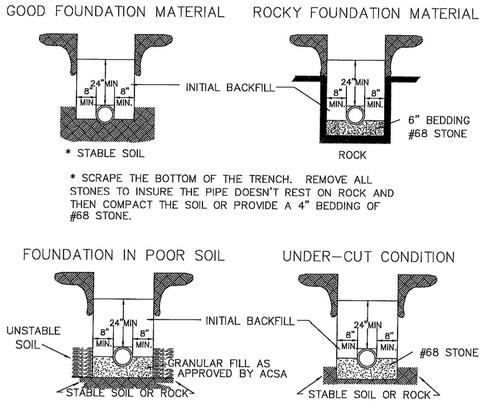


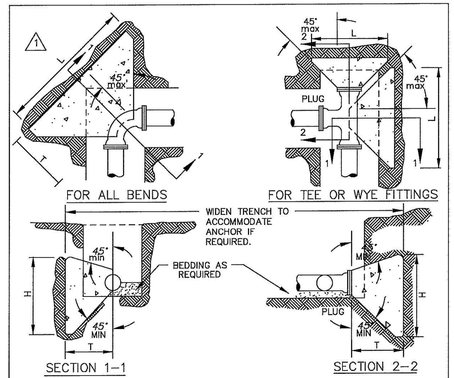
* SCRAPE THE BOTTOM OF THE TRENCH. REMOVE ALL STONES TO INSURE THE PIPE DOESN'T REST ON ROCK AND THEN COMPACT THE SOIL OR PROVIDE A 4" BEDDING OF #68 STONE.

NOTE :

1. NO ROCKS SHALL BE ALLOWED WITHIN 24" OF THE WATER LINES.
2. NO ROCKS LARGER THAN 6" IN ANY DIMENSION SHALL BE ALLOWED ABOVE THE INITIAL BACKFILL.
3. THE INITIAL BACKFILL SHALL BE PLACED AND COMPACTED IN 6" LIFTS.
4. NO ORGANIC OR FROZEN MATERIAL OR DEBRIS SHALL BE ALLOWED IN THE TRENCH.
5. BELL HOLES SHALL BE DUG OUT IN ALL CASES.

DUCTILE IRON WATER PIPE INSTALLATION & BEDDING

NTS
FIG. W-2

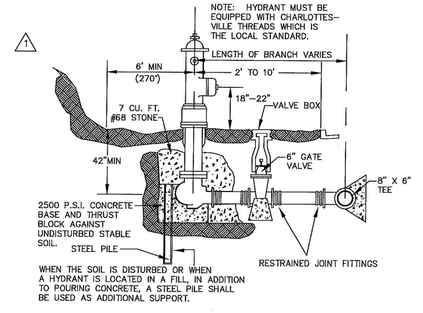


PIPE SIZE	DEGREE OF BEND	BEND DIMENSIONS (FEET) L	H	T	VOL. CU.YD.	TEE AND PLUGS (FEET) L	H	T	VOL. CU.YD.
4" & 6"	90	2.50	2.50	3.01	0.24	2.00	2.25	2.50	0.15
	45	2.00	2.25	2.60	0.15				
	22 1/2	1.50	2.00	2.52	0.10				
	11 1/4	1.50	2.00	2.50	0.10				
8"	90	3.66	3.16	3.21	0.48	3.16	2.91	2.66	0.32
	45	2.66	2.66	2.77	0.26				
	22 1/2	1.66	2.16	2.69	0.13				
	11 1/4	1.66	2.16	2.67	0.13				
10" & 12"	90	4.83	3.83	3.42	0.83	3.83	4.00	2.83	0.52
	45	3.33	3.58	2.95	0.43				
	22 1/2	2.33	2.58	2.86	0.24				
	11 1/4	1.83	2.33	2.84	0.18				

1. THRUST BLOCKS ARE REQUIRED WHENEVER THE PIPELINE : CHANGES DIRECTION, CHANGES SIZE, DEAD ENDS AND AT VALVES.
2. USE 2500 P.S.I. CONCRETE.
3. NO CONCRETE SHALL BE POURED ON ANY PART OF THE JOINT.
4. THE CONSULTING ENGINEER SHALL BE RESPONSIBLE TO THE VERIFY THE TYPE & SIZE OF ALL THRUST BLOCKS.

CONCRETE THRUST BLOCKS

NTS
FIG. W-3

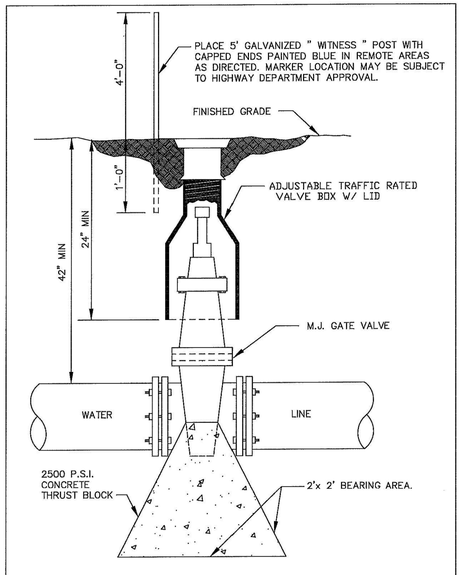


NOTE :

1. SURROUND WEEP HOLES WITH GRAVEL AND KEEP FREE OF CONCRETE.
2. MAINTAIN A 3 1/2' MIN. COVER FROM THE MAIN TO THE FIRE HYDRANT (INCLUDING DITCHES)
3. FINISHED GRADE SHALL SLOPE AWAY FROM THE FIRE HYDRANT AND VALVE BOX.
4. THE GATE VALVE IS ALLOWED IN SHOULDER OR BEHIND THE DITCH. IT IS NOT ALLOWED IN THE DITCH.
5. FIRE HYDRANTS SHALL BE INSTALLED AT LOCATIONS WHERE WEEP HOLES ARE ABOVE THE PREVAILING GROUNDWATER ELEVATION. IF REQUIRED TO BE IN WET AREAS, THE WEEP HOLES SHALL BE PLUGGED AND THE HYDRANT SHALL BE PUMPED DRY.

TYPICAL FIRE HYDRANT ASSEMBLY DETAIL

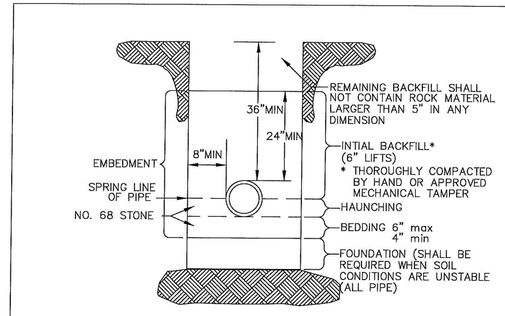
N.T.S.
FIG. W-4



NOTE : IN REMOTE AREAS, VALVE BOXES SHALL EXTEND SIX (6) INCHES ABOVE GRADE.

TYPICAL GATE VALVE

NTS
FIG. W-5

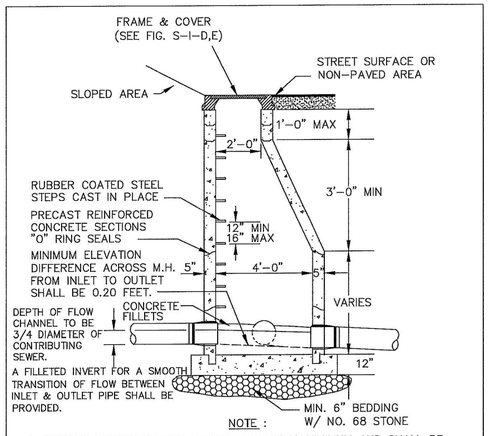


NOTE :

1. OPEN CUTS IN PAVED AREAS WITHIN EXISTING VDOT RIGHT-OF-WAY SHALL BE BACKFILLED ENTIRELY WITH NO. 21A STONE.
2. FOR DUCTILE IRON PIPE THE BOTTOM OF THE TRENCH SHALL BE SCRAPED AND COMPACTED, AND ALL STONES REMOVED OR A 4" BEDDING OF NO. 68 STONE SHALL BE PROVIDED.
3. WHERE ROCK IS ENCOUNTERED PIPE SHALL BE INSTALLED ON A MINIMUM 6" BEDDING OF NO. 68 STONE.

TYPICAL SEWER PIPE INSTALLATION IN TRENCH

NTS
FIG. S-3



NOTE :

1. BEDDING THICKNESS REQUIREMENT SHOWN IS MINIMUM AND SHALL BE SPECIFICALLY DETERMINED BY THE CONSULTANT FOR THE SOIL CONDITIONS.
2. THE CONSULTANT WILL DETERMINE WHETHER MANHOLES SHALL HAVE EXTENDED OR NON-EXTENDED BASES.
3. ALL JOINTS, LIFT HOLES, INLETS, OUTLETS TO BE SEALED & GROUTED INSIDE AND OUT.

TYPICAL MANHOLE SECTION SHOWING BRANCH TIE-IN

N.T.S
FIG. S-I-A

REVISION DESCRIPTION	DATE
	4/24/2024

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CHECKED BY

SCALE
NOT TO SCALE

PANTOPS HOTEL

ALBEMARLE COUNTY, VA

NOTES & DETAILS

JOB NO.

SHEET NO.
2.3

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SURVEY NOTES:

1. PROPERTY & ZONING INFORMATION:

SUBJECT PROPERTY:

OWNER:	PANTOPS HOTEL, LLC
REFERENCE:	DEED BOOK 3673, PAGE 95
TAX MAP PARCEL:	TMP 78-9D (07800-00-00-009D0)
PROPERTY ADDRESS:	NOT ASSIGNED
AREA:	2.397 ACRES (SURVEYED)
ZONED:	HC

2. THE BOUNDARY SHOWN HEREON IS BASED ON A FIELD SURVEY BY TIMMONS GROUP COMPLETED ON NOVEMBER 12, 2021.

3. HORIZONTAL DATUM IS BASED ON NAD83 (NA2011), VIRGINIA STATE GRID, SOUTH ZONE. DATUM ESTABLISHED THROUGH NETWORK GPS (LEICA SmartNET) OBSERVATIONS.

4. BASED ON FEMA FLOOD INSURANCE RATE MAP (FIRM), MAP NO. 51003C0287D, PANEL 287OF 576, EFFECTIVE DATE: FEBRUARY 4, 2005, THE PROPERTY SHOWN HEREON LIES IN UNSHADED ZONE X, AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.

5. THIS PLAT WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT. EASEMENTS MAY EXIST WHICH ARE NOT SHOWN HEREON.

6. THE PROPERTY SHOWN HEREON IS LOCATED WITHIN THE UPPER RIVANNA WATERSHED PER COUNTY GIS.

7. THE PROPERTY SHOWN HEREON IS NOT LOCATED WITHIN A WATER SUPPLY PROTECTION AREA.

8. THE PROPERTY SHOWN HEREON IS NOT LOCATED WITHIN AN AGRICULTURAL-FORESTAL DISTRICT.

10. THE PROPERTY SHOWN HEREON IS LOCATED WITHIN AN ENTRANCE CORRIDOR OVERLAY AREA.

11. MANAGED / STEEP SLOPES ARE NOT PRESENT ON PROPERTY PER ALBEMARLE COUNTY GIS DETAILS.

12. THE PROPERTY SHOWN HEREON IS NOT LOCATED WITHIN AN AIRPORT IMPACT AREA.

NAD 83 (NA 2011)

SCALE 1"=25'
0 25' 50'

LEGEND

- WATER VALVE
- FIRE HYDRANT
- WATER METER
- SANITARY SEWER MANHOLE (MHS)
- STORM DRAINAGE MANHOLE
- STORM DRAINAGE (SD) GRATE INLET
- DRAINAGE / FLOW DIRECTION
- RCP — REINFORCED CONCRETE PIPE
- HPDE — HIGH DENSITY POLYETHYLENE PIPE
- PVC — POLYVINYL PIPE
- LIGHT POLE
- TELECOM / FIBER VAULT
- ROCK ARMOR
- W — UNDERGROUND WATER UTILITY
- UGT — UNDERGROUND FIBER / TELECOM
- SAN — SANITARY SEWER PIPE
- G — UNDERGROUND GAS LINE
- EDGE OF PAVEMENT (EP)
- DECIDUOUS (DEC) TREE
- SIGN
- C&G — CURB & GUTTER
- SWK — SIDEWALK
- DB. — DEED BOOK
- PG. — PAGE
- INST. — INSTRUMENT
- (F) — PROPERTY COR. FOUND, AS NOTED
- (S) — PROPERTY COR. SET, AS NOTED

THIS TOPOGRAPHIC SURVEY WAS COMPLETED UNDER THE DIRECT AND RESPONSIBLE CHARGE OF JOSEPH C. MEDLEY FROM AN ACTUAL GROUND SURVEY MADE UNDER MY SUPERVISION; THAT THE ORIGINAL DATA WAS OBTAINED ON THE FOLLOWING DATES: NOVEMBER 8-9, & 12, 2021. THIS BASE-MAP AND DIGITAL GEOSPATIAL DATA INCLUDING METADATA MEETS MINIMUM ACCURACY STANDARDS UNLESS OTHERWISE NOTED.

CURVE TABLE

CURVE	RADIUS	LENGTH	TANGENT	DELTA	CHORD BEARING	CHORD
C1	100.00'	36.97'	18.70'	21°10'47"	N39°16'53"E	36.76'
C2	140.00'	23.11'	11.58'	9°27'23"	N45°01'52"W	23.08'
C3	140.00'	49.25'	24.88'	20°09'26"	N59°50'18"W	49.00'
C4	135.00'	49.04'	24.79'	20°48'46"	N66°15'07"W	48.77'
C5	326.50'	66.50'	33.37'	11°40'14"	N7°30'16"E	66.39'
C6	47.50'	77.02'	49.97'	92°53'56"	S48°08'00"W	68.85'
C7	282.57'	147.14'	75.28'	29°50'04"	N70°29'50"W	145.48'

REVISION DESCRIPTION	DATE
	4/24/2024

DRAWN BY

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CHECKED BY

SCALE
1" = 25'

PANTOPS HOTEL
ALBEMARLE COUNTY, VA
EXISTING CONDITIONS

JOB NO.

SHEET NO.
3

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Legend

- Tree Removal
- Limits of Disturbance
- Clear and Remove Dense Vegetation
- Mailboxes

EX. VAR. WIDTH SWM MAINTENANCE EASEMENT DB. 3657, PG. 564

OUTLET, 24" RCP INV. (OUT)=404.36'

SD CURB INLET W/ MHD TOP=412.53' INV. IN=408.43' 15" RCP (E) INV. IN=406.79' 24" RCP (S) INV. OUT=406.07' 24" RCP

EXISTING RIPRAP TO BE REMOVED

MHD TOP=421.47' INV. IN=415.49' 15" RCP (E) INV. IN=415.36' 15" RCP (S) INV. OUT=414.77' 15" RCP

TMP 78-9 TCO PARTNERS LLC DB. 4710, PG. 713

SD CURB INLET W/ MHD TOP=415.58' INV. IN=411.23' 15" RCP (W) INV. IN=411.36' 18" RCP (S) INV. OUT=409.44' 18" RCP

CURB RAMP (ADA) W/ DWS

TBM: SPIKE SET ELEV.=418.27'

VACATE ALL EXISTING DRAINAGE EASEMENTS

SD CURB INLET W/ MHD TOP=421.61' INV. OUT=418.01' 15" RCP

OLYMPIA DRIVE (45' & VAR. WIDTH PUBLIC R/W) DB. 3657, PG. 564 DB. 3520, PG. 644

SD CURB INLET W/ MHD TOP=423.28' INV. IN=423.26' 15" RCP (S) INV. OUT=422.51' 15" RCP

DEMO EXISTING SIDEWALK

TOWN & COUNTRY LANE (53' & VAR. WIDTH PUBLIC R/W) DB. 3657, PG. 564 DB. 3339, PG. 701

SD INLET W/ FES INV. IN=408.78' 24" RCP

ROCK ARMOR

SD CURB INLET W/ MHD TOP=412.61' INV. IN=408.62' 18" RCP (SW) INV. IN=408.11' 24" RCP (SE) INV. OUT=407.51' 24" RCP

EX. 20' PRIVATE DRAINAGE EASEMENT DB. 3657, PG. 564

DEMOLISH EXISTING CURB & GUTTER

DEMOLISH EXISTING CURB & GUTTER

SD CURB INLET W/ MHD TOP=428.95' INV. IN=424.95' 15" RCP (SE) INV. OUT=424.85' 15" RCP

EX. 20' SANITARY SEWER EASEMENT FOR ACSA DB. 3657, PG. 564

MHS (W/ DROP CONN.) TOP=433.05' INV. IN=416.70' 8" PVC (S) INV. OUT=416.59' 8" PVC

TMP 78-9D PANTOPS HOTEL, LLC DB. 3673, PG. 95 (VESTING) DB. 3657, PG. 564 (PLAT) LOT D' 2.397 AC. (SURVEYED) ZONED: HC

EX. 20' PRIVATE DRAINAGE EASEMENT DB. 3657, PG. 564

(SITE IS LIGHTLY VEGETATED AT TIME OF SURVEY)

EX. VAR. WIDTH PUBLIC DRAINAGE EASEMENT DB. 3657, PG. 564

REMOVE MAILBOXES AND PLACE AT PROPOSED NEW SITE ENTRANCE

ALL STORM DRAIN INLETS TO REMAIN-IN-PLACE

MHD TOP=424.38' INV. IN=418.77' 18" RCP (W) INV. OUT=416.18' 18" RCP

SD CURB INLET W/ MHD TOP=428.49' INV. OUT=428.35' 15" RCP

SD CURB INLET W/ MHD TOP=425.25' INV. IN=419.26' 15" RCP (W) INV. IN=420.60' 15" RCP (S) INV. OUT=419.14' 18" RCP

DEMO CURB, GUTTER, ROAD FOR SANITARY SEWER INSTALLATION. REPLACE IN KIND.

MHS TOP=435.35' INV. IN=427.27' 8" PVC (E) INV. IN=418.22' 8" PVC (S) INV. OUT=418.13' 8" PVC

MHS (W/ DROP CONN.) TOP=431.01' INV.=431.57' INSPECT. ITEM INV. IN=420.91' 8" PVC DROP (S) INV. IN=420.13' 8" PVC (W) INV. OUT=420.02' 8" PVC

MHS TOP=439.34' INV. IN=419.72' 8" PVC (E) INV. OUT=419.64' 8" PVC

TMP 78-11B1 SANDAV, LLC DB. 4559, PG. 55 (VESTING) DB. 4174, PG. 1 (PLAT)

EX. VAR. WIDTH 'UTILITY EASEMENT' FOR ACSA DB. 3657, PG. 564

MHD TOP=439.20' INV. IN=434.12' 24" RCP (E) INV. IN=434.19' 18" HDPE INV. OUT=433.95' 24" HDPE

TMP 78-9B GUADALAJARA CORPORATION IV DB. 3339, PG. 710

EX. VAR. WIDTH DRAINAGE EASEMENT DB. 3339, PG. 701

EX. 30' & VAR. WIDTH ACCESS EASEMENT DB. 3339, PG. 701

JALISCO WAY (PRIVATE ACCESS)

DEMO CURB & GUTTER AS REQUIRED TO TIE IN WATER LINE. REPLACE IN KIND.

ALL SANITARY UTILITIES TO REMAIN-IN-PLACE

CONC. REFUSE PAD

SAN CO TOP=438.31'

EX. 20' & VAR. WIDTH 'UTILITY EASEMENT' FOR ACSA DB. 3657, PG. 564

EX. 20' WATER LINE EASEMENT FOR ACSA DB. 3339, PG. 701

TMP 78-9C TAP INVESTMENTS, LLC DB. 3657, PG. 606

PIPE INLET, 12" HDPE (HW, L=4') INV. (IN)=436.68'

SD INLET W/ GRATE TOP=439.48'

EX. 20' PRIVATE DRAINAGE EASEMENT DB. 3657, PG. 564

PK NAIL (F) AHD 4.36'

IRON (F) · IRON (S) · MAG NAIL (S) · PK NAIL (F) · DH (S) · MAILBOXES

N76°39'38"W 13.43' · N55°58'44"W 138.91' · N68°55'08"W 113.99' · N40°18'12"W 13.85' · S49°47'06"W 103.35' · S57°48'35"E 34.74' · S39°27'19"E 45.68'

NAD 83 (MA 2011)

SCALE 1"=20'

0 20' 40'

98

REVISION DESCRIPTION	
DATE	4/24/2024
DRAWN BY	
DESIGNED BY	
CHECKED BY	
SCALE	1" = 20'

PANTOPS HOTEL

ALBEMARLE COUNTY, VA

DEMOLITION PLAN

JOB NO. ----

SHEET NO. 4

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MATERIALS LEGEND

- LIGHT DUTY ASPHALT
- HEAVY DUTY ASPHALT
- CONCRETE SIDEWALK
- HEAVY DUTY CONCRETE

SCALE 1"=20'
0 20' 40'

NAD 83 (NA 2011)

IRON (F)
IRON (F)
IRON (F)
DH (S)
TBM: SPIKE SET
ELEV.=418.27'
S85°25'36"E 123.31'
IRON (S)
IRON (F)
TMP 78-9
TCO PARTNERS LLC
DB. 4710, PG. 713
RETAINING WALL
BIORETENTION
LEVEL 1
BIORETENTION BASIN
DH (S)
CG-12
R=20.00'
STOP SIGN
(R1-1)
94.63'
S4°08'24"E
RETAINING WALL
R=15.02'
CG-12
CG-6 (TYP.)
R=30.00'
IRON
(F)
MAG NAIL
(S)
DECIDUOUS
TREE (TYP.)
R=2.00'
19.5'
R=34.00'
26'
R=5.00'
R=2.00'
R=24.00'
N76°39'38"W
13.43'
MAG
NAIL (S)
C4
MAG
NAIL (S)
N55°50'44"W 139.91'
TMP 78-9B
GUADALAJARA CORPORATION IV
DB. 3339, PG. 710
TBM: SPIKE SET
ELEV.=435.53'
S34°09'11"E
MAG
NAIL (S)
TMP 78-9D
PANTOPS HOTEL, LLC
DB. 3673, PG. 95 (VESTING)
DB. 3657, PG. 564 (PLAT)
'LOT D'
2.397 AC. (SURVEYED)
ZONED: HC
18'
26'
DECIDUOUS
TREE (TYP.)
R=4.00'
R=4.00'
CG-6 (TYP.)
26'
R=5.00'
18'
WHEEL
STOP (TYP.)
9'
ADA SPACE
SIGNAGE
(TYP.)
CG-12
R=1.00'
R=1.00'
CG-6 (TYP.)
26'
IRON (S)
RETAINING WALL
R=1.50'
20'
R=1.50'
IRON (S)
CG-12
STOP SIGN
(R1-1)
CG-12
DH (S)
R=2.22'
R=1.50'
20'
R=2.50'
R=1.50'
IRON (S)
S67°46'55"E 54.74'
PK NAIL
(F)
CG-12
MAG
NAIL
(S)
S28°27'11"E 43.68'
20'
20'
20'
SAN
SAN
SAN
SAN
DECIDUOUS
TREE (TYP.)
R=4.50'
CG-2 (TYP.)
PK NAIL
(F)
PK NAIL (F)
TMP 78-11B1
SANDAV, LLC
DB. 4559, PG. 55 (VESTING)
DB. 4174, PG. 1 (PLAT)
IRON (S)
C3
IRON
(S)
IRON
(S)
S49°47'00"W 103.35'
MAG
NAIL
(S)
N40°18'12"W
13.85'
PK NAIL (F)
AHD 4.36'
IRON (F)
TMP 78-9C
TAP INVESTMENTS, LLC
DB. 3657, PG. 606

REVISION DESCRIPTION	DATE

DATE
4/24/2024
DRAWN BY
DESIGNED BY
CHECKED BY
SCALE
1" = 20'

PANTOPS HOTEL
ALBEMARLE COUNTY, VA
LAYOUT

JOB NO.

SHEET NO.
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IRON (F)
IRON (F)
CURB
EP
CURB CUT
409
410
412
414
415
416
417
418
419
420
421
422
423
424
425
426
427
428
429
430
431
432
433
434
435
436
437
438
441
C&G
EP
IRON (F)
DH (S)
CONC. SWK
IRON (S)
IRON (F)
TMP 78-9
TCO PARTNERS LLC
DB. 4710, PG. 713
OLYMPIA DRIVE
(45' & VAR. WIDTH PUBLIC R/W)
DB. 3657, PG. 564
DB. 3520, PG. 644
IRON (S)
DH (S)
TOWN & COUNTRY LANE
(53' & VAR. WIDTH PUBLIC R/W)
DB. 3657, PG. 564
DB. 3339, PG. 701
TMP 78-9D
PANTOPS HOTEL, LLC
DB: 3673, PG. 95 (VESTING)
DB. 3657, PG. 564 (PLAT)
'LOT D'
2.397 AC. (SURVEYED)
ZONED: HC
FIRE HYDRANT &
VALVE BOX
FIRE HYDRANT &
VALVE BOX
45 DEGREE
BEND
PIV
FDC
6" DUCTILE IRON
WATER LINE
11.5 DEGREE
BEND
4" DUCTILE IRON
WATER LINE
TEE
WATER METER
TEE (6" X 6" X 4")
6" DUCTILE IRON
WATER LINE
45 DEGREE BEND
90 DEGREE
BEND
CONC.
REFUSE
PAD
TEE INTO
EXISTING 8"
WATER LINE
SAN CO
TOP=438.31'
4" PVC PIPE
(TYP.)
MH
SAN
TIE INTO EXISTING
STRUCTURE IN
STREET
MHS
TOP=435.35'
INV. IN=418.22' 8" PVC (E)
INV. OUT=418.13' 8" PVC
MHS W/ DROP CONN.
TOP=431.57'
INV. IN=421.57' 8" PVC (E)
INV. IN=420.11' 8" PVC (E)
INV. OUT=420.02' 8" PVC
MHS
TOP=439.34'
INV. IN=419.72' 8" PVC (E)
INV. OUT=419.64' 8" PVC
MHS (W/ DROP CONN.)
TOP=433.05'
INV. IN=416.70' 8" PVC (S)
INV. OUT=416.59' 8" PVC
MAILBOXES
IRON (S)
PK NAIL
(F)
MAG
NAIL (S)
PK NAIL (F)
TMP 78-11B1
SANDAV, LLC
DB. 4559, PG. 55 (VESTING)
DB. 4174, PG. 1 (PLAT)
MAG
NAIL (S)
IRON
(F)
MAG NAIL
(S)
JALISCO WAY
(PRIVATE ACCESS)
TMP 78-9B
GUADALAJARA CORPORATION IV
DB. 3339, PG. 710
MAG
NAIL (S)
TMP 78-9C
TAP INVESTMENTS, LLC
DB. 3657, PG. 606
IRON
(S)
IRON
(S)
MAG
NAIL
(S)
PK NAIL (F)
AHD 4.36'
IRON (F)
SCALE 1"=20'
0
20'
40'
NAD 83 (NA 2011)

REVISION DESCRIPTION	DATE

DATE
4/24/2024
DRAWN BY
DESIGNED BY
CHECKED BY
SCALE
1" = 20'

PANTOPS HOTEL
ALBEMARLE COUNTY, VA
UTILITY PLAN

JOB NO.

SHEET NO.
6

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DATE
4/24/2024

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SCALE
1" = 20'

PANTOPS HOTEL

ALBEMARLE COUNTY, VA

GRADING PLAN

JOB NO.

SHEET NO.
7

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NAD 83

SCALE 1"=20'
0 20' 40'

Erosion and Sediment Control Narrative

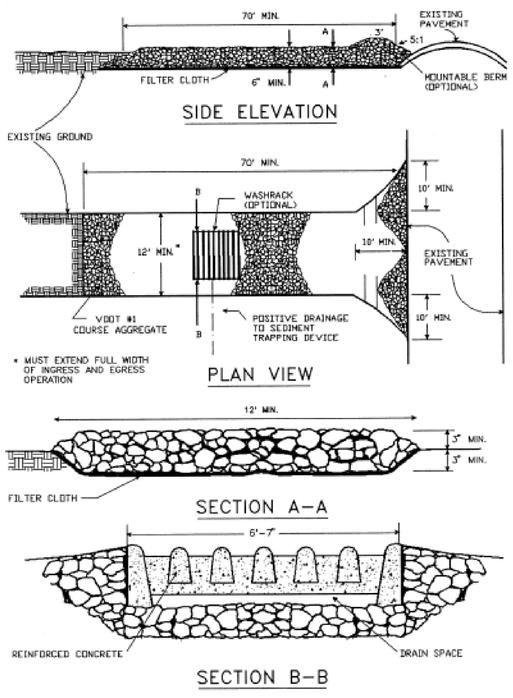
This project includes the construction of a private hotel and associated site infrastructure on a property owned by Pantops Hotel, LLC. The property is a total of 2.397 AC in size, with a limits-of-disturbance (LOD) of 1.443 AC.

Adjacent Property

The property is bounded by public roads Olympia Drive to the north and Town and Country Lane to the west. The property is bounded by privately-owned Jalisco Way to the southwest, and a private parking area and access drive to the southeast and east, respectively.

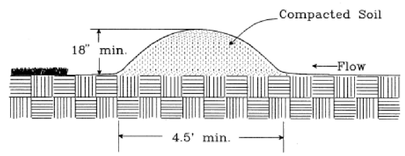
Existing Site Conditions

The site is currently densely vegetated throughout with grass, shrubbery, and other miscellaneous overgrowth which is to be removed prior to construction. Additionally, a cluster of small trees exists along the southwest edge of the LOD, which are also to be removed prior to construction. A pile of rocks near the northwest corner of the site is to removed prior to construction. Mailboxes along the northeast bounds of site should be removed prior to construction.



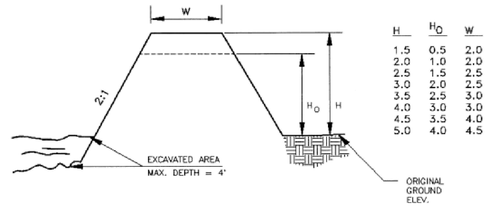
Shown to the left are dimensions of construction entrance in accordance with VA Erosion & Sediment Control Handbook Chapter 3.13. Note geotextile filter fabric and 6" gravel aggregate throughout the entrance area as proposed.

TEMPORARY DIVERSION DIKE



Temporary diversion dike should be placed on-site as shown in order to facilitate the proper flow of runoff into the specified temporary sediment trap, and to protect the site entrance from unwanted sediment build-up and/or flooding.
In accordance with Virginia Erosion & Sediment Control Handbook Chapter 3.09, the diversion should be stabilized with mulching and/or light vegetation throughout immediately after construction.
The base of the diversion should have a minimum width of 4.5 feet, and a minimum, proposed height of at least 18 inches.

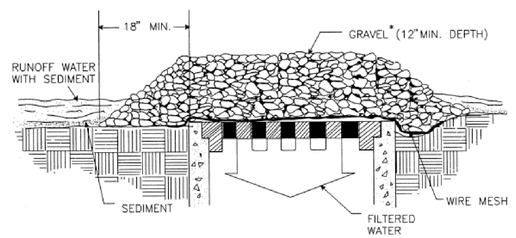
MINIMUM TOP WIDTH (W) REQUIRED FOR SEDIMENT TRAP EMBANKMENTS ACCORDING TO HEIGHT OF EMBANKMENT (FEET)



H	H_O	W
1.5	0.5	2.0
2.0	1.0	2.0
2.5	1.5	2.5
3.0	2.0	2.5
3.5	2.5	3.0
4.0	3.0	3.0
4.5	3.5	4.0
5.0	4.0	4.5

A temporary sediment trap is proposed in the northwest corner of the site where the existing grade is lowest. According to Virginia Erosion and Sediment Control Handbook Chapter 3.13, the trap should have a minimum of 193 cubic yards of volume. Proposed is a circular 25' diameter trap of 3 feet in depth, which totals to 218 cubic yards. Trap should be lined with geotextile filter fabric underneath.
The proposed diversion dike directs turbid runoff into the trap. Runoff from the dike's outflow point should be directed down a vegetated, stabilized slope with a 2:1 grade ratio.

GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER



SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED, BUT NOT WHERE PONDING AROUND THE STRUCTURE MIGHT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED AREAS.

Shown to the left is a typical storm drain and manhole inlet protection for areas with greater than 5% slope throughout. The design should be in accordance with Virginia Erosion and Sediment Control Handbook Chapter 3.07. Note the presence of filter fabric underneath the gravel aggregate, either VDOT #3, #5, or #357. Silt fencing can surround the inlet if deemed necessary by the general contractor.

REVISION DESCRIPTION

DATE

DATE 4/24/2024

DRAWN BY

DESIGNED BY

CHECKED BY

SCALE NOT TO SCALE

PANTOPS HOTEL

ALBEMARLE COUNTY, VA

E&S NOTES & DETAILS

JOB NO. ----

SHEET NO. 8

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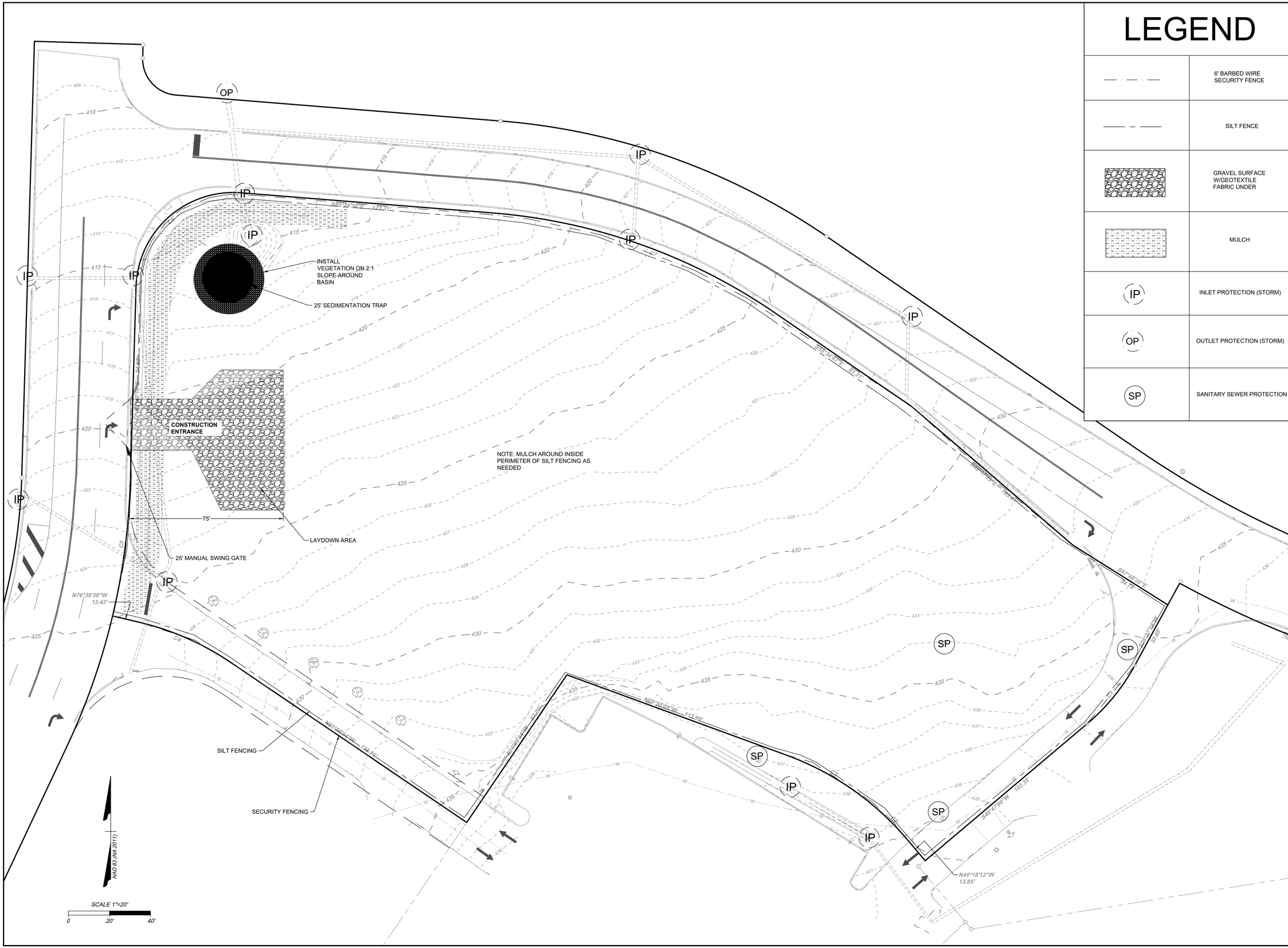

LEGEND

	6' BARBED WIRE SECURITY FENCE
	SILT FENCE
	GRAVEL SURFACE W/GEOTEXTILE FABRIC UNDER
	MULCH
IP	INLET PROTECTION (STORM)
OP	OUTLET PROTECTION (STORM)
SP	SANITARY SEWER PROTECTION

REVISION DESCRIPTION

DATE

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SCALE 1" = 20'

PANTOPS HOTEL

ALBEMARLE COUNTY, VA

E&S PHASE 1

JOB NO. ----

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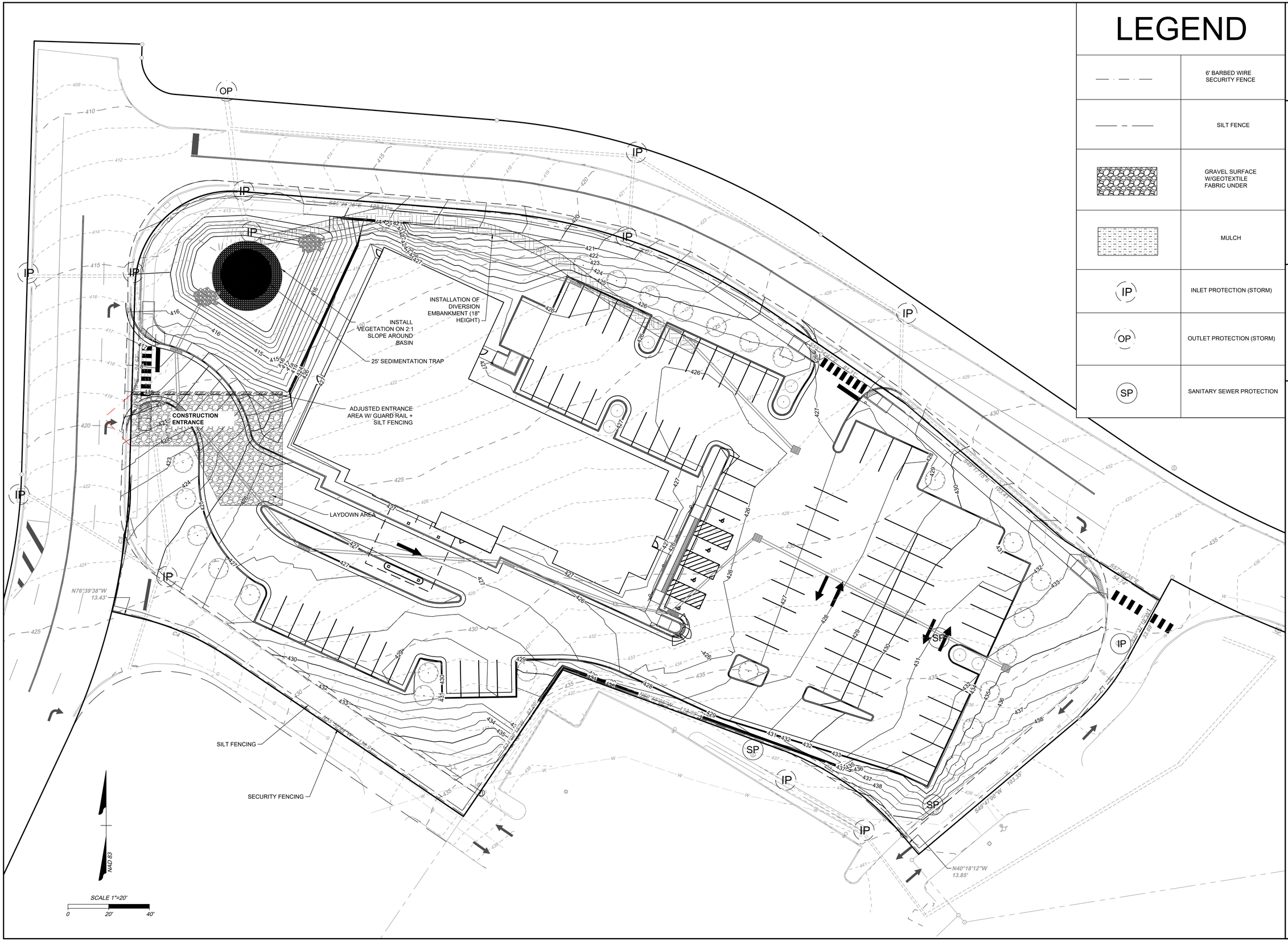

LEGEND

	6' BARBED WIRE SECURITY FENCE
	SILT FENCE
	GRAVEL SURFACE W/GEOTEXTILE FABRIC UNDER
	MULCH
IP	INLET PROTECTION (STORM)
OP	OUTLET PROTECTION (STORM)
SP	SANITARY SEWER PROTECTION

REVISION DESCRIPTION

DATE

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4/24/2024

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SCALE
1" = 20'

PANTOPS HOTEL

ALBEMARLE COUNTY, VA

E&S PHASE 2

JOB NO.

SHEET NO.
10

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STORMWATER QUALITY CALCULATIONS:

SUMMARY FROM RUNOFF REDUCTION SPREADSHEET
FOR REDEVELOPMENT (SEE CALC. BOOK)

DISTURBED AREA: 2.39 ACRES

PRE-DEVELOPMENT LAND COVER:

B SOILS:
- .08 AC MANAGED TURF
- .04 AC IMPERVIOUS COVER

D SOILS:
- 1.43 AC MANAGED TURF
- .10 AC IMPERVIOUS COVER

TP REQUIRED REMOVAL: 2.21 LBS/YEAR

75% OF REMOVE REQUIREMENTS TO BE MET ON SITE:

$.75 * C_{PRE\text{-}DEV\text{-}TOTAL} \leq C_{POST\text{-}DEV\text{-}TOTAL}$

OK 1.65 LB ≤ 1.86 LB

WATER QUANTITY CALCULATIONS:

CHANNEL PROTECTION (ENERGY BALANCE):

$Q_{POST\text{-}DEV\text{-}TOTAL} \leq .8 * (Q_{PRE\text{-}DEV\text{-}ON\text{-}SITE} * RV_{PRE\text{-}DEV}) / RV_{POST\text{-}DEV}$

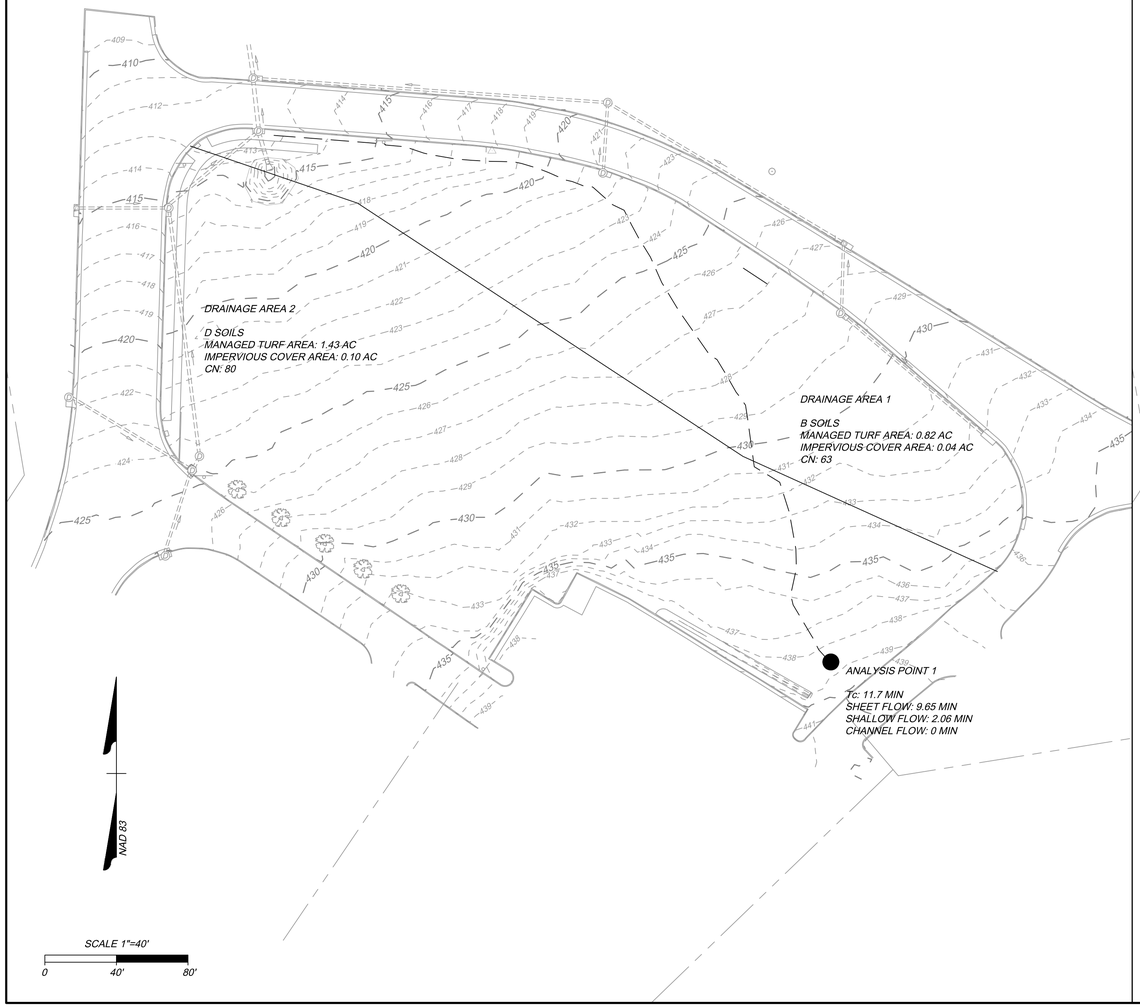
X CFS ≤ .8 * (3.28 * .20 AC/FT) / .32 AC/FT

OK .52 CFS ≤ 1.64 CFS

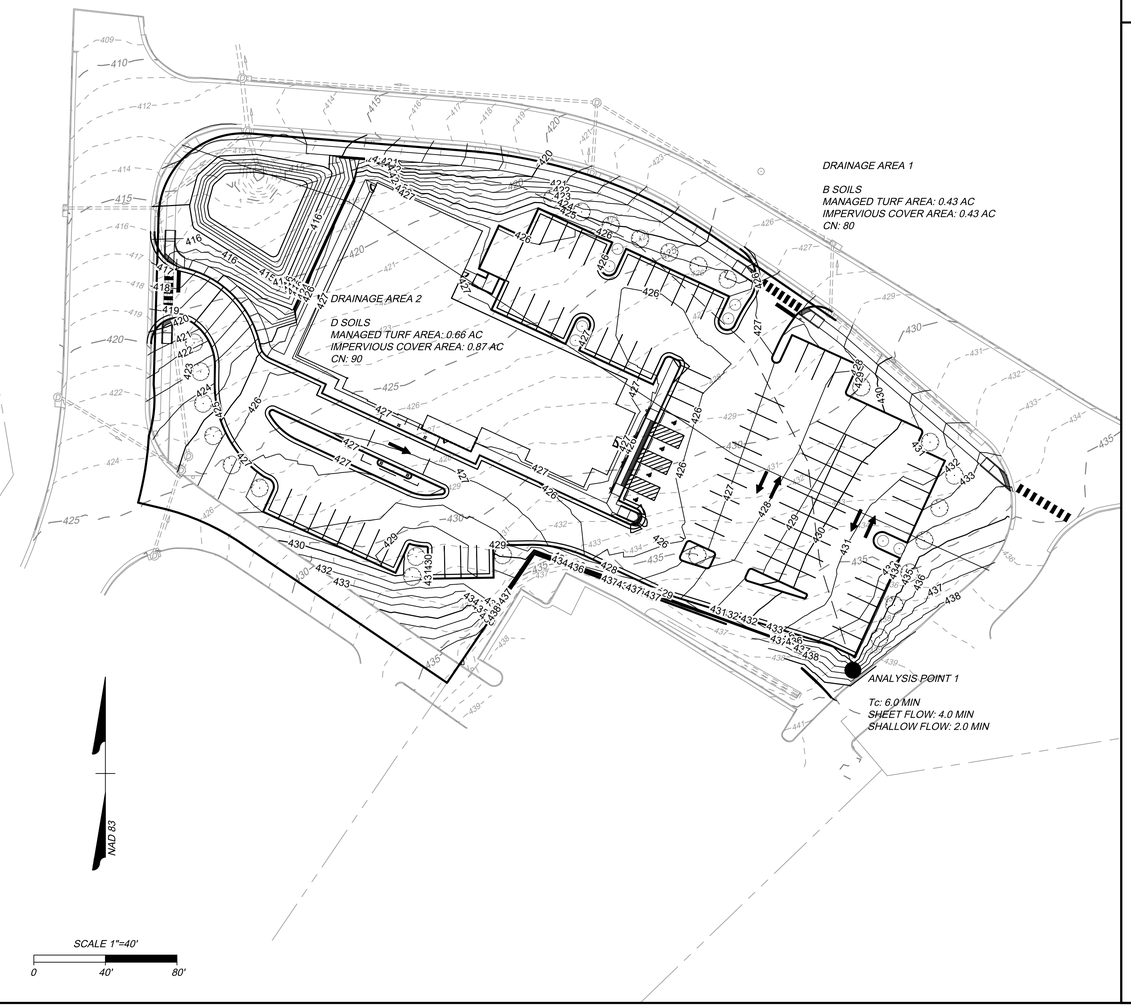
FLOOD PROTECTION:

OK POST-DEVELOPED Q_{10} ≤ PRE-DEVELOPED Q_{10} + OFFSITE Q_{10}
9.73 CFS ≤ 9.98 CFS

Pre Developed Conditions



Post Developed Conditions



DATE	REVISION DESCRIPTION

DATE 4/24/2024
DRAWN BY
DESIGNED BY
CHECKED BY
SCALE 1" = 40'

PANTOPS HOTEL

ALBEMARLE COUNTY, VA

STORMWATER SUMMARY

JOB NO. ----

SHEET NO. 11

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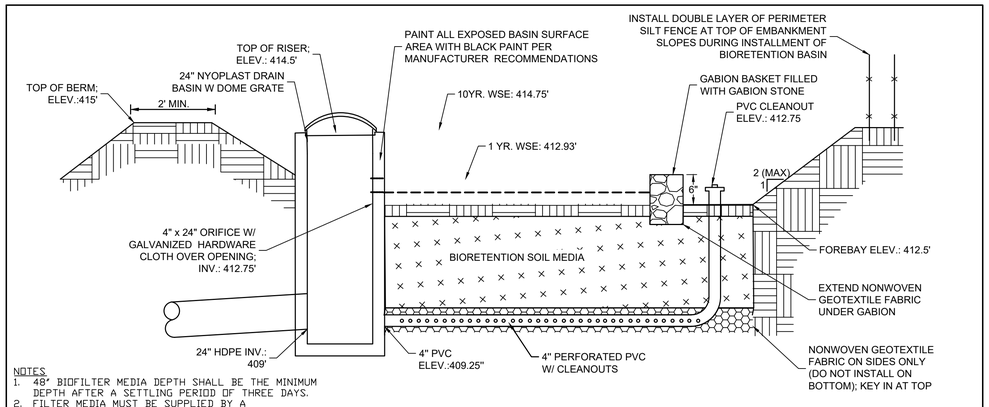
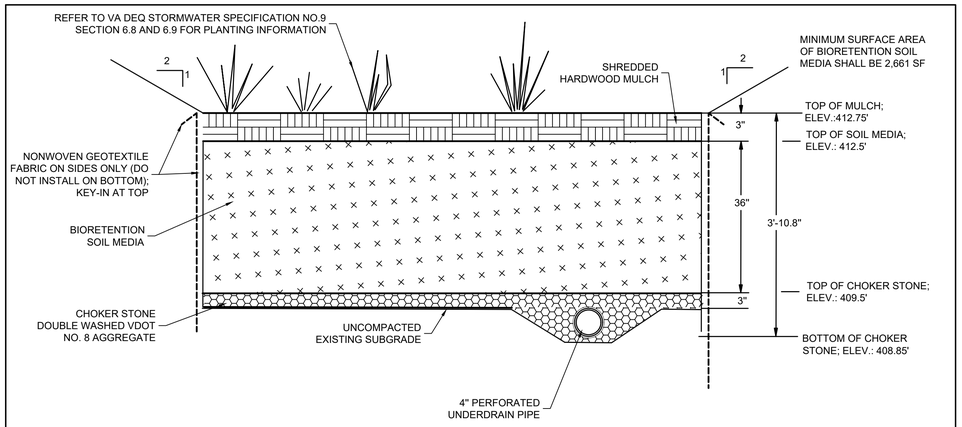


BIORETENTION FILTER ELEVATIONS

NO SCALE



BIORETENTION FILTER CROSS-SECTION

NO SCALE

STORMWATER MANAGEMENT NOTES:

1. ALL DAMS OR EMBANKMENTS CONSTRUCTED OF FILL, OR BACK FILL OF PIPE TRENCHING THROUGH DAMS TO BE COMPACTED WITHIN 95% OF MAXIMUM DRY DENSITY AND 2% OF OPTIMUM MOISTURE CONTENT. ALL MATERIAL TO BE SILTS AND CLAYS APPROVED BY A GEOTECHNICAL ENGINEER OR INSPECTOR.

2. A GEOTECHNICAL ENGINEER OR INSPECTOR IS TO BE PRESENT DURING CONSTRUCTION OF DAMS TO TEST FILL COMPACTIONS, OBSERVE AND CERTIFY THAT EMBANKMENT AND STORM OUTFALL STRUCTURES AND PIPES ARE CONSTRUCTED IN ACCORDANCE WITH 2011 BMP DESIGN SPECS (APPENDIX A) EARTHEN EMBANKMENTS.

3. CONTRACTOR SHALL SCHEDULE INSPECTIONS WITH INSPECTOR, OWNER, AND ARCHITECT AT LEAST 48 HOURS BEFORE CONSTRUCTION.

4. PIPE AND RISER JOINTS ARE TO BE WATERTIGHT.

5. FOR TEMPORARY SEDIMENT TRAPS OR BASINS WHICH ARE TO BE CONVERTED TO PERMANENT STORMWATER MANAGEMENT FACILITIES; CONVERSION IS NOT TO TAKE PLACE UNTIL THE SITE IS STABILIZED, AND PERMISSION HAS BEEN OBTAINED FROM THE COUNTY EROSION CONTROL INSPECTOR.

BIORETENTION MAINTENANCE NARRATIVE:

THE FOLLOWING INSPECTIONS AND MAINTENANCE SHALL BE PREFORMED ANNUALLY OR WHENEVER A POTENTIAL PROBLEM IS OBSERVED BY THE OWNER:

- *INSPECT BIORETENTION, DAM, RISER AND PIPE SYSTEM FOR SEDIMENT ACCUMULATION, DEBRIS AND TRASH.*
- *REMOVE ANY DEBRIS OR TRASH IN THE SYSTEM DREDGE POND WHEN SEDIMENT DEPOSITS ACCUMULATE TO MORE THAN 6" FROM ORIGINAL BOTTOM ELEVATION.*
- *INSPECT FACILITY FOR VEGETATION. ONLY GRASS SHALL BE ALLOWED TO GROW IN THE FACILITY. GRASS SHOULD BE MOWED AT LEAST TWICE A YEAR AND GRASS CLIPPING SHOULD BE REMOVED. REMOVE ANY OTHER VEGETATION.*
- *INSPECT RISER AND PIPE SYSTEM TO ENSURE THAT ALL COMPONENTS ARE IN GOOD CONDITION AND FUNCTIONING ACCORDING TO ORIGINAL DESIGN. REPAIR ANY DAMAGE OR DETERIORATION AS NECESSARY.*
- *INSPECT DAM FOR ANY SIGNS OF DAMAGE, SEEPAGE OR ANY VEGETATION WHOSE ROOTS MAY CAUSE HARM TO DAM. REPAIR DAM AND REMOVE VEGETATION AS NECESSARY.*
- *INSPECT OUTFALL FOR EROSION AND OBSTRUCTIONS. REPAIR AND REINFORCE ANY EROSION AND REMOVE OBSTRUCTIONS*

Hydrograph type	Peak flow	Time interval	Time of conc. Tc	Time to peak	Volume
(origin)	(cfs)	(min)	(min)	(min)	(cuft)
SCS Runoff	3.281	2	11.70	722.00	8,772
SCS Runoff	6.769	2	6.00	716.00	13,731

ONE YEAR HYDROGRAPH NUMBERS

Hydrograph type	Peak flow	Time interval	Time of conc. Tc	Time to peak	Volume
(origin)	(cfs)	(min)	(min)	(min)	(cuft)
SCS Runoff	9.987	2	11.71	720.00	25,891
SCS Runoff	15.39	2	6.00	716.00	32,321

TEN YEAR HYDROGRAPH NUMBERS

Stage	Elevation	Contour Area	Incremental Storage	Total Storage
(ft)	(ft)	(sqft)	(cuft)	(cuft)
0.00	409.50	1,585	0.000	0.000
1.00	410.50	1,914	1,747	1,747
2.00	411.50	2,272	2,090	3,837
3.00	412.50	2,661	2,464	6,301
3.50	413.00	2,867	1,382	7,682
5.50	415.00	3,759	6,605	14,287

BIORETENTION STAGE ELEVATION AND CONTOURS

LAND COVER SUMMARY -- POST DEVELOPMENT

Land Cover Summary-Post (Final)	
Post ReDev. & New Impervious	
Forest/Open Space Cover (acres)	0.00
Weighted Rv(forest)	0.00
% Forest	0%
Managed Turf Cover (acres)	1.09
Weighted Rv (turf)	0.23
% Managed Turf	46%
Impervious Cover (acres)	1.30
Rv(impervious)	0.95
% Impervious	54%
Final Site Area (acres)	**2.39**
Final Post Dev Site Rv	**0.62**

Land Cover Summary-Post	
Post-ReDevelopment	
Forest/Open Space Cover (acres)	0.00
Weighted Rv(forest)	0.00
% Forest	0%
Managed Turf Cover (acres)	1.09
Weighted Rv (turf)	0.23
% Managed Turf	89%
ReDev. Impervious Cover (acres)	0.14
Rv(impervious)	0.95
% Impervious	11%
Total ReDev. Site Area (acres)	**1.23**
ReDev Site Rv	**0.31**

Land Cover Summary-Post	
Post-Development New Impervious	
New Impervious Cover (acres)	1.16
Rv(impervious)	0.95

Treatment Volume and Nutrient Load

Final Post-Development Treatment Volume (acre-ft)	0.1238
Final Post-Development Treatment Volume (cubic feet)	5,394
Final Post-Development TP Load (lb/yr)	**3.39**
Final Post-Development TP Load per acre (lb/acre/yr)	1.42

Post-ReDevelopment Treatment Volume (acre-ft)	0.0320
Post-ReDevelopment Treatment Volume (cubic feet)	1,394
Post-ReDevelopment Load (TP) (lb/yr)*	**0.88**
Post-ReDevelopment TP Load per acre (lb/acre/yr)	0.71
Max. Reduction Required (Below Pre-ReDevelopment Load)	**20%**
TP Load Reduction Required for Redeveloped Area (lb/yr)	**0.18**

Post-Development Treatment Volume (acre-ft)	0.0918
Post-Development Treatment Volume (cubic feet)	4,000
Post-Development TP Load (lb/yr)	**2.51**
TP Load Reduction Required for New Impervious Area (lb/yr)	**2.04**

POST DEVELOPMENT LAND COVER SUMMARY

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft3)	Runoff Reduction (ft3)	Remaining Runoff Volume (ft3)	Total BMP Treatment Volume (ft3)	Phosphorus Removal Efficiency (%)	Phosphorus Load from Upstream Practices (lb)	Untreated Phosphorus Load to Practice (lb)	Phosphorus Removed By Practice (lb)	Remaining Phosphorus Load (lb)
6.a. Bioretention #1 or Micro-Bioretention #1 or Urban Bioretention (Spec #9)	40	1.09	1.30	0	2,158	3,237	5,394	25	0.00	3.39	1.86	1.52

BIORETENTION STAGE ELEVATION AND CONTOURS

REVISION DESCRIPTION	DATE
	4/24/2024

DRAWN BY

DESIGNED BY

CHECKED BY

SCALE
1" = 20'

PANTOPS HOTEL
ALBEMARLE COUNTY, VA
STORMWATER NOTES & DETAILS

JOB NO.

SHEET NO.
12

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IRON (F)
IRON (F)
IRON (F)
IRON (F)
IRON (S)
IRON (S)
IRON (S)
IRON (S)
IRON (S)
IRON (S)
IRON (F)
IRON (F)
IRON (F)
IRON (F)
MAG NAIL (S)
MAG NAIL (S)
MAG NAIL (S)
MAG NAIL (S)
MAG NAIL (S)
PK NAIL (F)
PK NAIL (F)
PK NAIL (F)
PK NAIL (F)
PK NAIL (F) AHD 4.36'
DH (S)
DH (S)
DH (S)

Project Name:	Pantops Hotel Development
Date:	4/30/2024
Linear Development Project?	No

CLEAR ALL (Ctrl+Shift+R)

data input cells
constant values
calculation cells
final results

Site Information

Post-Development Project (Treatment Volume and Loads)

Enter Total Disturbed Area *(acres)* → 2.39

Maximum reduction required:	*20%*
The site's net increase in impervious cover (acres) is:	*1.16*
Post-Development TP Load Reduction for Site (lb/yr):	*2.21*

Check:

BMP Design Specifications List:	2013 Draft Stds & Specs
Linear project?	No
Land cover areas entered correctly?	✓
Total disturbed area entered?	✓

Pre-ReDevelopment Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) -- undisturbed forest/open space					0.00
Managed Turf (acres) -- disturbed, graded for yards or other turf to be mowed/managed		0.82		1.43	2.25
Impervious Cover (acres)		0.04		0.10	0.14
					2.39

Post-Development Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) -- undisturbed, protected forest/open space or reforested land					0.00
Managed Turf (acres) -- disturbed, graded for yards or other turf to be mowed/managed		0.43		0.66	1.09
Impervious Cover (acres)		0.43		0.87	1.30
Area Check	**OK.**	**OK.**	**OK.**	**OK.**	2.39

Constants

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

Runoff Coefficients (Rv)

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

LAND COVER SUMMARY -- PRE-REDEVELOPMENT

Land Cover Summary-Pre		
Pre-ReDevelopment	**Listed**	**Adjusted1**
Forest/Open Space Cover (acres)	0.00	0.00
Weighted Rv(forest)	0.00	0.00
% Forest	0%	0%
Managed Turf Cover (acres)	2.25	1.09
Weighted Rv(turf)	0.23	0.23
% Managed Turf	94%	89%
Impervious Cover (acres)	0.14	0.14
Rv(impervious)	0.95	0.95
% Impervious	6%	11%
Total Site Area (acres)	**2.39**	**1.23**
Site Rv	**0.27**	**0.31**

LAND COVER SUMMARY -- POST DEVELOPMENT

Land Cover Summary-Post (Final)	
Post ReDev. & New Impervious	
Forest/Open Space Cover (acres)	0.00
Weighted Rv(forest)	0.00
% Forest	0%
Managed Turf Cover (acres)	1.09
Weighted Rv (turf)	0.23
% Managed Turf	46%
Impervious Cover (acres)	1.30
Rv(impervious)	0.95
% Impervious	54%
Final Site Area (acres)	**2.39**
Final Post Dev Site Rv	**0.62**

Land Cover Summary-Post	
Post-ReDevelopment	
Forest/Open Space Cover (acres)	0.00
Weighted Rv(forest)	0.00
% Forest	0%
Managed Turf Cover (acres)	1.09
Weighted Rv (turf)	0.23
% Managed Turf	89%
ReDev. Impervious Cover (acres)	0.14
Rv(impervious)	0.95
% Impervious	11%
Total ReDev. Site Area (acres)	**1.23**
ReDev Site Rv	**0.31**

Land Cover Summary-Post	
Post-Development New Impervious	
New Impervious Cover (acres)	1.16
Rv(impervious)	0.95

Treatment Volume and Nutrient Load

Pre-ReDevelopment Treatment Volume (acre-ft)	0.0545	0.0320
Pre-ReDevelopment Treatment Volume (cubic feet)	2,376	1,394
Pre-ReDevelopment TP Load (lb/yr)	**1.49**	**0.88**
Pre-ReDevelopment TP Load per acre (lb/acre/yr)	0.62	0.71
Baseline TP Load (lb/yr) (**0.41 lbs/acre/yr** applied to pre-redevelopment area excluding pervious land proposed for new impervious cover)		*0.50*

1Adjusted Land Cover Summary:
Pre ReDevelopment land cover minus pervious land cover (forest/open space or managed turf) acreage proposed for new impervious cover.

Adjusted total acreage is consistent with Post-ReDevelopment acreage (minus acreage of new impervious cover).

Column I shows load reduction requriement for new impervious cover (based on new development load limit, 0.41 lbs/acre/year).

Treatment Volume and Nutrient Load

Final Post-Development Treatment Volume (acre-ft)	0.1238	Post-ReDevelopment Treatment Volume (acre-ft)	0.0320	Post-Development Treatment Volume (acre-ft)	0.0918
Final Post-Development Treatment Volume (cubic feet)	5,394	Post-ReDevelopment Treatment Volume (cubic feet)	1,394	Post-Development Treatment Volume (cubic feet)	4,000
Final Post-Development TP Load (lb/yr)	**3.39**	Post-ReDevelopment Load (TP) (lb/yr)*	**0.88**	Post-Development TP Load (lb/yr)	**2.51**
Final Post-Development TP Load per acre (lb/acre/yr)	1.42	Post-ReDevelopment TP Load per acre (lb/acre/yr)	0.71		
		Max. Reduction Required (Below Pre-ReDevelopment Load)	20%		
		TP Load Reduction Required for Redeveloped Area (lb/yr)	**0.18**	TP Load Reduction Required for New Impervious Area (lb/yr)	**2.04**

Post-Development Requirement for Site Area

TP Load Reduction Required (lb/yr)	**2.21**

Linear Project TP Load Reduction Required (lb/yr):

Nitrogen Loads (Informational Purposes Only)

Pre-ReDevelopment TN Load (lb/yr)	10.68
Final Post-Development TN Load (Post-ReDevelopment & New Impervious) (lb/yr)	24.25

Drainage Area A

Drainage Area A Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv
Forest/Open Space (acres)					0.00	0.00
Managed Turf (acres)		0.43		0.66	1.09	0.23
Impervious Cover (acres)		0.43		0.87	1.30	0.95
				Total	2.39	

CLEAR BMP AREAS

Total Phosphorus Available for Removal in D.A. A (lb/yr)	3.39
Post Development Treatment Volume in D.A. A (ft3)	5,394

Stormwater Best Management Practices (RR = Runoff Reduction)

--Select from dropdown lists--

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft3)	Runoff Reduction (ft3)	Remaining Runoff Volume (ft3)	Total BMP Treatment Volume (ft3)	Phosphorus Removal Efficiency (%)	Phosphorus Load from Upstream Practices (lb)	Untreated Phosphorus Load to Practice (lb)	Phosphorus Removed By Practice (lb)	Remaining Phosphorus Load (lb)	Downstream Practice to be Employed
4.c. Grass Channel with Compost Amended Soils as per specs (see Spec #4)	20			0	0	0	0	15	0.00	0.00	0.00	0.00	
5. Dry Swale (RR)													
5.a. Dry Swale #1 (Spec #10)	40			0	0	0	0	20	0.00	0.00	0.00	0.00	
5.b. Dry Swale #2 (Spec #10)	60			0	0	0	0	40	0.00	0.00	0.00	0.00	
6. Bioretention (RR)													
6.a. Bioretention #1 or Micro-Bioretention #1 or Urban Bioretention (Spec #9)	40	1.09	1.30	0	2,158	3,237	5,394	25	0.00	3.39	1.86	1.52	
6.b. Bioretention #2 or Micro-Bioretention #2 (Spec #9)	80			0	0	0	0	50	0.00	0.00	0.00	0.00	
7. Infiltration (RR)													
7.a. Infiltration #1 (Spec #8)	50			0	0	0	0	25	0.00	0.00	0.00	0.00	
7.b. Infiltration #2 (Spec #8)	90			0	0	0	0	25	0.00	0.00	0.00	0.00	
8. Extended Detention Pond (RR)													
8.a. ED #1 (Spec #15)	0			0	0	0	0	15	0.00	0.00	0.00	0.00	
8.b. ED #2 (Spec #15)	15			0	0	0	0	15	0.00	0.00	0.00	0.00	
9. Sheetflow to Filter/Open Space (RR)													
9.a. Sheetflow to Conservation Area, A/B Soils (Spec #2)	75			0	0	0	0	0	0.00	0.00	0.00	0.00	
9.b. Sheetflow to Conservation Area, C/D Soils (Spec #2)	50			0	0	0	0	0	0.00	0.00	0.00	0.00	
9.c. Sheetflow to Vegetated Filter Strip, A Soils or Compost Amended B/C/D Soils (Spec #2 & #4)	50			0	0	0	0	0	0.00	0.00	0.00	0.00	

Drainage Area A

Drainage Area A Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv
Forest/Open Space (acres)					0.00	0.00
Managed Turf (acres)		0.43		0.66	1.09	0.23
Impervious Cover (acres)		0.43		0.87	1.30	0.95
				Total	2.39	

CLEAR BMP AREAS

Total Phosphorus Available for Removal in D.A. A (lb/yr)	3.39
Post Development Treatment Volume in D.A. A (ft3)	5,394

Stormwater Best Management Practices (RR = Runoff Reduction)

--Select from dropdown lists--

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft3)	Runoff Reduction (ft3)	Remaining Runoff Volume (ft3)	Total BMP Treatment Volume (ft3)	Phosphorus Removal Efficiency (%)	Phosphorus Load from Upstream Practices (lb)	Untreated Phosphorus Load to Practice (lb)	Phosphorus Removed By Practice (lb)	Remaining Phosphorus Load (lb)	Downstream Practice to be Employed
13.b. Wet Pond #1 (Coastal Plain) (Spec #14)	0			0	0	0	0	45	0.00	0.00	0.00	0.00	
13.c. Wet Pond #2 (Spec #14)	0			0	0	0	0	75	0.00	0.00	0.00	0.00	
13.d. Wet Pond #2 (Coastal Plain) (Spec #14)	0			0	0	0	0	65	0.00	0.00	0.00	0.00	
14. Manufactured Treatment Devices (no RR)													
14.a. Manufactured Treatment Device-Hydrodynamic	0			0	0	0	0	20	0.00	0.00	0.00	0.00	
14.b. Manufactured Treatment Device-Filtering	0			0	0	0	0	20	0.00	0.00	0.00	0.00	
14.c. Manufactured Treatment Device-Generic	0			0	0	0	0	20	0.00	0.00	0.00	0.00	

TOTAL IMPERVIOUS COVER TREATED (ac)	1.30	AREA CHECK: OK.
TOTAL MANAGED TURF AREA TREATED (ac)	1.09	AREA CHECK: OK.

TOTAL PHOSPHORUS REMOVAL REQUIRED ON SITE (lb/yr)	2.21
TOTAL PHOSPHORUS AVAILABLE FOR REMOVAL IN D.A. A (lb/yr)	3.39
TOTAL PHOSPHORUS REMOVED WITHOUT RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr)	0.00
TOTAL PHOSPHORUS REMOVED WITH RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr)	1.86
TOTAL PHOSPHORUS LOAD REDUCTION ACHIEVED IN D.A. A (lb/yr)	1.86
TOTAL PHOSPHORUS REMAINING AFTER APPLYING BMP LOAD REDUCTIONS IN D.A. A (lb/yr)	1.53

SEE WATER QUALITY COMPLIANCE TAB FOR SITE COMPLIANCE CALCULATIONS

NITROGEN REMOVED WITH RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr)	15.50
NITROGEN REMOVED WITHOUT RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr)	0.00
TOTAL NITROGEN REMOVED IN D.A. A (lb/yr)	15.50

Site Results (Water Quality Compliance)

Area Checks	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	AREA CHECK
FOREST/OPEN SPACE (ac)	0.00	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER (ac)	1.30	0.87	0.00	0.00	0.00	AREA EXCEEDED!
IMPERVIOUS COVER TREATED (ac)	1.30	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA (ac)	1.09	0.66	0.00	0.00	0.00	AREA EXCEEDED!
MANAGED TURF AREA TREATED (ac)	1.09	0.00	0.00	0.00	0.00	OK.
AREA CHECK	OK.	OK.	OK.	OK.	OK.	

Site Treatment Volume (ft3)	5,394

Runoff Reduction Volume and TP By Drainage Area

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	TOTAL
RUNOFF REDUCTION VOLUME ACHIEVED (ft3)	2,158	0	0	0	0	2,158
TP LOAD AVAILABLE FOR REMOVAL (lb/yr)	3.39	2.26	0.00	0.00	0.00	5.65
TP LOAD REDUCTION ACHIEVED (lb/yr)	1.86	0.00	0.00	0.00	0.00	1.86
TP LOAD REMAINING (lb/yr)	1.53	2.26	0.00	0.00	0.00	3.79
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	15.50	0.00	0.00	0.00	0.00	15.50

Total Phosphorus

FINAL POST-DEVELOPMENT TP LOAD (lb/yr)	3.39
TP LOAD REDUCTION REQUIRED (lb/yr)	x
TP LOAD REDUCTION ACHIEVED (lb/yr)	x
TP LOAD REMAINING (lb/yr):	x
REMAINING TP LOAD REDUCTION REQUIRED (lb/yr):	CHECK AREAS!

LINEAR PROJECT:

Total Nitrogen (For Information Purposes)

POST-DEVELOPMENT LOAD (lb/yr)	24.25
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	15.50
REMAINING POST-DEVELOPMENT NITROGEN LOAD (lb/yr)	8.75

Runoff Volume and Curve Number Calculations

Enter design storm rainfall depths (in):

1-year storm	2-year storm	10-year storm
3.03	3.66	5.54

Use NOAA Atlas 14 (http://hdsc.nws.noaa.gov/hdsc/pfds/)

***Notes (see below):**

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

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

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

Drainage Area Curve Numbers and Runoff Depths*

Curve numbers (CN, CNadj) and runoff depths (RVDeveloped) are computed with and without reduction practices.

Drainage Area A		A Soils	B Soils	C Soils	D Soils
Forest/Open Space -- undisturbed, protected forest/open space or reforested land	Area (acres)				
	CN	30	55	70	77
Managed Turf -- disturbed, graded for yards or other turf to be mowed/managed	Area (acres)		0.43		0.66
	CN	39	61	74	80
Impervious Cover	Area (acres)		0.43		0.87
	CN	98	98	98	98

Total Area (acres):	2.39
Runoff Reduction Volume (ft3):	2,158

CN(D.A. A)
86

	1-year storm	2-year storm	10-year storm
RVDeveloped *(watershed-inch)* with no Runoff Reduction*	1.69	2.24	3.97
RVDeveloped *(watershed-inch)* with Runoff Reduction*	1.44	1.99	3.73
Adjusted CN*	82	83	83

**See Notes above*

Drainage Area B		A Soils	B Soils	C Soils	D Soils
Forest/Open Space -- undisturbed, protected forest/open space or reforested land	Area (acres)				
	CN	30	55	70	77
Managed Turf -- disturbed, graded for yards or other turf to be mowed/managed	Area (acres)				0.66
	CN	39	61	74	80
Impervious Cover	Area (acres)				0.87
	CN	98	98	98	98

Total Area (acres):	1.53
Runoff Reduction Volume (ft3):	0

CN(D.A. B)
90

	1-year storm	2-year storm	10-year storm
RVDeveloped *(watershed-inch)* with no Runoff Reduction*	2.01	2.60	4.40
RVDeveloped *(watershed-inch)* with Runoff Reduction*	2.01	2.60	4.40
Adjusted CN*	90	90	90

The .dwg files associated with the design of this project can be found via the following link. UVA account login to OneDrive will be required for access.

Design .dwg Files

The full VRMM spreadsheet calculations associated with this project can be found via the following link. UVA account login to Google Drive will be required for access.

VRMM Spreadsheet Calculations