

May 16,2025

Ray Roakes City of Richmond Urban Design Committee 900 E. Broad Street, Room 510 Richmond, Virginia 23219

Project Number: 190651

Subject: Project Narrative for Application for Urban Design Committee Review

Dear Mr. Roakes:

We are submitting an application for the Urban Design Committee to review a new project being designed for the City of Richmond's (City) Department of Public Utilities (DPU). The new project is called the "Wastewater Treatment Plant Biosolids and Grit Storage Pads Upgrades" project and will be constructed onsite at the City's wastewater treatment plant (WWTP) located at 1400 Brander Street, Richmond, Virginia 23224.

## **1.1** Project Purpose, Background, and Context

The City's WWTP, operated by DPU, continuously generates grit and dewatered biosolids as a result of the process of treating wastewater. Currently, the City manages grit and biosolids on two separate, uncovered concrete pads located on the southern end of the site. Grit and biosolids are stored on these pads until third-party contractors haul the material offsite for disposal.

Both existing storage pads are in poor condition, with the grit pad originally constructed in 1974 and the biosolids pad originally constructed in 1976. The existing drainage systems frequently clog from debris collected on the pads. During rain events, water accumulates on both storage pads, rewetting the collected biosolids and grit, and spilling into adjacent roadways and ditches. The push walls surrounding both of the existing pads are also undersized, providing DPU with less storage capacity than needed.

The purpose of this project is to improve the operation of the WWTP and help the City maintain permit compliance. DPU would like to relocate the existing biosolids pad to a more accessible location at the WWTP and reconstruct the grit pad at the existing location. To keep stormwater off the stored material, each structure will be covered with a pre-engineered metal building and roof. Drainage from each storage pad will be improved by relocating the drains from the center of the pad to the outside and employing trench drains in place of standard drop inlets. The new facilities will help DPU meet the industrial stormwater discharge permit that is in place for the WWTP and provide the required amount of storage to help the WWTP maintain permit compliance with the Virginia Department of Environmental Quality (DEQ).

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## 1.2 Community Outreach

No community outreach was performed as part of this project. The proposed facilities are located within the fence of the City's access-controlled WWTP and will not impact the public. These facilities are proposed to improve the operation of the WWTP and help the City maintain permit compliance.

The project was discussed in detail with City DPU. The project plan was also reviewed with the City's Planning and Development Review department so the design team could better understand the requirements for a structure within the regulatory floodway.

## **1.3** Project Budget, Funding Sources, and Construction Schedule

As of the 90% engineering design, completed in April 2025, the project has an estimated construction cost of \$11,803,000. DPU's capital improvement fund will be used as the funding source for this project. The proposed construction start date for this project is January 2026. It is anticipated that this project will be bid out via the City's procurement department and a general contractor will be responsible for the construction.

Thank you for your time in reviewing this application. Should you have any questions or require any additional information, I can be reached by email at <u>Tyler.Padden@brwn-cald.com</u> or via telephone at (804) 554-3745.

Very truly yours,

**Brown and Caldwell** 

Tyler C. Padden, PE, Project Manager Richmond, VA

cc: Fabio Villa-Gomez, City of Richmond Department of Public Utilities Victor Rose-Smith, City of Richmond Department of Public Utilities Vann Davis, City of Richmond Department of Public Utilities

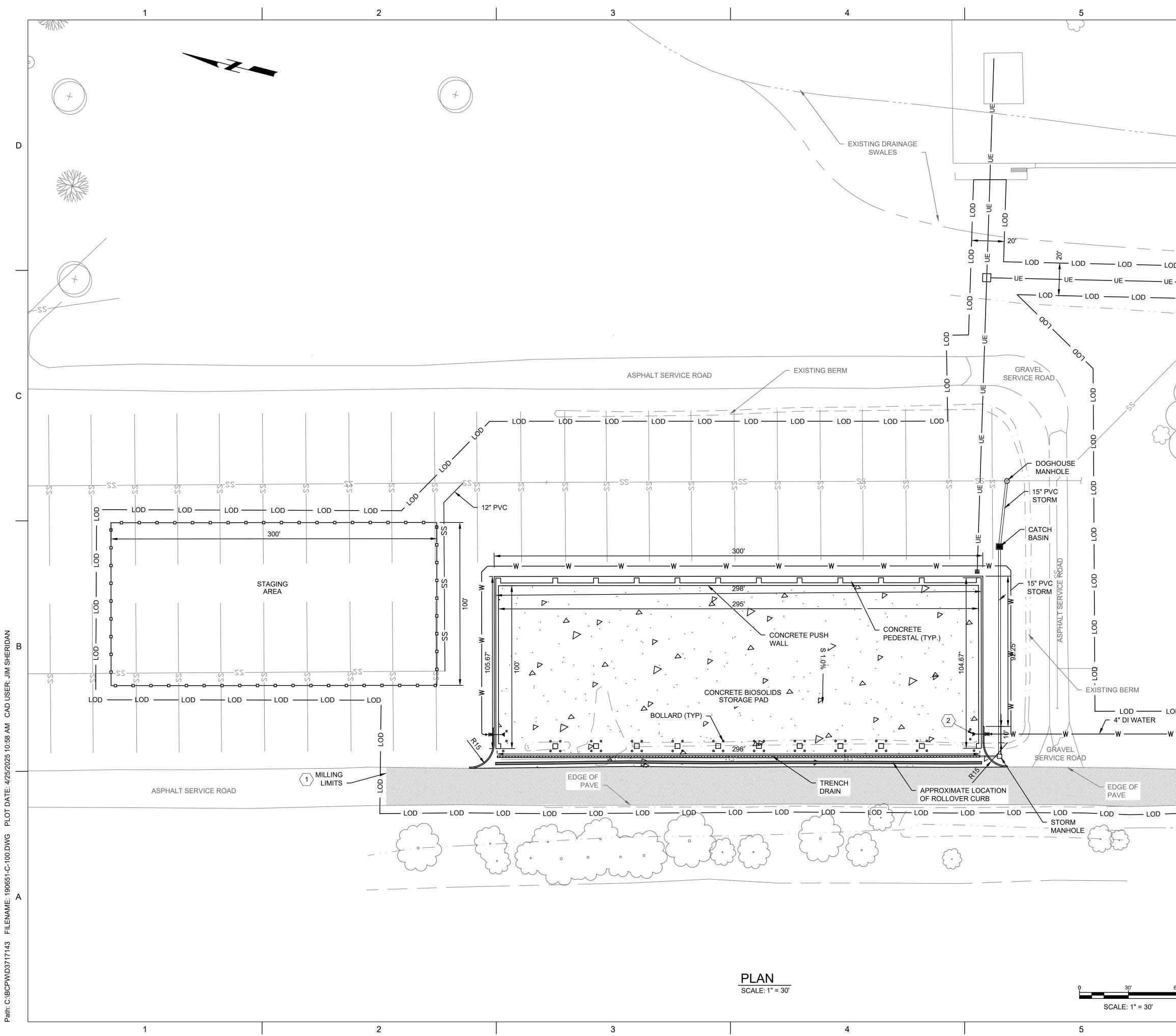
Attachments (6)

- 1. Biosolids Storage Pad Site Plan (Drawing C-100)
- 2. Grit Storage Pad Site Plan (Drawing C-101)
- 3. Existing and Proposed Land Cover (Drawing C-250)

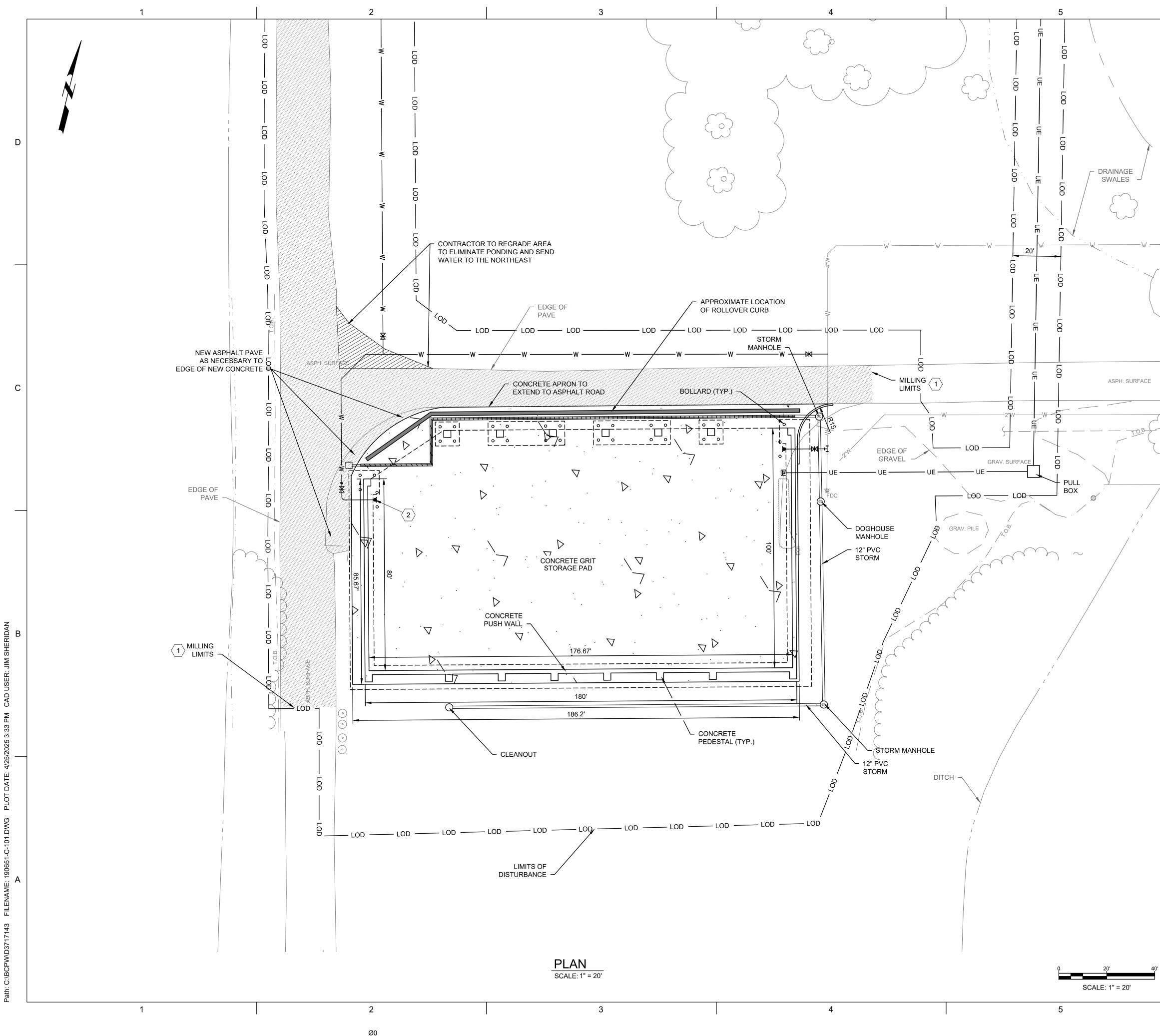
Project Narrative Wastewater Treatment Plant Biosolids and Grit Storage Pads Upgrades City of Richmond Urban Design Committee May 16, 2025 Page 3

- 4. Biosolids Storage Pad Renderings (Drawing S-911)
- 5. Grit Storage Pad Renderings (Drawing S-921)
- 6. Wastewater Treatment Plant Biosolids and Grit Storage Pads Upgrades 90% Design Drawings, dated April 2025 \*

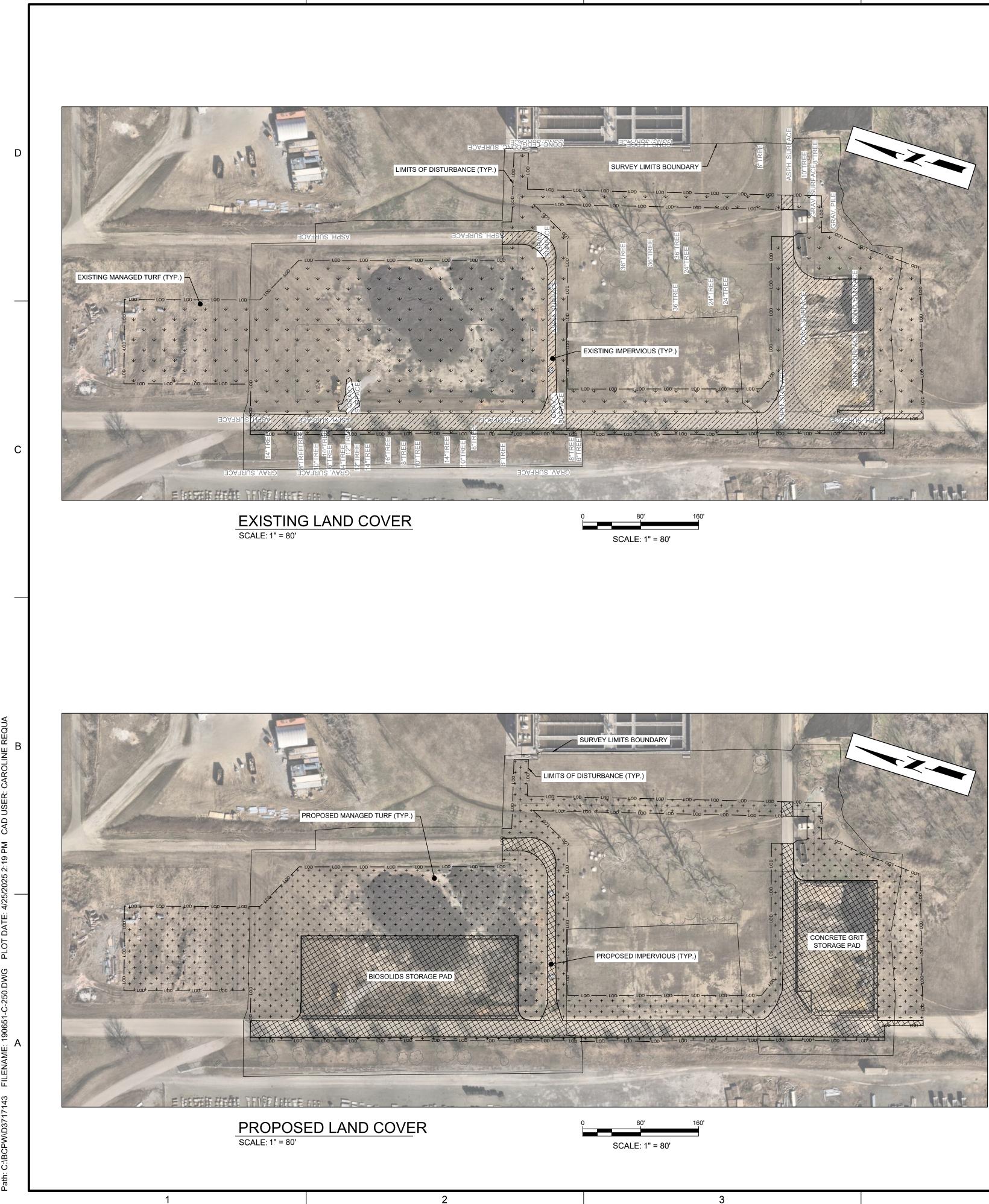
\* Attachment is being provided electronically via the file sharing link provided to the UDC via the email submission of the application package.

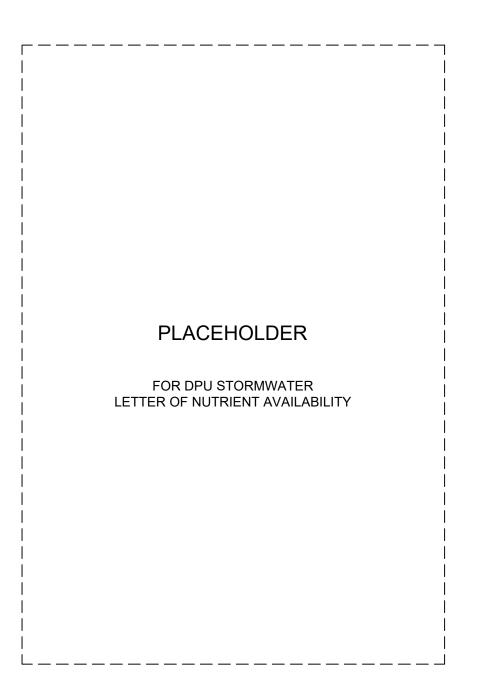


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Virginia Runoff Reduction Method Worksheet

DEQ Virginia Runoff Reduction Method Re-Development Compliance Spreadsheet - Version 4.1 BMP Design Specifications List: 2024 Stds & Specs

Site Summary

Date: 45765

Project Title: Wastewater Treatment Plant Biosolids and Grit Storage Pads Upgrades

Total Disturbed Acreage: 4.82

Site Land Cover Summary

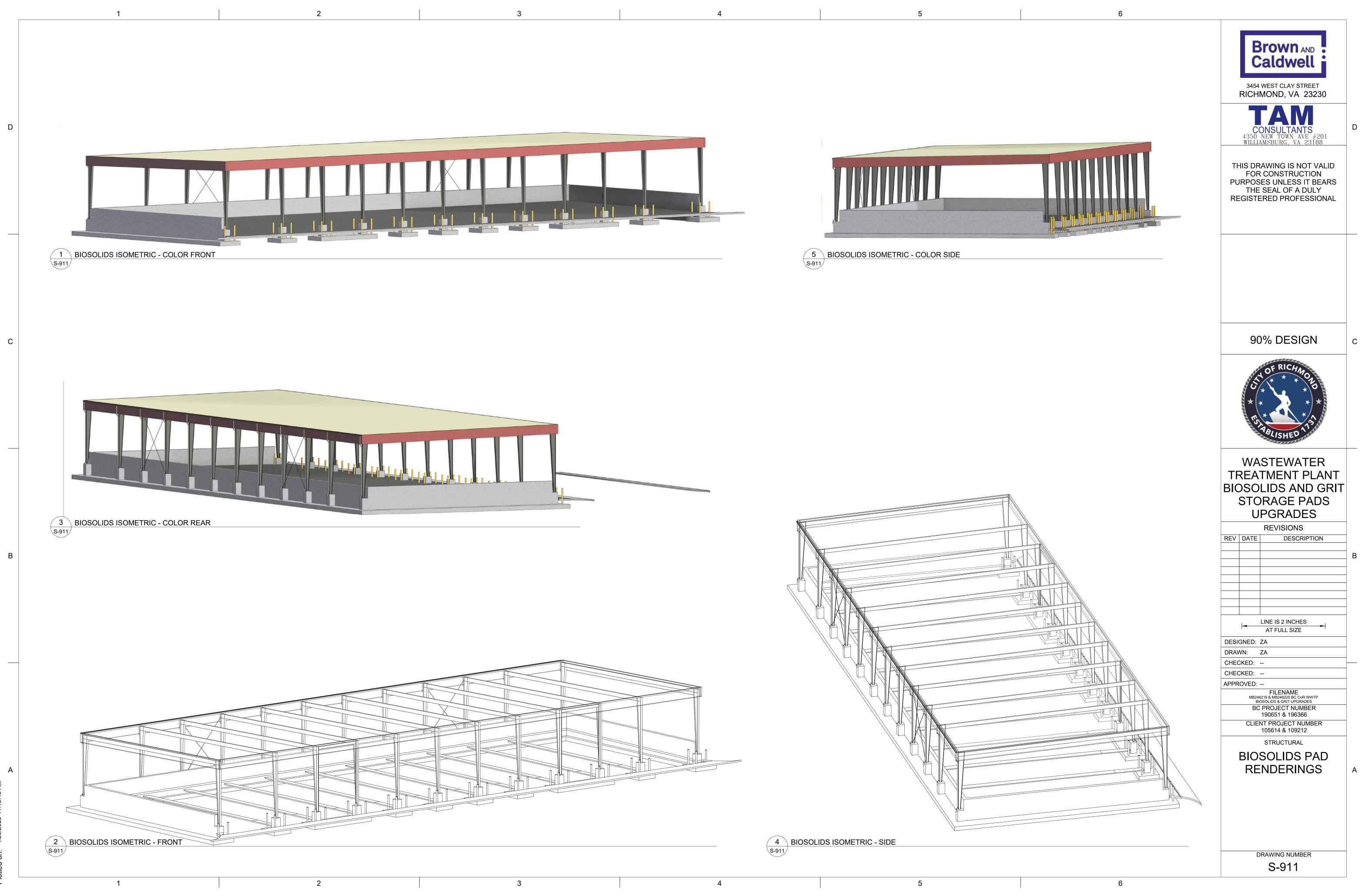
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Forest (acres)	0.00	0.00	0.00	0.00	
Mixed Open (acres)	0.00	0.00	0.00	0.00	
Managed Turf (acres)	0.00	0.00	0.00	3.66	
Impervious Cover (acres)	0.00	0.00	0.00	1.16	

	A soils	B Soils	C Soils	D Soils	Totals
Forest (acres)	0.00	0.00	0.00	0.00	0.00
Mixed Open (acres)	0.00	0.00	0.00	0.00	0.00
Managed Turf (acres)	0.00	0.00	0.00	2.83	2.83
Impervious Cover (acres)	0.00	0.00	0.00	1.99	1.99
* Forest/Open Space areas must be protected in	accordance with	the Virginia Run	off Reduction Method		4.82
Site Tv and Land Cover Nutrient Loads					
	(Post-ReD	Development evelopment npervious)	Post- ReDevelopment	Post- Development (New Impervious)	Adjusted Pre- ReDevelopment
Site Rv	0.	.54	0.45	0.00	0.45
Treatment Volume (ft <sup>3</sup> )	9,438		6,568	2,869	6,568
TP Load (lb/yr)	4.	.10	3.39	0.71	3.39
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Total TP Load Reduction Required (Ib/yr)	(1.	.18	0.68	0.50	
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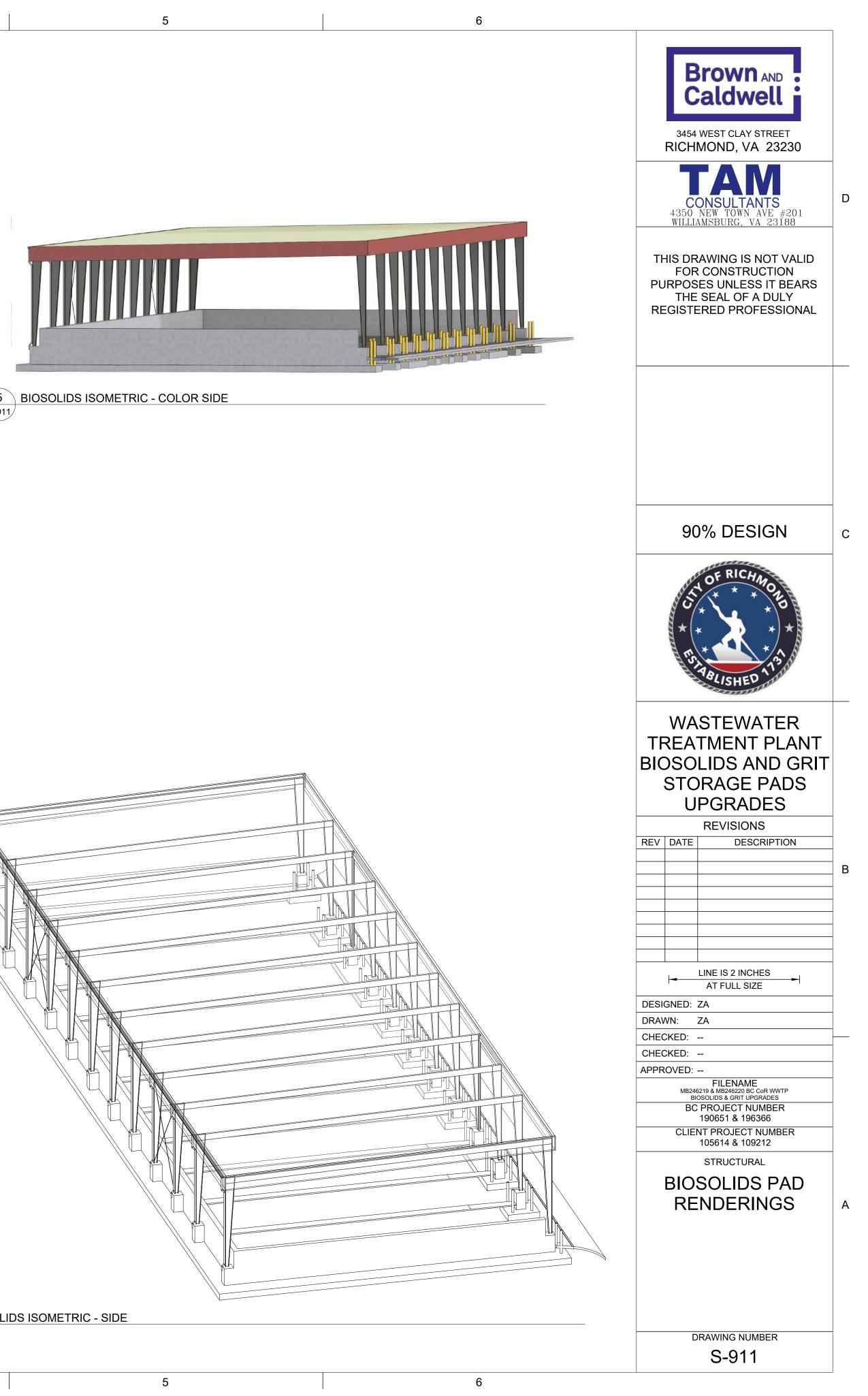
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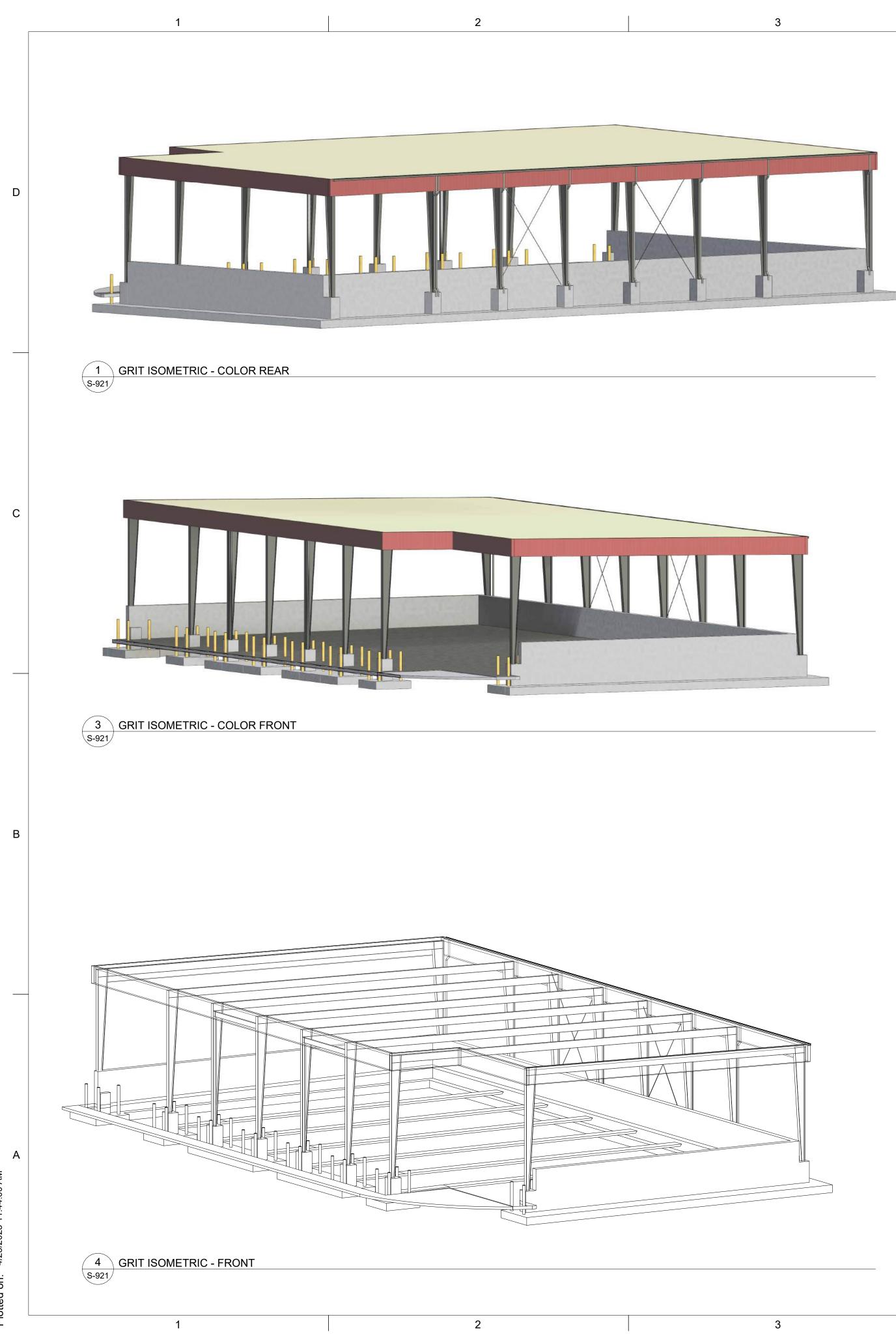
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	<ol> <li>THE INCREASE IN IMPERVIOUS AREA IS DUE TO INSTALLATION OF CONCRETE PADS ABOVE FINAL GRADE.</li> <li>AN EXCEPTION TO 9VAC-870-122 IS REQUESTED DUE TO THE FOLLOWING: (I) THE EXCEPTION IS THE MINIMUM NECESSARY TO AFFORD RELIEF. (II) REASONABLE AND APPROPRIATE CONDITIONS SHALL BE IMPOSED AS NECESSARY UPON ANY EXCEPTION GRANTED SO THAT THE END OF THE ACT AND THIS CHAPTER ARE PRESERVED. (III) GRADING THE EXCEPTION WILL NOT CONFER ANY SPECIAL PRIVILEGES THAT ARE BASED UPON CONDITIONS OR CIRCUMSTANCES THAT ARE SELF-IMPOSED OF SELF-CREATED.</li> <li>PREDEVELOPMENT AND POST-DEVELOPMENT LAND COVER WERE ENTERED INTO THE VIRGINIA RUNOFF-REDUCTION SPREADSHEET.</li> <li>THE CITY PLANS TO PURCHASE THE REQUIRED CREDITS FOR THIS PROJECT FROM THEIR INTERNAL CREDIT BANK. SEE OFFER LETTER ON THIS SHEET (TO BE PROVIDED</li> </ol>	THIS DRAWING IS NOT VALID FOR CONSTRUCTION PURPOSES UNLESS IT BEARS THE SEAL OF A DULY REGISTERED PROFESSIONAL	D
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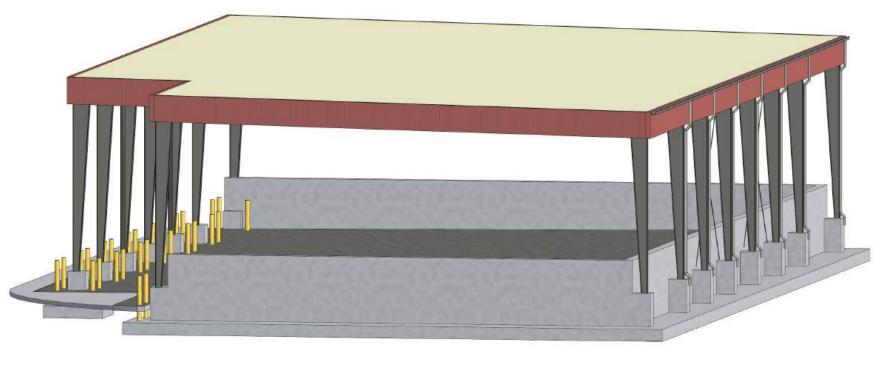
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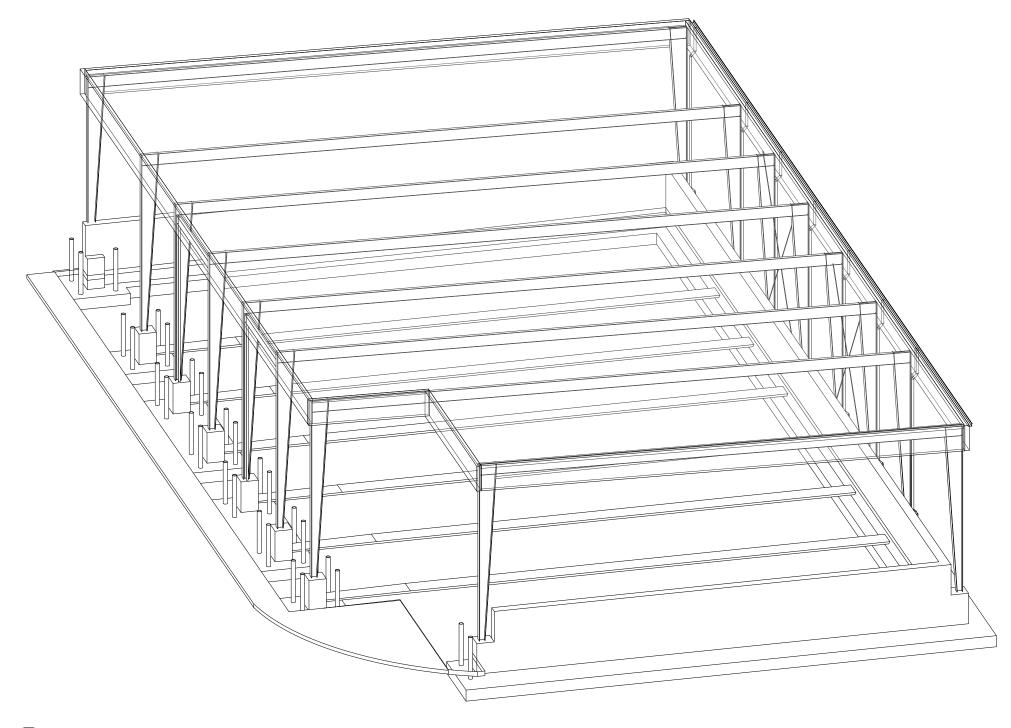




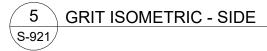








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