





















Tree No.	Species	Size	CRZ	Field Condition	Species Rating	Canopy Position	Total Score	Status	Invasive Species	Replacement trees	Existing Tree Condition Observations
		*DBH (in)	R (ft)	%							
101	Quescus phellos, Willow Oak	10	10	0.45	0.75	Dominant	3.38	Remove	No	1	NO SEVERE BIOTIC ISSUES OBSERVED. GOOD COLOR, FAIR VIGOR, & VITALITY. POOR SCAFFOLD STRUCTURE (ASYMMETRIC CROWN). APPARENT PRUNING TO AVOID OHW. SOME DEAD BRANCHES IN CROWN.
102	Quescus phellos, Willow Oak	12	12	0.55	0.75	Dominant	4.95	Remove	No	1	NO SEVERE BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR & VITALITY. F/G STRUCTURE. EXPOSED/GRIDLED ROOTS. CALLUSED PRUNING SCARS. SOME DEAD BRANCHES.
103	Tilia cordata, Littleleaf Linden	14	14	0.39	0.73	Codominate	3.99	Remove	No	1	SOME BIOTIC ISSUES OBSERVED. GOOD COLOR/FAIR VITALITY. CODOMINATE STEMS. POOR STRUCTURE. EXPOSED/GRIDLED ROOTS. COMPACTED SOIL. ONE UPPER STEM DEAD. SOME DEAD/BROKEN BRANCHES. OPEN CAVITY AT PRUNING SCAR. SOME EVIDENCE OF ROT. LIGHT POLE IN CANOPY.
104	Tilia cordata, Littleleaf Linden	8	8	0.53	0.73	Codominate	3.10	Remove	No	1	SOME BIOTIC ISSUES OBSERVED. GOOD VIGOR & VITALITY. FAIR STRUCTURE. EXPOSED/GRIDLED ROOTS. COMPACTED SOIL. SOME DEAD BRANCHES. ONE UPPER STEM DEAD. ASYMMETRIC CROWN. SLIGHT LEAN.
105	Tilia cordata, Littleleaf Linden	8	8	0.44	0.73	Codominate	2.57	Remove	No	1	SOME BIOTIC ISSUES OBSERVED. GOOD COLOR. POOR STRUCTURE WITH SOME WEAK LATERAL BRANCHES. POSSIBLE STORM DAMAGE AT TOP (DEAD/BROKEN BRANCHES). MANY REMOVED/PRUNED BRANCHES.
Computed Replacement Tree Total:										5	

DBH = Diameter at Breast Height (measured 4.5 feet above existing grade or as noted).

\* = Diameter measurement as recorded at the root crown where tree has a codominate, or multi-stem trunk which precludes a measurement at 4.5 feet above existing grade.

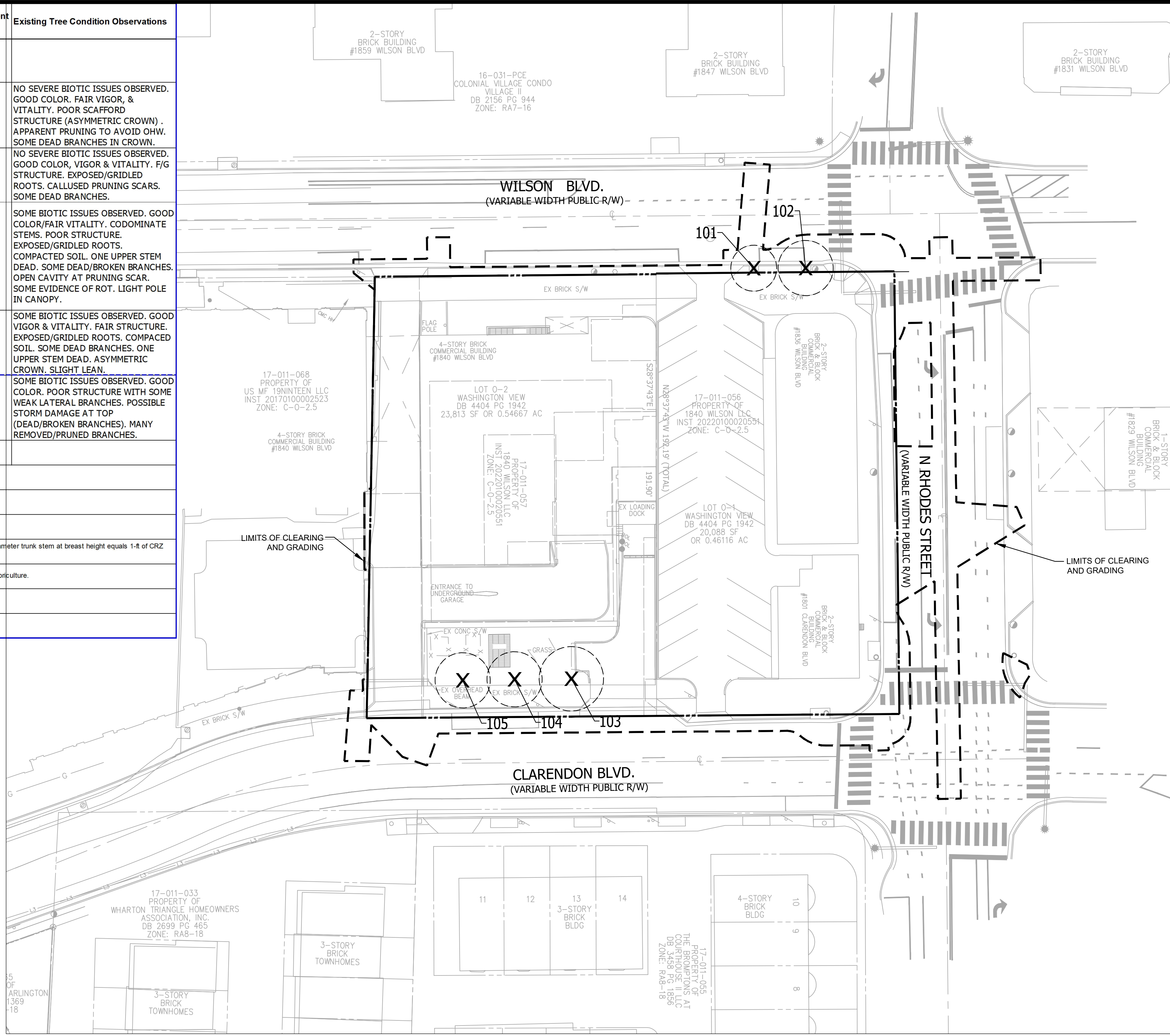
\*\* = Existing trees that have been inventoried / condition analysis that are along the west side North Edison Street landscape screen berm.

Critical Root Zone (CRZ): For trees with < 8" caliper trunk stem, CRZ shall be 8-ft radius around the trunk of the tree. Those trees with > 8" caliper trunk stem, for each 1" diameter trunk stem at breast height equals 1-ft of CRZ diameter. CRZ for trees with multiple stems were calculated based on the diameter of a tree with the basal area equal to the sum of the basal areas for all stems measured.

Conditions Ratings provided as percentages as based on methods outlined in the 9th edition of the "Guide for Plant Appraisal", published by the International Society of Arboriculture.

The existing on-site arbor inventory and condition analysis was conducted on April 12, 2017 & August 6, 2018

\\VA-PROJECTS2.vika.com\projects\Projects\6732\6732E\DATA\Landscape\6732E\_NSTA\_TREE\_INVENTORY.xlsx\Sheet1



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*Our Site Set on the Future.*

**PLAN STATUS**

PLAN STATUS	DATE
4.1 PRELIMINARY SITE PLAN #1	6/30/2023
4.1 RESUBMISSION	8/25/2023

**POST-APPROVAL SHEET STATUS**

POST-APPROVAL SHEET STATUS	DATE

PROFESSIONAL SEAL



**1840 WILSON BOULEVARD**

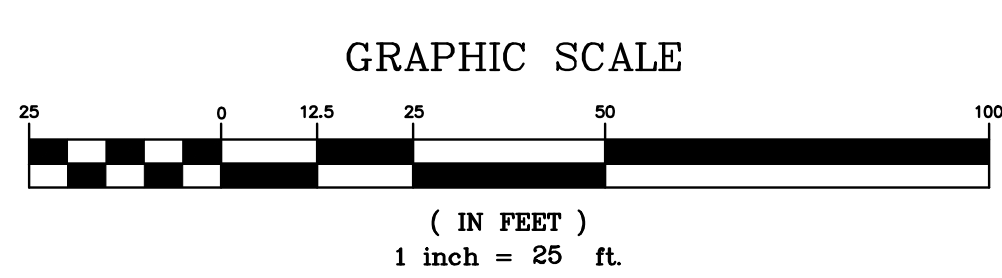
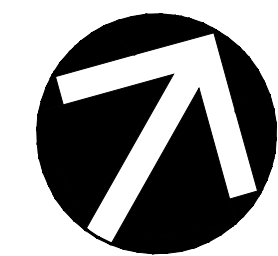
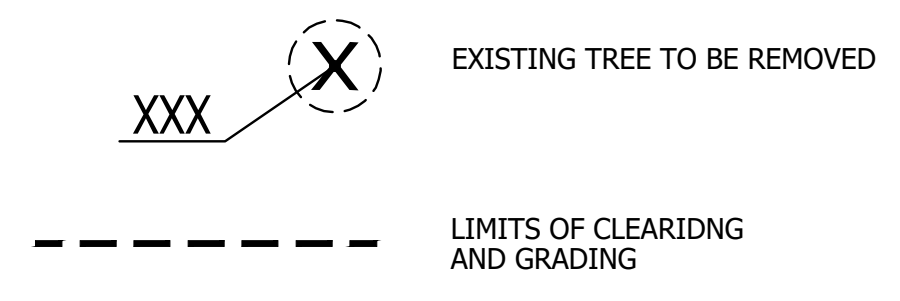
4.1 SITE PLAN AMENDMENT

ARLINGTON COUNTY, VIRGINIA

**TREE INVENTORY PLAN**

DRAWN BY:	
DESIGNED BY:	
DATE ISSUED:	6/30/2023
DWG. SCALE:	1" = 25'
VIKA NO.:	VV6732E
SHEET NO.:	C-05

**LEGEND**

















































VRRM SITE DATA SHEET

Project Name: 1804 Wilson Blvd (NSTA Site)  
 Date: 18-May-23  
 Linear Development Project? No

CLEAR ALL  
 (Ctrl+Shift+F)

data input cells  
 constant values  
 calculation cells  
 final results

Site Information

Post-Development Project (Treatment Volume and Loads)

Enter Total Disturbed Area (acres) → 1.2470

Maximum reduction required: 20%  
 The site's net increase in impervious cover (acres) is: 0.0760  
 Post-Development TP Load Reduction for Site (lb/yr): 0.6339

Check: 2013 Draft Stds & Specs  
 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					0.0000
Managed Turf (acres) -- disturbed, graded for yards or other turf to be				0.0980	0.0980
Impervious Cover (acres)				1.1490	1.1490
					1.2470

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					0.0000
Managed Turf (acres) -- disturbed, graded for yards or other turf to be				0.0220	0.0220
Impervious Cover (acres)				1.2250	1.2250
Area Check	OK	OK	OK	OK	1.2470

Constants

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

Runoff Coefficients (Rv)

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

LAND COVER SUMMARY -- PRE-REDEVELOPMENT

Land Cover Summary-Pre		
Pre-ReDevelopment	Listed	Adjusted <sup>1</sup>
Forest/Open Space Cover (acres)	0.0000	0.0000
Weighted Rv(forest)	0.0000	0.0000
% Forest	0%	0%
Managed Turf Cover (acres)	0.0980	0.0220
Weighted Rv(turf)	0.2500	0.2500
% Managed Turf	8%	2%
Impervious Cover (acres)	1.1490	1.1490
Rv(impervious)	0.9500	0.9500
% Impervious	92%	98%
Total Site Area (acres)	1.2470	1.1710
Site Rv	0.8950	0.9368

Treatment Volume and Nutrient Load

Pre-ReDevelopment Treatment Volume (acre-ft)	0.0930	0.0914
Pre-ReDevelopment Treatment Volume (cubic feet)	4,051.2615	3,982.2915
Pre-ReDevelopment TP Load (lb/yr)	2.5454	2.5021
Pre-ReDevelopment TP Load per acre (lb/acre/yr)	2.0400	2.1400
Baseline TP Load (lb/yr) <small>(0.41 lb/acre/yr applied to pre-redevelopment area excluding pervious land proposed for new impervious cover)</small>		0.4801

<sup>1</sup>Adjusted 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 1 shows load reduction requirement for new impervious cover (based on new development load limit, 0.41 lb/acre/year).

LAND COVER SUMMARY -- POST DEVELOPMENT

Land Cover Summary-Post (Final)		Land Cover Summary-Post		Land Cover Summary-Post	
Post ReDev. & New Impervious		Post-ReDevelopment		Post-Development New Impervious	
Forest/Open Space Cover (acres)	0.0000	Forest/Open Space Cover (acres)	0.0000		
Weighted Rv(forest)	0.0000	Weighted Rv(forest)	0.0000		
% Forest	0%	% Forest	0%		
Managed Turf Cover (acres)	0.0220	Managed Turf Cover (acres)	0.0220		
Weighted Rv (turf)	0.2500	Weighted Rv (turf)	0.2500		
% Managed Turf	2%	% Managed Turf	2%		
Impervious Cover (acres)	1.2250	ReDev. Impervious Cover (acres)	1.1490	New Impervious Cover (acres)	0.0760
Rv(impervious)	0.9500	Rv(impervious)	0.9500	Rv(impervious)	0.9500
% Impervious	98%	% Impervious	98%		
Final Site Area (acres)	1.2470	Total ReDev. Site Area (acres)	1.1710		
Final Post Dev Site Rv	0.9377	ReDev Site Rv	0.9368		

Treatment Volume and Nutrient Load

Final Post-Development Treatment Volume (acre-ft)	0.0974	Post-Development Treatment Volume (acre-ft)	0.0914	Post-Development Treatment Volume (cubic feet)	0.0060
Final Post-Development Treatment Volume (cubic feet)	4,244.3775	Post-Development Treatment Volume (cubic feet)	3,982.2915	Post-Development Treatment Volume (cubic feet)	262.0860
Final Post-Development TP Load (lb/yr)	2.6667	Post-Development TP Load (lb/yr)*	2.5021	Post-Development TP Load (lb/yr)	0.1647
Final Post-Development TP Load per acre (lb/acre/yr)	2.1400	Post-Development TP Load per acre (lb/acre/yr)	2.1400		
Max. Reduction Required (Below Pre-Development Load)			20%		
TP Load Reduction Required for Redeveloped Area (lb/yr)	0.5004	TP Load Reduction Required for New Impervious Area (lb/yr)	0.1335		

VRRM SUMMARY SHEET

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

BMP Design Specifications List: 2013 Draft Stds & Specs

Update Summary Sheet

Site Summary

Project Title: 1804 Wilson Blvd (NSTA Site)  
 Date: 4/5/2024

Total Rainfall (in):	43
Total Disturbed Acreage:	1.2470

Print Preview

Print

Site Land Cover Summary

Pre-ReDevelopment Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals	% of Total
Forest/Open (acres)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Managed Turf (acres)	0.0000	0.0000	0.0000	0.0980	0.0980	7.8589
Impervious Cover (acres)	0.0000	0.0000	0.0000	1.1490	1.1490	92.1411
					1.2470	100.0000

Post-ReDevelopment Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals	% of Total
Forest/Open (acres)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Managed Turf (acres)	0.0000	0.0000	0.0000	0.0220	0.0220	1.7642
Impervious Cover (acres)	0.0000	0.0000	0.0000	1.2250	1.2250	98.2358
					1.2470	100.0000

Site Tn and Land Cover Nutrient Loads

	Final Post-Development (Post-ReDevelopment & New Impervious)	Post-ReDevelopment	Post-Development (New Impervious)	Adjusted Pre-Development
Site Rv	0.9377	0.9368	0.9500	0.9368
Treatment Volume (ft <sup>3</sup> )	4,244.3775	3,982.2915	262.0860	3,982.2915
TP Load (lb/yr)	2.6667	2.5021	0.1647	2.5021

Pre-ReDevelopment TP Load per acre (lb/acre/yr)	Final Post-Development TP Load per acre (lb/acre/yr)	Post-ReDevelopment TP Load per acre (lb/acre/yr)
2.1400	2.1400	2.1400

Total TP Load Reduction Required (lb/yr)	0.6339	0.5004	0.1335
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	Final Post-Development Load (Post-ReDevelopment & New Impervious)	Pre-ReDevelopment
TN Load (lb/yr)	19.0774	18.2094

Site Compliance Summary

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

Total Runoff Volume Reduction (ft <sup>3</sup> )	841.4340
Total TP Load Reduction Achieved (lb/yr)	0.7261
Total TN Load Reduction Achieved (lb/yr)	6.0444
Remaining Post Development TP Load (lb/yr)	1.9406
Remaining TP Load Reduction (lb/yr) Required	0.0000

\*\* TARGET TP REDUCTION EXCEEDED BY 0.0922 LB/YEAR \*\*

Drainage Area Summary

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	Total
Forest/Open (acres)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Managed Turf (acres)	0.0220	0.0000	0.0000	0.0000	0.0000	0.0220
Impervious Cover (acres)	1.2250	0.0000	0.0000	0.0000	0.0000	1.2250
Total Area (acres)	1.2470	0.0000	0.0000	0.0000	0.0000	1.2470

Drainage Area Compliance Summary

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	Total
TP Load Reduced (lb/yr)	0.7261	0.0000	0.0000	0.0000	0.0000	0.7261
TN Load Reduced (lb/yr)	6.0444	0.0000	0.0000	0.0000	0.0000	6.0444

Drainage Area A Summary

Land Cover Summary

	A Soils	B Soils	C Soils	D Soils	Total	% of Total
Forest/Open (acres)	0.0000	0.0000	0.0000	0.0000	0.0000	0
Managed Turf (acres)	0.0000	0.0000	0.0000	0.0220	0.0220	2
Impervious Cover (acres)	0.0000	0.0000	0.0000	1.2250	1.2250	98
					1.2470	

BMP Selections

Practice	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	BMP Treatment Volume (ft <sup>3</sup> )	TP Load from Upstream Practices (lbs)	Untreated TP Load to Practice (lbs)	TP Removed (lb/yr)	TP Remaining (lb/yr)	Downstream Treatment to be Employed
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Total Impervious Cover Treated (acres)	0.6100
Total Turf Area Treated (acres)	0.0000
Total TP Load Reduction Achieved in D.A. (lb/yr)	0.7261
Total TN Load Reduction Achieved in D.A. (lb/yr)	6.0444

Drainage Area B Summary

VRRM DRAINAGE AREA(S) SHEET

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)					0.0000	0.0000
Managed Turf (acres)				0.0220	0.0220	0.2500
Impervious Cover (acres)				1.2250	1.2250	0.9500
Total					1.2470	

CLEAR BMP AREAS

Total Phosphorus Available for Removal in D.A. A (lb/yr)	2.6667
Post Development Treatment Volume in D.A. A (ft <sup>3</sup> )	4,244.3775

Stormwater Best Management Practices (RR = Runoff Reduction)

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft <sup>3</sup> )	Runoff Reduction (ft <sup>3</sup> )	Remaining Runoff Volume (ft <sup>3</sup> )	Total BMP Treatment Volume (ft <sup>3</sup> )	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
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--Select from dropdown lists--



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Our Site Set on the Future.

PLAN STATUS

PLAN STATUS	DATE
4.1 PRELIMINARY SITE PLAN #1	6/30/2023
4.1 RESUBMISSION	8/25/2023

POST-APPROVAL SHEET STATUS

POST-APPROVAL SHEET STATUS	DATE
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PROFESSIONAL SEAL



1840 WILSON BOULEVARD

4.1 SITE PLAN AMENDMENT

ARLINGTON COUNTY, VIRGINIA

STORMWATER MAGEBEMENT COMPUTATIONS & DETAIL

DRAWN BY:	PNN
DESIGNED BY:	EJL
DATE ISSUED:	6/30/2023
DWG. SCALE:	N/A
VIKA NO.:	VV6732E
SHEET NO.:	C-17







