

PRELIMINARY WATER QUALITY COMPUTATIONS:

Site Results (Water Quality Compliance) VRRM 4.1, 2024

Area Checks	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	AREA CHECK
FOREST (ac)	0.00	0.00	0.00	0.00	0.00	OK.
MIXED OPEN (ac)	0.00	0.00	0.00	0.00	0.00	OK.
MIXED OPEN AREA TREATED (ac)	0.00	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA (ac)	0.31	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA TREATED (ac)	0.00	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER (ac)	0.12	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER TREATED (ac)	0.10	0.00	0.00	0.00	0.00	OK.
AREA CHECK	OK.	OK.	OK.	OK.	OK.	

Site Treatment Volume (ft<sup>3</sup>) = 697

Runoff Reduction Volume and TP By Drainage Area

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	TOTAL
RUNOFF REDUCTION VOLUME ACHIEVED (ft <sup>3</sup> )	166	0	0	0	0	166
TP LOAD AVAILABLE FOR REMOVAL (lb/yr)	0.37	0.00	0.00	0.00	0.00	0.37
TP LOAD REDUCTION ACHIEVED (lb/yr)	0.05	0.00	0.00	0.00	0.00	0.05
TP LOAD REMAINING (lb/yr)	0.32	0.00	0.00	0.00	0.00	0.32

NITROGEN LOAD REDUCTION ACHIEVED (lb/yr) = 0.68

Total Phosphorus

FINAL POST-DEVELOPMENT TP LOAD (lb/yr)	0.37
TP LOAD REDUCTION REQUIRED (lb/yr)	0.08
TP LOAD REDUCTION ACHIEVED (lb/yr)	0.05
TP LOAD REMAINING (lb/yr)	0.32
REMAINING TP LOAD REDUCTION REQUIRED (lb/yr)	0.03

Total Nitrogen (For Information Purposes)

POST-DEVELOPMENT LOAD (lb/yr)	4.31
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	0.68
REMAINING POST-DEVELOPMENT NITROGEN LOAD (lb/yr)	3.62

NUTRIENT CREDITS WILL BE USED TO SATISFY THE REMAINING ±0.03 LB/YR OF PHOSPHOROUS REMOVAL REQUIREMENT.

PRELIMINARY WATER QUANTITY COMPUTATIONS:

1, 2 & 10 YEAR STORM VOLUME COMPUTATIONS (PRE-DEVELOPED CONDITION)

AREA OF SITE TO OUTFALL = 0.43 AC	LAWN AREA OF SITE IN 'B' HYD. SOIL GROUP = 0.00 AC	RCN= 61
1 YEAR RAINFALL DEPTH(P) = 2.62 IN	LAWN AREA OF SITE IN 'C' HYD. SOIL GROUP = 0.00 AC	RCN= 74
2 YEAR RAINFALL DEPTH(P) = 3.17 IN	LAWN AREA OF SITE IN 'D' HYD. SOIL GROUP = 0.12 AC	RCN= 80
10 YEAR RAINFALL DEPTH(P) = 4.87 IN	IMP. AREA OF SITE IN 'B', 'C' & 'D' HYD. SOIL GROUP = 0.43 AC	RCN= 98

WEIGHTED RCN FOR EXISTING CONDITION = (AREA OF SITE IN 'D' SOIL X RCN) / AREA OF SITE  
RCN = 82

S = (1000/W.T. RCN) - 10  
S = 2.17

1 YEAR: RUNOFF Q = ((P - 0.2S)<sup>2</sup> / (P + 0.8S))  
Q = 1.10 IN

Rv = AREA \* RUNOFF Q  
Rvpre-developed = 0.039 AC-FT

2 YEAR: RUNOFF Q = ((P - 0.2S)<sup>2</sup> / (P + 0.8S))  
Q = 1.53 IN

Rv = AREA \* RUNOFF Q  
Rvpre-developed = 0.055 AC-FT

10 YEAR: RUNOFF Q = ((P - 0.2S)<sup>2</sup> / (P + 0.8S))  
Q = 2.98 IN

Rv = AREA \* RUNOFF Q  
Rvpre-developed = 0.107 AC-FT

1, 2 & 10 YEAR STORM VOLUME COMPUTATIONS (DEVELOPED, NEW SINGLE FAMILY DWELLING)

AREA OF SITE TO OUTFALL = 0.43 AC	LAWN AREA OF SITE IN 'B' HYD. SOIL GROUP = 0.00 AC	RCN= 61
1 YEAR RAINFALL DEPTH(P) = 2.62 IN	LAWN AREA OF SITE IN 'C' HYD. SOIL GROUP = 0.00 AC	RCN= 74
2 YEAR RAINFALL DEPTH(P) = 3.17 IN	LAWN AREA OF SITE IN 'D' HYD. SOIL GROUP = 0.31 AC	RCN= 80
10 YEAR RAINFALL DEPTH(P) = 4.87 IN	IMP. AREA OF SITE IN 'B', 'C' & 'D' HYD. SOIL GROUP = 0.12 AC	RCN= 98

WEIGHTED RCN FOR DEVELOPMENT = ((AREA OF SITE IN 'B' SOIL X RCN) + (AREA OF SITE IN 'C' SOIL X RCN) + (AREA OF SITE IN 'D' SOIL X RCN)) / AREA OF SITE  
RCN = 86  
1 YR RCN = 83  
2 YR RCN = 83  
ADJUSTED RCN VALUES FROM VRRM WORKSHEET

S = (1000/W.T. RCN) - 10  
S = 2.05  
S = 2.05  
S = 1.90

1 YEAR: RUNOFF Q = ((P - 0.2S)<sup>2</sup> / (P + 0.8S))  
Q = 1.15 IN

Rv = AREA \* RUNOFF Q  
Rvpost-developed = 0.041 AC-FT

2 YEAR: RUNOFF Q = ((P - 0.2S)<sup>2</sup> / (P + 0.8S))  
Q = 1.58 IN

Rv = AREA \* RUNOFF Q  
Rvpost-developed = 0.057 AC-FT

10 YEAR: RUNOFF Q = ((P - 0.2S)<sup>2</sup> / (P + 0.8S))  
Q = 3.15 IN

Rv = AREA \* RUNOFF Q  
Rvpost-developed = 0.113 AC-FT

Storage Volume provided by trench (AC-FT)	Adjusted Rv
0.014 AC-FT 609.84 CF PRELIMINARY REQUIRED STORAGE	0.027 AC-FT
0.014 AC-FT	0.043 AC-FT
0.014 AC-FT	0.099 AC-FT

PRELIMINARY TRENCH SIZING SUMMARY:

STORAGE REQUIRED: ±609.84 CF (SEE THIS SHEET)  
LOT 61A STORAGE PROVIDED: (6.0'38.0"4.0')(0.4) = ±364.80 CF  
LOT 63A STORAGE PROVIDED: (6.0'30.0"4.0')(0.4) = ±288.00 CF  
TOTAL WATER QUANTITY: ±852.80 CF (PROVIDED) > ±609.84 CF (REQUIRED)

STORMWATER MANAGEMENT NARRATIVE:

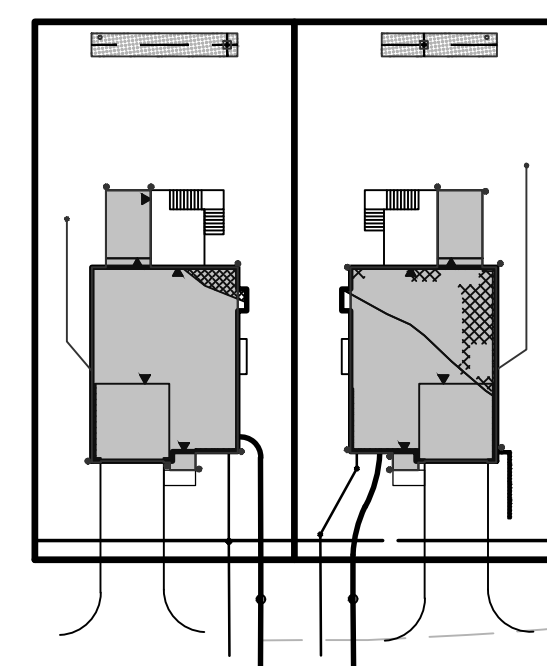
THE STORMWATER MANAGEMENT REQUIREMENTS FOR THE SUBJECT PROPERTY WILL BE SATISFIED VIA THE CONSTRUCTION OF TWO INFILTRATION TRENCHES. A PRELIMINARY INFILTRATION STUDY HAS BEEN CONDUCTED AND HAS DETERMINED THE SOILS WILL SUPPORT AN INFILTRATION TRENCH. THE FACILITIES WILL BE DESIGNED IN ACCORDANCE WITH TOWN OF VIENNA AND VIRGINIA STORMWATER MANAGEMENT HANDBOOK REQUIREMENTS.

THE INFILTRATION TRENCHES WILL BE DESIGNED TO PROVIDE DETENTION FOR THE 1 YEAR STORM EVENT THROUGH ENERGY BALANCE. APPROXIMATELY ±609.84 CF OF STORAGE IS REQUIRED AND APPROXIMATELY ±652.80 CF OF STORAGE WILL BE PROVIDED.

IN ADDITION TO PROVIDING WATER QUANTITY, THE TWO TRENCHES WILL SATISFY THE MAJORITY OF WATER QUALITY REQUIREMENTS. APPROXIMATELY ±0.05 LB/YR OF REQUIRED ±0.08 LB/YR OF PHOSPHOROUS REMOVAL WILL BE SATISFIED. THE REMAINING ±0.03 LB/YR OF PHOSPHOROUS REDUCTION WILL BE MET THROUGH THE PURCHASE OF NUTRIENT CREDITS.

PRELIM. TREATMENT PLAN:

SCALE: 1"=50'



NOTES:

- ALL TREES LOCATED WITHIN THE ROW THAT WILL BE REMOVED FOR CONSTRUCTION MUST BE REPLACED AT THE DISCRETION OF THE URBAN FORESTER OF TOWN OF VIENNA WHO WILL HAVE THE AUTHORITY TO DIRECT SPECIES PLANTED AND LOCATIONS.
- GRADING OF LOTS 61A AND 63A WILL NOT AFFECT THE APPROVED WILMAR PLACE REBUILD.
- IT WAS AGREED BETWEEN DEVELOPER AND TOWN OF VIENNA THAT A FORMAL SUBDIVISION PLAN IS NOT REQUIRED. EACH LOT SHALL BE SUBMITTED AND PERMITTED AS AN INFILL LOT. EACH LOT PLAN WILL PROVIDE SUBDIVISION PLAN STANDARDS AND IMPROVEMENTS.

LOT 61A TREE COVER CALCULATIONS:

SITE AREA: 9,450 SF  
20% TREE COVER REQUIRED: 1,890 SF  
PRESERVED CANOPY: 0 SF  
PLANTED CANOPY: 1,950 SF  
TOTAL: 1,950 SF  
1,950 SF (20.6% PROVIDED) > 1,890 SF (20% REQUIRED)

LOT 63A TREE COVER CALCULATIONS:

SITE AREA: 9,450 SF  
20% TREE COVER REQUIRED: 1,890 SF  
PRESERVED CANOPY: 0 SF  
PLANTED CANOPY: 1,950 SF  
TOTAL: 1,950 SF  
1,950 SF (20.6% PROVIDED) > 1,890 SF (20% REQUIRED)

LOT 61A TREE COVER CALCULATIONS:

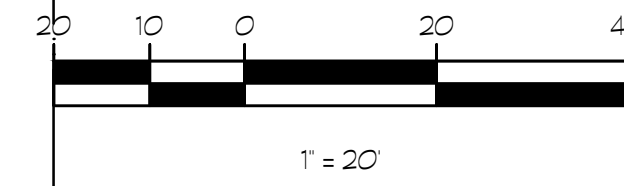
Project Address and/or Munis#:	TBD WILMAR PLACE N.W.	See town approved tree list for CCA and Multipliers	Total Units= 5	Instructions: Delete values from multiplier credit cells that tree does not qualify for.	Total CCA= 1,950										
Scientific Name	Common Name	Variety/Cultivar	Notation on Plan	Notes	Caliper or Height	B&B or Container	Quantity (Units)	Base 20 Year CCA	Air Quality (1.5)	Water Quality (1.25)	Native Tree (Local Ecotype) (1.5)	Wildlife Benefit (1.5)	Improved Cultivars and Varieties (1.25)	CCA per tree after Multiplier(s)	Total CCA for all units
Template Row	Template Row	Template Row	(eg. 'TR')	Do not use or modify this row.	2" or 6"	BB or C	0	0	0	0	0	0	0	0	0
Betula nigra	River Birch		FB	N/A	2"	B&B	2	300			0	150		450	900
Acer rubrum	Red Maple		FM	N/A	2"	B&B	2	300			0	150		450	900
Crataegus spp.	Hawthorn		HT	N/A	2"	B&B	1	100			0	50		150	150

LOT 63A TREE COVER CALCULATIONS:

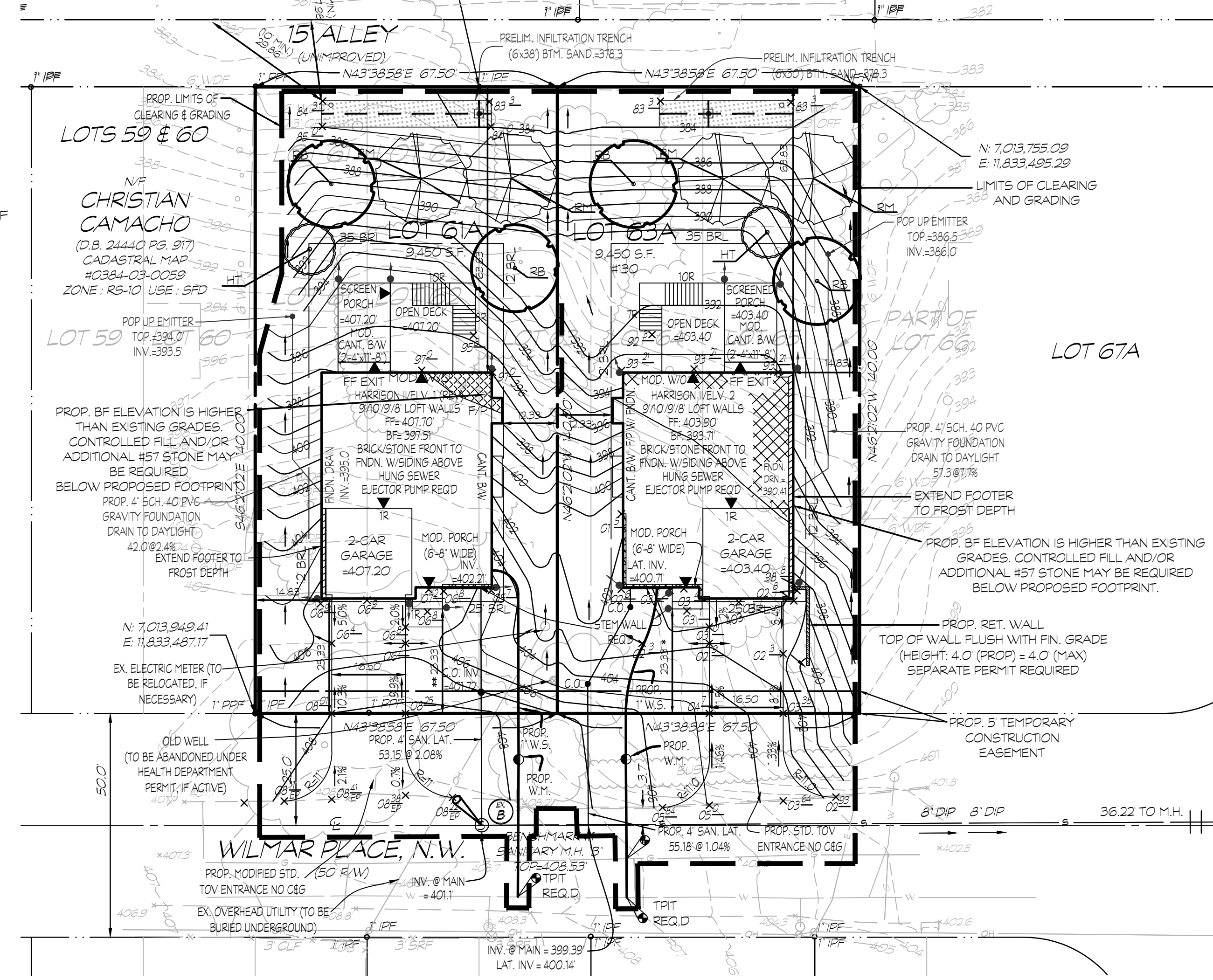
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Template Row	Template Row	Template Row	(eg. 'TR')	Do not use or modify this row.	2" or 6"	BB or C	0	0	0	0	0	0	0	0	0
Betula nigra	River Birch		FB	N/A	2"	B&B	2	300			0	150		450	900
Acer rubrum	Red Maple		FM	N/A	2"	B&B	2	300			0	150		450	900
Crataegus spp.	Hawthorn		HT	N/A	2"	B&B	1	100			0	50		150	150

ZONE: C-1B USE: CONVERTED RESIDENTIAL OFFICE (EX. DWELLING)

GRAPHICAL SCALE



Attachment 08

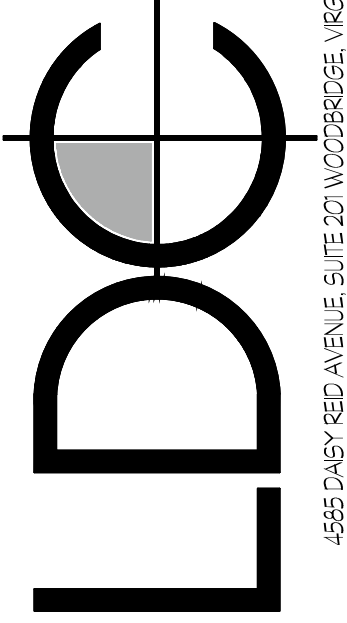


PRELIMINARY SITE ANALYSIS-LOT 61A

DESCRIPTION	REQUIRED/ALLOWED	PROVIDED/EXISTING
ZONE	RS-10	RS-10
LOT AREA MAX.	10,000 SF	9,450 SF
LOT COVERAGE	25%	24.85%
SETBACK		
FRONT	25 FT	25.33 FT
SIDE/SIDE2	12 FT	14.83 / 12.33
REAR	35 FT	63.63 FT
LOT WIDTH	45/60/75	67.5/67.5/67.5
BUILDING HEIGHT	35 FT	34.10 FT
DECK COVERAGE & OUTDOOR LIVING	5% OF LOT AREA	4.97%

PRELIMINARY SITE ANALYSIS-LOT 63A

DESCRIPTION	REQUIRED/ALLOWED	PROVIDED/EXISTING
ZONE	RS-10	RS-10
LOT AREA MAX.	10,000 SF	9,450 SF
LOT COVERAGE	25%	24.85%
SETBACK		
FRONT	25 FT	25.33 FT
SIDE/SIDE2	12 FT	14.83 / 12.33
REAR	35 FT	63.63 FT
LOT WIDTH	45/60/75	67.5/67.5/67.5
BUILDING HEIGHT	35 FT	34.00 FT
DECK COVERAGE & OUTDOOR LIVING	5% OF LOT AREA	4.97%



PRELIMINARY GRADING PLAN

#130 (& #TBD) WILMAR PLACE, N.W.

DATE	REVISION	APPROVED

HEREBY CERTIFY THAT OTHER THAN THE REVISIONS SHOWN HEREON, NO OTHER CHANGES HAVE BEEN MADE.

2/14/2025 DATE

SCALE: 1"=20'

SHEET: 1 OF

DATE: FEBRUARY, 2025

DRAFT: RMA CHECK: JCM

FILE NUMBER: 24091-1-0