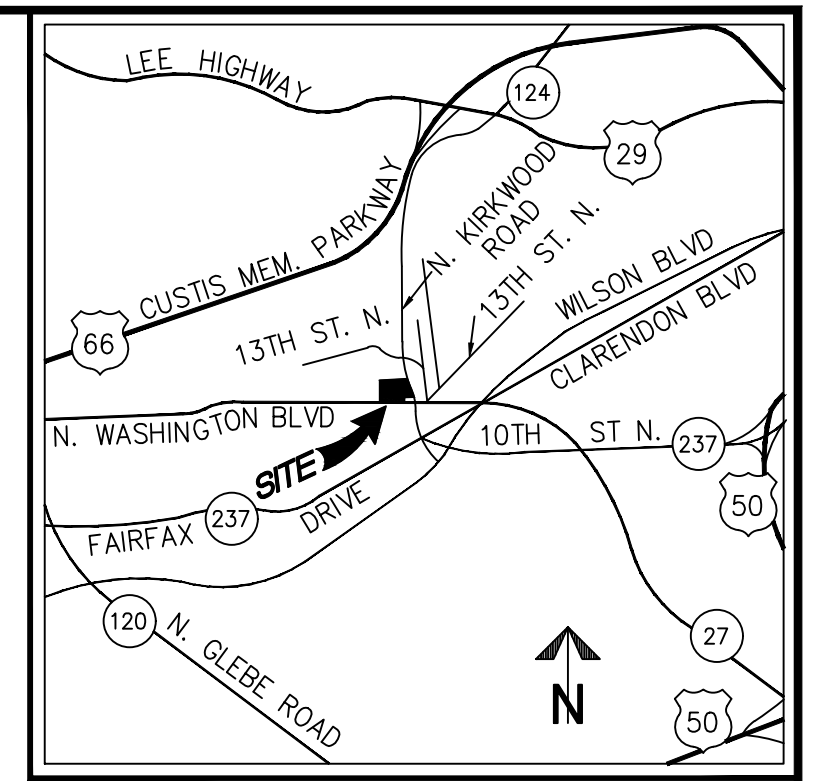


# WASHINGTON BOULEVARD AT KIRKWOOD

3411, 3415, & 3421 WASHINGTON BLVD  
& 1122 NORTH KIRKWOOD ROAD

ADMINISTRATIVE REGULATION 4.1  
ARLINGTON COUNTY, VIRGINIA

CONCEPT PLAN SUBMISSION - DECEMBER 14, 2017  
FIRST PRELIMINARY 4.1 SITE PLAN SUBMISSION - FEBRUARY 21, 2018  
SECOND PRELIMINARY 4.1 SITE PLAN SUBMISSION - APRIL 27, 2018  
FINAL 4.1 SITE PLAN SUBMISSION - JUNE 12, 2018  
FINAL 4.1 SITE PLAN RE-SUBMISSION - NOVEMBER 16, 2018  
FINAL 4.1 SITE PLAN FILING - DECEMBER 19, 2018



VICINITY MAP SCALE: 1"=2000'

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## DEVELOPMENT TEAM

### APPLICANT

ELEVENTH STREET DEVELOPMENT, LLC  
24 WEST CEDAR STREET  
ALEXANDRIA, VA 22301  
703.519.3881  
CONTACT: GARRETT ERDLE

### ATTORNEY

WALSH COLUCCI LUBELEY & WALSH PC  
2200 CLARENDON BOULEVARD  
SUITE 1300  
ARLINGTON, VIRGINIA 22201  
703.528.4700  
CONTACT: M. CATHARINE PUSKAR

### ARCHITECT

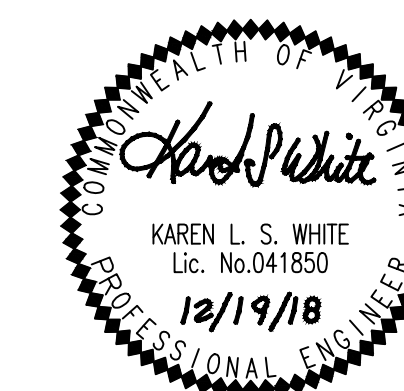
ODELL  
111 VIRGINIA STREET  
SUITE 401  
RICHMOND, VA 23219  
804.287.8200  
CONTACT: SHAWN GLERUM, AIA

### LANDSCAPE ARCHITECT

STUDIO39 LANDSCAPE ARCHITECTURE, P.C.  
6416 GROVEDALE DRIVE, SUITE 100-A  
ALEXANDRIA, VA 22310  
703.719.6500  
CONTACT: DAN DOVE, PLA, LEED AP BD+C

### CIVIL ENGINEER

WALTER L. PHILLIPS, INC.  
207 PARK AVENUE  
FALLS CHURCH, VA 22046  
703.532.6163  
CONTACT: KAREN WHITE, P.E.



SUBMITTED DATE:
CONCEPT PLAN SUB. 12/14/2017
1ST PRELIM. 4.1 SITE PLAN SUB. 02/21/2018
2ND PRELIM. 4.1 SITE PLAN SUB. 04/27/2018
FINAL 4.1 SITE PLAN SUB. 06/12/2018
FINAL 4.1 SITE PLAN RE-SUB. 11/16/2018
FINAL 4.1 SITE PLAN FILING 12/19/2018

COVER SHEET			
<h1 style="margin: 0;">WALTER L. PHILLIPS</h1> <p style="font-size: small; margin: 0;">INCORPORATED ESTABLISHED 1945</p>		<p style="font-size: x-small; margin: 0;">Engineers • Surveyors • Planners Landscape Architects • Arborists 207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046 (703) 532-6163 Fax (703) 533-1301 www.WLPINC.com</p>	
<p style="margin: 0;"><b>ARLINGTON, VIRGINIA</b> <b>DEPARTMENT OF ENVIRONMENTAL SERVICES</b> <b>WASHINGTON BOULEVARD AT KIRKWOOD</b> 3411, 3415, &amp; 3421 WASHINGTON BLVD &amp; 1122 NORTH KIRKWOOD ROAD ARLINGTON COUNTY, VIRGINIA</p>			
SCALE: 1" = 25'	DRAWN: TPB	CHECKED: KSW	
	APPROVED DATE	CHIEF TRANSPORTATION PLANNING BUREAU	APPROVED DATE
	APPROVED DATE	CHIEF TRANSPORTATION ENGINEERING BUREAU	APPROVED DATE
CHIEF WATER, SEWER & STREETS BUREAU	CHIEF ENGINEERING BUREAU	DIRECTOR OF ENVIRONMENTAL SERVICES	
			SHEET: <b>C-0101</b>



VCS 1983 - NORTH ZONE

N/F YMCA.  
DB 1426 PG 34

NORTH KIRKWOOD ROAD  
VARIABLE WIDTH PUBLIC RIGHT-OF-WAY

N/F 3427 WASHINGTON  
BOULEVARD, LLC  
DB 3345 PG 857

WASHINGTON BOULEVARD  
VARIABLE WIDTH PUBLIC RIGHT-OF-WAY

**LEGEND**

- AC..... AIR CONDITIONER
- APPROX. LOC..... APPROXIMATE LOCATION
- AW..... AREA WAY
- BL..... BIKE LANE
- BLD HT..... BUILDING HEIGHT
- CAN..... CANOPY
- CC..... CONCRETE CHANNEL
- CHK..... CHISELED X SET (PROPERTY CORNER)
- CLF..... CHAINLINK FENCE
- CLV..... CULVERT
- COL..... CLEANOUT
- COLN..... COLUMN
- CONC..... CONCRETE
- CR..... CONCRETE RAMP
- CS..... CONCRETE STOOP
- CSTR..... COVERED STAIRWAY
- DB..... DEED BOOK
- DIP..... DUCTILE IRON PIPE
- EM..... ELECTRIC METER
- EO..... ELECTRIC OUTLET
- EP..... EDGE OF PAVEMENT
- ESMT..... EASEMENT
- F..... FUEL TANK
- FC..... FINISH FLOOR ELEVATION
- FP..... FLAG POLE
- FW..... FIRST FLOOR WALL LINE
- GM..... GAS METER
- GV..... GAS VALVE
- HC..... HANDICAPPED RAMP
- HPS..... HAND-PLACED STONE WALK
- HVAC..... HEATING AND AIR UNIT
- INV..... INVERT
- IPF..... IRON PIN FOUND (PROPERTY CORNER)
- IPS..... IRON PIN SET (PROPERTY CORNER)
- JB..... JUNCTION BOX
- LSW..... LANDSCAPING WALL
- MA..... MAST ARM
- N/F..... NOW OR FORMERLY
- NS..... NAIL SET (PROPERTY CORNER)
- OH..... OVERHANG/CANOPY
- OSP..... ON-STREET PARKING
- PG..... PAGE
- POB..... POINT OF BEGINNING
- PVC..... PLASTIC PIPE
- RC..... ROLLED ASPHALT CURB
- RCP..... REINFORCED CONCRETE PIPE
- RE..... RECESSED ENTRYWAY
- RET..... RETAINING WALL
- RT..... RADIO TOWER
- SC..... STORAGE CONTAINER
- SD..... STORM SEWER STRUCTURE
- SH..... SHED
- SMH..... SANITARY SEWER STRUCTURE
- SN..... SIGN
- SQ.FT..... SQUARE FEET
- SW..... SIDEWALK
- TD..... TRENCH DRAIN
- TCB..... TRAFFIC CONTROL BOX
- TRANS..... ELECTRIC TRANSFORMER
- TRLP..... TRAFFIC LIGHT/SIGNAL POLE
- UVT..... UTILITY VAULT
- WD..... WOODEN DECK
- WDF..... WOODEN FENCE
- WM..... WATER METER
- WV..... WATER VALVE
- WY..... FIRE HYDRANT
- △..... DOORWAY/ENTRANCE
- ▽..... UTILITY POLE
- ▽..... OVERHEAD WIRES
- ▽..... GUY WIRE
- ☆..... LIGHT POLE
- ▽..... UNDERGROUND ELECTRIC LINE
- ▽..... FENCE
- ▽..... UNDERGROUND GAS LINE
- ▽..... UNDERGROUND SANITARY LINE
- ▽..... UNDERGROUND SANITARY LATERAL LINE
- ▽..... UNDERGROUND TELECOMMUNICATIONS LINE
- ▽..... UNDERGROUND WATER LINE
- ..... TREE
- ..... LIMITS OF TREE CANOPY/VEGETATION
- ..... CURB AND GUTTER
- ..... BOLLARD
- ..... SPOT ELEVATION
- ..... SIGN
- ..... ELECTRIC MANHOLE
- ..... TELECOMMUNICATIONS MANHOLE
- ..... WATER MANHOLE

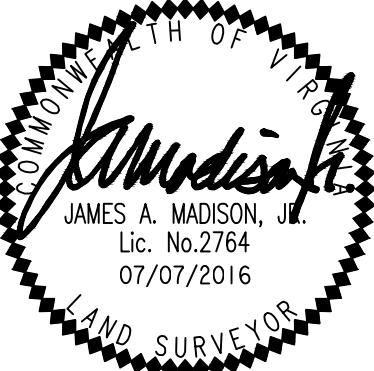
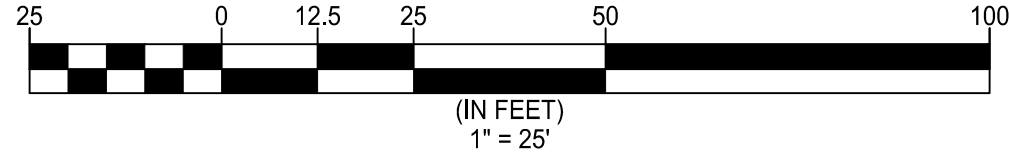
⊕ DENOTES BENCHMARK  
CUT X SET  
ELEV=233.47

⊕ DENOTES APPROXIMATE  
\* LOCATION VEPCO ESMT  
DB 1304 PG 283

\*NO DISCERNIBLE STRIPING  
ON/OFF INDICATES APPROXIMATE LOCATION  
RELATIVE TO SUBJECT PROPERTY

**CURVE TABLE**

CURVE	RADIUS	LENGTH	DELTA	TANGENT	CHORD	CHORD BEARING
C1	20.00'	15.52'	44°27'08"	8.17'	15.13'	S16°20'58"W
C2	25.00'	11.95'	27°23'15"	6.09'	11.84'	S75°51'37"W
C3	751.61'	18.45'	1°24'22"	9.22'	18.45'	N89°44'35"W



SUBMITTED DATE:  
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FINAL 4.1 SITE PLAN PG-SUB. 11/16/2018  
FINAL 4.1 SITE PLAN FILING 12/19/2018

**CERTIFIED SURVEY PLAT**

WALTER L. PHILLIPS

INCORPORATED ESTABLISHED 1945

Engineers • Surveyors • Planners  
Landscape Architects • Arborists  
207 PARK AVENUE  
FALLS CHURCH, VIRGINIA 22046  
(703) 532-6163 Fax (703) 533-1301  
www.WLPINC.com

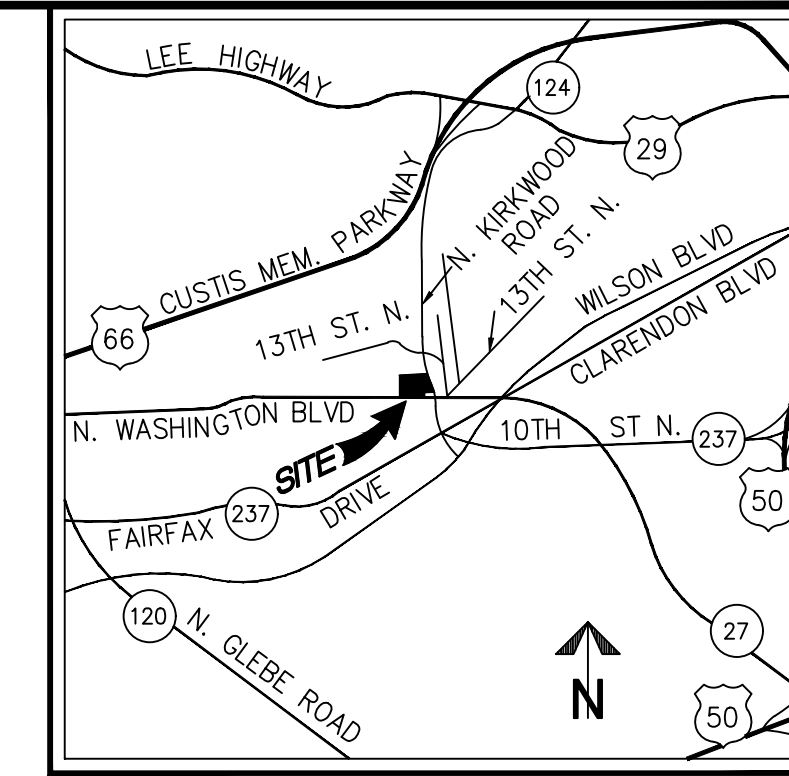
ARLINGTON, VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL SERVICES  
WASHINGTON BOULEVARD AT KIRKWOOD  
3411, 3415, & 3421 WASHINGTON BLVD  
& 1122 NORTH KIRKWOOD ROAD  
ARLINGTON COUNTY, VIRGINIA

SCALE: 1" = 25'	DRAWN: TPB	CHECKED: KSW	
APPROVED DATE	CHIEF TRANSPORTATION PLANNING BUREAU	APPROVED DATE	CHIEF TRANSPORTATION ENGINEERING BUREAU
APPROVED DATE	CHIEF WATER, SEWER & STREETS BUREAU	APPROVED DATE	CHIEF ENGINEERING BUREAU
		DIRECTOR OF ENVIRONMENTAL SERVICES	

SHEET: C-0301

**NOTES:**

- THE PROPERTIES SHOWN HEREON APPEAR ON ARLINGTON COUNTY REAL PROPERTY IDENTIFICATION MAP NUMBER 53-2, AS REAL PROPERTY CODE (RPC) NUMBERS 15086001, 15086002, 15086005, 15086006, AND 15086025 AND ARE ZONED C-2.
- THE PROPERTIES ARE NOW IN THE NAME OF:  
15086001 - GEORGE L. GRAHAM AND DORIS P. GRAHAM, TRUSTEES - DEED BOOK 3661 PAGE 218  
15086002/15086025 - VM CLUB PROPERTIES, LLC - DEED BOOK 4639 PAGE 2014  
15086005 - BETTY F. SLYE, TRUSTEE - DEED BOOK 4807 PAGE 1924  
15086006 - 3421 WASHINGTON BOULEVARD, LLC - DEED BOOK 3439 PAGE 1093
- THIS PLAT AND THE SURVEY UPON WHICH IT IS BASED SHOWS ONLY THOSE IMPROVEMENTS THAT ARE OBSERVABLE AND CAN BE LOCATED USING NORMAL SURVEY METHODS. THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION, MISS UTILITY MARKINGS AND EXISTING RECORDS. THERE ARE NO GUARANTEES, EITHER EXPRESS OR IMPLIED, THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED, OR THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. THE UNDERGROUND UTILITIES HAVE NOT BEEN PHYSICALLY LOCATED.
- EXISTING SANITARY LATERAL SHOWN FROM ARLINGTON COUNTY SANITARY SEWER SYSTEM MAP, DATED AUGUST 14, 2015. THE UTILIZATION AND INTERPRETATION OF THIS INFORMATION IS AT USER'S RISK. THE LATERAL WAS NOT FIELD LOCATED.
- TOTAL AREA OF THE PROPERTY IS 75,187 SQUARE FEET OR 1.7261 ACRES.
- THIS PLAT IS BASED ON A FIELD SURVEY BY THIS FIRM, DATED 07/07/2016.
- THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAPS FOR ARLINGTON COUNTY, VIRGINIA, MAP NUMBER 51013C0038C, EFFECTIVE DATE AUGUST 19, 2013, DESIGNATES THE PROPERTY AS BEING IN ZONE X, "AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN."
- THE PROPERTIES SHOWN HEREON ARE SUBJECT TO ALL DEDICATIONS, EASEMENTS, COVENANTS AND RESTRICTIONS IN THEIR RESPECTIVE CHAINS OF TITLE. THIS SURVEY, AND THE EASEMENTS SHOWN HEREON, WAS PREPARED WITH THE BENEFIT OF THE FOLLOWING:  
  
RPC: 15086001 - TITLE REPORT PREPARED BY WALKER TITLE LLC, CASE NUMBER A1700519, EFFECTIVE DATE, MAY 21, 2017  
RPC: 15086005 - TITLE REPORT PREPARED BY WALKER TITLE, LLC, CASE NUMBER A1500379, EFFECTIVE DATE, MAY 24, 2015  
RPC: 15086006 - TITLE REPORT PREPARED BY WALKER TITLE, LLC, CASE NUMBER A1600323, EFFECTIVE DATE, MARCH 6, 2016  
RPC: 15086025/15086002 - COMMITMENT FOR TITLE INSURANCE ISSUED BY FIRST AMERICAN TITLE INSURANCE COMPANY, POLICY NUMBER NCS-661249-1-DC72, EFFECTIVE DATE APRIL 4, 2014
- THE SITE SHOWN HEREON IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 AS COMPUTED FROM A FIELD RUN VERTICAL CONTROL SURVEY AND IS REFERENCED TO THE VIRGINIA COORDINATE SYSTEM OF 1983, [NAD 83(2011)] (EPOCH:2010.0000)] AS COMPUTED FROM A FIELD RUN BOUNDARY AND HORIZONTAL CONTROL SURVEY THAT TIES THIS SUBDIVISION BOUNDARY AND THE BENCHMARK(S) SHOWN TO NOAA/NGS MONUMENT PID NUMBER DH4144; STERLING CORS ARP. THE COMBINED FACTOR APPLIED TO THE FIELD DISTANCES TO DERIVE THE REFERENCED COORDINATES IS 0.99995266. THE FOOT DEFINITION USED FOR CONVERSION OF THE MONUMENT COORDINATES AND IN THE PERFORMANCE OF THIS SURVEY IS THE U.S. SURVEY FOOT. CONTOUR INTERVAL IS TWO FEET.
- THIS SURVEY WAS COMPLETED UNDER THE DIRECT AND RESPONSIBLE CHARGE OF JAMES A. MADISON, JR., L.S., FROM AN ACTUAL [X] GROUND OR [ ] AIRBORNE SURVEY MADE UNDER MY SUPERVISION; THAT THE IMAGERY AND/OR ORIGINAL DATA WAS OBTAINED ON JULY 7, 2016; AND THAT THIS PLAT, MAP, OR DIGITAL GEOSPATIAL DATA INCLUDING METADATA MEETS MINIMUM ACCURACY STANDARDS UNLESS OTHERWISE NOTED.
- THERE ARE NO HISTORIC DISTRICTS AND/OR STRUCTURES ON THE SITE. THE BALL FAMILY BURIAL GROUNDS ADJACENT TO THE SITE IS DESIGNATED AS HISTORIC.



VICINITY MAP SCALE: 1"=2000'

**AREA TABULATION**

PARCEL 1	21,543 SQ.FT. OR 0.4946 ACRES
PARCEL 2	24,159 SQ.FT. OR 0.5546 ACRES
LOTS 3 & 4	14,912 SQ.FT. OR 0.3423 ACRES
PART OF LOT 2	8,230 SQ.FT. OR 0.1889 ACRES
PART LOT 2/RESIDUE LOT 1	6,343 SQ.FT. OR 0.1457 ACRES
<b>TOTAL AREA</b>	<b>75,187 SQ.FT. OR 1.7261 ACRES</b>

**ZONING TABULATION**

(ZONING LINE PER ARLINGTON COUNTY TAX MAP 53-02)

AREA WITHIN C-2	75,187 SQ.FT. OR 1.7261 ACRES
<b>TOTAL AREA</b>	<b>75,187 SQ.FT. OR 1.7261 ACRES</b>

**PARKING TABULATION**

(BASED ON DISCERNIBLE STRIPING)

REGULAR PARKING SPACES	32
RESERVED FOR DISABLED	0
<b>TOTAL SPACES</b>	<b>32</b>

**STORM SEWER AS-BUILT**

SD 24453		
MANHOLE TOP =	244.07	
18" DIP IN (SOUTH) =	234.52	
18" RCP OUT (SD 24452) =	234.46	
SD 24452		
MANHOLE TOP =	236.59	
18" RCP IN (SD 24453) =	232.69	
15" RCP IN (SD 24454) =	231.20	
18" RCP OUT (SD 24451) =	231.09	
SD 24451		
MANHOLE TOP =	234.39	
18" RCP IN (SD 24452) =	230.15	
18" RCP OUT (SD 8457) =	230.08	
SD 8457		
CURB INLET TOP =	234.21	
15" RCP IN (WEST) =	230.11	
18" RCP IN (SD 24451) =	229.71	
8" PVC IN (SOUTH) =	229.76	
18" RCP OUT (SD 8453) =	229.56	
SD 8488		
CURB INLET TOP =	239.82	
18" RCP IN (SD 8507) =	235.42	
18" RCP OUT (SD 8462) =	235.37	
SD 8462		
CURB INLET TOP =	238.50	
18" RCP IN (SD 8488) =	234.68	
18" RCP OUT (SD 8453) =	234.57	
SD 8446		
CURB INLET TOP =	242.33	
*UNABLE TO DIP. TOP OF BOX IS CAVING IN*		
SD 8428		
MANHOLE TOP =	242.23	
15" RCP IN (N.EAST) =	238.40	
*BOX IS TOO SHALLOW AND WIDE TO MEASURE OTHER INVERTS*		
SD 8453		
MANHOLE TOP =	234.30	
10" PVC IN (S.EAST) =	229.24	
18" RCP IN (SD 8457) =	229.02	
18" RCP IN (SD 8462) =	228.92	
96" RCP IN (SOUTH) =	225.92	
6.5' X5' CLV1 OUT (NORTH) =	225.72	
6.5' X4' CLV2 OUT (NORTH) =	225.57	
SD 8430		
CURB INLET TOP =	233.22	
6.5' X5' CLV1 IN (SOUTH) =	224.77	
6.5' X4' CLV2 IN (SOUTH) =	224.77	
15" RCP IN (SD 8428) =	226.82	
84" RCP OUT (SD 8185) =	221.97	
SD 1690		
GRATE TOP =	227.19	
BOTTOM OF BOX =	222.64	
3" PVC IN WIER WALL =	222.24	
18" RCP OUT (SD 8323) =	222.19	
SD 8323		
*STRUCTURE IS BURIED UNDER PARKING LOT. EDGE OF BOX IS VISIBLE*		
SD 1575		
GRATE TOP =	231.28	
8" PVC OUT (SD 8185) =	228.98	
SD 8185		
INLET TOP =	225.08	
15" RCP IN (SD 8203) =	220.83	
54" RCP IN (SD 8132) =	217.18	
4.4" CHANNEL (EAST) =	215.48	
84" RCP IN (SD 8430) =	215.23	
84" RCP OUT (SD 7917) =	215.18	
SD 8132		
INLET TOP =	238.77	
15" RCP IN (WEST) =	231.07	
30" RCP IN (S.WEST) =	229.77	
54" RCP OUT (SD 8185) =	222.37	
SD 8210		
CURB INLET TOP =	232.28	
*MATERIALS ON TOP OF STRUCTURE*		
SD 8203		
YARD INLET TOP =	231.18	
15" RCP IN (SD 8210) =	225.09	
15" RCP OUT (SD 8185) =	224.95	
SMH 14301		
MANHOLE TOP =	238.34	
12" INV IN (SMH 14300) =	224.72	
12" INV OUT (SMH 12734) =	224.44	
SMH 12734		
MANHOLE TOP =	237.65	
12" INV IN (SMH 14301) =	223.55	
24" INV IN (SMH 11727) =	222.25	
24" INV OUT (SMH 14977) =	222.20	
SMH 14977		
MANHOLE TOP =	236.19	
8" INV IN (EAST)		
TOP OF DROP =	230.97	
BOTTOM OF DROP =	223.42	
24" INV IN (SMH 12734) =	220.99	
24" INV OUT (SMH 12735) =	220.97	
SMH 1035		
MANHOLE TOP =	250.11	
8" INV IN (WEST) =	239.86	
8" INV OUT (SMH 15133) =	239.66	
SMH 15133		
MANHOLE TOP =	238.92	
8" INV IN (SMH 15134) =	230.82	
8" INV IN (SMH 1035) =	230.40	
8" INV OUT (SMH 900) =	230.25	
SMH 900		
MANHOLE TOP =	235.59	
**8" INV (CL OF INV) =	227.02	
SMH 908		
MANHOLE TOP =	233.58	
*LID IS UNDER WALL*		
SMH 1034		
MANHOLE TOP =	234.37	
**8" INV (CL OF INV) =	224.33	
SMH 1028		
MANHOLE TOP =	235.42	
8" INV IN (SMH 1034) =	223.87	
LATERAL IN (S.WEST) =	223.62	
8" INV OUT (SMH 1029) =	223.50	
SMH 1029		
MANHOLE TOP =	238.51	
12" INV IN (SMH 11727) =	223.76	
8" INV IN (SMH 1028) =	223.26	
8" INV IN (SMH 7483) =	223.23	
12" INV OUT (SMH 1030) =	223.11	
SMH 1030		
MANHOLE TOP =	230.75	
12" INV IN (SMH 1029) =	221.16	
12" INV OUT (NORTH) =	221.05	
SMH 7483		
MANHOLE TOP =	240.22	
**8" INV OUT (SMH 1029) =	234.00	
SMH 11727		
MANHOLE TOP =	240.64	
*LID WELDED SHUT*		

**SANITARY SEWER AS-BUILT**

PIPE SIZES FROM RECORD INFORMATION  
\*\*INVERT TAKEN FROM RECORD INFORMATION

**DESCRIPTION**

DESCRIPTION OF: PARCELS 1 AND 2, AS SHOWN ON THE PLAT ENTITLED PROPERTY OF B.F. WILTSHIRE RECORDED IN DEED BOOK 1296 AT PAGE 298; AND LOTS 1, 2, 3 AND 4 OF THE SUBDIVISION OF THE PROPERTY OF THOMAS H. FAIRBANKS AS RECORDED IN DEED BOOK 403 AT PAGE 183, LESS AND EXCEPT PORTIONS OF AFORESAID LOT 1 AS RECORDED IN DEED BOOK 910 AT PAGE 283 AND DEED BOOK 1557 AT PAGE 470:

BEGINNING AT A POINT IN THE WEST RIGHT-OF-WAY LINE OF NORTH KIRKWOOD ROAD, SAID POINT BEING THE SOUTHEAST CORNER OF NOW-OR-FORMERLY YOUNG MEN'S CHRISTIAN ASSOCIATION OF THE CITY OF WASHINGTON; THENCE WITH THE WEST RIGHT-OF-WAY LINE OF NORTH KIRKWOOD ROAD, S 05° 52' 36" E, 202.15 FEET TO A POINT; THENCE S 84° 07' 24" W, 5.00 FEET TO A POINT; THENCE S 05° 52' 36" E, 46.58 FEET TO A POINT; THENCE 15.52 FEET WITH THE ARC OF A CURVE BEARING TO THE RIGHT AND HAVING A RADIUS OF 20.00 FEET (TANGENT LENGTH 8.17 FEET, CHORD LENGTH 15.13 FEET, CHORD BEARING S 16° 20' 58" W) TO A POINT; THENCE 11.95 FEET WITH THE ARC OF A CURVE BEARING TO THE RIGHT AND HAVING A RADIUS OF 25.00 FEET (TANGENT LENGTH 6.09 FEET, CHORD LENGTH 11.84 FEET, CHORD BEARING S 75° 51' 37" W) TO A POINT IN THE NORTH RIGHT-OF-WAY LINE OF WILSON BOULEVARD; THENCE WITH THE NORTH RIGHT-OF-WAY LINE OF WILSON BOULEVARD S 89° 33' 14" W, 47.74 FEET TO A POINT; THENCE 18.45 FEET WITH THE ARC OF A CURVE BEARING TO THE RIGHT AND HAVING A RADIUS OF 751.61 FEET (TANGENT LENGTH 9.22 FEET, CHORD LENGTH 18.45 FEET, CHORD BEARING N 89° 44' 35" W) TO A POINT; THENCE N 85° 56' 36" W, 26.57 FEET TO A POINT; THENCE S 05° 52' 36" E, 0.70 FEET TO A POINT; THENCE N 85° 56' 36" W, 206.65 FEET TO A POINT, SAID POINT BEING THE SOUTHEAST CORNER OF NOW-OR-FORMERLY 3427 WASHINGTON BOULEVARD, LLC; THENCE WITH 3427 WASHINGTON BOULEVARD, LLC AND CONTINUING WITH THE PROPERTY SHOWN IN PUBLIC RECORDS AS BALL CEMETERY, N 00° 10' 06" W, 219.50 FEET TO A POINT, SAID POINT BEING IN THE SOUTH LINE OF NOW-OR-FORMERLY YOUNG MEN'S CHRISTIAN ASSOCIATION OF THE CITY OF WASHINGTON; THENCE WITH YOUNG MEN'S CHRISTIAN ASSOCIATION OF THE CITY OF WASHINGTON, N 84° 07' 24" E, 296.20 FEET TO THE POINT OF BEGINNING AND CONTAINING AN AREA OF 75,187 SQUARE FEET, OR 1.7261 ACRES, MORE OR LESS.

**CERTIFIED SURVEY PLAT**

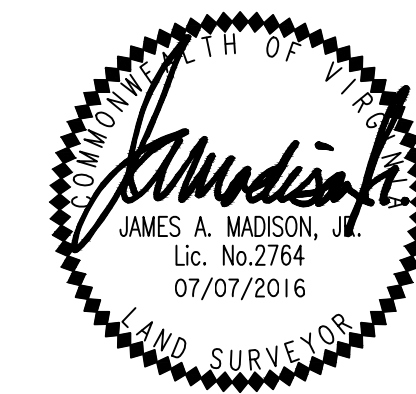
**WALTER L. PHILLIPS INCORPORATED** ESTABLISHED 1945

Engineers • Surveyors • Planners  
Landscape Architects • Arborists  
207 PARK AVENUE  
FALLS CHURCH, VIRGINIA 22046  
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**ARLINGTON, VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL SERVICES  
WASHINGTON BOULEVARD AT KIRKWOOD**  
3411, 3415, & 3421 WASHINGTON BLVD  
& 1122 NORTH KIRKWOOD ROAD  
ARLINGTON COUNTY, VIRGINIA

SCALE: NONE	DRAWN: TPB	CHECKED: KSW
APPROVED DATE	APPROVED DATE	APPROVED DATE
CHIEF TRANSPORTATION PLANNING BUREAU	CHIEF TRANSPORTATION ENGINEERING BUREAU	CHIEF TRANSPORTATION ENGINEERING BUREAU
CHIEF WATER, SEWER & STREETS BUREAU	CHIEF ENGINEERING BUREAU	DIRECTOR OF ENVIRONMENTAL SERVICES

SHEET: **C-0302**



SUBMITTED DATE:	
CONCEPT PLAN SUB. 12/14/2017	
1ST PRELIM. 4.1 SITE PLAN SUB. 02/21/2018	
2ND PRELIM. 4.1 SITE PLAN SUB. 04/27/2018	
FINAL 4.1 SITE PLAN SUB. 06/12/2018	
FINAL 4.1 SITE PLAN RE-SUB. 11/16/2018	
FINAL 4.1 SITE PLAN FILING 12/19/2018	



N/F YMCA.  
DB 1426 PG 33

N 7,009,005.499  
E 11,881,000.784

VCS 1988 - NORTH ZONE

RPC 150-86-006  
PARCEL 1  
EXISTING ZONE: C-2

RPC 150-86-005  
PARCEL 2  
TOTAL AREA = 75,187 SQ.FT.  
EXISTING ZONE: C-2

PARCEL A  
±75,187 SF  
PROPOSED ZONE: C-0-2.5

LOT 4  
EXISTING ZONE: C-2

LOT 3  
EXISTING ZONE: C-2

RPC 150-86-002  
PT. LOT 2  
EXISTING ZONE: C-2

PT. LOT 2  
RPC 150-86-001  
LOT 1  
EXISTING ZONE: C-2

N/F 3427 WASHINGTON  
BOULEVARD, LLC  
DB 3345 PG 657

N 7,008,786.117  
E 11,881,001.357

WASHINGTON BOULEVARD  
VARIABLE WIDTH PUBLIC RIGHT-OF-WAY

NORTH KIRKWOOD ROAD  
VARIABLE WIDTH PUBLIC RIGHT-OF-WAY

**NOTES:**

1. THE PROPERTIES SHOWN HEREON APPEAR ON ARLINGTON COUNTY REAL PROPERTY IDENTIFICATION MAP NUMBER 53-2, AS REAL PROPERTY CODE (RPC) NUMBERS 15086001, 15086002, 15086005, 15086006, AND 15086025 AND ARE ZONED C-2.
2. TOTAL AREA OF THE PROPERTY IS 75,187 SQUARE FEET OR 1.7261 ACRES.
3. THIS PLAT IS BASED ON A FIELD SURVEY BY THIS FIRM, DATED 07/07/2016.
4. THE SITE SHOWN HEREON IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 AS COMPUTED FROM A FIELD RUN VERTICAL CONTROL SURVEY AND IS REFERENCED TO THE VIRGINIA COORDINATE SYSTEM OF 1983, [NAD 83(2011) (EPOCH:2010.0000)] AS COMPUTED FROM A FIELD RUN BOUNDARY AND HORIZONTAL CONTROL SURVEY THAT TIES THIS SUBDIVISION BOUNDARY AND THE BENCHMARK(S) SHOWN TO NOAA/NGS MONUMENT PID NUMBER DH4144; STERLING CORS ARP. THE COMBINED FACTOR APPLIED TO THE FIELD DISTANCES TO DERIVE THE REFERENCED COORDINATES IS 0.99995266. THE FOOT DEFINITION USED FOR CONVERSION OF THE MONUMENT COORDINATES AND IN THE PERFORMANCE OF THIS SURVEY IS THE U.S. SURVEY FOOT. CONTOUR INTERVAL IS TWO FEET.
5. THE PROPERTY IS TO BE FOR RESIDENTIAL USE.

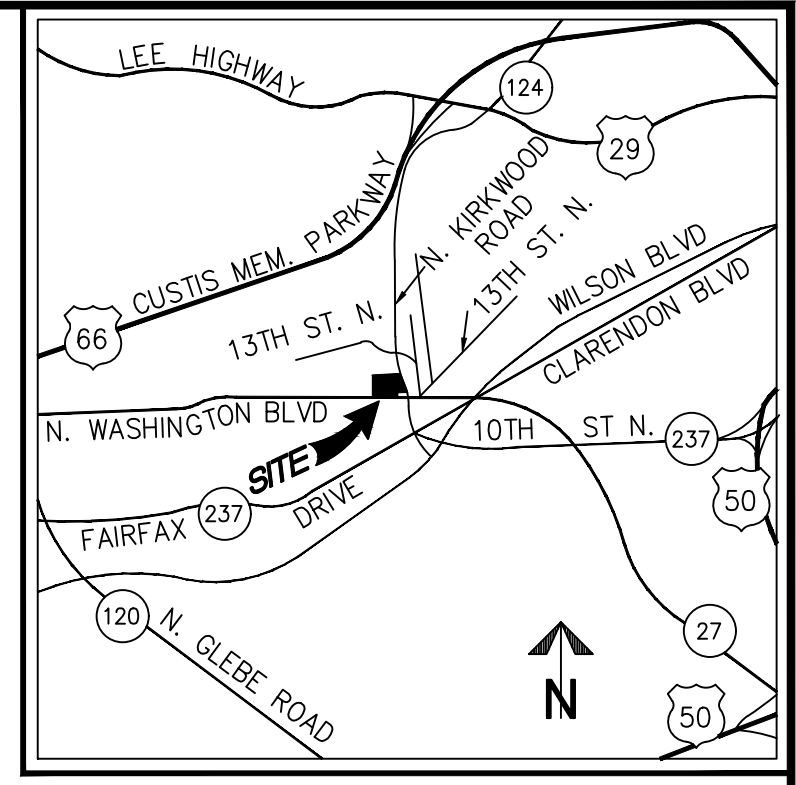
**ZONING DESCRIPTION**

DESCRIPTION OF: PARCELS 1 AND 2, AS SHOWN ON THE PLAT ENTITLED PROPERTY OF B.F. WILTSHIRE RECORDED IN DEED BOOK 1296 AT PAGE 298; AND LOTS 1, 2, 3 AND 4 OF THE SUBDIVISION OF THE PROPERTY OF THOMAS H. FAIRBANKS AS RECORDED IN DEED BOOK 403 AT PAGE 183, LESS AND EXCEPT PORTIONS OF AFORESAID LOT 1 AS RECORDED IN DEED BOOK 910 AT PAGE 283 AND DEED BOOK 1557 AT PAGE 470, PROPOSED TO BE REZONED FROM C-2 TO C-0-2.5:

BEGINNING AT A POINT IN THE WEST RIGHT-OF-WAY LINE OF NORTH KIRKWOOD ROAD, SAID POINT BEING THE SOUTHEAST CORNER OF NOW-OR-FORMERLY YOUNG MEN'S CHRISTIAN ASSOCIATION OF THE CITY OF WASHINGTON; THENCE WITH THE WEST RIGHT-OF-WAY LINE OF NORTH KIRKWOOD ROAD, S 05° 52' 36" E, 202.15 FEET TO A POINT; THENCE S 84° 07' 24" W, 5.00 FEET TO A POINT; THENCE S 05° 52' 36" E, 46.58 FEET TO A POINT; THENCE 15.52 FEET WITH THE ARC OF A CURVE BEARING TO THE RIGHT AND HAVING A RADIUS OF 20.00 FEET (TANGENT LENGTH 8.17 FEET, CHORD LENGTH 15.13 FEET, CHORD BEARING S 16° 20' 58" W) TO A POINT; THENCE 11.95 FEET WITH THE ARC OF A CURVE BEARING TO THE RIGHT AND HAVING A RADIUS OF 25.00 FEET (TANGENT LENGTH 6.09 FEET, CHORD LENGTH 11.84 FEET, CHORD BEARING S 75° 51' 37" W) TO A POINT IN THE NORTH RIGHT-OF-WAY LINE OF WILSON BOULEVARD; THENCE WITH THE NORTH RIGHT-OF-WAY LINE OF WILSON BOULEVARD; S 89° 33' 14" W, 47.74 FEET TO A POINT; THENCE 18.45 FEET WITH THE ARC OF A CURVE BEARING TO THE RIGHT AND HAVING A RADIUS OF 751.61 FEET (TANGENT LENGTH 9.22 FEET, CHORD LENGTH 18.45 FEET, CHORD BEARING N 89° 44' 35" W) TO A POINT; THENCE N 85° 56' 36" W, 26.57 FEET TO A POINT; THENCE S 05° 52' 36" E, 0.70 FEET TO A POINT; THENCE N 85° 56' 36" W, 206.65 FEET TO A POINT, SAID POINT BEING THE SOUTHEAST CORNER OF NOW-OR-FORMERLY 3427 WASHINGTON BOULEVARD, LLC; THENCE WITH 3427 WASHINGTON BOULEVARD, LLC AND CONTINUING WITH THE PROPERTY SHOWN IN PUBLIC RECORDS AS BALL CEMETERY, N 00° 10' 06" W, 219.50 FEET TO A POINT, SAID POINT BEING IN THE SOUTH LINE OF NOW-OR-FORMERLY YOUNG MEN'S CHRISTIAN ASSOCIATION OF THE CITY OF WASHINGTON; THENCE WITH YOUNG MEN'S CHRISTIAN ASSOCIATION OF THE CITY OF WASHINGTON, N 84° 07' 24" E, 296.20 FEET TO THE POINT OF BEGINNING AND CONTAINING AN AREA OF 75,187 SQUARE FEET, OR 1.7261 ACRES, MORE OR LESS.

**AREA TABULATIONS:**

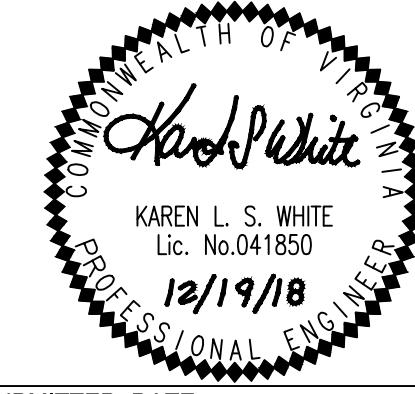
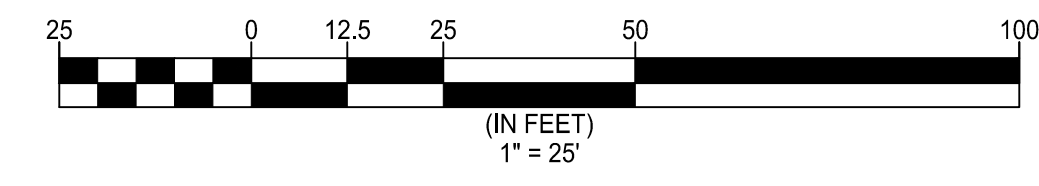
PARCEL (RPC)	LOT	OWNER	CURRENTLY ZONED C-2		PROPOSED ZONE C-0-2.5	
			SQ. FT.	ACRES	SQ. FT.	ACRES
150-86-001	LOT 1, PART LOT 2	GEORGE L. GRAHAM AND DORIS P. GRAHAM, TRUSTEES	6343	0.1456	6343	0.1456
150-86-002	PART LOT 2	VM CLUB PROPERTIES, LLC	8230	0.1889	8230	0.1889
150-86-005	PARCEL 2	BETTY F. SLYE, TRUSTEE	24159	0.5546	24159	0.5546
150-86-006	PARCEL 1	3421 WASHINGTON BOULEVARD, LLC	21543	0.4946	21543	0.4946
150-86-025	LOTS 3, 4	VM CLUB PROPERTIES, LLC	14912	0.3423	14912	0.3423
<b>TOTAL</b>			<b>75187</b>	<b>1.7261</b>	<b>75187</b>	<b>1.7261</b>



VICINITY MAP SCALE: 1"=2000'

**CURVE TABLE**

CURVE	RADIUS	LENGTH	DELTA	TANGENT	CHORD	CHORD BEARING
C1	20.00'	15.52'	44°27'08"	8.17'	15.13'	S16°20'58"W
C2	25.00'	11.95'	27°23'15"	6.09'	11.84'	S75°51'37"W
C3	751.61'	18.45'	1°24'22"	9.22'	18.45'	N89°44'35"W



SUBMITTED DATE:

CONCEPT PLAN SUB. 12/14/2017
1ST PRELIM. 4.1 SITE PLAN SUB. 02/21/2018
2ND PRELIM. 4.1 SITE PLAN SUB. 04/27/2018
FINAL 4.1 SITE PLAN SUB. 06/12/2018
FINAL 4.1 SITE PLAN RE-SUB. 11/16/2018
FINAL 4.1 SITE PLAN FILING 12/19/2018

**REZONING PLAT**

**WALTER L. PHILLIPS** INCORPORATED ESTABLISHED 1945  
 Engineers • Surveyors • Planners  
 Landscape Architects • Arborists  
 207 PARK AVENUE  
 FALLS CHURCH, VIRGINIA 22046  
 (703) 532-6163 Fax (703) 533-1301  
 www.WLPINC.com

**ARLINGTON, VIRGINIA  
 DEPARTMENT OF ENVIRONMENTAL SERVICES  
 WASHINGTON BOULEVARD AT KIRKWOOD**  
 3411, 3415, & 3421 WASHINGTON BLVD  
 & 1122 NORTH KIRKWOOD ROAD  
 ARLINGTON COUNTY, VIRGINIA

SCALE: 1" = 25'	DRAWN TPB	CHECKED KSW
APPROVED DATE	CHIEF TRANSPORTATION PLANNING BUREAU APPROVED DATE	CHIEF TRANSPORTATION ENGINEERING BUREAU APPROVED DATE
CHIEF WATER, SEWER & STREETS BUREAU	CHIEF ENGINEERING BUREAU	DIRECTOR OF ENVIRONMENTAL SERVICES
SHEET: <b>C-0303</b>		



N/F Y.M.C.A.  
DB 1426 PG 33

PROP. VARIABLE WIDTH  
PUBLIC STORM SEWER  
EASEMENT  
11,009 SQ. FT.

PROP. VARIABLE WIDTH  
PUBLIC STORM SEWER  
EASEMENT  
11,009 SQ. FT.

PROP. VARIABLE WIDTH  
PUBLIC STORM SEWER  
EASEMENT  
11,009 SQ. FT.

PROP. EASEMENT FOR PUBLIC  
STREET, SIDEWALK  
AND UTILITY PURPOSES  
4,723 SQ. FT.

**AREA TABULATIONS:**

EXISTING LOT AREAS			EXISTING AREAS		EXISTING ZONE
PARCEL (RPC)	LOT	OWNER	SQ. FT.	ACRES	
150-86-001	LOT 1, PART LOT 2	GEORGE L. GRAHAM AND DORIS P. GRAHAM, TRUSTEES	6343	0.1456	C-2
150-86-002	PART LOT 2	VM CLUB PROPERTIES, LLC	8230	0.1889	C-2
150-86-005	PARCEL 2	BETTY F. SLYE, TRUSTEE	24159	0.5546	C-2
150-86-006	PARCEL 1	3421 WASHINGTON BOULEVARD, LLC	21543	0.4946	C-2
150-86-025	LOTS 3, 4	VM CLUB PROPERTIES, LLC	14912	0.3423	C-2
<b>TOTAL</b>			<b>75187</b>	<b>1.7261</b>	

PROPOSED LOT AREAS		
PARCEL/LOT	PROPOSED AREAS	PROPOSED ZONE
	SQ. FT.	ACRES
PARCEL A	75187	1.7261
<b>TOTAL</b>	<b>75187</b>	<b>1.7261</b>

**NOTES:**

- THE PROPERTIES SHOWN HEREON APPEAR ON ARLINGTON COUNTY REAL PROPERTY IDENTIFICATION MAP NUMBER 53-2, AS REAL PROPERTY CODE (RPC) NUMBERS 15086001, 15086002, 15086005, 15086006, AND 15086025 AND ARE ZONED C-2.
- THE PROPERTIES ARE NOW IN THE NAME OF:  
15086001 - GEORGE L. GRAHAM AND DORIS P. GRAHAM, TRUSTEES - DEED BOOK 3661 PAGE 218  
15086002/15086025 - VM CLUB PROPERTIES, LLC - DEED BOOK 4639 PAGE 2014  
15086005 - BETTY F. SLYE, TRUSTEE - DEED BOOK 4807 PAGE 1924  
15086006 - 3421 WASHINGTON BOULEVARD, LLC - DEED BOOK 3439 PAGE 1093
- TOTAL AREA OF THE PROPERTY IS 75,187 SQUARE FEET OR 1.7261 ACRES.
- THIS PLAT IS BASED ON A FIELD SURVEY BY THIS FIRM, DATED 07/07/2016.
- THE PROPERTIES SHOWN HEREON ARE SUBJECT TO ALL DEDICATIONS, EASEMENTS, COVENANTS AND RESTRICTIONS IN THEIR RESPECTIVE CHAINS OF TITLE. THIS SURVEY, AND THE EASEMENTS SHOWN HEREON, WAS PREPARED WITH THE BENEFIT OF THE FOLLOWING:  
RPC: 15086001 - TITLE REPORT PREPARED BY WALKER TITLE LLC, CASE NUMBER A1700519, EFFECTIVE DATE, MAY 21, 2017  
RPC: 15086005 - TITLE REPORT PREPARED BY WALKER TITLE, LLC, CASE NUMBER A1500379, EFFECTIVE DATE, MAY 24, 2015  
RPC: 15086006 - TITLE REPORT PREPARED BY WALKER TITLE, LLC, CASE NUMBER A1600323, EFFECTIVE DATE, MARCH 6, 2016  
RPC: 15086025/15086002 - COMMITMENT FOR TITLE INSURANCE ISSUED BY FIRST AMERICAN TITLE INSURANCE COMPANY, POLICY NUMBER NCS-661249-1-DC72, EFFECTIVE DATE APRIL 4, 2014
- THE SITE SHOWN HEREON IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 AS COMPUTED FROM A FIELD RUN VERTICAL CONTROL SURVEY AND IS REFERENCED TO THE VIRGINIA COORDINATE SYSTEM OF 1983, [NAD 83(2011) (EPOCH:2010.0000)] AS COMPUTED FROM A FIELD RUN BOUNDARY AND HORIZONTAL CONTROL SURVEY THAT TIES THIS SUBDIVISION BOUNDARY AND THE BENCHMARK(S) SHOWN TO NOAA/NGS MONUMENT PID NUMBER DH4144; STERLING CORS ARP. THE COMBINED FACTOR APPLIED TO THE FIELD DISTANCES TO DERIVE THE REFERENCED COORDINATES IS 0.99995266. THE FOOT DEFINITION USED FOR CONVERSION OF THE MONUMENT COORDINATES AND IN THE PERFORMANCE OF THIS SURVEY IS THE U.S. SURVEY FOOT. CONTOUR INTERVAL IS TWO FEET.

**PRELIMINARY SUBDIVISION PLAT**

**WALTER L. PHILLIPS**  
INCORPORATED ESTABLISHED 1945

Engineers • Surveyors • Planners  
Landscape Architects • Arborists  
207 PARK AVENUE  
FALLS CHURCH, VIRGINIA 22046  
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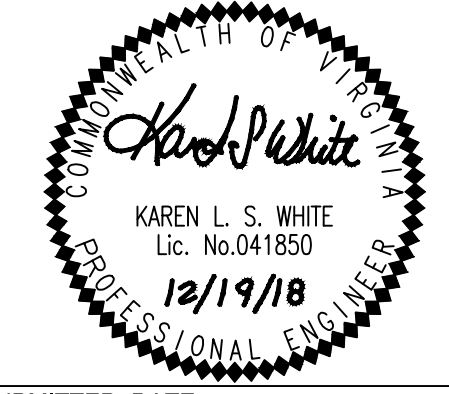
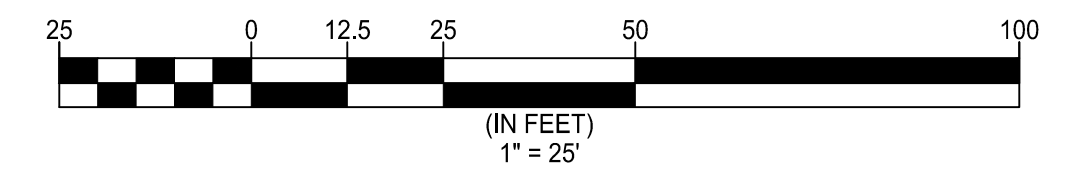
**ARLINGTON, VIRGINIA**  
**DEPARTMENT OF ENVIRONMENTAL SERVICES**  
**WASHINGTON BOULEVARD AT KIRKWOOD**  
3411, 3415, & 3421 WASHINGTON BLVD  
& 1122 NORTH KIRKWOOD ROAD  
ARLINGTON COUNTY, VIRGINIA

SCALE: 1" = 25'	DRAWN TPB	CHECKED KSW
APPROVED DATE	APPROVED DATE	APPROVED DATE
CHIEF TRANSPORTATION PLANNING BUREAU	CHIEF TRANSPORTATION ENGINEERING BUREAU	CHIEF TRANSPORTATION ENGINEERING BUREAU
CHIEF WATER, SEWER & STREETS BUREAU	CHIEF ENGINEERING BUREAU	DIRECTOR OF ENVIRONMENTAL SERVICES

SHEET: **C-0304**

**CURVE TABLE**

CURVE	RADIUS	LENGTH	DELTA	TANGENT	CHORD	CHORD BEARING
C1	20.00'	15.52'	44°27'08"	8.17'	15.13'	S16°20'58"W
C2	25.00'	11.95'	27°23'15"	6.09'	11.84'	S75°51'37"W
C3	751.61'	18.45'	1°24'22"	9.22'	18.45'	N89°44'35"W

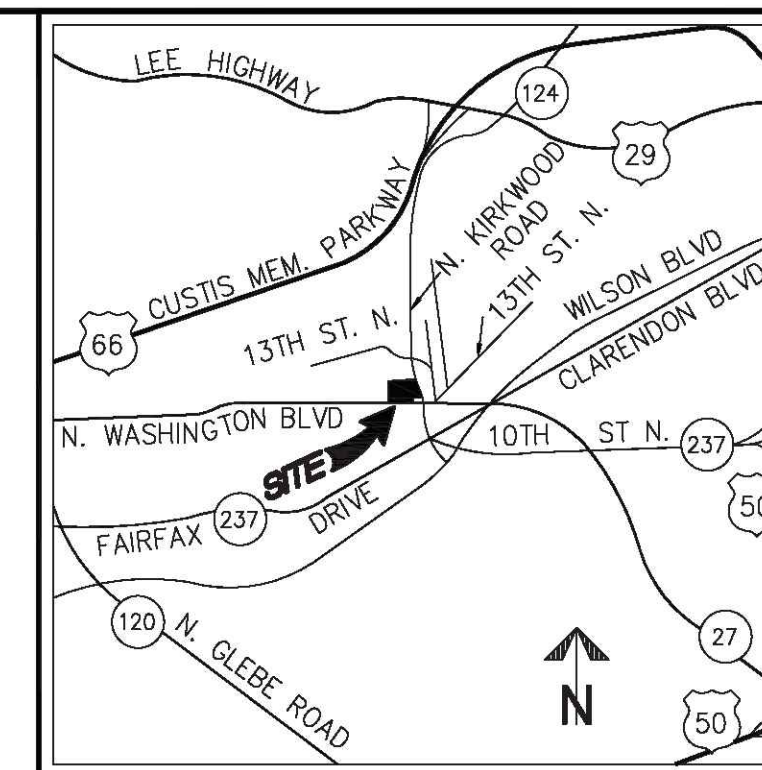


SUBMITTED DATE:  
CONCEPT PLAN SUB. 12/14/2017  
1ST PRELIM. 4.1 SITE PLAN SUB. 02/21/2018  
2ND PRELIM. 4.1 SITE PLAN SUB. 04/27/2018  
FINAL 4.1 SITE PLAN SUB. 06/12/2018  
FINAL 4.1 SITE PLAN RE-SUB. 11/16/2018  
FINAL 4.1 SITE PLAN FILING 12/19/2018



**LEGEND**

AC..... AIR CONDITIONER	RE..... RECESSED ENTRYWAY
APPROX.LOC..... APPROXIMATE LOCATION	RET..... RETAINING WALL
AW..... AREA WAY	RT..... RADIO TOWER
BL..... BIKE LANE	SC..... STORAGE CONTAINER
CAN..... CANOPY	SD..... STORM SEWER STRUCTURE
CC..... CONCRETE CHANNEL	SH..... SHED
CLF..... CHAINLINK FENCE	SMH..... SANITARY SEWER STRUCTURE
CLV..... CULVERT	SN..... SIGN
CO..... CLEANOUT	SQ.FT..... SQUARE FEET
COL..... COLUMN	SW..... SIDEWALK
CONC..... CONCRETE	TD..... TRENCH DRAIN
CR..... CONCRETE RAMP	TCB..... TRAFFIC CONTROL BOX
CS..... CONCRETE STOOP	TRANS..... ELECTRIC TRANSFORMER
CSTR..... COVERED STAIRWAY	TRLP..... TRAFFIC LIGHT/SIGNAL POLE
DB..... DEED BOOK	UVT..... UTILITY VAULT
DIP..... DUCTILE IRON PIPE	WD..... WOODEN DECK
EM..... ELECTRIC METER	WDF..... WOODEN FENCE
EO..... ELECTRIC OUTLET	WM..... WATER METER
EP..... EDGE OF PAVEMENT	WV..... WATER VALVE
ESMT..... EASEMENT	⊕..... FIRE HYDRANT
F..... FUEL TANK	△..... DOORWAY/ENTRANCE
FC..... HEADER CURB	∅..... UTILITY POLE
FP..... FLAG POLE	—..... OVERHEAD WIRES
FWL..... FIRST FLOOR WALL LINE	—..... GUY WIRE
GM..... GAS METER	☆..... LIGHT POLE
GV..... GAS VALVE	—E..... UNDERGROUND ELECTRIC LINE
HPS..... HAND-PLACED STONE WALK	—X..... FENCE
HVAC..... HEATING AND AIR UNIT	—G..... UNDERGROUND GAS LINE
IPF..... IRON PIN FOUND (PROPERTY CORNER)	—S..... UNDERGROUND SANITARY LINE
JB..... JUNCTION BOX	—SL..... UNDERGROUND SANITARY LATERAL LINE
LSW..... LANDSCAPING WALL	—T..... UNDERGROUND TELECOMMUNICATIONS LINE
MA..... MAST ARM	—W..... UNDERGROUND WATER LINE
N/F..... NOW OR FORMERLY	○..... TREE
OH..... OVERHANG/CANOPY	—..... LIMITS OF TREE CANOPY/VEGETATION
OSP..... ON-STREET PARKING	—..... CURB AND GUTTER
PG..... PAGE	○..... BOLLARD
PVC..... PLASTIC PIPE	⊕..... SIGN
RC..... ROLLED ASPHALT CURB	⊕..... ELECTRIC MANHOLE
	⊕..... TELECOMMUNICATIONS MANHOLE
	⊕..... WATER MANHOLE



**VICINITY MAP** SCALE: 1"=2000'

**NOTES:**

- THE PROPERTIES SHOWN HEREON APPEAR ON ARLINGTON COUNTY REAL PROPERTY IDENTIFICATION MAP NUMBER 53-2, AS REAL PROPERTY CODE (RPC) NUMBERS 15086001, 15086002, 15086005, 15086006, AND 15086025 AND ARE ZONED C-2.
- THE PROPERTIES ARE NOW IN THE NAME OF:  
 RPC 15086001 - GEORGE L. GRAHAM AND DORIS P. GRAHAM, TRUSTEES - DEED BOOK 3661 PAGE 218  
 RPC 15086002/15086025 - VM CLUB PROPERTIES, LLC - DEED BOOK 4639 PAGE 2014  
 RPC 15086005 - BETTY F. SLYE, TRUSTEE - DEED BOOK 4807 PAGE 1924  
 RPC 15086006 - 3421 WASHINGTON BOULEVARD, LLC - DEED BOOK 3439 PAGE 1093
- THIS PLAT IS BASED ON A BOUNDARY SURVEY PERFORMED BY WALTER L. PHILLIPS, INC. IN JULY, 2016.
- ALL DEDICATIONS AND EASEMENTS BENEFITTING ARLINGTON COUNTY, VIRGINIA REMAIN IN FULL FORCE AND EFFECT UNLESS OTHERWISE SHOWN HEREON.
- THE SITE SHOWN HEREON IS REFERENCED TO THE VIRGINIA COORDINATE SYSTEM OF 1983, [NAD 83(2011) (EPOCH:2010.0000)] AS COMPUTED FROM A FIELD RUN BOUNDARY AND HORIZONTAL CONTROL SURVEY THAT TIES THIS BOUNDARY TO NOAA/NGS MONUMENT PID NUMBER DH4144; STERLING CORS ARP. THE COMBINED FACTOR APPLIED TO THE FIELD DISTANCES TO DERIVE THE REFERENCED COORDINATES IS 0.99995266. THE FOOT DEFINITION USED FOR CONVERSION OF THE MONUMENT COORDINATES AND IN THE PERFORMANCE OF THIS SURVEY IS THE U.S. SURVEY FOOT.



PLAT SHOWING  
**EXISTING CONDITIONS AND  
 VACATION OF STORM, SANITARY SEWER, WATER EASEMENTS  
 PARCELS ONE AND TWO  
 PROPERTY OF B.F. WILSHIRE  
 DEED BOOK 1286 PAGE 298  
 LOTS 1, 2, 3 AND 4  
 THOMAS H. FAIRBANKS  
 DEED BOOK 403 PAGE 183  
 ARLINGTON COUNTY, VIRGINIA**

**WALTER L. PHILLIPS** INCORPORATED  
 Engineers • Surveyors • Planners  
 Landscape Architects • Arborists  
 207 PARK AVENUE  
 FALLS CHURCH, VIRGINIA 22046  
 (703) 532-6163 Fax (703) 533-1301  
 www.WLPINC.com

FILE NO.: AJ-19 TAX MAP NO.: 53-2 JOB NO.: 14-044 REFERENCE: 14044CSP-02 SCALE: 1"=25' DATE: JANUARY 26, 2018 SHEET: 1 OF: 2 DWG FILE NAME: 14044X-01

**VACATION PLAT (EXISTING CONDITIONS)**

**WALTER L. PHILLIPS** INCORPORATED ESTABLISHED 1945  
 Engineers • Surveyors • Planners  
 Landscape Architects • Arborists  
 207 PARK AVENUE  
 FALLS CHURCH, VIRGINIA 22046  
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**ARLINGTON, VIRGINIA  
 DEPARTMENT OF ENVIRONMENTAL SERVICES  
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 3411, 3415, & 3421 WASHINGTON BLVD  
 & 1122 NORTH KIRKWOOD ROAD  
 ARLINGTON COUNTY, VIRGINIA

SCALE: 1"=25'	DRAWN TPB	CHECKED KSW
APPROVED DATE	APPROVED DATE	APPROVED DATE
CHIEF WATER, SEWER & STREETS BUREAU	CHIEF ENGINEERING BUREAU	DIRECTOR OF ENVIRONMENTAL SERVICES

SUBMITTED DATE:

CONCEPT PLAN SUB. 12/14/2017
1ST PRELIM. 4.1 SITE PLAN SUB. 02/21/2018
2ND PRELIM. 4.1 SITE PLAN SUB. 04/27/2018
FINAL 4.1 SITE PLAN SUB. 06/12/2018
FINAL 4.1 SITE PLAN RE-SUB. 11/16/2018
FINAL 4.1 SITE PLAN FILING 12/19/2018

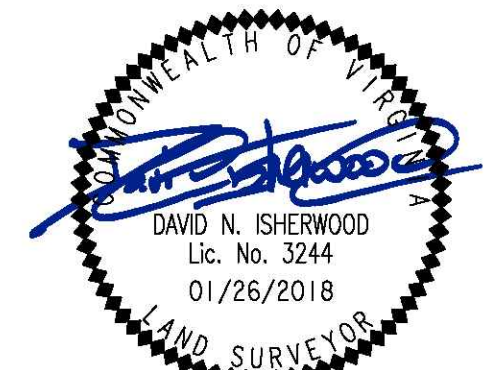
SHEET: **C-0305**





**CURVE TABLE**

CURVE	RADIUS	LENGTH	DELTA	TANGENT	CHORD	CHORD BEARING
C1	20.00'	15.52'	44°27'08"	8.17'	15.13'	S16°20'58"W
C2	25.00'	11.95'	27°23'15"	6.09'	11.84'	S75°51'37"W
C3	751.61'	18.45'	1°24'22"	9.22'	18.45'	N89°44'35"W



**PLAT SHOWING  
EXISTING CONDITIONS AND  
VACATION OF STORM, SANITARY SEWER, WATER EASEMENTS  
PARCELS ONE AND TWO  
PROPERTY OF B.F. WILSHIRE**  
DEED BOOK 1296 PAGE 298  
**LOTS 1, 2, 3 AND 4**  
**THOMAS H. FAIRBANKS**  
DEED BOOK 403 PAGE 183  
ARLINGTON COUNTY, VIRGINIA

**WALTER L. PHILLIPS**  
INCORPORATED  
SCALE: 1" = 25'

Engineers • Surveyors • Planners  
Landscape Architects • Arborists  
207 PARK AVENUE  
FALLS CHURCH, VIRGINIA 22046  
(703) 532-6163 Fax (703) 533-1301  
www.WLPINC.com

FILE NO.: AJ-19 TAX MAP NO.: 53-2 JOB NO.: 14-044 REFERENCE: 14044CSP-02 DWG FILE NAME: 14044X-01

**VACATION PLAT (EXISTING CONDITIONS)**

**WALTER L. PHILLIPS** INCORPORATED ESTABLISHED 1945

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**ARLINGTON, VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL SERVICES  
WASHINGTON BOULEVARD AT KIRKWOOD**  
3411, 3415, & 3421 WASHINGTON BLVD  
& 1122 NORTH KIRKWOOD ROAD  
ARLINGTON COUNTY, VIRGINIA

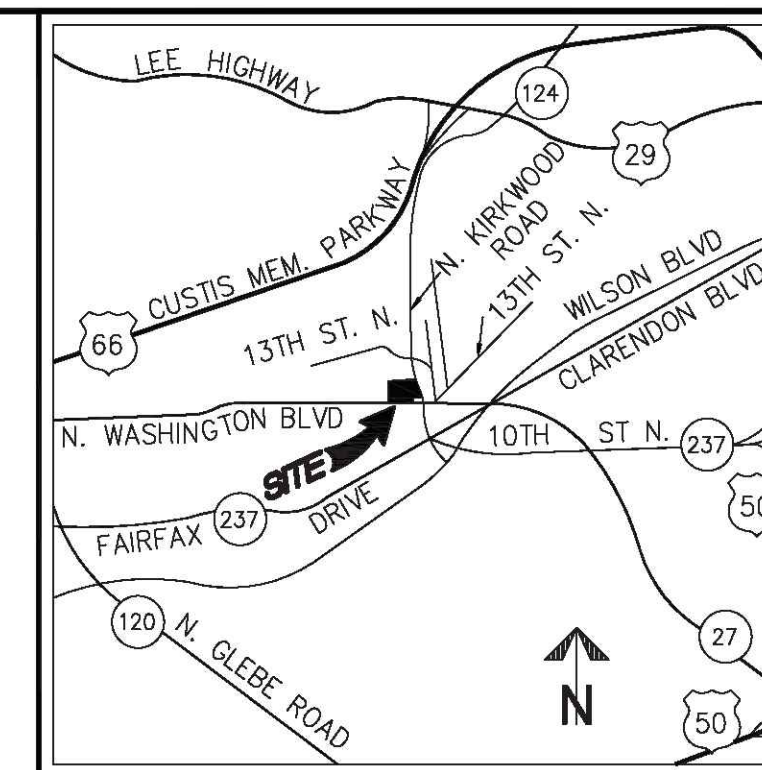
SCALE: 1" = 25'	DRAWN: TPB	CHECKED: KSW
APPROVED DATE	APPROVED DATE	APPROVED DATE
CHIEF WATER, SEWER & STREETS BUREAU	CHIEF ENGINEERING BUREAU	DIRECTOR OF ENVIRONMENTAL SERVICES

SUBMITTED DATE:

CONCEPT PLAN SUB. 12/14/2017
1ST PRELIM. 4.1 SITE PLAN SUB. 02/21/2018
2ND PRELIM. 4.1 SITE PLAN SUB. 04/27/2018
FINAL 4.1 SITE PLAN SUB. 06/12/2018
FINAL 4.1 SITE PLAN RE-SUB. 11/16/2018
FINAL 4.1 SITE PLAN FILING 12/19/2018

SHEET: **C-0306**





VICINITY MAP SCALE: 1"=2000'

**NOTES:**

1. THE PROPERTIES SHOWN HEREON APPEAR ON ARLINGTON COUNTY REAL PROPERTY IDENTIFICATION MAP NUMBER 53-2, AS REAL PROPERTY CODE (RPC) NUMBERS 15086001, 15086002, 15086005, 15086006, AND 15086025 AND ARE ZONED C-2.
2. THE PROPERTIES ARE NOW IN THE NAME OF:  
 RPC 15086001 - GEORGE L. GRAHAM AND DORIS P. GRAHAM, TRUSTEES - DEED BOOK 3661 PAGE 218  
 RPC 15086002/15086025 - VM CLUB PROPERTIES, LLC - DEED BOOK 4639 PAGE 2014  
 RPC 15086005 - BETTY F. SLYE, TRUSTEE - DEED BOOK 4807 PAGE 1924  
 RPC 15086006 - 3421 WASHINGTON BOULEVARD, LLC - DEED BOOK 3439 PAGE 1093
3. THIS PLAT IS BASED ON A BOUNDARY SURVEY PERFORMED BY WALTER L. PHILLIPS, INC. IN JULY, 2016.
4. ALL DEDICATIONS AND EASEMENTS BENEFITTING ARLINGTON COUNTY, VIRGINIA REMAIN IN FULL FORCE AND EFFECT UNLESS OTHERWISE SHOWN HEREON.
5. THE SITE SHOWN HEREON IS REFERENCED TO THE VIRGINIA COORDINATE SYSTEM OF 1983, [NAD 83(2011) (EPOCH:2010.0000)] AS COMPUTED FROM A FIELD RUN BOUNDARY AND HORIZONTAL CONTROL SURVEY THAT TIES THIS BOUNDARY TO NOAA/NGS MONUMENT P1D NUMBER DH4144; STERLING CORS ARP. THE COMBINED FACTOR APPLIED TO THE FIELD DISTANCES TO DERIVE THE REFERENCED COORDINATES IS 0.99995266. THE FOOT DEFINITION USED FOR CONVERSION OF THE MONUMENT COORDINATES AND IN THE PERFORMANCE OF THIS SURVEY IS THE U.S. SURVEY FOOT.



PLAT SHOWING  
 EXISTING CONDITIONS AND  
 PROPOSED  
**VACATION OF STORM AND SANITARY SEWER EASEMENTS  
 PARCELS ONE AND TWO  
 PROPERTY OF B.F. WILSHIRE  
 DEED BOOK 1286 PAGE 298  
 LOTS 1, 2, 3 AND 4  
 THOMAS H. FAIRBANKS  
 DEED BOOK 403 PAGE 183  
 ARLINGTON COUNTY, VIRGINIA**

**WALTER L. PHILLIPS** INCORPORATED  
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 (703) 532-6163 Fax (703) 533-1301  
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FILE NO.: AJ-19 TAX MAP NO.: 53-2 JOB NO.: 14-044 REFERENCE: 14044DWG\PLANNING\4.1 SP14044B-001 REVISED: 11/02/2018 SCALE: 1"=25' DATE: JANUARY 26, 2018 SHEET: 1 OF: 2 DWG FILE NAME: 14044X-02

**VACATION PLAT (PROPOSED CONDITIONS)**

**WALTER L. PHILLIPS** INCORPORATED ESTABLISHED 1945  
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**ARLINGTON, VIRGINIA  
 DEPARTMENT OF ENVIRONMENTAL SERVICES  
 WASHINGTON BOULEVARD AT KIRKWOOD  
 3411, 3415, & 3421 WASHINGTON BLVD  
 & 1122 NORTH KIRKWOOD ROAD  
 ARLINGTON COUNTY, VIRGINIA**

SCALE: 1" = 25'	DRAWN TPB	CHECKED KSW
APPROVED DATE	APPROVED DATE	APPROVED DATE
CHIEF WATER, SEWER & STREETS BUREAU	CHIEF ENGINEERING BUREAU	DIRECTOR OF ENVIRONMENTAL SERVICES

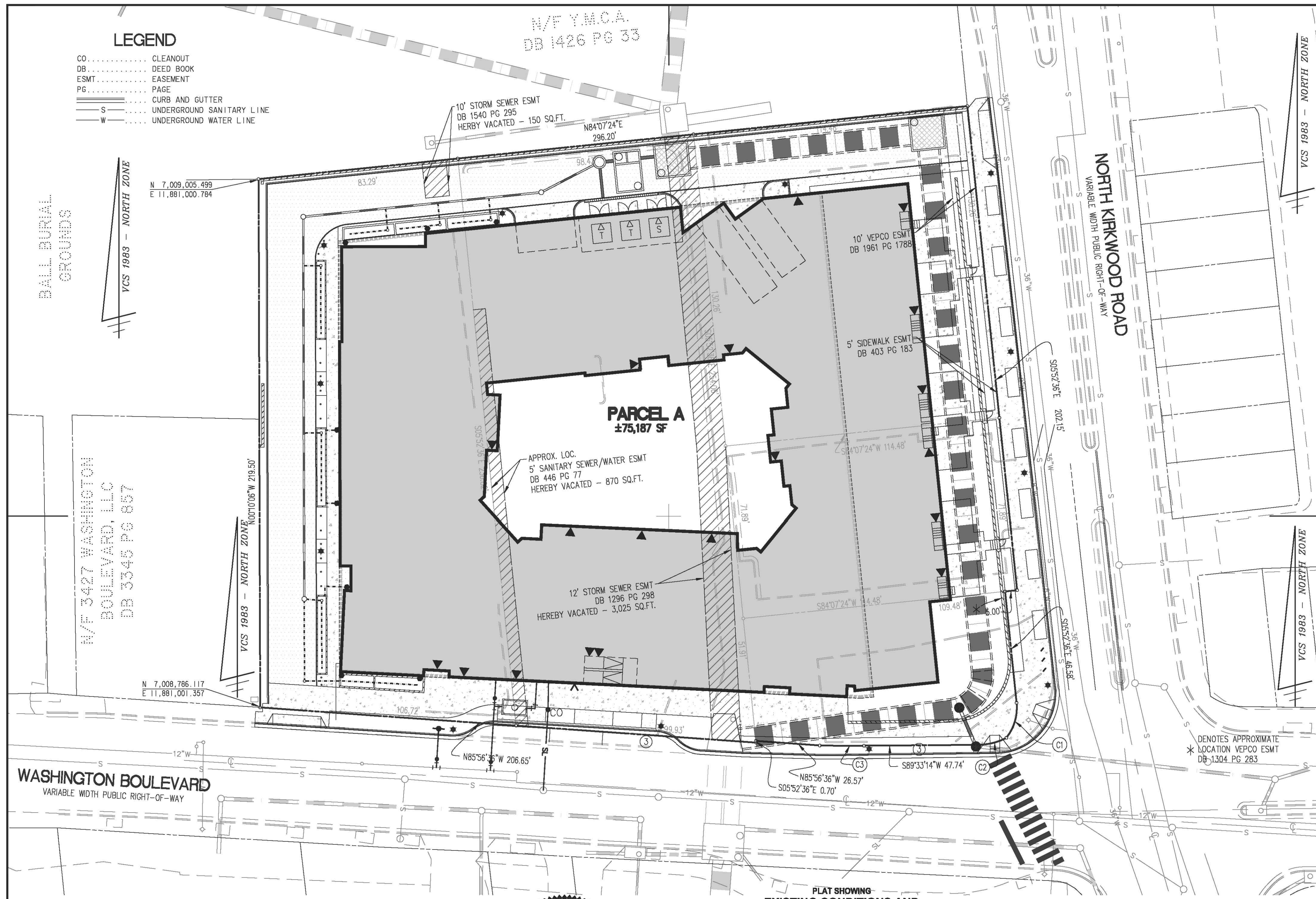
SUBMITTED DATE:
CONCEPT PLAN SUB. 12/14/2017
1ST PRELIM. 4.1 SITE PLAN SUB. 02/21/2018
2ND PRELIM. 4.1 SITE PLAN SUB. 04/27/2018
FINAL 4.1 SITE PLAN SUB. 06/12/2018
FINAL 4.1 SITE PLAN RE-SUB. 11/16/2018
FINAL 4.1 SITE PLAN FILING 12/19/2018

SHEET: **C-0307**



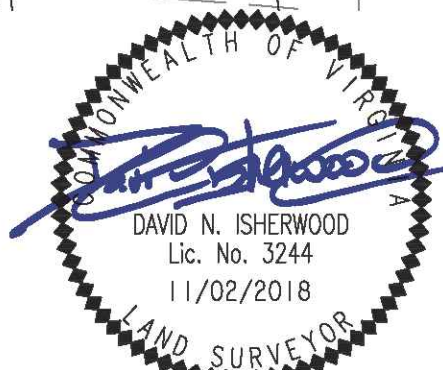
**LEGEND**

- CO ..... CLEANOUT
- DB ..... DEED BOOK
- ESMT ..... EASEMENT
- PG ..... PAGE
- ..... CURB AND GUTTER
- S ..... UNDERGROUND SANITARY LINE
- W ..... UNDERGROUND WATER LINE



**CURVE TABLE**

CURVE	RADIUS	LENGTH	DELTA	TANGENT	CHORD	CHORD BEARING
C1	20.00'	15.52'	44°27'08"	8.17'	15.13'	S18°20'58"W
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PLAT SHOWING  
EXISTING CONDITIONS AND  
PROPOSED  
VACATION OF STORM AND SANITARY SEWER EASEMENTS  
PARCELS ONE AND TWO  
PROPERTY OF B.F. WILSHIRE  
DEED BOOK 1296 PAGE 298  
LOTS 1, 2, 3 AND 4  
THOMAS H. FAIRBANKS  
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ARLINGTON COUNTY, VIRGINIA



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www.WLPINC.com

FILE NO.: AJ-19 TAX MAP NO.: 53-2 JOB NO.: 14-044 REFERENCE: 14044IDWG\PLANNING\4.1 SP14044C-0304.dwg SCALE: 1" = 25' DATE: JANUARY 26, 2018 SHEET: 2 OF: 2 DWG FILE NAME: 14044X-02

**VACATION PLAT (PROPOSED CONDITIONS)**

**WALTER L. PHILLIPS** INCORPORATED ESTABLISHED 1945

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**ARLINGTON, VIRGINIA  
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3411, 3415, & 3421 WASHINGTON BLVD  
& 1122 NORTH KIRKWOOD ROAD  
ARLINGTON COUNTY, VIRGINIA

SCALE: 1" = 25'	DRAWN: TPB	CHECKED: KSW
APPROVED DATE	APPROVED DATE	APPROVED DATE
CHIEF WATER, SEWER & STREETS BUREAU	CHIEF ENGINEERING BUREAU	DIRECTOR OF ENVIRONMENTAL SERVICES

SUBMITTED DATE:

CONCEPT PLAN SUB. 12/14/2017
1ST PRELIM. 4.1 SITE PLAN SUB. 02/21/2018
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FINAL 4.1 SITE PLAN SUB. 06/12/2018
FINAL 4.1 SITE PLAN RE-SUB. 11/16/2018
FINAL 4.1 SITE PLAN FILING 12/19/2018

SHEET: **C-0308**





**AERIAL EXHIBIT**

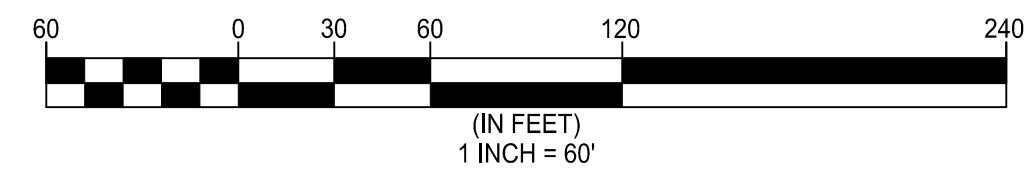
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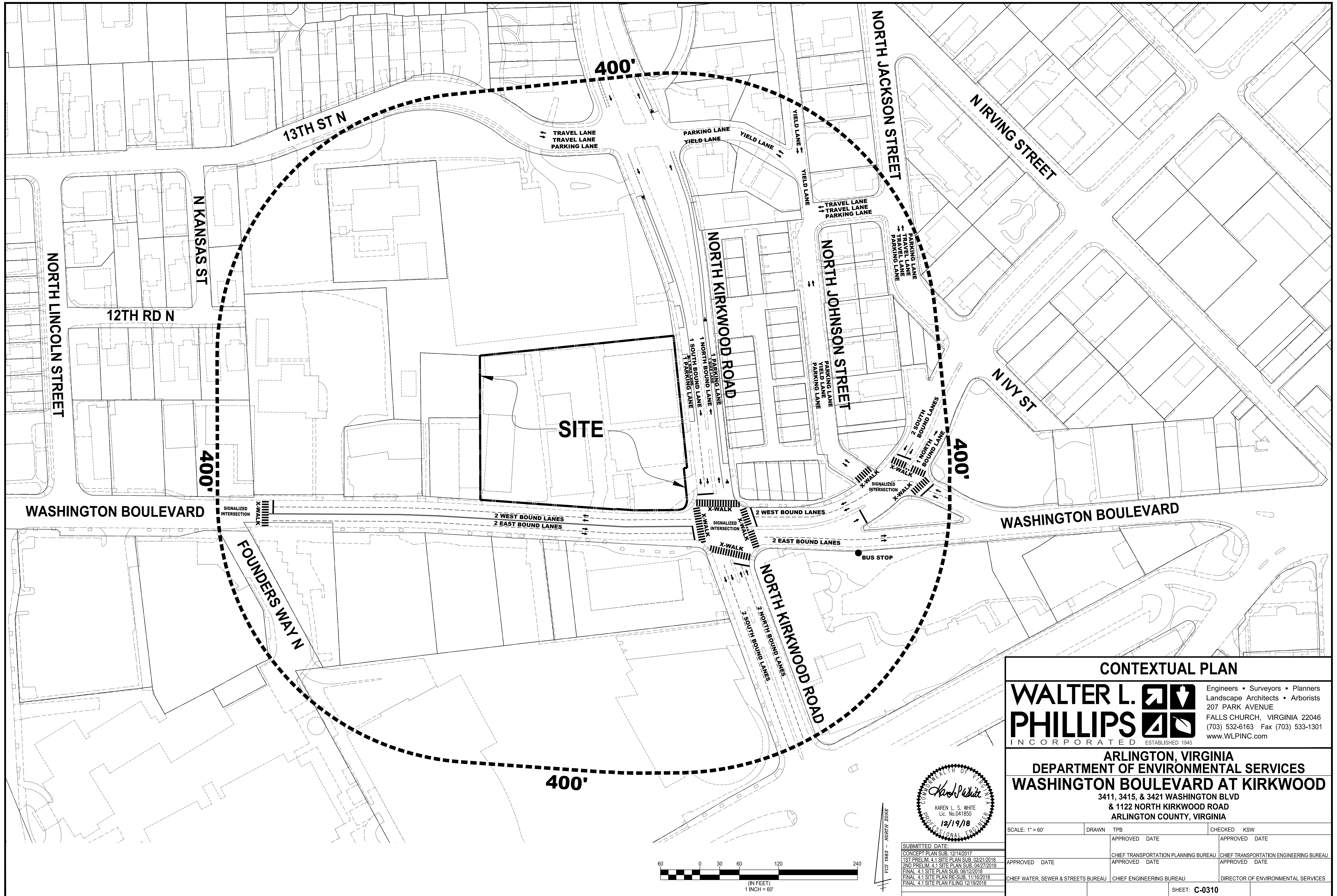


SUBMITTED DATE:	12/14/2017
CONCEPT PLAN SUB.	12/14/2017
1ST PRELIM. 4.1 SITE PLAN SUB.	02/21/2018
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FINAL 4.1 SITE PLAN RE-SUB.	11/16/2018
FINAL 4.1 SITE PLAN FILING	12/19/2018



SCALE: 1" = 60'	DRAWN TPB	CHECKED KSW
APPROVED DATE	APPROVED DATE	APPROVED DATE
CHIEF WATER, SEWER & STREETS BUREAU	CHIEF TRANSPORTATION PLANNING BUREAU	CHIEF TRANSPORTATION ENGINEERING BUREAU
CHIEF ENGINEERING BUREAU		DIRECTOR OF ENVIRONMENTAL SERVICES
SHEET: <b>C-0309</b>		





**CONTEXTUAL PLAN**

**WALTER L. PHILLIPS**  
INCORPORATED ESTABLISHED 1945

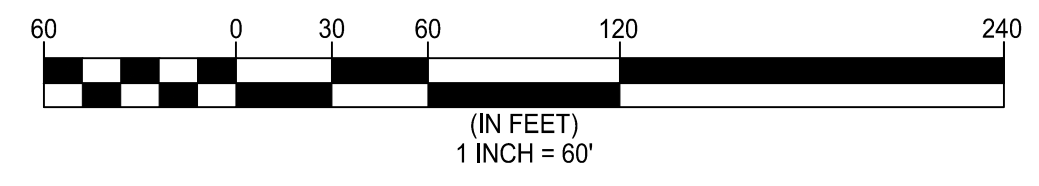
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ARLINGTON COUNTY, VIRGINIA

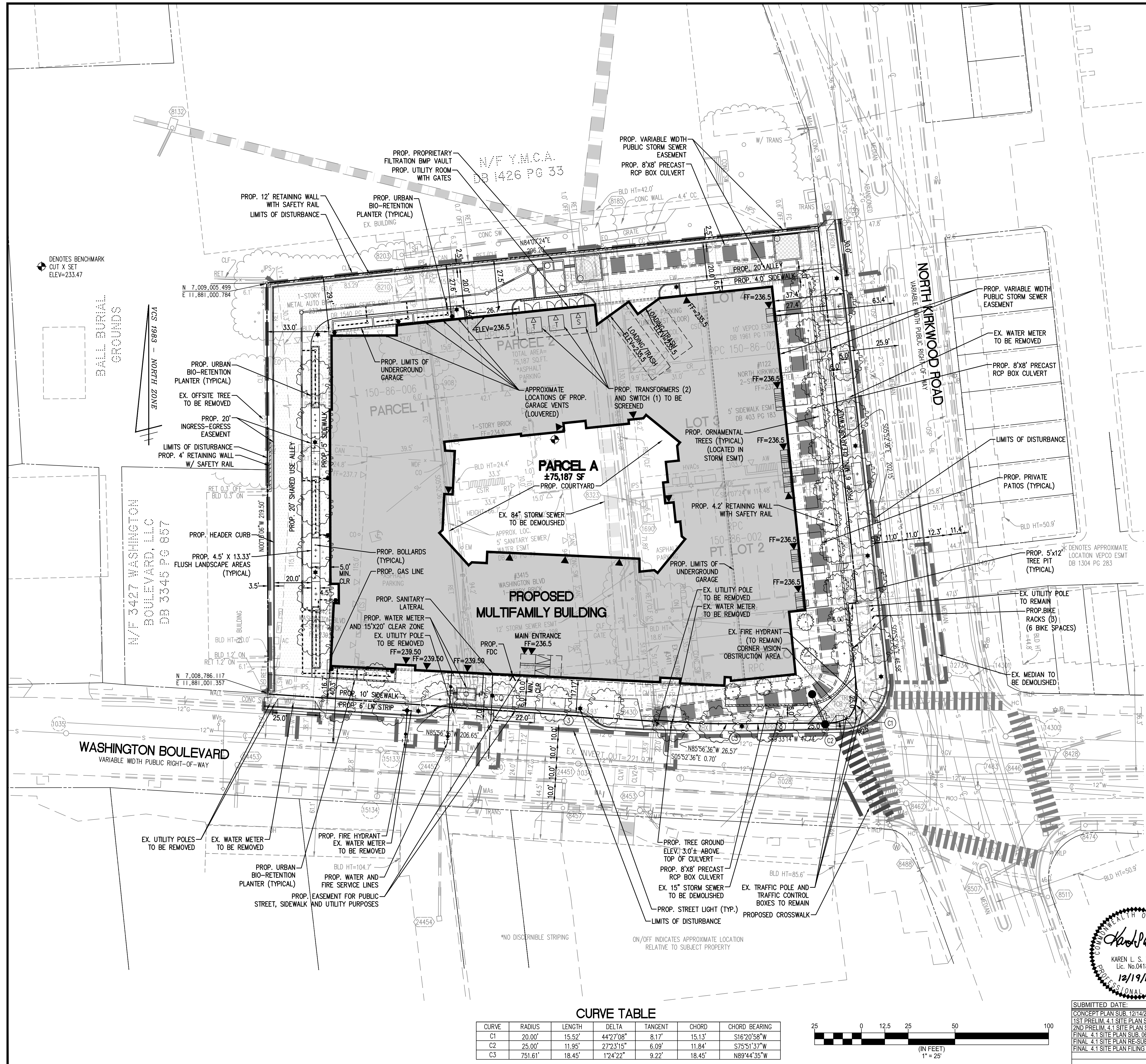


SCALE: 1" = 60'

APPROVED DATE	CHIEF TRANSPORTATION PLANNING BUREAU	APPROVED DATE	CHIEF TRANSPORTATION ENGINEERING BUREAU
APPROVED DATE	CHIEF WATER, SEWER & STREETS BUREAU	APPROVED DATE	CHIEF ENGINEERING BUREAU
			DIRECTOR OF ENVIRONMENTAL SERVICES







**NOTES:**

- SEE SHEET C-0303 FOR THE PRELIMINARY SUBDIVISION PLAT.
- THERE ARE NO HISTORIC DISTRICTS AND/OR STRUCTURES ON THE SITE. THE BALL FAMILY BURIAL GROUNDS ADJACENT TO THE SITE IS DESIGNATED AS HISTORIC.
- THERE ARE NO RESOURCE PROTECTION AREAS ON SITE PER ARLINGTON COUNTY RECORD INFORMATION.
- SEE SHEET C-0405 FOR PROPOSED SURFACE PARKING TABULATIONS.
- PROPOSED WATER METER TO BE INSTALLED BY THE DEVELOPER.

**LOT COVERAGE**

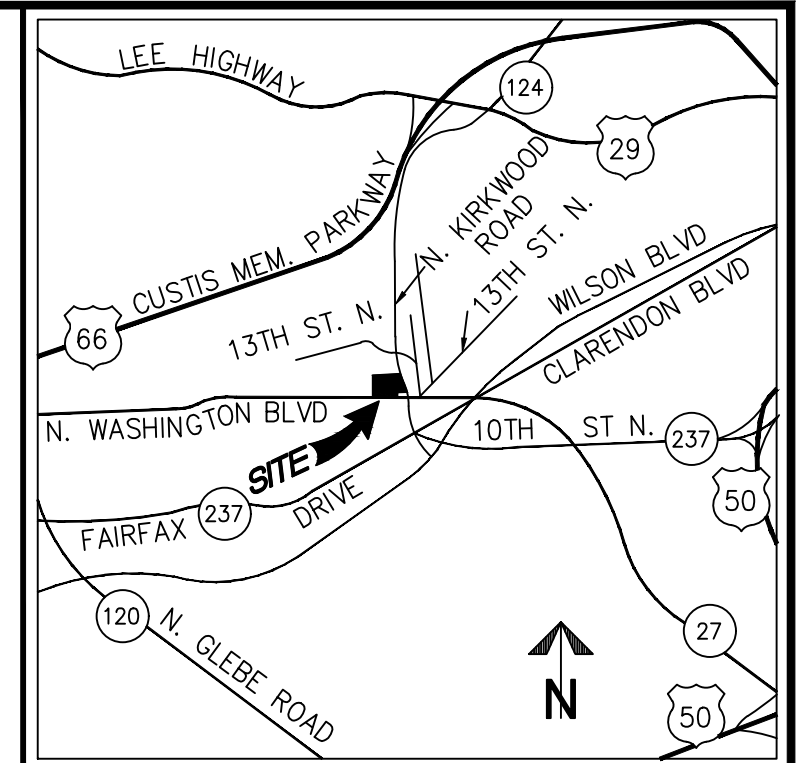
SITE AREA:	75,187 SF
BUILDING AREA:	48,170 SF
VEHICULAR AREA:	10,568 SF
TOTAL:	58,738 SF
(58,738/75,187)	78.1%
AVERAGE SITE ELEVATION:	235.64 FT

**EXISTING AREA TABULATIONS**

EXISTING LOT AREAS			EXISTING AREAS		EXISTING ZONE
PARCEL (RPC)	LOT	OWNER	SQ. FT.	ACRES	
150-86-001	LOT 1, PART LOT 2	GEORGE L. GRAHAM AND DORIS P. GRAHAM, TRUSTEES	6343	0.1456	C-2
150-86-002	PART LOT 2	VM CLUB PROPERTIES, LLC	8230	0.1889	C-2
150-86-005	PARCEL 2	BETTY F. SLYE, TRUSTEE	21459	0.5546	C-2
150-86-006	PARCEL 1	3421 WASHINGTON BOULEVARD, LLC	21543	0.4946	C-2
150-86-025	LOTS 3, 4	VM CLUB PROPERTIES, LLC	14912	0.3423	C-2
<b>TOTAL</b>			<b>75187</b>	<b>1.7261</b>	

**PROPOSED AREA TABULATIONS**

PROPOSED LOT AREAS		
PARCEL/LOT	PROPOSED AREAS	PROPOSED ZONE
PARCEL A	75187	C-O-2.5
<b>TOTAL</b>	<b>75187</b>	<b>1.7261</b>



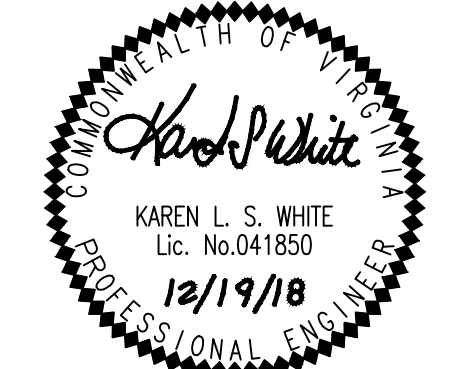
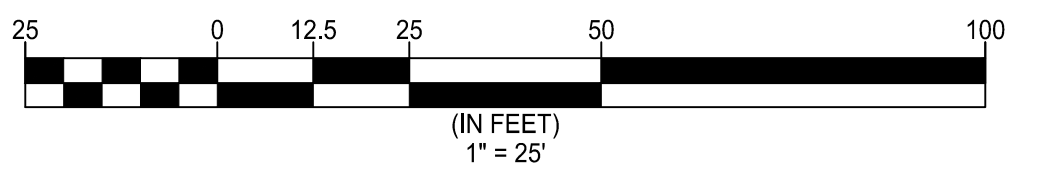
VICINITY MAP SCALE: 1"=2000'

**LEGEND**

PROPOSED	DESCRIPTION	EXISTING	PROPOSED	DESCRIPTION	EXISTING
[Symbol]	CURB & GUTTER	[Symbol]	[Symbol]	HANDICAP RAMP (CG-12)	[Symbol]
[Symbol]	TRANSITION FROM CG-6 TO CG-6R	[Symbol]	[Symbol]	GUARDRAIL	[Symbol]
[Symbol]	SANITARY SEWER	[Symbol]	[Symbol]	FENCE	[Symbol]
[Symbol]	SANITARY LATERAL	[Symbol]	[Symbol]	TRAFFIC FLOW	[Symbol]
[Symbol]	CLEAN OUT	[Symbol]	[Symbol]	LIGHT	[Symbol]
[Symbol]	STORM SEWER	[Symbol]	[Symbol]	DOOR	[Symbol]
[Symbol]	WATER MAIN	[Symbol]	[Symbol]	TREES	[Symbol]
[Symbol]	FIRE HYDRANT	[Symbol]	[Symbol]	CONTOURS	[Symbol]
[Symbol]	PLUG	[Symbol]	[Symbol]	SPOT ELEVATION	[Symbol]
[Symbol]	OVERHEAD WIRES	[Symbol]	[Symbol]	DRAINAGE FLOW DIRECTION	[Symbol]
[Symbol]	UTILITY POLE	[Symbol]	[Symbol]	TOP OF CURB	[Symbol]
[Symbol]	UNDERGROUND ELECTRIC	[Symbol]	[Symbol]	BOTTOM OF CURB	[Symbol]
[Symbol]	TELEPHONE	[Symbol]	[Symbol]	TOP OF WALL	[Symbol]
[Symbol]	GAS MAIN	[Symbol]	[Symbol]	BOTTOM OF WALL	[Symbol]
[Symbol]	ELECTRICAL	[Symbol]	[Symbol]	HIGH POINT	[Symbol]
[Symbol]	TRANSFORMER	[Symbol]	[Symbol]	TEST PIT	[Symbol]
[Symbol]		[Symbol]	[Symbol]	LIMITS OF CLEARING AND GRADING	[Symbol]

**CURVE TABLE**

CURVE	RADIUS	LENGTH	DELTA	TANGENT	CHORD	CHORD BEARING
C1	20.00'	15.52'	44°27'08"	8.17'	15.13'	S16°20'58"W
C2	25.00'	11.95'	27°23'15"	6.09'	11.84'	S75°51'37"W
C3	751.61'	18.45'	1°24'22"	9.22'	18.45'	N89°44'35"W



SUBMITTED DATE:  
 CONCEPT PLAN SUB. 12/14/2017  
 1ST PRELIM. 4.1 SITE PLAN SUB. 02/21/2018  
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 FINAL 4.1 SITE PLAN SUB. 06/12/2018  
 FINAL 4.1 SITE PLAN RE-SUB. 11/16/2018  
 FINAL 4.1 SITE PLAN FILING 12/19/2018

**PLOT AND LOCATION PLAN**

**WALTER L. PHILLIPS INCORPORATED** ESTABLISHED 1945

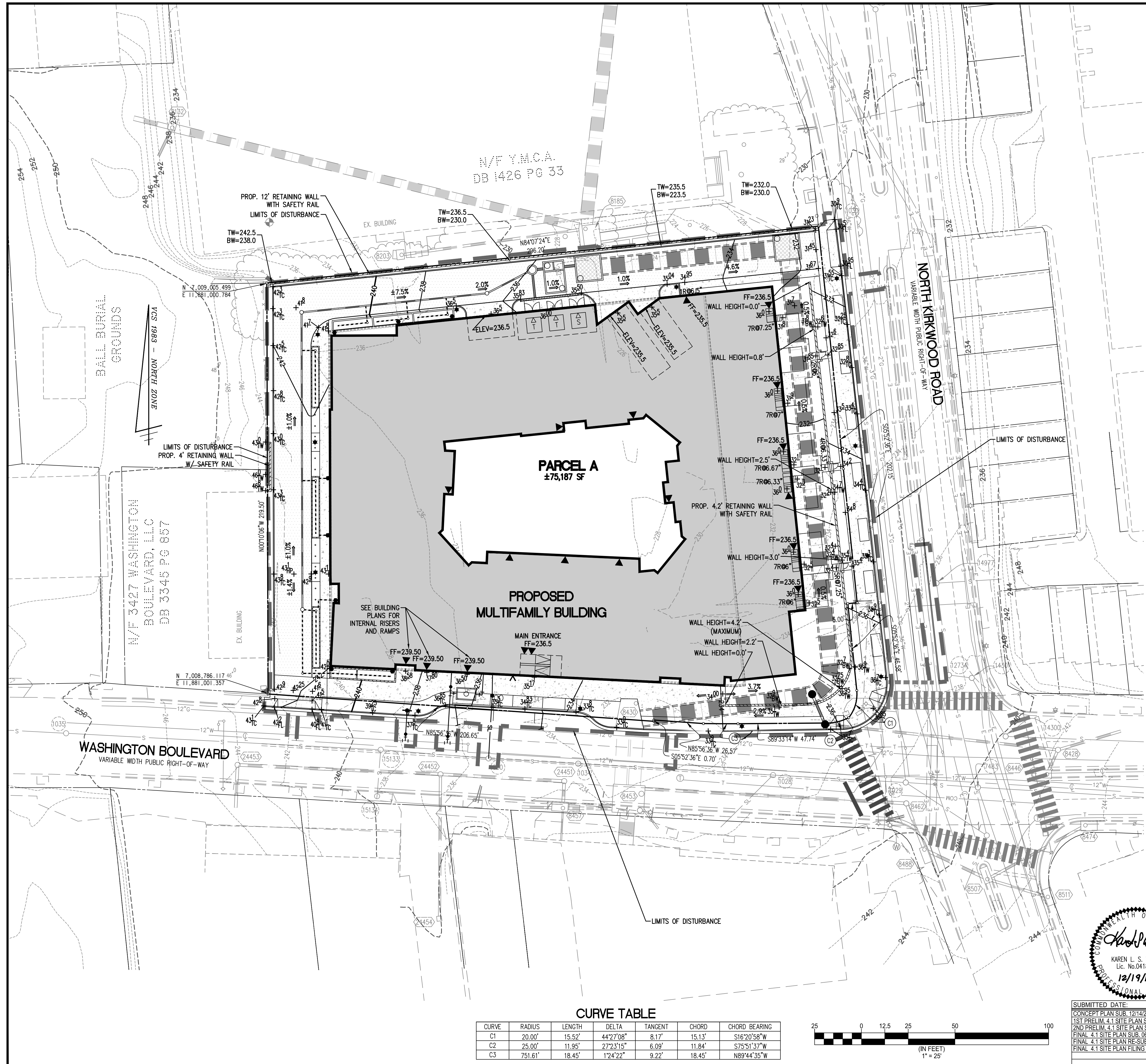
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**WASHINGTON BOULEVARD AT KIRKWOOD**  
 3411, 3415, & 3421 WASHINGTON BLVD  
 & 1122 NORTH KIRKWOOD ROAD  
 ARLINGTON COUNTY, VIRGINIA

SCALE: 1"=25'	DRAWN: TPB	CHECKED: KSW
APPROVED DATE	CHIEF TRANSPORTATION PLANNING BUREAU	CHIEF TRANSPORTATION ENGINEERING BUREAU
APPROVED DATE	CHIEF ENGINEERING BUREAU	DIRECTOR OF ENVIRONMENTAL SERVICES

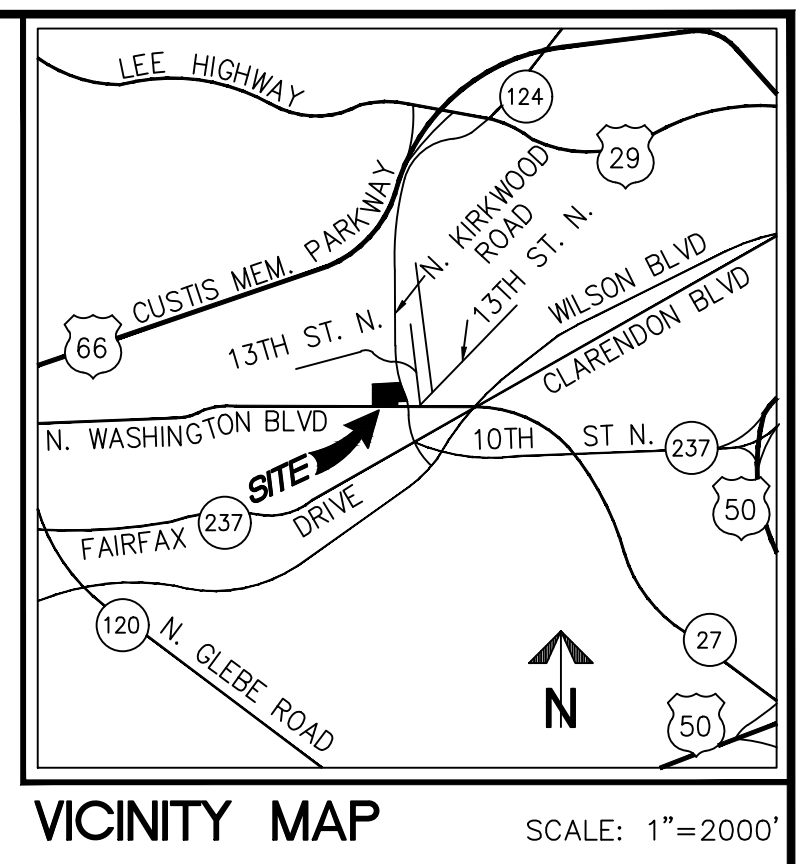
SHEET: **C-0401**





**NOTES:**

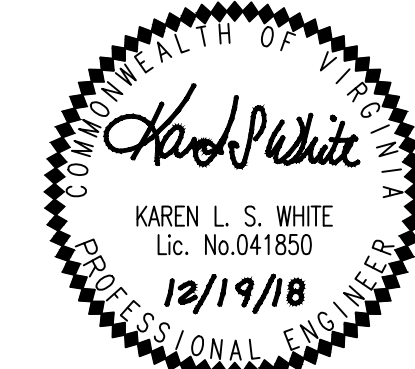
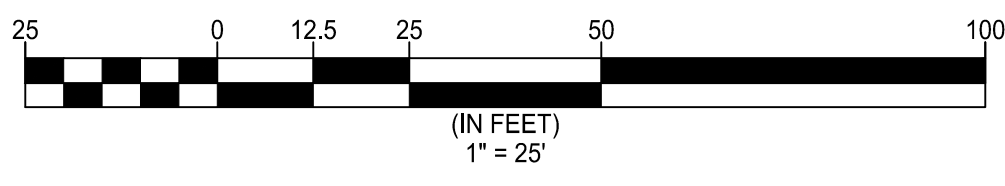
1. THERE ARE NO HISTORIC DISTRICTS AND/OR STRUCTURES ON THE SITE. THE BALL FAMILY BURIAL GROUNDS ADJACENT TO THE SITE IS DESIGNATED AS HISTORIC.
2. THERE ARE NO RESOURCE PROTECTION AREAS ON SITE PER ARLINGTON COUNTY RECORD INFORMATION.
3. GRADES DEPICTED ON THIS PLAN ARE PRELIMINARY AND SUBJECT TO ADJUSTMENT AT FINAL ENGINEERING.
4. AVERAGE SITE ELEVATION: 235.64 FT



PROPOSED		DESCRIPTION	EXISTING	PROPOSED		DESCRIPTION	EXISTING
	CG-2	CURB & GUTTER			CC-12	HANDICAP RAMP	
	CC-6R CC-6	TRANSITION FROM CC-6 TO CC-6R			CC-6R CC-6	GUARDRAIL FENCE	
	S	SANITARY SEWER				TRAFFIC FLOW	
	SL	SANITARY LATERAL				LIGHT	
	C.O.	CLEAN OUT				DOOR	
	SS	STORM SEWER				TREES	
	W	WATER MAIN				CONTOURS	
	FH	FIRE HYDRANT			260 264	SPOT ELEVATION	
	P	PLUG			+264.50	DRAINAGE FLOW DIRECTION	
	OW	OVERHEAD WIRES			TC	TOP OF CURB	
	UP	UTILITY POLE			BC	BOTTOM OF CURB	
	UE	UNDERGROUND ELECTRIC			TW	TOP OF WALL	
	T	TELEPHONE			BW	BOTTOM OF WALL	
	G	GAS MAIN			HP	HIGH POINT	
	E	ELECTRICAL TRANSFORMER			TP	TEST PIT	
		LIMITS OF CLEARING AND GRADING				LIMITS OF CLEARING AND GRADING	

**CURVE TABLE**

CURVE	RADIUS	LENGTH	DELTA	TANGENT	CHORD	CHORD BEARING
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SUBMITTED DATE:  
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 FINAL 4.1 SITE PLAN RE-SUB. 11/16/2018  
 FINAL 4.1 SITE PLAN FILING 12/19/2018

**GRADING PLAN**

**WALTER L. PHILLIPS** INCORPORATED ESTABLISHED 1945

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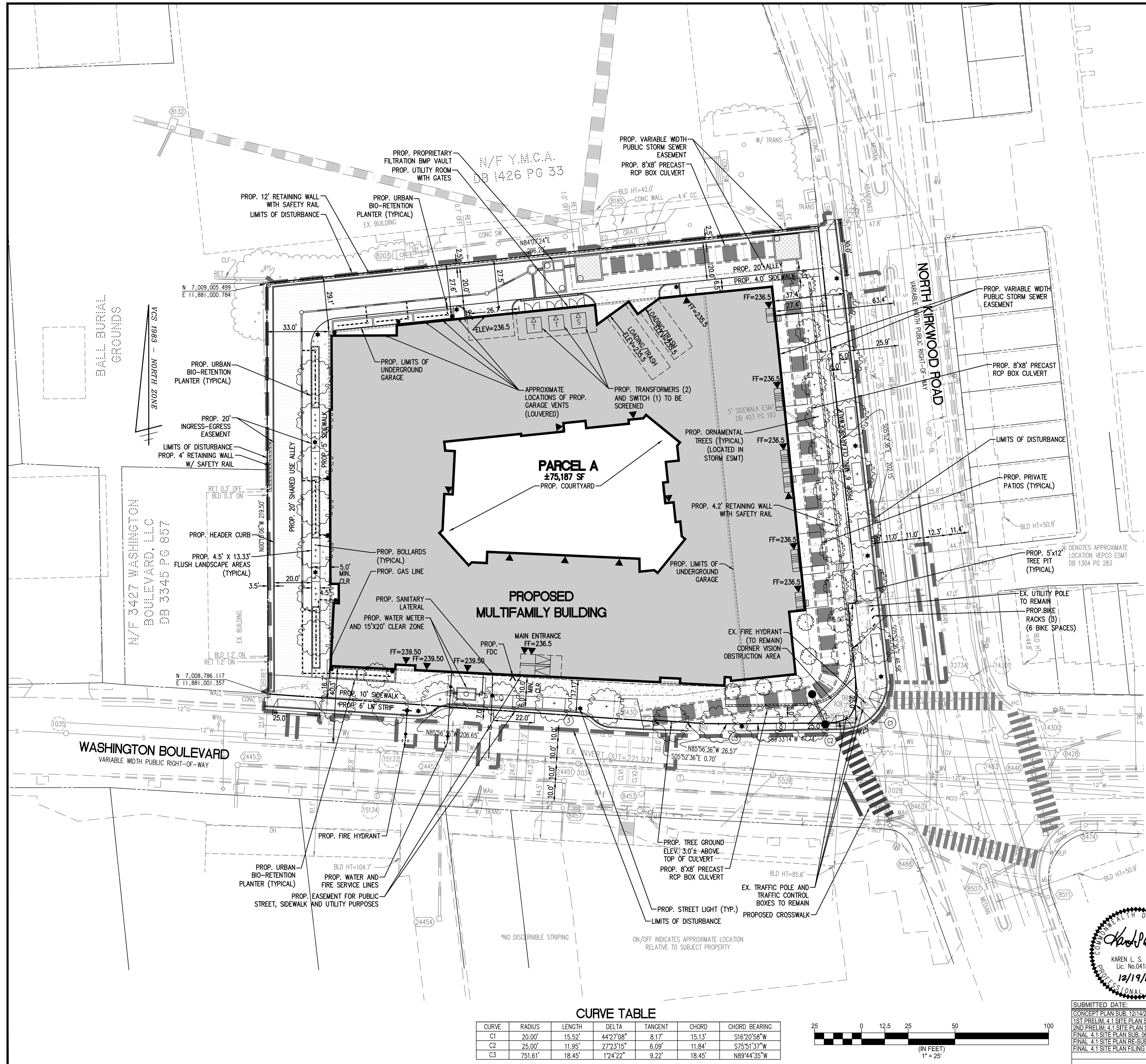
**ARLINGTON, VIRGINIA**  
**DEPARTMENT OF ENVIRONMENTAL SERVICES**  
**WASHINGTON BOULEVARD AT KIRKWOOD**  
 3411, 3415, & 3421 WASHINGTON BLVD  
 & 1122 NORTH KIRKWOOD ROAD  
 ARLINGTON COUNTY, VIRGINIA

SCALE: 1" = 25'    DRAWN: TPB    CHECKED: KSW

APPROVED DATE	CHIEF TRANSPORTATION PLANNING BUREAU	APPROVED DATE	CHIEF TRANSPORTATION ENGINEERING BUREAU
APPROVED DATE	CHIEF WATER, SEWER & STREETS BUREAU	APPROVED DATE	CHIEF ENGINEERING BUREAU
		DIRECTOR OF ENVIRONMENTAL SERVICES	

SHEET: **C-0402**





**NOTES:**

- SEE SHEET C-0303 FOR THE PRELIMINARY SUBDIVISION PLAT.
- THERE ARE NO HISTORIC DISTRICTS AND/OR STRUCTURES ON THE SITE. THE BALL FAMILY BURIAL GROUNDS ADJACENT TO THE SITE IS DESIGNATED AS HISTORIC.
- THERE ARE NO RESOURCE PROTECTION AREAS ON SITE PER ARLINGTON COUNTY RECORD INFORMATION.
- SEE SHEET C-0405 FOR PROPOSED SURFACE PARKING TABULATIONS.
- PROPOSED WATER METER TO BE INSTALLED BY THE DEVELOPER.

**LOT COVERAGE**

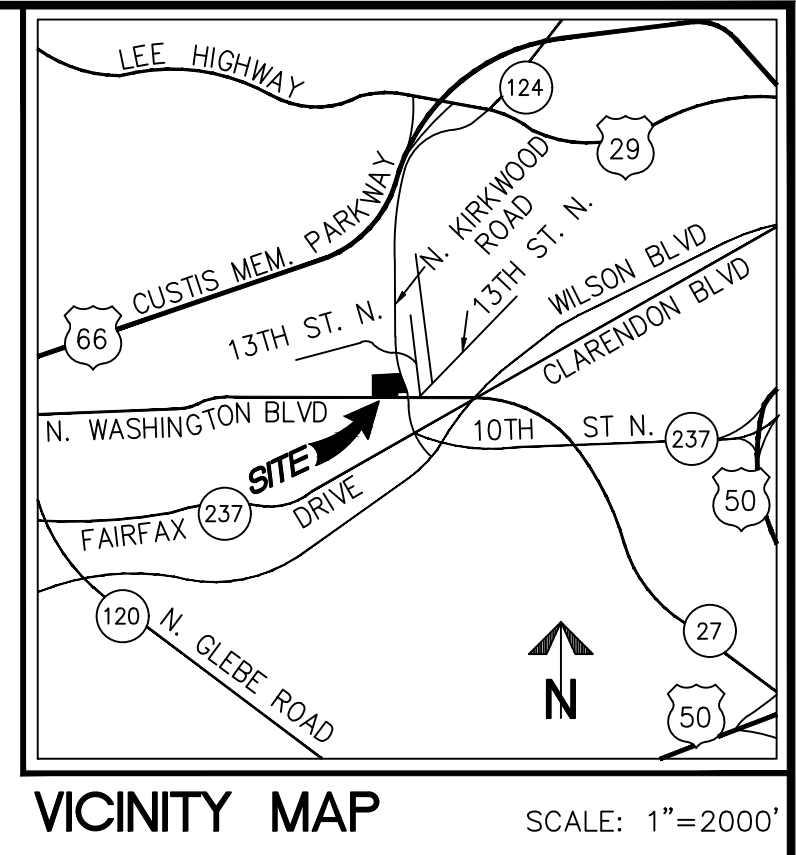
SITE AREA:	75,187 SF
BUILDING AREA:	48,170 SF
VEHICULAR AREA:	10,568 SF
TOTAL:	58,738 SF
(58,738/75,187)	78.1%
AVERAGE SITE ELEVATION:	235.64 FT

**EXISTING AREA TABULATIONS**

EXISTING LOT AREAS			EXISTING AREAS		EXISTING ZONE
PARCEL (RPC)	LOT	OWNER	SQ. FT.	ACRES	
150-86-001	LOT 1, PART LOT 2	GEORGE L. GRAHAM AND DORIS P. GRAHAM, TRUSTEES	6343	0.1456	C-2
150-86-002	PART LOT 2	VM CLUB PROPERTIES, LLC	8230	0.1889	C-2
150-86-005	PARCEL 2	BETTY F. SLYE, TRUSTEE	21459	0.5546	C-2
150-86-006	PARCEL 1	3421 WASHINGTON BOULEVARD, LLC	21543	0.4946	C-2
150-86-025	LOTS 3, 4	VM CLUB PROPERTIES, LLC	14912	0.3423	C-2
<b>TOTAL</b>			<b>75187</b>	<b>1.7261</b>	

**PROPOSED AREA TABULATIONS**

PROPOSED LOT AREAS		
PARCEL/LOT	PROPOSED AREAS	PROPOSED ZONE
PARCEL A	75187	1.7261 C-O-2.5
<b>TOTAL</b>	<b>75187</b>	<b>1.7261</b>

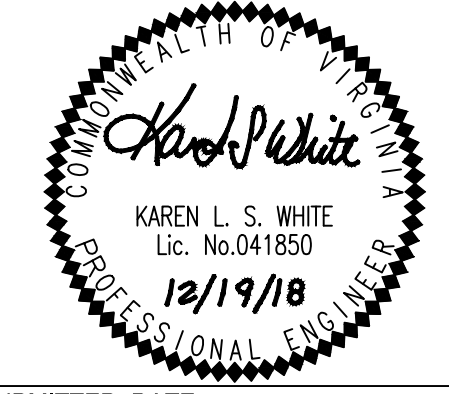
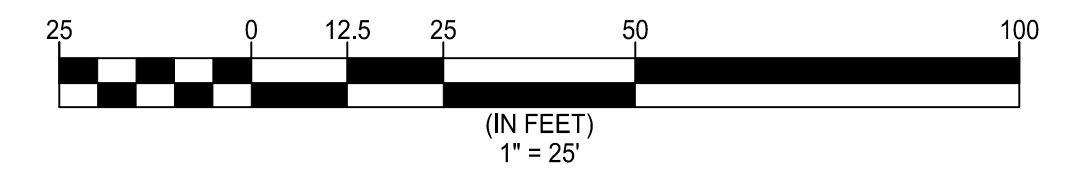


**LEGEND**

PROPOSED	DESCRIPTION	EXISTING	PROPOSED	DESCRIPTION	EXISTING
[Symbol]	CURB & GUTTER	[Symbol]	[Symbol]	HANDICAP RAMP (CG-12)	[Symbol]
[Symbol]	TRANSITION FROM CG-6 TO CG-6R	[Symbol]	[Symbol]	GUARDRAIL	[Symbol]
[Symbol]	SANITARY SEWER	[Symbol]	[Symbol]	FENCE	[Symbol]
[Symbol]	SANITARY LATERAL	[Symbol]	[Symbol]	TRAFFIC FLOW	[Symbol]
[Symbol]	CLEAN OUT	[Symbol]	[Symbol]	LIGHT	[Symbol]
[Symbol]	STORM SEWER	[Symbol]	[Symbol]	DOOR	[Symbol]
[Symbol]	WATER MAIN	[Symbol]	[Symbol]	TREES	[Symbol]
[Symbol]	FIRE HYDRANT	[Symbol]	[Symbol]	CONTOURS	[Symbol]
[Symbol]	PLUG	[Symbol]	[Symbol]	SPOT ELEVATION	[Symbol]
[Symbol]	OVERHEAD WIRES	[Symbol]	[Symbol]	DRAINAGE FLOW DIRECTION	[Symbol]
[Symbol]	UTILITY POLE	[Symbol]	[Symbol]	TOP OF CURB	[Symbol]
[Symbol]	UNDERGROUND ELECTRIC	[Symbol]	[Symbol]	BOTTOM OF CURB	[Symbol]
[Symbol]	TELEPHONE	[Symbol]	[Symbol]	TOP OF WALL	[Symbol]
[Symbol]	GAS MAIN	[Symbol]	[Symbol]	BOTTOM OF WALL	[Symbol]
[Symbol]	ELECTRICAL	[Symbol]	[Symbol]	HIGH POINT	[Symbol]
[Symbol]	TRANSFORMER	[Symbol]	[Symbol]	TEST PIT	[Symbol]
[Symbol]		[Symbol]	[Symbol]	LIMITS OF CLEARING AND GRADING	[Symbol]

**CURVE TABLE**

CURVE	RADIUS	LENGTH	DELTA	TANGENT	CHORD	CHORD BEARING
C1	20.00'	15.52'	44°27'08"	8.17'	15.13'	S16°20'58"W
C2	25.00'	11.95'	27°23'15"	6.09'	11.84'	S75°51'37"W
C3	751.61'	18.45'	1°24'22"	9.22'	18.45'	N89°44'35"W



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 FINAL 4.1 SITE PLAN RE-SUB. 11/16/2018  
 FINAL 4.1 SITE PLAN FILING 12/19/2018

**PRESENTATION PLAN**

**WALTER L. PHILLIPS** INCORPORATED ESTABLISHED 1945

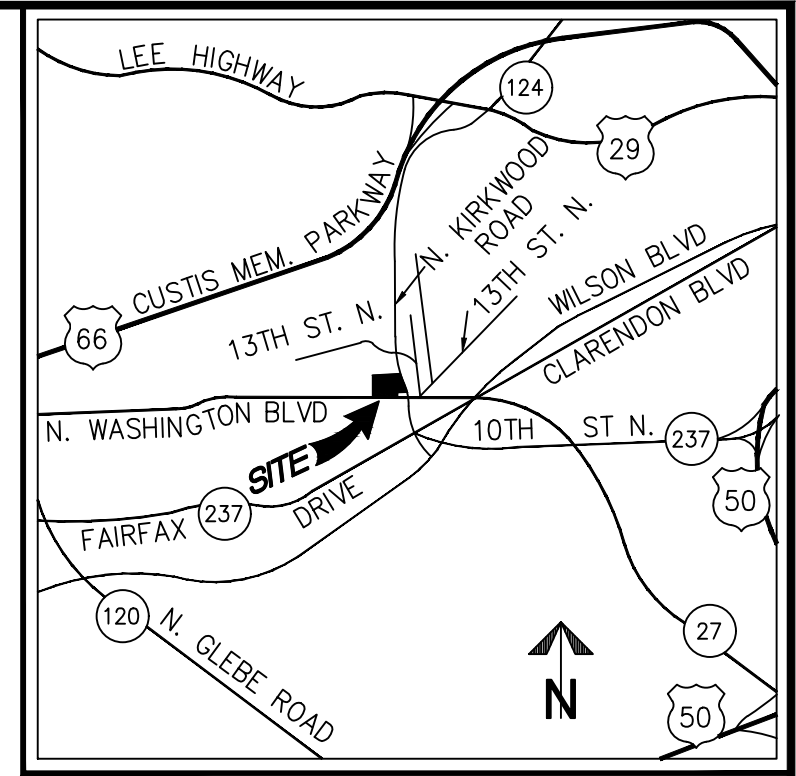
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**ARLINGTON, VIRGINIA  
 DEPARTMENT OF ENVIRONMENTAL SERVICES  
 WASHINGTON BOULEVARD AT KIRKWOOD**  
 3411, 3415, & 3421 WASHINGTON BLVD  
 & 1122 NORTH KIRKWOOD ROAD  
 ARLINGTON COUNTY, VIRGINIA

SCALE: 1" = 25'	DRAWN: TPB	CHECKED: KSW
APPROVED DATE	CHIEF TRANSPORTATION PLANNING BUREAU	CHIEF TRANSPORTATION ENGINEERING BUREAU
APPROVED DATE	CHIEF ENGINEERING BUREAU	DIRECTOR OF ENVIRONMENTAL SERVICES

SHEET: **C-0403**





VICINITY MAP SCALE: 1"=2000'

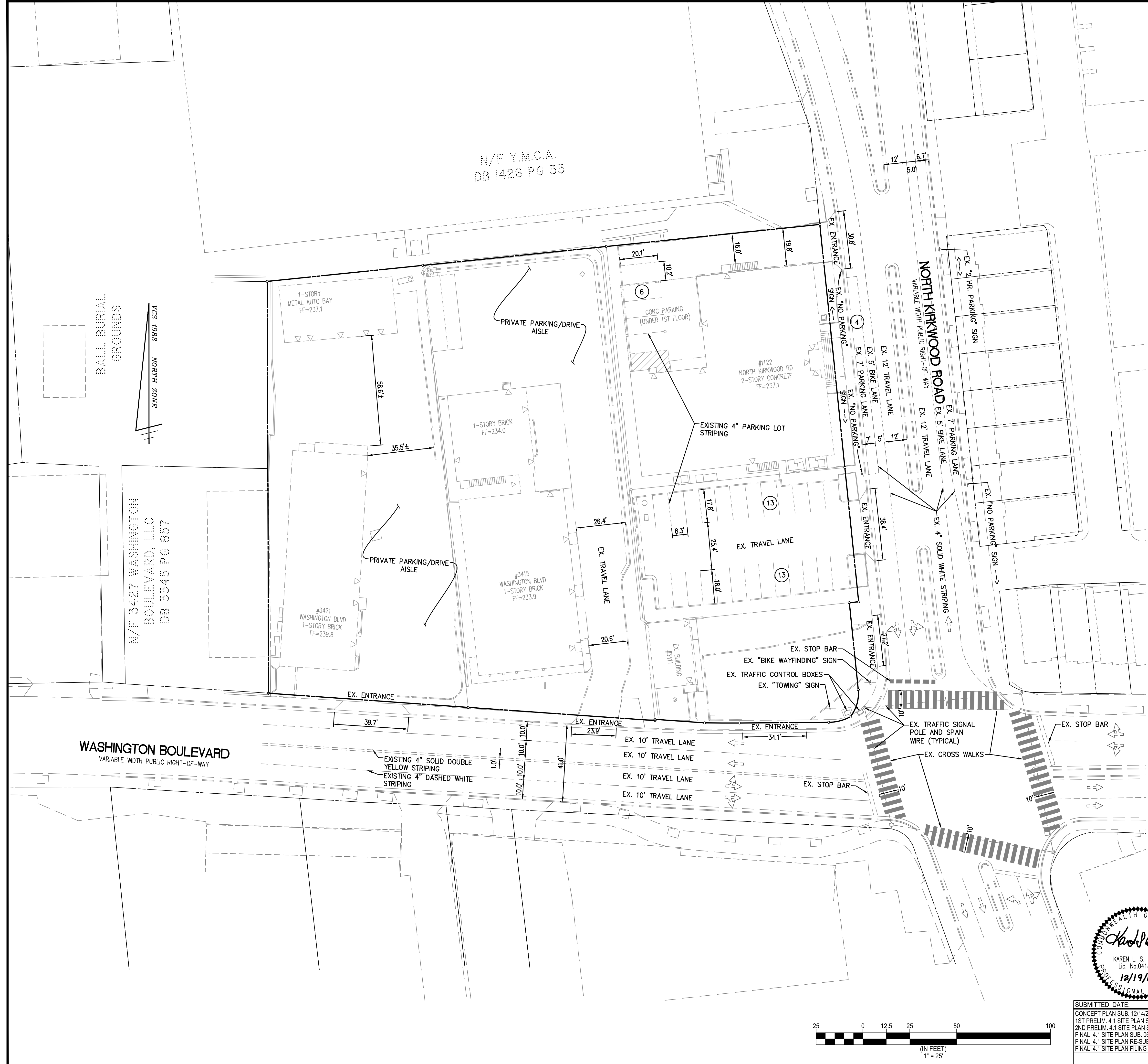
N/F YMCA.  
DB 1426 PG 33

BALL BURIAL  
GROUNDS

VCS 1988 - NORTH ZONE

N/F 3427 WASHINGTON  
BOULEVARD, LLC  
DB 3345 PG 657

WASHINGTON BOULEVARD  
VARIABLE WIDTH PUBLIC RIGHT-OF-WAY



**EXISTING PARKING TABULATION:**

EXISTING OFF-STREET PARKING:

STANDARD	= 32 SPACES
HANDICAP	= 0 SPACES
TOTAL	= 32 SPACES*

\*BASED ON OBSERVABLE STRIPING

EXISTING ON-STREET PARKING:

NORTH KIRKWOOD ROAD	= 4 SPACES
WASHINGTON BOULEVARD	= 0 SPACES
TOTAL	= 4 SPACES

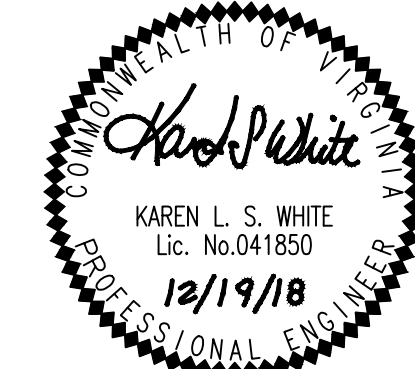
**EXISTING STRIPING & MARKING PLAN**



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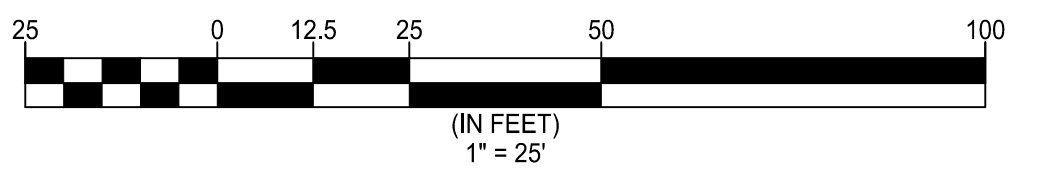
ARLINGTON, VIRGINIA  
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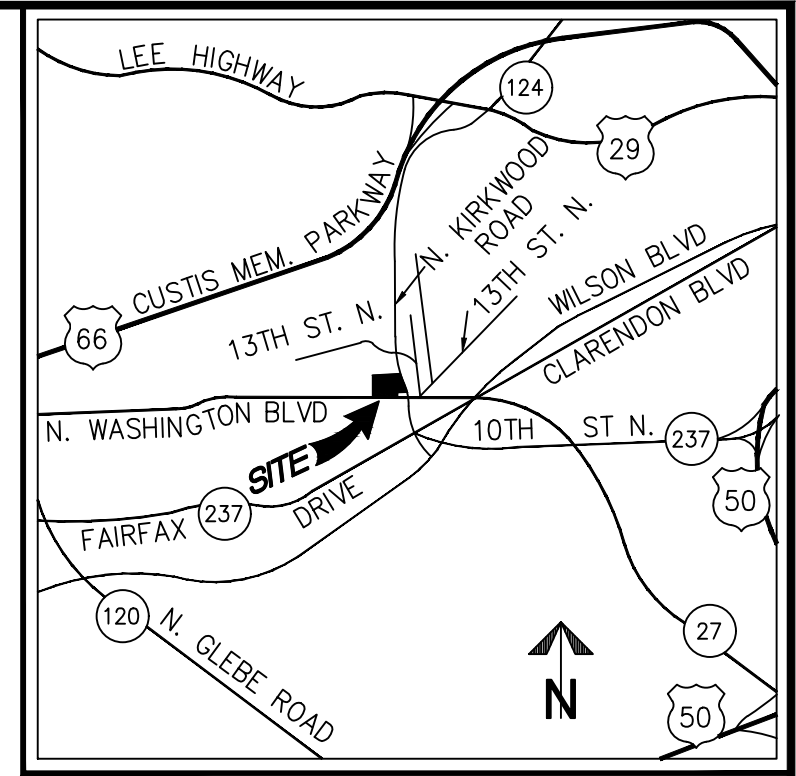


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FINAL 4.1 SITE PLAN FILING 12/19/2018







VICINITY MAP SCALE: 1"=2000'

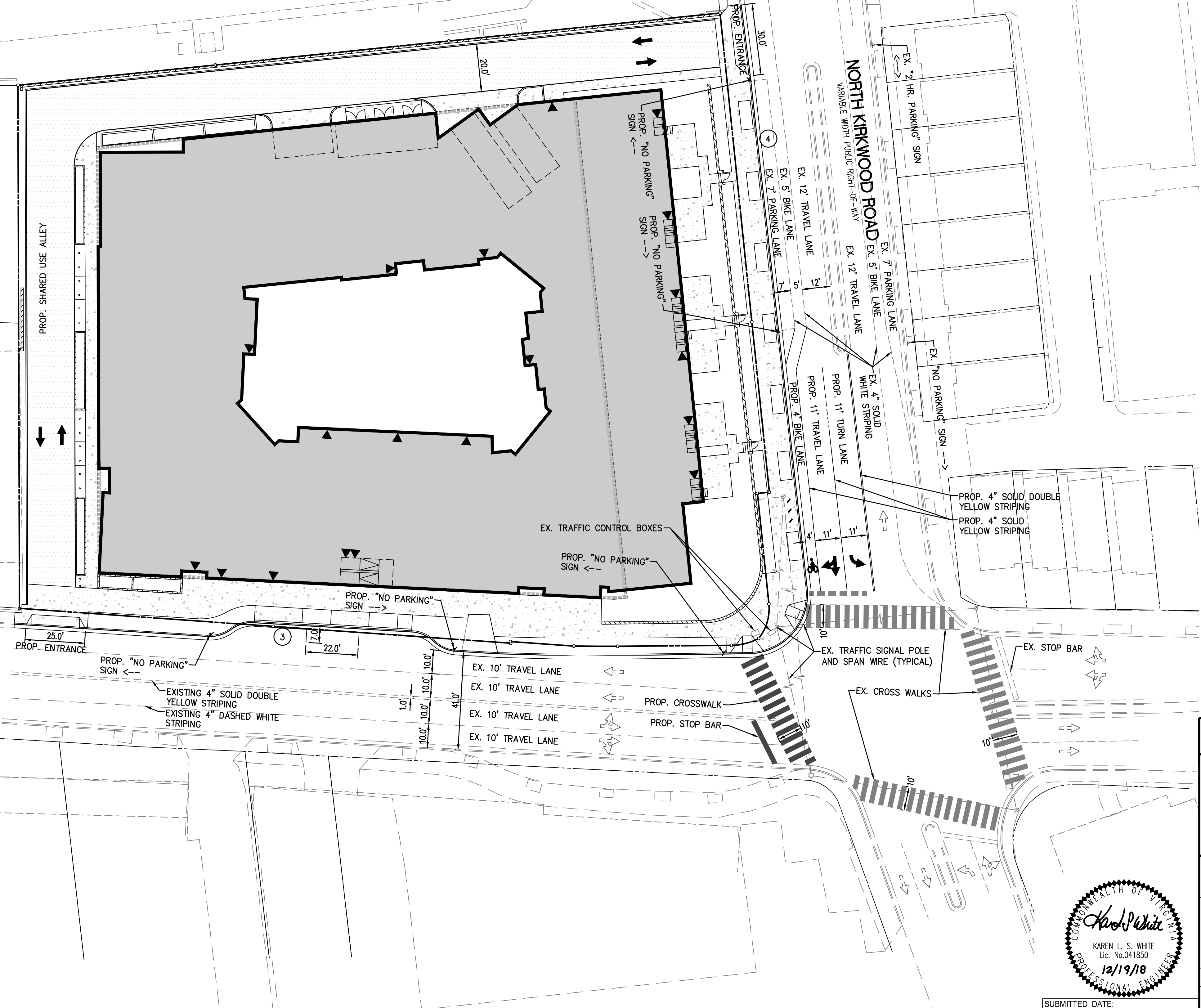
N/F YMCA.  
DB 1426 PG 33

BALL BURIAL  
GROUNDS  
VCS 1988 - NORTH ZONE

N/F 3427 WASHINGTON  
BOULEVARD, LLC  
DB 3345 PG 657

WASHINGTON BOULEVARD  
VARIABLE WIDTH PUBLIC RIGHT-OF-WAY

NORTH KIRKWOOD ROAD  
VARIABLE WIDTH PUBLIC RIGHT-OF-WAY



**PROPOSED PARKING TABULATION:**

**PROPOSED OFF-STREET PARKING:**  
SEE ARCHITECTURE PLANS (ALL OFF-STREET PARKING LOCATED IN PROPOSED UNDERGROUND PARKING GARAGE)

**PROPOSED ON-STREET PARKING:**  
NORTH KIRKWOOD ROAD = 4 SPACES  
WASHINGTON BOULEVARD = 3 SPACES  
TOTAL = 7 SPACES

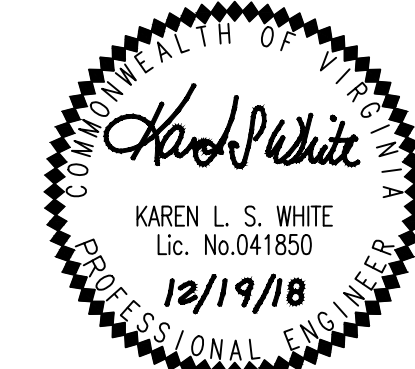
**PROPOSED STRIPING & MARKING PLAN**

**WALTER L. PHILLIPS** INCORPORATED ESTABLISHED 1945

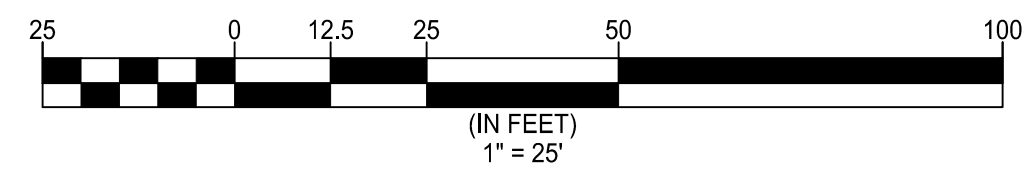
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SCALE: 1" = 25'	DRAWN TPB	CHECKED KSW
APPROVED DATE	APPROVED DATE	APPROVED DATE
CHIEF WATER, SEWER & STREETS BUREAU	CHIEF ENGINEERING BUREAU	CHIEF TRANSPORTATION ENGINEERING BUREAU
		DIRECTOR OF ENVIRONMENTAL SERVICES



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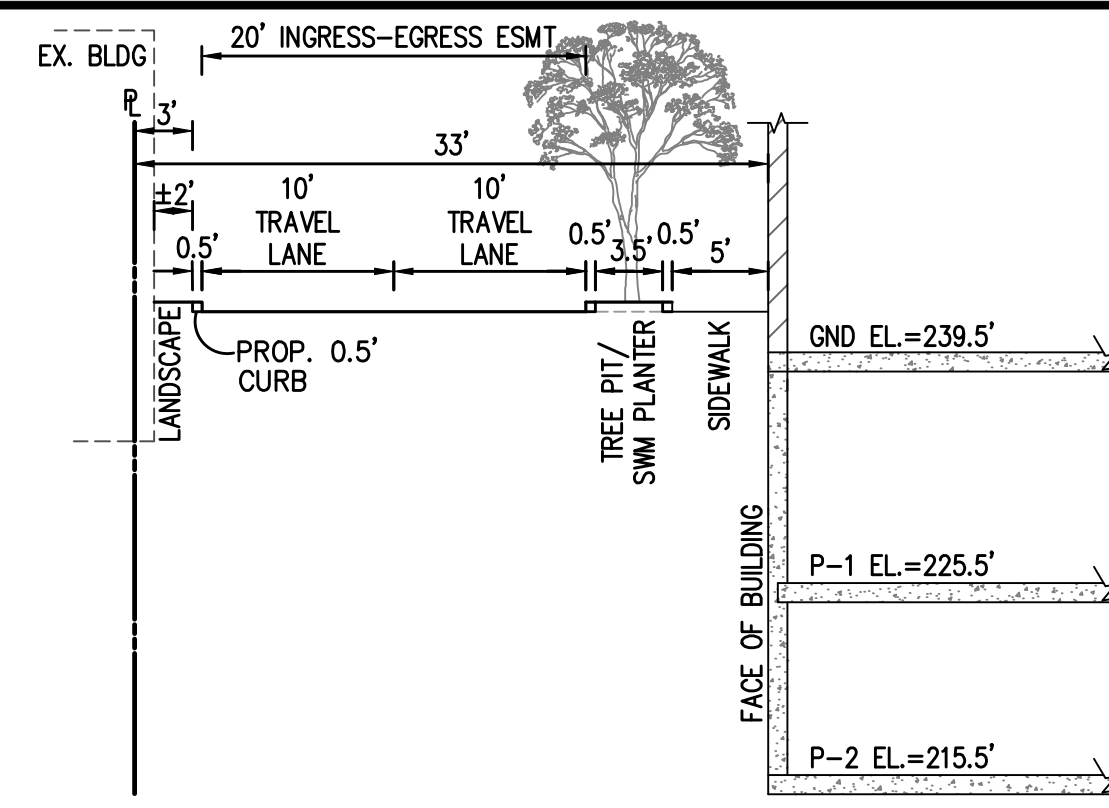
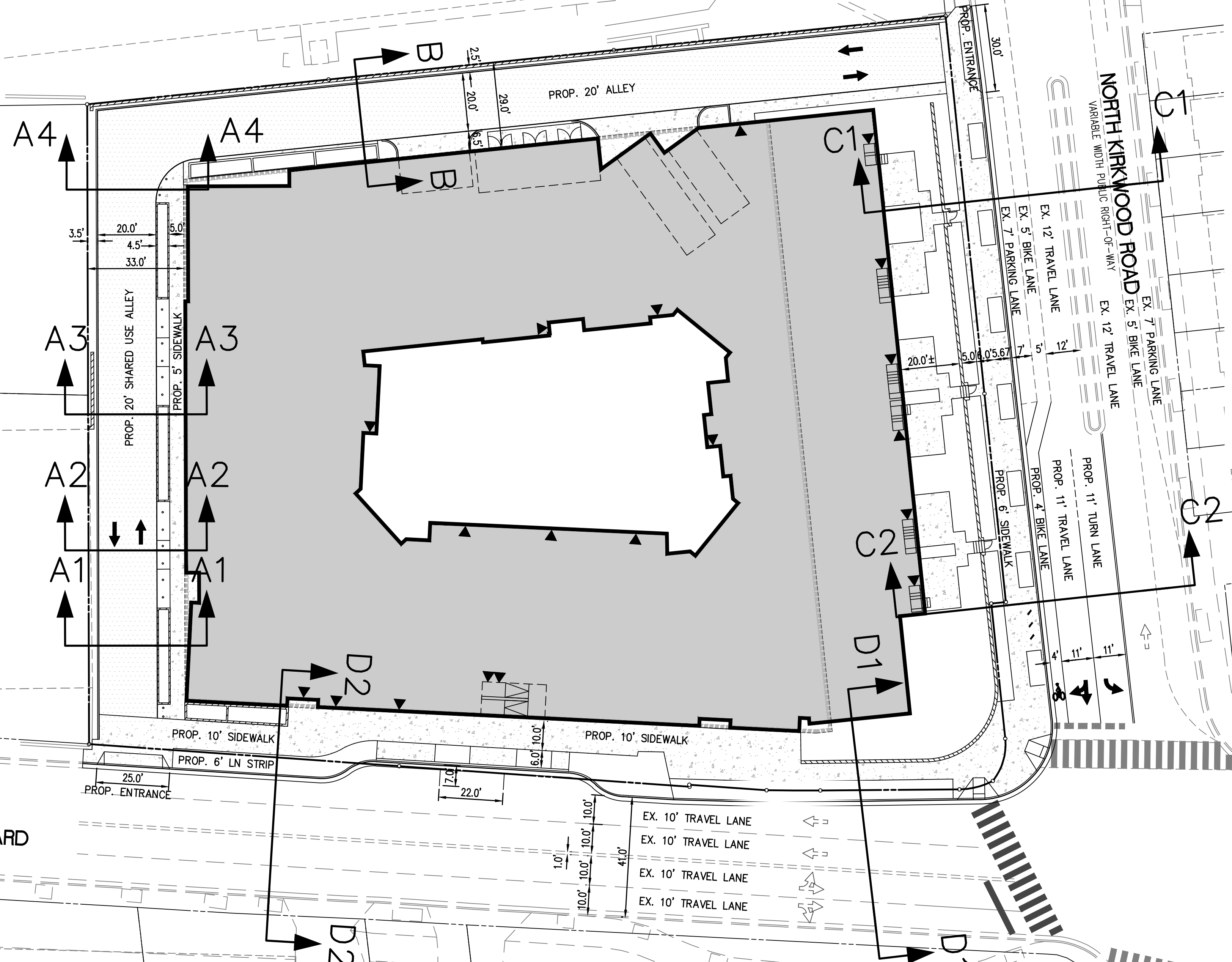
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DB 1426 PG 33

BALL BURIAL  
GROUNDS

VCS 1988 - NORTH ZONE

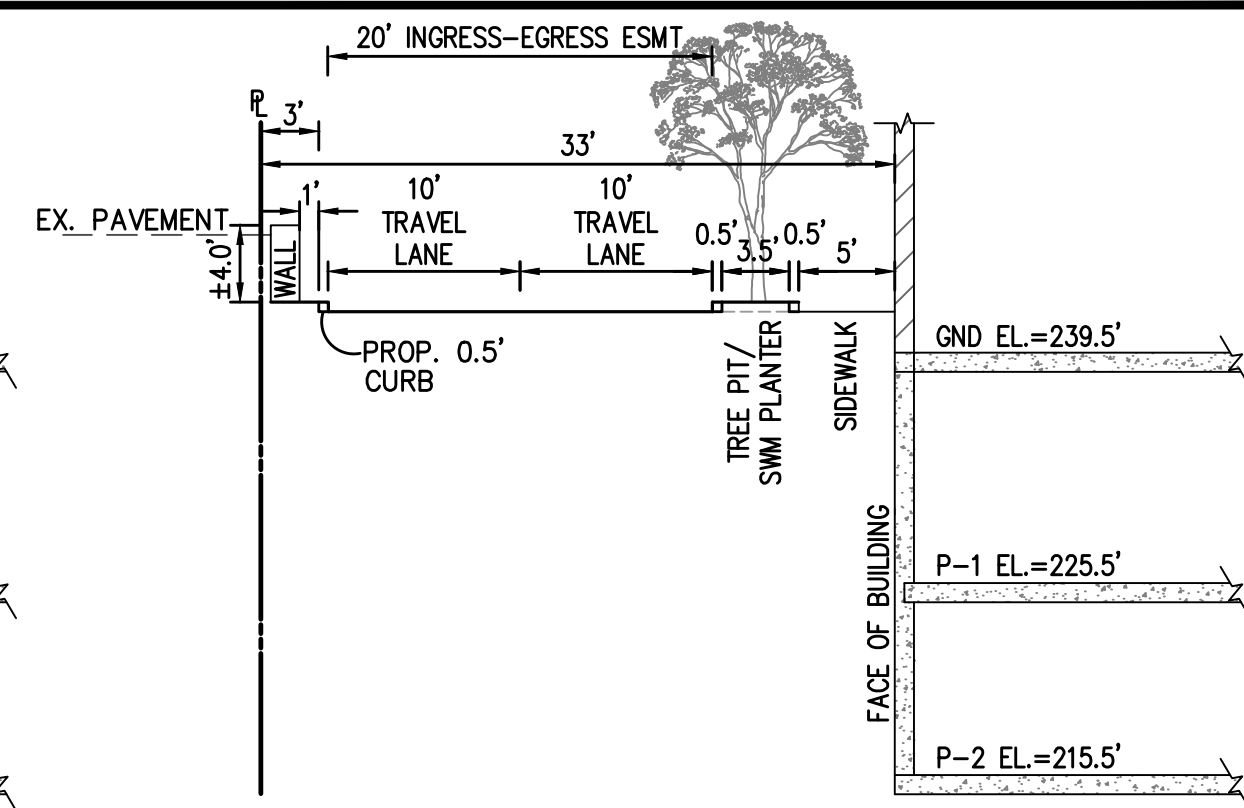
N/F 3427 WASHINGTON  
BOULEVARD, LLC  
DB 3345 PG 657

WASHINGTON BOULEVARD  
VARIABLE WIDTH PUBLIC RIGHT-OF-WAY



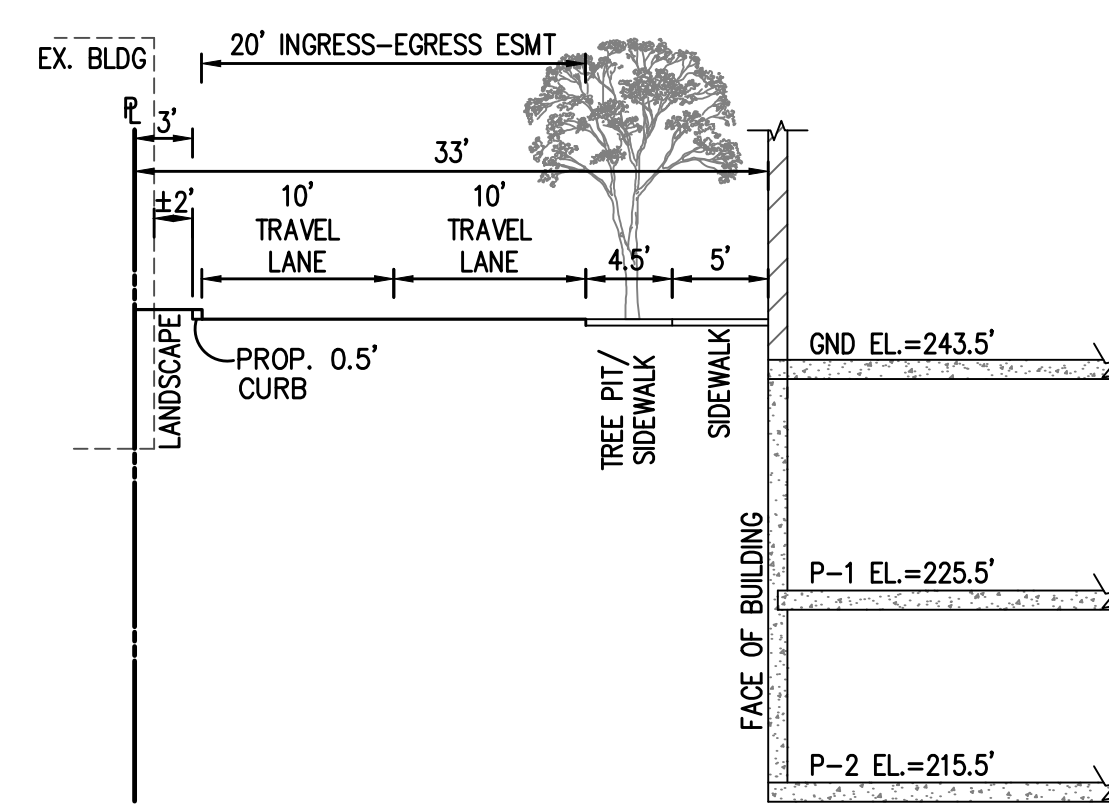
**PROPOSED SECTION A1-A1  
PROPOSED WEST ALLEY**

SCALE: 1" = 10"



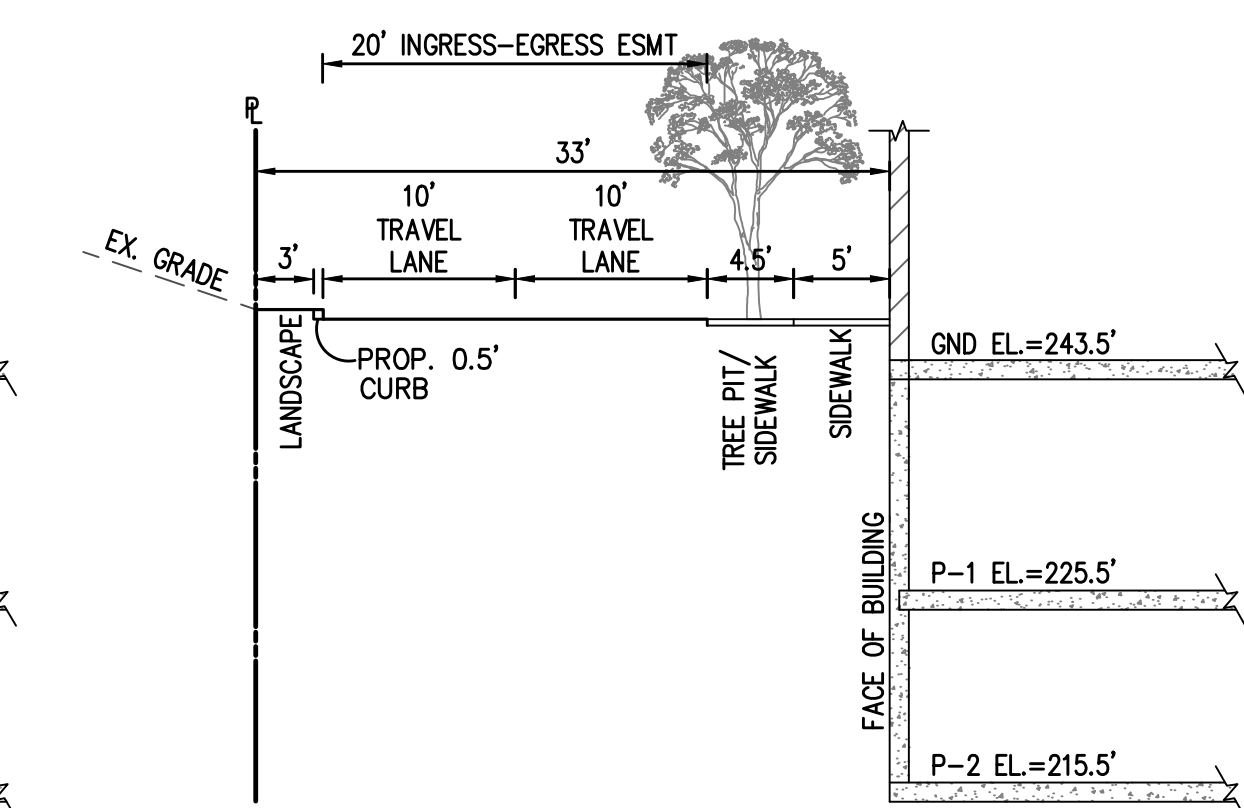
**PROPOSED SECTION A3-A3  
PROPOSED WEST ALLEY**

SCALE: 1" = 10"



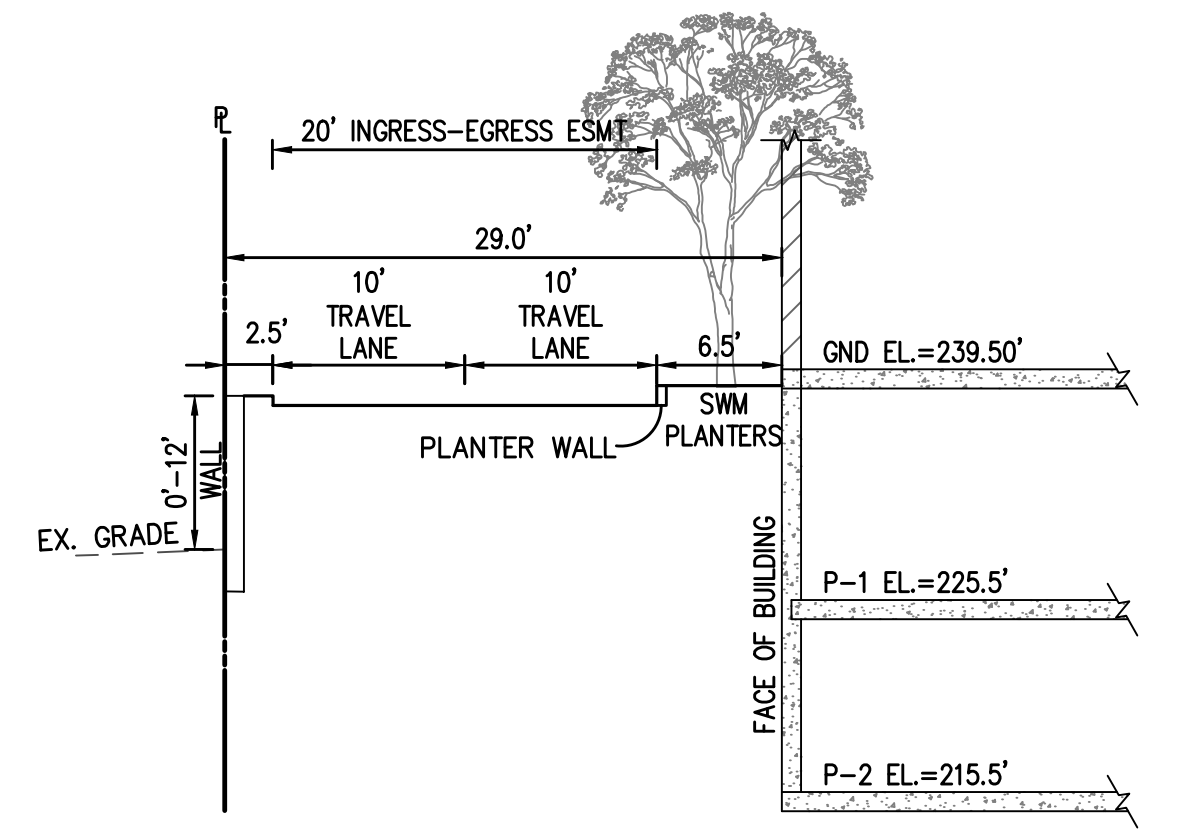
**PROPOSED SECTION A2-A2  
PROPOSED WEST ALLEY**

SCALE: 1" = 10"



**PROPOSED SECTION A4-A4  
PROPOSED WEST ALLEY**

SCALE: 1" = 10"



**PROPOSED SECTION B-B  
PROPOSED NORTH ALLEY**

SCALE: 1" = 10"

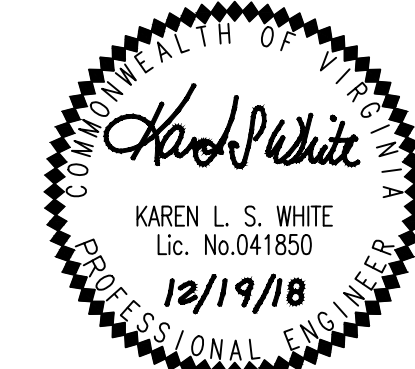
**STREET CROSS-SECTIONS**



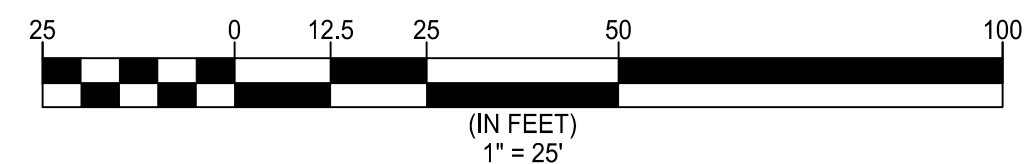
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3411, 3415, & 3421 WASHINGTON BLVD  
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ARLINGTON COUNTY, VIRGINIA

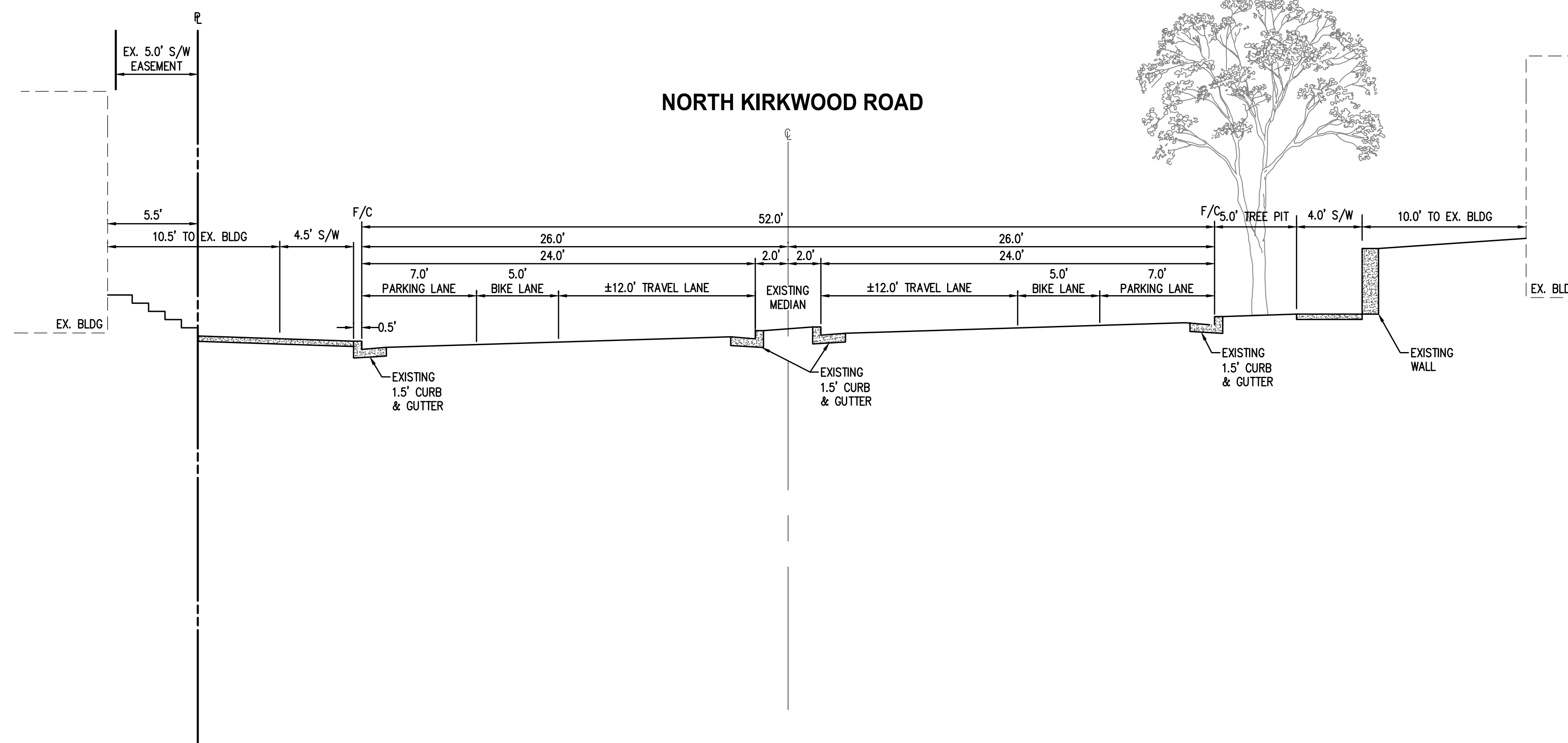
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APPROVED DATE	CHIEF TRANSPORTATION PLANNING BUREAU	CHIEF TRANSPORTATION ENGINEERING BUREAU
APPROVED DATE	CHIEF WATER, SEWER & STREETS BUREAU	CHIEF ENGINEERING BUREAU
APPROVED DATE	CHIEF ENGINEERING BUREAU	DIRECTOR OF ENVIRONMENTAL SERVICES



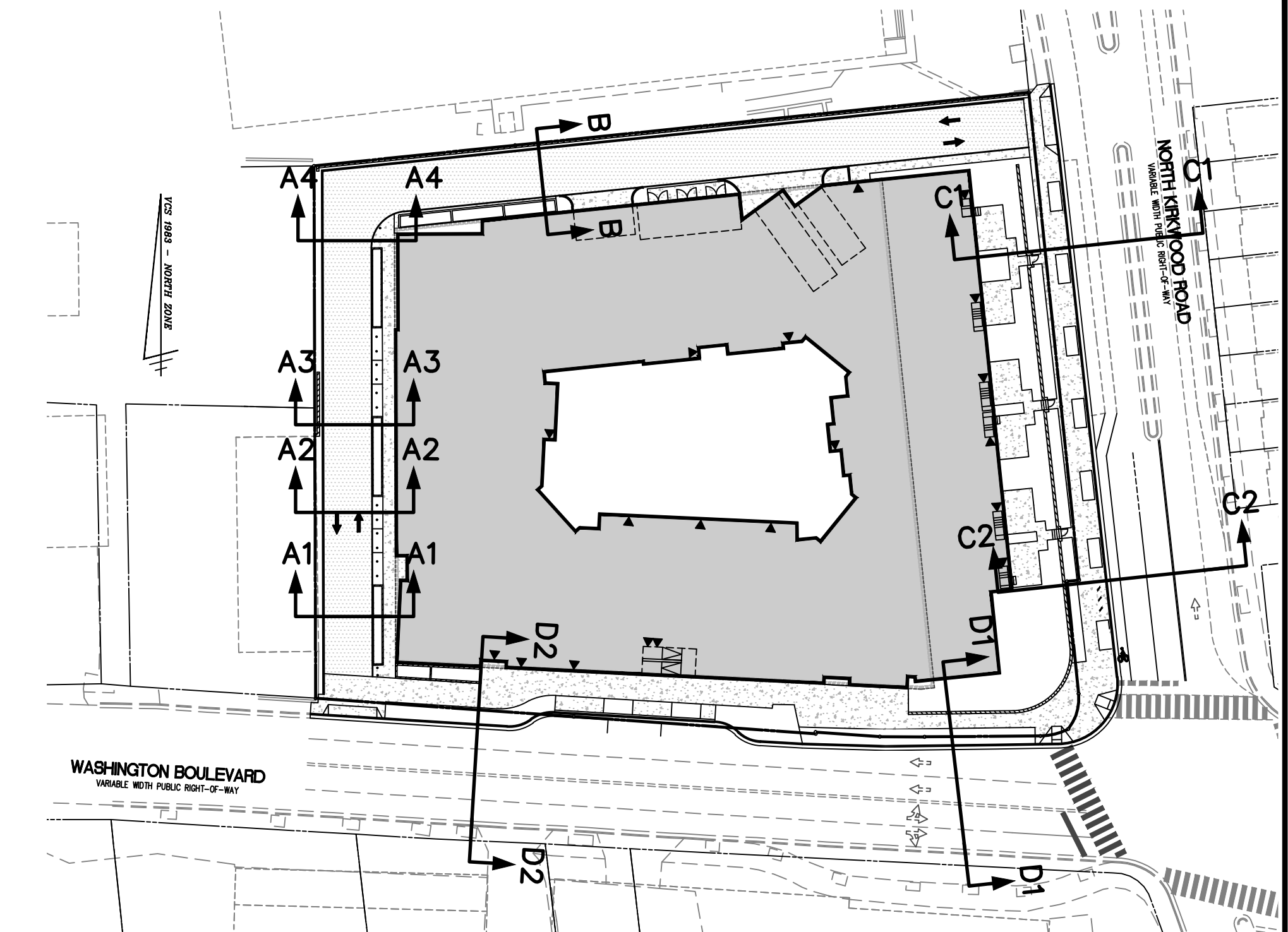
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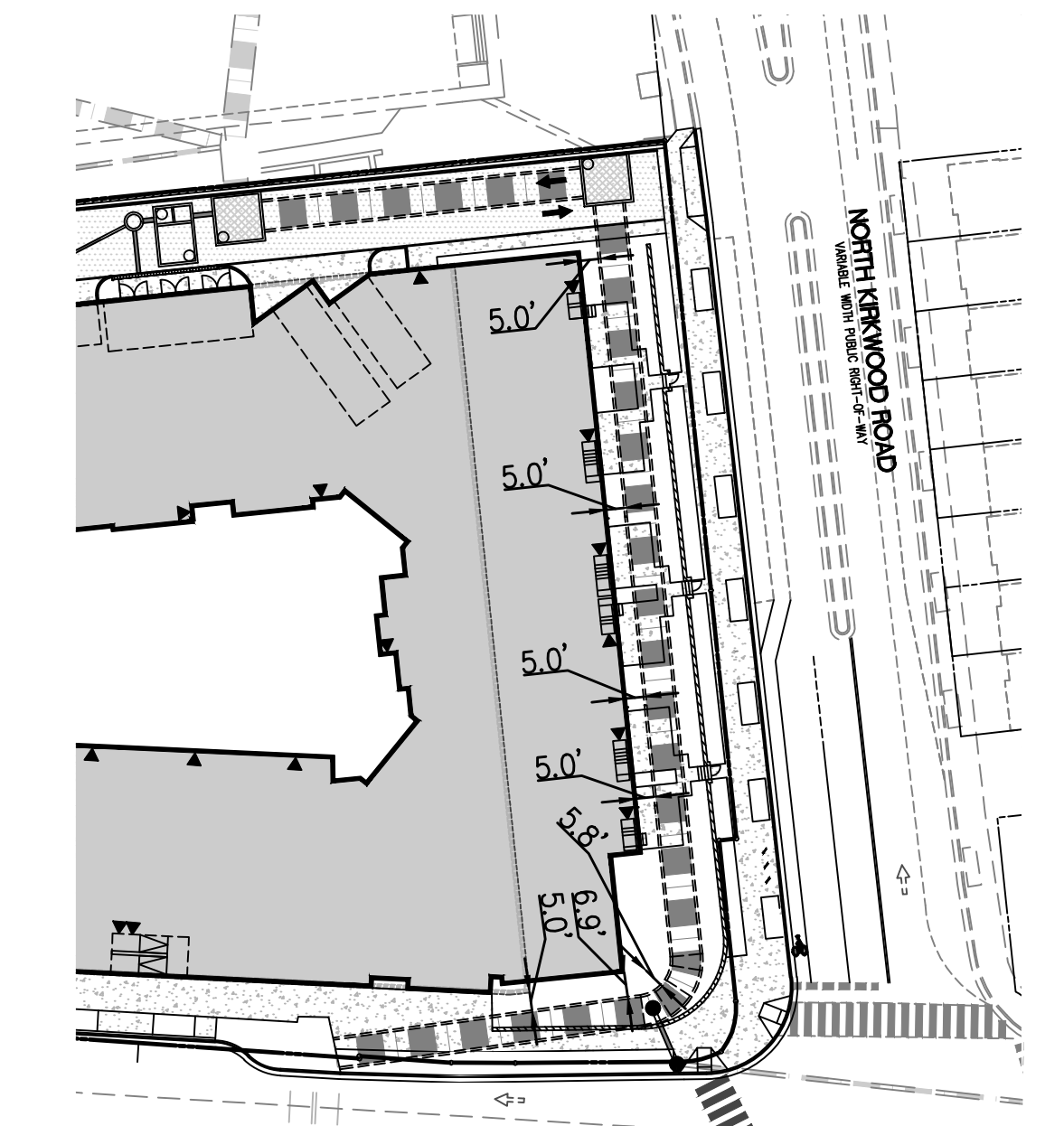




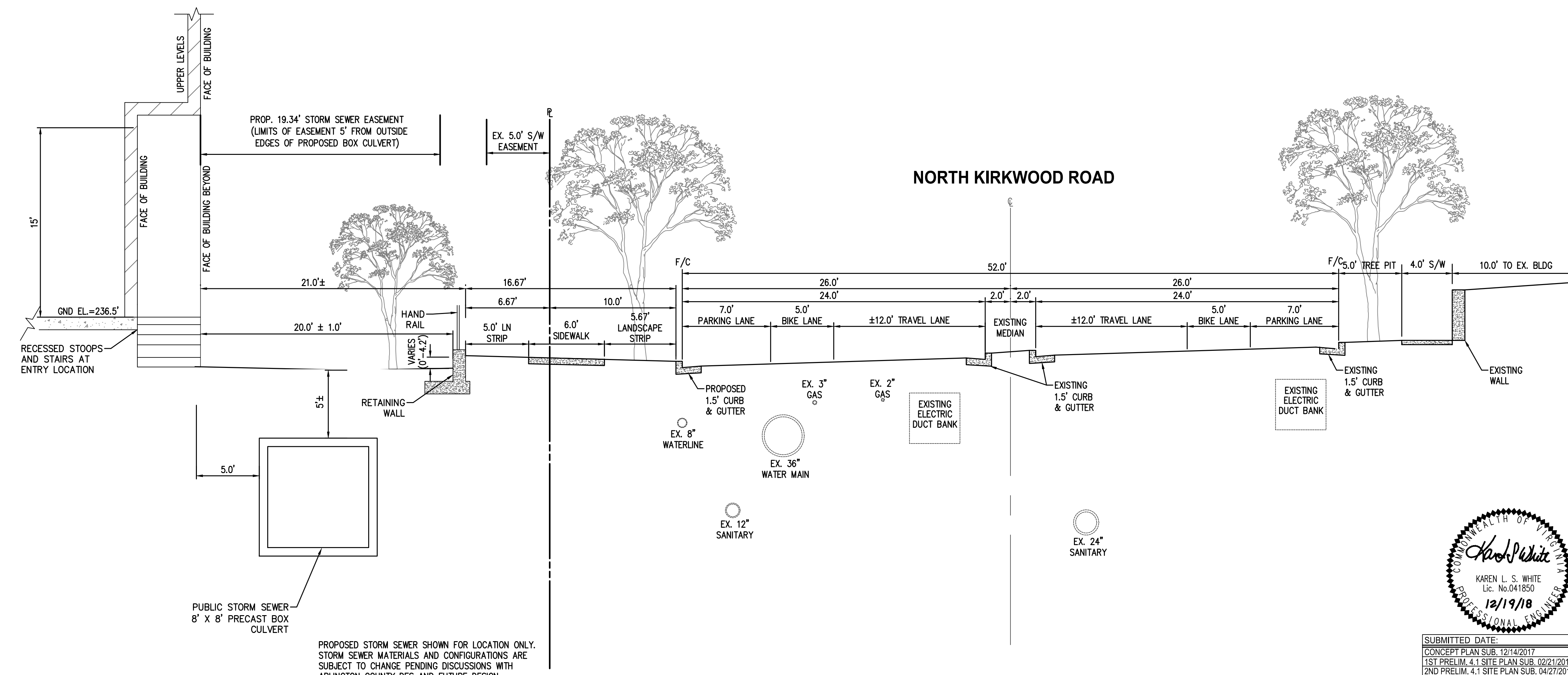
**EXISTING SECTION C1-C1 :NORTH KIRKWOOD ROAD**  
SCALE: 1" = 5'



**SECTION KEY**  
SCALE: 1" = 50'



**PIPE SETBACK DIMENSIONS**  
SCALE: 1" = 50'



**PROPOSED SECTION C1-C1 :NORTH KIRKWOOD ROAD**  
SCALE: 1" = 5'

PUBLIC STORM SEWER  
8' X 8' PRECAST BOX  
CULVERT

PROPOSED STORM SEWER SHOWN FOR LOCATION ONLY.  
STORM SEWER MATERIALS AND CONFIGURATIONS ARE  
SUBJECT TO CHANGE PENDING DISCUSSIONS WITH  
ARLINGTON COUNTY DES AND FUTURE DESIGN  
ADJUSTMENTS.

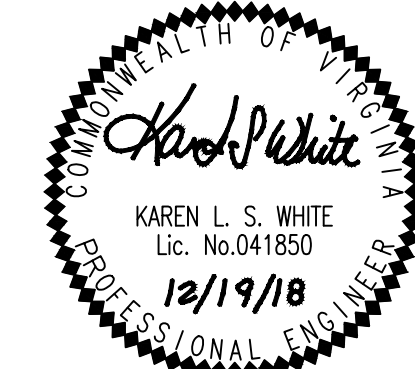
**STREET CROSS-SECTIONS**

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		DIRECTOR OF ENVIRONMENTAL SERVICES

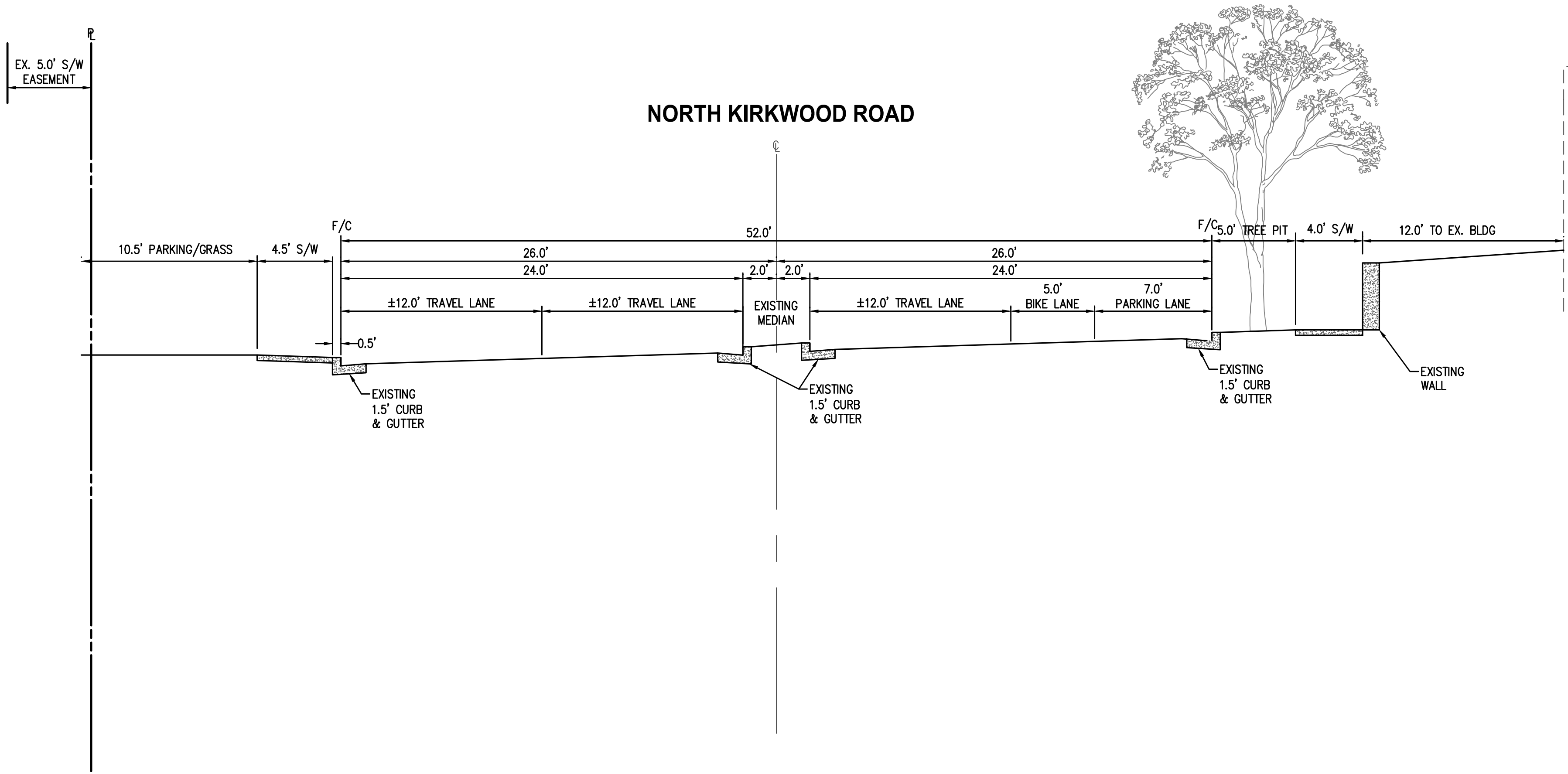
SHEET: **C-0407**



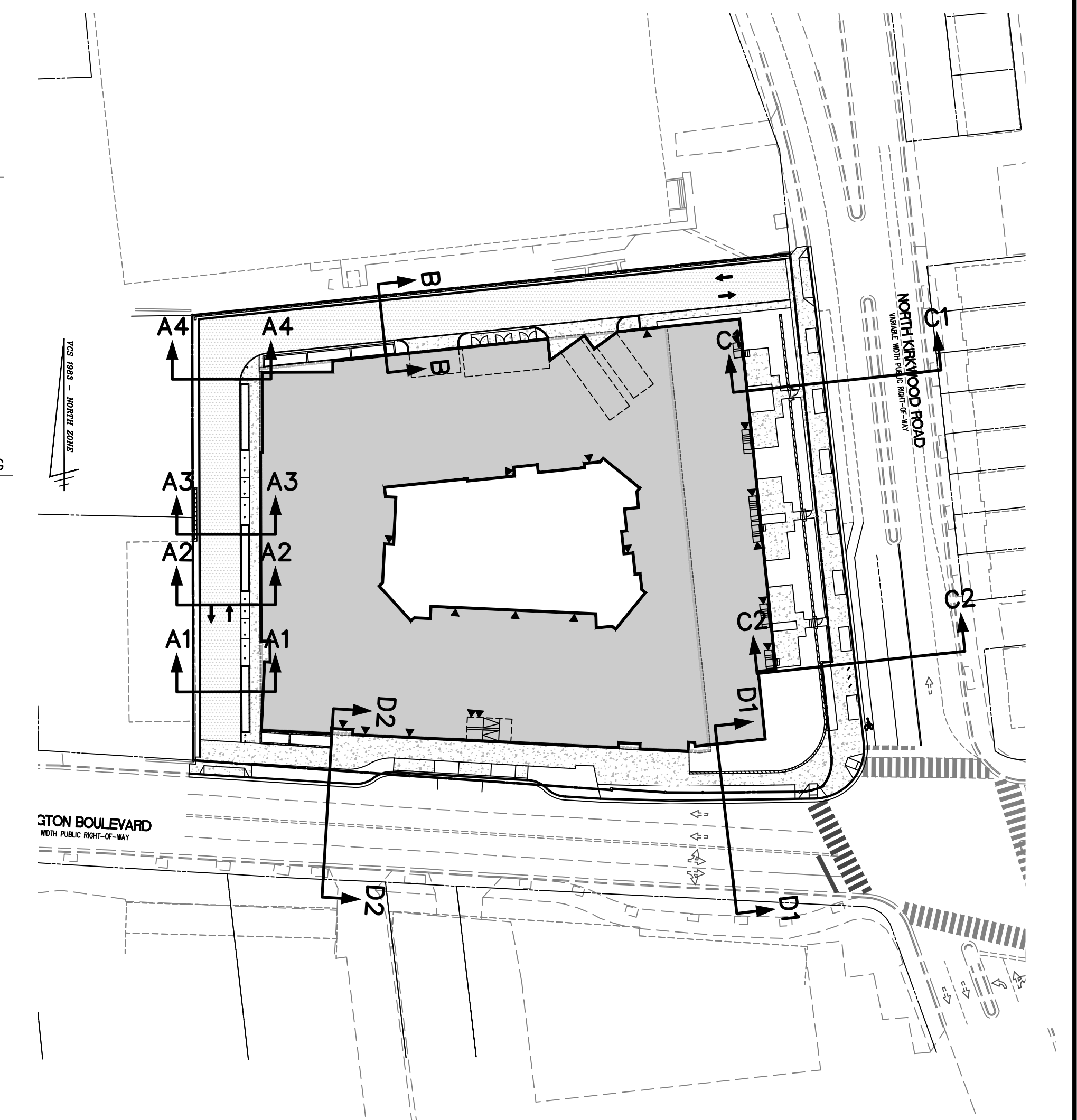
SUBMITTED DATE:

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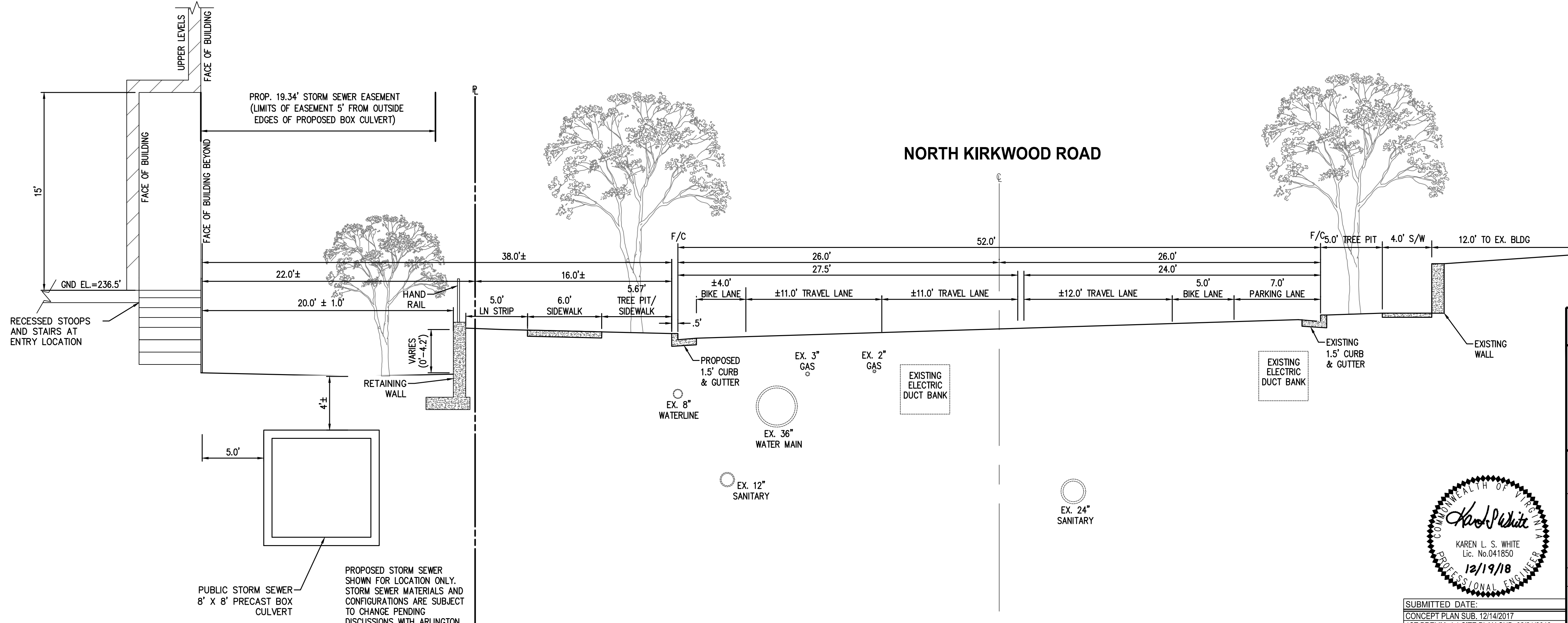




**EXISTING SECTION C2-C2 : NORTH KIRKWOOD ROAD**  
SCALE: 1" = 5'



**SECTION KEY**  
SCALE: 1" = 50'



**SECTION C2-C2 - NORTH KIRKWOOD ROAD**  
SCALE: 1" = 5'

**STREET CROSS-SECTIONS**

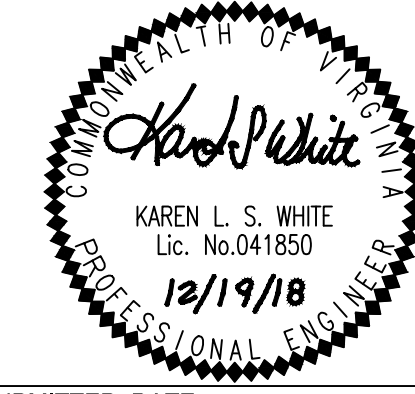
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APPROVED DATE	CHIEF WATER, SEWER & STREETS BUREAU	APPROVED DATE	CHIEF ENGINEERING BUREAU
			DIRECTOR OF ENVIRONMENTAL SERVICES

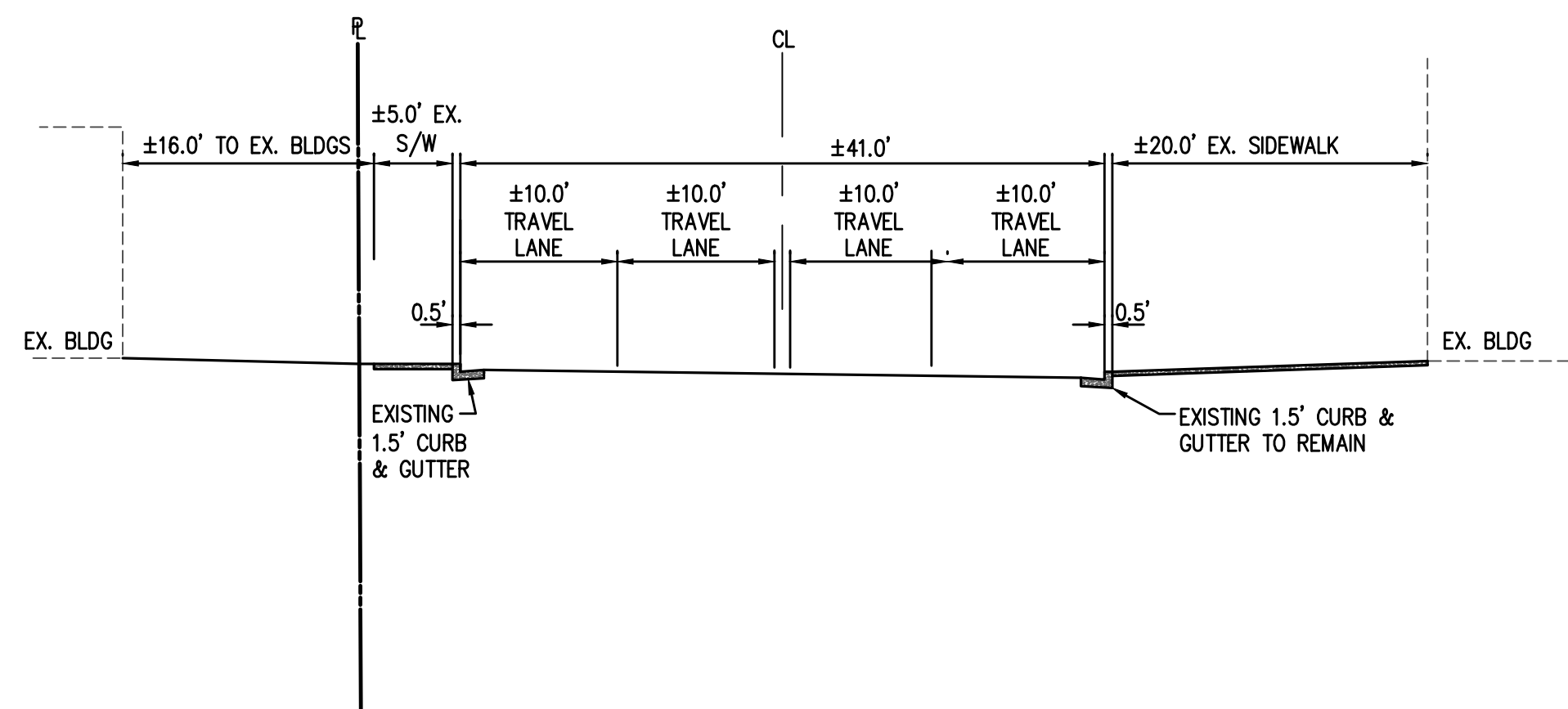
SHEET: **C-0408**



SUBMITTED DATE:

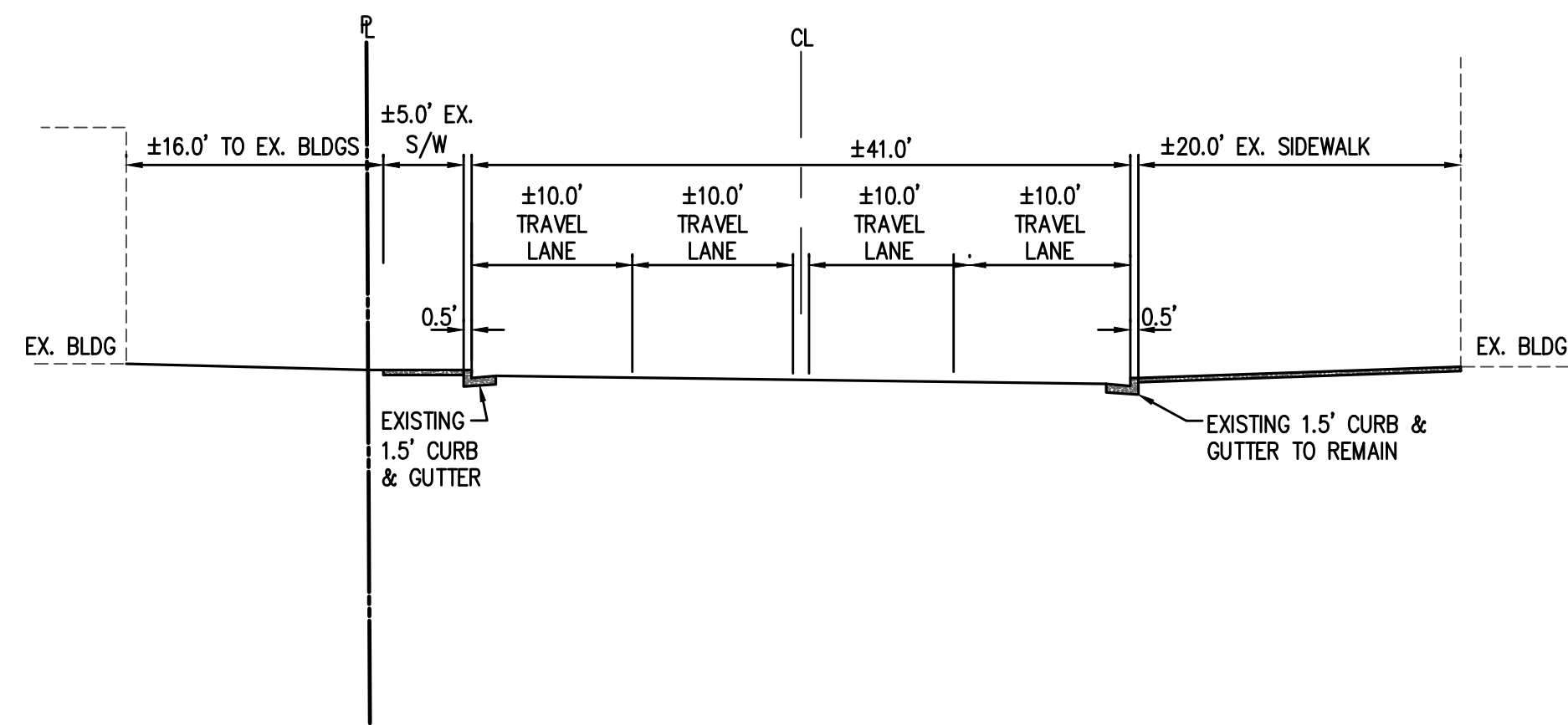
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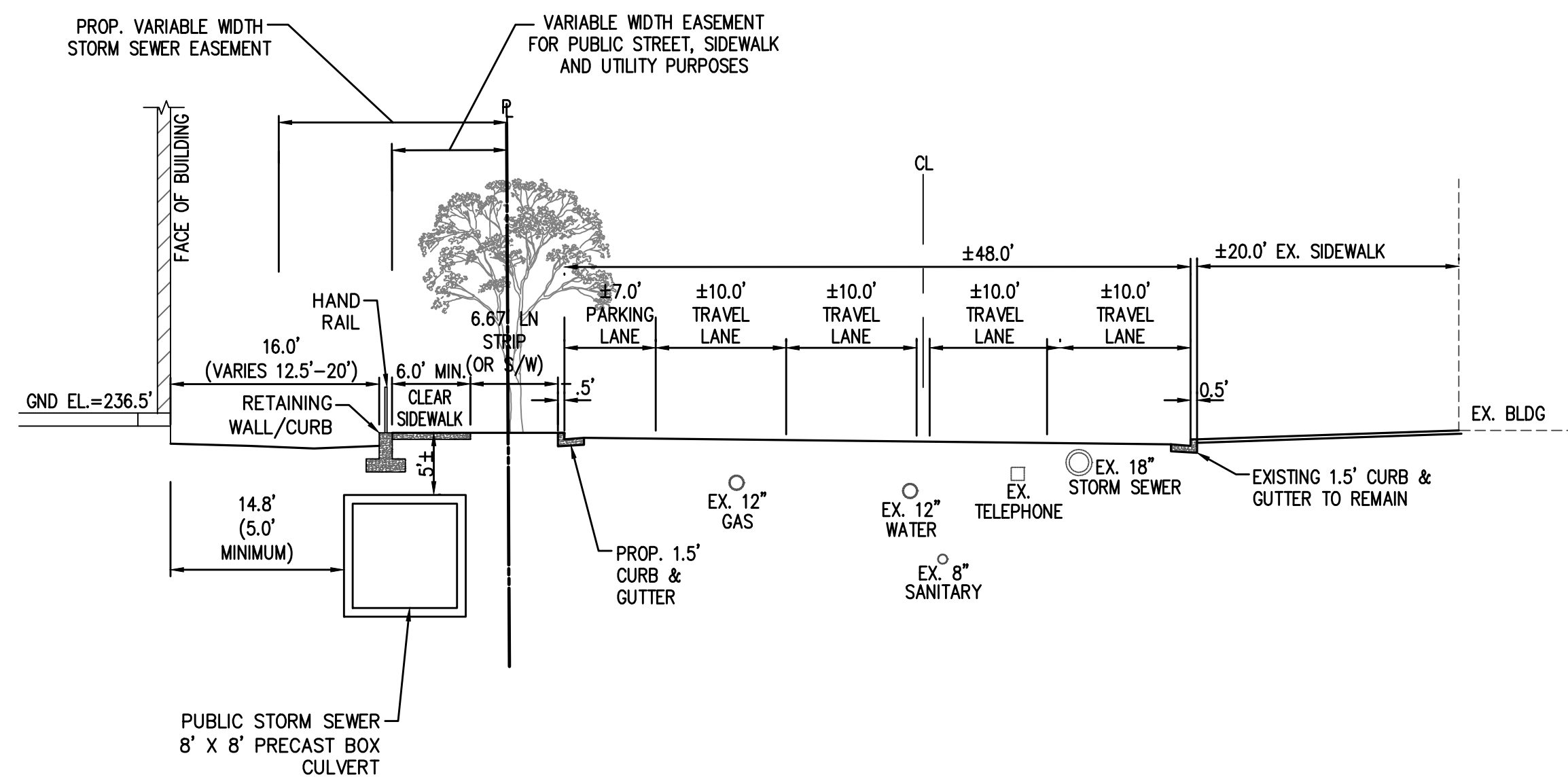
**EXISTING SECTION D1-D1  
WASHINGTON BOULEVARD**

SCALE: 1" = 10'



**EXISTING SECTION D2-D2  
WASHINGTON BOULEVARD**

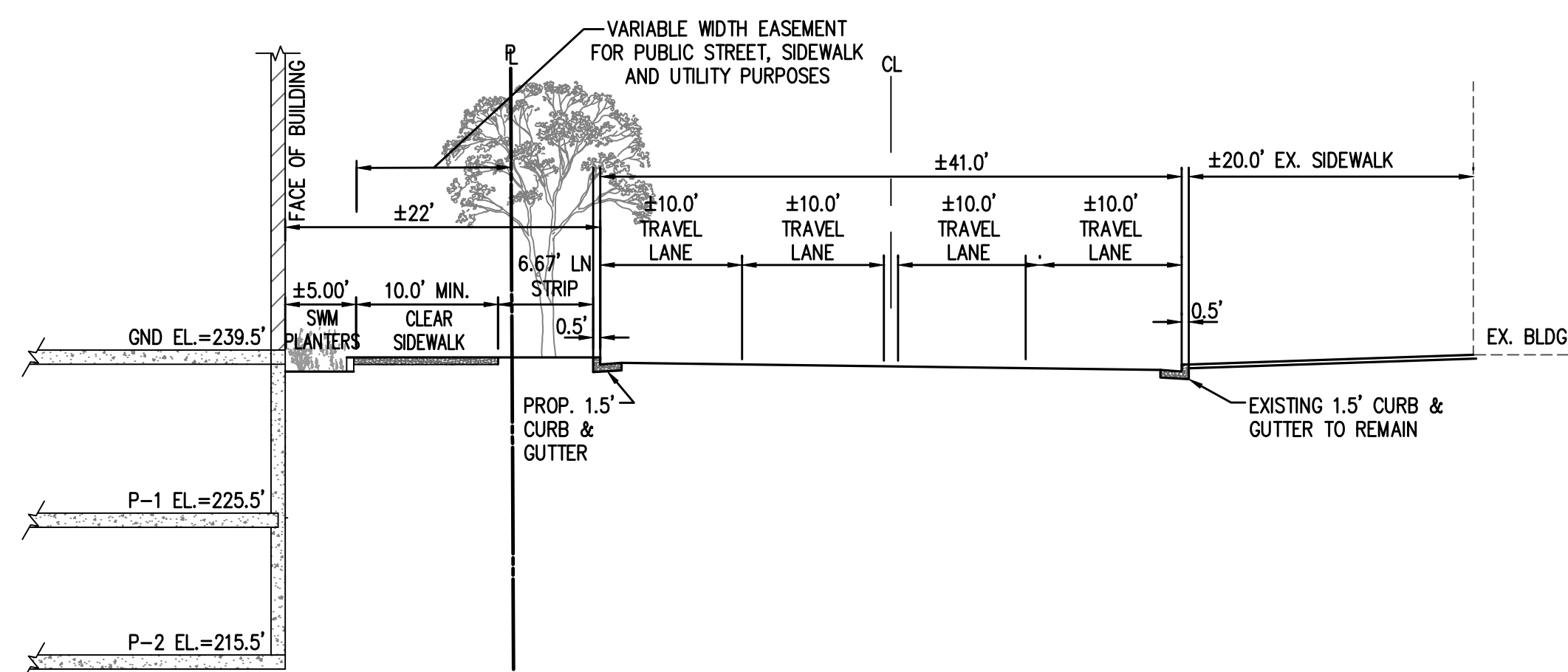
SCALE: 1" = 10'



**PROPOSED SECTION D1-D1  
WASHINGTON BOULEVARD**

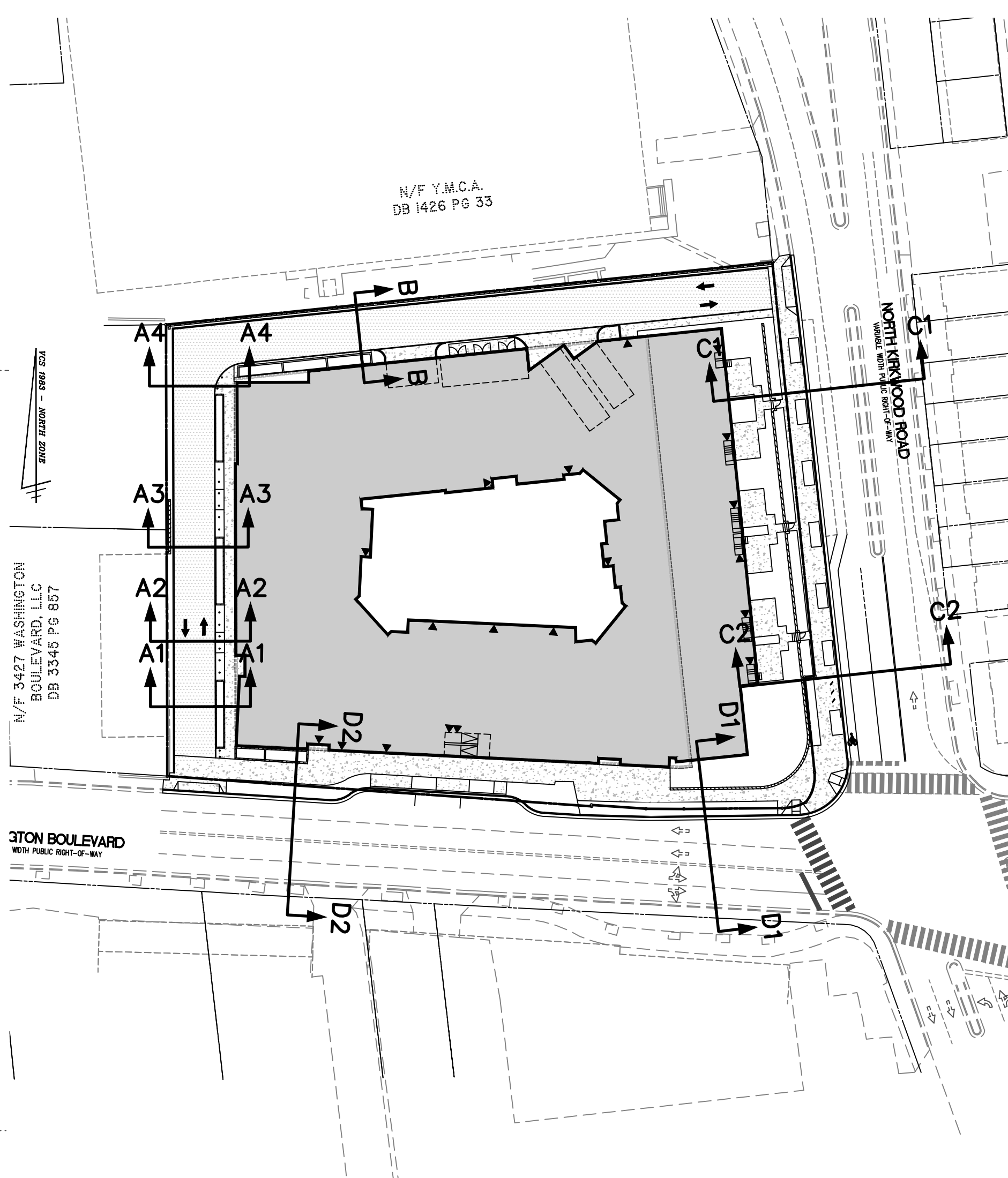
SCALE: 1" = 10'

PROPOSED STORM SEWER SHOWN FOR LOCATION ONLY.  
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ADJUSTMENTS.



**PROPOSED SECTION D2-D2  
WASHINGTON BOULEVARD**

SCALE: 1" = 10'



**SECTION KEY**

SCALE: 1" = 50'

**STREET CROSS-SECTIONS**



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3411, 3415, & 3421 WASHINGTON BLVD  
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ARLINGTON COUNTY, VIRGINIA

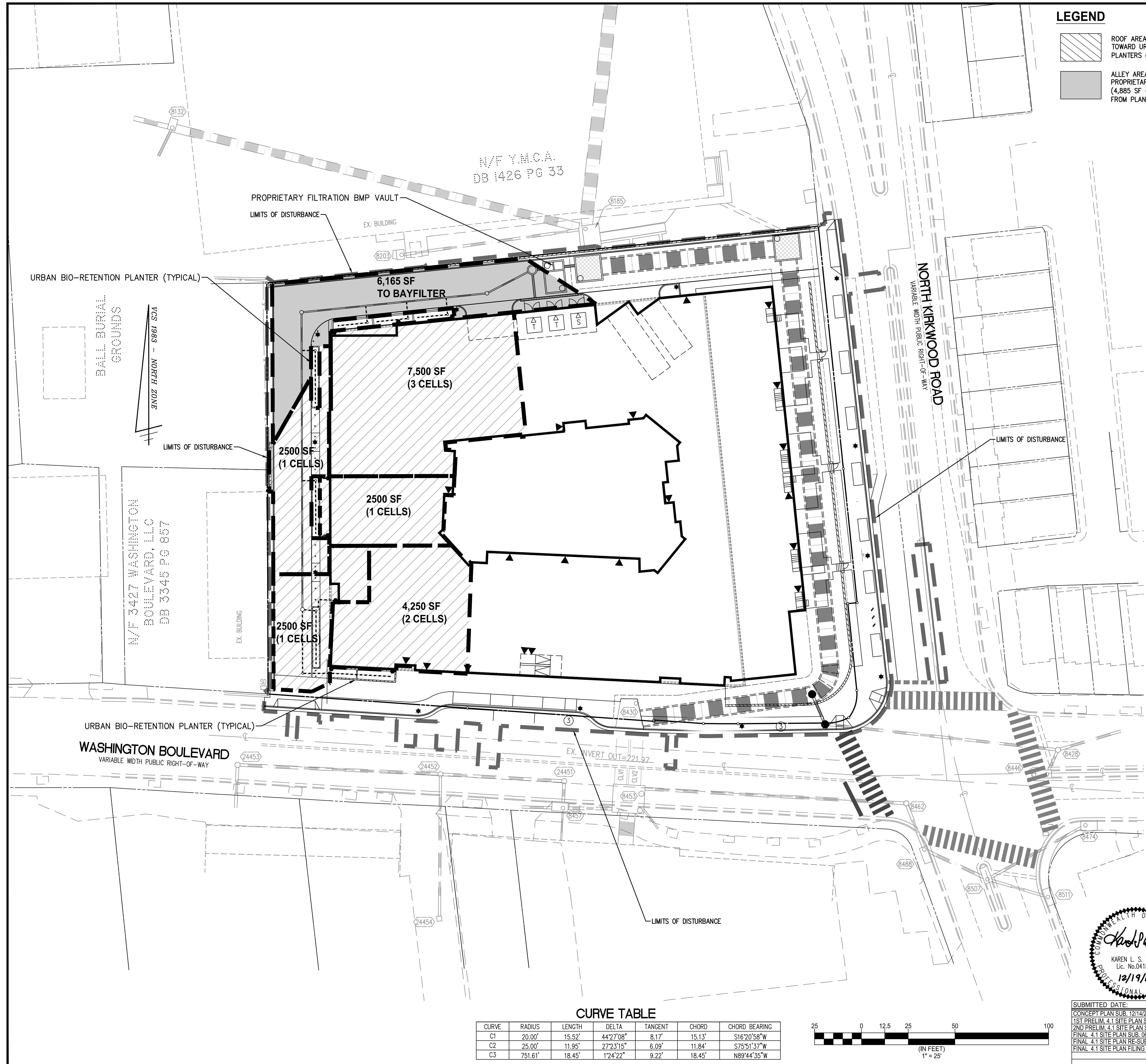
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SHEET: C-0409





**LEGEND**

- ROOF AREA AND ALLEY AREA DIRECTED TOWARD URBAN BIO-RETENTION PLANTERS (19,250)
- ALLEY AREA DIRECTED TOWARD PROPRIETARY FILTRATION BMP (4,885 SF + UPSTREAM REMAINING RUNOFF FROM PLANTERS)

**SWM/BMP NARRATIVE**

**EXISTING CONDITIONS:**  
 THE TOTAL PARCEL AREA OF THE SITE IS 75,187 SF OR 1.7261 ACRES. THE LIMITS OF DISTURBANCE AREA FOR THE PROJECT IS 83,190 SF OR 1.9098 ACRES. FOR THE PURPOSES OF STORMWATER MANAGEMENT THE SITE AREA WILL BE THE LIMITS OF DISTURBANCE WHICH IS EQUAL TO 83,190 SF OR 1.9098 ACRES.

CURRENTLY, THE SITE CONSISTS OF SEVERAL COMMERCIAL BUILDINGS AND ACCESSORY STRUCTURES/EQUIPMENT. ADDITIONALLY, SURFACE PARKING, LANDSCAPE AREAS, AND UTILITY INFRASTRUCTURE EXIST ON-SITE. THERE ARE NO EXISTING STORMWATER MANAGEMENT QUALITY OR QUANTITY CONTROL MEASURES ON SITE. THE SITE DRAINS FROM SOUTH TO NORTH ACROSS THE SITE AS SHEET FLOW OR VIA STORM SEWERS. ALL STORM WATER ENTERS THE MUNICIPAL STORM SEWER SYSTEM VIA INLETS WITHIN THE SITE AND ALONG THE ADJACENT PUBLIC STREETS. AN 84" STORM SEWER CURRENTLY BIFURCATES THE SITE AND WILL BE RE-ALIGNED TO THE PERIMETER OF THE SITE AS PART OF THIS PROJECT.

**PROPOSED CONDITIONS:**  
 THE PROJECT INVOLVES THE CONSTRUCTION OF A RESIDENTIAL BUILDING, A PRIVATE ALLEY, SITE WALLS, LEAD WALKS, UTILITY SERVICES, AND STORMWATER MANAGEMENT BMP'S. THE PROPOSED STORMWATER MANAGEMENT BMP'S INCLUDE A BAYFILTER VAULT AND URBAN BIO-RETENTION PLANTERS.

**STORMWATER QUALITY:**  
 IN ORDER TO COMPLY WITH CHAPTER 60 OF THE ARLINGTON COUNTY CODE (STORMWATER ORDINANCE) FOR STORMWATER QUALITY, A STORMWATER FILTRATION FACILITY (BAYFILTER) AND URBAN BIO-RETENTION PLANTERS ARE PROPOSED. THESE STORMWATER BMP'S WILL REDUCE PHOSPHORUS LEVELS IN ORDER TO COMPLY WITH APPLICABLE ARLINGTON COUNTY AND STATE OF VIRGINIA REQUIREMENTS.

ADDITIONALLY, PER THE ARLINGTON COUNTY MEMORANDUM ON THE USE OF STRUCTURAL STORMWATER TREATMENT SYSTEMS, DATED 03/30/2018, PROPRIETARY HYDRODYNAMIC DEVICES AND FILTRATION BMP'S MAY NOT BE USED AS THE SOLE TREATMENT METHOD FOR ROOF TOP AREA OR PAVEMENT AREA UNLESS USED IN SERIES WITH UPSTREAM RUNOFF REDUCTION BMP'S. ADDITIONALLY, IF STRUCTURAL SYSTEMS ARE TO BE USED AS A STAND-ALONE BMP, AT LEAST 75% OF THE DRAINAGE AREA MUST BE HIGH INTENSITY VEHICULAR PAVEMENT. IN ORDER TO COMPLY WITH THE MEMORANDUM, ROOF AREA WILL BE TREATED BY URBAN BIO-RETENTION PLANTERS PRIOR TO BEING ROUTED TO THE PROPOSED FILTRATION BMP.

SEE SHEET C-0703 FOR STORMWATER QUALITY COMPUTATIONS.

**STORMWATER QUANTITY:**  
 THE SITE DRAINS FROM SOUTH TO NORTH AND DISCHARGES AS CONCENTRATED FLOW AT A SINGLE OUTFALL, AN 84" RCP STORM SEWER. THE SITE OUTFALL POINT ALSO SERVES AS THE LIMITS OF ANALYSIS FOR BOTH CHANNEL PROTECTION AND FLOOD CONTROL SINCE THE UPSTREAM DRAINAGE AREA TO THE SITE IS GREATER THAN 100 TIMES THE SITE AREA. STORMWATER FROM THE SITE ULTIMATELY DISCHARGES INTO THE POTOMAC RIVER. SEE SHEET C-0703 FOR OUTFALL MAPS AND ANALYSIS.

**CHANNEL PROTECTION:** THE SITE STORM OUTFALL AND ALL PIPES PROPOSED WITH THIS DEVELOPMENT WILL BE COMPRISED OF CONCRETE OR OTHER NON-ERODIBLE MATERIALS UP TO THE LIMITS OF ANALYSIS. THEREFORE, THE SITE CAN DISCHARGE THE 2-YEAR, 24-HOUR STORM WITHOUT CAUSING EROSION IN THE SYSTEM AND DETENTION IS NOT REQUIRED FOR THE PURPOSES OF CHANNEL PROTECTION.

BASED ON THIS ANALYSIS, IT IS THE OPINION OF THE SUBMITTING ENGINEER THAT THE SITE COMPLIES WITH THE CHANNEL PROTECTION CRITERIA OUTLINED IN THE STATE STORMWATER REGULATIONS (9VAC25-870-66).

**FLOOD PROTECTION:** THE SITE STORM OUTFALL AND ALL PIPES PROPOSED WITH THIS DEVELOPMENT WILL BE ADEQUATE TO RECEIVE THE 10-YEAR, 24-HOUR STORMWATER DISCHARGE FROM THE SITE AND UPSTREAM DRAINAGE AREA, UP TO THE LIMITS OF ANALYSIS (SEE SHEET C-0703 FOR OUTFALL MAP AND SUPPORTING INFORMATION ON THIS SHEET). THEREFORE, DETENTION IS NOT REQUIRED FOR THE PURPOSES OF FLOOD CONTROL.

BASED ON THIS, IT IS THE OPINION OF THE SUBMITTING ENGINEER THAT THE SITE COMPLIES WITH THE FLOOD PROTECTION CRITERIA OUTLINED IN THE STATE STORMWATER REGULATIONS (9VAC25-870-66).

NOTE THAT IMPLEMENTATION OF RUNOFF REDUCTION PRACTICES ON THIS SITE WILL BRING THE POST-DEVELOPMENT FLOW RATE DOWN TO BELOW PRE-DEVELOPMENT CONDITIONS.

SEE SHEET C-0705 FOR STORMWATER QUANTITY COMPUTATIONS.

**ADJACENT PROPERTIES:**  
 ALL UNCONTROLLED SHEET FLOW FROM THE SITE WILL BE DIRECTED TO EXISTING OR PROPOSED CURB INLETS WITHIN THE PUBLIC RIGHT-OF-WAY AND INTO THE MUNICIPAL STORM SEWER SYSTEM. THERE WILL NOT BE ANY ADVERSE IMPACT TO ADJACENT PROPERTIES AS A RESULT OF THIS PROJECT AND THE PROPOSED IMPROVEMENTS.

**FLOODPLAIN BOUNDARY:**  
 THIS SITE IS LOCATED OUTSIDE OF THE 100-YEAR FLOODPLAIN BOUNDARY.

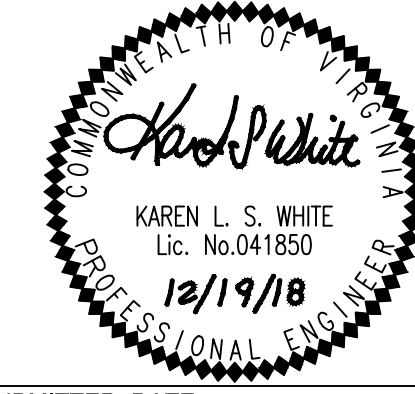
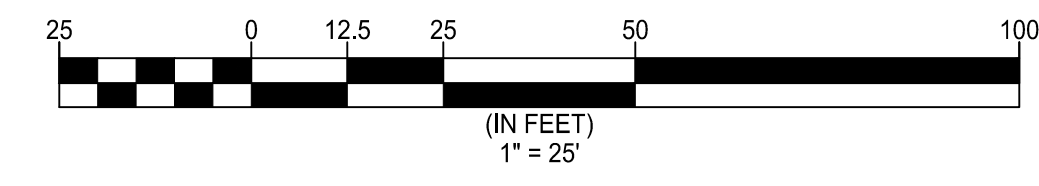
**RESOURCE PROTECTION AREAS:**  
 THERE ARE NO RESOURCE PROTECTION AREAS KNOWN TO EXIST ON THE SITE AND NO RESOURCE PROTECTION AREAS ARE DEPICTED ON THE ARLINGTON COUNTY GIS MAP.

THE SITE IS LOCATED IN THE SPROUT RUN WATERSHED.

THE STORMWATER MANAGEMENT PLAN PROVIDED ON THIS PLAN IS SUBJECT TO ADJUSTMENT AT THE TIME OF FINAL ENGINEERING.

**CURVE TABLE**

CURVE	RADIUS	LENGTH	DELTA	TANGENT	CHORD	CHORD BEARING
C1	20.00'	15.52'	44°27'08"	8.17'	15.13'	S16°20'58"W
C2	25.00'	11.95'	27°23'15"	6.09'	11.84'	S75°51'37"W
C3	751.61'	18.45'	1°24'22"	9.22'	18.45'	N89°44'35"W



SUBMITTED DATE:  
 CONCEPT PLAN SUB. 12/14/2017  
 1ST PRELIM. 4.1 SITE PLAN SUB. 02/21/2018  
 2ND PRELIM. 4.1 SITE PLAN SUB. 04/27/2018  
 FINAL 4.1 SITE PLAN SUB. 06/12/2018  
 FINAL 4.1 SITE PLAN RE-SUB. 11/16/2018  
 FINAL 4.1 SITE PLAN FILING 12/19/2018

**PRELIMINARY STORMWATER MANAGEMENT PLAN**

**WALTER L. PHILLIPS** INCORPORATED ESTABLISHED 1945

Engineers • Surveyors • Planners  
 Landscape Architects • Arborists  
 207 PARK AVENUE  
 FALLS CHURCH, VIRGINIA 22046  
 (703) 532-6163 Fax (703) 533-1301  
 www.WLPINC.com

**ARLINGTON, VIRGINIA**  
**DEPARTMENT OF ENVIRONMENTAL SERVICES**  
**WASHINGTON BOULEVARD AT KIRKWOOD**  
 3411, 3415, & 3421 WASHINGTON BLVD  
 & 1122 NORTH KIRKWOOD ROAD  
 ARLINGTON COUNTY, VIRGINIA

SCALE: 1" = 25'	DRAWN TPB	CHECKED KSW
APPROVED DATE	CHIEF TRANSPORTATION PLANNING BUREAU APPROVED DATE	CHIEF TRANSPORTATION ENGINEERING BUREAU APPROVED DATE
CHIEF WATER, SEWER & STREETS BUREAU	CHIEF ENGINEERING BUREAU	DIRECTOR OF ENVIRONMENTAL SERVICES
SHEET: <b>C-0701</b>		



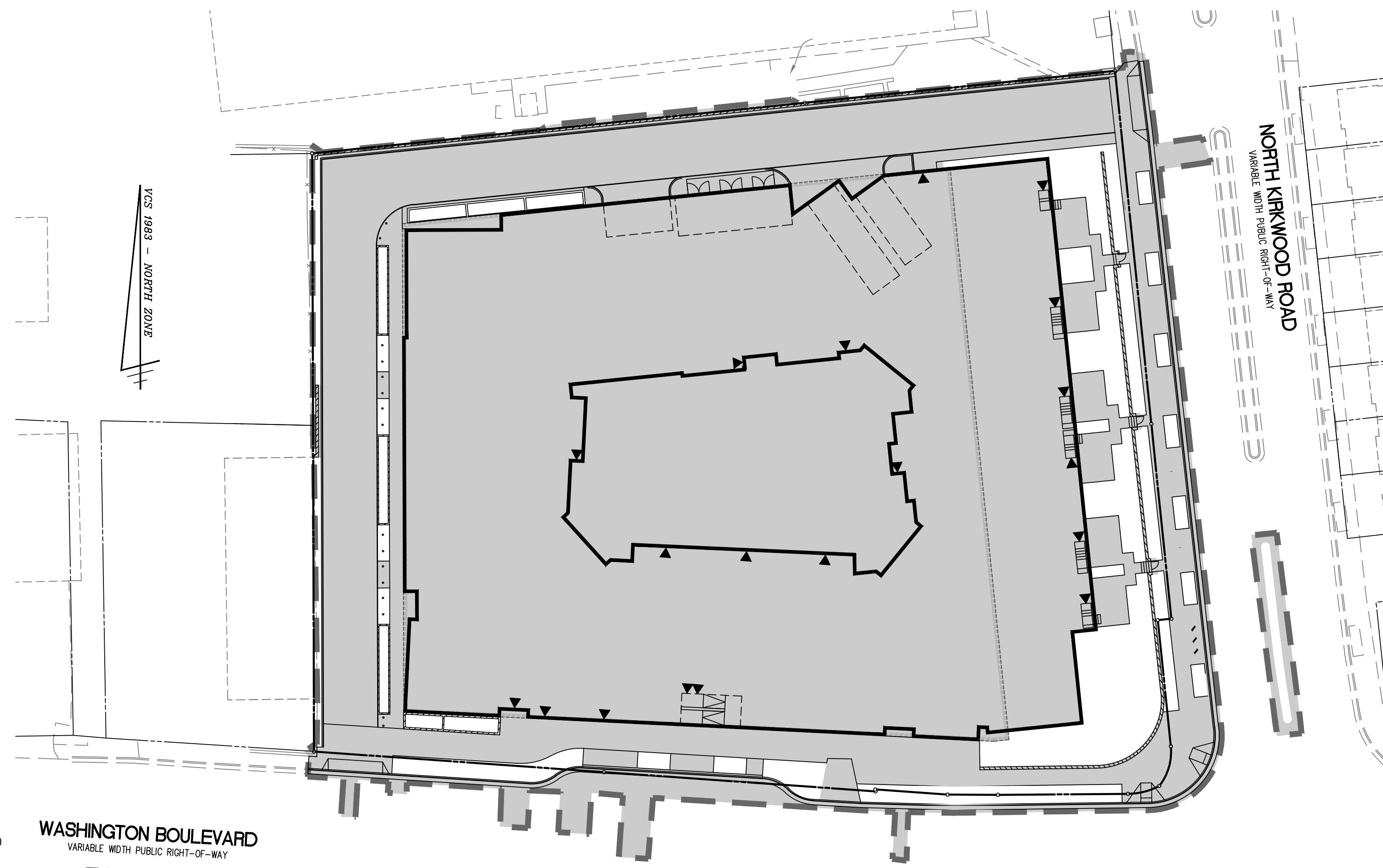


### EXISTING IMPERVIOUS AREA TABULATIONS

LIMITS OF DISTURBANCE (SWM AREA):	83,190 SQ. FT.	(1.9098 ACRES)
EXISTING IMPERVIOUS AREA:	73,234 SQ. FT.	(1.6812 ACRES)
EXISTING PERVIOUS AREA:	9,956 SQ. FT.	(0.2286 ACRES)

$$CN = [(73,234 \times 98) + (9,956 \times 80)] / 83,190 = 96$$

- IMPERVIOUS AREA
- LIMITS OF CLEARING AND GRADING



### PROPOSED IMPERVIOUS AREA TABULATIONS

LIMITS OF DISTURBANCE (SWM AREA):	83,190 SQ. FT.	(1.9098 ACRES)
PROPOSED IMPERVIOUS AREA:	74,385 SQ. FT.	(1.7076 ACRES)
PROPOSED PERVIOUS AREA:	8,805 SQ. FT.	(0.2021 ACRES)

$$CN = 95 \text{ (SEE RRM SPREADSHEET - C-0705)}$$

- IMPERVIOUS AREA
- LIMITS OF CLEARING AND GRADING

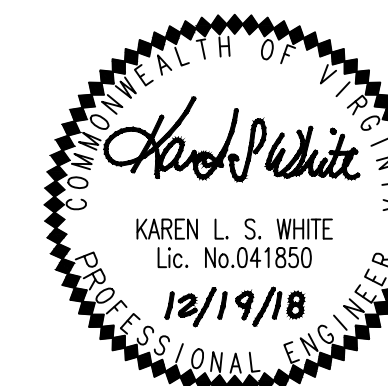
NOTE: SEE SHEETS C-0701, C-0703 - C-0705 FOR ADDITIONAL STORMWATER MANAGEMENT INFORMATION.

### PRELIMINARY IMPERVIOUS AREA ANALYSIS

**WALTER L. PHILLIPS**  
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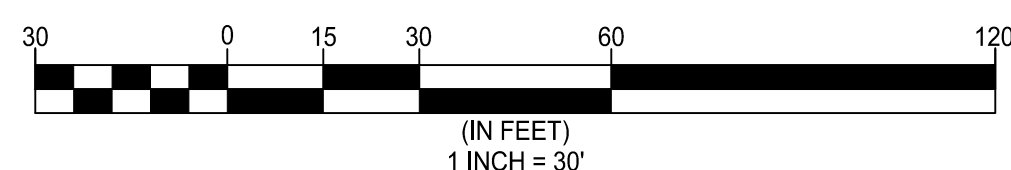
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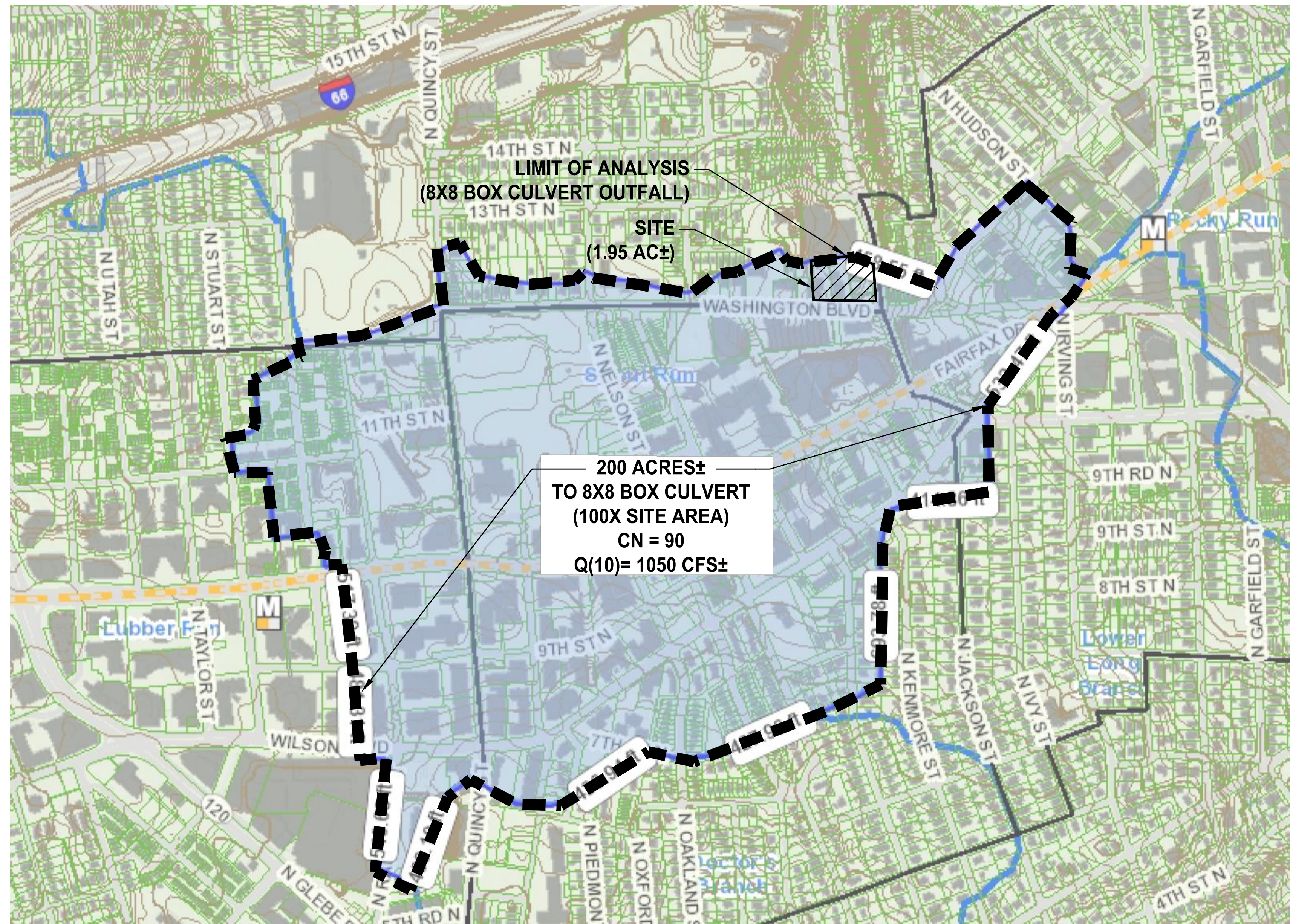
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FINAL 4.1 SITE PLAN SUB.	06/12/2018
FINAL 4.1 SITE PLAN RE-SUB.	11/16/2018
FINAL 4.1 SITE PLAN FILING	12/19/2018

SCALE: 1" = 30'	DRAWN TPB	CHECKED KSW
APPROVED DATE	CHIEF TRANSPORTATION PLANNING BUREAU	CHIEF TRANSPORTATION ENGINEERING BUREAU
APPROVED DATE	CHIEF ENGINEERING BUREAU	DIRECTOR OF ENVIRONMENTAL SERVICES

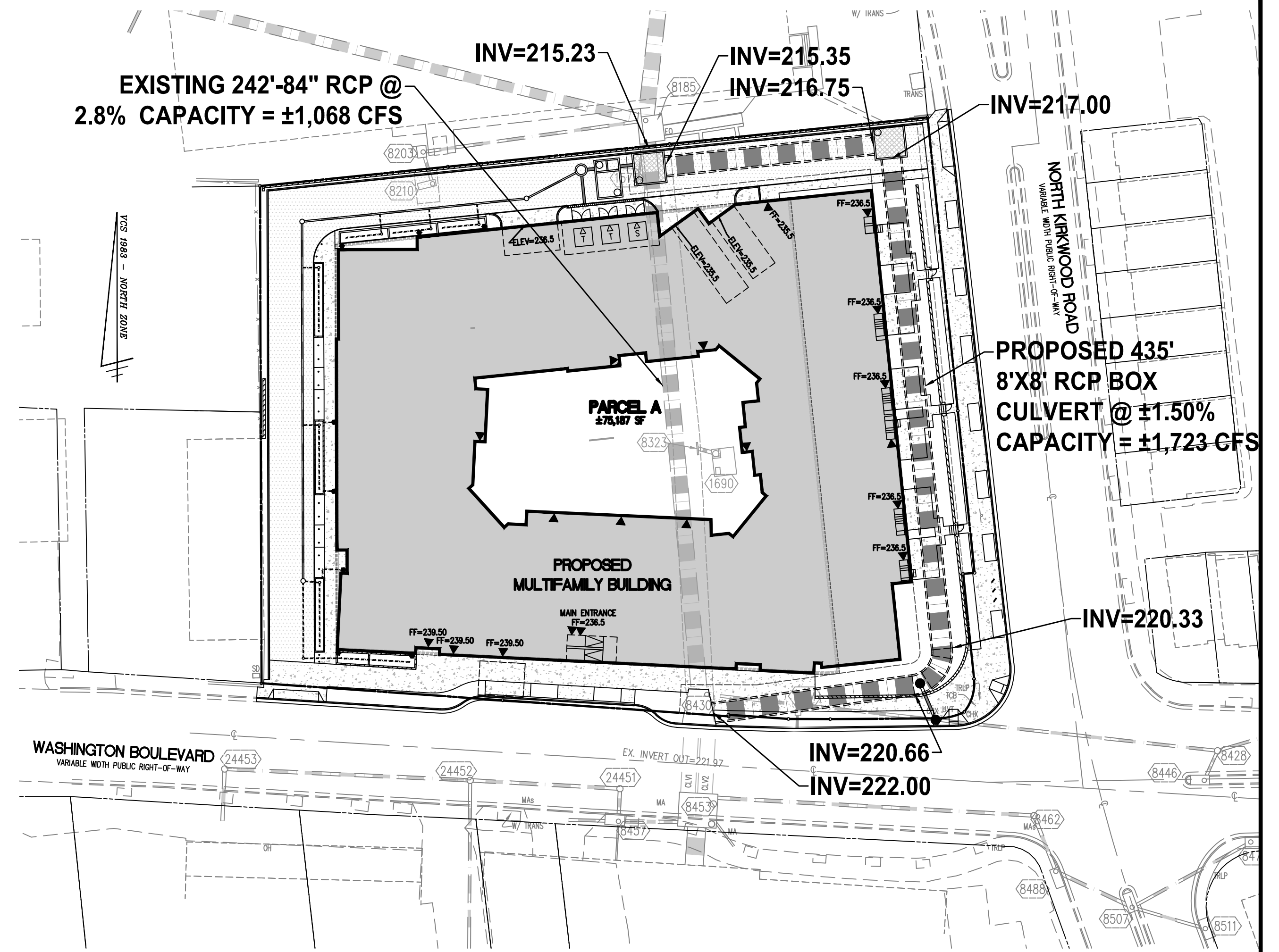
SHEET: **C-0702**







**STORMWATER OUTFALL MAP**  
NOT TO SCALE

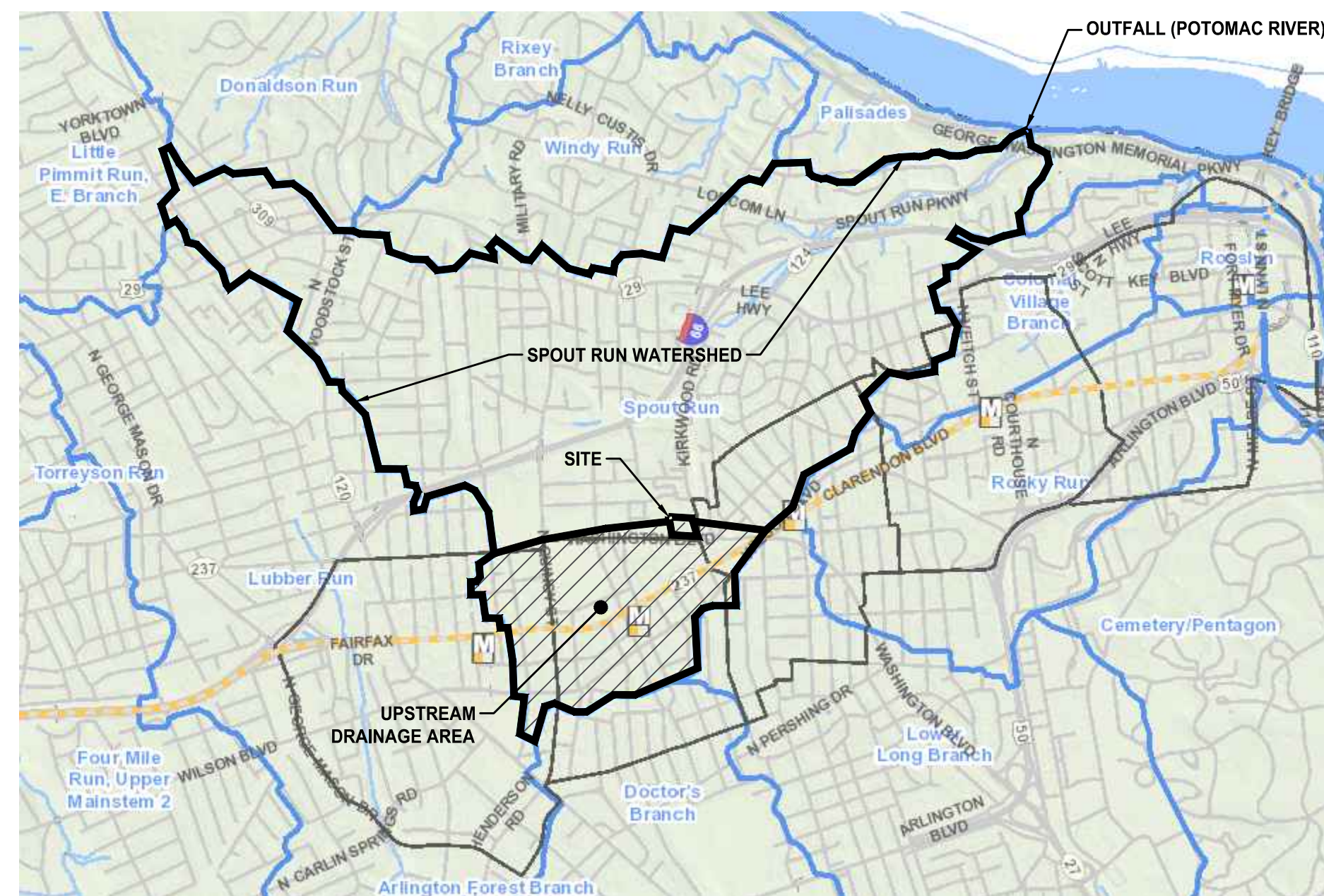


**SITE DRAINAGE MAP**  
SCALE: 1" = 40'

**PIPE CAPACITY INFORMATION**

DRAINAGE AREA TO 8'X8' BOX CULVERT = 200 ACRES±  
CN = 90  
Q(10) = 1,184 CFS±  
CAPACITY OF 8'X8' BOX CULVERT = ±1,723 CFS±

\*THE PROPOSED CAPACITY OF THE 8'X8' BOX CULVERT WILL BE GREATER THAN THE ESTIMATED FLOW RECEIVED BY THE CULVERT.



**WATERSHED MAP**  
NOT TO SCALE

**OUTFALL NARRATIVE**

**OUTFALL:** THE SITE DRAINS FROM SOUTH TO NORTH AND DISCHARGES AS CONCENTRATED FLOW AT A SINGLE OUTFALL, AN 84" RCP STORM SEWER. THE SITE OUTFALL POINT ALSO SERVES AS THE LIMITS OF ANALYSIS FOR BOTH CHANNEL PROTECTION AND FLOOD CONTROL SINCE THE UPSTREAM DRAINAGE AREA TO THE SITE IS GREATER THAN 100 TIMES THE SITE AREA. STORMWATER FROM THE SITE ULTIMATELY DISCHARGES INTO THE POTOMAC RIVER. THE SITE IS LOCATED IN THE SPOUT RUN WATERSHED.

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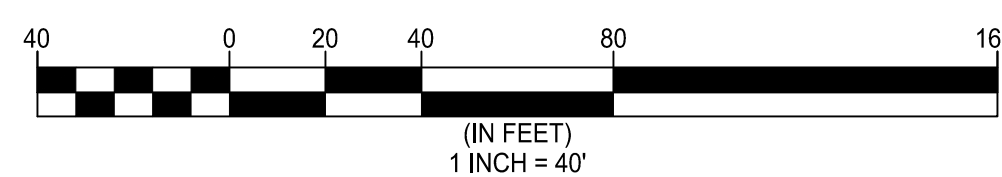
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**PRELIMINARY OUTFALL ANALYSIS**



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SCALE: 1" = 40'	DRAWN TPB	CHECKED KSW
APPROVED DATE	APPROVED DATE	APPROVED DATE
CHIEF WATER, SEWER & STREETS BUREAU	CHIEF ENGINEERING BUREAU	CHIEF TRANSPORTATION ENGINEERING BUREAU
		DIRECTOR OF ENVIRONMENTAL SERVICES

SHEET: C-0703



Project Name: **Kirkwood**  
 Date: **11/5/2018**  
 Linear Development Project? **No**

**CLEAR ALL**

data input cells  
 constant values  
 calculation cells  
 final results

**Site Information**

**Post-Development Project (Treatment Volume and Loads)**

Enter Total Disturbed Area (acres) → **1.9098**

Maximum reduction required:	<b>20%</b>
The site's net increase in impervious cover (acres) is:	<b>0.0264</b>
Post-Development TP Load Reduction for Site (lb/yr):	<b>0.7980</b>

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

**Pre-Development 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 mowed/managed				0.2286	0.2286
Impervious Cover (acres)				1.6812	1.6812
					1.9098

**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					0.0000
Managed Turf (acres) -- disturbed, graded for yards or other turf to be mowed/managed				0.2021	0.2021
Impervious Cover (acres)				1.7076	1.7076
<b>Area Check</b>	<b>OK</b>	<b>OK</b>	<b>OK</b>	<b>OK</b>	<b>1.9098</b>

**Constants**

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

**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-Development	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)	0.2286	0.2021
Weighted Rv(turf)	0.2500	0.2500
% Managed Turf	12%	11%
Impervious Cover (acres)	1.6812	1.6812
Rv(impervious)	0.9500	0.9500
% Impervious	88%	89%
<b>Total Site Area (acres)</b>	<b>1.9098</b>	<b>1.8834</b>
<b>Site Rv</b>	<b>0.8662</b>	<b>0.8749</b>

**LAND COVER SUMMARY -- POST DEVELOPMENT**

Land Cover Summary-Post (Final)		
Post-Development	Post-Development	Post-Development
Post-Dev. & New Impervious	Post-Development	Post-Development New Impervious
Forest/Open Space Cover (acres)	0.0000	0.0000
Weighted Rv(forest)	0.0000	0.0000
% Forest	0%	0%
Managed Turf Cover (acres)	0.2021	0.2021
Weighted Rv (turf)	0.2500	0.2500
% Managed Turf	11%	11%
Impervious Cover (acres)	1.7076	0.0264
Rv(impervious)	0.9500	0.9500
% Impervious	89%	89%
<b>Final Site Area (acres)</b>	<b>1.9098</b>	<b>1.8834</b>
<b>Final Post-Dev Site Rv</b>	<b>0.8759</b>	<b>0.8749</b>

**Treatment Volume and Nutrient Load**

Final Post-Development	Post-Development	Post-Development
Treatment Volume (acre-ft)	Treatment Volume (acre-ft)	Treatment Volume (acre-ft)
0.1394	0.1373	0.0021
Final Post-Development Treatment Volume (cubic feet)	5,981,129.2	91,120.8
Final Post-Development TP Load (lb/yr)	3.7579	0.0573
Final Post-Development TP Load per acre (lb/acre/yr)	2.0000	2.0000
<b>Max. Reduction Required (Below Pre-Development Load)</b>	<b>20%</b>	
<b>TP Load Reduction Required for Redeveloped Area (lb/yr)</b>	<b>0.7516</b>	<b>TP Load Reduction Required for New Impervious Area (lb/yr) 0.0464</b>

<sup>1</sup> Adjusted Land Cover Summary: Pre-Development 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-Development 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 lbs/acre/year).

**Post-Development Requirement for Site Area**

<b>TP Load Reduction Required (lb/yr)</b>	<b>0.7980</b>
-------------------------------------------	---------------

**Nitrogen Loads (Informational Purposes Only)**

Pre-Development TN Load (lb/yr)	26.9914	Final Post-Development TN Load (Post-Development & New Impervious) (lb/yr)	27.2932
---------------------------------	---------	----------------------------------------------------------------------------	---------

**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)				0.2021	0.2021	0.2500
Impervious Cover (acres)				1.7076	1.7076	0.9500
<b>Total</b>					<b>1.9098</b>	

**CLEAR BMP AREAS**

Total Phosphorus Available for Removal in D.A. A (lb/yr) **3.8152**  
 Post Development Treatment Volume in D.A. A (ft<sup>3</sup>) **6,072.2500**

**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
<b>6. Bioretention (RR)</b>													
6.a. Bioretention #1 or Micro-Bioretention #1 or Urban Bioretention (Spec #9)	40		0.4419	0.0000	609.5833	914.3750	1,523.9583	25	0.0000	0.9564	0.5260	0.4304	14.b. MTD - Filtering
<b>14. Manufactured Treatment Devices (no RR)</b>													
14.b. Manufactured Treatment Device-Filtering	0		0.1121	914.3750	0.0000	1,301.1042	1,301.1042	50	0.4304	0.2427	0.3365	0.3365	

**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)	0.0000	0.0000	0.0000	0.0000	0.0000	OK
IMPERVIOUS COVER (ac)	1.7076	0.0000	0.0000	0.0000	0.0000	OK
IMPERVIOUS COVER TREATED (ac)	0.5541	0.0000	0.0000	0.0000	0.0000	OK
MANAGED TURF AREA (ac)	0.2021	0.0000	0.0000	0.0000	0.0000	OK
MANAGED TURF AREA TREATED (ac)	0.0000	0.0000	0.0000	0.0000	0.0000	OK
<b>AREA CHECK</b>	<b>OK</b>	<b>OK</b>	<b>OK</b>	<b>OK</b>	<b>OK</b>	

Site Treatment Volume (ft<sup>3</sup>) **6,072.2500**

**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> )	609.5833	0.0000	0.0000	0.0000	0.0000	609.5833
TP LOAD AVAILABLE FOR REMOVAL (lb/yr)	3.8152	0.0000	0.0000	0.0000	0.0000	3.8152
TP LOAD REDUCTION ACHIEVED (lb/yr)	0.8626	0.0000	0.0000	0.0000	0.0000	0.8626
TP LOAD REMAINING (lb/yr)	2.9526	0.0000	0.0000	0.0000	0.0000	2.9526
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	4.3789	0.0000	0.0000	0.0000	0.0000	4.3789

**Total Phosphorus**

FINAL POST-DEVELOPMENT TP LOAD (lb/yr)	3.8152
TP LOAD REDUCTION REQUIRED (lb/yr)	0.7980
TP LOAD REDUCTION ACHIEVED (lb/yr)	0.8626
TP LOAD REMAINING (lb/yr)	2.9526
REMAINING TP LOAD REDUCTION REQUIRED (lb/yr)	0.0000
<b>** TARGET TP REDUCTION EXCEEDED BY 0.0646 LB/YEAR **</b>	

**Total Nitrogen (For Informational Purposes)**

POST-DEVELOPMENT LOAD (lb/yr)	27.2932
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	4.3789
REMAINING POST-DEVELOPMENT NITROGEN LOAD (lb/yr)	22.9143

**WATER QUALITY NARRATIVE**

IN ORDER TO COMPLY WITH CHAPTER 60 OF THE ARLINGTON COUNTY CODE (STORMWATER ORDINANCE) FOR STORMWATER QUALITY, A STORMWATER FILTRATION FACILITY (BAYFILTER) AND URBAN BIO-RETENTION PLANTERS ARE PROPOSED. THESE STORMWATER BMPs WILL REDUCE PHOSPHORUS LEVELS IN ORDER TO COMPLY WITH APPLICABLE ARLINGTON COUNTY AND STATE OF VIRGINIA REQUIREMENTS.  
 ADDITIONALLY, PER THE ARLINGTON COUNTY MEMORANDUM ON THE USE OF STRUCTURAL STORMWATER TREATMENT SYSTEMS, DATED 03/30/2018, PROPRIETARY HYDRODYNAMIC DEVICES AND FILTRATION BMPs MAY NOT BE USED AS THE SOLE TREATMENT METHOD FOR ROOF TOP AREA OR PERVIOUS AREA UNLESS USED IN SERIES WITH UPSTREAM RUNOFF REDUCTION BMPs. ADDITIONALLY, IF STRUCTURAL SYSTEMS ARE TO BE USED AS A STAND-ALONE BMP, AT LEAST 75% OF THE DRAINAGE AREA MUST BE HIGH INTENSITY VEHICULAR PAVEMENT. IN ORDER TO COMPLY WITH THE MEMORANDUM, ROOF AREA WILL BE TREATED BY URBAN BIO-RETENTION PLANTERS PRIOR TO BEING ROUTED TO THE PROPOSED FILTRATION BMP.

Nitrogen Removal Efficiency (%)	Nitrogen Load from Upstream Practices (lbs)	Untreated Nitrogen Load to Practice (lbs)	Nitrogen Removed By Practice (lbs)	Remaining Nitrogen Load (lbs)
40	0.0000	6.8420	4.3789	2.4631
<b>14. Manufactured BMP (no RR)</b>				
0	2.4631	1.7363	0.0000	4.1994

**PRELIMINARY BMP COMPUTATIONS**

**WALTER L. PHILLIPS INCORPORATED** ESTABLISHED 1945  
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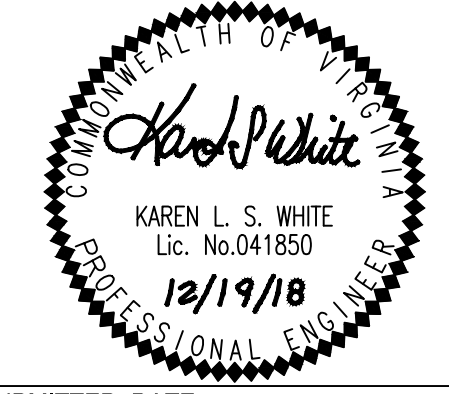
**ARLINGTON, VIRGINIA DEPARTMENT OF ENVIRONMENTAL SERVICES**  
**WASHINGTON BOULEVARD AT KIRKWOOD**  
 3411, 3415, & 3421 WASHINGTON BLVD  
 & 1122 NORTH KIRKWOOD ROAD  
 ARLINGTON COUNTY, VIRGINIA

SCALE: 1" = 25'  
 DRAWN: TPB  
 CHECKED: KSW

APPROVED DATE: \_\_\_\_\_  
 APPROVED DATE: \_\_\_\_\_  
 APPROVED DATE: \_\_\_\_\_

CHIEF WATER, SEWER & STREETS BUREAU  
 CHIEF ENGINEERING BUREAU  
 DIRECTOR OF ENVIRONMENTAL SERVICES

SHEET: **C-0704**



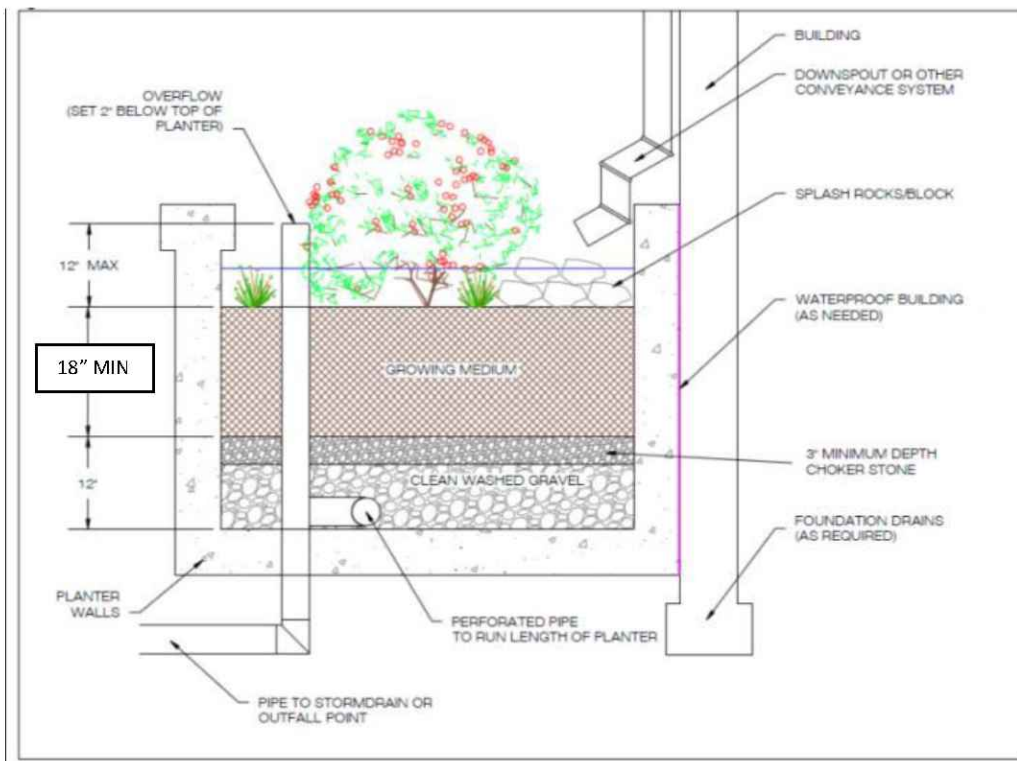
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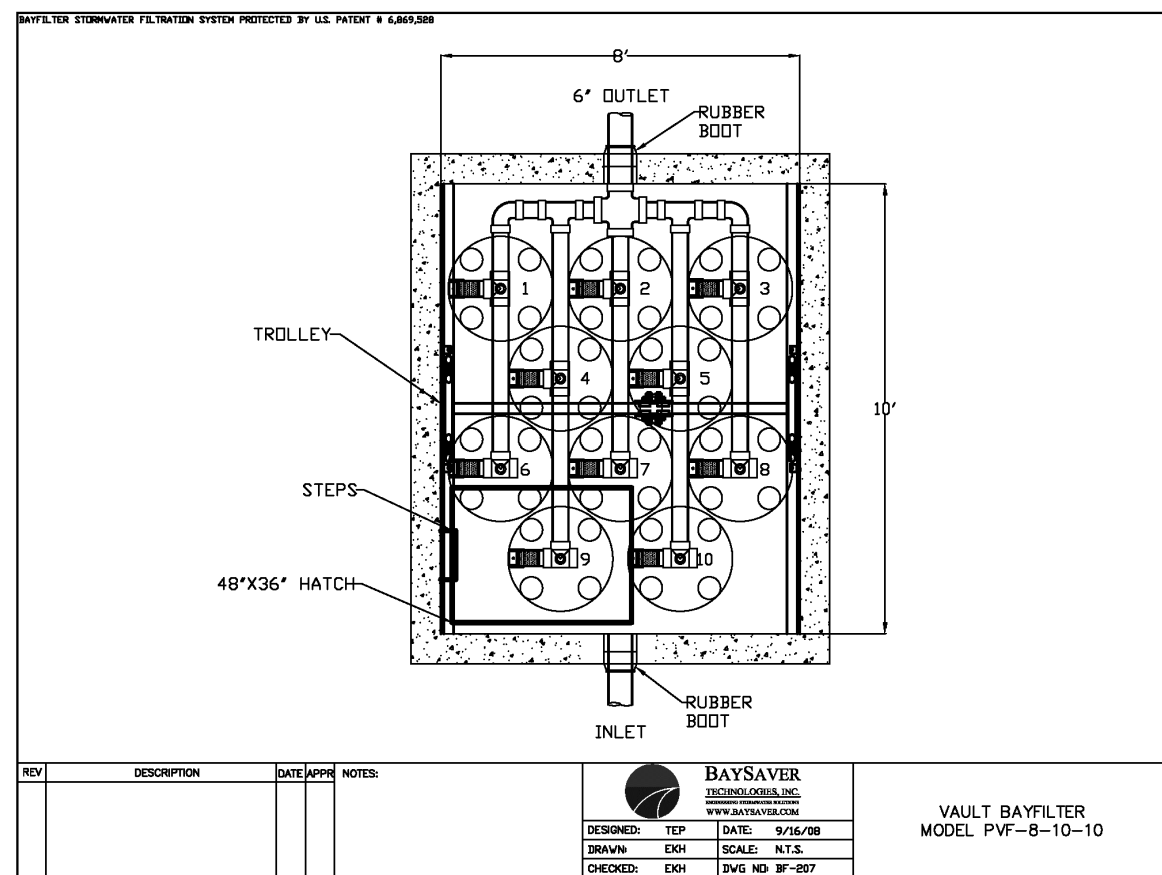


**TYPICAL DETAILS**

**URBAN BIO-RETENTION**



**BAYFILTER VAULT**



**OVERALL SITE RUNOFF HYDROGRAPHS**

**PRE-DEVELOPMENT**

PRE-DEVELOPMENT		PRE-DEVELOPMENT		PRE-DEVELOPMENT	
Hydrograph type	= SCS Runoff	Peak discharge	= 6.619 cfs		
Storm frequency	= 1 yrs	Time to peak	= 11.93 hrs		
Time interval	= 2 min	Hyd. volume	= 14,607 cuft		
Drainage area	= 1,910 ac	Curve number	= 96		
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft		
Tc method	= User	Time of conc. (Tc)	= 5.00 min		
Total precip.	= 2.69 in	Distribution	= Type II		
Storm duration	= 24 hrs	Shape factor	= 484		
Hydrograph type	= SCS Runoff	Peak discharge	= 7.858 cfs		
Storm frequency	= 2 yrs	Time to peak	= 11.93 hrs		
Time interval	= 2 min	Hyd. volume	= 17,547 cuft		
Drainage area	= 1,910 ac	Curve number	= 96		
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft		
Tc method	= User	Time of conc. (Tc)	= 5.00 min		
Total precip.	= 3.15 in	Distribution	= Type II		
Storm duration	= 24 hrs	Shape factor	= 484		
Hydrograph type	= SCS Runoff	Peak discharge	= 12.36 cfs		
Storm frequency	= 10 yrs	Time to peak	= 11.93 hrs		
Time interval	= 2 min	Hyd. volume	= 28,425 cuft		
Drainage area	= 1,910 ac	Curve number	= 96		
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft		
Tc method	= User	Time of conc. (Tc)	= 5.00 min		
Total precip.	= 4.84 in	Distribution	= Type II		
Storm duration	= 24 hrs	Shape factor	= 484		

**POST-DEVELOPMENT**

POST - DEVELOPMENT		POST - DEVELOPMENT		POST - DEVELOPMENT	
Hydrograph type	= SCS Runoff	Peak discharge	= 6.441 cfs		
Storm frequency	= 1 yrs	Time to peak	= 11.93 hrs		
Time interval	= 2 min	Hyd. volume	= 13,957 cuft		
Drainage area	= 1,910 ac	Curve number	= 95		
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft		
Tc method	= User	Time of conc. (Tc)	= 5.00 min		
Total precip.	= 2.69 in	Distribution	= Type II		
Storm duration	= 24 hrs	Shape factor	= 484		
Hydrograph type	= SCS Runoff	Peak discharge	= 7.690 cfs		
Storm frequency	= 2 yrs	Time to peak	= 11.93 hrs		
Time interval	= 2 min	Hyd. volume	= 16,872 cuft		
Drainage area	= 1,910 ac	Curve number	= 95		
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft		
Tc method	= User	Time of conc. (Tc)	= 5.00 min		
Total precip.	= 4.84 in	Distribution	= Type II		
Storm duration	= 24 hrs	Shape factor	= 484		
Hydrograph type	= SCS Runoff	Peak discharge	= 12.23 cfs		
Storm frequency	= 10 yrs	Time to peak	= 11.93 hrs		
Time interval	= 2 min	Hyd. volume	= 27,694 cuft		
Drainage area	= 1,910 ac	Curve number	= 95		
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft		
Tc method	= User	Time of conc. (Tc)	= 5.00 min		
Total precip.	= 4.84 in	Distribution	= Type II		
Storm duration	= 24 hrs	Shape factor	= 484		

**OVERALL SITE CURVE NUMBERS**

**PRE-DEVELOPMENT**

CURVE NUMBER = 96 (SEE SHEET C-0702)

**POST-DEVELOPMENT**

Drainage Area A		A Soils	B Soils	C Soils	D Soils	Total Area (acres): 1.9098
Forest/Open Space -- undisturbed, protected forest/open space or reforested land	Area (acres)	0.0000	0.0000	0.0000	0.0000	
Managed Turf -- disturbed, graded for yards or other turf to be mowed/managed	Area (acres)	0.0000	0.0000	0.0000	0.2021	
Impervious Cover	Area (acres)	0.0000	0.0000	0.0000	1.7076	
	CN	98	98	98	98	
CN(D.A.A)						
96						
RV <sub>Developed</sub> (watershed-inch) with no Runoff Reduction*	1-year storm	2.2474	2.6998	4.3736		1-year storm
	RV <sub>Developed</sub> (watershed-inch) with Runoff Reduction*	2.1595	2.6119	4.2856		2-year storm
Adjusted CN*	95	95	95			10-year storm
						Use NOAA Atlas 14 ( <a href="http://hdsc.nws.noaa.gov/hdsc/pfds/">http://hdsc.nws.noaa.gov/hdsc/pfds/</a> )

**ENERGY BALANCE WORKSHEET**

SWM Water Quantity Energy Balance Worksheet

SITE AREA (acre)	1-year		10-year	
	PRE	POST (adjusted)	PRE	POST (adjusted)
P	2.69	2.69	4.84	4.84
CN	96	95	96	95
S=1000/CN-10	0.42	0.53	0.42	0.53
0.25	0.08	0.11	0.08	0.11
RV=(P-0.25) <sup>2</sup> /(P-0.25)+5	2.25	2.15	4.37	4.26

Q<sub>Post Development</sub> <= I.F. \* (Q<sub>pre-development</sub> \* RV<sub>pre-development</sub>)/RV<sub>Developed</sub>

I.F. 0.8		CHANNEL PROTECTION		FLOOD CONTROL	
Q <sub>pre-development</sub>	6.619	Q <sub>pre-development</sub>	12.36	Q <sub>pre-development</sub>	12.36
Q <sub>Post Development</sub>	6.441	Q <sub>Post Development</sub>	12.23	Q <sub>Post Development</sub>	12.23
RV <sub>Post Development</sub> (with runoff reduction)	N/A	RV <sub>Post Development</sub> (with runoff reduction)	4.2856	RV <sub>Post Development</sub> (with runoff reduction)	4.2856
Q <sub>allowable</sub>	N/A	Q <sub>allowable</sub>	12.61	Q <sub>allowable</sub>	12.61
Q <sub>allowable</sub> /Q <sub>Post Development</sub>	N/A	Q <sub>allowable</sub> /Q <sub>Post Development</sub>	1.03	Q <sub>allowable</sub> /Q <sub>Post Development</sub>	1.03
V <sub>s</sub> /V <sub>r</sub>	N/A	V <sub>s</sub> /V <sub>r</sub>	0	V <sub>s</sub> /V <sub>r</sub>	0
V <sub>s</sub>	N/A	V <sub>s</sub>	0.00	V <sub>s</sub>	0.00
Storage required (cf)	N/A	Storage required (cf)	0	Storage required (cf)	0

\*Q(AALLOWABLE) IS GREATER THAN THE POST-DEVELOPMENT FLOW RATE.

**WATER QUANTITY NARRATIVE**

THE SITE DRAINS FROM SOUTH TO NORTH AND DISCHARGES AS CONCENTRATED FLOW AT A SINGLE OUTFALL, AN 84" RCP STORM SEWER. THE SITE OUTFALL POINT ALSO SERVES AS THE LIMITS OF ANALYSIS FOR BOTH CHANNEL PROTECTION AND FLOOD CONTROL SINCE THE UPSTREAM DRAINAGE AREA TO THE SITE IS GREATER THAN 100 TIMES THE SITE AREA. STORMWATER FROM THE SITE ULTIMATELY DISCHARGES INTO THE POTOMAC RIVER. SEE SHEET C-0703 FOR OUTFALL MAPS AND ANALYSIS.

CHANNEL PROTECTION: THE SITE STORM OUTFALL AND ALL PIPES PROPOSED WITH THIS DEVELOPMENT WILL BE COMPRISED OF CONCRETE OR OTHER NON-ERODIBLE MATERIALS UP TO THE LIMITS OF ANALYSIS. THEREFORE, THE SITE CAN DISCHARGE THE 2-YEAR, 24-HOUR STORM WITHOUT CAUSING EROSION IN THE SYSTEM AND DETENTION IS NOT REQUIRED FOR THE PURPOSES OF CHANNEL PROTECTION.

BASED ON THIS ANALYSIS, IT IS THE OPINION OF THE SUBMITTING ENGINEER THAT THE SITE COMPLIES WITH THE CHANNEL PROTECTION CRITERIA OUTLINED IN THE STATE STORMWATER REGULATIONS (9VAC25-870-66).

FLOOD PROTECTION: THE SITE STORM OUTFALL AND ALL PIPES PROPOSED WITH THIS DEVELOPMENT WILL BE ADEQUATE TO RECEIVE THE 10-YEAR, 24-HOUR STORMWATER DISCHARGE FROM THE SITE AND UPSTREAM DRAINAGE AREA, UP TO THE LIMITS OF ANALYSIS (SEE SHEET C-0703 FOR OUTFALL MAP AND SUPPORTING INFORMATION ON THIS SHEET). THEREFORE, DETENTION IS NOT REQUIRED FOR THE PURPOSES OF FLOOD CONTROL.

BASED ON THIS, IT IS THE OPINION OF THE SUBMITTING ENGINEER THAT THE SITE COMPLIES WITH THE FLOOD PROTECTION CRITERIA OUTLINED IN THE STATE STORMWATER REGULATIONS (9VAC25-870-66).

NOTE THAT IMPLEMENTATION OF RUNOFF REDUCTION PRACTICES ON THIS SITE WILL BRING THE POST-DEVELOPMENT FLOW RATE DOWN TO PRE-DEVELOPMENT CONDITIONS.

NOTE: SEE SHEET C-0703 FOR OUTFALL ANALYSIS.

**PRELIMINARY SWM COMPUTATIONS**

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 Landscape Architects • Arborists  
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SCALE: 1" = 25'	DRAWN: TPB	CHECKED: KSW
APPROVED DATE	CHIEF TRANSPORTATION PLANNING BUREAU	APPROVED DATE
APPROVED DATE	CHIEF ENGINEERING BUREAU	APPROVED DATE
CHIEF WATER, SEWER & STREETS BUREAU	CHIEF ENGINEERING BUREAU	DIRECTOR OF ENVIRONMENTAL SERVICES



SUBMITTED DATE:
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Tree #	Botanical Name	Common Name	Size DBH (in)	Critical Root Zone (CRZ) Radius (ft)	Species Rating (%)	Condition (%)	Removal	Tree Protection Fence	Root Prune	Activities	Notes
Tree Survey Information Completed by Walter Phillips, Inc - Arborist Ben Schitter- ISA # MA-5385A #14-044 2/2/2018											
101	Quercus phellos	Willow oak	15"	15'	75%	69%		X	X		OFFSITE
102	Quercus phellos	Willow oak	26"	26'	75%	72%		X	X		OFFSITE
103	Lagerstroemia indica	Crape Myrtle	14"	14'	78%	63%	X				under Power lines, offsite
104	Magnolia grandiflora	Southern magnolia	18"	18'	70%	63%	X				OFFSITE
105	Quercus phellos	Willow oak	35"	53'	75%	69%	X				OFFSITE
106	Quercus phellos	Willow oak	35"	53'	75%	69%	X				OFFSITE
107	Catalpa speciosa	Northern catalpa	4"	8'	60%	50%	X				OFFSITE
108	Robinia pseudoacacia	Black locust	16"	16'	55%	50%	X				OFFSITE
109	Catalpa speciosa	Northern catalpa	11"	11'	60%	59%	X				
110	Catalpa speciosa	Northern catalpa	12"	12'	60%	59%	X				
111	Catalpa speciosa	Northern catalpa	14"	14'	60%	59%	X				
112	Catalpa speciosa	Northern catalpa	14"	14'	60%	59%	X				
113	Catalpa speciosa	Northern catalpa	8"	8'	60%	56%	X				
114	Catalpa speciosa	Northern catalpa	10"	10'	60%	56%	X				
115	Catalpa speciosa	Northern catalpa	10"	10'	60%	56%	X				
116	Catalpa speciosa	Northern catalpa	12"	12'	60%	56%	X				OFFSITE
117	Catalpa speciosa	Northern catalpa	12"	12'	60%	56%	X				
118	Catalpa speciosa	Northern catalpa	12"	12'	60%	56%	X				OFFSITE
119	Robinia pseudoacacia	Black locust	10"	10'	55%	50%	X				OFFSITE
120	Robinia pseudoacacia	Black locust	15"	15'	55%	56%		X	X		OFFSITE
121	Catalpa speciosa	Northern catalpa	8"	8'	60%	50%	X				OFFSITE
122	Magnolia grandiflora	Southern magnolia	18"	18'	70%	63%	X				close to bldg
123	Magnolia grandiflora	Southern magnolia	17"	17'	70%	63%	X				close to bldg
124	Tilia cordata	Littleleaf linden	13"	13'	73%	59%	X				under power lines, ROW
125	Morus alba	White mulberry	17"	17'	30%	50%	X				twin
126	Morus alba	White mulberry	18"	18'	30%	50%	X				twin
127	Juglans nigra	Black walnut	13"	13'	68%	56%	X				
128	Pyrus calleryana	Callery pear	13"	13'	20%	56%	X				topped
129	Pyrus calleryana	Callery pear	14"	14'	20%	56%	X				topped
130	Pyrus calleryana	Callery pear	12"	12'	20%	56%	X				topped
131	Cornus florida	Flowering dogwood	8"	8'	60%	66%	X				
132	Cornus florida	Flowering dogwood	6"	8'	60%	66%	X				
133	Cornus florida	Flowering dogwood	5"	8'	60%	66%	X				
134	Cornus florida	Flowering dogwood	4"	8'	60%	66%	X				
135	Catalpa speciosa	Northern catalpa	11"	11'	60%	59%		X	X		OFFSITE
136	Catalpa speciosa	Northern catalpa	9"	9'	60%	59%		X	X		OFFSITE
137	Catalpa speciosa	Northern catalpa	8"	8'	60%	50%	X				
138	Catalpa speciosa	Northern catalpa	5"	8'	60%	59%	X				
139	Robinia pseudoacacia	Black locust	9"	9'	55%	6%	X				
140	Catalpa speciosa	Northern catalpa	4"	8'	60%	59%	X				
141	Acer rubrum	Red maple	4"	8'	70%	59%	X				OFFSITE
142	Catalpa speciosa	Northern catalpa	25"	25'	60%	59%	X				cluster, OFFSITE
143	Dead	Dead	4"	0'	0%	0%		X	X		OFFSITE
144	Catalpa speciosa	Northern catalpa	9"	9'	60%	59%		X	X		OFFSITE
145	Catalpa speciosa	Northern catalpa	15"	15'	60%	59%		X	X		OFFSITE, twin

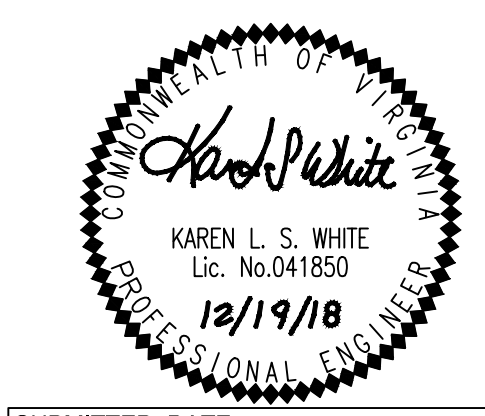
DBH = Diameter at Breast Height (measured 4.5 feet above ground)  
 CRZ = Critical Root Zone = 1 foot radius per inch of tree diameter, trees over 30" DBH= 1.5 foot radius per inch of tree diameter  
 CRZ values for trees with multiple stems were calculated based on methods outlined in the 9th edition of the Guide for Plant Appraisal, published by the U.S.A.  
 Condition Ratings provided as percentages based on methods outlined in the 9th edition of the Guide for Plant Appraisal, published by

### TREE INVENTORY AND PRESERVATION PLAN

**WALTER L. PHILLIPS** INCORPORATED ESTABLISHED 1945  
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**LEGEND**

- CRZ - CRITICAL ROOT ZONE (TREE TO BE SAVED)
- X TREE TO BE REMOVED INCLUDING CRZ
- EXISTING TREELINE
- ▬ LIMITS OF DISTURBANCE
- TREE PROTECTION (TP)
- ~~~~~ ROOT PRUNING (RP)

**NOTES:**

- OFFSITE TREES ARE SHOWN TO BE REMOVED BECAUSE OF THE PROPOSED DEVELOPMENT.
- SEE SHEET C-1202 FOR REPLACEMENT CALCULATIONS.

25 0 12.5 25 50 100  
 (IN FEET)  
 1" = 25'



- have a pH between 5.2 and 7.5 (a narrower range may be specified for particular plant material)
- have an organic matter content not less than 3%
- have low salinity as indicated by an electrical conductivity of less than 4.0 mmhos/cm
- be free of debris, stones, gravel, trash, large sticks, heavy metals, and other deleterious contaminants, (if screening is used to remove debris, screen size must be 1/2 inch or larger).
- have a nutrient profile such that it is able to support plant growth
- be free of noxious weed seeds

### 3.2 Compost

Compost feedstock shall be leaves, yardwaste, or foodwaste. Biosolid-based composts shall not be used. A compost sample with analysis shall be submitted for approval to the client before application.

Stability refers to the rate of biological breakdown, measured by carbon dioxide release. Maturity refers to completeness of the aerobic composting process and suitability (lack of plant toxicity) as a plant growth media, often measured by ammonia release and by plant growth tests. Compost manufacturers that subscribe to the US Composting Council's testing program may document stability as compost testing 7 or below in accordance with TMECC 05.08-B, "Carbon Dioxide Evolution Rate". Maturity (suitability for plant growth) may be documented as compost testing greater than 80% in accordance with TMECC 05.05-A, "Germination and Vigor". Compost is considered mature and stable if it tests at 6.0 or higher on the Solvita Compost Maturity Index Rating, which is a combination of Carbon Dioxide and Ammonia Maturity Tests (test information and equipment available at [www.solvita.com](http://www.solvita.com)).

Compost shall also:

- Free of weed seeds
- Free of heavy metals or other deleterious contaminants
- Have an EC of less than 4.0 mmhos/cm

### 3.3 Severely Disturbed Soil

Soil shall be considered severely disturbed if grade was lowered more than 14 inches OR soil was compacted in lifts regardless of the final grade.

### 4. SUBMITTALS

#### 4.1 Soil Map

A soil map indicating soil areas to be protected and those to be restored via Soil Profile Rebuilding shall be submitted by the contractor for approval by the owner, arborist, or landscape architect before construction begins.

#### 4.2 Compost

A compost sample with analysis certifying it is stable, mature, from acceptable feedstocks and free of contaminants and weed seeds shall be submitted for approval to the landscape architect or owner before compost is applied to the soil.

#### 4.3 Topsoil

A topsoil sample with analysis from a certified testing laboratory and verification of source shall be submitted for approval to the landscape architect or owner before application. Separate documentation is required for each 100 cubic yards of topsoil unless otherwise approved by the landscape architect or owner.

### REFERENCES & PERMISSIONS

Use of this specification has been documented to increase tree canopy and soil carbon stores compared with typical practices. See [www.urbanforestry.frec.vt.edu/SRES](http://www.urbanforestry.frec.vt.edu/SRES) for more information.

Soil Profile Rebuilding Specification by Susan Day et al. is licensed under a Creative Commons Attribution-NonCommercial 3.0 United States License. It may be used freely as is, or modified. However use of the term "Soil Profile Rebuilding" should only be used when soil restoration is performed as described in this specification. See [www.urbanforestry.frec.vt.edu/SRES/specification.html](http://www.urbanforestry.frec.vt.edu/SRES/specification.html) for full details.

### 2.6 Replacement of topsoil

#### 2.6.1 Standard procedure

Stockpiled topsoil, or additional topsoil if none is available from the site, shall be returned to the site to a 4 inch minimum depth (see Section 3.3 Definitions for definition of topsoil). If soil was severely disturbed (see definitions), a 6-8 inch minimum shall be replaced.

#### 2.6.2 Modification if significant topsoil is already present before Profile Rebuilding is initiated

##### Case 1:

At least four inches of topsoil is present on the site after construction activities are completed AND soil is not severely disturbed (see Section 3.3 Definitions for description of severely disturbed).

##### Case 2:

Less than 4 inches of topsoil is present on site after construction activities were completed but before Profile Rebuilding is initiated, OR soil is severely disturbed (see Section 3.3 Definitions for description of severely disturbed).

**For Case 1:** A minimum of 3 inches additional topsoil shall be placed over the subsoiled layer before tilling.

**For Case 2:** Follow Section 2.6.1 Standard procedure, as if no topsoil had been present.

#### 2.7 Tilling

Rototill topsoil to a depth of 6-8 inches when soil is neither dry nor very moist. Rototilling depth should cross the interface with the subsoiled layer by a minimum of 1 inch and can be verified with a random sampling with a push tube soil sampler.

#### 2.8 Planting

Plant the site with woody plants, trees or shrubs, at a density that insure a minimum of 50% of the site will be occupied with roots within 10 years. Planting of at least one large stature tree (e.g., one that will mature at approximately 60-70 feet in height) or 20 medium stature shrubs per 5,000 sq. ft. shall be considered to achieve this.

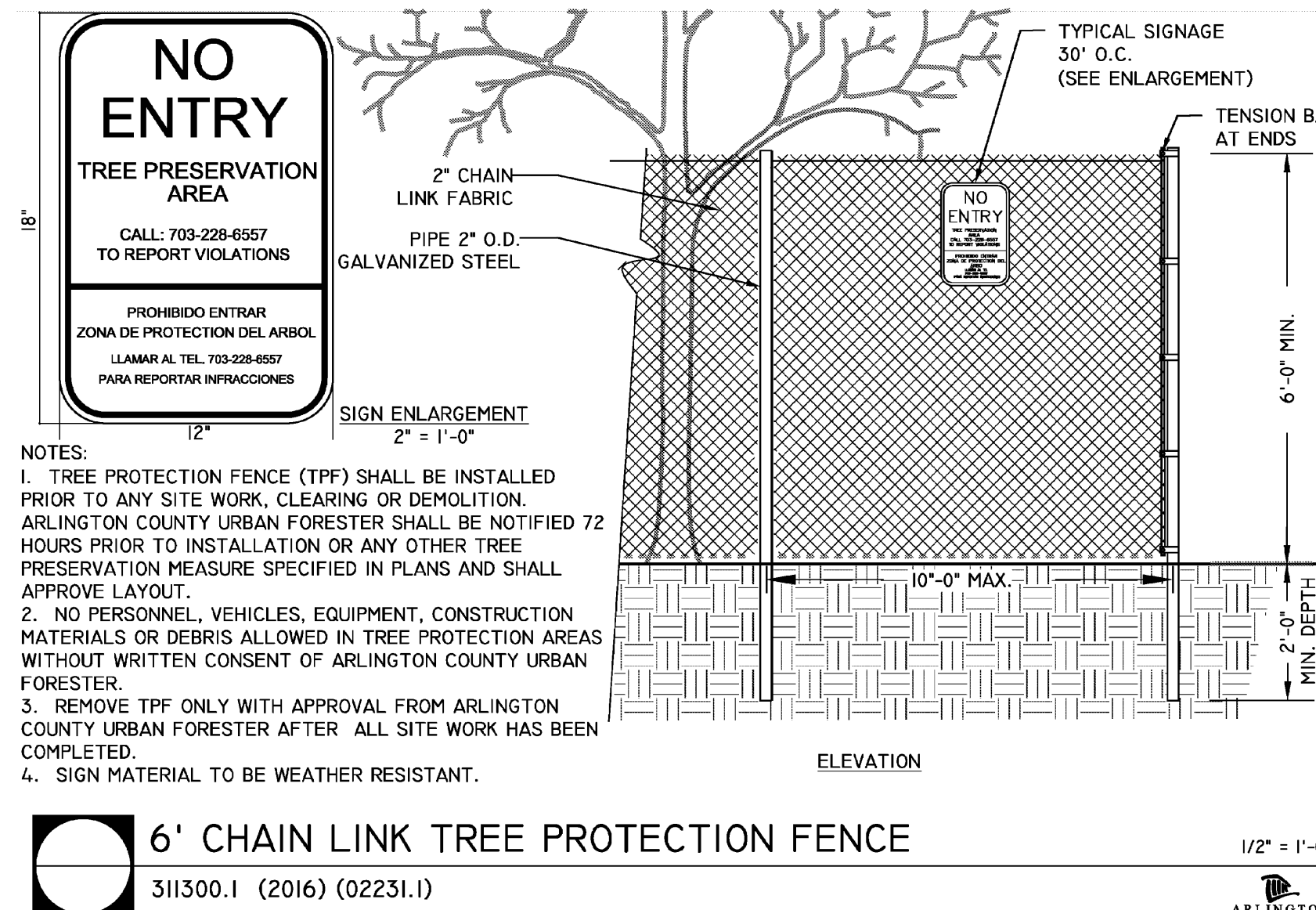
### 3. DEFINITIONS

#### 3.1 Topsoil

Soil can be considered topsoil if it originates from an A horizon of a natural soil or is a mineral soil with 3% or greater organic matter content and a NRCs textural class similar to pre-development A horizon soils for the site or as specified by the owner, arborist, or landscape architect. Blended soils shall not be used unless specified by the owner, arborist, or landscape architect. In addition topsoil shall:

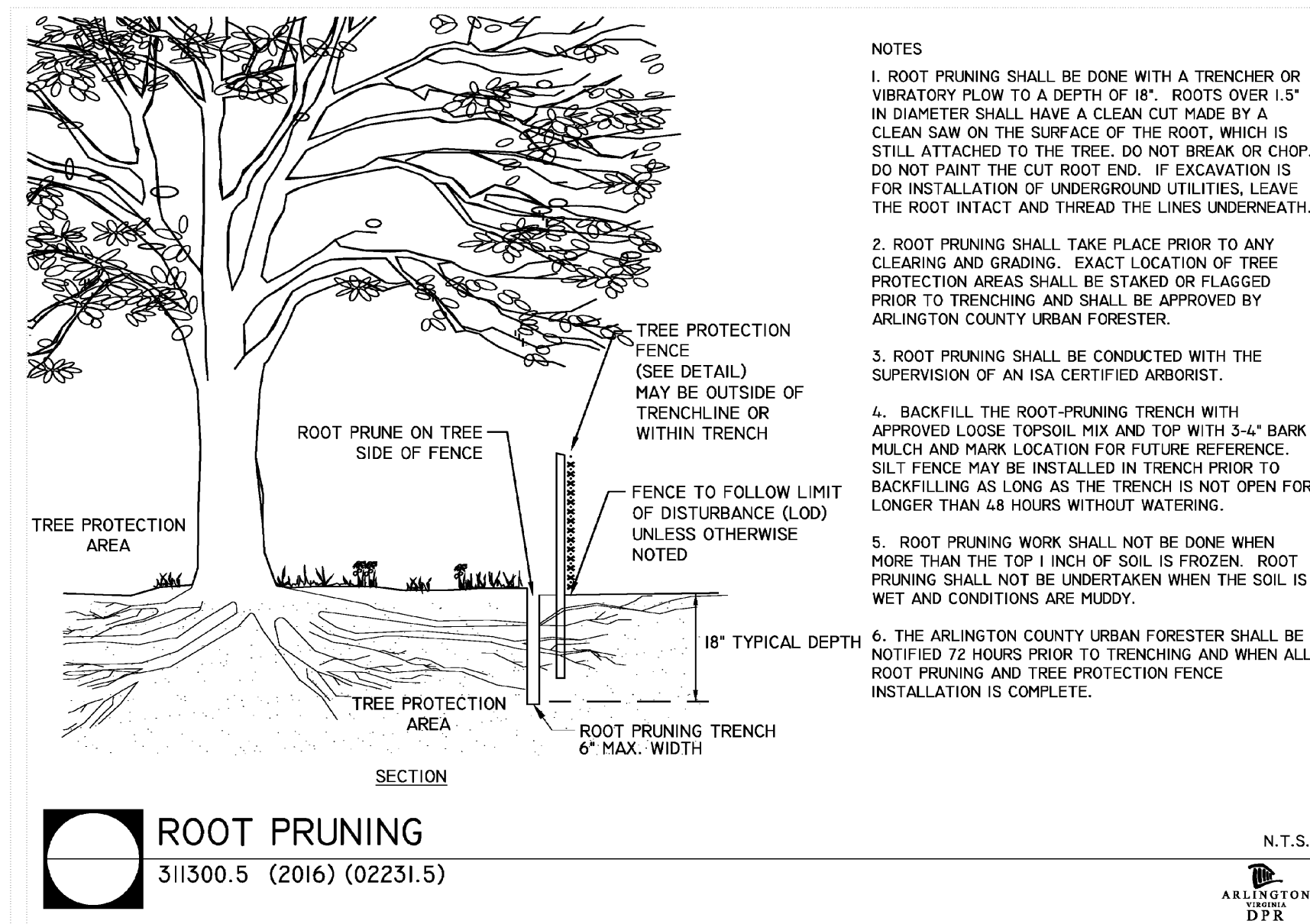
- Be friable and well drained

- BEFORE ANY GRADING, DEMOLITION, OR OTHER DISTURBANCE, TREE PROTECTION NEEDS TO BE INSTALLED PER PLAN, AND INSPECTED BY AN ARLINGTON COUNTY PARKS AND RECREATION URBAN FORESTER. EROSION AND SEDIMENT CONTROLS ARE INSPECTED BY THE DEPARTMENT OF ENVIRONMENTAL SERVICES.
- PLANTS SHALL BE FURNISHED AND INSTALLED AS INDICATED, INCLUDING ALL PLANTS, MATERIALS, AND EQUIPMENT.
- PLANTS SHALL BE TYPICAL OF THEIR SPECIES AND VARIETY; HAVE NORMAL GROWTH HABITS, WELL-DEVELOPED DENSELY FOLIATED BRANCHES, AND VIGOROUS ROOT SYSTEMS; AND BE FREE FROM DEFECTS AND INJURIES.
- PLANTS SHALL BE PLANTED ON THE DAY OF DELIVERY IF/WHEN PRACTICAL IN THE EVENT THAT THIS IS NOT POSSIBLE, THE CONTRACTOR SHALL PROTECT STOCK NOT PLANTED. PLANTS SHALL NOT REMAIN UNPLANTED FOR LONGER THAN A THREE-DAY PERIOD AFTER DELIVERY. ANY PLANTS NOT INSTALLED DURING THIS PERIOD SHALL BE REJECTED, UNLESS OWNER AND CONTRACTOR PROVIDE OTHERWISE BY WRITTEN AGREEMENT. ALL PLANTS KEPT ON SITE FOR ANY PERIOD OF TIME SHOULD BE WATERED AND CARED FOR USING ANSI A300 STANDARDS.
- PLANTS SHALL NOT BE BOUND WITH WIRE OR ROPE AT ANY TIME SO AS TO DAMAGE THE BARK OR BREAK BRANCHES. PLANTS SHALL BE HANDLED FROM THE BOTTOM OF THE ROOT BALL ONLY.
- PLANTING OPERATIONS SHALL BE PERFORMED DURING PERIODS WITHIN THE PLANTING SEASON WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE AND IN ACCORDANCE WITH ACCEPTED LOCAL PRACTICE. PLANTS SHALL NOT BE INSTALLED IN TOP SOIL THAT IS IN MUDDY OR FROZEN CONDITION. LAWN, TREES AND SHRUBS SHALL BE INSTALLED BETWEEN 03/15 AND 06/15 OR BETWEEN 09/15 AND 12/01. IF A PROJECT COMPLETION IS OUTSIDE OF THIS PLANTING PERIOD, CONTACT THE ARLINGTON COUNTY URBAN FORESTER TO OBTAIN A DEFERRAL OR APPROVAL FOR PLANTING OUT OF SEASON.
- NO PLANT, EXCEPT GROUNDCOVERS, SHALL BE PLANTED WITHIN TWO FEET OF A SIDEWALK.
- TREES AND SHRUBS SHALL BE PLANTED IN HOLES TWO TO THREE TIMES AS WIDE AND TO THE DEPTH OF THE ROOT BALL.
- PLANTS SHALL BE PLANTED IN IN SITU SOIL THAT IS THOROUGHLY WATERED.
- SET ALL PLANTS PLUMB AND STRAIGHT SET AT SUCH LEVEL THAT NORMAL OR NATURAL RELATIONSHIP BETWEEN THE PLANT AND THE GROUND SURFACE WILL BE ESTABLISHED. LOCATE THE PLANT IN THE CENTER OF THE PIT.
- INJURED ROOTS SHALL BE PRUNED TO CLEAN ENDS BEFORE PLANTING WITH CLEAN, SHARP TOOLS. THE LEADER OF TREES SHALL NOT BE CUT BACK.
- PRESERVED AND PLANTED TREES MUST BE INSPECTED AND APPROVED BY A DEPARTMENT OF PARKS AND RECREATION URBAN FORESTER.
- ALL DISTURBED AREAS SHALL BE TREATED WITH 4" TOP SOIL OR COMPOST AND SEEDED IN ACCORDANCE WITH PERMANENT STABILIZATION METHODS INDICATED ON SOIL EROSION AND SEDIMENT CONTROL SHEET AND/OR LANDSCAPE PLAN.



### 6' CHAIN LINK TREE PROTECTION FENCE

311300.1 (2016) (02231.1)



### ROOT PRUNING

311300.5 (2016) (02231.5)

### Tree Replacement Formula - Street Name, City, Virginia

Tree #	Botanical Name	Common Name	Size DBH (in)	Species Rating (%)	Condition %	Total Score	Replacements	Removal	
Computations Completed by Walter L. Phillips, Arborist: Ben Schitter- ISA # MA-5385A									
101	Quercus phellos	Willow oak	15	0.75	0.69				
102	Quercus phellos	Willow oak	26	0.75	0.72				
103	Lagerstroemia indica	Crape Myrtle	14	0.78	0.63	6.9	2	X	
104	Magnolia grandiflora	Southern magnolia	18	0.7	0.63	7.9	2	X	
105	Quercus phellos	Willow oak	35	0.75	0.69	18.1	4	X	
106	Quercus phellos	Willow oak	35	0.75	0.69	18.1	4	X	
107	Catalpa speciosa	Northern catalpa	4	0.6	0.5	1.2	1	X	
108	Robinia pseudoacacia	Black locust	16	0.55	0.5	4.4	1	X	
109	Catalpa speciosa	Northern catalpa	11	0.6	0.59	3.9	1	X	
110	Catalpa speciosa	Northern catalpa	12	0.6	0.59	4.2	1	X	
111	Catalpa speciosa	Northern catalpa	14	0.6	0.59	5.0	1	X	
112	Catalpa speciosa	Northern catalpa	14	0.6	0.59	5.0	1	X	
113	Catalpa speciosa	Northern catalpa	8	0.6	0.56	2.7	1	X	
114	Catalpa speciosa	Northern catalpa	10	0.6	0.56	3.4	1	X	
115	Catalpa speciosa	Northern catalpa	10	0.6	0.56	3.4	1	X	
116	Catalpa speciosa	Northern catalpa	12	0.6	0.56	4.0	1	X	
117	Catalpa speciosa	Northern catalpa	12	0.6	0.56	4.0	1	X	
118	Catalpa speciosa	Northern catalpa	12	0.6	0.56	4.0	1	X	
119	Robinia pseudoacacia	Black locust	10	0.55	0.5	2.8	1	X	
120	Robinia pseudoacacia	Black locust	15	0.55	0.56				
121	Catalpa speciosa	Northern catalpa	8	0.6	0.5	2.4	1	X	
122	Magnolia grandiflora	Southern magnolia	18	0.7	0.63	7.9	2	X	
123	Magnolia grandiflora	Southern magnolia	17	0.7	0.63	7.5	2	X	
124	Tilia cordata	Littleleaf linden	13	0.73	0.59	5.6	2	X	
125	Morus alba	White mulberry	17	0.3	0.5	2.6	1	X	
126	Morus alba	White mulberry	18	0.3	0.5	2.7	1	X	
127	Juglans nigra	Black walnut	13	0.68	0.56	5.0	1	X	
128	Pyrus calleryana	Callery pear	13	0.2	0.56	1.5	1	X	
129	Pyrus calleryana	Callery pear	14	0.2	0.56	1.6	1	X	
130	Pyrus calleryana	Callery pear	12	0.2	0.56	1.3	1	X	
131	Cornus florida	Flowering dogwood	8	0.6	0.66	3.2	1	X	
132	Cornus florida	Flowering dogwood	6	0.6	0.66	2.4	1	X	
133	Cornus florida	Flowering dogwood	5	0.6	0.66	2.0	1	X	
134	Cornus florida	Flowering dogwood	4	0.6	0.66	1.6	1	X	
135	Catalpa speciosa	Northern catalpa	11	0.6	0.59				
136	Catalpa speciosa	Northern catalpa	9	0.6	0.59				
137	Catalpa speciosa	Northern catalpa	8	0.6	0.5	2.4	1	X	
138	Catalpa speciosa	Northern catalpa	5	0.6	0.59	1.8	1	X	
139	Robinia pseudoacacia	Black locust	9	0.55	0.06	0.3	1	X	
140	Catalpa speciosa	Northern catalpa	4	0.6	0.59	1.4	1	X	
141	Acer rubrum	Red maple	4	0.7	0.59	1.7	1	X	
142	Catalpa speciosa	Northern catalpa	25	0.6	0.59	8.9	2	X	
143	Dead	Dead	4	0	0				
144	Catalpa speciosa	Northern catalpa	9	0.6	0.59				
145	Catalpa speciosa	Northern catalpa	15	0.6	0.59				
<b>TOTAL REPLACEMENTS</b>							<b>49</b>		

#### NOTE:

(3) TREES TO BE PLANTED ON NEIGHBORING SITE (BALL BURIAL GROUNDS) TO REPLACE TREES #142 & #121.

(17) TREES TO BE PLANTED ON NEIGHBORING SITE (YMCA) TO REPLACE TREES #103, 104, 105, 106, 107, 108, 116, 118, 119.

RATING:	1-4.9	=	1 TREE
	5-9.9	=	2 TREES
	10-14.9	=	3 TREES
	15-19.9	=	4 TREES
	20-24.5	=	5 TREES
	25+	=	6 TREES

## TREE PRESERVATION NOTES

**WALTER L. PHILLIPS**  
INCORPORATED ESTABLISHED 1945

Engineers • Surveyors • Planners  
Landscape Architects • Arborists  
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**ARLINGTON, VIRGINIA**  
**DEPARTMENT OF ENVIRONMENTAL SERVICES**  
**WASHINGTON BOULEVARD AT KIRKWOOD**  
3411, 3415, & 3421 WASHINGTON BLVD  
& 1122 NORTH KIRKWOOD ROAD  
ARLINGTON COUNTY, VIRGINIA

SCALE: 1" = 25'	DRAWN TPB	CHECKED KSW
APPROVED DATE	APPROVED DATE	APPROVED DATE
CHIEF WATER, SEWER & STREETS BUREAU	CHIEF ENGINEERING BUREAU	DIRECTOR OF ENVIRONMENTAL SERVICES

SHEET: **C-1202**



SUBMITTED DATE:
CONCEPT PLAN SUB. 12/14/2017
1ST PRELIM. 4.1 SITE PLAN SUB. 02/21/2018
2ND PRELIM. 4.1 SITE PLAN SUB. 04/27/2018
FINAL 4.1 SITE PLAN SUB. 06/12/2018
FINAL 4.1 SITE PLAN RE-SUB. 11/16/2018
FINAL 4.1 SITE PLAN FILING 12/19/2018