

**COMMON ABBREVIATIONS**

<b>A</b>	A/C AIR CONDITIONING	HS HARDSCAPE
AASHTO AMERICAN ASSOCIATION OF STATE HWY & TRANSPORTATION OFFICIALS	I ID INSIDE DIAMETER	INSTL INSTALLATION
AB ANCHOR BOLT	INV INVERT	IP IRON PIPE
ABRSV ABRASIVE	J JST JOIST	JT JOINT
ABV ABOVE	L LAM LAMINATED	LB POUND
AC ACRE	LBR LUMBER	LH LEFT HAND
ACD ACCESS DOOR	LOD LIMITS OF DISTURBANCE	LOS LINE OF SIGHT
AD AREA DRAIN	LOW LIMITS OF WORK	LTP LIGHT POLE
ADA AMERICAN WITH DISABILITIES ACT	LP LOW POINT	LS LANDSCAPE
ADEN ADDENDA, ADDENDUM	LT LIGHT	LTG LIGHTING
ADD ADDITIONAL	LVL LEVEL	M MAS MASONRY
ADH ADHESIVE	MATL MATERIAL	MAX MAXIMUM
ADJ ADJACENT	MECH MECHANICAL	MED MEDIUM
ADJT ADJUSTABLE	MET METAL	METB METAL BASE
A-E ARCHITECT-ENGINEER	MFG MANUFACTURING	MH MANHOLE
AFF ABOVE FINISH FLOOR	MIN MINIMUM	MISC MISCELLANEOUS
AFG ABOVE FINISH GRADE	MOLDG MOLDING	MTG MOUNTING
AGGR AGGREGATE	MULL MULLION	MUTCD MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES
ALUM ALUMINUM	N N NORTH	N/A NOT APPLICABLE
ANSI AMERICAN NATIONAL STANDARDS INSTITUTE	OC ON CENTER	OD OUTSIDE DIAMETER
APPROX APPROXIMATE	OPNG OPENING	OPT OPTIONAL
APT APARTMENT	ORIG ORIGINAL	P PAR PARALLEL
ASPH ASPHALT	PERP PERPENDICULAR	PI POINT OF INTERSECTION
ASTM AMERICAN SOCIETY FOR TESTING & MATERIALS	PKWY PARKWAY	PIE PUBLIC IMPROVEMENT EASEMENT
AVE AVENUE	PLBG PLUMBING	PLYWD PLYWOOD
<b>B</b>	<b>B&amp;B</b> BALL AND BURLAP	<b>PNL</b> PANEL
<b>BC</b> BOTTOM OF CURB, BOTTOM OF COLUMN	<b>PN</b> PAINT	<b>PNT</b> POINT OF BEGINNING
<b>BE</b> BEAM	<b>POB</b> POINT OF BEGINNING	<b>PR</b> PAIR
<b>BITUM</b> BITUMINOUS	<b>PRCST</b> PRECAST	<b>PRELIM</b> PRELIMINARY
<b>BL</b> BASELINE	<b>PRKG</b> PARKING	<b>PROP</b> PROPOSED
<b>BLDG</b> BUILDING	<b>PSF</b> POUNDS PER SQUARE FOOT	<b>PSI</b> POUNDS PER SQUARE INCH
<b>BLK</b> BLOCK	<b>PT</b> PRESSURE TREATED	<b>PTD</b> PAINTED
<b>BLVD</b> BOULEVARD	<b>PUE</b> PUBLIC UTILITY EASEMENT	<b>PVMT</b> PAVEMENT
<b>BM</b> BENCHMARK	<b>R</b> RISER, RADIUS	<b>RC</b> REINFORCED CONCRETE
<b>BMP</b> BEST MANAGEMENT PRACTICES	<b>RD</b> ROAD	<b>RDWY</b> ROADWAY
<b>BOC</b> BACK OF CURB	<b>REC</b> RECESSED	<b>REF</b> REFERENCE
<b>BP</b> BREAK POINT	<b>REQD</b> REQUIRED	<b>RFD</b> ROOF DRAIN
<b>BRK</b> BRICK	<b>RH</b> RIGHT HAND	<b>RIM</b> DRAIN INLET RIM ELEVATION
<b>BRKT</b> BRACKET	<b>RLG</b> RAILING	<b>RM</b> ROOM
<b>BRL</b> BUILDING RESTRICTION LINE	<b>RND</b> ROUND	<b>ROW</b> RIGHT OF WAY
<b>BS</b> BOTTOM OF STEP	<b>RP</b> RADIUS POINT	<b>RPA</b> RESOURCE PROTECTION AREA
<b>BSMT</b> BASEMENT	<b>RTE</b> ROUTE	<b>S</b> SOUTH
<b>BTWN</b> BETWEEN	<b>S</b> SURFACE DRAIN	<b>SECT</b> SECTION
<b>BW</b> BOTTOM OF WALL	<b>SD</b> SURFACE DRAIN	<b>SGL</b> SINGLE
<b>BEV</b> BEVEL	<b>SECT</b> SECTION	<b>SJ</b> SCORED JOINT
<b>C</b>	<b>CEM</b> CEMENT	<b>SLP</b> SLOPE
<b>CB</b> CATCH BASIN	<b>CEM</b> CEMENT	<b>SM</b> SMOOTH
<b>CC</b> CENTER TO CENTER	<b>CI</b> CAST IRON	<b>SPEC</b> SPECIFICATION
<b>CEM</b> CEMENT	<b>CIP</b> CAST IRON PIPE	<b>SQ FT</b> SQUARE FOOT
<b>CIP</b> CAST IRON PIPE	<b>CIPC</b> CAST-IN-PLACE CONCRETE	<b>SQ IN</b> SQUARE INCH
<b>CJ</b> CONTROL JOINT	<b>CL</b> CENTER LINE	<b>SST</b> STAINLESS STEEL
<b>CL</b> CENTER LINE	<b>CLO</b> CLOSET	<b>ST</b> STREET
<b>CLO</b> CLOSET	<b>CLR</b> CLEAR	<b>STA</b> STATION POINT
<b>CLR</b> CLEAR	<b>CMU</b> CONCRETE MASONRY UNIT	<b>STD</b> STANDARD
<b>COL</b> COLUMN	<b>COL</b> COLUMN	<b>STL</b> STEEL
<b>CONC</b> CONCRETE	<b>CONC</b> CONCRETE	<b>STM</b> STORM DRAIN
<b>CONN</b> CONNECTION	<b>CONN</b> CONNECTION	<b>SW</b> SIDEWALK
<b>CONST</b> CONSTRUCTION	<b>CONT</b> CONTINUOUS	<b>SWM</b> STORM WATER MANAGEMENT
<b>CONT</b> CONTINUOUS	<b>COORD</b> COORDINATE	<b>T &amp; G</b> TONGUE AND GROOVE
<b>COORD</b> COORDINATE	<b>D</b>	<b>TC</b> TOP OF CURB, TOP OF COLUMN
<b>D</b>	<b>DF</b> DRINKING FOUNTAIN	<b>TD</b> TRENCH DRAIN
<b>DIA</b> DIAMETER	<b>DIA</b> DIAMETER	<b>TEMP</b> TEMPORARY
<b>DIM</b> DIMENSION	<b>DIST</b> DISTANCE	<b>TS</b> TOP OF STEP
<b>DIST</b> DISTANCE	<b>DR</b> DRIVE	<b>TW</b> TOP OF WALL
<b>DR</b> DRIVE	<b>DRN</b> DRAIN	<b>TX</b> TEXT
<b>DRN</b> DRAIN	<b>DWG</b> DRAWING	<b>TYP</b> TYPICAL
<b>DWG</b> DRAWING	<b>DEMO</b> DEMOLITION	<b>U</b> UNFIN
<b>DEMO</b> DEMOLITION	<b>DET</b> DETAIL	<b>UNFIN</b> UNFINISHED
<b>DET</b> DETAIL	<b>DI</b> DROP INLET	<b>V</b> VERT
<b>DN</b> DOWN	<b>DS</b> DOWNSPOUT	<b>VERT</b> VERTICAL
<b>DS</b> DOWNSPOUT	<b>DT</b> DRAIN TILE	<b>W</b> WEST
<b>DT</b> DRAIN TILE	<b>DWL</b> DOWEL	<b>WD</b> WOOD
<b>DWL</b> DOWEL	<b>E</b>	<b>WI</b> WROUGHT IRON
<b>E</b>	<b>EA</b> EAST	<b>WLD</b> WELDED
<b>EA</b> EAST	<b>ELEC</b> ELECTRICAL	<b>WP</b> WATER PROOFING
<b>ELEC</b> ELECTRICAL	<b>ELEC P</b> ELECTRICAL PANEL	<b>WR</b> WATER RESISTANT
<b>ELEC P</b> ELECTRICAL PANEL	<b>ELEV</b> ELEVATION	<b>WWW</b> WELDED WIRE MESH
<b>ELEV</b> ELEVATION	<b>ENCL</b> ENCLOSURE	<b>WWR</b> WELDED WIRE REINFORCEMENT
<b>ENCL</b> ENCLOSURE	<b>ENTR</b> ENTRANCE	<b>Y</b> YD
<b>ENTR</b> ENTRANCE	<b>EP</b> EDGE OF PAVEMENT	<b>YD</b> YARD DRAIN
<b>EQ</b> EQUAL	<b>EQL SP</b> EQUALLY SPACED	
<b>EQL SP</b> EQUALLY SPACED	<b>EQUIP</b> EQUIPMENT	
<b>EQUIP</b> EQUIPMENT	<b>ESMT</b> EASEMENT	
<b>ESMT</b> EASEMENT	<b>ETD</b> EXISTING TO BE DEMOLISHED	
<b>ETD</b> EXISTING TO BE DEMOLISHED	<b>ETR</b> EXISTING TO REMAIN	
<b>ETR</b> EXISTING TO REMAIN	<b>ETRL</b> EXISTING TO BE RELOCATED	
<b>ETRL</b> EXISTING TO BE RELOCATED	<b>ETRP</b> EXISTING TO BE REPLACED	
<b>ETRP</b> EXISTING TO BE REPLACED	<b>EW</b> EACH WAY	
<b>EW</b> EACH WAY	<b>EX</b> EXISTING	
<b>EX</b> EXISTING	<b>EXP</b> EXPANSION	
<b>EXP</b> EXPANSION	<b>EXT</b> EXTERIOR	
<b>EXT</b> EXTERIOR	<b>F</b>	
<b>F</b>	<b>FAR</b> FLOOR AREA RATIO	
<b>FAR</b> FLOOR AREA RATIO	<b>FBD</b> FIBER BOARD	
<b>FBD</b> FIBER BOARD	<b>FD</b> FLOOR DRAIN	
<b>FD</b> FLOOR DRAIN	<b>FDN</b> FOUNDATION	
<b>FDN</b> FOUNDATION	<b>FFE</b> FINISHED FLOOR ELEVATION	
<b>FFE</b> FINISHED FLOOR ELEVATION	<b>FIN</b> FINISH	
<b>FIN</b> FINISH	<b>FIN FL</b> FINISH FLOOR	
<b>FIN FL</b> FINISH FLOOR	<b>FIN GR</b> FINISH GRADE	
<b>FIN GR</b> FINISH GRADE	<b>FN</b> FENCE	
<b>FN</b> FENCE	<b>FOC</b> FRONT OF CURB	
<b>FOC</b> FRONT OF CURB	<b>FT</b> FOOTING	
<b>FT</b> FOOTING	<b>FTG</b> FOOTING	
<b>FTG</b> FOOTING	<b>FUT</b> FUTURE	
<b>FUT</b> FUTURE	<b>FXTR</b> FIXTURE	
<b>FXTR</b> FIXTURE	<b>G</b>	
<b>G</b>	<b>GAB</b> GAUGE	
<b>GAB</b> GAUGE	<b>GAB</b> GRADED AGGREGATE BASE	
<b>GALV</b> GALVANIZED	<b>GALV</b> GALVANIZED	
<b>GC</b> GENERAL CONTRACTOR	<b>GDR</b> GUARD RAIL	
<b>GDR</b> GUARD RAIL	<b>GFA</b> GROSS FLOOR AREA	
<b>GFA</b> GROSS FLOOR AREA	<b>GIP</b> GALVANIZED IRON PIPE	
<b>GIP</b> GALVANIZED IRON PIPE	<b>GL</b> GLASS	
<b>GL</b> GLASS	<b>GP</b> GUTTER PAN	
<b>GP</b> GUTTER PAN	<b>GVL</b> GRAVEL	
<b>GVL</b> GRAVEL	<b>H</b>	
<b>H</b>	<b>HB</b> HOSE BIBB	
<b>HB</b> HOSE BIBB	<b>HC</b> HANDICAP PARKING SPACE	
<b>HDPE</b> HIGH DENSITY POLYETHYLENE PIPE	<b>HDWD</b> HARDWOOD	
<b>HDWD</b> HARDWOOD	<b>HDWE</b> HARDWARE	
<b>HDWE</b> HARDWARE	<b>HT</b> HEIGHT	
<b>HT</b> HEIGHT	<b>HNDRL</b> HANDRAIL	
<b>HNDRL</b> HANDRAIL	<b>HORZ</b> HORIZONTAL	
<b>HORZ</b> HORIZONTAL	<b>HP</b> HIGH POINT	
<b>HP</b> HIGH POINT		

**PROFESSIONAL TITLES**

ARCH ARCHITECT
CIVIL CIVIL ENGINEER
ENGR ENGINEER
GC GENERAL CONTRACTOR
ID INTERIOR DESIGNER
MEP MECHANICAL/ELECTRICAL/PLUMBING
LA LANDSCAPE ARCHITECT
LC LANDSCAPE CONTRACTOR
STR STRUCTURAL ENGINEER

**MATERIAL GRAPHICS**

	CONCRETE		FABRIC SEPARATOR
	COMPACTED AGGREGATE SUB-BASE		STEEL / IRON
	SAND		ALUMINUM
	MORTAR		BRASS / BRONZE / COPPER
	MORTAR NEXT TO SAND SETTING BED		WOOD
	BRICK / PAVER		MULCH
	DRAINAGE GRAVEL		PLASTIC
	SOIL / COMPACTED SOIL / UNDISTURBED SUBGRADE		ARCHITECTURAL PRECAST
	STRUCTURAL / PLANTING / LIGHTWEIGHT SOIL		WELDED WIRE REINFORCEMENT
	EXPANSION JOINT W/ BACKER ROD		CMU
	REBAR		RIGID INSULATION W/ OPEN JOINTS FOR DRAINAGE
	STONE		BRICK / CONCRETE PAVER RUNNING BOND
	ASPHALT CONCRETE W/ NEOPRENE TACK COAT		BRICK / CONCRETE PAVER HERRINGBONE

**LEGEND**

	EXISTING INTERMEDIATE CONTOUR
	EXISTING INDEX CONTOUR
	PROPOSED INTERMEDIATE CONTOUR
	PROPOSED INDEX CONTOUR
	EXISTING SPOT GRADE
	PROPOSED SPOT GRADE
	ELEVATION
	STATION POINT
	EASEMENT (PUE, PIE, ETC.)
	CENTER LINE
	PROPERTY LINE
	RIGHT OF WAY
	LOT LINE
	CENTER LINE OF SWALE
	EXPANSION JOINT
	STEP
	EXISTING LIGHT
	PROPOSED POLE LIGHT
	PROPOSED PEDESTRIAN LIGHT
	PROPOSED WALL LIGHT
	PROPOSED BOLLARD
	PROPOSED FOUNTAIN LIGHT
	PROPOSED FLOODLIGHT
	PROPOSED UPLIGHT
	PROPOSED STEP LIGHT
	SLAB DRAIN
	SURFACE DRAIN / YARD DRAIN
	TRENCH DRAIN
	PLANT CALLOUT
	MATERIAL OR DETAIL CALLOUT
	ELEVATION CALLOUT
	SECTION CALLOUT

**GENERAL NOTES**

- GENERAL LAYOUT NOTES:**
- BASE TOPOGRAPHICAL AND EXISTING CONDITIONS TAKEN FROM DRAWING FURNISHED BY BOWMAN CONSULTING.
  - DRAWINGS PREPARED FROM CIVIL AND ARCHITECTURAL DRAWINGS, NOT AS-BUILT DATA PREPARED BY BOWMAN CONSULTING.
  - UTILITY WORK IS NOT INDICATED ON THIS DRAWING. REFER TO CIVIL DRAWINGS FOR WORK RELATED TO UTILITIES.
  - DO NOT SCALE THESE DRAWINGS.
  - DIMENSIONS ARE FROM BACK OF CURB, TO FACE OF WALL, TO OUTSIDE EDGE OF PAVEMENTS; FROM COLUMN CENTERLINES TO HARDSCAPE CENTERLINES, TO CENTERLINE OF PAVEMENTS, TO OUTSIDE EDGE OF PAVEMENTS, TO CENTERLINES OF STAIRS; FROM EDGE OF PAVEMENT TO FACE OF WALL UNLESS OTHERWISE SPECIFIED.
  - ALL CURVES TO BE TRUE RADIUS WITHOUT STRAIGHT SEGMENTS.
  - ALL ANGLES ARE 90° UNLESS OTHERWISE NOTED.
  - CHANGES IN LAYOUT MAY BE MADE AT THIS TIME TO ACCOMMODATE DESIGN INTENT OR FIELD CONDITIONS. NO ADDITIONAL PAYMENT WILL BE MADE TO THE CONTRACTOR FOR THIS WORK.
  - CONTRACTOR TO NOTIFY LANDSCAPE ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES FOUND IN PLANS AND ANY CONFLICTS ENCOUNTERED IN FIELD.
  - QUANTITIES REFERENCED IN PLANS ARE SHOWN AS A COURTESY ONLY. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES.
  - CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.
  - ALL WALLS, SIDEWALKS, PATHWAYS, FENCES, AND STAIRWAYS SHALL BE COMPLETELY LAID OUT AND STAKED WITH VISIBLE MARKERS. THE STAKES SHALL BE APPROVED IN THE FIELD BY LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT 48 HOURS PRIOR TO SITE VISIT.
  - CONTRACTOR IS RESPONSIBLE FOR ALL WIRING, CONDUIT, FOOTINGS, PERMITS, ETC. NECESSARY TO COMPLETE SITE LIGHTING INSTALLATION. CONTRACTOR TO COORDINATE POWER CONNECTIONS WITH ELECTRICAL ENGINEER AND OWNER.
  - BENCH AND LITTER RECEPTACLE LAYOUT SHOWN IS APPROXIMATE. LAYOUT TO BE APPROVED IN THE FIELD BY LANDSCAPE ARCHITECT.

**Sheet List Table**

Sheet Number	Sheet Title
L0.01	GENERAL NOTES
L1.01	OVERALL HARDSCAPE PLAN
L1.02	HARDSCAPE ENLARGEMENT PLAN
L1.03	HARDSCAPE ENLARGEMENT PLAN
L1.04	HARDSCAPE ENLARGEMENT PLAN
L1.05	HARDSCAPE ENLARGEMENT PLAN
L1.06	HARDSCAPE ENLARGEMENT PLAN
L1.10	OVERALL ROOFTOP HARDSCAPE PLAN
L3.01	OVERALL LANDSCAPE PLAN
L3.02	OVERALL LANDSCAPE PLAN
L3.10	OVERALL ROOFTOP LANDSCAPE PLAN
L4.01	LANDSCAPE DETAILS
L4.02	LANDSCAPE DETAILS
L4.10	LANDSCAPE SOIL VOLUME
L4.11	LANDSCAPE SOIL VOLUME



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Interior Design  
Landscape Architecture  
Engineering

1054 31st Street NW  
Canal Square  
Suite 410  
Washington, DC  
20007  
202.595.3173

www.bkvgroup.com

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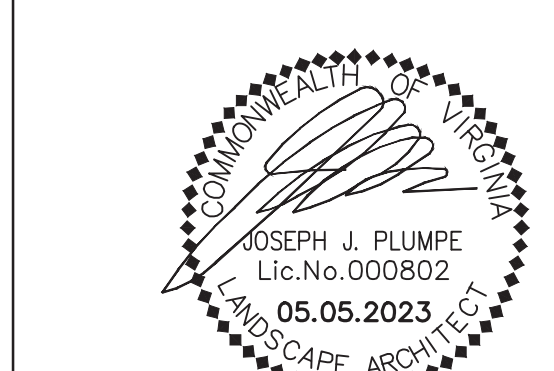
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**PROJECT TITLE**

**CRYSTAL TOWERS 3**

ISSUE #	DATE	DESCRIPTION
	04/29/2022	4.1 SUBMISSION
	08/03/2022	4.1 RESUBMISSION
	04/03/2023	4.1 RESUBMISSION
	05/05/2023	4.1 RESUBMISSION

**CERTIFICATION**



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CHECKED BY	LH
COMMISSION NUMBER	22010

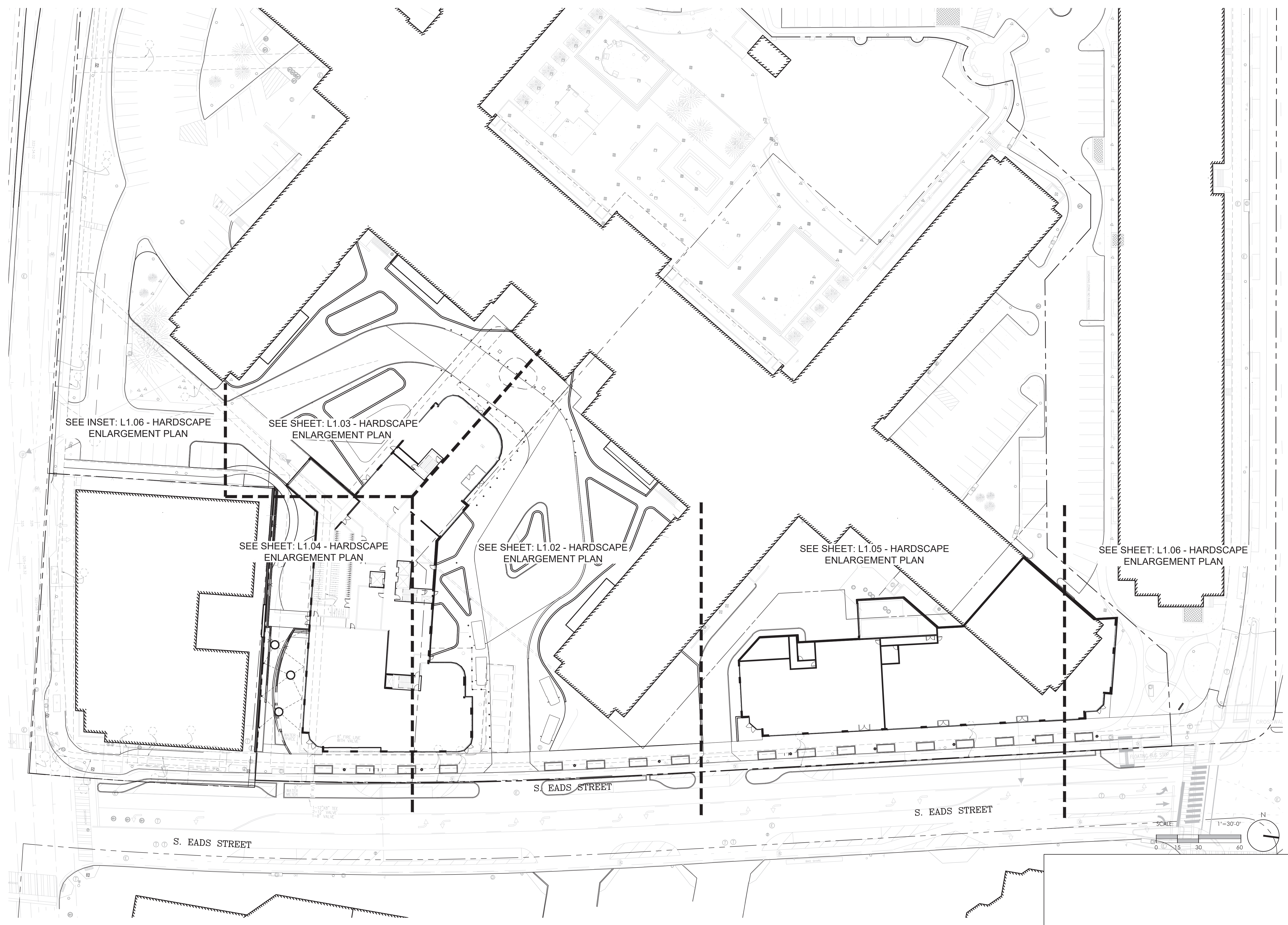
**SHEET TITLE**  
**GENERAL NOTES**

**SHEET NUMBER**

**L0.01**

NOT RELEASED FOR CONSTRUCTION





\\FILES\ERP\Projects\2022\22010 Crystal Towers\6. Overall Hardscape Plan.dwg

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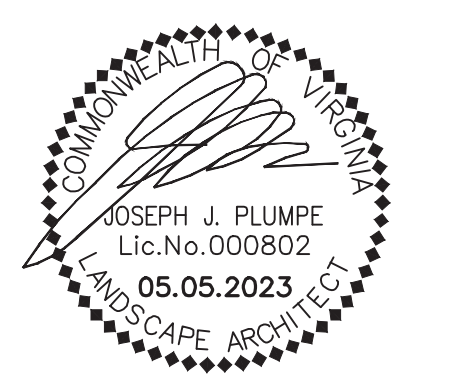
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**SHEET TITLE**  
**OVERALL HARDSCAPE PLAN**

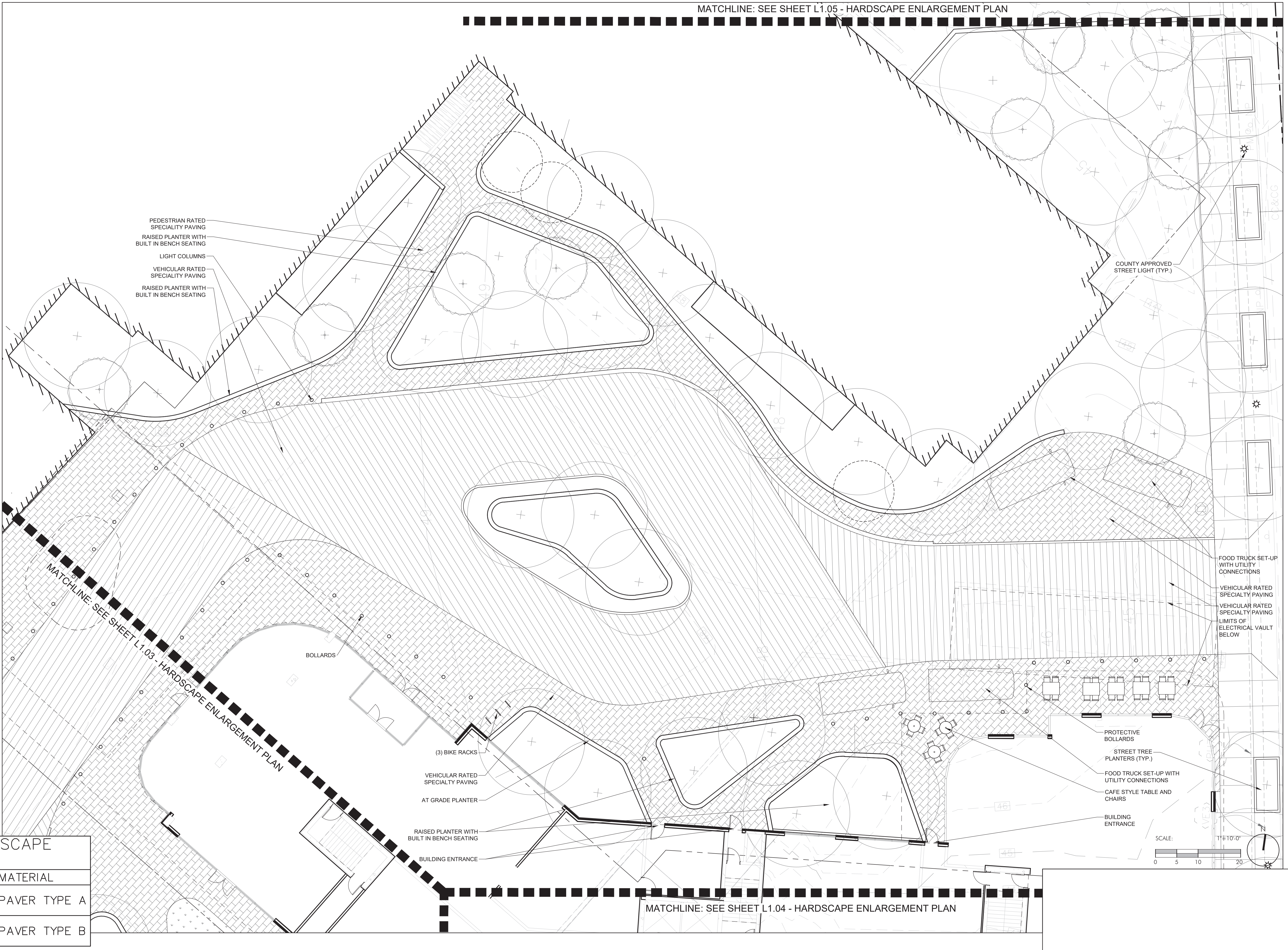
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**L1.01**

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MATCHLINE: SEE SHEET L1.05 - HARDSCAPE ENLARGEMENT PLAN



- PEDESTRIAN RATED SPECIALTY PAVING
- RAISED PLANTER WITH BUILT IN BENCH SEATING
- LIGHT COLUMNS
- VEHICULAR RATED SPECIALTY PAVING
- RAISED PLANTER WITH BUILT IN BENCH SEATING

COUNTY APPROVED STREET LIGHT (TYP.)

- FOOD TRUCK SET-UP WITH UTILITY CONNECTIONS
- VEHICULAR RATED SPECIALTY PAVING
- VEHICULAR RATED SPECIALTY PAVING
- LIMITS OF ELECTRICAL VAULT BELOW

BOLLARDS

(3) BIKE RACKS

VEHICULAR RATED SPECIALTY PAVING

AT GRADE PLANTER

RAISED PLANTER WITH BUILT IN BENCH SEATING

BUILDING ENTRANCE

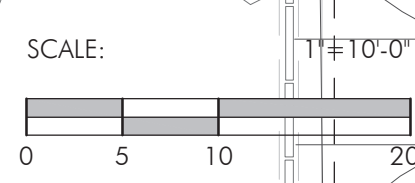
PROTECTIVE BOLLARDS

STREET TREE PLANTERS (TYP.)

FOOD TRUCK SET-UP WITH UTILITY CONNECTIONS

CAFE STYLE TABLE AND CHAIRS

BUILDING ENTRANCE



NOT RELEASED FOR CONSTRUCTION

HARDSCAPE KEY	
HATCH	MATERIAL
[Hatching Pattern]	PAVER TYPE A
[Hatching Pattern]	PAVER TYPE B

MATCHLINE: SEE SHEET L1.04 - HARDSCAPE ENLARGEMENT PLAN

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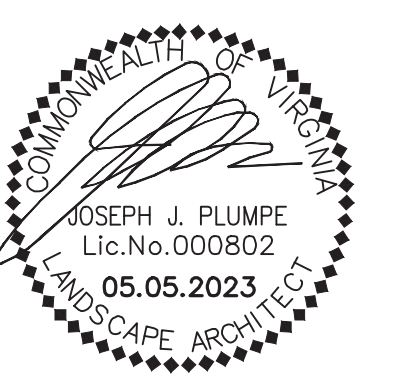
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SHEET TITLE

**HARDSCAPE ENLARGEMENT PLAN**

SHEET NUMBER

**L1.02**

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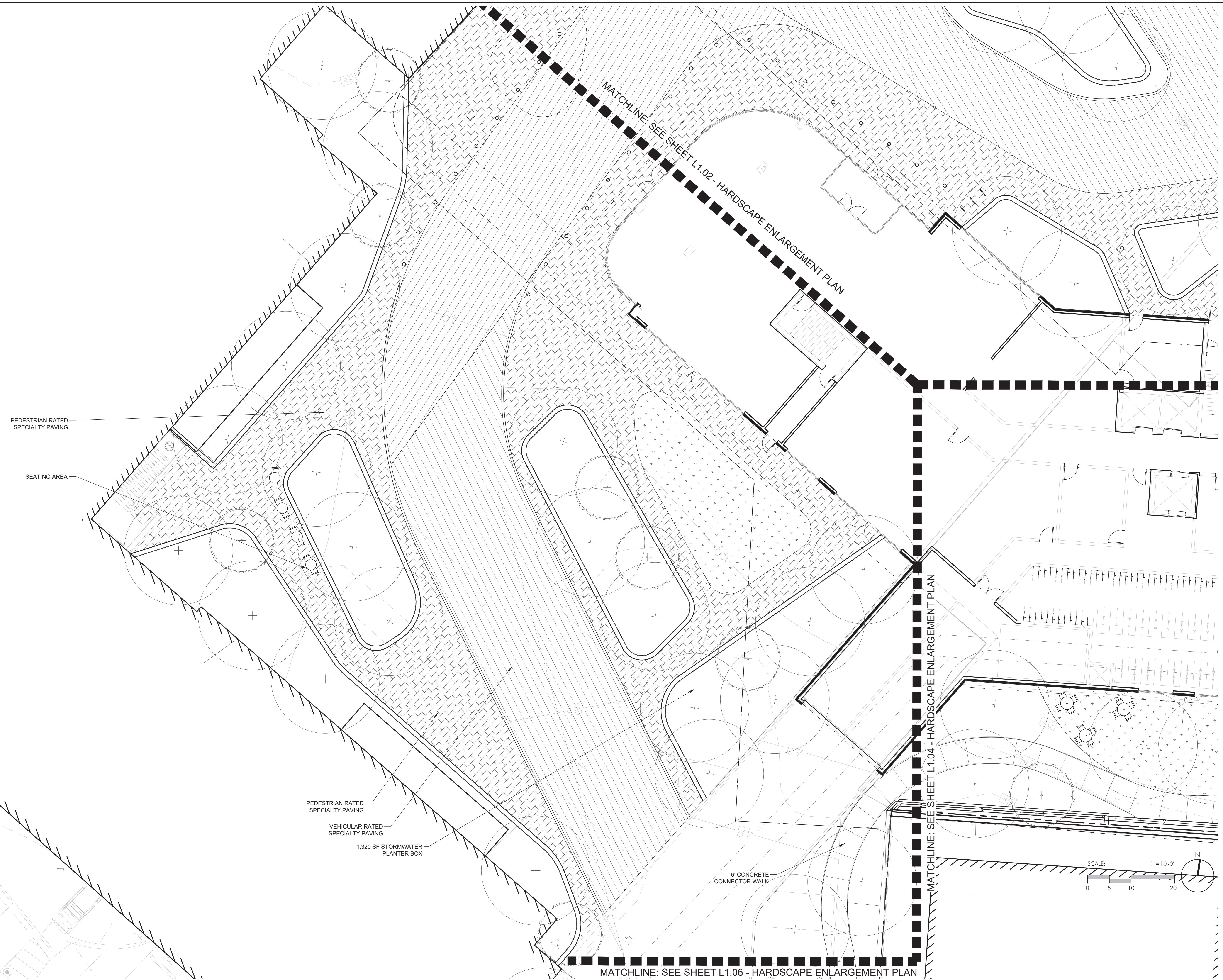
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SHEET TITLE

**HARDSCAPE  
ENLARGEMENT PLAN**

SHEET NUMBER

**L1.03**



**HARDSCAPE KEY**

HATCH	MATERIAL
[Hatch Pattern]	PAVER TYPE A
[Hatch Pattern]	PAVER TYPE B



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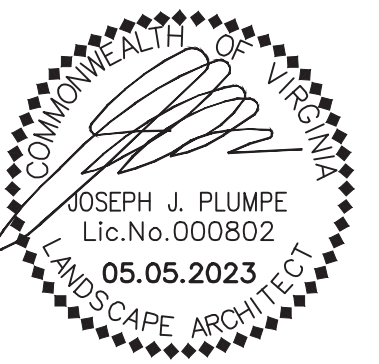
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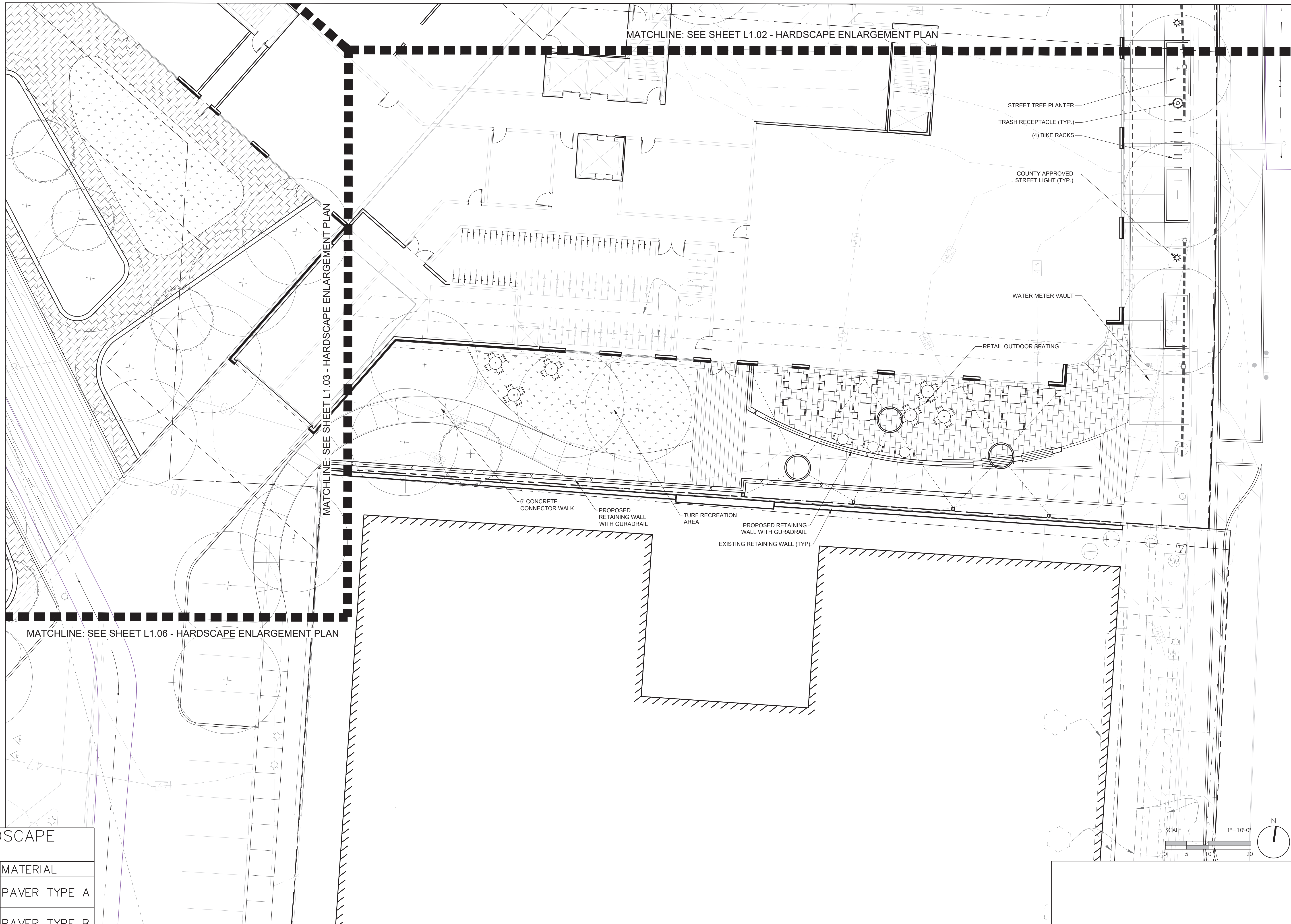


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**SHEET TITLE**  
**HARDSCAPE  
ENLARGEMENT PLAN**

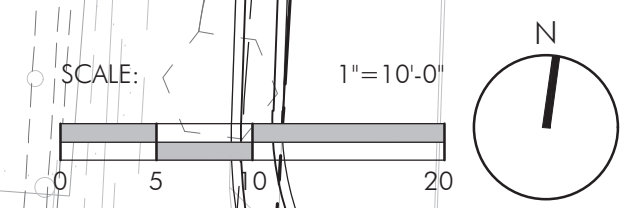
SHEET NUMBER

**L1.04**



**HARDSCAPE KEY**

HATCH	MATERIAL
	PAVER TYPE A
	PAVER TYPE B



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**CRYSTAL  
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ISSUE #	DATE	DESCRIPTION
	04/29/2022	4.1 SUBMISSION
	08/03/2022	4.1 RESUBMISSION
	04/03/2023	4.1 RESUBMISSION
	05/05/2023	4.1 RESUBMISSION

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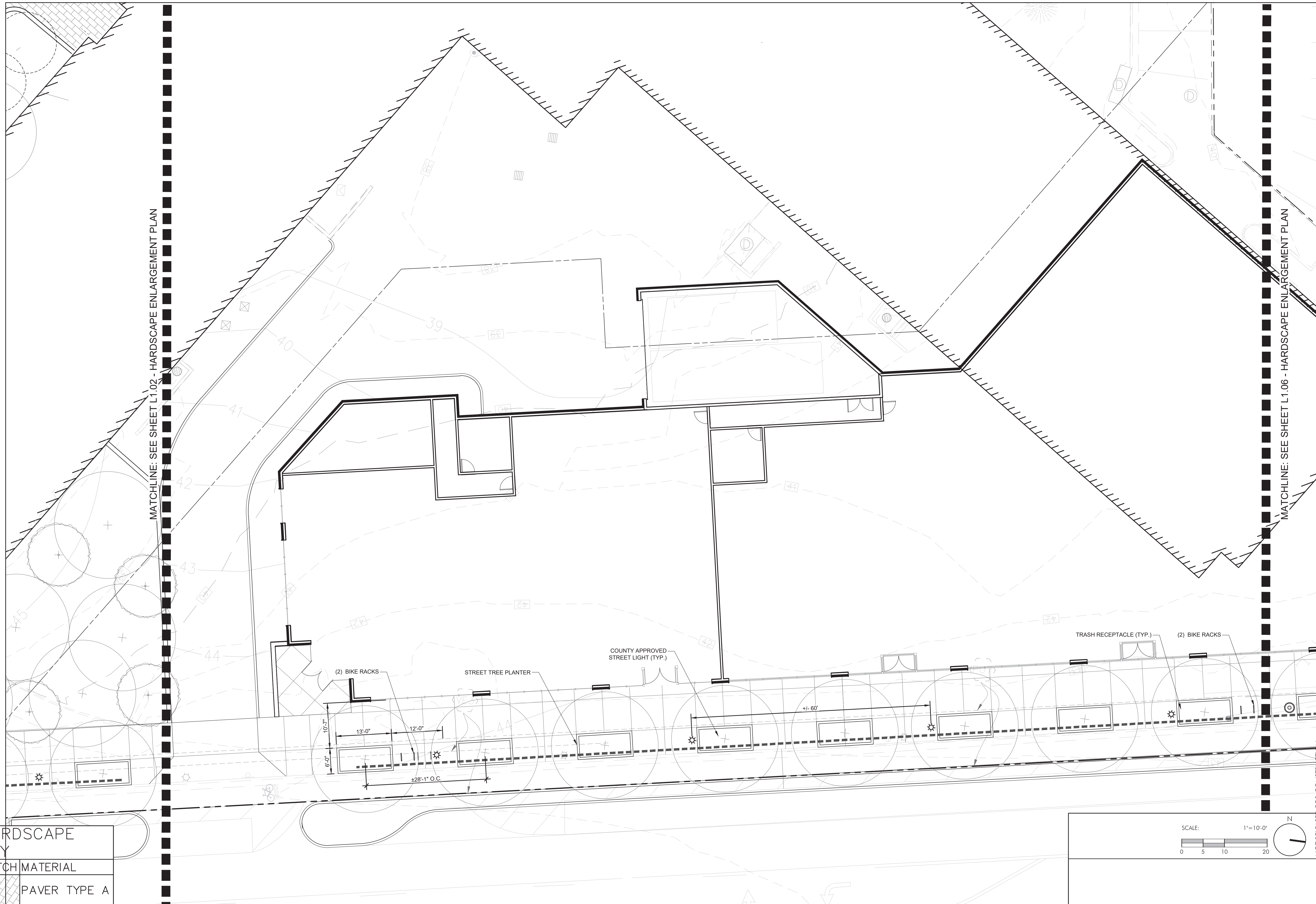
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SHEET TITLE

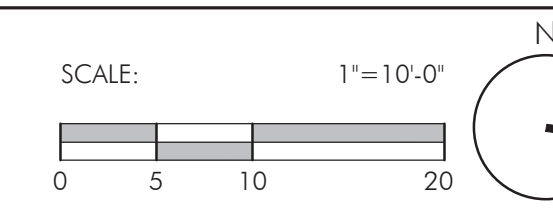
**HARDSCAPE  
ENLARGEMENT PLAN**

SHEET NUMBER

**L1.05**



HARDSCAPE KEY	
HATCH	MATERIAL
	PAVER TYPE A
	PAVER TYPE B



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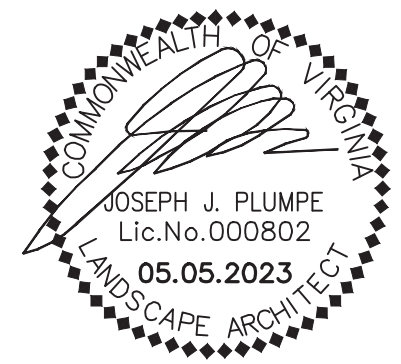
PROJECT TITLE

**CRYSTAL  
TOWERS 3**

APPLICANT IS WORKING WITH STAFF TO REFINE  
CORNER GREEN IMPROVEMENTS. FINAL  
DESIGN TO BE COORDINATE WITH STAFF PRIOR  
TO FINAL LANDSCAPE PLAN.

ISSUE #	DATE	DESCRIPTION
	04/29/2022	4.1 SUBMISSION
	08/03/2022	4.1 RESUBMISSION
	04/03/2023	4.1 RESUBMISSION
	05/05/2023	4.1 RESUBMISSION

CERTIFICATION

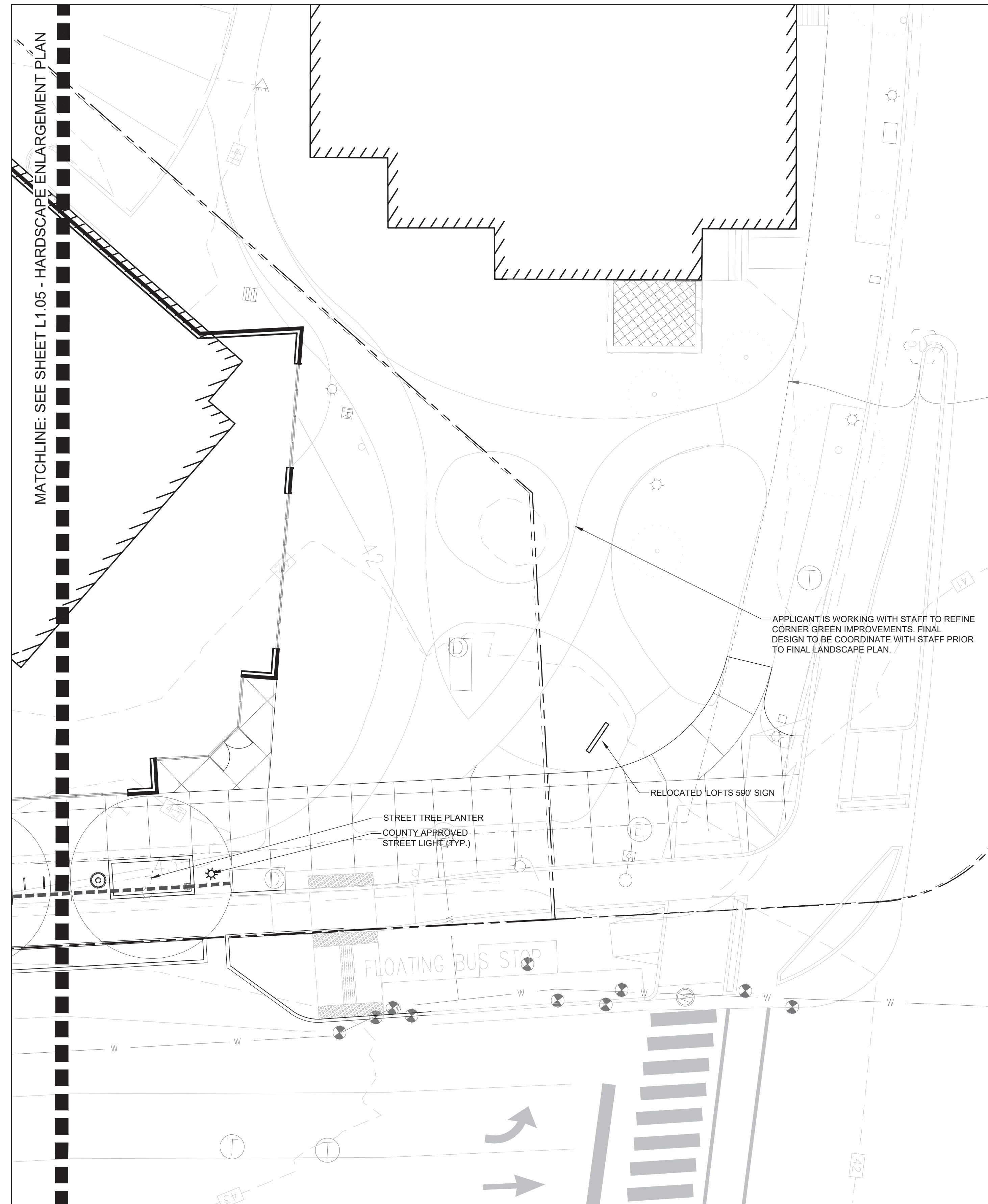
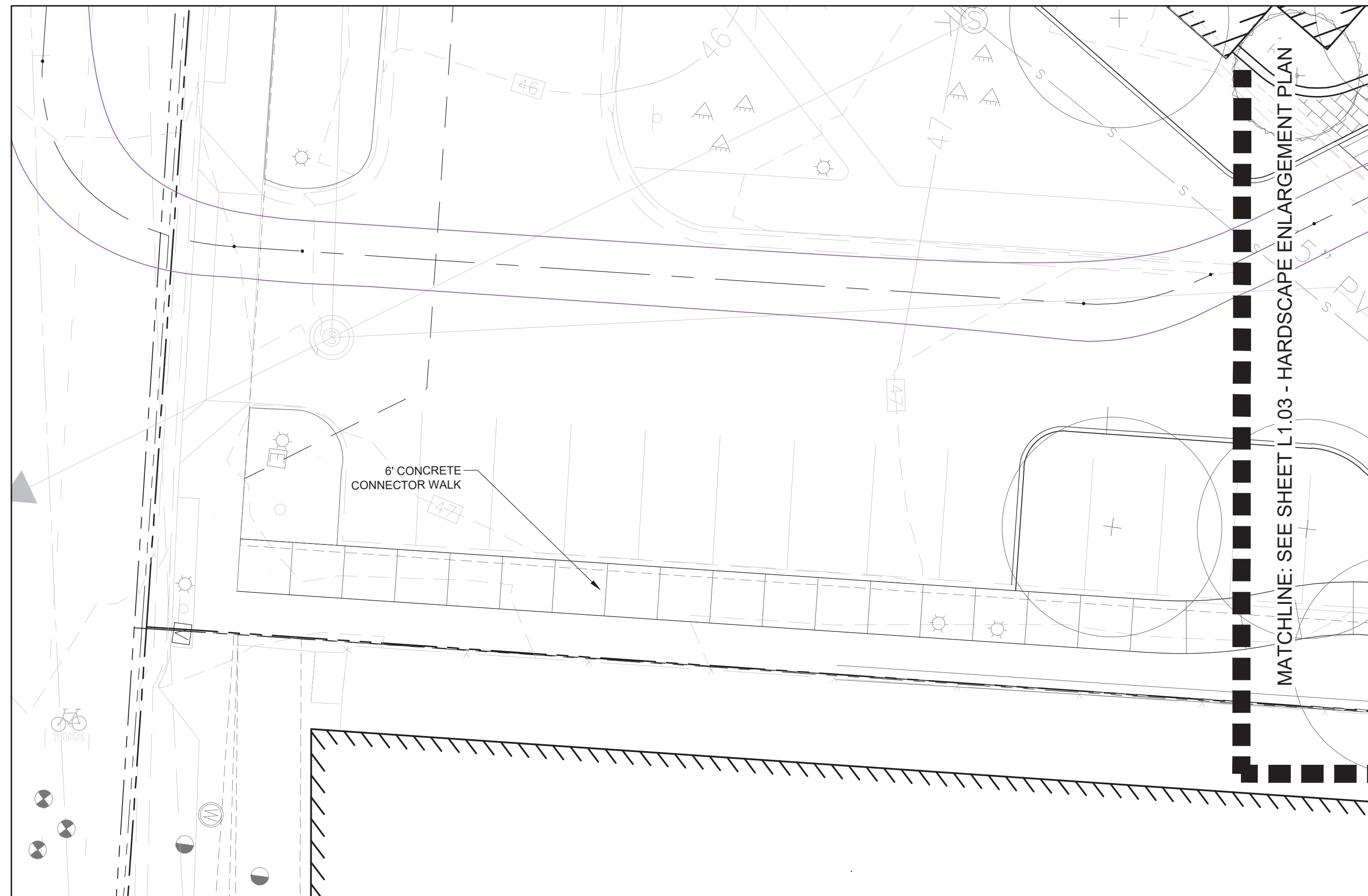


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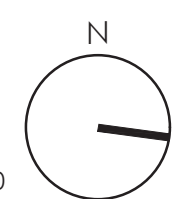
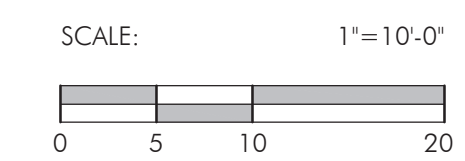
**SHEET TITLE**  
**HARDSCAPE  
ENLARGEMENT PLAN**

SHEET NUMBER

**L1.06**



HARDSCAPE KEY	
HATCH	MATERIAL
	PAVER TYPE A
	PAVER TYPE B



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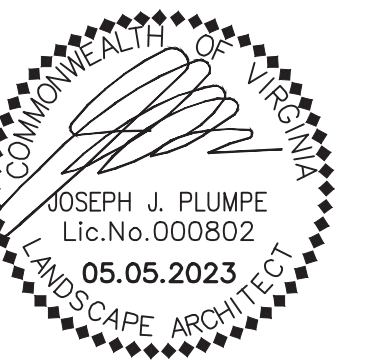
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	05/05/2023	4.1 RESUBMISSION

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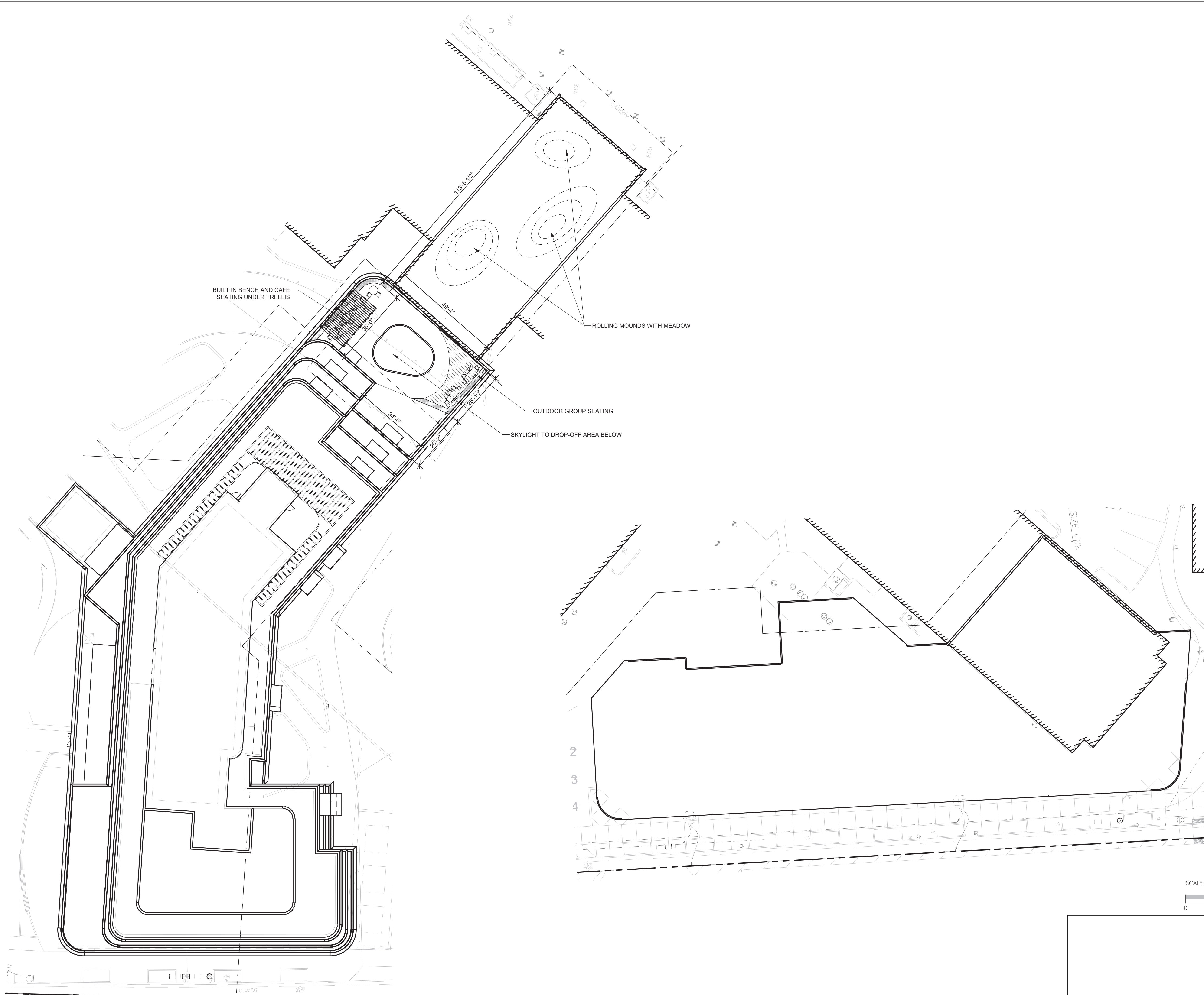
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**OVERALL ROOFTOP  
HARDSCAPE PLAN**

SHEET NUMBER

**L1.10**



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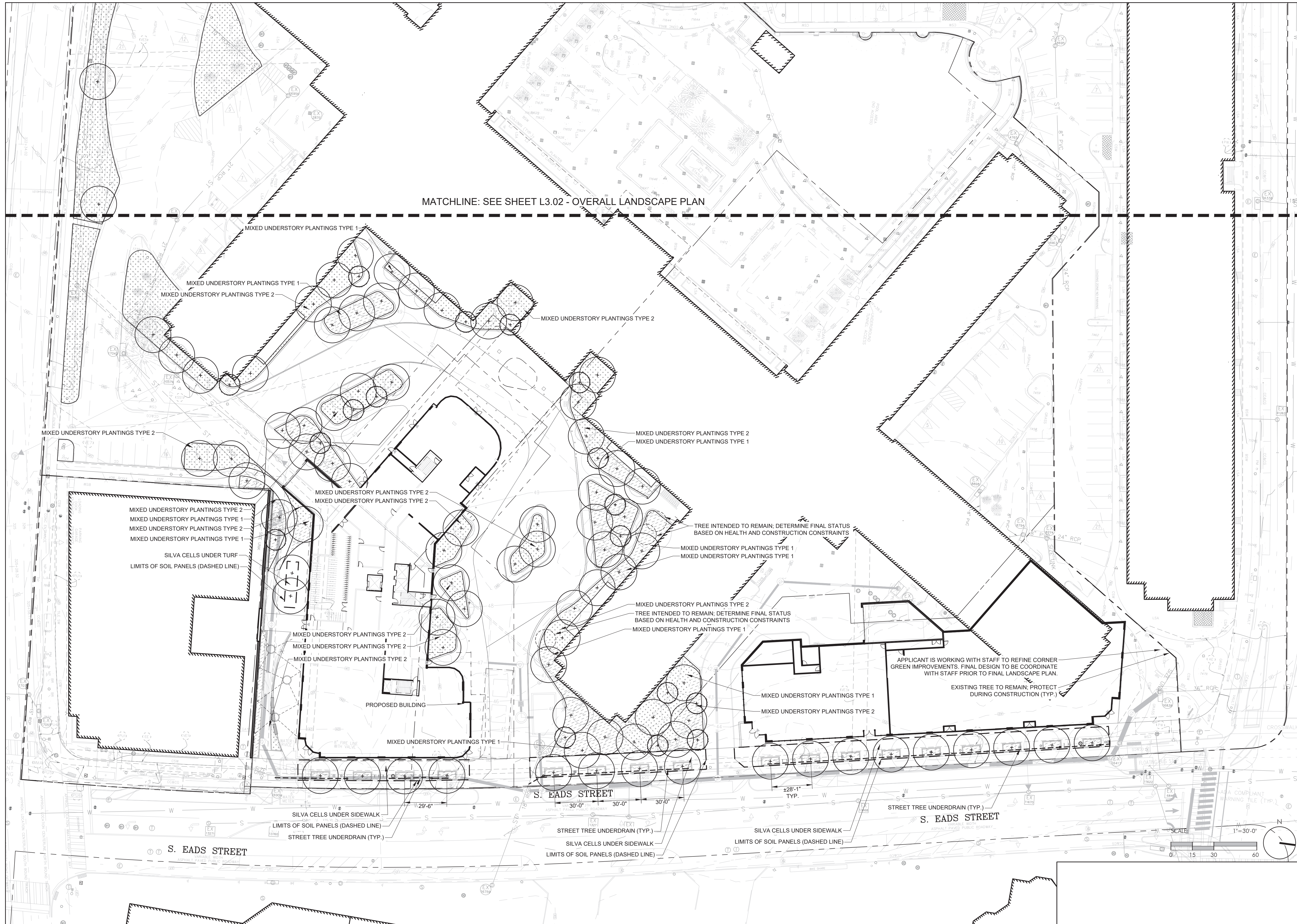
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SHEET TITLE

**OVERALL  
LANDSCAPE PLAN**

SHEET NUMBER

**L3.01**



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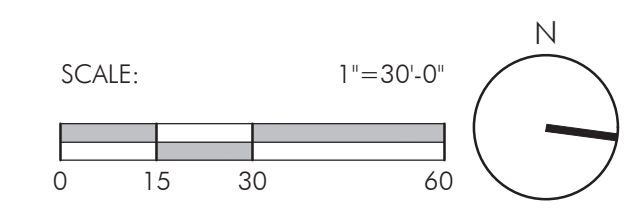
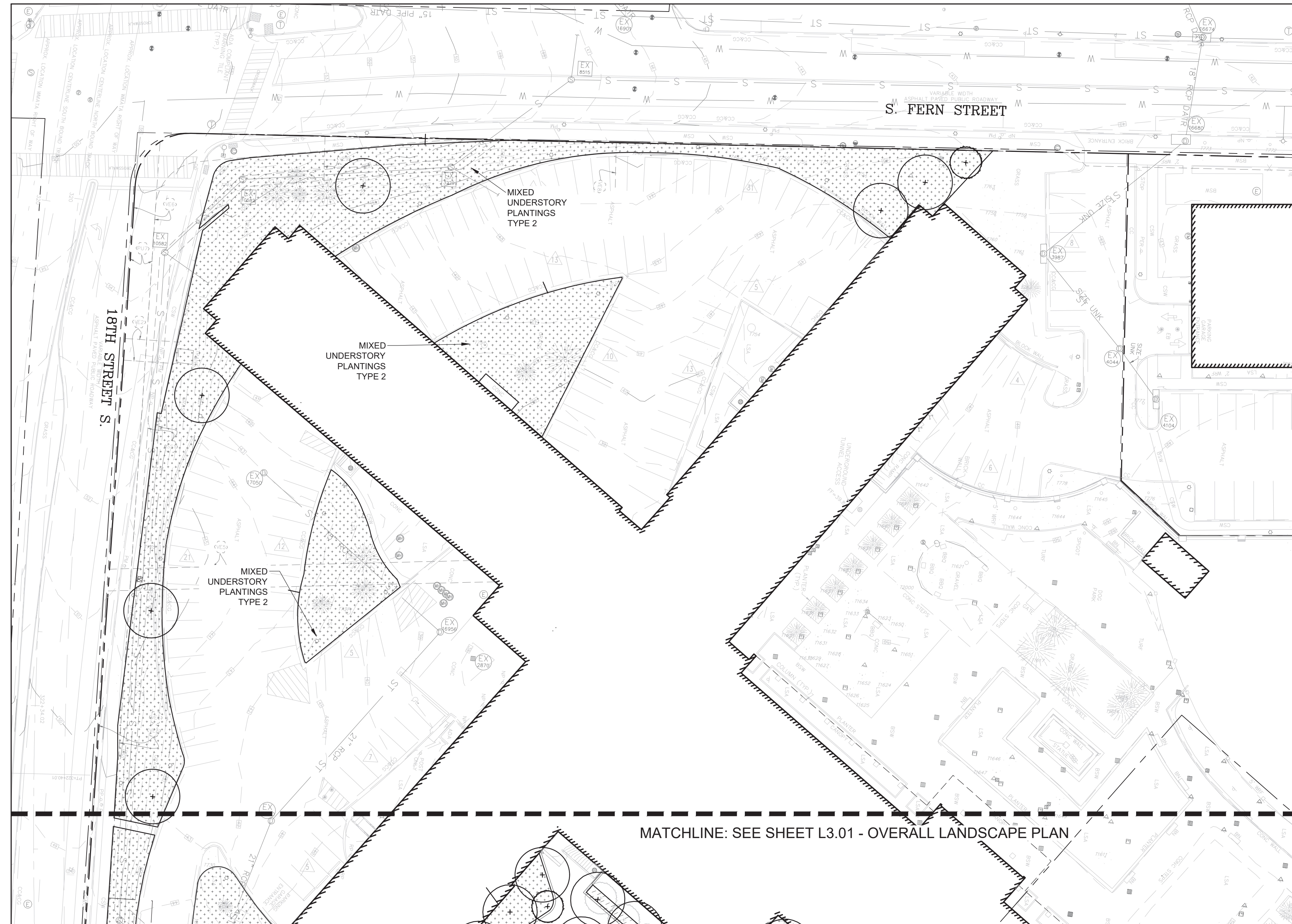
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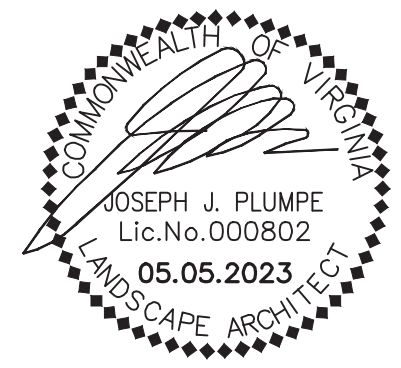
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TOWERS 3**

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	05/05/2023	4.1 RESUBMISSION



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**SHEET TITLE**  
**OVERALL  
LANDSCAPE PLAN**

**SHEET NUMBER**  
**L3.02**



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TOWERS 3**

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	05/05/2023	4.1 RESUBMISSION

CERTIFICATION

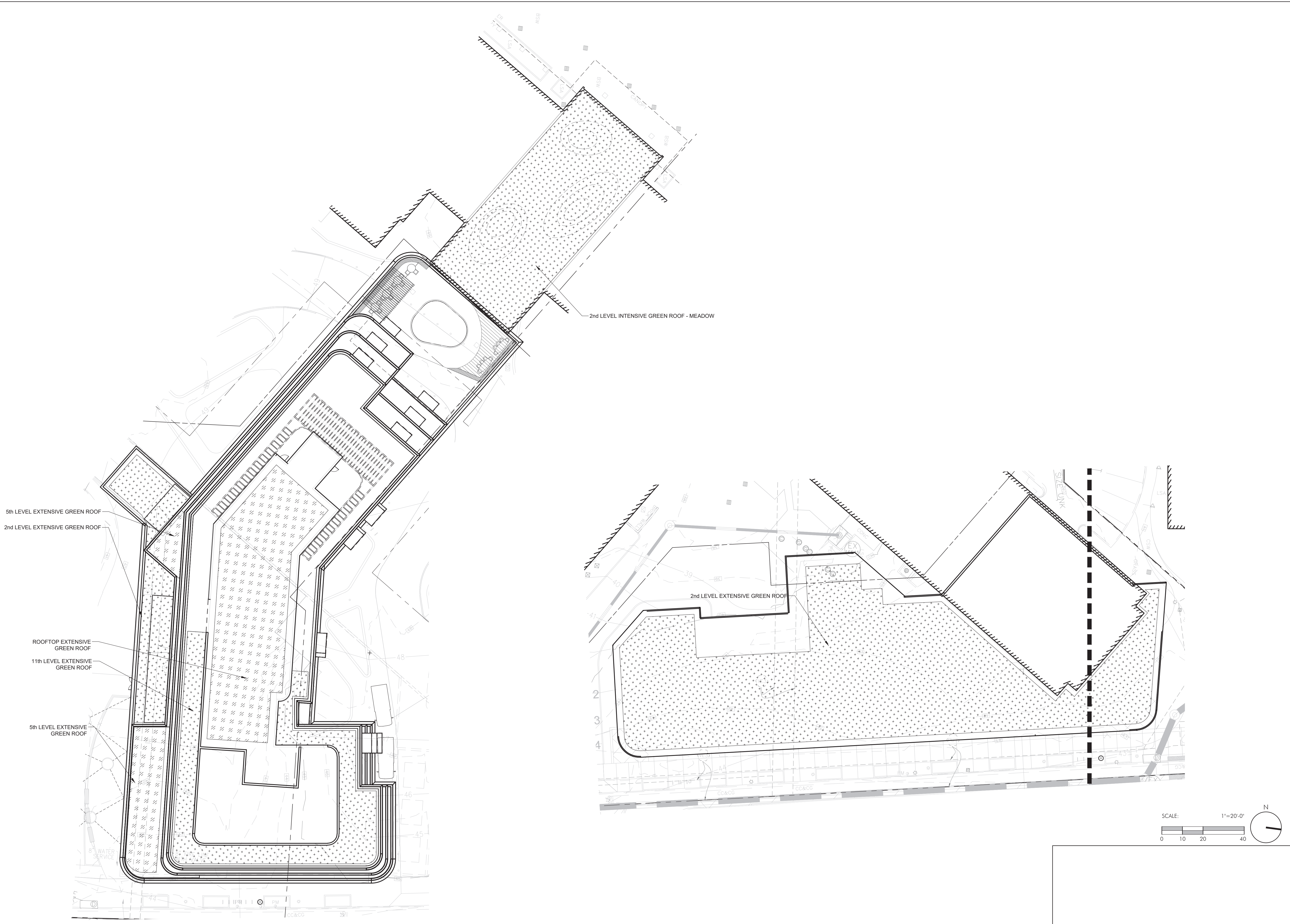


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COMMISSION NUMBER	22010

**SHEET TITLE**  
**OVERALL ROOFTOP  
LANDSCAPE PLAN**

SHEET NUMBER

**L3.10**



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TOWERS 3**

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**CERTIFICATION**



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**SHEET TITLE**  
**LANDSCAPE DETAILS**

**SHEET NUMBER**

**L4.01**

**PLANT SCHEDULE**

ORNAMENTAL TREES	QTY	BOTANICAL NAME	COMMON NAME	HEIGHT	CALIPER
Agr	3	Acer griseum	Paperbark Maple	8'-10'	1 1/2" MIN.
Aa	2	Amelanchier arborea	Common Serviceberry	8'-10'	1 1/2" MIN.
Cec	3	Cercis canadensis	Eastern Redbud	8'-10'	1 1/2" MIN.
Mv	3	Magnolia virginiana	Sweet Bay	8'-10'	1 1/2" MIN.
Ma	2	Malus angustifolia	Southern Crabapple	8'-10'	1 1/2" MIN.
Pp	2	Parrotia persica	Persian Parrotia	14'-16'	3"-3 1/2"
Pra	3	Prunus americana	American Plum	8'-10'	2 1/2" MIN.
Sa	3	Styrax americanus	American Snowbell	8'-10'	1 1/2" MIN.
SHADE TREES	QTY	BOTANICAL NAME	COMMON NAME	HEIGHT	CALIPER
Ar	9	Acer rubrum	Red Maple	14'-16'	3"-3 1/2"
Io	10	Ilex opaca	American Holly	6'-8'	
LsR	9	Liquidambar styraciflua 'Rotundiloba'	Round-Lobed Sweet Gum	14'-16'	3"-3 1/2"
Ns	10	Nyssa sylvatica	Sour Gum	14'-16'	3"-3 1/2"
Po	10	Platanus occidentalis	American Sycamore	14'-16'	3"-3 1/2"
Prs	9	Prunus serotina	Wild Black Cherry	8'-10'	2 1/2" MIN.
Qb	10	Quercus bicolor	Swamp White Oak	14'-16'	3"-3 1/2"
Ta	9	Tilia americana	American Linden	14'-16'	3"-3 1/2"
UaV	10	Ulmus americana 'Valley Forge'	American Elm	14'-16'	3"-3 1/2"

**CHESAPEAKE BAY CANOPY COVERAGE**

SITE AREA =		126,926.00 SF	
CANOPY COVERAGE REQUIRED (17.6%)		22,338.98 SF	
TREE TYPE	QTY	COVERAGE	TOTAL COVERAGE
Acer rubrum	9	393.75 SF	3,543.75 SF
Ilex opaca	9	137.5	1,237.50 SF
Liquidambar styraciflua 'Rotundiloba'	9	312.5	2,812.50 SF
Nyssa sylvatica	9	312.5	2,812.50 SF
Platanus occidentalis	9	393.75 SF	3,543.75 SF
Prunus serotina	8	312.5	2,500.00 SF
Quercus bicolor	9	393.75 SF	3,543.75 SF
Tilia americana 'Valley Forge'	9	393.75 SF	3,543.75 SF
Ulmus americana 'Valley Forge'	9	393.75 SF	3,543.75 SF
Acer griseum	2	218.75	437.50 SF
Amelanchier arborea	3	218.75	656.25 SF
Cercis canadensis	3	218.75	656.25 SF
Magnolia virginiana	3	218.75	656.25 SF
Malus angustifolia	3	137.5	412.50 SF
Parrotia persica	3	218.75	656.25 SF
Prunus americana	3	62.5	187.50 SF
Styrax americanus	3	110	330.00 SF
COVERAGE PROVIDED =		31,073.75 SF	

**NOTE:**

- TREES PLANTED OUTSIDE OF OFFICIAL SITE AREA TO SUPPLEMENT TREE CANOPY REPLACEMENT NOT INCLUDED IN CHESAPEAKE BAY CANOPY COVERAGE
- TREE QTY AND DISTRIBUTION ARE PRELIMINARY AND WILL BE REFINED FOR FUTURE FINAL LANDSCAPE PLAN POST 4.1 APPROVAL

**UNDERSTORY PLANT PALETTE:**

**SHRUBS**

QTY	KEY	GENUS	SPECIES	VARIETY	COMMON NAME	HEIGHT	SPREAD	REMARKS
-	CAH	Clethra	alnifolia		Pepperbush	18 - 24"	18 - 24"	#3 cont., healthy, vigorous, well-rooted & established
-	COS	Cornus	sericea		Red Twig Dogwood	24 - 36"	24 - 36"	#5 cont., healthy, vigorous, well-rooted & established
-	HAA	Hydrangea	quercifolia		Oak Leaf Hydrangea	18 - 24"	18 - 24"	#3 cont., healthy, vigorous, well-rooted & established in container
-	IGS	Ilex	glabra		Inkberry	24 - 30"	18 - 24"	#3 cont., healthy, vigorous, well-rooted & established in container
-	IVL	Itea	virginica		Virginia Sweetshrub	15 - 18"	15 - 18"	#3 cont., healthy, vigorous, well-rooted & established in container
-	JAN	Jasminum	nudiflorum		Winter Jasmine	18 - 24"	18 - 24"	#3 cont., healthy, vigorous, well-rooted & established in container
-	LIB	Lindera	benzoin		Spicebush	24 - 36"	24 - 36"	#5 cont., healthy, vigorous, well-rooted & established in container
-	MYC	Myrica	cerifera		Wax Myrtle	30 - 36"	30 - 36"	#7 cont., healthy, vigorous, well-rooted & established
-	VIC	Viburnum	dentatum		Arrowwood Viburnum	24 - 36"	18 - 24"	B&B, healthy, vigorous, well-rooted & established

**PERENNIALS/ORNAMENTAL GRASSES / GROUND COVERS**

QTY	KEY	GENUS	SPECIES	VARIETY	COMMON NAME	SIZE	COLOR	REMARKS
-	ASM	Asclepias	syriaca		Common Milkweed	#1 cont.		24" o.c., full specimen, healthy, vigorous, well-rooted and established
-	AMT	Amsonia	tabernaemontana		Eastern Bluestar	#1 cont.		24" o.c., full specimen, healthy, vigorous, well-rooted and established
-	CST	Carex	pensylvanica		Pennsylvania Sedge	#1 cont.		18" o.c., full specimen, healthy, vigorous, well-rooted and established
-	ERG	Eragrostis	spectabilis		Purple Love Grass	#3 cont.		36" o.c., full specimen, healthy, vigorous, well-rooted and established
-	HLD	Helianthus	salicifolius	'Low Down'	Dwarf Perennial Sunflower			18" o.c., full specimen, healthy, vigorous, well-rooted and established
-	MUH	Muhlenbergia	capillaris		Pink Muhly Grass			30" o.c., full specimen, healthy, vigorous, well-rooted and established
-	PVH	Panicum	virgatum	'Heavy Metal'	Heavy Metal Switch Grass	#3 cont.		24" o.c., full specimen, healthy, vigorous, well-rooted and established
-	PVS	Panicum	virgatum	'Shenandoah'	Shenandoah Switch Grass	#3 cont.		24" o.c., full specimen, healthy, vigorous, well-rooted and established
-	PPK	Phlox	paniculata		Garden Phlox	#1 cont.		15" o.c., full specimen, healthy, vigorous, well-rooted and established
-	SEN	Senecio	aurus		Golden Groundsel		Yellow	12" o.c., full specimen, healthy, vigorous, well-rooted and established
-	SIS	Styrinchium	angustifolium	'Lucerne'	Blue-eyed Grass			8" o.c., full specimen, healthy, vigorous, well-rooted and established

NOTE: FINAL PLANT QUANTITIES AND SPECIES WILL BE GIVEN WITH FINAL LANDSCAPE DRAWINGS.

**TREE CANOPY REPLACEMENT**

REFER TO CIVIL DRAWING FOR EXISTING TREE PRESERVE INVENTORY/ REPLACEMENT PLAN

TOTAL REPLACEMENT REQUIRED =	111
TOTAL TREES PROVIDED =	93

**STREET TREES PER LINEAR FRONTAGE:**

1 STREET TREE PER 35 LINEAR FT. OF PROPERTY ABUTTING PUBLIC RIGHT OF WAY  
REQUIRED: 558' OF PUBLIC STREET (NOT INCLUDING 2 CURB CUTS TOTALING 118' IN LENGTH) = 16 TREES  
PROVIDED: 17 TREES

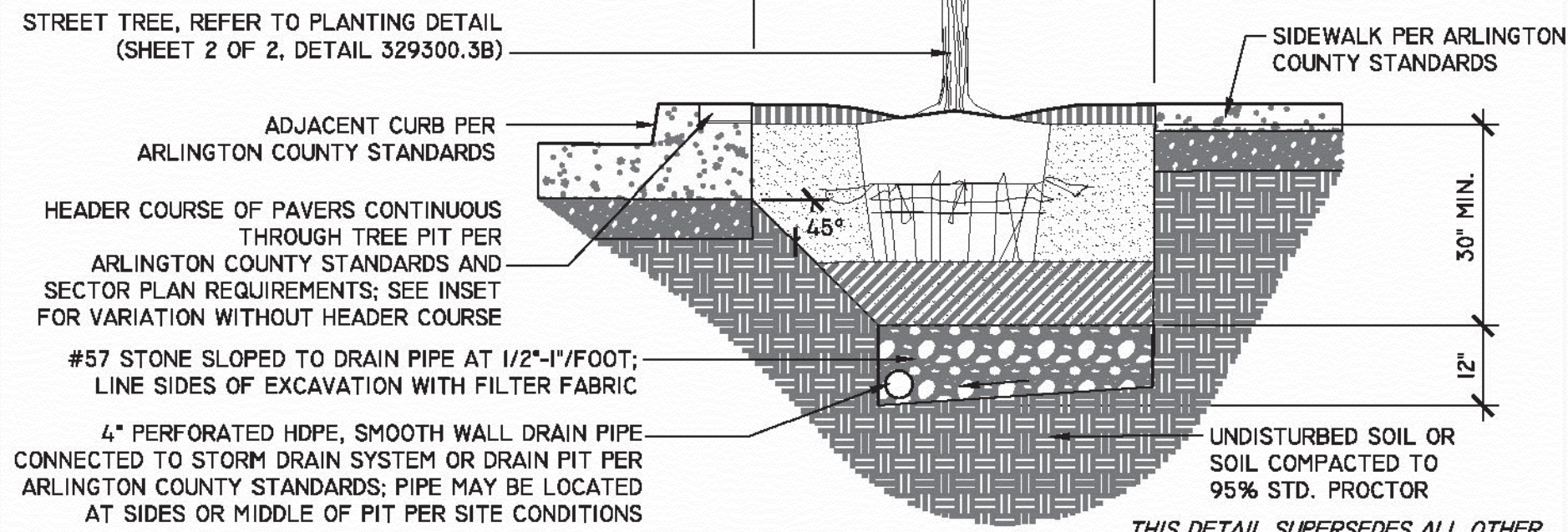
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**STREET TREE PIT DRAINAGE:**

**NOTES**

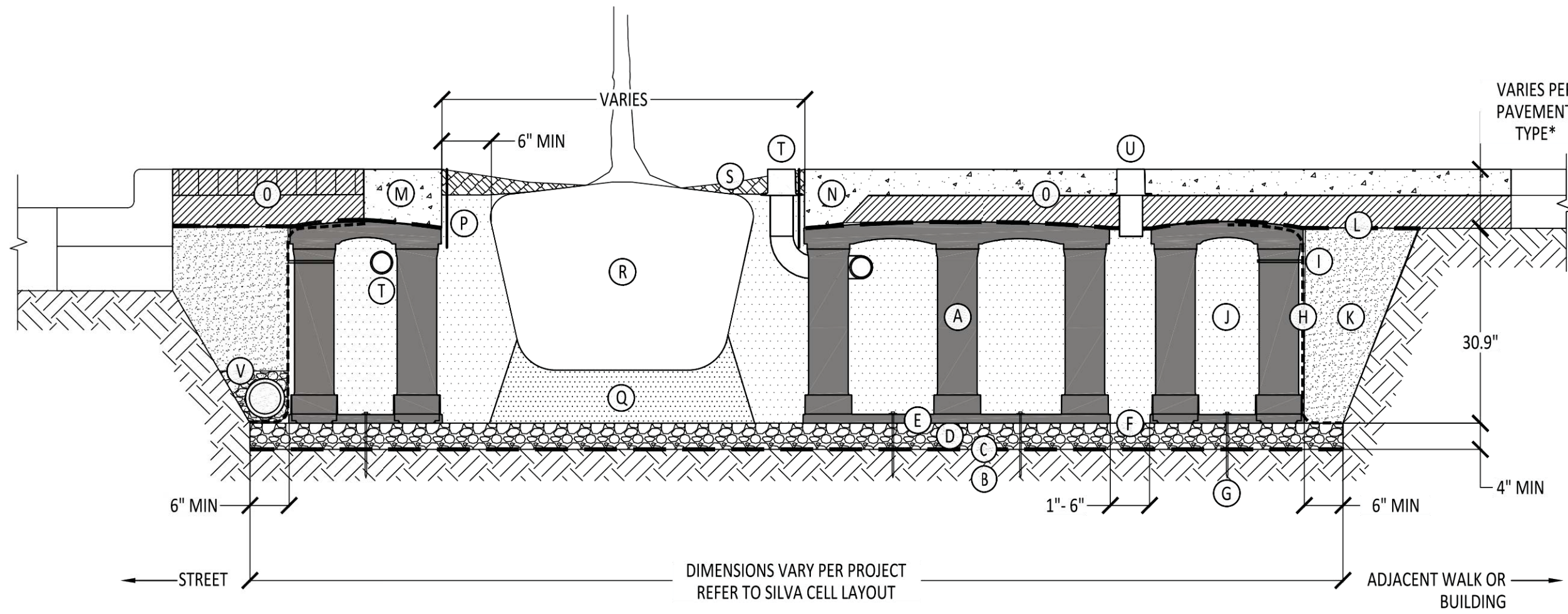
1. TREE GRATES MAY ONLY BE USED UPON APPROVAL OF ARLINGTON COUNTY URBAN FORESTER.
2. REFER TO DETAIL 329300.5 FOR GENERAL STREET TREE PLANTING NOTES.
3. INSTALL RAILING, RAISED CURB, OR BORDER PER APPROVED PLANS.



**STREET TREE PLANTING PIT (SHEET 1 OF 2)**  
 FOR TREE PLANTING PITS IN RIGHT-OF-WAY & ADJACENT TO PAVING  
 329300.3A (2016) (02930.3A)

**STREET TREE SOIL EXPANSION:**

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**SILVA CELL SYSTEM 2X**

NOT TO SCALE

**KEY PLAN**

- (A) SILVA CELL SYSTEM (DECK, BASE, AND POSTS)
- (B) SUBGRADE, COMPACTED
- (C) GEOTEXTILE FABRIC, PLACED ABOVE SUBGRADE
- (D) 4" MIN AGGREGATE SUB BASE, COMPACTED TO 95% PROCTOR
- (E) SILVA CELL BASE SLOPE, 10% MAX
- (F) 1" TO 6" SPACING BETWEEN SILVA CELLS AT BASE
- (G) ANCHORING SPIKES, CONTACT DEEPROOT FOR ALTERNATIVE
- (H) GEOGRID, WRAPPED AROUND PERIMETER OF SYSTEM, WITH 6" TOE (OUTWARD FROM BASE) AND 12" EXCESS (OVER TOP OF DECK)
- (I) CABLE TIE, ATTACHING GEOGRID TO SILVA CELL AT BASE OF UPPER LEG FLARE, AS NEEDED
- (J) PLANTING SOIL, PER PROJECT SPECIFICATIONS, PLACED IN LIFTS AND WALK-IN COMPACTED TO 75-85% PROCTOR
- (K) COMPACTED BACKFILL, PER PROJECT SPECIFICATIONS
- (L) GEOTEXTILE FABRIC TO EDGE OF EXCAVATION
- (M) RIBBON CURB AT TREE OPENING (TO BE USED WITH PAVERS OR ASPHALT)
- (N) THICKENED EDGE AT TREE OPENING (TO BE USED WITH CONCRETE)
- (O) PAVEMENT AND AGGREGATE BASE PER PROJECT \*

**\*MINIMUM PAVEMENT PROFILE OPTIONS TO MEET H-20 LOADING**

PAVEMENT	+ AGGREGATE BASE COURSE
4" CONCRETE	+ 4" AGGREGATE
3" PAVER	+ 12" AGGREGATE
4" ASPHALT	+ 12" AGGREGATE
2.6" PAVER	+ 5" CONCRETE

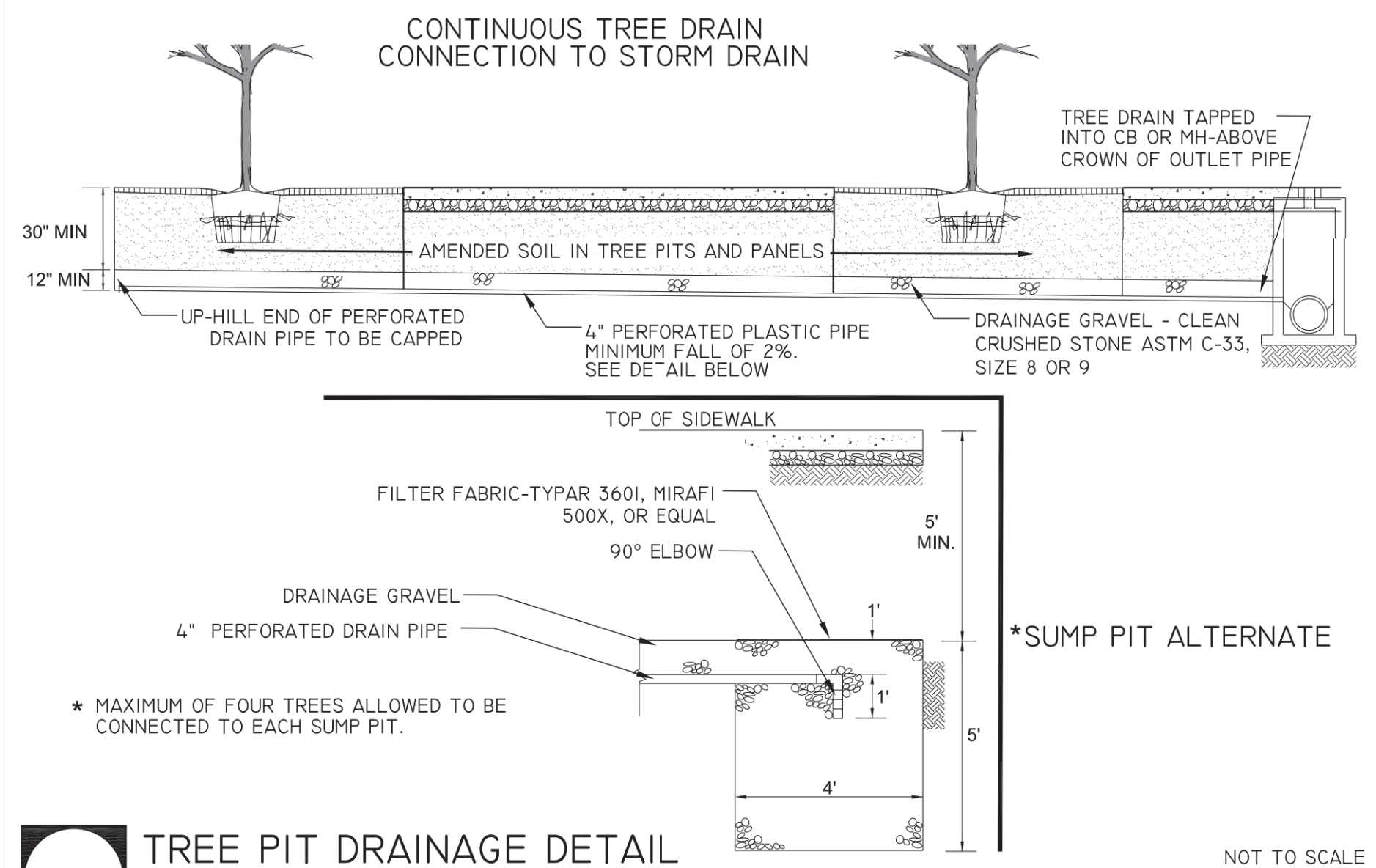
- (P) DEEPROOT ROOT BARRIER, 12" OR 18", DEPTH DETERMINED BY THICKNESS OF PAVEMENT SECTION, INSTALL DIRECTLY ADJACENT TO CONCRETE EDGE RESTRAINT
- (Q) PLANTING SOIL BELOW ROOT BALL, COMPACTED WELL TO PREVENT SETTLING
- (R) ROOT BALL
- (S) TREE OPENING TREATMENT, PER PROJECT SPECIFICATIONS
- (T) DEEPROOT WATER AND AIR VENT, ROOTBALL, WHEN REQUIRED
- (U) DEEPROOT WATER AND AIR VENT, WHEN REQUIRED
- (V) UNDERDRAIN SYSTEM, WHEN REQUIRED (LOCATION AND DETAILS BY OTHERS)

**NOTES**

1. EXCAVATION SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE HEALTH AND SAFETY REGULATIONS
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS
3. PROVIDE SUPPLEMENTAL IRRIGATION
4. DO NOT SCALE DRAWINGS

SILVA CELL SYSTEM 2X

NOT TO SCALE  
 INCHES



**TREE PIT DRAINAGE DETAIL**  
 PLAN 329300.IIC (2016) (02930.IIC)

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 www.deeprout.com  
 T 415 781 9700  
 F 415 781 0191

Architecture  
 Interior Design  
 Landscape Architecture  
 Engineering

1054 31st Street NW  
 Canal Square  
 Suite 410  
 Washington, DC  
 20007  
 202.595.3173

www.bkvgroup.com

**CONSULTANTS**

**STUDIO39**  
 LANDSCAPE ARCHITECTURE, P.C.  
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**CRYSTAL TOWERS 3**

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**SHEET TITLE**  
 LANDSCAPE DETAILS

**SHEET NUMBER**

**L4.02**

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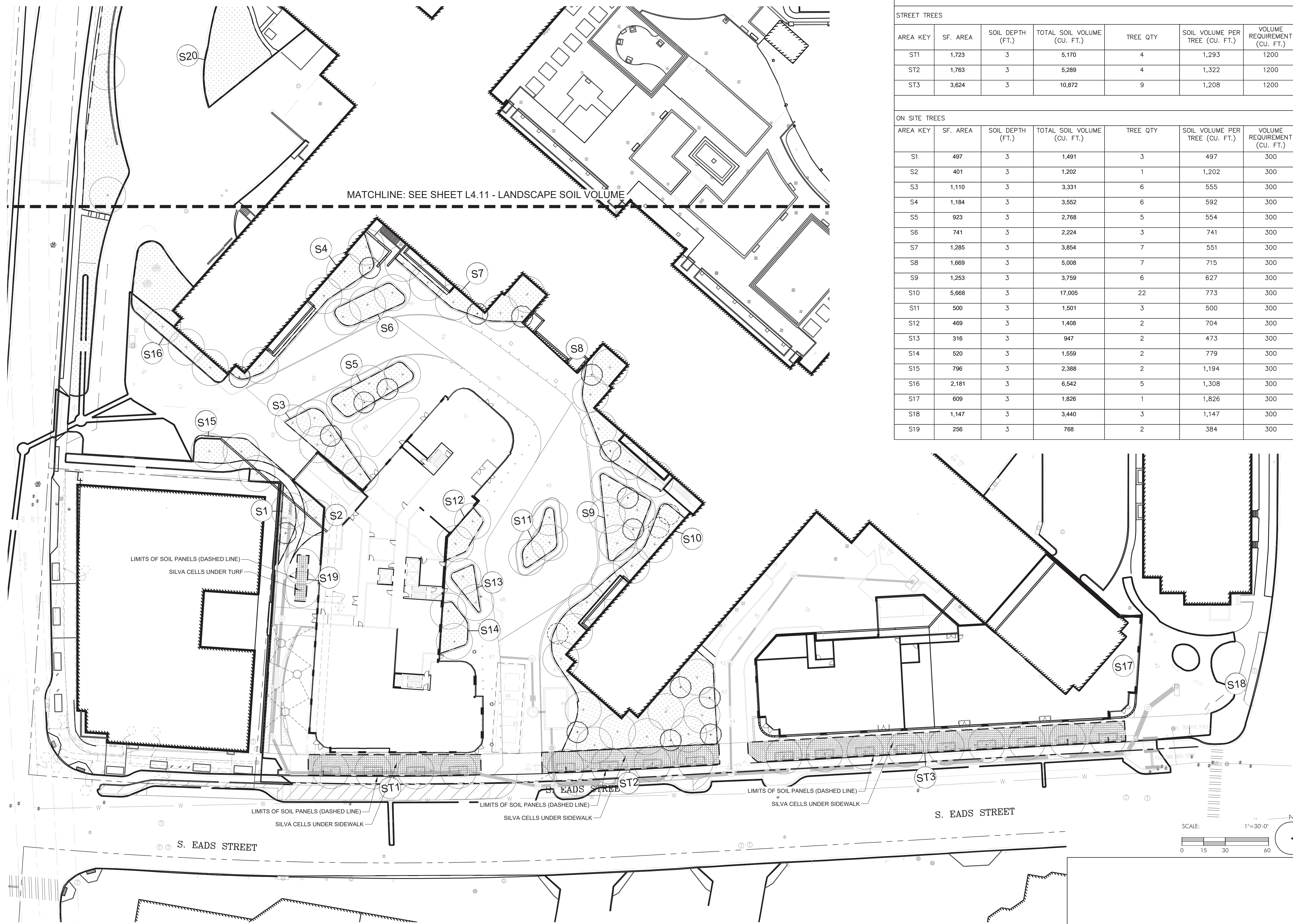
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**LANDSCAPE SOIL VOLUME**

SHEET NUMBER

**L4.10**

SOIL CALCULATIONS						
STREET TREES						
AREA KEY	SF. AREA	SOIL DEPTH (FT.)	TOTAL SOIL VOLUME (CU. FT.)	TREE QTY	SOIL VOLUME PER TREE (CU. FT.)	VOLUME REQUIREMENT (CU. FT.)
ST1	1,723	3	5,170	4	1,293	1200
ST2	1,763	3	5,289	4	1,322	1200
ST3	3,624	3	10,872	9	1,208	1200
ON SITE TREES						
AREA KEY	SF. AREA	SOIL DEPTH (FT.)	TOTAL SOIL VOLUME (CU. FT.)	TREE QTY	SOIL VOLUME PER TREE (CU. FT.)	VOLUME REQUIREMENT (CU. FT.)
S1	497	3	1,491	3	497	300
S2	401	3	1,202	1	1,202	300
S3	1,110	3	3,331	6	555	300
S4	1,184	3	3,552	6	592	300
S5	923	3	2,768	5	554	300
S6	741	3	2,224	3	741	300
S7	1,285	3	3,854	7	551	300
S8	1,669	3	5,008	7	715	300
S9	1,253	3	3,759	6	627	300
S10	5,668	3	17,005	22	773	300
S11	500	3	1,501	3	500	300
S12	469	3	1,408	2	704	300
S13	316	3	947	2	473	300
S14	520	3	1,559	2	779	300
S15	796	3	2,388	2	1,194	300
S16	2,181	3	6,542	5	1,308	300
S17	609	3	1,826	1	1,826	300
S18	1,147	3	3,440	3	1,147	300
S19	256	3	768	2	384	300



NOT RELEASED FOR CONSTRUCTION

\\FILES\BKV\Projects\2022\20210 Crystal Towers\6.0 Land\4.10 LANDSCAPE SOIL VOLUME.dwg



CONSULTANTS

**STUDIO39**  
LANDSCAPE ARCHITECTURE, P.C.

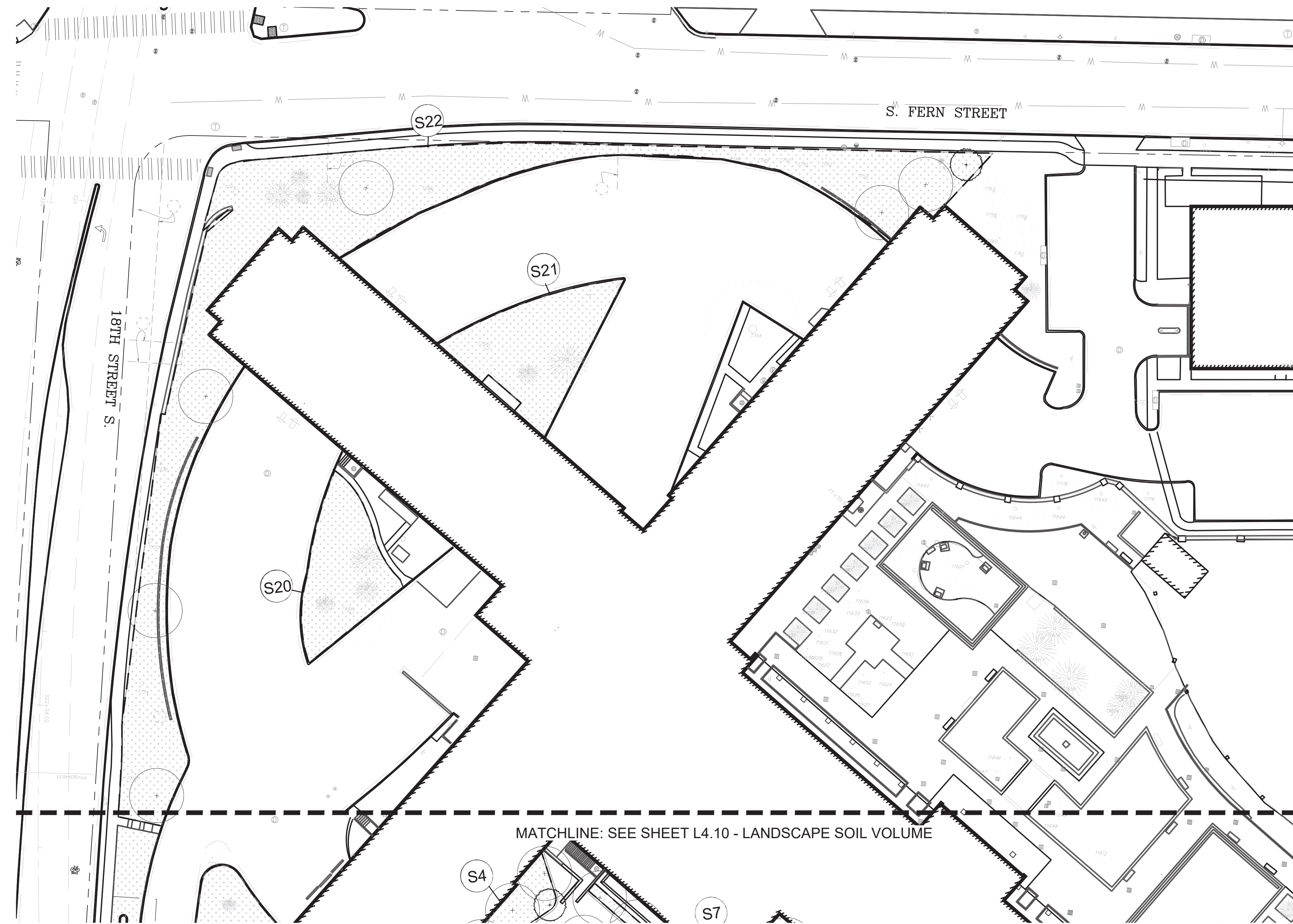
6416 GROVEDALE DR., SUITE 100-A  
ALEXANDRIA, VIRGINIA 22310  
703.719.4500 | STUDIO39.COM

PROJECT TITLE

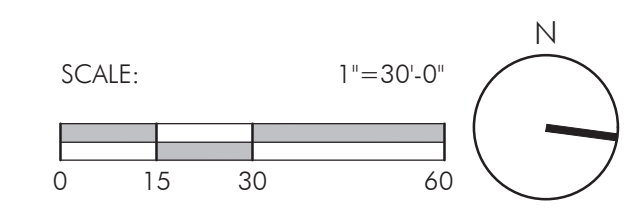
**CRYSTAL  
TOWERS 3**

ISSUE #	DATE	DESCRIPTION
	04/29/2022	4.1 SUBMISSION
	08/03/2022	4.1 RESUBMISSION
	04/03/2023	4.1 RESUBMISSION
	05/05/2023	4.1 RESUBMISSION

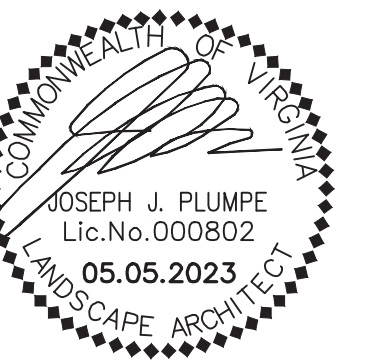
SOIL CALCULATIONS						
ON SITE TREES						
AREA KEY	SF. AREA	SOIL DEPTH (FT.)	TOTAL SOIL VOLUME (CU. FT.)	TREE QTY	SOIL VOLUME PER TREE (CU. FT.)	VOLUME REQUIREMENT (CU. FT.)
S20	2,223	3	6,670	4	1,668	300
S21	2,817	3	8,451	3	2,817	300
S22	12,981	3	38,942	24	1,623	300



MATCHLINE: SEE SHEET L4.10 - LANDSCAPE SOIL VOLUME



CERTIFICATION



DRAWN BY	DH
CHECKED BY	LH
COMMISSION NUMBER	22010

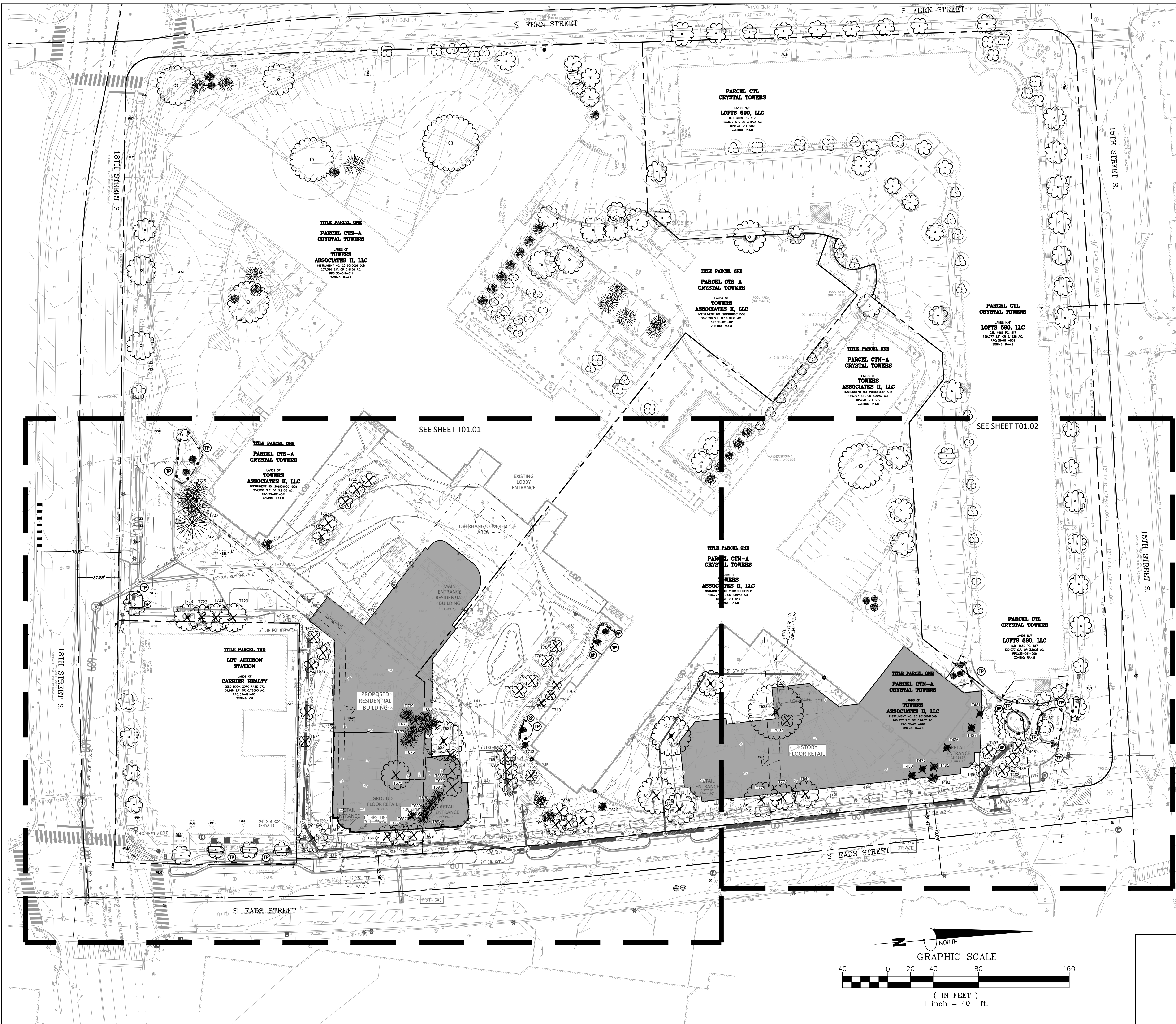
SHEET TITLE

**LANDSCAPE SOIL  
VOLUME**

SHEET NUMBER

**L4.11**





- LEGEND**
- T9 EXISTING DECIDUOUS TREE TO BE PRESERVED
  - T9 EXISTING EVERGREEN TREE TO BE PRESERVED
  - T9 EXISTING DECIDUOUS TREE TO BE REMOVED
  - T9 EXISTING EVERGREEN TREE TO BE REMOVED
  - EXISTING CRITICAL ROOT ZONE
  - PROPOSED LIMITS OF DISTURBANCE
  - PROPOSED TREE PROTECTION FENCE

**Bowman**

CHECKED: STL  
 DRAWN: CA  
 DATE: 08/03/2023  
 Bowman Consulting Group, Ltd.  
 13461 Sunrise Valley Drive, Suite 500  
 Herndon, Virginia 20171  
 Phone: (703) 464-1000  
 Fax: (703) 461-9720  
 www.bowman.com

**CRYSTAL TOWERS 3**  
 4.1 PRELIMINARY SITE PLAN  
 ARLINGTON COUNTY, VIRGINIA



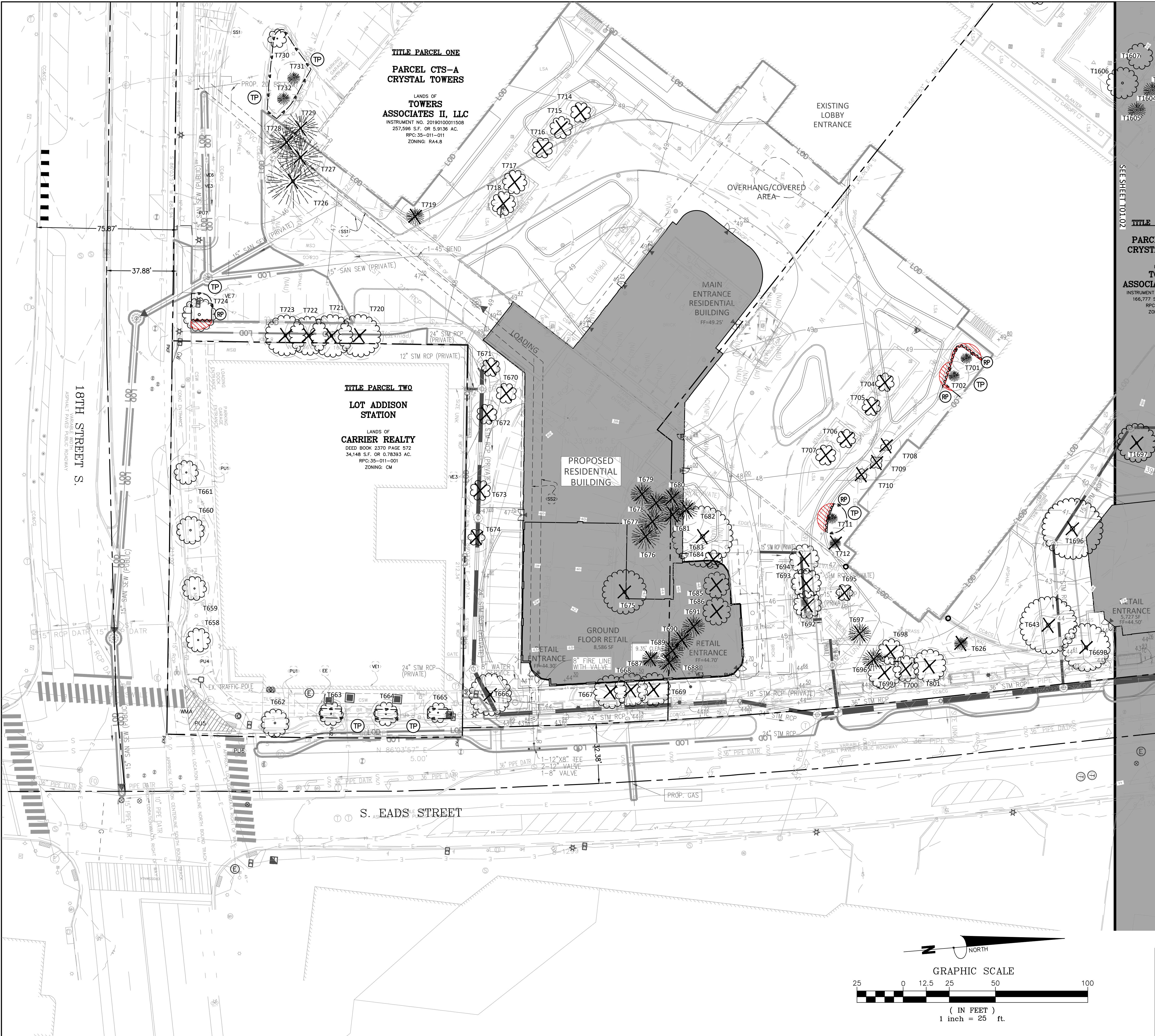
SUBMISSIONS		
NO.	DESCRIPTION	DATE
1	4.1 SITE PLAN PRELIMINARY SUBMISSION	04/29/2022
2	4.1 SITE PLAN PRELIMINARY SUBMISSION	03/03/2023
3	4.1 SITE PLAN PRELIMINARY SUBMISSION	04/03/2023
4	4.1 SITE PLAN PRELIMINARY SUBMISSION	05/05/2023

SCALE: 1"=40'

SHEET TITLE:  
**OVERALL TREE PRESERVATION PLAN**

SHEET #:  
**T01.00**





- LEGEND**
- T9 EXISTING DECIDUOUS TREE TO BE PRESERVED
  - T9 EXISTING EVERGREEN TREE TO BE PRESERVED
  - T9 EXISTING DECIDUOUS TREE TO BE REMOVED
  - T9 EXISTING EVERGREEN TREE TO BE REMOVED
  - EXISTING CRITICAL ROOT ZONE
  - PROPOSED LIMITS OF DISTURBANCE
  - PROPOSED TREE PROTECTION FENCE

**Bowman**

Bowman Consulting Group, Ltd.  
13461 Sunrise Valley Drive, Suite 500  
Herndon, Virginia 20171  
Phone: (703) 464-1000  
Fax: (703) 461-9720  
www.bowman.com

CHECKED: STL  
DRAWN: CA  
DATE: 08/03/2022

**CRYSTAL TOWERS 3**

**4.1 PRELIMINARY SITE PLAN**  
ARLINGTON COUNTY, VIRGINIA



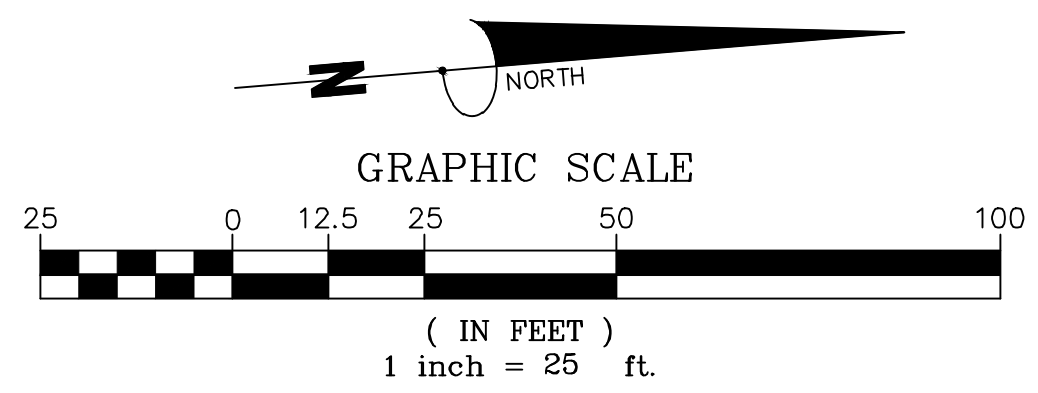
SUBMISSIONS

NO.	DESCRIPTION	DATE
1	4.1 SITE PLAN PRELIMINARY SUBMISSION	04/29/2022
2	4.1 SITE PLAN PRELIMINARY SUBMISSION	03/03/2022
3	4.1 SITE PLAN PRELIMINARY SUBMISSION	04/03/2023
4	4.1 SITE PLAN PRELIMINARY SUBMISSION	05/05/2023

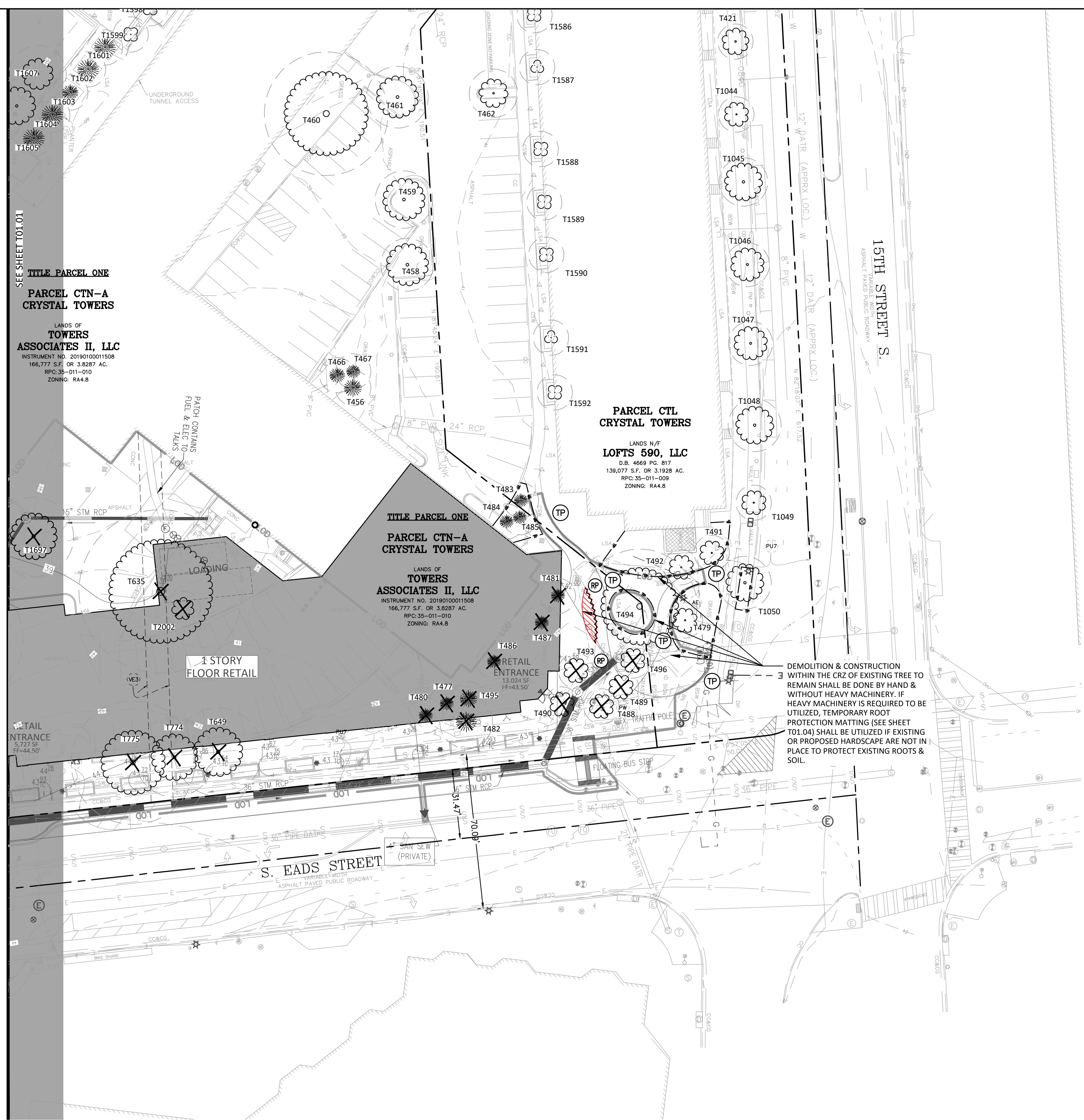
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SHEET TITLE:  
**TREE PRESERVATION PLAN (1 OF 2)**

SHEET #:  
**T01.01**







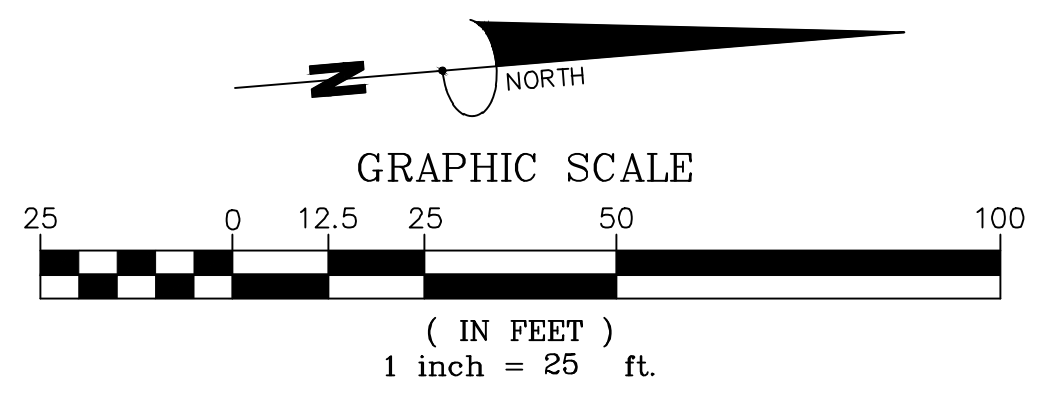
SEE SHEET T01.01  
**TITLE PARCEL ONE**  
**PARCEL CTN-A**  
**CRYSTAL TOWERS**  
 LANDS OF  
**TOWERS**  
**ASSOCIATES II, LLC**  
 INSTRUMENT NO. 20190100011508  
 166,777 S.F. OR 3.8287 AC.  
 RPC: 35-011-010  
 ZONING: RA4.8

**PARCEL CTL**  
**CRYSTAL TOWERS**  
 LANDS W/IF  
**LOFTS 590, LLC**  
 D.B. 4669 PC. 817  
 139,077 S.F. OR 3.1928 AC.  
 RPC: 35-011-009  
 ZONING: RA4.8

**TITLE PARCEL ONE**  
**PARCEL CTN-A**  
**CRYSTAL TOWERS**  
 LANDS OF  
**TOWERS**  
**ASSOCIATES II, LLC**  
 INSTRUMENT NO. 20190100011508  
 166,777 S.F. OR 3.8287 AC.  
 RPC: 35-011-010  
 ZONING: RA4.8

DEMOLITION & CONSTRUCTION WITHIN THE CRZ OF EXISTING TREE TO REMAIN SHALL BE DONE BY HAND & WITHOUT HEAVY MACHINERY. IF HEAVY MACHINERY IS REQUIRED TO BE UTILIZED, TEMPORARY ROOT PROTECTION MATTING (SEE SHEET T01.04) SHALL BE UTILIZED IF EXISTING OR PROPOSED HARDSCAPE ARE NOT IN PLACE TO PROTECT EXISTING ROOTS & SOIL.

- LEGEND**
- T9 EXISTING DECIDUOUS TREE TO BE PRESERVED
  - T9 EXISTING EVERGREEN TREE TO BE PRESERVED
  - T9 EXISTING DECIDUOUS TREE TO BE REMOVED
  - T9 EXISTING EVERGREEN TREE TO BE REMOVED
  - EXISTING CRITICAL ROOT ZONE
  - PROPOSED LIMITS OF DISTURBANCE
  - PROPOSED TREE PROTECTION FENCE
  - PROPOSED ROOT PRUNING
  - PROPOSED CRZ IMPACT AREA



**Bowman**

CHECKED: STL  
 DRAWN: CA  
 DATE: 08/03/2023  
 Bowman Consulting Group, Ltd.  
 13461 Sunrise Valley Drive, Suite 500  
 Herndon, Virginia 20171  
 © Bowman Consulting Group, Ltd.  
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**CRYSTAL TOWERS 3**

4.1 PRELIMINARY SITE PLAN  
 ARLINGTON COUNTY, VIRGINIA



SUBMISSIONS		
NO.	DESCRIPTION	DATE
1	4.1 SITE PLAN PRELIMINARY SUBMISSION	04/29/2022
2	4.1 SITE PLAN PRELIMINARY SUBMISSION	03/03/2022
3	4.1 SITE PLAN PRELIMINARY SUBMISSION	04/03/2023
4	4.1 SITE PLAN PRELIMINARY SUBMISSION	05/05/2023

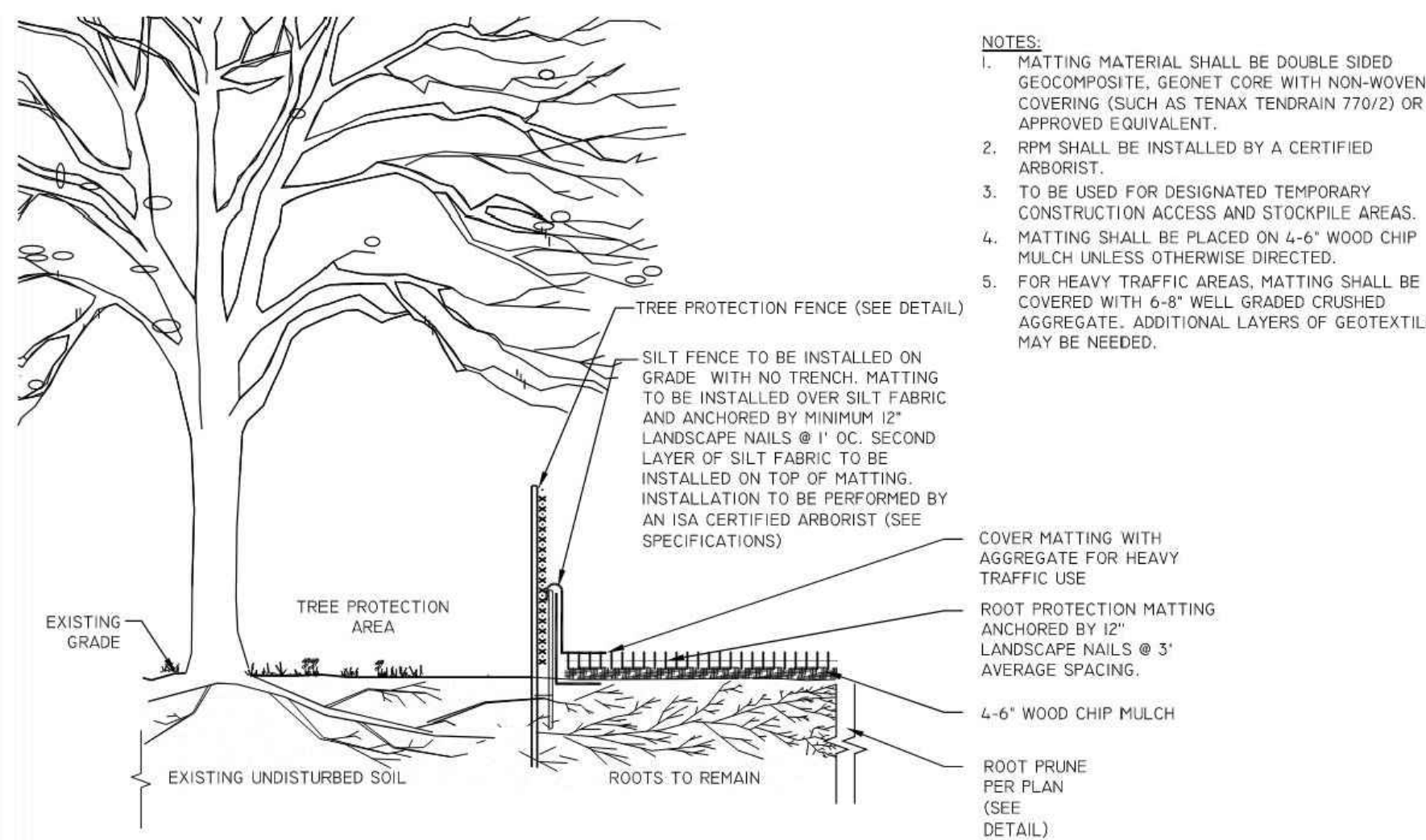
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 SHEET TITLE:  
**TREE PRESERVATION PLAN (2 OF 2)**

SHEET #:  
**T01.02**





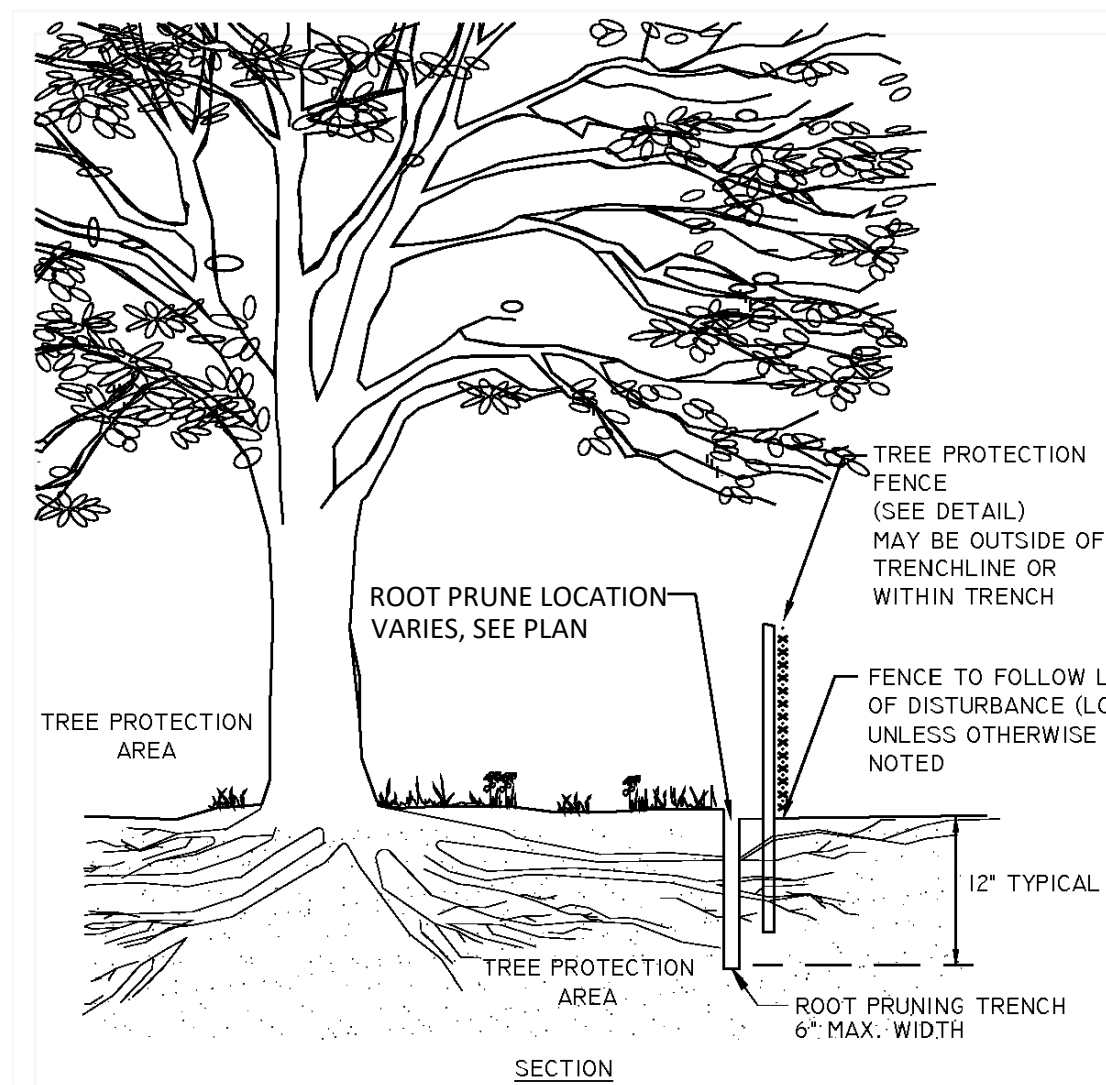




- NOTES:**
- MATTING MATERIAL SHALL BE DOUBLE SIDED GEOTEXTILE: GEONET CORE WITH NON-WOVEN COVERING (SUCH AS TENAX TENDRAIN 770/2) OR APPROVED EQUIVALENT.
  - RPM SHALL BE INSTALLED BY A CERTIFIED ARBORIST.
  - TO BE USED FOR DESIGNATED TEMPORARY CONSTRUCTION ACCESS AND STOCKPILE AREAS.
  - MATTING SHALL BE PLACED ON 4-6" WOOD CHIP MULCH UNLESS OTHERWISE DIRECTED.
  - FOR HEAVY TRAFFIC AREAS, MATTING SHALL BE COVERED WITH 6-8" WELL GRADED CRUSHED AGGREGATE. ADDITIONAL LAYERS OF GEOTEXTILE MAY BE NEEDED.

**TEMPORARY ROOT PROTECTION MATTING WITHIN CRZ**  
311300.7NS

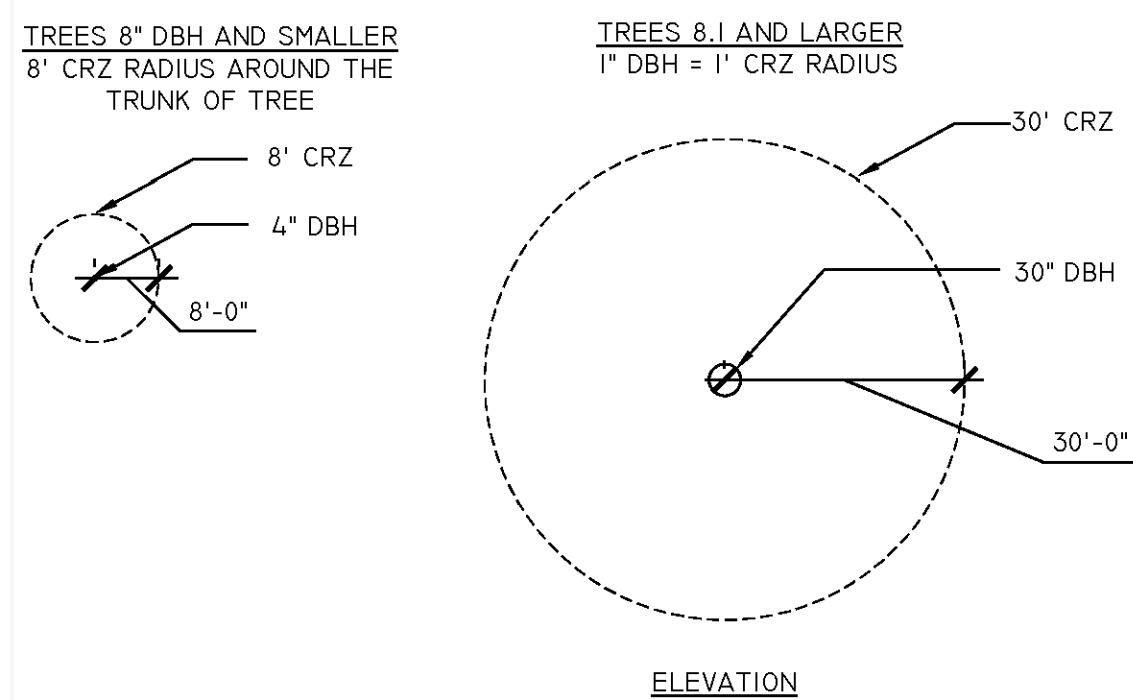
NOT TO SCALE  
ARLINGTON COUNTY  
DEPARTMENT OF PUBLIC WORKS



- NOTES:**
- ROOT PRUNING SHALL BE DONE WITH A TRENCHER OR VIBRATORY PLOW TO A DEPTH OF 12". ROOTS OVER 1.5" IN DIAMETER SHALL HAVE A CLEAN CUT MADE BY A CLEAN SAW ON THE SURFACE OF THE ROOT, WHICH IS STILL ATTACHED TO THE TREE. DO NOT BREAK OR CHOP. DO NOT PAINT THE CUT ROOT END. IF EXCAVATION IS FOR INSTALLATION OF UNDERGROUND UTILITIES, LEAVE THE ROOT INTACT AND THREAD THE LINES UNDERNEATH.
  - ROOT PRUNING SHALL TAKE PLACE PRIOR TO ANY CLEARING AND GRADING. EXACT LOCATION OF TREE PROTECTION AREAS SHALL BE STAKED OR FLAGGED PRIOR TO TRENCHING AND SHALL BE APPROVED BY ARLINGTON COUNTY URBAN FORESTER.
  - ROOT PRUNING SHALL BE CONDUCTED WITH THE SUPERVISION OF AN ISA CERTIFIED ARBORIST.
  - BACKFILL THE ROOT-PRUNING TRENCH WITH APPROVED LOOSE TOPSOIL MIX AND TOP WITH 3-4" BARK MULCH AND MARK LOCATION FOR FUTURE REFERENCE. SILT FENCE MAY BE INSTALLED IN TRENCH PRIOR TO BACKFILLING AS LONG AS THE TRENCH IS NOT OPEN FOR LONGER THAN 48 HOURS WITHOUT WATERING.
  - ROOT PRUNING WORK SHALL NOT BE DONE WHEN MORE THAN THE TOP 1 INCH OF SOIL IS FROZEN. ROOT PRUNING SHALL NOT BE UNDERTAKEN WHEN THE SOIL IS WET AND CONDITIONS ARE MUDDY.
  - THE ARLINGTON COUNTY URBAN FORESTER SHALL BE NOTIFIED 72 HOURS PRIOR TO TRENCHING AND WHEN ALL ROOT PRUNING AND TREE PROTECTION FENCE INSTALLATION IS COMPLETE.

**ROOT PRUNING**  
311300.5 (2019)

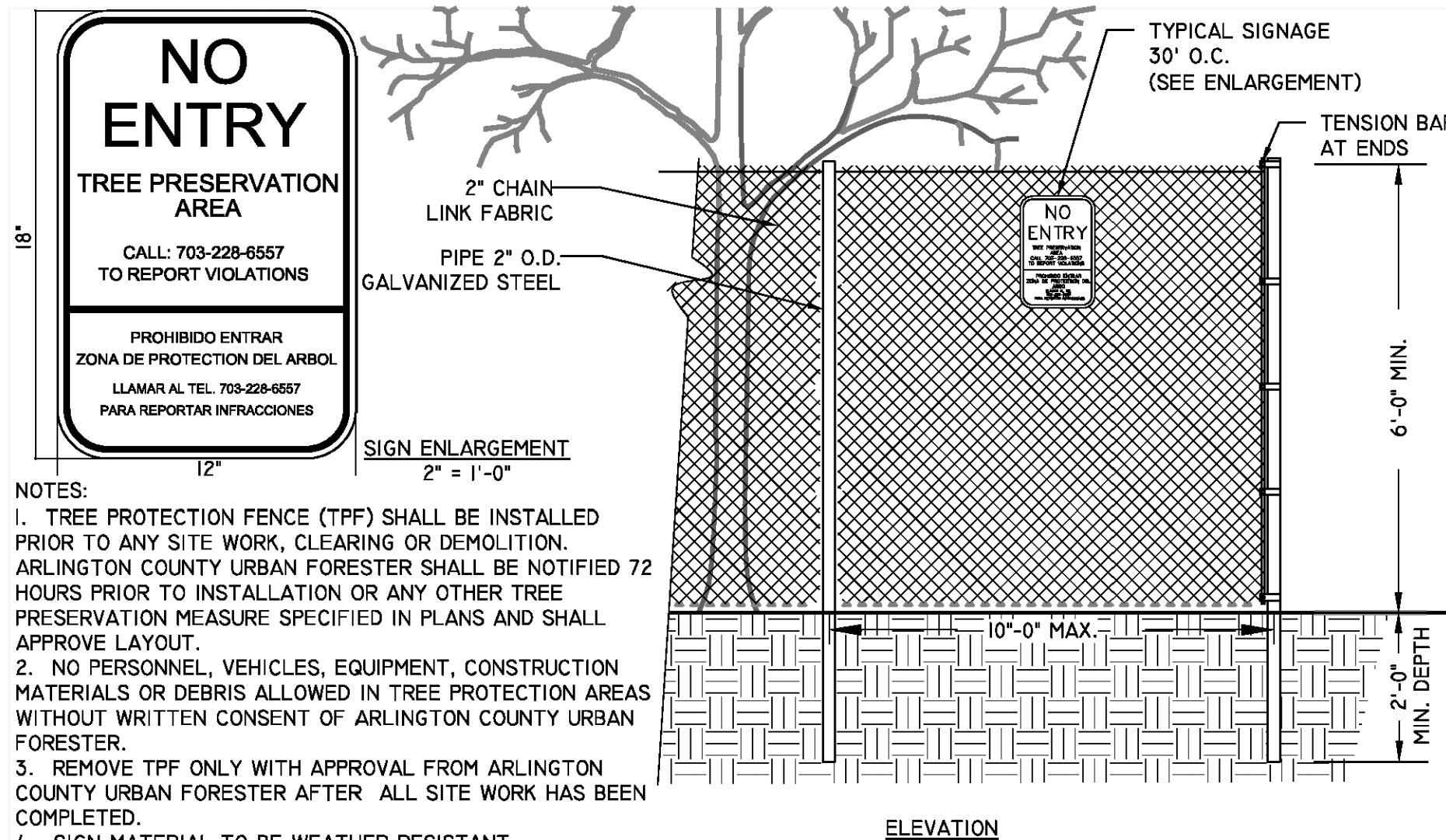
N.T.S.  
ARLINGTON COUNTY  
DEPARTMENT OF PUBLIC WORKS



- NOTES:**
- GRAPHICALLY, THE CRITICAL ROOT ZONE (CRZ) IS REPRESENTED AS A CIRCULAR REGION MEASURED OUTWARD FROM A TREE TRUNK REPRESENTING THE AREA OF ROOTS THAT MUST BE MAINTAINED OR PROTECTED FOR THE TREE'S SURVIVAL.
  - THE CRZ OF A TREE IS THE ZONE IN WHICH THE MAJORITY OF THE ROOTS LAY. 95% OF THE ROOTS OF MOST TREES WILL BE FOUND IN THE UPPER 12-18" OF THE SOIL. MOST OF THE ROOTS THAT SUPPLY THE NUTRIENTS AND WATER TO THE TREE ARE FOUND JUST BELOW THE SOIL SURFACE. THE TOTAL AMOUNT OF A TREE'S ROOTS ARE GENERALLY PROPORTIONAL TO THE VOLUME OF THE TREE'S CANOPY. THEREFORE, IF THE ROOTS ONLY PENETRATE A THIN LAYER OF SOIL, THEN THE ROOTS MUST SPREAD FAR FROM THE TREE, BEYOND THE EXTENSION OF THE CANOPY.
  - PLOT ACCURATE TRUNK LOCATIONS OF ALL TREES GREATER THAN 3" DIAMETER AT BREAST HEIGHT (DBH) AND/OR TREE STANDS WITHIN DEVELOPMENT AREAS ON ALL PLANS FOR THE PROJECT AND DELINEATE THEIR ESTIMATED CRITICAL ROOT ZONE.
  - PLOT ACCURATE TRUNK LOCATIONS OF OFFSITE TREES WHICH WILL HAVE THEIR CRZ AFFECTED BY DEVELOPMENT AND DELINEATE THEIR ESTIMATED CRITICAL ROOT ZONE.

**TREE PROTECTION DETAIL FOR DETERMINING CRITICAL ROOT ZONE**  
311300.3 (2019)

N.T.S.  
ARLINGTON COUNTY  
DEPARTMENT OF PUBLIC WORKS



- NOTES:**
- TREE PROTECTION FENCE (TPF) SHALL BE INSTALLED PRIOR TO ANY SITE WORK, CLEARING OR DEMOLITION. ARLINGTON COUNTY URBAN FORESTER SHALL BE NOTIFIED 72 HOURS PRIOR TO INSTALLATION OR ANY OTHER TREE PRESERVATION MEASURE SPECIFIED IN PLANS AND SHALL APPROVE LAYOUT.
  - NO PERSONNEL, VEHICLES, EQUIPMENT, CONSTRUCTION MATERIALS OR DEBRIS ALLOWED IN TREE PROTECTION AREAS WITHOUT WRITTEN CONSENT OF ARLINGTON COUNTY URBAN FORESTER.
  - REMOVE TPF ONLY WITH APPROVAL FROM ARLINGTON COUNTY URBAN FORESTER AFTER ALL SITE WORK HAS BEEN COMPLETED.
  - SIGN MATERIAL TO BE WEATHER RESISTANT.

**6' CHAIN LINK TREE PROTECTION FENCE**  
311300.1 (2016) (02231.1)

1/2" = 1'-0"  
ARLINGTON COUNTY  
DEPARTMENT OF PUBLIC WORKS

**ARLINGTON COUNTY TREE PRESERVATION NOTES**

- PROPERTY OWNER SHALL SUBMIT A TREE INVENTORY DRAWING INDICATING DBH (DIAMETER BREAST HEIGHT SPECIES AND LOCATION FOR ALL TREES OVER 3" IN DIAMETER ON THE PROPERTY TO BE DEVELOPED AND ANY TREES ON ADJACENT PROPERTY WHOSE CRITICAL ROOT ZONES EXTEND ONTO THE PROPERTY TO BE DEVELOPED.
- PROPERTY OWNER SHALL SUBMIT A TREE PROTECTION PLAN DESIGNATING TREES TO BE PRESERVED AND TREES TO BE REMOVED ON SUBJECT AND ADJACENT PROPERTY AND REPLACEMENT TREES FOR THOSE REMOVED IN ACCORDANCE WITH MANDATORY ARLINGTON COUNTY TREE REPLACEMENT GUIDELINES. RESULTS OF TREE REPLACEMENT GUIDELINES MUST BE SHOWN IN TABULAR FORM AS ILLUSTRATED IN SAID GUIDELINES.
- THE TREE PROTECTION PLAN MUST BE APPROVED BY ARLINGTON COUNTY PRIOR TO ISSUANCE OF A CLEARING AND GRADING PERMIT.
- USE CRITICAL ROOT ZONE DETAIL AS A MINIMUM REQUIREMENT FOR THE AREA TO BE PROTECTED. SPECIMEN TREES WILL BE DESIGNATED BY THE URBAN FORESTER AND PROTECTED ACCORDING TO DETAIL R-7.7.
- TREE PROTECTION FENCING SHALL BE ERECTED AT THE CRITICAL ROOT ZONE OR BEYOND PRIOR TO START OF ANY CLEARING, GRADING OR OTHER CONSTRUCTION ACTIVITY. SIGNS STATING "NO ENTRY, TREE PROTECTION AREA, CALL 703-228-6557 TO REPORT VIOLATIONS" ARE TO BE POSTED IN BOTH ENGLISH AND SPANISH. SEE DETAIL I.L.A.5.
- TREE PROTECTION SHALL BE A MINIMUM OF 6' HIGH CHAIN LINK FENCE MOUNTED ON VERTICAL PIPES DRIVEN 2' INTO THE GROUND WITH NO GATES.
- SUBMIT PHOTOGRAPHIC RECORD (2 SHOTS) OF ALL TREES TO BE PRESERVED OVER 3" DBH AFTER FENCE IS INSTALLED.
- NO PERSON, MATERIALS OR EQUIPMENT SHALL BE PERMITTED WITHIN THE TREE PROTECTION AREA. ANY VIOLATION OF THE REQUIREMENT MAY RESULT IN A FINE OF \$500 PER DAY OF VIOLATION.
- ANY DAMAGE TO A TREE BEING PRESERVED SHALL RESULT IN A PAYMENT BY THE OWNER/DEVELOPER TO THE COUNTY FOR THE AMOUNT OF DAMAGE BASED ON THE LATEST EDITION OF THE COUNCIL OF TREE AND LANDSCAPE APPRAISERS GUIDE FOR PLANT APPRAISALS PUBLISHED BY THE ISA (INTERNATIONAL SOCIETY OF ARBORICULTURE). ALL TREES ARE TO BE VALUED AS LANDSCAPE TREES. FOR FURTHER GUIDANCE, SEE ARLINGTON COUNTY TREE APPRAISAL POLICY, ADOPTED BY THE ARLINGTON COUNTY BOARD OCTOBER, 2004.
- TREE PROTECTION SHALL NOT BE REMOVED UNTIL COMPLETION OF ALL CONSTRUCTION ACTIVITY.
- WHEN EXCAVATION IS TO TAKE PLACE WITHIN THE CRITICAL ROOT ZONE, THE DEVELOPER SHALL EMPLOY A PROFESSIONAL ARBORIST TO ROOT PRUNE IMMEDIATELY BEYOND THE LIMITS OF EXCAVATION TO A DEPTH OF 12 INCHES, PRIOR TO EXCAVATION.
- ANY EXCEPTIONS TO THE ABOVE REQUIREMENTS, SUCH AS CONSTRUCTION WITHIN THE CRITICAL ROOT ZONE, MUST BE APPROVED IN ADVANCE BY ARLINGTON COUNTY BY WAY OF THE TREE PRESERVATION PLAN.
- ADDITIONAL REQUIREMENTS MAY BE NECESSARY ON A CASE-BY-CASE BASIS.

**GENERAL AIRSPADE NOTES**

- ALL WORK SHALL BE SUPERVISED BY AN ISA CERTIFIED ARBORIST.
- NO ROOTS GREATER THAN 1.5" SHALL BE CUT WITHOUT REVIEW BY ARLINGTON COUNTY URBAN FORESTER.
- EXCAVATION SHALL BE NOT MORE THAN MINIMUM NEEDED TO ACHIEVE REQUIRED FINAL GRADE.
- WORK SHALL NOT DAMAGE TREE TRUNK, LIMBS, OR ROOTS TO REMAIN.

**GENERAL CRZ IMPACT NOTES**

- EXISTING SITE FEATURES MAY HAVE LIMITED ROOT GROWTH, DECREASING OPPORTUNITY FOR NEGATIVE IMPACTS TO CRZ FROM PROPOSED CONDITIONS (i.e. EX. PEDESTRIAN CONNECTIONS, RETAINING WALLS, VAULTS, ETC..)

**TREE CONSERVATION**

- BEFORE ANY GRADING, DEMOLITION, OR OTHER DISTURBANCE, INCLUDING TREE REMOVAL, A PRECONSTRUCTION MEETING SHALL BE HELD WITH AN ARLINGTON COUNTY URBAN FORESTER. CHANGES TO THE PLAN, BASED ON FIELD CONDITIONS, MAY BE REQUESTED BY THE URBAN FORESTER AT THE TIME OF THE PRECONSTRUCTION MEETING.
- TREE PROTECTION SHALL BE INSTALLED PER PLAN, WITH ANY CHANGES REQUESTED AT THE PRECONSTRUCTION MEETING, AND INSPECTED BY AN ARLINGTON COUNTY URBAN FORESTER. EROSION AND SEDIMENT CONTROLS ARE INSPECTED BY THE DEPARTMENT OF ENVIRONMENTAL SERVICES.
- REMOVAL OF TREES, NOTED FOR REMOVAL ON THE PLAN, INSIDE A TREE PRESERVATION AREA SHALL BE PERFORMED, BY HAND, WITHOUT GROUND DISTURBANCE, OR DISTURBANCE TO NEARBY PRESERVED TREES. TREES IN THESE AREAS SHALL BE CUT FLUSH TO THE GROUND, WITHOUT STUMP GRINDING.
- NO CHANGES SHALL BE MADE TO TREE CONSERVATION OR PROPOSED LANDSCAPE UNLESS DIRECTED OR APPROVED BY AN ARLINGTON COUNTY URBAN FORESTER.
- FOLLOW ANSI STANDARDS WHEN PRUNING TREES. ANY PRUNING BEYOND 5% OF THE CANOPY SHALL BE COMMUNICATED AND APPROVED TO THE URBAN FORESTER.
- DO NOT REMOVE TREES ON OTHER PROPERTIES, OR RIGHTS-OF-WAY, WITHOUT WRITTEN PERMISSION OF THE OWNER.
- TREE PROTECTION AREAS SHALL HAVE ALL NON-NATIVE INVASIVE VINES REMOVED AT THE END OF THE PROJECT. WHERE DEEMED NECESSARY BY THE COUNTY URBAN FORESTER TO ENSURE TREE SURVIVAL, THE PROTECTION AREA SHALL BE COVERED WITH SHREDDED HARDWOOD MULCH, OR OTHER ORGANIC MULCH AS APPROVED BY THE COUNTY URBAN FORESTER.
- AT THE END OF THE PROJECT, CONSERVED AND PLANTED TREES MUST BE INSPECTED AND APPROVED BY AN ARLINGTON COUNTY URBAN FORESTER.

**Bowman**

CHECKED: STL  
DRAWN: CA  
DATE: 08/09/2022  
Bowman Consulting Group, Ltd.  
13461 Sunrise Valley Drive, Suite 500  
Herndon, Virginia 20171  
Phone: (703) 464-1000  
Fax: (703) 461-9720  
www.bowman.com

**CRYSTAL TOWERS 3**

4.1 PRELIMINARY SITE PLAN  
ARLINGTON COUNTY, VIRGINIA



SUBMISSIONS		
NO.	DESCRIPTION	DATE
1	4.1 SITE PLAN PRELIMINARY SUBMISSION	04/29/2022
2	4.1 SITE PLAN PRELIMINARY SUBMISSION	05/03/2022
3	4.1 SITE PLAN PRELIMINARY SUBMISSION	04/03/2023
4	4.1 SITE PLAN PRELIMINARY SUBMISSION	05/05/2023

SCALE: NTS  
SHEET TITLE:  
**TREE PRESERVATION NOTES & DETAILS**  
SHEET #:  
**T01.04**