WEST END

PRELIMINARY SITE PLAN - BLOCK I

CITY OF ALEXANDRIA, VIRGINIA

DATE: JUNE 24, 2022

PROJECT TEAM

APPLICANT
FOULGER-PRATT DEVELOPMENT, LLC
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SUITE 200
POTOMAC, MD 20854
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CONTACT: JAY KELLY

CIVIL ENGINEER
URBAN, LTD.
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TRAFFIC ENGINEER
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700 NORTH FAIRFAX STREET
SUITE 600
ALEXANDRIA, VA 22314
TE. 703-677-3129
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AREA TABULATIONS:

BLOCK I LOT AREA = 2.48 AC. 107,845 SF.
TOTAL DISTURBED AREA = 3.00 AC. 130,680 SF.
TOTAL EX. IMPERVIOUS AREA = 3.00 AC. 130,680 SF.
TOTAL PROP. IMPERVIOUS AREA = 3.00 AC. 130,680 SF.

ZONING TABULATIONS:

ON-SITE LOCATIONS / ADDRESSES: T.M. #047.02-03-11 / 5801 DUKE ST. ALEXANDRIA, VA 22314-1930

TOTAL SITE/LOT AREA: 107,845 SF OR 2.48 ACRES

EXISTING ZONE: CDD #29 (COORDINATED DEVELOPMENT DISTRICT #29)
PROPOSED ZONE: CDD #29 (COORDINATED DEVELOPMENT DISTRICT #29)

OPEN SPACE REQUIREMENTS: 26,968 SF (25% OF TOTAL LOT AREA: 107,844 SF X 0.25)
OPEN SPACE PROVIDED: 30,624 SF (1,364 SF AT-GRADE + 29,260 SF ABOVE-GRADE)

EXISTING USE: SHOPPING CENTER
PROPOSED USE: MIXED USE: RETAIL/RESIDENTIAL

FLOOR AREA CALCULATION:

BUILDING I	GROSS AREA (SF)
RETAIL	105,000
RESIDENTIAL	430,000
TOTAL AREAS:	535,000

DENSITY:
BLOCK I: 390 UNITS (MULTIFAMILY)

PROPOSED DENSITY: 390 UNITS/2.48 ACRES = 157.26

MIN/MAX BLDG.: BLOCK I: 70 FT. MIN, 120 FT. MAX.

BUILDING HEIGHT PROPOSED: BLOCK I: 85 FT.

AVG. FINISHED GRADE: BLOCK I:193 FT.

YARDS: REQUIRED: N/A PROPOSED: N/A
FRONTAGE: REQUIRED: N/A PROPOSED: N/A

BUILDING CODE ANALYSIS:

SEE SHEET AZ-001

PARKING TABULATIONS:

PARKING REQUIRED:

BLOCK I:
RETAIL: RATIO: 3.0 SP/1,000 SF =281
MULTIFAMILY: RATIO: 1.0/BEDROOM =483
TOTAL PARKING REQUIRED: 764

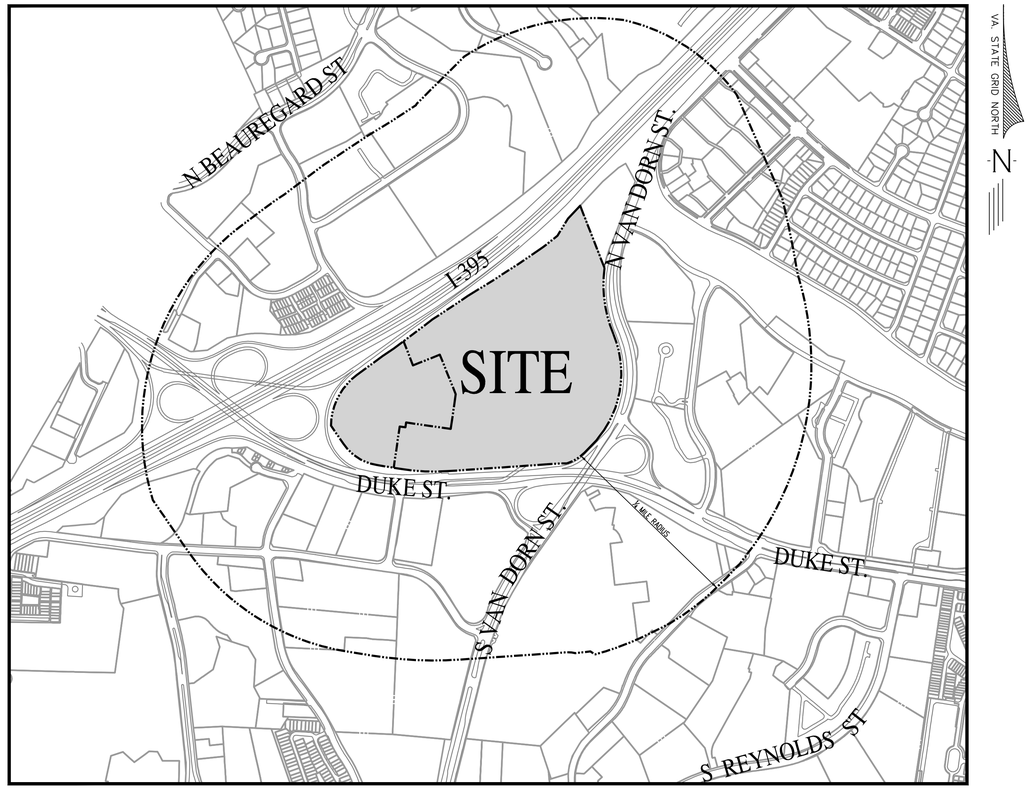
PARKING PROVIDED:

BLOCK I:
RETAIL: 360
MULTIFAMILY: 483
TOTAL PARKING PROVIDED: 843

LOADING SPACES REQUIRED: RATIO: 1/20,000 SF (RETAIL)= 5 SPACES
LOADING SPACES PROVIDED: 3 SPACES

TRIP GENERATION:

Land Use	ITE Code	Weekday						
		AM Peak Hour			PM Peak Hour			
		In	Out	Total	In	Out	Total	Daily Total
Total External Retail Trips		82	42	124	164	156	320	4300
OVERALL NON-AUTO MODE TRIPS	221, 850	-72	-75	-147	-168	-146	-314	-3768
OVERALL DEVELOPMENT TRIPS		**98**	**88**	**186**	**205**	**182**	**387**	**5173**



VICINITY MAP
SCALE: 1"=500'

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PROJECT NARRATIVE:

EXISTING SITE CONDITIONS:
THE EXISTING SITE CONTAINS FIVE MULTI-STORY BUILDINGS FOR COMMERCIAL/RETAIL/MIXED USE. AN ABOVE GROUND PARKING GARAGE, PARKING LOTS, AND INTERCONNECTING ROADWAYS. AN AREA TO THE EAST IS HEAVILY VEGETATED WITH STEEP SLOPES. THE MAJORITY OF THE SITE IS IMPERVIOUS AND GENERALLY SLOPES FROM WEST TO EAST. ABOVE GROUND AND BELOW GROUND UTILITIES, AND ASSOCIATED INFRASTRUCTURE ARE CONTAINED WITHIN THE SITE.

DESCRIPTION OF DEVELOPMENT:
THE SITE IS BORDERED TO THE NORTH BY AN EXISTING PARKING GARAGE, TO THE WEST BY FUTURE BLOCKS G, N AND PUBLIC ROAD, TO THE SOUTH BY FUTURE OPEN SPACE, AND TO THE EAST BY A PRIVATE ROAD.

THE PURPOSE OF THE REDEVELOPMENT FOR BLOCK I IS TO ALLOW FOR A BUILDING WITH A RANGE OF USES ACROSS THE SITE. THESE USES WOULD INCLUDE COMMERCIAL RETAIL, SUPERMARKET, OFFICE, AND RESIDENTIAL. THESE USES MAY BE IMPLEMENTED ANYWHERE ON THE SITE. SUBJECT TO CAPACITY OF INFRASTRUCTURE. THIS PROJECT IS NOT A FEDERAL UNDERTAKING OR INVOLVES THE USE OF ANY FEDERAL FUNDING, IN COMPLIANCE WITH FEDERAL PRESERVATION LAWS, IN PARTICULAR SECTION 106 OF THE NATIONAL HISTORIC PRESERVATION ACT OF 1966.

LIST OF REQUESTED APPROVALS:

- **DSUP # ___-____**

GREEN BUILDING POLICY STATEMENT:

THE BUILDING ON BLOCK I WILL COMPLY WITH THE CITY'S CURRENT GREEN BUILDING POLICY AT THE TIME OF DSUP SUBMISSION. PLEASE SEE GREEN BUILDING APPROACH ON SHEET 35.

SHEET
01
OF
75

COMMONWEALTH OF VIRGINIA
CLAYTON C. TOCK
Lic. No. 036790
06/24/2022
PROFESSIONAL ENGINEER

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CHANTILLY, VA. 20151
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PLAN DATE
06-24-2022

APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

BLOCK I SITE TABULATIONS:

DEVELOPMENT SUMMARY

Hospital	-			-	-
Office	-			-	-
Medical Office	-			-	-
Multifamily	**412,111**	**0 units**		412,111	390
Affordable Multifamily	-	**0 units**		-	-
Senior Housing (AL/IL)	-	**0 units**		-	-
2-over-2 Townhomes	-	**0 units**		-	-
Traditional Townhomes	-	**0 units**		-	-
Condo Flats	-	**0 units**		-	-
Hotel	-		**0 keys**	-	-
Retail	**93,576**			93,576	-
Grocer	-			-	-
Firestation	-			-	-
Garage / Loading / Service	-			-	-
Total	**505,687**	**0 units**	**0 keys**	**505,687**	**390**

PARKING TABULATIONS

Parking Requirement	Parking Ratio	Totals	Block I	
			REQUIRED	PROPOSED
PARKING RATES				
Hospital	1/ 2 BEDS		-	-
Office	3.2 / 1,000 GSF		-	-
Medical Office	3.9 / 1,000 GSF			
Multifamily	1.0 / bedroom		483	483
Affordable Multifamily	0.8 / unit		-	-
Senior Housing (AL/IL)	0.7 / unit		-	-
2-over-2 Townhomes	2.0 / unit		-	-
Traditional Townhomes	2.0 / unit		-	-
Condo Flats	1.3 / unit		-	-
Hotel	0.7 / key		-	-
Retail	3.0 / 1,000 GSF		281	360
Grocer	50 spaces		-	-
Firestation			-	-
VEHICLE PARKING				
STANDARD PARKING SPACES			-	144
COMPACT PARKING SPACES			-	673
ON-STREET PARKING				
HANDICAP PARKING SPACES (NON-VAN)			-	24
HANDICAP PARKING SPACES (VAN)			-	2
TOTAL PARKING PROVIDED:			-	843
PARKING PROVIDED IN EXISTING GARAGE			-	843
PARKING PROVIDED IN PROPOSED GARAGE			-	-
LOADING SPACES			5	3
BICYCLE PARKING			-	
Residential			117	129
Visitor			8	8
Retail			17	17

ZONING TABULATIONS

Zoning Requirement	Block I	
	REQUIRED	PROPOSED
LOT AREA (SQ. FT.)	-	107,845
LOT WIDTH (FT.)	-	-
FRONT YARD (FT.)	-	-
SIDE YARD (FT.)	-	-
REAR YARD (FT.)	-	-
FLOOR AREA (SQ. FT.)	-	487,756
OPEN SPACE (SF / %)	-	28.40%
GROUND FLOOR	-	1,364
ABOVE GROUND	-	29,260
TOTAL OPEN SPACE	-	30,624
AVERAGE FINISHED GRADE (FT.)	-	193.00
MAX. BUILDING HEIGHT (FT.)	-	85
CROWN COVERAGE (SQ. FT.)	-	14,900
MAX. RESI DENTISTY (UNITS/AC.)	-	-
Dwelling Unit Summary	-	390
STUDIO UNITS	-	58
ONE BEDROOM UNITS	-	189
ONE BEDROOM DEN UNITS	-	50
TWO BEDROOM UNITS	-	68
TWO BEDROOM DEN UNITS	-	13
THREE BEDROOM UNITS	-	12
LOADING SPACES	-	3
TRIP GENERATION (ADT)	-	5,173

APPROVED
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DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

No.	DATE	DESCRIPTION

REVISIONS

PLAN DATE
06-24-2022

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GENERAL NOTES & DETAILS
WEST END
PRELIMINARY SITE PLAN - BLOCK I
CITY OF ALEXANDRIA, VIRGINIA
SCALE: N/A C.I.= N/A DATE: JUNE 24, 2022

SHEET
02
OF
75

FILE No.
DSUP-13079

Urban, Ltd. - J:\JOBS\landmarkmall\DSUP\Block-I\completeness\13079-02-GNOTES.dwg [GNOTES] June 24, 2022 - 4:13pm bfolsom

GENERAL NOTES

1. THE SUBJECT SITE IS LOCATED ON THE FOLLOWING CITY OF ALEXANDRIA ASSESSMENT MAP NO.s: LOT 602 LANDMARK MALL REDEVELOPMENT R/S: 047.02-03-11 (5801 DUKE ST), AND IS ZONED CDD.
2. OWNER: LANDMARK LAND HOLDINGS, LLC C/O FOULGER-PRATT DEVELOPMENT, LLC
3. ADDRESS: 12435 PARK POTOMAC AVE, SUITE 200, POTOMAC, MD, 20854
4. THE SITE IS LOCATED IN THE HOLMES RUN WATERSHED.
5. CONSTRUCTION PERMITS ARE REQUIRED FOR THIS PROJECT. THE APPROVED SITE PLAN MUST BE ATTACHED TO THE PERMIT APPLICATION THAT FULLY DETAILS THE CONSTRUCTION AS WELL AS LAYOUTS AND SCHEMATICS OF THE MECHANICAL, ELECTRICAL, AND PLUMBING SYSTEMS.
6. ALL PUBLIC AND PRIVATE EASEMENTS OR ALL KNOWN PUBLIC AND PRIVATE EASEMENTS, INCLUDING ALL UTILITY, EGRESS, AND CONSERVATION RESTRICTIONS ARE SHOWN. THE APPLICANT SHALL NOT CONSTRUCT ANY PERMANENT STRUCTURES OVER ANY EXISTING OR PROPOSED PUBLIC EASEMENTS UNLESS OTHERWISE APPROVED BY THE PLANNING COMMISSION AND CITY OF ALEXANDRIA COUNCIL.
7. ALL NEW CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ALEXANDRIA AND TO THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE (USBC).
8. PRIOR TO COMMENCING NEW WORK, THE CONTRACTOR SHALL PROTECT FROM DAMAGE ALL EXISTING ADJACENT AREAS, IF CITY'S EXISTING PUBLIC INFRASTRUCTURE, INCLUDING BUT NOT LIMITED TO, STREETS, ALLEYWAYS, DRIVEWAY APRONS, SANITARY AND STORM SEWERS, STREET LIGHTING, TRAFFIC AND PEDESTRIAN SIGNALS, SIDEWALKS, CURB AND GUTTER, AND STORM WATER DROP INLET STRUCTURES ARE DAMAGED BY THE CONTRACTOR OR BY ACTIVITIES RELATING TO THE SITE CONSTRUCTION THEN THE APPLICANT SHALL REPAIR THE SAME TO THE SATISFACTION OF DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&ES). A PRE-CONSTRUCTION WALK/SURVEY OF THE SITE SHALL OCCUR WITH CONSTRUCTION AND INSPECTION STAFF TO DOCUMENT EXISTING CONDITIONS PRIOR TO ANY LAND DISTURBING ACTIVITY.
9. ALL IMPROVEMENTS TO THE CITY'S RIGHT-OF-WAY SUCH AS CURB, GUTTER, SIDEWALK, AND DRIVEWAY APRONS, ETC., ARE DESIGNED PER THE CITY OF ALEXANDRIA STANDARDS AND SPECIFICATIONS.
10. ALL STREET CUT AND PATCH WORK LOCATED IN PUBLIC RIGHT-OF-WAYS, REQUIRED FOR ANY UTILITY INSTALLATION SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE CITY OF ALEXANDRIA STANDARDS AND SPECIFICATIONS AND TO THE SATISFACTION OF THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&ES).
11. CONTRACTOR MUST ENSURE THAT THERE IS NO DISTURBANCE ON ADJACENT PROPERTIES WITHOUT RECORDED EASEMENT OR NOTARIZED LETTER OF PERMISSION FROM THE ADJACENT PROPERTY OWNERS.
12. ALL REQUIRED STATE AND FEDERAL PERMITS, WHICH COULD INCLUDE PERMITS FROM THE VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION (VDCR), VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY (VDEQ), VIRGINIA DEPARTMENT OF HISTORIC RESOURCES (VDHR), UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (USEPA), ARMY CORPS OF ENGINEERS AND VIRGINIA MARINE RESOURCES, MUST BE IN PLACE FOR ALL PROJECT CONSTRUCTION AND MITIGATION WORK PRIOR TO RELEASE OF THE FINAL SITE PLAN. THIS INCLUDES THE STATE REQUIREMENT FOR A VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) GENERAL PERMIT FOR DISCHARGES OF STORMWATER FROM CONSTRUCTION ACTIVITIES FOR LAND DISTURBING ACTIVITIES GREATER THAN 2,500. INFORMATION REGARDING THE VSMP GENERAL PERMIT CAN BE FOUND ONLINE AT: http://www.dcr.virginia.gov/soil_and_water/vsmp.shtml
13. PERMITS FROM THE CITY OF ALEXANDRIA OFFICE OF ENVIRONMENTAL QUALITY (OEQ), TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&ES), AND BUILDING AND FIRE CODE ADMINISTRATION SHALL BE OBTAINED BY THE APPLICANT, AS REQUIRED AND DOCUMENTED HEREIN. THE CONTRACTOR CAN CONTACT ALEXANDRIA FIRE AND CODE ADMINISTRATION DEPARTMENT AT (703) 838-4644 OR (703) 746-4200 FOR ANY QUESTIONS OR ADDITIONAL INFORMATION.
14. ANY WORK IN THE PUBLIC RIGHT OF WAY SHALL REQUIRE A SEPARATE PERMIT FROM THE DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES. THE CONTRACTOR CAN CONTACT THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES AT (703) 746-4035 FOR ANY QUESTIONS OR ADDITIONAL INFORMATION.
15. THE PROPERTY ADDRESS MUST BE CLEARLY MARKED IN THE FRONT AND BACK OF THE PROPOSED DEVELOPMENT SITE DURING CONSTRUCTION FOR EMERGENCY RESPONSE PURPOSES IN CONTRASTING COLORS FOR EASY IDENTIFICATION.
16. THE APPLICANT SHALL CONTACT THE CRIME PREVENTION UNIT OF THE ALEXANDRIA POLICE DEPARTMENT AT 703-746-1920 REGARDING SECURITY HARDWARE FOR NEW CONSTRUCTION. THIS SHALL BE COMPLETED PRIOR TO ISSUANCE OF BUILDING PERMIT.
17. THE CONTRACTOR MUST ENSURE THAT POSITIVE DRAINAGE OCCURS ON SITE TO PREVENT PONDING OR DRAINAGE PROBLEMS ON ADJACENT PROPERTIES.
18. A SEPARATE DESIGN IS REQUIRED FOR ALL WALLS 24" AND OVER IN HEIGHT FROM THE GRADE AND SUBJECT TO SEPARATE PERMITS TO BE OBTAINED BY THE OWNERS. GEOTECHNICAL AND STRUCTURAL DESIGN IS TO BE COMPLETED BY OTHERS. THIS FINAL SITE PLAN SHOWS LOCATION, PROPOSED GRADING, AND DESIGN OF ALL THE WALLS.
19. ALL SANITARY LATERALS AND/OR SEWERS NOT SHOWN IN THE EASEMENTS SHALL BE OWNED AND MAINTAINED PRIVATELY.
20. ALL STORM DRAINS NOT SHOWN WITHIN AN EASEMENT OR IN A PUBLIC RIGHT-OF-WAY SHALL BE OWNED AND MAINTAINED PRIVATELY.
21. ALL WATER FACILITY CONSTRUCTIONS SHALL CONFORM TO VIRGINIA AMERICAN WATER (VAW) STANDARDS AND SPECIFICATIONS. NO WORK CAN BE COMPLETED ON EXISTING AND PROPOSED WATER FACILITIES UNTIL ALL EASEMENTS AND AGREEMENTS WITH VAW ARE FINALIZED, EXECUTED AND RECORDED. DEVELOPER OR CONTRACTOR SHALL CONTACT VAW AT 703-706-3889 TO OBTAIN AN APPROVED PROPOSAL AND PAY ALL REQUIRED FEES, PRIOR TO THE START OF CONSTRUCTION, DEMOLITION AND INSPECTION OF WATER FACILITIES, INCLUDING, BUT NOT LIMITED TO, WATER MAINS, FIRE HYDRANTS, DOMESTIC AND FIRE SERVICE LINES. ALL THE PROPOSED WET TAPS ON AN EXISTING WATER MAIN SHALL BE CONSTRUCTED BY VAW.
22. PRIOR TO THE RELEASE OF THE FINAL SITE PLAN, A TRAFFIC CONTROL PLAN FOR CONSTRUCTION DETAILING PROPOSED CONTROLS TO TRAFFIC MOVEMENT, LANE CLOSURES, CONSTRUCTION ENTRANCES, HAUL ROUTES, AND STORAGE AND STAGING SHALL BE PROVIDED FOR INFORMATION PURPOSES; HOWEVER, AN AMENDED TRAFFIC CONTROL PLAN, IF REQUIRED BY THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES SHALL BE SUBMITTED TO THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES ALONG WITH THE BUILDING PERMIT APPLICATION. THE FINAL SITE PLAN SHALL INCLUDE A STATEMENT "FOR INFORMATION ONLY" ON THE TRAFFIC CONTROL PLAN SHEETS.
23. THIS SITE IS NOT LOCATED WITHIN A COMBINED SEWER AREA.
24. THE SITE CONTAINS EXISTING STORM SEWER, SANITARY SEWER, WATERLINES, ELECTRIC, AND OVERHEAD UTILITY. THE SUBJECT PLAN PROPOSES THE ADDITION OF STORM SEWER, SANITARY SEWER, WATERLINES, ELECTRIC, AND TELECOMMUNICATION CONNECTIONS. SOME OF THE EXISTING UTILITIES WILL REMAIN BUT NEW ONES WILL BE ADDED.
25. THE APPLICANT IS RESPONSIBLE FOR THE MAINTENANCE OF ALL SPECIAL PAVING MATERIAL INSTALLED WITHIN THE PUBLIC RIGHT OF WAY PER DEVELOPMENT CONDITION 2G.

UTILITY WORKS

A. UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING MINIMUM STANDARDS DESCRIBED IN SECTION 4VAC50-30-40 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH) AND ADDITIONAL APPLICABLE PRACTICES FOLLOWED BY THE CITY OF ALEXANDRIA:
B. ALL PRIVATE UTILITIES SHALL BE LOCATED OUTSIDE OF THE PUBLIC RIGHT-OF-WAY AND PUBLIC UTILITY EASEMENTS UNLESS THE UTILITY OWNERS HAVE FRANCHISE AGREEMENT WITH THE CITY OF ALEXANDRIA; HOWEVER, NO ELECTRIC TRANSFORMERS AND SWITCH GEARS / CONTROL BOXES SHALL BE PLACED IN THE PUBLIC RIGHT OF WAY.
C. ALL THE EXISTING AND PROPOSED PUBLIC AND PRIVATE UTILITIES AND EASEMENTS SHALL BE SHOWN AND A DESCRIPTIVE NARRATION OF VARIOUS UTILITIES SHALL BE PROVIDED ON THE PLAN.
D. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN UTILITY SERVICES AT ALL TIMES DURING CONNECTION AND/OR CONSTRUCTION.
E. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME,
F. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
G. EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.
H. MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ACCORDANCE WITH THE CITY OF ALEXANDRIA STANDARDS AND SPECIFICATIONS TO MINIMIZE EROSION AND PROMOTE STABILIZATION.
I. SHOULD UTILITY CONSTRUCTION BE PERFORMED AFTER COMPLETING EARTHWORK, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACHIEVING 98 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D-1551) COMPACTION IN ALL TRENCH BACKFILL.
J. RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE VIRGINIA REGULATIONS §4VAC50-30 EROSION AND SEDIMENT CONTROL REGULATIONS, VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH).
K. APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.
L. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL CONTROL MEASURES AS NECESSARY TO PREVENT EROSION AND SEDIMENTATION, AS DETERMINED BY THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES, CITY OF ALEXANDRIA.
M. NO CONTAMINATION HAS BEEN FOUND ONSITE.
N. UTILITY CORRIDORS IN CONTAMINATED SOIL SHALL BE OVER EXCAVATED BY 2 FEET AND BACKFILLED WITH "CLEAN" SOIL.
O. GRADING CAN BE PERFORMED ON INSTALLATION OF UTILITIES.
P. ALL NEW INSTALLATIONS AND/OR REINSTALLATIONS OF UTILITIES SUCH AS ELECTRICAL LINES, GAS PIPES, COMMUNICATION CABLES INCLUDING WATER AND SEWER LATERAL BOTH ON PRIVATE PROPERTY AND IN THE PUBLIC RIGHT OF WAY IN THE CITY OF ALEXANDRIA SHALL BE PROVIDED WITH 3" AND 6" WIDE 5 MIL OVERALL THICKNESS DETECTABLE UNDERGROUND WARNING TAPES (DUWT). THE 3" DUWT SHALL BE INSTALLED AT DEPTHS OF 12" TO 18" AND 6" WIDE AT A DEPTH OF 24" SO AS TO MAKE UNDERGROUND INSTALLATIONS EASY TO FIND USING A NON-FERROUS LOCATOR. THE DUWT SHALL BE WITH ALUMINUM BACKING OR SOLID ALUMINUM CORE LAMINATED WITH A PROTECTIVE CLEAR FILM ON BOTH SIDES, SEALING AND PROTECTING THE GRAPHICS FROM UNDERGROUND MOISTURE, ACIDS, ALKALIS, AND OTHER SOIL SUBSTANCES. ALL DUWT TAPES SHALL BE PRINTED IN BLACK INK ON AMERICAN PUBLIC WORKS ASSOCIATION (APWA) APPROVED COLORS TO MEET OR EXCEED INDUSTRY STANDARDS. THE FOLLOWING ARE THE APWA COLOR CODES:
Q. EX. FIRE HYDRANT SHALL REMAIN IN SERVICE AND UNOBSTRUCTED DURING CONSTRUCTION. OR AS MAY BE APPROVED BY THE DIRECTOR OF T&ES.

MOSQUITO CONTROL NOTES

1. SINCE STORM WATER MANAGEMENT (SWM) AND BEST MANAGEMENT PRACTICE (BMP) SYSTEMS THAT HOLD WATER FOR MORE THAN 5 DAYS BETWEEN THE MONTHS OF MAY – OCTOBER HAVE THE POTENTIAL TO CAUSE MOSQUITO BREEDING HABITATS SUCH BMPs SHALL BE TREATED WITH A REGISTERED MOSQUITO LARVAL CONTROL PRODUCT. ALL LABELS SHOULD BE FOLLOWED FOR APPLICATION RATES AND AMOUNTS.
2. CONTACT THE CITY OF ALEXANDRIA ENVIRONMENTAL HEALTH VECTOR BORNE ILLNESS PROGRAM (703-746-4910) FOR QUESTIONS OR TREATMENT ASSISTANCE.

EMERGENCY VEHICLE EASEMENTS NOTE

ALL EMERGENCY VEHICLE EASEMENTS ARE TO BE PROVIDED UNDER A SEPARATE APPLICATION WITH THE FINAL SITE PLAN. ALL EASEMENTS ARE TO BE RECORDED WITH ALEXANDRIA LAND RECORDS.

EXISTING CONDITIONS SURVEY NOTES

1. HORIZONTAL DATUM* NORTH AMERICAN DATUM OF 1983, NAD83
   VERTICAL DATUM* NORTH AMERICAN VERTICAL DATUM OF 1988, NAVD88*
2. UTILITY INFORMATION, AS SHOWN ON THIS PLAN, IS TAKEN FROM THE RECORDS AND/OR FIELD SURVEY COMPLETED BY URBAN LTD., DATED 05/10/2012; AND CANNOT BE GUARANTEED. FOR EXACT LOCATIONS OF EXISTING UNDERGROUND UTILITIES, NOTIFY "MISS UTILITY" AT 1-800-257-7777 AND 811 72 HOURS BEFORE THE START OF ANY EXCAVATION OR CONSTRUCTION. THE CONSTRUCTION WORKERS AND CONTRACTOR(S) ARE ENCOURAGED TO VISIT DOMINION VIRGINIA POWER WEB SITE AT WWW.DOM.COM (KEYWORD SAFETY) FOR ADDITIONAL SAFETY INSTRUCTIONS.
3. LOCATION AND DEPTH OF ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR/ENGINEER SHOULD DIG TEST PITS BY HAND AT ALL UTILITY CROSSINGS TO VERIFY EXACT LOCATION.
4. THE BOUNDARY INFORMATION FOR THE SUBJECT SITE IS BASED ON A CURRENT FIELD SURVEY PREPARED BY URBAN LTD., DATED 02/01/2012 IN ACCORDANCE WITH THE REQUIREMENTS OF VIRGINIA ASSOCIATION OF LAND SURVEYORS.

* PER MEMORANDUM TO INDUSTRY, JULY 20, 2005; THE PLAN SHALL BE PREPARED USING VIRGINIA STATE PLANE (NORTHZONE) COORDINATES BASED ON NAD83 AND NAVD88; HOWEVER, IF THE CURRENT DRAWINGS ARE PREPARED USING NORTH AMERICAN DATUM OF 1927 (NAD27) AND NORTHGEODETIC VERTICAL DATUM OF 1929 (NGVD29) THEN THE AS-BUILT DRAWINGS SHALL PROVIDE A CONVERSION TABLE OF SANITARY AND STORM SEWER DATA IN THE NAD83 AND NAVD88 DATUMS.

ENVIRONMENTAL SITE ASSESSMENT

1. THE CITY OF ALEXANDRIA DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES, OFFICE OF ENVIRONMENTAL QUALITY MUST BE NOTIFIED IF UNUSUAL OR UNANTICIPATED CONTAMINATION OR UNDERGROUND STORAGE TANKS, DRUMS, AND CONTAINERS ARE ENCOUNTERED AT THE SITE. IF THERE IS ANY DOUBT ABOUT PUBLIC SAFETY OR A RELEASE TO THE ENVIRONMENT, THE ALEXANDRIA FIRE DEPARTMENT MUST BE CONTACTED IMMEDIATELY BY CALLING 911. THE TANK OR CONTAINER'S REMOVAL, ITS CONTENTS, ANY SOIL CONTAMINATION AND RELEASES TO THE ENVIRONMENT WILL BE HANDLED IN ACCORDANCE WITH FEDERAL, STATE, AND CITY REGULATIONS.
2. ALL WELLS TO BE DEMOLISHED IN THIS PROJECT, INCLUDING MONITORING WELLS MUST BE CLOSED IN ACCORDANCE WITH VIRGINIA STATE WATER CONTROL BOARD (VSWCB) REQUIREMENTS. CONTACT ENVIRONMENTAL HEALTH SPECIALIST AND COORDINATE WITH THE ALEXANDRIA HEALTH DEPARTMENT AT 703-746-4996.
3. UNLESS APPROVED BY THE DIRECTOR OF TRANSPORTATION & ENVIRONMENTAL SERVICES (T&ES) ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH THE ALEXANDRIA NOISE CONTROL CODE TITLE 11, CHAPTER 5, WHICH PERMITS CONSTRUCTION ACTIVITIES TO OCCUR
   BETWEEN THE FOLLOWING HOURS:
   MONDAY THROUGH FRIDAY FROM 7 AM TO 6 PM AND
   SATURDAYS FROM 9 AM TO 6 PM.
   NO CONSTRUCTION ACTIVITIES ARE PERMITTED ON SUNDAYS.
   PILE DRIVING IS FURTHER RESTRICTED TO THE FOLLOWING HOURS:
   MONDAY THROUGH FRIDAY FROM 9 AM TO 6 PM AND
   SATURDAYS FROM 10 AM TO 4 PM.

SANITARY FLOW COMPUTATIONS

TOTAL FLOW FROM BUILDING =
300 GPD/UNIT * 390 UNITS + 200 GPD/1,000 S.F. * 95,433 S.F. = 136,087 GPD
PEAK FACTOR FLOW FROM BUILDING = 136,087 GPD * 4.0 = 544,348 GPD

THE TOTAL ESTIMATED FLOW EXCEEDS 10,000 GPD AND IS THEREFORE SUBJECT MEMORANDUM TO INDUSTRY NO. 06-14, WHICH STATES THAT AT THE TIME OF THE FINAL SITE PLAN,

1. THE APPLICANT SHALL PROVIDE ADEQUATE SANITARY SEWER OUTFALL ANALYSIS, AS GENERALLY DESCRIBED BELOW, SUFFICIENT TO DETERMINE EXISTING AND FUTURE FLOWS IN THE CITY-OWNED SEWERS THAT ARE USED BY THE DEVELOPMENT/REDEVELOPMENT PROJECT. THE SANITARY SEWER ADEQUATE OUTFALL ANALYSIS SHALL BE COMPLETED UP TO THE TRUNK SEWER DOWNSTREAM WITH A MINIMUM DIAMETER OF 24" OR TO A POINT AS DIRECTED BY T&ES STAFF.
2. THE APPLICANT SHALL PROVIDE AN ESTIMATE OF THE AVERAGE DAY AND PEAK WASTEWATER FLOW DISCHARGED UPSTREAM AND DOWNSTREAM OF THE DEVELOPMENT SITE UNDER EXISTING CONDITIONS AND THE CONTRIBUTION OF SANITARY FLOW FROM THE PROPOSED DEVELOPMENT SITE TO THE TRUNK SEWER USING THE FACTORS DESCRIBED BELOW:

A. AVERAGE DESIGN FLOWS:
I. SINGLE FAMILY HOME/TOWNHOUSE 350 GPD/UNIT
II. MULTI-FAMILY (CONDO, APARTMENT) 300 GPD/UNIT
III. OFFICE/RETAIL 200 GPD/1000 S.F.
IV. HOTEL 130 GPD/ROOM
B. THE SANITARY SEWERS SHALL BE DESIGNED FOR PEAK FLOW USING A PEAKING FACTOR OF 4 APPLIED TO THE AVERAGE FLOW.
C. AT THE DISCRETION OF T&ES STAFF, EXISTING CONDITIONS PEAK FLOWS, BASED ON LONG-TERM MONITORING AND/OR SEWER MODELING, MAY BE AVAILABLE TO THE APPLICANT FOR USE IN DETERMINING SANITARY SEWER CAPACITY.
D. SHORT-TERM TEMPORARY FLOW MONITORING OR WATER METER DATA MAY NOT BE USED IN LIEU OF COMPUTING EXISTING FLOWS. LONG-TERM MONITORING MAY BE USED SUBJECT TO THE APPROVAL OF THE DIRECTOR OF T&ES.

3. IN LIEU OF THE ESTIMATION OF THE AVERAGE DAY AND PEAK HOUR WASTEWATER FLOW, THE DIRECTOR OF T&ES AT HIS DISCRETION MAY REQUEST THE APPLICANT TO MEASURE THE SANITARY FLOW UPSTREAM AND DOWNSTREAM OF THE PROPOSED DEVELOPMENT SITE TO DETERMINE THE CURRENT SANITARY FLOW DISCHARGED INTO THE TRUNK SEWER UPSTREAM OF THE DEVELOPMENT SITE AND THE CURRENT CONTRIBUTION OF THE SANITARY FLOW TO THE TRUNK SEWER FROM THE DEVELOPMENT SITE UNDER EXISTING CONDITIONS.
4. THE APPLICANT SHALL ESTIMATE ADDITIONAL AVERAGE DAY AND PEAK HOUR WASTEWATER FLOW TO BE DISCHARGED INTO THE TRUNK SEWER FROM THE PROPOSED DEVELOPMENT SITE UNDER PROPOSED CONDITIONS USING THE FACTORS DESCRIBED ABOVE.
5. THE SANITARY SEWER ADEQUATE OUTFALL ANALYSIS SHALL ACCOUNT FOR THE EXISTING AND FUTURE NEEDS.
6. THE CITY OF ALEXANDRIA, AT ITS DISCRETION, WILL PROVIDE THE APPLICANT WITH ANY READILY AVAILABLE DATA TO ASSIST IN COMPLETION OF THE ADEQUATE OUTFALL ANALYSIS. THE ADDITIONAL PARAMETERS REQUIRED TO COMPLETE THE ANALYSIS SHALL BE FIELD MEASURED (I.E., LENGTH, PIPE DIAMETER, MATERIAL OF CONSTRUCTION, AND SLOPE, ETC.) AND/OR ESTIMATED (I.E., MANNING'S ROUGHNESS COEFFICIENT) BY THE APPLICANT. THE APPLICANT SHALL USE THE CRITERIA ESTABLISHED BY THE ENGINEERS AND SURVEYORS (ES!) INSTITUTE, AS SHOWN ON THE ES! CHECK LIST, WHERE APPLICABLE.
7. THE APPLICANT SHALL PROVIDE ALL THE MEASURED AND/OR ESTIMATED DATA AND CALCULATIONS ON THE ADEQUATE SANITARY SEWER OUTFALL ANALYSIS ON THE PLANS FOR REVIEW BY THE CITY STAFF.
8. THE INCREASED PEAK FLOW WILL BE PLACED IN THE CITY OF ALEXANDRIA WASTEWATER FLOW CAPACITY REGISTRY TO DETERMINE THAT THE CITY HAS SUFFICIENT TREATMENT CAPACITY AVAILABLE IN THE ALEXANDRIA SANITATION AUTHORITY (ASA) ADVANCED WASTEWATER TREATMENT PLANT (A WWTP) AND IN VARIOUS INTERCEPTOR SEWERS IN THE CITY OF ALEXANDRIA.
9. SANITARY SEWER SYSTEMS THAT SERVE OVER 400 PEOPLE REQUIRE THE APPROVAL OF THE VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY (VDEQ). THEREFORE, THE APPLICANT SHALL COMPLY WITH ALL THE REGULATORY REQUIREMENTS OF THE STATE OF VIRGINIA.
10. THE INSTALLATION OF PLUMBING FIXTURES THROUGHOUT THE CITY SHALL BE GOVERNED BY LOCATION. IN THE AREAS A AND B SHOWN IN THE ATTACHED MAP, THE SANITARY SEWER PLUMBING FIXTURES AND DRAINS LOCATED BELOW THE FIRST FLOOR (INCLUDING PARKING STRUCTURES) SHALL HAVE IN-STRUCTURE OR ON-SITE PLUNPED DISCHARGE TO THE CITY'S GRAVITY COLLECTION SYSTEM.
11. THE PUMPED FACILITIES SHALL BE PROVIDED WITH A STANDBY SOURCE OF POWER (I.E., BATTELY OR GENERATOR).
12. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR THE PERPETUAL OWNERSHIP, CAPITAL, AND MAINTENANCE AND OPERATION OF THE PUMPS AND APPURTENANCES.
13. NO FOUNDATION DRAIN, BASEMENT DRAIN, OR FAIRWELL BASEMENT ACCESS DRAIN SHALL BE CONNECTED TO THE CITY OR ASA SANITARY SEWER.

STORMWATER BMP AND DETENTION FACILITIES MAINTENANCE AGREEMENT

THE APPLICANT SHALL SUBMIT TO THE CITY OF ALEXANDRIA A STORMWATER BMP AND DETENTION FACILITIES MAINTENANCE AGREEMENT WITH FINAL SUBMISSION. THE MAINTENANCE AGREEMENT SHALL BE REGISTERED WITH ALEXANDRIA LAND RECORDS.

DEMOLITION

1. A SEPARATE PERMIT IS REQUIRED FOR DEMOLITION; HOWEVER, NO DEMOLITION SHALL BEGIN UNTIL ALL EROSION AND SEDIMENT AND TREE PROTECTION CONTROLS ARE IN PLACE AND ARE APPROVED BY AN EROSION AND SEDIMENT CONTROL INSPECTOR OF THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES.
2. ALL WORK SHALL BE PERFORMED IN STRICT COMPLIANCE WITH THE MOST CURRENT APPLICABLE FEDERAL, STATE , AND LOCAL LAWS AND REGULATIONS, INCLUDING BUT NOT LIMITED, TO ENVIRONMENTAL PROTECTION AGENCY (EPA), OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), VIRGINIA OCCUPATIONAL AND SAFETY HEALTH COMPLIANCE PROGRAM (VOSH ENFORCEMENT), VIRGINIA OVERHEAD HIGH VOLTAGE LINE SAFETY ACT, NATIONAL EMISSIONS STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAPS), AND NATIONAL INSTITUTE OF OCCUPATIONAL SAFETY AND HEALTH (NIOSH).
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF WORK WITH REPRESENTATIVE UTILITY COMPANIES AND FOR THE IMPLEMENTATION OF REQUIRED UTILITY-RELATED WORK.
4. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE UPON ENCOUNTERING ANY HAZARDOUS MATERIALS DURING DEMOLITION AND/OR CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL DOCUMENT SAME TO THE OWNER'S REPRESENTATIVE AND OBTAIN DIRECTION AS TO THE APPROPRIATE ACTION(S) TO BE TAKEN.
5. DISCONNECTION OF SERVICES AND SYSTEMS SUPPLYING UTILITIES TO BE ABANDONED OR DEMOLISHED SHALL BE COMPLETED PRIOR TO OTHER SITE DEMOLITION IN FULL COMPLIANCE WITH APPLICABLE CODES, REGULATIONS, AND THE REQUIREMENTS OF UTILITY PURVEYORS HAVING JURISDICTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE UTILITY PURVEYORS, PAYMENT OF ASSOCIATED FEES AND PROCUREMENT OF ALL NECESSARY PERMITS.
6. PRIOR TO REMOVAL OF MATERIALS OVER EXISTING UTILITY SYSTEMS, THE CONTRACTOR SHALL DOCUMENT EXISTING CONDITIONS AND, IF AT VARIANCE WITH CONDITIONS AS REPRESENTED ON THE PLANS, NOTIFY THE OWNER'S REPRESENTATIVE AND OBTAIN DIRECTIONS AS TO THE APPROPRIATE ACTION(S) TO BE TAKEN.
7. THE CONTRACTOR SHALL BACKFILL EXCAVATED AREAS WITH APPROVED MATERIALS/CLEAN FILL AS PER THE REQUIREMENTS OF VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT).
8. THE CONTRACTOR SHALL PROTECT AND PREVENT DAMAGE TO EXISTING ON-SITE UTILITY DISTRIBUTION FACILITIES THAT ARE TO REMAIN. ACTIVE UTILITY DISTRIBUTION FACILITIES ENCOUNTERED DURING DEMOLITION AND/OR CONSTRUCTION ACTIVITIES SHALL BE SHUT OFF AT THE SERVICE MAIN WITH THE APPROVAL OF THE OWNER'S REPRESENTATIVE.
9. DURING DEMOLITION AND/OR CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE UPON ENCOUNTERING ANY EXISTING UTILITIES AND/OR UTILITY SYSTEM STRUCTURES NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL DOCUMENT THE SAME AND FORWARD THE INFORMATION TO THE RESIDENT ENGINEER/OWNER'S REPRESENTATIVE, AND OBTAIN DIRECTION AS TO THE APPROPRIATE ACTION(S) TO BE TAKEN.
10. THE CONTRACTOR OR APPLICANT SHALL WORK WITH THE CITY STAFF TO REUSE THE EXISTING, LEFTOVER, UNUSED, AND/OR DISCARDED BUILDING MATERIALS AS PART OF THE DEMOLITION PROCESS OR THE CONSTRUCTION DEBRIS MUST BE REMOVED TO AN APPROVED LANDFILL WITH ADEQUATE FREQUENCY IN ACCORDANCE WITH THE VIRGINIA STATE LINER CONTROL ACT.

SIGN CONSTRUCTION

A SEPARATE PERMIT IS REQUIRED FOR SIGN CONSTRUCTION.

CEMETERY AND/OR BURIAL GROUNDS

THERE IS NO OBSERVABLE, HISTORICAL, OR ARCHAEOLOGICAL EVIDENCE OF CEMETERIES OR BURIAL GROUNDS ON THIS PROPERTY. FURTHERMORE, IT IS ILLEGAL TO DISTURB HUMAN REMAINS WITHOUT OBTAINING APPROPRIATE LEGAL AUTHORIZATION. IF BURIALS ARE FOUND DURING THE ARCHAEOLOGICAL INVESTIGATION AND NEED TO BE MOVED PRIOR TO DEVELOPMENT, THE APPLICANT SHALL BE RESPONSIBLE FOR THE ARCHAEOLOGICAL REMOVAL AND FOR OBTAINING THE NECESSARY LEGAL DOCUMENTS, INCLUDING A PERMIT FROM THE VIRGINIA DEPARTMENT OF HISTORIC RESOURCES FOR THE ARCHAELOGICAL REMOVAL OF BURIALS.

RODENT ABATEMENT NOTE

PRIOR TO THE ISSUANCE OF A DEMOLITION PERMIT, A RODENT ABATEMENT PLAN SHALL BE SUBMITTED TO THE CITY OF ALEXANDRIA DEPARTMENT OF CODE ADMINISTRATION THAT WILL OUTLINE WHAT STEPS HAVE AND WILL BE TAKEN TO PREVENT THE SPREAD OF RODENTS FROM THE CONSTRUCTION SITE TO THE SURROUNDING COMMUNITY AND SEWERS. THE CONTRACTOR CAN CONTACT THE ALEXANDRIA DEPARTMENT OF CODE ADMINISTRATION AT 703-746-4200 FOR ANY QUESTIONS OR ADDITIONAL INFORMATION. PLEASE BE ADVISED ONCE ANY DEMOLITION HAS BEEN COMPLETED ANY ABOVE GROUND BAIT BOXES MUST BE RELOCATED TO WITHIN 50 FEET OF A STRUCTURE IN KEEPING WITH EPA REGULATIONS. IF THIS IS NOT POSSIBLE, THEY SHALL BE REMOVED AND REGULAR INSPECTIONS OF THE SITE CONDUCTED BY A VIRGINIA LICENSED PEST EXTERMINATOR TO ENSURE THE SITE REMAINS RODENT FREE.

MARINE CLAY STATEMENT

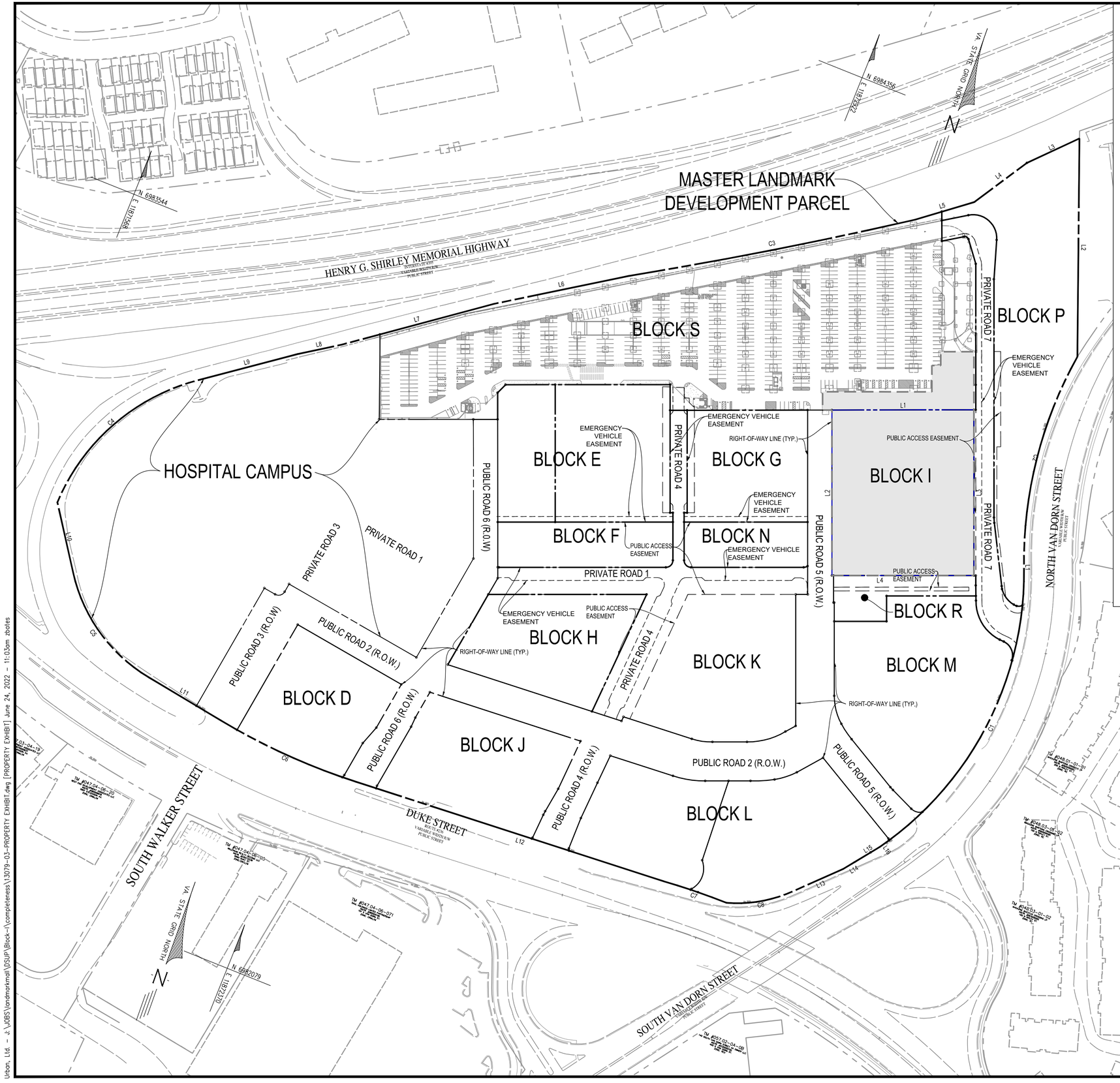
NO MARINE CLAYS EXISTS ON SITE FOR BLOCK I.

SOLID WASTE MANAGEMENT

1. SINCE THE APPLICANT IS NOT REQUIRED, BY SECTION 5-1-31 OF THE CITY CHARTER AND CODE TITLE 5: TRANSPORTATION AND ENVIRONMENTAL SERVICES, TO USE THE CITY OF ALEXANDRIA'S COLLECTION AND DISPOSAL SERVICES; SOLID WASTE COLLECTION AND DISPOSAL SERVICES SHALL BE PROVIDED BY THE APPLICANT / PRIVATE COLLECTORS AND SHALL BE PASSED ON TO THE NEW OWNER IN CASE OF A SALE OF THE PROPERTY SUBSEQUENT TO THE DEVELOPMENT.

SITE ACCESSIBILITY NOTES

1. ALL BUILDINGS WITHIN THE BOUNDARY OF TH



LINE AND CURVE TABLE FOR MASTER LANDMARK PARCEL

LINE	BEARING	DISTANCE
L1	N 22°31'14" W	4.34'
L2	N 21°18'19" W	467.89'
L3	S 43°10'11" W	124.06'
L4	S 31°28'43" W	140.72'
L5	S 51°36'25" W	133.19'
L6	S 56°26'03" W	294.13'
L7	S 53°09'18" W	338.60'
L8	S 56°03'08" W	95.82'
L9	S 53°28'53" W	221.61'
L10	S 34°28'32" E	154.97'
L11	S 80°55'52" E	180.07'
L12	N 86°05'08" E	694.45'
L13	N 44°09'27" E	119.69'
L14	N 37°04'34" E	27.45'
L15	N 37°04'34" E	62.71'
L16	S 54°49'53" E	0.01'

CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH	TANGENT
C1	699.67'	714.22'	56°07'44"	N 05°32'41" E	672.03'	380.79'
C2	468.83'	898.89'	29°53'01"	N 07°34'42" W	463.54'	239.88'
C3	622.78'	10000.00'	3°34'06"	S 57°02'00" W	622.68'	311.49'
C4	413.23'	450.00'	52°36'49"	S 27°10'28" W	398.86'	222.47'
C5	283.79'	350.00'	46°27'26"	S 57°42'15" E	276.08'	150.22'
C6	317.24'	1400.00'	12°58'59"	S 87°25'22" E	316.56'	159.30'
C7	141.68'	1512.69'	5°21'59"	N 87°02'47" E	141.63'	70.89'
C8	144.40'	291.56'	28°22'37"	N 58°20'45" E	142.93'	73.71'

LINE TABLE FOR BLOCK I

Parcel Line Table		
Line #	Length	Direction
L1	304.00	N68° 03' 03.34"E
L2	354.50	N21° 51' 21.78"W
L3	355.00	S21° 51' 21.77"E
L4	304.00	S68° 08' 38.22"W

LOT AREAS

BLOCK I: 2.48 AC. (107,845 SF)

LEGEND

LOT LINES

DSUP APPLICATION AREA

APPROVED

DEVELOPMENT SITE PLAN NO. _____

DEPARTMENT OF PLANNING & ZONING

_____ DIRECTOR _____ DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES

SITE PLAN NO. _____

_____ DIRECTOR _____ DATE

_____ CHAIRMAN, PLANNING COMMISSION _____ DATE

DATE RECORDED _____

_____ INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO.

No.	DATE	DESCRIPTION
		REVISIONS

PLAN DATE 06-24-2022

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www.urban-ltd.com

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COMMONWEALTH OF VIRGINIA
CLAYTON C. TOCK
Lic. No. 038780
PROFESSIONAL ENGINEER
06/24/2022

PROPERTY EXHIBIT

WEST END
PRELIMINARY SITE PLAN - BLOCK I

CITY OF ALEXANDRIA, VIRGINIA

DATE: JUNE 24, 2022

SCALE: 1"=100' C.I.= N/A

SHEET 04 OF 75

FILE No. DSUP-13079

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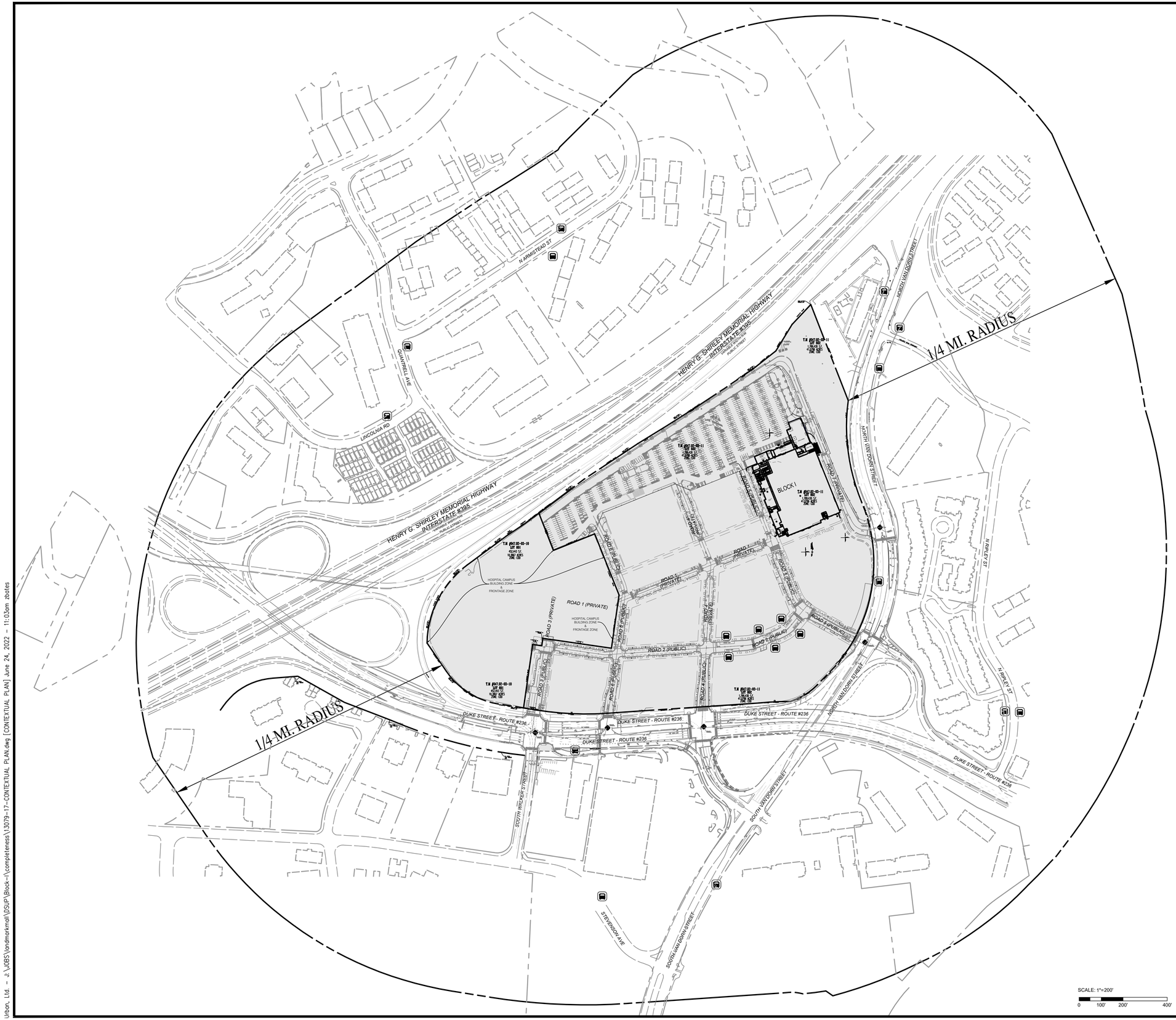

SCALE: 1"=200'
0 100' 200' 400'

LEGEND

TRANSIT STOP

PROPOSED PROJECT SITE

APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING
_____ DIRECTOR _____ DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. _____
_____ DIRECTOR _____ DATE
_____ CHAIRMAN, PLANNING COMMISSION _____ DATE
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PROFESSIONAL ENGINEER
06/24/2022

CONTEXTUAL PLAN
WEST END
PRELIMINARY SITE PLAN - BLOCK I
CITY OF ALEXANDRIA, VIRGINIA
DATE: JUNE 24, 2022
SCALE: 1"=200'
C.I.= N/A

SHEET
05
OF
75

FILE No.
DSUP-13079

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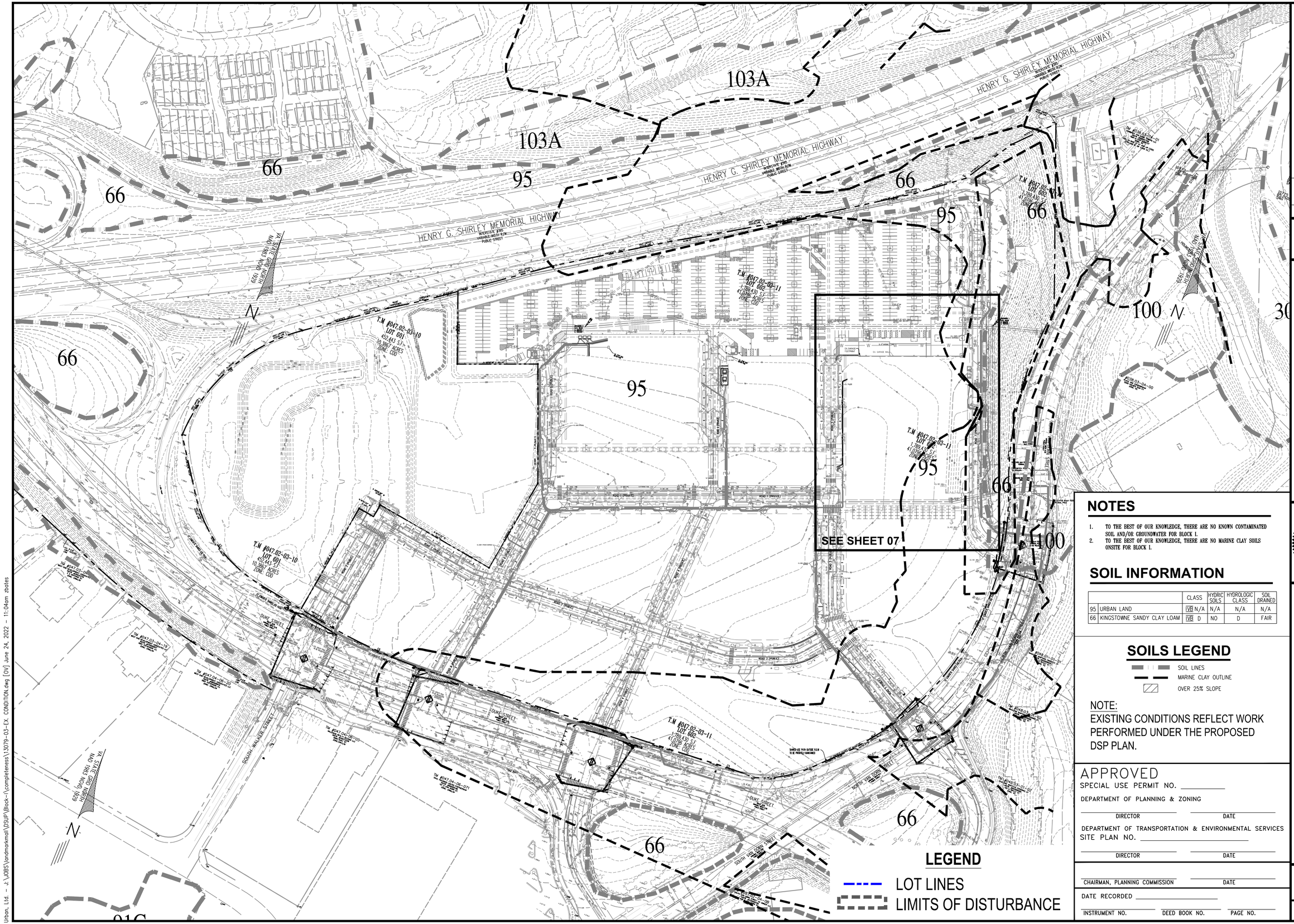

LEGEND

LOT LINES

LIMITS OF DISTURBANCE

NOTES

1. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO KNOWN CONTAMINATED SOIL AND/OR GROUNDWATER FOR BLOCK I.
2. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO MARINE CLAY SOILS ONSITE FOR BLOCK I.

SOIL INFORMATION

		CLASS	HYDRIC SOILS	HYDROLOGIC CLASS	SOIL DRAINED
95	URBAN LAND	IVB N/A	N/A	N/A	N/A
66	KINGSTOWNE SANDY CLAY LOAM	IVB D	NO	D	FAIR

SOILS LEGEND

SOIL LINES

MARINE CLAY OUTLINE

OVER 25% SLOPE

NOTE:
EXISTING CONDITIONS REFLECT WORK PERFORMED UNDER THE PROPOSED DSP PLAN.

APPROVED

SPECIAL USE PERMIT NO. _____

DEPARTMENT OF PLANNING & ZONING

DIRECTOR _____ DATE _____

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES

SITE PLAN NO. _____

DIRECTOR _____ DATE _____

CHAIRMAN, PLANNING COMMISSION _____ DATE _____

DATE RECORDED _____

INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____

No.	DATE	DESCRIPTION
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PLAN DATE
06-24-2022

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CHRISTOPHER CLAYTON FOSTER
036700
LIC. PROFESSIONAL ENGINEER
06/24/2022

OVERALL EXISTING CONDITIONS

WEST END
PRELIMINARY SITE PLAN - BLOCK I

CITY OF ALEXANDRIA, VIRGINIA

DATE: JUNE 24, 2022

SCALE: 1"=100' C.I.= 2'

SHEET
06
OF
75

FILE No.
DSUP-13079

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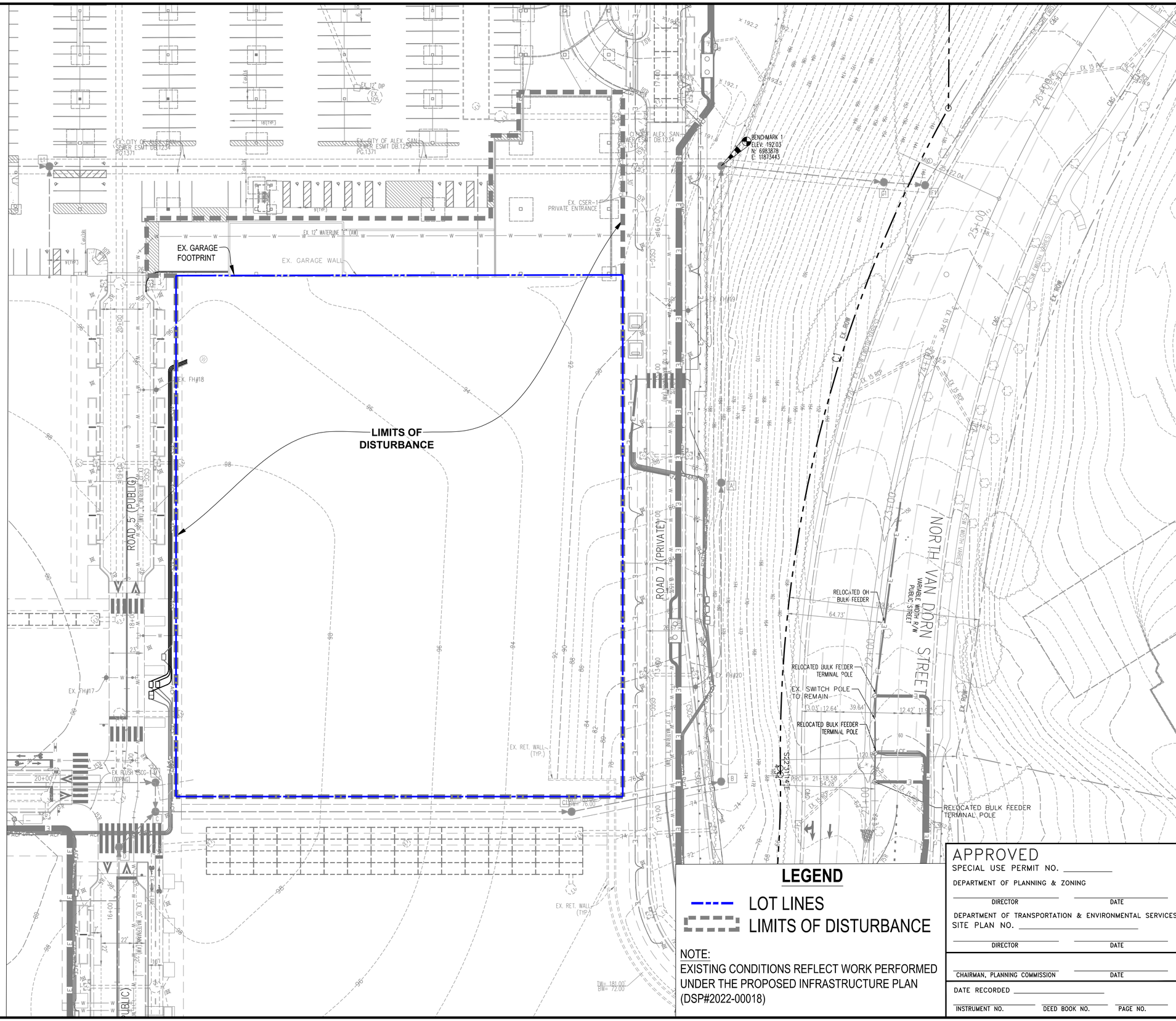

LEGEND

LOT LINES

LIMITS OF DISTURBANCE

NOTE:
EXISTING CONDITIONS REFLECT WORK PERFORMED UNDER THE PROPOSED INFRASTRUCTURE PLAN (DSP#2022-00018)

APPROVED

SPECIAL USE PERMIT NO. _____

DEPARTMENT OF PLANNING & ZONING

DIRECTOR _____ DATE _____

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. _____

DIRECTOR _____ DATE _____

CHAIRMAN, PLANNING COMMISSION _____ DATE _____

DATE RECORDED _____

INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____

No.	DATE	DESCRIPTION

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PLAN DATE 06-24-2022

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COMMONWEALTH OF VIRGINIA
CLAYTON C. TOCK
Lic. No. 036790
06/24/2022
PROFESSIONAL ENGINEER

EXISTING CONDITIONS

WEST END PRELIMINARY SITE PLAN - BLOCK I

CITY OF ALEXANDRIA, VIRGINIA

SCALE: 1"=30' C.I.= 2' DATE: JUNE 24, 2022

SHEET 07 OF 75

FILE No. DSUP-13079

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HENRY G. SHIRLEY MEMORIAL HIGHWAY
INTERSTATE 495
VARIABLE WIDTH R/W
PUBLIC STREET

T.M #047.02-03-11
LOT 602
1,789,430 S.F.
41.0796 ACRES

T.M #047.02-03-10
LOT 601
452,443 S.F.
10.3867 ACRES

BLOCK I

FUTURE BLOCK G

FUTURE PASEO

SEE SHEET 09

DUKE STREET
SOUTH WALKER STREET
NORTH VAN DORN STREET
SOUTH VAN DORN STREET
SR# 401 NORTH VAN DORN STREET
HOVAKO PAN PARKWAY

TM #047.03-04-15
TM #047.03-04-19
TM #047.03-04-20
TM #047.04-06-02
TM #047.04-06-071
TM #047.04-06-072
TM #047.04-06-073
TM #047.04-06-074
TM #047.04-06-075
TM #047.04-06-076
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LEGEND

LOT LINES

LIMITS OF DISTURBANCE

APPROVED

SPECIAL USE PERMIT NO. _____

DEPARTMENT OF PLANNING & ZONING

DIRECTOR _____ DATE _____

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES

SITE PLAN NO. _____

DIRECTOR _____ DATE _____

CHAIRMAN, PLANNING COMMISSION _____ DATE _____

DATE RECORDED _____

INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____

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		REVISIONS

PLAN DATE
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COMMONWEALTH OF VIRGINIA
CLAYTON C. TOCK
Lic. No. 036790
PROFESSIONAL ENGINEER
06/24/2022

OVERVIEW PLAN
WEST END
PRELIMINARY SITE PLAN - BLOCK I
CITY OF ALEXANDRIA, VIRGINIA

SCALE: 1"=100' C.I.= N/A DATE: JUNE 24, 2022

SHEET
08
OF
75

FILE No.
DSUP-13079

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RESIDENTIAL BICYCLE CALCULATIONS:
REQUIRED:
- PERMANENT SPACES: 3 SPACES FOR EVERY 10 RESIDENTIAL UNITS

390 UNITS TOTAL = (390/10)X3 = 117 SPACES

PROVIDED:
LEVEL 01 (INTERNAL): 114 BIKE SPACES
LEVEL 02 (INTERNAL): 15 BIKE SPACES
TOTAL: 129 BIKE SPACES

REQUIRED:
- VISITOR SPACES: 1 SPACE FOR EVERY 50 RESIDENTIAL UNITS

REQUIRED: 390 UNITS TOTAL = 390/50 = 7.8

PROVIDED:
8 VISITOR SPACES BY RESIDENTIAL ENTRANCE (ROAD 5)

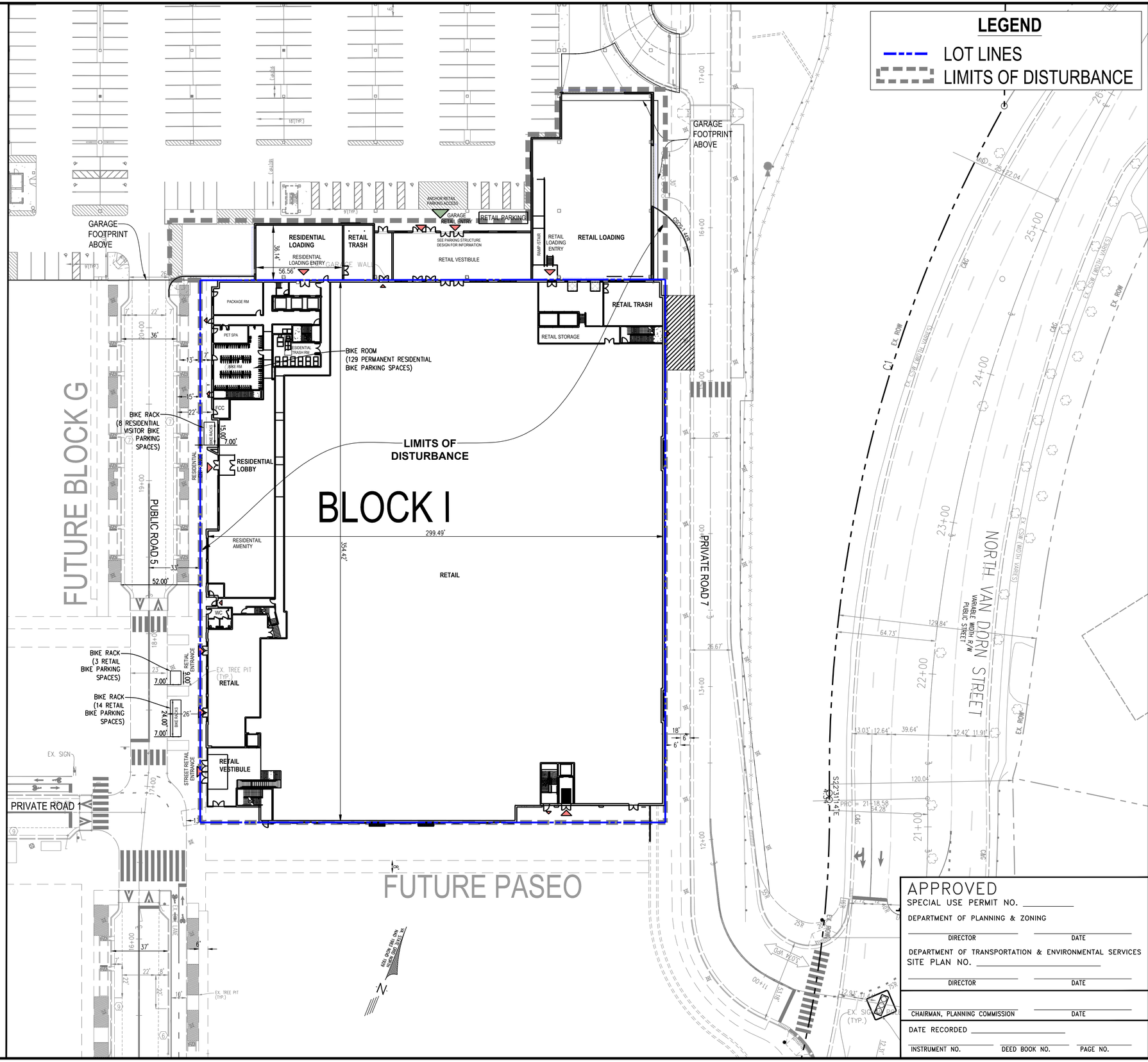
RETAIL BICYCLE CALCULATIONS:
RETAIL A = 87,010SF
RETAIL B = 2,790SF
TOTAL RETAIL FLOOR AREA - GROUND LEVEL = 89,800SF

REQUIRED:
- 2 SPACES FOR EVERY 10,000SF FOR THE FIRST 50,000SF, PLUS 1 SPACE FOR EVERY ADDITIONAL 12,500SF OF RETAIL FLOOR:

((50,000/10,000)*2)+((89,800-50,000)/(12,500) = 10 + 3.18 = 13.18
- 1 EMPLOYEE SPACE FOR EVERY 25,000SF OF RETAIL FLOOR AREA

89,800/25,000 = 3.59
TOTAL RETAIL BICYCLE SPACES = 13.18 + 3.59 = 16.77

PROVIDED:
LEVEL 01 (EXTERIOR): 17 SPACES



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DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. _____
DIRECTOR DATE
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COMMONWEALTH OF VIRGINIA
CLAYTON C. TOCK
Lic. No. 036790
06/24/2022
PROFESSIONAL ENGINEER

CONCEPT PLAN
WEST END
PRELIMINARY SITE PLAN - BLOCK I
CITY OF ALEXANDRIA, VIRGINIA
SCALE: 1"=30' C.I.= N/A DATE: JUNE 24, 2022

SHEET 09 OF 75
FILE No. DSUP-13079

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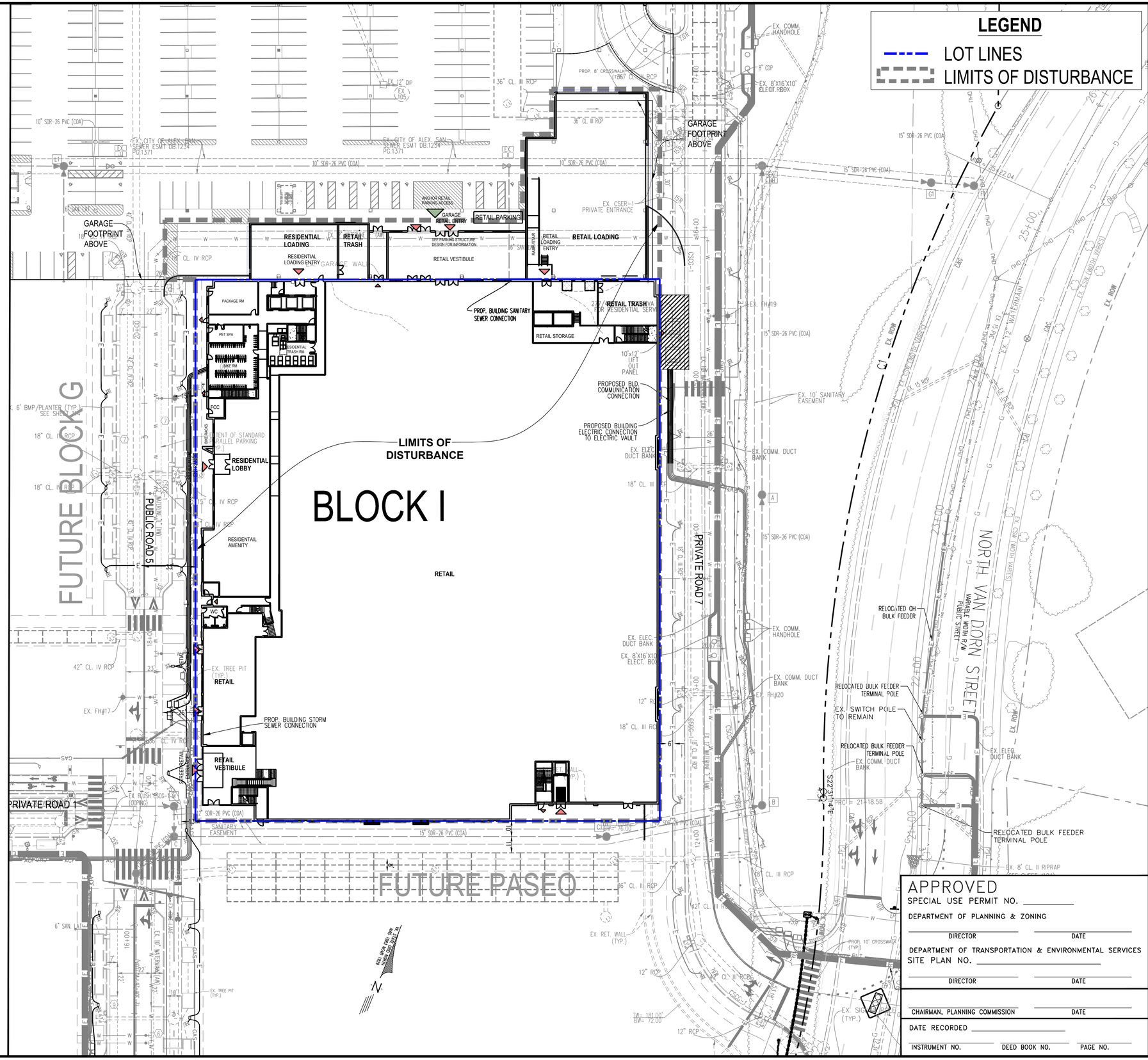
LEGEND
LOT LINES
LIMITS OF DISTURBANCE
LIMITS OF DISTURBANCE
BLOCK I
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SEE PARKING STRUCTURE DESIGN FOR DIMENSION
GARAGE FOOTPRINT ABOVE
GARAGE FOOTPRINT ABOVE
PACKAGE RM
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BIKE RM
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PROP. BUILDING SANITARY SEWER CONNECTION
PROP. BUILDING STORM SEWER CONNECTION
PROPOSED BLD. COMMUNICATION CONNECTION
PROPOSED BUILDING ELECTRIC CONNECTION TO ELECTRIC VAULT
10'x12' LIFT OUT PANEL
EX. TREE PIT (TYP.)
6' BMP/PLANTER (TYP.)
SEE SHEET L4.01
EXTENT OF STANDARD PARALLEL PARKING (TYP.)
FUTURE BLOCK G
PUBLIC ROAD 5
PRIVATE ROAD 1
PRIVATE ROAD 7
FUTURE PASEO
NORTH VAN DORN STREET
VARIABLE WIDTH PUBLIC STREET
EX. ROW
EX. CSER-1 PRIVATE ENTRANCE
EX. 10' SANITARY EASEMENT
EX. COMM. DUCT BANK
EX. ELEC. DUCT BANK
EX. COMM. HANDHOLE
EX. 8'X16'X10' ELECT. BOX
EX. 12" DIP
EX. 105
EX. CITY OF ALEX. SAN. SEWER ESMT DB.1234 PG.1371
EX. 12" WATERMAIN
EX. 15" RCP
EX. FH#19
EX. FH#20
EX. FH#17
EX. SWITCH POLE TO REMAIN
RELOCATED OH BULK FEEDER
RELOCATED BULK FEEDER TERMINAL POLE
RELOCATED BULK FEEDER TERMINAL POLE
RELOCATED BULK FEEDER TERMINAL POLE
EX. 8' CL. II RIPRAP
EX. RET. WALL (TYP.)
EX. SIGN (TYP.)
PROP. 8" CROSSWALK (TYP.)
PROP. 10" CROSSWALK (TYP.)
EXISTING PIN OVERHEAD WIRES TO REMAIN
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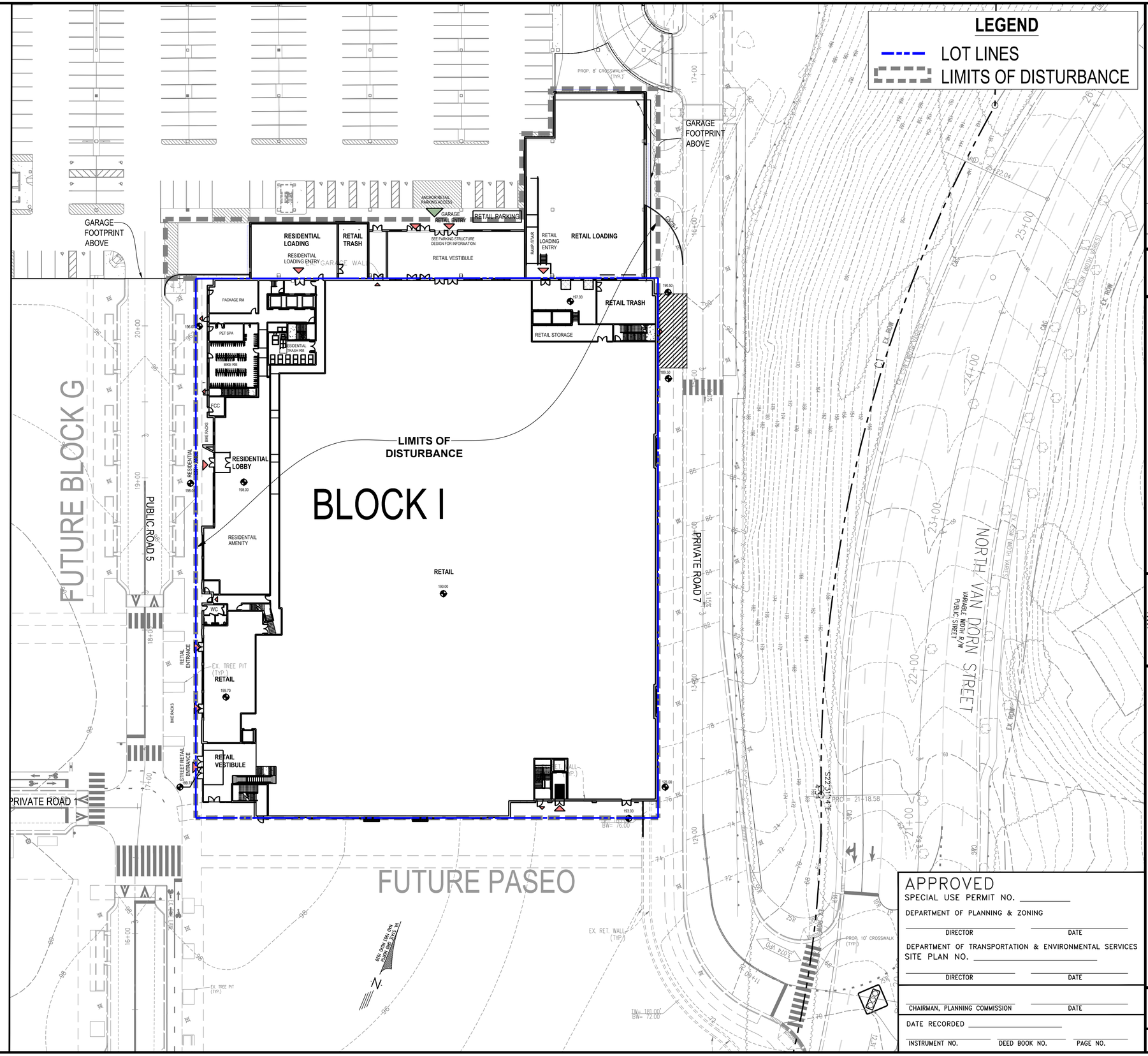
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FUTURE PASEO
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PRIVATE ROAD 1
PRIVATE ROAD 7
NORTH VAN DORN STREET
VARIABLE WIDTH PUBLIC STREET
GARAGE FOOTPRINT ABOVE
GARAGE FOOTPRINT ABOVE
RESIDENTIAL LOADING
RESIDENTIAL LOADING ENTRY
RETAIL TRASH
GARAGE RETAIL ENTRY
RETAIL PARKING
SEE PARKING STRUCTURE DESIGN FOR INFORMATION
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RETAIL LOADING ENTRY
RETAIL LOADING
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PROP. 10' CROSSWALK (TYP.)
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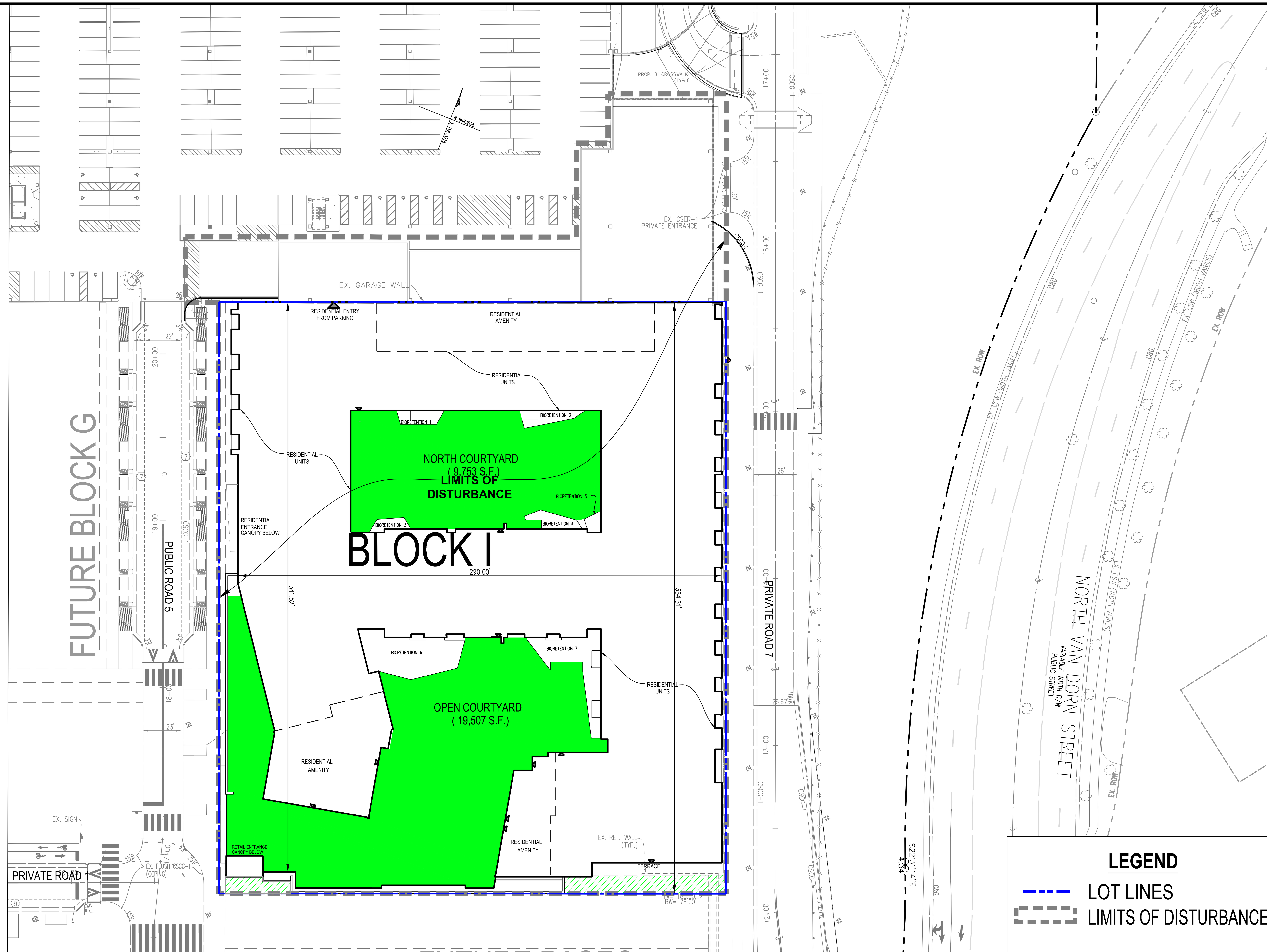

LEGEND

- LOT LINES
- LIMITS OF DISTURBANCE

OPEN SPACE CALCULATION:

BLOCK I SITE AREA: 107,844 SF OR 2.48 AC.

OPEN SPACE REQUIRED: 26,968 SF OR 0.62 AC. (25% OF DEVELOPMENT AREA)

OPEN SPACE PROVIDED:

- AT-GRADE OPEN SPACE: 1,364 SF OR 0.03 AC.
- ABOVE-GRADE OPEN SPACE: 29,260 SF OR 0.67 AC.

TOTAL OPEN SPACE PROVIDED: 30,624 SF OR 0.70 AC. (28.39%)

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SPECIAL USE PERMIT NO. ________

DEPARTMENT OF PLANNING & ZONING

________ DIRECTOR ________ DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES

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________ CHAIRMAN, PLANNING COMMISSION ________ DATE

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OPEN SPACE PLAN

WEST END

PRELIMINARY SITE PLAN - BLOCK I

CITY OF ALEXANDRIA, VIRGINIA

DATE: JUNE 24, 2022

C.I.= N/A

SCALE: 1"=30'

SHEET
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OF
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FILE No.
DSUP-13079

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LANDMARK MASTER OPEN SPACE CALCULATIONS

DSUP	Block	Lot Area SF	Lot Area AC	Publicly Accessible	Onsite At Grade	Onsite Above Grade	Onsite Transferred Block Open Space (1)	Onsite Mandatory Open Space Blocks	Onsite Transferred Mandatory Open Space	Onsite Remaining Mandatory Open Space (AC.)	Onsite Total	Onsite Percent OS/Block	Sitewide Open Space SF	Sitewide Open Space AC	Notes
								0 SF	0 SF	0 SF					
CDSP 2022-00011	Hospital Campus (A,B,C)	416,577 SF	9.56 AC	No	62,500 SF	10,000 SF	0 SF	0 SF			72,500 SF	15.00%	72,500 SF	1.66 AC	
									0 SF	-					
	Block D	60,360 SF	1.39 AC	No					0 SF	-	0 SF			0.00 AC	
CDSP 2021-00013	Block E	108,575 SF	2.49 AC	No	3,230 SF	24,014 SF	0 SF		0 SF	-	27,244 SF	25.09%		0.00 AC	
	Block F	22,739 SF	0.52 AC	Yes	0 SF	0 SF	0 SF	22,739 SF	0 SF	0.52	22,739 SF	0	22,739 SF	0.52 AC	
CDSP 2021-00013	Block G	62,083 SF	1.43 AC	No	11,012 SF	1,476 SF	0 SF		3,032 SF	-	15,520 SF	25.00%		0.00 AC	3,032 SF Transfer from Block P
	Block H	89,320 SF	2.05 AC	No				-	0 SF	-	0 SF			0.00 AC	
CDSP 2021-00014	Block I	107,845 SF	2.48 AC	No	1,364 SF	29,260 SF	0 SF	-	0 SF	-	30,624 SF	28.40%	30,624 SF	0.70 AC	
	Block J	80,597 SF	1.85 AC	No				-	0 SF	-	0 SF			0.00 AC	
CDSP 2021-00015	Block K	98,964 SF	2.27 AC	No	11,133 SF	19,004 SF	0 SF	-	0 SF	-	30,137 SF	30.45%	30,137 SF	0.69 AC	
	Block L	133,629 SF	3.07 AC	No				-	0 SF	-	0 SF			0.00 AC	
	Block M	120,815 SF	2.77 AC	No				-	0 SF	-	0 SF			0.00 AC	
	Block N	17,699 SF	0.41 AC	Yes	0 SF	0 SF	0 SF	17,699 SF	0 SF	0.28	17,699 SF	100.00%	12,379 SF	0.28 AC	
	Block P	114,050 SF	2.62 AC	Yes	0 SF	0 SF	0 SF	114,050 SF	-3,032 SF	2.55	111,018 SF	97.34%	111,018 SF	2.55 AC	3,032 SF Transfer to Block G
	Block Q	14,581 SF	0.33 AC	Yes	0 SF	0 SF	0 SF	14,581 SF	0 SF	0.33	14,581 SF	100.00%	14,581 SF	0.33 AC	
	Block R	10,179 SF	0.23 AC	Yes	0 SF	0 SF	0 SF	10,179 SF	0 SF	0.23	10,179 SF	100.00%	10,179 SF	0.23 AC	
	Road 7 Bridge		0.00 AC	No	0 SF	0 SF	0 SF	-	0 SF	-	0 SF	0	0 SF	0.00 AC	
									TOTAL	3.92			304,157 SF	6.98 AC	

1. See sheet L002 for Block Parks Public and Private open space locations.
2. See "Notes" column for explanation of where open space was transferred from or to.
3. Per condition 69 of CDD 2020-00007, if development Blocks D, E, G, H, I, J, K, L and M cannot meet their individual open space requirements, then the unmet portion may be accommodated as publicly accessible ground-level open space on adjacent blocks within the CDD Plan Area. Area in excess of the required 3.5 acres of publicly accessible open spaces provided on Blocks F, N, P, Q, and R may contribute towards the unmet portions of development blocks outside the Hospital Campus, as determined through the DSUP process.
4. Mandatory OS AC. cannot fall below 3.5 Acres.

LEGEND

- LOT LINES
- LIMITS OF DISTURBANCE
- OPEN SPACE PROVIDED FOR RESPECTIVE BLOCKS
- PUBLICLY ACCESSIBLE OPEN SPACE

HENRY G. SHIRLEY MEMORIAL HIGHWAY
INTERSTATE 395
VARIABLE WIDTH R.O.W.
PUBLIC STREET

VA STATE GRID NORTH

TERRACE PARK

BLOCK A/B
BLOCK C
BLOCK D
BLOCK E
BLOCK F
BLOCK G
BLOCK H
BLOCK I
BLOCK J
BLOCK K
BLOCK L
BLOCK M
BLOCK N
BLOCK Q

PUBLIC ROAD (R.O.W)
PRIVATE ROAD
PRIVATE ROAD
PUBLIC ROAD (R.O.W)
PRIVATE ROAD
PUBLIC ROAD (R.O.W)
PASEO

NORTH VAN DORN STREET
VARIABLE WIDTH R.O.W.
PUBLIC STREET

SOUTH WALKER STREET

DUKE STREET
SOUTHERN PORTION
VARIABLE WIDTH R.O.W.
PUBLIC STREET

TM #048.01-04-00
TM #048.01-01-31
TM #048.01-01-32
TM #048.01-01-02
TM #047.04-06-20
TM #047.04-06-05
TM #047.04-06-071
TM #047.01-04-19

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DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. _____
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_____ CHAIRMAN, PLANNING COMMISSION _____ DATE
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REGISTERED PROFESSIONAL ENGINEER
06/24/2022

MASTER OPEN SPACE PLAN
WEST END
PRELIMINARY SITE PLAN - BLOCK I
CITY OF ALEXANDRIA, VIRGINIA

DATE: JUNE 24, 2022
SCALE: 1"=100'
C.I.= N/A

SHEET 13 OF 75

FILE No.
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STUDY POINT "1"

STUDY POINT "2"

UNDETAINED TO STUDY POINT 1
DA = 8.24 ACRES

UNDETAINED TO STUDY POINT 1
DA = 27.34 ACRES

UNDETAINED TO STUDY POINT 2
DA = 20.03 ACRES

UNDETAINED TO STUDY POINT 2
DA = 11.21 ACRES

T.M #047.02-03-11
LOT 602
1,789,430 S.F.
41.0796 ACRES
ZONE: CDD

T.M #047.02-03-10
LOT 601
452,443 S.F.
10.3867 ACRES
ZONE: CDD

HENRY G. SHIRLEY MEMORIAL HIGHWAY

LANDMARK MALL

DUKE STREET

SOUTH WALKER STREET

NORTH VAN DORN STREET

HOLMES RUN PARKWAY

SCALE: 1"=100'
0' 50' 100' 200'

APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

No.	DATE	DESCRIPTION
		REVISIONS

PLAN DATE
06-24-2022

Urban Ltd.
4200 D TECHNOLOGY CT.
CHANTILLY, VA. 20151
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www.urban-ltd.com
Planners•Engineers•Landscape Architects•Land Surveyors

COMMONWEALTH OF VIRGINIA
CLAYTON C. TOCK
Lic. No. 036700
PROFESSIONAL ENGINEER
06/24/2022

SWM PRE DEVELOPMENT PLAN
WEST END
PRELIMINARY SITE PLAN - BLOCK I
CITY OF ALEXANDRIA, VIRGINIA
DATE: JUNE 24, 2022
SCALE: 1"=100' C.I.= 2'

SHEET 14 OF 75 064 OF 146

FILE No.
DSUP-13079

Urban, Ltd. - J:\JOBS\landmarkmall\DSUP\Block-I\completeness\13079-08-PRE SWM PLAN.dwg [SWM PRE] June 24, 2022 - 11:09am zbates

STUDY POINT "1"

T.M #047.02-03-10
LOT 601
452,443 S.F.

T.M #047.02-03-11
LOT 602
1,789,430 S.F.
41.0796 ACRES
ZONE: CDD

BLOCK I

VAULT 4

VAULT 3

VAULT 2

STUDY POINT "2"

HENRY G. SHIRLEY MEMORIAL HIGHWAY

DUKE STREET

SOUTH WALKER STREET

STUDY POINT "1":
ONSITE DA TO VAULT 4
DA = 8.06 AC
CN= 98
TC = 10 MINS

STUDY POINT "1":
BLOK G DA TO VAULT 2
DA = 1.30 AC
CN= 95
TC = 10 MINS

STUDY POINT "1":
BLOCK I DA TO VAULT 2
DA = 2.57 AC
CN= 95
TC = 10 MINS

OFFSITE UNDETAINED
DRAINAGE AREA
TO STUDY POINT "1"
DA = 6.45 AC
CN= 95
TC = 15 MINS

STUDY POINT "1":
BLOCK E DA TO VAULT 2
DA = 2.30 AC
CN= 95
TC = 10 MINS

STUDY POINT "1":
PORTION OF INOVA DA TO VAULT 2
DA = 3.51 AC
CN= 95
TC = 10 MINS

STUDY POINT "1":
BLOCK H DA TO VAULT 2
DA = 1.61 AC
CN= 95
TC = 10 MINS

STUDY POINT "1":
PARKS, ROADS, S/W, ETC.
DA TO VAULT 2
DA = 3.65 AC
CN= 95
TC = 10 MINS

STUDY POINT "1":
BLOCK K DA TO VAULT 2
DA = 2.53 AC
CN= 95
TC = 10 MINS

STUDY POINT "2":
ONSITE DA TO VAULT 3
DA = 20.73 AC
CN= 95
TC = 10 MINS

OFFSITE UNDETAINED
DRAINAGE AREA
TO STUDY POINT "2"
DA = 11.21AC
CN= 95
TC = 10 MINS

T.M #047.02-03-10
LOT 601
452,443 S.F.
10.3867 ACRES
ZONE: CDD

T.M #047.02-03-11
LOT 602
1,789,430 S.F.
41.0796 ACRES
ZONE: CDD

SCALE: 1"=100'
0 50' 100' 200'

NOTE:
*ALL STORMWATER BMP FACILITIES SHOWN ON THE PLANS ARE FOR ILLUSTRATIVE PURPOSES ONLY.
**DISCHARGE FROM GARAGE SUMP PUMPS MUST BYPASS BMPS AND DETENTION STRUCTURES.

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CHAIRMAN, PLANNING COMMISSION DATE
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COMMONWEALTH OF VIRGINIA
CLAYTON C. TOCK
Lic. No. 038780
PROFESSIONAL ENGINEER
Oct 24 2022

SWM POST DEVELOPMENT PLAN
WEST END
PRELIMINARY SITE PLAN - BLOCK I
CITY OF ALEXANDRIA, VIRGINIA
DATE: JUNE 24, 2022
SCALE: 1"=100' C.I.= 2'

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OF
75

FILE No.
DSUP-13079

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SWM PRE - Study Point "1"

SWM PRE OFFSITE Undetained Runoff Calculations

Curve Number Calculations

Area (ac)	CN	Description
4.880	98	Paved parking, HSG D
3.360	80	>75% Grass cover, Good, HSG D
8.240	91	Weighted Average
3.360		40.78% Pervious Area
4.880		59.22% Impervious Area

Time of Concentration Calculations

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					Direct Entry,

1 Year Flow Calculations

Runoff = 16.03 cfs@ 12.15 hrs, Volume= 50,067 cf, Depth>1.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 1-yr Rainfall=2.70"

2 Year Flow Calculations

Runoff = 20.03 cfs@ 12.15 hrs, Volume= 63,254 cf, Depth>2.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 2-yr Rainfall=3.20"

10 Year Flow Calculations

Runoff = 32.58 cfs@ 12.15 hrs, Volume= 117,174 cf, Depth>3.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 10-yr Rainfall=5.20"

SWM PRE Onsite UNDETAINED Runoff Calculations

Curve Number Calculations

Area (ac)	CN	Description
11.210	98	Paved parking, HSG D
16.130	80	>75% Grass cover, Good, HSG D
27.340	87	Weighted Average
16.130		59.00% Pervious Area
11.210		41.00% Impervious Area

Time of Concentration Calculations

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

1 Year Flow Calculations

Runoff = 52.17 cfs@ 12.09 hrs, Volume= 136,159 cf, Depth>1.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 1-yr Rainfall=2.70"

2 Year Flow Calculations

Runoff = 67.33 cfs@ 12.09 hrs, Volume= 176,935 cf, Depth>1.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 2-yr Rainfall=3.20"

10 Year Flow Calculations

Runoff = 116.25 cfs@ 12.09 hrs, Volume= 348,346 cf, Depth>3.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 10-yr Rainfall=5.20"

STUDY POINT 1 SWM PRE FLOWS

1 Year Flow Calculations

Inflow Area = 1,549,865 sf, 45.22% Impervious, Inflow Depth >1.44" for 1-yr event
Inflow = 66.27 cfs @ 12.10 hrs, Volume= 186,226 cf
Primary = 66.27 cfs @ 12.10 hrs, Volume= 186,226 cf , Atten= 0%Lag= 0.0 min
Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs

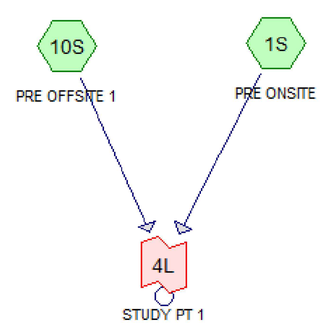
2 Year Flow Calculations

Inflow Area = 1,549,865 sf, 45.22% Impervious, Inflow Depth >1.86" for 2-yr event
Inflow = 84.95 cfs @ 12.10 hrs, Volume= 240,188 cf
Primary = 84.95 cfs @ 12.10 hrs, Volume= 240,188 cf , Atten= 0%Lag= 0.0 min
Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs

10 Year Flow Calculations

Inflow Area = 1,549,865 sf, 45.22% Impervious , Inflow Depth > 3.60" for 10-yr event
Inflow = 145.10 cfs @ 12.10 hrs, Volume= 465,520 cf
Primary = 145.10 cfs @ 12.10 hrs, Volume= 465,520 cf , Atten= 0%Lag= 0.0 min
Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs

PRE-DEVELOPMENT HYDROCAD MODEL - Study Point "1"



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DEPARTMENT OF PLANNING & ZONING
_____ DIRECTOR _____ DATE
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SITE PLAN NO. _____
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_____ CHAIRMAN, PLANNING COMMISSION _____ DATE
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REVISIONS

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PLAN DATE 06-24-2022

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COMMONWEALTH OF VIRGINIA
CLAYTON C. TOCK
Lic. No. 038790
ENGINEER
PROFESSIONAL
06/24/2022

SWM COMPS & NARRATIVE
WEST END
PRELIMINARY SITE PLAN - BLOCK I
CITY OF ALEXANDRIA, VIRGINIA
DATE: JUNE 24, 2022
SCALE: N/A
C1.= N/A

SHEET 16 OF 75

FILE No. DSUP-13079

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SWM POST - Study Point "1"

SWM POST OFFSITE Undetained Runoff Calculations

Curve Number Calculations

Area (ac)	CN	Description
6.449	95	Urban commercial, 85% imp, HSG D
0.967		15.00% Pervious Area
5.482		85.00% Impervious Area

Time of Concentration Calculations

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					**Direct Entry,**

1 Year Flow Calculations

Runoff = 14.72 cfs@ 12.15 hrs, Volume= 47,538 cf, Depth> 2.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 1-yr Rainfall=2.70"

2 Year Flow Calculations

Runoff = 17.82 cfs@ 12.15 hrs, Volume= 58,407 cf, Depth> 2.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 2-yr Rainfall=3.20"

10 Year Flow Calculations

Runoff = 27.18 cfs@ 12.15 hrs, Volume= 101,915 cf, Depth> 4.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 10-yr Rainfall=5.20"

SWM POST ONSITE Block I DETAINED (VAULT #2) Runoff Calculations

Curve Number Calculations

Area (ac)	CN	Description
2.570	95	Urban commercial, 85% imp, HSG D
0.386		15.00% Pervious Area
2.184		85.00% Impervious Area

Time of Concentration Calculations

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

1 Year Flow Calculations

Runoff = 6.98 cfs@ 12.08 hrs, Volume= 18,970 cf, Depth> 2.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 1-yr Rainfall=2.70"

2 Year Flow Calculations

Runoff = 8.43 cfs@ 12.08 hrs, Volume= 23,306 cf, Depth> 2.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 2-yr Rainfall=3.20"

10 Year Flow Calculations

Runoff = 12.70 cfs@ 12.08 hrs, Volume= 40,668 cf, Depth> 4.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 10-yr Rainfall=5.20"

SWM POST ONSITE Block G DETAINED (VAULT #2) Runoff Calculations

Curve Number Calculations

Area (ac)	CN	Description
1.295	95	Urban commercial, 85% imp, HSG D
0.194		15.00% Pervious Area
1.101		85.00% Impervious Area

Time of Concentration Calculations

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

1 Year Flow Calculations

Runoff = 3.52 cfs@ 12.08 hrs, Volume= 9,559 cf, Depth> 2.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 1-yr Rainfall=2.70"

2 Year Flow Calculations

Runoff = 4.25 cfs@ 12.08 hrs, Volume= 11,744 cf, Depth> 2.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 2-yr Rainfall=3.20"

10 Year Flow Calculations

Runoff = 6.40 cfs@ 12.08 hrs, Volume= 20,492 cf, Depth> 4.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 10-yr Rainfall=5.20"

SWM POST ONSITE Block E DETAINED (VAULT #2) Runoff Calculations

Curve Number Calculations

Area (ac)	CN	Description
2.300	95	Urban commercial, 85% imp, HSG D
0.345		15.00% Pervious Area
1.955		85.00% Impervious Area

Time of Concentration Calculations

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

1 Year Flow Calculations

Runoff = 6.25 cfs@ 12.08 hrs, Volume= 16,977 cf, Depth> 2.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 1-yr Rainfall=2.70"

2 Year Flow Calculations

Runoff = 7.54 cfs@ 12.08 hrs, Volume= 20,858 cf, Depth> 2.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 2-yr Rainfall=3.20"

10 Year Flow Calculations

Runoff = 11.36 cfs@ 12.08 hrs, Volume= 36,395 cf, Depth> 4.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 10-yr Rainfall=5.20"

SWM POST ONSITE PORTION OF INOVA DETAINED (VAULT #2) Runoff Calculations

Curve Number Calculations

Area (ac)	CN	Description
3.510	95	Urban commercial, 85% imp, HSG D
0.527		15.00% Pervious Area
2.983		85.00% Impervious Area

Time of Concentration Calculations

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

1 Year Flow Calculations

Runoff = 9.53 cfs @ 12.08 hrs, Volume= 25,909 cf, Depth> 2.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 1-yr Rainfall=2.70"

2 Year Flow Calculations

Runoff = 11.51 cfs @ 12.08 hrs, Volume= 31,831 cf, Depth> 2.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 2-yr Rainfall=3.20"

10 Year Flow Calculations

Runoff = 17.34 cfs @ 12.08 hrs, Volume= 55,542 cf, Depth> 4.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 10-yr Rainfall=5.20"

SWM POST ONSITE Block H DETAINED (VAULT #2) Runoff Calculations

Curve Number Calculations

Area (ac)	CN	Description
1.610	95	Urban commercial, 85% imp, HSG D
0.242		15.00% Pervious Area
1.368		85.00% Impervious Area

Time of Concentration Calculations

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

1 Year Flow Calculations

Runoff = 4.37 cfs@ 12.08 hrs, Volume= 11,884 cf, Depth> 2.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 1-yr Rainfall=2.70"

2 Year Flow Calculations

Runoff = 5.28 cfs@ 12.08 hrs, Volume= 14,600 cf, Depth> 2.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 2-yr Rainfall=3.20"

10 Year Flow Calculations

Runoff = 7.95 cfs@ 12.08 hrs, Volume= 25,477 cf, Depth> 4.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 10-yr Rainfall=5.20"

SWM POST ONSITE Block K DETAINED (VAULT #2) Runoff Calculations

Curve Number Calculations

Area (ac)	CN	Description
2.530	95	Urban commercial, 85% imp, HSG D
0.380		15.00% Pervious Area
2.151		85.00% Impervious Area

Time of Concentration Calculations

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

1 Year Flow Calculations

Runoff = 6.87 cfs@ 12.08 hrs, Volume= 18,675 cf, Depth> 2.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 1-yr Rainfall=2.70"

2 Year Flow Calculations

Runoff = 8.30 cfs@ 12.08 hrs, Volume= 22,943 cf, Depth> 2.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 2-yr Rainfall=3.20"

10 Year Flow Calculations

Runoff = 12.50 cfs@ 12.08 hrs, Volume= 40,035 cf, Depth> 4.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 10-yr Rainfall=5.20"

SWM POST ONSITE Parks, Roads, S/W ,etc. DETAINED (VAULT #2) Runoff Calculations

Curve Number Calculations

Area (ac)	CN	Description
3.645	95	Urban commercial, 85% imp, HSG D
0.547		15.00% Pervious Area
3.098		85.00% Impervious Area

Time of Concentration Calculations

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

1 Year Flow Calculations

Runoff = 9.90 cfs@ 12.08 hrs, Volume= 26,905 cf, Depth> 2.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 1-yr Rainfall=2.70"

2 Year Flow Calculations

Runoff = 11.96 cfs@ 12.08 hrs, Volume= 33,055 cf, Depth> 2.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 2-yr Rainfall=3.20"

10 Year Flow Calculations

Runoff = 18.01 cfs@ 12.08 hrs, Volume= 57,678 cf, Depth> 4.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 10-yr Rainfall=5.20"

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DEPARTMENT OF PLANNING & ZONING

_____ DIRECTOR _____ DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. _____

_____ DIRECTOR _____ DATE

_____ CHAIRMAN, PLANNING COMMISSION _____ DATE

DATE RECORDED _____

_____ INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO.

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COMMONWEALTH OF VIRGINIA
CLAYTON C. TOCI
Lic. No. 036790
PROFESSIONAL ENGINEER
06/24/2022

SWM COMPS & NARRATIVE

WEST END
PRELIMINARY SITE PLAN - BLOCK I

CITY OF ALEXANDRIA, VIRGINIA

DATE: JUNE 24, 2022
C.I.= N/A
SCALE: N/A

SHEET
17
OF
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FILE No.
DSUP-13079

Urban, Ltd. – J:\JOBS\landmarkmall\DSUP\Block-I\completeness\13079-10-SWM COMPS & NARRATIVE.dwg [POST-DEV] June 24, 2022 – 11:09am zbates

SWM POST - Study Point "1"

POST-DEVELOPMENT HYDROCAD MODEL - Study Point "1"

SWM POST ONSITE Ex. Garage DETAINED (VAULT #4) Runoff Calculations

Curve Number Calculations

Area (ac)	CN	Description
8.060	98	Paved parking, HSG D
8.060		100.00% Impervious Area

Time of Concentration Calculations

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

1 Year Flow Calculations

Runoff = 23.76 cfs @ 12.08 hrs, Volume= 68,545 cf, Depth> 2.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 1-yr Rainfall=2.70"

2 Year Flow Calculations

Runoff = 28.16 cfs @ 12.08 hrs, Volume= 82,450 cf, Depth> 2.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 2-yr Rainfall=3.20"

10 Year Flow Calculations

Runoff = 40.96 cfs @ 12.08 hrs, Volume= 137,581 cf, Depth> 4.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 10-yr Rainfall=5.20"

STUDY POINT 1 SWM POST FLOWS

1 Year Flow Calculations

Inflow Area = 1,392,570 sf, 88.78% Impervious, Inflow Depth >2.09" for 1-yr event
Inflow = 39.40 cfs @ 12.18 hrs, Volume= 242,361 cf
Primary = 39.40 cfs @ 12.18 hrs, Volume= 242,361 cf, Atten= 0%, Lag= 0.0 min
Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs

2 Year Flow Calculations

Inflow Area = 1,392,570 sf, 88.78% Impervious, Inflow Depth >2.55" for 2-yr event
Inflow = 52.77 cfs @ 12.21 hrs, Volume= 296,122 cf
Primary = 52.77 cfs @ 12.21 hrs, Volume= 296,122 cf, Atten= 0%, Lag= 0.0 min
Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs

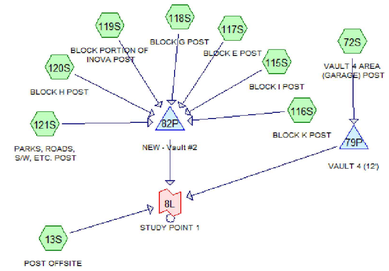
10 Year Flow Calculations

Inflow Area = 1,392,570 sf, 88.78% Impervious, Inflow Depth >4.39" for 10-yr event
Inflow = 118.46 cfs @ 12.15 hrs, Volume= 509,764 cf
Primary = 118.46 cfs @ 12.15 hrs, Volume= 509,764 cf Atten= 0%, Lag= 0.0 min
Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs

ENERGY BALANCE METHOD TO STUDY POINT "1"

$Q_{(Developed)}$=	39.40	cfs
$Q_{(Pre\text{-}Developed)}$=	66.27	cfs
$RV_{(Pre\text{-}Developed)}$=	4.28	ac-ft
$RV_{(Developed)}$=	5.56	ac-ft
I.F. =	0.8	(0.8 for sites greater than one acre) (0.9 for sites less than or equal to one acre)

Q Developed		I.F x ($Q_{Pre\text{-}Developed}$ x $RV_{Pre\text{-}Developed}$)/$RV_{Developed}$
39.40	≤	40.81



VAULT #2

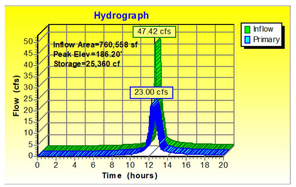
1 YEAR EVENT SUMMARY

Inflow Area = 760,558 sf 85.00% Impervious, Inflow Depth >2.03" for 1-yr event
Inflow = 47.42 cfs @ 12.08 hrs, Volume= 128,878 cf
Outflow = 23.00 cfs @ 12.27 hrs, Volume= 127,952 cf, Atten= 52%, Lag= 11.1 min
Primary = 23.00 cfs @ 12.27 hrs, Volume= 127,952 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Peak Elev= 186.20' @ 12.27 hrs Surf.Area= 4,200 sf Storage= 25,360 cf

Plug-Flow detention time= 15.8 min calculated for 127,888 cf (99% of inflow)
Center-of-Mass det. time= 12.7 min (769.2 - 756.5)

Primary OutFlow Max=23.00 cfs @ 12.27 hrs HW=186.20' (Free Discharge)
└1=Culvert (Passes 23.00 cfs of 222.28 cfs potential flow)
  └2=Orifice/Grate (Orifice Controls 23.00 cfs @ 11.50 fps)
  └3=Orifice/Grate (Controls 0.00 cfs)
  └4=Orifice/Grate (Controls 0.00 cfs)



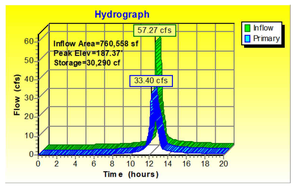
2 YEAR EVENT SUMMARY

Inflow Area = 760,558 sf, 85.00% Impervious, Inflow Depth >2.50" for 2-yr event
Inflow = 57.27 cfs @ 12.08 hrs, Volume= 158,337 cf
Outflow = 33.40 cfs @ 12.23 hrs, Volume= 157,324 cf, Atten= 42%, Lag= 8.6 min
Primary = 33.40 cfs @ 12.23 hrs, Volume= 157,324 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Peak Elev= 187.37' @ 12.23 hrs Surf.Area= 4,200 sf Storage= 30,290 cf

Plug-Flow detention time= 15.5 min calculated for 157,324 cf (99% of inflow)
Center-of-Mass det. time= 12.7 min (764.5 - 751.8)

Primary OutFlow Max=33.38 cfs @ 12.23 hrs HW=187.37' (Free Discharge)
└1=Culvert (Passes 33.38 cfs of 256.50 cfs potential flow)
  └2=Orifice/Grate (Orifice Controls 25.25 cfs @ 12.63 fps)
  └3=Orifice/Grate (Orifice Controls 8.13 cfs @ 3.47 fps)
  └4=Orifice/Grate (Orifice Controls 0.00 cfs @ 0.09 fps)



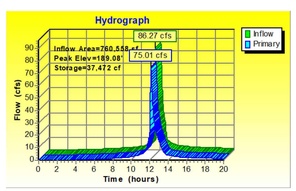
10 YEAR EVENT SUMMARY

Inflow Area = 760,558 sf, 85.00% Impervious, Inflow Depth >4.36" for 10-yr event
Inflow = 86.27 cfs @ 12.08 hrs Volume= 276,287 cf
Outflow = 75.01 cfs @ 12.14 hrs Volume= 274,936 cf, Atten= 13%, Lag= 3.5 min
Primary = 75.01 cfs @ 12.14 hrs Volume= 274,936 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Peak Elev= 189.08' @ 12.14 hrs Surf.Area= 4,200 sf Storage= 37,472 cf

Plug-Flow detention time= 12.9 min calculated for 274,798 cf (99% of inflow)
Center-of-Mass det. time= 10.7 min (749.4 - 738.7)

Primary OutFlow Max=74.94 cfs @ 12.14 hrs HW=189.08' (Free Discharge)
└1=Culvert (Passes 74.94 cfs of 299.43 cfs potential flow)
  └2=Orifice/Grate (Orifice Controls 28.22 cfs @ 14.11 fps)
  └3=Orifice/Grate (Orifice Controls 18.02 cfs @ 7.21 fps)
  └4=Orifice/Grate (Orifice Controls 28.71 cfs @ 4.20 fps)



VAULT #4

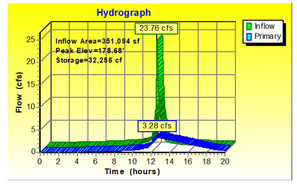
1 YEAR EVENT SUMMARY

Inflow Area = 351,094 sf ,100.00% Impervious, Inflow Depth >2.34" for 1-yr event
Inflow = 23.76 cfs @ 12.08 hrs, Volume= 68,545 cf
Outflow = 3.28 cfs @ 12.67 hrs, Volume= 66,871 cf, Atten= 86%, Lag= 35.2 min
Primary = 3.28 cfs @ 12.67 hrs, Volume= 66,871 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Peak Elev= 178.68' @ 12.67 hrs Surf.Area= 4,200 sf Storage= 32,256 cf

Plug-Flow detention time= 112.5 min calculated for 66,871 cf (98% of inflow)
Center-of-Mass det. time= 101.9 min (834.7 - 732.9)

Primary OutFlow Max=3.28 cfs @ 12.67 hrs HW=178.68' (Free Discharge)
└1=Culvert (Passes 3.28 cfs of 99.40 cfs potential flow)
  └2=Orifice/Grate (Orifice Controls 3.28 cfs @ 13.12 fps)
  └3=Orifice/Grate (Orifice Controls 0.00 cfs @ 0.03 fps)
  └4=Orifice/Grate (Controls 0.00 cfs)



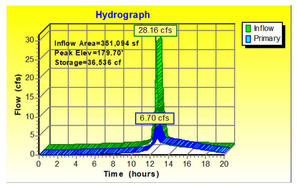
2 YEAR EVENT SUMMARY

Inflow Area = 351,094 sf ,100.00% Impervious, Inflow Depth >2.82" for 2-yr event
Inflow = 28.16 cfs @ 12.08 hrs, Volume= 82,450 cf
Outflow = 6.70 cfs @ 12.56 hrs, Volume= 80,392 cf, Atten= 76%, Lag= 28.4 min
Primary = 6.70 cfs @ 12.56 hrs, Volume= 80,392 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Peak Elev= 179.70' @ 12.56 hrs Surf.Area= 4,200 sf Storage= 36,536 cf

Plug-Flow detention time= 108.4 min calculated for 80,392 cf (98% of inflow)
Center-of-Mass det. time= 97.5 min (827.0 - 729.5)

Primary OutFlow Max=6.70 cfs @ 12.56 hrs HW=179.70' (Free Discharge)
└1=Culvert (Passes 6.70 cfs of 109.02 cfs potential flow)
  └2=Orifice/Grate (Orifice Controls 3.50 cfs @ 14.00 fps)
  └3=Orifice/Grate (Orifice Controls 3.20 cfs @ 3.49 fps)
  └4=Orifice/Grate (Controls 0.00 cfs)



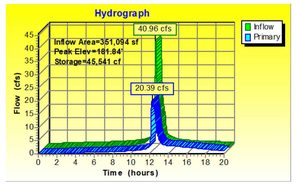
10 YEAR EVENT SUMMARY

Inflow Area = 351,094 sf ,100.00% Impervious, Inflow Depth >4.70" for 10-yr event
Inflow = 40.96 cfs @ 12.08 hrs, Volume= 137,581 cf
Outflow = 20.39 cfs @ 12.28 hrs, Volume= 132,914 cf, Atten= 50%, Lag= 11.6 min
Primary = 20.39 cfs @ 12.28 hrs, Volume= 132,914 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Peak Elev= 181.84' @ 12.28 hrs Surf.Area= 4,200 sf Storage= 45,541 cf

Plug-Flow detention time= 88.5 min calculated for 132,914 cf (97% of inflow)
Center-of-Mass det. time= 73.7 min (792.9 - 719.2)

Primary OutFlow Max=20.39 cfs @ 12.28 hrs HW=181.84' (Free Discharge)
└1=Culvert (Passes 20.39 cfs of 126.90 cfs potential flow)
  └2=Orifice/Grate (Orifice Controls 3.92 cfs @ 15.67 fps)
  └3=Orifice/Grate (Orifice Controls 7.25 cfs @ 7.91 fps)
  └4=Orifice/Grate (Orifice Controls 9.22 cfs @ 6.15 fps)



APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING
DIRECTOR _____ DATE _____
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. _____
DIRECTOR _____ DATE _____
CHAIRMAN, PLANNING COMMISSION _____ DATE _____
DATE RECORDED _____
INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____

REVISIONS

No.	DATE	DESCRIPTION

PLAN DATE 06-24-2022

Urban, Ltd.
4200 D TECHNOLOGY CT.
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COMMONWEALTH OF VIRGINIA
CLAYTON C. POCK
Lic. No. 036790
PROFESSIONAL ENGINEER
06/24/2022

SWM COMPS & NARRATIVE
WEST END
PRELIMINARY SITE PLAN - BLOCK I
CITY OF ALEXANDRIA, VIRGINIA
DATE: JUNE 24, 2022
SCALE: N/A C.I.= N/A

SHEET 18 OF 75

FILE No. DSUP-13079

Urban, Ltd. - J:_JOBS\[yandmarkmall\DSUP\Block-I\completeness\]13079-10-SWM COMPS & NARRATIVE.dwg [POST-DEV (2)] June 24, 2022 - 11:09am zbates

OFFSITE UNDETAINED DRAINAGE AREA TO OUTFALL POINT "1" DA = 0.86 AC CN= 86 TC = 15 MINS

OUTFALL POINT #1

STUDY POINT "1"

TIME OF CONCENTRATION TRAVEL PATH

HENRY G. SHIRLEY MEMORIAL HIGHWAY

OUTFALL POINT #2

FEMA ZONE FLOODPLAIN BOUNDARY

STUDY POINT "1": ONSITE DA TO VAULT 4 DA = 8.06 AC CN= 98 TC = 10 MINS

OFFSITE UNDETAINED DRAINAGE AREA TO STUDY POINT "1" DA = 6.45AC CN= 95 TC = 15 MINS

BLOCK I

STUDY POINT "1": ONSITE DA TO VAULT 2 DA = 17.46 AC CN= 95 TC = 10 MINS

OFFSITE UNDETAINED DRAINAGE AREA TO OUTFALL POINT "2" DA = 5.36 AC CN= 92 TC = 10 MINS

TIME OF CONCENTRATION TRAVEL PATH

STUDY POINT "2"

STUDY POINT "2": ONSITE DA TO VAULT 3 DA = 20.73 AC CN= 95 TC = 10 MINS

OFFSITE UNDETAINED DRAINAGE AREA TO STUDY POINT "2" DA = 11.21AC CN= 95 TC = 10 MINS

SCALE: 1"=125'
0 62.5' 125' 250'

APPROVED

SPECIAL USE PERMIT NO. _____

DEPARTMENT OF PLANNING & ZONING

_____ DIRECTOR _____ DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES

SITE PLAN NO. _____

_____ DIRECTOR _____ DATE

_____ CHAIRMAN, PLANNING COMMISSION _____ DATE

DATE RECORDED _____

INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____

No.	DATE	DESCRIPTION
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PLAN DATE
06-24-2022

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06/24/2022

OUTFALL ANALYSIS
WEST END
PRELIMINARY SITE PLAN - BLOCK I
CITY OF ALEXANDRIA, VIRGINIA

SCALE: 1"= 125' C.I.= 2' DATE: JUNE 24, 2022

SHEET 19 OF 75

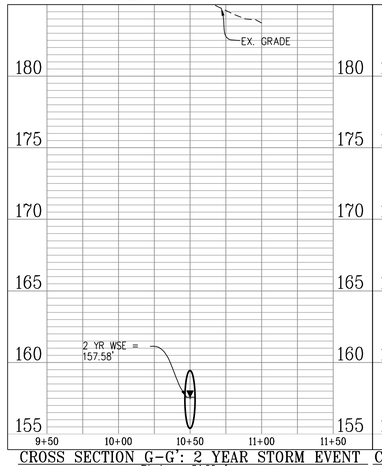
FILE No. DSUP-13079

Urban, Ltd. - J:\OBS\landmarkmall\DSUP\Block-I\completeness\13079-23-OUTFALL ANALYSIS.dwg [ANALYSIS] June 24, 2022 - 11:10am zbates

CROSS SECTION A-A': 2 YEAR STORM EVENT

Discharge: 44.83 cfs
Flow Area: 7.0 ft²
Wetted Perimeter: 6.6 ft
Hydraulic Radius: 12.6 in
Top Width: 3.98 ft
Normal Depth: 26.1 in
Critical Depth: 24.0 in
Critical Slope: 0.013 ft/ft
Velocity: 6.41 ft/s
Velocity Head: 0.64 ft
Specific Energy: 2.82 ft
Froude Number: 0.853
Maximum Discharge: 83.69 cfs
Discharge Full: 77.80 cfs
Slope Full: 0.003 ft/ft
Flow Type: Subcritical

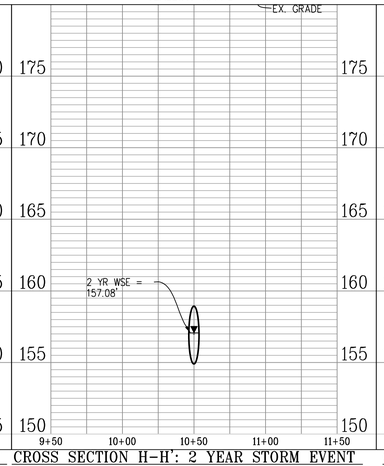
V2ALLOW=15 FPS



CROSS SECTION B-B': 2 YEAR STORM EVENT

Discharge: 44.83 cfs
Flow Area: 7.0 ft²
Wetted Perimeter: 6.6 ft
Hydraulic Radius: 12.6 in
Top Width: 3.98 ft
Normal Depth: 26.1 in
Critical Depth: 24.0 in
Critical Slope: 0.013 ft/ft
Velocity: 6.41 ft/s
Velocity Head: 0.64 ft
Specific Energy: 2.82 ft
Froude Number: 0.853
Maximum Discharge: 83.69 cfs
Discharge Full: 77.80 cfs
Slope Full: 0.003 ft/ft
Flow Type: Subcritical

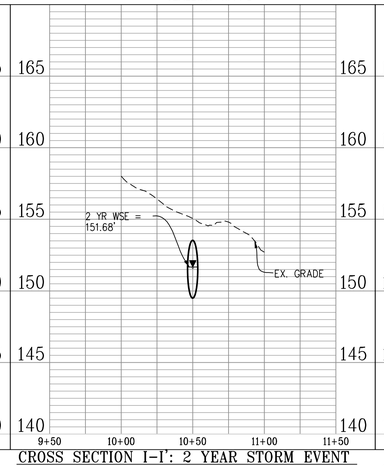
V2ALLOW=15 FPS



CROSS SECTION C-C': 2 YEAR STORM EVENT

Discharge: 44.83 cfs
Flow Area: 7.0 ft²
Wetted Perimeter: 6.6 ft
Hydraulic Radius: 12.6 in
Top Width: 3.98 ft
Normal Depth: 26.1 in
Critical Depth: 24.0 in
Critical Slope: 0.013 ft/ft
Velocity: 6.41 ft/s
Velocity Head: 0.64 ft
Specific Energy: 2.82 ft
Froude Number: 0.853
Maximum Discharge: 83.69 cfs
Discharge Full: 77.80 cfs
Slope Full: 0.003 ft/ft
Flow Type: Subcritical

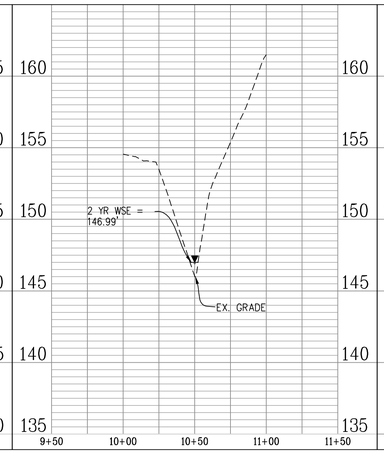
V2ALLOW=15 FPS



CROSS SECTION D-D': 2 YEAR STORM EVENT

Discharge: 52.77 cfs
Flow Area: 2.5 ft²
Wetted Perimeter: 5.5 ft
Hydraulic Radius: 5.5 in
Top Width: 5.07 ft
Normal Depth: 11.8 in
Critical Depth: 23.0 in
Critical Slope: 0.003 ft/ft
Velocity: 21.26 ft/s*
Velocity Head: 7.02 ft
Specific Energy: 8.00 ft
Froude Number: 5.355
Flow Type: Supercritical

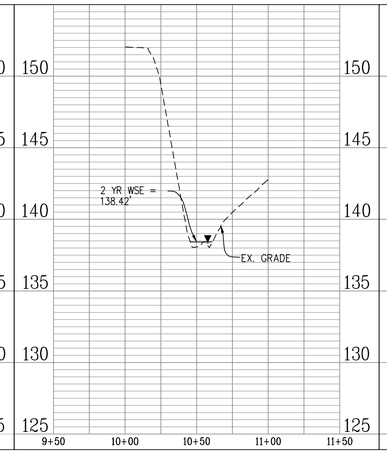
*MANMADE CHANNEL LINED WITH CONCRETE. PER TABLE 7-1 OF THE VDOT DRAINAGE MANUAL, THE MAXIMUM ALLOWABLE VELOCITY IS NOT APPLICABLE.



CROSS SECTION E-E': 2 YEAR STORM EVENT

Discharge: 52.77 cfs
Flow Area: 3.3 ft²
Wetted Perimeter: 14.5 ft
Hydraulic Radius: 2.7 in
Top Width: 14.30 ft
Normal Depth: 4.8 in
Critical Depth: 10.9 in
Critical Slope: 0.003 ft/ft
Velocity: 16.10 ft/s*
Velocity Head: 4.03 ft
Specific Energy: 4.42 ft
Froude Number: 5.927
Flow Type: Supercritical

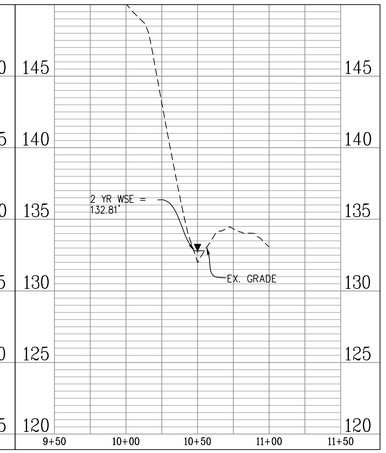
*MANMADE CHANNEL LINED WITH CONCRETE. PER TABLE 7-1 OF THE VDOT DRAINAGE MANUAL, THE MAXIMUM ALLOWABLE VELOCITY IS NOT APPLICABLE.



CROSS SECTION F-F': 2 YEAR STORM EVENT

Discharge: 52.77 cfs
Flow Area: 3.1 ft²
Wetted Perimeter: 7.9 ft
Hydraulic Radius: 4.8 in
Top Width: 7.71 ft
Normal Depth: 9.7 in
Critical Depth: 18.0 in
Critical Slope: 0.003 ft/ft
Velocity: 16.86 ft/s*
Velocity Head: 4.42 ft
Specific Energy: 5.23 ft
Froude Number: 4.665
Flow Type: Supercritical

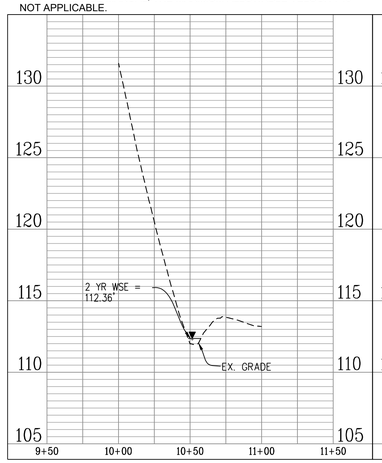
*MANMADE CHANNEL LINED WITH CONCRETE. PER TABLE 7-1 OF THE VDOT DRAINAGE MANUAL, THE MAXIMUM ALLOWABLE VELOCITY IS NOT APPLICABLE.



CROSS SECTION G-G': 2 YEAR STORM EVENT

Discharge: 54.39 cfs
Flow Area: 2.7 ft²
Wetted Perimeter: 8.8 ft
Hydraulic Radius: 3.7 in
Top Width: 8.69 ft
Normal Depth: 5.1 in
Critical Depth: 13.8 in
Critical Slope: 0.003 ft/ft
Velocity: 20.25 ft/s*
Velocity Head: 6.37 ft
Specific Energy: 6.80 ft
Froude Number: 6.421
Flow Type: Supercritical

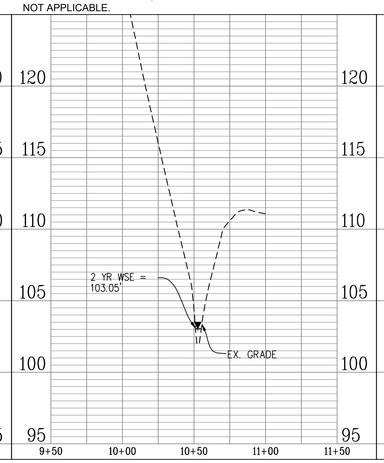
*MANMADE CHANNEL LINED WITH CONCRETE. PER TABLE 7-1 OF THE VDOT DRAINAGE MANUAL, THE MAXIMUM ALLOWABLE VELOCITY IS NOT APPLICABLE.



CROSS SECTION H-H': 2 YEAR STORM EVENT

Discharge: 54.39 cfs
Flow Area: 1.7 ft²
Wetted Perimeter: 3.9 ft
Hydraulic Radius: 5.3 in
Top Width: 3.16 ft
Normal Depth: 12.9 in
Critical Depth: 29.2 in
Critical Slope: 0.003 ft/ft
Velocity: 31.88 ft/s*
Velocity Head: 15.80 ft
Specific Energy: 16.88 ft
Froude Number: 7.653
Flow Type: Supercritical

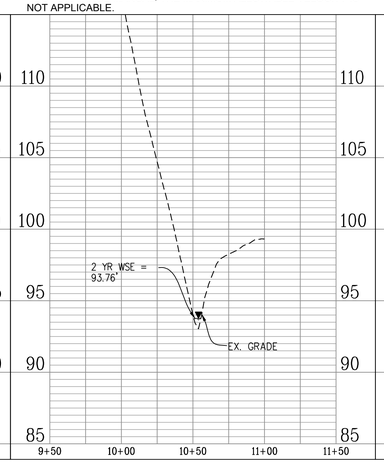
*MANMADE CHANNEL LINED WITH CONCRETE. PER TABLE 7-1 OF THE VDOT DRAINAGE MANUAL, THE MAXIMUM ALLOWABLE VELOCITY IS NOT APPLICABLE.



CROSS SECTION I-I': 2 YEAR STORM EVENT

Discharge: 54.39 cfs
Flow Area: 1.9 ft²
Wetted Perimeter: 5.0 ft
Hydraulic Radius: 4.7 in
Top Width: 4.69 ft
Normal Depth: 8.6 in
Critical Depth: 21.6 in
Critical Slope: 0.003 ft/ft
Velocity: 28.15 ft/s*
Velocity Head: 12.32 ft
Specific Energy: 13.03 ft
Froude Number: 7.737
Flow Type: Supercritical

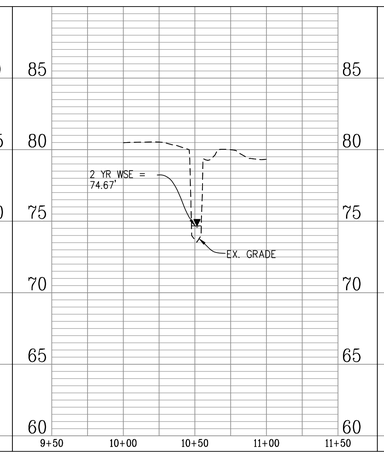
*MANMADE CHANNEL LINED WITH CONCRETE. PER TABLE 7-1 OF THE VDOT DRAINAGE MANUAL, THE MAXIMUM ALLOWABLE VELOCITY IS NOT APPLICABLE.



CROSS SECTION J-J': 2 YEAR STORM EVENT

Discharge: 60.84 cfs
Flow Area: 6.1 ft²
Wetted Perimeter: 8.1 ft
Hydraulic Radius: 9.0 in
Top Width: 7.00 ft
Normal Depth: 13.6 in
Critical Depth: 19.1 in
Critical Slope: 0.036 ft/ft
Velocity: 9.96 ft/s
Velocity Head: 1.54 ft
Specific Energy: 2.67 ft
Froude Number: 1.880
Flow Type: Supercritical

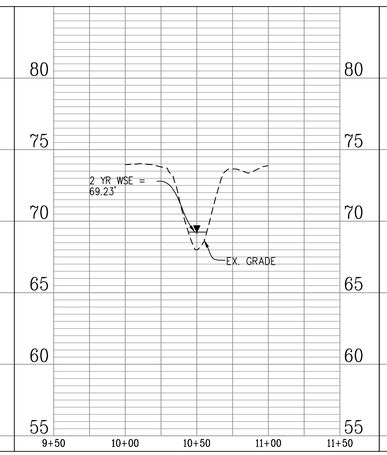
V2ALLOW= 13 FPS



CROSS SECTION K-K': 2 YEAR STORM EVENT

Discharge: 60.84 cfs
Flow Area: 6.8 ft²
Wetted Perimeter: 11.0 ft
Hydraulic Radius: 7.4 in
Top Width: 10.69 ft
Normal Depth: 14.7 in
Critical Depth: 19.5 in
Critical Slope: 0.032 ft/ft
Velocity: 9.01 ft/s
Velocity Head: 1.26 ft
Specific Energy: 2.49 ft
Froude Number: 1.999
Flow Type: Supercritical

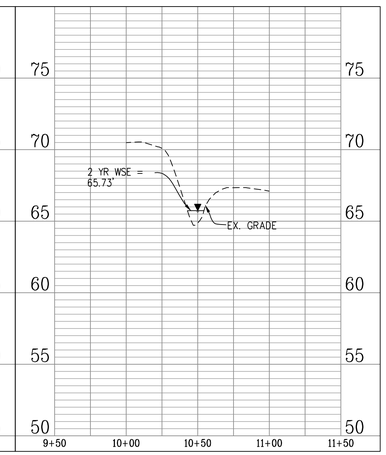
V2ALLOW= 13 FPS



CROSS SECTION L-L': 2 YEAR STORM EVENT

Discharge: 60.84 cfs
Flow Area: 7.5 ft²
Wetted Perimeter: 12.8 ft
Hydraulic Radius: 7.1 in
Top Width: 12.57 ft
Normal Depth: 12.2 in
Critical Depth: 16.2 in
Critical Slope: 0.033 ft/ft
Velocity: 8.06 ft/s
Velocity Head: 1.01 ft
Specific Energy: 2.03 ft
Froude Number: 1.835
Flow Type: Supercritical

V2ALLOW= 13 FPS



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CLAYTON C. TOCK
Lic. No. 036790
REGISTERED PROFESSIONAL ENGINEER
06/24/2022

OUTFALL ANALYSIS
PRELIMINARY SITE PLAN - BLOCK I
WEST END
CITY OF ALEXANDRIA, VIRGINIA
DATE: JUNE 24, 2022
SCALE: H:1"=40'; V:1"=5' C.I.=N.A.

SHEET 20 OF 75

FILE No. DSUP-13079

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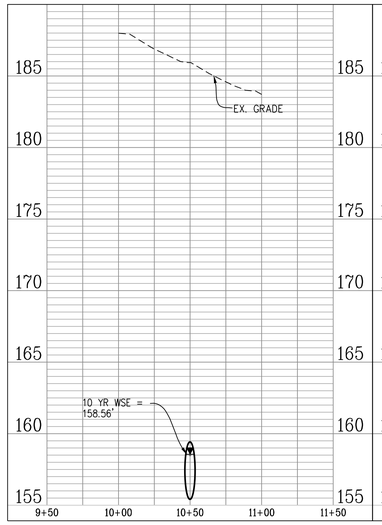
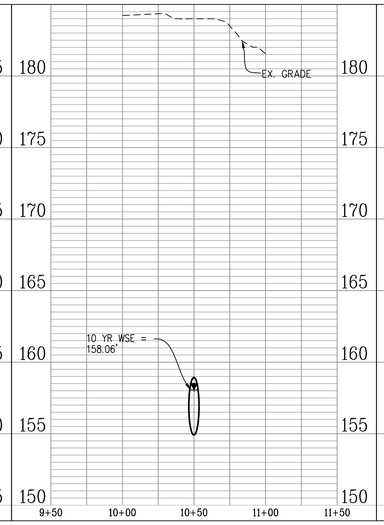
CROSS SECTION A-A': 10 YEAR STORM EVENT

Discharge: 126.27 cfs
Flow Area: 10.6 ft²
Wetted Perimeter: 8.7 ft
Hydraulic Radius: 14.6 in
Top Width: 3.26 ft
Normal Depth: 37.9 in
Critical Depth: 31.5 in
Critical Slope: 0.016 ft/ft
Velocity: 7.05 ft/s
Velocity Head: 0.77 ft
Specific Energy: 3.93 ft
Froude Number: 0.689
Maximum Discharge: 83.69 cfs
Discharge Full: 77.80 cfs
Slope Full: 0.009 ft/ft
Flow Type: Subcritical



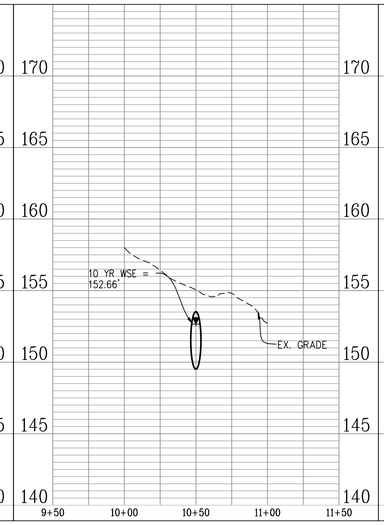
CROSS SECTION B-B': 10 YEAR STORM EVENT

Discharge: 126.27 cfs
Flow Area: 10.6 ft²
Wetted Perimeter: 8.7 ft
Hydraulic Radius: 14.6 in
Top Width: 3.26 ft
Normal Depth: 37.9 in
Critical Depth: 31.5 in
Critical Slope: 0.016 ft/ft
Velocity: 7.05 ft/s
Velocity Head: 0.77 ft
Specific Energy: 3.93 ft
Froude Number: 0.689
Maximum Discharge: 83.69 cfs
Discharge Full: 77.80 cfs
Slope Full: 0.009 ft/ft
Flow Type: Subcritical



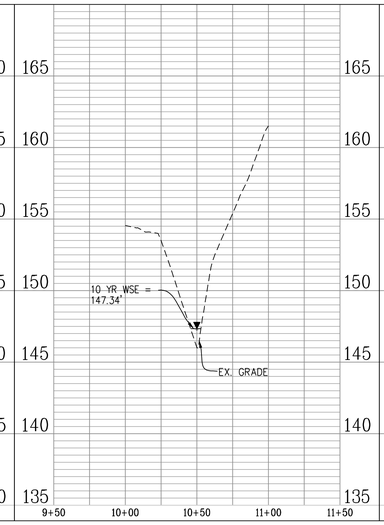
CROSS SECTION C-C': 10 YEAR STORM EVENT

Discharge: 126.27 cfs
Flow Area: 10.6 ft²
Wetted Perimeter: 8.7 ft
Hydraulic Radius: 14.6 in
Top Width: 3.26 ft
Normal Depth: 37.9 in
Critical Depth: 31.5 in
Critical Slope: 0.016 ft/ft
Velocity: 7.05 ft/s
Velocity Head: 0.77 ft
Specific Energy: 3.93 ft
Froude Number: 0.689
Maximum Discharge: 83.69 cfs
Discharge Full: 77.80 cfs
Slope Full: 0.009 ft/ft
Flow Type: Subcritical



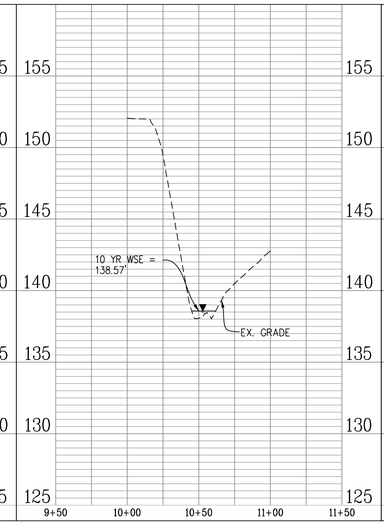
CROSS SECTION D-D': 10 YEAR STORM EVENT

Discharge: 118.46 cfs
Flow Area: 4.6 ft²
Wetted Perimeter: 7.4 ft
Hydraulic Radius: 7.4 in
Top Width: 6.86 ft
Normal Depth: 15.9 in
Critical Depth: 31.8 in
Critical Slope: 0.002 ft/ft
Velocity: 26.03 ft/s
Velocity Head: 10.53 ft
Specific Energy: 11.85 ft
Froude Number: 5.635
Flow Type: Supercritical



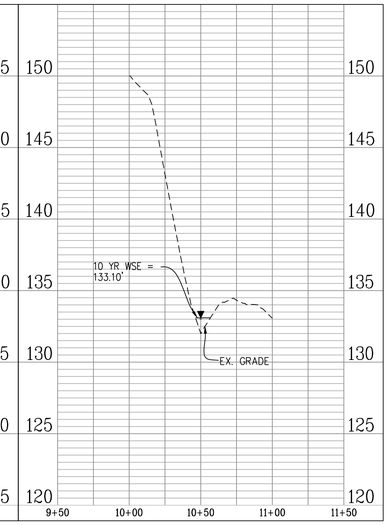
CROSS SECTION E-E': 10 YEAR STORM EVENT

Discharge: 118.46 cfs
Flow Area: 5.5 ft²
Wetted Perimeter: 15.6 ft
Hydraulic Radius: 4.2 in
Top Width: 15.42 ft
Normal Depth: 6.5 in
Critical Depth: 16.7 in
Critical Slope: 0.003 ft/ft
Velocity: 21.56 ft/s
Velocity Head: 7.22 ft
Specific Energy: 7.77 ft
Froude Number: 6.366
Flow Type: Supercritical



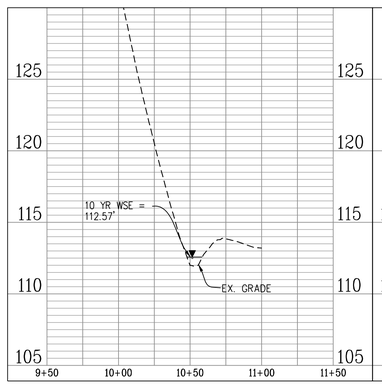
CROSS SECTION F-F': 10 YEAR STORM EVENT

Discharge: 118.46 cfs
Flow Area: 5.7 ft²
Wetted Perimeter: 10.7 ft
Hydraulic Radius: 6.4 in
Top Width: 10.44 ft
Normal Depth: 13.2 in
Critical Depth: 26.0 in
Critical Slope: 0.003 ft/ft
Velocity: 20.64 ft/s
Velocity Head: 6.62 ft
Specific Energy: 7.72 ft
Froude Number: 4.908
Flow Type: Supercritical



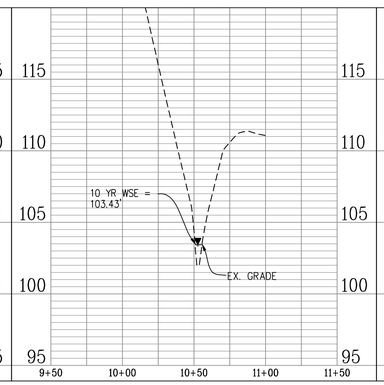
CROSS SECTION G-G': 10 YEAR STORM EVENT

Discharge: 121.50 cfs
Flow Area: 4.7 ft²
Wetted Perimeter: 10.5 ft
Hydraulic Radius: 5.3 in
Top Width: 10.39 ft
Normal Depth: 7.6 in
Critical Depth: 20.3 in
Critical Slope: 0.003 ft/ft
Velocity: 25.97 ft/s
Velocity Head: 10.48 ft
Specific Energy: 11.11 ft
Froude Number: 6.821
Flow Type: Supercritical



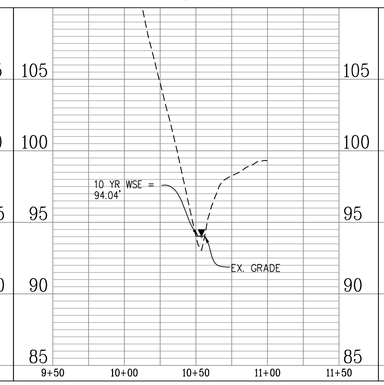
CROSS SECTION H-H': 10 YEAR STORM EVENT

Discharge: 121.50 cfs
Flow Area: 3.1 ft²
Wetted Perimeter: 5.2 ft
Hydraulic Radius: 7.2 in
Top Width: 4.27 ft
Normal Depth: 17.5 in
Critical Depth: 40.4 in
Critical Slope: 0.003 ft/ft
Velocity: 38.98 ft/s
Velocity Head: 23.61 ft
Specific Energy: 25.07 ft
Froude Number: 8.047
Flow Type: Supercritical



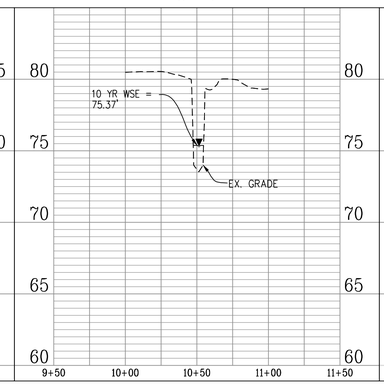
CROSS SECTION I-I': 10 YEAR STORM EVENT

Discharge: 121.50 cfs
Flow Area: 3.5 ft²
Wetted Perimeter: 6.3 ft
Hydraulic Radius: 6.5 in
Top Width: 5.96 ft
Normal Depth: 12.0 in
Critical Depth: 30.6 in
Critical Slope: 0.002 ft/ft
Velocity: 35.18 ft/s
Velocity Head: 19.23 ft
Specific Energy: 20.23 ft
Froude Number: 8.145
Flow Type: Supercritical



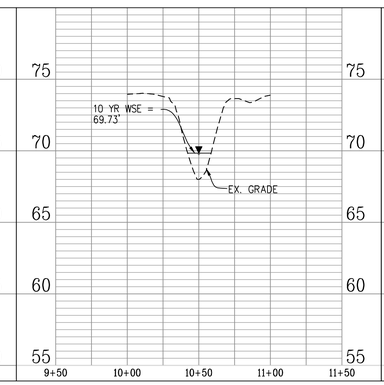
CROSS SECTION J-J': 10 YEAR STORM EVENT

Discharge: 148.84 cfs
Flow Area: 11.2 ft²
Wetted Perimeter: 9.6 ft
Hydraulic Radius: 14.0 in
Top Width: 7.37 ft
Normal Depth: 22.0 in
Critical Depth: 32.1 in
Critical Slope: 0.037 ft/ft
Velocity: 13.33 ft/s
Velocity Head: 2.76 ft
Specific Energy: 4.60 ft
Froude Number: 1.910
Flow Type: Supercritical



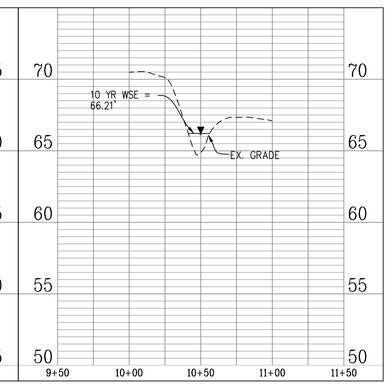
CROSS SECTION K-K': 10 YEAR STORM EVENT

Discharge: 148.84 cfs
Flow Area: 13.0 ft²
Wetted Perimeter: 14.8 ft
Hydraulic Radius: 10.6 in
Top Width: 14.37 ft
Normal Depth: 20.7 in
Critical Depth: 28.3 in
Critical Slope: 0.029 ft/ft
Velocity: 11.44 ft/s
Velocity Head: 2.03 ft
Specific Energy: 3.76 ft
Froude Number: 2.120
Flow Type: Supercritical



CROSS SECTION L-L': 10 YEAR STORM EVENT

Discharge: 148.84 cfs
Flow Area: 14.5 ft²
Wetted Perimeter: 17.0 ft
Hydraulic Radius: 10.2 in
Top Width: 16.67 ft
Normal Depth: 17.9 in
Critical Depth: 24.2 in
Critical Slope: 0.029 ft/ft
Velocity: 10.29 ft/s
Velocity Head: 1.64 ft
Specific Energy: 3.14 ft
Froude Number: 1.947
Flow Type: Supercritical



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CLAYTON C. TOCK
Lic. No. 036790
PROFESSIONAL ENGINEER
06/24/2022

OUTFALL ANALYSIS
WEST END
PRELIMINARY SITE PLAN - BLOCK I
CITY OF ALEXANDRIA, VIRGINIA
SCALE: H:1"=40', V:1"=5' C.I.= N.A.
DATE: JUNE 24, 2022

SHEET 21 OF 75

FILE No. DSUP-13079

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OUTFALL ANALYSIS NARRATIVE

THE EXISTING TOPOGRAPHY OF THE PARCEL HAS TWO DISTINCT OUTFALLS, RESULTING IN TWO STUDY POINTS. STUDY POINT #1 OUTFALLS TO THE NORTHEAST CORNER OF THE PROPERTY. STUDY POINT #2 OUTFALLS TO THE EAST OF THE SITE, IMMEDIATELY NORTH OF THE DUKE STREET RAMP CONNECTION TO VAN DORN STREET. A TOTAL PRE-DEVELOPMENT DRAINAGE AREA OF 35.58 ACRES DRAINS TO STUDY POINT 1, WHILE A TOTAL PRE-DEVELOPMENT DRAINAGE AREA OF 31.24 ACRES DRAINS TO STUDY POINT 2.

STORMWATER MANAGEMENT IS TO BE PROVIDED IN THREE SEPARATE STORMWATER MANAGEMENT VAULTS; VAULT 2, 3, AND 4. VAULT 2 IS LOCATED IMMEDIATELY SOUTH OF BLOCKS E&G AND HAS A DRAINAGE AREA OF 17.46 ACRES. VAULT 3 IS LOCATED SOUTH OF BLOCK I AND HAS A DRAINAGE AREA OF 20.73 ACRES. VAULT 4 IS LOCATED EACH OF THE EXISTING PARKING STRUCTURE AND HAS A DRAINAGE AREA OF 8.06 ACRES. IN ACCORDANCE WITH THE ARTICLE XIII SECTION 13-109 OF THE ALEXANDRIA ZONING ORDINANCE, AND UTILIZING THE VIRGINIA RUNOFF REDUCTION METHODOLOGY, THE TREATMENT VOLUME IS REDUCED VIA THE UNDERGROUND SWM FACILITIES.

THE ALLOWABLE RELEASE RATE FOR EACH STUDY POINT HAS BEEN CALCULATED IN ACOORDANCE WITH ARTICLE XIII SECTION 13-109(F) OF THE ALEXANDRIA ZONING ORDINANCE. FOR THE CHANNEL PROTECTION AND FLOOD PROTECTION WHEN STORMWATER FROM A DEVELOPMENT IS DISCHARGED TO A NATURAL STORMWATER CONVEYANCE SYSTEM, THE MAXIMUM PEAK FLOW RATE FROM THE 1-YEAR 24-HOUR STORM FOLLOWING THE LAND-DISTURBING ACTIVITY SHALL BE CALCULATED WHERE:

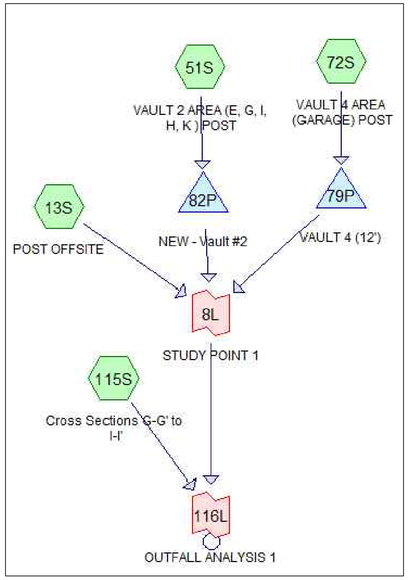
$Qdev \leq I.F. * (Qpre * RVpre)/RVdev$

AND THE PEAK FLOW RATE FOR THE 10-YEAR 24-HOUR STORM EVENT IS LESS THAN THE PRE-DEVELOPMENT PEAK FLOW RATE FROM THE 10-YEAR 24-HOUR STORM EVENT. AS SHOWN IN THE MASTER SWM PLAN. THE PROPOSED FLOW TO THE STUDY POINTS ARE LESS THAN THE ALLOWABLE RUNOFF.

IT IS THEREFORE THE OPINION OF URBAN, LTD. THAT THE PROPOSED SWM DESIGN MEETS THE REQUIRED SWM REQUIREMENTS OF THE ALEXANDRIA ORDINANCE.

URBAN LTD.
CLAYTON C. TOCK, P.E., PRINCIPLE

POST-DEVELOPMENT NODE SUMMARIES FOR OUTFALL POINT #1



POST-DEVELOPMENT 2-YEAR OUTFALL POINT #1

Inflow Area = 1,429,944 sf , 41.25% Impervious , Inflow Depth > 2.53" for 2-yr event
Inflow = 54.39 cfs @ 12.20 hrs , Volume= 301,425 cf
Primary = 54.39 cfs @ 12.20 hrs , Volume= 301,425 cf , Atten= 0%, Lag= 0.0 min

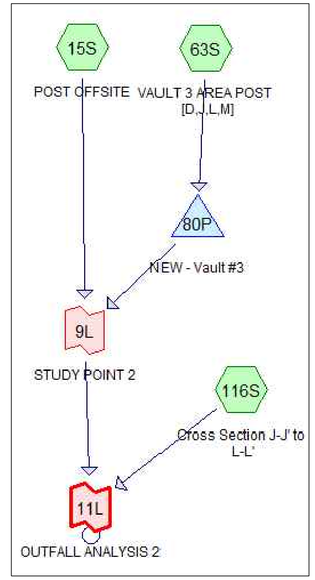
Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs

POST-DEVELOPMENT 10-YEAR OUTFALL POINT #1

Inflow Area = 1,429,944 sf , 41.25% Impervious , Inflow Depth > 4.37" for 10-yr event
Inflow = 121.50 cfs @ 12.15 hrs , Volume= 520,368 cf
Primary = 121.50 cfs @ 12.15 hrs , Volume= 520,368 cf , Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs

POST-DEVELOPMENT NODE SUMMARIES FOR OUTFALL POINT #2



POST-DEVELOPMENT 2-YEAR OUTFALL POINT #2

Inflow Area = 1,624,676 sf , 34.88% Impervious , Inflow Depth > 2.46" for 2-yr event
Inflow = 60.84 cfs @ 12.09 hrs , Volume= 332,597 cf
Primary = 60.84 cfs @ 12.09 hrs , Volume= 332,597 cf , Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs

POST-DEVELOPMENT 10-YEAR OUTFALL POINT #2

Inflow Area = 1,624,676 sf , 34.88% Impervious , Inflow Depth > 4.30" for 10-yr event
Inflow = 148.84 cfs @ 12.13 hrs , Volume= 582,638 cf
Primary = 148.84 cfs @ 12.13 hrs , Volume= 582,638 cf , Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs

OUTFALL ANALYSIS COMPUTATION SUMMARY

CROSS SECTIONS	SWALE TYPE DESCRIPTION:	AVG. CHANNEL SLOPE (%):	DRAINAGE AREA (AC):	CN FACTOR:	Tc (MIN):	ROUGHNESS COEFFICIENT:	2 YEAR FLOW (CFS):	2 YEAR VELOCITY (FPS):	2 YEAR NORMAL DEPTH (FT):	10 YEAR FLOW (CFS):	10 YEAR VELOCITY (FPS):	10 YEAR NORMAL DEPTH (FT):	CHANNEL LINING:
D-D'	EXISTING MANMADE CHANNEL-OFFSITE	0.10%	31.97	96	10*	0.013	52.77	21.26	0.98	118.46	26.03	1.33	EX. CONCRETE LINING
E-E'	EXISTING MANMADE CHANNEL-OFFSITE	0.14%	31.97	96	10*	0.013	52.77	16.10	0.40	118.46	21.56	0.54	EX. CONCRETE LINING
F-F'	EXISTING MANMADE CHANNEL-OFFSITE	0.08%	31.97	96	10*	0.013	52.77	16.86	0.81	118.46	20.64	1.10	EX. CONCRETE LINING
G-G'	EXISTING MANMADE CHANNEL-OFFSITE	0.15%	32.83	86	15*	0.013	54.39	20.25	0.43	121.50	25.97	0.63	EX. CONCRETE LINING
H-H'	EXISTING MANMADE CHANNEL-OFFSITE	0.23%	32.83	86	15*	0.013	54.39	31.88	1.08	121.50	38.98	1.46	EX. CONCRETE LINING
I-I'	EXISTING MANMADE CHANNEL-OFFSITE	0.21%	32.83	86	15*	0.013	54.39	28.15	0.72	121.50	35.18	1.00	EX. CONCRETE LINING
J-J'	EXISTING MANMADE CHANNEL-OFFSITE	0.13%	37.30	92	10*	0.045	60.84	9.96	1.13	148.84	13.33	1.83	EX. RIP RAP LINING
K-K'	EXISTING MANMADE CHANNEL-OFFSITE	0.14%	37.30	92	10*	0.045	60.84	9.01	1.23	148.84	11.44	1.73	EX. RIP RAP LINING
L-L'	EXISTING MANMADE CHANNEL-OFFSITE	0.12%	37.30	92	10*	0.045	60.84	8.06	1.02	148.84	10.29	1.49	EX. RIP RAP LINING

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SHEET 22 OF 75

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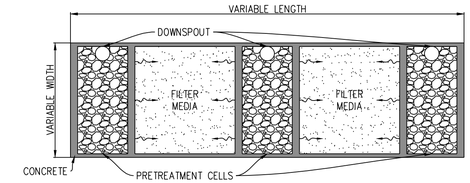
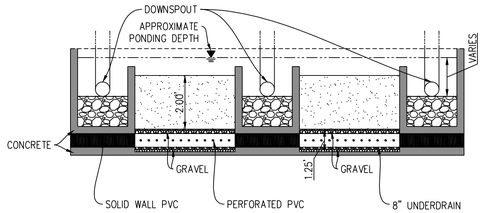


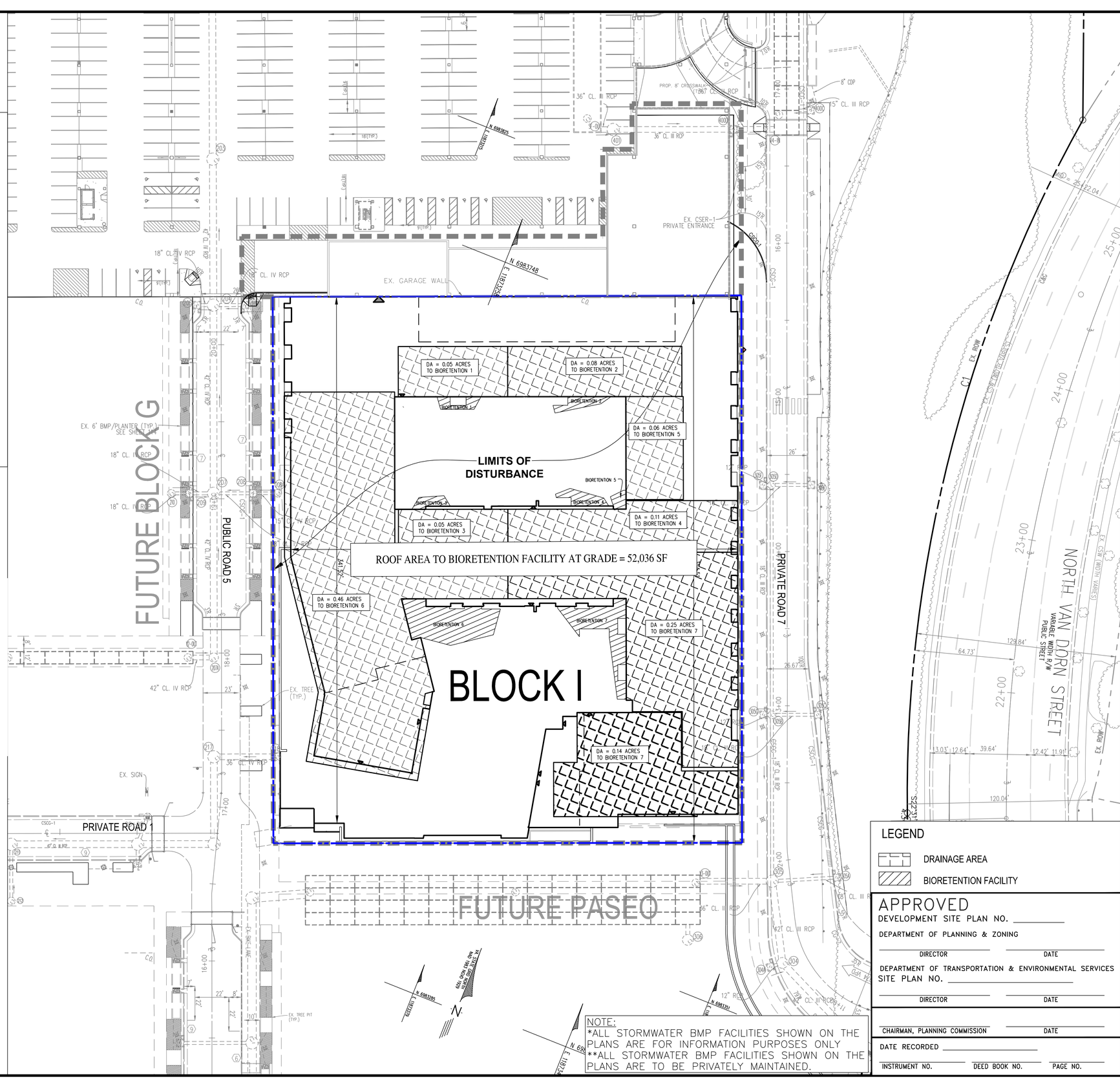
PLAN VIEW: NOT TO SCALE



PROFILE VIEW: NOT TO SCALE

COMPLIED BIORETENTION DESIGN CALCULATIONS

EQUATION 9.1. BIORETENTION LEVEL 1 DESIGN STORAGE DEPTH										
FILTER MEDIA DEPTH	2	2	2	2	2	2	2	FT	n_F	0.25
GRAVEL DEPTH	1.25	1.25	1.25	1.25	1.25	1.25	1.25	FT	n_F	0.4
MAX PONDING DEPTH	0.5	0.5	0.5	0.75	1.25	0.5	0.5	FT	n_F	1
DESIGN STORAGE DEPTH =	1.5	1.5	1.5	1.75	2.25	1.5	1.5	FT		
EQUATION 9.4 BIORETENTION LEVEL 1 DESIGN SURFACE AREA										
DRAINAGE AREA=	2312	3682	1991	4582	2486	19852	17130	SF		
Rv (COMPOSITE RUNOFF COEFFICIENT)=	0.47	0.47	0.47	0.47	0.47	0.47	0.47			
T_c, BMP REQUIRED=	172	276	172	379	207	1586	1345	CF		from VRRM (sht.27)
MIN SURFACE AREA =	115	184	115	217	92	1057	897	SF		
PROPOSED SURFACE AREA =	145	199	142	225	96	1316	902	SF		
INSIDE SOIL MEDIA =	145	199	142	225	96	1316	902	SF		
OUTSIDE SOIL MEDIA =	0	0	0	0	0	0	0	SF		0% OF TOTAL
TOTAL TREATMENT VOLUME PROVIDED	218	299	213	304	216	1974	1353	CF		
PRETREATMENT CELL SIZING										
MIN REQ'D PRETREATMENT CELL VOLUME	26	41	26	57	31	238	202	CF		15% OF PROVIDED
PROV'D PRETREATMENT CELL VOLUME	307	666	666	666	666	666	666	CF		



NOTE:
*ALL STORMWATER BMP FACILITIES SHOWN ON THE PLANS ARE FOR INFORMATION PURPOSES ONLY
**ALL STORMWATER BMP FACILITIES SHOWN ON THE PLANS ARE TO BE PRIVATELY MAINTAINED.

LEGEND

DRAINAGE AREA

BIORETENTION FACILITY

APPROVED
DEVELOPMENT SITE PLAN NO. _____
DEPARTMENT OF PLANNING & ZONING
_____ DIRECTOR _____ DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. _____
_____ DIRECTOR _____ DATE
_____ CHAIRMAN, PLANNING COMMISSION _____ DATE
DATE RECORDED _____
_____ INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO.

No.	DATE	DESCRIPTION
		REVISIONS

PLAN DATE 06-24-2022

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COMMONWEALTH OF VIRGINIA
CLAYTON C. TOCK
Lic. No. 036790
PROFESSIONAL ENGINEER
06/24/2022

BMP PLAN
WEST END
PRELIMINARY SITE PLAN - BLOCK I
CITY OF ALEXANDRIA, VIRGINIA

DATE: JUNE 24, 2022
C.I.= N/A
SCALE: N/A

SHEET 23 OF 75

FILE No. DSUP-13079

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Post-Development Project (Treatment Volume and Loads)

Enter Total Disturbed Area *(acres)* → 3.00

Maximum reduction required:	*20%*
The site's net increase in impervious cover (acres) is:	*0*
Post-Development TP Load Reduction for Site (lb/yr):	~~1.30~~ 2.00

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

Pre-ReDevelopment Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) -- undisturbed forest/open space					0.00
Managed Turf (acres) -- disturbed, graded for yards or other turf to be					0.00
Impervious Cover (acres)				3.00	3.00
					3.00

Post-Development Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) -- undisturbed, protected forest/open space or reforested					0.00
Managed Turf (acres) -- disturbed, graded for yards or other turf to be					0.00
Impervious Cover (acres)				3.00	3.00
Area Check	**OK.**	**OK.**	**OK.**	**OK.**	3.00

Constants

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

Runoff Coefficients (Rv)

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

LAND COVER SUMMARY -- PRE-REDEVELOPMENT

Land Cover Summary-Pre		
Pre-ReDevelopment	**Listed**	**Adjusted[1]**
Forest/Open Space Cover (acres)	0.00	0.00
Weighted Rv(forest)	0.00	0.00
% Forest	0%	0%
Managed Turf Cover (acres)	0.00	0.00
Weighted Rv(turf)	0.00	0.00
% Managed Turf	0%	0%
Impervious Cover (acres)	3.00	3.00
Rv(impervious)	0.95	0.95
% Impervious	100%	100%
Total Site Area (acres)	**3.00**	**3.00**
Site Rv	**0.95**	**0.95**

LAND COVER SUMMARY -- POST DEVELOPMENT

Land Cover Summary-Post (Final)	
Post ReDev. & New Impervious	
Forest/Open Space Cover (acres)	0.00
Weighted Rv(forest)	0.00
% Forest	0%
Managed Turf Cover (acres)	0.00
Weighted Rv (turf)	0.00
% Managed Turf	0%
Impervious Cover (acres)	3.00
Rv(impervious)	0.95
% Impervious	100%
Final Site Area (acres)	**3.00**
Final Post Dev Site Rv	**0.95**

Land Cover Summary-Post	
Post-ReDevelopment	
Forest/Open Space Cover (acres)	0.00
Weighted Rv(forest)	0.00
% Forest	0%
Managed Turf Cover (acres)	0.00
Weighted Rv (turf)	0.00
% Managed Turf	0%
ReDev. Impervious Cover (acres)	3.00
Rv(impervious)	0.95
% Impervious	100%
Total ReDev. Site Area (acres)	**3.00**
ReDev Site Rv	**0.95**

Land Cover Summary-Post	
Post-Development New Impervious	
New Impervious Cover (acres)	0.00
Rv(impervious)	--

Treatment Volume and Nutrient Load

Pre-ReDevelopment Treatment Volume (acre-ft)	0.2375	0.2375		
Pre-ReDevelopment Treatment Volume (cubic feet)	10,346	10,346		
Pre-ReDevelopment TP Load (lb/yr)	**6.50**	**6.50**		
Pre-ReDevelopment TP Load per acre (lb/acre/yr)	2.17	2.17		
Baseline TP Load (lb/yr) (**0.41 lbs/acre/yr** applied to pre-redevelopment area excluding pervious land proposed for new impervious cover)		*1.23*		

Treatment Volume and Nutrient Load

Final Post-Development Treatment Volume (acre-ft)	0.2375	Post-ReDevelopment Treatment Volume (acre-ft)	0.2375	Post-Development Treatment Volume (acre-ft)	--	
Final Post-Development Treatment Volume (cubic feet)	10,346	Post-ReDevelopment Treatment Volume (cubic feet)	10,346	Post-Development Treatment Volume (cubic feet)	--	
Final Post-Development TP Load (lb/yr)	**6.50**	Post-ReDevelopment Load (TP) (lb/yr)*	**6.50**	Post-Development TP Load (lb/yr)	--	
Final Post-Development TP load per acre (lb/acre/yr)	2.17	Post-ReDevelopment TP Load per acre (lb/acre/yr)	2.17			
		Max. Reduction Required (Below Pre-ReDevelopment Load)	20%			
		TP Load Reduction Required for Redeveloped Area (lb/yr)	**1.30**	**TP Load Reduction Required for New Impervious Area (lb/yr)**	**0**	

[1] *Adjusted Land Cover Summary:*
Pre ReDevelopment land cover minus pervious land cover (forest/open space or managed turf) acreage proposed for new impervious cover.

Adjusted total acreage is consistent with Post-ReDevelopment acreage (minus acreage of new impervious cover).

Column I shows load reduction requriement for new impervious cover (based on new development load limit, 0.41 lbs/acre/year).

Post-Development Requirement for Site Area

TP Load Reduction Required (lb/yr)	~~1.30~~ 2.00

Nitrogen Loads (Informational Purposes Only)

Pre-ReDevelopment TN Load (lb/yr)	46.50
Final Post-Development TN Load (Post-ReDevelopment & New Impervious) (lb/yr)	46.50

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)					0.00	0.00
Managed Turf (acres)					0.00	0.00
Impervious Cover (acres)				3.00	3.00	0.95
				Total	3.00	

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft^3)	Runoff Reduction (ft^3)	Remaining Runoff Volume (ft^3)	Total BMP Treatment Volume (ft^3)	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
6. Bioretention (RR)													
6.b. Bioretention #2 or Micro-Bioretention #2 (Spec #9)	80		1.19	0	3,283	821	4,104	50	0.00	2.58	2.32	0.26	

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)	0.00	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER (ac)	3.00	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER TREATED (ac)	1.19	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA (ac)	0.00	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA TREATED (ac)	0.00	0.00	0.00	0.00	0.00	OK.
AREA CHECK	OK.	OK.	OK.	OK.	OK.	

Site Treatment Volume (ft^3) 10,346

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^3)	3,283	0	0	0	0	3,283
TP LOAD AVAILABLE FOR REMOVAL (lb/yr)	6.50	0.00	0.00	0.00	0.00	6.50
TP LOAD REDUCTION ACHIEVED (lb/yr)	2.32	0.00	0.00	0.00	0.00	2.32
TP LOAD REMAINING (lb/yr)	4.18	0.00	0.00	0.00	0.00	4.18
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	16.95	0.00	0.00	0.00	0.00	16.95

Total Phosphorus

FINAL POST-DEVELOPMENT TP LOAD (lb/yr)	6.50	
TP LOAD REDUCTION REQUIRED (lb/yr)	~~1.30~~	2.00
TP LOAD REDUCTION ACHIEVED (lb/yr)	2.32	
TP LOAD REMAINING (lb/yr):	4.18	
REMAINING TP LOAD REDUCTION REQUIRED (lb/yr):	0.00	**

** TARGET TP REDUCTION EXCEEDED BY ~~1.02~~ LB/YEAR ** 0.32 LB/YEAR

Total Nitrogen (For Information Purposes)

POST-DEVELOPMENT LOAD (lb/yr)	46.50
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	16.95
REMAINING POST-DEVELOPMENT NITROGEN LOAD (lb/yr)	29.55

BMP NARRATIVE

STORMWATER BEST MANAGEMENT PRACTICE FOR THE SUBJECT SITE IS BEING PROVIDED IN ACCORDANCE WITH VA DEQ AND CITY OF ALEXANDRIA STANDARDS BY USING THE VIRGINIA RUNOFF REDUCTION METHOD (VRRM) TO MEET THE WATER QUALITY CRITERIA

THE PHOSPHOROUS LOAD REDUCTION REQUIRED BY THE VRRM WILL BE SATISFIED WITH THE UTILIZATION OF ONE (1) STORMWATER BEST MANAGEMENT PRACTICE (BMP) FACILITY IN CONFORMANCE WITH THE STORMWATER BMP CLEARINGHOUSE WEBSITE. THE ONE (1) BMP FACILITY PROPOSED IS:

- URBAN BIORETENTION - BIORETENTION FACILITY (LEVEL 2)

BASED ON THE SUBJECT SITE'S PROPOSED LAND COVER, AND THE OVERALL SITE ANALYSIS AS OUTLINED IN THE MASTER SWM PLAN (SWM#2021-00017) THE TOTAL PHOSPHOROUS LOAD REDUCTION REQUIRED TO BE REMOVED IS 2.00 LBS/YEAR. THE TOTAL PHOSPHOROUS LOAD REDUCTION ACHIEVED IS 2.32 LBS/YEAR, THEREFORE THE TOTAL PHOSPHOROUS LOAD REDUCTION IS EXCEEDED BY 0.32 LBS/YEAR.

BMP/SWM FACILITIES GEOGRAPHIC COORDINATES:

	DECIMAL DEGREE LATITUDE	DECIMAL DEGREES LONGITUDE
BIORETENTION #1	38.8174	-77.1299
BIORETENTION #2	38.8175	-77.1297
BIORETENTION #3	38.8172	-77.1299
BIORETENTION #4	38.8173	-77.1296
BIORETENTION #5	38.8174	-77.1295
BIORETENTION #6	38.8170	-77.1298
BIORETENTION #7	38.8171	-77.1294

NOTE:
ALL STORMWATER BMP FACILITIES AND COMPUTATIONS SHOWN ON THE PLANS ARE FOR ILLUSTRATIVE PURPOSES ONLY.

APPROVED
DEVELOPMENT SITE PLAN NO. _____
DEPARTMENT OF PLANNING & ZONING
_____ DIRECTOR _____ DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. _____
_____ DIRECTOR _____ DATE
_____ CHAIRMAN, PLANNING COMMISSION _____ DATE
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REVISIONS | DESCRIPTION | DATE | No.

PLAN DATE 06-24-2022

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COMMONWEALTH OF VIRGINIA ENGINEER CLAYTON C. TOCK Lic. No. 038790 PROFESSIONAL 06/24/2022

BMP COMPS & NARRATIVE
WEST END
PRELIMINARY SITE PLAN - BLOCK I
CITY OF ALEXANDRIA, VIRGINIA
DATE: JUNE 24, 2022
C.I.= N/A
SCALE: N/A

SHEET 24 OF 75

FILE No. DSUP-13079

Urban, Ltd. - J:\JOBS\landmarkmall\DSUP\Block-I\completeness\13079-12-BMP COMPS & NARRATIVE.dwg [Proposed] June 24, 2022 - 11:11am zbates

PROPOSED BMP COMPUTATIONS

Project Description

Development or Redevelopment

Drainage Area	Impervious	Pervious	Total
Site Area	3.00 ACRES	0 ACRES	3.00 ACRES
On-Site Treated	1.19 ACRES	0.00 ACRES	1.19 ACRES
Off-Site Treated	0 ACRES	0 ACRES	0 ACRES
Total Treated	1.19 ACRES		
Any On-Site Disconnected by a Vegetated Buffer (25 ft)	0 ACRES		
Total On-Site Treated or Disconnected			1.19 ACRES

Water Treatment on site

BMP Type	*Area treated by BMP (acres)*	*Impervious area treated by BMP (acres)*	*BMP efficiency (%)*
BIORETENTION	1.19 ACRES	1.19 ACRES	50 %

Miscellaneous

Total WQV treated: yes no
Detention on site: yes no

Project is within which watershed? HOLMES RUN WATERSHED

Project discharges to which body of water? HOLMES RUN

PROPOSED WQV TREATMENT:

TOTAL SITE IMPERVIOUS AREA = 3.00 AC OR 130,680 SF

SITE WQV REQUIRED = 2.00 TP REMOVAL PER YEAR REQUIRED (PER MASTER SWM PLAN #2021-00017) = 3,552 CF (BIORETENTION LEVEL 2)

SITE WQV PROPOSED = 4,104 CF (SEE SHEET 24 FOR TOTAL BMP TREATMENT VOLUME VALUES)

NOTE:
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DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
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No.	DATE	DESCRIPTION

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CLAYTON C. TOCK
Lic. No. 036790
06/24/2022
PROFESSIONAL ENGINEER

WQVD BMP DATA BLOCKS
WEST END
PRELIMINARY SITE PLAN - BLOCK I
CITY OF ALEXANDRIA, VIRGINIA
SCALE: N/A C.I.= N/A DATE: JUNE 24, 2022

SHEET 25 OF 75

FILE No. DSUP-13079

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NOTES

1. RESIDENTIAL AREA SANITARY FLOW IS COMPUTED AT THE RATE OF 300 GPD PER UNIT
2. EACH RESIDENTIAL UNIT IS BASED ON A 1,000 G.S.F. FLOOR PLATE
3. RETAIL AND OFFICE AREA SANITARY FLOW IS COMPUTED AT THE RATE OF 200 GPD PER 1,000 S.F. OF NET FLOOR AREA
4. ALL PIPE DATA HAS BEEN OBTAINED BY FIELD SURVEY PERFORMED BY URBAN, LTD.
5. CONTRACTOR SHALL ENSURE ALL DISCHARGES ARE IN ACCORDANCE WITH CITY OF ALEXANDRIA CODE TITLE 5, CHAPTER 6, ARTICLE B.
6. DEWATERING AND OTHER CONSTRUCTION RELATED DISCHARGE LIMITS TO THE SEWER SYSTEM ARE REGULATED BY ALEXRENEW PRETREATMENT. CONTRACTOR IS REQUIRED TO CONTACT ALEXRENEW'S PRETREATMENT COORDINATOR AT 703-721-3500 X2020.
7. THE APPLICANT SHALL PROVIDE A PRE- AND POST-CCTV INSPECTION OF MANHOLE CONNECTION BY A NASSCO MACP CERTIFIED TECHNICIAN.
8. INSUFFICIENT PIPE CAPACITIES OF EXISTING SANITARY SEWER ARE SHOWN ON SHEET 27. THOSE PIPES ARE SHOWN TO BE REMOVED AND REPLACED WITH APPROPRIATELY SIZED PIPES ON SHEET 27.
9. HGL ANALYSIS WILL BE PROVIDED WITH THE FINAL INFRASTRUCTURE SITE PLAN.
10. THE PROJECT SITE IS LOCATED WITHIN THE HOLMES RUN TRUNK SEWER SHED. THE PROJECT SITE IS NOT LOCATED IN THE COMBINED SEWER SYSTEM AREA.

SCALE : 1"=50'

HOLMES RUN TRUNK SEWER (FAIRFAX COUNTY OWNED)

HOLMES RUN TRUNK SEWER (ALEX RENEW OWNED)

SMH TOP=85.25
EX. INV IN =79.63
EX. INV OUT =70.62

TIE TO AN EX. SAN. SEWER MANHOLE

SMH TOP=85.83
EX. INV IN 30"=68.92
EX. INV OUT 30"=68.91
EX. INV IN EX. 12"=68.92

BROAD STONE VAN DORN LATERAL IN = 98.16

15" SDR-26 PVC (COA)

NORTH VAN DORN STREET

EX. 33" SANITARY SEWER (COA)

EX. 30" SANITARY SEWER (FAIRFAX COUNTY)

HENRY G. SHIRLEY MEMORIAL HIGHWAY

BLOCK I

FUTURE BLOCK

15" SDR-26 PVC (COA) EX. 12" PVC SAN

6" SAN. LAT. FROM BLOCK A

8" SAN. LAT. FROM BLOCK B

8" SAN. LAT. FROM BLOCK C (GARAGE)

8" SAN. LAT. FROM BLOCK C

8" SAN. LAT. FROM BLOCK D

8" SAN. LAT. FROM BLOCK E

8" SAN. LAT. FROM BLOCK H

8" SAN. LAT. FROM BLOCK J

8" SAN. LAT. FROM BLOCK L

6" SAN. LAT. FROM BLOCK K

6" SAN. LAT. FROM BLOCK M

12" SDR-26 PVC (COA)

10" SDR-26 PVC (COA)

ROAD 2 (PUBLIC)

ROAD 3 (PUBLIC)

ROAD 4 (PUBLIC)

ROAD 5 (PUBLIC)

DUKE STREET

17' CONCRETE SHARED USE PATH

TM #047.03-04-18
WEST END BOAT HOUSE ASSOCIATES LLC
C/O THE RIVERSIDE CO.
P.O. BOX 2000
ALEXANDRIA, VA 22301

TM #038.03-04-01
HOLMES RUN TRUNK SEWER
(FAIRFAX COUNTY OWNED)

TM #038.03-04-02
HOLMES RUN TRUNK SEWER
(ALEX RENEW OWNED)

TM #038.03-0A-00

TM #048.01-01-01

TM #048.03-01-02

SCALE: 1"=100'
0 50' 100' 200'

APPROVED

DEVELOPMENT SITE PLAN NO. _____

DEPARTMENT OF PLANNING & ZONING

_____ DIRECTOR _____ DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. _____

_____ DIRECTOR _____ DATE

_____ CHAIRMAN, PLANNING COMMISSION _____ DATE

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CLAYTON C. TOCK
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PROFESSIONAL ENGINEER
06/24/2022

SANITARY SEWER PLAN

WEST END
PRELIMINARY SITE PLAN - BLOCK I

CITY OF ALEXANDRIA, VIRGINIA

DATE: JUNE 24, 2022

SCALE: 1"=100' C.I.=2'

SHEET
26
OF
75

FILE No.
DSUP-13079

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PROPOSED SANITARY SEWER FLOW COMPUTATIONS

Project: Landmark Mall

From Point	To Point	RESIDENTIAL 300 GPD/UNIT	OFFICE/RETAIL 200 GDP/ 1000 SF	SFA/SFD DWELLINGS 350 GPD/UNIT	HOTEL 130 GPD/UNIT	PEAK FACTOR	INCR q MGD	FLOW q MGD	FLOW q C.F.S.	Invert Elevation Upper End	Invert Elevation Lower End	Length FT.	Slope %	Dia. IN.	Capacity Q MGD	VEL. F.P.S.	Capacity q/Q %	Pipe Coefficient	Pipe Material	BLOCKS TO STR	Remarks
W1	W		188489			4.0	0.15	0.15	0.23	195.87	195.04	66.50	1.25%	12	3.36	3.33	4.49	0.010	PVC		33.33% Flow from Block A
W	V					4.0	0.00	0.15	0.23	194.94	193.28	132.42	1.25%	12	3.36	3.33	4.49	0.010	PVC		
V	U		-			4.0	0.15	0.30	0.47	193.18	192.28	72.26	1.25%	12	3.36	4.08	8.99	0.010	PVC		
U	L					4.0	0.00	0.30	0.47	192.18	191.00	94.64	1.25%	12	3.36	4.08	8.99	0.010	PVC		
L	K		-			4.0	0.02	0.32	0.50	190.90	189.43	117.14	1.25%	12	3.36	4.22	9.68	0.010	PVC		Flow from Block C
K	J		-			4.0	0.02	0.35	0.54	189.33	188.68	52.56	1.25%	12	3.36	4.23	10.36	0.010	PVC		Flow from Block C
J	I1					4.0	0.00	0.35	0.54	188.58	187.98	47.70	1.25%	12	3.36	4.23	10.36	0.010	PVC		
I1	I					4.0	0.40	0.75	1.16	187.88	184.77	248.57	1.25%	12	3.36	5.32	22.34	0.010	PVC		Flow from Block D
I	H1					4.0	0.55	1.30	2.01	184.67	181.21	276.69	1.25%	12	3.36	6.20	38.74	0.010	PVC		Flow from Block J 50% Flow from Block H
H1	H					4.0	0.32	1.62	2.51	181.11	180.05	85.17	1.25%	12	3.36	6.55	48.30	0.010	PVC		Flow from Block L
H	G					4.0	0.00	1.62	2.51	179.95	178.24	170.85	1.00%	12	3.00	6.03	54.00	0.010	PVC		
G	F					4.0	0.00	1.62	2.51	178.14	177.12	102.02	1.00%	12	3.00	6.03	54.00	0.010	PVC		
F	E					4.0	0.00	1.62	2.51	177.02	175.39	163.39	1.00%	12	3.00	6.03	54.00	0.010	PVC		
E	D					4.0	0.68	2.30	3.56	175.29	173.78	151.17	1.00%	12	3.00	3.82	76.75	0.010	PVC		Flow from Block M Flow from Block K
D	C					4.0	0.00	2.30	3.56	173.68	173.33	34.58	1.00%	12	3.00	3.82	76.75	0.010	PVC		
C	C1					4.0	0.44	2.74	4.24	173.23	170.40	283.19	1.00%	15	5.44	6.88	50.37	0.010	PVC		Flows from SSMH M & D
C1	B					4.0	0.00	2.74	4.24	165.90	164.86	103.81	1.00%	15	5.44	6.88	50.37	0.010	PVC		
B	A					4.0	0.00	2.74	4.24	164.76	162.73	203.40	1.00%	15	5.44	6.88	50.37	0.010	PVC		
A	EX.HH					4.0	0.00	2.74	4.24	162.63	160.47	215.56	1.00%	15	5.44	6.88	50.37	0.010	PVC		
V1	V		188489			4.0	0.15	0.15	0.23	194.05	193.38	66.50	1.00%	12	3.00	3.09	5.02	0.010	PVC		33.33% Flow from Block A
CO5	L		28936			4.0	0.02	0.02	0.04	192.56	191.10	45.00	3.25%	8	1.84	2.83	1.26	0.010	PVC		32.85% Flow from Block C
CO4	K		28936			4.0	0.02	0.02	0.04	191.00	189.53	45.00	3.25%	8	1.84	2.83	1.26	0.010	PVC		32.85% Flow from Block C
CO11	I2	335				4.0	0.40	0.40	0.62	190.03	189.40	25.00	2.50%	12	4.75	5.71	8.47	0.010	PVC		
I2	I1					4.0	0.00	0.40	0.62	189.30	188.08	48.93	2.50%	12	4.75	5.71	8.47	0.010	PVC		
CO7	I	235	52000			4.0	0.32	0.32	0.50	186.12	184.87	50.00	2.50%	6	0.75	5.66	43.29	0.010	PVC		
CO3	O	175	21000			4.0	0.23	0.23	0.35	186.12	184.87	50.00	2.50%	6	0.75	5.22	30.34	0.010	PVC		50% Flow from Block H
CO8	H1	260	11000			4.0	0.32	0.32	0.50	182.56	181.31	50.00	2.50%	6	0.75	5.61	42.91	0.010	PVC		
CO9	E	200				4.0	0.24	0.24	0.37	176.74	175.49	50.00	2.50%	6	0.75	5.23	32.11	0.010	PVC		
CO6	D	349	30080			4.0	0.44	0.44	0.69	175.22	174.40	39.66	2.08%	6	0.68	3.47	64.95	0.010	PVC		
CO16	R	86	65749			4.0	0.16	0.16	0.24	195.64	195.11	25.44	2.08%	8	1.47	4.27	10.61	0.010	PVC		50% Flow from Block E
CO10	R		38703			4.0	0.03	0.03	0.05	196.03	195.11	44.57	2.08%	8	1.47	2.58	2.11	0.010	PVC		36.09% Flow from Block B
R	Q					4.0	0.19	0.19	0.29	195.01	190.91	204.83	2.00%	12	4.25	4.21	4.40	0.010	PVC		Flow from Block B 50% Flow from Block E
Q	P					4.0	0.02	0.21	0.33	190.81	188.98	91.68	2.00%	12	4.25	4.32	4.97	0.010	PVC		Flow from Block C
P	O					4.0	0.00	0.21	0.33	188.88	186.01	143.07	2.00%	12	4.25	4.32	4.97	0.010	PVC		
O	N					4.0	0.23	0.44	0.68	185.91	178.40	375.50	2.00%	12	4.25	5.40	10.31	0.010	PVC		50% Flow from Block H
N	M					4.0	0.00	0.44	0.68	178.30	175.93	118.87	2.00%	12	4.25	5.40	10.31	0.010	PVC		
M	C					4.0	0.00	0.44	0.68	175.83	175.43	19.86	2.00%	12	4.25	5.40	10.31	0.010	PVC		
CO2	T		28936			4.0	0.02	0.02	0.04	197.61	195.70	58.78	3.25%	8	1.84	2.83	1.26	0.010	PVC		32.85% gpd from Block C
T	S					4.0	0.00	0.02	0.04	195.60	192.34	100.23	3.25%	10	3.33	2.52	0.70	0.010	PVC		
S	Q		1277			4.0	0.00	0.02	0.04	192.24	191.01	37.87	3.25%	10	3.33	2.63	0.73	0.010	PVC		1.45% gpd from Block C Garage
CO1	I	175	21000			4.0	0.23	0.23	0.35	187.36	186.11	50.00	2.50%	6	0.75	5.22	30.34	0.010	PVC		50% Flow from Block H
CO14	EX.II	390	95433			4.0	0.54	0.54	0.84	177.28	176.03	50.00	2.50%	10	2.92	6.32	18.65	0.010	PVC		
CO12	EX.MM	86	65749			4.0	0.16	0.16	0.24	95.42	94.45	38.79	2.50%	6	2.00	4.68	7.79	0.010	PVC		50% Flow from Block E
CO13	L1	222				4.0	0.27	0.27	0.41	71.85	69.97	75.43	2.50%	6	2.00	5.43	13.32	0.010	PVC		
CO15	L2		257082			4.0	0.21	0.21	0.32	111.70	110.78	91.84	1.00%	10	2.00	3.43	10.28	0.010	PVC		63.91% gpd from Block B 33.33% gpd from Block A
L2	N1					4.0	0.00	0.21	0.32	110.68	109.81	87.06	1.00%	10	2.00	3.43	10.28	0.010	PVC		
N1	EX.NN					4.0	0.00	0.21	0.32	118.32	117.49	82.58	1.00%	10	2.00	3.43	10.28	0.010	PVC		
EX.NN	EX.MM					4.0	0.00	0.21	0.32	117.39	115.15	223.82	1.00%	10	1.85	3.43	11.14	0.010	PVC		
EX.MM	EX.LL					4.0	0.16	0.36	0.56	115.12	114.19	74.55	1.25%	10	2.06	4.40	17.51	0.010	PVC		50% Flow from Block E
EX.LL	EX.KK					4.0	0.00	0.36	0.56	113.96	112.43	122.64	1.25%	10	2.06	4.40	17.51	0.010	PVC		
EX.KK	L1					4.0	0.00	0.36	0.56	112.39	110.57	145.48	1.25%	10	2.06	4.40	17.51	0.010	PVC		
L1	EX.JJ					4.0	0.27	0.63	0.97	110.49	110.01	31.95	1.50%	10	2.26	5.51	27.77	0.010	PVC		100% Flow from Block G
EX.JJ	EX.II					4.0	0.00	0.63	0.97	109.71	104.39	259.55	2.05%	10	2.00	6.14	31.39	0.010	PVC		
EX.II	EX.HH					4.0	0.54	1.17	1.81	104.29	94.35	165.68	6.00%	15	13.33	10.36	8.79	0.010	PVC		
EX.HH	G1					4.0	2.74	3.91	6.05	94.32	83.19	111.27	10.00%	15	17.21	17.57	22.74	0.010	PVC		100% Flow from Landmark Mall
G1	F1					4.0	0.00	3.91	6.05	82.96	80.85	21.12	10.00%	15	17.21	17.57	22.74	0.010	PVC		
F1	E1					4.0	0.00	3.91	6.05	133.32	111.12	222.04	10.00%	15	17.21	17.57	22.74	0.010	PVC		
E1	D1					4.0	0.00	3.91	6.05	111.04	81.11	299.31	10.00%	15	17.21	17.57	22.74	0.010	PVC		
D1	D2	184				4.0	0.22	4.13	6.40	80.81	69.87	109.44	10.00%	15	17.21	17.83	24.02	0.010	PVC		100% Flow from Broadstone Appt
D2	EX.CC					4.0	0.00	4.13	6.40	69.77	68.92	112.78	0.75%	15	4.71	3.84	87.71	0.010	PVC		

ADEQUATE OUTFALL ANALYSIS

Blocks		Office Sanitary Flow	Office G.S.F	Retail Sanitary Flow	Retail G.S.F	MFH Sanitary Flow	MFH Units	Total Proposed Sanitary Flow (GPD)
HOSPITAL CAMPUS	A	200GPD/1,000 S.F.	565,525	200GPD/1,000 S.F.		300GPD/UNIT	-	113,105
	B	200GPD/1,000 S.F.	107,239	200GPD/1,000 S.F.	-	300GPD/UNIT	-	21,448
	C	200GPD/1,000 S.F.	88,085	200GPD/1,000 S.F.	-	300GPD/UNIT	-	17,617
Total			760,849		-		-	152,170
				TOTAL FLOW FROM HOSPITAL CAMPUS (MGD)				0.61
LANDMARK	D	200GPD/1,000 S.F.	-	200GPD/1,000 S.F.	-	300GPD/UNIT	335	100,500
	E	200GPD/1,000 S.F.	131,497	200GPD/1,000 S.F.	-	300GPD/UNIT	172	77,899
	G	200GPD/1,000 S.F.	-	200GPD/1,000 S.F.	-	300GPD/UNIT	222	66,600
	H	200GPD/1,000 S.F.	-	200GPD/1,000 S.F.	42,000	300GPD/UNIT	350	113,400
	I	200GPD/1,000 S.F.	-	200GPD/1,000 S.F.	95,433	300GPD/UNIT	390	136,087
	J	200GPD/1,000 S.F.	52000			300GPD/UNIT	235	80,900
	K	200GPD/1,000 S.F.	-	200GPD/1,000 S.F.	30,080	300GPD/UNIT	349	110,716
	L	200GPD/1,000 S.F.	-	200GPD/1,000 S.F.	11,000	300GPD/UNIT	260	80,200
	M	200GPD/1,000 S.F.	-	200GPD/1,000 S.F.	-	300GPD/UNIT	200	60,000
Total			183,497		178,513		2,513	826,302
				TOTAL FLOW FROM LANDMARK MALL BLOCKS (MGD)				3.31
EX. BUILDING	MULTI-FAMILY USE	200GPD/1,000 S.F.	-	200GPD/1,000 S.F.	-	300GPD/UNIT	184	55,200.00
				TOTAL FLOW FROM BROADSTONE APPT				0.22
				TOTAL FLOW GOING TO EX. CC (MGD)				4.13

Landmark Mall Breakdown by Manhole

	Block	Lateral #	Lateral Tie In Location	% of Block Flow	MH Flow Enters in Sanitary Computations
HOSPITAL CAMPUS	A	1	SMH W1	33.33%	W
		2	SMH V1	33.33%	V
		3	CO15	33.34%	L2
	B	1	CO10	36.09%	R
		2	CO15	63.91%	L2
	C	1	CO5	32.85%	L
		2	CO4	32.85%	K
		3	CO2	32.85%	T
	(Garage)	1	SMH S	1.45%	S
LANDMARK MALL	D	1	CO11	100%	I2
	E	1	CO16	50%	R
		2	CO12	50%	EX. MM
	G	1	CO13	100%	EX. JJ
	H	1	CO1	50%	I
		2	CO3	50%	O
	I	1	CO14	100%	EX. II
	J	1	CO7	100%	I
	K	1	CO6	100%	D
	L	1	CO8	100%	H1
	M	1	CO9	100%	E

SANITARY SEWER ADEQUATE OUTFALL NARRATIVE:

THE PROPOSED BUILDING CONNECTS TO AN EXISTING 10" LINE THAT RUNS PARALLEL TO AN EXISTING INNER ROAD ON THE EXISTING GARAGE. FROM THE POINT OF CONNECTION THERE IS A TOTAL OF 1048.83 FEET OF SANITARY LINE THAT CONSISTS OF PIPES BOTH 10" AND 15" INCH DIAMETER. APPROXIMATELY 1048.83 FEET FROM THE PROPOSED CONNECTION MARKS THE END OF THE ANALYSIS IN ACCORDANCE WITH SECTION MEMORADUM TO INDUSTRY NO. 06-14 AS THE LINE THEN CONNECTS WITH AN EXISTING 33" LINE. THE PROPOSED SITE, BLOCK I, WILL UTILIZE EXISTING SSMH H AS A CONNECTION POINT TO THE SANITARY SYSTEM AS SHOWN ON SHEET 26. A TOTAL OF 390 M.F.H UNITS AND 95,433 RETAIL G.S.F HAVE BEEN INCLUDED.

NOTE: WHERE VELOCITIES IN SANITARY SEWER PIPES EXCEED THE MAXIMUM ALLOWABLE VELOCITY OF 10 FT/S, SPECIAL PROVISIONS SHALL BE MADE TO RESTRAIN THE PIPE TO PROTECT AGAINST DISPLACEMENT BY EROSION.

APPROVED
DEVELOPMENT SITE PLAN NO. ____________
DEPARTMENT OF PLANNING & ZONING
DIRECTOR ____ DATE ____
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. ____________
DIRECTOR ____ DATE ____
CHAIRMAN, PLANNING COMMISSION ____ DATE ____
DATE RECORDED ____________
INSTRUMENT NO. ____ DEED BOOK NO. ____ PAGE NO. ____

No.	DATE	DESCRIPTION

REVISIONS

PLAN DATE 06-24-2022

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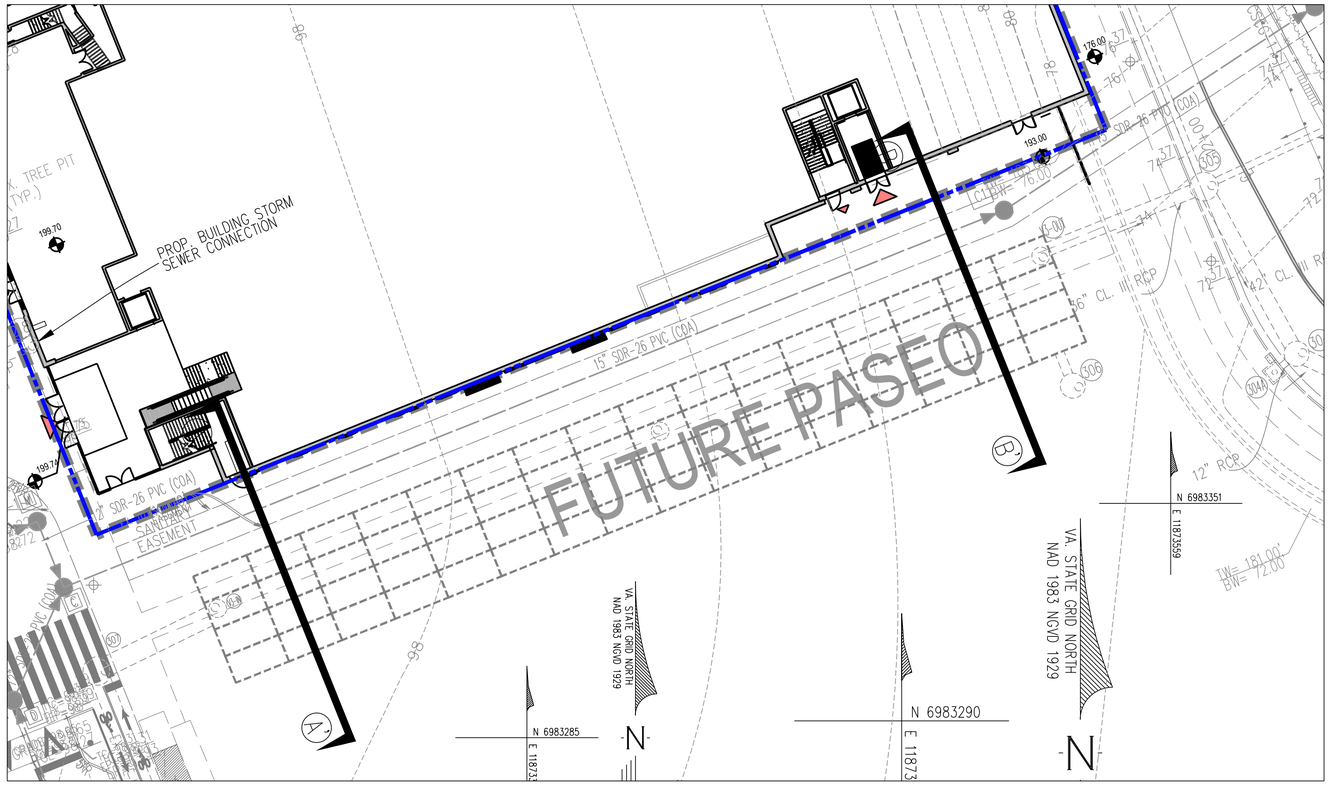
COMMONWEALTH OF VIRGINIA
CLAYTON C. TOCK
Lic. No. 036790
06/24/2022
PROFESSIONAL ENGINEER

SANITARY SEWER COMPUTATIONS
WEST END
PRELIMINARY SITE PLAN - BLOCK I
CITY OF ALEXANDRIA, VIRGINIA
DATE: JUNE 24, 2022
SCALE: N/A
C.I.= N/A

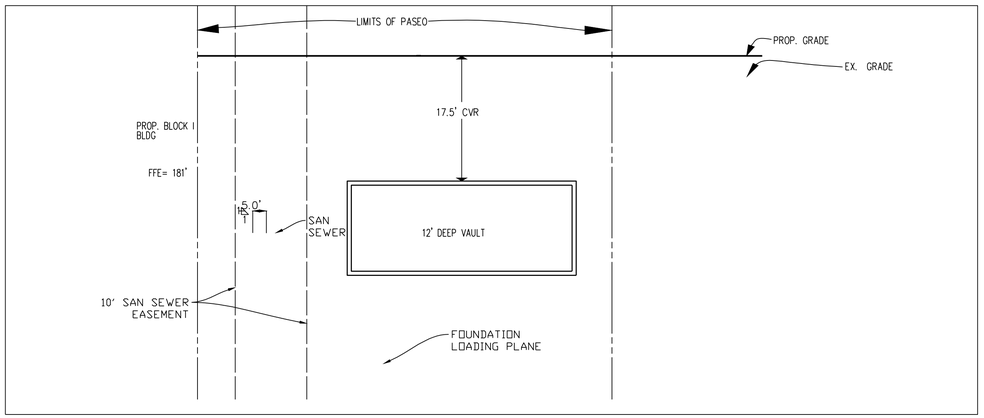
FILE No. DSUP-13079

Urban, Ltd. - J:\JOBS\landmarkmall\DSUP\Block-I\completeness\13079-07-SAN PLAN & CMPS.dwg [Comps] June 24, 2022 - 11:12am zbates

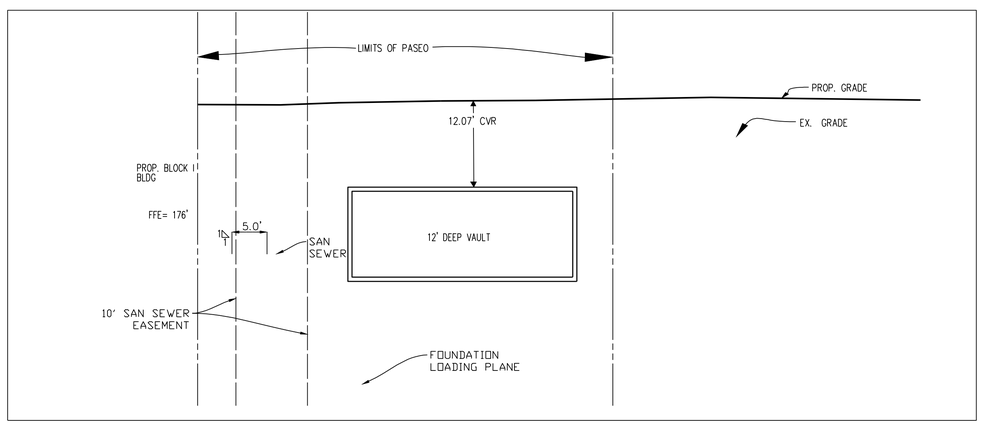


PLAN VIEW 1"=20'

PASEO CROSS SECTION A-A'



PASEO CROSS SECTION B-B'



No.	DATE	DESCRIPTION
		REVISIONS

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06-24-2022

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LOADING PLANE DIAGRAM

WEST END
PRELIMINARY SITE PLAN - BLOCK I

CITY OF ALEXANDRIA, VIRGINIA

SCALE: H: 1"= 50'; V: 1"= 5' C.I.= 2' DATE: JUNE 24, 2022

SHEET
28
OF
75

FILE No.
DSUP-13079

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HENRY G. SHIRLEY MEMORIAL HIGHWAY
INTERSTATE #395
VARIABLE WIDTH R/W
PUBLIC STREET

PEDESTRIAN ROUTE

VEHICLE ROUTE

BIKE ROUTE

BLOCK I

LIMITS OF DISTURBANCE

FUTURE BLOCK G

FUTURE PASEO

PRIVATE ROAD

PUBLIC ROAD

NORTH VAN DORN STREET

TM #038.03-0A-00
PLACE ONE CONDOMINIUM
5500 HOLMES RUN PY
ZONE: RC

LEGEND

- PEDESTRIAN ROUTE
- VEHICLE ROUTE
- BIKE ROUTE

APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

No.	DATE	DESCRIPTION
		REVISIONS

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PROFESSIONAL ENGINEER
06/24/2022

TEMPORARY PEDESTRIAN EXHIBIT
WEST END
PRELIMINARY SITE PLAN - BLOCK I
CITY OF ALEXANDRIA, VIRGINIA
DATE: JUNE 24, 2022
SCALE: 1"=50' C.I.= N/A

SHEET
29
OF
75

FILE No.
DSUP-13079

J:\JOBS\landmark\mall\DSUP\Block-I\completeness\13079-06-PEDESTRIAN EXHIBIT.dwg [09 PEDESTRIAN EXHIBIT] June 24, 2022 - 11:13am zbates

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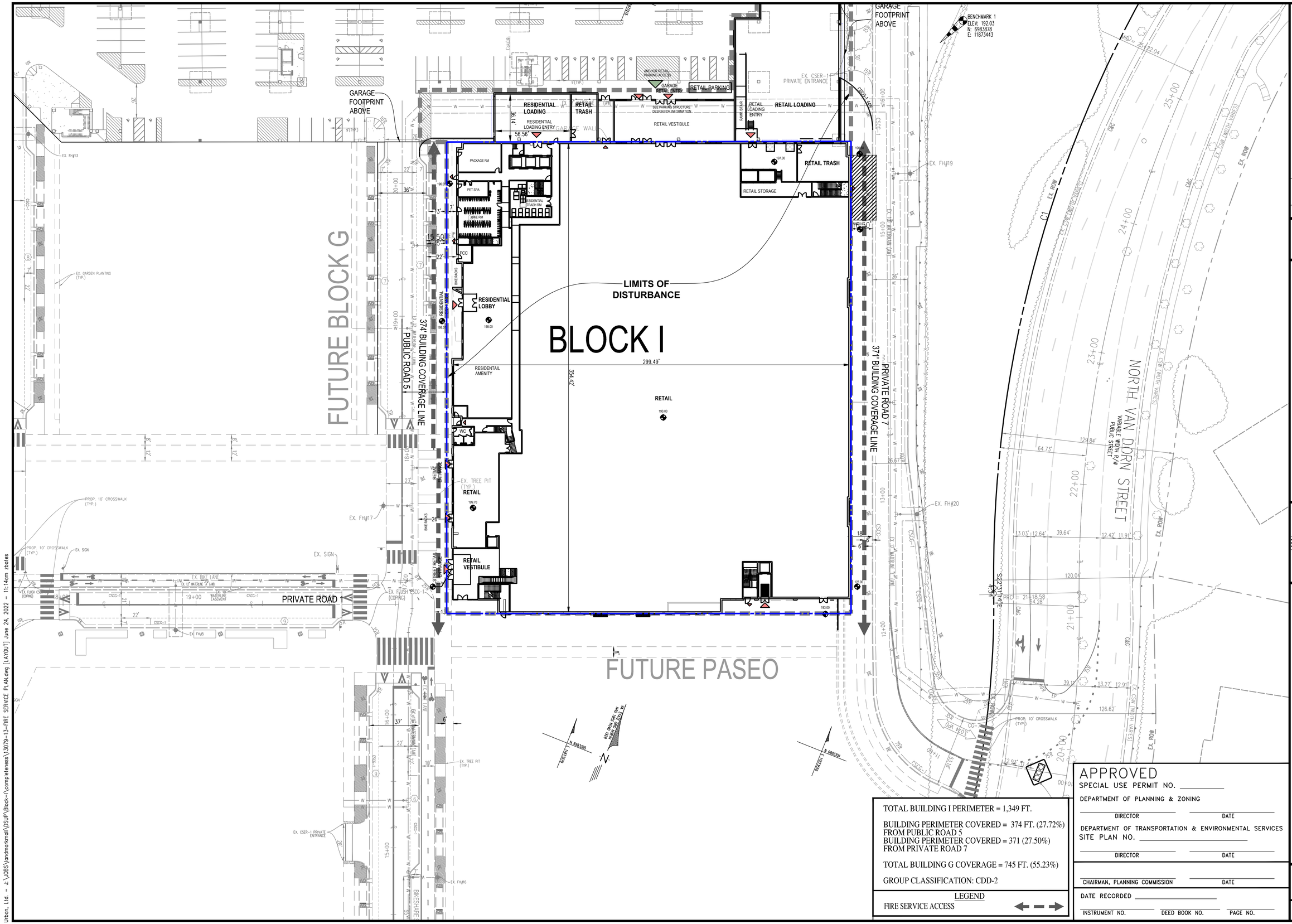

TOTAL BUILDING I PERIMETER = 1,349 FT.

BUILDING PERIMETER COVERED = 374 FT. (27.72%) FROM PUBLIC ROAD 5
BUILDING PERIMETER COVERED = 371 (27.50%) FROM PRIVATE ROAD 7

TOTAL BUILDING G COVERAGE = 745 FT. (55.23%)

GROUP CLASSIFICATION: CDD-2

LEGEND

FIRE SERVICE ACCESS

APPROVED

SPECIAL USE PERMIT NO. _____

DEPARTMENT OF PLANNING & ZONING

DIRECTOR _____ DATE _____

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES

SITE PLAN NO. _____

DIRECTOR _____ DATE _____

CHAIRMAN, PLANNING COMMISSION _____ DATE _____

DATE RECORDED _____

INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____

No.	DATE	DESCRIPTION
		REVISIONS

PLAN DATE 06-24-2022

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06/24/2022

FIRE SERVICE PLAN

WEST END
PRELIMINARY SITE PLAN - BLOCK I

CITY OF ALEXANDRIA, VIRGINIA

DATE: JUNE 24, 2022

SCALE: 1"= 30' C.I.= 2'

SHEET 30 OF 75

FILE No. DSUP-13079

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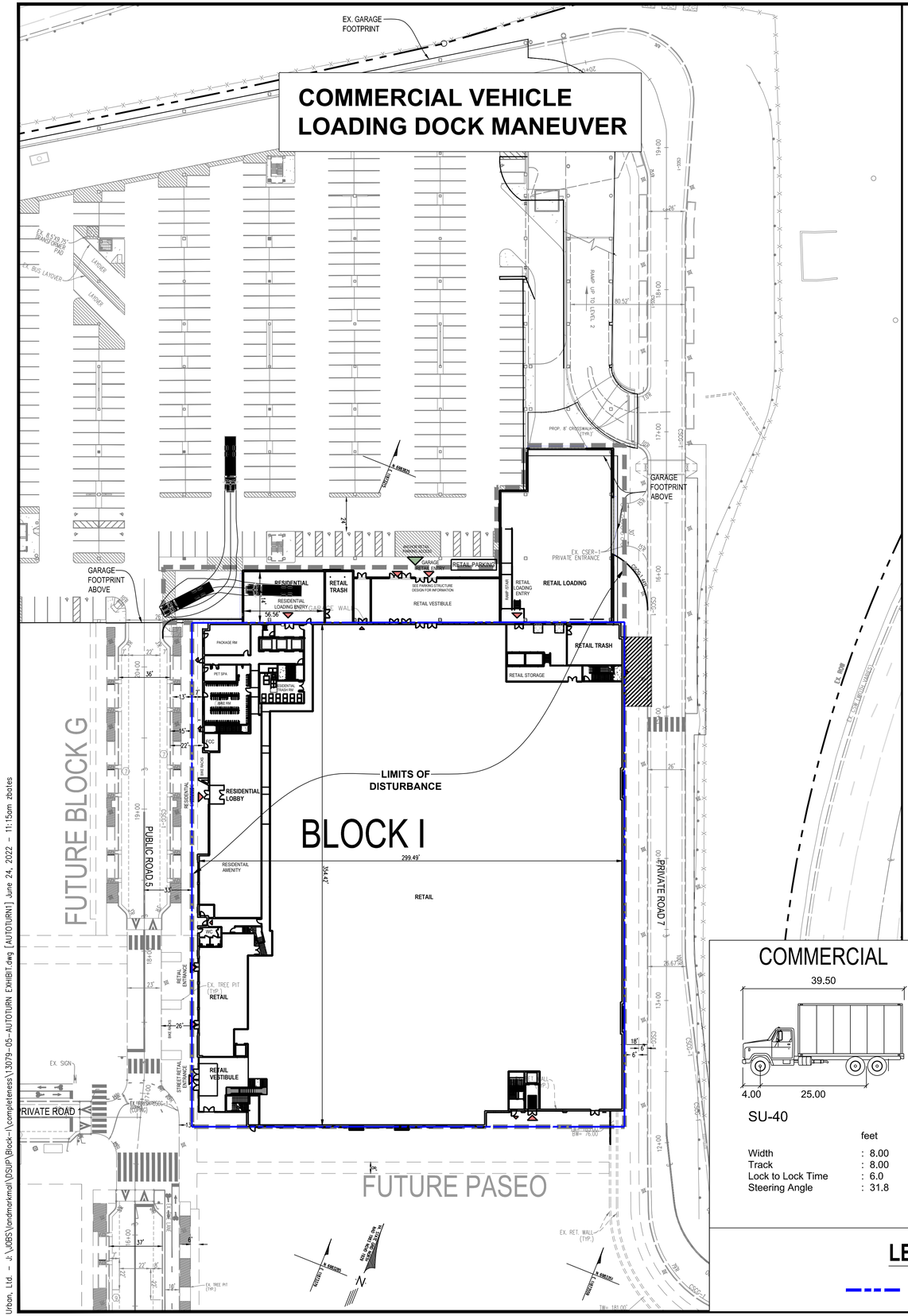

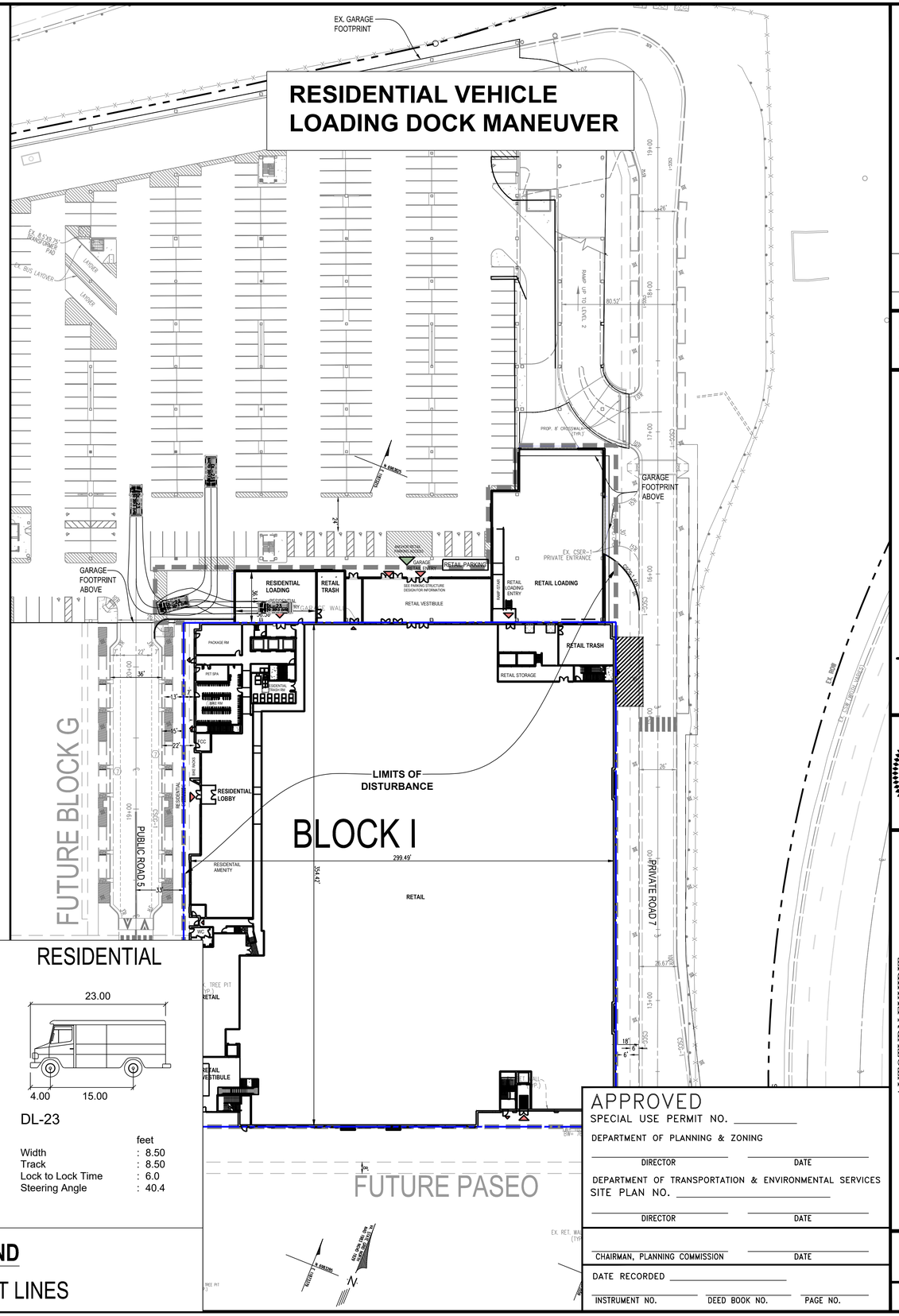

COMMERCIAL

SU-40

	feet
Width	: 8.00
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 31.8

RESIDENTIAL

DL-23

	feet
Width	: 8.50
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 40.4

LEGEND

LOT LINES

APPROVED

SPECIAL USE PERMIT NO. _____

DEPARTMENT OF PLANNING & ZONING

DIRECTOR _____ DATE _____

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES

SITE PLAN NO. _____

DIRECTOR _____ DATE _____

CHAIRMAN, PLANNING COMMISSION _____ DATE _____

DATE RECORDED _____

INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____

No.	DATE	DESCRIPTION

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PLAN DATE 06-24-2022

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CLAYTON C. TOCK
Lic. No. 036790
06/24/2022
PROFESSIONAL ENGINEER

AUTOTURN EXHIBIT

WEST END
PRELIMINARY SITE PLAN - BLOCK I

CITY OF ALEXANDRIA, VIRGINIA

SCALE: 1"=40' C.I.= N/A DATE: JUNE 24, 2022

SHEET 31 OF 75

FILE No. DSUP-13079

Urban, Ltd. – J:\JOBS\landmarkmall\DSUP\Block-1\completeness\13079-05-AUTOTURN EXHIBIT.dwg [AUTOTURN1] June 24, 2022 – 11:15am zbates

WB-67 LOADING BERTH A OUTBOUND



WB-67 LOADING BERTH B OUTBOUND



DRAWING SCALE

0 30' 60'

DRAWN	DESIGNED	CHECKED
BZ	BZ	RBS

DATE	06.21.2022
REV.1	
REV.2	
REV.3	

GOROVE SLADE
Transportation Planners and Engineers

BLOCK I (EYE) LOADING AREA MANEUVERING STUDY

LANDMARK MALL REDEVELOPMENT

Alexandria, Virginia

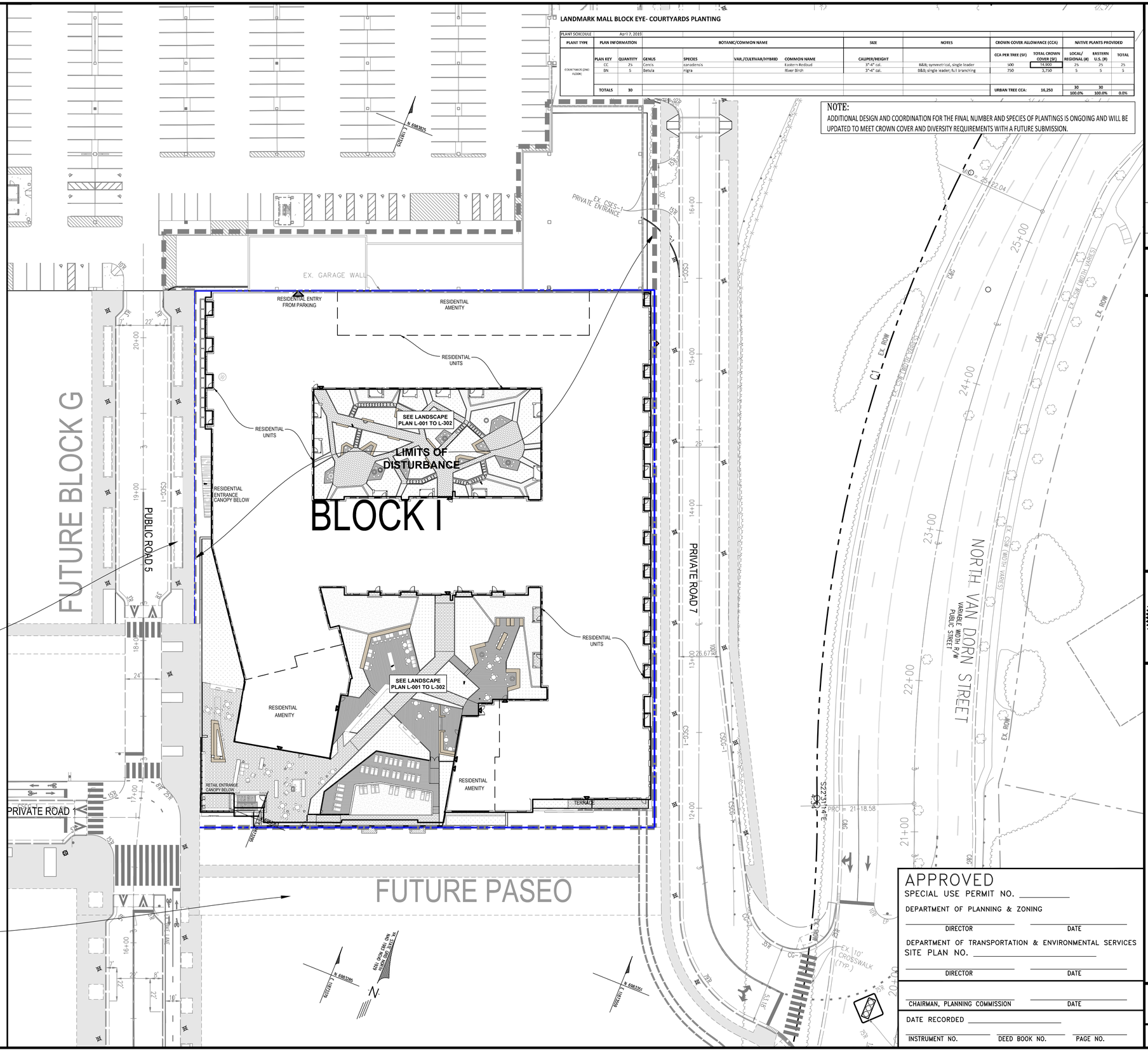
1140 Connecticut Ave. NW / Suite 600 / Washington DC / 20036 / 202.296.8625
225 Reinekers Lane / Suite 750 / Alexandria VA / 20314 / 703.721.3044
3914 Centreville Road / Suite 330 / Chantilly VA / 20151 / 703.787.9595
15125 Washington Street / Suite 212 / Haymarket VA / 20169 / 571.248.0992

PROJECT NO. 2294-013

LANDMARK MALL BLOCK EYE- COURTYARDS PLANTING

PLANT SCHEDULE	April 7, 2019												
PLANT TYPE	PLAN INFORMATION		BOTANIC/COMMON NAME				SIZE	NOTES	CROWN COVER ALLOWANCE (CCA)		NATIVE PLANTS PROVIDED		
	PLAN KEY	QUANTITY	GENUS	SPECIES	VAR./CULTIVAR/HYBRID	COMMON NAME	CALIPER/HEIGHT		CCA PER TREE (SF)	TOTAL CROWN COVER (SF)	LOCAL/ REGIONAL (#)	EASTERN U.S. (#)	TOTAL
COURTYARDS (2ND FLOOR)	CC	25	Cercis	canadensis		Eastern Redbud	3"-4" cal.	B&B; symmetrical, single leader	500	14,900	25	25	25
	BN	5	Betula	nigra		River Birch	3"-4" cal.	B&B; single leader; full branching	750	3,750	5	5	5
	TOTALS	30							URBAN TREE CCA:	16,250	30	30	
											100.0%	100.0%	0.0%

NOTE:
ADDITIONAL DESIGN AND COORDINATION FOR THE FINAL NUMBER AND SPECIES OF PLANTINGS IS ONGOING AND WILL BE UPDATED TO MEET CROWN COVER AND DIVERSITY REQUIREMENTS WITH A FUTURE SUBMISSION.



SEE INFRASTRUCTURE PLAN
DSP#2021-00012

SEE PARKS PLAN
CDSP#2022-00007

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06/24/2022
PROFESSIONAL ENGINEER

OVERALL LANDSCAPE PLAN
WEST END
PRELIMINARY SITE PLAN - BLOCK I
CITY OF ALEXANDRIA, VIRGINIA

SCALE: 1"=30'
C.I.= N/A
DATE: JUNE 24, 2022

SHEET
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OF
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FILE No.
DSUP-13079

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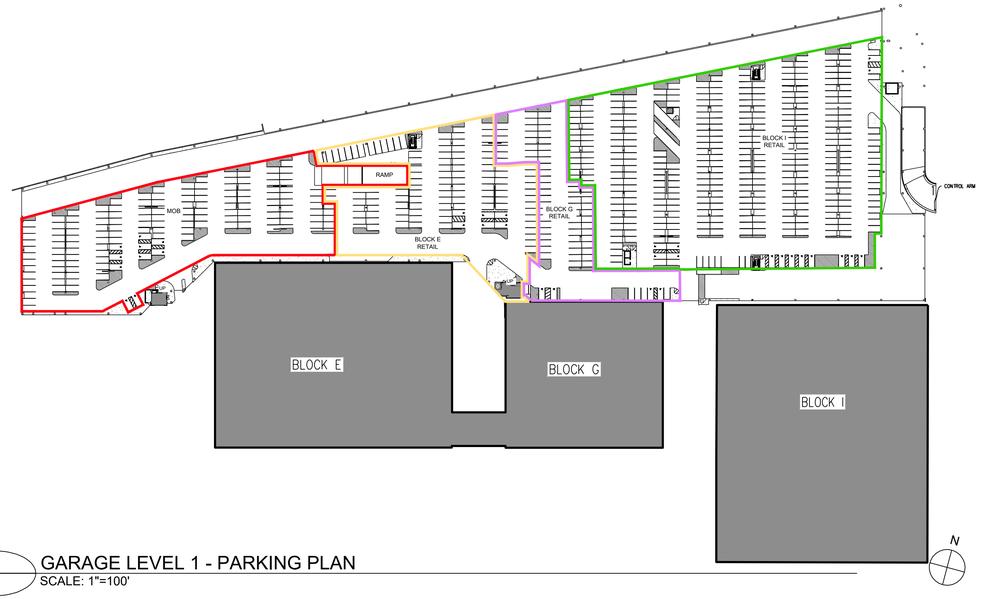
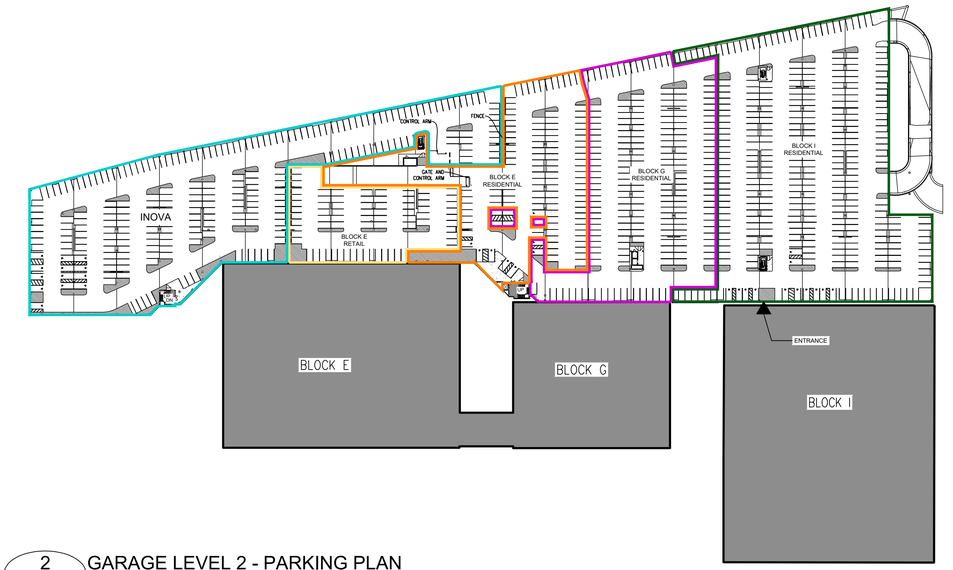
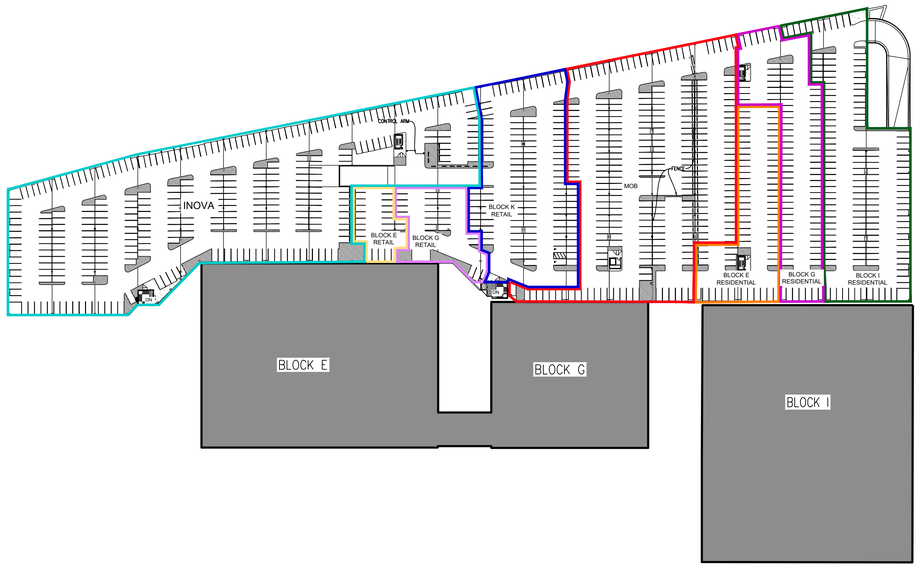


1 GARAGE LEVEL 1 - PARKING PLAN
SCALE: 1"=100'



2 GARAGE LEVEL 2 - PARKING PLAN
SCALE: 1"=100'



3 GARAGE LEVEL 3 - PARKING PLAN
SCALE: 1"=100'

GARAGE PARKING MATRIX

	BLOCK I	
	RETAIL	RESIDENTIAL
LEVEL 1	360	-
LEVEL 2	-	331
LEVEL 3	-	152
TOTAL	360	483

PARKING SPOT LOCATIONS, TOTALS AND ALLOCATIONS HAVE NOT BEEN FINALIZED AND WILL BE ADJUSTED WITHIN THE EXISTING GARAGE FOOTPRINT AS NEEDED TO ADDRESS THE CONCERNS.

LEGEND:

- MOB PARKING LIMITS
- INOVA PARKING LIMITS
- BLOCK E RETAIL PARKING LIMITS
- BLOCK E RESIDENTIAL PARKING LIMITS
- BLOCK G RETAIL PARKING LIMITS
- BLOCK G RESIDENTIAL PARKING LIMITS
- BLOCK I RETAIL PARKING LIMITS
- BLOCK I RESIDENTIAL PARKING LIMITS
- BLOCK K RETAIL PARKING LIMITS

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COMMONWEALTH OF VIRGINIA CLAYTON C. WARD 2924 Lic. No. 038790 ENGINEER PROFESSIONAL 06/24/2022

PARKING PLAN
WEST END
PRELIMINARY SITE PLAN - BLOCK I
CITY OF ALEXANDRIA, VIRGINIA
SCALE: AS NOTED C.I.= N/A DATE: JUNE 24, 2022

SHEET 34 OF 75

FILE No. DSUP-13079

Urban, Ltd. - J:\JOBS\landmarkmall\DSUP\Block--I\completeness\13079--07--ELEVATIONS.dwg [PARKING] June 24, 2022 - 4:14pm bfolsom

Sustainable Building Partners
2701 Prosperity Avenue, Suite 100
Fairfax, VA 22031

Date: April 1st, 2022

Project: LMR Block Eye

Purpose: Concept 2 Submission - Green Building Approach

General Approach

The Landmark Mall Redevelopment (LMR) project is pursuing LEED Neighborhood Development v4 Plan certification. The LMR Block Eye project is pursuing LEED BD+C Multifamily Mid-rise v4 certification at a Silver level. The project will comply with the Green Building Policy in effect at the time of the DSUP.

Energy

Sustainable Building Partners is hired to perform whole building energy modeling for the project. The effort will analyze the impacts of the envelope, mechanical, plumbing, and electrical systems on the overall energy performance of the building. The effort is iterative, occurring at key design development milestones. Energy efficiency opportunities will be explored and considered to optimize the overall performance and reduce the environmental impacts of the building. Strategies include but are not limited to:

- Window-to-wall ratio
- Window performance
- Envelope thermal transmittance
- Thermal bridging
- Heating and cooling efficiencies
- Ventilation optimization and controls
- Lighting power density

The project will meet the require 14% energy cost savings, equivalent to 5 LEED NC energy points, and explore higher levels of performance as part of this effort. The project will not be part of a district-wide energy system.

The building will be made solar-ready for potential future installation of PV panels.

Water

The project will use native and adaptive plantings throughout the project. The project will include a high-performing irrigation system using drip irrigation, moisture meters, and controllers where necessary to ensure plantings survive and thrive. The use of non-potable water for irrigation will be evaluated.

Low flow plumbing fixtures and ENERGY STAR appliances will be used to reduce potable water use reduction. A 40% water use reduction, at minimum, will be achieved for plumbing fixtures as required by the Green Building Policy. Potential fixture flow rates include: 0.8/1.28 gpf dual flush water closet, 1.0 gpm lavatory faucet, 1.75 gpm

showerhead, and 1.5 gpm kitchen faucet. All tank water closets, lavatory faucets, and showerheads will be WaterSense labeled ensuring high-quality fixtures.

Indoor Environmental Quality

Overall occupant comfort and indoor air quality will be achieved by ensuring high quality compartmentalization of the units, which will be tested and measured via unit air leakage testing. This ensures contaminant and odor transfer between units is minimized. Additionally, outdoor air will be provided directly from the outdoors into the units and all outdoor air systems will be equipped with a minimum MERV 8 filter.

Indoor air quality concerns will also be mitigated by using low-emitting flooring, paints and coating, insulation, and ceiling systems within the building. This will be managed and confirmed by reviewing product information and ensuring it carries a GreenGuard Gold label (or equivalent), which is a third-party label that confirms volatile organic compounds levels are below prescribed thresholds.

Lastly, the project team will evaluate daylight penetration into units, amenity, and retail spaces. Window and daylit area will be maximized to the greatest extent possible, while still balancing thermal and energy performance.

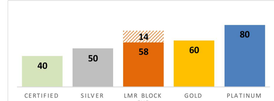
Date: 6/21/22

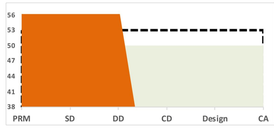
LMR Block Eye

TO:

Owner:	Foulger-Pratt
Architect:	Hickok Cole Architects
Civil:	Urban, LTD.
Landscape:	Oculus
MEP:	WSP

Total Points			
Yes	Maybe	No	Total Possible Points: 110
58.0	14	38.5	





STATUS:

Target: Silver - 50 points (53 pts recommended)

Current: 58 points

ACTION ITEMS:

The following list summarizes the action items from the full drawing review of the 50% DD Set.

Architect - Hickok Cole
- Include air sealing details in drawings (reference attached example).
- Confirm high-SRI materials for mechanical roof and high roof (maybe point).
- Provide appliance and plumbing fixture selections.
- Provide finish schedule for review.
- Confirm non-paper faced backer board is used at shower/tub.

MEP - WSP
- Provide systems selection, load calculations, duct sizing calculations.
- Complete ASHRAE 62.1-2010 calculations for common areas/corridoors in the USGBC Calculator.
- Complete ASHRAE 62.2-2010 calculations for residential units.
- Confirm electric submeter for each unit and whole building gas meter.
- Confirm drain+pan OR pan+auto water shut-off provided at clothes washer & water heaters.
- Indicate CO sensors in units in drawings.
- Specify minimum MERV 8 filters on Unit HVAC systems and MERV 6 on OA systems.

Civil - Urban, LTD
- Advise whether the green roof and bioretention manages on-site the run-off from the 70th, 75th, or 80th percentile storm event (maybe point).

Landscape - Oculus
- Provide full non-invasive plant list and third party list for comparison (Chesapeake Bay List)

PURPOSE:

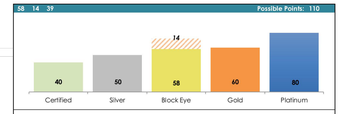
This document entails actions items to be completed and includes:
- updated LEED Scorecard
- credit by credit review of compliance

ACTION:

The following are action items for the team:
- Provide a response for each action item
- Inform SBP once issues have been addressed

LEED for Homes v4: Multifamily Mid-Rise
LMR Block Eye
June 21, 2022

Y	?	N			
Integrative Process				**Possible Points: 2**	
2			Credit	Integrative Process	
Location and Transportation				**Possible Points: 15**	
Y			Prereq	Floodplain Avoidance	Required
15			Credit	*Neighborhood Development*	15
		8	Credit	Site Selection	8
		3	Credit	Compact Development	3
		2	Credit	Community Resources	2
		2	Credit	Access to Transit	2
Sustainable Sites				**Possible Points: 7**	
Y			Prereq	Construction Activity Pollution Prevention	Required
Y			Prereq	No Invasive Plants	Required
	2		Credit	Heat Island Reduction *NO Alignment*	2
	3		Credit	Rainwater Management (v4.1) *NO Alignment*	3
1.5		0.5	Credit	Non-Toxic Pest Control	2
Water Efficiency				**Possible Points: 12**	
Y			Prereq	Water Metering	Required
4	2	4	Credit	Total Water Use *NO Alignment*	12
Energy and Atmosphere				**Possible Points: 37**	
Y			Prereq	Minimum Energy Performance *NO Alignment*	Required
Y			Prereq	Energy Metering	Required
Y			Prereq	Education of the Homeowner, Tenant or Building Manager	Required
19	2	9	Credit	Annual Energy Use *NO Alignment*	30
		5	Credit	Efficient Hot Water Distribution	5
1	1		Credit	Advanced Utility Tracking	2
Materials and Resources				**Possible Points: 9**	
Y			Prereq	Certified Tropical Wood	Required
Y			Prereq	Durability Management	Required
1			Credit	Durability Management Verification	1
0.5		4.5	Credit	Environmentally Preferable Products	5
2		1	Credit	Construction Waste Management (NC v4)	3
Indoor Environmental Quality				**Possible Points: 18**	
Y			Prereq	Ventilation	Required
Y			Prereq	Combustion Venting	Required
Y			Prereq	Garage Pollutant Protection	Required
Y			Prereq	Radon-Resistant Construction	Required
Y			Prereq	Air Filtering	Required
Y			Prereq	Environmental Tobacco Smoke	Required
Y			Prereq	Compartmentalization	Required
1		2	Credit	Enhanced Ventilation	3
	0.5	1.5	Credit	Contaminant Control	2
1		2	Credit	Balancing of Heating and Cooling Distribution Systems	3
		3	Credit	Enhanced Compartmentalization	3
2			Credit	Enhanced Combustion Venting	2
		1	Credit	Enhanced Garage Pollutant Protection	1
2		1	Credit	Low Emitting Products	3
1			Credit	No Environmental Tobacco Smoke	1
Innovation				**Possible Points: 6**	
2	3		Credit	Innovation	5
1			Credit	LEED AP Homes	1
Regional Priority Credits				**Possible Points: 4**	
		1	Credit	Outdoor Water Use (4 pts)	1
		1	Credit	Total Water Use (12 pts)	1
		1	Credit	Construction Waste Management (3 pts)	1
		1	Credit	Rainwater Management (3 pts)	1
58	14	39		**Possible Points: 110**	



Note:
- min 6 points total in LT and EA required
- min 3 points in WE required
- min 3 points in EQ required

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GREEN BUILDING APPROACH
WEST END
PRELIMINARY SITE PLAN - BLOCK I
CITY OF ALEXANDRIA, VIRGINIA
SCALE: AS NOTED
DATE: JUNE 24, 2022
C1.= N/A

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OF
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WEST END - BLOCK EYE

5801 DUKE STREET, ALEXANDRIA, VA 22304

DEVELOPMENT SPECIAL USE PERMIT (DSUP)



DRAWING INDEX

DRAWING INDEX - ARCHITECTURE DSUP	
SHEET NUMBER	SHEET NAME
AZ-000	COVER SHEET
AZ-001	CODE ANALYSIS
AZ-010	ZONING PLANS
AZ-011	UNIT MIX
AZ-014	ZONING - BUILDING MASSING
AZ-098	ARCHITECTURAL SITE PLAN
AZ-099	FLOOR PLAN - LOWER LEVEL
AZ-101	FLOOR PLAN - LEVEL 1
AZ-102	FLOOR PLAN - LEVEL 2
AZ-103	FLOOR PLAN - LEVEL 3
AZ-104	FLOOR PLAN - LEVEL 4-6 (TYP.)
AZ-105	FLOOR PLAN - LEVEL 7
AZ-108	FLOOR PLAN - ROOF
AZ-121	LIGHTING PLAN - LEVEL 1
AZ-140	RESIDENTIAL LOADING DIAGRAM
AZ-200	BUILDING ELEVATIONS
AZ-201	BUILDING ELEVATIONS
AZ-202	BUILDING ELEVATIONS
AZ-203	BUILDING ELEVATIONS
AZ-204	BUILDING NORTH COURTYARD ELEVATIONS
AZ-205	BUILDING SOUTH COURTYARD ELEVATIONS
AZ-300	BUILDING SECTIONS
AZ-400	ELEVATION DETAIL
AZ-401	ELEVATION DETAIL
AZ-402	ELEVATION DETAIL
AZ-403	ELEVATION DETAIL
AZ-404	ELEVATION DETAIL
AZ-405	ELEVATION DETAIL
AZ-500	3D VIEW OVERALL MASSING
AZ-501	3D VIEW PERSPECTIVES
AZ-502	3D VIEW PEDESTRIAN LEVEL ROAD 7
AZ-503	3D VIEW ADJACENT BLOCKS
AZ-900	SUN STUDIES

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CHAIRMAN, PLANNING COMMISION DATE

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hickok cole
Hickok Cole Architects, Inc.
301 N Street NE, Suite 300
Washington, DC 20002
202.667.9776
hickokcole.com

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PROJECT NO.: 21073.00
DRAWN BY: Author
PROJECT NAME: WEST END - BLOCK EYE
ADDRESS: 5801 DUKE STREET ALEXANDRIA, VA 22304
SCALE:

DRAWING TITLE: COVER SHEET

DRAWING NO.: AZ-000

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6/23/2022 6:15:55 PM BIM 360://21073 - WEST END BLOCK I//21073-WEST END BLOCK EYE-CORE AND SHELL-ARCH-R21.rvt

MEANS OF EGRESS - IBC CHAPTER 10

SEPARATION OF EXITS (1007.1.1 EXCEPTION 2) WITH AN AUTOMATIC SPRINKLER SYSTEM THROUGHOUT
1/4 LENGTH OF THE MAX DIAGONAL OF THE AREA SERVED

EGRESS WIDTH PER OCCUPANT WITH AN AUTOMATIC SPRINKLER SYSTEM THROUGHOUT (1005)
0.2" AT STAIRWAYS (1005.3.1 exception 1)
0.15" AT LEVEL COMPONENTS & RAMPS (1005.3.2 exception 1)

WIDTH OF EGRESS COMPONENTS
STAIRWAYS (1011.2)
OCCUPANT LOAD >50 = 44" MINIMUM
OCCUPANT LOAD <50 = 36" MINIMUM (exception 1)
DOORS (1010.1.) = 32" CLEAR MINIMUM (MAXIMUM LEAF 48")
CORRIDORS (1020.2)
WITHIN A DWELLING UNIT = 36" MINIMUM
OCCUPANT LOAD < 50 = 36" MINIMUM
ALL OTHER = 44" MINIMUM
RAMPS (1012.5.1)
OCCUPANT LOAD >50 = 44" MINIMUM
OCCUPANT LOAD < 50 = 36" MINIMUM

DOORS (1010)
LANDINGS - DOOR SHALL NOT REDUCE LANDING TO LESS THAN 1/2 OF REQUIRED WIDTH (1010.1.6)
THRESHOLDS - 3/4" FOR SLIDING DOORS, 1/2" FOR OTHER DOORS (1010.1.7), 7-3/4" FOR EXTERIOR DOORS IN R-2 THAT ARE NOT A PART OF THE REQUIRED MEANS OF EGRESS, NOT PART OF AN ACCESSIBLE ROUTE AND NOT PART OF A TYPE A OR TYPE B ACCESSIBLE UNITS

DOOR CLEARANCES COUNTED AS:
3'-0" DOOR = 2'-9" CLEAR
3'-4" DOOR = 3'-0" CLEAR
3'-6" DOOR = 3'-2" CLEAR
6'-0" DOUBLE DOOR W/O MULLION = 5'-6" CLEAR
6'-0" DOUBLE DOORS WITH MULLION = 5'-4" CLEAR
7'-4" DOUBLE DOOR W/O MULLION = 6'-10" CLEAR
7'-6" DOUBLE DOOR W/O MULLION = 7'-0"
6'-4" DOUBLE DOOR WITH CENTER PIVOT = 5'-6" CLEAR

OCCUPANT LOAD(1004)
MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT (TABLE 1004.5)
ASSEMBLY W/O FIXED SEATS
UNCONCENTRATED 15 NET (TABLES AND CHAIRS)
STANDING SPACE 5 NET
RESIDENTIAL 200 GROSS
RESIDENTIAL LOBBY (B) 150 GROSS
MERCANTILE 60 GROSS
STOCK/STORAGE 300 GROSS
PARKING GARAGE 200 GROSS
ACCESSORY STORAGE AREAS 300 GROSS

COMMON PATH OF TRAVEL (IBC 1006.2.1) WITH SPRINKLER SYSTEM
75'-0" MAX AT OCCUPANCY GROUPS A-3, M
100'-0" MAX AT OCCUPANCY GROUPS S-2, B
125'-0" MAX AT OCCUPANCY GROUP R-2

EXIT ACCESS TRAVEL DISTANCE (IBC 1017.2) WITH SPRINKLER SYSTEM
250'-0" MAX AT OCCUPANCY GROUPS A-3, R-2, M
300'-0" MAX AT OCCUPANCY GROUP B
400'-0" MAX AT OCCUPANCY GROUP S-2

NUMBER OF EXIT ACCESS DOORWAYS (IBC 1006.2)
TWO EXITS ARE REQUIRED WHEN OCCUPANT LOAD EXCEEDS THE FOLLOWING VALUES:
>49 OCCUPANTS IN GROUPS A-3, B, M
>10 OCCUPANTS IN GROUP R-2 (DWELLING UNITS 1006.3.3 (5.1/5.2))
>29 OCCUPANTS IN GROUPS S-2

ACCESSIBLE MEANS OF EGRESS (1009)
ELEVATORS (1009.4) PROVIDED
STAIRWAYS (1009.3) PROVIDED
AREA OF REFUGE NOT REQUIRED AT STAIRWAYS WITH AUTOMATIC SPRINKLER SYSTEM (1009.6.4 EXCEPTION 3)
LOBBIES DO NOT COUNT AS INTERVENING SPACES (1020.6 EXCEPTION 1)
1009.8 TWO-WAY COMMUNICATION AT EACH ELEVATOR LANDING AT LEVELS ABOVE OR BELOW LEVEL OF EXIT DISCHARGE.

MINIMUM CORRIDOR WIDTH (TABLE 1020.2)
ANY FACILITY NOT LISTED BELOW 44" MIN.
WITHIN A DWELLING UNIT 36" MIN.

DEAD ENDS (1020.4)
A-3 - 20'
R-2, S - 50', (EXCEPTION 2)
DEAD END CORRIDOR SHALL NOT BE LIMITED IN LENGTH WHERE THE LENGTH OF THE DEAD-END CORRIDOR IS LESS THAN 2.5 TIMES THE LEAST WIDTH OF THE DEAD-END CORRIDOR.

ROOF ACCESS (1011.12)
1011.12 STAIRWAY TO ROOF.
IN BUILDINGS FOUR OR MORE STORIES ABOVE GRADE PLANE, ONE STAIRWAY SHALL EXTEND TO THE ROOF SURFACE UNLESS THE ROOF HAS A SLOPE STEEPER THAN FOUR UNITS VERTICAL IN 12 UNITS HORIZONTAL (33-PERCENT SLOPE).

EXCEPTION: OTHER THAN WHERE REQUIRED BY SECTION 1011.12.1, IN BUILDINGS WITHOUT AN OCCUPIED ROOF ACCESS TO THE ROOF FROM THE TOP STORY SHALL BE PERMITTED TO BE BY AN ALTERNATING TREAD DEVICE, A SHIP'S LADDER OR A PERMANENT LADDER.

1011.12.1 STAIRWAY TO ELEVATOR EQUIPMENT.
ROOFS AND PENTHOUSES CONTAINING ELEVATOR EQUIPMENT THAT MUST BE ACCESSED FOR MAINTENANCE ARE REQUIRED TO BE ACCESSED BY A STAIRWAY.

1011.12.2 ROOF ACCESS.
WHERE A STAIRWAY IS PROVIDED TO A ROOF, ACCESS TO THE ROOF SHALL BE PROVIDED THROUGH A PENTHOUSE COMPLYING WITH SECTION 1510.2.

EXCEPTION: IN BUILDINGS WITHOUT AN OCCUPIED ROOF, ACCESS TO THE ROOF SHALL BE PERMITTED TO BE A ROOF HATCH OR TRAP DOOR NOT LESS THAN 16 SQUARE FEET (1.5 M2) IN AREA AND HAVING A MINIMUM DIMENSION OF 2 FEET (610 MM).

ACCESSIBILITY - IBC CHAPTER 11

IBC CHAPTER 11, AND ICC/ANSI A117.1-2009
ACCESSIBLE RESTROOM ARE PROVIDED AT LOBBY AND ROAD 5 STREET LEVEL.
ACCESSIBLE STAIRS TREADS, RISERS, HANDRAILS AND GUARDRAILS ARE PROVIDED.
ACCESSIBLE ROUTES ARE PROVIDED AT BUILDING MAIN ENTRANCES AND THROUGH-OUT THE INTERIOR OF THE BUILDING.
ACCESSIBLE PARKING SPACES ARE PROVIDED IN THE PARKING GARAGE.
GARAGE SIGNAGE TO COMPLY.
ELEVATORS ARE ACCESSIBLE.
RESIDENTIAL UNITS WILL COMPLY WITH 1107

INTERIOR ENVIRONMENT - IBC CHAPTER 12

YARDS AND COURTS (1205)
COURTS DESIGN SHALL COMPLY WITH VCC SEC. 1205.3

FIRE PROTECTION - IBC CHAPTERS 7,8,9

FIRE WALLS (706) 3 HR
FIRE BARRIERS (707) 2 HR
SHAFT ENCLOSURES (713)
CONNECTING FOUR STORIES OR MORE (713.4) 2 HR
EXIT ENCLOSURES (707.3.3) 2 HR
EXIT PASSAGEWAY (707.3.4, 1023.3) 2 HR WHEN CONNECTING TO 2HR STAIR

OTHER FIRE RESISTANT CONSTRUCTION
FIRE PARTITIONS (708)
WALL SEPARATING DWELLING UNITS 1HR
CORRIDOR WALLS (TABLE 1020.1) 0.5 HOUR
ELEVATOR LOBBY NOT REQUIRED (713.14.1)

REFUSE CHUTES (713.4 AND 713.13.1) 2 HR

PENETRATIONS (714) (SEE FIRE STOP ASSEMBLIES) PROVIDED
DUCTS & DAMPERS (717) PROVIDED
CONCEALED SPACES (718) PROVIDED
THERMAL AND SOUND INSULATING MATERIALS (720) PROVIDED

705.2.3.1 (1406.3) BALCONIES AND SIMILAR PROJECTIONS
EXCEPTION 3: BALCONIES AND SIMILAR PROJECTIONS ON BUILDINGS OF TYPES III, IV AND V CONSTRUCTION SHALL BE PERMITTED TO BE TYPE V CONSTRUCTION, AND SHALL NOT BE REQUIRED TO HAVE A FIRE RESISTANCE RATING WHERE SPRINKLER PROTECTION IS EXTENDED TO THESE AREAS.

706.6.1
WHERE A FIRE WALL SERVES AS AN EXTERIOR WALL FOR A BUILDING AND SEPARATES BUILDINGS HAVING DIFFERENT ROOF LEVELS, SUCH WALL SHALL TERMINATE AT A POINT NOT LESS THAN 30 INCHES (762 MM) ABOVE THE LOWER ROOF LEVEL, PROVIDED THE EXTERIOR WALL FOR A HEIGHT OF 15 FEET (4572 MM) ABOVE THE LOWER ROOF IS NOT LESS THAN 1-HOUR FIRE-RESISTANCE-RATED CONSTRUCTION FROM BOTH SIDES WITH OPENINGS PROTECTED BY FIRE ASSEMBLIES HAVING A FIRE PROTECTION RATING OF NOT LESS THAN ¾ HOUR.

EXCEPTION: WHERE THE FIRE WALL TERMINATES AT THE UNDERSIDE OF THE ROOF SHEATHING, DECK OR SLAB OF THE LOWER ROOF, PROVIDED THAT:

1.THE LOWER ROOF ASSEMBLY WITHIN 10 FEET (3048 MM) OF THE WALL HAS NOT LESS THAN A 1-HOUR FIRE-RESISTANCE RATING AND THE ENTIRE LENGTH AND SPAN OF SUPPORTING ELEMENTS FOR THE RATED ROOF ASSEMBLY HAS A FIRE-RESISTANCE RATING OF NOT LESS THAN 1 HOUR.

2.OPENINGS IN THE LOWER ROOF SHALL NOT BE LOCATED WITHIN 10 FEET (3048 MM) OF THE FIRE WALL.

TABLE 803.13 INTERIOR WALL AND CEILING FINISH REQUIREMENTS BY OCCUPANCY - SPRINKLERED

GROUP	INTERIOR EXIT STAIRWAYS, INTERIOR EXIT RAMPS AND EXIT PASSAGEWAYS	CORRIDORS AND ENCLOSURE FOR EXIT ACCESS STAIRWAYS AND EXIT ACCESS RAMPS	ROOMS AND ENCLOSED SPACES.
A-3	B	B	C
B/ M	B	C	C
R-2	C	C	C
S	C	C	C

903 AUTOMATIC SPRINKLER SYSTEM
(WHERE REQUIRED)
ASSEMBLY (903.2.1)
MERCHANTIL (903.2.7)
RESIDENTIAL R-2 (903.2.8)
PARKING GARAGES GROUP S-2 (903.2.10)
RUBBISH AND LINEN CHUTES (903.2.11.2)
BUILDINGS 55 FEET OR MORE IN HEIGHT (903.2.11.3)
ADDITIONAL REQUIREMENTS (TABLE 903.2.11.6)
STANDARDS - NFPA 13 (903.3.1.1)
SHOP DRAWINGS (109.)
QUICK RESPONSE AND RESIDENTIAL SPRINKLERS (903.3.2)
ACTUATION - AUTOMATIC (903.3.4)
REQ HOSE THREADS (903.3.6, 903.3.7)
REQ SPRINKLER SYSTEM SUPERVISION AND ALARMS (903.4.)

STANDPIPE SYSTEMS (905)
REQ INSTALLATION STANDARDS NFPA 14 (905.2)
REQ BUILDING HEIGHT (905.3.1) CLASS I
REQ HOSE CONNECTIONS AND LOCATIONS (905.4)
IN EVERY REQUIRED INTERIOR EXIT STAIRWAY, A HOSE CONNECTION SHALL BE PROVIDED FOR EACH STORY ABOVE AND BELOW GRADE PLANE.
HOSE CONNECTIONS SHALL BE LOCATED AT THE MAIN FLOOR LANDING UNLESS OTHERWISE APPROVED BY THE FIRE CODE OFFICIAL.
REQ CABINETS (905.7)
REQ VALVE SUPERVISION (905.9)

PORTABLE FIRE EXTINGUISHERS (906)
REQUIRED LOCATIONS - ALL OCCUPANCIES

907 FIRE ALARM DETECTION SYSTEMS
(WHERE REQUIRED)
CONSTRUCTION DOCUMENTS (907.1.1)
SHOP DRAWINGS (907.1.2)
ASSEMBLY (907.2.1)
MERCHANTIL (907.2.7)
RESIDENTIAL (907.2.9)

907 FIRE ALARM AND DETECTION SYSTEMS (DESIGN)
MANUAL FIRE ALARM BOXES (907.4.2 - 907.5)
ACTIVATION/PRESIGNAL/ZONES (907.5 - 907.8)
ALARM NOTIFICATION APPLIANCES (907.5 - 907.8)
EMERGENCY VOICE/ALARM COMMUNICATION SYSTEM (907.5.2.2)
DETECTORS (907.4.3)
MONITORING (907.6.6)

907.6.4.2 HIGH-RISE BUILDINGS.
IN HIGH-RISE BUILDINGS, A SEPARATE ZONE BY FLOOR SHALL BE PROVIDED FOR EACH OF THE FOLLOWING TYPES OF ALARM-INITIATING DEVICES WHERE PROVIDED:
1.SMOKE DETECTORS.
2.SPRINKLER WATERFLOW DEVICES.
3.MANUAL FIRE ALARM BOXES.
4.OTHER APPROVED TYPES OF AUTOMATIC FIRE DETECTION DEVICES OR SUPPRESSION SYSTEMS.

911 FIRE COMAND CENTER
WHERE REQUIRED BY OTHER SECTIONS OF THIS CODE AND IN BUILDINGS CLASSIFIED AS HIGH-RISE BUILDINGS BY THIS CODE, A FIRE COMMAND CENTER FOR FIRE DEPARTMENT OPERATIONS SHALL BE PROVIDED AND SHALL COMPLY WITH SECTIONS 911.1.1 THROUGH 911.1.6.

911.1.2 THE FIRE COMMAND CENTER SHALL BE SEPARATED FROM THE REMAINDER OF THE BUILDING BY NOT LESS THAN A 1-HOUR FIRE BARRIER CONSTRUCTED IN ACCORDANCE WITH SECTION 707 OR HORIZONTAL ASSEMBLY CONSTRUCTED IN ACCORDANCE WITH SECTION 711

911.1.3 SIZE.
THE FIRE COMMAND CENTER SHALL BE A MINIMUM OF 96 SQUARE FEET (9 M2) IN AREA WITH A MINIMUM DIMENSION OF 8 FEET (2438 MM).

912 FIRE DEPARTMENT CONNECTIONS
913 FIRE PUMPS - REQUIRED
914 EMERGENCY RESPONDER SAFETY FEATURES - REQUIRED
916 GAS DETECTION SYSTEMS - REQUIRED

918 IN-BUILDING EMERGENCY COMMUNICATIONS COVERAGE - (918.1 EXCEPTION 5)
Where the owner provides technological documentation from a qualified individual that the structure or portion thereof does not impede emergency communication signals. ACCEPTANCE TEST (918.2)

BUILDING HEIGHTS AND AREAS - IBC CHAPTER 5

506 BUILDING AREA -

SM = BUILDINGS TWO OR MORE STORIES ABOVE GRADE PLANE EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM

TYPE IA CONSTRUCTION — ALLOWABLE AREA PER ZONE

ALLOWABLE BUILDING AREA	LEVEL 1 , 2, 3	(A, B, M, R2, S)	UNLIMITED	TABLE 506.2

TYPE IIIA CONSTRUCTION — ALLOWABLE AREA PER ZONE

ALLOWABLE BUILDING AREA	LEVEL 3-7	(R2,)	72,000 X 3* (*stories not to exceed 3) 216,000SF per zone	TABLE 506.2 506.2.3

TWO FIRE ZONES REQUIRED @ IIIA CONSTRUCTION

FIRE ZONE A = 160,399
FIRE ZONE B = 177,711

508 MIXED USE AND OCCUPANCY - SEE BUILDING AREA CHART FOR AREA RATIOS
(LEVEL 2 NON-SEPERATED MIXED USE)

508.4 SEPARATED OCCUPANCIES PER TABLE 508.4

R-2 AND A = 1 HOUR
R-2 AND S-2 = 1 HOUR
R-2 AND M = 1 HOUR
A AND B = 1 HOUR
A AND S-2 = 0 HOUR
A AND M = 1 HOUR

509 INCIDENTAL USE AREAS

509.3 INCIDENTAL USE AREA LIMITATION - SHALL NOT OCCUPY MORE THAN 10% OF THE BUILDING AREA OF THE STORY IN WHICH THEY ARE LOCATED.
OF THE STORY IN WHICH THEY ARE LOCATED.

509.4 INCIDENTAL USE AREAS SEPARATION AND PROTECTION
WASTE COLLECTION ROOMS OVER 100 SF - AUTOMATIC SPRINKLER SYSTEM (RATED ENCLOSURE PER SECTION 713.13)

510 SPECIAL PROVISIONS

510.2 HORIZONTAL BUILDING SEPARATION ALLOWANCE.
1. BUILDINGS SEPARATED WITH A HORIZONTAL SEPARATION OF 3 HOURS
2. BUILDING BELOW 3 HOUR HORIZONTAL ASSEMBLY IS IA CONSTRUCTION.
3. SHAFTS, STAIRS, ETC, MAINTAIN 2 HOUR RATING IN ACCORDANCE WITH 716.
4. BUILDING ABOVE 3 HOUR SEPARATION HAS MULTIPLE A-3 USE GROUPS, EACH WITH AN OCCUPANT LOAD < 300.
5. BUILDING BELOW 3 HOUR HORIZONTAL ASSEMBLY IS EQUIPPED WITH AN AUTOMATIC FIRE SPRINKLER SYSEM IN ACCORDANCE WITH 903.3.1.1.
6. MAXIMUM BUILDING HEIGHT DOES NOT EXCEED LIMITS SET FORTH WITH SECTION 503 FOR THE BUILDING HAVING THE SMALLER ALLOWABLE HEIGHT.

510.9 MULTIPLE BUILDINGS ABOVE A HORIZONTAL ASSEMBLY
BUILDINGS (CLASSIFIED AS 'FIRE ZONE A', AND 'FIRE ZONE B') ARE REGARDED AS SEPARATE AND DISTINCT BUILDINGS AND SHALL COMPLY WITH ALL OTHER PROVISIONS OF THE CODE.

TYPES OF CONSTRUCTION - IBC CHAPTER 6

IBC 2018 - TABLE 601 FIRE-RESISTANCE RATING REQUIRENMENTS FOR BUILDING ELEMENTS (HOURS)

CONSTRUCTION TYPE		IA	IIIA
PRIMARY STRUCTURAL FRAME		3 HOURS	1 HOUR
BEARING WALLS	INTERIOR	3 HOURS	1 HOUR
	EXTERIOR	3 HOURS	2 HOUR
NON BEARING WALLS	INTERIOR	0 HOURS	0 HOURS
	EXTERIOR	SEE TABLE 602	SEE TABLE 602
FLOOR CONSTRUCTION		2 HOURS	1 HOUR
ROOF CONSTRUCTION		1 1/2 HOURS	1 HOUR

IBC 2018 - TABLE 602 FIRE-RESISTANCE RATING REQUIRENMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE

FIRE SEPARATION DISTANCE	CONSTRUCTION TYPE IA	IIIA
X < 5 FT	1 HOUR	1 HOUR
5 ≤ X < 10	1 HOUR	1 HOUR
10 ≤ X < 30	1 HOUR	1 HOUR
X ≥ 30	0 HOURS	0 HOURS

602.3 FIRE-RETARDANT-TREATED WOOD FRAMING AND SHEATHING PERMITTED IN EXTERIOR WALL ASSEMBLIES OF A 2HR RATING OR LESS.

FIRE PROTECTION - IBC CHAPTERS 7,8,9

BUILDING EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13.

FIRE-RESISTANCE RATINGS AND FIRE TESTS (703) EXCEPT FOR RATINGS OF EXTERIOR WALLS.
RATINGS / COMBUSTIBILITY (703.2)
ALTERNATIVE METHODS (703.3, 721, 722)

FIRE RESISTANCE OF STRUCTURAL MEMBERS (704) AS REQUIRED BY CONSTRUCTION TYPE
704.9 - IMPACT PROTECTION - CORNER PROTECTION IS NOT REQUIRED ON CONCRETE COLUMNS IN OPEN OR ENCLOSED PARKING GARAGES.

704.11 - BOTTOM FLANGE PROTECTION IS NOT REQUIRED AT THE BOTTOM FLANGE OF LINTELS, SHELF ANGLES AND PLATES SPANNING NOT MORE THAN 6'-4" WHETHER PART OF THE PRIMARY STRUCTURAL OR NOT, AND FROM THE BOTTOM-FLANGE OF LINTELS, SHELF ANGLES AND PLATES NOT PART OF THE STURCTURAL FRAME, REGARDLESS OF SPAN.

704.12 - SEISMIC ISOLATION SYSTEMS - FIRE PROTECTION OF ISOLATION SYSTEM SHALL BE THE SAME AS FOR STRUCTURAL SYSTEM.

APPLICABLE BUILDING CODES

THE BUILDING CONSTRUCTION WAS DESIGNED TO MEET THE FOLLOWING APPLICABLE BUILDING CODES IN VIRGINIA :

2018 ICC INTERNATIONAL BUILDING CODE (IBC), VIRGINIA EDITION
2014 NATIONAL ELECTRICAL CODE (NEC) NFPA 70
2018 ICC INTERNATIONAL FUEL GAS CODE, VIRGINIA EDITION
2018 ICC INTERNATIONAL MECHANICAL CODE (IMC), VIRGINIA EDITION
2018 ICC INTERNATIONAL PLUMBING CODE (IPC), VIRGINIA EDITION
2018 ICC INTERNATIONAL FIRE PREVENTION CODE (IFC), VIRGINIA EDITION
2018 ICC INTERNATIONAL ENERGY CONSERVATION CODE (IECC), VIRGINIA EDITION

2018 ICC INTERNATIONAL SWIMMING POOL AND SPA CODE

2018 ICC/ANSI A117.1, 2009 - ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES

NEW CONSTRUCTION MUST COMPLY WITH THE CURRENT EDITION OF THE UNIFORM STATEWIDE BUILDING CODE (USBC).:

FEDERAL LAW

FAIR HOUSING AMENDMENTS ACT OF 1988 (FHA)

SAFE HARBOR: FAIR HOUSING DESIGN ACT MANUAL (FHADM)

AMERICANS WITH DISABILITIES ACT (ADA)
PUBLIC USE SPACES: 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN (2010 ADA STANDARDS)

USE AND OCCUPANCY - IBC CHAPTER 3

RESIDENTIAL BUILDING
A-2 ASSEMBLY USE - RETAIL (303.3)
A-3 ASSEMBLY USE - CLUBROOM (303.4)
B BUSINESS - LOBBY, MAIL ROOM, LEASING OFFICE (304)
M MERCANTILE - RETAIL (309)
R-2 RESIDENTIAL USE - APARTMENT HOUSES (310.3)
S-2 LOW HAZARD STORAGE USE - BICYCLE STORAGE, TRASH ROOM (311.3)
S-2 LOW HAZARD STORAGE USE - PARKING (311.3)
ACCESSORY OCCUPANCIES (508.2)

SPECIAL DETAILED REQUIREMENTS - IBC CHAPTER 4

403 HIGHRISE BUILDINGS

HIGH-RISE BUILDINGS	
REDUCTION IN FIRE-RESISTANCE RATING	403.2.1.1
AUTOMATIC SPRINKLER SYSTEM **- PROVIDED**	403.3
SMOKE DETECTION **- PROVIDED**	403.4.1
FIRE ALARM SYSTEM **- PROVIDED**	403.4.2
STANDPIPE SYSTEM **- PROVIDED**	403.4.3
EMERGENCY VOICE/ALARM COMMUNICATION SYSTEM **- PROVIDED**	403.4.4
EMERGENCY RESPONDER RADIO COVERAGE - DELETED IN VA- SEE 918	403.4.5
FIRE COMMAND. **PROVIDED (ROAD 5)**	403.4.6
SMOKE REMOVAL: **NATURAL EXHAUST PROVIDED**	403.4.7
STANDBY AND EMERGENCY POWER: **GAS FIRED GENERATOR PROVIDED**	403.4.8
STAIRWAY DOOR OPERATION: **UNLOCKED PROVIDED, PHONE EVERY 5TH LEVEL**	403.5.3
SMOKEPROOF ENCLOSURES, **ONLY ON STAIR ABOVE 75' FROM ADJACENT FIRE DEPT ACCESS**	403.5.4
LUMINOUS EGRESS PATH MARKINGS: **NOT REQUIRED PER SECTION 1025**	403.5.5
ELEVATORS **PROVIDED**	403.6
FIRE SERVICE ACCESS ELEVATOR: **NOT REQUIRED, LESS THAN 120'**	403.6.1
OCCUPANT EVACUATION ELEVATORS: **NOT INSTALLED**	403.6.2

AS DETERMINED BY THE CITY OF ALEXANDRIA, DEPT OF CODE ADMINISTRATION, THE BLDG IS CLASSIFIED AS HIGH RISE PER THE DEFINITION:
A BUILDING WITH AN OCCUPIED FLOOR LOCATED MORE THAN 75 FEET ABOVE THE LOWEST LEVEL OF FIRE DEPARTMENT VEHICLE ACCESS.
DEPT OF CODE ADMINISTRATION HAS DETERMINED THAT ROAD 7 WILL BE USED FOR FIRE DEPT VEHICLE ACCESS AND THEREFORE THE HIGHEST OCCUPIED LEVEL WILL BE MORE THAN 75 FEET ABOVE ROAD 7 ACCESS.ED AS REQUIRED PER IBC2018.907.2.9 AND 907.2.10.

405 UNDERGROUND STRUCTURES
NOT APPLICABLE

420 GROUP R-2

420.2 SEPARATION WALLS - WALLS SEPARATING DWELLING UNITS AND SLEEPING UNITS IN THE SAME BUILDING, OR DWELLING AND SLEEPING UNITS FROM OTHER OCCUPANCIES SHALL BE CONSTRUCTED AS FIRE PARTITIONS PER SECTION 708. (1-HOUR RATING REQUIRED; 1-HOUR RATING PROVIDED.)

420.4 AUTOMATIC SPRINKLER SYSTEM REQUIRED - PROVIDED PER SECTION 903.3.2. (NFPA 13 PROVIDED)

420.5 FIRE ALARM SYSTEMS AND SMOKE ALARMS - AUTOMATIC FIRE AND SMOKE ALARM SYSTEM INSTALLED AS REQUIRED PER IBC2018.907.2.9 AND 907.2.10.

BUILDING HEIGHTS AND AREAS - IBC CHAPTER 5

504 BUILDING HEIGHT AND NUMBER OF STORIES

504.2 MIXED USE - NO INDIVIDUAL OCCUPANCY SHALL EXCEED THE HEIGHT AND NUMBER OF STORY LIMITS SPECIFIED IN THIS SECTION FOR THE APPLICABLE OCCUPANCIES.

-TYPE IA FROM BASEMENT UP TO LEVEL 3 FLOOR (UNLIMITED)
-TYPE IIIA FROM LEVEL 3 TO ROOF (5 STORIES)

504.3 ALLOWABLE BUILDING HEIGHT
(R OCCUPANCY, FULLY SPRINKLERED, TYPE IIIA CONSTRUCTION): 85 FT

TYPE IA CONSTRUCTION
A-2, A-3, B, S-2, M AND R-2
ALLOWABLE - UNLIMITED HEIGHT, NUMBER OF STORIES AND AREA.

ALLOWABLE BUILDING HEIGHT 85 FT
HIGHEST ROOF SURFACE, PH LEVEL 277.83'
AVG. GRADE PLANE 193.00'
ACTUAL BUILDING HEIGHT (IBC) 84.83'

504.4 ALLOWABLE NUMBER OF STORIES (R-2 OCCUPANCY, FULLY SPRINKLERED, TYPE IIIA CONSTRUCTION): 5 STORIES. (LEVEL 3-7)

505 MEZZANINES - NOT USED

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CLIENT NAME **FOULGER-PRATT**
PROJECT NO. **21073.00**
DRAWN BY **Author**
PROJECT NAME **WEST END - BLOCK EYE**
ADDRESS **5801 DUKE STREET ALEXANDRIA, VA 22304**
SCALE **12" = 1'-0"**

DRAWING TITLE
CODE ANALYSIS

DRAWING NO.
AZ-001

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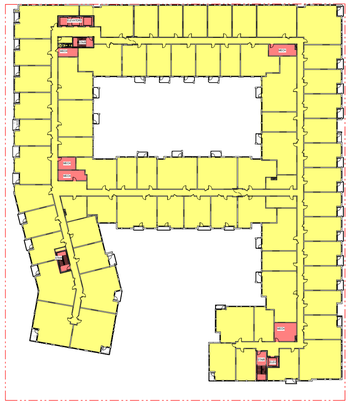
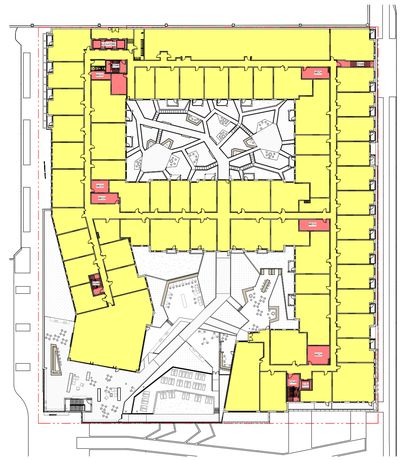
FAR CALCULATIONS

FAR CALCULATIONS									
Lot Area: 107,844.62 sf		L01	L02	L03	L04	L05	L06	L07	TOTAL
GFA TOTAL (A)	GROSS FLOOR AREA	103,798	67,631	65,550	67,368	67,368	67,368	66,604	505,687
EXCLUSIONS (B)	STAIR/ELEVATOR DEDUCTION	2,414	1,479	1,145	1,272	1,272	1,272	1,156	10,010
	MECHANICAL SPACE DEDUCTION	-	1,870	1,288	1,159	1,159	1,159	1,286	7,921
	LOADING BERTH DEDUCTION	-	-	-	-	-	-	-	-
									17,931
NET FLOOR AREA (A-B)		101,384	64,282	63,117	64,937	64,937	64,937	64,162	487,756



B2 FAR AREA PLAN - LEVEL 04-06

1/64" = 1'-0" 0 64' 128'



B1 FAR AREA PLAN - LEVEL 02

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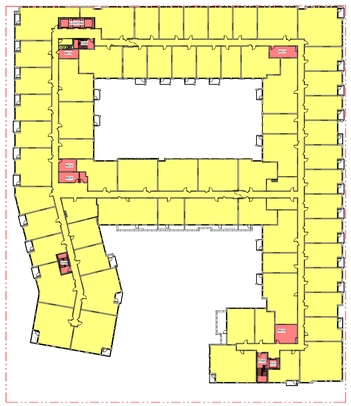

A3 FAR AREA PLAN - LEVEL 07

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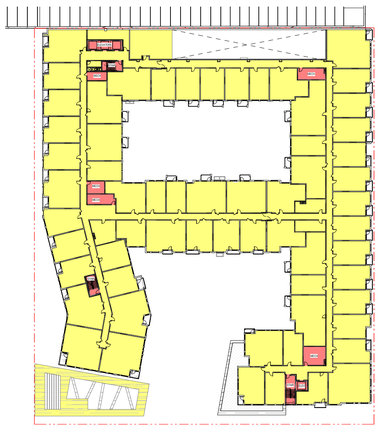

A2 FAR AREA PLAN - LEVEL 03

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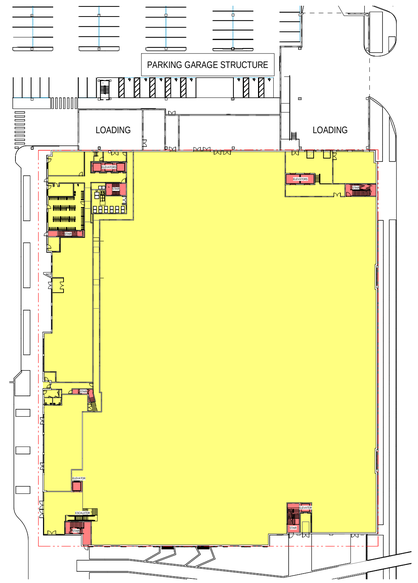

A1 FAR AREA PLAN - LEVEL 01

1/64" = 1'-0" 0 64' 128'

#	DATE	DESCRIPTION
	2022-04-08	DSUP CONCEPT II SUBMISSION
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CLIENT NAME: FOULGER-PRATT
PROJECT NO.: 21073.00
DRAWN BY: PM
PROJECT NAME: WEST END - BLOCK EYE
ADDRESS: 5801 DUKE STREET ALEXANDRIA, VA 22304
SCALE: 1/64" = 1'-0"

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UNIT MIX -

UNIT TYPE	L01	L02	L03	L04	L05	L06	L07	TOTAL	MIX %	
STUDIO	0	12	10	10	10	10	6	58	14.9%	76.2%
ONE BEDROOM	0	26	29	34	34	34	32	189	48.5%	
ONE BEDROOM + D	0	8	9	8	8	8	8	50	12.8%	
TWO BEDROOM	0	6	10	13	13	13	13	68	17.4%	23.8%
TWO BEDROOM + D	0	3	3	2	2	2	2	13	3.3%	
THREE BEDROOM	0	1	1	2	2	2	4	12	3.1%	
UNITS PER FLOOR	0	56	62	69	69	69	65			
TOTAL UNITS								390	100.0%	

COMMITED AFFORDABLE RENTAL UNITS (CAU)
2 STUDIOS
7 ONE BEDROOM
1 ONE BEDROOM + D
3 TWO BEDROOM
1 TWO BEDROOM + D
1 THREE BEDROOM
15 TOTAL CAUs

#	DATE	DESCRIPTION
	2022-06-24	DSUP SUBMISSION

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Washington, DC 20002
202.667.9776
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CLIENT NAME
FOULGER-PRATT

PROJECT NO.
21073.00

DRAWN BY
Author

PROJECT NAME
WEST END - BLOCK EYE

ADDRESS
5801 DUKE STREET
ALEXANDRIA, VA
22304

SCALE

DRAWING TITLE
UNIT MIX

DRAWING NO.
AZ-011

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DIRECTOR _____ DATE _____

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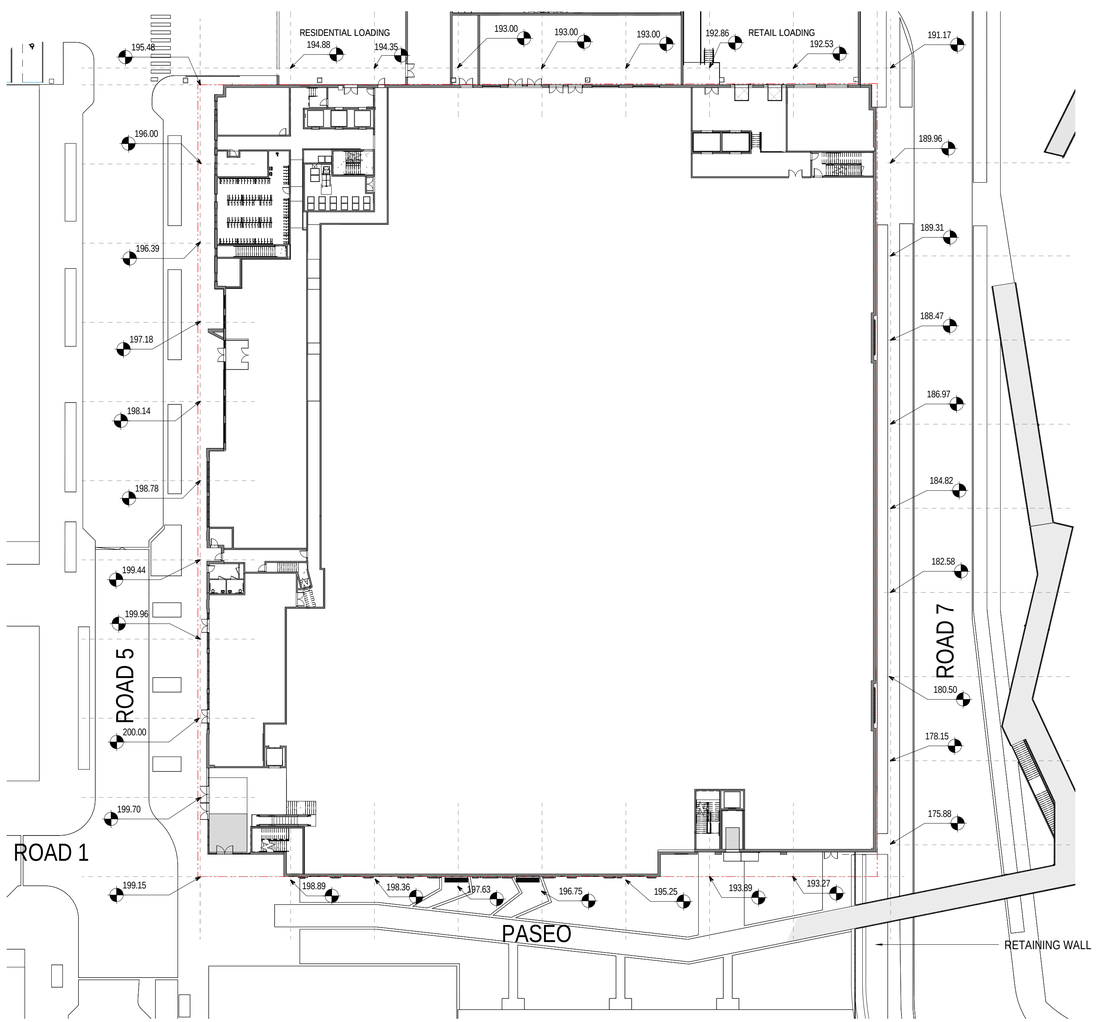
NORTH PARKING / LOADING		SOUTH	
	191.18		198.89
	192.56		198.36
	192.86		197.63
	193.00		196.75
	193.00		195.25
	193.00		193.89
	194.34		193.27
	194.88		

ROAD 5 - WEST		ROAD 7 - EAST	
	195.48		175.88
	196.00		178.15
	196.39		180.50
	197.18		182.58
	198.14		184.82
	198.80		186.97
	199.44		188.47
	199.96		189.31
	200.00		189.96
	199.69		
	199.15		
			193.03

TOP OF ROOF - 277'-10"
AVERAGE GRADE PLANE - 193'-0"
OVERALL HEIGHT - 84'-10"



A3 ZONING DIAGRAM - AVERAGE GRADE PLANE

1/32" = 1'-0"

0 16' 32' 64'

#	DATE	DESCRIPTION
	2022-04-08	DSUP CONCEPT II SUBMISSION
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ADDRESS: 5801 DUKE STREET ALEXANDRIA, VA 22304
SCALE: 1/32" = 1'-0"

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DRAWING TITLE: ZONING - BUILDING MASSING

DRAWING NO.: AZ-014

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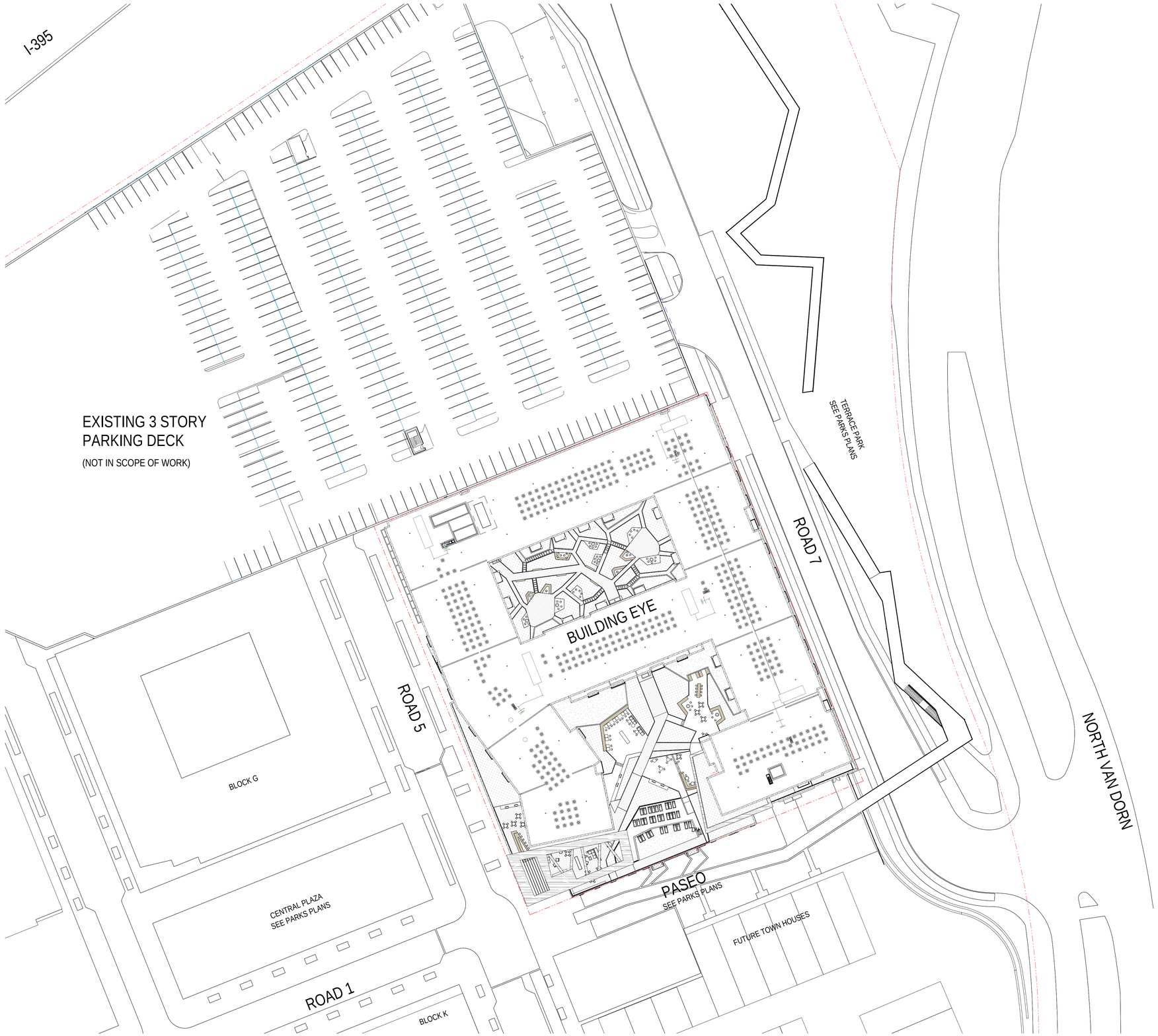

A1 ARCH SITE PLAN
1" = 40'-0"
0 20' 40' 80'

#	DESCRIPTION	DATE
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PROJECT NO.: 21073.00
DRAWN BY: Author
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ADDRESS: 5801 DUKE STREET ALEXANDRIA, VA 22304
SCALE: 1" = 40'-0"

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DRAWING TITLE
ARCHITECTURAL SITE PLAN

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AZ-098

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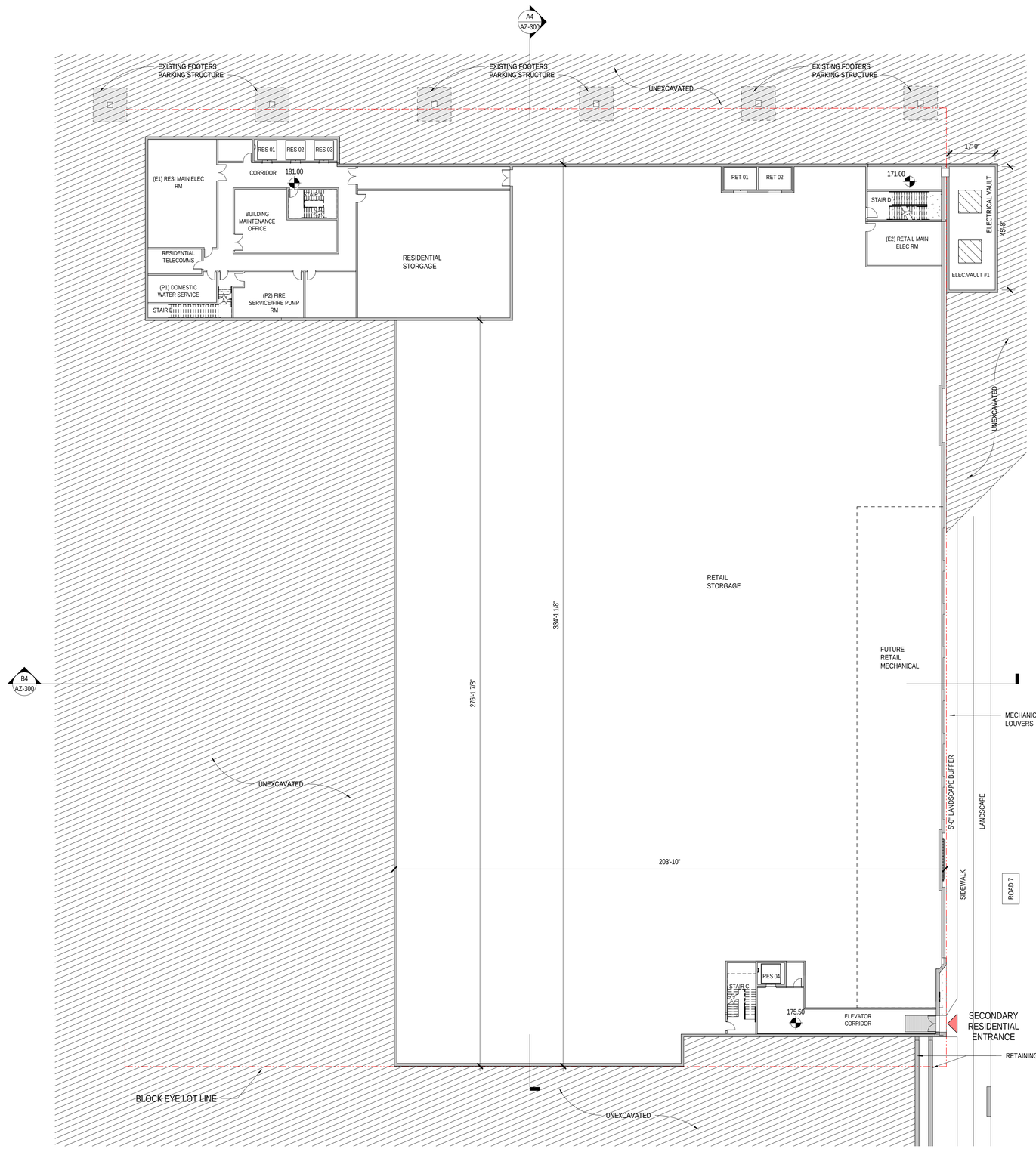

A1 CONCEPT PLAN - LOWER LEVEL

1" = 20'-0" 0 10' 20' 40'

#	DESCRIPTION	DATE
	DSUP CONCEPT II SUBMISSION	2022-04-08
	DSUP SUBMISSION	2022-06-24

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PROJECT NO.: 21073.00
DRAWN BY: FD
PROJECT NAME: WEST END - BLOCK EYE
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SCALE: 1" = 20'-0"

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DRAWING TITLE: FLOOR PLAN - LOWER LEVEL

DRAWING NO.: AZ-099

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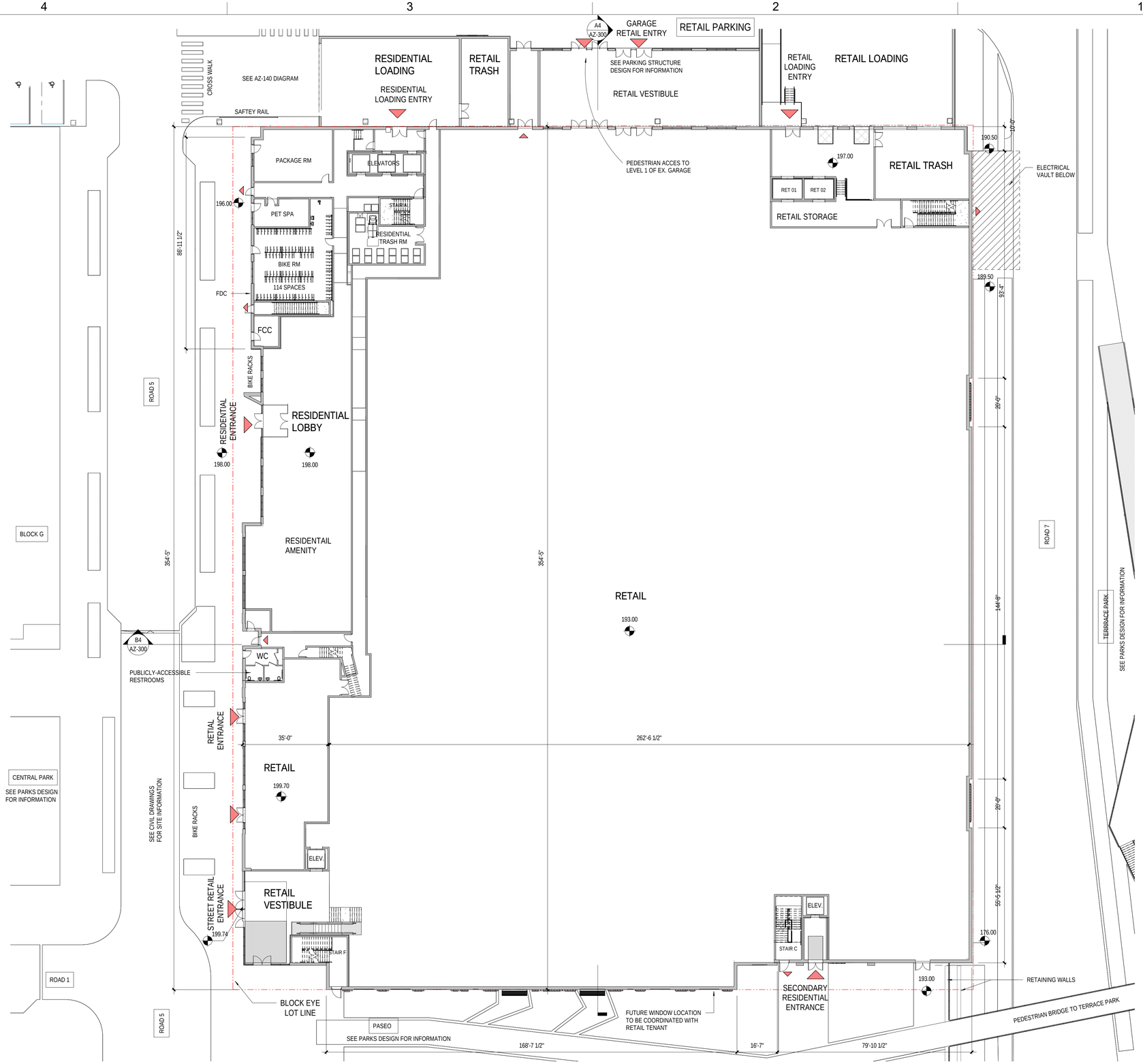

N

A1 CONCEPT PLAN - LEVEL 01

1" = 20'-0"

#	DESCRIPTION	DATE
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	DSUP SUBMISSION	2022-06-24

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PROJECT NO.: 21073.00
DRAWN BY: PM

PROJECT NAME: WEST END - BLOCK EYE
ADDRESS: 5801 DUKE STREET ALEXANDRIA, VA 22304
SCALE: 1" = 20'-0"

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SITE PLAN NO. _____
DIRECTOR _____ DATE _____
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DRAWING TITLE: FLOOR PLAN - LEVEL 1

DRAWING NO.: AZ-101

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A1 CONCEPT PLAN - LEVEL 02

1" = 20'-0"

0 10' 20' 40'

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#	DESCRIPTION	DATE
	DSUP CONCEPT II SUBMISSION	2022-04-08
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SCALE: 1" = 20'-0"

DRAWING TITLE: FLOOR PLAN - LEVEL 2

DRAWING NO.: AZ-102

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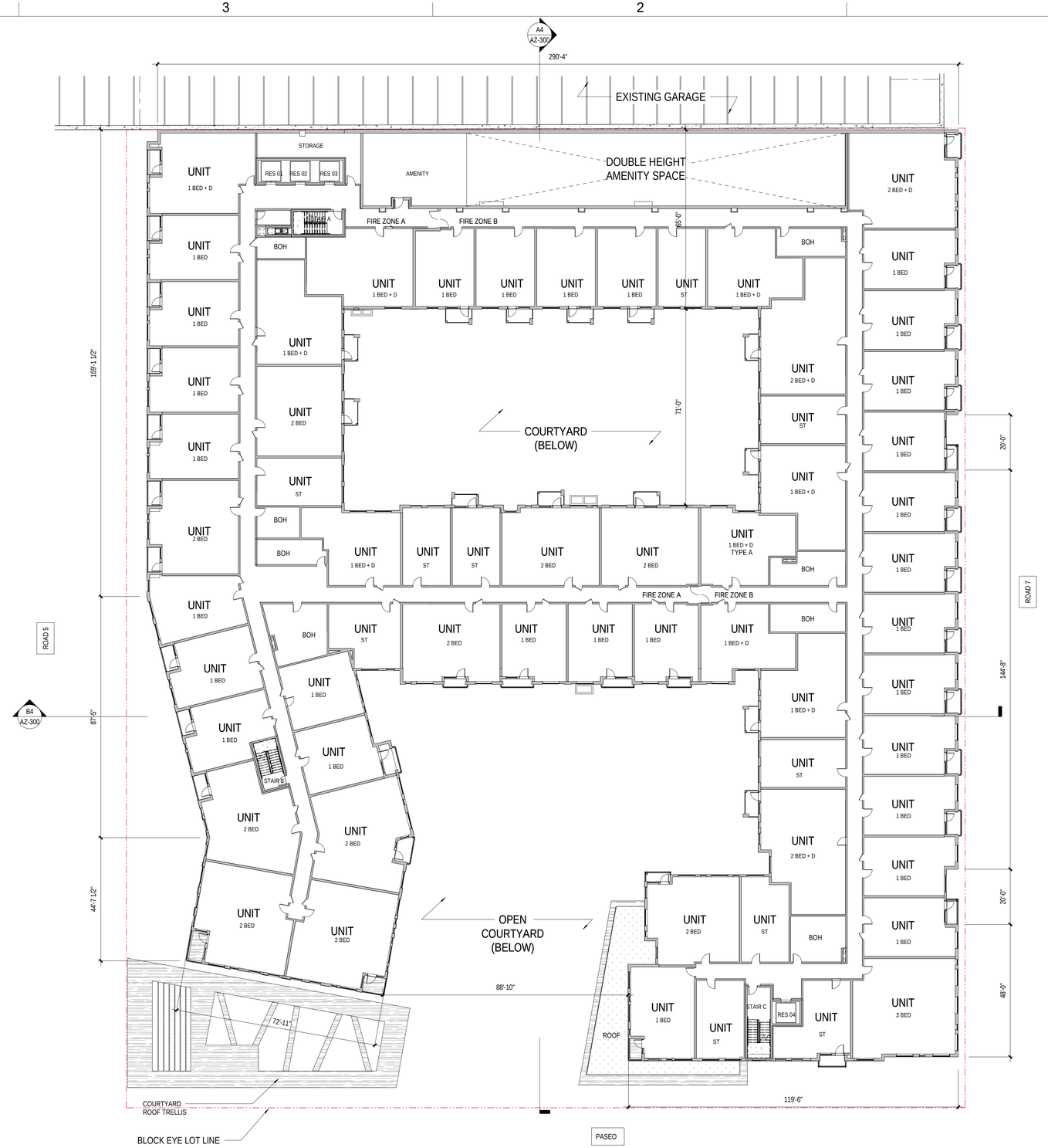

A1 CONCEPT PLAN - LEVEL 03

1" = 20'-0"

0 10' 20' 40'

#	DESCRIPTION	DATE
	DSUP CONCEPT II SUBMISSION	2022-04-08
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WEST END - BLOCK EYE

ADDRESS
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ALEXANDRIA, VA
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SCALE
1" = 20'-0"

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DRAWING TITLE
FLOOR PLAN - LEVEL 3

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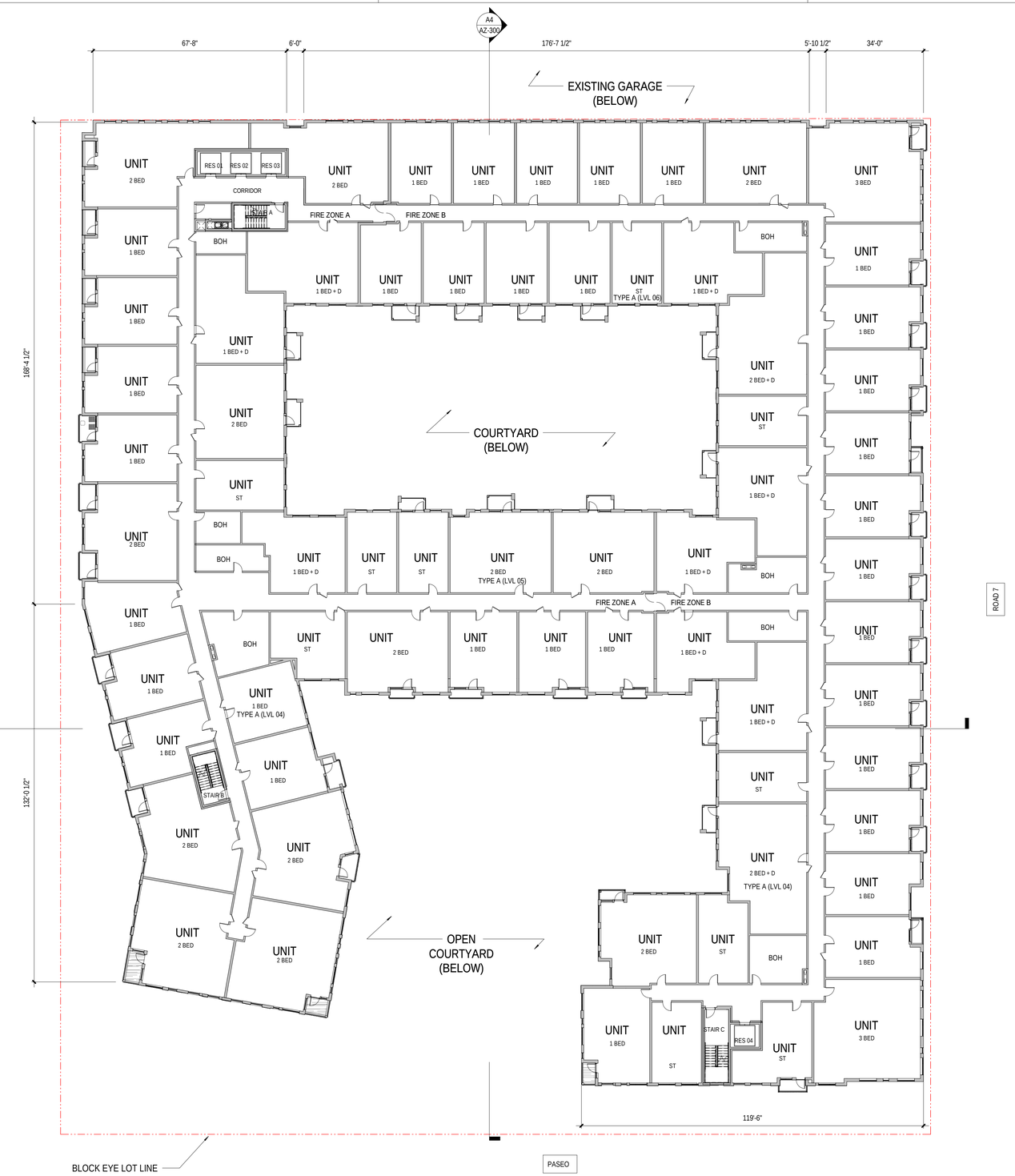

A1 CONCEPT PLAN - LEVEL 04-06 (TYP.)

1" = 20'-0" 0 10' 20' 40'

#	DESCRIPTION	DATE
	DSUP CONCEPT II SUBMISSION	2022-04-08
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PROJECT NAME
WEST END - BLOCK EYE

ADDRESS
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ALEXANDRIA, VA
22304

SCALE
1" = 20'-0"

DRAWING TITLE
FLOOR PLAN -
LEVEL 4-6 (TYP.)

DRAWING NO.
AZ-104

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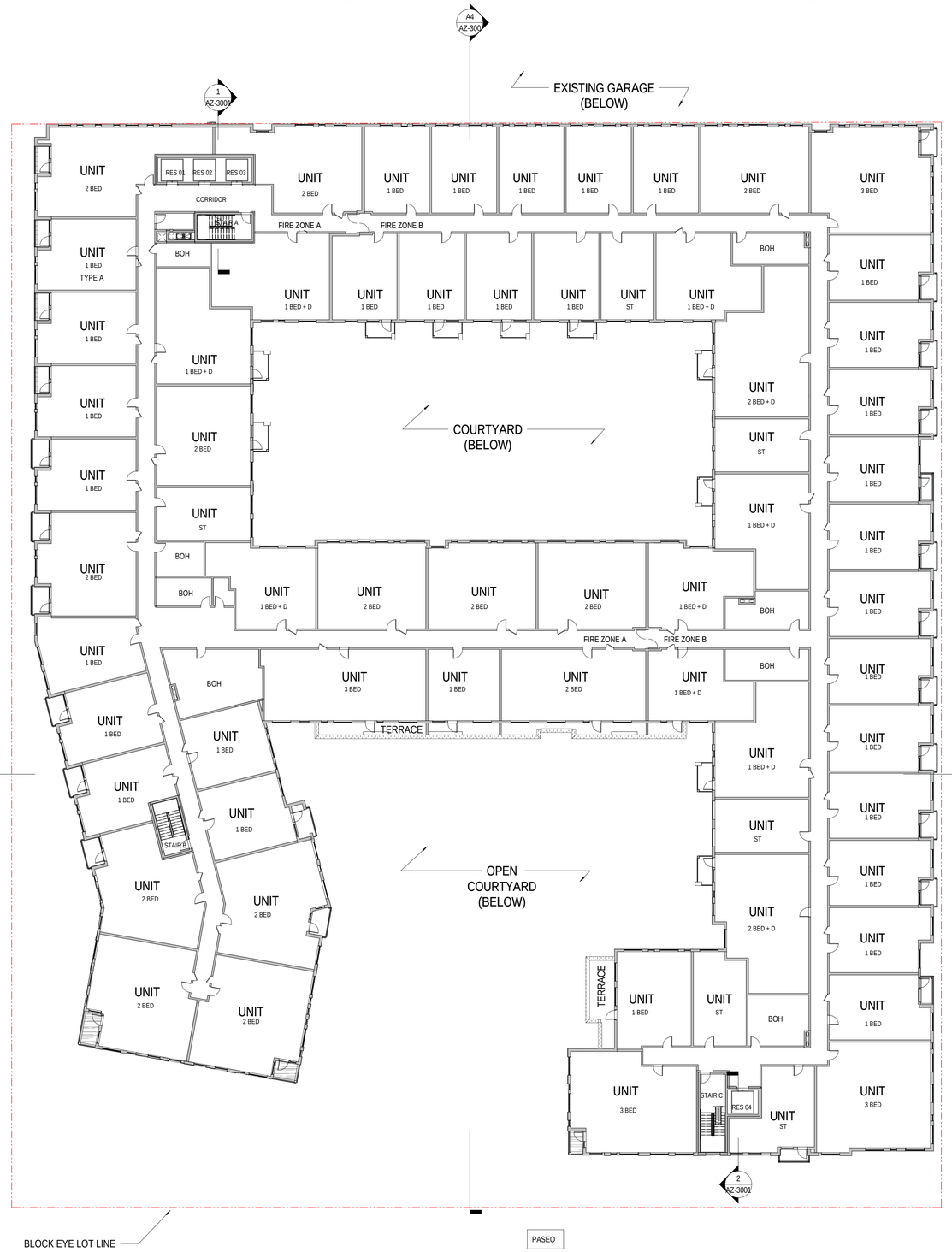

A1 CONCEPT PLAN - LEVEL 07

1" = 20'-0"

0 10' 20' 40'

#	DESCRIPTION	DATE
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PROJECT NAME
WEST END - BLOCK EYE

ADDRESS
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SCALE
1" = 20'-0"

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DRAWING TITLE
FLOOR PLAN - LEVEL 7

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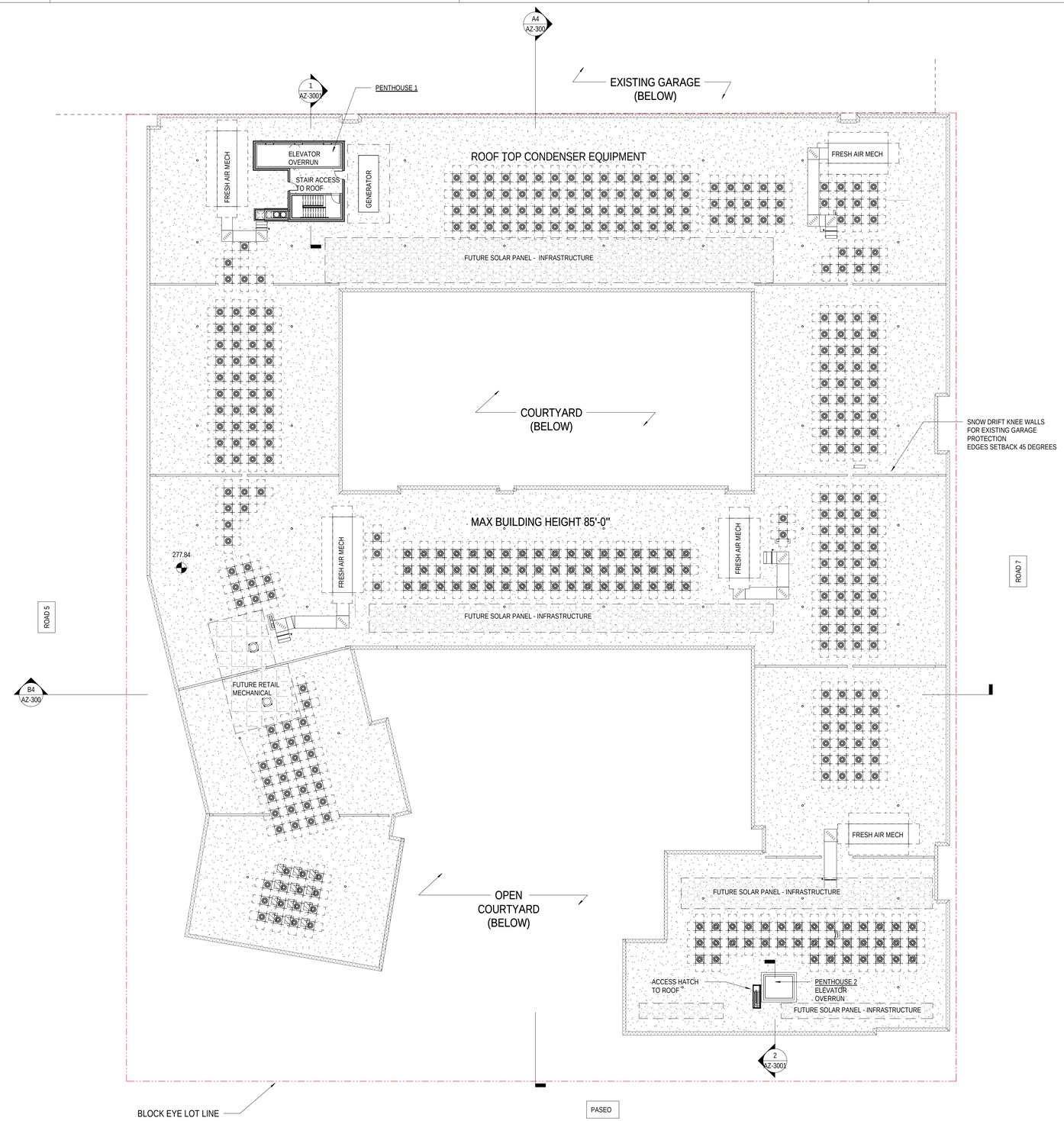

N

A1 CONCEPT PLAN - ROOF

1" = 20'-0" 0 10' 20' 40'

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PROJECT NAME
WEST END - BLOCK EYE

ADDRESS
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SCALE
1" = 20'-0"

DRAWING TITLE
FLOOR PLAN - ROOF

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L1 - WALL MOUNT LIGHTING

L10 - RECESSED LED LIGHTING

L11 - LED WALL PACK



L1 -BROWNLEE LIGHTING -7612LED -OR COMPARABLE

NOTE: GARAGE LIGHTING BY PARKING SUBMISSION

GARAGE RETAIL ENTRY

RESIDENTIAL LOADING

RETAIL TRASH

RETAIL VESTIBULE

RETAIL LOADING

CROSS WALK

PACKAGE RM

PET SPA

BIKE RM

FCC

BIKE RACKS

RESIDENTIAL LOBBY

RESIDENTAIL AMENITY

WC

RETAIL

RETAIL VESTIBULE

ROAD 5

ROAD 7

TERRRACE PARK

BLOCK G

CENTRAL PARK

ROAD 1

NOTE: STREET LIGHTING TO BE INDICATED ON INFRASTRUCTURE PLAN

NOTE: STREET LIGHTING TO BE INDICATED ON INFRASTRUCTURE PLAN

NOTE: PARK LIGHTING BY PARKS SUBMISSION

PASEO

PEDESTRIAN BRIDGE TO TERRACE PARK

NOTE: SEE INFRASTRUCTURE DRAWINGS FOR STREET LIGHT INFORMATION

NOTE: SEE LL-101 FOR LEVEL 02 LANDSCAPE LIGHTING PLAN

A2 LIGHTING PLAN - LEVEL 01

1" = 20'-0"

0 10' 20' 40'

#	DESCRIPTION	DATE
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CLIENT NAME: FOULGER-PRATT

PROJECT NO.: 21073.00

DRAWN BY: Author

PROJECT NAME: WEST END - BLOCK EYE

ADDRESS: 5801 DUKE STREET ALEXANDRIA, VA 22304

SCALE: 1" = 20'-0"

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DRAWING TITLE: LIGHTING PLAN - LEVEL 1

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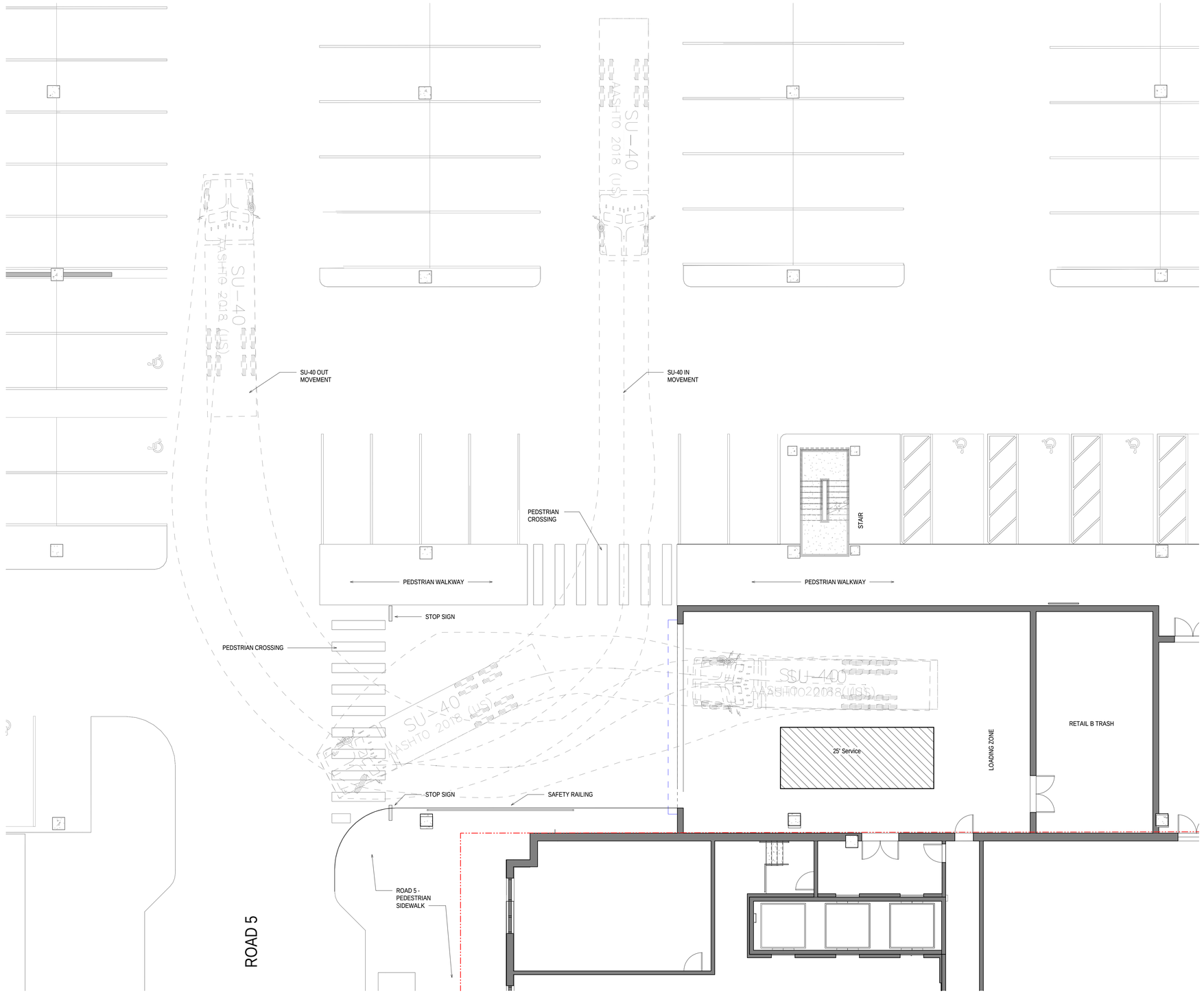
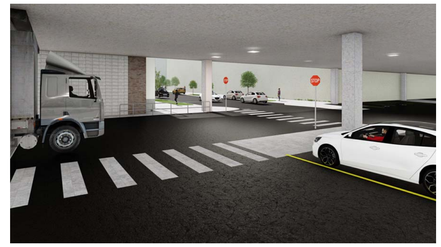


A4 | PLAN RESIDENTAIL LOADING DIAGRAM

1/8" = 1'-0" 0 4' 8' 16'



APPROACH FROM ROAD 5



VIEW WITH-IN PARK DECK

#	DESCRIPTION	DATE
	DSUP SUBMISSION	2022-06-24

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PROJECT NO.: 21073.00
DRAWN BY: Author

PROJECT NAME: WEST END - BLOCK EYE
ADDRESS: 5801 DUKE STREET ALEXANDRIA, VA 22304
SCALE: 1/8" = 1'-0"

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DRAWING TITLE: RESIDENTIAL LOADING DIAGRAM

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MATERIAL PERCENT (WEST ELEVATION)	
BRICK	- 9%
GLAZING	- 38%
WOOD PHENOLIC	- 3%
PORCELAIN TILE	- 4%
HIGH DENSITY RAIN SCREEN PANEL	- 35%
FIBER CEMENT PANEL	- 9%
METAL PANEL	- 1%
STONE	- 1%
CMU / MURAL /GREEN WALL	- 0%
BOARD AND BATTEN FCP	- 0%

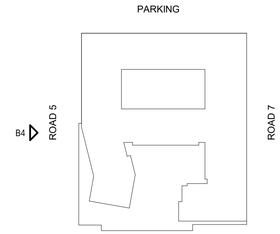


B4 | OVERALL ELEVATION - WEST

1/16" = 1'-0" 0 8' 16' 32'



A4 | 3D VIEW - WEST



#	DESCRIPTION	DATE
	DSUP CONCEPT II SUBMISSION	2022-04-08
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Washington, DC 20002
202.667.9776
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CLIENT NAME: FOULGER-PRATT
PROJECT NO.: 21073.00
DRAWN BY: PM
PROJECT NAME: WEST END - BLOCK EYE
ADDRESS: 5801 DUKE STREET ALEXANDRIA, VA 22304
SCALE: 1/16" = 1'-0"

APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. _____
DIRECTOR DATE
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INSTRUMENT NO. DEED BOOK NO. PAGE NO.

DRAWING TITLE
BUILDING ELEVATIONS

DRAWING NO.
AZ-200

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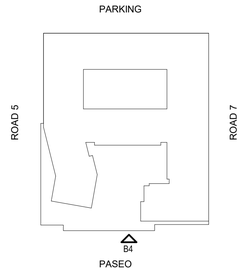
MATERIAL PERCENT (SOUTH ELEVATION)	
BRICK	- 24%
GLAZING	- 26%
WOOD PHENOLIC	- 10%
PORCELAIN TILE	- 0%
HIGH DENSITY RAIN SCREEN PANEL	- 23%
FIBER CEMENT PANEL	- 8%
METAL PANEL	- 2%
STONE	- 0%
CMU / MURAL /GREEN WALL	- 6%
BOARD AND BATTEN FCP	- 0%



B4 | OVERALL ELEVATION - SOUTH

1/16" = 1'-0" 0 8' 16' 32'





A4 | 3D VIEW - SOUTH

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DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. _____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISION DATE

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INSTRUMENT NO. DEED BOOK NO. PAGE NO.

#	DESCRIPTION	DATE
	DSUP CONCEPT II SUBMISSION	2022-04-08
	DSUP SUBMISSION	2022-06-24

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CLIENT NAME **FOULGER-PRATT**
PROJECT NO. **21073.00**
DRAWN BY **PM**
PROJECT NAME **WEST END - BLOCK EYE**
ADDRESS **5801 DUKE STREET ALEXANDRIA, VA 22304**
SCALE **1/16" = 1'-0"**

DRAWING TITLE
BUILDING ELEVATIONS

DRAWING NO.
AZ-201

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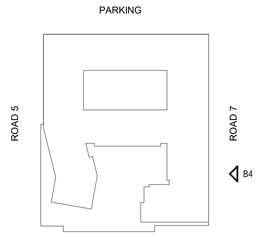
B4 | OVERALL ELEVATION - EAST

1/16" = 1'-0" 0 8' 16' 32'



A4 | 3D VIEW - EAST



#	DESCRIPTION	DATE
	DSUP CONCEPT II SUBMISSION	2022-04-08
	DSUP SUBMISSION	2022-06-24

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CLIENT NAME **FOULGER-PRATT**
PROJECT NO. **21073.00**
DRAWN BY **PM**

PROJECT NAME **WEST END - BLOCK EYE**
ADDRESS **5801 DUKE STREET ALEXANDRIA, VA 22304**
SCALE **1/16" = 1'-0"**

DRAWING TITLE
BUILDING ELEVATIONS

DRAWING NO.
AZ-202

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DEPARTMENT OF PLANNING & ZONING

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DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
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MATERIAL PERCENT (NORTH ELEVATION)

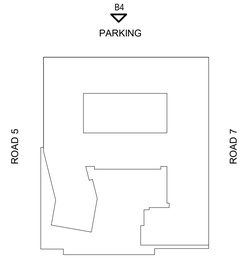
BRICK	- 17%
GLAZING	- 19%
WOOD PHENOLIC	- 1%
PORCELAIN TILE	- 0%
HIGH DENSITY RAIN SCREEN PANEL	- 0%
FIBER CEMENT PANEL	- 4%
METAL PANEL	- 0%
STONE	- 0%
CMU / MURAL /GREEN WALL	- 39%
BOARD AND BATTEN FCP	- 20%

B4 | OVERALL ELEVATION - NORTH

1/16" = 1'-0" 0 8' 16' 32'



A4 | 3D VIEW - NORTH



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	DSUP SUBMISSION	2022-06-24

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CLIENT NAME: FOULGER-PRATT
PROJECT NO.: 21073.00
DRAWN BY: PM
PROJECT NAME: WEST END - BLOCK EYE
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SCALE: 1/16" = 1'-0"

DRAWING TITLE
BUILDING ELEVATIONS

DRAWING NO.
AZ-203

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C4 ELEVATION - N. COURTYARD - SOUTH

1/16" = 1'-0" 0 8' 16' 32'



C3 ELEVATION - N. COURTYARD - EAST

1/16" = 1'-0" 0 8' 16' 32'



B4 ELEVATION - N. COURTYARD - NORTH

1/16" = 1'-0" 0 8' 16' 32'

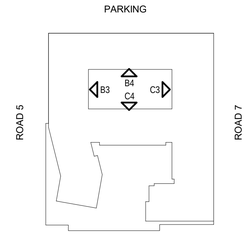


B3 ELEVATION - N. COURTYARD - WEST

1/16" = 1'-0" 0 8' 16' 32'

MATERIAL PERCENT (NORTH COURTYARD)

BRICK	- 9%
GLAZING	- 38%
WOOD PHENOLIC	- 0%
PORCELAIN TILE	- 0%
HIGH DENSITY RAIN SCREEN PANEL	- 0%
FIBER CEMENT PANEL	- 53%
METAL PANEL	- 0%
STONE	- 0%
CMU / MURAL /GREEN WALL	- 0%
BOARD AND BATTEN FCP	- 0%



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CLIENT NAME **FOULGER-PRATT**
PROJECT NO. **21073.00**
DRAWN BY **PM**
PROJECT NAME **WEST END - BLOCK EYE**
ADDRESS **5801 DUKE STREET ALEXANDRIA, VA 22304**
SCALE **1/16" = 1'-0"**

DRAWING TITLE
BUILDING NORTH COURTYARD ELEVATIONS

DRAWING NO.
AZ-204

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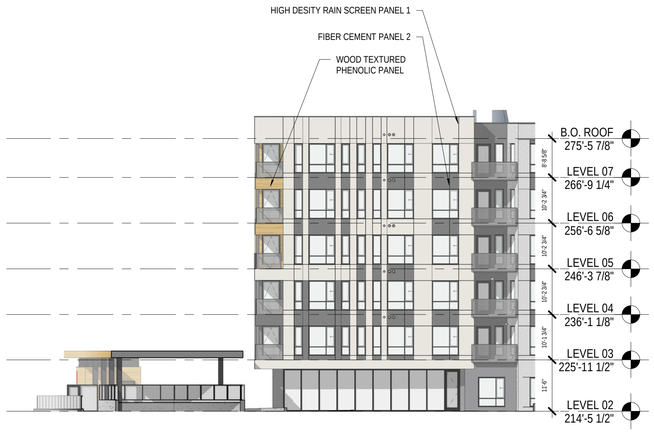
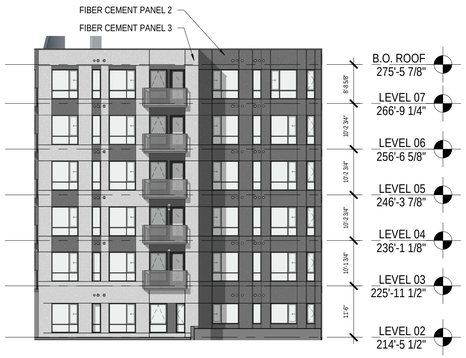


C4 ELEVATION - S. COURTYARD - WEST 1

1/16" = 1'-0" 0 8' 16' 32'



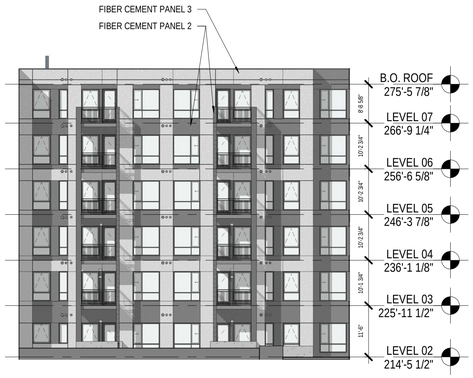
C3 ELEVATION - S. COURTYARD - WEST 2

1/16" = 1'-0" 0 8' 16' 32'



B3 ELEVATION - S. COURTYARD - NORTH 2

1/16" = 1'-0" 0 8' 16' 32'



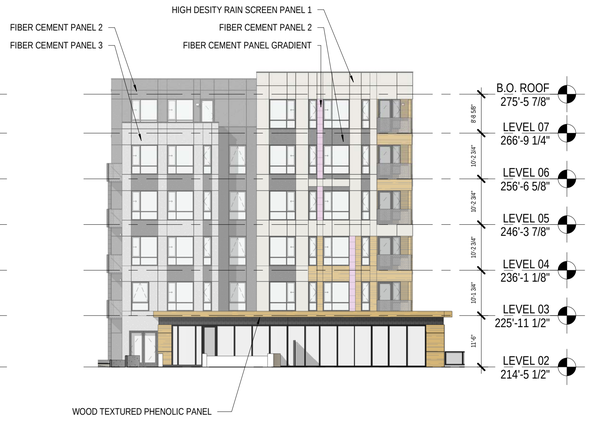
A4 ELEVATION - S. COURTYARD - EAST 4

1/16" = 1'-0" 0 8' 16' 32'



A3 ELEVATION - S. COURTYARD - FACING SOUTH

1/16" = 1'-0" 0 8' 16' 32'

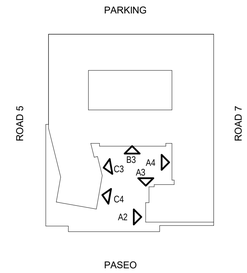


A2 ELEVATION - S. COURTYARD - EAST 5

1/16" = 1'-0" 0 8' 16' 32'

MATERIAL PERCENT (SOUTH COURTYARD)

BRICK	- 10%
GLAZING	- 40%
WOOD PHENOLIC	- 2%
PORCELAIN TILE	- 0%
HIGH DENSITY RAIN SCREEN PANEL	- 8%
FIBER CEMENT PANEL	- 40%
METAL PANEL	- 0%
STONE	- 0%
CMU / MURAL /GREEN WALL	- 0%
BOARD AND BATTEN FCP	- 0%



#	DESCRIPTION	DATE
	DSUP CONCEPT II SUBMISSION	2022-04-08
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CLIENT NAME: FOULGER-PRATT
PROJECT NO.: 21073.00
DRAWN BY: PM
PROJECT NAME: WEST END - BLOCK EYE
ADDRESS: 5801 DUKE STREET ALEXANDRIA, VA 22304
SCALE: 1/16" = 1'-0"

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DRAWING TITLE: BUILDING SOUTH COURTYARD ELEVATIONS

DRAWING NO.: AZ-205

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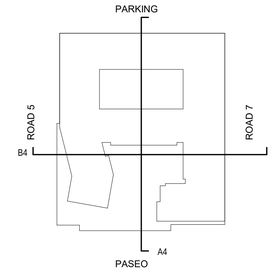
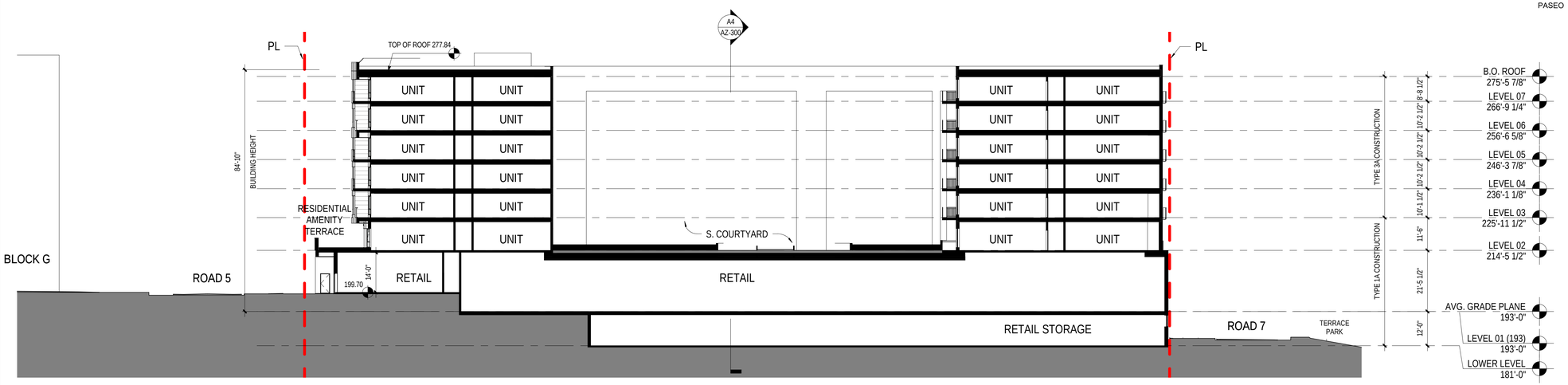
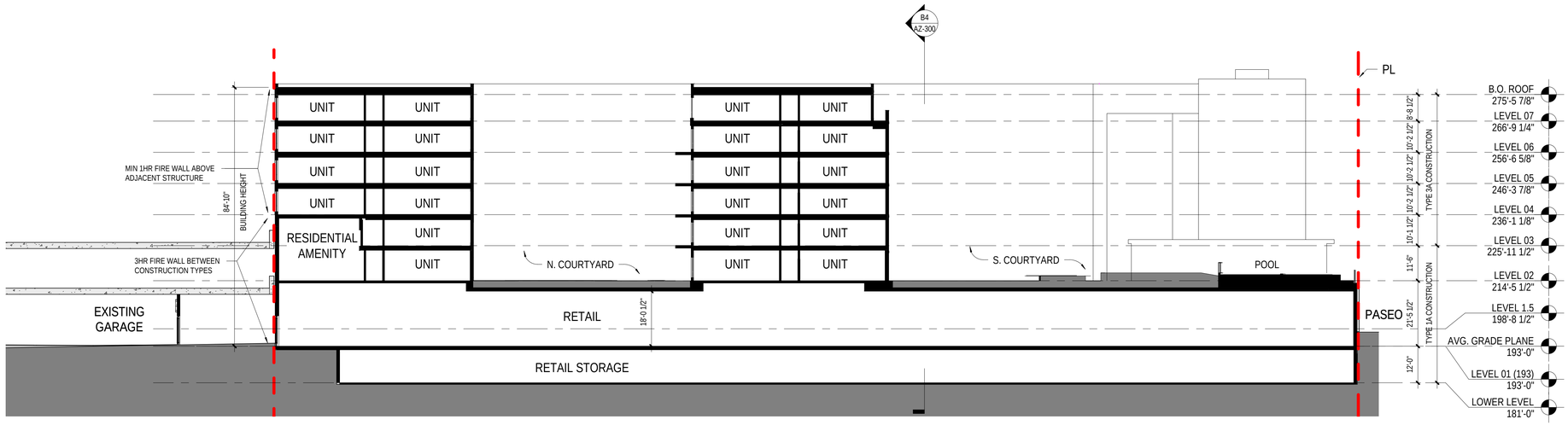




B4 CONCEPT SECTION - EAST-WEST

1" = 20'-0" 0 10' 20' 40'



A4 CONCEPT SECTION - NORTH-SOUTH

1" = 20'-0" 0 10' 20' 40'

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PROJECT NO.: 21073.00
DRAWN BY: PM
PROJECT NAME: WEST END - BLOCK EYE
ADDRESS: 5801 DUKE STREET ALEXANDRIA, VA 22304
SCALE: 1" = 20'-0"

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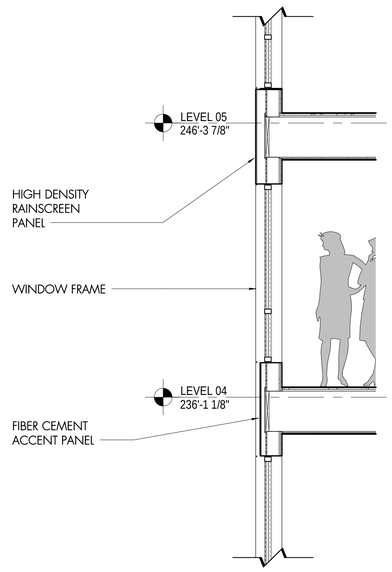
DRAWING TITLE: BUILDING SECTIONS

DRAWING NO.: AZ-300



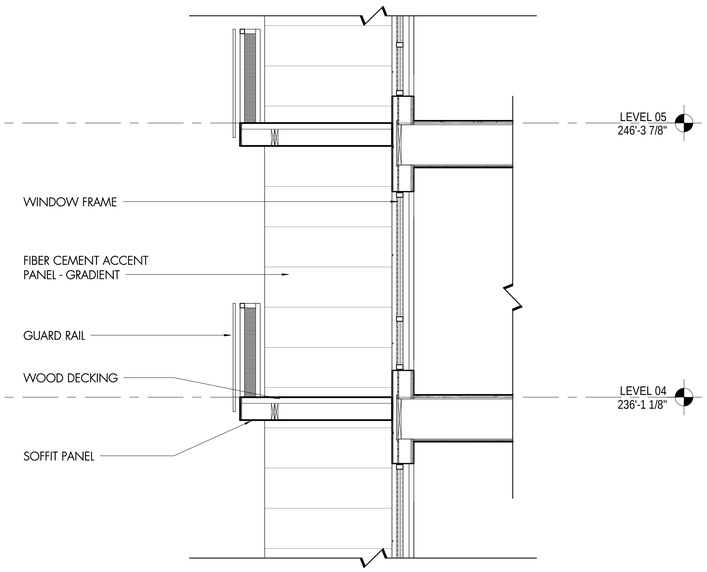
B4 ELEVATION A-B

3/8" = 1'-0" 0 1'-4" 2'-8" 5'-4"



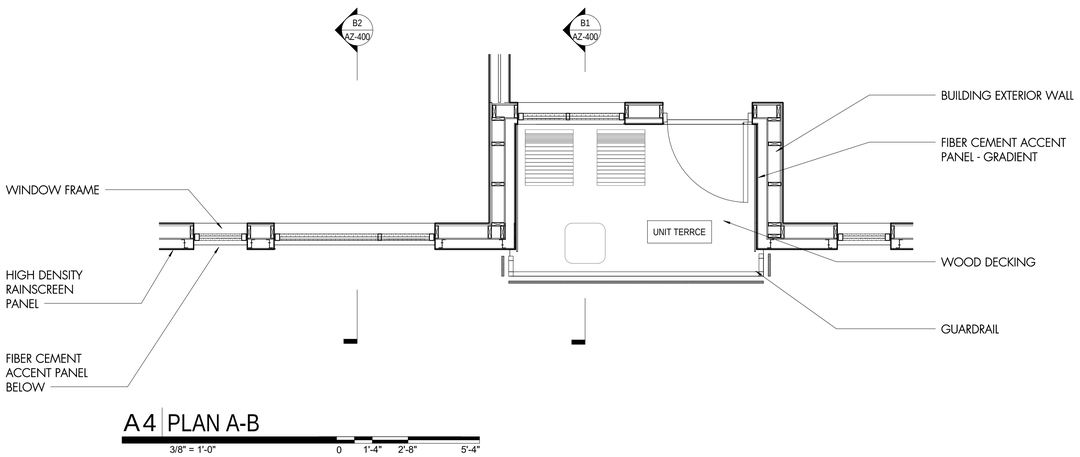
B2 SECTION A

3/8" = 1'-0" 0 1'-4" 2'-8" 5'-4"



B1 SECTION B

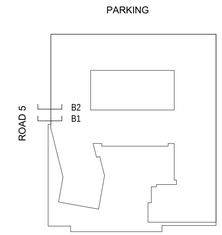
3/8" = 1'-0" 0 1'-4" 2'-8" 5'-4"



A4 PLAN A-B

3/8" = 1'-0" 0 1'-4" 2'-8" 5'-4"





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CLIENT NAME **FOULGER-PRATT**

PROJECT NO. **21073.00**

DRAWN BY **Author**

PROJECT NAME **WEST END - BLOCK EYE**

ADDRESS **5801 DUKE STREET ALEXANDRIA, VA 22304**

SCALE **3/8" = 1'-0"**

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INSTRUMENT NO. DEED BOOK NO. PAGE NO.

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ELEVATION DETAIL

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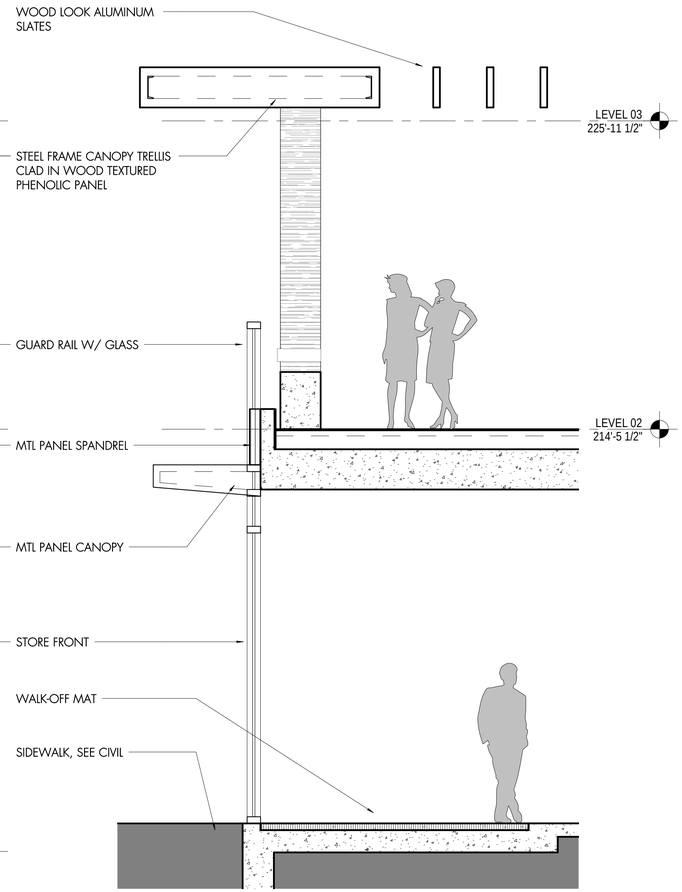


B4 ELEVATION E

3/8" = 1'-0" 0 1'-4" 2'-8" 5'-4"

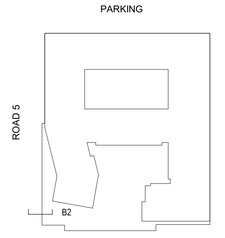
B2 SECTION E

3/8" = 1'-0" 0 1'-4" 2'-8" 5'-4"

A4 PLAN E-F

3/8" = 1'-0" 0 1'-4" 2'-8" 5'-4"





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CLIENT NAME
FOULGER-PRATT

PROJECT NO.
21073.00

DRAWN BY
Author

PROJECT NAME
WEST END - BLOCK EYE

ADDRESS
5801 DUKE STREET
ALEXANDRIA, VA
22304

SCALE
3/8" = 1'-0"

DRAWING TITLE
ELEVATION
DETAIL

DRAWING NO.
AZ-401

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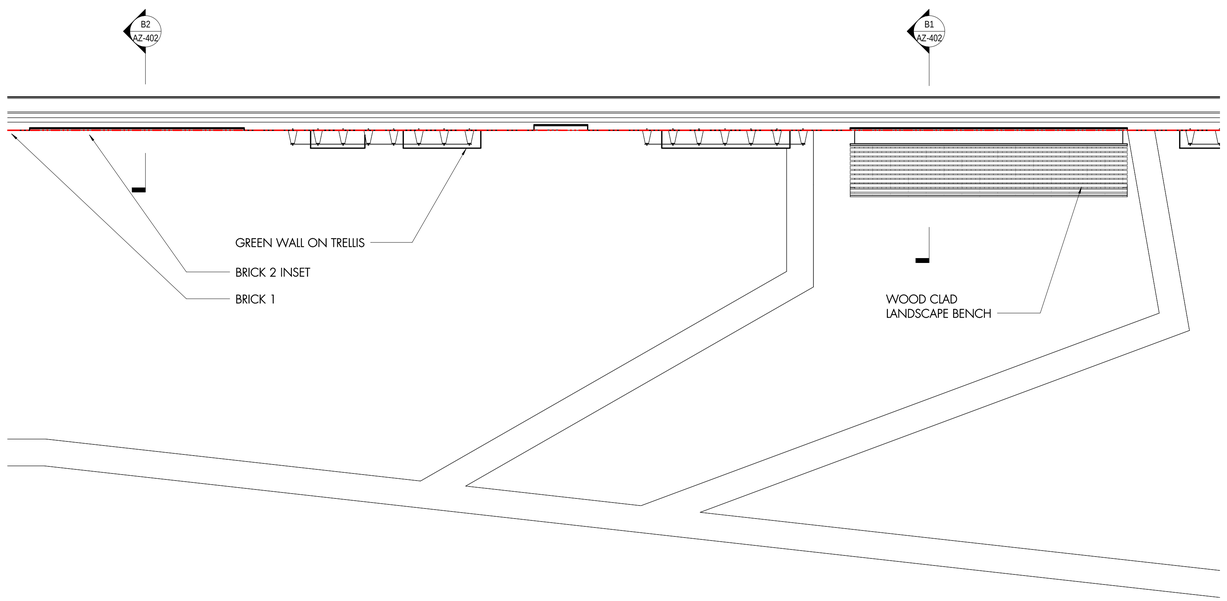
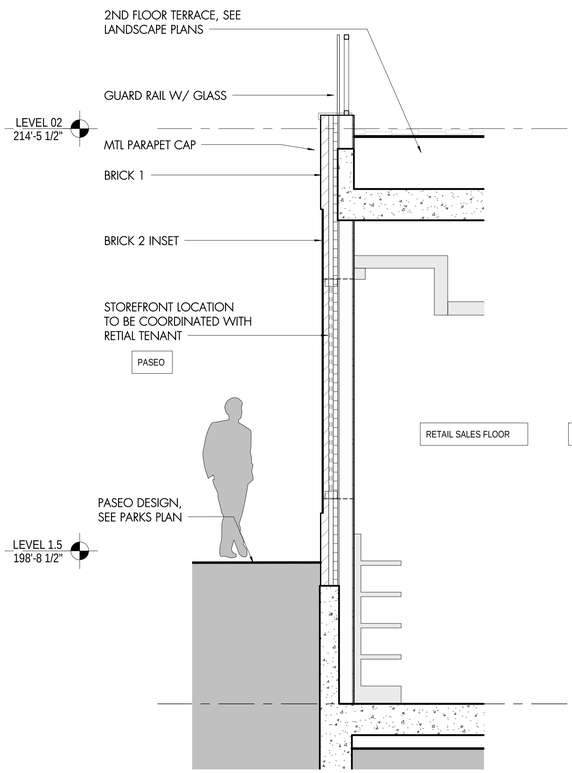
B4 ELEVATION G-H

3/8" = 1'-0" 0 1'-4" 2'-8" 5'-4"



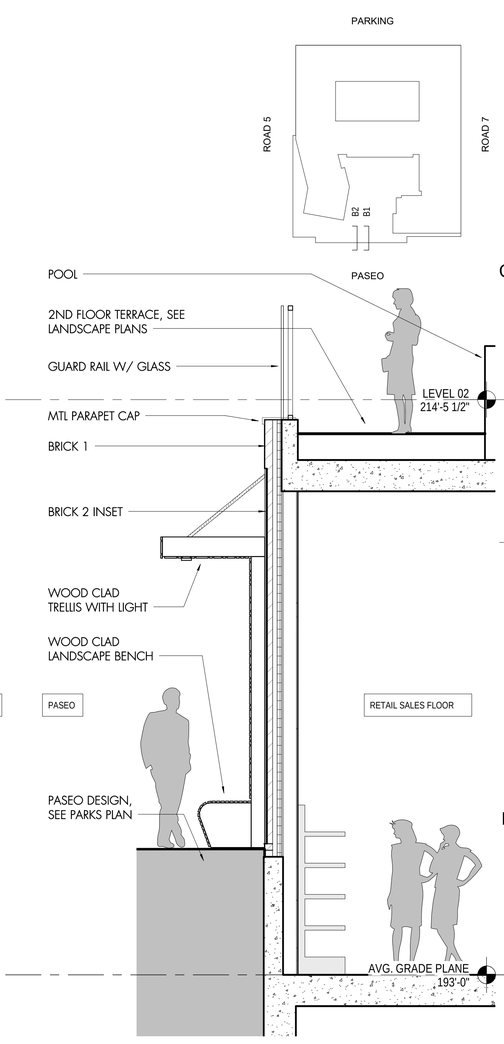
A4 PLAN G-H

3/8" = 1'-0" 0 1'-4" 2'-8" 5'-4"



B2 SECTION G

3/8" = 1'-0" 0 1'-4" 2'-8" 5'-4"



B1 SECTION H

3/8" = 1'-0" 0 1'-4" 2'-8" 5'-4"



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CLIENT NAME: FOULGER-PRATT
PROJECT NO.: 21073.00
DRAWN BY: Author
PROJECT NAME: WEST END - BLOCK EYE
ADDRESS: 5801 DUKE STREET ALEXANDRIA, VA 22304
SCALE: 3/8" = 1'-0"

DRAWING TITLE
ELEVATION DETAIL

DRAWING NO.
AZ-402

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DEPARTMENT OF PLANNING & ZONING
_____ DIRECTOR _____ DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. _____
_____ DIRECTOR _____ DATE
_____ CHAIRMAN, PLANNING COMMISION _____ DATE
DATE RECORDED _____
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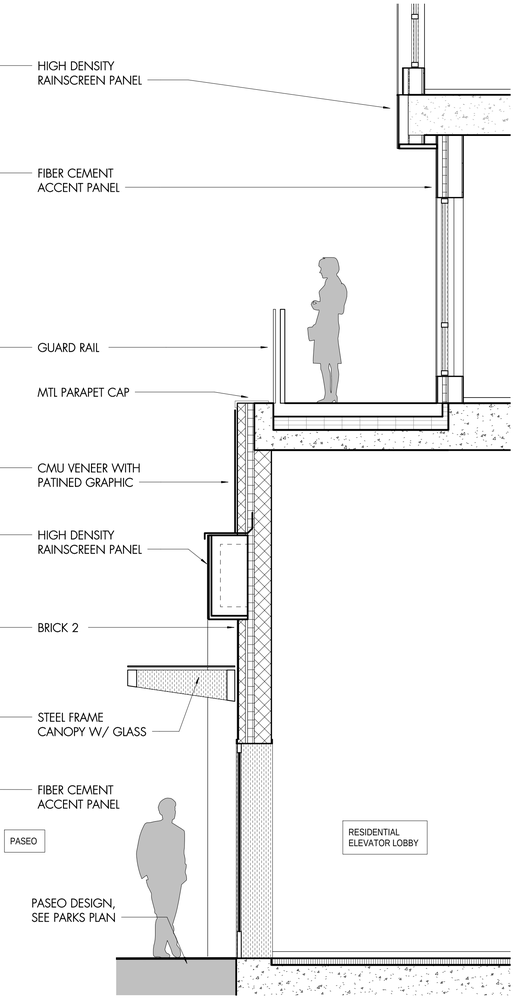
B4 ELEVATION N

3/8" = 1'-0" 0 1'-4" 2'-8" 5'-4"



B2 SECTION N

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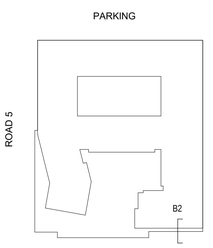

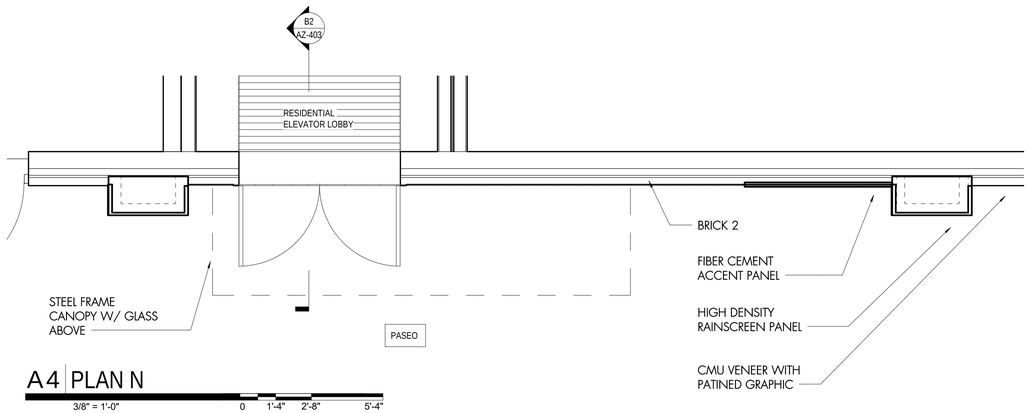

A4 PLAN N

3/8" = 1'-0" 0 1'-4" 2'-8" 5'-4"



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	DSUP SUBMISSION	2022-06-24

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CLIENT NAME
FOULGER-PRATT

PROJECT NO.
21073.00

DRAWN BY
Author

PROJECT NAME
WEST END - BLOCK EYE

ADDRESS
5801 DUKE STREET
ALEXANDRIA, VA
22304

SCALE
3/8" = 1'-0"

APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. _____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISION DATE

DATE RECORDED _____

INSTRUMENT NO. DEED BOOK NO. PAGE NO.

DRAWING TITLE
ELEVATION
DETAIL

DRAWING NO.
AZ-403

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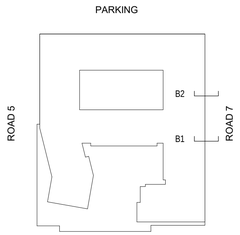



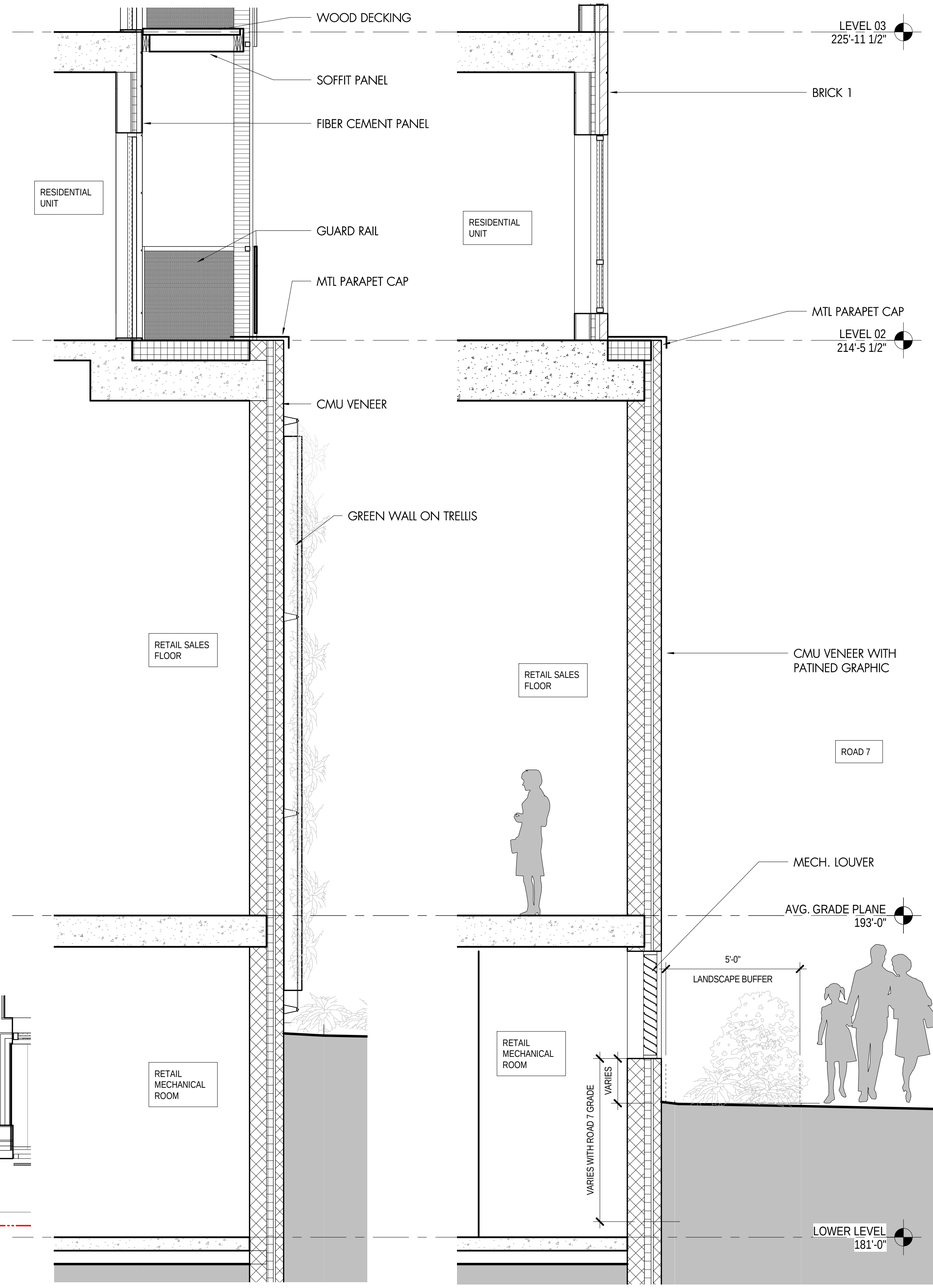

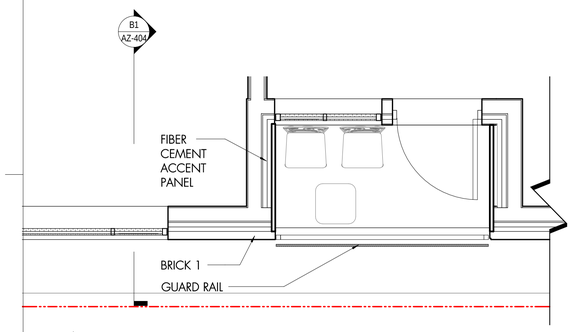

B4 PLAN U-V - LEVEL 02

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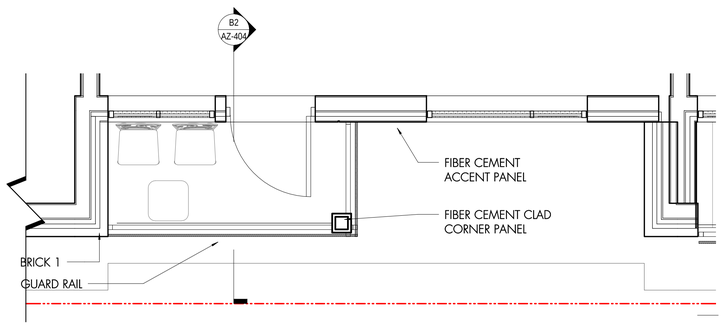

B2 SECTION U

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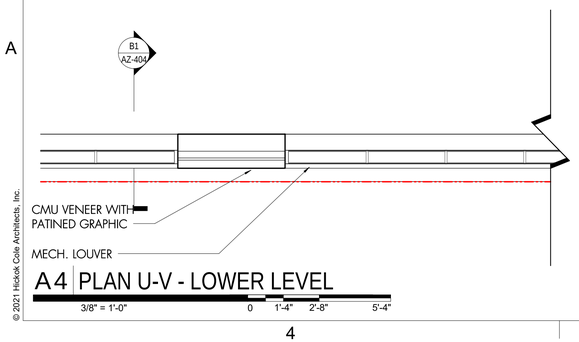
B1 SECTION V

3/8" = 1'-0" 0 1'-4" 2'-8" 5'-4"



A4 PLAN U-V - LOWER LEVEL

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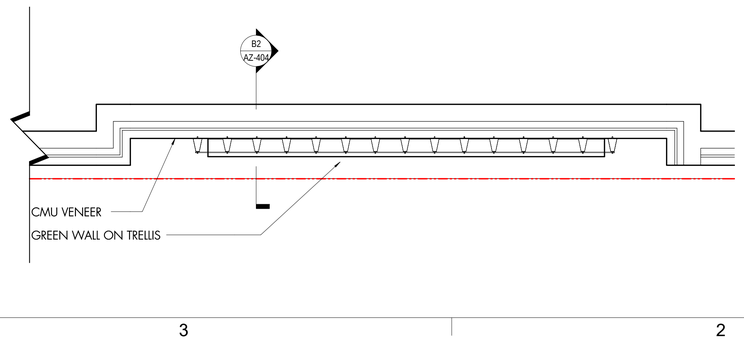

#	DESCRIPTION	DATE
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RESIDENTIAL ELEVATOR LOBBY

CLIENT NAME
FOULGER-PRATT

PROJECT NO.
21073.00

DRAWN BY
Author

PROJECT NAME
WEST END - BLOCK EYE

ADDRESS
5801 DUKE STREET
ALEXANDRIA, VA
22304

SCALE
3/8" = 1'-0"

APPROVED

SPECIAL USE PERMIT NO. _____

DEPARTMENT OF PLANNING & ZONING

DIRECTOR _____ DATE _____

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES

SITE PLAN NO. _____

DIRECTOR _____ DATE _____

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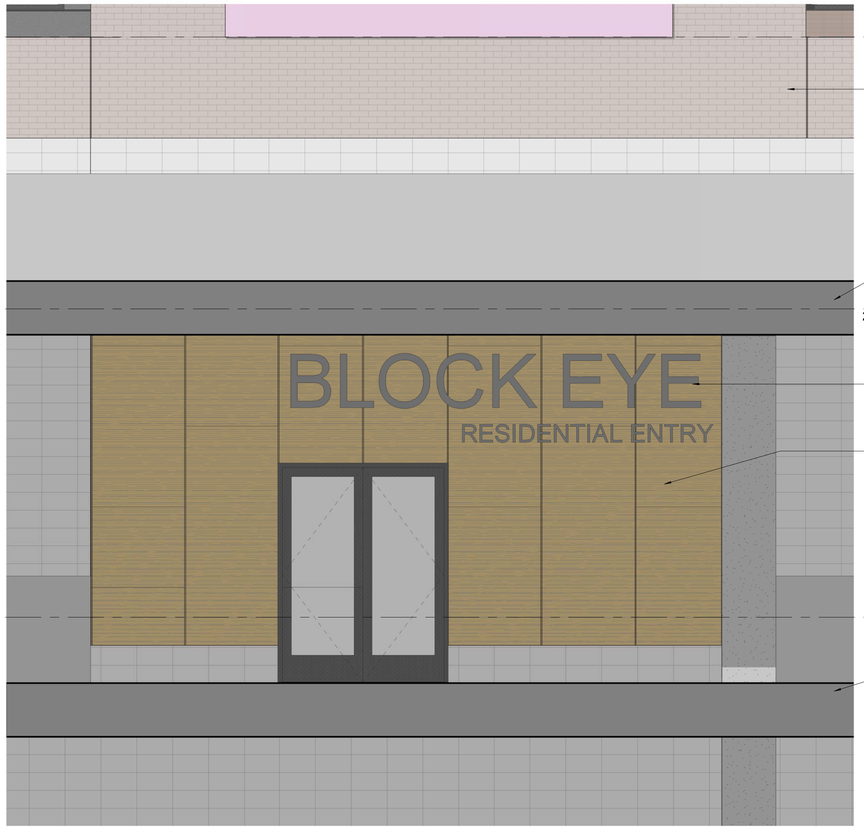

B4 ELEVATION - X

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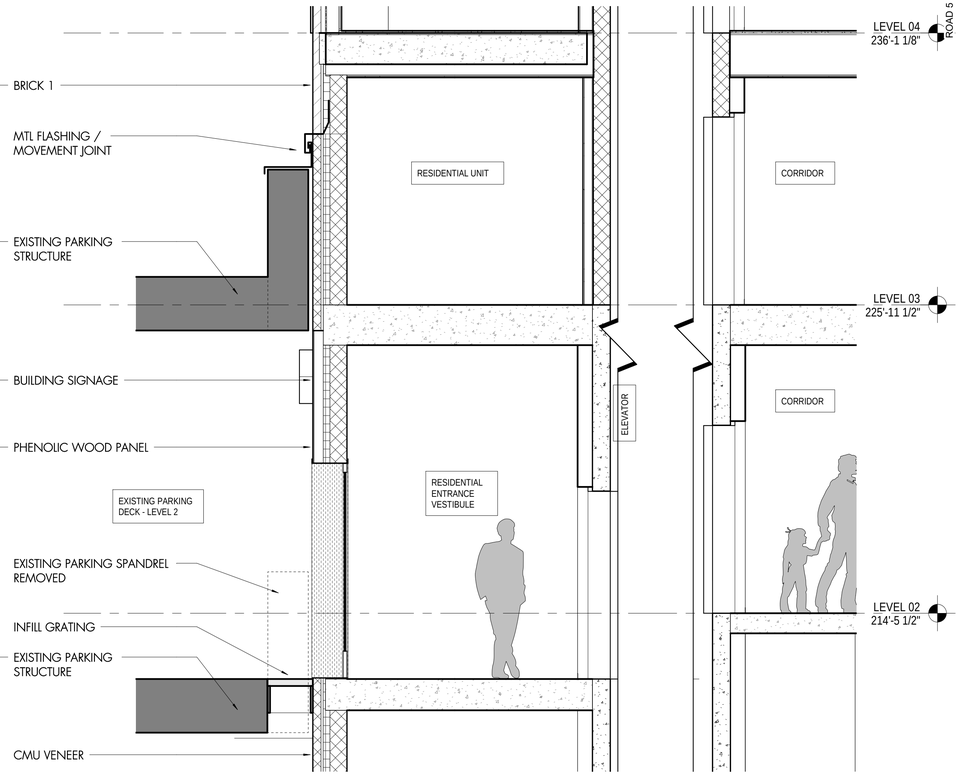

B2 SECTION X

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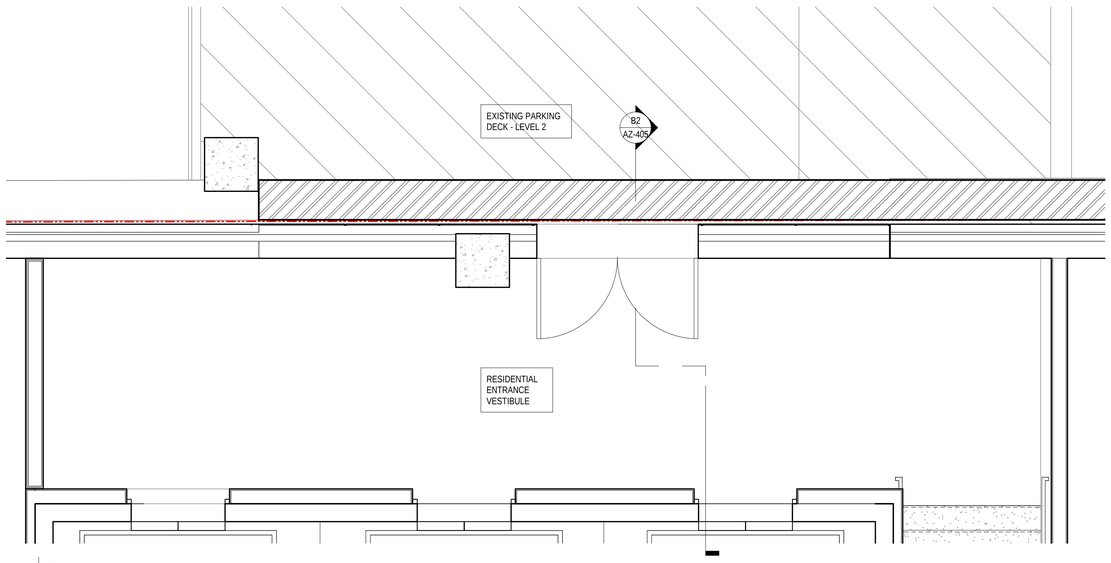

A4 PLAN X

3/8" = 1'-0" 0 1'-4" 2'-8" 5'-4"

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CLIENT NAME
FOULGER-PRATT

PROJECT NO.
21073.00

DRAWN BY
Author

PROJECT NAME
WEST END - BLOCK EYE

ADDRESS
5801 DUKE STREET
ALEXANDRIA, VA
22304

SCALE
3/8" = 1'-0"

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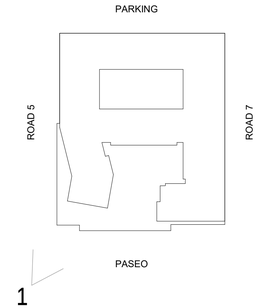
1 - BIRDS EYE PERSPECTIVE FROM SW



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PROJECT NO.
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Author

PROJECT NAME
WEST END - BLOCK EYE

ADDRESS
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SCALE

DRAWING TITLE
3D VIEW OVERALL MASSING

DRAWING NO.
AZ-500

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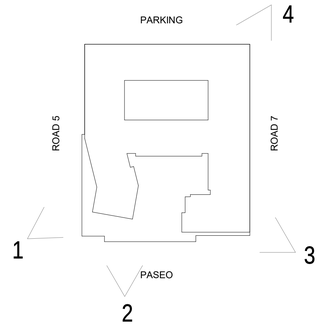



1 - PERSPECTIVE FROM SW
(ROAD 5 - WEST)



3 - PERSPECTIVE FROM SE
(ROAD 7 - EAST)



2 - PERSPECTIVE FROM SOUTH
(PASEO - SOUTH)



4 - PERSPECTIVE FROM NE
(PARKING STRUCTURE - NORTH)

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PROJECT NO.
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Author

PROJECT NAME
WEST END - BLOCK EYE

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SCALE

DRAWING TITLE
3D VIEW
PERSPECTIVES

DRAWING NO.
AZ-501

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SITE PLAN NO. _____

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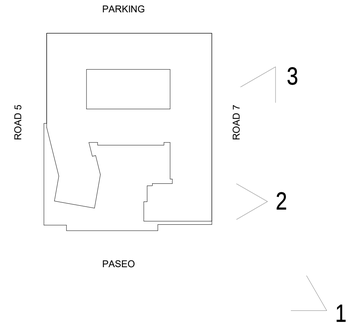



1 - PEDESTRIAN VIEW FROM SE
(VAN DORN)



2 - PEDESTRIAN VIEW
(ROAD 7 - EAST)



3 - PEDESTRIAN VIEW
(ROAD 7 - EAST)

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DEPARTMENT OF PLANNING & ZONING

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DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. _____

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CLIENT NAME: FOULGER-PRATT
PROJECT NO.: 21073.00
DRAWN BY: Author
PROJECT NAME: WEST END - BLOCK EYE
ADDRESS: 5801 DUKE STREET ALEXANDRIA, VA 22304
SCALE:

DRAWING TITLE
3D VIEW
PEDESTRIAN
LEVEL ROAD 7

DRAWING NO.
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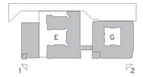
1 View from SouthWest



2 View from SouthEast



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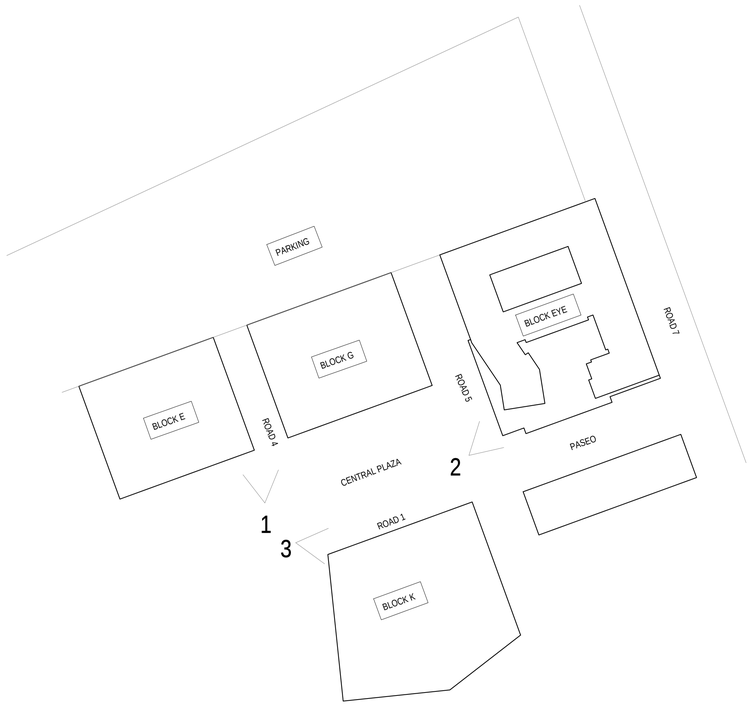
1 - BLOCK E AND G



2 - BLOCK EYE





PERSPECTIVE - VIEW FROM NORTHWEST CORNER

West End_Block K | Community Presentation 06.16.2022

3 - BLOCK K

hord | coplan | macht

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DEPARTMENT OF PLANNING & ZONING
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DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. _____
DIRECTOR _____ DATE _____
CHAIRMAN, PLANNING COMMISION _____ DATE _____
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#	DESCRIPTION	DATE
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CLIENT NAME: FOULGER-PRATT
PROJECT NO.: 21073.00
DRAWN BY: Author
PROJECT NAME: WEST END - BLOCK EYE
ADDRESS: 5801 DUKE STREET ALEXANDRIA, VA 22304
SCALE:

DRAWING TITLE
3D VIEW ADJACENT BLOCKS

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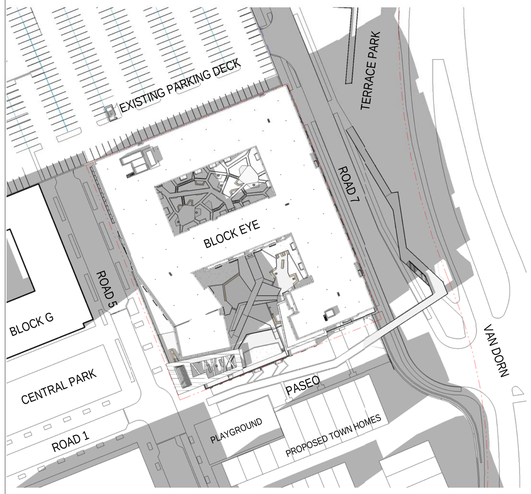

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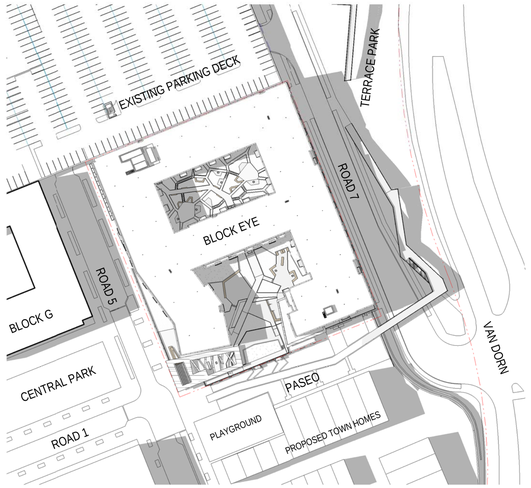

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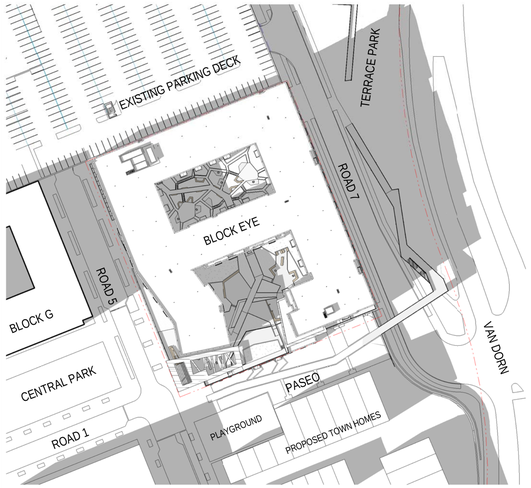

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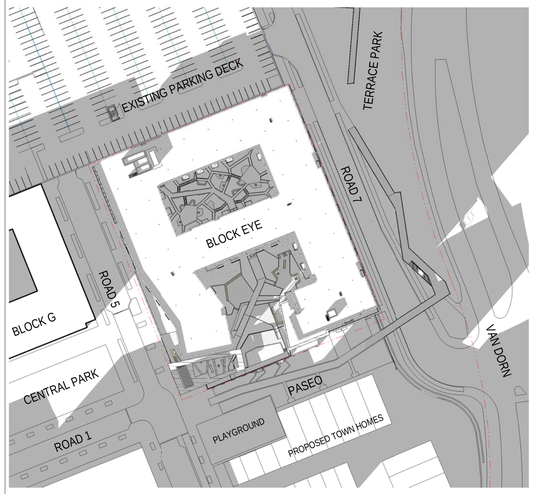

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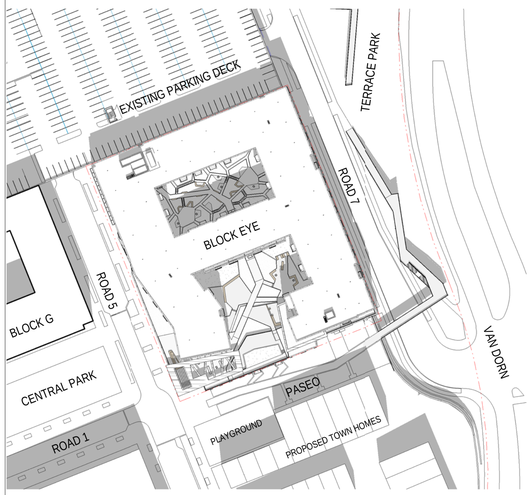

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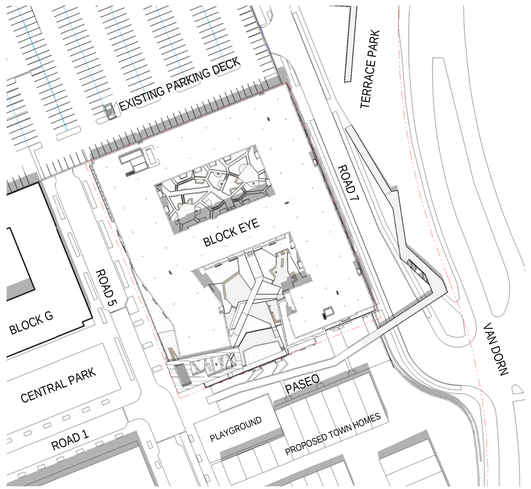

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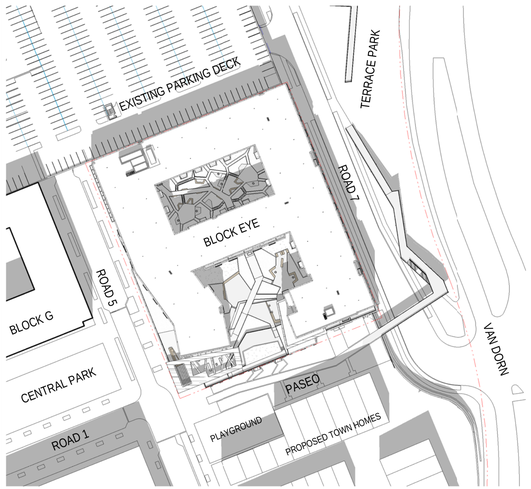
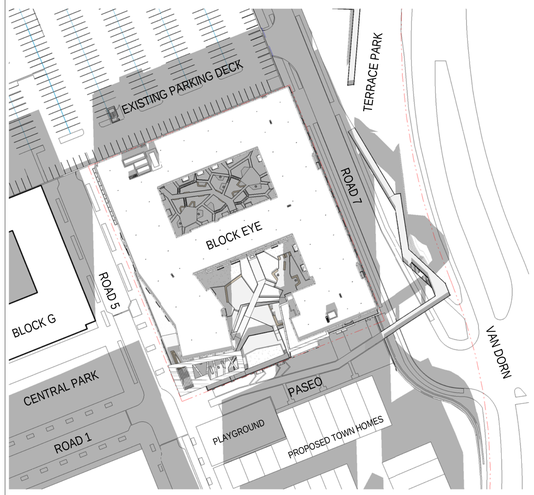
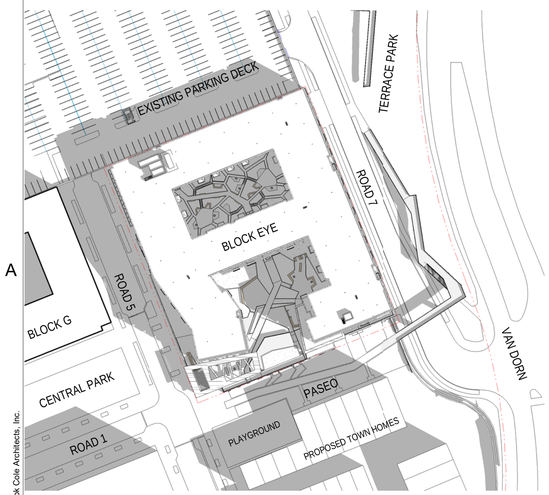


SUN STUDY - SEPTEMBER - 12PM



SUN STUDY - DECEMBER - 12PM



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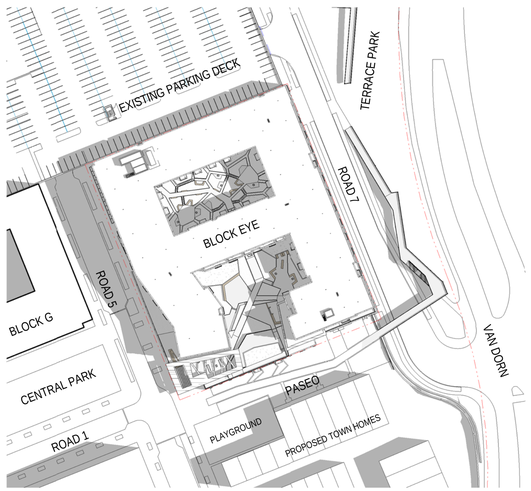
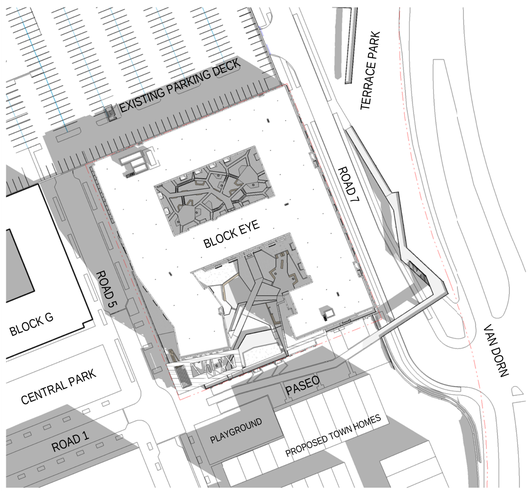
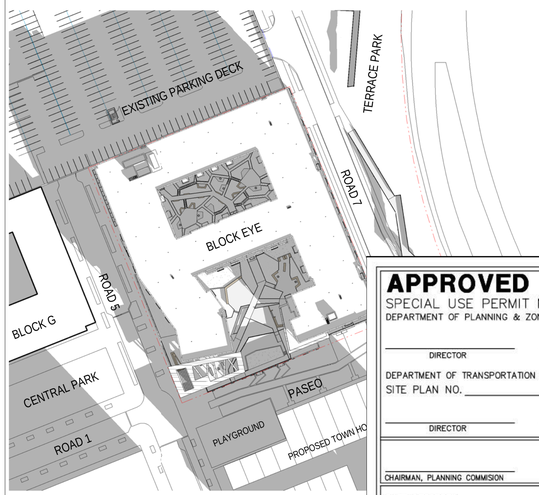


SUN STUDY - JUNE 21 - 9AM



SUN STUDY - SEPTEMBER - 9AM



SUN STUDY - DECEMBER - 9AM

#	DATE	DESCRIPTION
	2022-04-08	DSUP CONCEPT II SUBMISSION
	2022-06-24	DSUP SUBMISSION

REVISIONS / NOTES

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CLIENT NAME: FOULGER-PRATT
PROJECT NO.: 21073.00
DRAWN BY: PM
PROJECT NAME: WEST END - BLOCK EYE
ADDRESS: 5801 DUKE STREET ALEXANDRIA, VA 22304
SCALE: 1" = 100'-0"

DRAWING TITLE: SUN STUDIES

DRAWING NO.: AZ-900

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DIRECTOR _____ DATE _____
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. _____
DIRECTOR _____ DATE _____
CHAIRMAN, PLANNING COMMISION _____ DATE _____
DATE RECORDED _____
INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____

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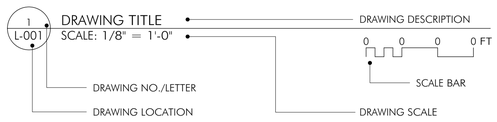
6/23/2022 6:21:03 PM BIM 360://21073 - WEST END BLOCK I/21073-WEST END BLOCK EYE-CORE AND SHELL-ARCH-R21.rvt

SYMBOLS

DRAWING TITLE



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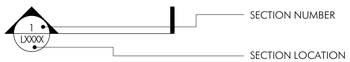

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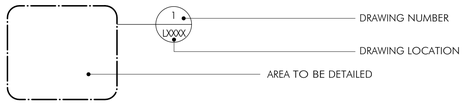

NORTH ARROW | ELEVATION DATUM | PLAN DATUM | REVISION



LEGEND

GENERAL NOTES

1. ALL WORK SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE, COUNTY AND/OR LOCAL STATUTES, ORDINANCES, REGULATIONS, LAWS AND CODES. THE CONTRACTOR SHALL TAKE ALL NECESSARY STEPS TO ENSURE SUCH COMPLIANCE AT NO ADDITIONAL COST TO THE OWNER. IF ANY INCONSISTENCIES ARE FOUND BETWEEN CODE REQUIREMENTS AND THE CONTENT OF THE CONTRACT DOCUMENTS (CD'S), THE CONTRACTOR WILL INFORM THE LANDSCAPE ARCHITECT (LA) IMMEDIATELY AND STOP WORK UNTIL GIVEN APPROVAL TO PROCEED BY THE LA.
2. THE CONTRACTOR SHALL FULLY EXAMINE AND BE FAMILIAR WITH THE CONDITIONS OF THE SITE AND THE DRAWINGS AND SPECIFICATIONS. SHOULD THE CONTRACTOR FIND, AFTER VISITING THE SITE OR DURING CONSTRUCTION, ANY DISCREPANCIES, OMISSIONS, AMBIGUITIES, OR CONFLICTS IN THE CDS OR BE IN DOUBT AS TO THEIR MEANING, THEY SHALL IMMEDIATELY BRING THESE ITEMS TO THE ATTENTION OF THE LA AND SHALL NOT PROCEED WITH WORK UNTIL THESE DISCREPANCIES ARE RESOLVED AND WRITTEN APPROVAL IS GIVEN BY THE LA. THE CONTRACTOR SHALL ASSUME COMPLETE RESPONSIBILITY FOR ALL NECESSARY REVISIONS DUE TO FAILURE TO GIVE SUCH NOTIFICATION.
3. CONSULT ALL DRAWINGS AND SPECIFICATIONS FOR COORDINATION REQUIREMENTS PRIOR TO BEGINNING CONSTRUCTION. SHOULD THERE BE ANY DISCREPANCIES BETWEEN LANDSCAPE ARCHITECTURAL, ARCHITECTURAL, OR ENGINEERING DRAWINGS, THE CONTRACTOR IS TO CONTACT LANDSCAPE ARCHITECT TO REVIEW AND COORDINATE BEFORE PROCEEDING WITH WORK.
4. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE LA, ARCHITECT, AND OWNER.
5. CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING WORK. CONTACT THE LOCAL UTILITY AGENCY A MINIMUM OF 72 HOURS IN ADVANCE. CONTRACTOR SHALL TAKE SOLE RESPONSIBILITY FOR ANY COST INCURRED FOR DAMAGE TO UTILITIES, PIPES AND STRUCTURES DUE TO THEIR WORK.
6. THE CONTRACTOR SHALL PRESERVE AND PROTECT ALL EXISTING CONDITIONS TO REMAIN. CONTRACTOR SHALL PROMPTLY REPAIR ANY DAMAGE TO EXISTING SITE ELEMENTS SUCH AS PAVEMENT, DRIVEWAYS, AND OTHER ADJACENT FACILITIES CAUSED BY CONSTRUCTION OPERATIONS AT NO ADDITIONAL COST TO THE OWNER. REPAIRS TO EXISTING SITE ELEMENTS SHALL MATCH THE EXISTING IN CONSTRUCTION, MATERIAL AND FINISH, PER THE OWNER'S APPROVAL, AND SHALL BLEND WITH THE ADJACENT EXISTING SITE CONDITIONS AS SEAMLESSLY AS POSSIBLE.
7. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING ALL WORK AND RELATED ACTIVITIES WITHIN THE PROPERTY LINE OR THE DESIGNATED LIMIT OF WORK. AT NO TIME IS ACCESS, STORAGE, OR MOVEMENT OF MATERIALS, MACHINERY, OR DEBRIS TO TAKE PLACE OUTSIDE OF THE PROJECT LIMIT OF WORK LINE OR PROPERTY LINES.
8. CONSTRUCTION ACCESS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF WAY. ANY STREETS, SIDEWALKS, ALLEYS, OR DRIVEWAYS DISTURBED DURING CONSTRUCTION MUST BE CLEARED OF DEBRIS, SWEPT, AND WASHED ON A DAILY BASIS DURING CONSTRUCTION. THE CONTRACTOR SHALL KEEP THE SITE CLEAN AND FREE OF TRASH AT ALL TIMES DURING CONSTRUCTION.
9. INSTALL TEMPORARY TREE PROTECTION AND TEMPORARY EROSION CONTROL MEASURES PRIOR TO ANY LAND DISTURBANCE AS REQUIRED BY LOCAL CODES AND AS SHOWN ON THE DRAWINGS. REFER TO THE CIVIL ENGINEER'S EROSION CONTROL DRAWINGS.
10. THE CONTRACTOR SHALL INSPECT ALL TREE PROTECTION AND EROSION CONTROL DEVICES AND CORRECT ANY DEFICIENCIES AT THE END OF EACH WORK DAY TO ENSURE THEIR PERFORMANCE. THE CONTRACTOR SHALL REMOVE SOIL TRAPPED BY EROSION CONTROL DEVICES AS REQUIRED TO PREVENT SOIL LEVEL FROM OVER-TOPPING THE DEVICE OR BULGING AT ANY POINT DURING CONSTRUCTION. SEE CIVIL ENGINEER'S DOCUMENTS.
11. ALL EXISTING TREES TO REMAIN SHALL BE FENCED AT THE DRIP LINE OF THEIR CANOPIES, OR PER PLANS IF PLANS INDICATE A LARGER TREE PROTECTION ZONE. DO NOT DRIVE VEHICLES, STOCKPILE SOIL OR CONSTRUCTION MATERIALS, OR PERFORM ANY CONSTRUCTION OPERATIONS WITHIN THE DRIP LINE, ROOT ZONE, OR PROTECTIVE FENCING OF EXISTING TREES. CONTRACTORS NOT FOLLOWING THESE PROTECTIVE RULES SHALL BE LIABLE FOR THE COST OF AN ARBORIST'S FEES AND ALL COSTS ASSOCIATED WITH TREATMENT AND/OR REPLACEMENT OF THE TREES. BEFORE FINAL GRADING AND PLANTING BEGINS, THE LA WILL INSPECT TREE PROTECTION AREAS FOR COMPACTION AND MECHANICAL DAMAGE. IF THE LA DETERMINES THAT EITHER OF THESE EXISTS, THE CONTRACTOR WILL REMEDY AT HIS EXPENSE. MEASURES MAY INCLUDE BUT ARE NOT LIMITED TO EVALUATION BY A LICENSED ARBORIST, AIRSPADING, BIOPLEX TREATMENT, CABLING, ROOT PRUNING AND PRUNING OF CANOPY/LIMBS.
12. THE LA SHALL APPROVE ALL TRENCHING OR OTHER DISTURBANCE REQUIRED WITHIN THE ROOT ZONES OF TREES PRIOR TO EXECUTION. THE CONTRACTOR IS RESPONSIBLE FOR CONSULTING THE ARBORIST PRIOR TO MAJOR EXCAVATION, AS DIRECTED BY THE LA. APPROVED TRENCHING SHALL BE PERFORMED USING A VERMEER TRENCHING MACHINE, VIBRATORY PLOW OR EQUIVALENT.
13. ROOT PRUNING SHALL BE COMPLETED PRIOR TO BASE OR SUBGRADE PREPARATION AND PRIOR TO ANY EXCAVATION ADJACENT TO ANY EXISTING TREE. TREE ROOTS SHALL BE ROOT PRUNED TO AVOID TEARING AND SHREDDING BY GRADING EQUIPMENT. ROOT PRUNING SHALL BE TO A DEPTH OF 18". THE CONTRACTOR SHALL TRENCH AROUND THE TREE BEYOND THE EDGE OF THE TREE PROTECTION AREA AND THEN CLEAR THE SOIL BY HAND TO THE EDGE OF THE TREE PROTECTION AREA AND HAND-PRUNE THE ROOTS. ROOTS SHALL BE CUT CLEANLY, AS FAR FROM THE TRUNK OF THE TREE AS POSSIBLE.
14. EXCAVATION IN AN AREA WHERE ROOTS ARE PRESENT SHALL NOT CAUSE THE TEARING OR RIPPING OF TREE ROOTS. ROOTS MUST BE CLEANLY SEVERED PRIOR TO CONTINUING WITH EXCAVATION, OR TUNNELED AROUND TO PREVENT DAMAGE TO THE ROOT.
15. AT SITES WHERE ROOT PRUNING OR EXCAVATION HAS TAKEN PLACE NEAR TREES TO REMAIN, AND MANY LIVING ROOTS REMAIN EXPOSED TO THE AIR, THE CONTRACTOR SHALL COVER THE EXPOSED ROOTS WITH SAND, SOIL, OR MOIST BURLAP WITHIN 2 HOURS. ROOT ENDS SHALL BE COVERED WITH SOIL OR BURLAP AND KEPT MOIST UNTIL THE FINAL BACKFILL OR GRADE IS ESTABLISHED.
16. ALL TREE PRUNING AND REMOVAL PERFORMED SHALL BE EXECUTED UNDER THE SUPERVISION OF A CERTIFIED ARBORIST. PRUNING SHALL BE PERFORMED TO THE STANDARDS OF THE INTERNATIONAL SOCIETY OF ARBORISTS PRUNING GUIDELINES, AND TO ANSI A-300.
17. THE CONTRACTOR SHALL PROVIDE MOCK-UPS IN THE FIELD OF PROPOSED SITE FEATURES, THAT ARE SO DESIGNATED IN THE DOCUMENTS, FOR APPROVAL BY OWNER AND LA PRIOR TO CONSTRUCTION. ALL MOCK-UPS SHALL BE PRESERVED TO BE USED FOR REFERENCE DURING CONSTRUCTION. DO NOT REMOVE MOCK-UPS UNTIL CONSTRUCTION IS COMPLETE.
18. SUBSTITUTIONS IN LANDSCAPE PRODUCTS AND MATERIALS ARE NOT PERMITTED WITHOUT PRIOR APPROVAL BY THE LA.
19. THE CONTRACTOR, OR THEIR REPRESENTATIVE, SHALL BE ON SITE AT THE TIME OF ALL MATERIALS DELIVERIES. IF THEY ARE NOT AVAILABLE TO ACCEPT THE DELIVERY, THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY RESULTING LOSSES OR DAMAGE.
20. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS FOR CONSTRUCTION PRIOR TO COMMENCING WORK.
21. THE CONTRACTOR IS RESPONSIBLE FOR ANY REQUIRED CONSTRUCTION INSPECTIONS.
22. THE CONTRACTOR IS RESPONSIBLE FOR LICENSING, BONDING, AND INSURANCE AS REQUIRED BY APPLICABLE REGULATORY AGENCIES.
23. THE CONTRACTOR SHALL OBTAIN THE OWNER'S APPROVAL FOR TIMES OF DAY DURING WHICH CONSTRUCTION OPERATIONS MAY OCCUR. ALL CONSTRUCTION OPERATIONS SHALL OCCUR WITHIN TIMES SPECIFIED BY LOCAL ORDINANCES.
24. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THEIR WORK WITH ALL OTHER TRADES ON THE SITE.
25. IT IS THE CONTRACTOR'S RESPONSIBILITY TO GROUND AND BOND ALL METAL OBJECTS IN THE LANDSCAPE, AS REQUIRED BY CODE.
26. UPON COMPLETION OF THE PROJECT, ALL EXCESS SOIL, TEMPORARY FENCING, CONSTRUCTION SIGNS, TAGS, EROSION CONTROL MEASURES, STABILIZATION MATERIALS, AND OTHER DEBRIS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY. ALL PAVED AREAS, WALLS, ETC. SHALL BE THOROUGHLY WASHED AND CLEANED.
27. REFER TO INDIVIDUAL DRAWINGS FOR FURTHER NOTES.

DRAWING INDEX (WORKSHEET)

SHEET #	SHEET NAME	SUBMISSION DATE	SUBMISSION TITLE
L-001	GENERAL NOTES	6/28/2022	DSUP SUBMISSION
L101	MATERIALS & LAYOUT PLAN_SOUTH	6/28/2022	DSUP SUBMISSION
L-101	MATERIALS & LAYOUT PLAN_SOUTH	6/28/2022	DSUP SUBMISSION
L102	MATERIALS & LAYOUT PLAN_NORTH	6/28/2022	DSUP SUBMISSION
L-102	MATERIALS & LAYOUT PLAN_NORTH	6/28/2022	DSUP SUBMISSION
L-300	PLANTING NOTES	6/28/2022	DSUP SUBMISSION
L-301	PLANTING PLAN- SOUTH	6/28/2022	DSUP SUBMISSION
L-302	PLANTING PLAN- NORTH	6/28/2022	DSUP SUBMISSION
LL-101	LIGHTING PLAN	6/28/2022	DSUP SUBMISSION

ABBREVIATION LIST

A	ADJ	ADJACENT, ADJUSTABLE
	AFF	ABOVE FINISH FLOOR
	ALT	ALTERNATE
	ALUM	ALUMINUM
	APPROX	APPROXIMATE
	ARCH	ARCHITECT(URAL)
B	BC	BOTTOM OF CURB
	BD	BOARD
	BLDG	BUILDING
	BLKG	BLOCKING
	BOT	BOTTOM
	BRK	BRICK
	BS	BOTTOM OF STAIR
	BW	BOTTOM OF WALL
C	CEM	CEMENT
	CIP	CAST IN PLACE
	CJ	CONTROL JOINT
	CMU	CONCRETE MASONRY UNIT
	COL	COLUMN
	CONC	CONCRETE
	CU FT	CUBIC FEET
D	DD	DECK DRAIN
	DIA	DIAMETER
	DIAG	DIAGONAL
	DIM	DIMENSION
	DN	DOWN
	DS	DOWN SPOUT
	DWG(S)	DRAWING(S)
E	E	EAST
	EA	EACH
	EJ	EXPANSION JOINT
	EL	ELEVATION
	ELEC	ELECTRIC(AL)
	EQ	EQUAL
	EQUIP	EQUIPMENT
	EXP	EXPOSED
	EXIST	EXISTING
	EXT	EXTERIOR
F	FAB	FABRIC
	FIN	FINISH
	FT	FOOT, FEET
	FTG	FOOTING
	FS	FINISHED SURFACE
	FG	FINISHED GRADE
G	GA	GAUGE
	GALV	GALVANIZED
	GC	GENERAL CONTRACTOR
H	HDW	HARDWARE
	HDWD	HARDWOOD
	HM	HOLLOW METAL
	HOR	HORIZONTAL
	HT	HEIGHT
	HVAC	HEATING/VENTILATING/ AIR CONDITIONING
I	ID	INSIDE DIAMETER
	INCL	INCLUD(E), (ED), (ING)
	INSUL	INSULAT(E), (ED), (ING), (ION)
	INT	INTERIOR
J	JT	JOINT
K	KO	KNOCK OUT
L	L	LENGTH
	LT	LIGHT
M	MAS	MASONRY
	MATL	MATERIAL
	MAX	MAXIMUM
	MECH	MECHANICAL
	MED	MEDIUM
	MFR	MANUFACTURER
	MIN	MINIMUM
	MISC	MISCELLANEOUS
	MO	MASONRY OPENING
	MTL	METAL
N	N	NORTH
	NIC	NOT IN CONTRACT
	No., #	NUMBER
	NOM	NOMINAL
	NTS	NOT TO SCALE
O	OC	ON CENTER
	OD	OUTSIDE DIAMETER
	OPNG	OPENING
	OPP	OPPOSITE
P	PA	PLANTED AREA
	PERF	PERFORAT(E), (ED), (ION)
	PL	PLATE
	PLYWD	PLYWOOD
	PNL	PANEL
	PNT	PAINT(ED)
	PSF	POUNDS PER SF
	PSI	POUNDS PER SI
	PT	POINT
	P.O.B.	POINT OF BEGINNING
R	RAD	RADIUS
	RB	RUBBER BASE
	RD	ROOF DRAIN
	RE:	REFER TO
	REINF	REINFORC(E), (ED), (ING)
	REQD	REQUIRED
	REV	REVISION
	RL	RAIN LEADER
S	S	SOUTH
	SCHED	SCHEDUL(E), (ED)
	SD	STORM DRAIN
	SF	SQUARE FEET
	SHT	SHEET
	SIM	SIMILAR
	SQ	SQUARE
	SS	STAINLESS STEEL, SOLID
	STD	STANDARD
	STL	STEEL
	STN	STAIN(ED)
	SUSP	SUSPEND(ED)
T	TA	TURF AREA
	TBD	TO BE DECIDED
	TC	TOP OF CURB
	TEL	TELEPHONE
	THK	THICK(NESS)
	TOM	TOP OF MASONRY
	TOS	TOP OF STEEL
	TS	TOP OF STAIR
	TW	TOP OF WALL
	TV	TELEVISION
	TYP	TYPICAL
U	UNO	UNLESS NOTED OTHERWISE
V	VERT	VERTICAL
	VIF	VERIFY IN FIELD
W	W	WEST, WIDE, WIDTH
	W/	WITH
	W/O	WITHOUT
	WD	WOOD
	WT	WEIGHT

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#	DESCRIPTION	DATE
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CLIENT NAME **FOULGER-PRATT**
PROJECT NO. **21073.00**
DRAWN BY XS, MB
PROJECT NAME **WEST END - BLOCK EYE**
ADDRESS **5801 DUKE STREET ALEXANDRIA, VA 22304**
SCALE AS SHWON

DRAWING TITLE
GENERAL NOTES

L-001

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1 SOUTH COURTYARD
Scale: 1" = 10'-0"

LEGEND	
F1	FREESTANDING CAST STONE PLANTER
F2	PLANTER W/ 24" PLANTING MEDIUM
F3	CAST STONE PEBBLE SEATING ELEMENT
F4	FIRE PIT
F5	OUTDOOR GRILLS AND SINK
F7	MOVABLE TABLES AND CHAIRS
F8	MOVABLE LOUNGE SEATING TBD
F9	MOVABLE COMMUNAL TABLE
F10	MOVABLE CHAISE LOUNGE
M1	DRINK RAIL MOUNTED TO GUARDRAIL / PARAPET OR FLOOR.
M2	6' TALL GLASS POOL ENCLOSURE, W/ OPERABLE LOCKING GATE.
P1	TERRACE PAVER 1
P2	TERRACE PAVER 2
P3	POOL COPING
T1	CANOPY TREES
T2	ORNAMENTAL TREES
W1	FEATURE WALL WITH FIRE PLACE
W2a	PLANTED AREA 'A' WITH 24"-36" PLANTING SOIL
W2b	PLANTED AREA 'B' WITH BIORETENTION PLANTER MIX
W3	BUILT-IN BAR-HEIGHT TABLE
W4	BUILT-IN LOUNGE W/ BACK
W5	CUSTOM SCULPTURE ISLAND W/ STADIUM SEATING

#	DESCRIPTION	DATE
	DSUP SUBMISSION	06.26.2022

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CLIENT NAME
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PROJECT NO.
21073.00
DRAWN BY
XS, MB

PROJECT NAME
WEST END - BLOCK EYE
ADDRESS
5801 DUKE STREET
ALEXANDRIA, VA
22304
SCALE AS SHWON

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INSTRUMENT NO. DEED BOOK NO. PAGE NO.

DRAWING TITLE
MATERIALS & LAYOUT PLAN_SOUTH

L-101

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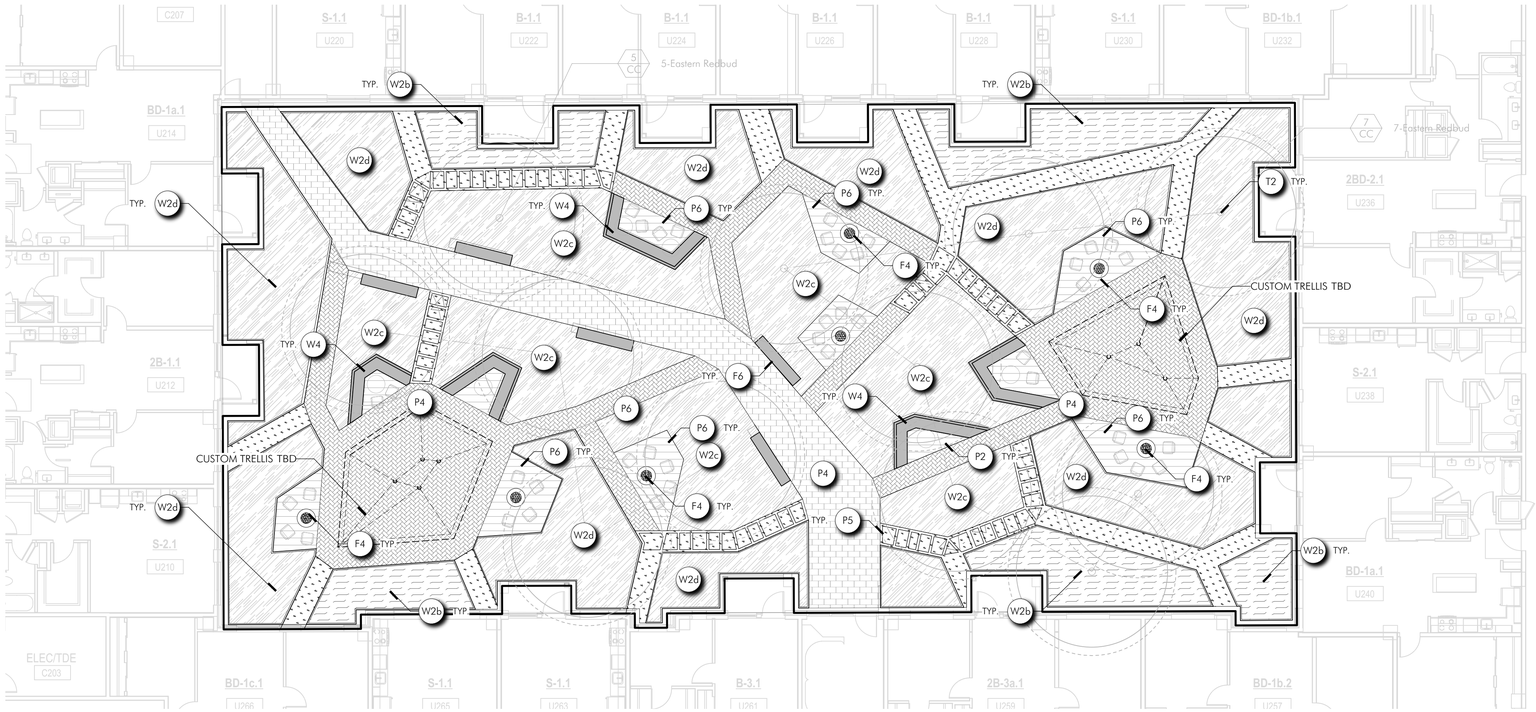
LAYOUT NOTES

1. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND LAYOUT DIMENSIONS IN THE FIELD. DO NOT PROCEED WITH ANY WORK IF ANY DISCREPANCIES, SUCH AS OBSTRUCTIONS AND/OR GRADE DIFFERENCES THAT MAY NOT HAVE BEEN KNOWN DURING DESIGN, ARE PRESENT. SUCH CONDITIONS SHALL BE REPORTED TO THE LANDSCAPE ARCHITECT (LA) IMMEDIATELY. THE CONTRACTOR SHALL ASSUME COMPLETE RESPONSIBILITY FOR ALL REVISIONS DUE TO FAILURE TO GIVE SUCH NOTIFICATION.
2. DO NOT SCALE DRAWINGS. ALL WRITTEN DIMENSIONS SUPERSEDE ALL SCALED DISTANCES AND DIMENSIONS. ALL LINES AND DIMENSIONS ARE PARALLEL AND PERPENDICULAR TO THE LINES FROM WHICH THEY ARE MEASURED UNLESS OTHERWISE INDICATED. IF DIMENSIONS OR ANY NECESSARY INFORMATION IS UNCLEAR OR MISSING, OR IF THE CONTRACTOR FINDS ANY DISCREPANCIES, CONTACT THE LA FOR CLARIFICATION.
3. ALL EXISTING TREES TO REMAIN SHALL BE FENCED AT THE DRIP LINE OF THEIR CANOPIES, OR PER PLANS IF PLANS INDICATE A LARGER TREE PROTECTION ZONE. DO NOT DRIVE VEHICLES, STOCKPILE SOIL OR CONSTRUCTION MATERIALS, OR PERFORM ANY CONSTRUCTION OPERATIONS WITHIN THE DRIP LINE, ROOT ZONE, OR PROTECTIVE FENCING OF EXISTING TREES. CONTRACTORS NOT FOLLOWING THESE PROTECTIVE RULES SHALL BE LIABLE FOR THE COST OF AN ARBORIST'S FEES AND TREATMENT OF THE TREES AND/OR REPLACEMENT OF THE TREES AND ALL ASSOCIATED COSTS. BEFORE FINAL GRADING AND PLANTING BEGINS, THE LA WILL INSPECT TREE PROTECTION AREAS FOR COMPACTION AND MECHANICAL DAMAGE. IF THE LA DETERMINES THAT EITHER OF THESE EXISTS, THE CONTRACTOR WILL REMEDY AT HIS EXPENSE. MEASURES MAY INCLUDE BUT ARE NOT LIMITED TO EVALUATION BY A LICENSED ARBORIST, AIRSPADING, BIOPLEX TREATMENT, CABLING, ROOT PRUNING AND PRUNING OF CANOPY/LIMBS.
4. CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING WORK. CONTACT THE LOCAL UTILITY AGENCY A MINIMUM OF 72 HOURS IN ADVANCE. CONTRACTOR SHALL TAKE SOLE RESPONSIBILITY FOR ANY COST INCURRED FOR DAMAGE TO UTILITIES, PIPES AND STRUCTURES DUE TO THEIR WORK.
5. ALL DIMENSIONS ARE TO FACE OF TREAD, FACE OF EDGING, FACE OF CURB AND FACE OF WALLS, ETC., UNLESS OTHERWISE NOTED. ALL DIMENSIONS TO FACES OF BUILDINGS ARE TO THE FACE OF FINISHED WALL SURFACE WHERE THE WALL MEETS GRADE, UNLESS OTHERWISE NOTED.
6. ALL HORIZONTAL DIMENSIONS OF PAVERS, TREADS, COPING, CURBS, ETC. ARE TO CENTER OF JOINT, UNLESS OTHERWISE NOTED.
7. INSTALL 1/2" NON-ASPHALTIC EXPANSION JOINTS TO FULL DEPTH OF THE AS SHOWN IN THE DRAWINGS AND AT THE JUNCTION BETWEEN PAVING AND ANY EXISTING PAVING, STRUCTURE OR ANY VERTICAL SURFACE SUCH AS FACES OF WALLS, STEPS, CURBS, ETC. OR AS ADJUSTED BY LA IN THE FIELD.
8. CONTROL JOINTS IN PAVING SHALL BE INSTALLED AS SHOWN IN THE DRAWINGS OR AS DIRECTED BY LA IN THE FIELD.
9. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT ANY SITE STRUCTURES, PAVING AND BUILDING ENVELOPES FROM DAMAGE. ANY DAMAGE CAUSED BY THE CONTRACTOR OR THE CONTRACTOR'S REPRESENTATIVE DUE TO THEIR WORK SHALL BE REPAIRED AT NO COST TO THE OWNER.
10. NOTIFY LANDSCAPE ARCHITECT IMMEDIATELY IF CONFLICTS IN LAYOUT OF LANDSCAPE FEATURES ARISE DUE TO CHANGES TO OTHER CONSULTANT'S DOCUMENTS. ANY ALTERATIONS TO THESE DRAWINGS PROPOSED IN THE FIELD FOR CONSTRUCTION SHALL BE PROMPTLY REPORTED TO THE LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO CONSTRUCTION.
11. REFER TO GENERAL NOTES FOR ADDITIONAL REQUIREMENTS.



1 NORTH COURTYARD
Scale: 1" = 10'-0"

LEGEND	
F4	FIRE PIT
F6	BACKLESS WODD BENCH
P2	LOUNGE AREA PAVER
P4	COURTYARD PAVER 1
P5	COURTYARD PAVER 2
P6	COURTYARD PAVER 3
T2	ORNAMENTAL TREE
W2b	PLANTED AREA 'B' WITH BIORETENTION MIX
W2c	PLANTED AREA 'C' WITH 24"-36" PLANTING SOIL BELOW ADJACENT GRADE
W2d	PLANTED AREA 'D' WITH 24"-36" PLANTING SOIL
W4	BUILT-IN LOUNGE W/ BACK

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CLIENT NAME: FOULGER-PRATT
PROJECT NO.: 21073.00
DRAWN BY: XS, MB
PROJECT NAME: WEST END - BLOCK EYE
ADDRESS: 5801 DUKE STREET ALEXANDRIA, VA 22304
SCALE: AS SHWON

DRAWING TITLE: MATERIALS & LAYOUT PLAN_NORTH

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PLANTING NOTES

1. DO NOT PROCEED WITH PLANTING IF EXISTING CONDITIONS ON THE SITE DIFFER FROM THOSE SHOWN IN THE SURVEY, PARTICULARLY IF OBSTRUCTIONS AND/OR GRADE DIFFERENCES EXIST THAT MAY NOT HAVE BEEN KNOWN DURING DESIGN. SUCH CONDITIONS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE LA. THE CONTRACTOR SHALL ASSUME COMPLETE RESPONSIBILITY FOR ALL REVISIONS DUE TO FAILURE TO GIVE SUCH NOTIFICATION.
2. NO PLANTING SHALL BE DONE BEFORE ACCEPTANCE OF GRADING BY THE LA.
3. CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING WORK. CONTACT THE LOCAL UTILITY AGENCY A MINIMUM OF 72 HOURS IN ADVANCE. CONTRACTOR SHALL TAKE SOLE RESPONSIBILITY FOR ANY COST INCURRED FOR DAMAGE TO UTILITIES, PIPES AND STRUCTURES DUE TO PLANTING WORK.
4. ALL EXISTING TREES TO REMAIN SHALL BE FENCED AT THE DRIP LINE OF THEIR CANOPIES, OR PER PLANS IF PLANS INDICATE A LARGER TREE PROTECTION ZONE. DO NOT DRIVE VEHICLES, STOCKPILE SOIL OR CONSTRUCTION MATERIALS, OR PERFORM ANY CONSTRUCTION OPERATIONS WITHIN THE DRIP LINE, ROOT ZONE, OR PROTECTIVE FENCING OF EXISTING TREES. CONTRACTORS NOT FOLLOWING THESE PROTECTIVE RULES SHALL BE LIABLE FOR THE COST OF AN ARBORIST'S FEES AND TREATMENT OF THE TREES AND/OR REPLACEMENT OF THE TREES AND ALL ASSOCIATED COSTS. BEFORE FINAL GRADING AND PLANTING BEGINS, THE LA WILL INSPECT TREE PROTECTION AREAS FOR COMPACTION AND MECHANICAL DAMAGE. IF THE LA DETERMINES THAT EITHER OF THESE EXISTS, THE CONTRACTOR WILL REMEDY AT HIS EXPENSE. MEASURES MAY INCLUDE BUT ARE NOT LIMITED TO EVALUATION BY A LICENSED ARBORIST, AIRSPADING, BIOPLEX TREATMENT, CABLING, ROOT PRUNING AND PRUNING OF CANOPY/LIMBS.
5. THE NUMBER OF PLANTS TO BE INSTALLED SHALL BE THE NUMBER SHOWN GRAPHICALLY ON THE DRAWINGS. IF THERE ARE CONFLICTS BETWEEN THE NUMBER OF PLANTS SHOWN ON THE DRAWINGS AND THE NUMBER SHOWN IN THE PLANT LIST, THE NUMBER OF PLANTS ON THE DRAWINGS SHALL BE INSTALLED. BRING ALL SUCH CONFLICTS TO THE ATTENTION OF THE LANDSCAPE ARCHITECT (LA).
6. FINAL LOCATION OF ALL PLANT MATERIAL SHALL BE SUBJECT TO THE APPROVAL OF THE LA. ALL TREE LOCATIONS SHALL BE STAKED IN THE FIELD FOR REVIEW AND APPROVAL OF THE LA BEFORE COMMENCING WITH PLANTING. THE CONTRACTOR SHALL NOTIFY THE LA FOR INSPECTION FOR EACH AREA BEFORE INSTALLATION. THE CONTRACTOR WILL IMMEDIATELY NOTIFY THE LA OF ANY UNDERGROUND OBSTACLES DISCOVERED DURING PLANTING THAT MAY AFFECT THE LOCATION OF PLANTS, AND WILL NOT PROCEED UNTIL FINAL LOCATIONS ARE APPROVED BY THE LA.
7. ALL PLANT MATERIAL SHALL BE APPROVED BY THE LA PRIOR TO AND/OR AT THE TIME OF ITS ARRIVAL ON SITE. THE CONTRACTOR WILL NOTIFY THE LA OF ALL PLANT DELIVERIES AT LEAST 48 HOURS IN ADVANCE. THE LA WILL REJECT ANY PLANTS THAT ARE DAMAGED, DESICCATED, DISEASED, DO NOT HAVE FULL AND BALANCED FORM, WHOSE ROOT BALLS ARE LOOSE OR CRACKED, DO NOT MEET THE SIZE OR SPECIES/CULTIVAR SPECIFIED IN THE DRAWINGS, OR DO NOT MEET INDUSTRY STANDARDS OF QUALITY. REJECTED PLANTS WILL BE REPLACED BY THE CONTRACTOR IMMEDIATELY AT NO ADDITIONAL COST TO THE OWNER.
8. NO SUBSTITUTIONS OF PLANT SPECIES/CULTIVARS SHALL BE MADE WITHOUT THE PRIOR WRITTEN PERMISSION OF THE LA. THE LA RESERVES THE RIGHT TO MAKE SUBSTITUTIONS, ADDITIONS AND DELETIONS IN THE PLANTING SCOPE WHILE WORK IS IN PROGRESS. EQUITABLE ADJUSTMENTS TO THE CONTRACT PRICE, BASED ON THE COST OF COMPARABLE PLANTS IN THE CONTRACT, SHALL BE MADE SUBJECT TO THE OWNER'S APPROVAL.
9. ALL TREES AND SHRUBS SHALL BE PLANTED PLUMB AND TRUE. ALL TREES SHALL BE MARKED ON THE NORTH SIDE IN THE NURSERY, AND WILL BE PLANTED WITH THE NORTH SIDE FACING NORTH, PER THE NURSERY MARKING, UNLESS OTHERWISE DIRECTED BY THE LA. SEE PLANTING DETAILS AND SPECIFICATIONS FOR TREE, SHRUB, PERENNIAL, AND BULB PLANTING, INCLUDING STAKING METHODS, PLANT PIT DIMENSIONS AND PLANTING SOIL REQUIREMENTS.
10. ALL AREAS DISTURBED BY CONSTRUCTION OPERATIONS AND NOT OTHERWISE SPECIFIED SHALL BE SEEDED/SODDED PER THE SPECIFICATIONS.
11. IMMEDIATELY AFTER DIGGING PLANTS, PROTECT FROM DRYING AND DAMAGE UNTIL DELIVERED TO THE PLANTING SITE. ROOT BALLS SHALL BE CHECKED REGULARLY AND WATERED SUFFICIENTLY TO MAINTAIN ROOT VIABILITY.
12. BRANCHES SHALL BE TIED WITH ROPE OR TWINE IN SUCH A MANNER THAT NO DAMAGE WILL OCCUR TO THE BARK OR BRANCHES.
13. DURING TRANSPORTATION OF PLANT MATERIAL, THE CONTRACTOR SHALL EXERCISE CARE TO PREVENT INJURY AND DRYING OUT OF THE TREES. SHOULD THE ROOTS BE DRIED OUT, LARGE BRANCHES BROKEN, BALLS OF EARTH BROKEN OR LOOSENED, OR AREAS OF BARK TORN OR ABRADED, THE LA MAY REJECT THE INJURED TREE(S) AND ORDER THEM REPLACED AT NO ADDITIONAL COST TO THE OWNER. ALL LOADS OF PLANTS SHALL BE COVERED AT ALL TIMES WITH TARPAULIN OR CANVAS. LOADS THAT ARE NOT PROTECTED WILL BE REJECTED.
14. CONTRACTOR SHALL PROVIDE LABOR TO CARE FOR ALL PLANTS AND LAWN AREAS UNTIL SITE IS READY FOR INSTALLATION. PLANTS THAT CANNOT BE PLANTED IMMEDIATELY AFTER DELIVERY SHALL BE KEPT IN THE SHADE, WELL PROTECTED WITH SOIL, WET MULCH, OR OTHER ACCEPTABLE MATERIAL, AND KEPT WELL WATERED. PLANTS SHALL NOT REMAIN UNPLANTED ANY LONGER THAN THREE DAYS AFTER DELIVERY. PLANTS SHALL BE LIFTED AND HANDLED WITH SUITABLE SUPPORT OF THE SOIL BALL TO AVOID DAMAGE.
15. ALL PLANTING SHALL HAVE A WARRANTY REPLACEMENT GUARANTEE FOR A PERIOD OF TWO (FILL IN THE PROPER PERIOD) YEARS BEGINNING AT THE DATE OF FINAL COMPLETION. CONTRACTOR TO WARRANT PLANTS SUCH THAT AT THE END OF THE WARRANTY PERIOD, ALL TREES AND SHRUBS WILL BE IN AN UNDAMAGED, THRIVING CONDITION, EXCEPT FOR DEFECTS RESULTING FROM NEGLECT, ABUSE OR DAMAGE BY OTHERS OR INCIDENTS WHICH ARE BEYOND THE CONTRACTOR'S CONTROL. CONTRACTOR IS RESPONSIBLE FOR PERIODIC INSPECTION AND DOCUMENTATION REQUIRED TO PROVE THE LISTED EXCEPTIONS TO WARRANTY AGREEMENT.
16. POSITION TREES AND SHRUBS AT THEIR INTENDED LOCATIONS PER THE PLANS AND SECURE THE APPROVAL OF THE LANDSCAPE ARCHITECT OR HIS/HER REPRESENTATIVE BEFORE EXCAVATING PITS, MAKING NECESSARY ADJUSTMENTS AS DIRECTED.
17. ALL PLANTS SHALL BE SET SO THAT THEY BEAR THE SAME RELATION TO THE REQUIRED GRADE AS THEY BORE TO THE NATURAL GRADE BEFORE BEING TRANSPLANTED.
18. WATER IMMEDIATELY AFTER PLANTING. WATER SHALL BE APPLIED TO EACH TREE AND SHRUB IN SUCH MANNER AS NOT TO DISTURB BACK FILL AND TO THE EXTENT THAT ALL MATERIALS IN THE PLANTING PIT ARE THOROUGHLY SATURATED.
19. SPACING AND VARIETY OF GROUND COVER SHALL BE AS SHOWN ON APPROVED DRAWINGS. IMMEDIATELY AFTER PLANTING GROUND COVER, CONTRACTOR SHALL THOROUGHLY WATER THE GROUND COVER.
20. UPON COMPLETION OF ALL PLANTING WORK AND BEFORE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL MATERIAL, EQUIPMENT, AND DEBRIS RESULTING FROM HIS WORK. ALL PAVED AREAS SHALL BE BROOM CLEANED AND THE SITE LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE.
21. DURING THE WARRANTY PERIOD, ALL TREES, SHRUBS OTHER PLANTS AND PLANT BEDS SHALL BE MAINTAINED BY PRUNING, CULTIVATING AND WEEDING AS REQUIRED FOR HEALTHY GROWTH. THIS WORK SHALL INCLUDE RESTORING PLANTING SAUCERS; RESETTING TREES AND SHRUBS TO PROPER GRADES OR VERTICAL POSITION AS REQUIRED; RESTORING OR REPLACING DAMAGED WRAPPINGS, IF ANY.
22. LAWNS SHALL BE MAINTAINED BY WATERING, FERTILIZING, WEEDING, MOWING, TRIMMING, AND OTHER OPERATIONS SUCH AS ROLLING, REGRADING AND REPLANTING AS REQUIRED TO ESTABLISH A SMOOTH ACCEPTABLE LAWN, FREE OF ERODED OR BARE AREAS.
23. ALL TREES IN PUBLIC SPACE TO BE INSTALLED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE RELEVANT JURISDICTION.
24. IF CONTRACT GROWING IS CALLED FOR, THE CONTRACTOR SHALL PURCHASE THE MATERIAL AND HAVE IT SEGREGATED AND GROWN FOR THE JOB UPON APPROVAL OF THE PLANT MATERIAL. THE DEPOSIT NECESSARY FOR SUCH CONTRACT GROWING IS TO BE BORNE BY THE CONTRACTOR.
25. PERIODIC INSPECTIONS BY A QUALIFIED ARBORIST MAY BE CALLED FOR DURING CONSTRUCTION ACTIVITIES, PARTICULARLY AS EXISTING OR TRANSPLANTED TREES ARE IMPACTED BY TRENCHING/GRADING OPERATIONS. ANY RECOMMENDATIONS BY THE ARBORIST FOR MAINTAINING THE HEALTH OF TREES ARE TO BE IMPLEMENTED, AND THE COST BORN BY THE CONTRACTOR.
26. DO NOT PLACE MULCH AGAINST PLANT TRUNKS OR STEMS.
27. NEWLY PLANTED TREES SHOULD BE PRUNED ONLY TO REMOVE DEAD OR BROKEN BRANCHES.
28. REFER TO GENERAL NOTES FOR ADDITIONAL REQUIREMENTS.

Plant Schedule

KEY	QTY	Latin Name	Common Name	Size	Notes	CROWN COVER ALLOWANCE (CCA) CCA PER TREE (SF)	Total Crown Cover (SF)	NATIVE PLANTS PROVIDED LOCAL/ REGIONAL (#)	EASTERN U.S. (#)	TOTAL
TREES										
BN	8	Betula nigra	River Birch	3" CAL.	B&B	750	6000	8	8	
CC	12	Cercis canadensis	Eastern Redbud	3" CAL.	B&B	500	6000	12	12	
SHRUBS										
IA	106	Ilex verticillata 'Afterglow'	Afterglow Winterberry	3 gal.	36" O.C.	25	2650	106	106	
IJ	10	Ilex verticillata 'Jim Dandy'	Jim Dandy Winterberry	3 gal.	36" O.C.	25	250	10	10	
PERENNIALS/GROUND COVERS										
BULBS										
								136	136	136
						URBAN TREE CCA (SF)	*14,900*	*100%*	*100%*	*100%*

CROWN COVER TABULATIONS	
TOTAL SITE AREA (SF)	107,844
13% CROWN COVER REQUIRED (SF)	14,020
EXISTING CROWN COVER (SF)	0
REMOVED CROWN COVER (SF)	0
PRESERVED CROWN COVER (SF)	0
PROPOSED CROWN COVER (SF)	14,900
TOTAL CROWN COVER PROVIDED (%)	14%
TOTAL CROWN COVER PROVIDED (SF)	14,900

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CHAIRMAN, PLANNING COMMISION ____________ DATE ____________

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CLIENT NAME **FOULGER-PRATT**
PROJECT NO. **21073.00**
DRAWN BY XS, MB

PROJECT NAME **WEST END - BLOCK EYE**
ADDRESS **5801 DUKE STREET ALEXANDRIA, VA 22304**
SCALE AS SHWON

DRAWING TITLE **PLANTING NOTES**

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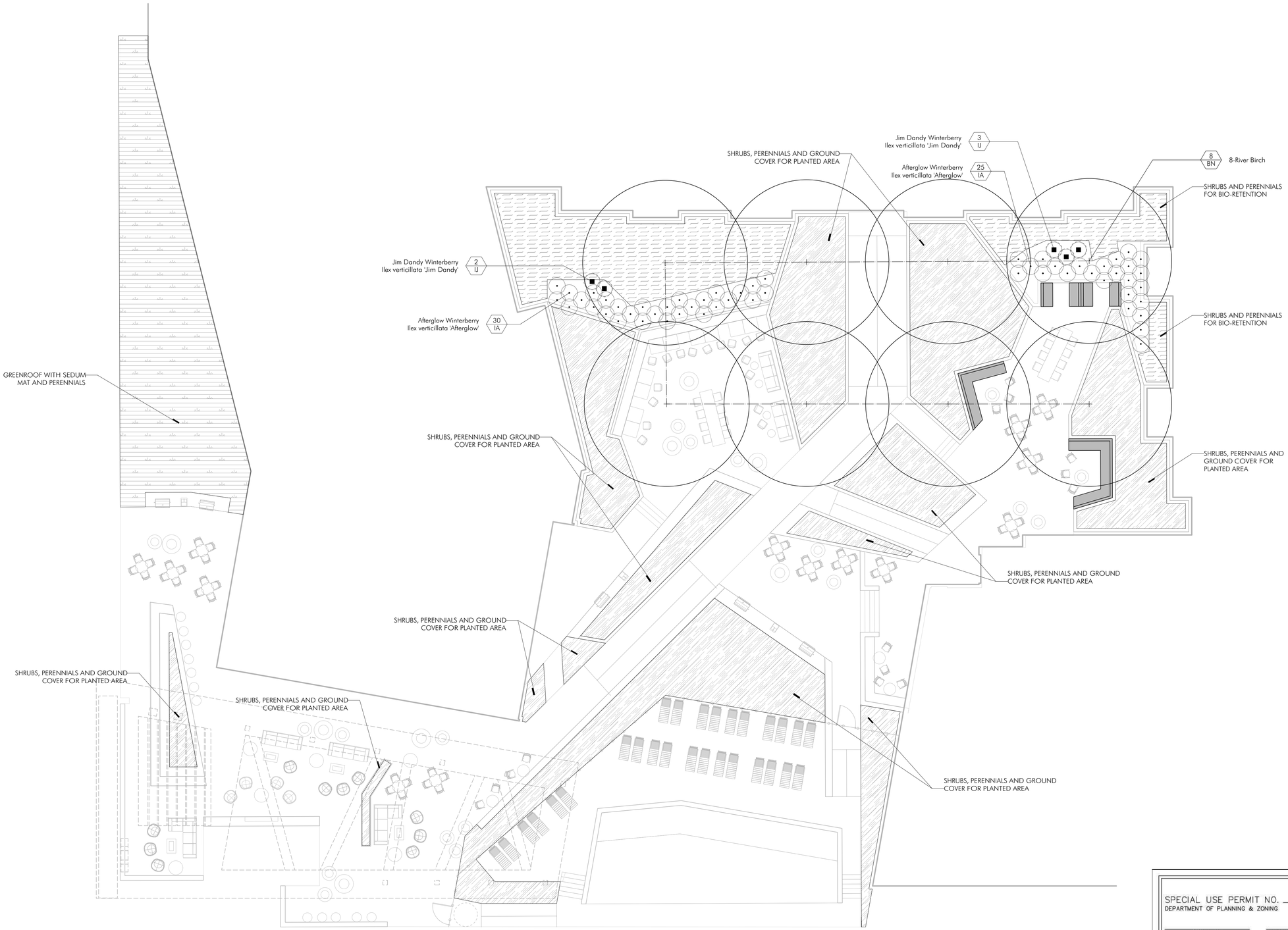

1 PLANTING PLAN- SOUTH
Scale: 1" = 10'-0"

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PLANTING PLAN- SOUTH

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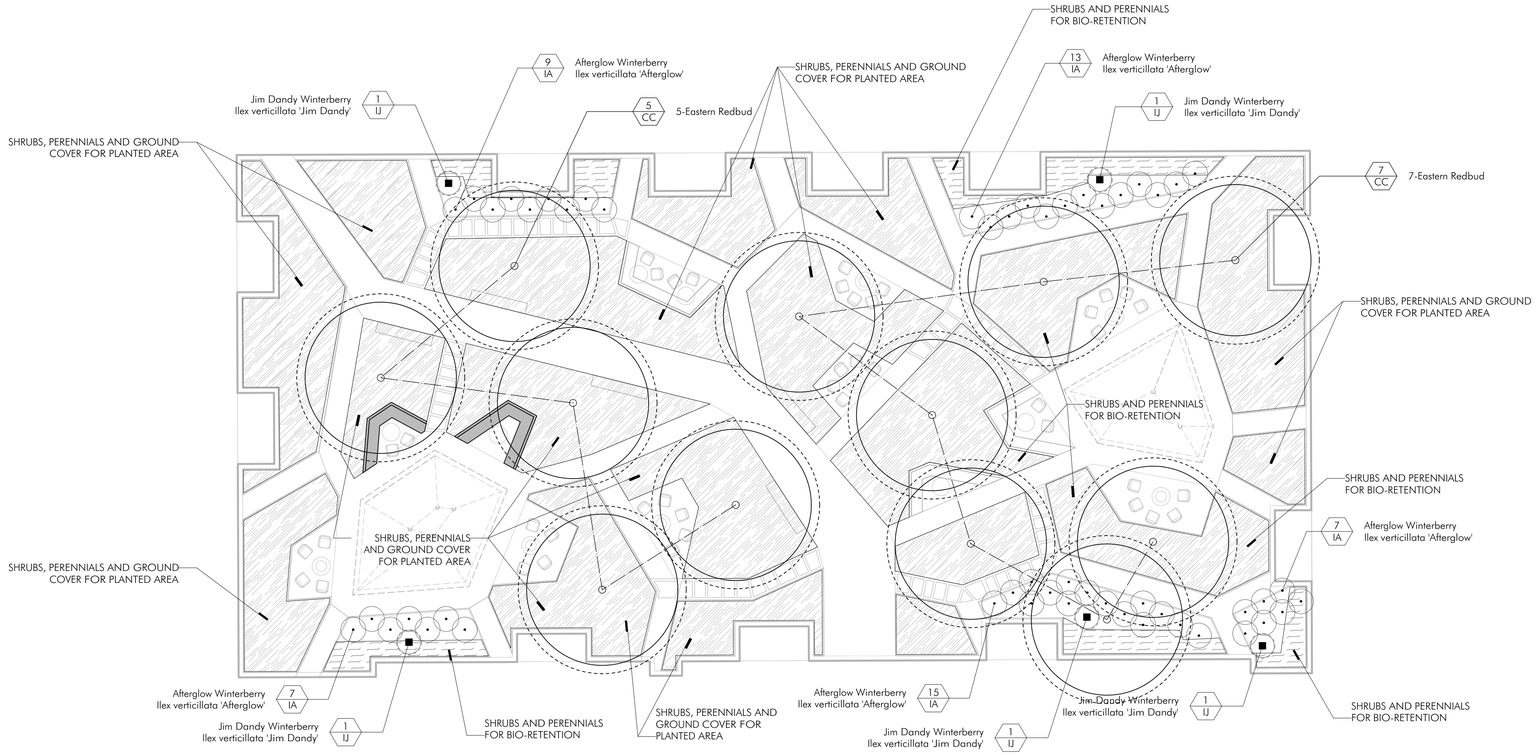

1 PLANTING PLAN- NORTH
Scale: 1" = 10'-0"

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1 LIGHTING PLAN
Scale: 1/16" = 1'-0"

- L1: WALL MOUNT LIGHTING
- L2: POLE LIGHT
- L3: LOW BOLLARD LIGHT
- L4: TREE UPLIGHTS
- L5: STEP LIGHT
- L6: AMBIENT LIGHT IN PLANTING
- L7: OVERHEAD LIGHTING
- L8: LINEAR LED LIGHT
- L9: OVERHEAD LIGHT EMBEDED IN TRELLIS

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