LANDMARK MALL REDEVELOPMENT

PRELIMINARY SITE PLAN - PARKS

CITY OF ALEXANDRIA, VIRGINIA

DATE: MARCH 10, 2023

PROJECT TEAM

APPLICANT
FOULGER-PRATT DEVELOPMENT, LLC
12435 PARK POTOMAC AVE
SUITE 200
POTOMAC, MD 20854
TEL. 240-499-9684
CONTACT: JAY KELLY

CIVIL ENGINEER
URBAN, LTD.
4200D TECHNOLOGY COURT
CHANTILLY, VA 20151
TEL. 703-376-4221
CONTACT: CLAYTON TOCK, P.E.

TRAFFIC ENGINEER
GOROVE SLADE
225 REINEKERS LANE
SUITE 750
ALEXANDRIA, VA 22314
TEL. 202-540-1926
CONTACT: ROBERT SCHIESEL, P.E.

UTILITY ENGINEER
DAVIS UTILITY CONSULTING, LLC
3975 FAIR RIDGE DRIVE
SUITE 125-SOUTH
FAIRFAX, VA 22033
TEL. 703-945-9606
CONTACT: DAVIS GRAHAM

ATTORNEY
WIRE GILL LLP
700 NORTH FAIRFAX STREET
SUITE 600
ALEXANDRIA, VA 22314
TE. 703-677-3129
CONTACT: KENNETH WIRE

LANDSCAPE ARCHITECT
OCULUS
1611 CONNECTICUT AVE, NW
3RD FLOOR
WASHINGTON, DC 20009
TEL. 202-588-5454
CONTACT: DON HOOVER

ARCHITECT
CORE
1010 WISCONSIN AVE NW
SUITE 405
WASHINGTON DC, 20007
202-464-7475
CONTACT: CHRISTOPHER PELI

AREA TABULATIONS:

BLOCK F LOT AREA =	31,872 S.F.	0.732 AC.
BLOCK N LOT AREA =	22,509 S.F.	0.517 AC.
BLOCK R LOT AREA =	21,009 S.F.	0.482 AC.
BLOCK P LOT AREA =	128,715 S.F.	2.955 AC.

ZONING TABULATIONS:

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

TOTAL SITE/LOT AREA: 204,105 S.F. OR 4.686 AC.
TOTAL IMPERVIOUS AREA: 24,895 SF OR 0.57 AC.
TOTAL DISTURBED AREA: 146,845 SF OR 3.37 AC.

EXISTING ZONE: CDD #29 (COORDINATED DEVELOPMENT DISTRICT #29)
PROPOSED ZONE: CDD #29 (COORDINATED DEVELOPMENT DISTRICT #29)
OPEN SPACE REQUIREMENTS: SEE SHEETS 03A & 20.

EXISTING USE: SHOPPING CENTER/DEMOLISHED
PROPOSED USE: PARKS AND RETAIL/RESTAURANT

FLOOR AREA CALCULATION:

PAVILION 1	NET AREA (SF)	GROSS AREA (SF)	F.A.R
RETAIL/RESTAURANT	4,610	7,279	0.23
TOTAL	4,610	7,279	0.23

PAVILION 2	NET AREA (SF)	GROSS AREA (SF)	F.A.R
RETAIL/RESTAURANT	1,661	4,064	0.18
TOTAL	1,661	4,064	0.18

DENSITY:
BLOCK F: N/A
BLOCK N: N/A
BLOCK R: N/A
BLOCK P: N/A

MIN/MAX BLDG.: PAVILION 1:-- FT. MIN, -- FT. MAX.
PAVILION 2:-- FT. MIN, -- FT. MAX.

BUILDING HEIGHT PROPOSED: PAVILION 1: 30 FT.
PAVILION 2: 32 FT.

BUILDING HEIGHT (STORIES): PAVILION 1: 2-STORIES
PAVILION 2: 2-STORIES

AVG. FINISHED GRADE: PAVILION 1: 208.9' FT.
PAVILION 2: 201.625' FT.

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

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

PARKING TABULATIONS:

PAVILION 1 REQUIRED PARKING:
RATIO: *0.25 SP/1,000 SF =7,279 S.F X 0.25/1000= **2 SPACES.

PAVILION 2 REQUIRED PARKING:
RATIO: *0.25 SP/1,000 SF =4,064 S.F X 0.25/1000= **2 SPACES.

* PARKING RATIOS REFLECT SEC. 8-200 PER CITY OF ALEXANDRIA ZONING ORDINANCE.

** PER SEC. 8-100(A)(9) NONRESIDENTIAL USES THAT HAVE A PARKING REQUIREMENT OF TWO SPACES OR LESS SHALL BE EXEMPT FROM PROVIDING THE SPACES.

PAVILION 1 PROVIDED PARKING:
NO PARKING REQUIRED. ADDITIONAL PARKING PROVIDED IN THE EXISTING GARAGE (SEE ATTACHED PMP)

PAVILION 2 PROVIDED PARKING:
NO PARKING REQUIRED. ADDITIONAL PARKING PROVIDED IN THE EXISTING GARAGE (SEE ATTACHED PMP)

LOADING SPACE REQUIRED:
PAVILION 1: 1/20,000 SF (RETAIL)= 7,279 X 1/20,000= 1 SPACE
PAVILION 2: 1/20,000 SF (RETAIL)= 4,064 X 1/20,000= 1 SPACE

LOADING SPACE PROVIDED:
PAVILION 1: 1 SPACE (ON-STREET, EAST SIDE OF TUCKER ST.)
PAVILION 2: 1 SPACE (ON-STREET, EAST SIDE OF ALEX WAY)

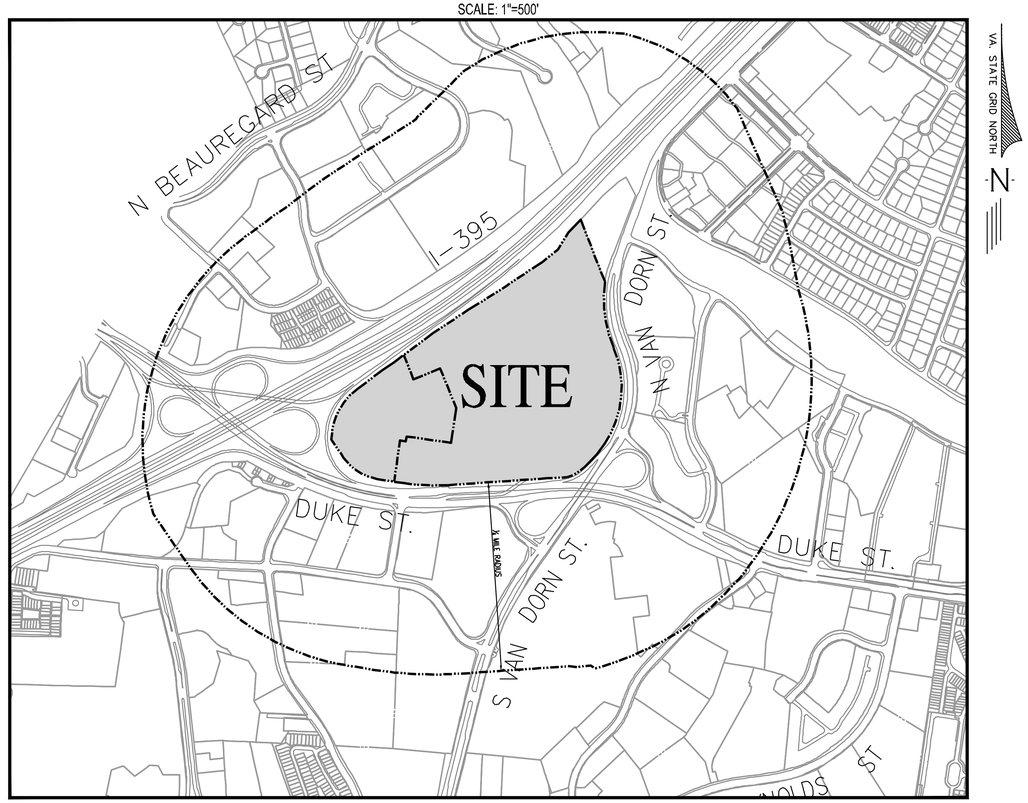
TRIP GENERATION:

NO TRIPS ARE BEING GENERATED BY THE PROPOSED PARK DEVELOPMENTS.

BUILDING CODE ANALYSIS:

SEE SHEET A.00

VICINITY MAP
SCALE: 1"=500'



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PROJECT NARRATIVE:

DESCRIPTION OF DEVELOPMENT:
THE OVERALL LANDMARK PARCEL IS BORDERED TO THE NORTH BY HENRY G. SHIRLEY MEMORIAL HWY (I-395), TO THE SOUTHEAST BY DUKE STREET, AND TO THE EAST BY VAN DORN STREET.

THIS PLAN PROPOSES THE PUBLIC PARK IMPROVEMENTS LOCATED IN BLOCK F,N,R, AND P. THE PARK AMENITIES ARE BEING PROPOSED ALONG WITH THE NECESSARY INFRASTRUCTURE TO SUPPORT THE PARK FACILITIES/AMENITIES.

SPECIAL AMENITIES:
AS PART OF THE OVERALL PROPOSED DEVELOPMENT FOR THE SITE, THE APPLICANT PROPOSES TO PROVIDE SPECIAL AMENITIES INCLUDING A MINIMUM 3.5 ACRES OF OPEN SPACE NETWORK TO INCLUDE A CENTRAL PARK, PASEO, TERRACE PARK, AND A PLAYGROUND. COLLECTIVELY, THESE PARKS WILL PROVIDE A MIX OF ACTIVE AND PASSIVE USES, AS WELL AS A COMBINATION OF LANDSCAPE AND HARDSCAPE AREAS, FOR RESIDENTS AND VISITORS ALIKE.

THE CDD CONDITIONS OUTLINED THE AMENITIES REQUIRED WITH THE INFRASTRUCTURE PLAN. THOSE AMENITIES HAVE BEEN PROVIDED HEREIN.

ADJACENT PROPERTIES:
OVERALL, ANY ADJACENT PROPERTIES ARE SEPARATED FROM THE SITE BY MAJOR ROADWAYS, AND IN COMBINATION WITH STEPS PROPOSED BELOW, THE APPLICANT DOES NOT ANTICIPATE ADVERSE EFFECTS FOR THOSE PROPERTIES AS A RESULT OF THE PROPOSED DEVELOPMENT.

ADJACENT PROPERTIES SHALL BE PROTECTED FROM ADVERSE EFFECTS VIA STANDARD EROSION AND SEDIMENT CONTROL MEASURES, ALONGSIDE EFFORTS TO REDUCE THE OVERALL RUNOFF FROM THE SITE. IN ADDITION, BOTH ON AND OFFSITE IMPROVEMENTS MITIGATING THE IMPACT OF ADDITIONAL TRAFFIC SHALL BE PROVIDED AS PART OF THE APPROPRIATE DSUP PHASES OF DEVELOPMENT, AND AS DETERMINED BY TRIGGERS PROVIDED IN THE TRAFFIC STUDY.

PRIMARY ACCESS TO THE SITE WILL BE FROM SIGNALIZED INTERSECTIONS ON DUKE AND VAN DORN STREETS.

LIST OF EXISTING APPROVALS:

- CDD #2020-00007
- DSP #2021-00012
- DSP #2021-00017
- SUB #2021-00003
- SUB #2022-00005
- GRD #2022-00012

LIST OF REQUESTED APPROVALS:

- **DSUP #2023-____**
- **MODIFICATION FOR ON STREET LOADING.**

GREEN BUILDING POLICY STATEMENT:

THE PROPOSED STRUCTURES WITH PARK PLAN WILL COMPLY WITH THE CITY'S CURRENT GREEN BUILDING POLICY AND THE REQUIREMENTS OF (CDD #2020-00007) AT THE TIME OF DSUP SUBMISSION. PLEASE SEE SHEET 03B.

COMMONWEALTH OF VIRGINIA
CLAYTON C. TOCK
Lic. No. 036790
03/17/2023
PROFESSIONAL ENGINEER

PLAN DATE	REVISION
02-11-2022	1ST SUBMISSION
12-09-2022	2ND SUBMISSION
03-17-2023	3RD SUBMISSION
-	
-	
-	
-	
-	
-	
-	

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Urban, Ltd.
4200 D TECHNOLOGY CT.
CHANTILLY, VA. 20151
TEL. 703.642.2306
FAX 703.376.7888
www.urban-ltd.com

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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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. AREA TABULATION: REFER TO SHEETS 01 AND 09.
5. THE NATURAL SOILS AT THE SITE CONSIST OF KINGSTOWNE SANDY CLAY LOAM AND URBAN LAND PER THE USDA SOIL MAP.
6. THE SITE IS LOCATED IN THE HOLMES RUN WATERSHED.
7. 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.
8. 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.
9. PLAT SUBJECT TO RESTRICTIONS OF RECORD.
10. BUILDING HEIGHT SHALL NOT EXCEED THE ALLOWABLE LIMIT BY CITY OF ALEXANDRIA ZONING ORDINANCE OR AS APPROVED BY THE PLANNING COMMISSION AND CITY OF ALEXANDRIA COUNCIL.
11. 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).
12. FLOOR AREA CALCULATIONS WITH ALLOWABLE LIMITS, AS APPROVED BY PLANNING COMMISSION AND CITY COUNCIL, ARE DEMONSTRATED HEREIN..
13. 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.
14. 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.
15. 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).
16. CONTRACTOR MUST ENSURE THAT THERE IS NO DISTURBANCE ON ADJACENT PROPERTIES WITHOUT RECORDED EASEMENT OR NOTARIZED LETTER OF PERMISSION FROM THE ADJACENT PROPERTY OWNERS.
17. ALL REQUIRED STATE AND FEDERAL PERMITS, WHICH COULD INCLUDE PERMITS FROM THE VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION (VDCRI, 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.
18. 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.
19. 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.
20. 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.
21. 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.
22. ROOF DRAINAGE SYSTEM, SUMP PUMP DISCHARGE, AND FOUNDATION DRAIN SYSTEM MUST BE INSTALLED SO AS NEITHER TO ADVERSELY IMPACT UPON, NOR CAUSE EROSION DAMAGE TO ADJACENT PROPERTIES OR THE PUBLIC RIGHT-OF-WAY.
23. THE CONTRACTOR MUST ENSURE THAT POSITIVE DRAINAGE OCCURS ON SITE TO PREVENT PONDING OR DRAINAGE PROBLEMS ON ADJACENT PROPERTIES.
24. IN THE EVENT, THE PROPOSED ROOF DRAINAGE AND/OR SUMP PUMP DISCHARGE, AND FOUNDATION DRAIN SYSTEMS AND/OR GRADING ADVERSELY IMPACTS AND/OR CREATES A NUISANCE ON PUBLIC RIGHT-OF-WAY OR PRIVATE PROPERTIES THEN THE APPLICANT SHALL BE RESPONSIBLE TO PROVIDE ADDITIONAL IMPROVEMENTS TO THE ROOF DRAINAGE AND/OR SUMP PUMP DISCHARGE AND FOUNDATION DRAIN SYSTEMS AND/OR GRADING TO THE SATISFACTION OF DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES.
25. PER THE REQUIREMENTS OF SECTION 8-1-12 OF THE CITY CHARTER AND CODE; WHEN THE BUILDING FOOTING HAS BEEN PLACED AND THE WALLS HAVE BEEN RAISED TO THE FIRST JOIST BEARING OR STORY HEIGHT ABOVE GRADE, A PLOT PLAN SHOWING THE EXACT LOCATION OF THE WALLS SHALL BE PREPARED BY A LICENSED, CERTIFIED PUBLIC LAND SURVEYOR OR PROFESSIONAL ENGINEER AND FILED WITH THE BUILDING OFFICIAL FOR APPROVAL BEFORE PROCEEDING FURTHER WITH THE CONSTRUCTION.
26. 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.
27. SUBMIT A SURVEY, CONSISTENT WITH THE REQUIREMENTS FOR CERTIFICATE OF OCCUPANCY CHECKLIST, TO THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES PRIOR TO REQUESTING AN INSPECTION FOR A CERTIFICATE OF OCCUPANCY.
28. ALL SANITARY LATERALS AND/OR SEWERS NOT SHOWN IN THE EASEMENTS SHALL BE OWNED AND MAINTAINED PRIVATELY.
29. ALL STORM DRAINS NOT SHOWN WITHIN AN EASEMENT OR IN A PUBLIC RIGHT-OF-WAY SHALL BE OWNED AND MAINTAINED PRIVATELY.
30. 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.
31. THE SIDEWALKS SHALL REMAIN OPENED DURING CONSTRUCTION OR PEDESTRIAN ACCESS SHALL BE MAINTAINED TO THE SATISFACTION OF THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES THROUGHOUT THE CONSTRUCTION OF THE PROJECT.
32. 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.
33. THIS SITE IS NOT LOCATED WITHIN A COMBINED SEWER AREA.
34. THE APPLICANT SHALL BE RESPONSIBLE TO DELIVER THE SOLID WASTE, AS DEFINED BY THE CITY CHARTER AND CODE OF THE CITY OF ALEXANDRIA TO THE CONVANTA ENERGY WASTE FACILITY LOCATED AT 5301 EISENHOWER AVENUE. THE DEVELEOPER FURTHER AGREES TO STIPULATE IN ANY FUTURE LEASE OR PROPERTY SALES AGREEMENT THAT ALL TENANTS AND/OR PROPERTY OWNERS SHALL ALSO COMPLY WITH THIS REQUIREMENT.
35. 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. CONTRACTOR SHALL COORDINATE REMOVAL OF ANY HYDRANTS WITH CITY OF ALEXANDRIA AND AMERICAN WATER.
36. FIRE HYDRANTS SHALL REMAIN IN-SERVICE AND UNOBSTRUCTED DURING CONSTRUCTION, UNLESS THEY ARE BEING REMOVED. NO HYDRANTS SHALL BE REMOVED FROM SERVICE UNTIL THE REMOVAL HAS BEEN COORDINATED WITH AMERICAN WATER AND THE CITY OF ALEXANDRIA FIRE MARSHALL OFFICE.
37. THE APPLICANT IS RESPONSIBLE FOR THE MAINTENANCE OF ALL SPECIAL PAVING MATERIAL INSTALLED WITHIN THE PUBLIC RIGHT OF WAY PER DEVELOPMENT CONDITION 2G.

TRAFFIC MAINTENANCE

ALL EXISTING ROADS ADJACENT TO THE SUBJECT SITE WILL REMAIN OPEN FOR USE DURING CONSTRUCTION PHASES.

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 PARKS=
200 GPD/1,000 S.F. * 11,810 S.F. = 2,362 GPD
PEAK FACTOR FLOW FROM PARKS = 2,362 GPD * 4.0 = 9,448 GPD OR 0.009 MGD

THE TOTAL ESTIMATED FLOW DOES NOT EXCEED 10,000 GPD, THEREFORE, IT IS NOT 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 (ESI) INSTITUTE, AS SHOWN ON THE ESI 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 STAIRWELL BASEMENT ACCESS DRAIN SHALL BE CONNECTED TO THE CITY OR ASA SANITARY SEWER.

ADDITIONAL NOTES

1. CONTRACTOR SHALL ENSURE ALL DISCHARGES ARE IN ACCORDANCE WITH CITY OF ALEXANDRIA CODE TITLE 5, CHAPTER 6, ARTICLE B.
2. 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.

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 ARCHAELOGICAL 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 PARKS.

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 THIS SITE SHALL HAVE AT LEAST ONE "ACCESSIBLE ROUTE" THAT CONFORMS TO "ADA"-"ACCESSIBLE ROUTE" STANDARDS. THESE STANDARDS INCLUDE, BUT ARE NOT LIMITED TO: MAXIMUM WALK SLOPE=1:20 AND MAXIMUM RAMP SLOPE=1:12. ALL WALKS WILL BE BROOM-FINISHED CONCRETE UNLESS OTHERWISE SPECIFIED ON THESE DRAWINGS AND/OR THE ARCHITECTURAL PLANS.
2. ALL "ACCESSIBLE" PARKING SPACES SHALL BE DESIGNATED WITH APPROPRIATE SIGNAGE.
3. THE PAVEMENT SLOPE WITHIN ACCESSIBLE PARKING SPACES SHALL NOT EXCEED 2% IN ANY DIRECTION.

ARCHAEOLOGY NOTES

1. ALL REQUIRED ARCHAEOLOGICAL PRESERVATION MEASURES SHALL BE COMPLETED PRIOR TO GROUND-DISTURBING ACTIVITIES (SUCH AS CORING, GRADING, FILLING, VEGETATION REMOVAL, UNDERGROUNDING UTILITIES , PILE DRIVING, LANDSCAPING AND OTHER EXCAVATIONS AS DEFINED IN SECTION 2-151 OF THE ZONING ORDINANCE) OR A RESOURCE MANAGEMENT PLAN MUST BE IN PLACE TO PRESERVE AND/OR RECOVER SIGNIFICANT RESOURCES IN CONCERT WITH CONSTRUCTION ACTIVITIES. TO CONFIRM, CALL ALEXANDRIA ARCHAEOLOGY AT (703) 838-4399.
2. CALL ALEXANDRIA ARCHAEOLOGY (703-746-4399) TWO WEEKS BEFORE THE STARTING DATE OF ANY GROUND DISTURBANCE SO THAT AN INSPECTION OR MONITORING SCHEDULE FOR CITY ARCHAEOLOGISTS CAN BE ARRANGED.
3. THE APPLICANT SHALL CALL ALEXANDRIA ARCHAEOLOGY IMMEDIATELY (703-746-4399) IF ANY BURIED STRUCTURAL REMAINS (WALL FOUNDATIONS, WELLS, PRIVIES, CISTERNS, ECT.) OR CONCENTRATIONS OF ARTIFACTS ARE DISCOVERED DURING DEVELOPMENT. WORK MUST CEASE IN THE AREA OF THE DISCOVERY UNTIL A CITY ARCHAEOLOGIST COMES TO THE SITE AND RECORDS THE FINDS.
4. THE APPLICANT SHALL NOT ALLOW ANY METAL DETECTION AND/OR ARTIFACT COLLECTION TO BE CONDUCTED ON THE PROPERTY, UNLESS AUTHORIZED BY ALEXANDRIA ARCHAEOLOGY. FAILURE TO COMPLY SHALL RESULT IN PROJECT DELAYS.
5. ALL REQUIRED ARCHAEOLOGICAL MEASURES SHALL BE COMPLETED IN COMPLIANCE WITH SECTION 11-411 OF THE ZONING ORDINANCE.

DISCHARGE NOTES

A. CONTRACTOR SHALL ENSURE ALL DISCHARGES ARE IN ACCORDANCE WITH CITY OF ALEXANDRIA CODE TITLE 5, CHAPTER 6, ARTICLE B.
B. 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 703-549-3381 X2020.

CONSTRUCTION NOTES

1. THE EXISTING UNDERGROUND UTILITIES SHOWN HEREIN ARE BASED UPON AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK AND FOR ANY DAMAGES WHICH MAY OCCUR BY HIS FAILURE TO LOCATE OR PRESERVE THESE UNDERGROUND UTILITIES. IF DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHOULD ENCOUNTER UTILITIES OTHER THAN THOSE SHOWN ON THE PLANS, HE SHALL IMMEDIATELY NOTIFY THE ENGINEER AND TAKE NECESSARY ACTION AND PROPER STEPS TO PROTECT THE FACILITY AND ASSURE THE CONTINUATION OF SERVICE.
2. THE CONTRACTOR SHALL DIG TEST PITS AS REQUIRED FOLLOWING NOTIFICATION AND MARKING OF ALL EXISTING UTILITIES TO VERIFY THE LOCATION AND DEPTH OF EXISTING UTILITIES TEST HOLES TO BE PERFORMED AT LEAST 30 DAYS PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCIES ARE TO BE REPORTED IMMEDIATELY TO THE OWNER AND ENGINEER. REDESIGN AND APPROVAL BY REVIEWING AGENCIES SHALL BE OBTAINED, IF REQUIRED.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE OWNER AND THE ENGINEER OF ANY CHANGES OR CONDITIONS ATTACHED TO PERMITS OBTAINED FROM ANY AUTHORITY ISSUING PERMITS.
4. THE CONTRACTOR SHALL VISIT THE SITE AND SHALL VERIFY EXISTING CONDITIONS PRIOR TO STARTING CONSTRUCTION.
5. THE CONTRACTOR SHALL CLEAR THE SITE OF ALL TREES, BUILDINGS, FOUNDATIONS, ETC., WITHIN THE LIMITS OF CONSTRUCTION UNLESS OTHERWISE SPECIFIED, AND SHALL BE RESPONSIBLE FOR ENSURING THAT EXISTING UTILITIES ARE DISCONNECTED.
6. THE DEVELOPER SHALL PROVIDE OVER-LOT GRADING TO PROVIDE POSITIVE DRAINAGE AND PRECLUDE PONDING OF WATER.
7. ALL AREAS, ON OR OFFSITE, WHICH ARE DISTURBED BY THIS CONSTRUCTION AND WHICH ARE NOT PAVED OR BUILT UPON, SHALL BE ADEQUATELY STABILIZED TO CONTROL EROSION AND SEDIMENTATION. THE MINIMUM ACCEPTABLE STABILIZATION SHALL CONSIST OF PERMANENT GRASS, SEED MIXTURE TO BE AS RECOMMENDED BY THE CITY AGENT. ALL SLOPES 3:1 AND GREATER SHALL BE SODDED AND PEGGED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY OF ALEXANDRIA.
8. EXISTING SEPTIC FIELDS, IF APPLICABLE, SHALL BE ABANDONED IN ACCORDANCE WITH VIRGINIA HEALTH DEPARTMENT STANDARDS AND SPECIFICATIONS.
9. ALL ABOVE GROUND UTILITIES SERVING THE SITE SHALL BE RELOCATED AS REQUIRED BY THE OWNING UTILITY COMPANIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ALL ARRANGEMENTS AND COORDINATING ALL WORK REQUIRED FOR THE NECESSARY RELOCATIONS.
10. PRIOR TO BEGINNING OF CONSTRUCTION, CONTRACTOR SHALL VERIFY FROM THE ARCHITECTURAL DRAWINGS ALL DIMENSIONS, DETAILS, AND TREATMENTS FOR THE PROPOSED BUILDINGS, WALKWAYS, AND OTHER PROPOSED CONSTRUCTION WHERE INDICATED ON THE PLANS.
11. THE CONTRACTOR IS TO VERIFY INVERT, SIZE, AND LOCATION OF BUILDING UTILITY CONNECTIONS WITH THE MECHANICAL PLANS PRIOR TO PLACEMENT OF UNDERGROUND UTILITIES.
12. EXISTING BUILDINGS, FENCES AND OTHER EXISTING PHYSICAL FEATURES ARE TO BE REMOVED AS REQUIRED BY THE CONSTRUCTION.
13. EXISTING STRUCTURES TO BE PARTIALLY DEMOLISHED SHALL BE REMOVED TO NEAREST JOINT. NEW CONSTRUCTION SHALL BE PROVIDED AS SHOWN AND ANY DAMAGED AREA SHALL BE REPAIRED TO MATCH CONDITIONS EXISTING PRIOR TO CONSTRUCTION OR TO THE SATISFACTION OF DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES.
14. ALL PRIVATE BUILDING CONNECTIONS ARE TO BE INSTALLED IN ACCORDANCE WITH THE CURRENT PLUMBING CODE.
15. TOPS OF EXISTING STRUCTURES WHICH REMAIN IN USE ARE TO BE ADJUSTED IN ACCORDANCE WITH THE GRADING PLAN. ALL PROPOSED STRUCTURE TOP ELEVATIONS ARE TO BE VERIFIED BY THE CONTRACTOR WITH THE SITE GRADING PLANS. IN CASE OF CONFLICT, THE GRADING PLAN SHALL SUPERSEDE PROFILE ELEVATIONS. MINOR ADJUSTMENTS TO MEET FINISHED GRADE ELEVATIONS, IF REQUIRED, SHALL BE MADE IN THE FIELD WITH THE APPROVAL OF SITE INSPECTOR OF THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES.
16. THE DESIGN, CONSTRUCTION, FIELD PRACTICES, AND METHODS SHALL CONFORM TO THE REQUIREMENTS SET FORTH BY THE CITY OF ALEXANDRIA ZONING ORDINANCE AND DESIGN AND CONSTRUCTION STANDARDS MANUAL. FAILURE TO COMPLY WITH THE CODE, APPLICABLE MANUALS, AND PROVISIONS OF THE CONSTRUCTION AND ESCROW AGREEMENTS OR THE PERMITS SHALL BE DEEMED A VIOLATION.
17. THE APPROVAL OF THESE PLANS SHALL IN NO WAY RELIEVE THE OWNER/DEVELOPER OR HIS AGENT OF ANY LEGAL RESPONSIBILITIES WHICH MAY BE REQUIRED BY THE CODE OF VIRGINIA OR ANY ORDINANCE ENACTED BY THE CITY OF ALEXANDRIA.
18. CONSTRUCTION STAKEOUT SHALL BE UNDER THE DIRECT SUPERVISION OF A LICENSED LAND SURVEYOR IN THE COMMONWEALTH OF VIRGINIA.
19. THE CONTRACTOR IS REFERRED TO STRUCTURAL, GEOTECHNICAL, MECHANICAL, AND ARCHITECTURAL PLANS FOR FOUNDATION TREATMENT INCLUDING, BUT NOT LIMITED TO, SHEETING AND SHORING FOR BUILDING EXCAVATION, WATERPROOFING FOR FILL AGAINST BUILDINGS, LOCATION OF MECHANICAL EQUIPMENT, AND CONNECTIONS AT THE FACES OF BUILDINGS.
20. SMOOTH GRADE SHALL BE MAINTAINED FROM THE CENTERLINE OF THE EXISTING ROAD TO THE PROPOSED ENTRANCE AND/OR CURB & GUTTER TO PRECLUDE THE FORMING OF FALSE GUTIER AND/OR PONDING OF WATER ON THE ROADWAY.
21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING A SMOOTH TRANSITION TO EXISTING CURB AND SIDEWALKS, IF APPLICABLE.
22. THE CALIFORNIA BEARING RATIO (CBR) VALUES OF IN-SITU MATERIALS SHALL BE DETERMINED BY FIELD AND/OR LABORATORY TESTS FOR ACTUAL DETERMINATION OF REQUIRED THICKNESSES OF SURFACE, BASE, SUB-BASE, AND SUB GRADE MATERIALS. THE PAVEMENT SECTION SHALL BE DESIGNED BY A GEOTECHNICAL/LICENSED PROFESSIONAL ENGINEER TO THE SATISFACTION OF DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES FOR ALL PAVEMENTS INCLUDING EMERGENCY VEHICLE EASEMENT (EVE) TO SUPPORT H-20 LOADING. IN THE CASE OF PAVEMENT PATCHES, PAVEMENT SECTION MUST MEET OR EXCEED EXISTING SECTION.
23. THE THICKNESSES OF SUB-BASE, BASE, AND WEARING COURSE SHALL BE DESIGNED USING "CALIFORNIA METHOD" AS SET FORTH ON PAGE 3-76 OF THE SECOND EDITION OF A BOOK ENTITLED, "DATABOOK FOR CIVIL ENGINEERS, VOLUME ONE, DESIGN" WRITTEN BY ELWYN E. SEELYE. AN ALTERNATE PAVEMENT SECTION DESIGNED TO THE SATISFACTION OF DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES FOR ALL PAVEMENTS INCLUDING EMERGENCY VEHICLE EASEMENT (EVE) TO SUPPORT H-20 LOADING BASED ON CBR AND VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) METHOD (VASWANI METHOD) AND STANDARD MATERIAL SPECIFICATIONS SHALL BE ACCEPTABLE.
24. AMERICAN WITH DISABILITY (ADA) ACCESSIBLE PARKING SPACES MUST BE DELINEATED WITH PAVEMENT MARKINGS PER THE CITY OF ALEXANDRIA STANDARD SIGNAGE AND AMERICAN WITH DISABILITIES (ADA) REQUIREMENTS.
25. EMERGENCY VEHICLE EASEMENT (EVE) SHALL NOT BE PAINTED, RATHER DELINEATED WITH THE PAVERS ON THE WEST EDGE OF THE EVE & SIGNAGE ON THE EAST EDGE OF THE GRASSPAVE. ALL ACCESSIBLE PARKING SPACES MUST BE DELINEATED WITH THE CITY OF ALEXANDRIA STANDARD SIGNAGE.
26. ALL STRIPING SHALL MEET THE REQUIREMENTS OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) STANDARDS (LATEST EDITION) AND SHALL BE THERMOPLASTIC UNLESS OTHERWISE SPECIFIED.
27. ALL EARTHWORK OPERATIONS ARE TO BE PERFORMED UNDER THE FULL TIME, ON-SITE SUPERVISION OF A REGISTERED GEOTECHNICAL ENGINEER WITH GEOTECHNICAL TESTING IN ACCORDANCE WITH CONSTRUCTION SPECIFICATIONS AND GEOTECHNICAL REPORT REQUIREMENTS.
28. THE CONTRACTORS SHALL NOT CAUSE OR PERMIT VEHICLES TO IDLE FOR MORE THAN 10 MINUTES WHEN PARKED.
29. UNLESS OTHERWISE APPROVED THE CONTRACTOR SHALL PROVIDE THERMOPLASTIC LADDER STYLE / STANDARD PEDESTRIAN CROSS WALKS AT ALL CROSSINGS AT THE PROPOSED DEVELOPMENT, WHICH MUST BE DESIGNED TO THE SATISFACTION OF THE DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES. THE DESIGN OF LADDER STYLE OR STANDARD PEDESTRIAN CROSS WALK SHALL BE EVALUATED ON A CASE BY CASE BASIS AND SHALL COMPLY WITH THE REQUIREMENTS OF POLICY MANUAL SECTION 30.18, PEDESTRIAN CROSSWALKS, JULY 13,2006. A COPY OF THE POLICY MANUAL CAN BE OBTAINED FROM YON LAMBERT, BICYCLE AND PEDESTRIAN COORDINATOR / TRANSPORTATION PLANNER, TELEPHONE (703) 746-4081.

EXISTING CONDITIONS NOTE

EXISTING CONDITIONS REFLECTED IN THIS SET ARE BASED ON THE DSP WORK AS PROPOSED ON DSP#2022-00012.

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.

FLOODPLAIN NOTES

THE SITE DOES NOT LIE WITHIN 100-YEAR FLOOD PLAIN WATER SURFACE ELEVATION (WSE) PER THE DEMARCATION OF THE CURRENT FLOOD INSURANCE RATE MAP (FIRM) PUBLISHED BY FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA).

RESOURCE PROTECTION AREA NOTES

THE SUBJECT PROPERTY DOES NOT LIE WITHIN THE CITY OF ALEXANDRIA RESOURCE PROTECTION AREA (RPA).

CONTAMINATED SOILS

ALL CONTAMINATED SOILS SHALL BE HANDLED IN ACCORDANCE WITH THE HASP FOR THE SUBJECT SITE.

WELLS

THERE ARE NO KNOWN WELLS ON SITE.

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 CONTAIMINATION 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.

UTILITY COLOR CODES

COLOR	CODES
RED	CAUTION BURIED ELECTRIC POWER LINES, CABLES, CONDUITS, AND LIGHTING CABLES
YELLOW	CAUTION GAS, OIL, STEAM, PETROLEUM, OR GASEOUS MATERIALS
ORANGE	CAUTION COMMUNICATIONS, ALARM OR SIGNAL LINES, CABLES, OR CONDUITS
BLUE	CAUTION POTABLE WATER
PURPLE	CAUTION RECLAIMED WATER, IRRIGATION AMD SLURRY LINES
GREEN	CAUTION SEWER, DRAIN LINES, AND FORCE MAIN

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.

CONSTRUCTION LIASON:

ROBERT ABT WITH FOULGER-PRATT
240-499-9609

UTILITY CONTACTS:

WASHINGTON GAS MIKE GOFFUS 6801 INDUSTRIAL ROAD SPRINGFIELD, VA 22151 (703) 750-4881	VERIZON TONY ASHBY 4242 DUKE STREET ALEXANDRIA, VA 22304 703-212-5292
DOMINION VIRGINIA POWER DAN KOCIOLA 3072 CENTREVILLE RD, HERNDON, VA 20171 571-203-5278	VIRGINIA AMERICAN WATER COMPANY STEVEN CHEN 2225 DUKE STREET ALEXANDRIA, VA 22314 (703) 706-3863
COMCAST CABLE MELVIN YERBY 3900 WHEELER AVE, ALEXANDRIA, VA 22304 804-221-8492	CITY OF ALEXANDRIA DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES 301 KING STREET, ROOM 4100 ALEXANDRIA, VA 22314 (703) 746-4025

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
02-11-2022
12-09-2022
03-17-2023

Urban, Ltd.
4200 D TECHNOLOGY CT.
CHANTILLY, VA 20151

GENERAL NOTES & DETAILS
LANDMARK MALL REDEVELOPMENT
PRELIMINARY SITE PLAN - PARKS
CITY OF ALEXANDRIA, VIRGINIA

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

FILE No. DSUP-13089

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WESTEND DEVELOPMENT TABULATIONS:

DEVELOPMENT SUMMARY

Use	Floor Area	Residential Units	Hotel Keys	INOVA HOSPITAL CAMPUS – Building A Floor Area	Building A Units	Building B Floor Area	Building B Units	Building C Floor Area	Building C Units	Block D Floor Area	Block D Units	Block E Floor Area	Block E Units
Hospital	464,467			464,467	-	-	-	-	-	-	-	-	-
Office	-			-	-	-	-	-	-	-	-	-	-
Medical Office	280,489			-	-	94,212	-	76,357	-	-	-	109,920	-
Multifamily	1,118,791	1,072 units		-	-	-	-	-	-	-	-	149,641	140
Affordable Multifamily	12,250	45 units		-	-	-	-	-	-	-	-	5,500	6
Senior Housing (AL/IL)	-	0 units		-	-	-	-	-	-	-	-	-	-
2-over-2 Townhomes	-	0 units		-	-	-	-	-	-	-	-	-	-
Traditional Townhomes	-	0 units		-	-	-	-	-	-	-	-	-	-
Condo Flats	-	0 units		-	-	-	-	-	-	-	-	-	-
Hotel	-		0 keys	-	-	-	-	-	-	-	-	-	-
Retail	204,071			-	-	-	-	-	-	-	-	56,568	-
Grocer	-			-	-	-	-	-	-	-	-	-	-
Firestation	-			-	-	-	-	-	-	-	-	-	-
Garage / Loading / Service				298,250 (TOTAL GARAGE)	-	-	-	-	-	-	-	-	-
Total	2,080,068	1,117 units	0 keys	762,717	-	94,212	-	76,357	-	-	-	321,629	146
FAR over Gross Land Area	0.9272												

Use	Block G Floor Area	Block G Units	Block H Floor Area	Block H Units	Block I Floor Area	Block I Units	Block F Floor Area	Block F Units	Block N Floor Area	Block N Units	Block J Floor Area	Block J Units	Block K Floor Area	Block K Units	Block L Floor Area	Block L Units	Blocks M Floor Area	Blocks M Units
Hospital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Office	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Medical Office	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Multifamily	195,119	234	-	-	414,031	375	-	-	-	-	-	-	360,000	323	-	-	-	-
Affordable Multifamily	6,750	10	-	-	-	15	-	-	-	-	-	-	-	14	-	-	-	-
Senior Housing (AL/IL)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-over-2 Townhomes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Traditional Townhomes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Condo Flats	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hotel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Retail	23,866	-	-	-	91,637	-	7,279	-	4,064	-	-	-	32,000	-	-	-	-	-
Grocer	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Firestation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Garage / Loading / Service	-	-	-	-	-	-	-	-	-	-	-	-	80,000	-	-	-	-	-
Total	225,735	244	-	-	505,668	390	7,279	-	4,064	-	-	-	472,000	337	-	-	-	-

PARKING TABULATIONS

Parking Requirement	Parking Ratio	Totals	INOVA HOSPITAL CAMPUS – Building A REQUIRED	Building A PROPOSED	Building B REQUIRED	Building B PROPOSED	Building C REQUIRED	Building C PROPOSED	Block D REQUIRED	Block D PROPOSED	Block E REQUIRED	Block E PROPOSED
PARKING RATES												
Hospital	1/ 2 BEDS		TBD	(SEE BELOW)	-	-	-	-	-	-	-	-
Office	1.5/ 1000 GSF		-	-	-	-	-	-	-	-	-	-
Medical Office	1.5/ 1000 GSF		-	-	408	(SEE BELOW)	335	(SEE BELOW)			170	403
Multifamily	1/ BEDROOM		-	-	-	-	-	-	-	-	213	229
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/ 1000 GSF		-	-	-	-	-	-	-	-	165	205
Grocer	50 spaces		-	-	-	-	-	-	-	-	-	-
Firestation			-	-	-	-	-	-	-	-	-	-
VEHICLE PARKING												
STANDARD PARKING SPACES			-	TBD	-	TBD	-	TBD	-	-	-	385
COMPACT PARKING SPACES			-	TBD	-	TBD	-	TBD	-	-	-	429
ON-STREET PARKING SPACES												15
HANDICAP PARKING SPACES (NON-VAN)			-	TBD	-	TBD	-	TBD	-	-	-	18
HANDICAP PARKING SPACES (VAN)			-	TBD	-	TBD	-	TBD	-	-	-	5
TOTAL PARKING PROVIDED:		3,950	1,510						-	-	548	852
PARKING PROVIDED IN EXISTING GARAGE			550 (EXISTING GARAGE)						-	-	-	837
PARKING PROVIDED IN PROPOSED GARAGE			960 (ABOVE GRADE GARAGE + BELOW GRADE GARAGE)						-	-	-	-
LOADING SPACES											3	4
BICYCLE PARKING												
Residential									-	-	44	48
Visitor									-	-	9	9
Retail											12	12
Office									-	-	15	16

Parking Requirement	Block G REQUIRED	Block G PROPOSED	Block H REQUIRED	Block H PROPOSED	Block I REQUIRED	Block I PROPOSED	BLOCK F REQUIRED	BLOCK F PROPOSED	BLOCK N REQUIRED	BLOCK N PROPOSED	Block J REQUIRED	Block J PROPOSED	Block K REQUIRED	Block K PROPOSED	Block L REQUIRED	Block L PROPOSED	Blocks M REQUIRED	Blocks M PROPOSED
PARKING RATES																		
Hospital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Office	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Medical Office																		
Multifamily	285	285	-	-	-	483	-	-	-	-	-	-	312	303	-	-	-	-
Affordable Multifamily	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-
Senior Housing (AL/IL)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-over-2 Townhomes		-				-		-		-	-	-	-	-	-	-	-	-
Traditional Townhomes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Condo Flats	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hotel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Retail	72	95	-	-	-	375	2**	0	2**	0	-	-	8	63 (SEE SHEET 03A)	-	-	-	-
Grocer	-	-	-	-	-	-	-		-		-	-	-		-	-	-	-
Firestation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VEHICLE PARKING																		
STANDARD PARKING SPACES	-	117	-	-	-	154	-	-	-	-	-	-	-	123	-	-	-	-
COMPACT PARKING SPACES	-	248	-	-	-	683	-	-	-	-	-	-	-	182	-	-	-	-
ON-STREET PARKING SPACES		15												20				
HANDICAP PARKING SPACES (NON-VAN)	-	11	-	-	-	12	-	-	-	-	-	-	-	8	-	-	-	-
HANDICAP PARKING SPACES (VAN)	-	4	-	-	-	9	-	-	-	-	-	-	-	2	-	-	-	-
TOTAL PARKING PROVIDED:	357	395	-	-	-	858	-	-	-	-	-	-	320	335	-	-	-	-
PARKING PROVIDED IN EXISTING GARAGE	-	380	-	-	-	858	-	0	-	0	-	-	-	63 (SEE SHEET 03A)	-	-	-	-
PARKING PROVIDED IN PROPOSED GARAGE	-	-	-	-	-	-	-		-		-	-	-	315	-	-	-	-
LOADING SPACES	1	3			6	3								2				
BICYCLE PARKING																		
Residential	74	78	-	-	-	129	-	-	-	-	-	-	102	118	-	-	-	-
Visitor	5	5	-	-	-	8	-	15	-	6	-	-	7	7	-	-	-	-
Retail	3	6				18		3		2			9	11				
Office	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

ZONING TABULATIONS

Zoning Requirement	INOVA HOSPITAL CAMPUS – Building A (PROPOSED)	Building B (PROPOSED)	Building C (PROPOSED)	Block D REQUIRED	Block D PROPOSED	Block E REQUIRED	Block E PROPOSED
LOT AREA (SQ. FT.)	452,343 (COMBINED INOVA HOSPITAL CAMPUS AREA)			-	-	-	108,575
LOT WIDTH (FT.)	-			-	-	-	-
FRONT YARD (FT.)	-			-	-	-	-
SIDE YARD (FT.)	-			-	-	-	-
REAR YARD (FT.)	-			-	-	-	-
FLOOR AREA (SQ. FT.)	933,286 (COMBINED FLOOR AREA FOR BUILDINGS A,B,C)			-	-	-	321,629
OPEN SPACE (SF / %)	15%			-	-	25.00%	25.00%
GROUND FLOOR	53,530			-	-	-	12,393
ABOVE GROUND	10,000			-	-	-	14,750
TOTAL OPEN SPACE	62,530			-	-	27,143	27,143
AVERAGE FINISHED GRADE (FT.)	216.34 (PROPOSED)	209.86 (PROPOSED)	212.07 (PROPOSED)	-	-	-	200.55
MAX. BUILDING HEIGHT (FT.)	159	52	60	-	-	-	91.90/80
CROWN COVERAGE (SQ. FT.)	-	-	-	-	-	-	14,750
MAX. RESI DENTISTY (UNITS/AC.)	-	-	-	-	-	-	-
Dwelling Unit Summary (ADU)	-	-	-	-	-	-	146
STUDIO UNITS (ADU)	-	-	-	-	-	-	1
JR ONE BEDROOM UNITS (ADU)							
ONE BEDROOM UNITS (ADU)	-	-	-	-	-	-	64
ONE BEDROOM DEN UNITS (ADU)	-	-	-	-	-	-	14
TWO BEDROOM UNITS (ADU)	-	-	-	-	-	-	46
TWO BEDROOM DEN UNITS (ADU)	-	-	-	-	-	-	6
THREE BEDROOM UNITS (ADU)	-	-	-	-	-	-	15
LOADING SPACES	1	1	1	-	-	3	4
TRIP GENERATION (ADT)	5,774	910	3,317	-	-	-	5,621

Zoning Requirement	Block G REQUIRED	Block G PROPOSED	Block H REQUIRED	Block H PROPOSED	Block I REQUIRED	Block I PROPOSED	Block F REQUIRED	Block F PROPOSED	Block N REQUIRED	Block N PROPOSED	Block J REQUIRED	Block J PROPOSED	Block K REQUIRED	Block K PROPOSED	Block L REQUIRED	Block L PROPOSED	Blocks M REQUIRED	Blocks M PROPOSED
LOT AREA (SQ. FT.)	-	62,083	-	-	-	107,845	-	31,872	-	22,509	-	-	-	98,964	-	-	-	-
LOT WIDTH (FT.)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FRONT YARD (FT.)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SIDE YARD (FT.)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
REAR YARD (FT.)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FLOOR AREA (SQ. FT.)	-	225,735	-	-	-	487,512		7,279	-	4,064	-	-	-	395,434	-	-	-	-
OPEN SPACE (SF / %)	25.00%	25.00%	-	-	-	28.26%	25%	80.89%	25%	87.73%	-	-	25%	25.66%	-	-	-	-
GROUND FLOOR	-	12,997	-	-	-	1,364	7,968	25,781	5,627	19,748	-	-	24,741	7,248	-	-	-	-
ABOVE GROUND	-	2,523	-	-	-	29,115	-	-	-	-	-	-	-	18,142	-	-	-	-
TOTAL OPEN SPACE	15,520	15,520	-	-	-	30,479	7,968	25,781	5,627	19,748	-	-	24,741	25,390	-	-	-	-
AVERAGE FINISHED GRADE (FT.)	-	198.58	-	-	-	193.00		208.90	-	201.625	-	-	-	199.21	-	-	-	-
MAX. BUILDING HEIGHT (FT.)	-	85	-	-	-	85	-	30	-	32	-	-	-	85	-	-	-	-
CROWN COVERAGE (SQ. FT.)	-	13,500	-	-	-	-	-	38,250	-	27,250	-	-	24,741	19,019	-	-	-	-
MAX. RESI DENTISTY (UNITS/AC.)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dwelling Unit Summary (ADU)	-	244	-	-	-	390	-	-	-	-	-	-	-	337 (14)	-	-	-	-
STUDIO UNITS (ADU)	-	37	-	-	-	58	-	-	-	-	-	-	-	4 (1)	-	-	-	-
JR ONE BEDROOM UNITS (ADU)		17												125				
ONE BEDROOM UNITS (ADU)	-	143	-	-	-	189	-	-	-	-	-	-	-	119 (10)	-	-	-	-
ONE BEDROOM DEN UNITS (ADU)	-	6	-	-	-	50	-	-	-	-	-	-	-	5	-	-	-	-
TWO BEDROOM UNITS (ADU)	-	36	-	-	-	68	-	-	-	-	-	-	-	77 (2)	-	-	-	-
TWO BEDROOM DEN UNITS (ADU)	-	5	-	-	-	13	-	-	-	-	-	-	-	-	-	-	-	-
THREE BEDROOM UNITS (ADU)	-	-	-	-	-	12	-	-	-	-	-	-	-	7 (1)	-	-	-	-
LOADING SPACES	1	3	-	-	6	3	-	-	-	-	-	-	-	2	-	-	-	-
TRIP GENERATION (ADT)	-	1,570	-	-	-	5,173	-	-	-	-	-	-	-	1,981	-	-	-	-

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
02-11-2022
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Urban, Ltd.
4200 D TECHNOLOGY CT.
CHANTILLY, VA. 20151
TEL. 703.642.2306
FAX 703.378.7888
www.urban-ltd.com

COMMONWEALTH OF VIRGINIA
CLAYTON C. TOCK
Lic. No. 036790
03/17/2023
PROFESSIONAL ENGINEER

GENERAL NOTES & DETAILS
LANDMARK MALL REDEVELOPMENT
PRELIMINARY SITE PLAN - PARKS
CITY OF ALEXANDRIA, VIRGINIA

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

FILE No. DSUP-13089

Urban, Ltd. - J:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\13089-02A-GNOTES.dwg [GNOTES1] March 17, 2023 - 9:05am yelasri

PARKS TABULATIONS:

DEVELOPMENT SUMMARY

Use	Floor Area	Residential Units	Hotel Keys	Block F Floor Area	Block F Units	Block N Floor Area	Block N Units	Block R Floor Area	Block R Units	Block P Floor Area	Block P Units
Hospital	-			-	-	-	-	-	-	-	-
Office	-			-	-	-	-	-	-	-	-
Medical Office	-			-	-	-	-	-	-	-	-
Multifamily	-	**0 units**		-	-	-	-	-	-	-	-
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	**11,343**			7,279	-	4,064	-	-	-	-	-
Grocer	-			-	-	-	-	-	-	-	-
Firestation	-			-	-	-	-	-	-	-	-
Garage / Loading / Service	-				-		-				
Total	**11,343**	**0 units**	**0 keys**	**7,279**	-	**4,064**	-	-	-	-	-

PARKING TABULATIONS

Parking Requirement	Parking Ratio	Totals	Block F REQUIRED	Block F PROPOSED	Block N REQUIRED	Block N PROPOSED	Block R REQUIRED	Block R PROPOSED	Block P REQUIRED	Block P PROPOSED
PARKING RATES										
Hospital	1/ 2 BEDS		-	-	-	-	-	-	-	-
Office	1.5/1000 SF		-	-	-	-	-	-	-	-
Medical Office	1.5/1000 SF		-	-			-	-		
Multifamily	1/BEDROOM		-	-	-	-	-	-	-	-
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		2**	0	2**	0	-	-	-	-
Grocer	50 spaces		-	-	-	-	-	-	-	-
Firestation			-	-	-	-	-	-	-	-
VEHICLE PARKING										
STANDARD PARKING SPACES			-	-	-	-	-	-	-	-
COMPACT PARKING SPACES			-	-	-	-	-	-	-	-
ON-STREET PARKING			-	-	-	-	-	-	-	-
HANDICAP PARKING SPACES (NON-VAN)			-	-	-	-	-	-	-	-
HANDICAP PARKING SPACES (VAN)			-	-	-	-	-	-	-	-
TOTAL PARKING PROVIDED:			-	-	-	-	-	-	-	-
PARKING PROVIDED IN EXISTING GARAGE			-	0	-	0	-	-	-	-
PARKING PROVIDED IN PROPOSED GARAGE			-		-		-		-	
LOADING SPACES			-	-	-	-	-	-	-	-
BICYCLE PARKING										
Residential			-	-	-	-	-	-	-	-
Visitor			-	15	-	6	-		-	8
Retail			-	3		2	-	-	-	-
Office			-	-	-	-	-	-	-	-

ZONING TABULATIONS

Zoning Requirement	Block F REQUIRED	Block F PROPOSED	Block N REQUIRED	Block N PROPOSED	Block R REQUIRED	Block R PROPOSED	Block P REQUIRED	Block P PROPOSED
LOT AREA (SQ. FT.)	-	31,872	-	22,509	-	21,009	-	128,715
LOT WIDTH (FT.)	-	-	-	-	-	-	-	-
FRONT YARD (FT.)	-	-	-	-	-	-	-	-
SIDE YARD (FT.)	-	-	-	-	-	-	-	-
REAR YARD (FT.)	-	-	-	-	-	-	-	-
FLOOR AREA (SQ. FT.)	-	7,279	-	4,064	-	-	-	-
OPEN SPACE (SF / %)	25%	80.89%	25%	87.73%	25%	55.99%	25%	86.89%
AT-GRADE	7,968	25,781	5,627	19,748	5,252	11,763	32,179	111,835
ABOVE GROUND	-	-	-	-	-	-	-	-
TOTAL OPEN SPACE	7,968	25,781	5,627	19,748	5,252	11,763	32,179	111,835
AVERAGE FINISHED GRADE (FT.)	-	208.90	-	201.625	-	-	-	-
MAX. BUILDING HEIGHT (FT.)	-	30	-	32	-	-	-	-
CROWN COVERAGE (SQ. FT.)	-	38,250	-	27,250	-	17,750	-	-
MAX. RESI DENTISTY (UNITS/AC.)	-	-	-	-	-	-	-	-
Dwelling Unit Summary		-		-		-		-
STUDIO UNITS	-	-	-	-	-	-	-	-
JR ONE BEDROOM UNITS				-				-
ONE BEDROOM UNITS	-	-	-	-	-	-	-	-
ONE BEDROOM DEN UNITS	-	-	-	-	-	-	-	-
TWO BEDROOM UNITS	-	-	-	-	-	-	-	-
TWO BEDROOM DEN UNITS	-	-	-	-	-	-	-	-
THREE BEDROOM UNITS	-	-	-	-	-	-	-	-
LOADING SPACES	-	-	-	-	-	-	-	-
TRIP GENERATION (ADT)	-	-		-	-	-		-

NOTE:

- **SEE SHEET L002 FOR GREATER DETAIL FOR PARK-SPECIFIC OPEN SPACE.**

LEGEND:

EXISTING WATER LINE
PROPOSED WATER LINE
EX. FIRE HYDRANT
PROP. FIRE HYDRANT
EXISTING WATER METER
PROPOSED WATER METER
EXISTING WATER VALVE
PROPOSED WATER VALVE
EXISTING STORM DRAIN
PROPOSED STORM DRAIN
EXISTING SANITARY SEWER
PROPOSED SANITARY SEWER DIRECTION OF FLOW
EXISTING GAS LINE
PROPOSED GAS LINE
EXISTING GAS VALVE
PROPOSED GAS VALVE
EXISTING OVERHEAD WIRE
EXISTING LIGHTING
PROPOSED LIGHTING
EXISTING FENCE
PROPOSED FENCE
EXISTING TREE LINE
EXISTING CONTOURS
PROPOSED CONTOURS
PROPOSED PHASE LINE
PROPOSED LIMITS OF CLEARING & GRADING
EXISTING WETLANDS
PROP. RET. WALL
EX. RET. WALL
PROP. POST LIGHT
PROP. BUILDING MAIN ENTRANCE
PROP. BUILDING ENTRANCE
PROP. UNDERGROUND GARAGE
PROPERTY LINE
LOADING SPACE
INTERSECTION VISIBILITY TRIANGLE
BRICK PAVE AREA (TO MATCH EXISTING PLAZA)
PROP. CONCRETE SIDEWALK
PARKING SPACE COUNT
(COA) CITY OF ALEXANDRIA
(AW) AMERICAN WATER
(CSW) CONC. SIDEWALK
(ASW) ASPHALT SIDEWALK

EXISTING TELEPHONE LINE
PROP. TELEPHONE LINE
EXISTING VDOT ELECTRIC LINE
EXISTING ELECTRIC LINE
EX. VERIZON FIBER
EX. COMCAST FIBER
EX. PRIVATE FIBER
EX. ACF FIBER
EX. ELECTRIC MANHOLE
EX. FIBER HANDHOLE
PROP. ELECTRIC LINE
PROP. VERIZON FIBER
PROP. COMCAST FIBER
PROPOSED PRIVATE FIBER
PROPOSED ACF FIBER
PROPOSED ELECTRIC MANHOLE
PROPOSED FIBER HANDHOLE
EXISTING CABLE TV LINE
ROAD SIGN
EX. POWER POLE
EXISTING SPOT ELEVATION
PROP. SPOT ELEVATION
SPILL AND TRANSITION CURB AND GUTTER
PROPOSED CURB
EX. STREET LIGHTS
PROP. STREET LIGHTS
PROPOSED CG-12
EXISTING TREE
PROPOSED TREE
WATER FITTING IDENTIFIER
LOADING AREA
BENCHMARK
TEST PIT REQUIRED
PROJECTED TRAFFIC COUNT
OVERLAND RELIEF
PROP. PROPOSED
EX. EXISTING
SF SQUARE FEET
GSF GROSS SQUARE FEET
NSF NET SQUARE FEET
T.B.R. TO BE REMOVED
FF FINISHED FLOOR
V VISITOR PARKING SPACE
S, C, HC STANDARD, COMPACT, AND HANDICAP PARKING SPACE DESIGNATOR
PROP. PERVIOUS AREA
PROP. PARKING SPACE

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: 02-11-2022, 02-09-2022, 03-17-2023

Urban Ltd.
4200 D TECHNOLOGY CT.
CHANTILLY, VA. 20151
TEL. 703.642.2306
FAX 703.378.5888
www.urban-ltd.com
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Planners•Engineers•Landscape Architects•Land Surveyors

COMMONWEALTH OF VIRGINIA
Clayton C. Fock
Lic. No. 036790
03/17/2023
PROFESSIONAL ENGINEER

GENERAL NOTES & DETAILS
LANDMARK MALL REDEVELOPMENT
PRELIMINARY SITE PLAN - PARKS
CITY OF ALEXANDRIA, VIRGINIA
SCALE: N/A C.I.=N/A DATE: NOV., 2022

SHEET 03A OF 108

FILE No. DSUP-13089

Urban, Ltd. - J:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\13089-02A-GNOTES.dwg [GNOTES2] March 17, 2023 - 9:05am yalasri

LEED v4 for BD+C Core & Shell

LMR Retail Pavilion 1 Block F

March 3, 2023

SUSTAINABLE BUILDING PARTNERS

0	0	1	Integrative Process	Possible Points:	1
Y	?	N			
		1	Credit 1 Integrative Process		1

13	0	7	Location and Transportation	Possible Points:	20
Y	?	N			
		20	Credit 1 LEED for Neighborhood Development	PATH 1	20
2			Credit 2 Sensitive Land Protection	PATH 2	2
		3	Credit 3 High Priority Site		3
6			Credit 4 Surrounding Density & Diverse Uses		6
3		3	Credit 5 Access to Quality Transit (v4.1)		6
		1	Credit 6 Bicycle Facilities (v4.1)		1
1			Credit 7 Reduced Parking Footprint (v4.1)		1
1			Credit 8 Electric Vehicles (v4.1)		1

4	0	7	Sustainable Sites	Possible Points:	11
Y	?	N			
Y			Prereq 1 Construction Activity Pollution Prevention		Required
1			Credit 1 Site Assessment		1
		2	Credit 2 Site Development - Protect or Restore Habitat		2
		1	Credit 3 Open Space		1
		3	Credit 4 Rainwater Management		3
2			Credit 5 Heat Island Reduction		2
		1	Credit 6 Light Pollution Reduction		1
1			Credit 7 Tenant Design & Construction Guidelines		1

7	0	4	Water Efficiency	Possible Points:	11
Y	?	N			
Y			Prereq 1 Outdoor Water Use Reduction		Required
Y			Prereq 2 Indoor Water Use Reduction		Required
Y			Prereq 3 Building-Level Water Metering		Required
3			Credit 1 Outdoor Water Use Reduction		3
4		1	Credit 2 Indoor Water Use Reduction		5
		2	Credit 3 Cooling Tower Water Use		2
		1	Credit 4 Water Metering		1

11	0	22	Energy and Atmosphere	Possible Points:	33
Y	?	N			
Y			Prereq 1 Fundamental Commissioning and Verification		Required
Y			Prereq 2 Minimum Energy Performance		Required
Y			Prereq 3 Building-Level Energy Metering		Required
Y			Prereq 4 Fundamental Refrigerant Management		Required
3		3	Credit 1 Enhanced Commissioning		6
5		13	Credit 2 Optimize Energy Performance		18
1			Credit 3 Advanced Energy Metering		1
		2	Credit 4 Demand Response		2
2		3	Credit 5 Renewable Energy Production (v4.1)		5
		1	Credit 6 Enhanced Refrigerant Management		1

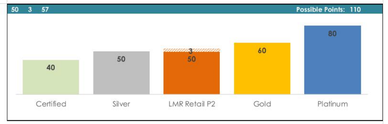
4	0	10	Materials and Resources	Possible Points:	13
Y	?	N			
Y			Prereq 1 Storage and Collection of Recyclables		Required
Y			Prereq 2 Construction and Demolition Waste Management Planning		Required
3		3	Credit 1 Building Life-Cycle Impact Reduction (v4.1)		6
		2	Credit 2 Product Disclosure & Optimization - EPDs (v4.1)		2
		2	Credit 3 Product Disclosure & Optimization - Sourcing of Raw Materials (v4.1)		2
		2	Credit 4 Product Disclosure & Optimization - Material Ingredients (v4.1)		2
1		1	Credit 5 Construction and Demolition Waste Management (v4.1)		2

2	3	5	Indoor Environmental Quality	Possible Points:	16
Y	?	N			
Y			Prereq 1 Minimum Indoor Air Quality Performance		Required
Y			Prereq 2 Environmental Tobacco Smoke Control (v4.1)		Required
		2	Credit 1 Enhanced Indoor Air Quality Strategies		2
	3		Credit 2 Low-Emitting Materials (v4.1)		3
1			Credit 3 Construction Indoor Air Quality Management Plan		1
		3	Credit 5 Daylight (v4.1)		3
1			Credit 6 Quality Views		1

6	0	0	Innovation	Possible Points:	6
Y	?	N			
1			Credit 1.1 Innovation Credit: Assessments and Planning for Resilience		1
1			Credit 1.2 Pilot Credit: Carbon Sequestration		1
1			Credit 1.3 Innovation Credit: Low-Mercury Lamps		1
1			Credit 1.4 Innovation Credit: Green Education		1
1			Credit 1.5 Pilot Credit: Integrative Analysis of Building Materials		1
1			Credit 2 LEED Accredited Professional		1

3	0	1	Regional Priority Credits	Possible Points:	4
Y	?	N			
1			Credit 1 Regional Priority: Surrounding Density & Diverse Uses (th: 2)		1
1			Credit 2 Regional Priority: Access to Quality Transit (th: 1)		1
	1		Credit 3 Regional Priority: Open Space (th: 1)		1
1			Credit 4 Regional Priority: Electric Vehicles (th: 1)		1

50	3	57	Possible Points:	110



LEED v4 for BD+C Core & Shell

LMR Retail Pavilion 2 Block N

March 3, 2023

SUSTAINABLE BUILDING PARTNERS

0	0	1	Integrative Process	Possible Points:	1
Y	?	N			
		1	Credit 1 Integrative Process		1

13	0	7	Location and Transportation	Possible Points:	20
Y	?	N			
		20	Credit 1 LEED for Neighborhood Development	PATH 1	20
2			Credit 2 Sensitive Land Protection	PATH 2	2
		3	Credit 3 High Priority Site		3
6			Credit 4 Surrounding Density & Diverse Uses		6
3		3	Credit 5 Access to Quality Transit (v4.1)		6
		1	Credit 6 Bicycle Facilities (v4.1)		1
1			Credit 7 Reduced Parking Footprint (v4.1)		1
1			Credit 8 Electric Vehicles (v4.1)		1

4	0	7	Sustainable Sites	Possible Points:	11
Y	?	N			
Y			Prereq 1 Construction Activity Pollution Prevention		Required
1			Credit 1 Site Assessment		1
		2	Credit 2 Site Development - Protect or Restore Habitat		2
		1	Credit 3 Open Space		1
		3	Credit 4 Rainwater Management		3
2			Credit 5 Heat Island Reduction		2
		1	Credit 6 Light Pollution Reduction		1
1			Credit 7 Tenant Design & Construction Guidelines		1

7	0	4	Water Efficiency	Possible Points:	11
Y	?	N			
Y			Prereq 1 Outdoor Water Use Reduction		Required
Y			Prereq 2 Indoor Water Use Reduction		Required
Y			Prereq 3 Building-Level Water Metering		Required
3			Credit 1 Outdoor Water Use Reduction		3
4		1	Credit 2 Indoor Water Use Reduction		5
		2	Credit 3 Cooling Tower Water Use		2
		1	Credit 4 Water Metering		1

11	0	22	Energy and Atmosphere	Possible Points:	33
Y	?	N			
Y			Prereq 1 Fundamental Commissioning and Verification		Required
Y			Prereq 2 Minimum Energy Performance		Required
Y			Prereq 3 Building-Level Energy Metering		Required
Y			Prereq 4 Fundamental Refrigerant Management		Required
3		3	Credit 1 Enhanced Commissioning		6
5		13	Credit 2 Optimize Energy Performance		18
1			Credit 3 Advanced Energy Metering		1
		2	Credit 4 Demand Response		2
2		3	Credit 5 Renewable Energy Production (v4.1)		5
		1	Credit 6 Enhanced Refrigerant Management		1

4	4	6	Materials and Resources	Possible Points:	13
Y	?	N			
Y			Prereq 1 Storage and Collection of Recyclables		Required
Y			Prereq 2 Construction and Demolition Waste Management Planning		Required
3		3	Credit 1 Building Life-Cycle Impact Reduction (v4.1)		6
	2		Credit 2 Product Disclosure & Optimization - EPDs (v4.1)		2
		2	Credit 3 Product Disclosure & Optimization - Sourcing of Raw Materials (v4.1)		2
	2		Credit 4 Product Disclosure & Optimization - Material Ingredients (v4.1)		2
1		1	Credit 5 Construction and Demolition Waste Management (v4.1)		2

5	0	5	Indoor Environmental Quality	Possible Points:	16
Y	?	N			
Y			Prereq 1 Minimum Indoor Air Quality Performance		Required
Y			Prereq 2 Environmental Tobacco Smoke Control (v4.1)		Required
		2	Credit 1 Enhanced Indoor Air Quality Strategies		2
3			Credit 2 Low-Emitting Materials (v4.1)		3
1			Credit 3 Construction Indoor Air Quality Management Plan		1
		3	Credit 5 Daylight (v4.1)		3
1			Credit 6 Quality Views		1

6	0	0	Innovation	Possible Points:	6
Y	?	N			
1			Credit 1.1 Innovation Credit: Assessments and Planning for Resilience		1
1			Credit 1.2 Pilot Credit: Carbon Sequestration		1
1			Credit 1.3 Innovation Credit: Low-Mercury Lamps		1
1			Credit 1.4 Innovation Credit: Green Education		1
1			Credit 1.5 Pilot Credit: Integrative Analysis of Building Materials		1
1			Credit 2 LEED Accredited Professional		1

3	0	1	Regional Priority Credits	Possible Points:	4
Y	?	N			
1			Credit 1 Regional Priority: Surrounding Density & Diverse Uses (th: 2)		1
1			Credit 2 Regional Priority: Access to Quality Transit (th: 1)		1
	1		Credit 3 Regional Priority: Open Space (th: 1)		1
1			Credit 4 Regional Priority: Electric Vehicles (th: 1)		1

53	4	53	Possible Points:	110

SUSTAINABLE BUILDING PARTNERS

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

Date: March 3, 2023

Project: LMR Blocks F&N – Retail Pavilions

Purpose: DSUP Submission - Green Building Approach

General Approach

The Landmark Mall Redevelopment (LMR) project is pursuing LEED Neighborhood Development v4 Plan certification for the entire development. The LMR Blocks F&N Retail Pavilions are pursuing LEED BD+C Core & Shell v4 certification at a Silver level, see attached "LEED Scorecard". The projects will be designed to meet the 2019 Green Building Policy.

Energy

Sustainable Building Partners is hired to perform whole building energy modeling for the referenced projects. Due to the limited mechanical and electrical scope of these Core and Shell buildings, the team will utilize a signed Green Lease to demonstrate that the final building will achieve the required 11% energy savings.

Water

Native and adaptive plantings will be installed in all landscaped areas within the LEED project boundary and will be irrigated by a high-efficiency system using drip irrigation, moisture meters, and controllers where necessary to ensure plantings survive and thrive.

The following low flow plumbing fixtures will be installed in all restrooms to achieve a 40% water use reduction:

- WC: 0.8/1.28 gpf (dual flush)
- Urinal: 0.125 gpf
- Lav Faucet: 0.35 gpm

Restrooms not installed with this project scope will be held to these fixture rates through a signed Green Lease.

Indoor Environmental Quality

If installed with the project scope, flooring, paints and coating, insulation, and ceiling systems within the building will be low-emitting to protect contractor and occupant health and comfort. To be compliant, products will have an emissions evaluation in accordance with California Department of Public Health version 1.1, 2010 (CDPH v1.1 2010) or later. Specified products within these categories will be evaluated for compliance. All other applicable products submitted during construction will be approved by the LEED consultant.

Also during construction, the contractor will develop an Indoor Air Quality Management plan to protect construction workers and materials. These requirements will be incorporated into specification section "018113 Sustainable Design Requirements". A template plan has been provided, see "LEED v4 Indoor Air Quality Mgmt Plan - Template".

2

The final required performance point under the Indoor Environmental Quality section is Thermal Comfort. Since this credit is not available on the LEED Core & Shell scorecard, it is not applicable to these projects.

Optional Credits

In addition to compliance with the applicable required performance points, the referenced projects will contract Enhanced Commissioning services to provide additional verification that the installed equipment functions as intended.

Whole building Life Cycle Assessments will be conducted for both buildings to evaluate the embodied carbon of the structures. Embodied carbon reduction strategies will be incorporated into the project specifications.

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
02-11-2022
02-09-2022
03-17-2023

Urban Ltd.
4200 D TECHNOLOGY CT.
CHANTILLY, VA. 20151
TEL: 703.642.2306
FAX: 703.378.8888
www.urban-ltd.com

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COMMONWEALTH OF VIRGINIA
CLAYTON C. POCK
Lic. No. 036790
03/17/2023
PROFESSIONAL ENGINEER

GENERAL NOTES & DETAILS

LANDMARK MALL REDEVELOPMENT
PRELIMINARY SITE PLAN - PARKS

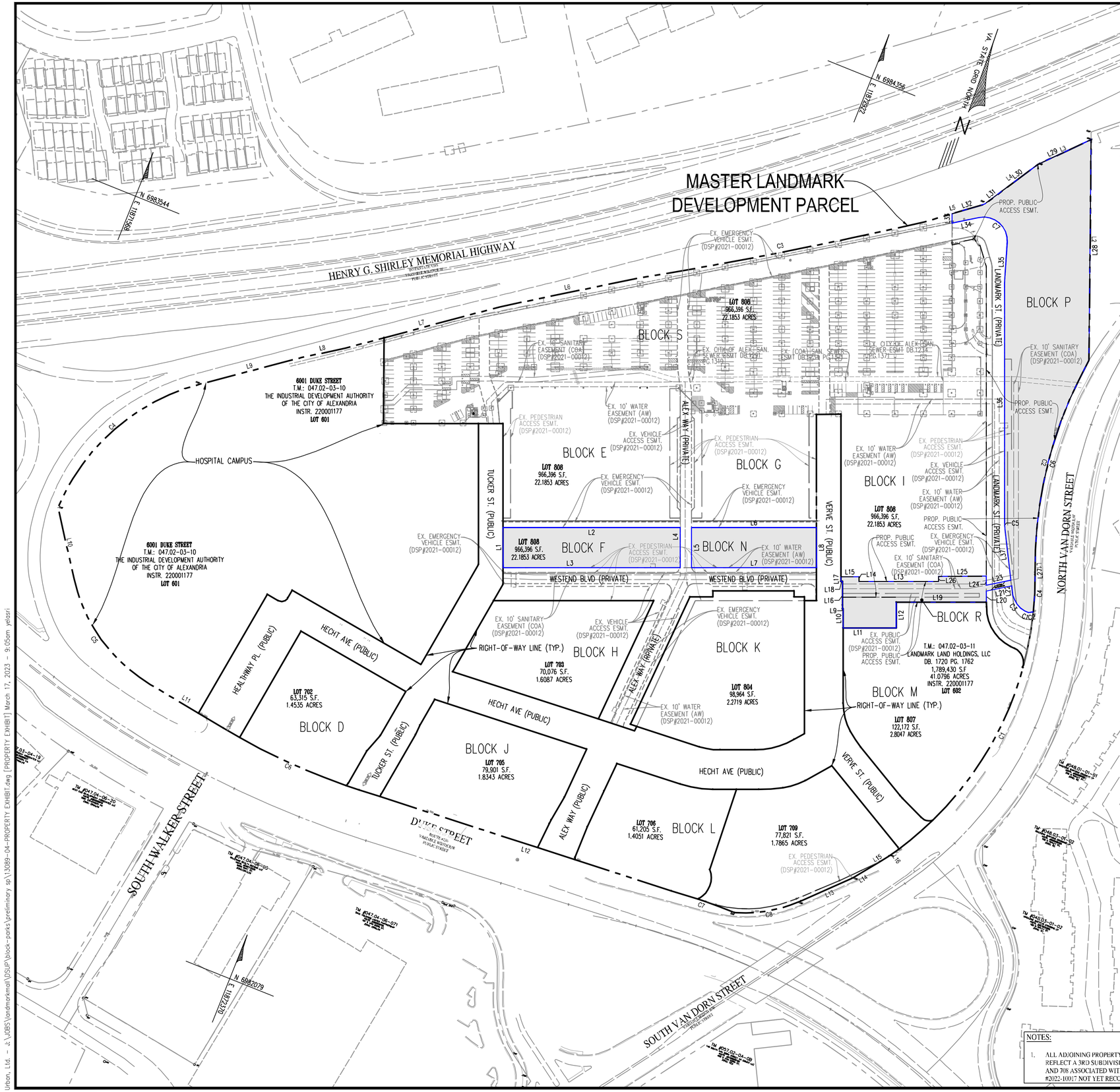
CITY OF ALEXANDRIA, VIRGINIA

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

SHEET 03B OF 108

FILE No. DSUP-13089

Urban, Ltd. – J:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\13089-02A-GNOTES.dwg [GREEN BUILDING] March 17, 2023 – 9:05am yelosri



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 AND CURVE TABLE FOR PARKS

LINE TABLE

LINE	BEARING	DISTANCE	LINE	BEARING	DISTANCE
L1	N21°52'27"W	85.00'	L21	S56°43'50"W	54.96'
L2	N68°08'38"E	375.00'	L22	N28°30'10"W	19.71'
L3	S68°08'38"W	374.94'	L23	N56°43'50"E	52.98'
L4	S21°49'58"E	85.00'	L24	S21°52'20"E	19.14'
L5	N21°51'22"W	85.00'	L25	N67°58'28"E	101.34'
L6	N68°08'38"E	264.74'	L26	N21°51'22"W	10.95'
L7	S68°08'38"W	264.88'	L27	S22°32'04"E	4.34'
L8	S21°56'53"E	85.00'	L28	S21°19'09"E	467.89'
L9	S68°42'38"W	1.46'	L29	N43°09'21"E	124.06'
L10	N21°53'22"W	40.26'	L30	N31°27'53"E	94.31'
L11	S68°09'52"W	112.17'	L31	N31°27'53"E	46.41'
L12	S21°52'19"E	54.50'	L32	N51°23'02"E	72.27'
L13	N68°12'24"E	168.33'	L33	N22°03'21"W	19.51'
L14	S21°52'12"E	10.00'	L34	S56°37'47"W	58.19'
L15	N68°08'38"E	38.40'	L35	N17°54'32"W	84.93'
L16	N21°51'22"W	57.91'	L36	N21°51'22"W	509.71'
L17	N21°51'22"W	10.26'	L37	N28°29'18"W	111.09'
L18	S68°08'38"W	3.53'			
L19	S68°07'48"W	190.91'			
L20	S21°51'14"E	23.62'			

CURVE TABLE

CURVE	ARC	RADIUS	DELTA ANGLE	TANGENT	CHORD	BEARING
C1	8.83'	20.82'	24°18'22"	4.48'	8.77'	S89°02'49"W
C2	10.42'	25.99'	22°58'22"	5.28'	10.35'	S59°09'32"W
C3	43.36'	54.17'	45°51'33"	22.92'	42.21'	N58°37'10"W
C4	79.39'	714.22'	6°22'07"	39.74'	79.35'	S19°20'57"E
C5	11.58'	99.61'	6°39'34"	5.80'	11.57'	N25°02'33"W
C6	468.83'	898.89'	29°53'01"	239.88'	463.54'	S07°35'32"E
C7	92.04'	50.00'	105°28'21"	65.72'	79.59'	N70°38'42"W

PARKS AREA

BLOCK F: 31,872 SF OR 0.732 AC
BLOCK N: 22,509 SF OR 0.517 AC
BLOCK R: 21,009 SF OR 0.482 AC
BLOCK P: 128,715 SF OR 2.955 AC

LEGEND

PARKS BOUNDARY
DSUP APPLICATION AREA

NOTES:

1. ALL ADJOINING PROPERTY LINES AND LOT NUMBERS SHOWN HEREON REFLECT A 3RD SUBDIVISION PLAT AND RESUBDIVISION OF LOT 704, 707 AND 708 ASSOCIATED WITH DSUP #2022-10015, DSUP #2022-10016, AND DSUP #2022-10017 NOT YET RECORDED .

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: 02-11-2022, 02-09-2022, 03-17-2023

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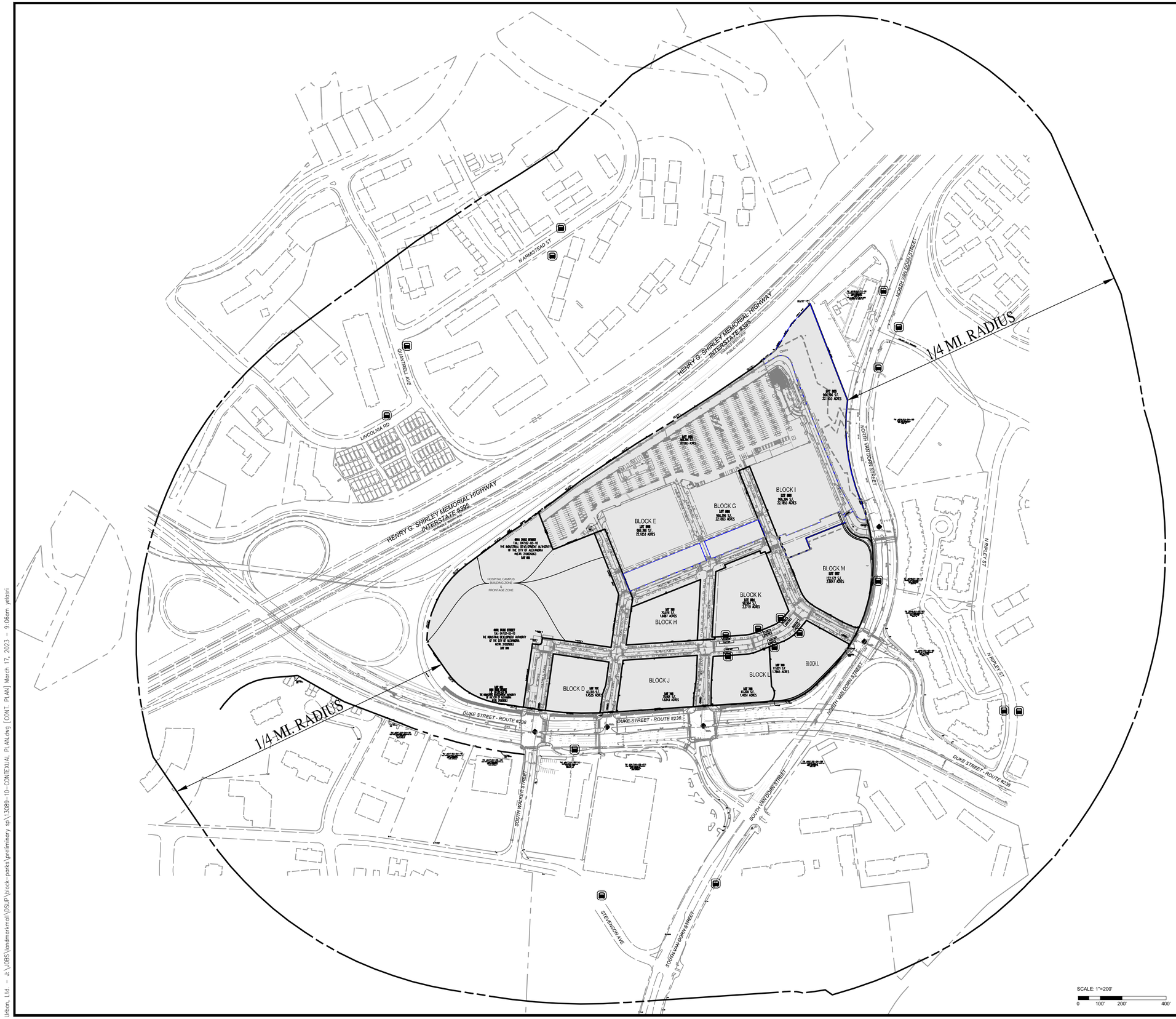
CLAYTON C. TOCK
Lic. No. 036790
03/17/2023
PROFESSIONAL ENGINEER

PROPERTY EXHIBIT
LANDMARK MALL REDEVELOPMENT
PRELIMINARY SITE PLAN - PARKS
CITY OF ALEXANDRIA, VIRGINIA
SCALE: 1"=100' C.I.=N/A DATE: NOV., 2022

SHEET 04 OF 108

FILE No. DSUP-13089

Urban, Ltd. - J:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\13089-04-PROPERTY EXHIBIT.dwg [PROPERTY EXHIBIT] March 17, 2023 - 9:05am yelasri



LEGEND

- TRANSIT STOP
- PROPOSED PROJECT SITE
- DSUP APPLICATION

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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02-09-2022
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03.17.2023
PROFESSIONAL ENGINEER

CONTEXTUAL PLAN

LANDMARK MALL REDEVELOPMENT
PRELIMINARY SITE PLAN - PARKS

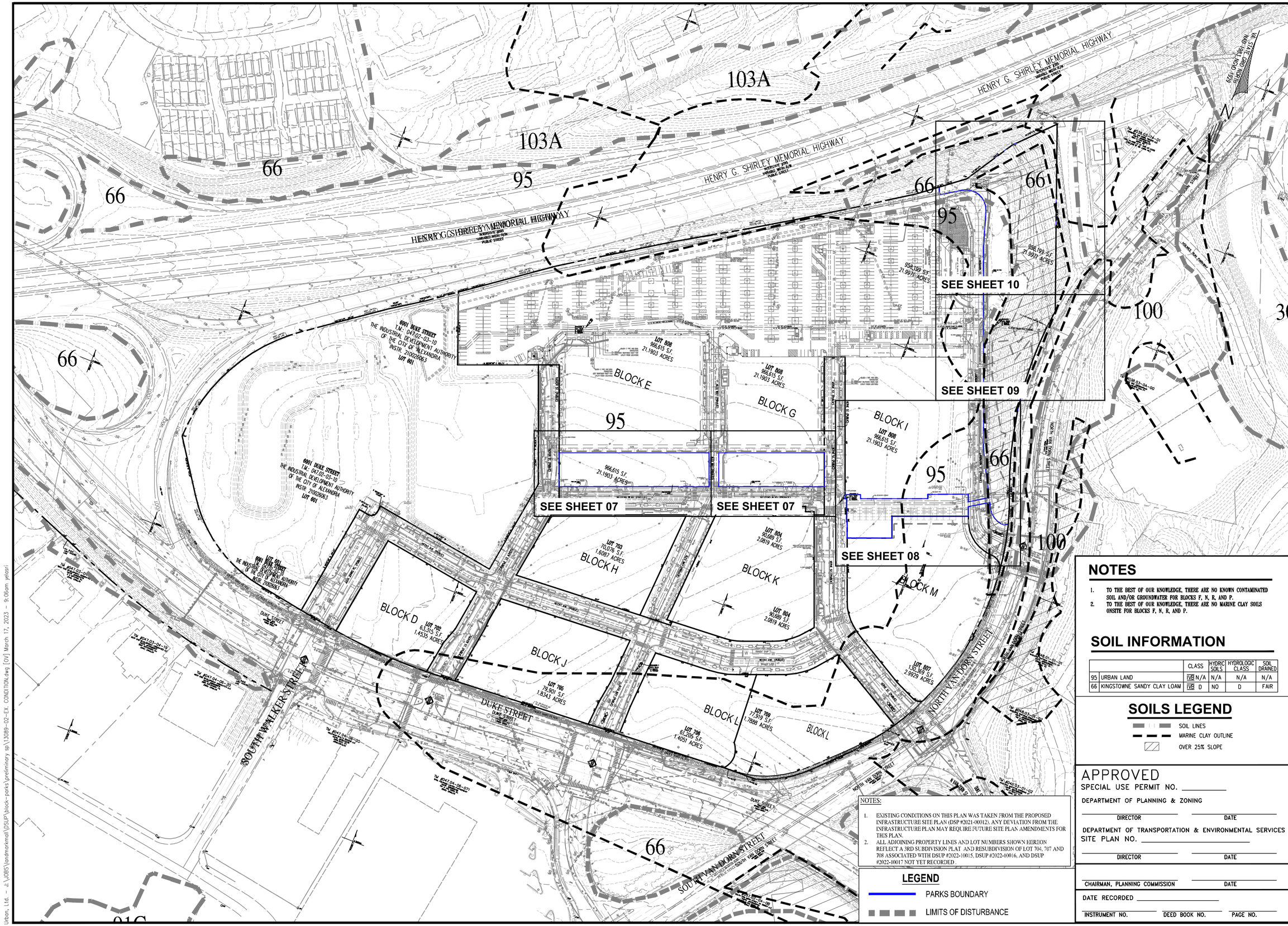
CITY OF ALEXANDRIA, VIRGINIA

SCALE: 1"=200' C.I.=N/A DATE: NOV., 2022

SHEET 05 OF 108

FILE No. DSUP-13089

Urban, Ltd. – J:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\13089-10-CONTEXUAL PLAN.dwg [CONT. PLAN] March 17, 2023 – 9:06am yelasri



NOTES

1. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO KNOWN CONTAMINATED SOIL AND/OR GROUNDWATER FOR BLOCKS F, N, R, AND P.
2. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO MARINE CLAY SOILS ONSITE FOR BLOCKS F, N, R, AND P.

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

NOTES:

1. EXISTING CONDITIONS ON THIS PLAN WAS TAKEN FROM THE PROPOSED INFRASTRUCTURE SITE PLAN (DSP #2021-00012). ANY DEVIATION FROM THE INFRASTRUCTURE PLAN MAY REQUIRE FUTURE SITE PLAN AMENDMENTS FOR THIS PLAN.
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LEGEND

PARKS BOUNDARY
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 _____
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03.17.2023
PROFESSIONAL ENGINEER

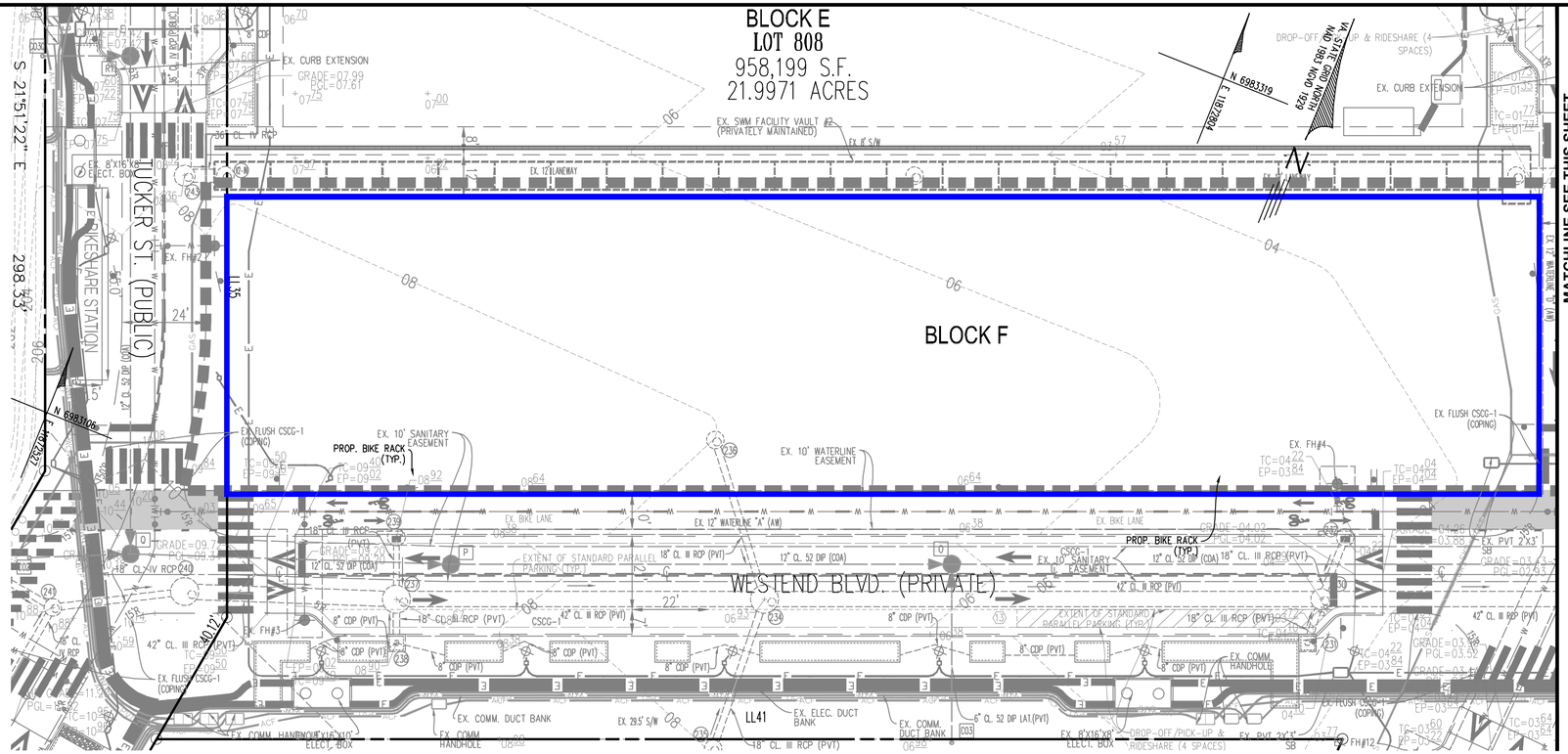
OVERALL EXISTING CONDITIONS
LANDMARK MALL REDEVELOPMENT
PRELIMINARY SITE PLAN - PARKS
CITY OF ALEXANDRIA, VIRGINIA

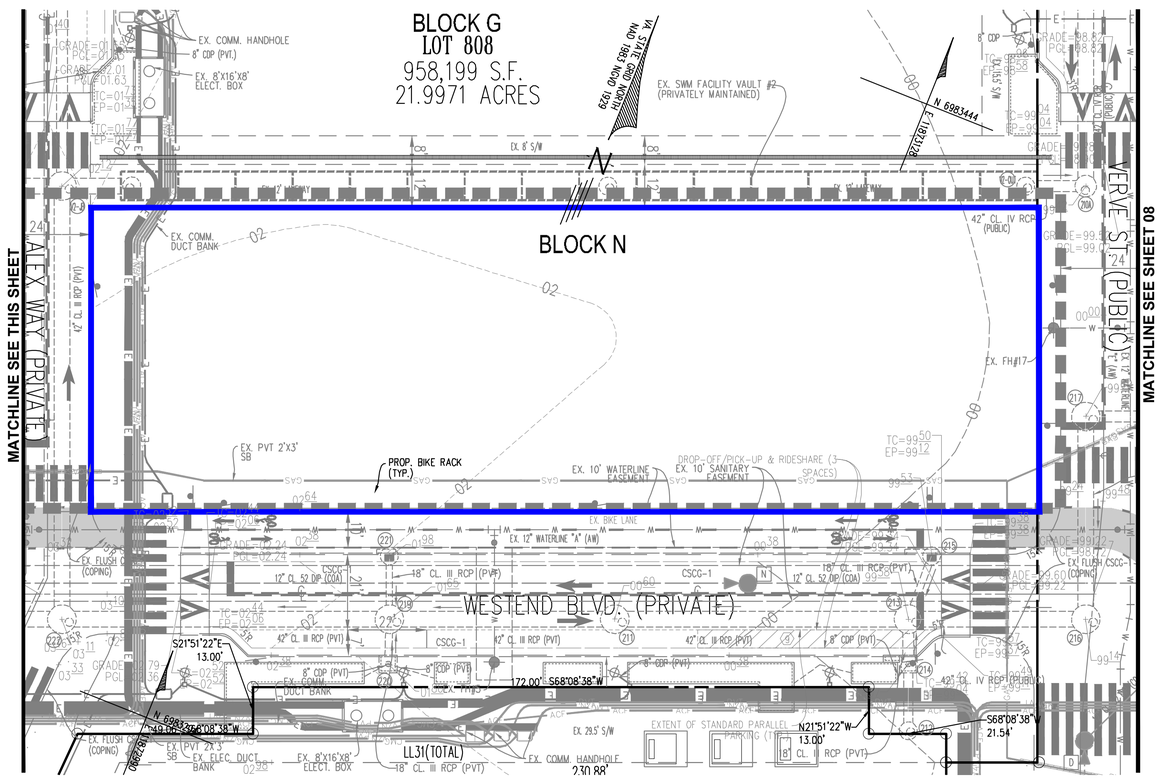
SCALE: 1"=100' C.I.=2' DATE: NOV., 2022

SHEET 06 OF 108

FILE No. DSUP-13089

Urban, Ltd. – J:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\13089-02-EX. CONDITION.dwg [OV] March 17, 2023 – 9:06am yelasri





SCALE: 1"=20'
0 10' 20' 40'

NOTES:

1. EXISTING CONDITIONS ON THIS PLAN WAS TAKEN FROM THE PROPOSED INFRASTRUCTURE SITE PLAN (DSP #2021-00012). ANY DEVIATION FROM THE INFRASTRUCTURE PLAN MAY REQUIRE FUTURE SITE PLAN AMENDMENTS FOR THIS PLAN.
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LEGEND

PARKS BOUNDARY

LIMITS OF DISTURBANCE

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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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Lic. No. 036790
02/17/2023
PROFESSIONAL ENGINEER

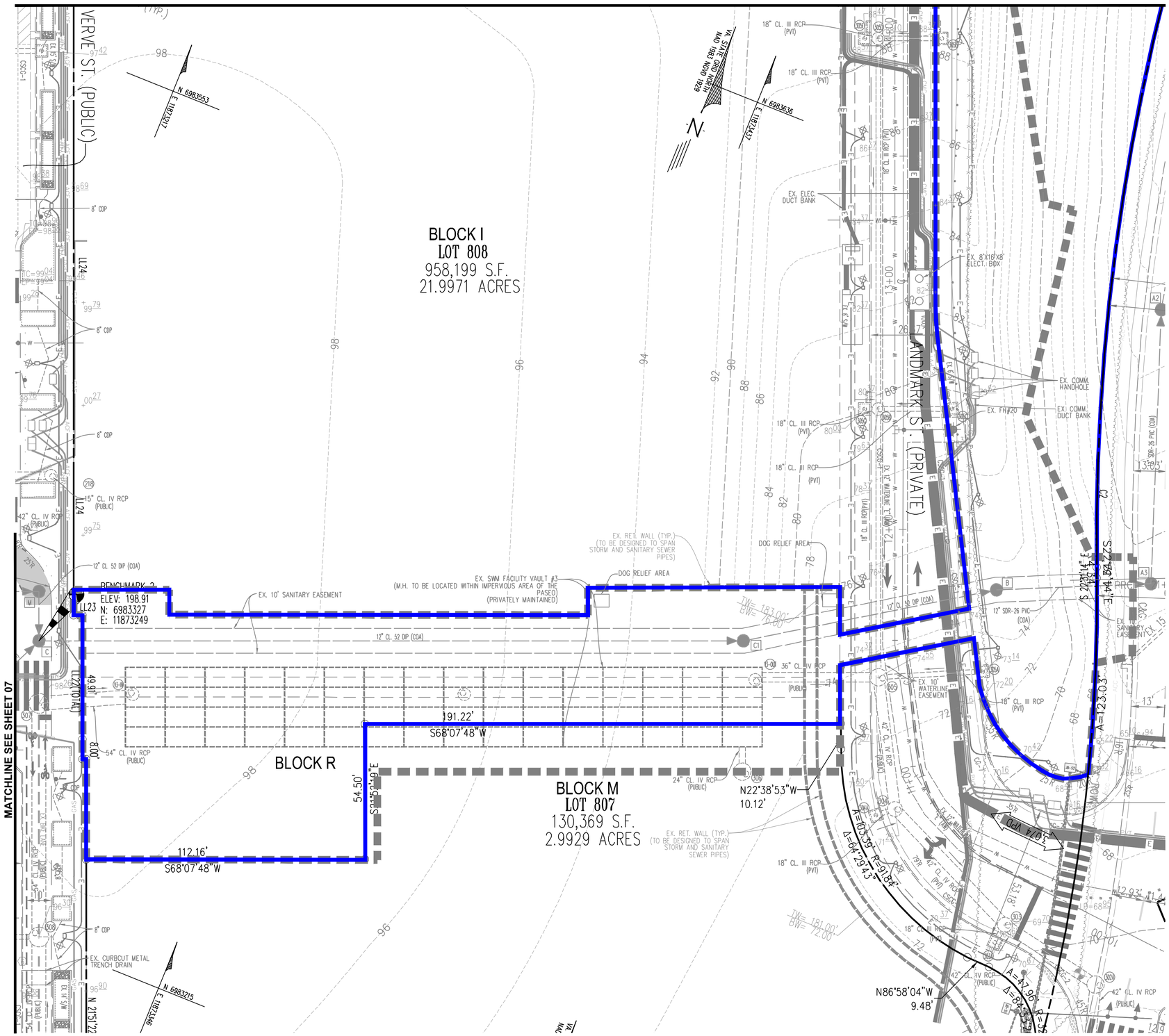
EXISTING CONDITIONS
LANDMARK MALL REDEVELOPMENT
PRELIMINARY SITE PLAN - PARKS
CITY OF ALEXANDRIA, VIRGINIA
SCALE: 1"=20' C.I.=2' DATE: NOV., 2022

SHEET
07
OF
108

FILE No.
DSUP-13089

Urban, Ltd. - J:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\13089-02-EX. CONDITION.dwg [01] March 17, 2023 - 9:07am yelasri

MATCHLINE SEE SHEET 09



SCALE: 1"=20'
0 10' 20' 40'

NOTES:

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LEGEND

PARKS BOUNDARY

LIMITS OF DISTURBANCE

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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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CLAYTON C. TOCK
Lic. No. 038760
03/17/2023
PROFESSIONAL ENGINEER

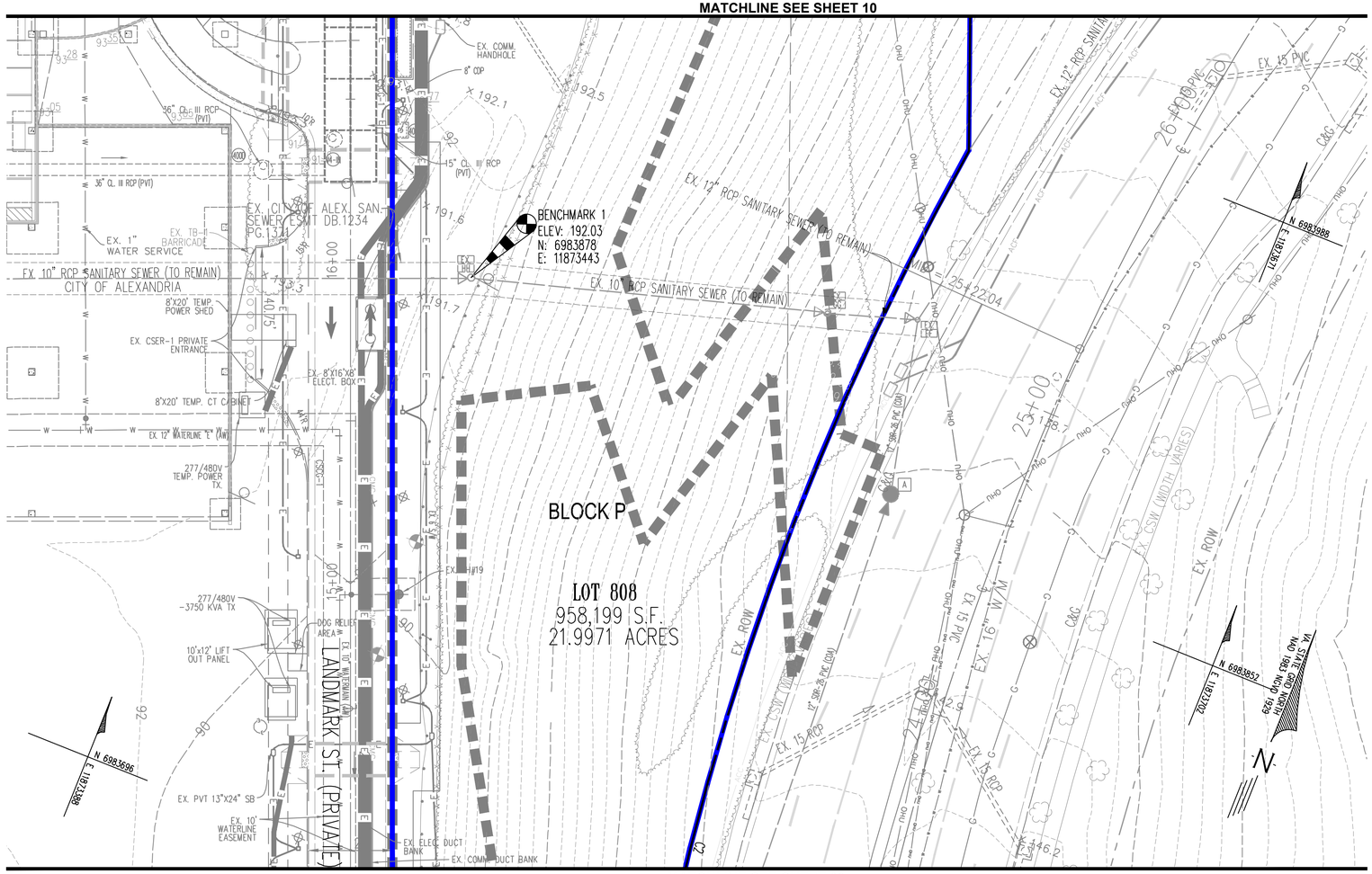
EXISTING CONDITIONS
LANDMARK MALL REDEVELOPMENT
PRELIMINARY SITE PLAN - PARKS
CITY OF ALEXANDRIA, VIRGINIA
SCALE: 1"=20' C.I.= 2' DATE: NOV., 2022

SHEET 08 OF 108

FILE No. DSUP-13089

Urban, Ltd. - z:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\13089-02-EX. CONDITION.dwg [02] March 17, 2023 - 9:07am yelosri

MATCHLINE SEE SHEET 10



MATCHLINE SEE SHEET 08

SCALE: 1"=20'
0 10' 20' 40'

NOTES:

1. EXISTING CONDITIONS ON THIS PLAN WAS TAKEN FROM THE PROPOSED INFRASTRUCTURE SITE PLAN (DSP #2021-00012). ANY DEVIATION FROM THE INFRASTRUCTURE PLAN MAY REQUIRE FUTURE SITE PLAN AMENDMENTS FOR THIS PLAN.
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LEGEND

PARKS BOUNDARY

LIMITS OF DISTURBANCE

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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 _____
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03/17/2023
PROFESSIONAL ENGINEER

EXISTING CONDITIONS

LANDMARK MALL REDEVELOPMENT PRELIMINARY SITE PLAN - PARKS

CITY OF ALEXANDRIA, VIRGINIA

SCALE: 1"=20' C.I.= 2' DATE: NOV., 2022

SHEET 09 OF 108

FILE No. DSUP-13089

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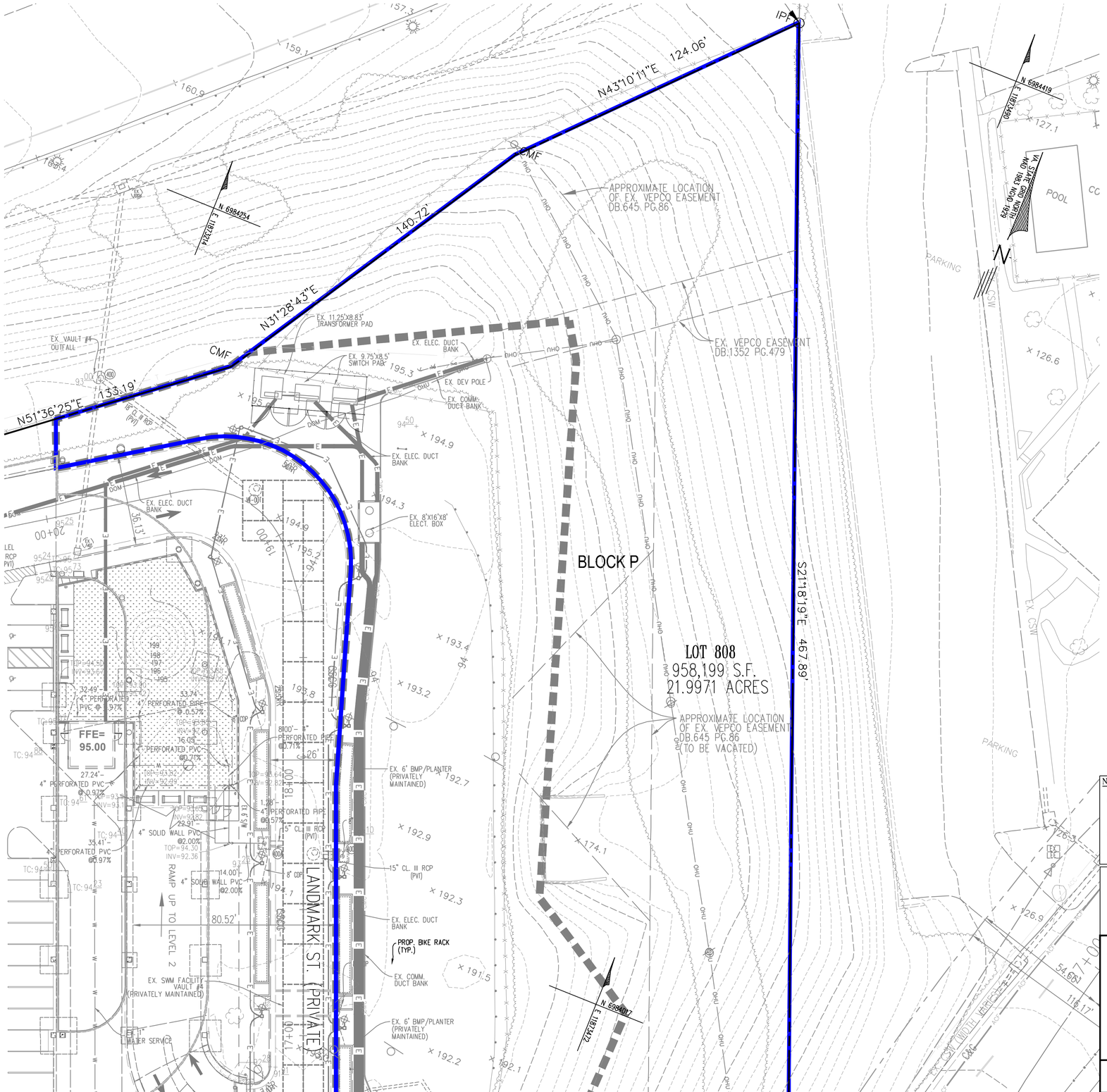

MATCHLINE SEE SHEET 09

SCALE: 1"=20'
0 10' 20' 40'

NOTES:

1. EXISTING CONDITIONS ON THIS PLAN WAS TAKEN FROM THE PROPOSED INFRASTRUCTURE SITE PLAN (DSP #2021-00012). ANY DEVIATION FROM THE INFRASTRUCTURE PLAN MAY REQUIRE FUTURE SITE PLAN AMENDMENTS FOR THIS PLAN.
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LEGEND

PARKS BOUNDARY

LIMITS OF DISTURBANCE

APPROVED
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DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. _____
DIRECTOR DATE

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EXISTING CONDITIONS

LANDMARK MALL REDEVELOPMENT
PRELIMINARY SITE PLAN - PARKS

CITY OF ALEXANDRIA, VIRGINIA

SCALE: 1"=20' C.I.=2' DATE: NOV., 2022

SHEET 10 OF 108

FILE No. DSUP-13089

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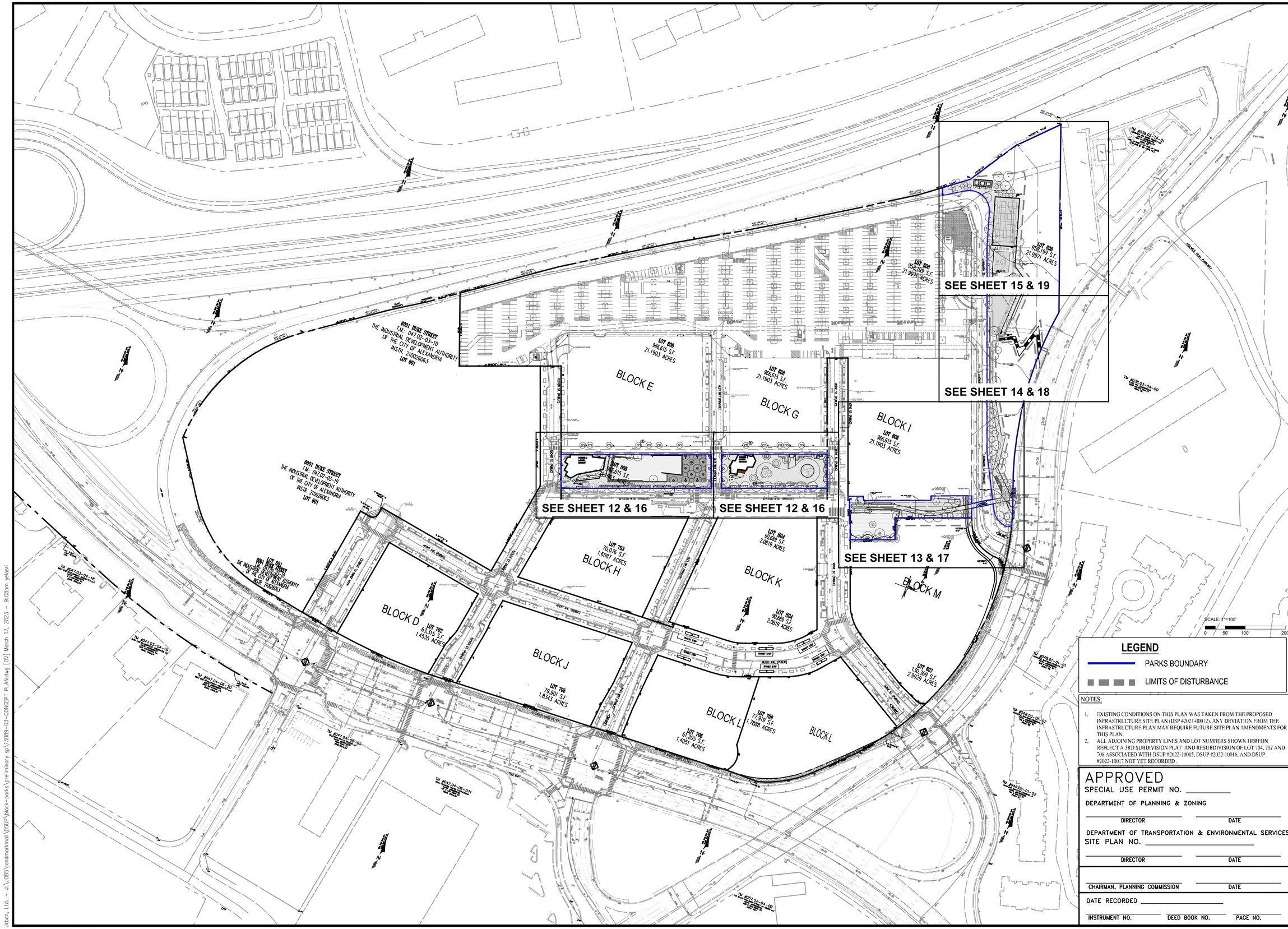

LEGEND

PARKS BOUNDARY

LIMITS OF DISTURBANCE

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APPROVED

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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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6	-
7	-
8	-

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03/17/2023
PROFESSIONAL ENGINEER

OVERVIEW PLAN

LANDMARK MALL REDEVELOPMENT
PRELIMINARY SITE PLAN - PARKS

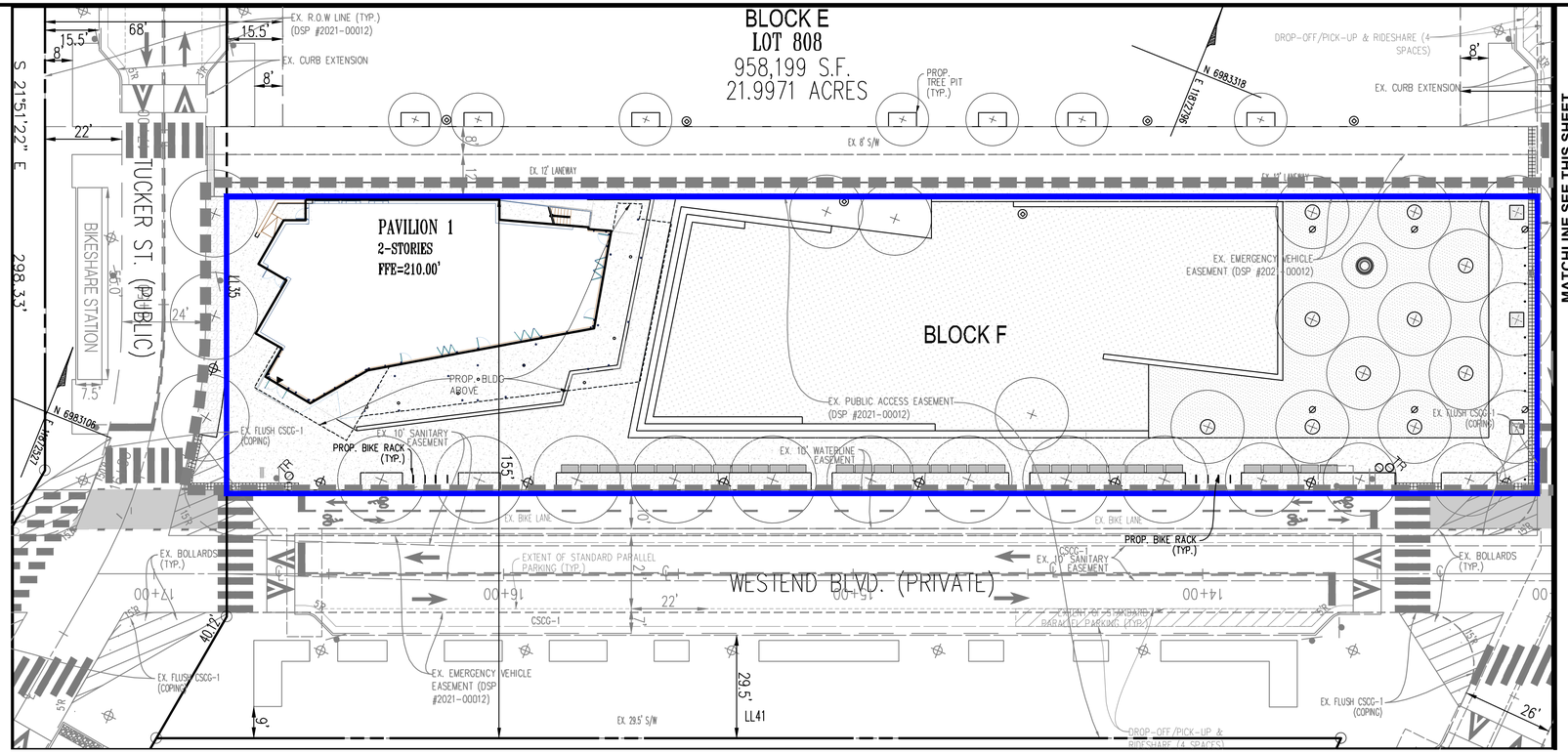
CITY OF ALEXANDRIA, VIRGINIA

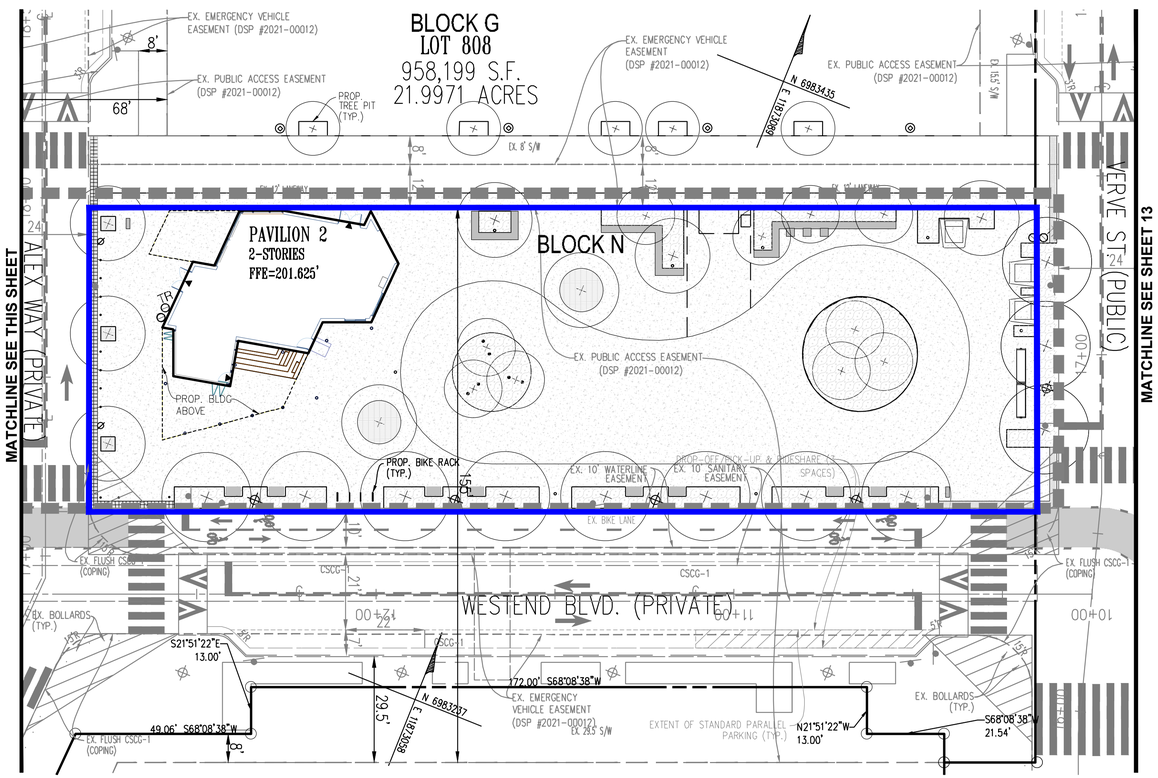
SCALE: 1"=100' C.I.=2' DATE: NOV., 2022

SHEET 11 OF 108

FILE No. DSUP-13089

Urban, Ltd. – J:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\13089-03-CONCEPT PLAN.dwg [OV] March 17, 2023 – 9:08am yelosri





SCALE: 1"=20'

0 10' 20' 40'

NOTES:

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LEGEND

PARKS BOUNDARY

LIMITS OF DISTURBANCE

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DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
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SITE PLAN NO. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
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No.	DATE	DESCRIPTION

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3	03-17-2023
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5	- -
6	- -

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CLAYTON C. TOCK
Lic. No. 036790
02/17/2022
PROFESSIONAL ENGINEER

SITE PLAN

LANDMARK MALL REDEVELOPMENT
PRELIMINARY SITE PLAN - PARKS

CITY OF ALEXANDRIA, VIRGINIA

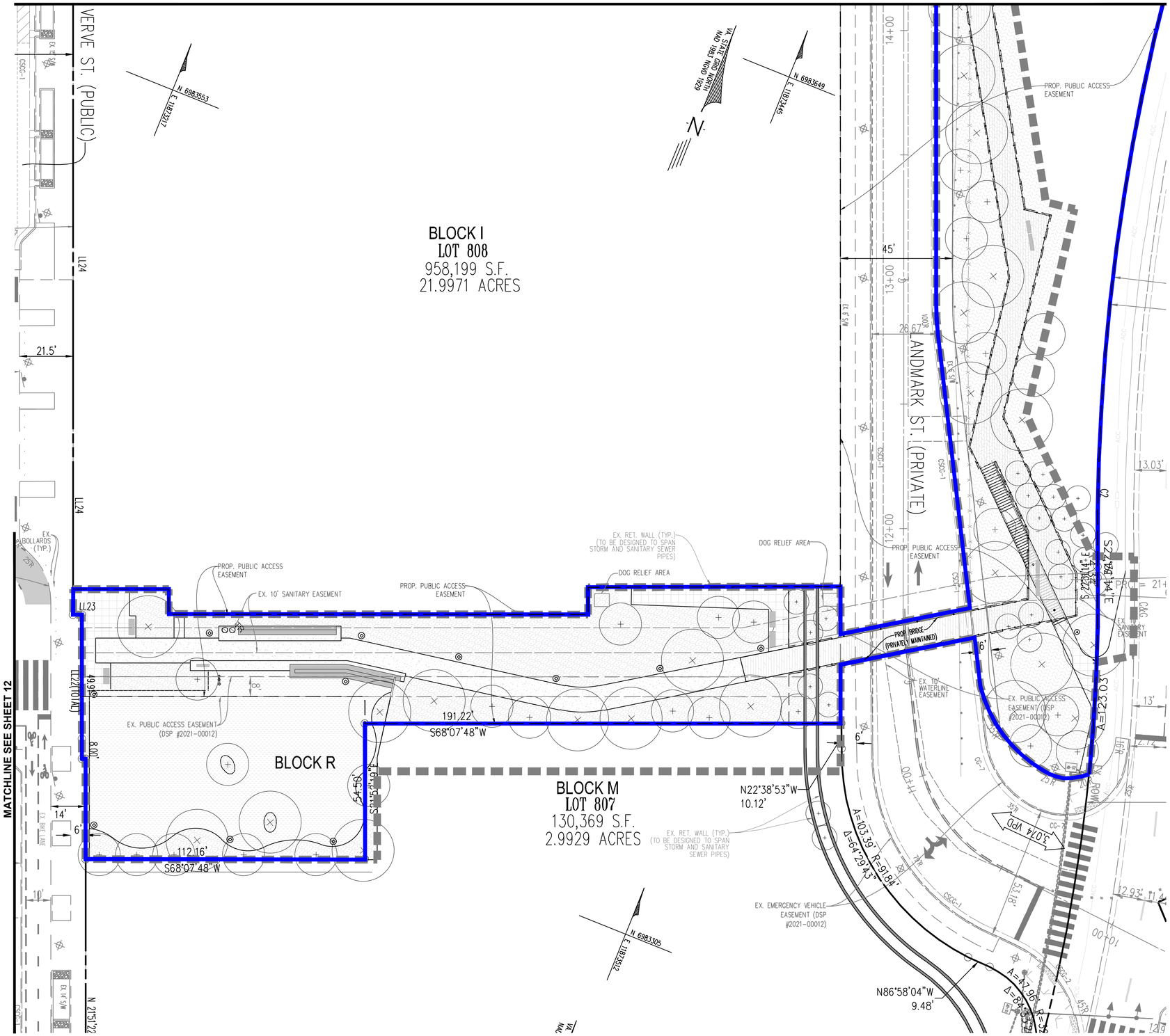
SCALE: 1"=20' C.I.=N/A DATE: NOV., 2022

SHEET 12 OF 108

FILE No. DSUP-13089

Urban, Ltd. - J:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\13089-03-CONCEPT PLAN.dwg [01] March 17, 2023 - 9:08am yelasri

MATCHLINE SEE SHEET 14



SCALE: 1"=20'

0 10' 20' 40'

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PARKS BOUNDARY

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SITE PLAN

LANDMARK MALL REDEVELOPMENT
PRELIMINARY SITE PLAN - PARKS

CITY OF ALEXANDRIA, VIRGINIA

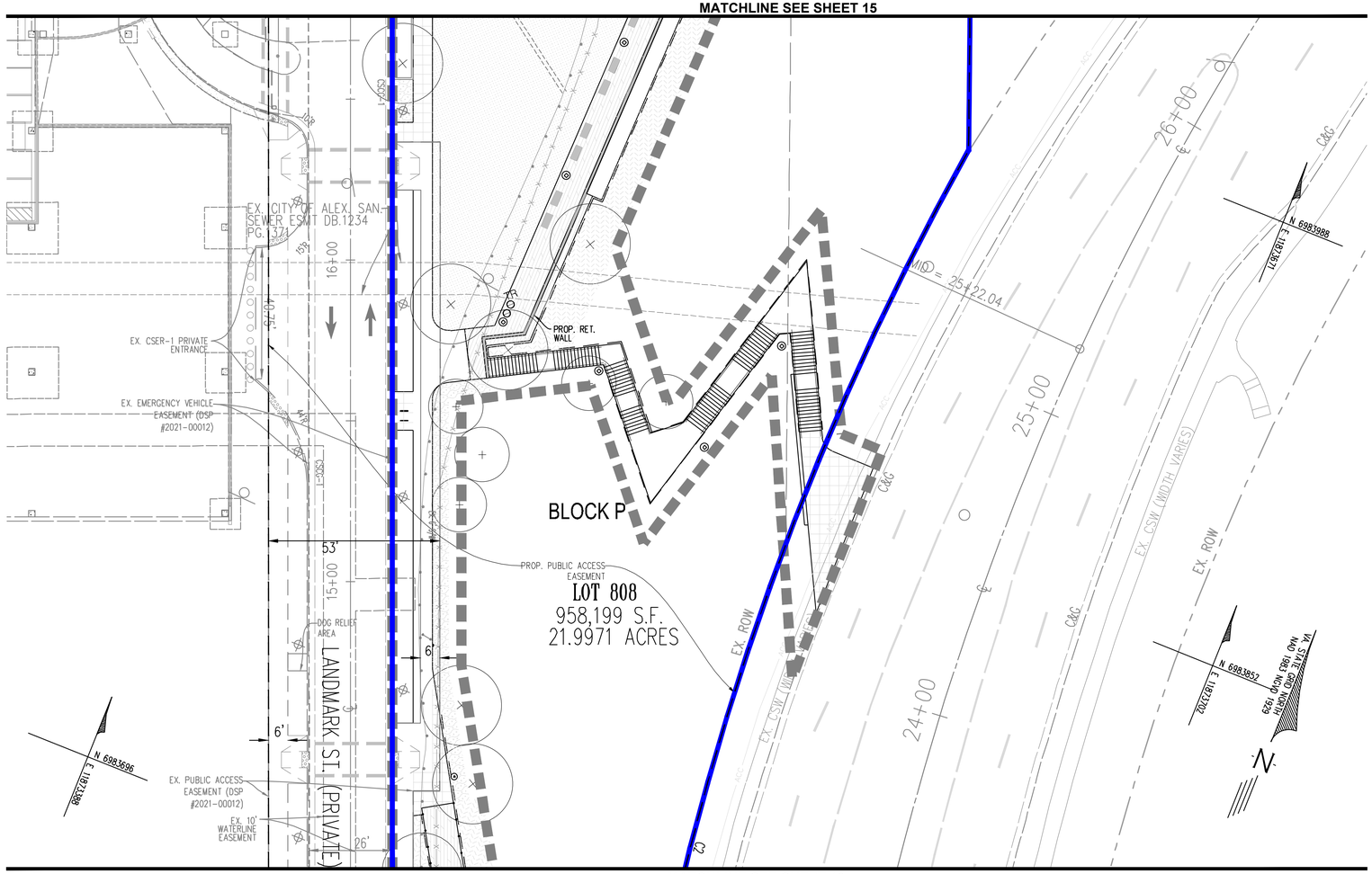
SCALE: 1"=20' C.I.=N/A DATE: NOV., 2022

SHEET 13 OF 108

FILE No. DSUP-13089

Urban, Ltd. - J:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\13089-03-CONCEPT PLAN.dwg [02] March 17, 2023 - 9:08am yelasri

MATCHLINE SEE SHEET 15



MATCHLINE SEE SHEET 13

SCALE: 1"=20'

0 10' 20' 40'

NOTES:

1. EXISTING CONDITIONS ON THIS PLAN WAS TAKEN FROM THE PROPOSED INFRASTRUCTURE SITE PLAN (DSP #2021-00012). ANY DEVIATION FROM THE INFRASTRUCTURE PLAN MAY REQUIRE FUTURE SITE PLAN AMENDMENTS FOR THIS PLAN.
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LEGEND

PARKS BOUNDARY

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. _____

No.	DATE	DESCRIPTION

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CLAYTON C. FOCK
Lic. No. 036790
03/17/2023
PROFESSIONAL ENGINEER

SITE PLAN

LANDMARK MALL REDEVELOPMENT
PRELIMINARY SITE PLAN - PARKS

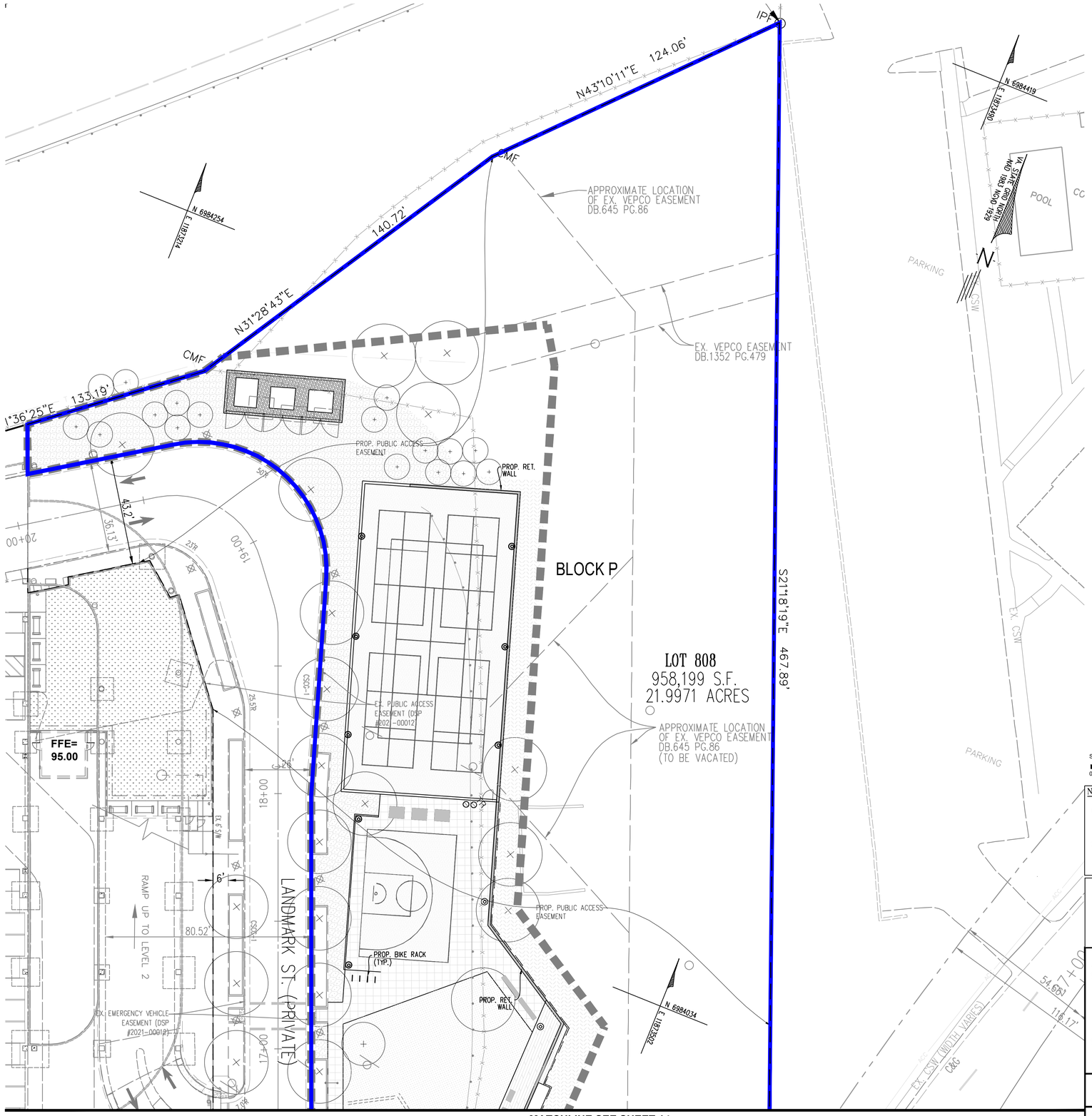
CITY OF ALEXANDRIA, VIRGINIA

SCALE: 1"=20' C.I.=N/A DATE: NOV., 2022

SHEET 14 OF 108

FILE No. DSUP-13089

Urban, Ltd. – J:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\13089-03-CONCEPT PLAN.dwg [03] March 17, 2023 – 9:09am yelasri



MATCHLINE SEE SHEET 14

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LEGEND

PARKS BOUNDARY

LIMITS OF DISTURBANCE

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SITE PLAN

LANDMARK MALL REDEVELOPMENT
PRELIMINARY SITE PLAN - PARKS

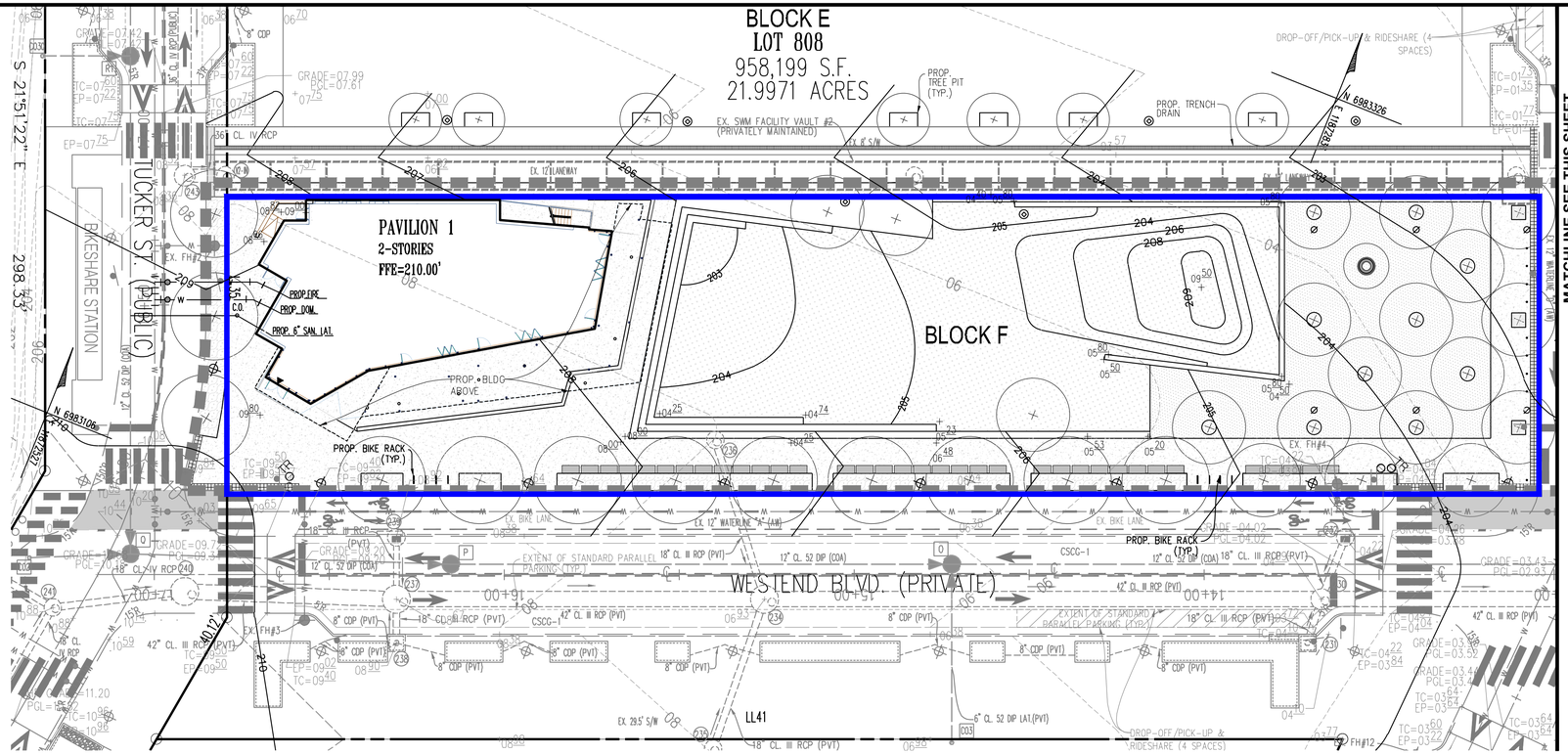
CITY OF ALEXANDRIA, VIRGINIA

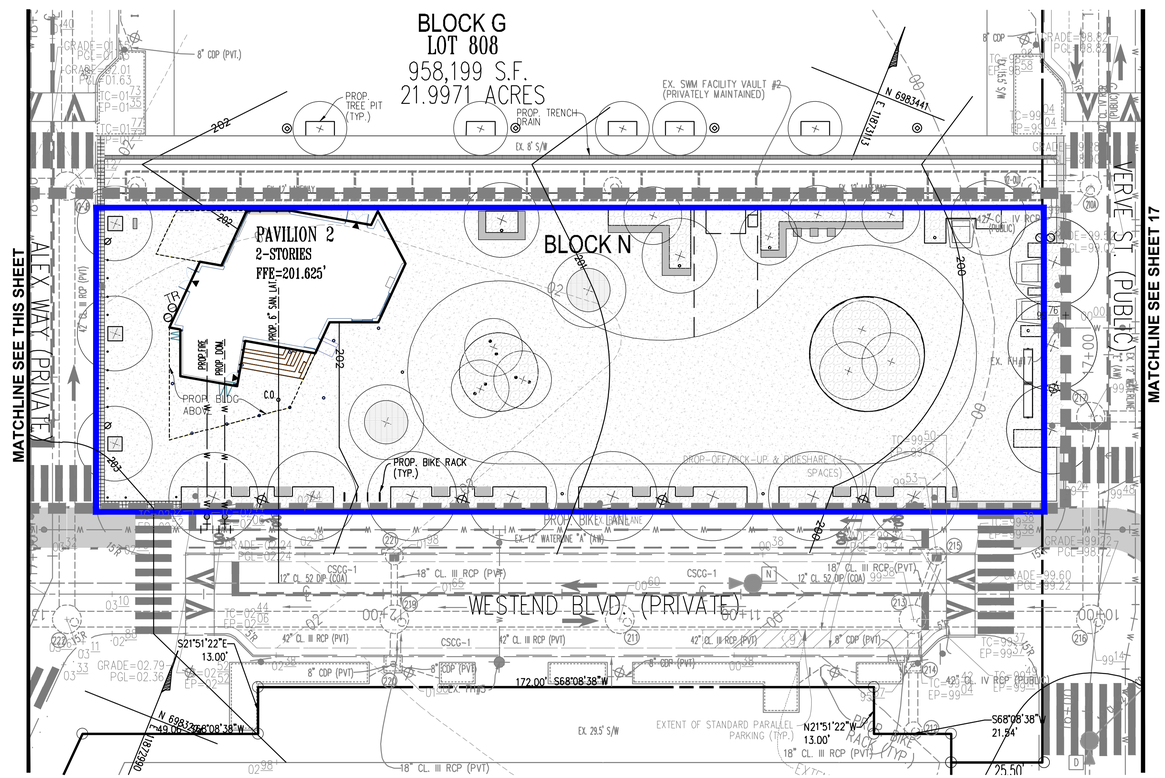
SCALE: 1"=20' C.I.=N/A DATE: NOV., 2022

SHEET 15 OF 108

FILE No. DSUP-13089

Urban, Ltd. - J:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\13089-03-CONCEPT PLAN.dwg [04] March 17, 2023 - 9:09am yelasri





SCALE: 1"=20'

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LEGEND

PARKS BOUNDARY

LIMITS OF DISTURBANCE

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DIRECTOR _____ DATE _____

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SITE PLAN NO. _____

DIRECTOR _____ DATE _____

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CLAYTON C. ROCK
Lic. No. 036790
02/17/2023
PROFESSIONAL ENGINEER

GRADING PLAN
LANDMARK MALL REDEVELOPMENT
PRELIMINARY SITE PLAN - PARKS
CITY OF ALEXANDRIA, VIRGINIA

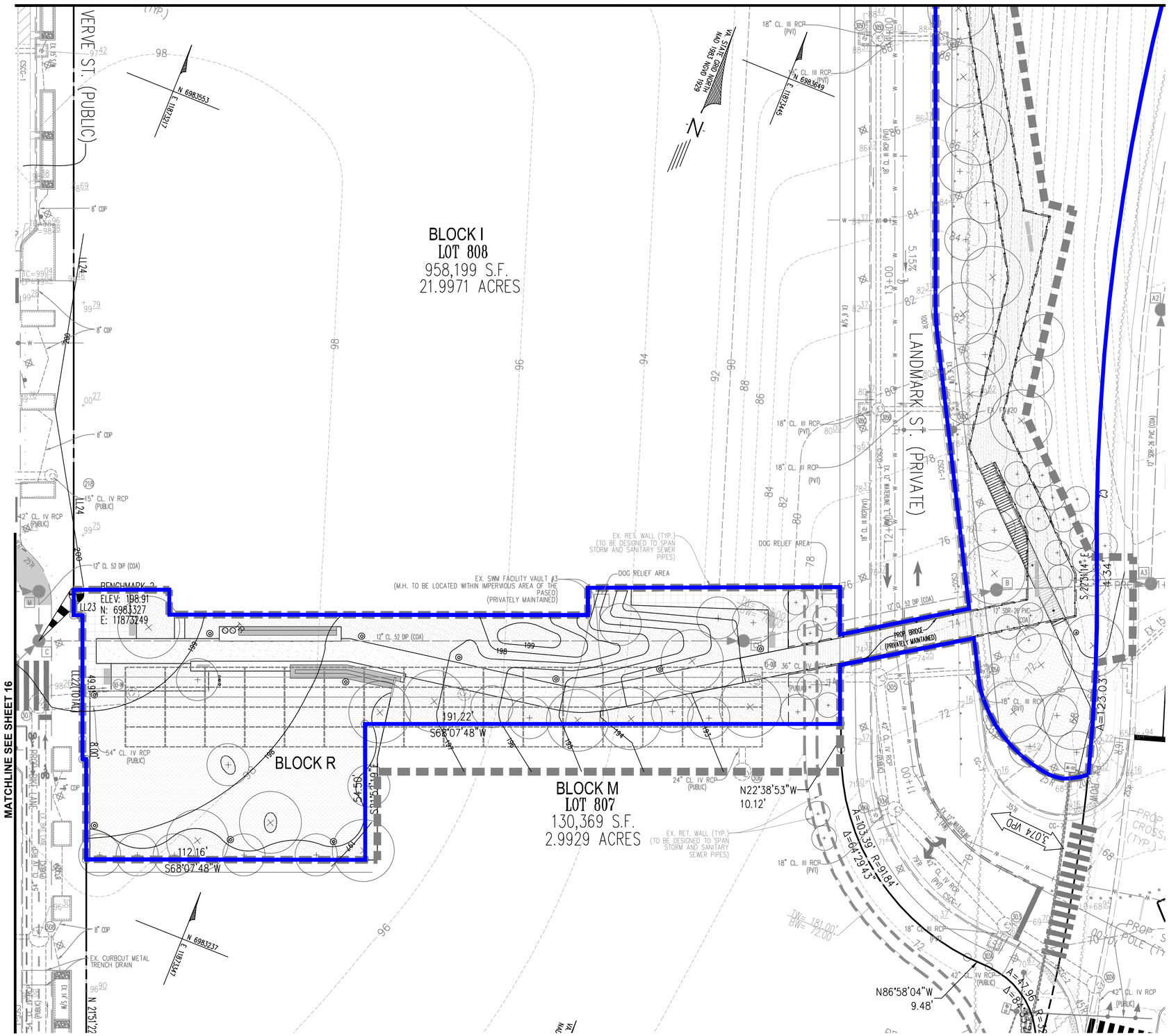
SCALE: 1"=20' C.I.=2' DATE: NOV., 2022

SHEET 16 OF 108

FILE No. DSUP-13089

Urban, Ltd. – J:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\13089-03-GRADING PLAN.dwg [01] March 17, 2023 – 9:09am yelasri

MATCHLINE SEE SHEET 18



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GRADING PLAN

LANDMARK MALL REDEVELOPMENT
PRELIMINARY SITE PLAN - PARKS

CITY OF ALEXANDRIA, VIRGINIA

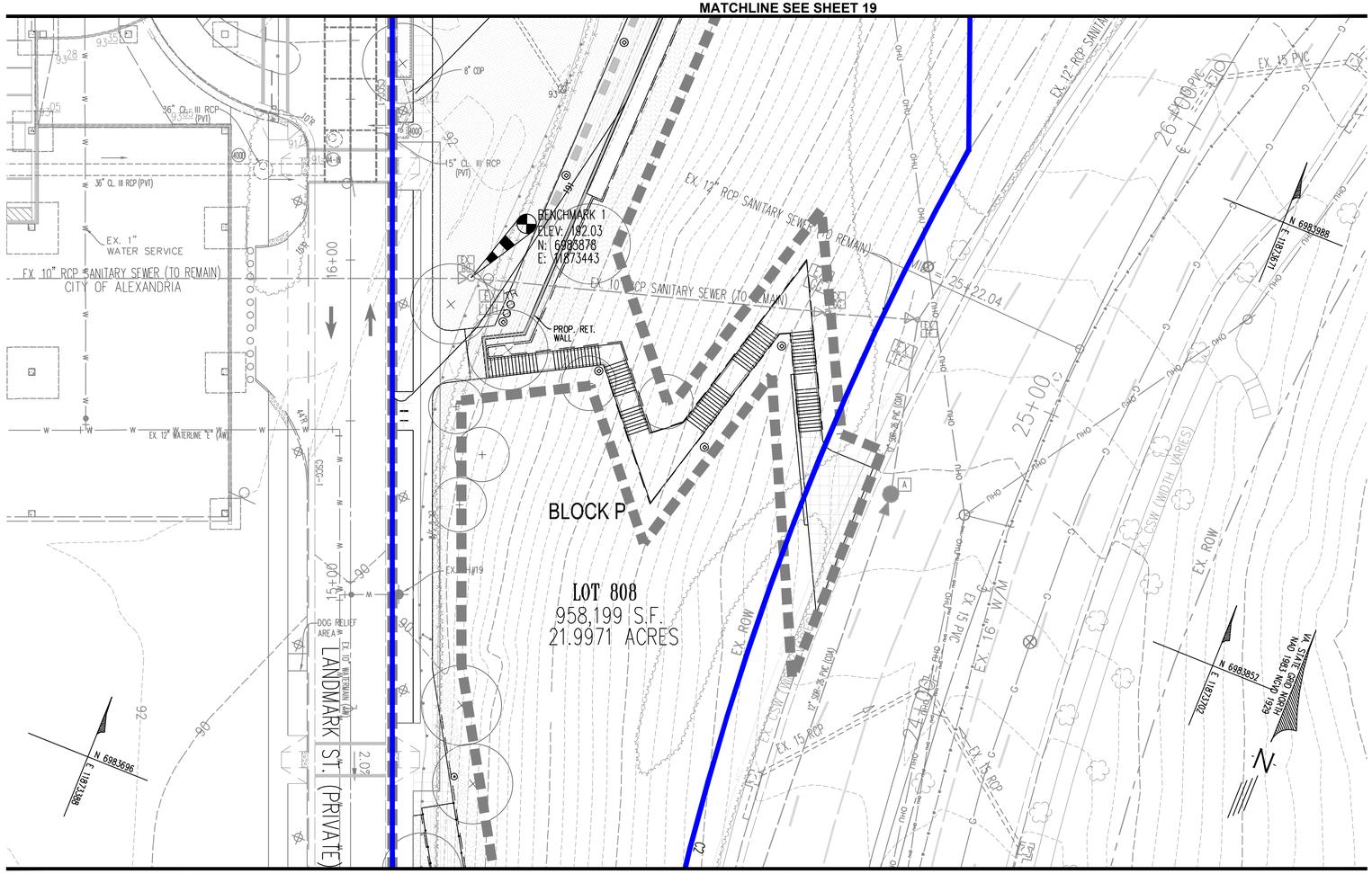
SCALE: 1"=20' C.I.= 2' DATE: NOV., 2022

SHEET 17 OF 108

FILE No. DSUP-13089

Urban, Ltd. - J:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\13089-03-GRADING PLAN.dwg [02] March 17, 2023 - 9:10am yelosri

MATCHLINE SEE SHEET 19



MATCHLINE SEE SHEET 17

SCALE: 1"=20'

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NOTES:

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GRADING PLAN

LANDMARK MALL REDEVELOPMENT PRELIMINARY SITE PLAN - PARKS

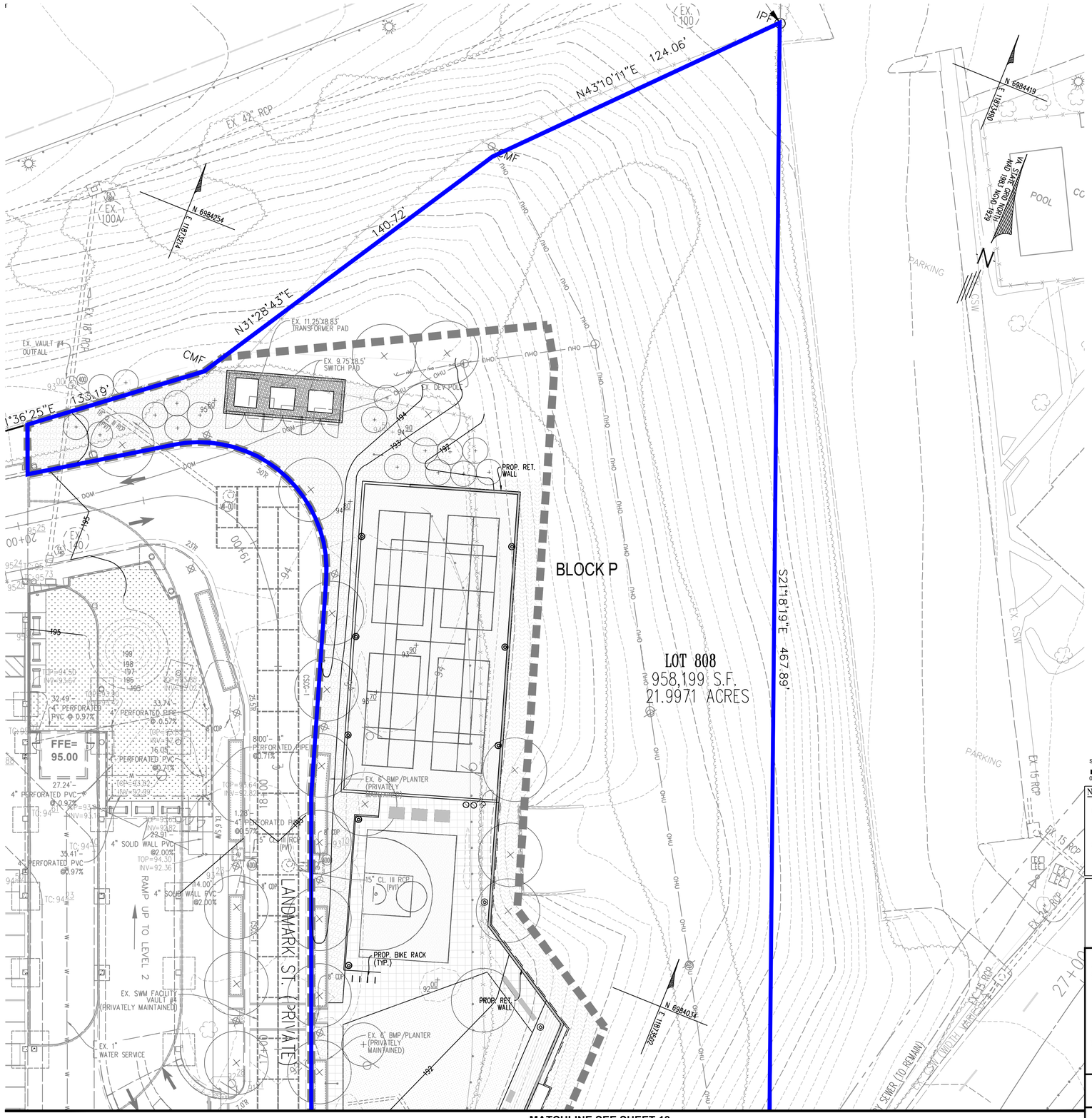
CITY OF ALEXANDRIA, VIRGINIA

SCALE: 1"=20' C.I.= 2' DATE: NOV., 2022

SHEET 18 OF 108

FILE No. DSUP-13089

Urban, Ltd. – J:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\13089-03-GRADING PLAN.dwg [03] March 17, 2023 – 9:10am yelasri



MATCHLINE SEE SHEET 18

SCALE: 1"=20'

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NOTES:

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LIMITS OF DISTURBANCE

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DIRECTOR _____ DATE _____

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES

SITE PLAN NO. _____

DIRECTOR _____ DATE _____

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GRADING PLAN

LANDMARK MALL REDEVELOPMENT PRELIMINARY SITE PLAN - PARKS

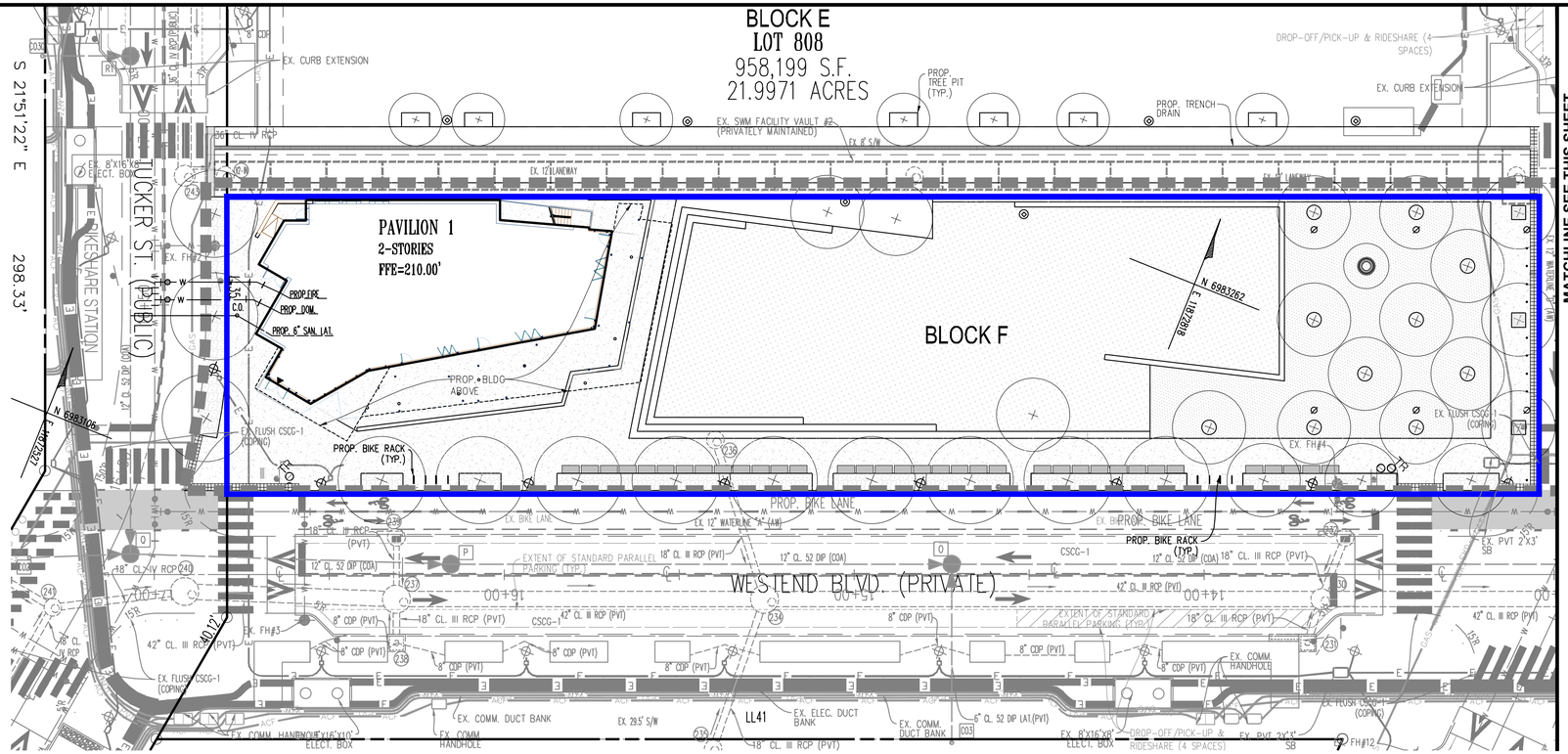
CITY OF ALEXANDRIA, VIRGINIA

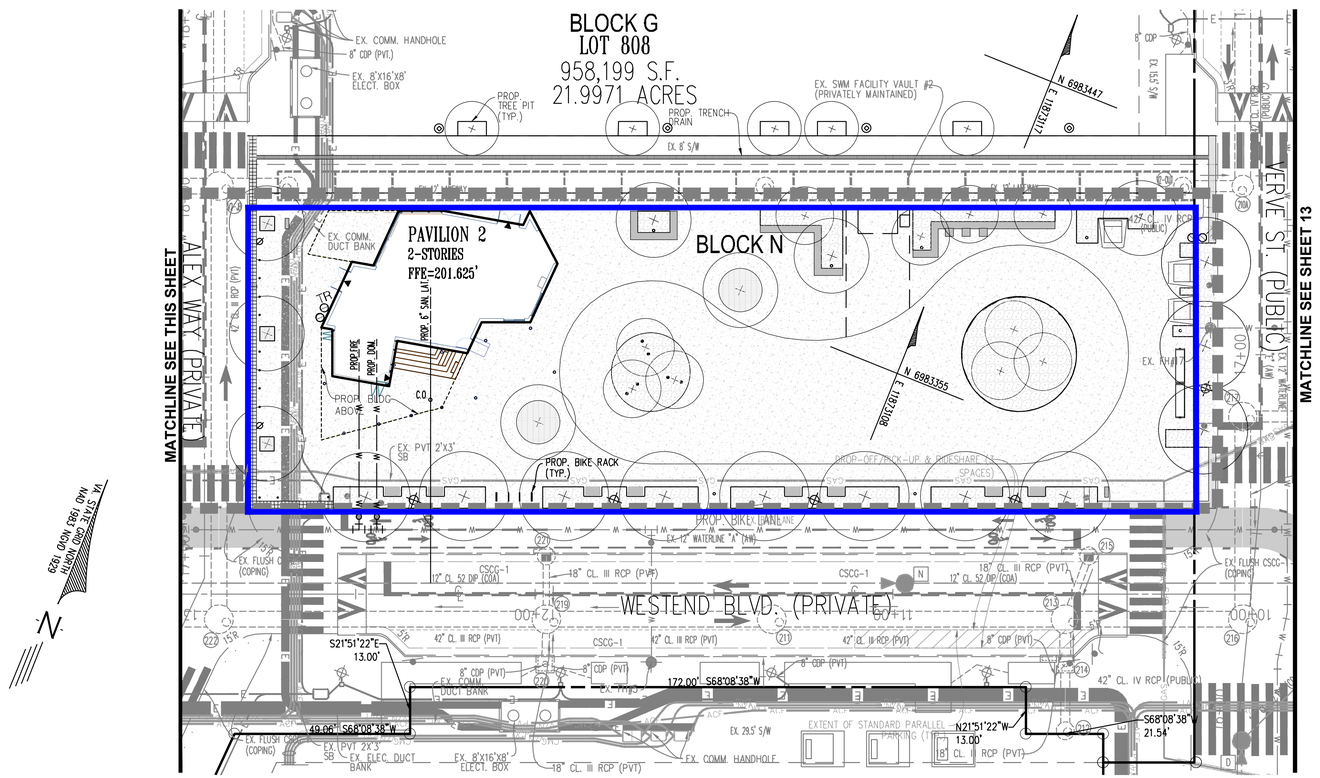
SCALE: 1"=20' C.I.=2' DATE: NOV., 2022

SHEET 19 OF 108

FILE No. DSUP-13089

Urban, Ltd. – J:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\13089-03-GRADING PLAN.dwg [04] March 17, 2023 – 9:10am yelasri





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LEGEND

PARKS BOUNDARY

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 _____

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UTILITY PLAN

LANDMARK MALL REDEVELOPMENT
PRELIMINARY SITE PLAN - PARKS

CITY OF ALEXANDRIA, VIRGINIA

SCALE: 1"=20' C.I.=N/A DATE: NOV., 2022

SHEET 19A OF 108

FILE No. DSUP-13089

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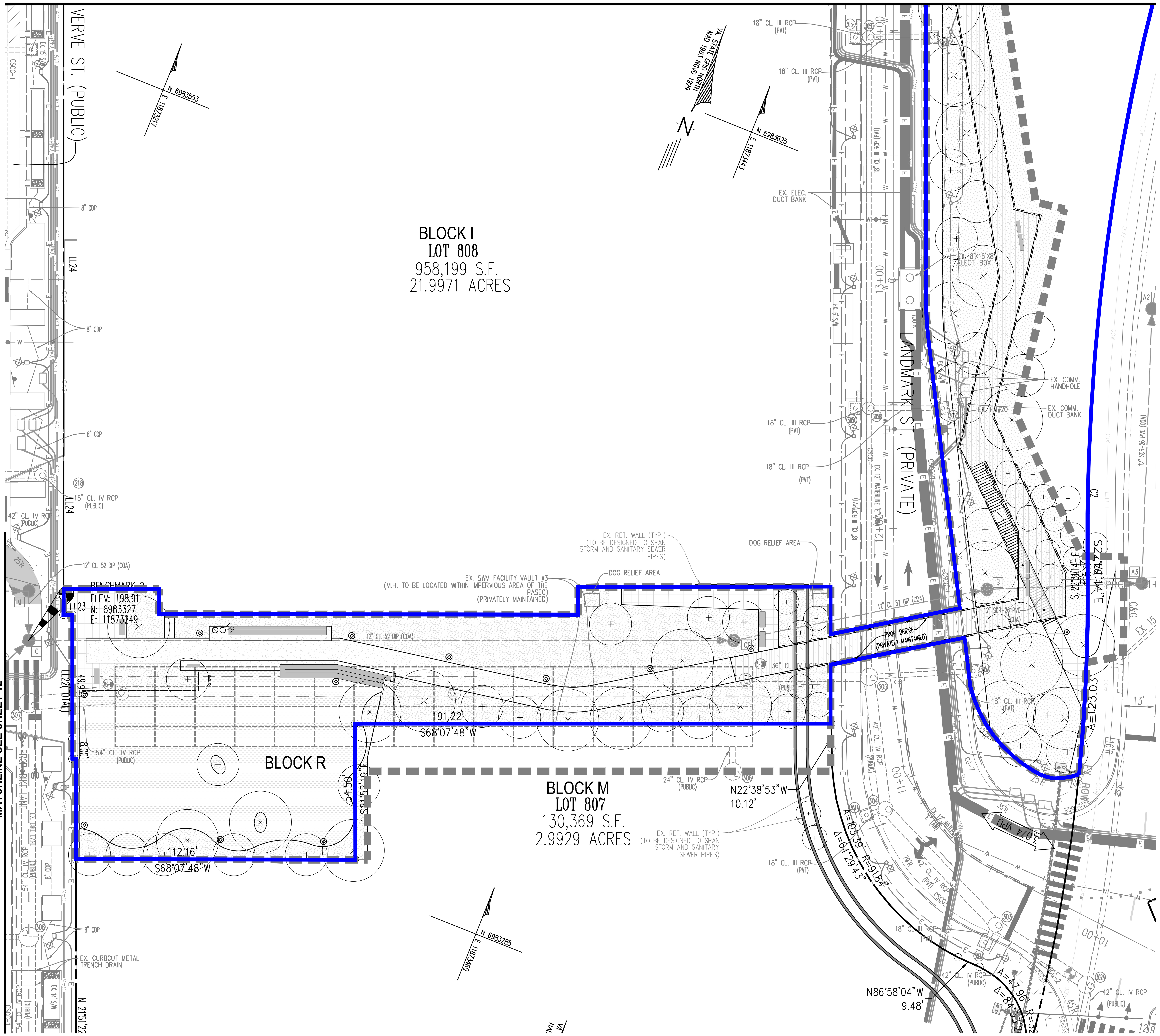
MATCHLINE SEE SHEET 14



MATCHLINE SEE SHEET 12

SCALE: 1"=20'

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LANDMARK MALL REDEVELOPMENT PRELIMINARY SITE PLAN - PARKS

CITY OF ALEXANDRIA, VIRGINIA

DATE: NOV., 2022

SCALE: 1"=20'

C.I.= N/A

SHEET 19B OF 108

FILE No. DSUP-13089

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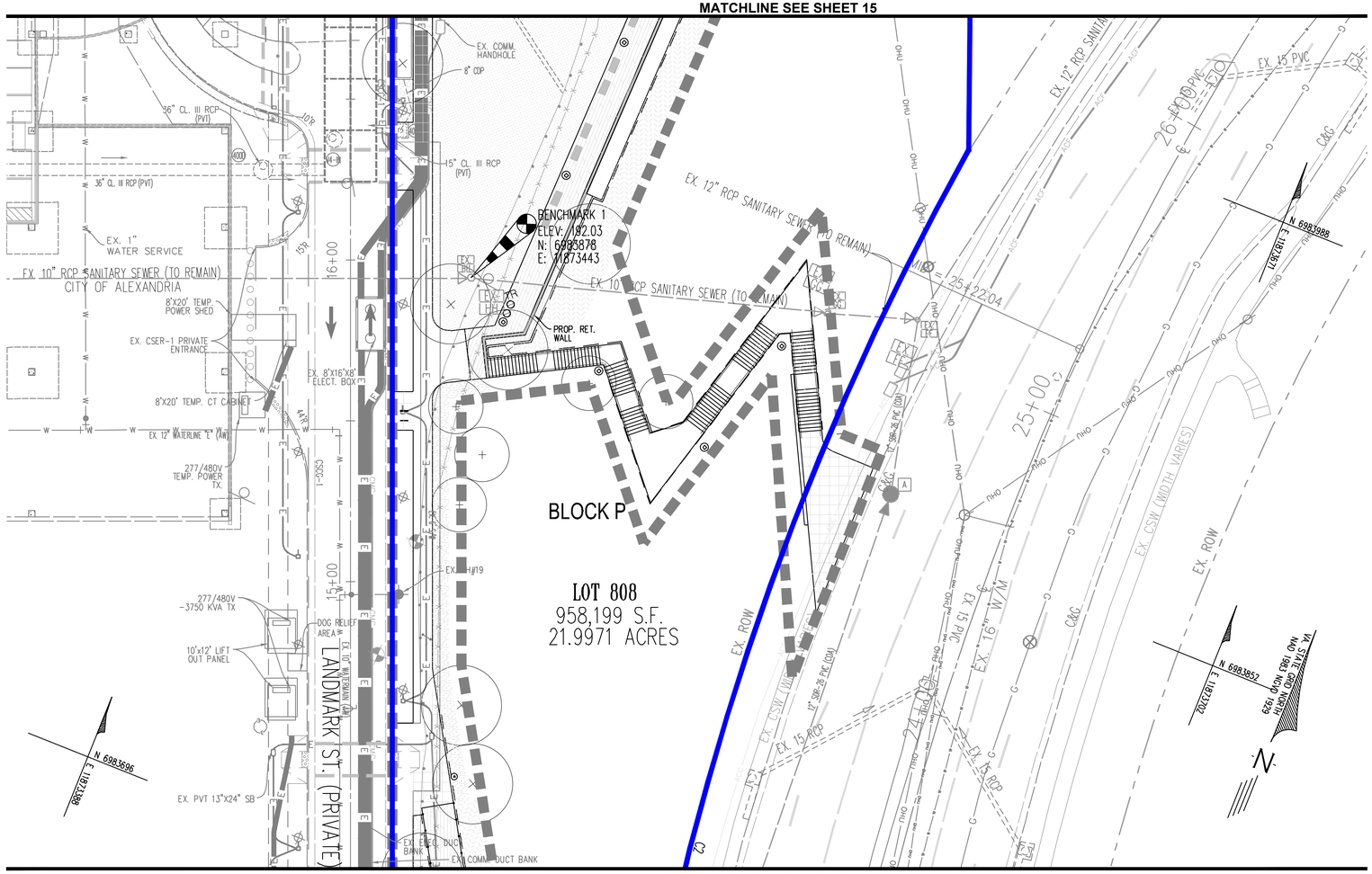
MATCHLINE SEE SHEET 15



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UTILITY PLAN

LANDMARK MALL REDEVELOPMENT PRELIMINARY SITE PLAN - PARKS

CITY OF ALEXANDRIA, VIRGINIA

SCALE: 1"=20' C.I.=N/A DATE: NOV., 2022

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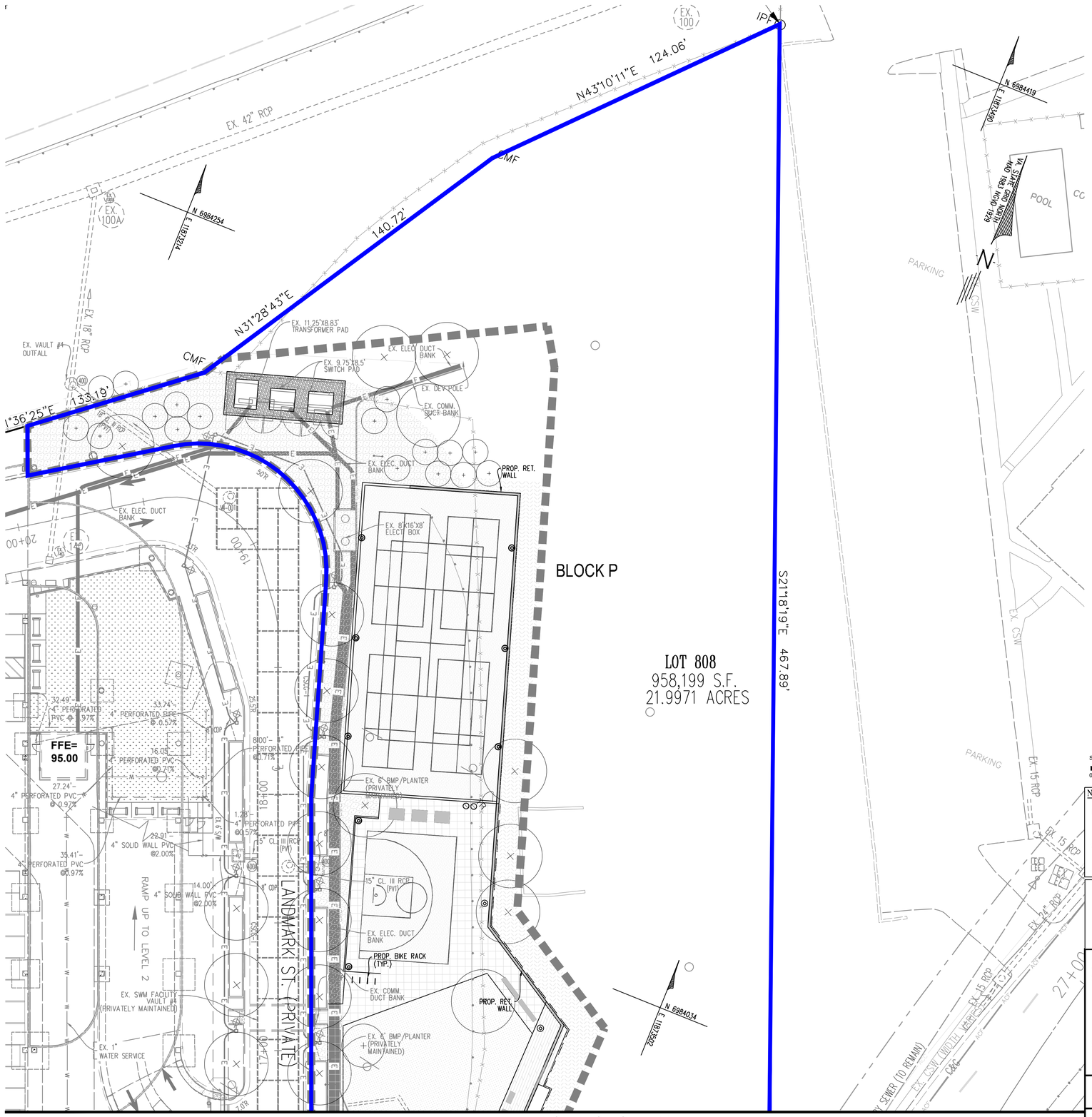

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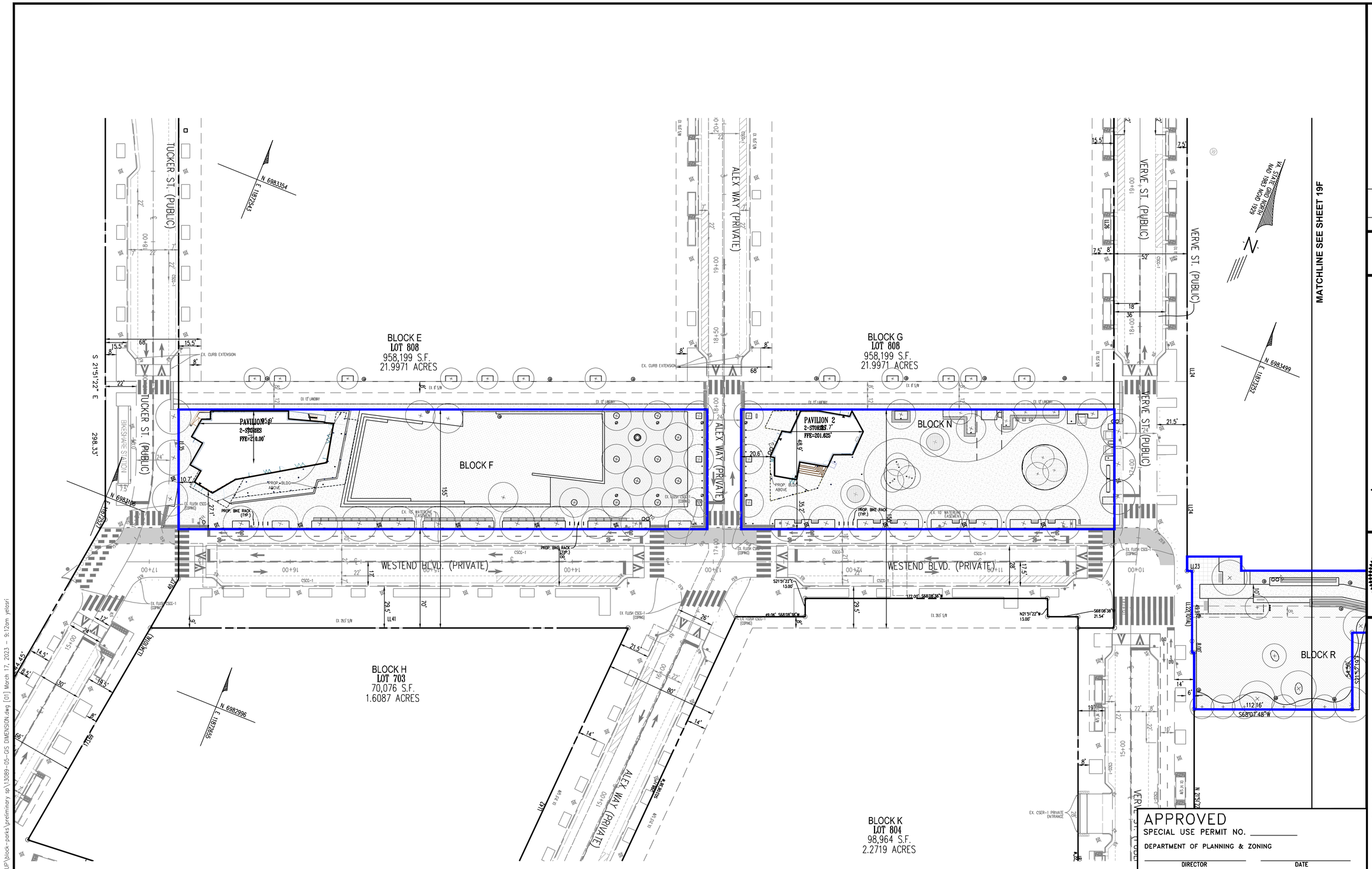
SHEET 19D OF 108

FILE No. DSUP-13089

Urban, Ltd. – J:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\13089-04A-UTILITY PLAN.dwg [04] March 17, 2023 – 9:11am yelasri



LEGEND

PARKS BOUNDARY

NOTES:

1. EXISTING CONDITIONS ON THIS PLAN WAS TAKEN FROM THE PROPOSED INFRASTRUCTURE SITE PLAN (DSP #2021-00012). ANY DEVIATION FROM THE INFRASTRUCTURE PLAN MAY REQUIRE FUTURE SITE PLAN AMENDMENTS FOR THIS PLAN.
2. ALL ADJOINING PROPERTY LINES AND LOT NUMBERS SHOWN HEREON REFLECT A 3RD SUBDIVISION PLAT AND RESUBDIVISION OF LOT 704, 707 AND 708 ASSOCIATED WITH DSUP #2022-10015, DSUP #2022-10016, AND DSUP #2022-10017 NOT YET RECORDED .

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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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02-11-2022
02-09-2022
03-17-2023

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CHANTILLY, VA. 20151
TEL: 703.642.2306
FAX: 703.378.4888
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CLAYTON C. TOCK
Lic. No. 036790
03/17/2023
PROFESSIONAL ENGINEER

GIS DIMENSION PLAN

LANDMARK MALL REDEVELOPMENT
PRELIMINARY SITE PLAN - PARKS

CITY OF ALEXANDRIA, VIRGINIA

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

SHEET 19E OF 108

FILE No. DSUP-13089

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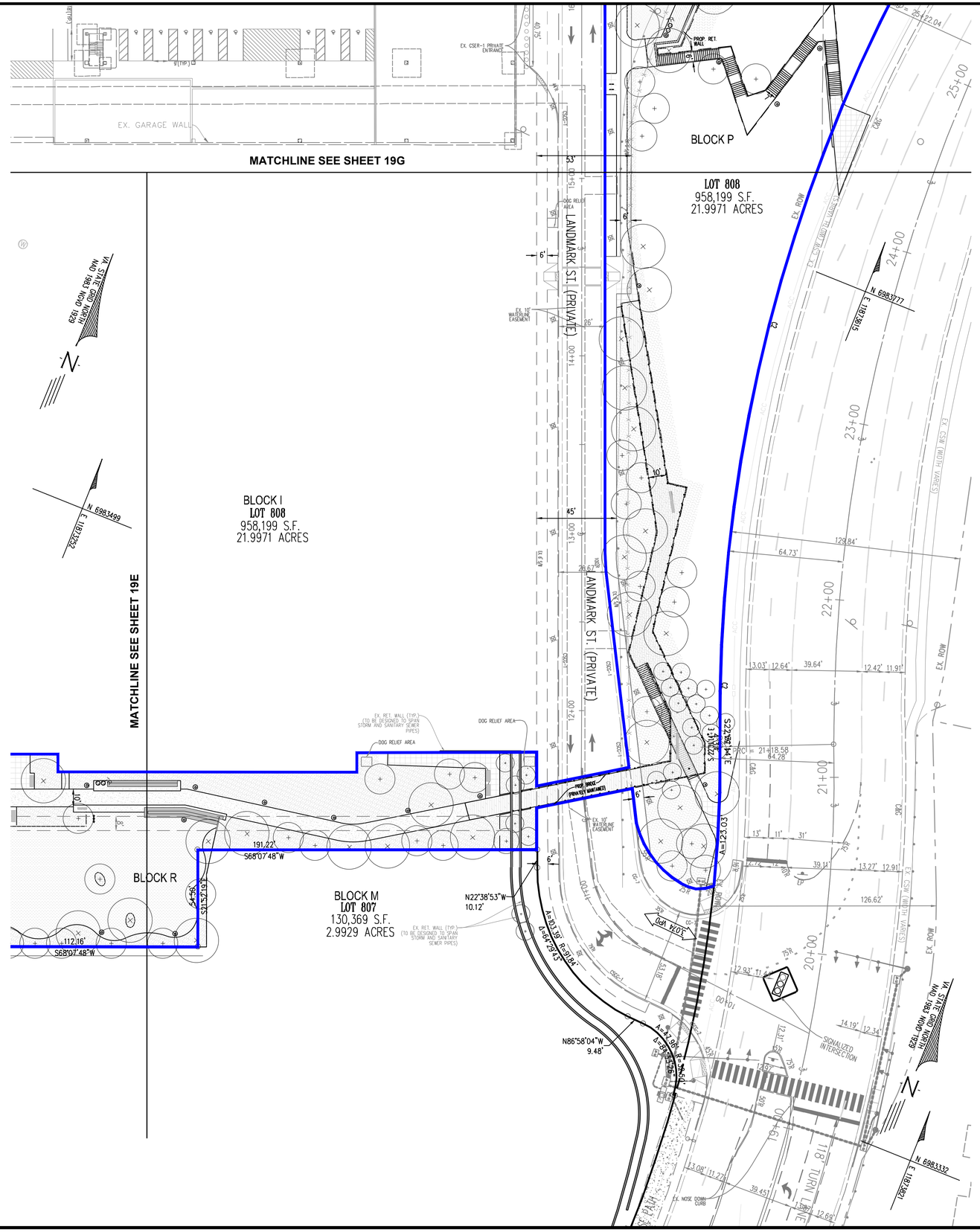

LEGEND

PARKS BOUNDARY

SCALE: 1"=30'

0 10' 30' 60'

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FAX: 703.378.5888
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GIS DIMENSION PLAN

LANDMARK MALL REDEVELOPMENT
PRELIMINARY SITE PLAN - PARKS

CITY OF ALEXANDRIA, VIRGINIA

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

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FILE No. DSUP-13089

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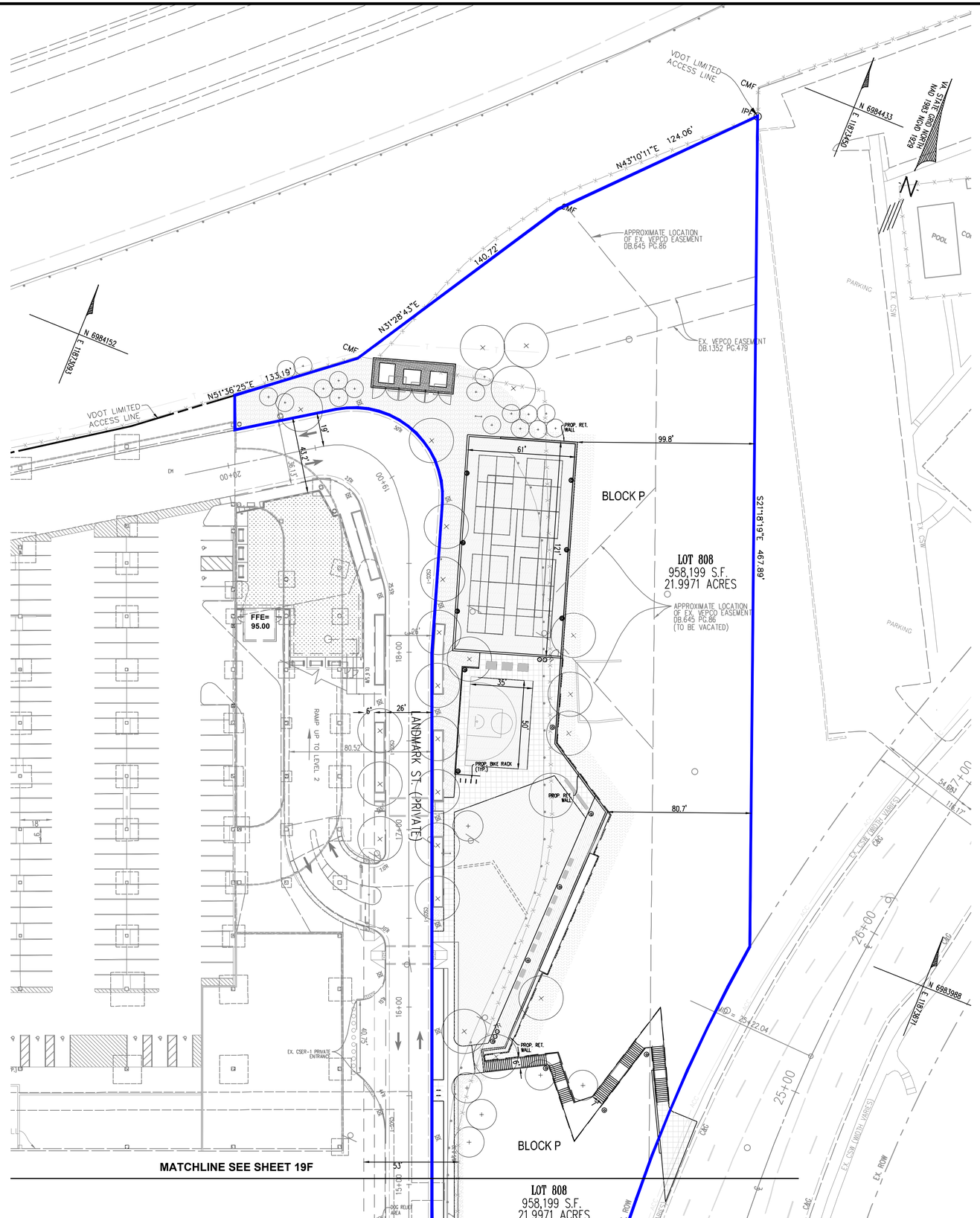

LEGEND

PARKS BOUNDARY

SCALE: 1"=30'

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NOTES:

1. EXISTING CONDITIONS ON THIS PLAN WAS TAKEN FROM THE PROPOSED INFRASTRUCTURE SITE PLAN (DSP #2021-00012). ANY DEVIATION FROM THE INFRASTRUCTURE PLAN MAY REQUIRE FUTURE SITE PLAN AMENDMENTS FOR THIS PLAN.
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DIRECTOR _____ DATE _____

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CLAYTON C. TOCK
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GIS DIMENSION PLAN

LANDMARK MALL REDEVELOPMENT PRELIMINARY SITE PLAN - PARKS

CITY OF ALEXANDRIA, VIRGINIA

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

SHEET 19G OF 108

FILE No. DSUP-13089

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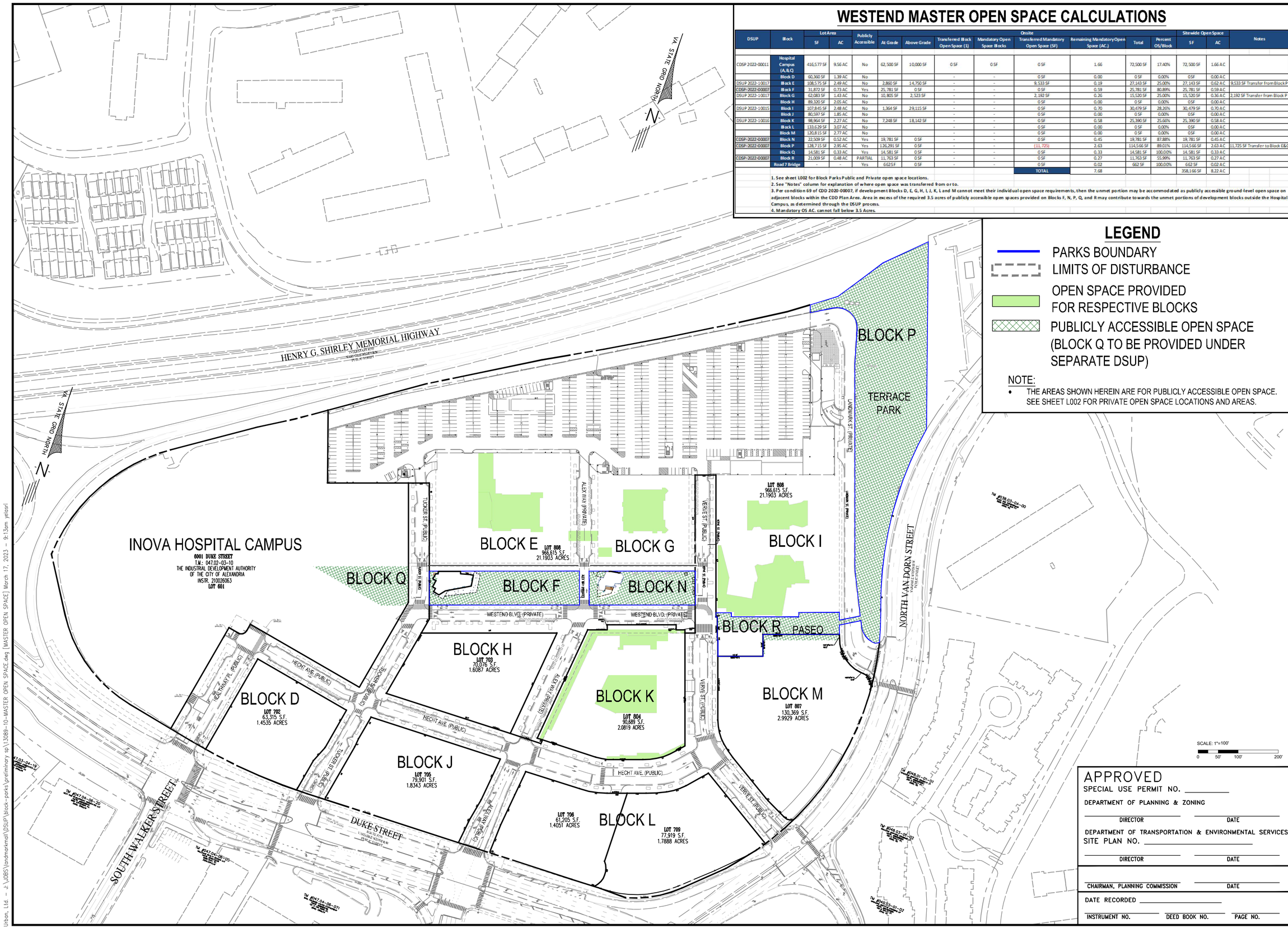
WESTEND MASTER OPEN SPACE CALCULATIONS

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 (SF)	Onsite Remaining Mandatory Open Space (AC.)	Onsite Total	Onsite Percent OS/Block	Sitewide Open Space SF	Sitewide Open Space AC	Notes
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	0 SF	1.66	72,500 SF	17.40%	72,500 SF	1.66 AC	
	Block D	60,360 SF	1.39 AC	No			-	-	0 SF	0.00	0 SF	0.00%	0SF	0.00 AC	
DSUP 2022-10017	Block E	108,575 SF	2.49 AC	No	2,860 SF	14,750 SF	-	-	9,533 SF	0.19	27,143 SF	25.00%	27,143 SF	0.62 AC	9,533 SF Transfer from Block P
CDSP-2022-00007	Block F	31,872 SF	0.73 AC	Yes	25,781 SF	0 SF	-	-	0 SF	0.59	25,781 SF	80.89%	25, 781 SF	0.59 AC	
DSUP 2022-10017	Block G	62,083 SF	1.43 AC	No	10,805 SF	2,523 SF	-	-	2,192 SF	0.26	15,520 SF	25.00%	15, 520 SF	0.36 AC	2,192 SF Transfer from Block P
	Block H	89,320 SF	2.05 AC	No			-	-	0 SF	0.00	0 SF	0.00%	0SF	0.00 AC	
DSUP 2022-10015	Block I	107,845 SF	2.48 AC	No	1,364 SF	29,115 SF	-	-	0 SF	0.70	30,479 SF	28.26%	30, 479 SF	0.70 AC	
	Block J	80,597 SF	1.85 AC	No			-	-	0 SF	0.00	0 SF	0.00%	0SF	0.00 AC	
DSUP 2022-10016	Block K	98,964 SF	2.27 AC	No	7,248 SF	18,142 SF	-	-	0 SF	0.58	25,390 SF	25.66%	25, 390 SF	0.58 AC	
	Block L	133,629 SF	3.07 AC	No			-	-	0 SF	0.00	0 SF	0.00%	0SF	0.00 AC	
	Block M	120,815 SF	2.77 AC	No			-	-	0 SF	0.00	0 SF	0.00%	0SF	0.00 AC	
CDSP-2022-00007	Block N	22,509 SF	0.52 AC	Yes	19,781 SF	0 SF	-	-	0 SF	0.45	19,781 SF	87.88%	19, 781 SF	0.45 AC	
CDSP-2022-00007	Block P	128,715 SF	2.95 AC	Yes	126,291 SF	0 SF	-	-	(11,725)	2.63	114,566 SF	89.01%	114,566 SF	2.63 AC	11,725 SF Transfer to Block E&G
	Block Q	14,581 SF	0.33 AC	Yes	14,581 SF	0 SF	-	-	0 SF	0.33	14,581 SF	100.00%	14, 581 SF	0.33 AC	
CDSP-2022-00007	Block R	21,009 SF	0.48 AC	PARTIAL	11,763 SF	0 SF	-	-	0 SF	0.27	11,763 SF	55.99%	11, 763 SF	0.27 AC	
	Road 7 Bridge	-	-	Yes	662 SF	0 SF	-	-	0 SF	0.02	662 SF	100.00%	662 SF	0.02 AC	
									TOTAL	7.68			358,166 SF	8.22 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

- PARKS BOUNDARY
- LIMITS OF DISTURBANCE
- OPEN SPACE PROVIDED FOR RESPECTIVE BLOCKS
- PUBLICLY ACCESSIBLE OPEN SPACE (BLOCK Q TO BE PROVIDED UNDER SEPARATE DSUP)

NOTE:

- THE AREAS SHOWN HEREIN ARE FOR PUBLICLY ACCESSIBLE OPEN SPACE. SEE SHEET L002 FOR PRIVATE OPEN SPACE LOCATIONS AND AREAS.

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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TEL. 703.642.2306
FAX 703.378.7888
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CLAYTON CLOCK
Lic. No. 036078
03/17/2023
PROFESSIONAL ENGINEER

MASTER OPEN SPACE

LANDMARK MALL REDEVELOPMENT PRELIMINARY SITE PLAN - PARKS

CITY OF ALEXANDRIA, VIRGINIA

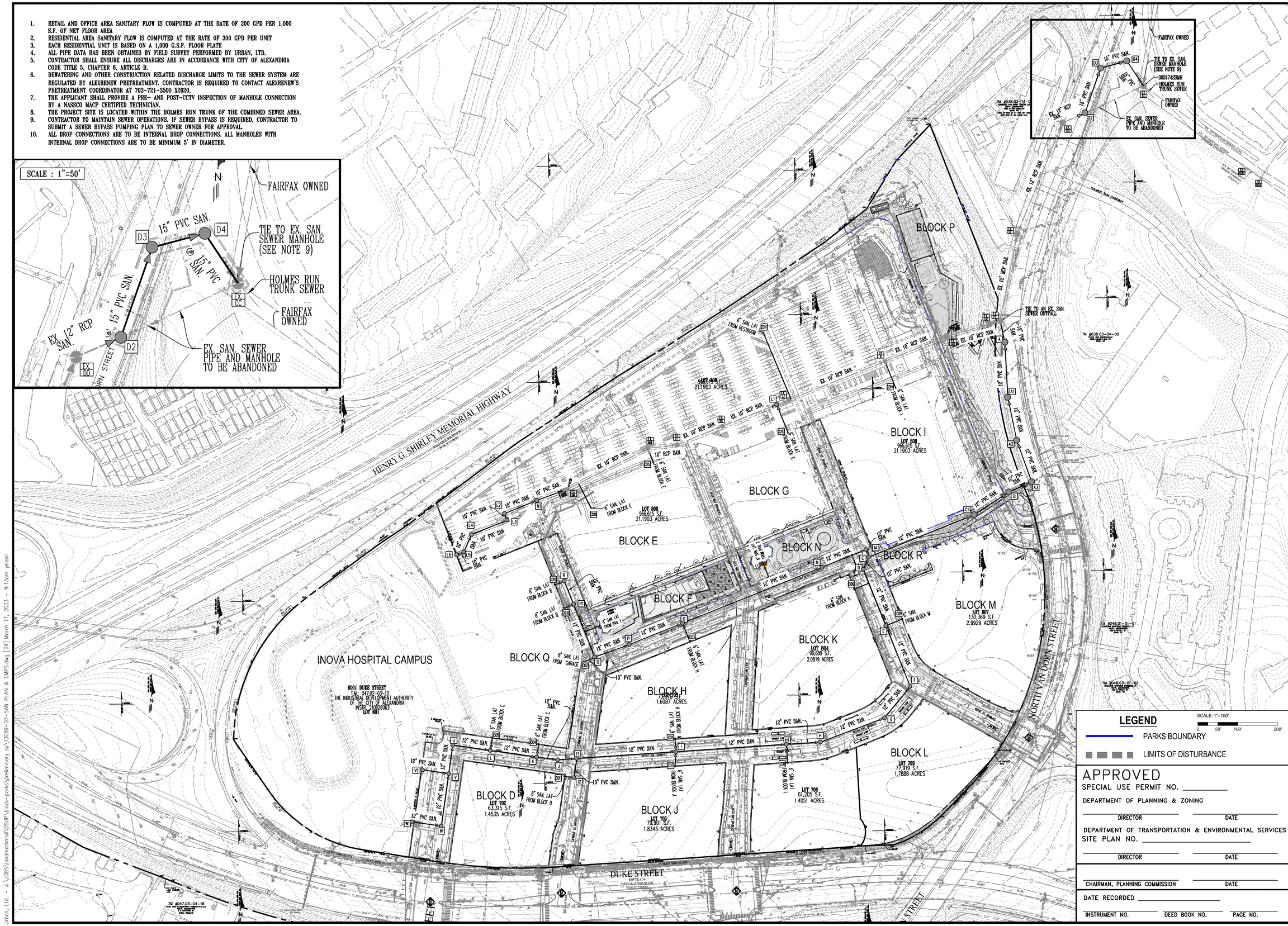
SCALE: 1"=100' C.I.= N/A DATE: NOV., 2022

SHEET 20 OF 108

FILE No. DSUP-13089

Urban, Ltd. – J:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\13089-10-MASTER OPEN SPACE.dwg [MASTER OPEN SPACE] March 17, 2023 – 9:13am yelosri

1. RETAIL AND OFFICE AREA SANITARY FLOW IS COMPUTED AT THE RATE OF 200 GPD PER 1,000 S.F. OF NET FLOOR AREA
2. RESIDENTIAL AREA SANITARY FLOW IS COMPUTED AT THE RATE OF 300 GPD PER UNIT
3. EACH RESIDENTIAL UNIT IS BASED ON A 1,000 G.S.F. FLOOR PLATE
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. THE PROJECT SITE IS LOCATED WITHIN THE HOLMES RUN TRUNK OF THE COMBINED SEWER AREA.
9. CONTRACTOR TO MAINTAIN SEWER OPERATIONS. IF SEWER BYPASS IS REQUIRED, CONTRACTOR TO SUBMIT A SEWER BYPASS PUMPING PLAN TO SEWER OWNER FOR APPROVAL.
10. ALL DROP CONNECTIONS ARE TO BE INTERNAL DROP CONNECTIONS. ALL MANHOLES WITH INTERNAL DROP CONNECTIONS ARE TO BE MINIMUM 5' IN DIAMETER.



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Clayton C. Tock
Lic. No. 036790
01/17/2023
PROFESSIONAL ENGINEER

SANITARY SEWER PLAN

LANDMARK MALL REDEVELOPMENT
PRELIMINARY SITE PLAN - PARKS

CITY OF ALEXANDRIA, VIRGINIA

SCALE: 1"=20' C.I.=2' DATE: NOV., 2022

SHEET 21 OF 108

FILE No. DSUP-13089

Urban, Ltd. – J:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\13089-07-SAN PLAN & CMPS.dwg [04] March 17, 2023 – 9:13am yelcsri

PROPOSED SANITARY SEWER FLOW COMPUTATIONS

Project: West End

From Point	To Point	RESIDENTIAL 300 GPD/UNIT	OFFICE/RETAIL 200 GPD/ 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
L6	L5		189743			4.0	0.15	0.15	0.23	190.38	190.18	19.63	1.00%	10	1.85	3.22	8.22	0.010	PVC		33.34% Flow from Block A
L5	L4					4.0	0.00	0.15	0.23	190.08	189.84	47.79	0.50%	10	1.31	2.53	11.63	0.010	PVC		
L4	L3					4.0	0.00	0.15	0.23	189.74	189.26	96.24	0.50%	10	1.31	2.53	11.63	0.010	PVC		
L3	L2					4.0	0.00	0.15	0.23	189.16	189.07	17.58	0.50%	10	1.31	2.53	11.63	0.010	PVC		
L2	N1					4.0	0.00	0.15	0.23	188.97	188.53	87.06	0.50%	10	1.31	2.53	11.63	0.010	PVC		
N1	EX.NN					4.0	0.00	0.15	0.23	188.43	188.02	82.58	0.50%	10	1.31	2.53	11.63	0.010	PVC		
EX.NN	EX.MM					4.0	0.09	0.24	0.37	187.92	186.84	223.82	0.46%	10	0.83	2.04	28.72	0.015	RCP		100% Flow from Block E1 (MOB)
EX.MM	EX.LL					4.0	0.22	0.46	0.71	186.81	185.94	74.55	1.17%	10	1.33	3.42	34.57	0.015	RCP		100% Flow from Block E (Res.)
EX.LL	EX.KK					4.0	0.00	0.46	0.71	185.71	185.14	122.64	0.46%	10	0.83	2.42	55.13	0.015	RCP		
EX.KK	L1					4.0	0.00	0.46	0.71	185.10	184.27	145.48	0.57%	10	0.93	2.64	49.52	0.015	RCP		
L1	EX.JJ					4.0	0.31	0.77	1.19	184.27	184.09	31.95	0.57%	10	0.93	1.70	83.09	0.015	RCP		100% Flow from Block G
EX.JJ	EX.II					4.0	0.00	0.77	1.19	184.01	181.16	259.55	1.10%	10	1.29	3.85	59.81	0.015	RCP		
EX.II	EX.HH					4.0	0.54	1.31	2.03	180.86	160.37	165.68	12.37%	10	4.33	10.75	30.31	0.015	RCP		
EX.HH	EX. GG					4.0	0.00	1.31	2.03	160.03	134.41	111.27	23.02%	10	5.91	13.47	22.22	0.015	RCP		
EX. GG	EX. FF					4.0	0.00	1.31	2.03	134.24	132.08	28.12	7.68%	12	5.55	8.94	23.66	0.015	RCP		
EX. FF	EX. EE					4.0	2.64	3.95	6.11	129.77	119.03	222.04	4.84%	12	4.40	5.61	89.73	0.015	RCP		100% Flow from Landmark Mall
EX. EE	EX.DD					4.0	0.00	3.95	6.11	118.81	97.75	299.39	7.03%	12	5.31	6.76	74.45	0.015	RCP		
EX.DD	D2	184				4.0	0.22	4.17	6.45	97.45	88.48	60.98	14.71%	12	7.68	15.44	54.35	0.015	RCP		100% Flow from Broadstone Appt
D2	D3					4.0	0.00	4.17	6.45	88.38	86.95	119.11	1.20%	15	5.96	4.86	69.96	0.010	PVC		
D3	D4					4.0	0.00	4.17	6.45	86.85	86.34	68.07	0.75%	15	4.71	3.84	88.50	0.010	PVC		
D4	EX.CC					4.0	0.00	4.17	6.45	76.45	74.96	74.40	2.00%	15	7.70	9.90	54.19	0.010	PVC		
W1	W		189686			4.0	0.15	0.15	0.23	195.87	195.04	66.50	1.25%	12	3.36	3.35	4.52	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	3.35	4.52	0.010	PVC		
V	U		-			4.0	0.15	0.30	0.47	193.18	192.28	72.26	1.25%	12	3.36	4.11	9.04	0.010	PVC		
U	L					4.0	0.00	0.30	0.47	192.18	191.00	94.64	1.25%	12	3.36	4.11	9.04	0.010	PVC		
L	K		-			4.0	0.02	0.33	0.50	190.90	189.43	117.14	1.25%	12	3.36	4.23	9.69	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	10.34	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	4.28	10.33	0.010	PVC		
I1	I					4.0	0.40	0.75	1.16	187.88	184.77	248.57	1.25%	12	3.36	5.33	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	38.76	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	3.35	6.55	48.41	0.010	PVC		Flow from Block L
H	G					4.0	0.00	1.62	2.51	179.95	178.68	170.85	0.74%	12	2.59	5.38	62.71	0.010	PVC		
G	F					4.0	0.00	1.62	2.51	178.58	177.71	102.02	0.85%	12	2.77	5.66	58.59	0.010	PVC		
F	E					4.0	0.00	1.62	2.51	177.61	176.22	163.39	0.85%	12	2.77	5.66	58.59	0.010	PVC		
E	D					4.0	0.67	2.29	3.55	176.12	173.86	151.17	1.50%	12	3.68	7.63	62.33	0.010	PVC		Flow from Block M Flow from Block K
D	C					4.0	0.00	2.29	3.55	173.76	173.21	34.58	1.59%	12	3.79	7.81	60.54	0.010	PVC		
C	C1					4.0	0.35	2.64	4.08	173.11	167.44	283.19	2.00%	12	4.25	8.82	62.15	0.010	PVC		Flows from SSMH M & D
C1	B					4.0	0.00	2.64	4.08	167.34	164.75	103.81	2.50%	12	4.75	9.61	55.59	0.010	PVC		
B	A3					4.0	0.00	2.64	4.08	157.75	156.19	62.19	2.50%	12	4.75	9.61	55.59	0.010	PVC		
A3	A2					4.0	0.00	2.64	4.08	151.41	148.65	110.30	2.50%	12	4.75	9.61	55.59	0.010	PVC		
A2	A1					4.0	0.00	2.64	4.08	144.65	141.91	109.92	2.50%	12	4.75	9.61	55.59	0.010	PVC		
A1	A					4.0	0.00	2.64	4.08	138.91	135.45	138.24	2.50%	12	4.75	9.61	55.59	0.010	PVC		
A	EX. FF					4.0	0.00	2.64	4.08	133.45	132.08	54.80	2.50%	12	4.75	9.61	55.59	0.010	PVC		
R	R1					4.0	0.03	0.03	0.05	196.13	194.56	62.62	2.50%	10	2.92	2.71	1.10	0.010	PVC		Flow from Block B
R1	Q					4.0	0.06	0.09	0.15	194.46	190.91	142.21	2.50%	12	4.75	3.70	1.99	0.010	PVC		Flow from Block B
Q	P					4.0	0.02	0.12	0.18	190.81	188.98	91.68	2.00%	12	4.25	3.69	2.76	0.010	PVC		Flow from Block C
P	O					4.0	0.00	0.12	0.18	188.88	186.01	143.07	2.00%	12	4.25	3.69	2.76	0.010	PVC		
O	N					4.0	0.23	0.35	0.54	185.91	178.40	375.50	2.00%	12	4.25	5.04	8.17	0.010	PVC		50% Flow from Block H
N	M					4.0	0.00	0.35	0.54	178.30	175.93	118.87	2.00%	12	4.25	5.04	8.17	0.010	PVC		
M	C					4.0	0.00	0.35	0.54	175.83	175.43	19.86	2.00%	12	4.25	5.04	8.17	0.010	PVC		
CO1	I	175	21000			4.0	0.23	0.23	0.35	186.00	185.17	33.00	2.50%	6	0.75	5.22	30.34	0.010	PVC		50% Flow from Block H
CO2	Q		28129			4.0	0.02	0.02	0.03	192.10	191.24	28.85	3.00%	8	1.76	2.76	1.28	0.010	PVC		34% Flow from Block C
CO3	O	175	21000			4.0	0.23	0.23	0.35	187.68	186.41	51.00	2.50%	6	0.75	5.22	30.34	0.010	PVC		50% Flow from Block H
CO4	K		27302			4.0	0.02	0.02	0.03	195.00	189.83	33.00	3.03%	8	1.77	2.67	1.23	0.010	PVC		33% Flow from Block C
CO5	L		27302			4.0	0.02	0.02	0.03	195.00	191.40	33.00	3.03%	8	1.77	2.67	1.23	0.010	PVC		33% Flow from Block C
BLDG K	CO6	337	32000			4.0	0.43	0.43	0.67	176.49	176.04	18.00	2.50%	6	0.75	6.05	57.52	0.010	PVC		100% Flow from Block K
CO6	D					4.0	0.00	0.43	0.67	175.94	175.41	21.12	2.50%	6	0.75	6.05	57.52	0.010	PVC		
CO7	I	235	52000			4.0	0.32	0.32	0.50	186.09	185.17	36.86	2.50%	6	0.75	5.66	43.29	0.010	PVC		100% Flow from Block J
CO8	H1	260	11000			4.0	0.32	0.32	0.50	182.78	181.61	46.81	2.50%	6	0.75	5.61	42.91	0.010	PVC		100% Flow from Block L
CO9	E	200				4.0	0.24	0.24	0.37	185.22	176.63	44.91	2.50%	6	0.75	5.23	32.11	0.010	PVC		100% Flow from Block M
CO10	R		39999			4.0	0.03	0.03	0.05	196.93	196.29	25.44	2.50%	8	1.61	3.00	1.99	0.010	PVC		36.09% Flow from Block B
CO11	I2	336				4.0	0.40	0.40	0.62	190.07	189.47	24.00	2.50%	8	1.61	5.96	25.04	0.010	PVC		100% Flow from Block D
I2	I1					4.0	0.00	0.40	0.62	189.30	188.08	48.93	2.50%	10	2.92	5.85	13.81	0.010	PVC		
BLDG E (RES)	CO21	146	56568			4.0	0.22	0.22	0.34	188.43	187.93	20.00	2.50%	6	2.00	5.14	11.02	0.010	PVC		100% Flow from Block E (Res.)
CO21	CO12					4.0	0.00	0.22	0.34	187.83	187.54	11.71	2.50%	6	2.00	5.14	11.02	0.010	PVC		
CO12	EX.MM					4.0	0.00	0.22	0.34	187.44	187.14	12.00	2.50%	6	2.00	5.14	11.02	0.010	PVC		
BLDG G	CO13	244	23866			4.0	0.31	0.31	0.48	186.61	186.23	15.00	2.50%	6	2.00	5.64	15.59	0.010	PVC		100% Flow from Block G
CO13	L1					4.0	0.00	0.31	0.48	186.13	184.60	61.26	2.50%	6	2.00	5.64	15.59	0.010	PVC		100% Flow from Block G
BLDG I	CO14	390	90141			4.0	0.54	0.54	0.84	182.66	182.41	10.00	2.50%	6	0.75	3.81	72.25	0.010	PVC		100% Flow from Block I
CO14	EX.II					4.0	0.00	0.54	0.84	182.31	181.49	32.65	2.50%	6	0.75	3.81	72.25	0.010	PVC		
BLDG E1 (MOB)	CO16		109920			4.0	0.09	0.09	0.14	190.66	190.41	10.00	2.50%	6	0.75	3.88	11.76	0.010	PVC		100% Flow from Block E1 (MOB)
CO16	EX.NN					4.0	0.00	0.09	0.14	190.31	188.60	68.32	2.50%	6	0.75	3.88	11.76	0.010	PVC		
CO30	R1		70832			4.0	0.06	0.06	0.09	195.35	194.73	25.11	2.50%	8	1.61	3.19	3.52	0.010	PVC		63.91% Flow from Block B
V1	V		189686			4.0	0.15	0.15	0.23	194.05	193.38	66.50	1.00%	12	3.00	3.11	5.06	0.010	PVC		33.33% Flow from Block A
PAVILION 1 PAV. 1	Q		7279			4.0	0.01	0.01	0.01	194.67	193.61	42.57	2.50%	6	0.75	1.76	0.78	0.010	PVC		100% Flow from Pavillion 1
PAVILION 2 PAV. 2	N		4064			4.0	0.00	0.00	0.01	183.70	182.05	66.16	2.50%	6	0.75	0.98	0.43	0.010	PVC		100% Flow from Pavillion 2

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.	569,114	200GPD/1,000 S.F.		300GPD/UNIT	-	113,823
	B	200GPD/1,000 S.F.	110,831	200GPD/1,000 S.F.	-	300GPD/UNIT	-	22,166
	C	200GPD/1,000 S.F.	82,733	200GPD/1,000 S.F.	-	300GPD/UNIT	-	16,547
Total			762,678		-		-	152,536
				TOTAL FLOW FROM HOSPITAL CAMPUS (MGD)				0.61
LANDMARK	D	200GPD/1,000 S.F.	-	200GPD/1,000 S.F.	-	300GPD/UNIT	336	100,800
	E (MOB & RES.)	200GPD/1,000 S.F.	109,920	200GPD/1,000 S.F.	56,568	300GPD/UNIT	146	77,098
	G	200GPD/1,000 S.F.	-	200GPD/1,000 S.F.	23,866	300GPD/UNIT	244	77,973
	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.	90,141	300GPD/UNIT	390	135,028
	J	200GPD/1,000 S.F.	52000			300GPD/UNIT	235	80,900
	K	200GPD/1,000 S.F.	-	200GPD/1,000 S.F.	32,000	300GPD/UNIT	337	107,500
	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
	F	200GPD/1,000 S.F.	-	200GPD/1,000 S.F.	5,304	300GPD/UNIT	0	1,061
	N	200GPD/1,000 S.F.	-	200GPD/1,000 S.F.	4,072	300GPD/UNIT	0	814
Total			161,920		264,951		2,038	834,774
				TOTAL FLOW FROM LANDMARK MALL BLOCKS (MGD)				3.34
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)				4.17

Landmark Mall Breakdown by Manhole

	Block	Lateral #	Lateral Tie In Location	% of Block Flow	MH Flow Enters in
HOSPITAL	A	1	SMH W1	33.33%	W
		2	SMH V1	33.33%	V
		3	L6	33.34%	L5
	B	1	CO10	36.09%	R
		2	CO30	63.91%	R1
	C	1	CO5	33.00%	L
		2	CO4	33.00%	K
	(Garage)	3	CO2	34.00%	Q
LANDMARK	D	1	CO11	100%	I2
	E1 (MOB)	1	CO16	100%	EX. NN
	E (RES.)	1	CO12	100%	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
	F	1	PAV. 1	100%	Q
	N	1	PAV.2	100%	N

SANITARY SEWER ADEQUATE OUTFALL NARRATIVE:

THE PROPOSED PAV.1 AND PAV.2 6" LATERAL CONNECTS TO AN EXISTING 12" PIPE THAT RUNS BETWEEN M.H. "R1-Q" AND "O-N" RESPECTIVELY. THE OVERALL DEVELOPMENT CONNECTS TO AN EXISTING M.H. "CC". APPROXIMATELY 2,523 LF 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, PAVILION 1 AND PAVILION 2, WILL UTILIZE EXISTING PIPE BETWEEN SMH R1-Q AND O-N AS A CONNECTION POINT TO THE SANITARY SYSTEM AS SHOWN ON SHEET 21. A TOTAL OF 9,376 RETAIL G.S.F HAVE BEEN INCLUDED.

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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.

No.	DATE	DESCRIPTION

REVISIONS

PLAN DATE
02-11-2022
02-09-2022
03-17-2023

Urban, Ltd.
4200 D TECHNOLOGY CT.
CHANTILLY, VA. 20151
TEL. 703.642.2306
FAX 703.378.5888
www.urban-ltd.com
Planners•Engineers•Landscape Architects•Land Surveyors

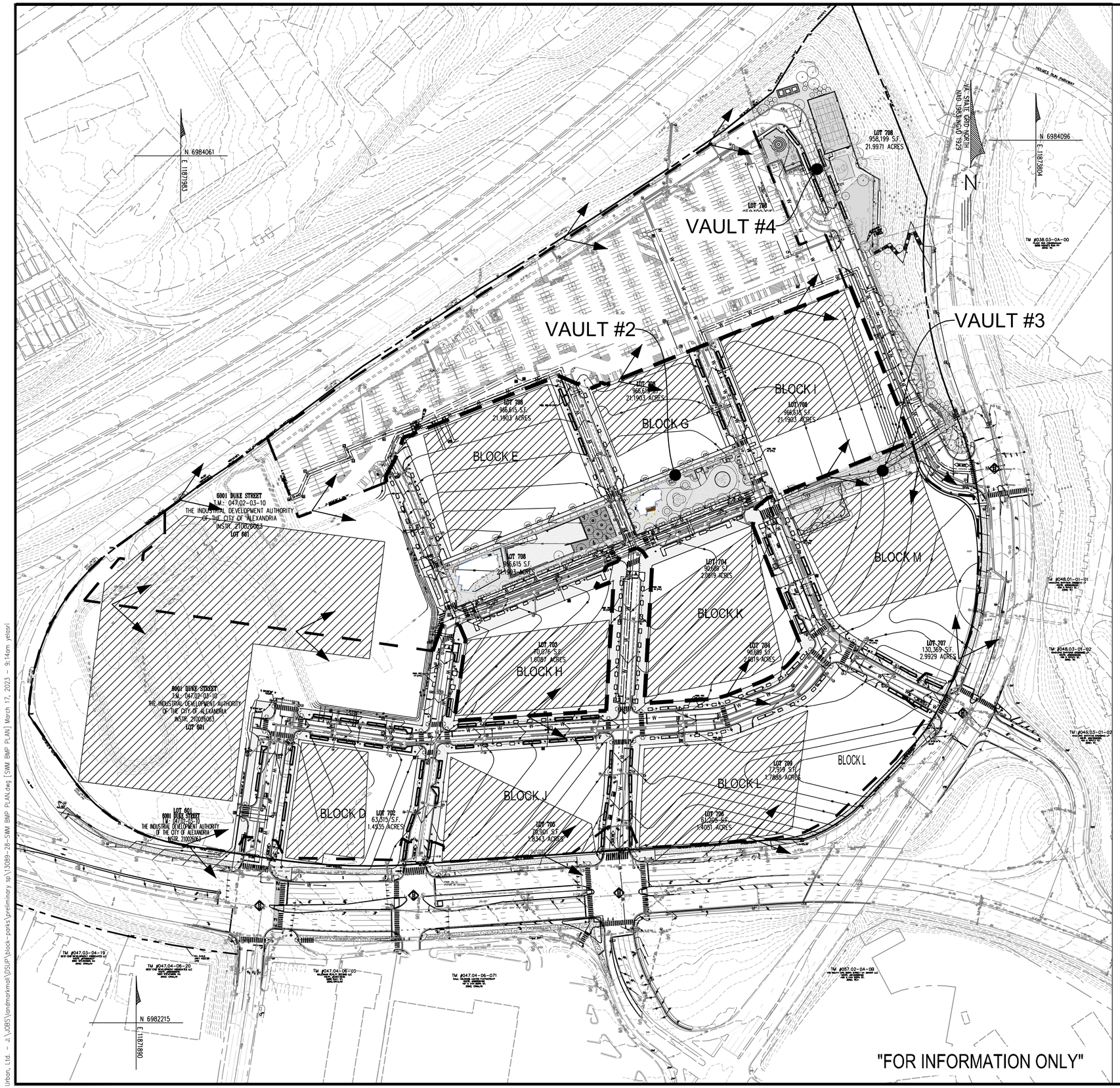
COMMONWEALTH OF VIRGINIA
CLAYTON C. TOCK
Lic. No. 036790
03/17/2023
PROFESSIONAL ENGINEER

SANITARY SEWER COMPUTATIONS
LANDMARK MALL REDEVELOPMENT
PRELIMINARY SITE PLAN - PARKS
CITY OF ALEXANDRIA, VIRGINIA
SCALE: 1"=20' C.I.=2' DATE: NOV., 2022

SHEET 22 OF 108

FILE No. DSUP-13089

Urban, Ltd. - J:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\13089-07-SAN PLAN & CMPS.dwg [Comps] March 17, 2023 - 9:13am yelasri



TOTAL SITE AREA = 51.46 ACRES

TOTAL ROAD AREA = 8.53 ACRES

TOTAL SAND FILTER AREA = 8.06 ACRES

TOTAL OPEN SPACE AREA = 4.63 ACRES

REMAINING SITE AREA = TOTAL SITE AREA - TOTAL ROAD AREA - TOTAL SAND FILTER AREA - TOTAL OPEN SPACE AREA
= 51.46 - 8.53 - 8.06 - 4.63 = 30.24 ACRES

TOTAL ROAD REDUCTION TREATMENT WITH TREEWELLS/BIORETENTION = 9.33 LB/YEAR

TOTAL SAND FILTER REDUCTION TREATMENT = 10.47 LB/YEAR

REMAINING PHOSPHORUS LOAD REDUCTION REQUIREMENT = TOTAL REQUIREMENT - ROAD TREATMENT - SAND FILTER TREATMENT
= 41.96 - 9.33 - 10.47 = 22.16 LB/YEAR

1. INOVA HOSPITAL CAMPUS AREA = 10.39 ACRES
   INOVA HOSPITAL CAMPUS AREA/REMAINING SITE AREA = 10.39/30.24 = 33%
   REMAINING PHOSPHORUS LOAD REDUCTION REQUIREMENT * 33% = 22.16 * 33% = 7.31 LB/YEAR

   INOVA HOSPITAL CAMPUS PHOSPHORUS LOAD REDUCTION REQUIREMENT = 7.31 LB/YEAR

2. BLOCK D AREA = 1.39 ACRES
   BLOCK D AREA/REMAINING SITE AREA = 1.39/30.24= 5%
   REMAINING PHOSPHORUS LOAD REDUCTION REQUIREMENT * 5% = 22.16 * 5% = 1.10 LB/YEAR

   BLOCK D PHOSPHORUS LOAD REDUCTION REQUIREMENT = 1.10 LB/YEAR

3. BLOCK E AREA = 2.32 ACRES
   BLOCK E AREA/REMAINING SITE AREA = 2.32/30.24= 8%
   REMAINING PHOSPHORUS LOAD REDUCTION REQUIREMENT * 8% = 22.16 * 8% = 1.78 LB/YEAR

   BLOCK E PHOSPHORUS LOAD REDUCTION REQUIREMENT = 1.78 LB/YEAR

4. BLOCK G AREA = 1.31 ACRES
   BLOCK G AREA/REMAINING SITE AREA = 1.31/30.24= 4%
   REMAINING PHOSPHORUS LOAD REDUCTION REQUIREMENT * 4% = 22.16 * 4% = 0.88 LB/YEAR

   BLOCK G PHOSPHORUS LOAD REDUCTION REQUIREMENT = 0.88 LB/YEAR

5. BLOCK H AREA = 2.05 ACRES
   BLOCK H AREA/REMAINING SITE AREA = 2.05/30.24= 7%
   REMAINING PHOSPHORUS LOAD REDUCTION REQUIREMENT * 7% = 22.16 * 7% = 1.55 LB/YEAR

   BLOCK H PHOSPHORUS LOAD REDUCTION REQUIREMENT = 1.55 LB/YEAR

6. BLOCK I AREA = 2.58 ACRES
   BLOCK I AREA/REMAINING SITE AREA = 2.58/30.24= 9%
   REMAINING PHOSPHORUS LOAD REDUCTION REQUIREMENT * 9% = 22.16 * 9% = 2.00 LB/YEAR

   BLOCK I PHOSPHORUS LOAD REDUCTION REQUIREMENT = 2.00 LB/YEAR

7. BLOCK J AREA = 1.85 ACRES
   BLOCK J AREA/REMAINING SITE AREA = 1.85/30.24= 6%
   REMAINING PHOSPHORUS LOAD REDUCTION REQUIREMENT * 6% = 22.16 * 6% = 1.32 LB/YEAR

   BLOCK J PHOSPHORUS LOAD REDUCTION REQUIREMENT = 1.32 LB/YEAR

8. BLOCK K AREA = 2.51 ACRES
   BLOCK K AREA/REMAINING SITE AREA = 2.51/30.24= 9%
   REMAINING PHOSPHORUS LOAD REDUCTION REQUIREMENT * 9% = 22.16 * 9% = 2.00 LB/YEAR

   BLOCK K PHOSPHORUS LOAD REDUCTION REQUIREMENT = 2.00 LB/YEAR

9. BLOCK L AREA = 3.07 ACRES
   BLOCK L AREA/REMAINING SITE AREA = 3.07/30.24= 10%
   REMAINING PHOSPHORUS LOAD REDUCTION REQUIREMENT * 10% = 22.16 * 10% = 2.22 LB/YEAR

   BLOCK L PHOSPHORUS LOAD REDUCTION REQUIREMENT = 2.22 LB/YEAR

10. BLOCK M AREA = 2.77 ACRES
    BLOCK M AREA/REMAINING SITE AREA = 2.77/30.24= 9%
    REMAINING PHOSPHORUS LOAD REDUCTION REQUIREMENT * 9% = 22.16 * 9% = 2.00 LB/YEAR

    BLOCK M PHOSPHORUS LOAD REDUCTION REQUIREMENT = 2.00 LB/YEAR

BLOCK	GREEN ROOF (ACRES)	TP REMOVAL (lb/yr)
BLOCK D	0.85	1.1
BLOCK E	1.37	1.78
BLOCK G	0.68	0.88
BLOCK H	1.19	1.55
BLOCK I	1.54	2
BLOCK J	1.02	1.32
BLOCK K	1.54	2
BLOCK L	1.71	2.22
BLOCK M	1.54	2
HOSPITAL	5.63	7.31

*NOTE: GREEN ROOF AREA PROVIDED AS A REPRESENTATION TO TREAT TOTAL BLOCK TP REMOVAL REQUIREMENT

LEGEND

APPROXIMATE GREEN ROOF AREA PER BLOCK (LOCATION TO BE DETERMINED WITH EACH BLOCK'S SEPARATE DSUP)

APPLICATION AREA

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

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DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. _____
DIRECTOR _____ DATE _____

CHAIRMAN, PLANNING COMMISSION _____ DATE _____
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PLAN DATE
02-11-2022
02-09-2022
03-17-2023

Urban Ltd.
4200 D TECHNOLOGY CT.
CHANTILLY, VA. 20151
TEL. 703.642.2306
FAX 703.378.5888
www.urban-ltd.com
urban™
Planners•Engineers•Landscape Architects•Land Surveyors

COMMONWEALTH OF VIRGINIA
CLAYTON C. TOCK
Lic. No. 036790
03.17.2023
PROFESSIONAL ENGINEER

BMP PLAN
LANDMARK MALL REDEVELOPMENT
PRELIMINARY SITE PLAN - PARKS
CITY OF ALEXANDRIA, VIRGINIA
SCALE: 1"=100' C.I.=N/A DATE: NOV., 2022

SHEET 23 OF 108

FILE No. DSUP-13089

Urban, Ltd. - J:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\13089-28-SWM BMP PLAN.dwg [SWM BMP PLAN] March 17, 2023 - 9:14am yelasri

Post-Development Project (Treatment Volume and Loads)

Enter Total Disturbed Area *(acres)* → 60.64

Maximum reduction required:	*20%*
The site's net increase in impervious cover (acres) is:	*0*
Post-Development TP Load Reduction for Site (lb/yr):	~~20.98~~ 41.96

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				2.52	2.52
Impervious Cover (acres)				47.75	47.75
					50.27

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				2.52	2.52
Impervious Cover (acres)				47.75	47.75
Area Check	OK.	OK.	OK.	OK.	50.27

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)	2.52	2.52
Weighted Rv(turf)	0.25	0.25
% Managed Turf	5%	5%
Impervious Cover (acres)	47.75	47.75
Rv(impervious)	0.95	0.95
% Impervious	95%	95%
Total Site Area (acres)	**50.27**	**50.27**
Site Rv	**0.91**	**0.91**
Treatment Volume and Nutrient Load		
Pre-ReDevelopment Treatment Volume (acre-ft)	3.8327	3.8327
Pre-ReDevelopment Treatment Volume (cubic feet)	166,953	166,953
Pre-ReDevelopment TP Load (lb/yr)	**104.90**	**104.90**
Pre-ReDevelopment TP Load per acre (lb/acre/yr)	2.09	2.09
Baseline TP Load (lb/yr) (0.41 lbs/acre/yr applied to pre-redevelopment area excluding pervious land proposed for new impervious cover)		*20.61*

[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 requirement for new impervious cover (based on new development load limit, 0.41 lbs/acre/year).

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)	2.52
Weighted Rv (turf)	0.25
% Managed Turf	5%
Impervious Cover (acres)	47.75
Rv(impervious)	0.95
% Impervious	95%
Final Site Area (acres)	**50.27**
Final Post Dev Site Rv	**0.91**
Treatment Volume and Nutrient Load	
Final Post-Development Treatment Volume (acre-ft)	3.8327
Final Post-Development Treatment Volume (cubic feet)	166,953
Final Post-Development TP Load (lb/yr)	**104.90**
Final Post-Development TP Load per acre (lb/acre/yr)	2.09

Land Cover Summary-Post	
Post-ReDevelopment	
Forest/Open Space Cover (acres)	0.00
Weighted Rv(forest)	0.00
% Forest	0%
Managed Turf Cover (acres)	2.52
Weighted Rv (turf)	0.25
% Managed Turf	5%
ReDev. Impervious Cover (acres)	47.75
Rv(impervious)	0.95
% Impervious	95%
Total ReDev. Site Area (acres)	**50.27**
ReDev Site Rv	**0.91**
Post-ReDevelopment Treatment Volume (acre-ft)	3.8327
Post-ReDevelopment Treatment Volume (cubic feet)	166,953
Post-ReDevelopment Load (TP) (lb/yr)*	104.90
Post-ReDevelopment TP Load per acre (lb/acre/yr)	2.09
Max. Reduction Required (Below Pre-ReDevelopment Load)	20%
TP Load Reduction Required for Redeveloped Area (lb/yr)	20.98

Land Cover Summary-Post	
Post-Development New Impervious	
New Impervious Cover (acres)	0.00
Rv(impervious)	--
Post-Development Treatment Volume (acre-ft)	--
Post-Development Treatment Volume (cubic feet)	--
Post-Development TP Load (lb/yr)	--
TP Load Reduction Required for New Impervious Area (lb/yr)	0

Post-Development Requirement for Site Area

TP Load Reduction Required (lb/yr)	~~20.98~~ 41.96

Nitrogen Loads (Informational Purposes Only)

Pre-ReDevelopment TN Load (lb/yr)	750.41
Final Post-Development TN Load (Post-ReDevelopment & New Impervious) (lb/yr)	750.41

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)				2.52	2.52	0.25
Impervious Cover (acres)				47.75	47.75	0.95
				Total	50.27	

1.b. Vegetated Roof #2 (Spec #5)	60		17.07		35,320	23,546	58,866	0		36.94	22.17	14.78	
6.b. BMP TREE WELLS	80		4.79	0	13,215	3,304	16,518	50	0.00	10.37	9.33	1.04	
11.a. Filtering Practice #1 (Spec #12)	0		8.06	0	0	27,795	27,795	60	0.00	17.44	10.47	6.98	

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)	47.75	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER TREATED (ac)	29.92	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA (ac)	2.52	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) 166,953

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)	48,534	0	0	0	0	48,534
TP LOAD AVAILABLE FOR REMOVAL (lb/yr)	104.90	0.00	0.00	0.00	0.00	104.90
TP LOAD REDUCTION ACHIEVED (lb/yr)	41.96	0.00	0.00	0.00	0.00	41.96
TP LOAD REMAINING (lb/yr)	62.93	0.00	0.00	0.00	0.00	62.93
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	264.24	0.00	0.00	0.00	0.00	264.24

Total Phosphorus

FINAL POST-DEVELOPMENT TP LOAD (lb/yr)	104.90
TP LOAD REDUCTION REQUIRED (lb/yr)	~~20.98~~ 41.96
TP LOAD REDUCTION ACHIEVED (lb/yr)	41.96
TP LOAD REMAINING (lb/yr):	62.93
REMAINING TP LOAD REDUCTION REQUIRED (lb/yr):	0.00 **

** TARGET TP REDUCTION EXCEEDED BY ~~20.98 LB~~/YEAR ** 0 LB/YEAR

Total Nitrogen (For Information Purposes)

POST-DEVELOPMENT LOAD (lb/yr)	750.41
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	264.24
REMAINING POST-DEVELOPMENT NITROGEN LOAD (lb/yr)	486.17

BMP NARRATIVE

STORMWATER BEST MANAGEMENT PRACTICES FOR THE SUBJECT SITE ARE 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 BELOW REQUIRED TP REMOVAL IS TO BE DISTRIBUTED ACROSS THE SITE ON A PER BLOCK BASIS. THE PHOSPHOROUS LOAD REDUCTION REQUIRED BY THE VRRM WILL BE SATISFIED WITH THE UTILIZATION OF THREE (3) STORMWATER BEST MANAGEMENT PRACTICE (BMP) FACILITITIES IN CONFORMANCE WITH THE STORMWATER BMP CLEARINGHOUSE WEBSITE. THE THREE (3) BMP FACILITIES PROPOSED ARE:

- VEGETATED ROOF (LEVEL 2)
- URBAN BIORETENTION BASIN - TREEWELLS (LEVEL 2)
- SAND FILTER (LEVEL 1)

BASED ON THE SUBJECT SITE'S PROPOSED LAND COVER, THE TOTAL PHOSPHOROUS LOAD REDUCTION REQUIRED TO BE REMOVED IS 41.96 LBS/YEAR. THE TOTAL PHOSPHOROUS LOAD REDUCTION ACHIEVED IS 41.96 LBS/YEAR, THEREFORE THE TOTAL PHOSPHOROUS LOAD REDUCTION IS EXCEEDED BY 0.00 LBS/YEAR.

"FOR INFORMATION ONLY"

"THIS DSUP APPLICATION WILL MEET COMPLIANCE THROUGH THE STORMWATER MASTER PLAN DSP #2021-00017."

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: 02-11-2022, 12-09-2022, 03-17-2023

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FAX 703.378.7888
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COMMONWEALTH OF VIRGINIA
CLAYTON C. TOCK
Lic. No. 036790
03/17/2023
PROFESSIONAL ENGINEER

BMP COMPUTATIONS
LANDMARK MALL REDEVELOPMENT
PRELIMINARY SITE PLAN - PARKS
CITY OF ALEXANDRIA, VIRGINIA
SCALE: 1"=100' C.I.= N/A DATE: NOV., 2022

SHEET 23A OF 108

FILE No. DSUP-13089

Urban, Ltd. - J:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\13089-28-SWM BMP PLAN.dwg [COMPS] March 17, 2023 - 9:14am yelasri

PROPOSED BMP COMPUTATIONS

Project Description

Development or Redevelopment

Drainage Area	Impervious	Pervious	Total
Site Area	47.75 ACRES	2.52 ACRES	50.27 ACRES
On-Site Treated	29.92 ACRES	0.00 ACRES	29.92 ACRES
Off-Site Treated	0 ACRES	0 ACRES	0 ACRES
Total Treated	29.92 ACRES		
Any On-Site Disconnected by a Vegetated Buffer (25 ft)	0 ACRES		
Total On-Site Treated or Disconnected			29.92 ACRES

Water Treatment on site

BMP Type	*Area treated by BMP (acres)*	*Impervious area treated by BMP (acres)*	*BMP efficiency (%)*
SAND FILTER	8.06 ACRES	8.06 ACRES	60 %
TREEWELL	4.79 ACRES	4.79 ACRES	50 %
GREEN ROOF	17.07 ACRES	17.07 ACRES	60 %

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 PROP. IMPERVIOUS AREA = 47.75 AC OR 2,079,990 SF

TOTAL SITE WQV REQUIRED = 2,079,990 SF X (0.5 IN/12 IN/FT) = 86,666.25 CF

PROP. TREATED IMPERVIOUS AREA = 29.92 AC OR 1,303,315 SF

TOTAL SITE WQV PROPOSED VOLUME VALUES) = 58,866 CF + 16,518 CF + 27,795 CF = 103,179 CF (SEE SHEET 23A FOR TOTAL BMP TREATMENT

"FOR INFORMATION ONLY"

"THIS DSUP APPLICATION WILL MEET COMPLIANCE THROUGH THE STORMWATER MASTER PLAN DSP #2021-00017."

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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.

No.	DATE	DESCRIPTION

REVISIONS

PLAN DATE
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02-09-2022
03-17-2023

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FAX 703.378.7888
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COMMONWEALTH OF VIRGINIA
CLAYTON C. TOCK
Lic. No. 036760
03/17/2023
PROFESSIONAL ENGINEER

WQVD DATA BLOCKS

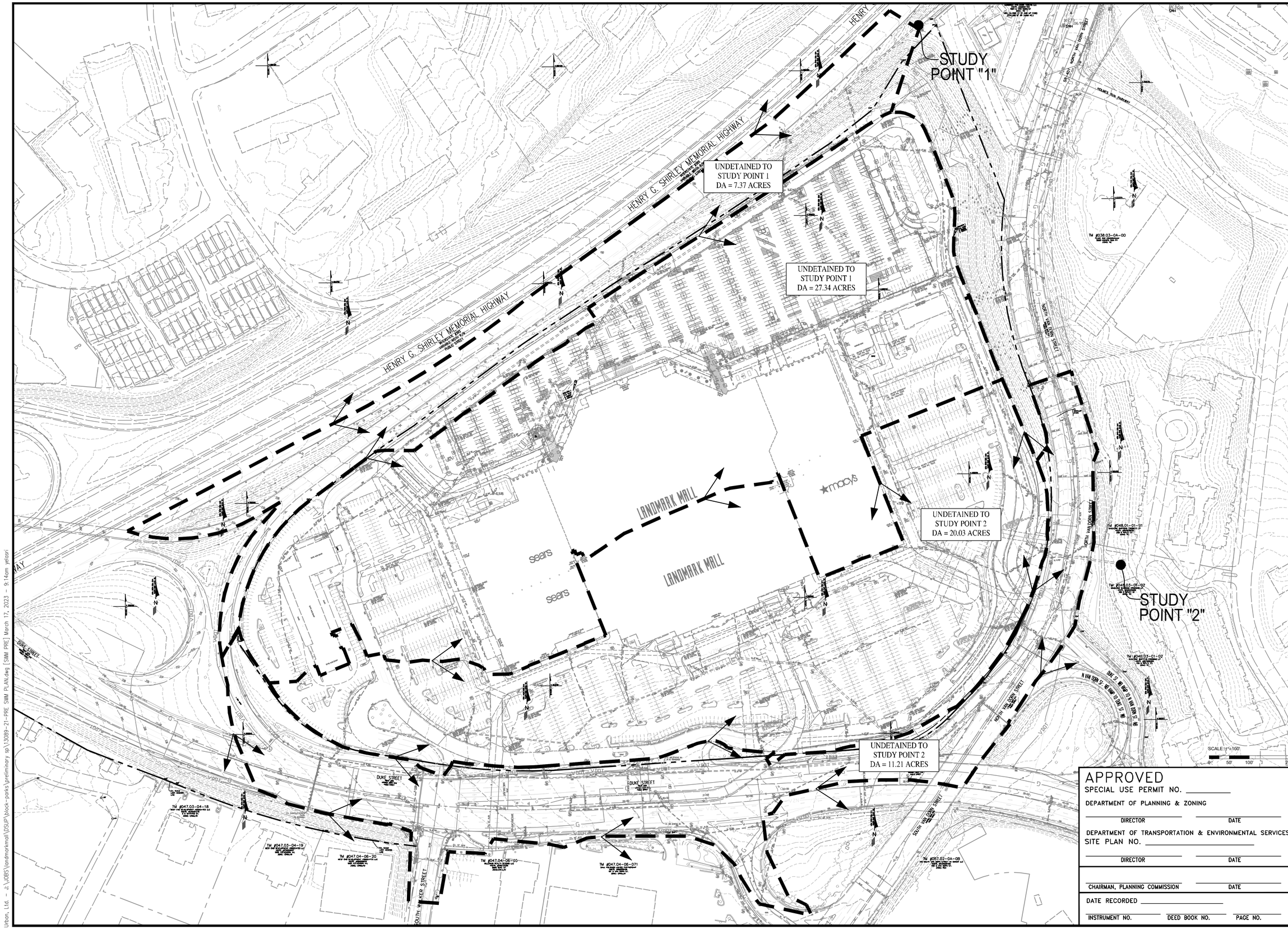
LANDMARK MALL REDEVELOPMENT
PRELIMINARY SITE PLAN - PARKS
CITY OF ALEXANDRIA, VIRGINIA

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

SHEET 23B OF 108

FILE No. DSUP-13089

Urban, Ltd. - J:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\13089-28-SWM BMP PLAN.dwg [WQVD] March 17, 2023 - 9:14am yelasri



No.	DATE	DESCRIPTION

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PLAN DATE
02-11-2022
02-09-2022
03-17-2023

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COMMONWEALTH OF VIRGINIA
CLAYTON C. TOCK
Lic. No. 038790
03/17/2023
PROFESSIONAL ENGINEER

PRE SWM PLAN

LANDMARK MALL REDEVELOPMENT PRELIMINARY SITE PLAN - PARKS

CITY OF ALEXANDRIA, VIRGINIA

SCALE: 1"=100' C.I.=2' DATE: NOV., 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. _____

FILE No. DSUP-13089

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STUDY POINT "1"

STUDY POINT "2"

VAULT 4

VAULT 3

VAULT 2

HENRY G. SHIRLEY MEMORIAL HIGHWAY

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 = 7.37 AC
CN= 95
TC = 15 MINS

STUDY POINT "1":
ONSITE DA TO VAULT 2
DA = 17.46 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

BLOCK D
BLOCK E
BLOCK G
BLOCK H
BLOCK I
BLOCK J
BLOCK K
BLOCK L
BLOCK M

LOT 708
958,199 S.F.
21.9971 ACRES

LOT 708
966,615 S.F.
21.1903 ACRES

LOT 703
70,076 S.F.
1.6087 ACRES

LOT 704
90,689 S.F.
2.0819 ACRES

LOT 707
130,369 S.F.
2.9929 ACRES

LOT 709
77,919 S.F.
1.7888 ACRES

LOT 702
63,315 S.F.
1.4535 ACRES

LOT 705
79,901 S.F.
1.8343 ACRES

LOT 706
61,295 S.F.
1.4051 ACRES

6001 DUKE STREET
T.M.: 047.02-03-10
THE INDUSTRIAL DEVELOPMENT AUTHORITY
OF THE CITY OF ALEXANDRIA
INSTR. 210026063
LOT 601

DUKE STREET

NORTH VAN DORN STREET

SOUTH VAN DORN STREET

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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SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING
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SITE PLAN NO. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
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CLAYTON C. TOCK
Lic. No. 038760
12/29/2022
PROFESSIONAL ENGINEER

POST SWM PLAN
LANDMARK MALL REDEVELOPMENT
PHASE II CONCEPT - PARKS
CITY OF ALEXANDRIA, VIRGINIA

SCALE: 1"=100' C.I.= 2' DATE: NOV., 2022

SHEET
25
OF
83

FILE No.
DSUP-13089

Urban, Ltd. – s:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\13089-22-POST SWM PLAN.dwg [POST SWM MASTER PLAN] March 17, 2023 – 9:15am yelosri

SWM POST - Study Point "2"

Elevation (feet)	Storage (cubic-feet)	Primary (cfs)
167.96	0	0.00
168.26	0	0.44
168.56	121	1.24
168.86	2,291	2.24
169.16	4,461	2.92
169.46	6,631	3.46
169.76	8,801	3.92
170.06	10,972	4.33
170.36	13,142	4.70
170.66	15,312	5.05
170.96	17,482	5.37
171.26	19,652	5.67
171.56	21,823	5.96
171.86	23,993	6.24
172.16	26,163	6.50
172.46	28,333	6.75
172.76	30,503	7.00
173.06	32,674	7.23
173.36	34,844	7.46
173.66	37,014	7.68
173.96	39,184	7.90
174.26	41,354	8.11
174.56	43,524	8.31
174.86	45,695	8.51
175.16	47,865	8.71
175.46	50,035	8.90
175.76	52,205	9.08
176.06	54,375	9.27
176.36	56,546	9.45
176.66	58,716	9.62
176.96	60,886	9.80
177.26	63,056	9.97
177.56	65,226	11.28
177.86	67,397	14.84
178.16	69,567	19.65
178.46	71,737	26.27
178.76	73,907	36.73
179.06	76,077	49.61
179.36	78,248	64.29
179.66	80,418	75.62
179.96	82,588	84.73
180.26	84,758	92.71
180.56	86,808	99.94
180.86	86,808	106.60

Volume	Invert	Avail.Storage	Storage Description
#1A	167.96'	0 cf	32.00'W x 256.00'L x 13.17'H Field A 107,861 cf Overall - 107,861 cf Embedded = 0 cf x 40.0% Voids
#2A	167.96'	86,808 cf	Oldcastle StormCapture SC2 125 Inside #1 Inside= 84.0"W x 144.0"H => 86.13 sf x 16.00'L = 1,378.0 cf Outside= 96.0"W x 158.0"H => 105.33 sf x 16.00'L = 1,685.3 cf 4 Rows adjusted for 1,384.1 cf perimeter wall
		86,808 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	167.96'	60.0" Round Culvert L=52.3' RCP, groove end w/headwall, Ke=0.200 Inlet / Outlet Invert= 167.96'/167.67' S=0.0055'/' Cc=0.900 n=0.011 Concrete pipe, straight & clean, Flow Area=19.63sf
#2	Device 1	167.96'	10.0" W x 10.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	177.36'	48.0" W x 24.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Device 1	178.32'	60.0" W x 12.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

SWM POST OFFSITE Undetained Runoff Calculations

Curve Number Calculations

Area (ac)	CN	Description
11.210	95	Urban commercial, 85% imp, HSG D
1.682		15.00% Pervious Area
9.529		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 = 30.45 cfs@ 12.08 hrs, Volume= 82,745 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 = 36.77 cfs@ 12.08 hrs, Volume= 101,658 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 = 55.39 cfs@ 12.08 hrs, Volume= 177,387 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 DETAINED Runoff Calculations

Area (ac)	CN	Description
20.730	95	
20.730		

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 = 56.31 cfs @ 12.08 hrs, Volume= 153,015 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 = 68.00 cfs @ 12.08 hrs, Volume= 187,991 cf, Depth> 2.50"

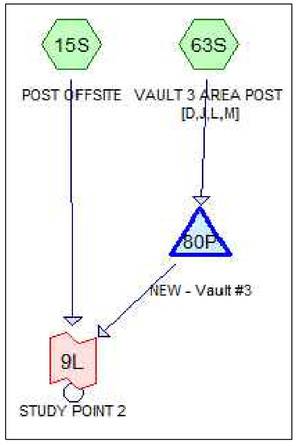
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 2-yr Rainfall=3.20"

10 Year Flow Calculations

Runoff = 102.42 cfs @ 12.08 hrs, Volume= 328,031 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"

POST DEVELOPMENT ROUTING SCHEMATIC
STUDY POINT '2'



VAULT #3

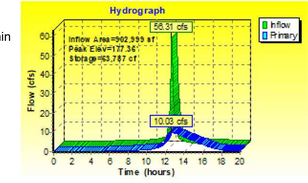
1 YEAR EVENT SUMMARY

Inflow Area = 902,999 sf, 0.00% Impervious, Inflow Depth > 2.03" for 1-yr event
Inflow = 56.31 cfs @ 12.08 hrs, Volume= 153,015 cf
Outflow = 10.03 cfs @ 12.63 hrs, Volume= 153,017 cf, Atten= 82% Lag= 32.8 min
Primary = 10.03 cfs @ 12.63 hrs, Volume= 153,017 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Peak Elev= 177.36'@ 12.63 hrs Surf.Area= 8,192 sf Storage= 63,787 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time=60.8 min (817.3 - 756.5)

Primary OutFlow Max=10.02 cfs@ 12.63 hrs HW=177.36' (Free Discharge)
└1=Culvert (Passes 10.02 cfs of 295.09 cfs potential flow)
├2=Orifice/Grate (Orifice Controls 10.02 cfs @ 14.43 fps)
├3=Orifice/Grate (Orifice Controls 0.00 cfs @ 0.10 fps)
└4=Orifice/Grate (Controls 0.00 cfs)



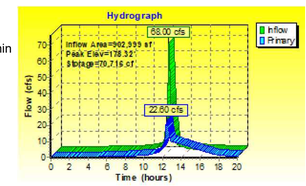
2 YEAR EVENT SUMMARY

Inflow Area = 902,999 sf, 0.00% Impervious, Inflow Depth > 2.50" for 2-yr event
Inflow = 68.00 cfs @ 12.08 hrs, Volume= 187,991 cf
Outflow = 22.60 cfs @ 12.39 hrs, Volume= 187,991 cf, Atten= 67% Lag= 18.6 min
Primary = 22.60 cfs @ 12.39 hrs, Volume= 187,991 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Peak Elev= 178.32'@ 12.39 hrs Surf.Area= 8,192 sf Storage= 70,716 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time=57.7 min (809.5 - 751.8)

Primary OutFlow Max=22.59 cfs@ 12.39 hrs HW=178.32' (Free Discharge)
└1=Culvert (Passes 22.59 cfs of 323.80 cfs potential flow)
├2=Orifice/Grate (Orifice Controls 10.54 cfs @ 15.18 fps)
├3=Orifice/Grate (Orifice Controls 12.05 cfs @ 3.14 fps)
└4=Orifice/Grate (Controls 0.00 cfs)



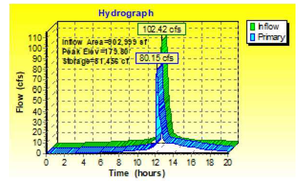
10 YEAR EVENT SUMMARY

Inflow Area = 902,999 sf, 0.00% Impervious, Inflow Depth > 4.36" for 10-yr event
Inflow = 102.42 cfs @ 12.08 hrs, Volume= 328,031 cf
Outflow = 80.15 cfs @ 12.17 hrs, Volume= 326,881 cf, Atten= 22% Lag= 5.0 min
Primary = 80.15 cfs @ 12.17 hrs, Volume= 326,881 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Peak Elev= 179.80'@ 12.17 hrs Surf.Area= 8,192 sf Storage= 81,456 cf

Plug-Flow detention time= 48.0 min calculated for 326,718 cf (100% of inflow)
Center-of-Mass det. time=46.4 min (785.0 - 738.7)

Primary OutFlow Max=80.11 cfs@ 12.17 hrs HW=179.80' (Free Discharge)
└1=Culvert (Passes 80.11 cfs of 361.20 cfs potential flow)
├2=Orifice/Grate (Orifice Controls 11.30 cfs @ 16.27 fps)
├3=Orifice/Grate (Orifice Controls 45.22 cfs @ 5.65 fps)
└4=Orifice/Grate (Orifice Controls 23.58 cfs @ 4.72 fps)



STUDY POINT 2 SWM POST FLOWS

1 Year Flow Calculations

Inflow Area = 1,391,306 sf, 29.83% Impervious, Inflow Depth > 2.03" for 1-yr event
Inflow = 37.61 cfs @ 12.09 hrs, Volume= 235,762 cf
Primary = 37.61 cfs @ 12.09 hrs, Volume= 235,762 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 = 1,391,306 sf, 29.83% Impervious, Inflow Depth > 2.50" for 2-yr event
Inflow = 44.83 cfs @ 12.09 hrs, Volume= 289,649 cf
Primary = 44.83 cfs @ 12.09 hrs, Volume= 289,649 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 = 1,391,306 sf, 29.83% Impervious, Inflow Depth > 4.35" for 10-yr event
Inflow = 126.27 cfs @ 12.14 hrs, Volume= 504,268 cf
Primary = 126.27 cfs @ 12.14 hrs, Volume= 504,268 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 "2"

$Q_{(Developed)}$=	37.61	cfs
$Q_{(Pre\text{-}Developed)}$=	76.56	cfs
$RV_{(Pre\text{-}Developed)}$=	4.48	ac-ft
$RV_{(Developed)}$=	5.41	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 $RV_{Pre\text{-}Developed}$)/$RV_{Developed}$
37.61	≤	50.75

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

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PLAN DATE
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12-05-2022

Urban Ltd.
4700 D TECHNOLOGY CT.
CHANTILLY, VA. 20151
TEL. 703.542.2306
FAX 703.378.7888
www.urban-ltd.com
urban
Planners-Engineers-Landscape Architects-Land Surveyors

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CLAYTON C. TUCK
Lic. No. 036790
12/05/2022
PROFESSIONAL ENGINEER

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LANDMARK MALL REDEVELOPMENT
PHASE II CONCEPT - PARKS
CITY OF ALEXANDRIA, VIRGINIA
SCALE: N/A C.I.= N/A DATE: NOV., 2022

SHEET 26 OF 43
FILE No. DSUP-13089

Urban, Ltd. - J:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\13089-23-SWM COMPUTATIONS AND NARRATIVES.dwg [SWM COMPS SP2 VAULT3] March 17, 2023 - 9:15am yelasri

SWM POST - Study Point "1"

SWM POST OFFSITE Undetained Runoff Calculations

Curve Number Calculations

Area (ac)	CN	Description
7.370	95	Urban commercial, 85% imp, HSG D
1.106		15.00% Pervious Area
6.264		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 = 16.82 cfs@ 12.15 hrs, Volume= 54,327 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 = 20.36 cfs@ 12.15 hrs, Volume= 66,748 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 = 31.07 cfs@ 12.15 hrs, Volume= 116,470 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 DETAINED (VAULT #2) Runoff Calculations

Curve Number Calculations

Area (ac)	CN	Description
* 17.460	95	
17.460		

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 = 47.42 cfs @ 12.08 hrs, Volume= 128,878 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 = 57.27 cfs @ 12.08 hrs, Volume= 158,337 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 = 86.27 cfs @ 12.08 hrs, Volume= 276,287 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 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 = 1,432,688 sf, 43.55% Impervious, Inflow Depth >2.07" for 1-yr event
Inflow = 41.05 cfs@ 12.18 hrs, Volume= 247,607 cf
Primary = 41.05 cfs@ 12.18 hrs, Volume= 247,607 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 = 1,432,688 sf, 43.55% Impervious, Inflow Depth >2.53" for 2-yr event
Inflow = 54.68 cfs@ 12.20 hrs, Volume= 302,228 cf
Primary = 54.68 cfs@ 12.20 hrs, Volume= 302,228 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 = 1,432,688 sf, 43.55% Impervious, Inflow Depth >4.36" for 10-yr event
Inflow = 122.80 cfs@ 12.15 hrs, Volume= 520,300 cf
Primary = 122.80 cfs@ 12.15 hrs, Volume= 520,300 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)=	41.05	cfs
Q(Pre-Developed)=	67.19	cfs
RV(Pre-Developed)=	4.37	ac-ft
RV(Developed)=	5.68	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-Developed X RV Pre-Developed)/RV Developed
41.05	≤	41.35

VAULT #2

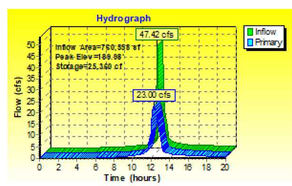
1 YEAR EVENT SUMMARY

Inflow Area = 760,558 sf 0.00% 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= 189.98'@ 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=189.98' (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)



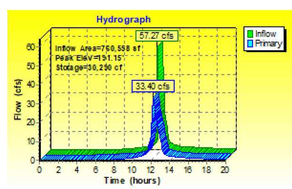
2 YEAR EVENT SUMMARY

Inflow Area = 760,558 sf, 0.00% 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= 191.15' @ 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=191.15' (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)



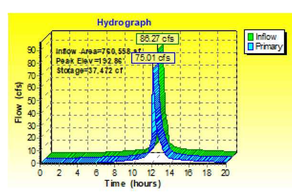
10 YEAR EVENT SUMMARY

Inflow Area = 760,558 sf, 0.00% 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= 192.86'@ 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=192.86' (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

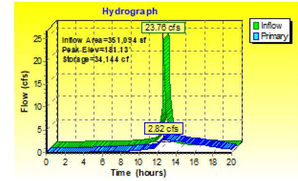
1 YEAR EVENT SUMMARY

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 = 2.82 cfs@ 12.70 hrs, Volume= 65,328 cf, Atten= 88%, Lag= 37.1 min
Primary = 2.82 cfs@ 12.70 hrs, Volume= 65,328 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Peak Elev= 181.13'@ 12.70 hrs Surf.Area= 4,200 sf Storage= 34,144 cf

Plug-Flow detention time= 139.1 min calculated for 65,328 cf (95% of inflow)
Center-of-Mass det. time= 120.2 min (853.0 - 732.9)

Primary OutFlow Max=2.82 cfs @ 12.70 hrs HW=181.13' (Free Discharge)
└**1=Culvert** (Passes 2.82 cfs of 109.54 cfs potential flow)
├**2=Orifice/Grate** (Orifice Controls 2.82 cfs @ 13.52 fps)
├**3=Orifice/Grate** (Controls 0.00 cfs)
└**4=Orifice/Grate** (Controls 0.00 cfs)



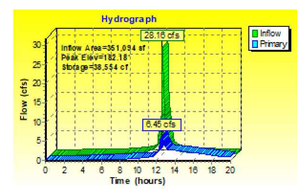
2 YEAR EVENT SUMMARY

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 = 6.45 cfs@ 12.57 hrs, Volume= 78,156 cf, Atten= 77%, Lag= 29.2 min
Primary = 6.45 cfs@ 12.57 hrs, Volume= 78,156 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Peak Elev= 182.18'@ 12.57 hrs Surf.Area= 4,200 sf Storage= 38,554 cf

Plug-Flow detention time= 132.1 min calculated for 78,156 cf (95% of inflow)
Center-of-Mass det. time= 111.4 min (840.9 - 729.5)

Primary OutFlow Max=6.45 cfs @ 12.57 hrs HW=182.18' (Free Discharge)
└**1=Culvert** (Passes 6.45 cfs of 117.90 cfs potential flow)
├**2=Orifice/Grate** (Orifice Controls 3.00 cfs @ 14.39 fps)
├**3=Orifice/Grate** (Orifice Controls 3.45 cfs @ 3.29 fps)
└**4=Orifice/Grate** (Controls 0.00 cfs)



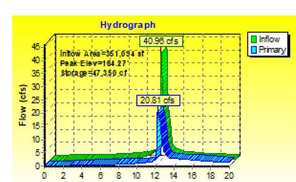
10 YEAR EVENT SUMMARY

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 = 20.81 cfs@ 12.27 hrs, Volume= 128,895 cf, Atten= 49%, Lag= 11.3 min
Primary = 20.81 cfs@ 12.27 hrs, Volume= 128,895 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Peak Elev= 184.27'@ 12.27 hrs Surf.Area= 4,200 sf Storage= 47,350 cf

Plug-Flow detention time= 103.9 min calculated for 128,895 cf (94% of inflow)
Center-of-Mass det. time= 78.6 min (797.8 - 719.2)

Primary OutFlow Max=20.81 cfs @ 12.27 hrs HW=184.27' (Free Discharge)
└**1=Culvert** (Passes 20.81 cfs of 133.00 cfs potential flow)
├**2=Orifice/Grate** (Orifice Controls 3.33 cfs @ 15.99 fps)
├**3=Orifice/Grate** (Orifice Controls 8.40 cfs @ 7.75 fps)
└**4=Orifice/Grate** (Orifice Controls 9.08 cfs @ 6.05 fps)



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4700 D TECHNOLOGY CT.
CHANTILLY, VA. 20151
TEL. 703.542.2506
FAX 703.378.7888
www.urban-ltd.com
Planners-Engineers-Landscape Architects-Land Surveyors

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CITY OF ALEXANDRIA, VIRGINIA
SCALE: N/A C.I.= N/A DATE: NOV., 2022

SHEET 27 OF 43
FILE No. DSUP-13089

Urban, Ltd. – J:\JOBS\Landmarkmall\DSUP\block-parks\preliminary sp\13089-23-SWM COMPUTATIONS AND NARRATIVES.dwg [SWMCOMPS SP1 VAULT4] March 17, 2023 – 9:15am yelosri

SWM PRE - Study Point "1"

SWM PRE OFFSITE Undetained Runoff Calculations

Curve Number Calculations

	Area (ac)	CN	Description
*	7.370	95	
	7.370		100.00% Pervious 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 = 16.82 cfs@ 12.15 hrs, Volume= 54,327 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 = 20.36 cfs@ 12.15 hrs, Volume= 66,748 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 = 31.07 cfs@ 12.15 hrs, Volume= 116,470 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 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 = 1,511,968 sf, 32.30%Impervious, Inflow Depth >1.51" for 1-yr event
Inflow = 67.19 cfs@ 12.10 hrs, Volume= 190,486 cf
Primary = 67.19 cfs@ 12.10 hrs, Volume= 190,486 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 = 1,511,968 sf, 32.30%Impervious, Inflow Depth >1.93" for 2-yr event
Inflow = 85.47 cfs@ 12.10 hrs, Volume= 243,683 cf
Primary = 85.47 cfs@ 12.10 hrs, Volume= 243,683 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 = 1,511,968 sf, 32.30%Impervious, Inflow Depth >3.69" for 10-yr event
Inflow = 143.92 cfs@ 12.10 hrs, Volume= 464,816 cf
Primary = 143.92 cfs@ 12.10 hrs, Volume= 464,816 cf, Atten= 0%, Lag= 0.0 min
Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs

SWM PRE - Study Point "2"

SWM PRE OFFSITE Undetained Runoff Calculations

Curve Number Calculations

Area (ac)	CN	Description
11.210	98	Urban commercial, 85% imp, HSG D
1.682		15.00% Pervious Area
9.529		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 = 33.04 cfs@ 12.08 hrs, Volume= 95,334 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 = 39.16 cfs@ 12.08 hrs, Volume= 114,673 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 = 56.97 cfs@ 12.08 hrs, Volume= 191,351 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"

SWM PRE ONSITE Undetained Runoff Calculations

Curve Number Calculations

Area (ac)	CN	Description
8.210	98	Paved parking, HSG D
11.820	80	>75% Grass cover, Good, HSG D
20.030	87	Weighted Average
11.820		59.01% Pervious Area
8.210		40.99% Impervious Area

Time of Concentration Calculations

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

1 Year Flow Calculations

Runoff = 48.77 cfs@ 12.03 hrs, Volume= 99,926 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 = 62.66 cfs@ 12.03 hrs, Volume= 129,838 cf, Depth> 1.79"

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 = 106.06 cfs@ 12.03 hrs, Volume= 255,599 cf, Depth> 3.52"

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 2 SWM PRE FLOWS

1 Year Flow Calculations

Inflow Area = 1,360,814 sf, 56.78%Impervious, Inflow Depth >1.72" for 1-yr event
Inflow = 76.56 cfs@ 12.04 hrs, Volume= 195,259 cf
Primary = 76.56 cfs@ 12.04 hrs, Volume= 195,259 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 = 1,360,814 sf, 56.78% Impervious, Inflow Depth >2.16" for 2-yr event
Inflow = 95.46 cfs@ 12.04 hrs, Volume= 244,511 cf
Primary = 95.46 cfs@ 12.04 hrs, Volume= 244,511 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 = 1,360,814 sf, 56.78%Impervious, Inflow Depth >3.94" for 10-yr event
Inflow = 153.75 cfs@ 12.04 hrs, Volume= 446,950 cf
Primary = 153.75 cfs@ 12.04 hrs, Volume= 446,950 cf, Atten= 0%, Lag= 0.0 min
Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs

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FAX 703.378.7888
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CLAYTON C. POCK
Lic. No. 036790
12/05/2022
PROFESSIONAL ENGINEER

STORMWATER MANAGEMENT COMPUTATIONS
LANDMARK MALL REDEVELOPMENT
PHASE II CONCEPT - PARKS
CITY OF ALEXANDRIA, VIRGINIA
SCALE: N/A C.I.= N/A DATE: NOV., 2022

SHEET 28 OF 43
FILE No. DSUP-13089

Urban, Ltd. - J:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\13089-23-SWM COMPUTATIONS AND NARRATIVES.dwg [SWM COMPS SP1 VAULT2] March 17, 2023 - 9:15am yelosri

SWM POST - Study Point "1"

VAULT #2

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Primary (cfs)
183.94	**4,200**	0	0.00
184.14	4,200	840	0.50
184.34	4,200	1,680	1.98
184.54	4,200	2,520	4.40
184.74	4,200	3,360	6.42
184.94	4,200	4,200	7.78
185.14	4,200	5,040	8.91
185.34	4,200	5,880	9.90
185.54	4,200	6,720	10.81
185.74	4,200	7,560	11.64
185.94	4,200	8,400	12.41
186.14	4,200	9,240	13.14
186.34	4,200	10,080	13.83
186.54	4,200	10,920	14.49
186.74	4,200	11,760	15.11
186.94	4,200	12,600	15.72
187.14	4,200	13,440	16.30
187.34	4,200	14,280	16.86
187.54	4,200	15,120	17.40
187.74	4,200	15,960	17.92
187.94	4,200	16,800	18.43
188.14	4,200	17,640	18.93
188.34	4,200	18,480	19.41
188.54	4,200	19,320	19.89
188.74	4,200	20,160	20.35
188.94	4,200	21,000	20.80
189.14	4,200	21,840	21.24
189.34	4,200	22,680	21.67
189.54	4,200	23,520	22.10
189.74	4,200	24,360	22.51
189.94	4,200	25,200	22.92
190.14	4,200	26,040	23.73
190.34	4,200	26,880	25.10
190.54	4,200	27,720	26.79
190.74	4,200	28,560	28.74
190.94	4,200	29,400	30.90
191.14	4,200	30,240	33.25
191.34	4,200	31,080	36.61
191.54	4,200	31,920	40.49
191.74	4,200	32,760	44.78
191.94	4,200	33,600	49.45
192.14	4,200	34,440	54.46
192.34	4,200	35,280	59.78
192.54	4,200	36,120	65.40
192.74	4,200	36,960	71.29
192.94	4,200	**37,800**	77.44
193.14	4,200	37,800	83.83

Volume	Invert	Avail.Storage	Storage Description
#1	183.94'	37,800 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
183.94	4,200	0	0
192.94	4,200	37,800	37,800

Device	Routing	Invert	Outlet Devices
#1	Primary	183.94'	60.0" Round Culvert L=87.6' RCP,grooveend w/headwall,Ke=0.200 Inlet/ OutletInvert=183.94'/176.72' S=0.0824'/' Cc=0.900 n=0.011 Concretepipe,straight& clean, FlowArea=19.63sf
#2	Device 1	183.94'	9.0" W x 8.0" H Vert. Orifice/Grate X 4.00C= 0.600 Limitedto weirflow at low heads
#3	Device 1	189.98'	24.0" W x 15.0" H Vert. Orifice/GrateC= 0.600 Limitedto weirflow at low heads
#4	Device 1	191.15'	48.0" W x 24.0" H Vert. Orifice/GrateC= 0.600 Limitedto weirflow at low heads

VAULT #4

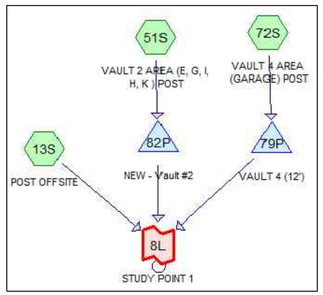
Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Primary (cfs)
173.00	**4,200**	0	0.00
173.30	4,200	1,260	0.22
173.60	4,200	2,520	0.58
173.90	4,200	3,780	0.80
174.20	4,200	5,040	0.97
174.50	4,200	6,300	1.12
174.80	4,200	7,560	1.25
175.10	4,200	8,820	1.36
175.40	4,200	10,080	1.47
175.70	4,200	11,340	1.57
176.00	4,200	12,600	1.66
176.30	4,200	13,860	1.75
176.60	4,200	15,120	1.84
176.90	4,200	16,380	1.92
177.20	4,200	17,640	1.99
177.50	4,200	18,900	2.07
177.80	4,200	20,160	2.14
178.10	4,200	21,420	2.21
178.40	4,200	22,680	2.28
178.70	4,200	23,940	2.34
179.00	4,200	25,200	2.41
179.30	4,200	26,460	2.47
179.60	4,200	27,720	2.53
179.90	4,200	28,980	2.59
180.20	4,200	30,240	2.64
180.50	4,200	31,500	2.70
180.80	4,200	32,760	2.76
181.10	4,200	34,020	2.81
181.40	4,200	35,280	3.31
181.70	4,200	36,540	4.30
182.00	4,200	37,800	5.57
182.30	4,200	39,060	7.20
182.60	4,200	40,320	9.33
182.90	4,200	41,580	11.79
183.20	4,200	42,840	14.52
183.50	4,200	44,100	16.67
183.80	4,200	45,360	18.42
184.10	4,200	46,620	19.98
184.40	4,200	47,880	21.39
184.70	4,200	49,140	22.70
185.00	4,200	**50,400**	**23.92**

Volume	Invert	Avail.Storage	Storage Description
#1	173.00'	50,400 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
173.00	4,200	0	0
185.00	4,200	50,400	50,400

Device	Routing	Invert	Outlet Devices
#1	Primary	173.00'	**36.0" Round Culvert** L=59.9' RCP,grooveend w/headwall,Ke=0.200 Inlet/ OutletInvert=173.00'/170.66' S=0.0391'/' Cc=0.900 n=0.013, FlowArea=7.07sf
#2	Device 1	173.00'	**5.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limitedto weirflow at low heads
#3	Device 1	181.13'	**12.0" W x 13.0" H Vert. Orifice/Grate** C= 0.600 Limitedto weirflow at low heads
#4	Device 1	182.18'	**18.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600 Limitedto weirflow at low heads

POST DEVELOPMENT ROUTING SCHEMATIC
STUDY POINT '1'



STORMWATER MANAGEMENT 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 FLOW SUMMARY TABLE ON SHEET 123. 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.THE STORMWATER MASTER PLAN (DSP#2021-00017) IS TO BE UPDATED WITH THE APPROVAL OF EACH DSUP PER BLOCK TO ADDRESS COMPLIANCE FOR TOTAL SITE STORMWATER QUANTITY AND QUALITY REQUIREMENTS.

Clayton Tock

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

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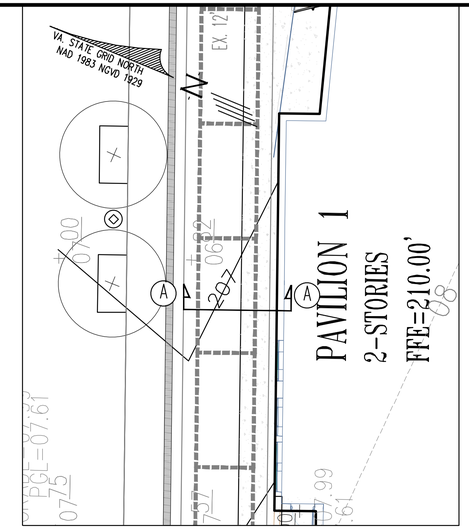
COMMONWEALTH OF VIRGINIA
CLAYTON C. TOCK
Lic. No. 036790
12/05/2022
PROFESSIONAL ENGINEER

STORMWATER MANAGEMENT COMPUTATIONS
LANDMARK MALL REDEVELOPMENT
PHASE II CONCEPT - PARKS
CITY OF ALEXANDRIA, VIRGINIA
SCALE: N/A C.I.= N/A DATE: NOV., 2022

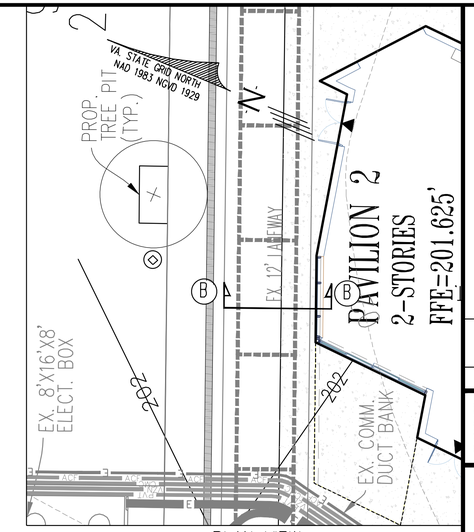
SHEET 29 OF 43

FILE No. DSUP-13089

Urban, Ltd. - J:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\13089-23-SWM COMPUTATIONS AND NARRATIVES.dwg [SWMCOMPS SP1 VAULT4 (2)] March 17, 2023 - 9:15am yelosri

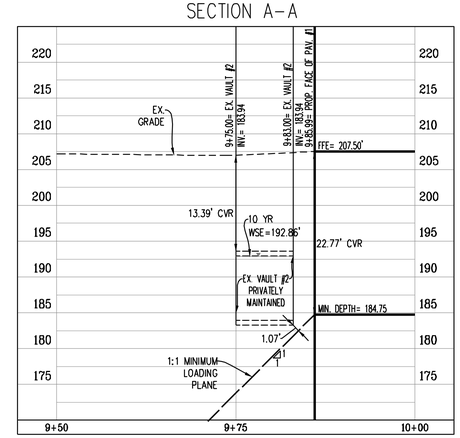


PLAN VIEW
SCALE: 1"=10'

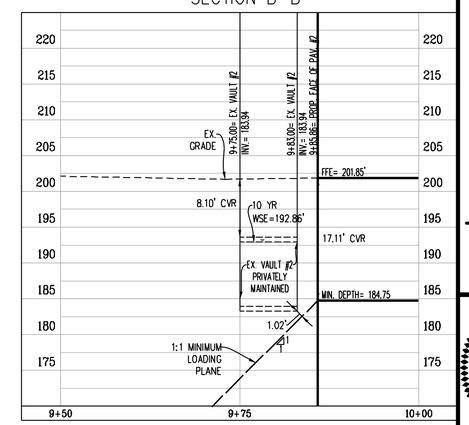


PLAN VIEW
SCALE: 1"=10'

SECTION A-A



SECTION B-B



* FOOTING DESIGN DEPTH TO BE COORDINATED WITH STRUCTURAL ENGINEER TO ENSURE PROPER FOOTING DEPTHS ARE MET.

SCALE: 1"=10'
0 5' 10' 20'

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LOADING PLANE DIAGRAM
LANDMARK MALL REDEVELOPMENT
PRELIMINARY SITE PLAN - PARKS
CITY OF ALEXANDRIA, VIRGINIA
SCALE: H: 1"=10' ; V: 1"=10' C.I.= 2' DATE: NOV., 2022

SHEET
29A
OF
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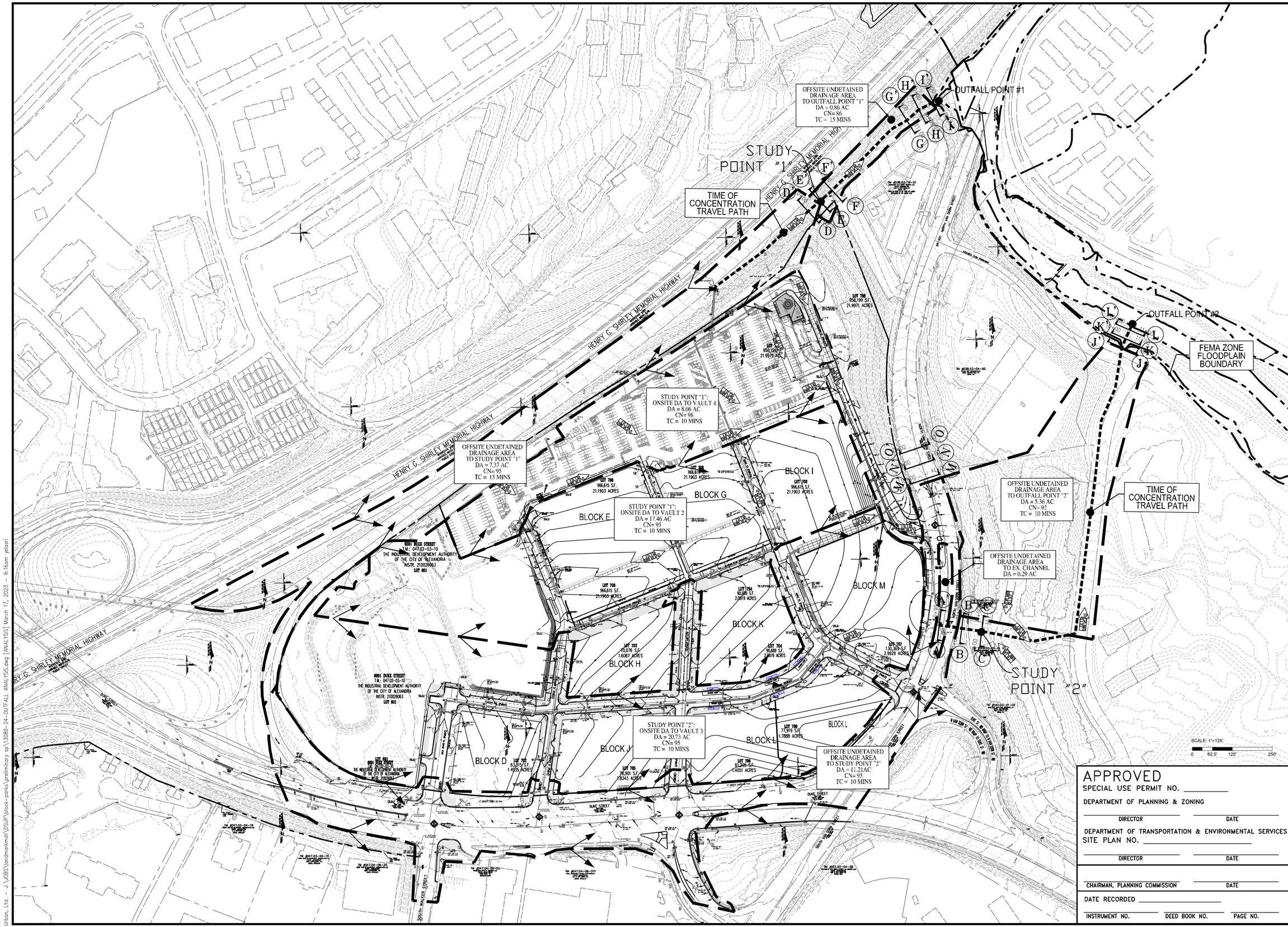
FILE No.
DSUP-13089

Urban, Ltd. - J:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\13089-25-VAULT Cross Section.dwg [01] March 17, 2023 - 9:16am yelosri



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OUTFALL ANALYSIS

LANDMARK MALL REDEVELOPMENT PRELIMINARY SITE PLAN - PARKS

CITY OF ALEXANDRIA, VIRGINIA

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

SHEET 30 OF 108

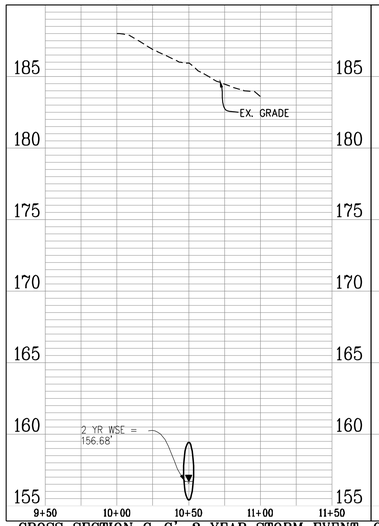
FILE No. DSUP-13089

Urban, Ltd. - J:\OBS\landmarkmall\DSUP\block-parks\preliminary sp\13089-24-OUTFALL ANALYSIS.dwg [ANALYSIS] March 17, 2023 - 9:16am yelasri

CROSS SECTION A-A': 2 YEAR STORM EVENT

Discharge: 44.83 cfs
Flow Area: 3.5 ft²
Wetted Perimeter: 4.8 ft
Hydraulic Radius: 8.7 in
Top Width: 3.74 ft
Normal Depth: 15.4 in
Critical Depth: 24.0 in
Critical Slope: 0.013 ft/ft
Velocity: 12.84 ft/s
Velocity Head: 2.56 ft
Specific Energy: 3.85 ft
Froude Number: 2.342
Maximum Discharge: 215.34 cfs
Discharge Full: 200.18 cfs
Slope Full: 0.003 ft/ft
Flow Type: Supercritical

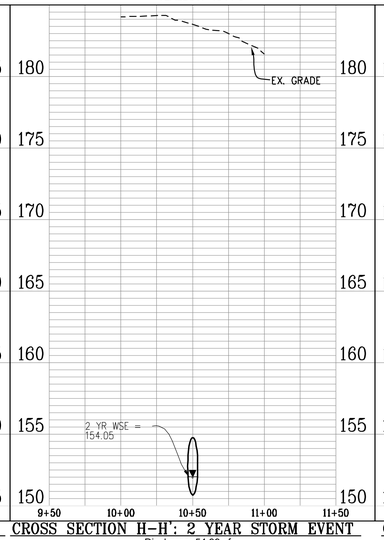
V2ALLOW=15 FPS



CROSS SECTION B-B': 2 YEAR STORM EVENT

Discharge: 44.83 cfs
Flow Area: 3.5 ft²
Wetted Perimeter: 4.8 ft
Hydraulic Radius: 8.7 in
Top Width: 3.74 ft
Normal Depth: 15.4 in
Critical Depth: 24.0 in
Critical Slope: 0.013 ft/ft
Velocity: 12.84 ft/s
Velocity Head: 2.56 ft
Specific Energy: 3.85 ft
Froude Number: 2.342
Maximum Discharge: 215.34 cfs
Discharge Full: 200.18 cfs
Slope Full: 0.003 ft/ft
Flow Type: Supercritical

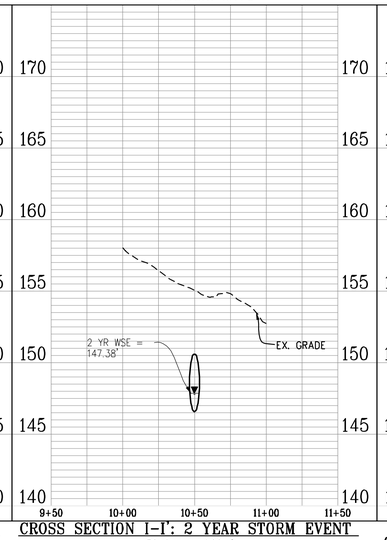
V2ALLOW=15 FPS



CROSS SECTION C-C': 2 YEAR STORM EVENT

Discharge: 44.83 cfs
Flow Area: 3.5 ft²
Wetted Perimeter: 4.8 ft
Hydraulic Radius: 8.7 in
Top Width: 3.74 ft
Normal Depth: 15.4 in
Critical Depth: 24.0 in
Critical Slope: 0.013 ft/ft
Velocity: 12.84 ft/s
Velocity Head: 2.56 ft
Specific Energy: 3.85 ft
Froude Number: 2.342
Maximum Discharge: 215.34 cfs
Discharge Full: 200.18 cfs
Slope Full: 0.003 ft/ft
Flow Type: Supercritical

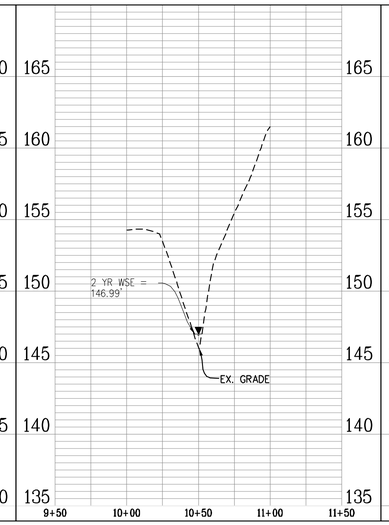
V2ALLOW=15 FPS



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

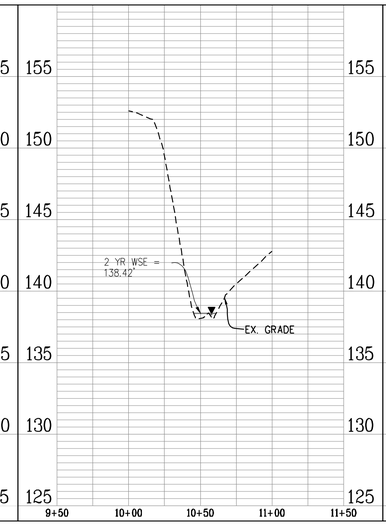
*MANMADE CHANNEL LINED WITH CONCRETE. PER TABLE 7-1 OF THE VDOT DRAINAGE MANUAL, THE MAXIMUM ALLOWABLE VELOCITY IS NOT APPLICABLE.



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

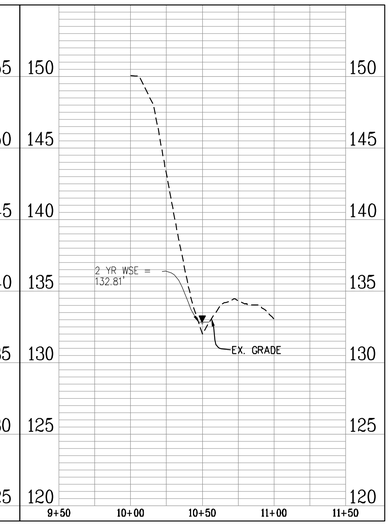
*MANMADE CHANNEL LINED WITH CONCRETE. PER TABLE 7-1 OF THE VDOT DRAINAGE MANUAL, THE MAXIMUM ALLOWABLE VELOCITY IS NOT APPLICABLE.



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

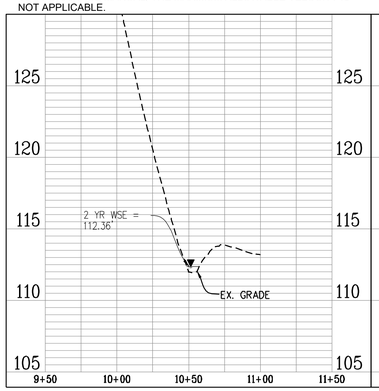
*MANMADE CHANNEL LINED WITH CONCRETE. PER TABLE 7-1 OF THE VDOT DRAINAGE MANUAL, THE MAXIMUM ALLOWABLE VELOCITY IS NOT APPLICABLE.



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

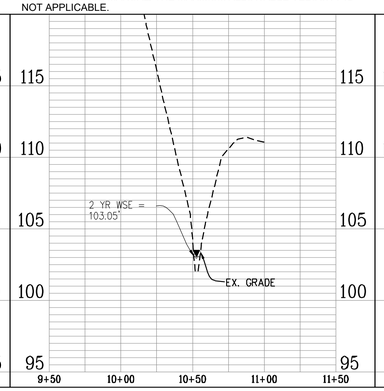
*MANMADE CHANNEL LINED WITH CONCRETE. PER TABLE 7-1 OF THE VDOT DRAINAGE MANUAL, THE MAXIMUM ALLOWABLE VELOCITY IS NOT APPLICABLE.



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

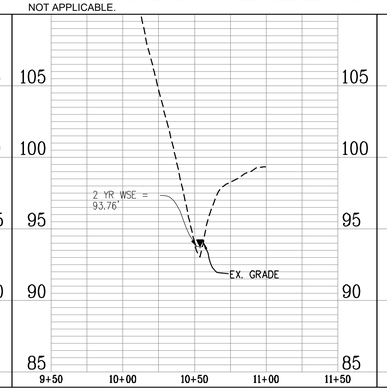
*MANMADE CHANNEL LINED WITH CONCRETE. PER TABLE 7-1 OF THE VDOT DRAINAGE MANUAL, THE MAXIMUM ALLOWABLE VELOCITY IS NOT APPLICABLE.



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

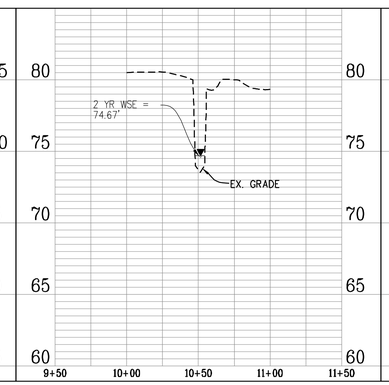
*MANMADE CHANNEL LINED WITH CONCRETE. PER TABLE 7-1 OF THE VDOT DRAINAGE MANUAL, THE MAXIMUM ALLOWABLE VELOCITY IS NOT APPLICABLE.



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

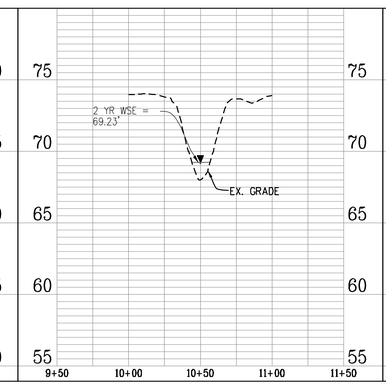
V2ALLOW= 13 FPS



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

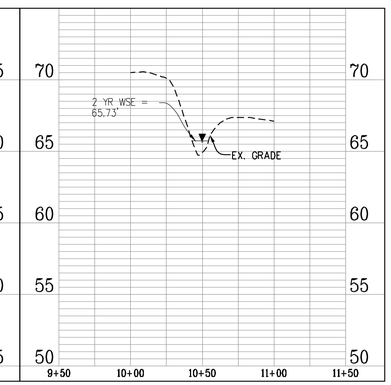
V2ALLOW= 13 FPS



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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DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
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CHAIRMAN, PLANNING COMMISSION — DATE
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INSTRUMENT NO. — DEED BOOK NO. — PAGE NO.

No.	DATE	DESCRIPTION

REVISIONS

PLAN	DATE
02-11-2022	
12-09-2022	
03-17-2023	

Urban, Ltd.
4200 D TECHNOLOGY CT.
CHANTILLY, VA. 20151
TEL. 703.642.2306
FAX. 703.378.7888
www.urban-ltd.com
Planners•Engineers•Landscape Architects•Land Surveyors

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CLAYTON C. FOCK
Lic. No. 036790
03/17/2023
PROFESSIONAL ENGINEER

OUTFALL ANALYSIS

LANDMARK MALL REDEVELOPMENT
PRELIMINARY SITE PLAN - PARKS

CITY OF ALEXANDRIA, VIRGINIA

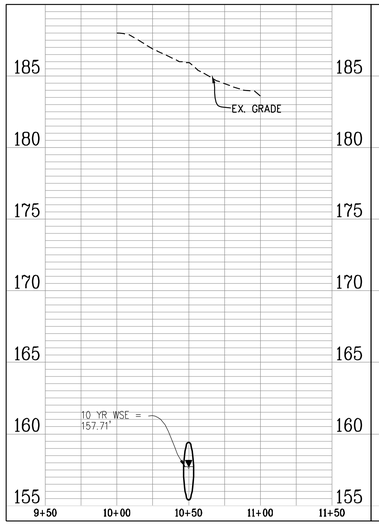
SCALE: H:1"=50'; V:1"=5' — C.I.= N.A. — DATE: NOV., 2022

FILE No. DSUP-13089

Urban, Ltd. – J: \JOBS\landmarkmall\DSUP\block-parks\preliminary sp\13089-24-OUTFALL ANALYSIS.dwg [2 years] March 17, 2023 – 9:17am yelsari

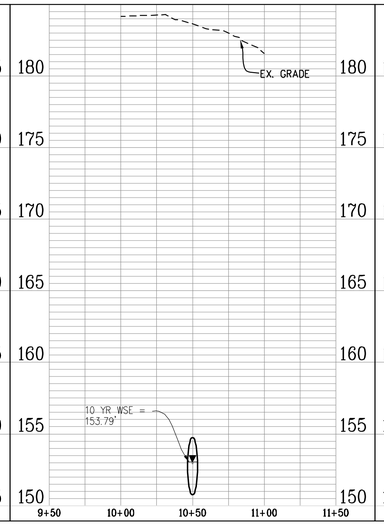
CROSS SECTION A-A': 10 YEAR STORM EVENT

Discharge: 126.27 cfs
Flow Area: 7.5 ft²
Wetted Perimeter: 6.9 ft
Hydraulic Radius: 13.0 in
Top Width: 3.95 ft
Normal Depth: 27.7 in
Critical Depth: 40.5 in
Critical Slope: 0.025 ft/ft
Velocity: 16.84 ft/s
Velocity Head: 4.41 ft
Specific Energy: 6.71 ft
Froude Number: 2.156
Maximum Discharge: 215.34 cfs
Discharge Full: 200.18 cfs
Slope Full: 0.026 ft/ft
Flow Type: Supercritical



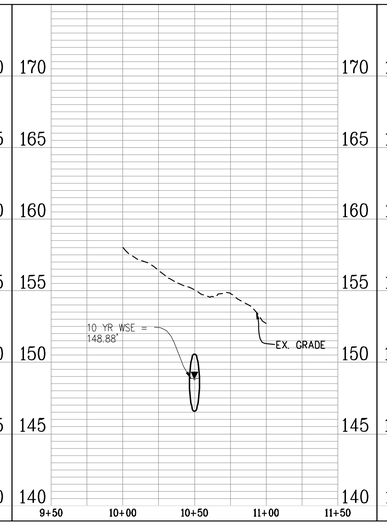
CROSS SECTION B-B': 10 YEAR STORM EVENT

Discharge: 126.27 cfs
Flow Area: 7.5 ft²
Wetted Perimeter: 6.9 ft
Hydraulic Radius: 13.0 in
Top Width: 3.95 ft
Normal Depth: 27.7 in
Critical Depth: 40.5 in
Critical Slope: 0.025 ft/ft
Velocity: 16.84 ft/s
Velocity Head: 4.41 ft
Specific Energy: 6.71 ft
Froude Number: 2.156
Maximum Discharge: 215.34 cfs
Discharge Full: 200.18 cfs
Slope Full: 0.026 ft/ft
Flow Type: Supercritical



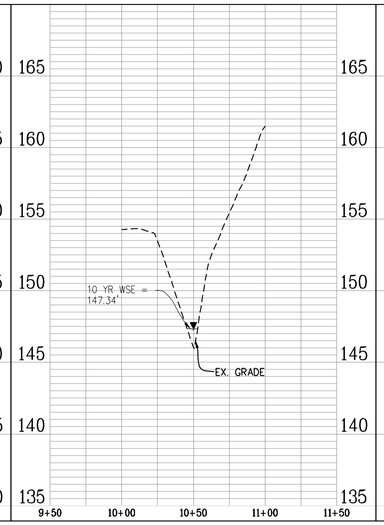
CROSS SECTION C-C': 10 YEAR STORM EVENT

Discharge: 126.27 cfs
Flow Area: 7.5 ft²
Wetted Perimeter: 6.9 ft
Hydraulic Radius: 13.0 in
Top Width: 3.95 ft
Normal Depth: 27.7 in
Critical Depth: 40.5 in
Critical Slope: 0.025 ft/ft
Velocity: 16.84 ft/s
Velocity Head: 4.41 ft
Specific Energy: 6.71 ft
Froude Number: 2.156
Maximum Discharge: 215.34 cfs
Discharge Full: 200.18 cfs
Slope Full: 0.026 ft/ft
Flow Type: Supercritical



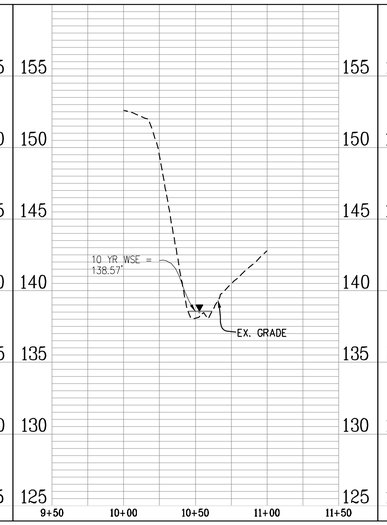
CROSS SECTION D-D': 10 YEAR STORM EVENT

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



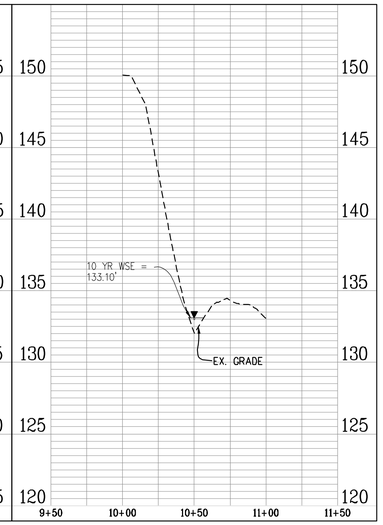
CROSS SECTION E-E': 10 YEAR STORM EVENT

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



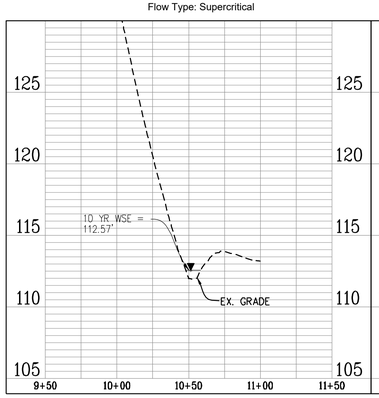
CROSS SECTION F-F': 10 YEAR STORM EVENT

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



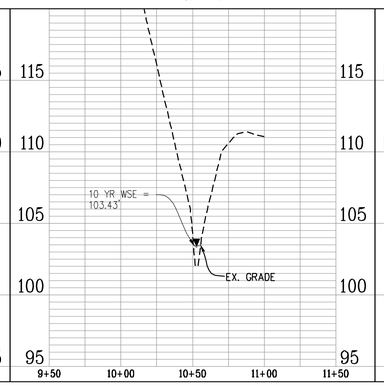
CROSS SECTION G-G': 10 YEAR STORM EVENT

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



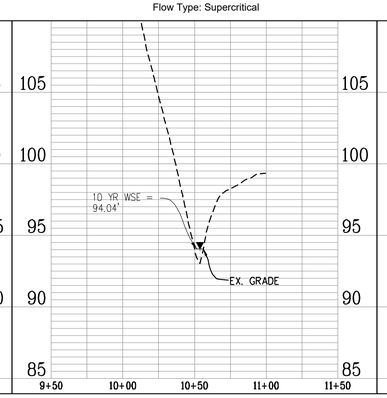
CROSS SECTION H-H': 10 YEAR STORM EVENT

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



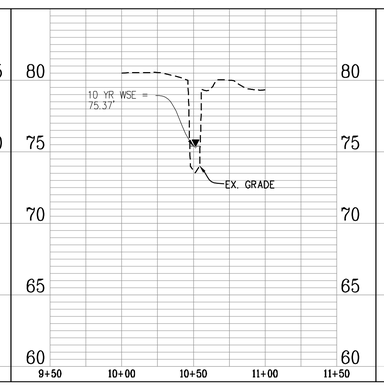
CROSS SECTION I-I': 10 YEAR STORM EVENT

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



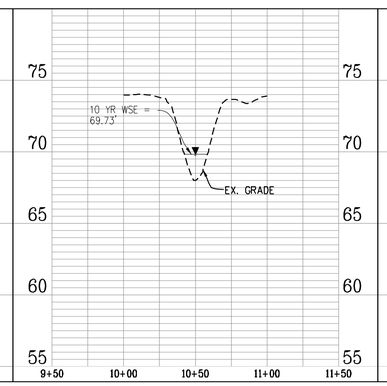
CROSS SECTION J-J': 10 YEAR STORM EVENT

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



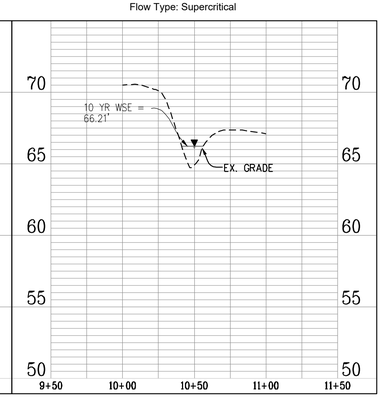
CROSS SECTION K-K': 10 YEAR STORM EVENT

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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CHAIRMAN, PLANNING COMMISSION _____ DATE _____
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No.	DATE	DESCRIPTION

REVISIONS

PLAN	DATE
1	02-11-2022
2	12-09-2022
3	03-17-2023

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CHANTILLY, VA. 20151
TEL. 703.642.2306
FAX 703.378.7888
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Lic. No. 036790
PROFESSIONAL ENGINEER
03/17/2023

OUTFALL ANALYSIS
LANDMARK MALL REDEVELOPMENT
PRELIMINARY SITE PLAN - PARKS
CITY OF ALEXANDRIA, VIRGINIA
SCALE: H:1"=50'; V:1"=5' C.I.=N.A. DATE: NOV., 2022

SHEET 32 OF 108

FILE No. DSUP-13089

Urban, Ltd. – J:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\13089-24-OUTFALL ANALYSIS.dwg [10 years] March 17, 2023 – 9:17am yelasri

SWM PRE OFFSITE Undetained Runoff Calculations To Ex. Ditch

Curve Number Calculations

Area (ac)	CN	Description
0.276	80	>75% Grass cover, Good, HSG D
0.149	98	Paved roads w/curbs & sewers, HSG D
0.425	86	Weighted Average
0.276		64.94% Pervious Area
0.149		35.06% Impervious Area

Time of Concentration Calculations

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

1 Year Flow Calculations

Runoff = 0.98 cfs @ 12.03 hrs , Volume= 2,014 cf , Depth> 1.31"

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 = 1.27 cfs @ 12.03 hrs , Volume= 2,635 cf , Depth> 1.71"

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 = 2.20 cfs @ 12.03 hrs , Volume= 5,269 cf , Depth> 3.42"

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 OFFSITE Undetained Runoff Calculations To Ex. Ditch

Curve Number Calculations

Area (ac)	CN	Description
0.236	80	>75% Grass cover, Good, HSG D
0.057	98	Paved roads w/curbs & sewers, HSG D
0.293	84	Weighted Average
0.236		80.55% Pervious Area
0.057		19.45% Impervious Area

Time of Concentration Calculations

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

1 Year Flow Calculations

Runoff = 0.61 cfs @ 12.03 hrs , Volume= 1,249 cf , Depth> 1.17"

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 = 0.80 cfs @ 12.03 hrs , Volume= 1,659 cf , Depth> 1.56"

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 = 1.44 cfs @ 12.03 hrs , Volume= 3,425 cf , Depth> 3.22"

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"

ENERGY BALANCE METHOD TO Ex. Channel at Str. 43.

$Q_{(Developed)}$=	0.61	cfs
$Q_{(Pre\text{-}Developed)}$=	0.98	cfs
$RV_{(Pre\text{-}Developed)}$=	2014.00	c.f.
$RV_{(Developed)}$=	1249.00	c.f.
I.F. =	0.9	(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 $RV_{Pre\text{-}Developed}$)/$RV_{Developed}$
0.61	≤	1.42

CROSS SECTION M-M': 2 YEAR STORM EVENT

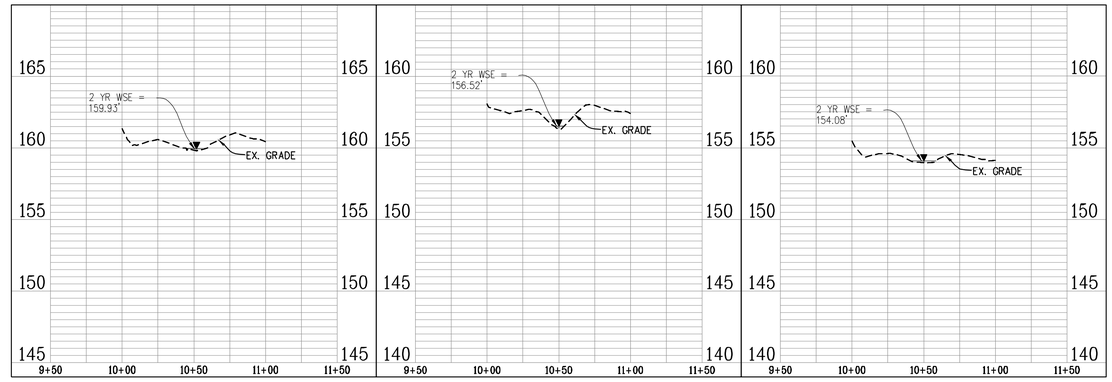
Discharge: 0.80 cfs
Flow Area: 0.9 ft²
Wetted Perimeter: 12.2 ft
Hydraulic Radius: 0.9 in
Top Width: 12.16 ft
Normal Depth: 1.8 in
Critical Depth: 1.4 in
Critical Slope: 0.093 ft/ft
Velocity: 0.88 ft/s
Velocity Head: 0.01 ft
Specific Energy: 0.16 ft
Froude Number: 0.568
Flow Type: Subcritical
V2ALLOW= 13 FPS

CROSS SECTION N-N': 2 YEAR STORM EVENT

Discharge: 0.80 cfs
Flow Area: 0.5 ft²
Wetted Perimeter: 4.8 ft
Hydraulic Radius: 1.3 in
Top Width: 4.79 ft
Normal Depth: 2.5 in
Critical Depth: 2.4 in
Critical Slope: 0.079 ft/ft
Velocity: 1.58 ft/s
Velocity Head: 0.04 ft
Specific Energy: 0.25 ft
Froude Number: 0.858
Flow Type: Subcritical
V2ALLOW= 13 FPS

CROSS SECTION O-O'-: 2 YEAR STORM EVENT

Discharge: 0.80 cfs
Flow Area: 0.7 ft²
Wetted Perimeter: 9.9 ft
Hydraulic Radius: 0.8 in
Top Width: 9.88 ft
Normal Depth: 1.6 in
Critical Depth: 1.5 in
Critical Slope: 0.092 ft/ft
Velocity: 1.20 ft/s
Velocity Head: 0.02 ft
Specific Energy: 0.16 ft
Froude Number: 0.819
Flow Type: Subcritical
V2ALLOW= 13 FPS



CROSS SECTION M-M': 10 YEAR STORM EVENT

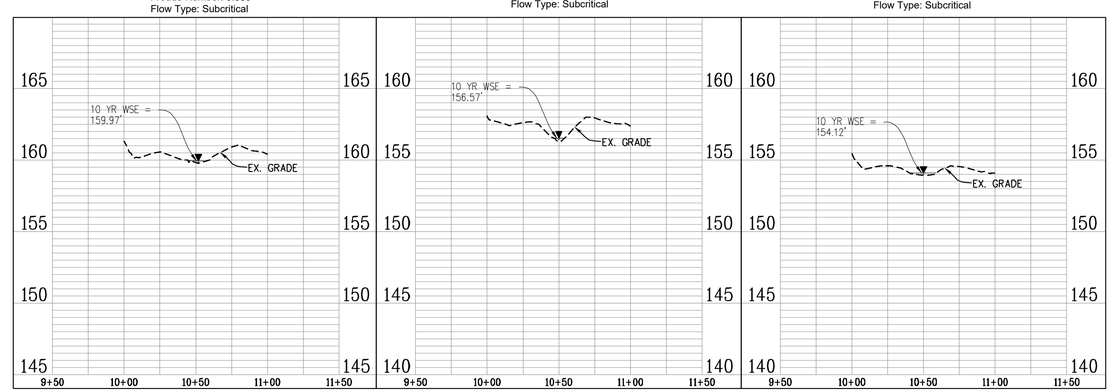
Discharge: 1.44 cfs
Flow Area: 1.4 ft²
Wetted Perimeter: 15.2 ft
Hydraulic Radius: 1.1 in
Top Width: 15.16 ft
Normal Depth: 2.2 in
Critical Depth: 1.8 in
Critical Slope: 0.086 ft/ft
Velocity: 1.02 ft/s
Velocity Head: 0.02 ft
Specific Energy: 0.20 ft
Froude Number: 0.589
Flow Type: Subcritical

CROSS SECTION N-N': 10 YEAR STORM EVENT

Discharge: 1.44 cfs
Flow Area: 0.8 ft²
Wetted Perimeter: 6.0 ft
Hydraulic Radius: 1.6 in
Top Width: 5.97 ft
Normal Depth: 3.2 in
Critical Depth: 3.0 in
Critical Slope: 0.073 ft/ft
Velocity: 1.83 ft/s
Velocity Head: 0.05 ft
Specific Energy: 0.32 ft
Froude Number: 0.890
Flow Type: Subcritical

CROSS SECTION O-O': 10 YEAR STORM EVENT

Discharge: 1.44 cfs
Flow Area: 1.0 ft²
Wetted Perimeter: 12.3 ft
Hydraulic Radius: 1.0 in
Top Width: 12.31 ft
Normal Depth: 2.0 in
Critical Depth: 1.9 in
Critical Slope: 0.085 ft/ft
Velocity: 1.40 ft/s
Velocity Head: 0.03 ft
Specific Energy: 0.20 ft
Froude Number: 0.850
Flow Type: Subcritical



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CLAYTON C. FOCK
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PROFESSIONAL ENGINEER

OUTFALL ANALYSIS
LANDMARK MALL REDEVELOPMENT
PRELIMINARY SITE PLAN - PARKS
CITY OF ALEXANDRIA, VIRGINIA
SCALE: H:1"=50'; V:1"=5' C.I.=N.A. DATE: NOV., 2022

SHEET 33 OF 108

FILE No. DSUP-13089

Urban, Ltd. - J:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\13089-24-OUTFALL ANALYSIS.dwg [M-M' to O-O'] March 17, 2023 - 9:17am yelasri

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 FLOW SUMMARY TABLE ON INFRASTRUCTURE SITE PLAN (DSP #2021-00012) SHEET 123. 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. THE STORMWATER MASTER PLAN (DSP#2021-00017) IS TO BE UPDATED WITH THE APPROVAL OF EACH DSUP PER BLOCK TO ADDRESS COMPLIANCE FOR TOTAL SITE STORMWATER QUANTITY AND QUALITY REQUIREMENTS.

Clayton Tock

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

FLOW SUMMARY TABLES

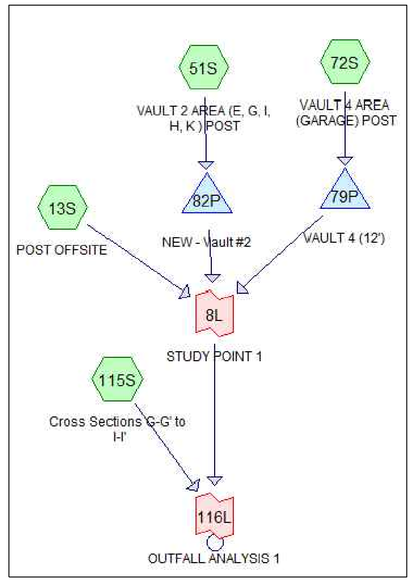
STUDY POINT 1:

FLOW SUMMARY		PRE-DEVELOPMENT			POST-DEVELOPMENT SUMMARY			Q ALLOW*
NODE ID	RETURN EVENT	Q PEAK hrs	Q PEAK cfs	Rv cu.ft.	Q PEAK hrs	Q PEAK cfs	Rv cu.ft.	CFS
ONSITE	1	12.09	52.17	136,159				
	2	12.09	67.33	176,935				
	10	12.09	116.25	348,346				
OFFSITE	1	12.15	16.82	54,327	12.15	16.82	54,327	
	2	12.15	20.36	66,748	12.15	20.36	66,748	
	10	12.15	31.07	116,470	12.15	31.07	116,470	
VAULT 2	1				12.27	23.00	127,952	
	2				12.23	33.40	157,324	
	10				12.14	75.01	274,936	
VAULT 4	1				12.67	3.28	66,871	
	2				12.56	6.70	80,392	
	10				12.28	20.39	132,914	
CROSS SECTIONS G-G' TO H-'	1				12.16	1.30	4,051	
	2				12.16	1.70	5,303	
	10				12.15	3.04	10,605	
STUDY POINT 1	1	12.10	67.19	190,486	12.18	41.46	249,150	41.35
	2	12.10	85.47	243,683	12.20	55.14	304,463	85.47
	10	12.10	143.92	464,816	12.15	125.38	534,923	143.92
OUTFALL POINT 1	1				12.18	42.76	253,200	
	2				12.20	56.77	309,766	
	10				12.15	121.50	520,368	

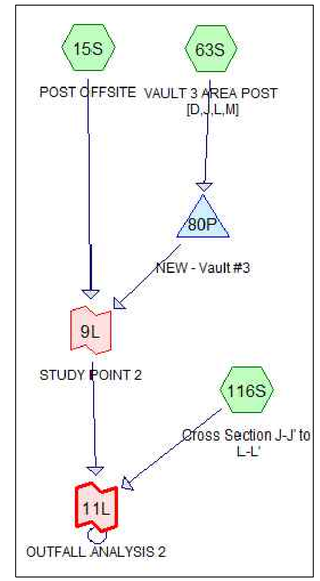
STUDY POINT 2:

FLOW SUMMARY		PRE-DEVELOPMENT			POST-DEVELOPMENT SUMMARY			Q ALLOW*
NODE ID	RETURN EVENT	Q PEAK hrs	Q PEAK cfs	Rv cu.ft.	Q PEAK hrs	Q PEAK cfs	Rv cu.ft.	CFS
ONSITE	1	12.03	48.77	99,926				
	2	12.03	62.66	129,838				
	10	12.03	106.06	255,599				
OFFSITE	1	12.08	33.04	95,334	12.08	30.45	82,745	
	2	12.08	39.16	114,873	12.08	36.77	101,858	
	10	12.08	56.97	191,351	12.08	55.39	177,387	
VAULT 3	1				12.63	10.03	153,017	
	2				12.39	22.60	187,991	
	10				12.17	80.15	326,881	
CROSS SECTION J-J' TO L-L'	1				12.09	12.95	34,232	
	2				12.09	16.01	42,944	
	10				12.08	25.30	78,364	
STUDY POINT 2	1	12.04	76.56	195,259	12.09	37.61	235,762	50.75
	2	12.04	95.46	244,511	12.09	44.63	289,649	95.46
	10	12.04	153.75	446,950	12.14	126.27	504,268	153.75
OUTFALL POINT 2	1				12.09	50.55	269,994	
	2				12.09	60.84	332,593	
	10				12.13	148.84	582,632	

POST-DEVELOPMENT NODE SUMMARIES FOR OUTFALL POINT #1



POST-DEVELOPMENT NODE SUMMARIES FOR OUTFALL POINT #2



NODE LEGEND

ROUTING DIAGRAM NODE SYMBOLS:

Subcat — HYDROCAD SUBCATCHMENT - USED TO MODEL THE EFFECT OF RAINFALL ON A SPECIFIC SECTION OF THE WATERSHED, AND PRODUCES A RUNOFF HYDROGRAPH. SUBCATCHMENTS ARE DESCRIBED BY A NUMBER OF PARAMETERS SUCH AS AREA, CURVE NUMBER, AND TIME OF CONCENTRATION.

Pond — HYDROCAD POND -USED TO MODEL THE STORAGE EFFECTS OF ANY RETENTION OR DETENTION AREA, SUCH AS A RESERVOIR, DETENTION POND, OR STORAGE CHAMBER. A POND CAN ALSO INCORPORATE A VARIETY OF ANY OUTLET CONTROL DEVICES, SUCH AS CULVERTS, WEIRS, ETC., WITH THE ABILITY TO ACCOUNT FOR HEADWATER AND TAILWATER EFFECTS.

Link — HYDROCAD LINK -USED TO INTERCONNECT SEVERAL ROUTING DIAGRAMS AND PRODUCES A RUNOFF HYDROGRAPH SCALED APPROPRIATELY FOR TIME. THIS PROVIDES A REPRESENTATION OF DISCHARGE OF RUNOFF WHERE MULTIPLE HYDROGRAPHS ARE ACCUMULATED TO A POINT OF ANALYSIS.

**NOTE - THE NUMBER AND LETTER GENERATED WITHIN THE ROUTING DIAGRAM NODE IS AUTOMATICALLY GENERATED BY THE HYDROCAD SOFTWARE. THE NUMBER AND LETTER HAS NO EFFECT ON THE ROUTING CALCULATIONS. THE TEXT BELOW EACH HYDROCAD NODE PROVIDES A BRIEF DESCRIPTION OF THE NODES REPRESENTATION.

POST-DEVELOPMENT 2-YEAR OUTFALL POINT #1

Inflow Area = 1,470,063 sf , 42.45% Impervious , Inflow Depth > 2.53" for 2-yr event
Inflow = 56.77 cfs @ 12.20 hrs , Volume= 309,766 cf
Primary = 56.77 cfs @ 12.20 hrs , Volume= 309,766 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 = 1,470,063 sf , 42.45% Impervious , Inflow Depth > 4.37" for 10-yr event
Inflow = 125.38 cfs @ 12.15 hrs , Volume= 534,923 cf
Primary = 125.38 cfs @ 12.15 hrs , Volume= 534,923 cf , Atten= 0% , Lag= 0.0 min

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

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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PRELIMINARY SITE PLAN - PARKS
CITY OF ALEXANDRIA, VIRGINIA
SCALE: N.A. C.I.= N.A. DATE: NOV., 2022

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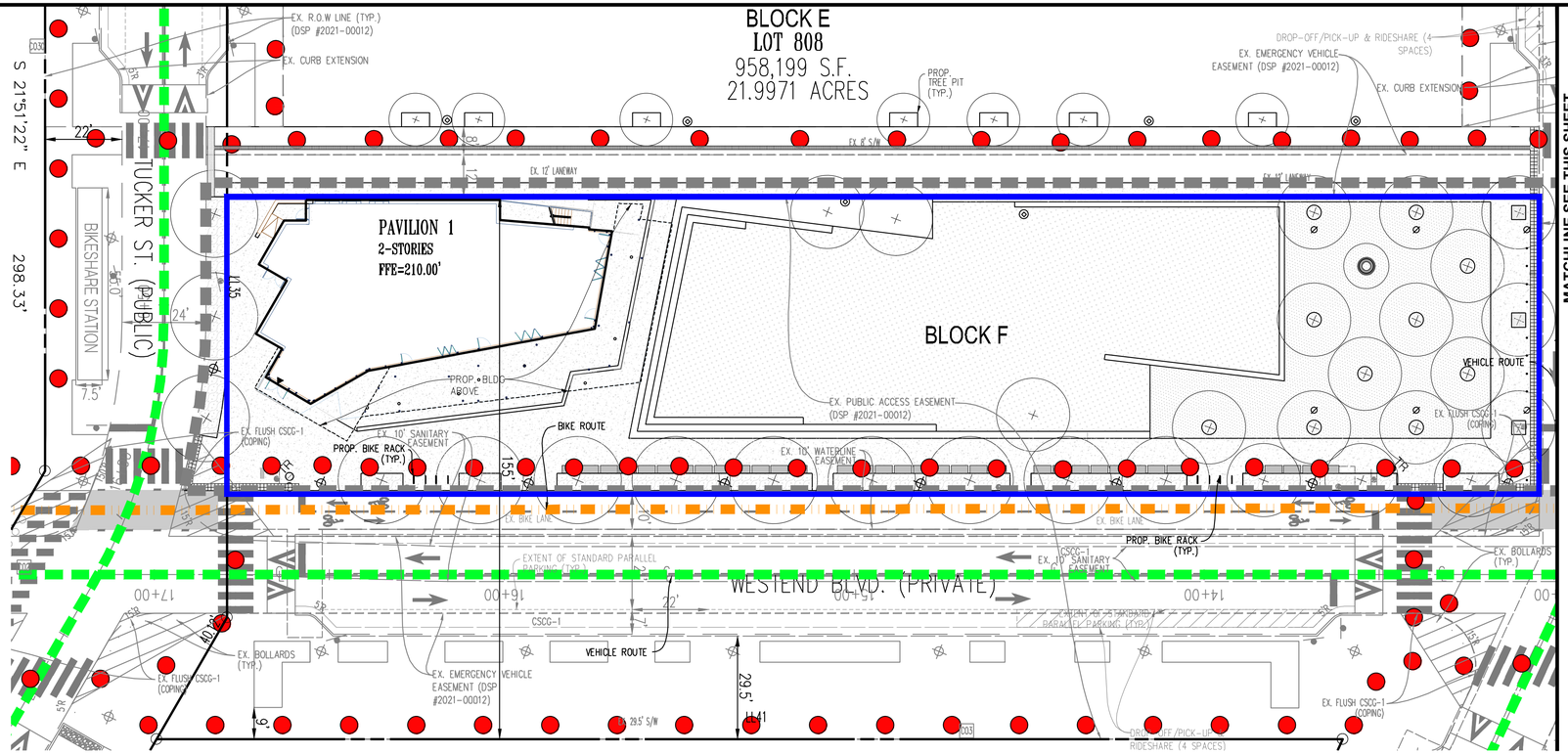

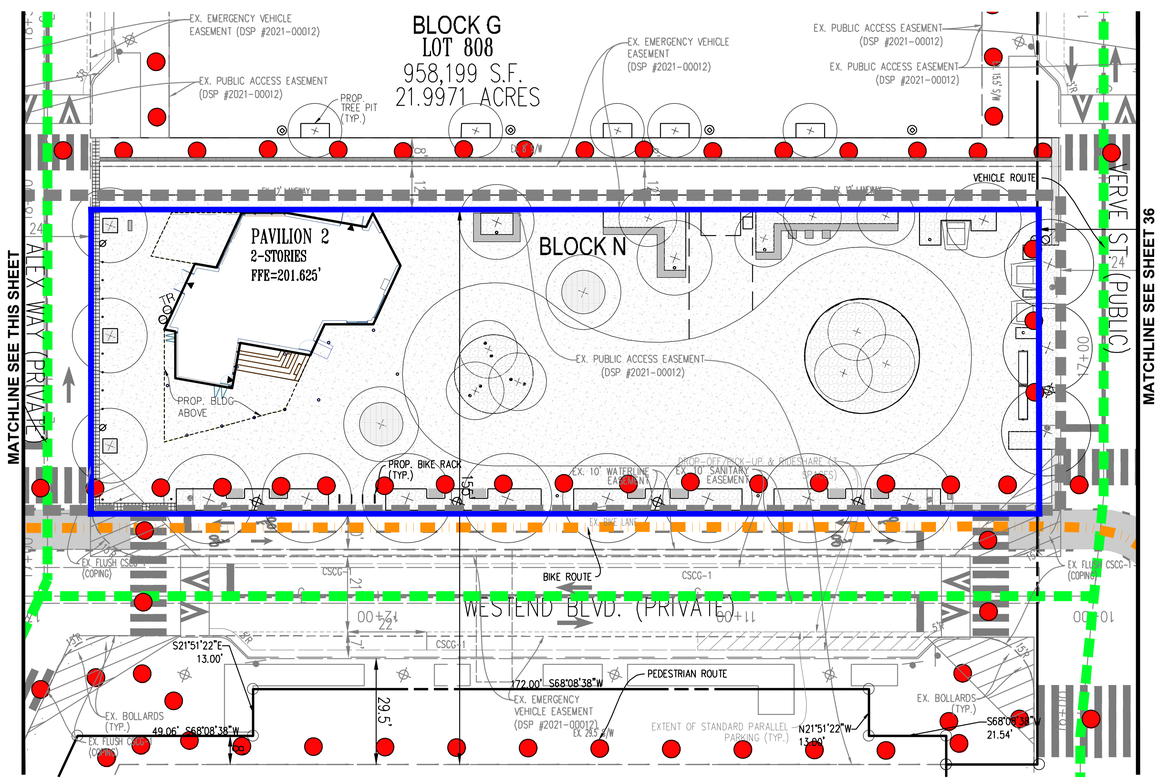

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LEGEND

- PEDESTRIAN ROUTE
- VEHICLE ROUTE
- BIKE ROUTE

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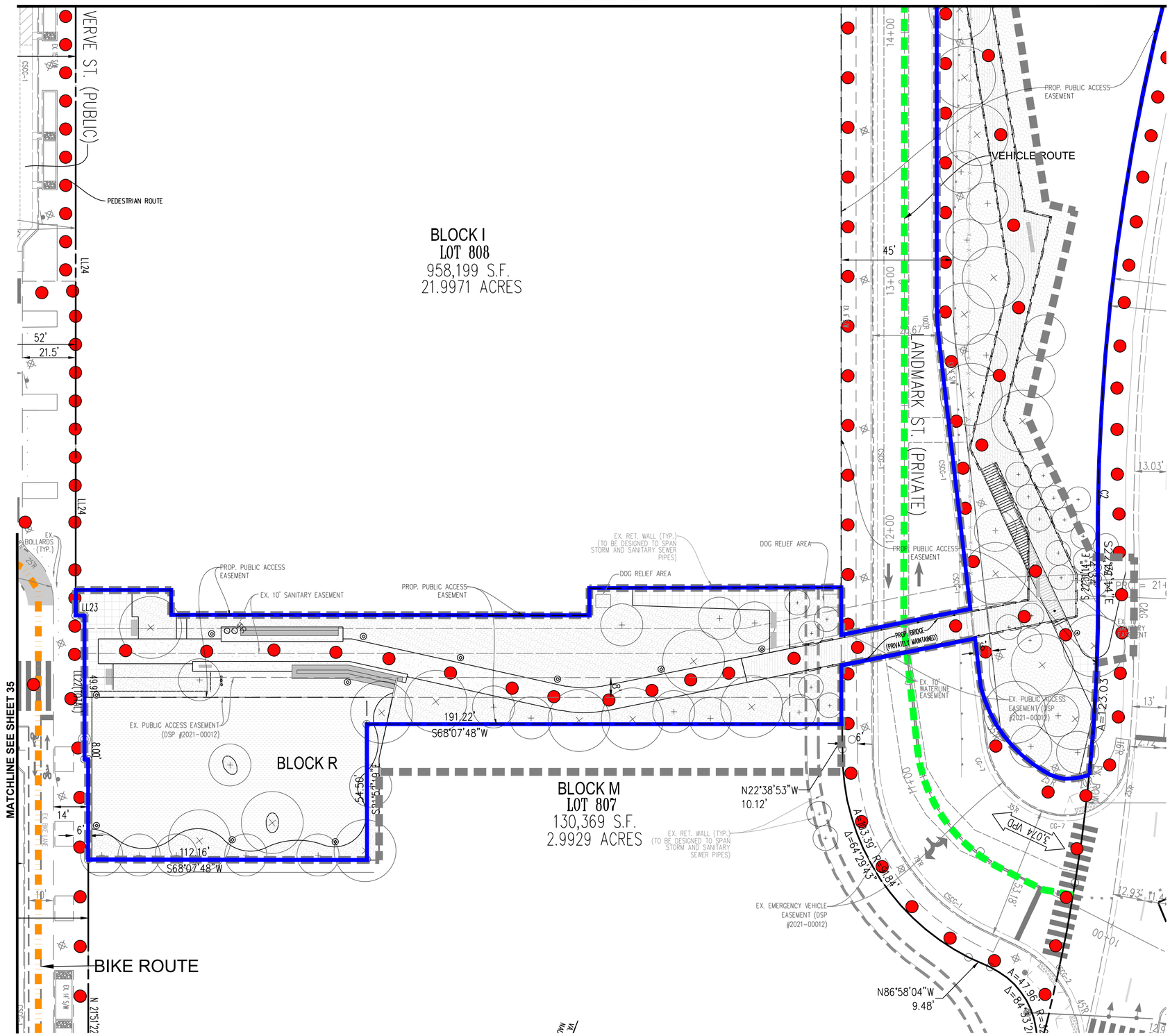

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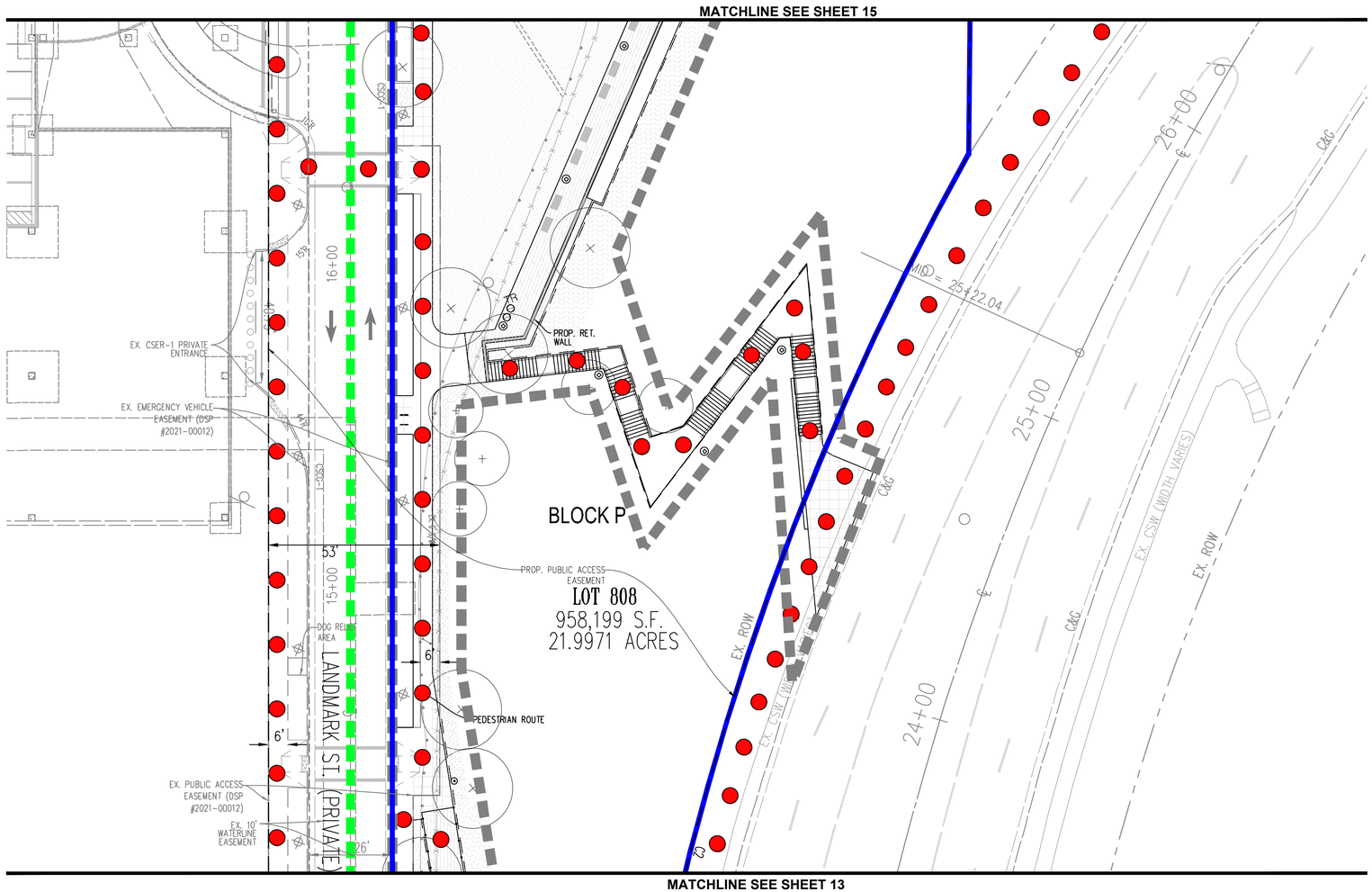

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- BIKE ROUTE

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CITY OF ALEXANDRIA, VIRGINIA

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FILE No. DSUP-13089

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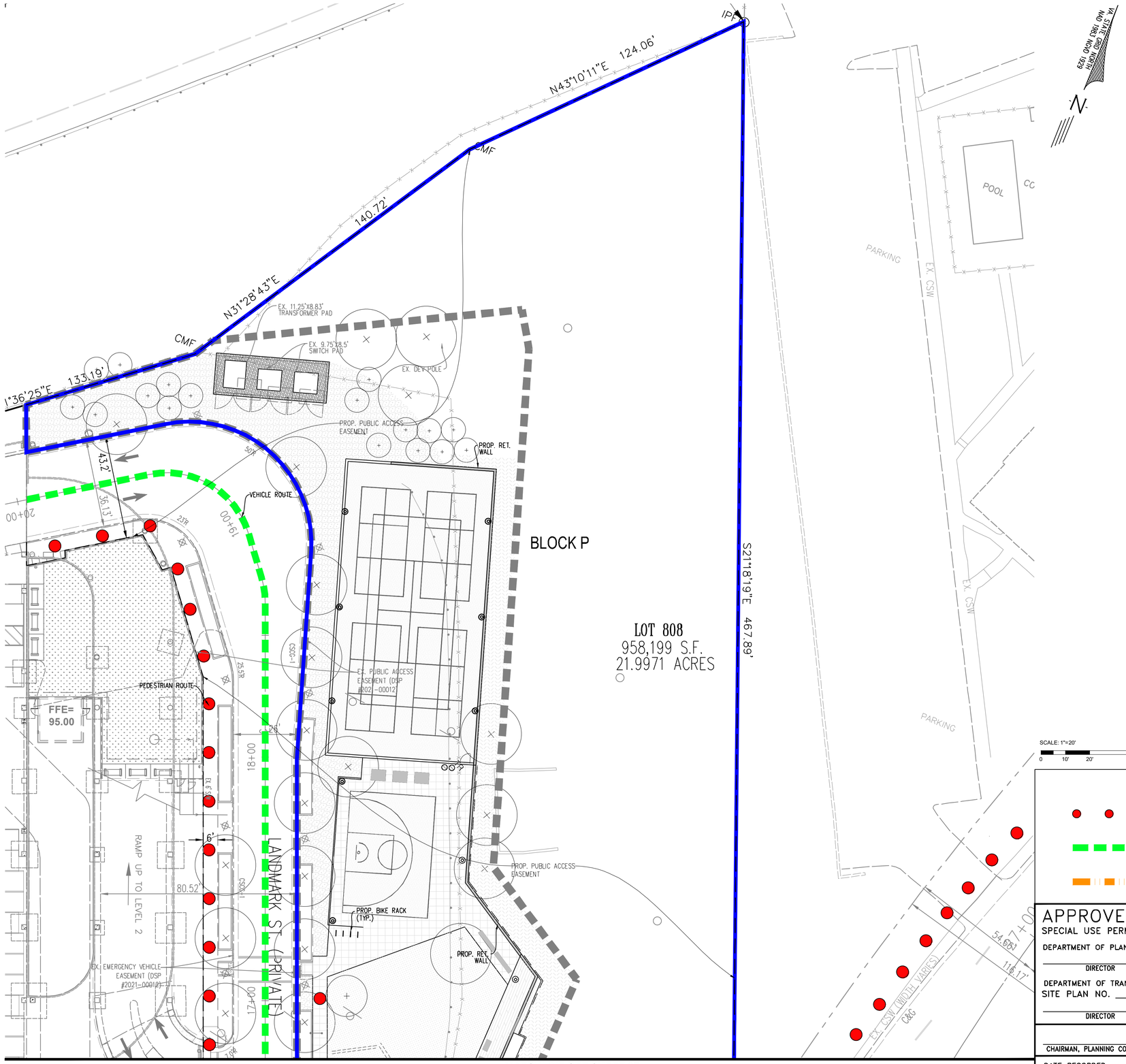

MATCHLINE SEE SHEET 37

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

PLAN DATE
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02-09-2022
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COMMONWEALTH OF VIRGINIA
CLAYTON C. TOCK
Lic. No. 038790
03.17.2023
PROFESSIONAL ENGINEER

TEMPORARY PEDESTRIAN EXHIBIT

LANDMARK MALL REDEVELOPMENT
PRELIMINARY SITE PLAN - PARKS

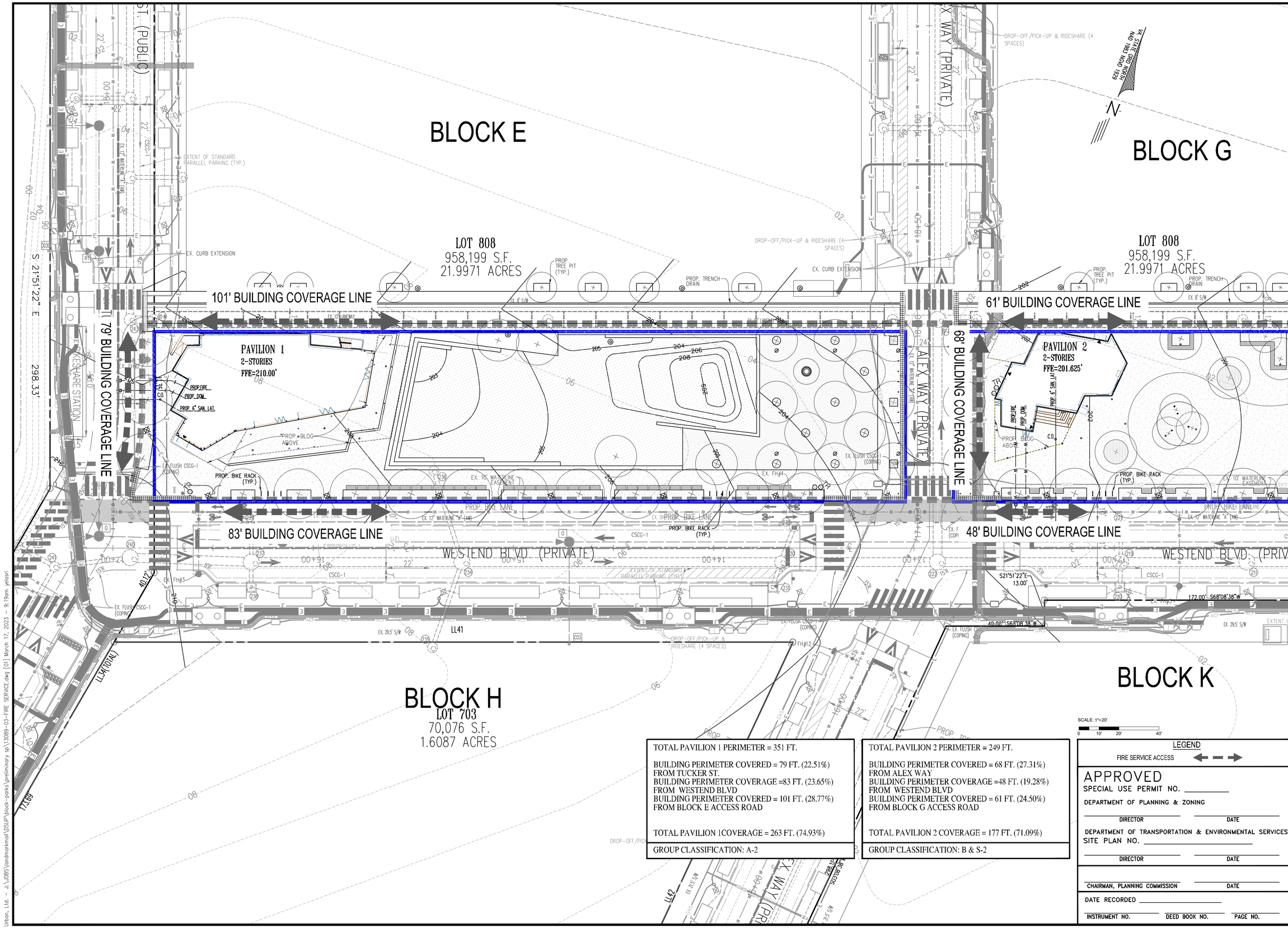
CITY OF ALEXANDRIA, VIRGINIA

SCALE: 1"=20' C.I.=N/A DATE: NOV., 2022

SHEET 38 OF 108

FILE No. DSUP-13089

Urban, Ltd. - J:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\13089-14-PEDESTRIAN EXHIBIT.dwg [04] March 17, 2023 - 9:18am yelasri



TOTAL PAVILION 1 PERIMETER = 351 FT.

BUILDING PERIMETER COVERED = 79 FT. (22.51%)
FROM TUCKER ST.
BUILDING PERIMETER COVERAGE =83 FT. (23.65%)
FROM WESTEND BLVD
BUILDING PERIMETER COVERED = 101 FT. (28.77%)
FROM BLOCK E ACCESS ROAD

TOTAL PAVILION 1COVERAGE = 263 FT. (74.93%)

GROUP CLASSIFICATION: A-2

TOTAL PAVILION 2 PERIMETER = 249 FT.

BUILDING PERIMETER COVERED = 68 FT. (27.31%)
FROM ALEX WAY
BUILDING PERIMETER COVERAGE =48 FT. (19.28%)
FROM WESTEND BLVD
BUILDING PERIMETER COVERED = 61 FT. (24.50%)
FROM BLOCK G ACCESS ROAD

TOTAL PAVILION 2 COVERAGE = 177 FT. (71.09%)

GROUP CLASSIFICATION: B & S-2

SCALE: 1"=20'
0 10' 20' 40'

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

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PLAN DATE
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CLAYTON C. TUCK
Lic. No. 038790
03/17/2023
PROFESSIONAL ENGINEER

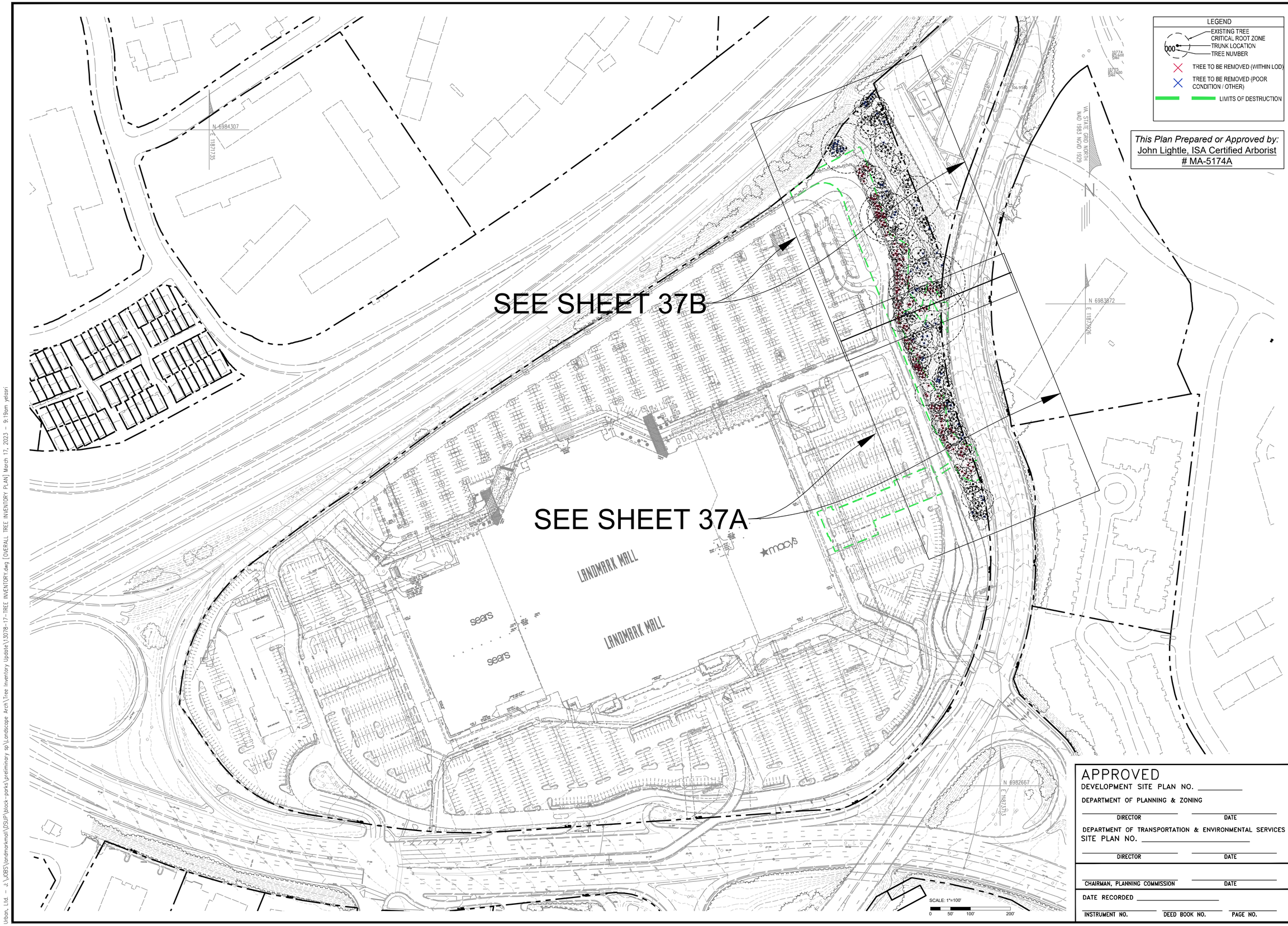
FIRE SERVICE PLAN
LANDMARK MALL REDEVELOPMENT
PRELIMINARY SITE PLAN - PARKS
CITY OF ALEXANDRIA, VIRGINIA

SCALE: 1"=20' C.I.=N/A DATE: NOV., 2022

SHEET 39 OF 108

FILE No. DSUP-13089

Urban, Ltd. – J:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\13089-03-FIRE SERVICE.dwg [01] March 17, 2023 – 9:19am yelosri



LEGEND

- EXISTING TREE CRITICAL ROOT ZONE
- TRUNK LOCATION
- TREE NUMBER
- TREE TO BE REMOVED (WITHIN LOD)
- TREE TO BE REMOVED (POOR CONDITION / OTHER)
- LIMITS OF DESTRUCTION

This Plan Prepared or Approved by:
John Lightle, ISA Certified Arborist
MA-5174A

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
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03-17-2023

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John Lightle
Lic. No. 1957
03/17/2023
LANDSCAPE ARCHITECT

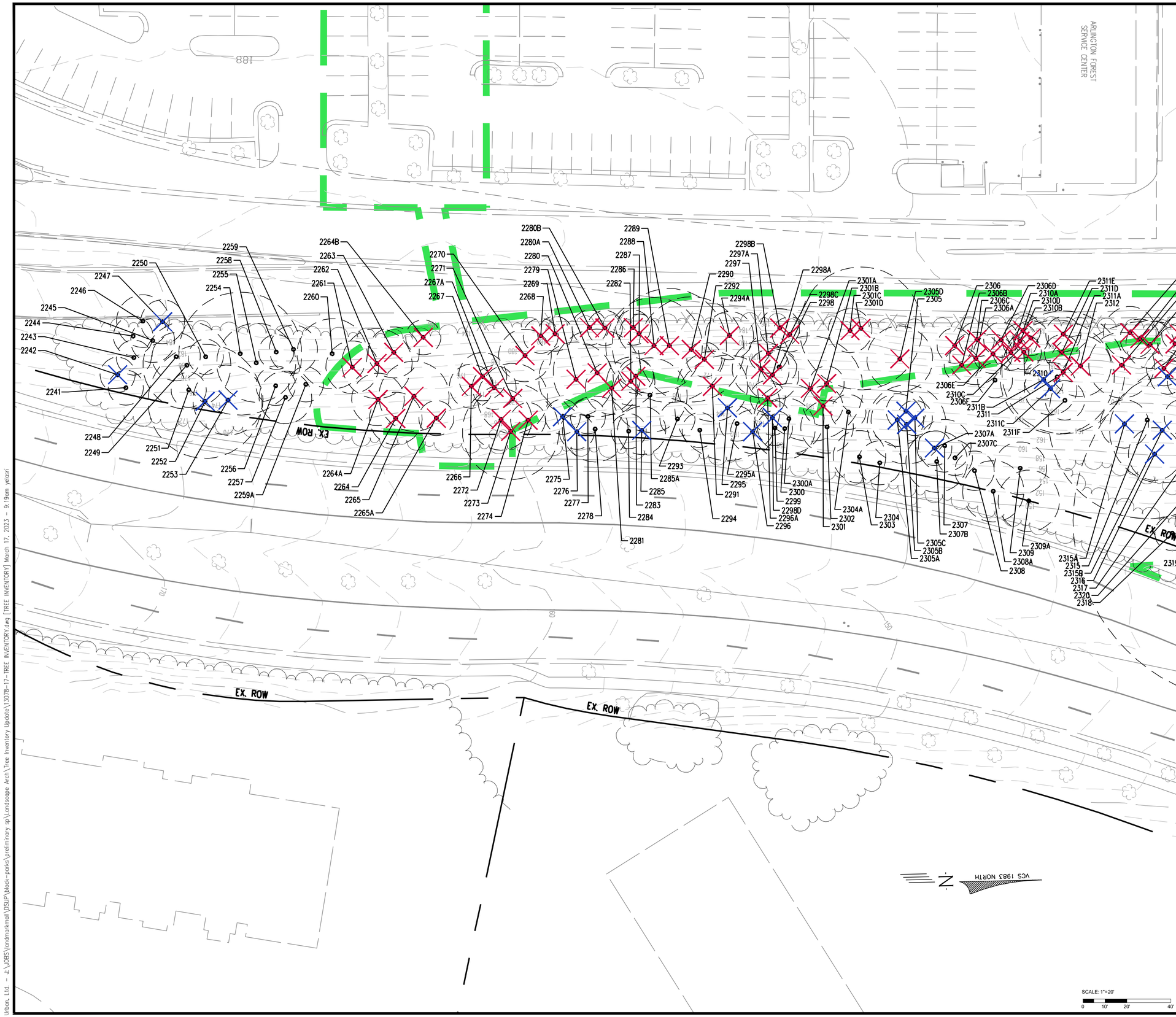
OVERALL TREE INVENTORY
LANDMARK MALL REDEVELOPMENT
PRELIMINARY SITE PLAN - PARKS
CITY OF ALEXANDRIA, VIRGINIA

SCALE: 1"=20' C.I.=2' DATE: NOV., 2022

SHEET 40 OF 108

FILE No. DSUP-13089

Urban, Ltd. – J:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\Landscape Arch\Tree Inventory Update\13078-17-TREE INVENTORY.dwg [OVERALL TREE INVENTORY PLAN] March 17, 2023 – 9:19am yalasri



LEGEND

- EXISTING TREE CRITICAL ROOT ZONE
- TRUNK LOCATION
- TREE NUMBER
- TREE TO BE REMOVED (WITHIN LOD)
- TREE TO BE REMOVED (POOR CONDITION / OTHER)
- LIMITS OF DESTRUCTION

This Plan Prepared or Approved by:
John Lightle, ISA Certified Arborist
MA-5174A

No.	DATE	DESCRIPTION

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12-09-2022
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Lic. No. 1867
03/17/2023
CERTIFIED ARBORIST

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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.

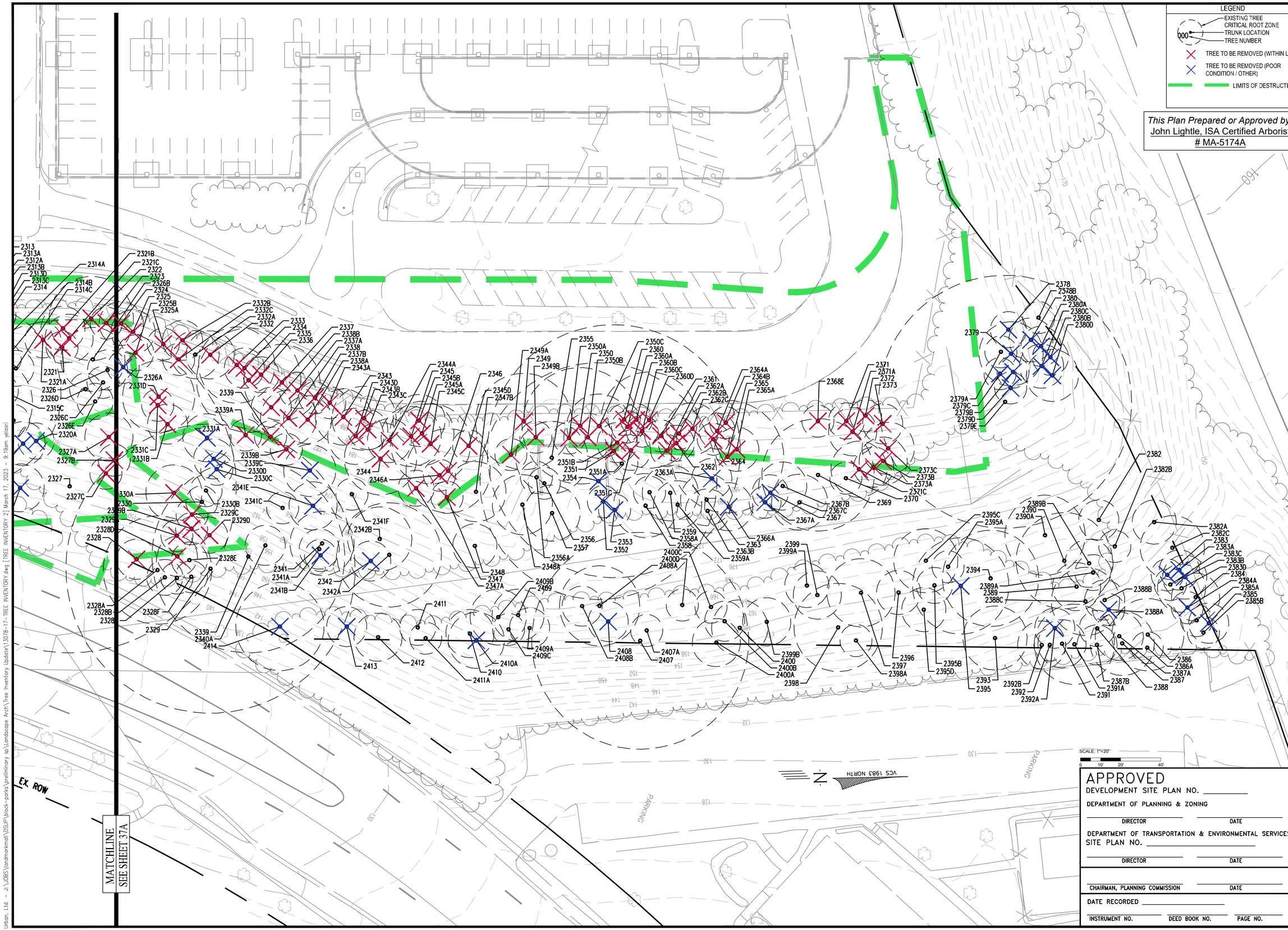
TREE INVENTORY
LANDMARK MALL REDEVELOPMENT
PRELIMINARY SITE PLAN - PARKS
CITY OF ALEXANDRIA, VIRGINIA

SCALE: 1"=20' C.I.= 2' DATE: NOV. 2022

SHEET 41 OF 108

FILE No. DSUP-13089

Urban, Ltd. - E:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\Landscape Arch\Tree Inventory Update\13078-17-TREE INVENTORY.dwg [TREE INVENTORY] March 17, 2023 - 9:19am yelcsri



No.	DATE	DESCRIPTION

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12-09-2022
03-17-2023

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TREE INVENTORY

LANDMARK MALL REDEVELOPMENT
PRELIMINARY SITE PLAN - PARKS

CITY OF ALEXANDRIA, VIRGINIA

SCALE: 1"=20' C.I.= 2' DATE: NOV., 2022

APPROVED
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DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. _____
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DSUP-13089

Urban, Ltd. - J:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\Landscape Arch\Tree Inventory Update\13078-17-TREE INVENTORY.dwg [TREE INVENTORY 2] March 17, 2023 - 9:19am yelisri

TREE INVENTORY & CONDITION ANALYSIS

TREE #	BOTANICAL NAME	COMMON NAME	TRUNK SIZE	CRZ SIZE	TRUNK ELEVATION	CRZ ELEVATION	COMMENTS	REMOVE-POOR	Remove / Preserve
			DBH (in.)	R (ft.)	Elevation (ft.)	Elevation (ft.)			
2241	*Ailanthus altissima*	Tree of Heaven	7"	8'	177.00	176.50		62.50	PRESERVE
2242	*Ailanthus altissima*	Tree of Heaven	6"	8'	179.00	178.50	Crooked	43.75	REMOVE-POOR COND.
2243	*Ailanthus altissima*	Tree of Heaven	6"	8'	181.50	181.00		62.50	PRESERVE
2244	*Robinia pseudoacacia*	Black Locust	9"	9'	183.75	183.25	Leaning	53.13	PRESERVE
2245	*Robinia pseudoacacia*	Black Locust	10"	10'	183.75	183.25		59.38	PRESERVE
2246	*Ailanthus altissima*	Tree of Heaven	12"	12'	185.50	185.00		62.50	PRESERVE
2247	*Robinia pseudoacacia*	Black Locust	10"	10'	185.50	185.00	Dead	0.00	REMOVE-POOR COND.
2248	*Ailanthus altissima*	Tree of Heaven	11"	11'	181.50	181.00		59.38	PRESERVE
2249	*Robinia pseudoacacia*	Black Locust	20"	20'	180.00	179.50	Co-dominant, Poor	31.25	REMOVE-POOR COND.
2250	*Prunus serotina*	Black Cherry	6"	8'	181.25	180.75		62.50	PRESERVE
2251	*Ailanthus altissima*	Tree of Heaven	7"	8'	176.50	176.00		62.50	PRESERVE
2252	*Quercus rubra*	Red Oak	26"	26'	174.75	174.25	Co-dominant	43.75	REMOVE-POOR COND.
2253	*Quercus alba*	White Oak	16"	16'	174.75	174.25	Co-dominant, Poor, Leaning	28.13	REMOVE-POOR COND.
2254	*Quercus rubra*	Red Oak	28"	28'	181.50	181.00	Vines	62.50	PRESERVE
2255	*Quercus rubra*	Red Oak	18"	18'	179.75	179.25	Vines	59.38	PRESERVE
2256	*Robinia pseudoacacia*	Black Locust	9"	9'	175.75	175.25	Vines	62.50	PRESERVE
2257	*Robinia pseudoacacia*	Black Locust	12"	12'	173.75	173.25	Vines	71.88	PRESERVE
2258	*Robinia pseudoacacia*	Black Locust	8"	8'	181.75	181.25		59.38	PRESERVE
2259	*Robinia pseudoacacia*	Black Locust	11"	11'	182.00	181.50		62.50	PRESERVE
2259A	*Quercus rubra*	Red Oak	6"	8'	175.75	175.25	AFA	53.13	PRESERVE
2260	*Quercus rubra*	Red Oak	16"	16'	181.00	180.50		62.50	PRESERVE
2261	*Quercus rubra*	Red Oak	12"	12'	178.50	178.00	Leaning	43.75	REMOVE-WITHIN LOD
2262	*Quercus rubra*	Red Oak	16"	16'	179.00	178.50	Dead	0.00	REMOVE-WITHIN LOD
2263	*Quercus rubra*	Red Oak	10"	10'	181.00	180.50	Dead	0.00	REMOVE-WITHIN LOD
2264	*Robinia pseudoacacia*	Black Locust	12"	12'	169.00	168.50		62.50	REMOVE-WITHIN LOD
2264A	*Ailanthus altissima*	Tree of Heaven	12"	12'	172.75	172.25	Co-dominant	65.63	REMOVE-WITHIN LOD
2264B	*Ailanthus altissima*	Tree of Heaven	8"	8'	183.75	183.25	AFA	53.13	REMOVE-WITHIN LOD
2265	*Quercus rubra*	Red Oak	16"	16'	171.75	171.25		53.13	REMOVE-WITHIN LOD
2265A	*Ailanthus altissima*	Tree of Heaven	6"	8'	169.00	168.50		62.50	REMOVE-WITHIN LOD
2266	*Robinia pseudoacacia*	Black Locust	10"	10'	173.50	173.00		56.25	REMOVE-WITHIN LOD
2267	*Ailanthus altissima*	Tree of Heaven	11"	11'	175.00	174.50	Dead	0.00	REMOVE-WITHIN LOD
2267A	*Prunus serotina*	Black Cherry	10"	10'	173.00	172.50	Dead	0.00	REMOVE-WITHIN LOD
2268	*Ulmus americana*	American Elm	8"	8'	183.00	182.50		56.25	REMOVE-WITHIN LOD
2269	*Prunus serotina*	Black Cherry	7"	8'	183.50	183.00	Lost Limbs, Poor	31.25	REMOVE-WITHIN LOD
2270	*Ailanthus altissima*	Tree of Heaven	12"	12'	179.00	178.50		56.25	REMOVE-WITHIN LOD
2271	*Robinia pseudoacacia*	Black Locust	16"	16'	171.00	170.50	Dead	0.00	REMOVE-WITHIN LOD
2272	*Unknown*	Unknown	14"	14'	167.00	166.50	Dead	0.00	REMOVE-WITHIN LOD
2273	*Robinia pseudoacacia*	Black Locust	22"	22'	164.50	164.00	Dead	0.00	REMOVE-WITHIN LOD
2274	*Prunus serotina*	Black Cherry	7"	8'	166.50	166.00		53.13	REMOVE-WITHIN LOD
2275	*Ailanthus altissima*	Tree of Heaven	7"	8'	166.00	165.50	Dead	0.00	REMOVE-POOR COND.
2276	*Ailanthus altissima*	Tree of Heaven	8"	8'	162.50	162.00	Dead	0.00	REMOVE-POOR COND.
2277	*Prunus serotina*	Black Cherry	7"	8'	165.00	164.50	Leaning	62.50	PRESERVE
2278	*Prunus serotina*	Black Cherry	15"	15'	162.50	162.00	Co-Dominant	53.13	PRESERVE
2279	*Unknown*	Unknown	17"	17'	173.00	172.50	Multi-stem, Dead	0.00	REMOVE-WITHIN LOD
2280	*Robinia pseudoacacia*	Black Locust	20"	20'	174.00	173.50	Poor	31.25	REMOVE-WITHIN LOD
2280A	*Unknown*	Unknown	6"	8'	185.00	184.50		62.50	REMOVE-WITHIN LOD
2280B	*Ailanthus altissima*	Tree of Heaven	8"	8'	185.00	184.50	Co-Dominant	62.50	REMOVE-WITHIN LOD
2281	*Prunus serotina*	Black Cherry	12"	12'	170.50	170.00	Leaning	53.13	REMOVE-WITHIN LOD
2282	*Ailanthus altissima*	Tree of Heaven	11"	11'	172.00	171.50		62.50	REMOVE-WITHIN LOD
2283	*Ailanthus altissima*	Tree of Heaven	8"	8'	173.00	172.50		53.13	REMOVE-WITHIN LOD
2284	*Prunus serotina*	Black Cherry	7"	8'	163.50	163.00		62.50	PRESERVE
2285	*Robinia pseudoacacia*	Black Locust	11"	11'	163.50	163.00	Dead	0.00	REMOVE-POOR COND.
2285A	*Quercus rubra*	Red Oak	14"	14'	168.50	168.00	AFA, Vines	43.75	PRESERVE
2286	*Ailanthus altissima*	Tree of Heaven	6"	8'	185.50	185.00	Poor	31.25	REMOVE-WITHIN LOD
2287	*Ailanthus altissima*	Tree of Heaven	9"	9'	184.00	183.50	Poor	25.00	REMOVE-WITHIN LOD
2288	*Robinia pseudoacacia*	Black Locust	22"	22'	180.00	179.50		62.50	REMOVE-WITHIN LOD
2289	*Prunus serotina*	Black Cherry	26"	26'	180.00	179.50		62.50	REMOVE-WITHIN LOD
2290	*Ailanthus altissima*	Tree of Heaven	24"	24'	178.00	177.50		53.13	REMOVE-WITHIN LOD
2291	*Unknown*	Unknown	16"	16'	170.00	169.50	Dead	0.00	REMOVE-WITHIN LOD
2292	*Ailanthus altissima*	Tree of Heaven	8"	8'	175.50	175.00	Fallen	0.00	REMOVE-WITHIN LOD
2293	*Robinia pseudoacacia*	Black Locust	7"	8'	163.00	162.50		62.50	PRESERVE
2294	*Ailanthus altissima*	Tree of Heaven	8"	8'	175.50	175.00		62.50	PRESERVE
2294A	*Robinia pseudoacacia*	Black Locust	11"	11'	182.00	181.50	Leaning; vines	53.13	REMOVE-WITHIN LOD
2295	*Robinia pseudoacacia*	Black Locust	24"	24'	165.00	164.50	Co-Dominant, Poor	31.25	REMOVE-POOR COND.
2295A	*Ailanthus altissima*	Tree of Heaven	8"	8'	162.00	161.50	Leaning	53.13	PRESERVE
2296	*Prunus serotina*	Black Cherry	10"	10'	160.50	160.00	Leaning; Poor Condition	40.63	REMOVE-POOR COND.
2296A	*Ailanthus altissima*	Tree of Heaven	7"	8'	167.50	167.00	Crooked; Poor Condition	43.75	REMOVE-WITHIN LOD
2297	*Prunus serotina*	Black Cherry	13"	13'	173.50	173.00	Leaning	46.88	REMOVE-WITHIN LOD
2297A	*Ailanthus altissima*	Tree of Heaven	9"	9'	177.00	176.50	Crooked	50.00	REMOVE-WITHIN LOD
2298	*Ailanthus altissima*	Tree of Heaven	8"	8'	174.00	173.50		53.13	REMOVE-WITHIN LOD
2298A	*Unknown*	Unknown	12"	12'	172.50	172.00	Dead	0.00	REMOVE-WITHIN LOD
2298B	*Prunus serotina*	Black Cherry	9"	9'	185.00	184.50		65.63	REMOVE-WITHIN LOD
2298C	*Prunus serotina*	Black Cherry	7"	8'	183.00	182.50		68.75	REMOVE-WITHIN LOD
2298D	*Unknown*	Unknown	7"	8'	163.00	162.50	Dead	0.00	REMOVE-POOR COND.
2299	*Ailanthus altissima*	Tree of Heaven	8"	8'	161.00	160.50		59.38	PRESERVE
2300	*Ulmus americana*	American Elm	14"	14'	161.00	160.50	Vines	53.13	PRESERVE
2300A	*Ulmus americana*	American Elm	16"	16'	163.00	162.50	Vines	62.50	PRESERVE
2301	*Ailanthus altissima*	Tree of Heaven	9"	9'	166.00	165.50	Up Rooting	62.50	REMOVE-WITHIN LOD
2301A	*Ailanthus altissima*	Tree of Heaven	24"	24'	170.00	169.50	Co-Dominant	53.13	REMOVE-WITHIN LOD
2301B	*Ailanthus altissima*	Tree of Heaven	6"	8'	171.00	170.50		65.63	REMOVE-WITHIN LOD
2301C	*Prunus serotina*	Black Cherry	10"	10'	183.00	182.50	Co-Dominant	68.75	REMOVE-WITHIN LOD
2301D	*Ulmus americana*	American Elm	28"	28'	184.00	183.50	Multistem	53.13	REMOVE-WITHIN LOD
2302	*Robinia pseudoacacia*	Black Locust	12"	12'	162.00	161.50		62.50	PRESERVE
2303	*Ailanthus altissima*	Tree of Heaven	12"	12'	157.00	156.50		62.50	PRESERVE
2304	*Ulmus americana*	American Elm	10"	10'	156.00	155.50		53.13	PRESERVE
2304A	*Prunus serotina*	Black Cherry	8"	8'	165.00	164.50		59.38	PRESERVE
2305	*Unknown*	Unknown	9"	9'	166.00	165.50	Dead; fallen over	0.00	REMOVE-POOR COND.
2305A	*Ailanthus altissima*	Tree of Heaven	12"	12'	164.00	163.50	Dead	0.00	REMOVE-POOR COND.
2305B	*Ailanthus altissima*	Tree of Heaven	18"	18'	163.00	162.50	Dead	0.00	REMOVE-POOR COND.
2305C	*Ailanthus altissima*	Tree of Heaven	6"	8'	165.00	164.50	Dead	0.00	REMOVE-POOR COND.
2305D	*Prunus serotina*	Black Cherry	15"	15'	177.00	176.50	Poor Condition	25.00	REMOVE-WITHIN LOD
2306	*Ailanthus altissima*	Tree of Heaven	6"	8'	183.00	182.50		53.13	REMOVE-WITHIN LOD
2306A	*Robinia pseudoacacia*	Black Locust	12"	12'	179.00	178.50	Heavy Leaning	28.13	REMOVE-WITHIN LOD
2306B	*Prunus serotina*	Black Cherry	8"	8'	177.00	176.50		59.38	REMOVE-WITHIN LOD
2306C	*Ailanthus altissima*	Tree of Heaven	8"	8'	185.00	184.50		53.13	REMOVE-WITHIN LOD
2306D	*Ulmus americana*	American Elm	6"	8'	185.00	184.50		62.50	REMOVE-WITHIN LOD
2306E	*Prunus serotina*	Black Cherry	9"	9'	181.00	180.50	Co-Dominant, Leaning	62.50	REMOVE-WITHIN LOD
2306F	*Carya glabra*	Pignut Hickory	8"	8'	174.00	173.50		53.13	PRESERVE
2307	*Ailanthus altissima*	Tree of Heaven	12"	12'	159.00	158.50	Vines	59.38	PRESERVE
2307A	*Ailanthus altissima*	Tree of Heaven	6"	8'	159.00	158.50	Dead; Vines	0.00	REMOVE-POOR COND.
2307B	*Ailanthus altissima*	Tree of Heaven	14"	14'	156.00	155.50	Vines	65.63	PRESERVE
2307C	*Ailanthus altissima*	Tree of Heaven	8"	8'	157.00	156.50	Vines	68.75	PRESERVE
2308	*Juniperus virginiana*	Eastern Red Cedar	9"	9'	155.00	154.50	Vines	59.38	PRESERVE
2308A	*Juniperus virginiana*	Eastern Red Cedar	14"	14'	152.00	151.50		65.63	PRESERVE
2309	*Ailanthus altissima*	Tree of Heaven	12"	12'	156.00	155.50		68.75	PRESERVE
2309A	*Ulmus americana*	American Elm	14"	14'	151.00	150.50		53.13	PRESERVE
2310	*Ailanthus altissima*	Tree of Heaven	7"	8'	182.00	181.50		62.50	REMOVE-WITHIN LOD
2310A	*Ailanthus altissima*	Tree of Heaven	7"	8'	181.00	180.50		62.50	REMOVE-WITHIN LOD
2310B	*Ailanthus altissima*	Tree of Heaven	7"	8'	185.00	184.50		53.13	REMOVE-WITHIN LOD
2310C	*Ailanthus altissima*	Tree of Heaven	7"	8'	186.00	185.50		53.13	REMOVE-WITHIN LOD
2310D	*Ailanthus altissima*	Tree of Heaven	8"	8'	188.00	187.50		62.50	REMOVE-WITHIN LOD
2311	*Ailanthus altissima*	Tree of Heaven	26"	26'	175.00	174.50		62.50	PRESERVE
2311A	*Robinia pseudoacacia*	Black Locust	28"	28'	176.00	175.50		53.13	REMOVE-WITHIN LOD
2311B	*Ailanthus altissima*	Tree of Heaven	9"	9'	174.00	173.50	Poor	28.13	REMOVE-POOR COND.
2311C	*Ailanthus altissima*	Tree of Heaven	12"	12'	173.00	172.50	Dead	0.00	REMOVE-POOR COND.
2311D	*Juniperus virginiana*	Eastern Red Cedar	7"	8'	182.00	181.50		65.63	REMOVE-WITHIN LOD
2311E	*Ailanthus altissima*	Tree of Heaven	8"	8'	187.00	186.50		68.75	REMOVE-WITHIN LOD
2311F	*Ailanthus altissima*	Tree of Heaven	9"	9'	170.00	169.50		53.13	PRESERVE
2312	*Ulmus americana*	American Elm	14"	14'	178.00	177.50	Vines	62.50	REMOVE-WITHIN LOD
2312A	*Quercus rubra*	Red Oak	15"	15'	180.00	179.50	Vines	62.50	REMOVE-WITHIN LOD
2313	*Robinia pseudoacacia*	Black Locust	12"	12'	189.00	188.50		53.13	REMOVE-WITHIN LOD
2313A	*Robinia pseudoacacia*	Black Locust	9"	9'	187.00	186.50		59.38	REMOVE-WITHIN LOD
2313B	*Ailanthus altissima*	Tree of Heaven	11"	11'	185.00	184.50		53.13	REMOVE-WITHIN LOD
2313C	*Ailanthus altissima*	Tree of Heaven	6"	8'	186.00	185.50		62.50	REMOVE-WITHIN LOD
2313D	*Ailanthus altissima*	Tree of Heaven	6"	8'	189.00	188.50		62.50	REMOVE-WITHIN LOD
2314	*Ailanthus altissima*	Tree of Heaven	8"	8'	178.00	177.50		53.13	REMOVE-WITHIN LOD
2314A	*Unknown*	Unknown	6"	8'	177.00	176.50	Dead	0.00	REMOVE-POOR COND.
2314B	*Ailanthus altissima*	Tree of Heaven	8"	8'	176.00	175.50		65.63	PRESERVE
2314C	*Ailanthus altissima*	Tree of Heaven	9"	9'	174.00	173.50		68.75	PRESERVE
2315	*Ailanthus altissima*	Tree of Heaven	30"	45'	167.00	166.50	Vines; multistem	65.63	PRESERVE

TREE INVENTORY & CONDITION ANALYSIS

TREE#	BOTANICAL NAME	COMMON NAME	TRUNK SIZE	CRZ SIZE	TRUNK ELEVATION	CRZ ELEVATION	COMMENTS	REMOVE-POOR	Remove / Preserve
			DBH (in.)	R (ft.)	Elevation (ft.)	Elevation (ft.)			
2315A	*Ailanthus altissima*	Tree of Heaven	11"	11'	165.00	164.50	Dead	0.00	REMOVE-POOR COND.
2315B	*Ailanthus altissima*	Tree of Heaven	24"	24'	164.00	163.50	Dead	0.00	REMOVE-POOR COND.
2315C	*Ailanthus altissima*	Tree of Heaven	6"	8'	168.00	167.50		62.50	PRESERVE
2316	*Ailanthus altissima*	Tree of Heaven	12"	12'	160.00	159.50	Poor Condition	40.00	REMOVE-POOR COND.
2317	*Ulmus americana*	American Elm	8"	8'	162.00	161.50		53.13	PRESERVE
2318	*Ailanthus altissima*	Tree of Heaven	8"	8'	148.00	147.50		59.38	PRESERVE
2319	*Ulmus americana*	American Elm	12"	12'	149.00	148.50	Leaning, Poor Condition	28.13	REMOVE-POOR COND.
2320	*Ailanthus altissima*	Tree of Heaven	11"	11'	158.00	157.50	Poor Condition	25.00	REMOVE-POOR COND.
2320A	*Ailanthus altissima*	Tree of Heaven	9"	9'	159.00	158.50	Poor Condition	25.00	REMOVE-POOR COND.
2321	*Ailanthus altissima*	Tree of Heaven	6"	8'	183.00	182.50		53.13	REMOVE-WITHIN LOD
2321A	*Juniperus virginiana*	Eastern Red Cedar	9"	9'	183.00	182.50		62.50	REMOVE-WITHIN LOD
2321B	*Ailanthus altissima*	Tree of Heaven	11"	11'	187.00	186.50		62.50	REMOVE-WITHIN LOD
2321C	*Robinia pseudoacacia*	Black Locust	12"	12'	185.00	184.50		53.13	REMOVE-WITHIN LOD
2322	*Ailanthus altissima*	Tree of Heaven	21"	21'	191.00	190.50	Poor Condition, Co-Dominant	28.13	REMOVE-WITHIN LOD
2323	*Ailanthus altissima*	Tree of Heaven	8"	8'	190.00	189.50		65.63	REMOVE-WITHIN LOD
2324	*Robinia pseudoacacia*	Black Locust	11"	11'	194.00	193.50		68.75	REMOVE-WITHIN LOD
2325	*Robinia pseudoacacia*	Black Locust	12"	12'	190.00	189.50	Poor Condition; dying	20.00	REMOVE-WITHIN LOD
2325A	*Ailanthus altissima*	Tree of Heaven	8"	8'	190.00	189.50		59.38	REMOVE-WITHIN LOD
2325B	*Robinia pseudoacacia*	Black Locust	9"	9'	187.00	186.50	Dead	0.00	REMOVE-WITHIN LOD
2326	*Prunus serotina*	Black Cherry	10"	10'	181.00	180.50		59.38	PRESERVE
2326A	*Robinia pseudoacacia*	Black Locust	6"	8'	182.00	181.50	Dead	0.00	REMOVE-POOR COND.
2326B	*Robinia pseudoacacia*	Black Locust	16"	16'	182.00	181.50		53.13	PRESERVE
2326C	*Robinia pseudoacacia*	Black Locust	8"	8'	178.00	177.50		62.50	PRESERVE
2326D	*Robinia pseudoacacia*	Black Locust	8"	8'	174.00	173.50		62.50	PRESERVE
2326E	*Robinia pseudoacacia*	Black Locust	9"	9'	172.00	171.50		53.13	PRESERVE
2327	*Acer rubrum*	Red Maple	55"	83'	152.00	151.50	Co-Dominant, 1/2 Leaning	50.00	PRESERVE
2327A	*Robinia pseudoacacia*	Black Locust	12"	12'	165.00	164.50		53.13	REMOVE-WITHIN LOD
2327B	*Robinia pseudoacacia*	Black Locust	8"	8'	160.00	159.50	Dead	0.00	REMOVE-WITHIN LOD
2327C	*Robinia pseudoacacia*	Black Locust	7"	8'	167.00	166.50		65.63	REMOVE-WITHIN LOD
2328	*Ailanthus altissima*	Tree of Heaven	10"	10'	143.00	142.50	Vines	68.75	REMOVE-WITHIN LOD
2328A	*Ailanthus altissima*	Tree of Heaven	27"	27'	142.00	141.50	Co-Dominant	53.13	PRESERVE
2328B	*Ailanthus altissima*	Tree of Heaven	9"	9'	142.00	141.50		62.50	PRESERVE
2328C	*Ailanthus altissima*	Tree of Heaven	8"	8'	143.00	142.50		62.50	PRESERVE
2328D	*Ailanthus altissima*	Tree of Heaven	10"	10'	146.00	145.50		53.13	REMOVE-WITHIN LOD
2328E	*Ailanthus altissima*	Tree of Heaven	9"	9'	146.00	145.50		65.63	PRESERVE
2328F	*Ailanthus altissima*	Tree of Heaven	7"	8'	144.00	143.50		68.75	PRESERVE
2329	*Ailanthus altissima*	Tree of Heaven	48"	72'	147.00	146.50	Multistem	59.38	PRESERVE
2329A	*Ailanthus altissima*	Tree of Heaven	8"	8'	149.00	148.50		53.13	REMOVE-WITHIN LOD
2329B	*Ailanthus altissima*	Tree of Heaven	7"	8'	152.00	151.50		62.50	REMOVE-WITHIN LOD
2329C	*Ulmus americana*	American Elm	7"	8'	155.00	154.50	Vines	62.50	REMOVE-WITHIN LOD
2329D	*Ailanthus altissima*	Tree of Heaven	9"	9'	153.00	152.50		53.13	REMOVE-WITHIN LOD
2330	*Ulmus americana*	American Elm	6"	8'	159.00	158.50		59.38	PRESERVE
2330A	*Unknown*	Unknown	14"	14'	158.00	157.50	Dead	0.00	REMOVE-WITHIN LOD
2330B	*Prunus serotina*	Black Cherry	6"	8'	162.00	161.50	Vines	59.38	PRESERVE
2330C	*Robinia pseudoacacia*	Black Locust	8"	8'	166.00	165.50	Dead / Broken	0.00	REMOVE-POOR COND.
2330D	*Robinia pseudoacacia*	Black Locust	10"	10'	168.00	167.50	Dead	0.00	REMOVE-POOR COND.
2331A	*Robinia pseudoacacia*	Black Locust	12"	12'	173.00	172.50	Dead	0.00	REMOVE-POOR COND.
2331B	*Prunus serotina*	Black Cherry	10"	10'	173.00	172.50		59.38	REMOVE-WITHIN LOD
2331C	*Robinia pseudoacacia*	Black Locust	8"	8'	176.00	175.50	Dead	0.00	REMOVE-WITHIN LOD
2331D	*Robinia pseudoacacia*	Black Locust	18"	18'	178.00	177.50	Poor Condition	28.13	REMOVE-WITHIN LOD
2332	*Robinia pseudoacacia*	Black Locust	12"	12'	191.00	190.50		59.38	REMOVE-WITHIN LOD
2332A	*Ailanthus altissima*	Tree of Heaven	12"	12'	190.00	189.50	Co-Dominant	65.63	REMOVE-WITHIN LOD
2332B	*Robinia pseudoacacia*	Black Locust	10"	10'	191.00	190.50	Broken; dying	10.00	REMOVE-WITHIN LOD
2332C	*Ailanthus altissima*	Tree of Heaven	8"	8'	188.00	187.50		68.75	REMOVE-WITHIN LOD
2333	*Ailanthus altissima*	Tree of Heaven	19"	19'	191.00	190.50	Co-Dominant	53.13	REMOVE-WITHIN LOD
2334	*Ailanthus altissima*	Tree of Heaven	10"	10'	191.00	190.50		62.50	REMOVE-WITHIN LOD
2335	*Robinia pseudoacacia*	Black Locust	26"	26'	189.00	188.50	Vines	62.50	REMOVE-WITHIN LOD
2336	*Ailanthus altissima*	Tree of Heaven	9"	9'	191.00	190.50		53.13	REMOVE-WITHIN LOD
2337	*Ailanthus altissima*	Tree of Heaven	19"	19'	191.00	190.50	Co-Dominant	65.63	REMOVE-WITHIN LOD
2337A	*Ailanthus altissima*	Tree of Heaven	9"	9'	191.00	190.50	Dead / broken	68.75	REMOVE-WITHIN LOD
2337B	*Robinia pseudoacacia*	Black Locust	7"	8'	191.00	190.50	Crooked	59.38	REMOVE-WITHIN LOD
2338	*Ailanthus altissima*	Tree of Heaven	14"	14'	185.00	184.50		53.13	REMOVE-WITHIN LOD
2338A	*Ailanthus altissima*	Tree of Heaven	12"	12'	187.00	186.50		62.50	REMOVE-WITHIN LOD
2338B	*Ailanthus altissima*	Tree of Heaven	10"	10'	186.00	185.50		62.50	REMOVE-WITHIN LOD
2339	*Quercus palustris*	Pin Oak	32"	48'	153.00	152.50	Broken	43.75	REMOVE-WITHIN LOD
2339A	*Ailanthus altissima*	Tree of Heaven	7"	8'	178.00	177.50		65.63	REMOVE-WITHIN LOD
2339B	*Ailanthus altissima*	Tree of Heaven	7"	8'	179.00	178.50		68.75	REMOVE-WITHIN LOD
2339C	*Robinia pseudoacacia*	Black Locust	13"	13'	175.00	174.50	Vines	40.63	REMOVE-POOR COND.
2340A	*Ailanthus altissima*	Tree of Heaven	10"	10'	157.00	156.50	Vines	46.88	PRESERVE
2341	*Quercus palustris*	Pin Oak	16"	16'	163.00	162.50		53.13	PRESERVE
2341A	*Quercus palustris*	Pin Oak	10"	10'	162.00	161.50		62.50	PRESERVE
2341B	*Quercus palustris*	Pin Oak	8"	8'	161.00	160.50	Dead / Cut down	0.00	REMOVE-POOR COND.
2341C	*Ulmus americana*	American Elm	7"	8'	167.00	166.50		53.13	PRESERVE
2341E	*Robinia pseudoacacia*	Black Locust	12"	12'	170.00	169.50	Dead	0.00	REMOVE-POOR COND.
2341F	*Ailanthus altissima*	Tree of Heaven	6"	8'	176.00	175.50		65.63	PRESERVE
2342	*Prunus serotina*	Black Cherry	10"	10'	164.00	163.50	Dead / Cut down	0.00	REMOVE-POOR COND.
2342A	*Ulmus americana*	American Elm	26"	26'	167.00	166.50	Co-Dominant	65.63	PRESERVE
2342B	*Ailanthus altissima*	Tree of Heaven	16"	16'	170.00	169.50	Co-Dominant; Vines	68.75	PRESERVE
2343	*Gleditsia triacanthus*	Honey Locust	14"	14'	190.00	189.50		53.13	REMOVE-WITHIN LOD
2343A	*Ailanthus altissima*	Tree of Heaven	6"	8'	191.00	190.50		62.50	REMOVE-WITHIN LOD
2343B	*Ailanthus altissima*	Tree of Heaven	16"	16'	190.00	189.50		62.50	REMOVE-WITHIN LOD
2343C	*Ailanthus altissima*	Tree of Heaven	10"	10'	189.00	188.50		53.13	REMOVE-WITHIN LOD
2343D	*Robinia pseudoacacia*	Black Locust	14"	14'	187.00	186.50		65.63	REMOVE-WITHIN LOD
2344	*Robinia pseudoacacia*	Black Locust	18"	18'	185.00	184.50	Vines	68.75	REMOVE-WITHIN LOD
2344A	*Ailanthus altissima*	Tree of Heaven	11"	11'	189.00	188.50	Crooked; Vines	59.38	REMOVE-WITHIN LOD
2345	*Ailanthus altissima*	Tree of Heaven	15"	15'	190.50	190.00	Co-Dominant	65.63	REMOVE-WITHIN LOD
2345A	*Ailanthus altissima*	Tree of Heaven	16"	16'	191.00	190.50	Co-Dominant	68.75	REMOVE-WITHIN LOD
2345B	*Ailanthus altissima*	Tree of Heaven	13"	13'	192.00	191.50	Co-Dominant	40.63	REMOVE-WITHIN LOD
2345C	*Ailanthus altissima*	Tree of Heaven	20"	20'	190.50	190.00	Dead	0.00	REMOVE-WITHIN LOD
2345D	*Robinia pseudoacacia*	Black Locust	6"	8'	191.00	190.50	Dead	0.00	REMOVE-WITHIN LOD
2346	*Ailanthus altissima*	Tree of Heaven	21"	21'	187.00	186.50	Dying	40.00	REMOVE-WITHIN LOD
2346A	*Robinia pseudoacacia*	Black Locust	6"	8'	186.00	185.50		62.50	REMOVE-WITHIN LOD
2347	*Ailanthus altissima*	Tree of Heaven	8"	8'	182.00	181.50		62.50	REMOVE-WITHIN LOD
2347A	*Ailanthus altissima*	Tree of Heaven	9"	9'	182.00	181.50		53.13	REMOVE-WITHIN LOD
2347B	*Prunus serotina*	Black Cherry	15"	15'	185.00	184.50	Co-Dominant; Vines	65.63	PRESERVE
2348	*Prunus serotina*	Black Cherry	11"	11'	175.00	174.50	Vines	68.75	PRESERVE
2348A	*Ailanthus altissima*	Tree of Heaven	15"	15'	175.00	174.50		65.63	PRESERVE
2349	*Prunus serotina*	Black Cherry	24"	24'	191.00	190.50	Vines, dying	40.00	REMOVE-WITHIN LOD
2349A	*Prunus serotina*	Black Cherry	8"	8'	187.00	186.50	Dead; Vines	0.00	REMOVE-WITHIN LOD
2349B	*Ailanthus altissima*	Tree of Heaven	6"	8'	186.00	185.50	Vines	50.00	REMOVE-WITHIN LOD
2350	*Prunus serotina*	Black Cherry	29"	29'	188.00	187.50	Vines	53.13	REMOVE-WITHIN LOD
2350A	*Unknown*	Unknown	6"	8'	185.00	184.50	Dead	0.00	REMOVE-WITHIN LOD
2350B	*Prunus serotina*	Black Cherry	12"	12'	185.00	184.50	Leaning; vines	59.38	REMOVE-WITHIN LOD
2350C	*Prunus serotina*	Black Cherry	16"	16'	189.00	188.50	Dead	0.00	REMOVE-WITHIN LOD
2351	*Prunus serotina*	Black Cherry	42"	63'	183.00	182.50	Vines	59.38	REMOVE-WITHIN LOD
2351A	*Ailanthus altissima*	Tree of Heaven	6"	8'	181.00	180.50	Vines	53.13	PRESERVE
2351B	*Ailanthus altissima*	Tree of Heaven	10"	10'	185.00	184.50	Vines	62.50	REMOVE-WITHIN LOD
2351C	*Robinia pseudoacacia*	Black Locust	10"	10'	185.00	184.50		62.50	REMOVE-WITHIN LOD
2352	*Ulmus americana*	American Elm	8"	8'	174.00	173.50	Broken; vines; dying	40.00	REMOVE-POOR COND.
2353	*Ailanthus altissima*	Tree of Heaven	7"	8'	175.00	174.50	Broken; vines; dying	25.00	REMOVE-POOR COND.
2354	*Prunus serotina*	Black Cherry	39"	59'	174.25	173.75	Broken; vines; dying	28.13	REMOVE-POOR COND.
2355	*Quercus rubra*	Red Oak	18"	18'	175.25	174.75	Vines	65.63	PRESERVE
2356	*Acer rubrum*	Red Maple	6"	8'	175.75	175.25		68.75	PRESERVE
2356A	*Prunus serotina*	Black Cherry	6"	8'	178.00	177.50	Leaning	53.13	PRESERVE
2357	*Juniperus virginiana*	Eastern Red Cedar	14"	14'	175.00	174.50		62.50	PRESERVE
2358	*Prunus serotina*	Black Cherry	16"	16'	179.00	178.50	Vines	62.50	PRESERVE
2358A	*Prunus serotina*	Black Cherry	8"	8'	181.00	180.50		53.13	PRESERVE
2359	*Robinia pseudoacacia*	Black Locust	14"	14'	182.00	181.50		65.63	PRESERVE
2359A	*Quercus palustris*	Pin Oak	12"	12'	180.00	179.50	Vines	68.75	PRESERVE
2360	*Ailanthus altissima*	Tree of Heaven	8"	8'	192.00	191.50	Leaning	59.38	REMOVE-WITHIN LOD
2360A	*Ailanthus altissima*	Tree of Heaven	7"	8'	190.00	189.50		65.63	REMOVE-WITHIN LOD
2360B	*Ailanthus altissima*	Tree of Heaven	6"	8'	192.00	191.50		68.75	REMOVE-WITHIN LOD
2360C	*Prunus serotina*	Black Cherry	7"	8'	190.00	189.50		50.00	REMOVE-WITHIN LOD
2360D	*Ailanthus altissima*	Tree of Heaven	24"	24'	192.00	191.50	Co-Dominant	53.13	REMOVE-WITHIN LOD
2361	*Ailanthus altissima*	Tree of Heaven	7"	8'	189.50	189.00		53.13	REMOVE-WITHIN LOD
2362	*Robinia pseudoacacia*	Black Locust	9"	9'	189.00	188.50	Dying	25.00	REMOVE-WITHIN LOD
2362A	*Prunus serotina*	Black Cherry	6"	8'	188.00	187.50		62.50	REMOVE-WITHIN LOD
2362B	*Quercus rubra*	Red Oak	7"	8'	190.00	189.50		53.13	REMOVE-WITHIN LOD
2362C	*Robinia pseudoacacia*	Black Locust	13"	13'	191.00	190.50	Vines	65.63	REMOVE-WITHIN LOD
2363	*Robinia pseudoacacia*	Black Locust	13"	13'	180.00	179.50		68.75	PRESERVE

TREE INVENTORY & CONDITION ANALYSIS

TREE#	BOTANICAL NAME	COMMON NAME	TRUNK SIZE	CRZ SIZE	TRUNK ELEVATION	CRZ ELEVATION	COMMENTS	REMOVE-POOR	Remove / Preserve
			DBH (in.)	R (ft.)	Elevation (ft.)	Elevation (ft.)			
2363A	*Unknown*	Unknown	10"	10'	179.00	178.50	Dead	0.00	REMOVE-POOR COND.
2363B	*Quercus rubra*	Red Oak	11"	11'	179.00	178.50		59.38	PRESERVE
2364	*Quercus palustris*	Pin Oak	8"	8'	189.50	189.00		65.63	REMOVE-WITHIN LOD
2364A	*Robinia pseudoacacia*	Black Locust	9"	9'	191.00	190.50		68.75	REMOVE-WITHIN LOD
2364B	*Quercus palustris*	Pin Oak	7"	8'	192.00	191.50		59.38	REMOVE-WITHIN LOD
2365	*Robinia pseudoacacia*	Black Locust	28"	28'	187.00	186.50	Dead	0.00	REMOVE-WITHIN LOD
2365A	*Prunus serotina*	Black Cherry	11"	11'	188.00	187.50		65.63	REMOVE-WITHIN LOD
2366A	*Robinia pseudoacacia*	Black Locust	12"	12'	179.00	178.50	Dead; vines	0.00	REMOVE-POOR COND.
2367	*Robinia pseudoacacia*	Black Locust	9"	9'	181.00	180.50	Dead	0.00	REMOVE-POOR COND.
2367A	*Robinia pseudoacacia*	Black Locust	8"	8'	179.00	178.50	Dead / Broken leader	0.00	REMOVE-POOR COND.
2367B	*Quercus rubra*	Red Oak	12"	12'	183.00	182.50		62.50	PRESERVE
2367C	*Robinia pseudoacacia*	Black Locust	14"	14'	178.00	177.50	Vines	62.50	PRESERVE
2368E	*Robinia pseudoacacia*	Black Locust	8"	8'	193.00	192.50	Dead; cut at 6'	0.00	REMOVE-WITHIN LOD
2369	*Robinia pseudoacacia*	Black Locust	28"	28'	183.00	182.50	Co-Dominant, 1/2 Dead; Vines	53.13	PRESERVE
2370	*Quercus rubra*	Red Oak	7"	8'	181.00	180.50		53.13	PRESERVE
2371	*Quercus rubra*	Red Oak	9"	9'	192.50	192.00		62.50	REMOVE-WITHIN LOD
2371A	*Robinia pseudoacacia*	Black Locust	12"	12'	191.00	190.50	Dead; damaged by excavator	0.00	REMOVE-WITHIN LOD
2371C	*Robinia pseudoacacia*	Black Locust	14"	14'	182.00	181.50	Vines	65.63	REMOVE-WITHIN LOD
2372	*Robinia pseudoacacia*	Black Locust	8"	8'	193.00	192.50	Dead; damaged by excavator	0.00	REMOVE-WITHIN LOD
2373	*Robinia pseudoacacia*	Black Locust	10"	10'	191.00	190.50	Dead; damaged by excavator	0.00	REMOVE-WITHIN LOD
2373A	*Robinia pseudoacacia*	Black Locust	10"	10'	183.00	182.50	Dead; vines	0.00	REMOVE-WITHIN LOD
2373B	*Robinia pseudoacacia*	Black Locust	12"	12'	184.00	183.50	Dead	0.00	REMOVE-WITHIN LOD
2373C	*Robinia pseudoacacia*	Black Locust	13"	13'	186.00	185.50		53.13	REMOVE-WITHIN LOD
2378	*Zelkova serrata*	Japanese Zelkova	9"	9'	194.00	193.50	Dead	0.00	REMOVE-POOR COND.
2378B	*Zelkova serrata*	Japanese Zelkova	8"	8'	186.00	185.50	Co-Dominant	59.38	PRESERVE
2379	*Gleditsia triacanthus*	Honey Locust	16"	16'	194.00	193.50	Dead	0.00	REMOVE-POOR COND.
2379A	*Zelkova serrata*	Japanese Zelkova	8"	8'	194.00	193.50		62.50	PRESERVE
2379B	*Zelkova serrata*	Japanese Zelkova	7"	8'	192.00	191.50	Dead	0.00	REMOVE-POOR COND.
2379C	*Zelkova serrata*	Japanese Zelkova	8"	8'	194.00	193.50	Dead	0.00	REMOVE-POOR COND.
2379D	*Zelkova serrata*	Japanese Zelkova	8"	8'	190.00	189.50	Dying	25.00	REMOVE-POOR COND.
2379E	*Robinia pseudoacacia*	Black Locust	42"	63'	189.00	188.50	Co-Dominant	68.75	PRESERVE
2380	*Robinia pseudoacacia*	Black Locust	11"	11'	189.00	188.50	Dead	0.00	REMOVE-POOR COND.
2380A	*Robinia pseudoacacia*	Black Locust	10"	10'	187.00	186.50	Dead	0.00	REMOVE-POOR COND.
2380B	*Robinia pseudoacacia*	Black Locust	9"	9'	185.00	184.50	Dead	0.00	REMOVE-POOR COND.
2380C	*Robinia pseudoacacia*	Black Locust	11"	11'	187.00	186.50	Dead	0.00	REMOVE-POOR COND.
2380D	*Robinia pseudoacacia*	Black Locust	13"	13'	185.00	184.50	Dead	0.00	REMOVE-POOR COND.
2382	*Robinia pseudoacacia*	Black Locust	10"	10'	162.00	161.50	Vines	53.13	PRESERVE
2382A	*Juniperus virginiana*	Eastern Red Cedar	11"	11'	155.00	154.50		62.50	PRESERVE
2382B	*Robinia pseudoacacia*	Black Locust	7"	8'	156.00	155.50		62.50	PRESERVE
2382C	*Prunus serotina*	Black Cherry	16"	16'	149.00	148.50		53.13	PRESERVE
2383	*Robinia pseudoacacia*	Black Locust	8"	8'	145.00	144.50	Dead	0.00	REMOVE-POOR COND.
2383A	*Robinia pseudoacacia*	Black Locust	10"	10'	145.00	144.50	Dead	0.00	REMOVE-POOR COND.
2383B	*Robinia pseudoacacia*	Black Locust	11"	11'	144.00	143.50	Dead	0.00	REMOVE-POOR COND.
2383C	*Robinia pseudoacacia*	Black Locust	8"	8'	143.00	142.50		65.63	PRESERVE
2383D	*Robinia pseudoacacia*	Black Locust	12"	12'	142.00	141.50		68.75	PRESERVE
2384	*Quercus rubra*	Red Oak	12"	12'	141.00	140.50		59.38	PRESERVE
2384A	*Robinia pseudoacacia*	Black Locust	6"	8'	141.00	140.50	Dead	0.00	REMOVE-POOR COND.
2385	*Robinia pseudoacacia*	Black Locust	10"	10'	139.00	138.50	Dead	0.00	REMOVE-POOR COND.
2385A	*Quercus rubra*	Red Oak	7"	8'	139.00	138.50		68.75	PRESERVE
2385B	*Quercus rubra*	Red Oak	6"	8'	139.00	138.50		71.88	PRESERVE
2386	*Carya glabra*	Pignut Hickory	18"	18'	140.00	139.50	Co-Dominant	75.00	PRESERVE
2386A	*Quercus rubra*	Red Oak	8"	8'	139.00	138.50		78.13	PRESERVE
2387	*Quercus rubra*	Red Oak	16"	16'	141.00	140.50		68.75	PRESERVE
2387A	*Quercus rubra*	Red Oak	12"	12'	142.00	141.50		71.88	PRESERVE
2387B	*Quercus rubra*	Red Oak	10"	10'	142.00	141.50		75.00	PRESERVE
2388	*Carya glabra*	Pignut Hickory	9"	9'	144.00	143.50		78.13	PRESERVE
2388A	*Unknown*	Unknown	8"	8'	146.00	145.50	Dead	0.00	REMOVE-POOR COND.
2388B	*Prunus serotina*	Black Cherry	10"	10'	148.00	147.50		65.63	PRESERVE
2388C	*Quercus rubra*	Red Oak	17"	17'	149.00	148.50		68.75	PRESERVE
2389	*Carya glabra*	Pignut Hickory	12"	12'	153.00	152.50		68.75	PRESERVE
2389A	*Carya glabra*	Pignut Hickory	9"	9'	155.00	154.50		71.88	PRESERVE
2389B	*Carya glabra*	Pignut Hickory	12"	12'	157.00	156.50	Co-Dominant	75.00	PRESERVE
2390	*Quercus montana*	Chestnut Oak	24"	24'	158.00	157.50	Vines	59.38	PRESERVE
2390A	*Quercus montana*	Chestnut Oak	20"	20'	163.00	162.50	Vines	68.75	PRESERVE
2391	*Acer rubrum*	Red Maple	12"	12'	143.00	142.50		71.88	PRESERVE
2391A	*Fagus grandifolia*	American Beech	20"	20'	143.00	142.50	Multistem	75.00	PRESERVE
2392	*Carya glabra*	Pignut Hickory	7"	8'	143.00	142.50		78.13	PRESERVE
2392A	*Pinus virginiana*	Virginia Pine	10"	10'	146.00	145.50	Dead	0.00	REMOVE-POOR COND.
2392B	*Quercus rubra*	Red Oak	12"	12'	143.00	142.50		59.38	PRESERVE
2393	*Quercus montana*	Chestnut Oak	16"	16'	149.00	148.50	Multistem	65.63	PRESERVE
2394	*Quercus rubra*	Red Oak	26"	26'	159.00	158.50	Co-Dominant	68.75	PRESERVE
2395	*Robinia pseudoacacia*	Black Locust	24"	24'	159.00	158.50	Dying	33.00	REMOVE-POOR COND.
2395A	*Juniperus virginiana*	Eastern Red Cedar	7"	8'	163.00	162.50		68.75	PRESERVE
2395B	*Quercus rubra*	Red Oak	9"	9'	160.00	159.50	Vines	71.88	PRESERVE
2395C	*Prunus serotina*	Black Cherry	16"	16'	164.00	163.50	Vines	75.00	PRESERVE
2395D	*Robinia pseudoacacia*	Black Locust	11"	11'	157.00	156.50	Vines	78.13	PRESERVE
2396	*Acer rubrum*	Red Maple	11"	11'	160.00	159.50	Oozing sap	59.38	PRESERVE
2397	*Pinus virginiana*	Virginia Pine	17"	17'	161.00	160.50		65.63	PRESERVE
2398	*Quercus rubra*	Red Oak	22"	22'	154.00	153.50		68.75	PRESERVE
2398A	*Carya glabra*	Pignut Hickory	8"	8'	152.00	151.50		71.88	PRESERVE
2399	*Pinus virginiana*	Virginia Pine	12"	12'	162.00	161.50		75.00	PRESERVE
2399A	*Prunus serotina*	Black Cherry	11"	11'	164.00	163.50		78.13	PRESERVE
2399B	*Quercus rubra*	Red Oak	12"	12'	160.00	159.50		59.38	PRESERVE
2400	*Quercus rubra*	Red Oak	16"	16'	160.00	159.50		68.75	PRESERVE
2400A	*Quercus alba*	White Oak	12"	12'	159.00	158.50		71.88	PRESERVE
2400B	*Prunus serotina*	Black Cherry	10"	10'	162.00	161.50		75.00	PRESERVE
2400C	*Quercus palustris*	Pin Oak	8"	8'	165.00	164.50		78.13	PRESERVE
2400D	*Quercus palustris*	Pin Oak	6"	8'	166.00	165.50		65.63	PRESERVE
2407	*Quercus alba*	White Oak	36"	54'	84.00	83.50		68.75	PRESERVE
2407A	*Carya glabra*	Pignut Hickory	8"	8'	162.00	161.50		68.75	PRESERVE
2408	*Robinia pseudoacacia*	Black Locust	10"	10'	164.00	163.50	Dying	35.00	REMOVE-POOR COND.
2408A	*Prunus serotina*	Black Cherry	20"	20'	169.00	168.50		75.00	PRESERVE
2408B	*Juniperus virginiana*	Eastern Red Cedar	10"	10'	170.00	169.50		78.13	PRESERVE
2409	*Pinus virginiana*	Virginia Pine	13"	13'	168.00	167.50	Vines	65.63	PRESERVE
2409A	*Pinus virginiana*	Virginia Pine	10"	10'	165.00	164.50		68.75	PRESERVE
2409B	*Pinus virginiana*	Virginia Pine	14"	14'	166.00	165.50		59.38	PRESERVE
2409C	*Prunus serotina*	Black Cherry	6"	8'	164.00	163.50		65.63	PRESERVE
2410	*Prunus serotina*	Black Cherry	12"	12'	160.00	159.50		68.75	PRESERVE
2410A	*Prunus serotina*	Black Cherry	14"	14'	160.00	159.50	Co-Dominant, 1/2 Dead	28.13	REMOVE-POOR COND.
2411	*Quercus rubra*	Red Oak	9"	9'	156.00	155.50	Vines	68.75	PRESERVE
2411A	*Quercus rubra*	Red Oak	6"	8'	155.00	154.50		71.88	PRESERVE
2412	*Quercus palustris*	Pin Oak	12"	12'	150.00	149.50	Chopped from overhead wires	50.00	PRESERVE
2413	*Prunus serotina*	Black Cherry	10"	10'	149.00	148.50	Dead; broken off	0.00	REMOVE-POOR COND.
2414	*Robinia pseudoacacia*	Black Locust	22"	22'	142.00	141.50	Dead	0.00	REMOVE-POOR COND.

This Plan Prepared or Approved by:
John Lightle, ISA Certified Arborist
MA-5174A

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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. ____

REVISIONS | No. | DATE | DESCRIPTION

PLAN DATE: 02-11-2022, 12-09-2022, 03-17-2023

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4200 D TECHNOLOGY CT.
CHANTILLY, VA 20151
TEL. 703.642.2306
FAX 703.378.7888
www.urban-ltd.com
Planners • Engineers • Landscape Architects • Land Surveyors

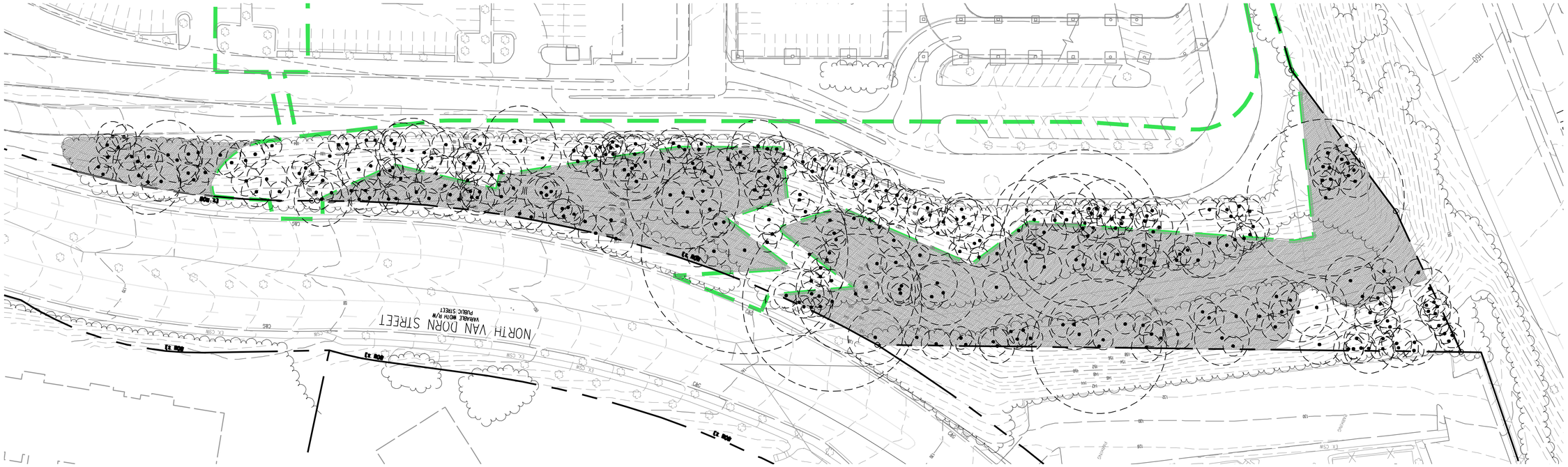
COMMONWEALTH OF VIRGINIA
John Lightle
Lic. No. 1957
LANDSCAPE ARCHITECT

TREE INVENTORY
LANDMARK MALL REDEVELOPMENT
PRELIMINARY SITE PLAN - PARKS
CITY OF ALEXANDRIA, VIRGINIA
DATE: NOV., 2022
C.I.= N/A
SCALE: N/A

SHEET 43 OF 108

FILE No. DSUP-13089

Urban, Ltd. - J:\JOBS\landmarkmall\DSUP\block-parks\preliminary sp\Landscape Arch\Tree Inventory Update\13078-17-TREE INVENTORY.dwg [TREE INVENTORIES] March 17, 2023 - 9:20am yelasri



01 INVASIVE SPECIES MANAGMENT AREAS DIAGRAM

1" = 40'

This Plan Prepared or Approved by:
John Lightle, ISA Certified Arborist
MA-5174A

LEGEND

AREA OF INVASIVE SPECIES MANAGEMENT

Invasive Plant Management Plan
Landmark Mall / West End Redevelopment
City of Alexandria, Virginia
March 16, 2023

Purpose: To identify the invasive and noxious plants to be managed, the area of management control, methods of plant management, disposal, timing of plan implementation, and reforestation opportunities in order to help prevent human health problems and preserve native vegetation.

Targeted plant species:

- Tree of Heaven (Ailanthus sp.) DBH less than 6" - All Ailanthus larger than 6" dbh recommended to remain. (Note: Ailanthus is invasive at the early onset of forest establishment. Recommend removal of early successional Ailanthus throughout tree preservation and replace it with native vegetation that immediately takes up soil volume/root space thus preventing Ailanthus seedling establishment, while also minimizing the amount of disturbance to the soil on the slope.)
- English Ivy (Hedera sp.),
- Wild Grape (Vitis sp.),
- Greenbrier (Smilax sp.),
- Honeysuckle (Lonicera sp.),
- Porcelain-berry (Ampelopsis sp.),
- Stiltgrass (Microstegium sp.), ,
- Wisteria (Wisteria Sp.),
- Wineberry (Rubus sp.)

Targeted noxious plant species: Poison Ivy (Toxicodendron radicans)

Area of management control: As noted on Invasive Species Management Diagram on this sheet; and all Tree of Heaven (Ailanthus altissima) noted within the Tree Inventory and Condition Analysis on Sheet 37C.

Methods of plant management:
Due to the slope; the removal of the root mass of the target species is not recommended. Methods of plant management may include:

-Removal by hand / small tools
-Application of herbicides
-Animal Grazing (i.e. Goats)

Methods will be further outlined at time of final engineering.

All herbicide applications shall be performed by or under direct supervision of a Virginia Certified Pesticide Applicator or Registered Technician.

In addition to the removal of all invasive species, the management area shall also be cleared of all man-made refuse, including firewood, lumber, tires, plastics, and other man-made debris. Such refuse shall be removed by hand in a manner that minimizes soil disturbance and impact on trees to be preserved, and disposed of off-site.

Disposal: All parts of each invasive species that are hand removed shall be bagged and disposed of offsite.

Timing of management plan: Implementation shall begin with the commencement of, and occur simultaneously with, construction. Duration of management shall be determined at time of final engineering.

Revegetation: In consultation with the Project Arborist, an appropriate seed mix shall be applied to all exposed soil areas greater than 10 square feet disturbed. After initial application a monitoring report will be provided to determine additional applications.

Please note that it is understood total eradication of the invasive species identified within this management plan is nearly impossible and not expected of the contractors. Substantial and reasonable removal is, however, expected.

Prepared and/or approved by:
John Lightle, ISA Certified Arborist
#MA-5174A
Urban, Ltd.
Ph: 703.642.8080
Email: jlightle@urban-ltd.com

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DIRECTOR _____ DATE _____
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DIRECTOR _____ DATE _____
CHAIRMAN, PLANNING COMMISSION _____ DATE _____
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No.	DATE	DESCRIPTION
		REVISIONS

PLAN DATE
02-11-2022
12-09-2022
03-17-2023

Urban, Ltd.
200 CENTURY TECHNOLOGY CT.
CHANTILLY, VA. 20151
TEL 703.642.2300
FAX 703.378.7888
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03/17/2023
LANDSCAPE ARCHITECT

INVASIVE SPECIES
LANDMARK MALL REDEVELOPMENT
PRELIMINARY SITE PLAN - PARKS
CITY OF ALEXANDRIA, VIRGINIA

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

SHEET 44 OF 108

FILE No. DSUP-13089

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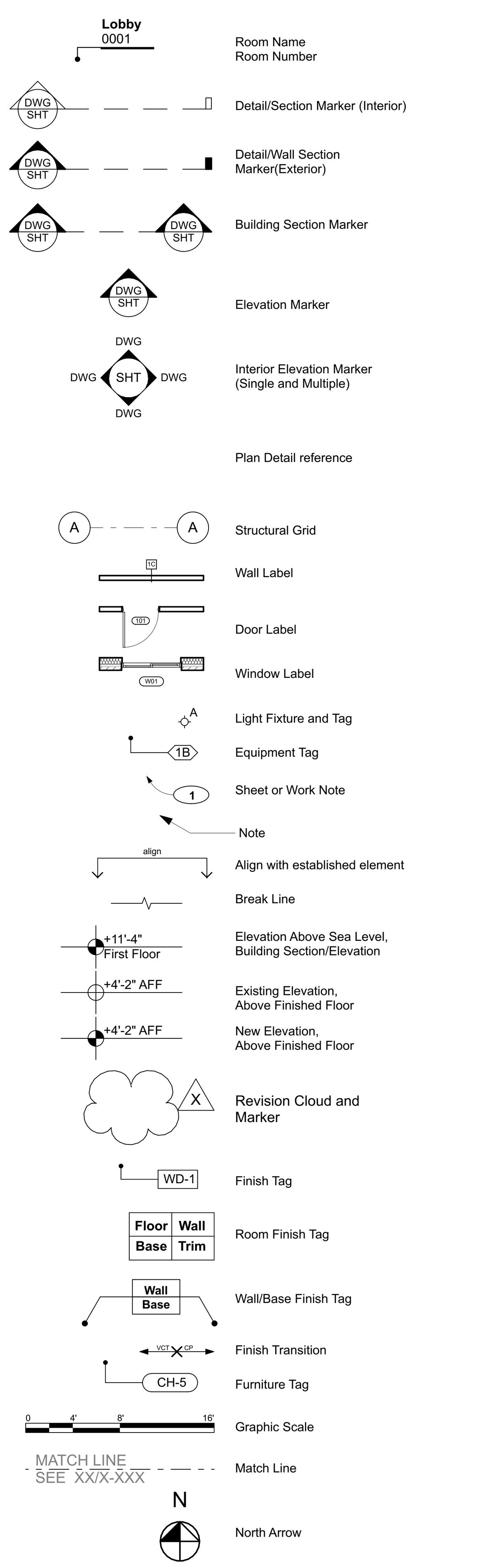
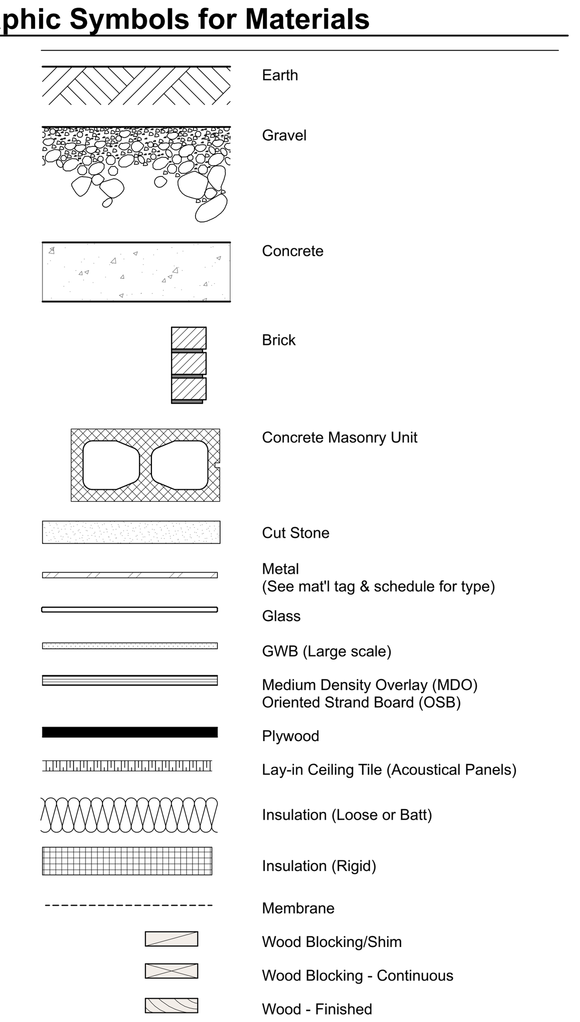
Architectural Symbols Legend



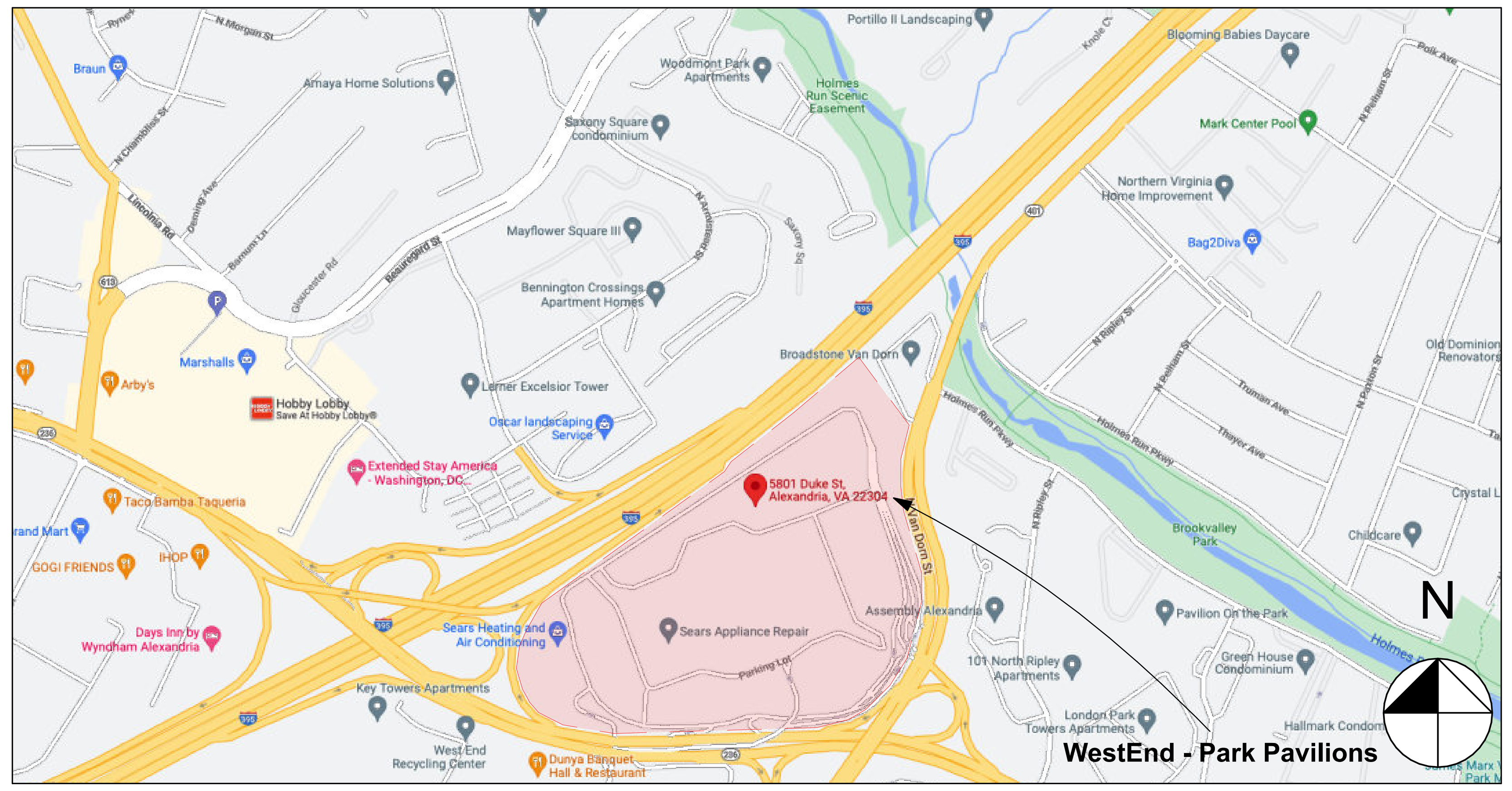
Graphic Symbols for Materials



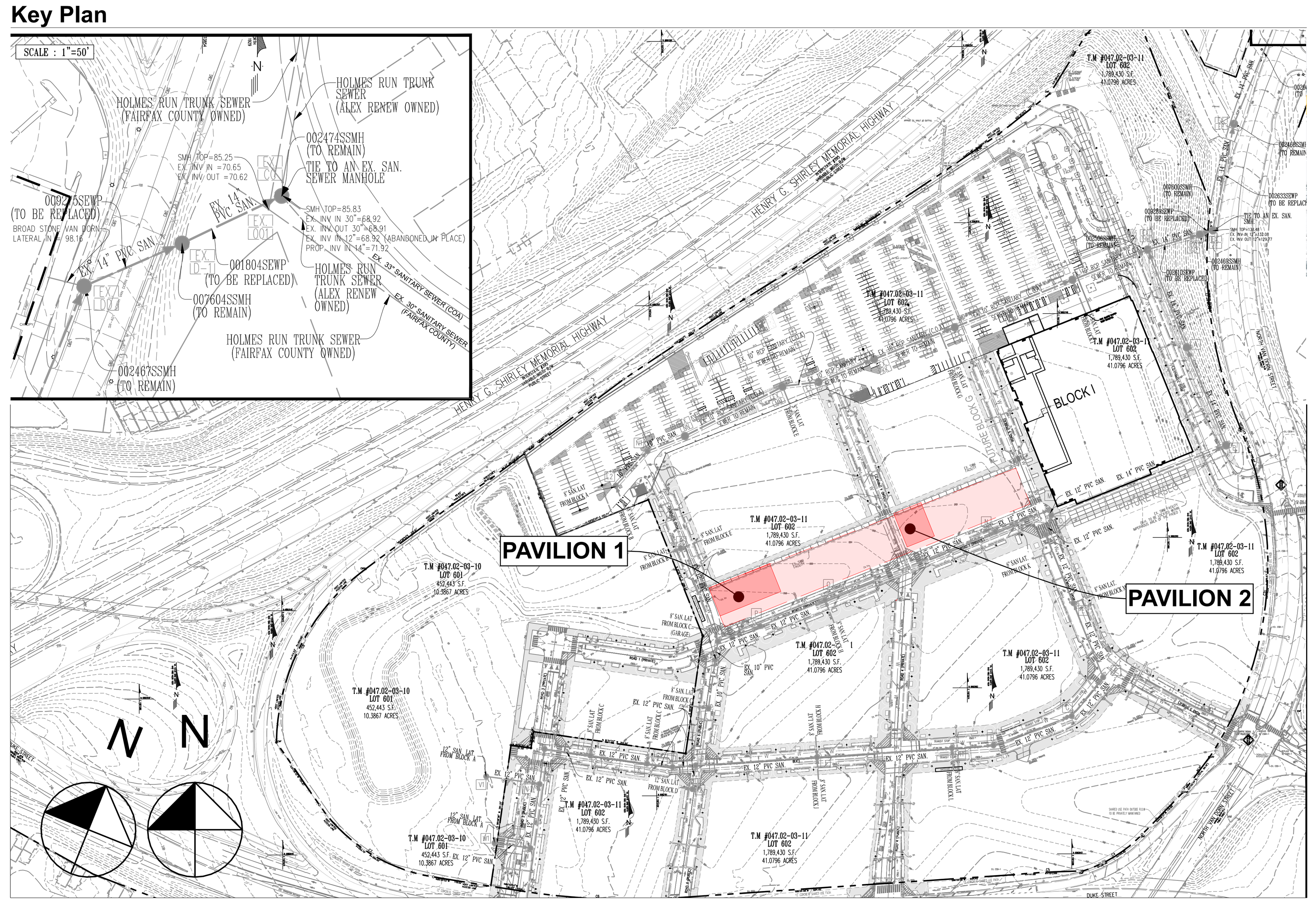
Abbreviations

1x	One-inch nominal thickness
2x	Two-inch nominal thickness
@	At
ABV	Above
AC	Air Conditioning
ACOUS	Acoustical
ACT	Acoustical Ceiling Tile
ADJ	Adjacent, Adjustable
AFF	Above Finish Floor
ALT	Alternate
AL or ALUM	Aluminum
ANCH	Anchor
ANO	Anodized
APPROX	Approximate
AVG	Average
BD	Board, Bead if applicable
BLDG	Building
BLK'G	Blocking
BM	Beam
BOT	Bottom
BO _	Bottom of _
BR'G	Bearing
BSMT	Basement
BTWN	Between
BYD	Beyond
CAB	Cabinet
CDL	Core Drill Location
CEM	Cement
CER	Ceramic
CFL	Compact Fluorescent Light
CJ	Control Joint
CI	Closet
CL	Centerline
CT	Ceramic Tile
CLAD'G	Cladding
CLG	Ceiling
CLR	Clear
CMU	Concrete Masonry Unit
COL	Column
CONC	Concrete
CONST	Construction
CONT	Continuous
CONT'R	Contractor
CORR	Corridor
CPT	Carpet
CS	Cast Stone
CSK	Countersink
CT	Ceramic Tile
CTR	Center or Centered
CW	Cold Water
DBL	Double
DEMO	Demolish, Demolition
DTL	Detail
DG	Double Glazed
DIA	Diameter
DIM	Dimension
DN	Down
DS	Downspout
DW	Dishwasher
DWG	Drawing
E	East
EA	Each
EJ	Expansion Joint
ELEC	Electric(al)
ELEV	Elevation
EMER	Emergency
EOS	Edge Of Slab
EP	Energy Panel
EQ	Equal
EQUIP	Equipment
ETR	Existing to Remain
EWC	Electric Water Cooler
EXH	Exhaust
EX'G	Existing
EXP	Expansion, Exposed
EXT	Exterior
FA	Fire Alarm
FBO	Furnished by Owner
FD	Floor Drain
FND	Foundation
FE	Fire Extinguisher (Cabinet)
FF	Finish Floor
FGLAS	Fiberglass
FIN	Finish
FXT	Fixture
FLASH	Flashing
FL or FLR	Floor
FLUOR	Fluorescent
FOM	Face of Masonry
FOS	Face of Structure Face of Stud
FP	Fire Proof
FRM'G	Framing
FRT	Fire Retardant Treated
FS	Floor Sink
FT	Feet
FT'G	Footing
FURN	Furniture
FURR	Furring
GA	Gauge
GALV	Galvanized
GC	General Contractor
GFI	Ground Fault Interrupter
GL	Glass
GWB	Gypsum Wall Board
GYP	Gypsum
HB	Hose Bib
HC	Handicap
HM	Hollow Metal
HD	Head
HDBD	Hardboard
HDR	Header
HDWD	Hardwood
HDWR	Hardware
HORIZ	Horizontal
HT	Height
HTR	Heater
HVAC	Heating/Ventilation/ Air-Conditioning
HW	Hot Water
IG	Isolated Ground
IN	Inch
INCAN	Incandescent
INCL	Include(d)
INSUL	Insulation
INT	Interior
JAN	Janitor
JST	Joist
JT	Joint
KITCH	Kitchen
LAV	Lavatory
LEV	Level
LH	Left Hand
LT	Light
LTG	Lighting
MAT'L	Material
MAX	Maximum
MDF	Medium Density Fiberboard
MECH	Mechanical
MEMB	Membrane
MEZZ	Mezzanine
MFR	Manufacturer('s)
MIN	Minimum
MISC	Miscellaneous
MLDG	Molding
MLWK	Millwork
MO	Masonry Opening
MR	Moisture Resistant
MTD	Mounted
MTG	Mounting
MTL	Metal
MW	Microwave Oven
N	North
NIC	Not in Contract
NO.	Number
NTS	Not to Scale
OA	Overall
OC	On Center
OD	Outside Diameter
OFF	Office
OPP	Opposite
OPP HAND	Opposite Hand
OSB	Oriented Strand Board
PART	Partition
PERIM	Perimeter
PG	Paint Grade
PL	Plate
PLAM	Plastic Laminate
PLAS	Plaster
PLEX	Plexiglass
PLMB	Plumbing
PLY or PLYWD	Plywood
POLY	Polyethylene
POS	Point Of Sale
PSF	Pound per Square Foot
PSI	Pound per Square Inch
PT	Pressure Treated
PTD	Painted
PVC	Polyvinyl Chloride
PVMT	Pavement
QT	Quarry Tile
QTY	Quantity
R	Riser(s)
R	Ridge (Roof)
R=	Radius
RAD	Radius
RCP	Reflected Ceiling Plan
RDG	Removable Double Glazing
RECPT	Receptacle
REF	Refrigerator
REINF	Reinforcing
REPL	Replace(ment)
REQ	Request
REQ'D	Required
RESIL	Resilient
REV	Revision
RFI	Request For Information
RM	Room
RO	Rough Opening
RTU	Roof Top Unit (Mech)
SHLF	Shelf; Shelves
S4S	Surface Four Sides
SCM	Solid Core Metal
SCHED	Schedule(d)
SDG	Siding
SECT	Section
SG	Stain Grade (wood)
SHT	Sheet
SHT'G	Sheathing
SIM	Similar
S	South
Spec	Specification(s)
SQ	Square
SSTL	Stainless Steel
ST	Street
STD	Standard
STL	Steel
STOR	Storage
STRUCT	Structure
SUBFL	Subfloor
SURF	Surface
SUSP	Suspend
T&G	Tongue and Groove
TEL	Telephone
TEMP	Temperature
THK	Thick
THKNS	Thickness
TO _	Top of _
TRT'D	Treated
TYP	Typical
UL	Underwriters Laboratories, Inc.
UNO	Unless Noted Otherwise
UON	Unless Otherwise Noted
UTIL	Utility
V	Volt
V	Valley (Roof)
VB	Vapor Barrier
VCT	Vinyl Composition Tile
VENT	Ventilate(-ion)
VIF	Verify in Field
W	West
W/	With
W/O	Without
WC	Water Closet
WD	Wood
WIN	Window
WF	Wide Flange
WH	Water Heater
WP	Waterproof / Waterproofing
WS	Weatherstripping
WT	Weight
WWM	Welded Wire Mesh

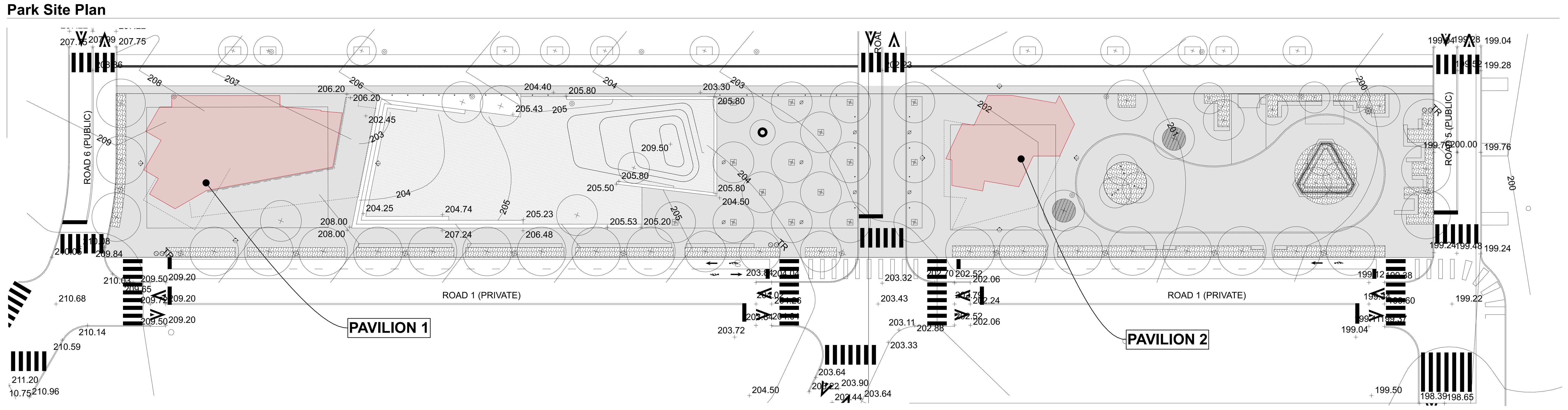
Vicinity Map



Key Plan



Park Site Plan



PROJECT SCOPE SUMMARY

Pavilion 1 SOW:
Two-Story Shell Building designed for future A-2 Assembly (Restaurant) Use. Building is of non-combustable steel and masonry construction, fully-sprinklered and fire alarm; Ground Floor slab on grade and concrete foundations; Second Floor and occupied Roof Area accessed by enclosed egress stair, ADA compliant elevator, and open stair. Semi-enclosed Roof Mechanical area for future equipment (by Tenant) accessed from Second Floor.

Pavilion 2 SOW:
One-Story Shell Building with one sub-grade basement, designed for future B Business and S-2 Storage Uses. Building is of non-combustable steel and masonry construction, fully-sprinklered and fire alarm; Basement (S-2 Use) slab on grade and concrete foundations accessed by maintenance stair; Ground Floor (B Use) concrete floor, accessed at grade; Semi-enclosed Roof Mechanical area for equipment accessed by Alternating Tread Device.

CODE SUMMARY

Applicable Codes:

Building:	2018 Virginia Construction Code
Mechanical:	2018 Virginia Mechanical Code
Plumbing:	2018 Virginia Plumbing Code
Electrical:	2017 National Electrical Code (NEC)
Fire:	2018 Virginia Statewide Fire Prevention Code 2018 International Fire Code (IFC)
Energy:	2018 Virginia Energy Conservation Code
Fuel Gas:	2018 Virginia Fuel Gas Code
Accessibility:	2018 Virginia Construction Code | 2009 ICC/ANSI A117 ADA Accessibility Guidelines

PROJECT SIZE :

Pavilion 1 Gross Floor Area (GFA)	**7,279 SF Total**	**Pavilion 2 Gross Floor Area (GFA)**	**4,064 SF Total**
Ground Floor GFA	*4,133 SF*	*Ground Floor GFA*	*1,990 SF*
Second Floor GFA	*1,643 SF*	*Basement GFA*	*2,074 SF*
Basement GFA	*1,503 SF*		

Pavilion 1 Net Area	**4,610 SF Total**	**Pavilion 2 Net Floor Area**	**1,661 SF Total**
Ground Floor Net	*3,603 SF*	*Ground Floor Net*	*1,661 SF*
Second Floor Net	*1,007 SF*		

BUILDING DATA - PAVILION 1 :

Occupancy Classification :	§303.3	A-2 Assembly
Construction Type :	Table 601	Type II-B
Stories in Building	Table 504.3	2 Stories
Building Height	Table 504.4	37'-9"
Automatic Sprinkler System	§903.2.1.2	Required
Fire Alarm System		Required
Accessibility	§1104.4 / 1108.2.4	Elevator Required, 2-stop ADA compliant elevator provided; Stretcher-compliance not required
Accessible Entrances	§1105.1 / Exception 1	60% of entrances Accessible; Loading and Service entrances not required to be Accessible

BUILDING DATA - PAVILION 2 :

Occupancy Classification :	§303.1.1 / 304.1 & 311.3	B Business & S-2 Storage
Construction Type :	Table 601	Type II-B
Stories in Building	Table 504.3	1 Story + 1 Basement
Building Height	Table 504.4	32'-8"
Automatic Sprinkler System		Provided
Fire Alarm System		Provided
Accessibility	§1104.4 Exception 4	Elevator not required to story with occupant load of 5 or fewer persons
Accessible Entrances	§1105.1 / Exception 1	60% of entrances Accessible; Loading and Service entrances not required to be Accessible

GREEN BUILDING SUMMARY

Form & Orientation:
The overall concept of the Retail Pavilions is to integrate the forms and functions into the surrounding Park, as if they are a continuity with the Landscape, not building sited within in. Buildings are oriented to maximize views longitudinally through the Park and take advantage of the southern exposure, with primary building glazing facing solar South for natural daylighting.

Indoor & Outdoor Shading:
To mitigate heat gain and glare, the South-facing facades feature large sun-shading canopies, which shade both the glazed facades as well as the South-facing outdoor dining areas. Pavilion 1 outdoor roof area is oriented East using the building mass to shade afternoon and evening sun. Each Pavilion features expansive operable glazed walls for both a visual connectivity to the surrounding park, and passive cooling opportunities.

Materiality:
The primary building walls of each Pavilion are designed as natural stone mass walls, oriented to the North and West to block the direction of primarily winter winds. Proposed use of a natural stone material sourced locally to the Mid-Atlantic/Appalachian region for the mass walls. Solar-shading canopies shall be of renewable wood and recycled aluminum materials where possible, and steel structure where beam spans require.

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DEVELOPER
FOULGER-PRATT DEVELOPMENT, LLC
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

ATTORNEY
WIRE GILL LLP
700 NORTH FAIRFAX STREET
SUITE 600
ALEXANDRIA, VA 22314
703.677.3129
CONTACT: KENNETH WIRE

CIVIL ENGINEER
URBAN, LTD.
4200D TECHNOLOGY COURT
CHANTILLY, VA 20151
703.376.4221
CONTACT: CLAYTON TOCK, P.E.

LANDSCAPE ARCHITECT
OCULUS
1611 CONNECTICUT AVENUE
THIRD FLOOR
WASHINGTON, DC 20009
202.588.5454
CONTACT: DON HOOVER

FOUNTAIN CONSULTANT
FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291
CONTACT: RON SCHAFER

PLAYGROUND CONSULTANT
EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972
CONTACT: NATHANIEL GRANT

LIGHTING DESIGNER
MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062
CONTACT: FRANK FEIST

ARCHITECT
CORE
1010 WISCONSIN AVE NW SUITE 405
WASHINGTON, DC 20007
202.466.6116
CONTACT: CHRISTOPHER PELI

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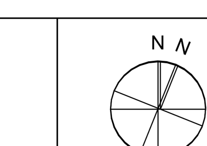

KEY MAP

DATE: 03/13/2023

PROJECT NUMBER: 22019.00

SCALE:

DRAWING TITLE:

Pavilion Information

SHEET NUMBER:

A.00

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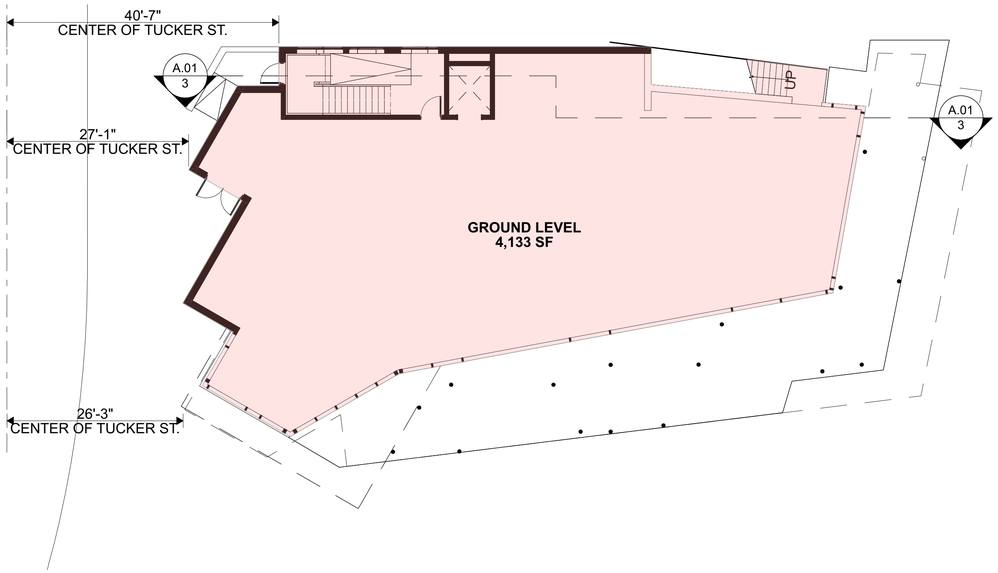
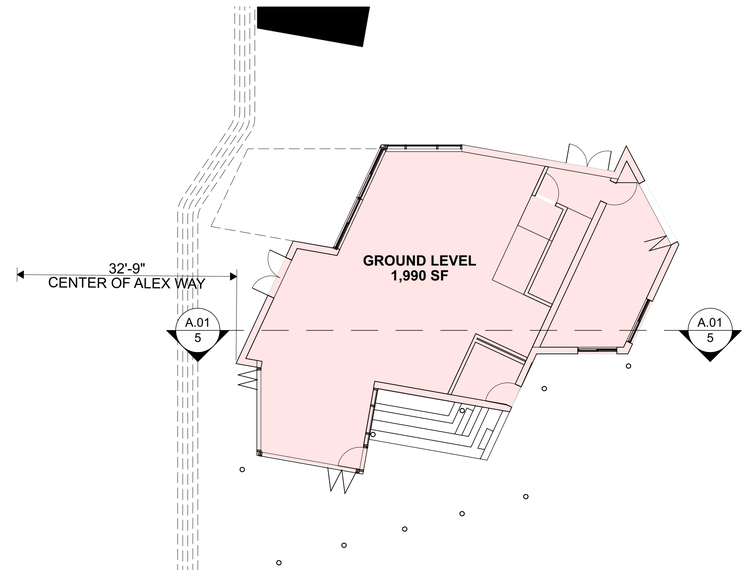
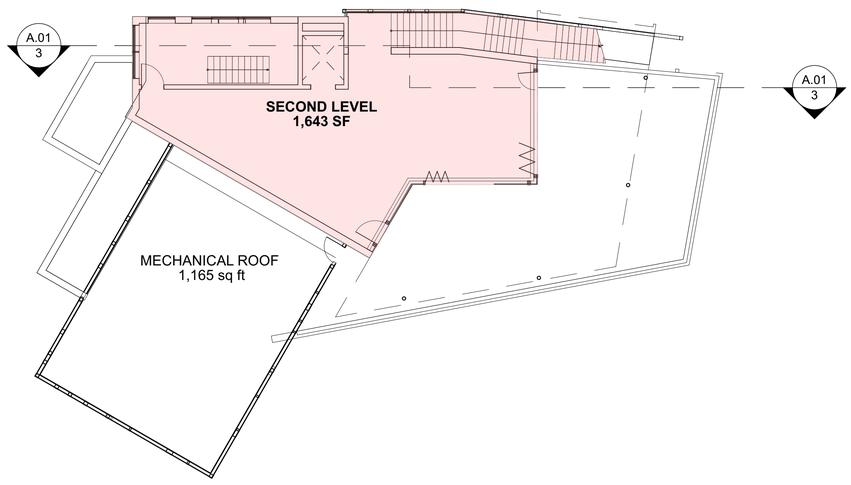


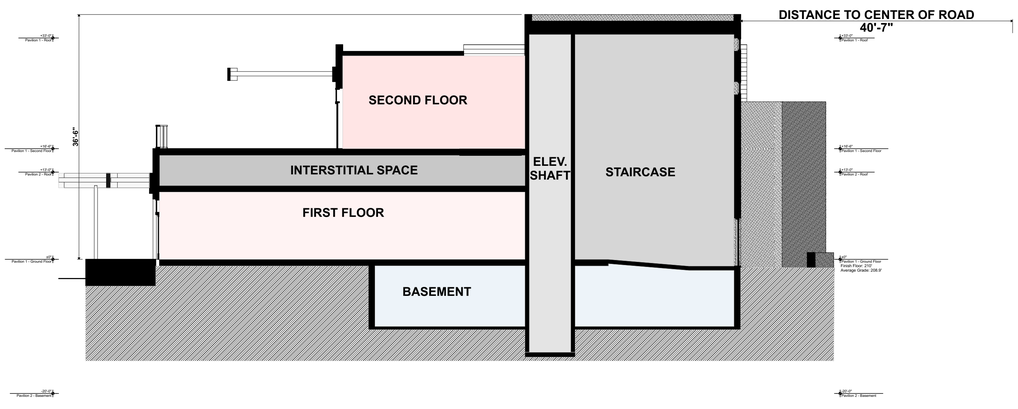
1 Pavilion 1 Ground Floor Area Ratio Diagram
Scale: 3/32" = 1'-0"



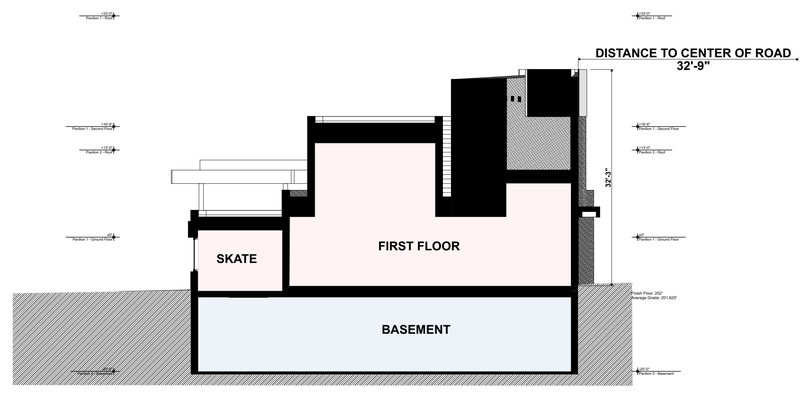
4 Pavilion 2 Ground Floor Area Ratio Diagram
Scale: 3/32" = 1'-0"



2 Pavilion 1 Second Floor Area Ratio Diagram
Scale: 3/32" = 1'-0"



3 Pavilion 1 Section
Scale: 3/32" = 1'-0"



5 Pavilion 2 Section
Scale: 3/32" = 1'-0"

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DEVELOPER
FOULGER-PRATT DEVELOPMENT, LLC
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

ATTORNEY
WIRE GILL LLP
700 NORTH FAIRFAX STREET
SUITE 600
ALEXANDRIA, VA 22314
703.677.3129
CONTACT: KENNETH WIRE

CIVIL ENGINEER
URBAN, LTD.
4200D TECHNOLOGY COURT
CHANTILLY, VA 20151
703.376.4221
CONTACT: CLAYTON TOCK, P.E.

LANDSCAPE ARCHITECT
OCULUS
1611 CONNECTICUT AVENUE
THIRD FLOOR
WASHINGTON, DC 20009
202.588.5454
CONTACT: DON HOOVER

FOUNTAIN CONSULTANT
FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291
CONTACT: RON SCHAFER

PLAYGROUND CONSULTANT
EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972
CONTACT: NATHANIEL GRANT

LIGHTING DESIGNER
MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062
CONTACT: FRANK FEIST

ARCHITECT
CORE
1010 WISCONSIN AVE NW SUITE 405
WASHINGTON, DC 20007
202.466.6116
CONTACT: CHRISTOPHER PELI

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KEY MAP

DATE: 03/13/2023

PROJECT NUMBER: **22019.00**

SCALE:

DRAWING TITLE:
Pavilion Sections and FAR Diagrams

SHEET NUMBER:
A.01

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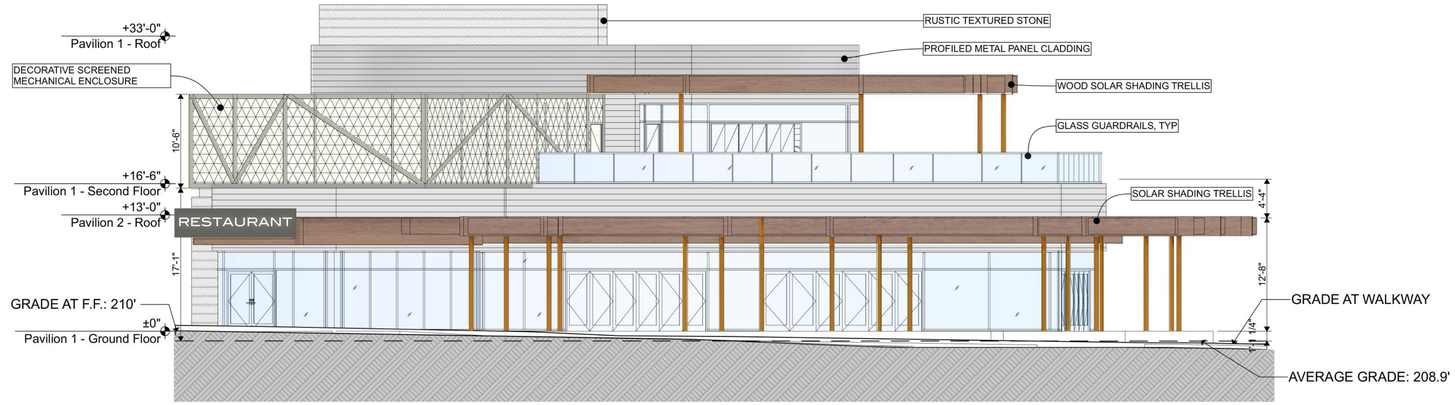
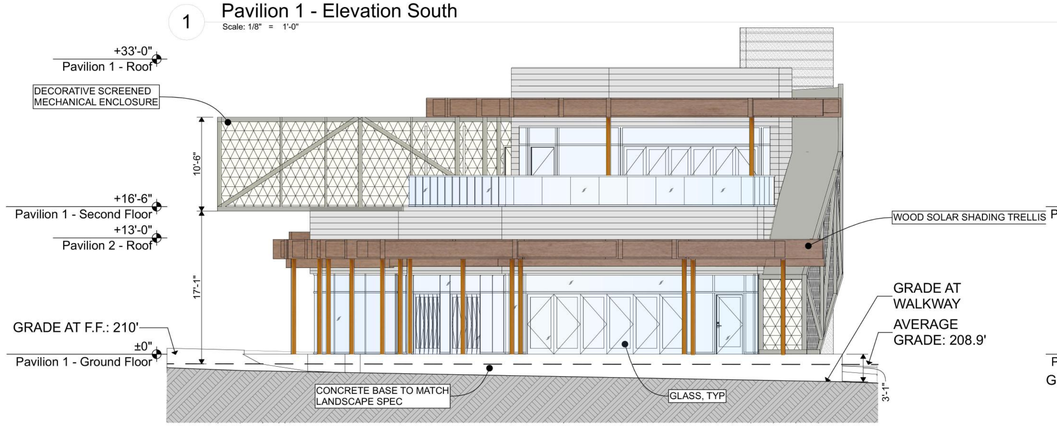


1 Pavilion 1 - Elevation South
Scale: 1/8" = 1'-0"



2 Pavilion 1 - Elevation East
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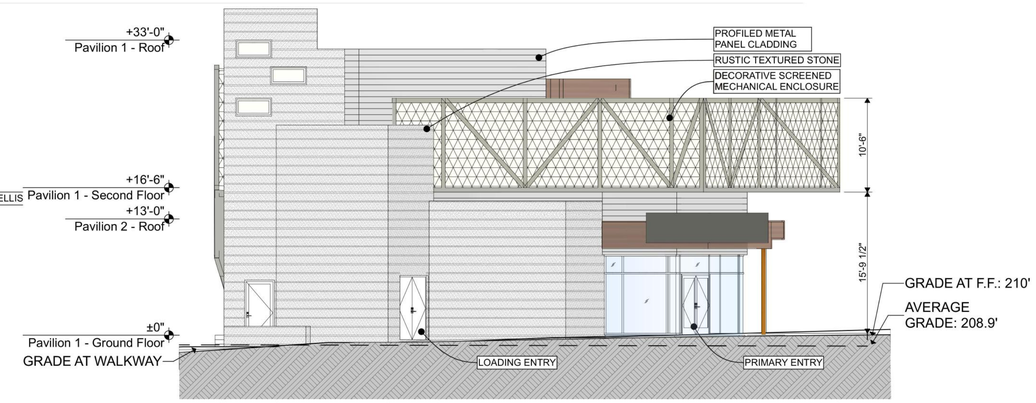

3 Pavilion 1 - Elevation West
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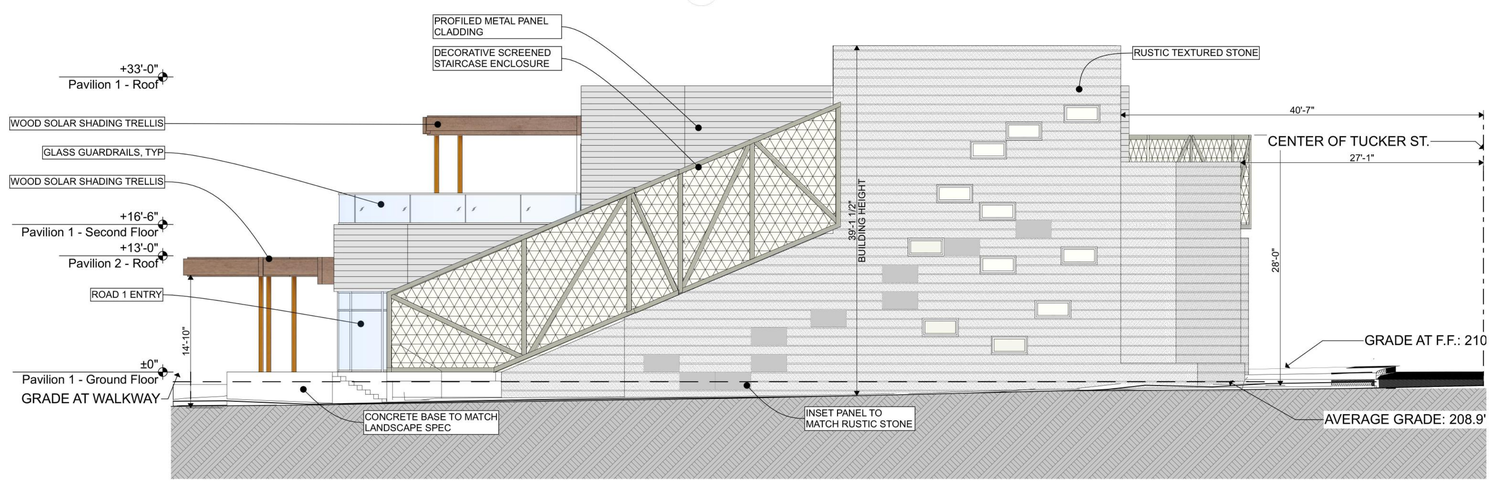

4 Pavilion 1 - Elevation North
Scale: 1/8" = 1'-0"

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DEVELOPER
FOULGER-PRATT DEVELOPMENT, LLC
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

ATTORNEY
WIRE GILL LLP
700 NORTH FAIRFAX STREET
SUITE 600
ALEXANDRIA, VA 22314
703.677.3129
CONTACT: KENNETH WIRE

CIVIL ENGINEER
URBAN, LTD.
4200D TECHNOLOGY COURT
CHANTILLY, VA 20151
703.376.4221
CONTACT: CLAYTON TOCK, P.E.

LANDSCAPE ARCHITECT
OCULUS
1611 CONNECTICUT AVENUE
THIRD FLOOR
WASHINGTON, DC 20009
202.588.5454
CONTACT: DON HOOVER

FOUNTAIN CONSULTANT
FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291
CONTACT: RON SCHAFER

PLAYGROUND CONSULTANT
EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972
CONTACT: NATHANIEL GRANT

LIGHTING DESIGNER
MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062
CONTACT: FRANK FEIST

ARCHITECT
CORE
1010 WISCONSIN AVE NW SUITE 405
WASHINGTON, DC 20007
202.466.6116
CONTACT: CHRISTOPHER PELI

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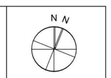

DATE: 03/13/2023

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SCALE:

DRAWING TITLE:

Pavilion 1 Elevations

SHEET NUMBER:

A.02

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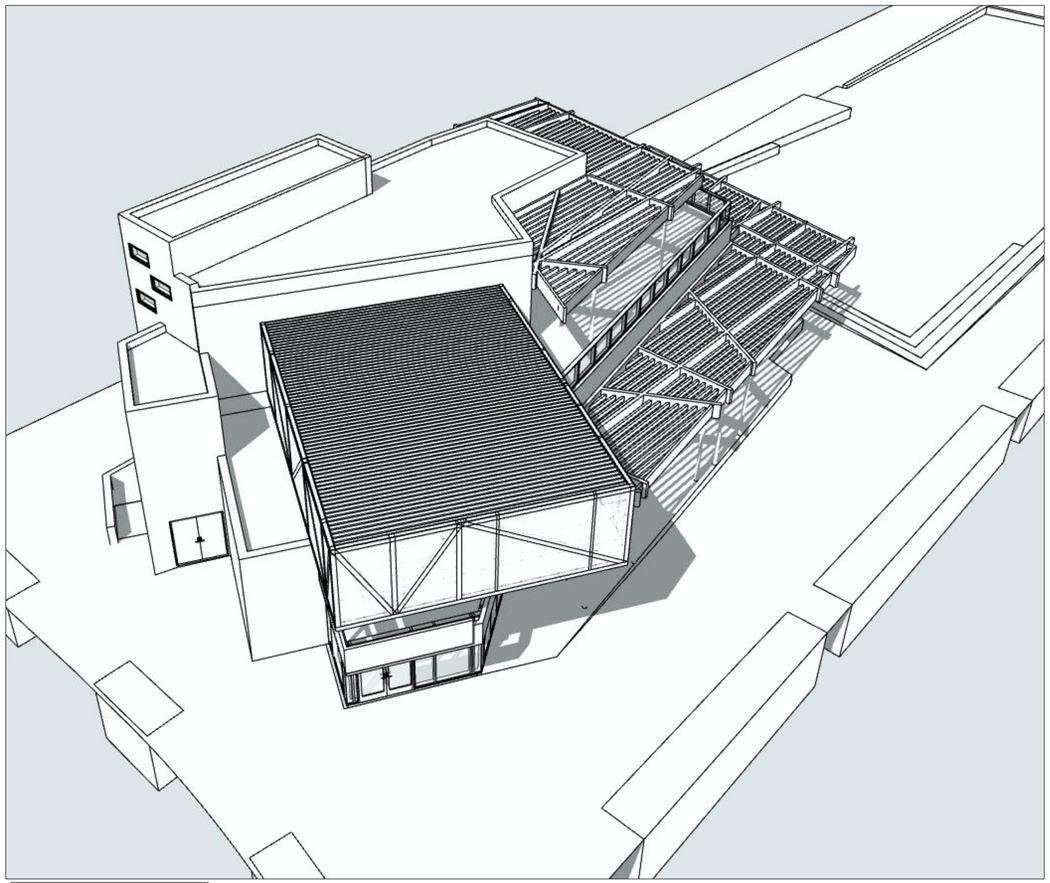
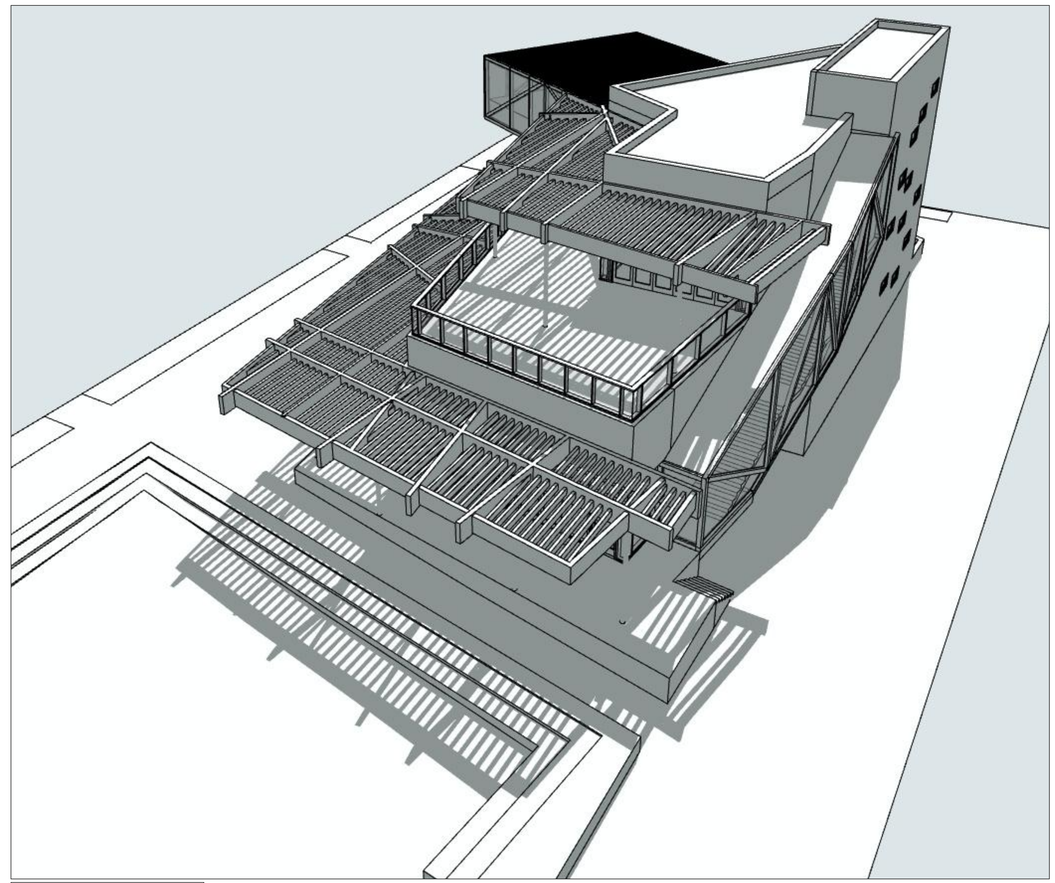


PAVILION 1 - SW 3D



PAVILION 1 - NE 3D

DEVELOPER

FOULGER-PRATT DEVELOPMENT, LLC
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

ATTORNEY

WIRE GILL LLP
700 NORTH FAIRFAX STREET
SUITE 600
ALEXANDRIA, VA 22314
703.677.3129
CONTACT: KENNETH WIRE

CIVIL ENGINEER

URBAN, LTD.
4200D TECHNOLOGY COURT
CHANTILLY, VA 20151
703.376.4221
CONTACT: CLAYTON TOCK, P.E.

LANDSCAPE ARCHITECT

OCULUS
1611 CONNECTICUT AVENUE
THIRD FLOOR
WASHINGTON, DC 20009
202.588.5454
CONTACT: DON HOOVER

FOUNTAIN CONSULTANT

FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291
CONTACT: RON SCHAFER

PLAYGROUND CONSULTANT

EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972
CONTACT: NATHANIEL GRANT

LIGHTING DESIGNER

MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062
CONTACT: FRANK FEIST

ARCHITECT

CORE
1010 WISCONSIN AVE NW SUITE 405
WASHINGTON, DC 20007
202.466.6116
CONTACT: CHRISTOPHER PELI

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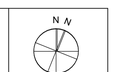

DATE: 03/13/2023

PROJECT NUMBER: **22019.00**

SCALE:

DRAWING TITLE:
Pavilion 1 Mass Orientation Diagrams

SHEET NUMBER:
A.03

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DEVELOPER

FOULGER-PRATT DEVELOPMENT, LLC
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

ATTORNEY

WIRE GILL LLP
700 NORTH FAIRFAX STREET
SUITE 600
ALEXANDRIA, VA 22314
703.677.3129
CONTACT: KENNETH WIRE

CIVIL ENGINEER

URBAN, LTD.
4200D TECHNOLOGY COURT
CHANTILLY, VA 20151
703.376.4221
CONTACT: CLAYTON TOCK, P.E.

LANDSCAPE ARCHITECT

OCULUS
1611 CONNECTICUT AVENUE
THIRD FLOOR
WASHINGTON, DC 20009
202.588.5454
CONTACT: DON HOOVER

FOUNTAIN CONSULTANT

FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291
CONTACT: RON SCHAFER

PLAYGROUND CONSULTANT

EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972
CONTACT: NATHANIEL GRANT

LIGHTING DESIGNER

MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062
CONTACT: FRANK FEIST

ARCHITECT

CORE
1010 WISCONSIN AVE NW SUITE 405
WASHINGTON, DC 20007
202.466.6116
CONTACT: CHRISTOPHER PELI

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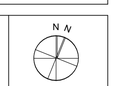

DATE: 03/13/2023

PROJECT NUMBER: **22019.00**

SCALE:

DRAWING TITLE:

Pavilion 1 Rendering

SHEET NUMBER:

A.04

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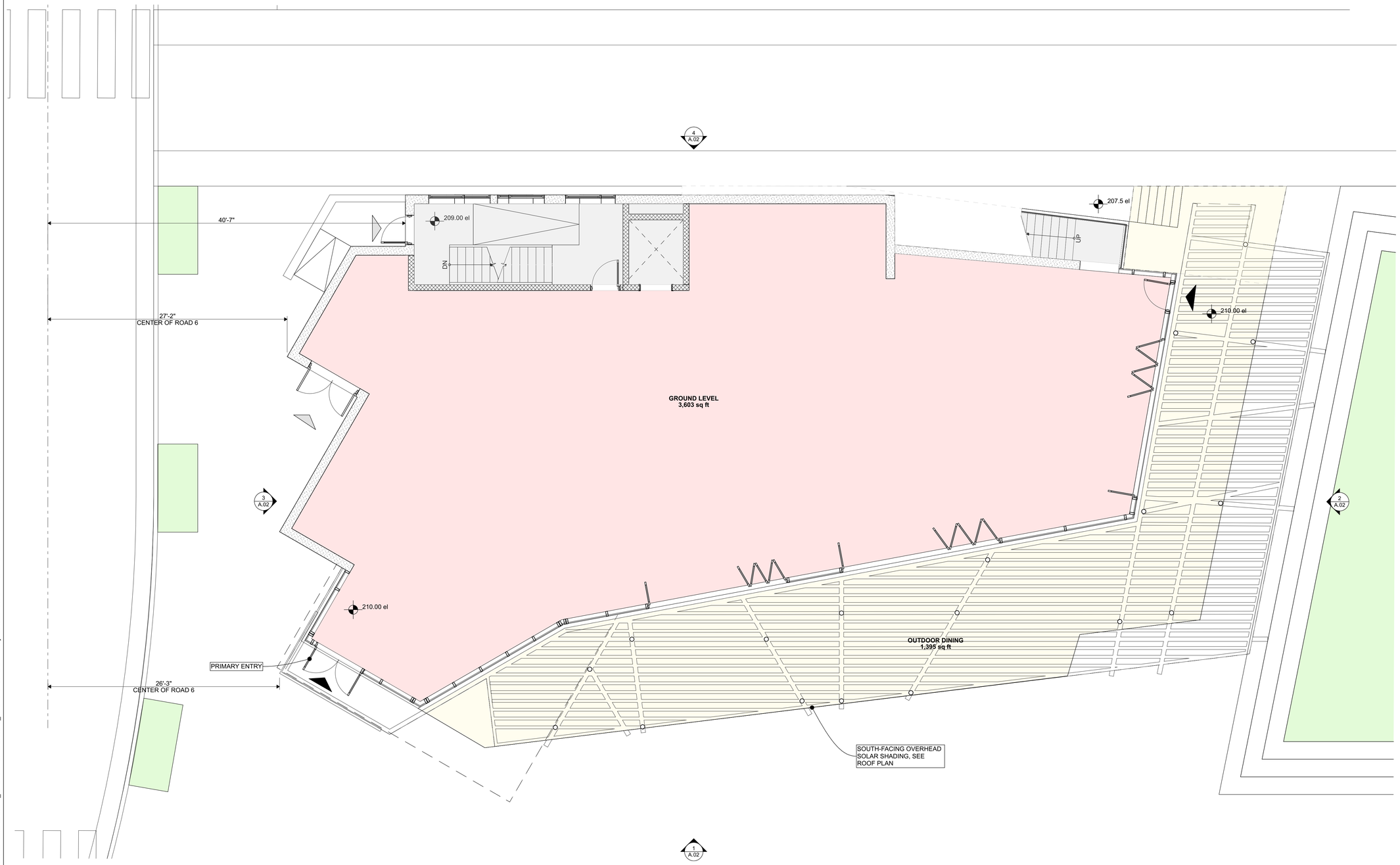

1 Pavilion 1 - Ground Floor
Scale: 3/16" = 1'-0"

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DEVELOPER
FOULGER-PRATT DEVELOPMENT, LLC
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

ATTORNEY
WIRE GILL LLP
700 NORTH FAIRFAX STREET
SUITE 600
ALEXANDRIA, VA 22314
703.677.3129
CONTACT: KENNETH WIRE

CIVIL ENGINEER
URBAN, LTD.
4200D TECHNOLOGY COURT
CHANTILLY, VA 20151
703.376.4221
CONTACT: CLAYTON TOCK, P.E.

LANDSCAPE ARCHITECT
OCULUS
1611 CONNECTICUT AVENUE
THIRD FLOOR
WASHINGTON, DC 20009
202.588.5454
CONTACT: DON HOOVER

FOUNTAIN CONSULTANT
FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291
CONTACT: RON SCHAFER

PLAYGROUND CONSULTANT
EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972
CONTACT: NATHANIEL GRANT

LIGHTING DESIGNER
MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062
CONTACT: FRANK FEIST

ARCHITECT
CORE
1010 WISCONSIN AVE NW SUITE 405
WASHINGTON, DC 20007
202.466.6116
CONTACT: CHRISTOPHER PELI

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KEY MAP

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DATE: 03/13/2023

PROJECT NUMBER: **22019.00**

SCALE:

DRAWING TITLE:

Pavilion 1 - Ground Floor

SHEET NUMBER:

A.05

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SITE PLAN NO. _____

DIRECTOR _____ DATE _____

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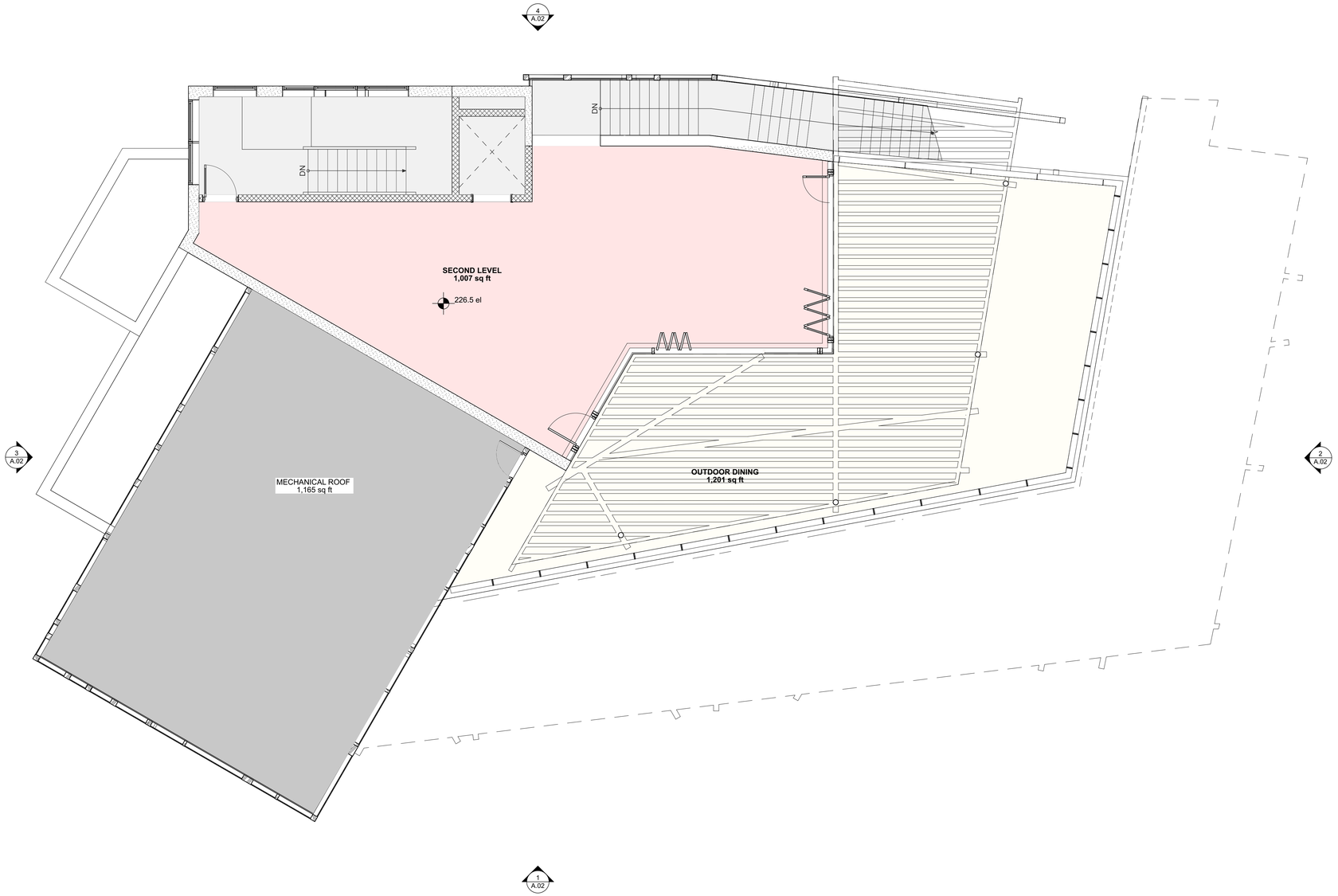

1 Pavilion 1 - Second Floor
Scale: 3/16" = 1'-0"

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DEVELOPER
FOULGER-PRATT DEVELOPMENT, LLC
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

ATTORNEY
WIRE GILL LLP
700 NORTH FAIRFAX STREET
SUITE 600
ALEXANDRIA, VA 22314
703.677.3129
CONTACT: KENNETH WIRE

CIVIL ENGINEER
URBAN, LTD.
4200D TECHNOLOGY COURT
CHANTILLY, VA 20151
703.376.4221
CONTACT: CLAYTON TOCK, P.E.

LANDSCAPE ARCHITECT
OCULUS
1611 CONNECTICUT AVENUE
THIRD FLOOR
WASHINGTON, DC 20009
202.588.5454
CONTACT: DON HOOVER

FOUNTAIN CONSULTANT
FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291
CONTACT: RON SCHAFER

PLAYGROUND CONSULTANT
EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972
CONTACT: NATHANIEL GRANT

LIGHTING DESIGNER
MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062
CONTACT: FRANK FEIST

ARCHITECT
CORE
1010 WISCONSIN AVE NW SUITE 405
WASHINGTON, DC 20007
202.466.6116
CONTACT: CHRISTOPHER PELI

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SUBMISSIONS/ REVISIONS	
12/02/2022	CONCEPT II
03/13/2023	CONCEPT 2 REVISION

KEY MAP

N

DATE: 03/13/2023

PROJECT NUMBER: **22019.00**

SCALE:

DRAWING TITLE:

Pavilion 1 - Second Floor

SHEET NUMBER:

A.06

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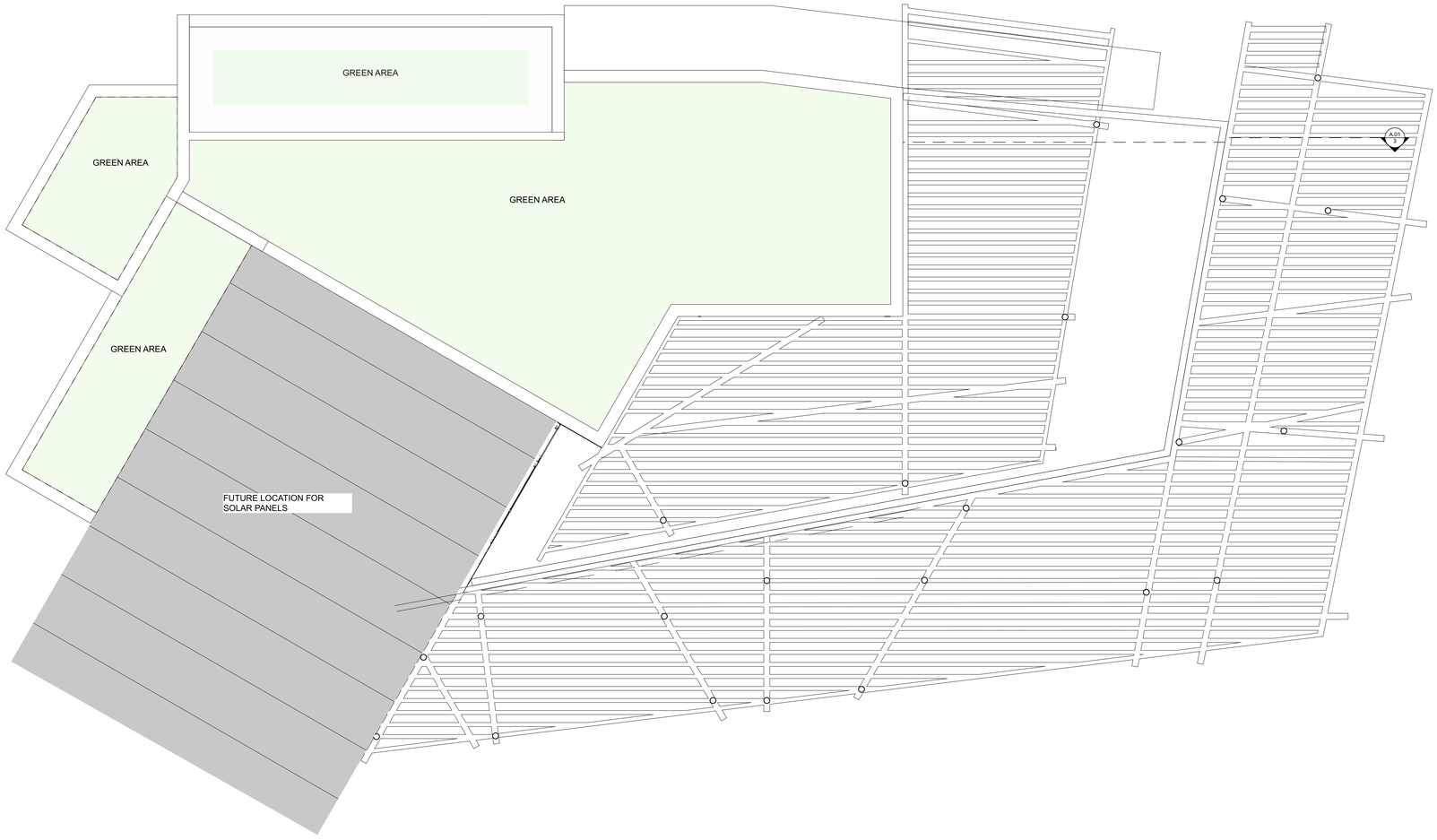

1 Pavilion 1 - Roof
Scale: 3/16" = 1'-0"

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DEVELOPER
FOULGER-PRATT DEVELOPMENT, LLC
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

ATTORNEY
WIRE GILL LLP
700 NORTH FAIRFAX STREET
SUITE 600
ALEXANDRIA, VA 22314
703.677.3129
CONTACT: KENNETH WIRE

CIVIL ENGINEER
URBAN, LTD.
4200D TECHNOLOGY COURT
CHANTILLY, VA 20151
703.376.4221
CONTACT: CLAYTON TOCK, P.E.

LANDSCAPE ARCHITECT
OCULUS
1611 CONNECTICUT AVENUE
THIRD FLOOR
WASHINGTON, DC 20009
202.588.5454
CONTACT: DON HOOVER

FOUNTAIN CONSULTANT
FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291
CONTACT: RON SCHAFER

PLAYGROUND CONSULTANT
EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972
CONTACT: NATHANIEL GRANT

LIGHTING DESIGNER
MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062
CONTACT: FRANK FEIST

ARCHITECT
CORE
1010 WISCONSIN AVE NW SUITE 405
WASHINGTON, DC 20007
202.466.6116
CONTACT: CHRISTOPHER PELI

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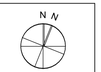
KEY MAP



DATE: 03/13/2023

PROJECT NUMBER: **22019.00**

SCALE:

DRAWING TITLE:

Pavilion 1 - Roof Plan

SHEET NUMBER:

A.07

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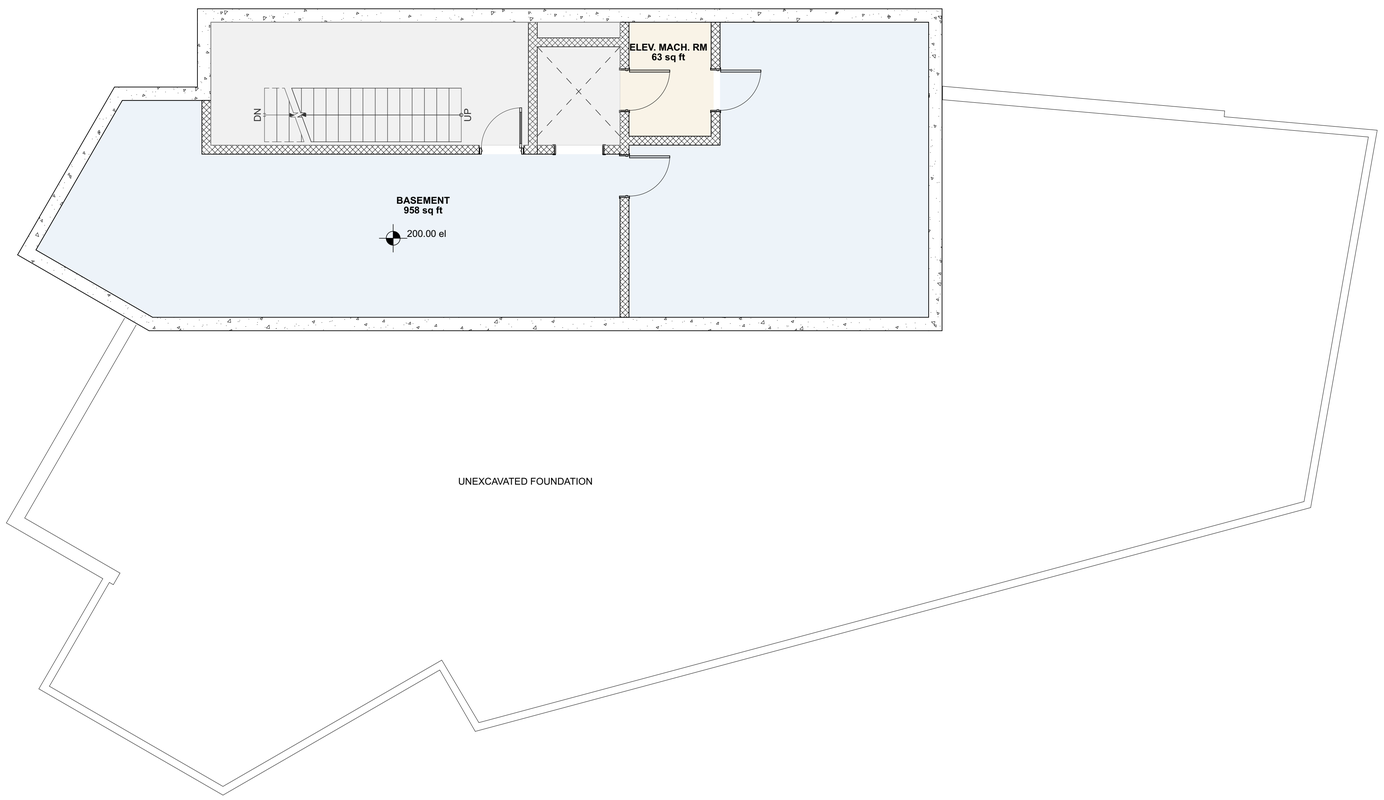

1 Pavilion 1 - Basement
Scale: 3/16" = 1'-0"

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DEVELOPER
FOULGER-PRATT DEVELOPMENT, LLC
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

ATTORNEY
WIRE GILL LLP
700 NORTH FAIRFAX STREET
SUITE 600
ALEXANDRIA, VA 22314
703.677.3129
CONTACT: KENNETH WIRE

CIVIL ENGINEER
URBAN, LTD.
4200D TECHNOLOGY COURT
CHANTILLY, VA 20151
703.376.4221
CONTACT: CLAYTON TOCK, P.E.

LANDSCAPE ARCHITECT
OCULUS
1611 CONNECTICUT AVENUE
THIRD FLOOR
WASHINGTON, DC 20009
202.588.5454
CONTACT: DON HOOVER

FOUNTAIN CONSULTANT
FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291
CONTACT: RON SCHAFER

PLAYGROUND CONSULTANT
EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972
CONTACT: NATHANIEL GRANT

LIGHTING DESIGNER
MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062
CONTACT: FRANK FEIST

ARCHITECT
CORE
1010 WISCONSIN AVE NW SUITE 405
WASHINGTON, DC 20007
202.466.6116
CONTACT: CHRISTOPHER PELI

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KEY MAP

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DATE: 03/13/2023
PROJECT NUMBER: **22019.00**
SCALE:
DRAWING TITLE:
Pavilion 1 - Basement
SHEET NUMBER:
A.08

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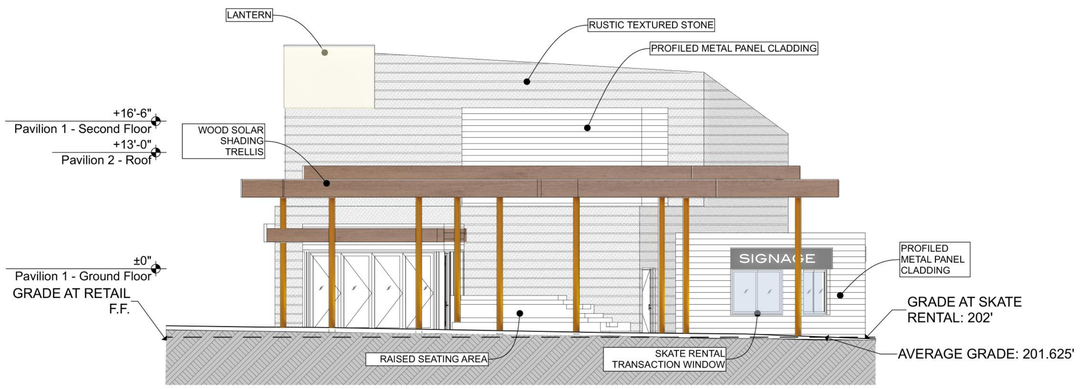
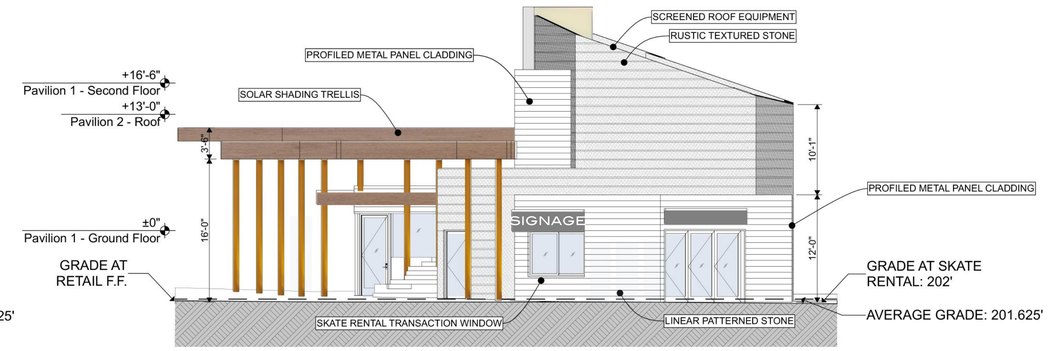
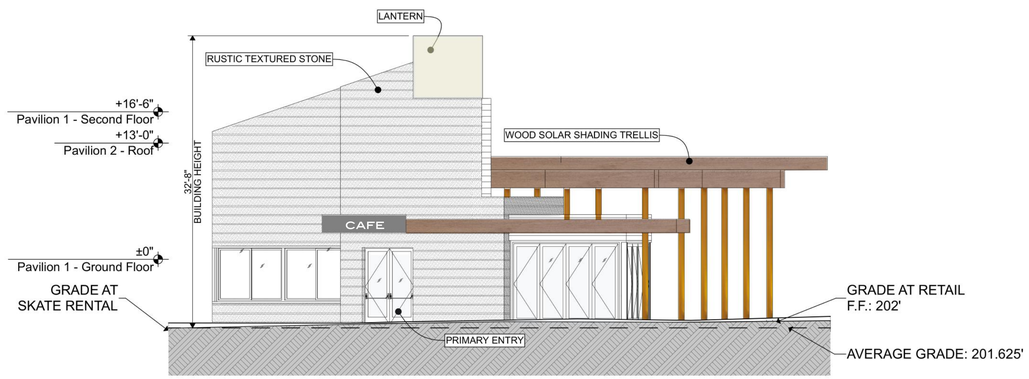


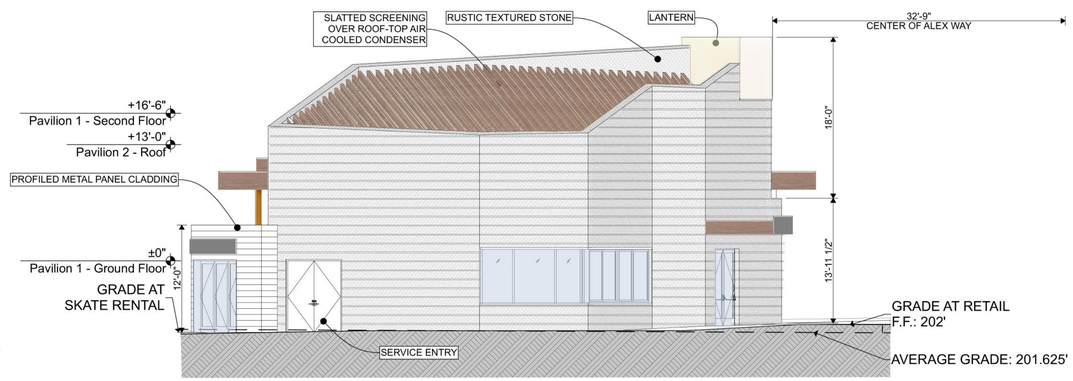
1 Pavilion 2 - Elevation South
Scale: 1/8" = 1'-0"



2 Pavilion 2 - Elevation East
Scale: 1/8" = 1'-0"



3 Pavilion 2 - Elevation West
Scale: 1/8" = 1'-0"



4 Pavilion 2 - Elevation North
Scale: 1/8" = 1'-0"

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CHAIRMAN, PLANNING COMMISSION DATE
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DEVELOPER
FOULGER-PRATT DEVELOPMENT, LLC
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

ATTORNEY
WIRE GILL LLP
700 NORTH FAIRFAX STREET
SUITE 600
ALEXANDRIA, VA 22314
703.677.3129
CONTACT: KENNETH WIRE

CIVIL ENGINEER
URBAN, LTD.
4200D TECHNOLOGY COURT
CHANTILLY, VA 20151
703.376.4221
CONTACT: CLAYTON TOCK, P.E.

LANDSCAPE ARCHITECT
OCULUS
1611 CONNECTICUT AVENUE
THIRD FLOOR
WASHINGTON, DC 20009
202.588.5454
CONTACT: DON HOOVER

FOUNTAIN CONSULTANT
FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291
CONTACT: RON SCHAFER

PLAYGROUND CONSULTANT
EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972
CONTACT: NATHANIEL GRANT

LIGHTING DESIGNER
MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062
CONTACT: FRANK FEIST

ARCHITECT
CORE
1010 WISCONSIN AVE NW SUITE 405
WASHINGTON, DC 20007
202.466.6116
CONTACT: CHRISTOPHER PELI

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03/13/2023	CONCEPT 2 REVISION

KEY MAP

DATE: 03/13/2023

PROJECT NUMBER: **22019.00**

SCALE:

DRAWING TITLE:

Pavilion 2 Elevations

SHEET NUMBER:

A.09

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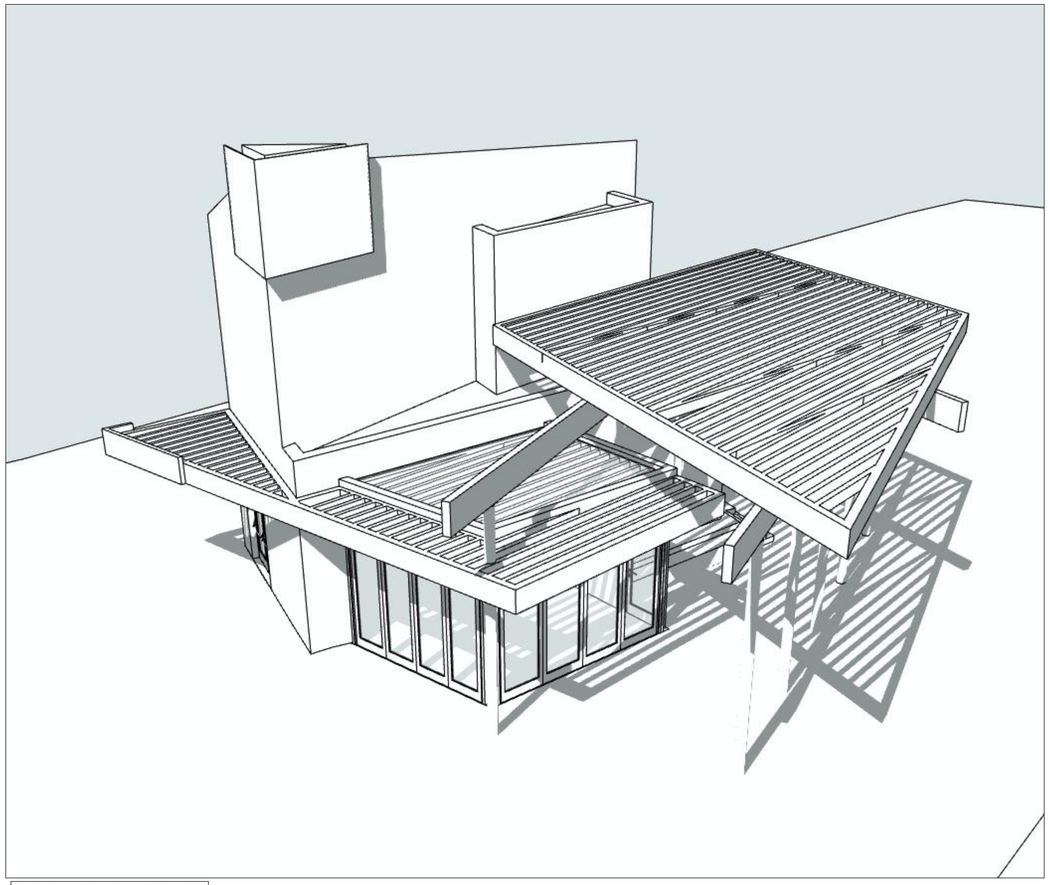
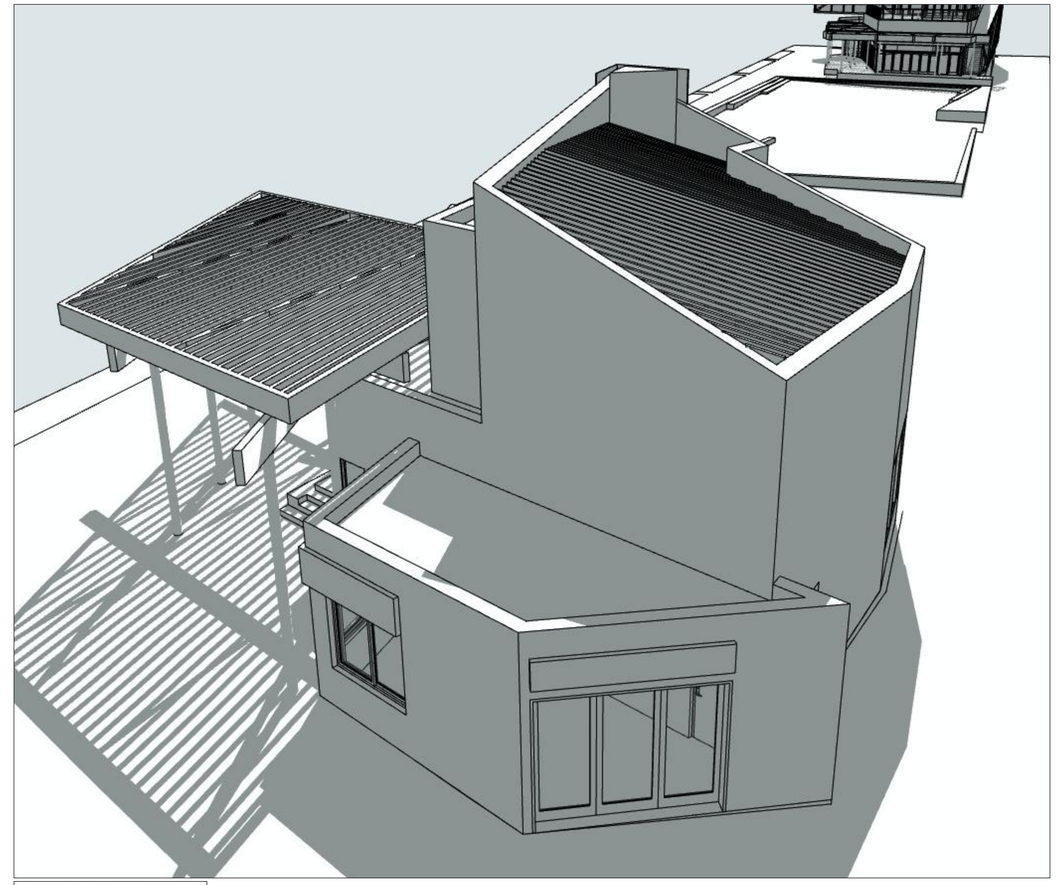


PAVILION 2 - SW 3D



PAVILION 2 - NE 3D

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DEVELOPER

FOULGER-PRATT DEVELOPMENT, LLC
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

ATTORNEY

WIRE GILL LLP
700 NORTH FAIRFAX STREET
SUITE 600
ALEXANDRIA, VA 22314
703.677.3129
CONTACT: KENNETH WIRE

CIVIL ENGINEER

URBAN, LTD.
4200D TECHNOLOGY COURT
CHANTILLY, VA 20151
703.376.4221
CONTACT: CLAYTON TOCK, P.E.

LANDSCAPE ARCHITECT

OCULUS
1611 CONNECTICUT AVENUE
THIRD FLOOR
WASHINGTON, DC 20009
202.588.5454
CONTACT: DON HOOVER

FOUNTAIN CONSULTANT

FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291
CONTACT: RON SCHAFER

PLAYGROUND CONSULTANT

EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972
CONTACT: NATHANIEL GRANT

LIGHTING DESIGNER

MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062
CONTACT: FRANK FEIST

ARCHITECT

CORE
1010 WISCONSIN AVE NW SUITE 405
WASHINGTON, DC 20007
202.466.6116
CONTACT: CHRISTOPHER PELI

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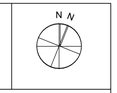
KEY MAP



DATE: 03/13/2023

PROJECT NUMBER: **22019.00**

SCALE:

DRAWING TITLE:
Pavilion 2 Mass Orientation Diagrams

SHEET NUMBER:
A.10

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DEVELOPER

FOULGER-PRATT DEVELOPMENT, LLC
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

ATTORNEY

WIRE GILL LLP
700 NORTH FAIRFAX STREET
SUITE 600
ALEXANDRIA, VA 22314
703.677.3129
CONTACT: KENNETH WIRE

CIVIL ENGINEER

URBAN, LTD.
4200D TECHNOLOGY COURT
CHANTILLY, VA 20151
703.376.4221
CONTACT: CLAYTON TOCK, P.E.

LANDSCAPE ARCHITECT

OCULUS
1611 CONNECTICUT AVENUE
THIRD FLOOR
WASHINGTON, DC 20009
202.588.5454
CONTACT: DON HOOVER

FOUNTAIN CONSULTANT

FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291
CONTACT: RON SCHAFER

PLAYGROUND CONSULTANT

EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972
CONTACT: NATHANIEL GRANT

LIGHTING DESIGNER

MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062
CONTACT: FRANK FEIST

ARCHITECT

CORE
1010 WISCONSIN AVE NW SUITE 405
WASHINGTON, DC 20007
202.466.6116
CONTACT: CHRISTOPHER PELI

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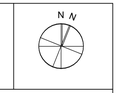
KEY MAP



DATE: 03/13/2023

PROJECT NUMBER: **22019.00**

SCALE:

DRAWING TITLE:

Pavilion 2 Rendering

SHEET NUMBER:

A.11

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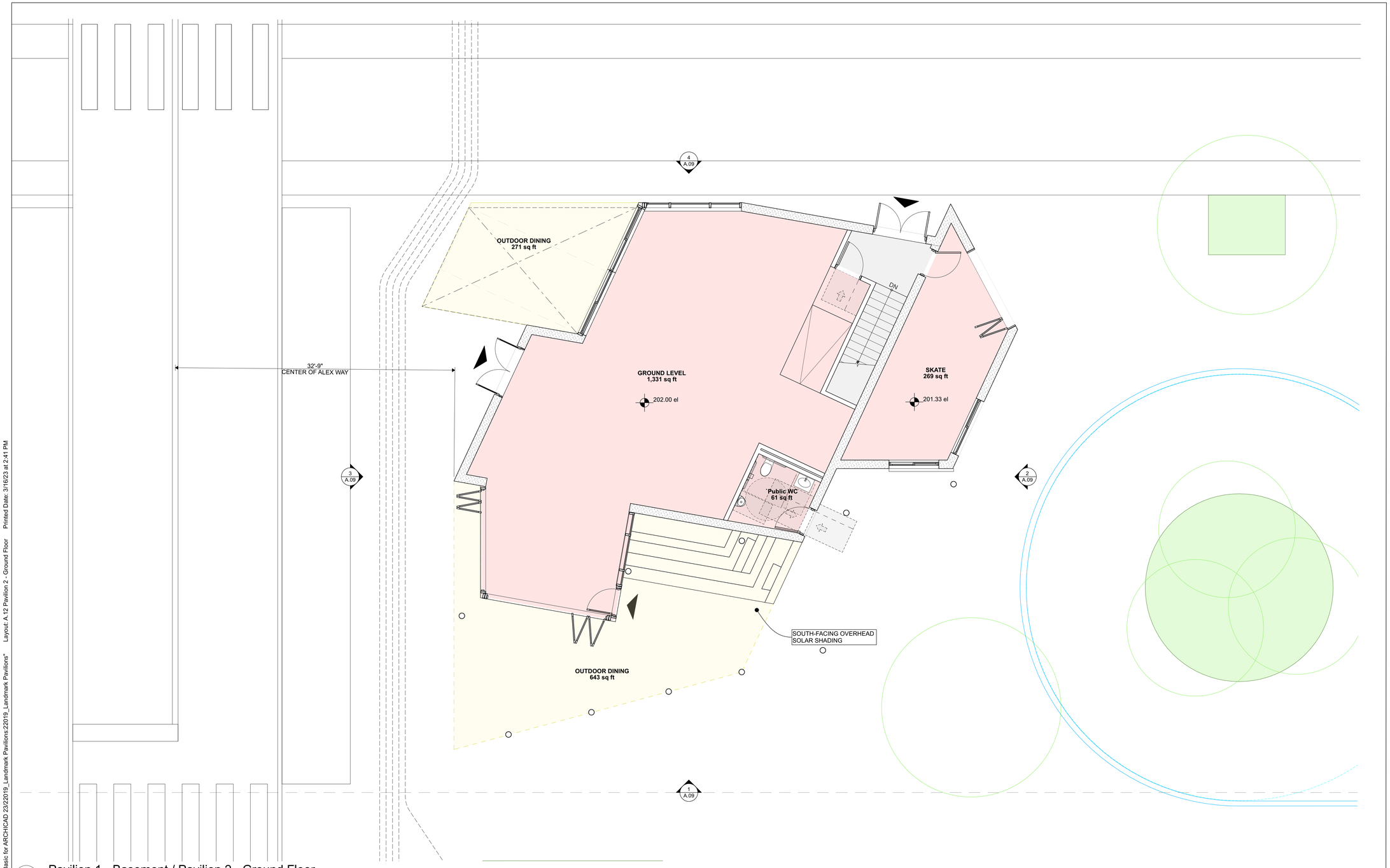

1 Pavilion 1 - Basement / Pavilion 2 - Ground Floor
Scale: 3/16" = 1'-0"

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DEVELOPER
FOULGER-PRATT DEVELOPMENT, LLC
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

ATTORNEY
WIRE GILL LLP
700 NORTH FAIRFAX STREET
SUITE 600
ALEXANDRIA, VA 22314
703.677.3129
CONTACT: KENNETH WIRE

CIVIL ENGINEER
URBAN, LTD.
4200D TECHNOLOGY COURT
CHANTILLY, VA 20151
703.376.4221
CONTACT: CLAYTON TOCK, P.E.

LANDSCAPE ARCHITECT
OCULUS
1611 CONNECTICUT AVENUE
THIRD FLOOR
WASHINGTON, DC 20009
202.588.5454
CONTACT: DON HOOVER

FOUNTAIN CONSULTANT
FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291
CONTACT: RON SCHAFER

PLAYGROUND CONSULTANT
EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972
CONTACT: NATHANIEL GRANT

LIGHTING DESIGNER
MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062
CONTACT: FRANK FEIST

ARCHITECT
CORE
1010 WISCONSIN AVE NW SUITE 405
WASHINGTON, DC 20007
202.466.6116
CONTACT: CHRISTOPHER PELI

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03/13/2023	CONCEPT 2 REVISION

KEY MAP

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DATE: 03/13/2023

PROJECT NUMBER: **22019.00**

SCALE:

DRAWING TITLE:

Pavilion 2 - Ground Floor

SHEET NUMBER:

A.12

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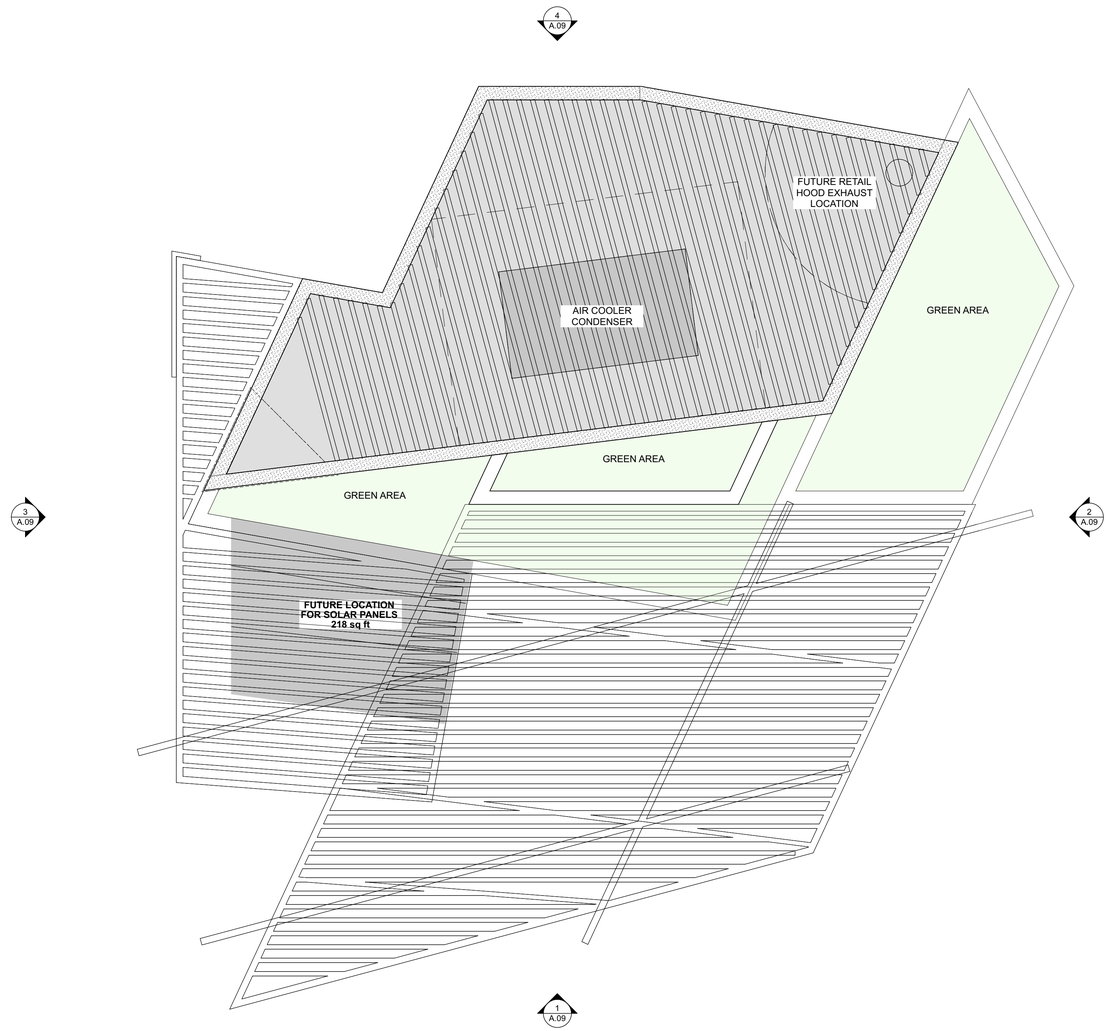
DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED _____

INSTRUMENT NO. DEED BOOK NO. PAGE NO.



2 Pavilion 2 - Roof
Scale: 3/16" = 1'-0"

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DEVELOPER

FOULGER-PRATT DEVELOPMENT, LLC
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

ATTORNEY

WIRE GILL LLP
700 NORTH FAIRFAX STREET
SUITE 600
ALEXANDRIA, VA 22314
703.677.3129
CONTACT: KENNETH WIRE

CIVIL ENGINEER

URBAN, LTD.
4200D TECHNOLOGY COURT
CHANTILLY, VA 20151
703.376.4221
CONTACT: CLAYTON TOCK, P.E.

LANDSCAPE ARCHITECT

OCULUS
1611 CONNECTICUT AVENUE
THIRD FLOOR
WASHINGTON, DC 20009
202.588.5454
CONTACT: DON HOOVER

FOUNTAIN CONSULTANT

FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291
CONTACT: RON SCHAFER

PLAYGROUND CONSULTANT

EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972
CONTACT: NATHANIEL GRANT

LIGHTING DESIGNER

MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062
CONTACT: FRANK FEIST

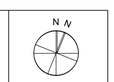
ARCHITECT

CORE
1010 WISCONSIN AVE NW SUITE 405
WASHINGTON, DC 20007
202.466.6116
CONTACT: CHRISTOPHER PELI

SEAL & SIGNATURE

SUBMISSIONS/ REVISIONS	
12/02/2022	CONCEPT II
03/13/2023	CONCEPT 2 REVISION

KEY MAP



DATE: 03/13/2023

PROJECT NUMBER: **22019.00**

SCALE:

DRAWING TITLE:

Pavilion 2 - Roof

SHEET NUMBER:

A.13

Printed: 3/13/23

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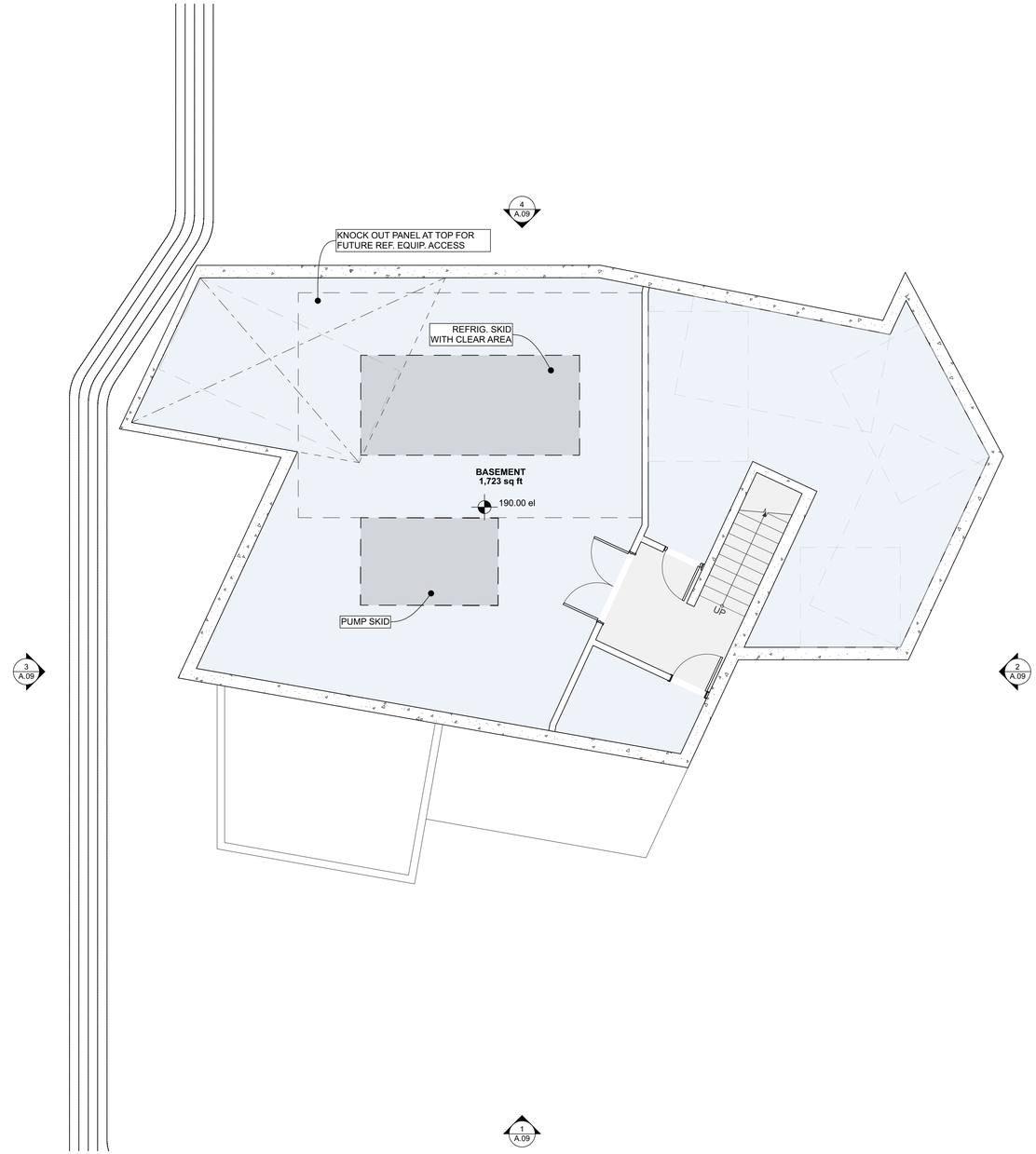

1 Pavilion 2 - Basement
Scale: 3/16" = 1'-0"

APPROVED

SPECIAL USE PERMIT NO. _____

DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES

SITE PLAN NO. _____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED _____

INSTRUMENT NO. DEED BOOK NO. PAGE NO.

DEVELOPER
FOULGER-PRATT DEVELOPMENT, LLC
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

ATTORNEY
WIRE GILL LLP
700 NORTH FAIRFAX STREET
SUITE 600
ALEXANDRIA, VA 22314
703.677.3129
CONTACT: KENNETH WIRE

CIVIL ENGINEER
URBAN, LTD.
4200D TECHNOLOGY COURT
CHANTILLY, VA 20151
703.376.4221
CONTACT: CLAYTON TOCK, P.E.

LANDSCAPE ARCHITECT
OCULUS
1611 CONNECTICUT AVENUE
THIRD FLOOR
WASHINGTON, DC 20009
202.588.5454
CONTACT: DON HOOVER

FOUNTAIN CONSULTANT
FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291
CONTACT: RON SCHAFER

PLAYGROUND CONSULTANT
EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972
CONTACT: NATHANIEL GRANT

LIGHTING DESIGNER
MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062
CONTACT: FRANK FEIST

ARCHITECT
CORE
1010 WISCONSIN AVE NW SUITE 405
WASHINGTON, DC 20007
202.466.6116
CONTACT: CHRISTOPHER PELI

SEAL & SIGNATURE

SUBMISSIONS/ REVISIONS	
12/02/2022	CONCEPT II
03/13/2023	CONCEPT 2 REVISION

KEY MAP

N

DATE: 03/13/2023

PROJECT NUMBER: **22019.00**

SCALE:

DRAWING TITLE:

Pavilion 2 - Basement

SHEET NUMBER:

A.14

Printed: 3/13/23

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File Name: "BIMcloud: xserve04.coredc.com - BIMcloud Basic for ARCHICAD 23/22019_Landmark Pavilions:22019_Landmark Pavilions" Layout: A.14 Pavilion 2 - Basement Printed Date: 3/13/23 at 5:18 PM

P:\Landmark Parks\4_DRAWINGS\1_DWG\4_SHEETS\Concept Plan\L0001 ILLUSTRATIVE PLAN.dwg – Monday March 13, 2023, 5:34pm

P:\Landmark Parks\4_DRAWINGS\1_DWG\4_SHEETS\Concept Plan\L0001 ILLUSTRATIVE PLAN.dwg – Monday March 13, 2023, 5:34pm

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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. _____

DEVELOPER

FOULGER-PRATT DEVELOPMENT
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

LANDSCAPE ARCHITECT

O C U L U S
1611 CONNECTICUT AVE NW 3RD FLOOR
WASHINGTON DC 20009
P 202 588 5454
US@OCULUS.INFO

CONSULTANTS

FOUNTAIN CONSULTANT
FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291

PLAYGROUND CONSULTANT
EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972

ICE RINK CONSULTANT
B32 ENGINEERING GROUP, INC.
2211 O'NEIL ROAD
HUDSON, WI 54016
1.651.256.3090

LIGHTING DESIGNER
MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062

PROJECT NAME

WestEnd Open Space Blocks

City of Alexandria

SEAL & SIGNATURE

COMMONWEALTH OF VIRGINIA
DONALD RAY HOOVER
Lic. No. 406000790
LANDSCAPE ARCHITECT

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ISSUE

MARK	DATE	DESCRIPTION
	11/29/2022	CONCEPT II
	03/10/2023	COMPLETENESS

KEY MAP

N

DATE: 03/10/2023

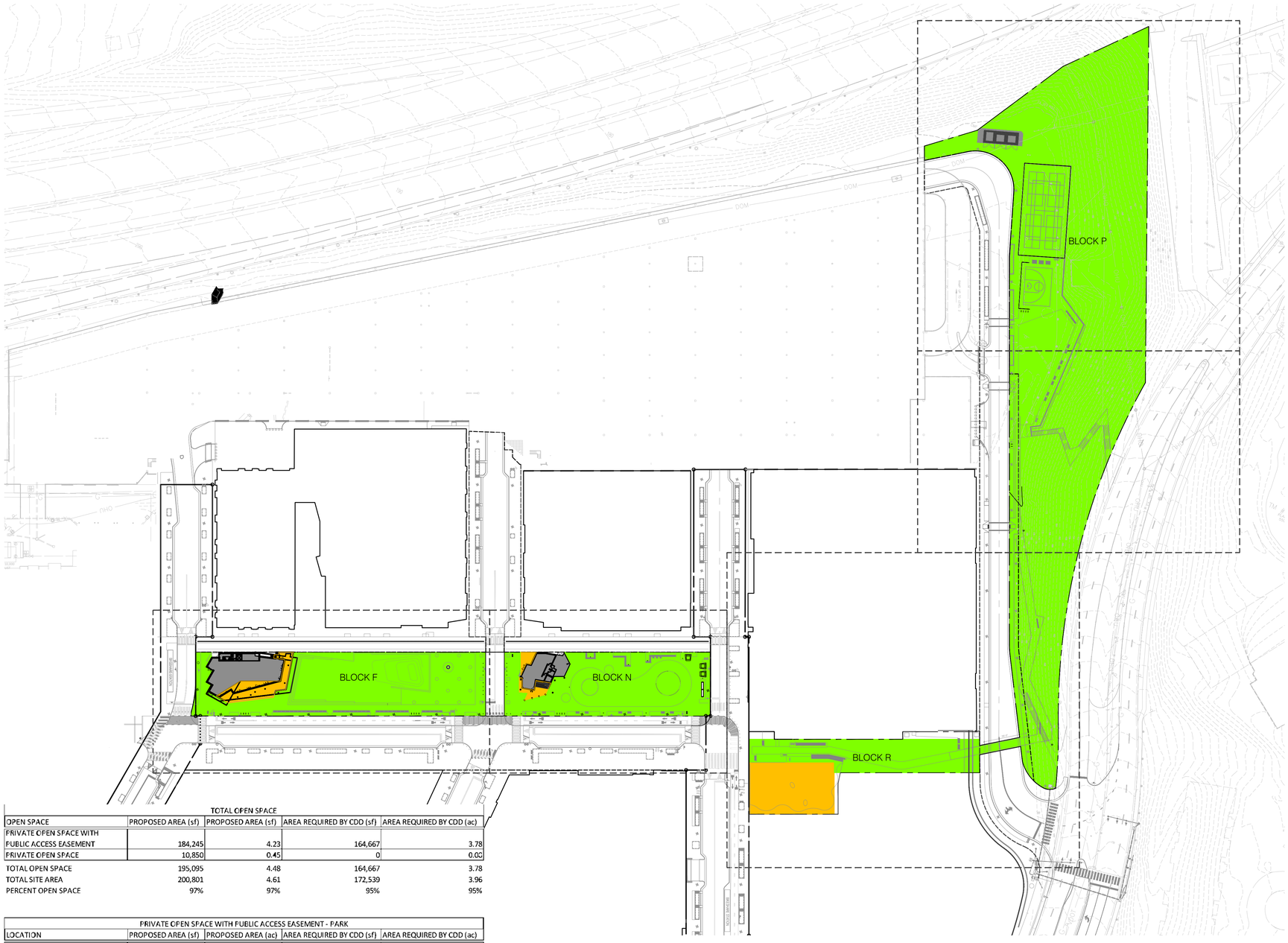
PROJECT NUMBER: W2108

SCALE: NTS

DRAWING TITLE: ILLUSTRATIVE PLAN

SHEET NUMBER: L0001

L0001 ILLUSTRATIVE PLAN.dwg March 13, 2023, 5:34 pm



TOTAL OPEN SPACE				
OPEN SPACE	PROPOSED AREA (sf)	PROPOSED AREA (sf)	AREA REQUIRED BY CDD (sf)	AREA REQUIRED BY CDD (ac)
PRIVATE OPEN SPACE WITH PUBLIC ACCESS EASEMENT	184,245	4.23	164,667	3.78
PRIVATE OPEN SPACE	10,850	0.45	0	0.00
TOTAL OPEN SPACE	195,095	4.48	164,667	3.78
TOTAL SITE AREA	200,801	4.61	172,539	3.96
PERCENT OPEN SPACE	97%	97%	95%	95%

PRIVATE OPEN SPACE WITH PUBLIC ACCESS EASEMENT - PARK				
LOCATION	PROPOSED AREA (sf)	PROPOSED AREA (ac)	AREA REQUIRED BY CDD (sf)	AREA REQUIRED BY CDD (ac)
BLOCK F - CENTRAL PLAZA	25,781	0.19	22,739	0.23
BLOCK N - CENTRAL PLAZA EAST	19,748	0.45	17,699	0.41
BLOCK P - TERRACE PARK	126,291	2.90	114,050	2.62
BLOCK R - PASEO	11,763	0.27	10,179	0.23
ROAD 7 BRIDGE	662	0.02	0	0.00
TOTAL OPEN SPACE	184,245	4.23	164,667	3.78

PRIVATE OPEN SPACE				
LOCATION	PROPOSED AREA (sf)	PROPOSED AREA (sf)	AREA REQUIRED BY CDD (sf)	AREA REQUIRED BY CDD (ac)
BLOCK F - CENTRAL PLAZA	2,276	0.02	0	0.00
BLOCK N - CENTRAL PLAZA EAST	895	0.02	0	0.00
BLOCK M - PLAYGROUND	7,679	0.18	0	0.00
BLOCK P - TERRACE PARK	0	0.00	0	0.00
TOTAL OPEN SPACE	10,850	0.25	0	0.00

RETAIL PAVILIONS				
LOCATION	PROPOSED AREA (sf)	PROPOSED AREA (sf)	AREA REQUIRED BY CDD (sf)	AREA REQUIRED BY CDD (ac)
BLOCK F - CENTRAL PLAZA	3,717	0.09	4,557	0.10
BLOCK N - CENTRAL PLAZA EAST	1,989	0.05	3,315	0.08
TOTAL OPEN SPACE	5,706	0.13	7,872	0.18

OPEN SPACE LEGEND

- PRIVATE OPEN SPACE WITH PUBLIC ACCESS EASEMENT - PARKS
- PRIVATE OPEN SPACE
- NON OPEN SPACE AREA

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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.

DEVELOPER
FOULGER-PRATT DEVELOPMENT
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

LANDSCAPE ARCHITECT
O C U L U S
1611 CONNECTICUT AVE NW 3RD FLOOR
WASHINGTON DC 20009
P 202 588 5454
US@OCULUS.INFO

CONSULTANTS
FOUNTAIN CONSULTANT
FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291

PLAYGROUND CONSULTANT
EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972

ICE RINK CONSULTANT
B3Z ENGINEERING GROUP, INC.
2211 O'NEIL ROAD
HUDSON, WI 54016
1.651.256.3090

LIGHTING DESIGNER
MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062

PROJECT NAME
WestEnd Open Space Blocks
City of Alexandria

SEAL & SIGNATURE
COMMONWEALTH OF VIRGINIA
DONALD RAY HOOVER
Lic. No. 406000790
LANDSCAPE ARCHITECT

COMPLETENESS SUBMISSION
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ISSUE

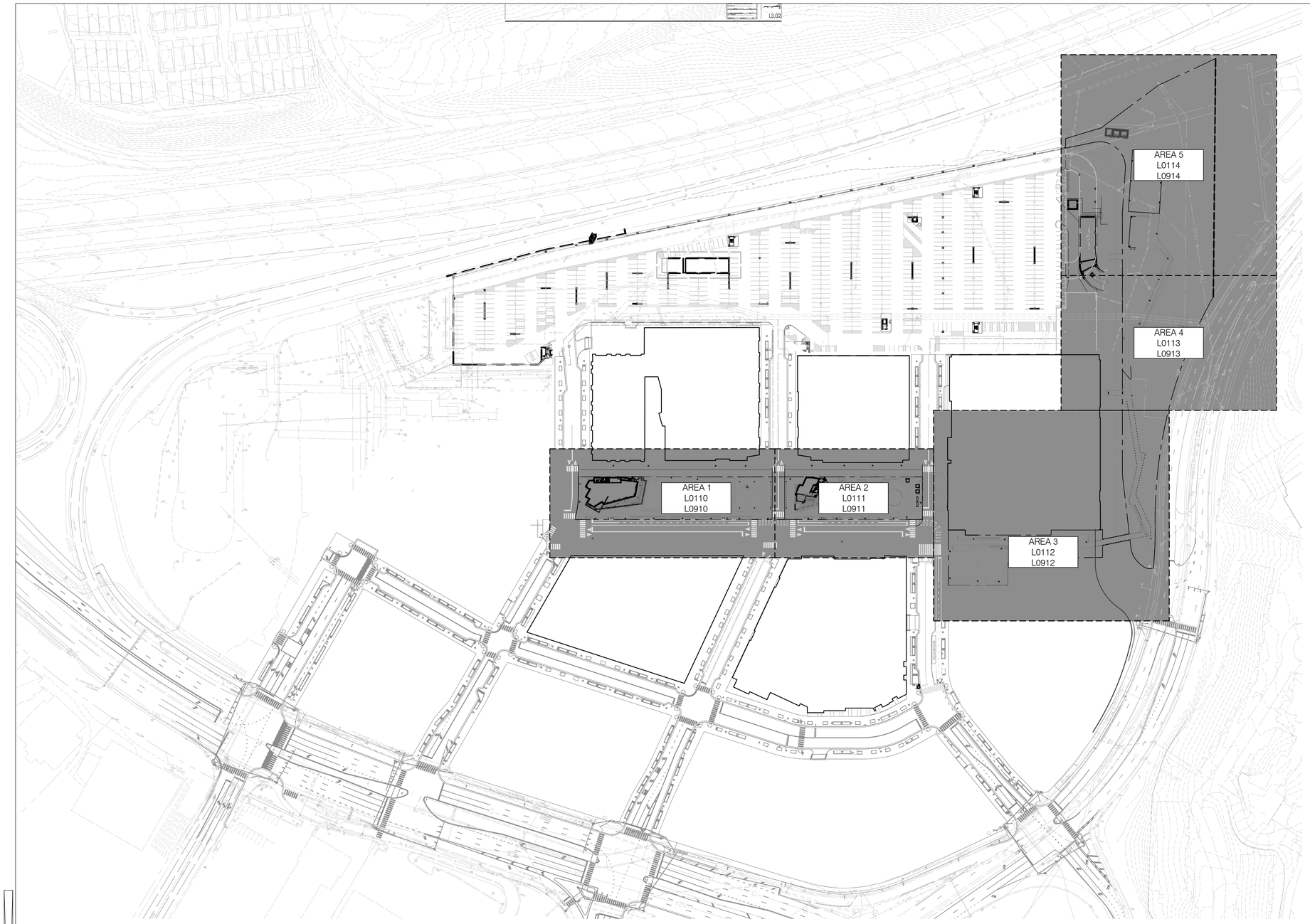
MARK	DATE	DESCRIPTION
	11/29/2022	CONCEPT II
	03/10/2023	COMPLETENESS

KEY MAP
N

DATE: 03/10/2023
PROJECT NUMBER: W2108
SCALE: 1"=70'

OPEN SPACE PLAN
DRAWING TITLE:

L0002
SHEET NUMBER:



DEVELOPER

FOULGER-PRATT DEVELOPMENT
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

LANDSCAPE ARCHITECT

O C U L U S
1611 CONNECTICUT AVE NW 3RD FLOOR
WASHINGTON DC 20009
P 202 588 5454
US@OCULUS.INFO

CONSULTANTS

FOUNTAIN CONSULTANT
FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291

PLAYGROUND CONSULTANT
EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972

ICE RINK CONSULTANT
B3Z ENGINEERING GROUP, INC.
2211 O'NEIL ROAD
HUDSON, WI 54016
1.651.256.3090

LIGHTING DESIGNER
MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062

PROJECT NAME

WestEnd Open Space Blocks
City of Alexandria

SEAL & SIGNATURE

COMMONWEALTH OF VIRGINIA
DONALD RAY HOOVER
Lic. No. 406000790
LANDSCAPE ARCHITECT

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MARK	DATE	DESCRIPTION
	11/29/2022	CONCEPT II
	03/10/2023	COMPLETENESS

KEY MAP

N

DATE: 03/10/2023

PROJECT NUMBER: W2108

SCALE: 1" = 100'

DRAWING TITLE: KEY PLAN

SHEET NUMBER: L0003

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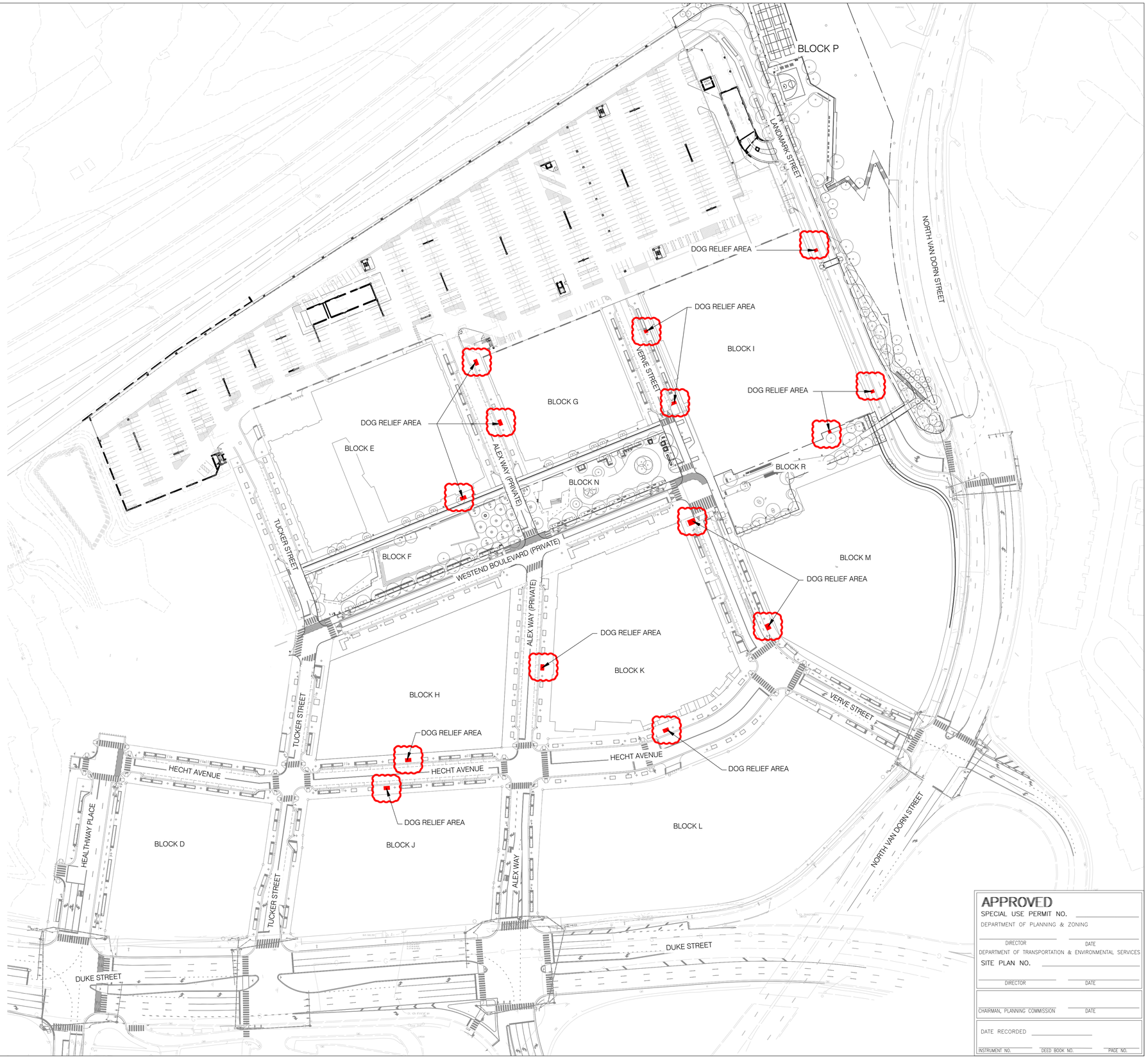
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. _____
DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

NOTE: FOR REFERENCE ONLY. REFER TO WEST END (LANDMARK) INFRASTRUCTURE DSP #2021-00012 FOR DETAILED INFORMATION.



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DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
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DEVELOPER

FOULGER-PRATT DEVELOPMENT
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

LANDSCAPE ARCHITECT

O C U L U S
1611 CONNECTICUT AVE NW 3RD FLOOR
WASHINGTON DC 20009
P 202 588 5454
US@OCULUS.INFO

CONSULTANTS

FOUNTAIN CONSULTANT
FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291

PLAYGROUND CONSULTANT
EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972

ICE RINK CONSULTANT
B3Z ENGINEERING GROUP, INC.
2211 O'NEIL ROAD
HUDSON, WI 54016
1.651.256.3090

LIGHTING DESIGNER
MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062

PROJECT NAME

WestEnd Open Space
Blocks
City of Alexandria

SEAL & SIGNATURE

COMMONWEALTH OF VIRGINIA
DONALD RAY HOOVER
Lic. No. 406000790
LANDSCAPE ARCHITECT

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MARK	DATE	DESCRIPTION
	11/29/2022	CONCEPT II
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KEY MAP

N

DATE: 03/10/2023

PROJECT NUMBER: W2108

SCALE: 1" = 80'-0"

DRAWING TITLE: DOG RELIEF AREA DIAGRAM

L0004

SHEET NUMBER: VALUE of 339

West End Open Space Blocks
SITE MATERIALS/ FINISHES SCHEDULE

SITE FURNISHINGS

KEY	TYPE	MATERIAL	DETAIL NUMBER / SHEET
PV-07	Concrete Walk	4" min. CIP Concrete, broom finish	
PV-02	Special Paving Type 2	Stone or Brick or Colored Concrete	
PV-02	Special Paving Type 2	Stabilized Stone Dust	
PV-04	Wood Deck	TBD	
PV-05	Play Surface	Rubber Safety Surface or Play Turf	
PV-06	Asphalt	VDOT standard	
PV-07	Detectable Warning Strip	Concrete, Color TBD	
PV-08	Court Paving	Asphalt	
ST-01	Concrete Step	CIP Concrete	
ST-02	Wood Step	TBD	

SITE WALLS & STAIRS

KEY	TYPE	MATERIAL	DETAIL NUMBER / SHEET
WA-02	Concrete Retaining Wall	Precast Concrete	
WA-02	Concrete Retaining Wall	CIP Concrete	
ST-01	Ampitheater Stair		

SITE FURNISHINGS

KEY	TYPE	MATERIAL	DETAIL NUMBER / SHEET
FN-01	Landscape Forms Neoliviano	Aluminum frame with wood seats, TBD	
FN-02	Loll Go Love Seat	Recycled High-density Polyethylene (HDPE), Color TBD	
FN-03	Landscape Forms Glide Bench	Recycled High-density Polyethylene (HDPE), Color TBD	
FN-04	Mmcite Limpido Bench	Steel, Color TBD	
FN-05	Mmcite Woody Bench	Steel frame with wood seats	
FN-06	Mmcite Rautster 4-Top	Steel frame with wood seats	
FN-07	Mmcite Rautster 2-Top	Steel frame with wood seats	
FN-08	Bike Racks	City of Alexandria Standard or approved equal	
FN-09	Waste Receptacles	City of Alexandria Standard or approved equal	
FN-10	Mmcite Donat Bollard	Steel, Aluminum	
FN-12	Square Tree Grate	TBD	
FN-12	Round Tree Grate	TBD	
FN-13	Custom Swing Bench	TBD	
FN-14	Custom Linear Bench	Steel frame with wood seats	
FN-15	Landscape Forms GO Outdoor Table (Standing Height)	Powdercoated metal	
FN-16	Landscape Forms GO Outdoor Table (Dining Height)	Powdercoated metal	
FN-17	Custom Chess Table	TBD	
FN-18	Custom Tiered Seating	Wood, TBD	

HANDRAILS, GUARDRAILS, AND FENCING

KEY	TYPE	MATERIAL	DETAIL NUMBER / SHEET
RA-02	Handrail	36" handrail	
RA-02	Guardrail	42" guardrail	
FE-02	Play Area Fence	4'-0" fence	
FE-02	Court Fence	10'-0" fence	

LIGHTS

KEY	TYPE	MATERIAL	DETAIL NUMBER / SHEET
KX-01	Street Light	City of Alexandria standard	
KX-03	Site Light		
KX-03	Step Light		

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SPECIAL USE PERMIT NO. _____

DEPARTMENT OF PLANNING & ZONING

DIRECTOR _____ DATE _____

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES

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DIRECTOR _____ DATE _____

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DATE RECORDED _____

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DEVELOPER

FOULGER-PRATT DEVELOPMENT
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

LANDSCAPE ARCHITECT

O C U L U S
1611 CONNECTICUT AVE NW 3RD FLOOR
WASHINGTON DC 20009
P 202 588 5454
US@OCULUS.INFO

CONSULTANTS

FOUNTAIN CONSULTANT
FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291

PLAYGROUND CONSULTANT
EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972

ICE RINK CONSULTANT
832 ENGINEERING GROUP, INC.
2211 O'NEIL ROAD
HUDSON, WI 54016
1.651.256.3090

LIGHTING DESIGNER
MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062

PROJECT NAME

WestEnd Open Space Blocks
City of Alexandria

SEAL & SIGNATURE

COMPLETENESS SUBMISSION

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ISSUE

MARK	DATE	DESCRIPTION
	11/29/2022	CONCEPT II
	03/10/2023	COMPLETENESS

KEY MAP

N

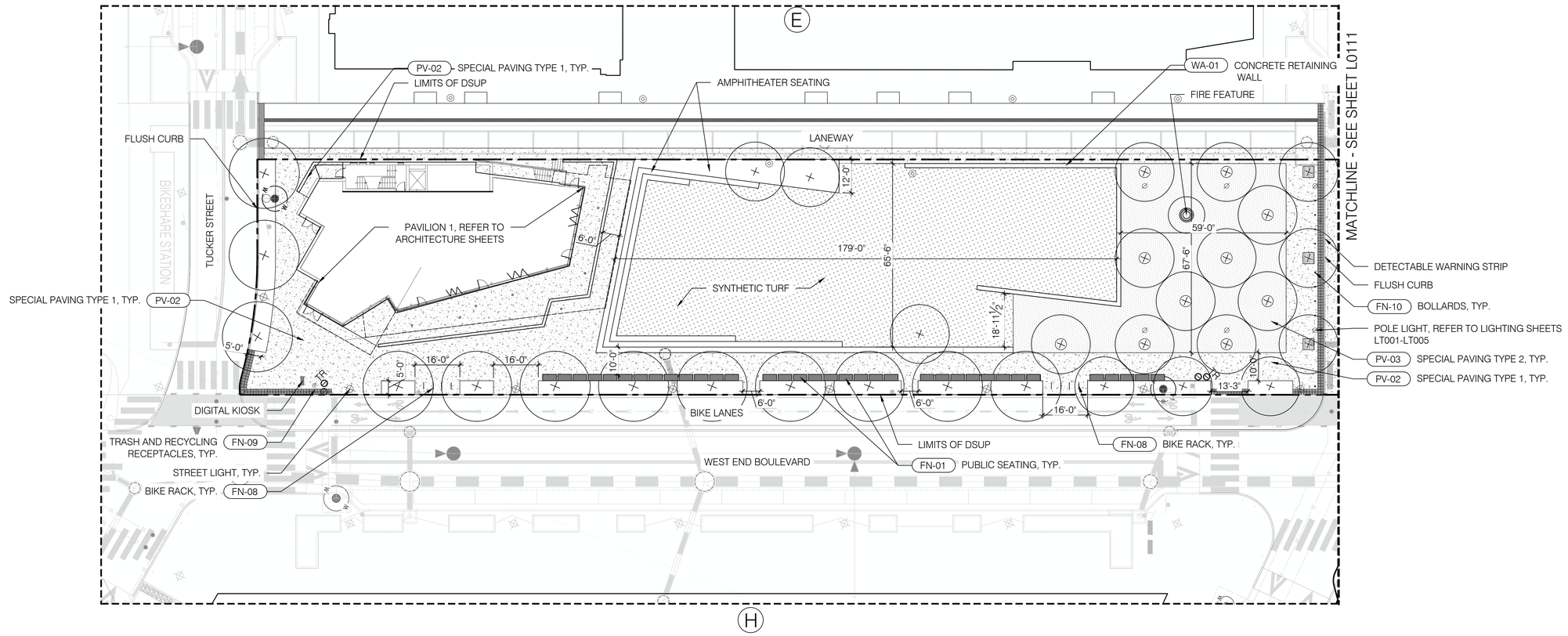
DATE: 03/10/2023

PROJECT NUMBER: W2108

SCALE: #########

DRAWING TITLE: MATERIALS SCHEDULE

SHEET NUMBER: L0100



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POTOMAC, MD 20854
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WASHINGTON DC 20009
P 202 588 5454
US@OCULUS.INFO

CONSULTANTS

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LOS ANGELES, CALIFORNIA 90014
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7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
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B3Z ENGINEERING GROUP, INC.
2211 O'NEIL ROAD
HUDSON, WI 54016
1.651.256.3090

LIGHTING DESIGNER
MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
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SITE PLAN NO. _____
DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

KEY MAP

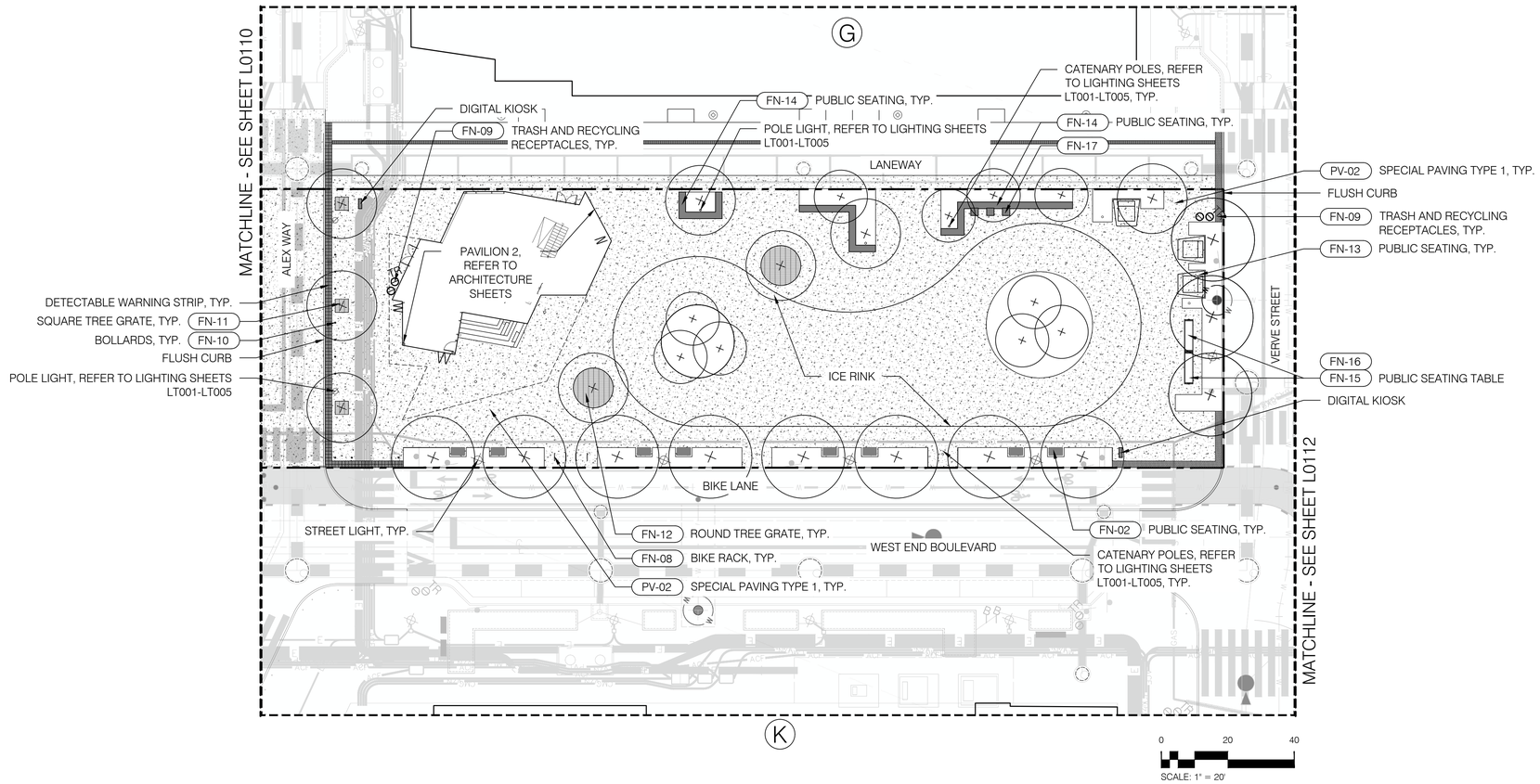
DATE: 03/10/2023

PROJECT NUMBER: W2108

SCALE: 1" = 20'

DRAWING TITLE: MATERIALS PLAN - AREA 1

SHEET NUMBER: L0110



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LOS ANGELES, CALIFORNIA 90014
213.739.9291

PLAYGROUND CONSULTANT
EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972

ICE RINK CONSULTANT
B32 ENGINEERING GROUP, INC.
2211 O'NEIL ROAD
HUDSON, WI 54016
1.651.256.3090

LIGHTING DESIGNER
MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062

PROJECT NAME

WestEnd Open Space Blocks
City of Alexandria

SEAL & SIGNATURE

COMMONWEALTH OF VIRGINIA
DONALD RAY HOOVER
Lic. No. 406000790
LANDSCAPE ARCHITECT

COMPLETENESS SUBMISSION

NOT FOR CONSTRUCTION

ISSUE

MARK	DATE	DESCRIPTION
	11/29/2022	CONCEPT II
	03/10/2023	COMPLETENESS

KEY MAP

N

DATE: 03/10/2023

PROJECT NUMBER: W2108

SCALE: 1" = 20'

DRAWING TITLE: MATERIALS PLAN - AREA 2

SHEET NUMBER: L0111

APPROVED

SPECIAL USE PERMIT NO. _____

DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES

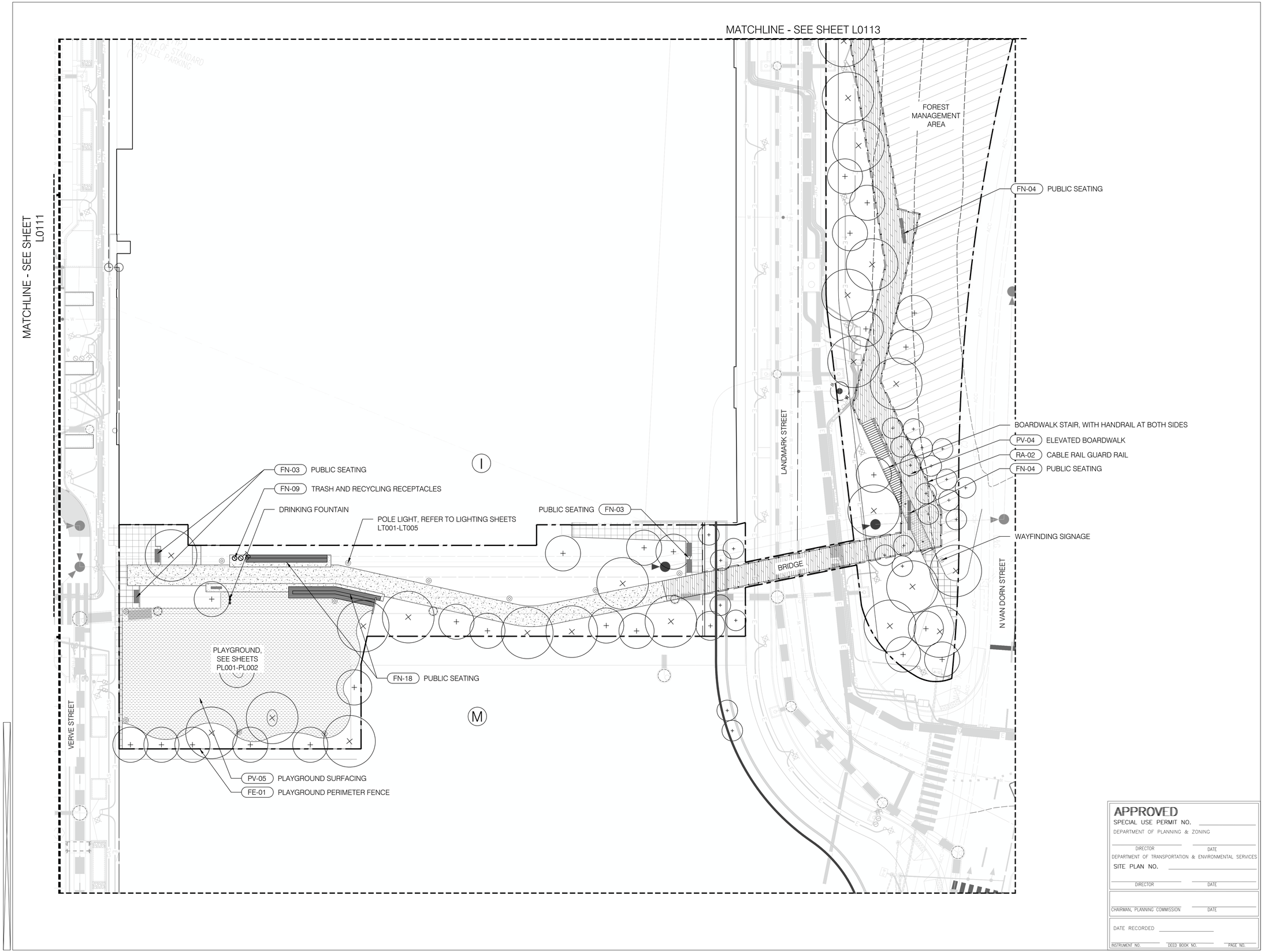
SITE PLAN NO. _____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED _____

INSTRUMENT NO. DEED BOOK NO. PAGE NO.



DEVELOPER

FOULGER-PRATT DEVELOPMENT
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

LANDSCAPE ARCHITECT

O C U L U S
1611 CONNECTICUT AVE NW 3RD FLOOR
WASHINGTON DC 20009
P 202 588 5454
US@OCULUS.INFO

CONSULTANTS

FOUNTAIN CONSULTANT
FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291

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SITE PLAN NO. _____
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CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

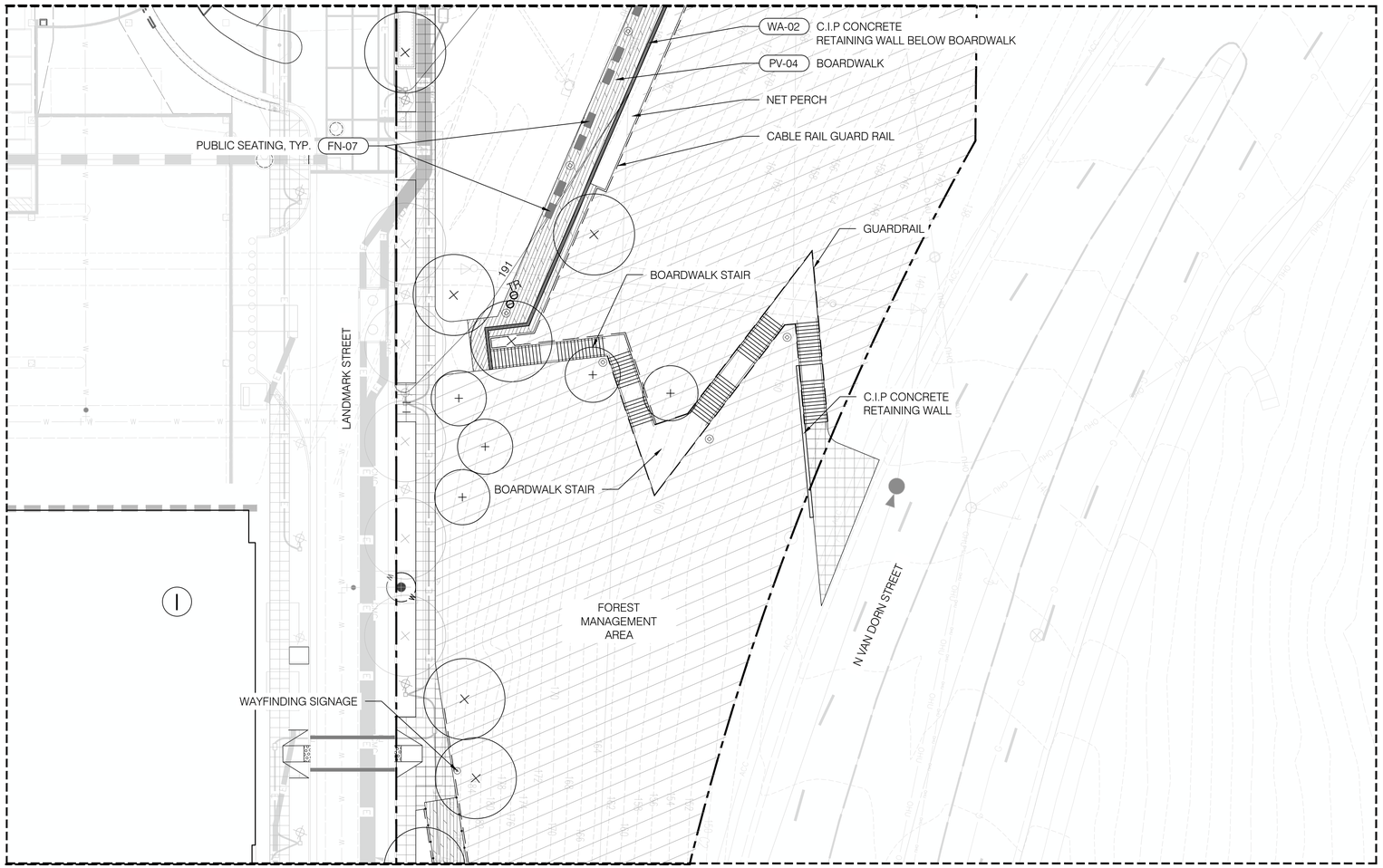
KEY MAP

DATE: 03/10/2023
PROJECT NUMBER: W2108
SCALE: 1" = 20'

DRAWING TITLE: MATERIALS PLAN - AREA 3

SHEET NUMBER: L0112

MATCHLINE - SEE SHEET L0114



MATCHLINE - SEE SHEET L0112

0 20 40

SCALE: 1" = 20'

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12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
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KEY MAP

N

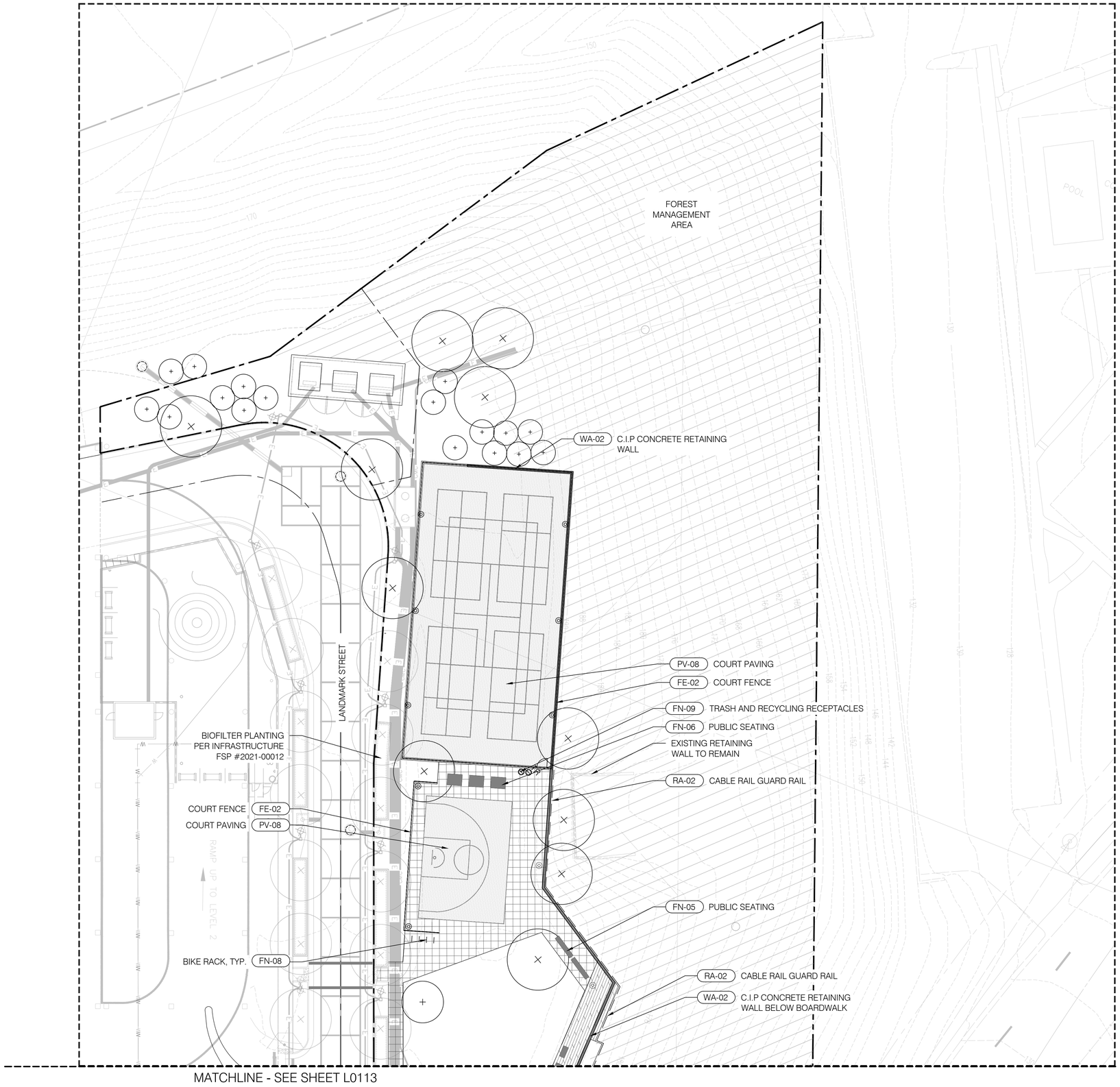
DATE: 03/10/2023

PROJECT NUMBER: W2108

SCALE: 1" = 20'

DRAWING TITLE: MATERIALS PLAN - AREA 4

SHEET NUMBER: L0113



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12435 PARK POTOMAC AVENUE
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KEY MAP

DATE: 03/10/2023

PROJECT NUMBER: W2108

SCALE: 1" = 20'

DRAWING TITLE: MATERIALS PLAN - AREA 5

SHEET NUMBER: L0114

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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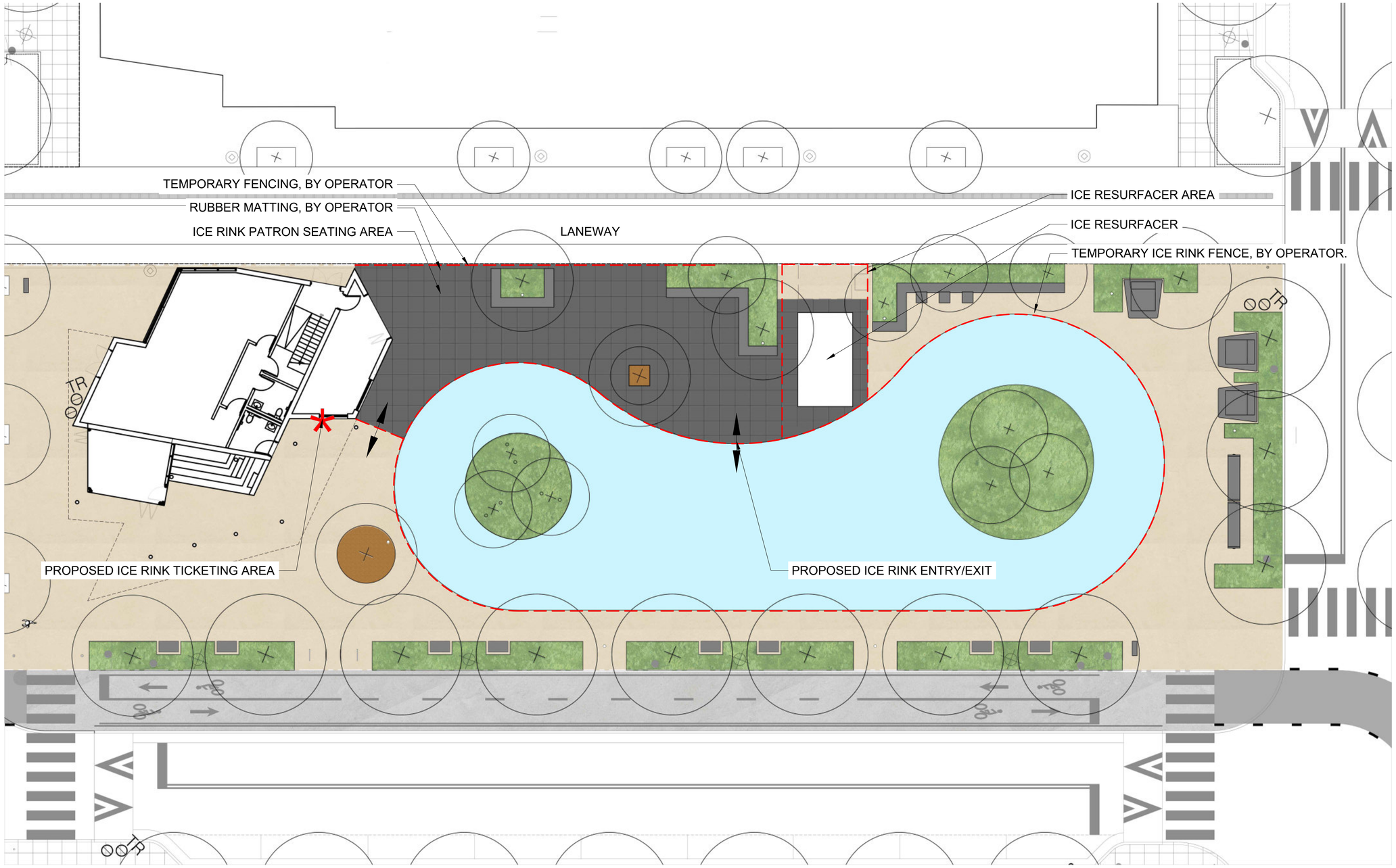
INSTRUMENT NO. DEED BOOK NO. PAGE NO.



FOR ILLUSTRATIVE PURPOSES ONLY. FINAL DESIGN AND LAYOUT OF ICE RINK OPERATIONS TO BE FINALIZED WITH ICE RINK OPERATOR.

APPROVED

SPECIAL USE PERMIT NO. _____

DEPARTMENT OF PLANNING & ZONING

DIRECTOR _____ DATE _____

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DIRECTOR _____ DATE _____

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FOULGER-PRATT DEVELOPMENT
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

LANDSCAPE ARCHITECT

O C U L U S
1611 CONNECTICUT AVE NW 3RD FLOOR
WASHINGTON DC 20009
P 202 588 5454
US@OCULUS.INFO

CONSULTANTS

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FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291

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EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
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2211 O'NEIL ROAD
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LIGHTING DESIGNER
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WASHINGTON, DC 20007
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KEY MAP

N

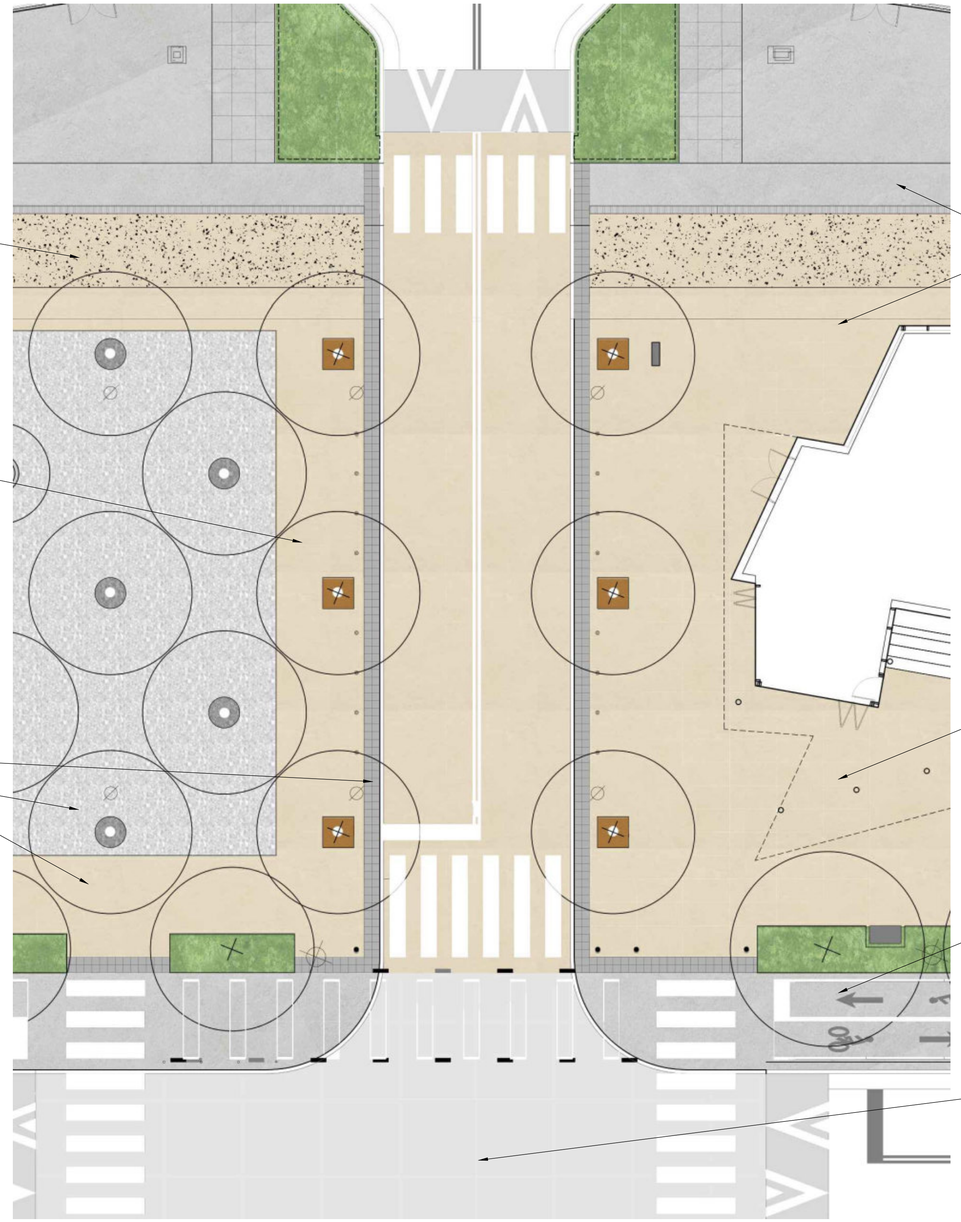
DATE: 03/10/2023

PROJECT NUMBER: W2108

SCALE: 1" = 80'-0"

DRAWING TITLE: ICE RINK DIAGRAM

SHEET NUMBER: L0701



EXPOSED AGGREGATE PAVING, TYP.

SPECIAL PAVING TYPE 1, TYP. PV-02

DETECTABLE WARNING STRIP, TYP. PV-07

SPECIAL PAVING TYPE 2, TYP. PV-03

SPECIAL PAVING TYPE 1, TYP. PV-02

PV-01 CONCRETE WALK, TYP.

PV-02 SPECIAL PAVING TYPE 1, TYP.

PV-02 SPECIAL PAVING TYPE 1, TYP.

CONCRETE PAVING, TYP.
REFER TO WESTEND INFRASTRUCTURE
FSP #2021-00012 FOR DETAILED INFORMATION

CONCRETE PAVING, TYP.
REFER TO WESTEND INFRASTRUCTURE
FSP #2021-00012 FOR DETAILED INFORMATION

NOTE:
DIAGRAM IS FOR ILLUSTRATIVE PURPOSES ONLY.
COLORS SHOWN DO NOT REFLECT FINAL SELECTIONS BUT INSTEAD SERVE TO GRAPHICALLY DIFFERENTIATE PAVING TYPES. FINAL COLOR AND MATERIAL TO BE FINALIZED AS PART OF FSP SUBMISSION.

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DIRECTOR _____ DATE _____

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES

SITE PLAN NO. _____

DIRECTOR _____ DATE _____

CHAIRMAN, PLANNING COMMISSION _____ DATE _____

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12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

LANDSCAPE ARCHITECT

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1611 CONNECTICUT AVE NW 3RD FLOOR
WASHINGTON DC 20009
P 202 588 5454
US@OCULUS.INFO

CONSULTANTS

FOUNTAIN CONSULTANT
FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291

PLAYGROUND CONSULTANT
EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972

ICE RINK CONSULTANT
B3Z ENGINEERING GROUP, INC.
2211 O'NEIL ROAD
HUDSON, WI 54016
1.651.256.3090

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WASHINGTON, DC 20007
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	03/10/2023	COMPLETENESS

KEY MAP

N

DATE: 03/10/2023

PROJECT NUMBER: W2108

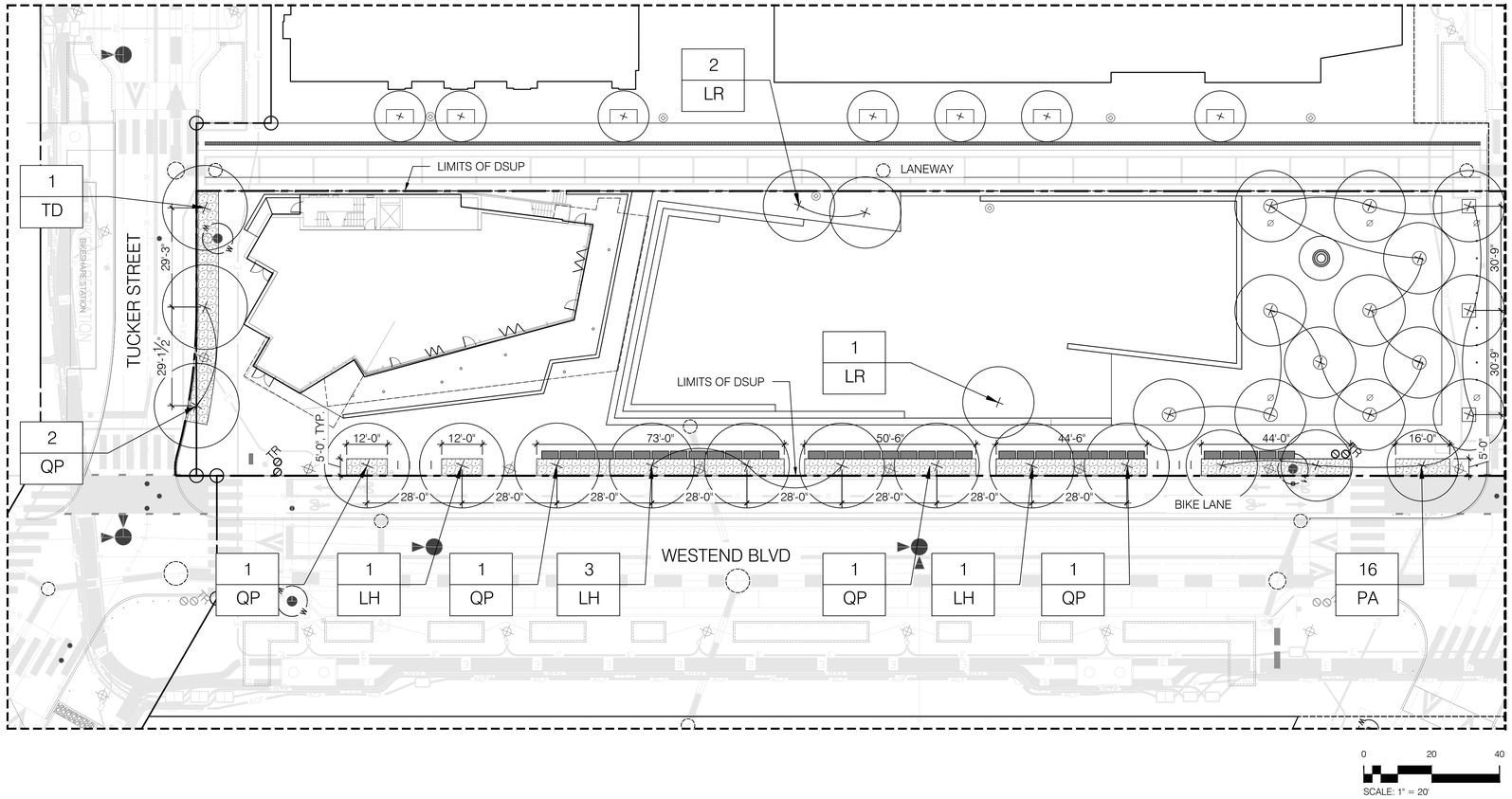
SCALE: 1" = 80'-0"

PAVING TRANSITION DIAGRAM

DRAWING TITLE:

L0702

SHEET NUMBER:



0 20 40

SCALE: 1" = 20'

PLANTING LEGEND

- LAWN
- GARDEN PLANTING
- MEADOW PLANTING

DEVELOPER

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12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
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1611 CONNECTICUT AVE NW 3RD FLOOR
WASHINGTON DC 20009
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MARK	DATE	DESCRIPTION
	11/29/2022	CONCEPT II
	03/10/2023	COMPLETENESS

KEY MAP

N

DATE: 03/10/2023

PROJECT NUMBER: W2108

SCALE: 1" = 20'

DRAWING TITLE: PLANTING PLAN - AREA 1

SHEET NUMBER: L0910

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 _____

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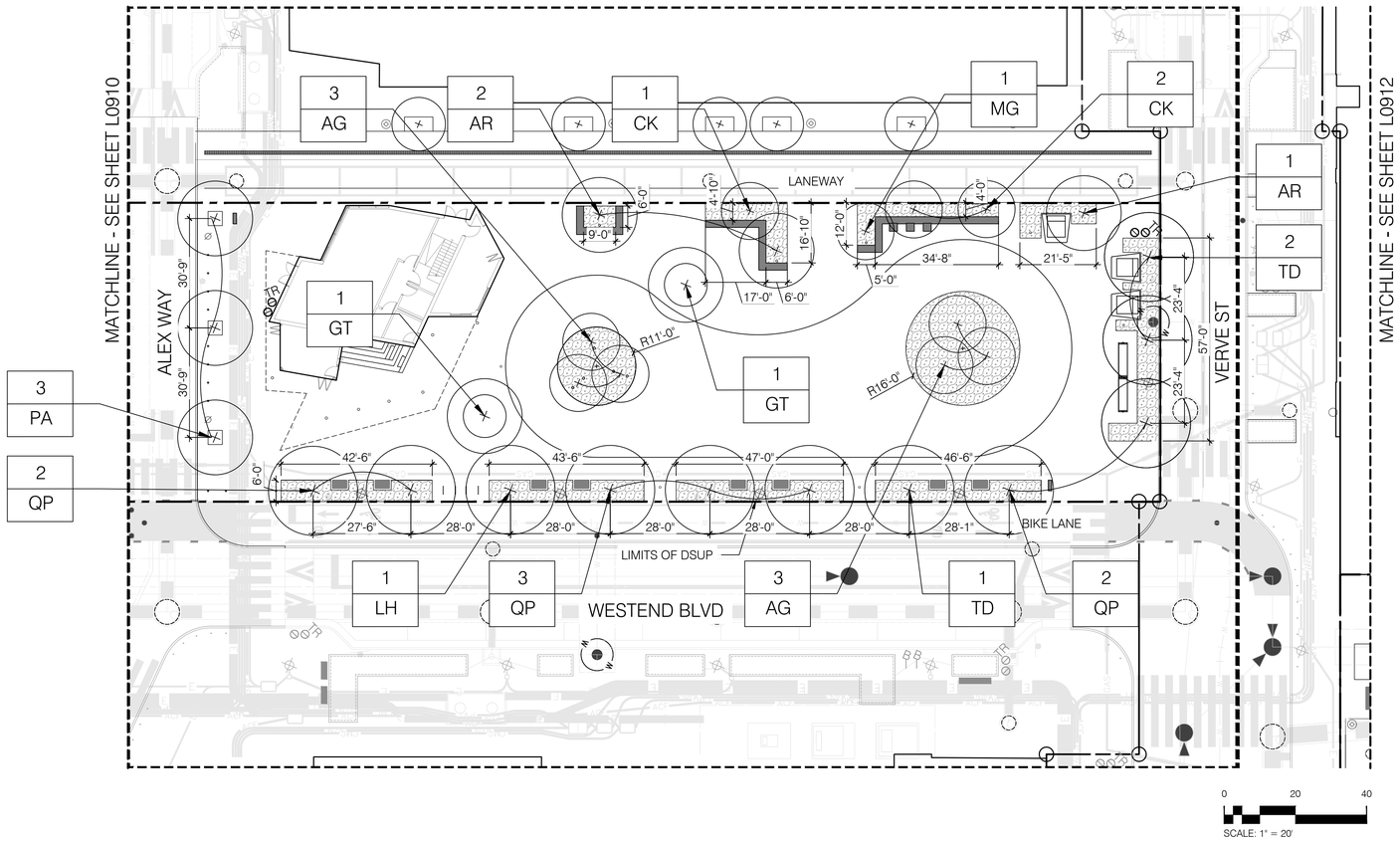

PLANTING LEGEND

- LAWN
- GARDEN PLANTING
- MEADOW PLANTING

DEVELOPER

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12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
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1611 CONNECTICUT AVE NW 3RD FLOOR
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	11/29/2022	CONCEPT II
	03/10/2023	COMPLETENESS

KEY MAP

N

DATE: 03/10/2023

PROJECT NUMBER: W2108

SCALE: 1" = 20'

DRAWING TITLE: PLANTING PLAN - AREA 2

SHEET NUMBER: L0911

APPROVED

SPECIAL USE PERMIT NO. _____

DEPARTMENT OF PLANNING & ZONING

DIRECTOR _____ DATE _____

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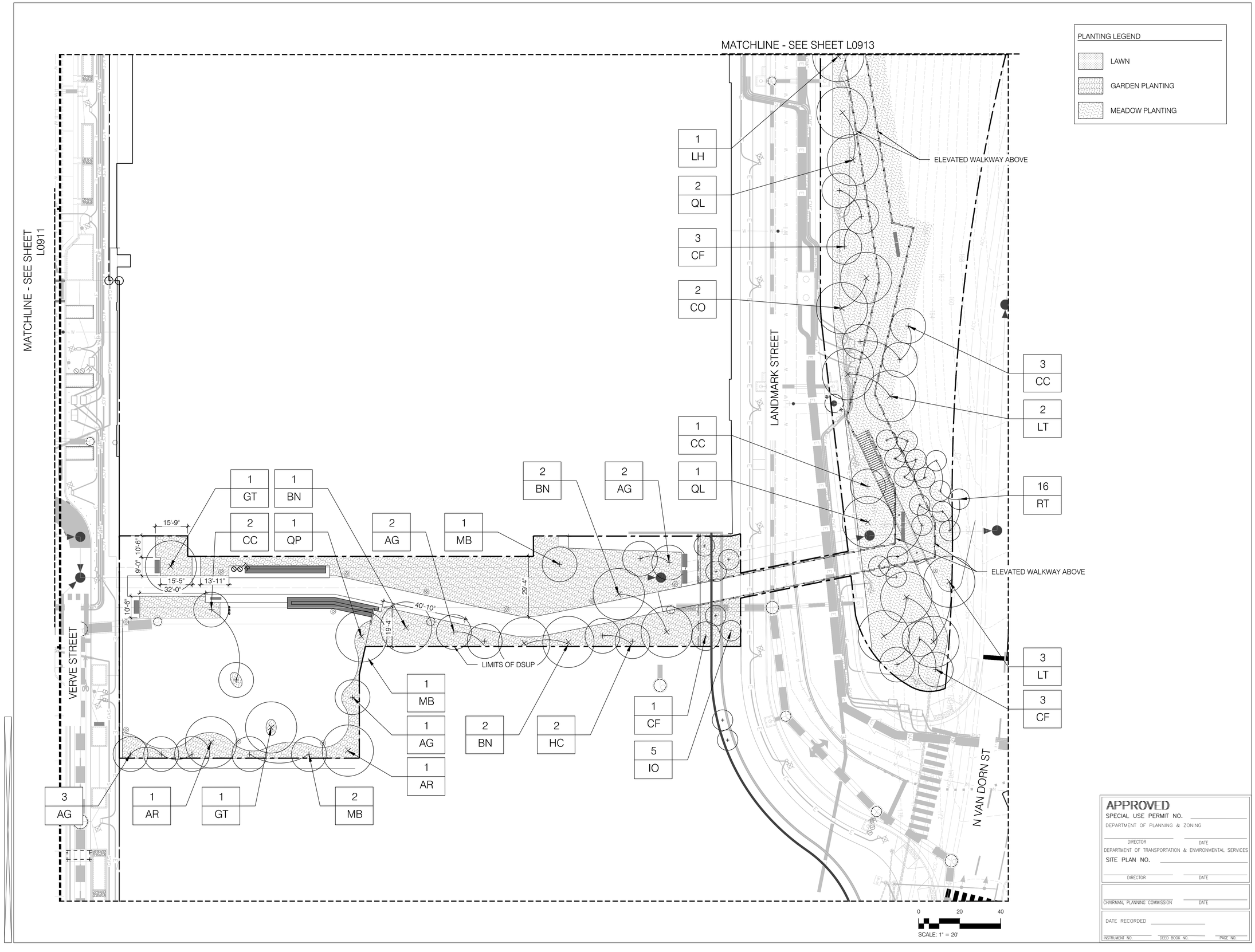

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12435 PARK POTOMAC AVENUE
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KEY MAP

DATE: 03/10/2023

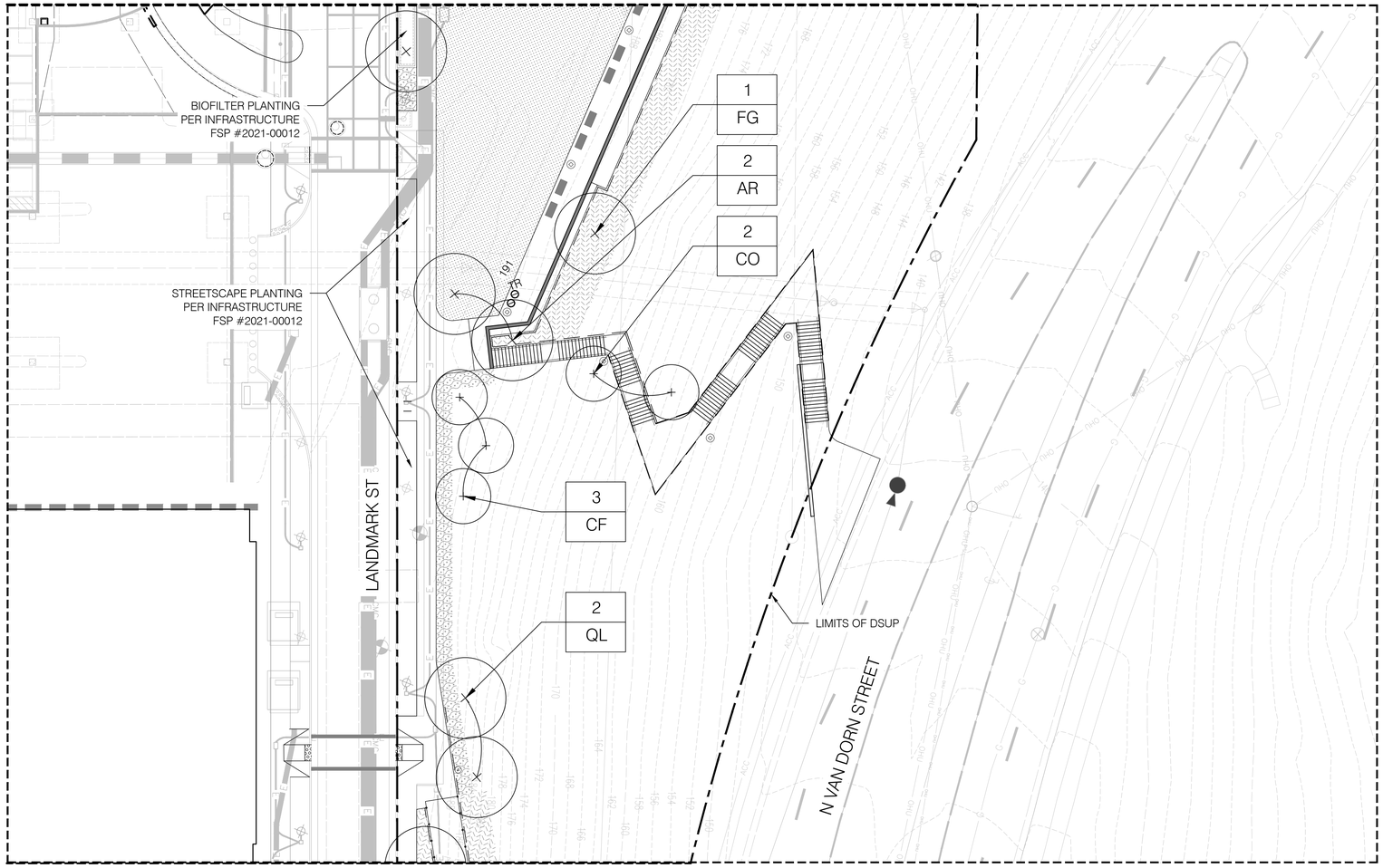
PROJECT NUMBER: W2108

SCALE: 1" = 20'

DRAWING TITLE: PLANTING PLAN - AREA 3

SHEET NUMBER: L0912

MATCHLINE - SEE SHEET L0914



MATCHLINE - SEE SHEET L0912

0 20 40
SCALE: 1" = 20'

PLANTING LEGEND

- LAWN
- GARDEN PLANTING
- MEADOW PLANTING

DEVELOPER

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CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

KEY MAP

N

DATE: 03/10/2023
PROJECT NUMBER: W2108
SCALE: 1" = 20'

DRAWING TITLE: PLANTING PLAN - AREA 4

SHEET NUMBER: L0913

PLANTING LEGEND

- LAWN
- GARDEN PLANTING
- MEADOW PLANTING

0 20 40

SCALE: 1" = 20'

APPROVED

SPECIAL USE PERMIT NO. _____

DEPARTMENT OF PLANNING & ZONING

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12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

LANDSCAPE ARCHITECT

O C U L U S
1611 CONNECTICUT AVE NW 3RD FLOOR
WASHINGTON DC 20009
P 202 588 5454
US@OCULUS.INFO

CONSULTANTS

FOUNTAIN CONSULTANT
FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291

PLAYGROUND CONSULTANT
EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972

ICE RINK CONSULTANT
B3Z ENGINEERING GROUP, INC.
2211 O'NEIL ROAD
HUDSON, WI 54016
1.651.256.3090

LIGHTING DESIGNER
MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062

PROJECT NAME

WestEnd Open Space Blocks

City of Alexandria

SEAL & SIGNATURE

COMPLETENESS SUBMISSION

NOT FOR CONSTRUCTION

ISSUE

MARK	DATE	DESCRIPTION
	11/29/2022	CONCEPT II
	03/10/2023	COMPLETENESS

KEY MAP

N

DATE: 03/10/2023

PROJECT NUMBER: W2108

SCALE: 1" = 20'

DRAWING TITLE: PLANTING PLAN - AREA 5

L0914

SHEET NUMBER:

Landmark Parks
PLANT SCHEDULE

PREPARED: 10.21.2022

	CANOPY TREES					
QTY.	KEY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	SPACING
9	AR	*Acer rubrum 'Red Sunset'*	Red Maple	3.5" - 4" cal.	B&B	AS SHOWN
4	BN	*Betula nigra 'Dura Heat'*	River Birch	3.5" - 4" cal. 16'-18' ht.	B&B	AS SHOWN
7	CO	*Carya ovata*	Shagbark Hickory	3.5" - 4" cal.	B&B	AS SHOWN
1	CK	*Cladrastis kentukea*	Kentucky Yellowwood	3.5" - 4" cal.	B&B	AS SHOWN
1	FG	*Fagus grandifolia*	American Beech	3.5" - 4" cal.	B&B	AS SHOWN
4	GT	*Gleditsia triacanthos 'Shademaster'*	Shademaster Honeylocust	3.5" - 4" cal.	B&B	AS SHOWN
4	LT	*Liriodendron tulipfera*	Tulip Tree	3.5" - 4" cal.	B&B	AS SHOWN
7	LH	*Liquidambar styraciflua, Happidaze*	Happidaze Seedless Sweetgum	3.5" - 4" cal.	B&B	AS SHOWN
3	LR	*Liquidambar styraciflua, Rotundiloba*	Seedless Sweetgum	3.5" - 4" cal.	B&B	AS SHOWN
1	MG	*Magnolia grandiflora '*	Southern Magnolia	3.5" - 4" cal.	B&B	AS SHOWN
17	PA	*Platanus x acerifolia 'Bloodgood'*	London Plane Tree	3.5" - 4" cal.	B&B	AS SHOWN
6	QL	*Quercus lyrata*	Overcup Oak	3.5" - 4" cal.	B&B	AS SHOWN
16	QP	*Quercus phellos*	Willow Oak	3.5" - 4" cal.	B&B	AS SHOWN
3	QS	*Quercus shurnardii*	Shumard Oak	3.5" - 4" cal.	B&B	AS SHOWN
4	TD	*Taxodium distichum*	Bald Cypress	3.5" - 4" cal.	B&B	AS SHOWN

	UNDERSTORY TREES					
QTY.	KEY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	SPACING
15	AG	*Amelanchier x grandiflora 'Autumn Brilliance'*	Apple Serviceberry	3.5" - 4" cal. 10'-12' ht.	B&B	AS SHOWN
6	CC	*Cercis Canadensis*	Eastern Redbud	2.5" - 3" cal.	B&B	AS SHOWN
1	CL	*Cladrastis lutea*	American Yellowwood	2.5" - 3" cal.	B&B	AS SHOWN
11	CF	*Cornus florida*	Flowering Dogwood	2.5" - 3" cal.	B&B	AS SHOWN
2	HC	*Halesia carolia*	Carolina Silverbell	3.5" - 4" cal. 10'-12' ht.	B&B	AS SHOWN
7	IO	*Ilex opaca*	American Holly	3.5" - 4" cal. 8'-10' ht.	B&B	AS SHOWN
16	RT	*Rhus typhina*	Staghorn Sumac	2.5" - 3" cal. 5'-6' ht.	B&B	AS SHOWN
16	TC	*Tsuga canadensis*	Eastern Hemlock	3.5" - 4" cal. 12'-14' ht.	B&B	AS SHOWN

GARDEN PLANTING

SHRUBS

KEY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	SPACING INCH O.C. (or as shown)	NATIVE
BMP	*Buxus microphylla*	Littleleaf Boxwood	#5		30"	NO
BSW	*Buxus sinica var. insularis* 'Wintergreen'	Korean Boxwood	#5		30"	NO
CAR	*Clethra alnifolia 'Ruby Spice'*	Sweet Pepperbush	#5		30"	REGIONAL
FGA	*Fothergilla gardenii*	Dwarf Fothergilla	#5		30"	EASTERN U.S.
FMA	*Fothergilla major 'Arkansas Beauty'*	Arkansas Beauty Fothergilla	#5		30"	EASTERN U.S.
HQS	*Hydrangea quercifolia 'Snow Queen'*	Snow Queen Oakleaf Hydrangea	#7		30"	EASTERN U.S.
IGS	*Ilex glabra* 'Shamrock'	Inkberry	#5		30"	REGIONAL
IVJ	*Ilex verticillata* 'Jim Dandy'	Winterberry	#5		48"	LOCAL
IVR	*Ilex verticillata* 'Red Sprite'	Dwarf Winterberry	#5		30"	LOCAL
RRA	*Rosa rugosa* 'Agnes'	Rugosa Rose	#5		30"	NO
RRW	*Rosa rugosa* 'White Pavement'	Rugosa Rose	#5		18"	NO
VDB	*Viburnum dentatum 'Christom'* Blue Muffin	Blue Muffin Arrowwood Viburnum	#5		36"	LOCAL

PERENNIALS AND ORNAMENTAL GRASSES

KEY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	SPACING INCH O.C. (or as shown)	NATIVE
AHU	*Amsonia hubrichtii*	Bluestar	Quart		24"	EASTERN U.S.
ATB	*Andropogon ternarius 'Black Mountain'*	Black Mountain Bluestem	Quart		18"	LOCAL
ATH	*Asclepias tuberosa 'Hello Yellow'*	Hello Yellow Butterfly Weed	Quart		12"	LOCAL
CAR	*Carex divulsa*	Grassland Sedge	Quart		12"	NO
CFE	*Carex pensylvanica*	Pennsylvania Sedge	Quart		6"	REGIONAL
DCG	*Deschampsia cespitosa 'Goldtau'*	Golden Dew Tufted Hair Grass	Quart		18"	REGIONAL
EPR	*Echinacea purpurea* 'Rubinstern'	Purple Coneflower	Quart		12"	REGIONAL
EPW	*Echinacea purpurea* 'White Swan'	White Coneflower	Quart		12"	REGIONAL
EPM	*Eupatorium purpureum subsp. maculatum* 'Gateway'	Joe Pye Weed	Quart		24"	REGIONAL
HVA	*Heuchera villosa* 'Autumn Bride'	Hairy Alum Root	Quart		15"	REGIONAL
IVE	*Iris versicolor*	Blue Flag	Quart		15"	REGIONAL
JEF	*Juncus effusus*	Soft Rush	Quart		15"	LOCAL
LSA	*Liatris spicata 'Alba'*	White Gayfeather	Quart			LOCAL
LSF	*Liatris spicata 'Floristan Violet'*	Violet Gayfeather	Quart			LOCAL
NTE	*Nassella tenuissima*	Mexican Feather Grass	Quart		18"	U.S
PVS	*Panicum virgatum* 'Shenandoah'	Switch Grass	Quart		24"	LOCAL
RFS	*Rudbeckia fulgida var. sullivantii* 'Goldsturm'	Black-Eyed Susan	Quart		12"	REGIONAL
SES	*Sesleria autumnalis*	Autumn Moor Grass	Quart		12"	NO
SSS	*Schizachyrium scoparium* 'Smoke Signal' *PP27433*	Bluestem Grass	Quart		18"	LOCAL

MEADOW PLANTING

PERENNIALS AND ORNAMENTAL GRASSES

KEY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	SPACING INCH O.C. (or as shown)	NATIVE
PVS	*Panicum virgatum* 'Shenandoah'	Switch Grass			24"	LOCAL
SSS	*Schizachyrium scoparium* 'Smoke Signal' *PP27435*	Bluestem Grass			18"	LOCAL

Grass Seed for Stabilization

BLOCK F

PLANTING TYPE	SIZE	CCA	QTY.	TOTAL CCA
CATEGORY I TREES	18"	250	0	0
CATEGORY II TREES	25'	500	7	3500
CATEGORY III TREES	30'	750	5	3750
CATEGORY IV TREES	40'	1,250	16	20000

Existing Crown Coverage to Remain	0
Crown Coverage Provided (s.f.)	27250
Total Block Site Area (s.f.)	22,758
Total Site Area provided with CCA	120%

BLOCK R

PLANTING TYPE	SIZE	CCA	QTY.	TOTAL CCA
CATEGORY I TREES	18"	250	0	0
CATEGORY II TREES	25'	500	7	3500
CATEGORY III TREES	30'	750	5	3750
CATEGORY IV TREES	40'	1,250	16	20000

Existing Crown Coverage to Remain	0
Crown Coverage Provided (s.f.)	27250
Total Block Site Area (s.f.)	22,758
Total Site Area provided with CCA	120%

BLOCK R

PLANTING TYPE	SIZE	CCA	QTY.	TOTAL CCA
CATEGORY I TREES	18"	250	10	2500
CATEGORY II TREES	25'	500	14	7000
CATEGORY III TREES	30'	750	6	4500
CATEGORY IV TREES	40'	1,250	3	3750

Existing Crown Coverage to Remain	0
Crown Coverage Provided (s.f.)	17750
Total Block Site Area (s.f.)	17,018
Total Site Area provided with CCA	104%

BIODIVERSITY TABULATIONS

TREES (URBAN AND STANDARD)
TOTAL NUMBER OF TREES PROPOSED: 165

GENUS	QTY.	PERCENT OF TOTAL PROPOSED	MAXIMUM PERCENT ALLOWED	SPECIES	QTY.	PERCENT OF TOTAL PROPOSED	MAXIMUM PERCENT ALLOWED
Acer	4	2%	33%	rubrum 'Red Sunset	9	2%	10%
Amelanchier	11	2%	33%	grandiflora	15	2%	10%
Betula	4	2%	33%	nigra	4	2%	10%
Carya	4	2%	33%	ovata	7	4%	10%
Cercis	4	2%	33%	canadensis	6	4%	10%
Cladrastis	2	1%	33%	kentukea	1	4%	10%
				lutea	7	4%	10%
Cornus	11	2%	33%	florida	11	4%	10%
Fagus	4	2%	33%	grandifolia	1	4%	10%
Gelditsia	4	2%	33%	triancanthos	4	4%	10%
Halesia	2	2%	33%	carolina	7	4%	10%
Ilex	4	2%	33%	opaca	7	4%	10%
Liriodendron	4	2%	33%	tulipifera	4	2%	10%
Liquidambar	10	2%	33%	styraciflua	10	2%	10%
Magnolia	4	2%	33%	grandiflora	3	2%	10%
Platanus	16	10%	33%	acerifolia	17	10%	10%
Quercus	25	15%	33%	lyrata	6	4%	10%
				phellos	16	10%	10%
				shumardii	3	2%	10%
Rhus	16	10%	33%	typhina	16	10%	10%
Taxodium	4	2%	33%	distichum	4	2%	10%
Tsuga	16	10%	33%	canadensis	16	10%	10%

A) STANDARD LANDSCAPE PLAN NOTES FOR ALL PLANS REQUIRING APPROVAL:

THE FOLLOWING NOTES SHALL BE PROVIDED ON LANDSCAPE PLAN SUBMISSIONS FOR ALL PROJECTS THAT REQUIRE APPROVAL BY THE CITY AS OUTLINED IN CHAPTER 3 OF THE CITY'S 2019 LANDSCAPE GUIDELINES:

1)THE PROPERTY OWNER AND/OR APPLICANT, SPECIFIER, CONTRACTOR AND INSTALLER OF PLANT MATERIAL ARE RESPONSIBLE FOR UNDERSTANDING AND ADHERING TO THE STANDARDS SET FORTH IN THE MOST RECENT VERSION OF THE CITY OF ALEXANDRIA LANDSCAPE GUIDELINES AND APPLICABLE CONDITIONS OF APPROVAL. ALL QUESTIONS REGARDING APPLICATION OF, OR ADHERENCE TO, THE STANDARDS AND/OR CONDITIONS OF APPROVAL SHALL BE DIRECTED TO THE CITY PRIOR TO COMMENCEMENT OF DEMOLITION, CONSTRUCTION, OR ANY LAND DISTURBING ACTIVITY.

2)THE CITY-APPROVED LANDSCAPE PLAN SUBMISSION, INCLUDING PLANT SCHEDULE, NOTES AND DETAILS SHALL BE THE DOCUMENT USED FOR INSTALLATION PURPOSES AND ALL PROCEDURES SET FORTH IN THE LANDSCAPE GUIDELINES MUST BE FOLLOWED.

3)THE CONTRACTOR SHALL NOT INTERFERE WITH ANY TREE PROTECTION MEASURES OR IMPACT ANY EXISTING VEGETATION IDENTIFIED TO BE PRESERVED PER THE APPROVED TREE AND VEGETATION PROTECTION PLAN.

4)ANY CHANGES, ALTERATIONS OR MODIFICATIONS TO THE SITE CONDITIONS THAT AFFECT VEGETATION PROTECTION ZONES WILL REQUIRE AN AMENDMENT TO THE APPROVED TREE AND VEGETATION PROTECTION PLAN AND/OR DETAILS.

5)INSTALLATION OF PLANT MATERIAL MAY ONLY OCCUR DURING THE PLANTING SEASONS IDENTIFIED IN THE LANDSCAPE GUIDELINES.

6)IN LIEU OF MORE STRENUOUS SPECIFICATIONS, ALL LANDSCAPE RELATED WORK SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE CURRENT AND MOST UP-TO-DATE EDITION (AT TIME OF CONSTRUCTION) OF LANDSCAPE SPECIFICATION GUIDELINES AS PRODUCED BY THE LANDSCAPE CONTRACTORS ASSOCIATION OF MARYLAND, DISTRICT OF COLUMBIA AND VIRGINIA; GAITHERSBURG, MARYLAND.

7)SUBSTITUTIONS TO THE APPROVED PLANT MATERIAL SHALL NOT OCCUR UNTIL WRITTEN APPROVAL IS PROVIDED BY THE CITY.

8)MAINTENANCE FOR THIS PROJECT SHALL BE PERFORMED BY THE OWNER, APPLICANT, SUCCESSOR(S) AND/OR ASSIGN(S) IN PERPETUITY AND IN COMPLIANCE WITH CITY OF ALEXANDRIA LANDSCAPE GUIDELINES AND AS CONDITIONED BY PROJECT APPROVAL, AS APPLICABLE.

B) STANDARD LANDSCAPE PLAN NOTES FOR DEVELOPMENT SITE PLANS:

IN ADDITION TO THE NOTES PROVIDED ABOVE, THE FOLLOWING NOTES SHALL BE PROVIDED ON LANDSCAPE PLAN SUBMISSIONS FOR ALL DSP/DSUP PROJECTS:

1)THE APPROVED METHOD(S) OF PROTECTION MUST BE IN PLACE FOR ALL VEGETATION TO BE PRESERVED ON-SITE AND ADJACENT TO THE PROJECT SITE PURSUANT TO THE APPROVED TREE AND VEGETATION PROTECTION PLAN AND DETAILS PRIOR TO COMMENCEMENT OF DEMOLITION, CONSTRUCTION, OR ANY LAND DISTURBANCE. THE APPLICANT SHALL NOTIFY THE PLANNING & ZONING (P&Z) PROJECT MANAGER ONCE THE TREE PROTECTION METHODS ARE IN PLACE. NO DEMOLITION, CONSTRUCTION, OR LAND DISTURBANCE MAY OCCUR UNTIL AN INSPECTION IS PERFORMED BY THE CITY AND WRITTEN CONFIRMATION IS PROVIDED BY THE CITY WHICH VERIFIES CORRECT INSTALLATION OF THE TREE PROTECTION MEASURES.

2)THE APPLICANT MUST CONTACT THE P&Z PROJECT MANAGER PRIOR TO COMMENCEMENT OF LANDSCAPE INSTALLATION/PLANTING OPERATION TO SCHEDULE A PRE-INSTALLATION MEETING. THE MEETING SHOULD BE HELD BETWEEN THE APPLICANT'S GENERAL CONTRACTOR, LANDSCAPE CONTRACTOR, LANDSCAPE ARCHITECT, THE P&Z PROJECT MANAGER AND THE CITY ARBORIST (AS APPLICABLE) TO REVIEW THE SCOPE OF INSTALLATION PROCEDURES AND PROCESSES DURING AND AFTER INSTALLATION.

3)THE FOLLOWING INFORMATION SHALL BE PROVIDED TO THE P&Z PROJECT MANAGER AT LEAST FIVE (5) BUSINESS DAYS PRIOR TO THE LANDSCAPE PRE-INSTALLATION MEETING: 1) A LETTER THAT CERTIFIES THAT THE PROJECT LANDSCAPE ARCHITECT PERFORMED PRE-SELECTION TAGGING FOR ALL TREES PROPOSED WITHIN THE PUBLIC RIGHT OF WAY AND ON PUBLIC LAND PRIOR TO INSTALLATION. THIS LETTER MUST BE SIGNED AND SEALED BY THE PROJECT LANDSCAPE ARCHITECT, AND 2) A COPY OF THE SOIL BULK DENSITY TEST REPORT VERIFYING THAT MAXIMUM COMPRESSION RATES ARE MET.

4)ALL CONSTRUCTION WASTE SHALL BE REMOVED PRIOR TO PLANTING.

5)AS-BUILT DRAWINGS FOR THIS LANDSCAPE AND/OR IRRIGATION/WATER MANAGEMENT SYSTEM WILL BE PROVIDED IN COMPLIANCE WITH CITY OF ALEXANDRIA LANDSCAPE GUIDELINES, THE CITY CODE OF ORDINANCES, AND ALL APPLICABLE PLAN PREPARATION CHECKLISTS. AS-BUILT DRAWINGS SHALL INCLUDE CLEAR IDENTIFICATION OF ALL VARIATION(S) AND CHANGES FROM APPROVED DRAWINGS INCLUDING LOCATION, QUANTITY AND SPECIFICATION OF ALL PROJECT ELEMENTS.

6)AREAS OF BARE SOIL WILL NOT BE ACCEPTED. MULCHED AREAS AND PLANTING AREAS SHALL BE WEED FREE UPON ACCEPTANCE OF THE PROJECT BY THE CITY.

A STANDARD LANDSCAPE PLAN NOTES
NOT TO SCALE
OF UPDATES: 01 LAST UPDATED: 12/02/2019

CITY OF ALEXANDRIA, VIRGINIA
STANDARD LANDSCAPE DETAILS
CITY OF ALEXANDRIA, VIRGINIA

NOTE:
THE INFORMATION SHOWN HEREIN THIS DOCUMENT IS FOR GENERAL GUIDANCE ONLY AND IS NOT INTENTED FOR CONSTRUCTION PURPOSES. ITS USE SHALL NOT RELIEVE THE DESIGN PROFESSIONAL OR CONTRACTOR OF ANY LEGAL RESPONSIBILITY.

Source: CITY OF ALEXANDRIA
Approved by: COA
STANDARD LANDSCAPE PLAN NOTES
1 OF 1
Date drawn: 01/01/19
LD 016

A) STANDARD TREE PRESERVATION NOTES FOR ALL PLANS REQUIRING APPROVAL:

THE FOLLOWING NOTES SHALL BE PROVIDED ON LANDSCAPE PLAN SUBMISSIONS FOR ALL PROJECTS WITH PRESERVATION AREAS

1) VEGETATION DESIGNATED FOR PROTECTION AND/OR PRESERVATION SHALL CONTINUOUSLY RECEIVE AN ENHANCED LEVEL OF MAINTENANCE THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD.

A. MAINTENANCE SHALL BE PRO-ACTIVE.

B. MAINTENANCE OPERATIONS SHALL AGGRESSIVELY MONITOR THE HEALTH, GROWTH AND VIGOR OF VEGETATION AND PRESCRIBE SELECTIVE PRUNING, REMOVAL OF VOLUNTEER AND/OR INVASIVE SPECIES, WATERING, FERTILIZATION AND INSTALLATION OF MULCH/TOPDRESSING.

C. WHEN PRESERVED VEGETATION IS LOCATED ON CITY PROPERTY, MAINTENANCE SHALL BE PERFORMED TO THE SATISFACTION OF THE CITY.

2) AREAS DESIGNATED FOR PROTECTION AND/OR PRESERVATION OF VEGETATION SHALL NOT BE ENTERED OR UTILIZED (APPROVED MAINTENANCE PROCEDURES AND WATERING EXCEPTED) THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD. PROHIBITED ITEMS/ ACTIVITIES INCLUDE, BUT ARE NOT LIMITED TO:

A. MODIFYING SITE TOPOGRAPHY IN A MANNER THAT DIRECTLY OR INDIRECTLY ALTERS EXISTING SITE DRAINAGE WITHIN PROTECTION ZONE INCLUDING TRENCHING OR GRADING OPERATIONS AND PLACING, STORING OR STOCKPILING SOIL OR CONSTRUCTION RELATED SUPPLIES.

B. FELLING AND STORING VEGETATION. III. INCINERATING MATERIALS WITHIN OR IN CLOSE PROXIMITY.

C. OPERATING MACHINERY OR EQUIPMENT, INCLUDING VEHICLE/EQUIPMENT PARKING OR STORAGE.

D. TEMPORARY OR PERMANENT UTILITY CONSTRUCTION, PAVING OR IMPERVIOUS SURFACE INSTALLATION.

E. DISPOSAL OF DEBRIS OR CHEMICALS. VII. TEMPORARY FACILITIES OR OCCUPATION BY WORK FORCE.

F. STORAGE OF CONSTRUCTION MATERIALS OR WASTE.

A STANDARD TREE PRESERVATION NOTES
NOT TO SCALE
OF UPDATES: 00 LAST UPDATED:

CITY OF ALEXANDRIA, VIRGINIA
STANDARD LANDSCAPE DETAILS
CITY OF ALEXANDRIA, VIRGINIA

NOTE:
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Source: CITY OF ALEXANDRIA
Approved by: COA
STANDARD TREE PRESERVATION PLAN NOTES
1 OF 1
Date drawn: 12/02/2019
LD 017

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.

DEVELOPER
FOULGER-PRATT DEVELOPMENT
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

LANDSCAPE ARCHITECT
O C U L U S
1611 CONNECTICUT AVE NW 3RD FLOOR
WASHINGTON DC 20009
P 202 588 5454
US@OCULUS.INFO

CONSULTANTS
FOUNTAIN CONSULTANT
FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291

PLAYGROUND CONSULTANT
EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972

ICE RINK CONSULTANT
B32 ENGINEERING GROUP, INC.
2211 O'NEIL ROAD
HUDSON, WI 54016
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LIGHTING DESIGNER
MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062

PROJECT NAME
WestEnd Open Space Blocks
City of Alexandria

SEAL & SIGNATURE
COMMONWEALTH OF VIRGINIA
DONALD RAY HOOVER
Lic. No. 406000790
LANDSCAPE ARCHITECT

COMPLETENESS SUBMISSION
NOT FOR CONSTRUCTION

ISSUE MARK	DATE	DESCRIPTION
	11/29/2022	CONCEPT II
	03/10/2023	COMPLETENESS

KEY MAP

DATE: 03/10/2023
PROJECT NUMBER: W2108
SCALE: NTS

DRAWING TITLE: PLANTING SCHEDULE

SHEET NUMBER: L1000

CROWN COVER TABULATIONS (FULL SITE)		
TOTAL SITE AREA (SF)	1,183,250	
25% CROWN COVER REQUIRED (SF)	295,813	
		SITE AREA (s.f.)
PRIVATE STREETS		**146,984**
EXISTING CROWN COVER (SF)	0	
REMOVED CROWN COVER (SF)	0	
PRESERVED CROWN COVER (SF)		
Crown Cover from Preserved Trees	0	
Crown Cover from Preserved Shrubs	0	
PROPOSED CROWN COVER (SF)		
Crown Cover from Proposed Trees	106,250	
Crown Cover from Proposed Shrubs		
BLOCK D		
EXISTING CROWN COVER (SF)	TBD	
REMOVED CROWN COVER (SF)	TBD	
PRESERVED CROWN COVER (SF)		
Crown Cover from Preserved Trees	TBD	
Crown Cover from Preserved Shrubs	TBD	
PROPOSED CROWN COVER (SF)		
Crown Cover from Proposed Trees	TBD	
Crown Cover from Proposed Shrubs	TBD	
BLOCK E		**108,575**
EXISTING CROWN COVER (SF)	0	
REMOVED CROWN COVER (SF)	0	
PRESERVED CROWN COVER (SF)		
Crown Cover from Preserved Trees	0	
Crown Cover from Preserved Shrubs	0	
PROPOSED CROWN COVER (SF)		
Crown Cover from Proposed Trees	14,750	
Crown Cover from Proposed Shrubs	0	
BLOCK F		**38,250**
EXISTING CROWN COVER (SF)	0	
REMOVED CROWN COVER (SF)	0	
PRESERVED CROWN COVER (SF)		
Crown Cover from Preserved Trees	0	
Crown Cover from Preserved Shrubs	0	
PROPOSED CROWN COVER (SF)		
Crown Cover from Proposed Trees	38,250	
Crown Cover from Proposed Shrubs	TBD	
BLOCK G		**62,083**
EXISTING CROWN COVER (SF)	0	
REMOVED CROWN COVER (SF)	0	
PRESERVED CROWN COVER (SF)		
Crown Cover from Preserved Trees	0	
Crown Cover from Preserved Shrubs	0	
PROPOSED CROWN COVER (SF)		
Crown Cover from Proposed Trees	13,500	
Crown Cover from Proposed Shrubs	0	
BLOCK H		
EXISTING CROWN COVER (SF)	TBD	
REMOVED CROWN COVER (SF)	TBD	
PRESERVED CROWN COVER (SF)		
Crown Cover from Preserved Trees	TBD	
Crown Cover from Preserved Shrubs	TBD	
PROPOSED CROWN COVER (SF)		
Crown Cover from Proposed Trees	TBD	
Crown Cover from Proposed Shrubs	TBD	
BLOCK I		
EXISTING CROWN COVER (SF)	TBD	
REMOVED CROWN COVER (SF)	TBD	
PRESERVED CROWN COVER (SF)		
Crown Cover from Preserved Trees	TBD	
Crown Cover from Preserved Shrubs	TBD	
PROPOSED CROWN COVER (SF)		
Crown Cover from Proposed Trees	TBD	
Crown Cover from Proposed Shrubs	TBD	
BLOCK J		
EXISTING CROWN COVER (SF)	TBD	
REMOVED CROWN COVER (SF)	TBD	
PRESERVED CROWN COVER (SF)		
Crown Cover from Preserved Trees	TBD	
Crown Cover from Preserved Shrubs	TBD	
PROPOSED CROWN COVER (SF)		
Crown Cover from Proposed Trees	TBD	
Crown Cover from Proposed Shrubs	TBD	
BLOCK K		**98,964**
EXISTING CROWN COVER (SF)	0	
REMOVED CROWN COVER (SF)	0	
PRESERVED CROWN COVER (SF)		
Crown Cover from Preserved Trees	0	
Crown Cover from Preserved Shrubs	0	
PROPOSED CROWN COVER (SF)		
Crown Cover from Proposed Trees	13,000	
Crown Cover from Proposed Shrubs	6019	
BLOCK L		
EXISTING CROWN COVER (SF)	TBD	
REMOVED CROWN COVER (SF)	TBD	
PRESERVED CROWN COVER (SF)		
Crown Cover from Preserved Trees	TBD	
Crown Cover from Preserved Shrubs	TBD	
PROPOSED CROWN COVER (SF)		
Crown Cover from Proposed Trees	TBD	
Crown Cover from Proposed Shrubs	TBD	
BLOCK M		
EXISTING CROWN COVER (SF)	TBD	
REMOVED CROWN COVER (SF)	TBD	
PRESERVED CROWN COVER (SF)		
Crown Cover from Preserved Trees	TBD	
Crown Cover from Preserved Shrubs	TBD	
PROPOSED CROWN COVER (SF)		
Crown Cover from Proposed Trees	TBD	
Crown Cover from Proposed Shrubs	TBD	
BLOCK N		**28,500**
EXISTING CROWN COVER (SF)	TBD	
REMOVED CROWN COVER (SF)	TBD	
PRESERVED CROWN COVER (SF)		
Crown Cover from Preserved Trees	TBD	
Crown Cover from Preserved Shrubs	TBD	
PROPOSED CROWN COVER (SF)		
Crown Cover from Proposed Trees	28,500	
Crown Cover from Proposed Shrubs	TBD	
BLOCK P		
EXISTING CROWN COVER (SF)	TBD	
REMOVED CROWN COVER (SF)	TBD	
PRESERVED CROWN COVER (SF)		
Crown Cover from Preserved Trees	TBD	
Crown Cover from Preserved Shrubs	TBD	
PROPOSED CROWN COVER (SF)		
Crown Cover from Proposed Trees	TBD	
Crown Cover from Proposed Shrubs	TBD	
BLOCK R		**17,500**
EXISTING CROWN COVER (SF)	TBD	
REMOVED CROWN COVER (SF)	TBD	
PRESERVED CROWN COVER (SF)		
Crown Cover from Preserved Trees	TBD	
Crown Cover from Preserved Shrubs	TBD	
PROPOSED CROWN COVER (SF)		
Crown Cover from Proposed Trees	17,500	
Crown Cover from Proposed Shrubs	TBD	
TOTAL CROWN COVER PROVIDED (%)	42.3%	
TOTAL CROWN COVER PROVIDED (SF)	500,856	

NOTE: TREES ON PUBLIC STREETS NOT INCLUDED IN CROWN COVER TABULATIONS.

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.

DEVELOPER

FOULGER-PRATT DEVELOPMENT
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

LANDSCAPE ARCHITECT

O C U L U S
1611 CONNECTICUT AVE NW 3RD FLOOR
WASHINGTON DC 20009
P 202 588 5454
US@OCULUS.INFO

CONSULTANTS

FOUNTAIN CONSULTANT
FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291

PLAYGROUND CONSULTANT
EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972

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B32 ENGINEERING GROUP, INC.
2211 O'NEIL ROAD
HUDSON, WI 54016
1.651.256.3090

LIGHTING DESIGNER
MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062

PROJECT NAME

WestEnd Open Space Blocks

City of Alexandria

SEAL & SIGNATURE

COMMONWEALTH OF VIRGINIA
DONALD RAY HOOVER
Lic. No. 406000790
LANDSCAPE ARCHITECT

COMPLETENESS SUBMISSION

NOT FOR CONSTRUCTION

ISSUE

MARK	DATE	DESCRIPTION
	11/29/2022	CONCEPT II
	03/10/2023	COMPLETENESS

KEY MAP

N

DATE: 03/10/2023

PROJECT NUMBER: W2108

SCALE:

CANOPY COVERAGE MASTERPLAN

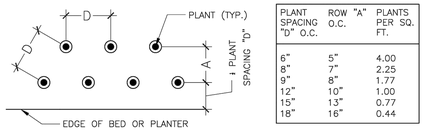
DRAWING TITLE:

L1001

SHEET NUMBER: VALUE of 339

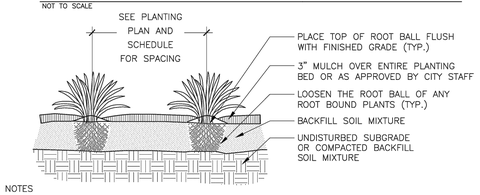
L1001 CANOPY COVERAGE MASTERPLAN.dwg March 16, 2023, 1:30 pm

P:\landmark Parks\4_DRAWINGS_DWG\4_SHEETS\Concept Plans\1001 CANOPY COVERAGE MASTERPLAN.dwg – Thursday March 16, 2023, 1:30pm



PLANT SPACING "D" O.C.	ROW "A" O.C.	PLANTS PER SQ. FT.
6"	5"	4.00
8"	7"	2.25
9"	8"	1.77
12"	10"	1.00
15"	13"	0.77
18"	16"	0.44

TRIANGULAR SPACING PLAN & CHART
NOT TO SCALE



NOTES

1. PLANTING WELL / TRENCH SHALL BE DUG TO ALLOW TOP OF ROOT BALL TO SET FLUSH WITH EXISTING GRADE.
2. SET PLANTS IN ERECT, STABLE, AND UNIFORM POSITIONS. ORIENT BEST FACE OF PLANT TO BE MOST VISIBLE.
3. GROUND COVERS AND PERENNIALS SHALL BE INSTALLED WITH TRIANGULAR SPACING. REFER TO CHART.
4. UNLESS OTHERWISE DIRECTED BY PROJECT SPECIFICATIONS OR CITY STAFF, SOIL MIXTURE SHALL BE CLEANED OF DEBRIS, AND MEET SOIL COMPOSITION REQUIREMENTS OF CITY OF ALEXANDRIA LANDSCAPE GUIDELINES.
5. DO NOT PLACE MULCH IN CONTACT WITH STEM OR CROWN OF PLANTS.
6. ALL PLANTS MUST BE WATERED AT INSTALLATION AND AGAIN WITHIN 48-HOURS OF INSTALLATION, PER THE SPECIFICATIONS.

A GROUNDCOVER & PERENNIAL PLANTING
NOT TO SCALE

OF UPDATES: 00 LAST UPDATED:

CITY OF ALEXANDRIA, VIRGINIA
STANDARD LANDSCAPE DETAILS
CITY OF ALEXANDRIA, VIRGINIA

NOTE:
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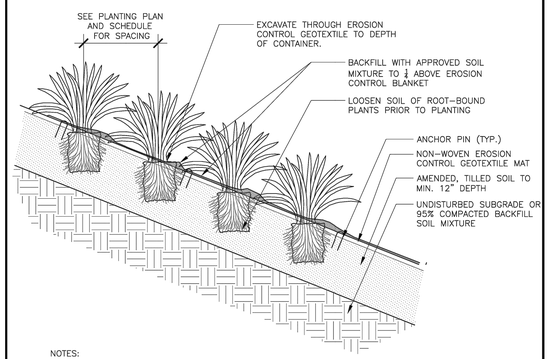
Source: CITY OF ALEXANDRIA
Approved by: COA
GROUNDCOVER & PERENNIAL PLANTING
I OF I
Date drawn: 01/01/19
LD 011

1 GROUNDCOVER AND PERENNIAL PLANTING
SCALE: NTS



NOTES:

1. REFER TO CITY OF ALEXANDRIA GROUND COVER AND PERENNIAL PLANTING DETAIL AND NOTES FOR ADDITIONAL SPECIFICATIONS.
2. ALL PLANTS MUST BE WATERED TWICE. ONCE AT INSTALLATION AND AGAIN WITHIN 48 HOURS OF INSTALLATION PER THE SPECIFICATIONS.

A GROUNDCOVER & PERENNIAL PLANTING ON SLOPE
NOT TO SCALE

OF UPDATES: 00 LAST UPDATED:

CITY OF ALEXANDRIA, VIRGINIA
STANDARD LANDSCAPE DETAILS
CITY OF ALEXANDRIA, VIRGINIA

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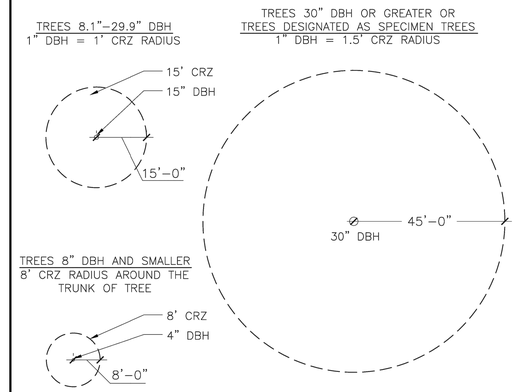
Source: CITY OF ALEXANDRIA
Approved by: COA
GROUNDCOVER & PERENNIAL PLANTING ON SLOPE
I OF I
Date drawn: 01/01/19
LD 012

2 GROUNDCOVER AND PERENNIAL PLANTING ON SLOPE
SCALE: NTS



NOTES:

1. GRAPHICALLY, THE CRITICAL ROOT ZONE (CRZ) IS REPRESENTED AS A CIRCULAR REGION MEASURED OUTWARD FROM A TREE TRUNK REPRESENTING THE AREA OF ROOTS THAT MUST BE MAINTAINED OR PROTECTED FOR THE TREE'S SURVIVAL.
2. PLOT ACCURATE TRUNK LOCATIONS OF ALL TREES GREATER THAN 2" DIAMETER AT 54" ABOVE GRADE AND/OR TREE STANDS WITHIN DEVELOPMENT AREAS ON ALL PLANS FOR THE PROJECT AND DELINEATE THEIR ESTIMATED CRITICAL ROOT ZONE.
3. PLOT ACCURATE TRUNK LOCATIONS OF OFFSITE TREES WHICH WILL HAVE THEIR CRZ AFFECTED BY DEVELOPMENT AND DELINEATE THEIR ESTIMATED CRITICAL ROOT ZONE.

A TREE PROTECTION DETAIL FOR DETERMINING CRITICAL ROOT ZONE
NOT TO SCALE

OF UPDATES: 00 LAST UPDATED:

CITY OF ALEXANDRIA, VIRGINIA
STANDARD LANDSCAPE DETAILS
CITY OF ALEXANDRIA, VIRGINIA

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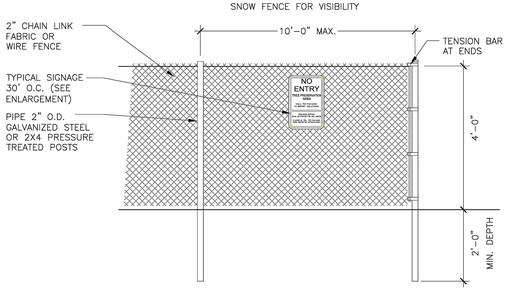
Source: CITY OF ALEXANDRIA
Approved by: COA
CRITICAL ROOT ZONE
I OF I
Date drawn: 01/01/19
LD 013

3 TREE PROTECTION DETAIL FOR DETERMINING CRITICAL ROOT ZONE
SCALE: NTS

NOTES

1. TREE PROTECTION DETAIL SHALL APPLY TO ALL TREES INCLUDING STREET TREES.
2. TREE PROTECTION FENCE SHALL BE INSTALLED PRIOR TO ANY SITE WORK, CLEARING OR DEMOLITION. CITY STAFF SHALL BE NOTIFIED 72 HOURS PRIOR TO INSTALLATION OR ANY OTHER TREE PRESERVATION MEASURE SPECIFIED IN PLANS AND SHALL APPROVE LAYOUT.
3. NO PERSONNEL, VEHICLES, EQUIPMENT, CONSTRUCTION MATERIALS OR DEBRIS ALLOWED IN TREE PROTECTION AREAS. REFER TO LANDSCAPE GUIDELINES FOR ADDITIONAL RESTRICTIONS.
4. REMOVE TREE PROTECTION FENCE ONLY WITH APPROVAL FROM CITY STAFF AFTER ALL SITE WORK HAS BEEN COMPLETED.
5. SIGN MATERIAL TO BE WEATHER RESISTANT.
6. FENCE FABRIC MAY ALSO BE 2X4 WELDED WIRE FABRIC MIN. 12.5 GAUGE LAYERED WITH ORANGE SNOW FENCE FOR VISIBILITY



A TREE PROTECTION FENCE
NOT TO SCALE

OF UPDATES: 00 LAST UPDATED:

CITY OF ALEXANDRIA, VIRGINIA
STANDARD LANDSCAPE DETAILS
CITY OF ALEXANDRIA, VIRGINIA

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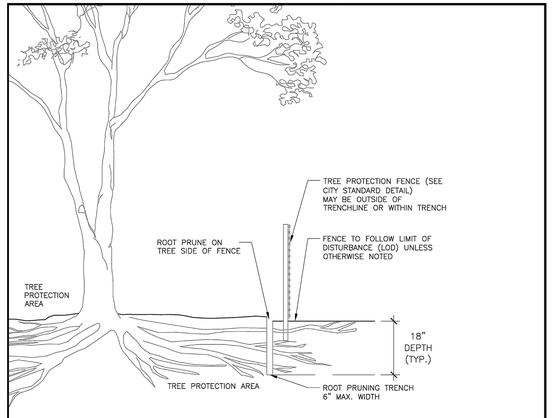
Source: CITY OF ALEXANDRIA
Approved by: COA
TREE PROTECTION FENCE
I OF I
Date drawn: 01/01/19
LD 014

4 TREE PROTECTION FENCE
SCALE: NTS



NOTES

1. ROOT PRUNING SHALL BE DONE WITH TRENCHER OR VIBRATORYPLOW TO DEPTH OF 18". ROOTS OVER 1.5" IN DIAMETER SHALL HAVE A CLEAN CUT MADE BY A CLEAN SAW ON THE SURFACE OF THE ROOT, WHICH IS STILL ATTACHED TO THE TREE. DO NOT BREAK OR CHOP. DO NOT PAINT THE CUT ROOT END. IF EXCAVATION IS FOR INSTALLATION OF UNDERGROUND UTILITIES, LEAVE THE ROOT INTACT AND THREAD THE LINES UNDERNEATH.
2. ROOT PRUNING SHALL TAKE PLACE PRIOR TO ANY CLEARING AND GRADING. EXACT LOCATION OF TREE PROTECTION AREAS SHALL BE STAKED OR FLAGGED PRIOR TO TRENCHING AND SHALL BE APPROVED BY CITY STAFF.
3. ROOT PRUNING SHALL BE CONDUCTED WITH THE SUPERVISION OF AN ISA CERTIFIED ARBORIST. CERTIFICATION SHALL BE PROVIDED TO THE CITY UPON COMPLETION.
4. BACKFILL THE ROOT-PRUNING TRENCH WITH APPROVED LOOSE TOPSOIL MIX AND TOP WITH 3-4" BARK MULCH AND MARK LOCATION FOR FUTURE REFERENCE. SILT FENCE MAY BE INSTALLED IN TRENCH PRIOR TO BACKFILLING AS LONG AS THE TRENCH IS NOT OPEN FOR LONGER THAN 48 HOURS WITHOUT WATERING.
5. ROOT PRUNING WORK SHALL NOT BE DONE WHEN MORE THAN THE TOP 1 INCH OF SOIL IS FROZEN. ROOT PRUNING SHALL NOT BE UNDERTAKEN WHEN THE SOIL IS WET AND CONDITIONS ARE MUDDY.
6. CITY OF ALEXANDRIA STAFF SHALL BE NOTIFIED 72 HOURS PRIOR TO TRENCHING AND WHEN ALL ROOT PRUNING AND TREE PROTECTION FENCE INSTALLATION IS COMPLETE.

A ROOT PRUNING
NOT TO SCALE

OF UPDATES: 00 LAST UPDATED:

CITY OF ALEXANDRIA, VIRGINIA
STANDARD LANDSCAPE DETAILS
CITY OF ALEXANDRIA, VIRGINIA

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Source: CITY OF ALEXANDRIA
Approved by: COA
ROOT PRUNING
I OF I
Date drawn: 01/01/19
LD 015

5 ROOT PRUNING
SCALE: NTS

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. _____

DEVELOPER
FOULGER-PRATT DEVELOPMENT
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

LANDSCAPE ARCHITECT
O C U L U S
1611 CONNECTICUT AVE NW 3RD FLOOR
WASHINGTON DC 20009
P 202 588 5454
US@OCULUS.INFO

CONSULTANTS
FOUNTAIN CONSULTANT
FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291

PLAYGROUND CONSULTANT
EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972

ICE RINK CONSULTANT
B32 ENGINEERING GROUP, INC.
2211 O'NEIL ROAD
HUDSON, WI 54016
1.651.256.3090

LIGHTING DESIGNER
MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062

PROJECT NAME
WestEnd Open Space Blocks
City of Alexandria

SEAL & SIGNATURE
COMMONWEALTH OF VIRGINIA
DONALD RAY HOOVER
Lic. No. 406000790
LANDSCAPE ARCHITECT

COMPLETENESS SUBMISSION
NOT FOR CONSTRUCTION

ISSUE

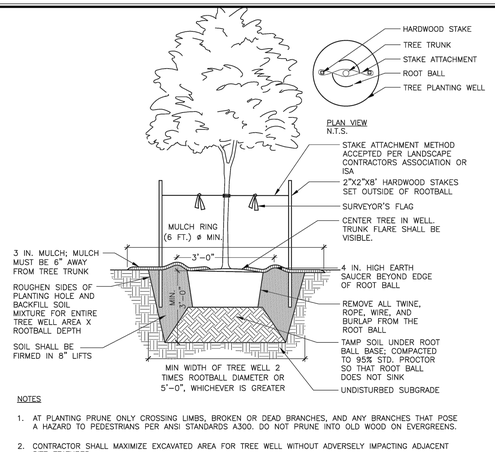
MARK	DATE	DESCRIPTION
	11/29/2022	CONCEPT II
	03/10/2023	COMPLETENESS

KEY MAP

DATE: 03/10/2023
PROJECT NUMBER: W2108
SCALE: NTS

PLANTING DETAILS
DRAWING TITLE:

L1010
SHEET NUMBER:



NOTES

1. AT PLANTING PRUNE ONLY CROSSING LIMBS, BROKEN OR DEAD BRANCHES, AND ANY BRANCHES THAT POSE A HAZARD TO PEDESTRIANS PER ANSI STANDARDS A300. DO NOT PRUNE INTO OLD WOOD ON EVERGREENS.
2. CONTRACTOR SHALL MAXIMIZE EXCAVATED AREA FOR TREE WELL WITHOUT ADVERSELY IMPACTING ADJACENT SITE FEATURES
4. UNLESS OTHERWISE DIRECTED BY PROJECT SPECIFICATIONS OR CITY STAFF, SOIL MIXTURE SHALL BE CLEANED OF DEBRIS, AND MEET SOIL COMPOSITION REQUIREMENTS OF CITY OF ALEXANDRIA LANDSCAPE GUIDELINES.
5. TREES PLANTED WITHOUT THE TRUNK FLARE VISIBLE WILL BE REJECTED.
6. ALL PLANTS MUST BE WATERED AT INSTALLATION AND AGAIN WITHIN 48-HOURS OF INSTALLATION, ESTABLISHMENT WATERING SHALL BE PER THE SPECIFICATIONS ON ALL DETAILS.
7. STAKES WILL BE INSTALLED USING ARBORICULTURE PRACTICES, TREES SHALL STAND PLUM AFTER STAKING.
8. INSTALLATION WILL INCLUDE THE REMOVAL OF ALL STAKING MATERIAL ONE YEAR AFTER INSTALLATION. ANY HOLES LEFT BY REMOVING STAKING SHALL BE FILLED WITH APPROVED TOPSOIL / BACKFILL MIXTURE.
9. CONTRACTOR SHALL USE GALVANIZED EYESCREW & TURNBUCKLE INSTEAD OF ARBOR TIE ONLY FOR TREES OF SIGNIFICANT SIZE AS DIRECTED BY CITY STAFF.

A DECIDUOUS TREE PLANTING
NOT TO SCALE

OF UPDATES: 00 LAST UPDATED:

CITY OF ALEXANDRIA, VIRGINIA
STANDARD LANDSCAPE DETAILS
CITY OF ALEXANDRIA, VIRGINIA

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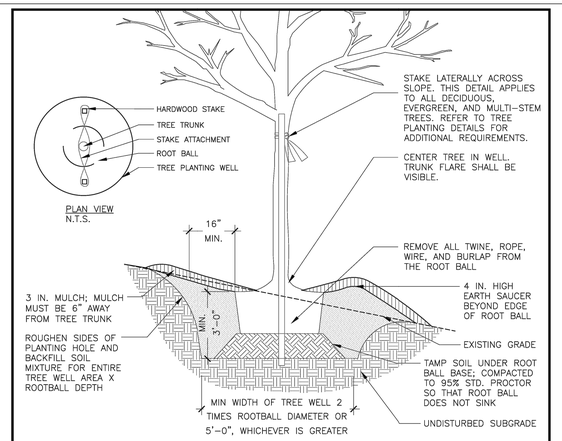
Source: CITY OF ALEXANDRIA
Approved by: COA
Date drawn: 01/01/19
DECIDUOUS TREE PLANTING
1 OF 1
LD 001



NOTES

1. AT PLANTING PRUNE ONLY CROSSING LIMBS, BROKEN OR DEAD BRANCHES, AND ANY BRANCHES THAT POSE A HAZARD TO PEDESTRIANS PER ANSI STANDARDS A300. DO NOT PRUNE INTO OLD WOOD ON EVERGREENS.
2. CONTRACTOR SHALL MAXIMIZE EXCAVATED AREA FOR TREE WELL WITHOUT ADVERSELY IMPACTING ADJACENT SITE FEATURES
4. UNLESS OTHERWISE DIRECTED BY PROJECT SPECIFICATIONS OR CITY STAFF, SOIL MIXTURE SHALL BE CLEANED OF DEBRIS, AND MEET SOIL COMPOSITION REQUIREMENTS OF CITY OF ALEXANDRIA LANDSCAPE GUIDELINES.
5. TREES PLANTED WITHOUT THE TRUNK FLARE VISIBLE WILL BE REJECTED.
6. REFER TO STAKING DETAILS.
7. ALL PLANTS MUST BE WATERED AT INSTALLATION AND AGAIN WITHIN 48-HOURS OF INSTALLATION, ESTABLISHMENT WATERING SHALL BE PER THE SPECIFICATIONS ON ALL DETAILS.

A TREE PLANTING ON SLOPE
NOT TO SCALE

OF UPDATES: 00 LAST UPDATED:

CITY OF ALEXANDRIA, VIRGINIA
STANDARD LANDSCAPE DETAILS
CITY OF ALEXANDRIA, VIRGINIA

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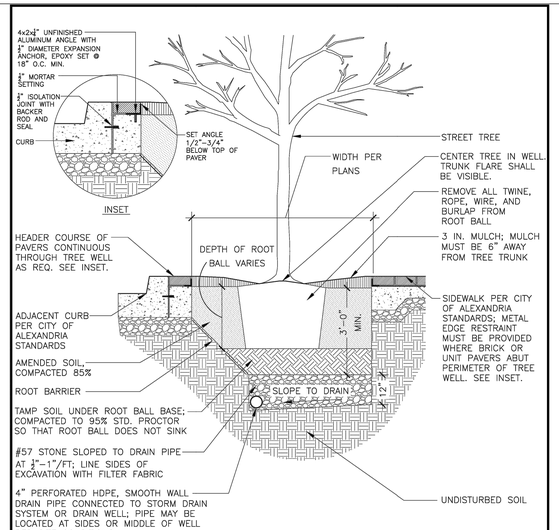
Source: CITY OF ALEXANDRIA
Approved by: COA
Date drawn: 01/01/19
TREE PLANTING ON SLOPE
1 OF 1
LD 004



NOTES

1. THIS CROSS-SECTION APPLIES TO BOTH TREE PLANTING STRIPS AND TREE PLANTING WELLS.
2. REFER TO LANDSCAPE GUIDELINES FOR GENERAL STREET TREE PLANTING NOTES.

A STREET TREE PLANTING WELL
NOT TO SCALE

OF UPDATES: 00 LAST UPDATED:

CITY OF ALEXANDRIA, VIRGINIA
STANDARD LANDSCAPE DETAILS
CITY OF ALEXANDRIA, VIRGINIA

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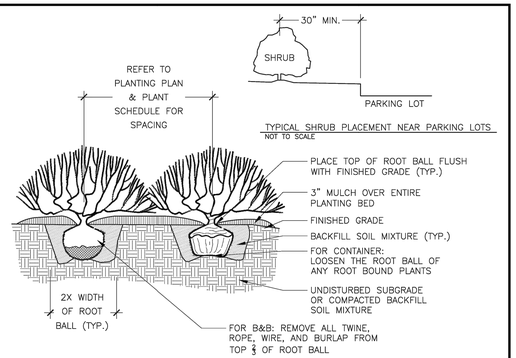
Source: CITY OF ALEXANDRIA
Approved by: COA
Date drawn: 01/01/19
STREET TREE PLANTING WELL
1 OF 1
LD 005



NOTES

1. AT PLANTING, PRUNE ONLY BROKEN OR DEAD BRANCHES PER ANSI 300 STANDARD.
2. PLANTING WELL / TRENCH SHALL BE DUG TO ALLOW TOP OF ROOT BALL TO SET FLUSH WITH EXISTING GRADE.
3. SET PLANTS IN ERECT, STABLE, AND UNIFORM POSITIONS. ORIENT BEST FACE OF PLANT TO BE MOST VISIBLE.
4. UNLESS OTHERWISE DIRECTED BY PROJECT SPECIFICATIONS OR CITY STAFF, SOIL MIXTURE SHALL BE CLEANED OF DEBRIS, AND MEET SOIL COMPOSITION REQUIREMENTS OF CITY OF ALEXANDRIA LANDSCAPE GUIDELINES.
5. DO NOT PLACE MULCH IN CONTACT WITH STEM OF PLANTS.
6. ALL PLANTS MUST BE WATERED AT INSTALLATION AND AGAIN WITHIN 48-HOURS OF INSTALLATION, ESTABLISHMENT WATERING SHALL BE PER THE SPECIFICATIONS ON ALL DETAILS.

A SHRUB PLANTING
NOT TO SCALE

OF UPDATES: 00 LAST UPDATED:

CITY OF ALEXANDRIA, VIRGINIA
STANDARD LANDSCAPE DETAILS
CITY OF ALEXANDRIA, VIRGINIA

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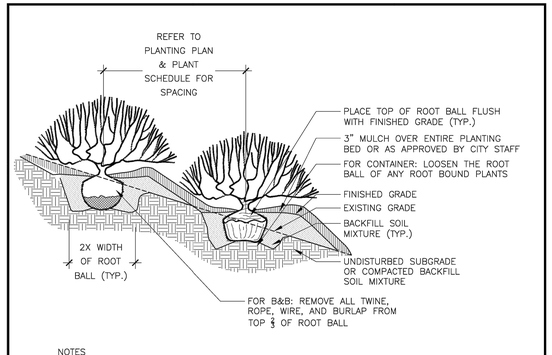
Source: CITY OF ALEXANDRIA
Approved by: COA
Date drawn: 01/01/19
SHRUB PLANTING
1 OF 1
LD 009



NOTES

1. AT PLANTING, PRUNE ONLY BROKEN OR DEAD BRANCHES PER ANSI 300 STANDARD.
2. PLANTING WELL / TRENCH SHALL BE DUG TO ALLOW TOP OF ROOT BALL TO SET FLUSH WITH EXISTING GRADE.
3. SET PLANTS IN ERECT, STABLE, AND UNIFORM POSITIONS. ORIENT BEST FACE OF PLANT TO BE MOST VISIBLE.
4. UNLESS OTHERWISE DIRECTED BY PROJECT SPECIFICATIONS OR CITY STAFF, SOIL MIXTURE SHALL BE CLEANED OF DEBRIS, AND MEET SOIL COMPOSITION REQUIREMENTS OF CITY OF ALEXANDRIA LANDSCAPE GUIDELINES.
5. DO NOT PLACE MULCH IN CONTACT WITH STEM OF PLANTS.
6. ALL PLANTS MUST BE WATERED AT INSTALLATION AND AGAIN WITHIN 48-HOURS OF INSTALLATION, ESTABLISHMENT WATERING SHALL BE PER THE SPECIFICATIONS ON ALL DETAILS.

A SHRUB PLANTING ON SLOPE
NOT TO SCALE

OF UPDATES: 00 LAST UPDATED:

CITY OF ALEXANDRIA, VIRGINIA
STANDARD LANDSCAPE DETAILS
CITY OF ALEXANDRIA, VIRGINIA

NOTE: THE INFORMATION SHOWN HEREIN THIS DOCUMENT IS FOR GENERAL GUIDANCE ONLY AND IS NOT INTENTED FOR CONSTRUCTION PURPOSES. ITS USE SHALL NOT RELIEVE THE DESIGN PROFESSIONAL OR CONTRACTOR OF ANY LEGAL RESPONSIBILITY.

Source: CITY OF ALEXANDRIA
Approved by: COA
Date drawn: 01/01/19
SHRUB PLANTING ON SLOPE
1 OF 1
LD 010

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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.

DEVELOPER
FOULGER-PRATT DEVELOPMENT
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

LANDSCAPE ARCHITECT
O C U L U S
1611 CONNECTICUT AVE NW 3RD FLOOR
WASHINGTON DC 20009
P 202 588 5454
US@OCULUS.INFO

CONSULTANTS
FOUNTAIN CONSULTANT
FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291

PLAYGROUND CONSULTANT
EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972

ICE RINK CONSULTANT
B32 ENGINEERING GROUP, INC.
2211 O'NEIL ROAD
HUDSON, WI 54016
1.651.256.3090

LIGHTING DESIGNER
MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062

PROJECT NAME
WestEnd Open Space Blocks
City of Alexandria

SEAL & SIGNATURE
COMMONWEALTH OF VIRGINIA
DONALD RAY HOOVER
Lic. No. 406000790
LANDSCAPE ARCHITECT

COMPLETENESS SUBMISSION
NOT FOR CONSTRUCTION

ISSUE

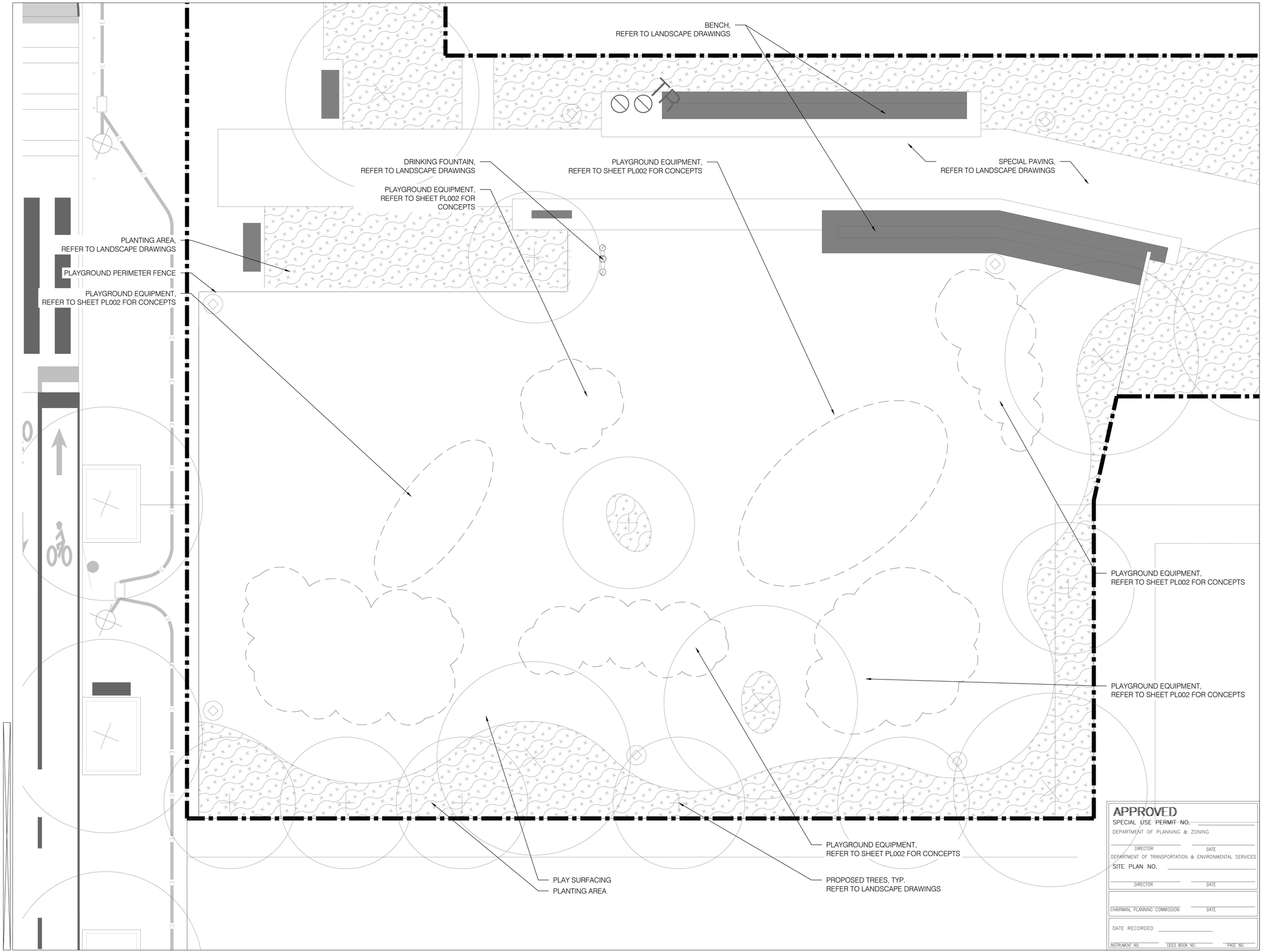
MARK	DATE	DESCRIPTION
	11/29/2022	CONCEPT II
	03/10/2023	COMPLETENESS

KEY MAP

DATE: 03/10/2023
PROJECT NUMBER: W2108
SCALE: NTS

PLANTING DETAILS
DRAWING TITLE:

L1011
SHEET NUMBER:



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US@OCULUS.INFO

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WALLENSTEIN, ON CANADA N0B 2S0
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B3Z ENGINEERING GROUP, INC.
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KEY MAP

DATE: 03/10/2023

PROJECT NUMBER: W2108

SCALE: 3/16" = 1'-0"

DRAWING TITLE: PLAYGROUND PLAN

SHEET NUMBER: PL001

NOTES:

- IMAGES ARE FOR ILLUSTRATIVE PURPOSES ONLY. FINAL EQUIPMENT TO BE DETERMINED AND SHOWN BY RELEASE OF FINAL SITE PLAN.
- GOAL IS TO PROVIDE A RANGE OF PLAY EQUIPMENT WHICH COULD BE PROVIDED.
- PLAYGROUND WILL BE AVAILABLE TO THE PUBLIC AS A SITEWIDE AMENITY. FUTURE SIGNAGE WITH CLEARLY IDENTIFY THE HOURS OF OPERATION WHEN THE SPACE IS AVAILABLE FOR USE (SIMILAR HOURS AS THOSE TO BE PROPOSED FOR THE PICKLEBALL AND BASKETBALL COURTS.
- SELECTED PLAY EQUIPMENT WILL BE GEARED TOWARDS PLAY OF ALL AGES; VARYING LEVELS OF DIFFICULTY TO ALLOW SPACE FOR YOUNGER CHILDREN AND OLDER CHILDREN TO HAVE EXPERIENCE IN THE PLAY SPACE.
- DIFFERENTIATION OF AGE/DIFFICULTY WILL BE ENSURED BY TWO SEPARATE BUT ADJOINING PLAY EXPERIENCES.
- PLAY SPACE WILL PROVIDE ADA ACCESSIBLE OPPORTUNITIES FOR CHILDREN OF VARYING ABILITIES.

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12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

LANDSCAPE ARCHITECT

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1611 CONNECTICUT AVE NW 3RD FLOOR
WASHINGTON DC 20009
P 202 588 5454
US@OCULUS.INFO

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724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291

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EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
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2211 O'NEIL ROAD
HUDSON, WI 54016
1.651.256.3090

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1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062

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KEY MAP

DATE: 03/10/2023

PROJECT NUMBER: W2108

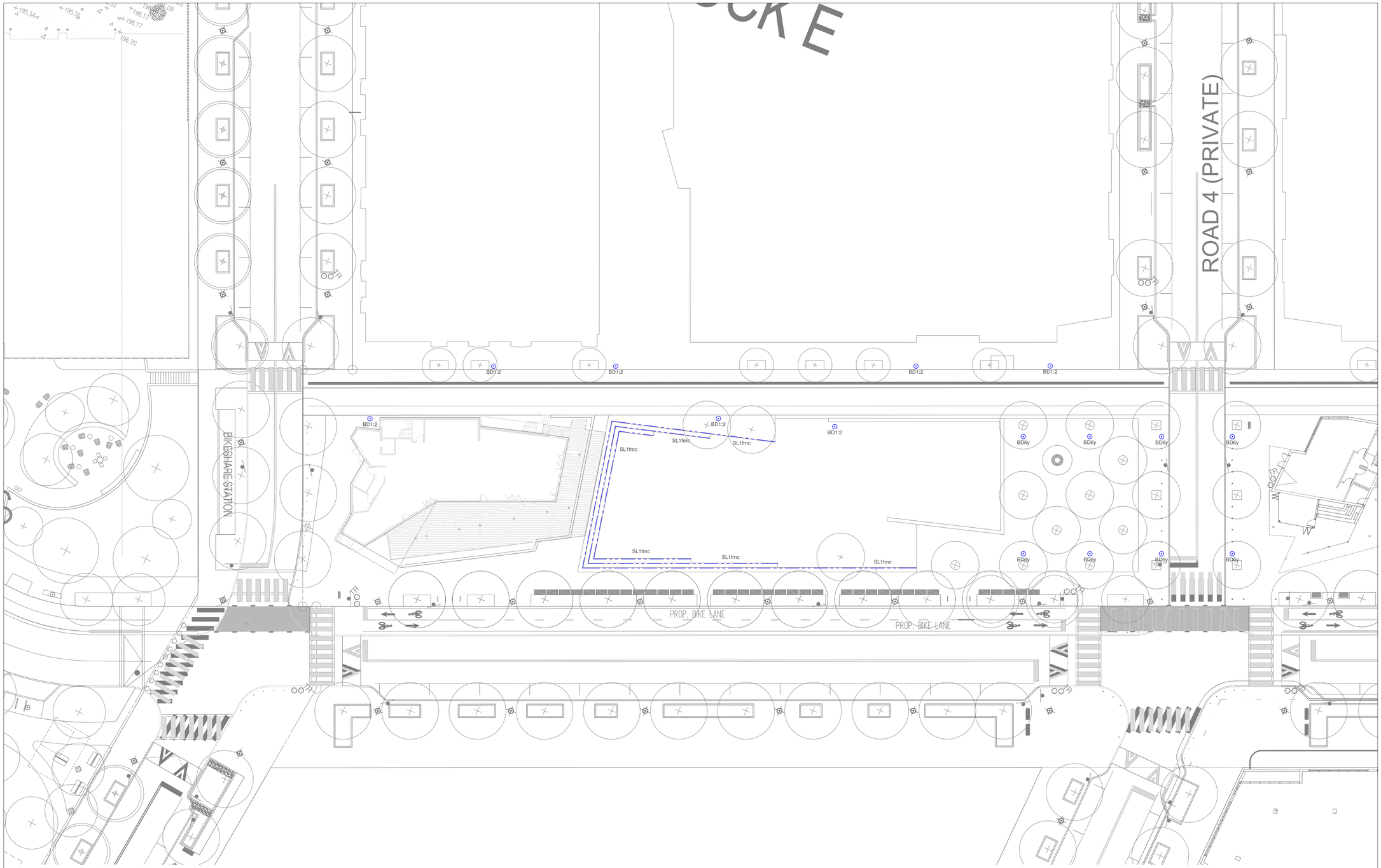
SCALE: 3/16" = 1'-0"

PLAYGROUND DETAILS

DRAWING TITLE:

PL002

SHEET NUMBER:



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7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
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BS2 ENGINEERING GROUP, INC.
2211 O'NEIL ROAD
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KEY MAP

N

DATE: 03/10/2023

PROJECT NUMBER: W2108

SCALE: 1/20" = 1'-0"

DRAWING TITLE: SITE LIGHTING PLAN AREA 1

SHEET NUMBER: LT001

mcla site lmk.dwg March 01, 2023, 11:28 am

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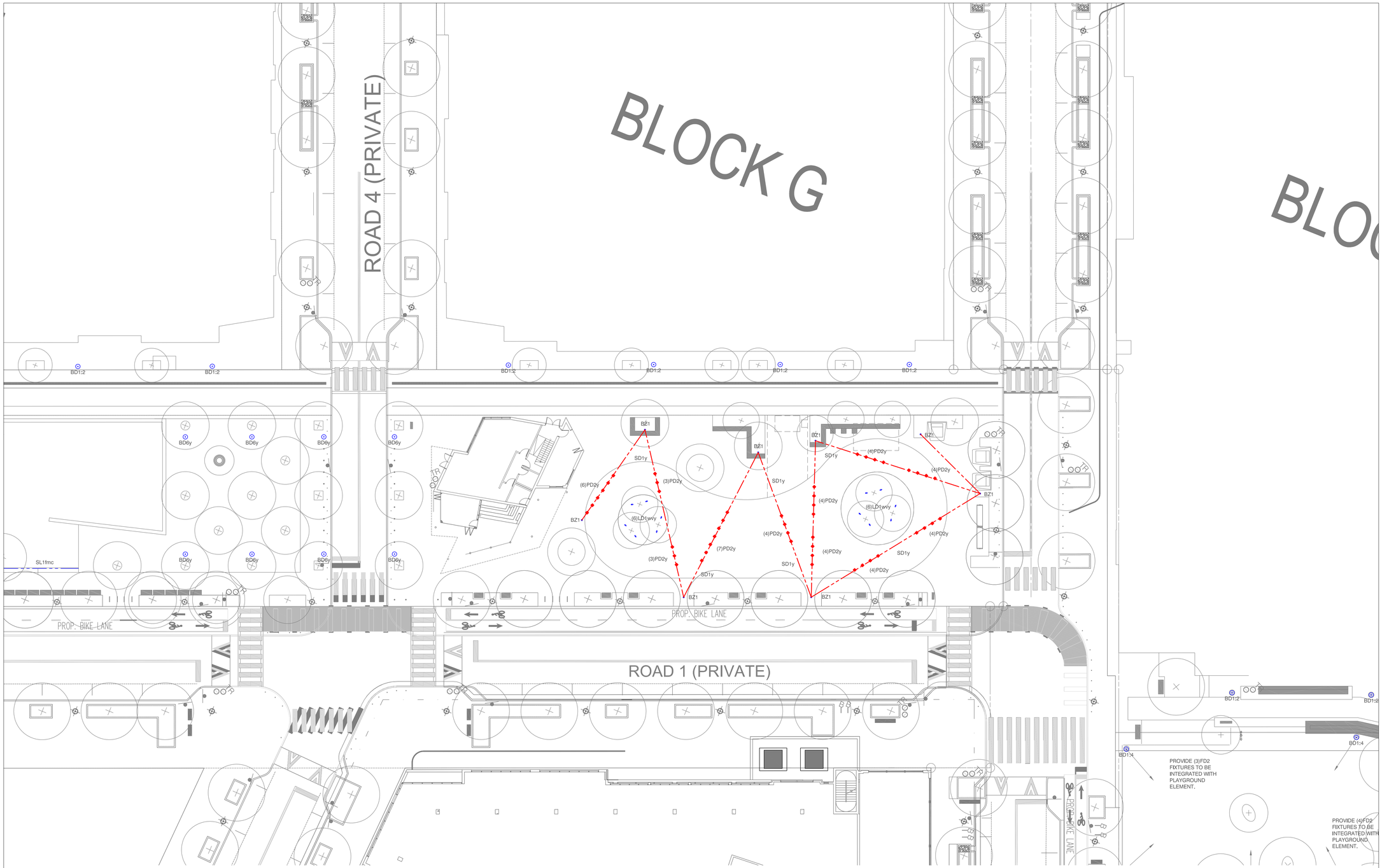

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POTOMAC, MD 20854
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1611 CONNECTICUT AVE NW 3RD FLOOR
WASHINGTON DC 20009
P 202 588 5454
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LOS ANGELES, CALIFORNIA 90014
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WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972

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HUDSON, WI 54016
1.651.256.3090

LIGHTING DESIGNER
MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062

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KEY MAP

DATE: 03/10/2023

PROJECT NUMBER: W2108

SCALE: 1/20" = 1'-0"

DRAWING TITLE: SITE LIGHTING PLAN AREA 2

SHEET NUMBER: LT002

mcla site lmk.dwg March 09, 2023, 3:20 pm

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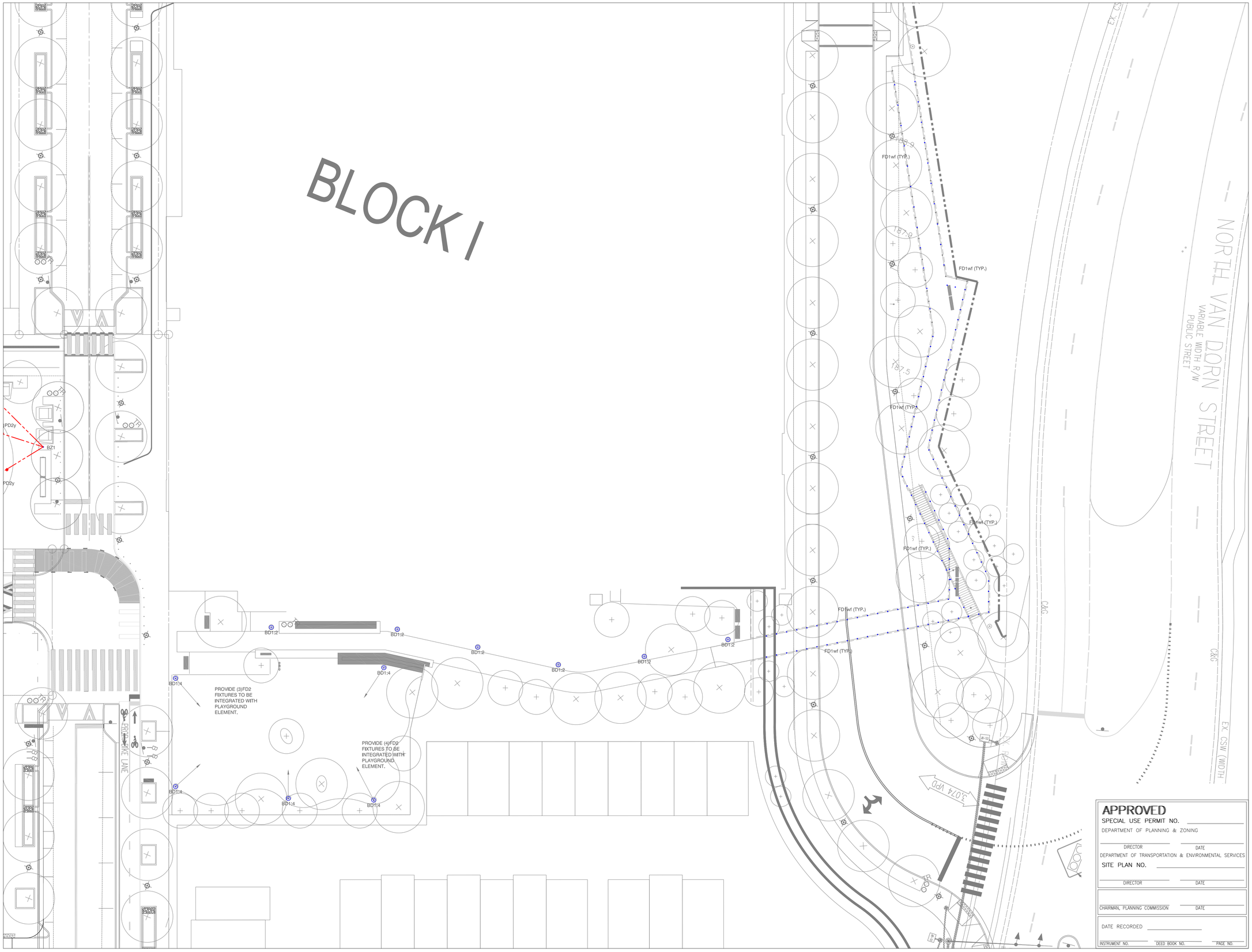

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FOULGER-PRATT DEVELOPMENT
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

LANDSCAPE ARCHITECT

OCULUS
1611 CONNECTICUT AVE NW 3RD FLOOR
WASHINGTON DC 20009
P 202 588 5454
US@OCULUS.INFO

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724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291

PLAYGROUND CONSULTANT
EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972

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BS2 ENGINEERING GROUP, INC.
2211 O'NEIL ROAD
HUDSON, WI 54016
1.651.256.3090

LIGHTING DESIGNER
MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062

PROJECT NAME

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	03/10/2023	COMPLETENESS

KEY MAP

N

DATE: 03/10/2023

PROJECT NUMBER: W2108

SCALE: 1/20" = 1'-0"

DRAWING TITLE: SITE LIGHTING PLAN AREA 3

SHEET NUMBER: LT003

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DIRECTOR _____ DATE _____

CHAIRMAN, PLANNING COMMISSION _____ DATE _____

DATE RECORDED _____

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DEVELOPER

FOULGER-PRATT DEVELOPMENT
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

LANDSCAPE ARCHITECT

OCULUS
1611 CONNECTICUT AVE NW 3RD FLOOR
WASHINGTON DC 20009
P 202 588 5454
US@OCULUS.INFO

CONSULTANTS

FOUNTAIN CONSULTANT
FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291

PLAYGROUND CONSULTANT
EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972

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BS2 ENGINEERING GROUP, INC.
2211 O'NEIL ROAD
HUDSON, WI 54016
1.651.256.3090

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MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
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	03/10/2023	COMPLETENESS

KEY MAP

N

DATE: 03/10/2023

PROJECT NUMBER: W2108

SCALE: 1/20" = 1'-0"

DRAWING TITLE: SITE LIGHTING PLAN AREA 4

SHEET NUMBER: LT004

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SITE PLAN NO. _____

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FOULGER-PRATT DEVELOPMENT
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

LANDSCAPE ARCHITECT

O C U L U S
1611 CONNECTICUT AVE NW 3RD FLOOR
WASHINGTON DC 20009
P 202 588 5454
US@OCULUS.INFO

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724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291

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EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972

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BS2 ENGINEERING GROUP, INC.
2211 O'NEIL ROAD
HUDSON, WI 54016
1.651.256.3090

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MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062

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KEY MAP

N

DATE: 03/10/2023

PROJECT NUMBER: W2108

SCALE: 1/20" = 1'-0"

DRAWING TITLE: SITE LIGHTING PLAN AREA 5

SHEET NUMBER: LT005

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Landmark Parks
Lighting Fixture Schedule
22 February 2023

mcla
ARCHITECTURAL LIGHTING DESIGN

General Notes:
1. Electrical Engineer shall verify voltages.
2. All fixture substitutions shall have a working sample provided for review within 10 working days upon request from the design team.
3. Judgment of fixture quality and optics, as equal, shall be determined by the Architect or Lighting Designer.
4. All transpositions of the specifications in this schedule must be complete and accurate in order to be considered valid.
5. Low-temperature ballast/drivers must be capable of starting at -18 degrees Celsius.
6. All fixtures shall have appropriate UL label, damp, or wet as required by local codes.
7. All fixtures shall include all accessories required for installation according to all local and national codes.
8. Prior to ordering any lighting equipment the contractor shall verify all locations and recess depths.
9. All lamps shall be installed according to the Lighting Fixture Schedule.
10. Contractor shall verify final voltages and ceiling trim compatibility prior to ordering fixtures.
11. All finishes to be verified by Architect / Interior Designer, prior to ordering.
12. Any unspecified or TBD finishes are to be assumed as standard available finishes for pricing, unless otherwise noted.
13. Ceiling thickness in excess of 3/4" shall be identified in writing by contractor/architect.
14. All fixtures shall be ordered with the appropriate ballasts/drivers/transformers that have UL and CBM labels. All ballasts/drivers/transformers must conform to local energy code requirements for performance, switching, and wiring (i.e. tandem).
15. Provide approved fire-rated enclosures for all lighting fixtures located in a fire-rated ceiling or wall.
16. All LED products shall be provided with no more than two(2) MacAdam ellipses of deviation unless dictated otherwise by Lighting Designer.
17. Responsibility for emergency lighting, local energy code calculations, and circuiting to meet code conformance remains with the Architect and Electrical Engineer as required by law.
18. All fixtures located in an insulated ceiling area, should have an IC housing (electrical contractor to coordinate).
19. All adjustable fixtures MUST be shipped to site with lamp facing straight down. Contractor to install all fixtures with lamp facing down, if procured otherwise. mcla to direct Contractor in re-aiming at walls, objects, etc. in the field during site visit arranged for that express purpose.
20. All white trim downlights to be painted to match the color of the ceiling, if ceiling is not white. This applies to both open downlights as well as pinhole aperture downlights.
21. All initial submittals must include all fixture types in the project. Incomplete initial submittals will not be reviewed.
22. All resubmittals must only include fixtures requiring resubmission (i.e., previous comments of "revise and resubmit" or "rejected.") Where fixtures have been approved, but additional information is requested by Contractor (finish, voltage, etc.) RFI to be generated.

TYPE	DESCRIPTION	MANUFACTURER	CATALOG NO.	LAMP QUANTITY	LAMP WATTAGE	LAMP OUTPUT	LAMP TYPE AND ATTRIBUTES	POWER SUPPLY	DIMMING CONTROL	VOLTAGE	ACCEPTABLE ALTERNATE MANUFACTURERS	LOCATION	NOTES
BD1 :2	Post top mount LED area light. Type II full cut-off optics. 16' round tapered aluminum pole.	Kim Lighting	UR20 24L-25 3K8 2 UNV Mount Finish RTK-K-16-50-A	1 ea.	25	2,940 lm delivered	LED board 3000K 80CRI	INTEGRAL	0-10V			Connecting Park Private Street	
BD1 :3	Post top mount LED area light. Type III full cut-off optics. 16' round tapered aluminum pole.	Kim Lighting	UR20 24L-25 3K8 3 UNV Mount Finish RTK-K-16-50-A	1 ea.	25	3,000 lm delivered	LED board 3000K 80CRI	INTEGRAL	0-10V			East Park	
BD1 :4	Post top mount LED area light. Type IV full cut-off optics. 16' round tapered aluminum pole.	Kim Lighting	UR20 24L-25 3K8 4 UNV Mount Finish RTK-K-16-50-A	1 ea.	25	7,000 lm delivered	LED board 3000K 80CRI	INTEGRAL	0-10V			Playground	
BD5 /2 :4y	Post top mount twin head LED area light. Type IV full cut-off optics. 16' round tapered aluminum pole.	Kim Lighting	UR28 96L-185 3K8 4W UNV Mount Finish FAFM* MOD RTK-K-16-50-A	2 ea.	185	2 x 21,500 lm delivered	LED board 3000K 80CRI	INTEGRAL	0-10V			Sports Courts	
BD6	Post top mount cylindrical LED fixture. Full cut-off type III optics.	Bega	84 102 finish pole 10'	1 ea.	54	6,400 lm delivered	LED board 3000K 80CRI	INTEGRAL	0-10V			Grove	
BZ1	Pole lights utilized to suspend catenary fixtures and art	Valmont	DS210 650A200 D* PL FP finish FBC *AE			N/A	N/A	N/A	N/A			Plaza	
FD1 wf	Surface mount miniature cylinder downlight. Very wide flood optics. For integration in railing post.	Mike Stone	Module Star Surface 3000K 1W finish 0-10V WFL	1 ea.	1	100 lm delivered	LED module 3000K 80CRI	REMOTE	N/A			Bridge	See detail. Provide all necessary connections, accessories, mounting hardware, and remote drivers. Conceal remote driver(s) in accessible, ventilated location(s).
FD2	Surface mount LED wet location jelly jar. Opal lens. Multiple "playground" color options.	Canlet	68 finish 150 I * R OG 01	1 ea.	150	800 lm source	medium base A19 3000K 80CRI	N/A	*LV	120		Playground	See details.
LD1 wvy	Stake moune LED miniature floodlight. Wide flood optics. Snoot accessory.	Lumenpulse	LBS volts 30K WFL finish DIM SK UL *FT BK LBSSN finish BK	1 ea.	12.5	1,250 lm delivered	LED board 3000K 80CRI	INTEGRAL	0-10V		GVA Northstar Targetti	Plaza	
PD2 y	Catenary mount LED luminous orb.	Visa	OP2120 ShortCAP L30K(H) MVOLT finish FRST DIM (0-10V)	1 ea.	17	1,900 lm delivered	LED board 3000K 80CRI	INTEGRAL	0-10V			Plaza	See detail.
SD1 y	Catenary mount LED RGBW string lighting. Pendant drip globes 2'-0" o.c.	Tivoli	LSA2 B 24 V 30 * N 12	0.5 /ft.	0.96	45 lm/ft. delivered	LED diode 3000K 80CRI	REMOTE	0-10V			Plaza	See detail. Install in continuous lengths, end-to-end, as shown in plan. Provide all necessary connections, accessories, mounting hardware, and remote drivers. Conceal remote driver(s) in accessible, ventilated location(s).
SL1 fmc	Surface mount LED RGBW ribbon light. Extruded aluminum mounting channel. Diffuse acrylic snap-in lens. 1/2" x 3/4" cross-section.	Acolyte	CHAS1 F finish RB 0 RGBWA65 4.4 RGB30 FA DMX	1 /ft.	4.4	150 lm/ft. delivered	LED ribbon RGBW 80CRI	REMOTE	DMX			Steps	See detail. Install in continuous lengths, end-to-end, as shown in plan. Provide all necessary connections, accessories, mounting hardware, and remote drivers. Conceal remote driver(s) in accessible, ventilated location(s).

End of Schedule

KIM LIGHTING

UR20
ARCHITECTURAL AREA/SITE

DATE: | LOCATION:
TYPE: | PROJECT:
CATALOG #:

Ouro™

Ouro Post Top

FEATURES
- 20" size in single/dual arm post top, pole and wall mount
- High performance optics up to 16,874 delivered lumens
- Elegant form factor
- Diffusion lens option
- SiteSync™ wireless control options
- UL/cUL listed for wet locations, IP66 and 4G/1.5G vibration rated

c UL us LISTED · ida (3000K and warmer CCTs only) · DLC · IK10[1] · BUY AMERICAN SOLUTIONS (See Certification Specifications)

CONTROL TECHNOLOGY
SiteSync · NX DISTRIBUTED™ INTELLIGENCE

RELATED PRODUCTS
Ouro Small Arm Mount · Ouro Large Post Top · Ouro Large Arm Mount

SPECIFICATIONS

CONSTRUCTION
- Low copper aluminum alloy die-casting is designed as one-piece.
- Molded silicone gasket throughout insures the sealing between the two compartments and provides ingress protection.
- All external fasteners are stainless steel.
- Cover is secured to Lens frame by the latch and hinge.

OPTICS
- LEDs mount to a metal printed circuit board assembly (MCPCB).
- Optical lenses are clear injection molded PMMA acrylic.
- Optional Backlight Control on each LED module to completely control unwanted backlight.
- Optional fixture finish optical surfaces will not exceed BUG ratings of the standard white finish.

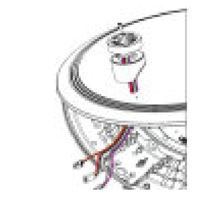
LENS
- Standard lens (CLR) IK08
- Clear Polycarbonate Lens (CP) IK10

INSTALLATION
- Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury.

ELECTRICAL
- Universal voltage, 120 through 277V with a ±10% tolerance. Driver is Underwriters Laboratories listed.
- High voltage configurations, 347/480. Driver has a 0-10V dimming interface for multi-level illumination options. Driver is Underwriters Laboratories listed.
- "Thermal Shield", secondary side, thermistor provides protection for the sustainable life of LED module and electronic components
- Drivers shall have greater than a 0.9 power factor, less than 20% harmonic distortion, and be suitable for operation in -40°C to 40°C ambient environments.
- Luminaire shall be capable of operating at 100% brightness in a 40°C environment. Both driver and optical array have integral thermal protection that will dim the luminaire upon detection of temperatures in excess of 85°C.
- Surge protection: 10,000k in parallel, 20,000k in series
- Wiring: No. 18AWM rated 105°C, wet rating.

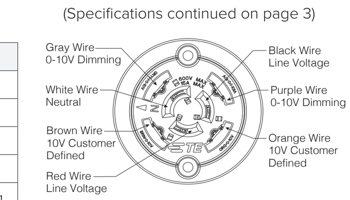
CONTROLS
7PR
- Fully gasketed and wired 7-pin receptacle option. Easy access location above the electrical compartment. 7-pin construction allows for a user-defined interface and provides a controlled definition of operational performance. ANSI twist-lock control module by-others.

Standard customer operation modes:
- Traditional on/off photoelectric control.
- 5-pin wireless photoelectric control for added dimming feature.
- 7-pin wireless photoelectric control for for dimming and additional I/O connections for customer use.



7-Pin receptacle placement

(Specifications continued on page 3)



KEY DATA	
Lumen Range	2694 – 16874
Wattage Range	25 – 150
Efficacy Range (LPW)	95 – 133
Reported Life (Hours)	L70/>60,000
Weight	35 lbs – 15.8 Kg
EPA	0.608

[1] Clear Polycarbonate Lens (CP) IK10, Standard lens (CLR) IK08, Consult factory for details

(Specifications continued on page 3)

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UR20
ARCHITECTURAL AREA/SITE

DATE: | LOCATION:
TYPE: | PROJECT:
CATALOG #:

ORDERING GUIDE

Example: UR20-24L-25-3K8-3-L-UNV-FMSA33-BLT-7PR-BC-SWTAB

CATALOG #

HOUSING

Model	LED Engine	CCT/CRI	Distribution	Rotation	Voltage
UR20 Ouro	**No Lens or Clear Lens** 24L-25 3,000 lm 24L-65 7,000 lm 56L-75 10,000 lm 56L-110 15,000 lm 56L-140 17,000 lm **HDL - High Diffusion Lens** 28L-30 3,000 lm 28L-70 7,000 lm 68L-80 9,000 lm 68L-115 13,000 lm 68L-150 15,000 lm	AM[11] Amber, 595nm 27K8 2700K, 80 CRI 3K7 3000K, 70 CRI 3K8 3000K, 80 CRI 35K8 3500K, 80 CRI 3K9 3000K, 90 CRI 4K7 4000K, 70 CRI 4K8 4000K, 80 CRI 5K7 5000K, 70 CRI Consult factory for other CCTs and CRIs	**No Lens or Clear Lens** FR Type 1/Front Row 2 Type II 3 Type III 4 Type IV 4W Type IV Wide 5QM Type V Square Medium 5QN Type V Square Narrow 5R Type V Rectangular 5W Type V Wide (Round) **HDL - High Diffusion Lens** 3 Type III/Asymmetric 5W Type V/Symmetric	(Blank) Blank for no rotation L[1] Optic rotation left R[1] Optic rotation right	UNV 120-277V 347 347V 480 480V DALI 120-277V Consult factory

Mounting	Fixture Finish	Control Options	Options	Control Accessories
FM33 Flush mt 3.0" OD pole, 3" fixture base FM44 Flush mt 3.6" to 4.0" OD pole, 4" fixture base PT23 3" Post Top mount for 2 ...	BLS Black Gloss Smooth BLT Black Matte Textured DBS Dark Bronze Gloss Smooth	7PR-TL 7 pin PCR with twist lock photocontrol 7PR-SC 7 pin PCR with shorting cap 7PR 7 pin PCR, wireless control enabled	BC[6] Back-light Control SF Single Fuse DF Double Fuse CLR[5,6,13] Clear Lens	SW7PR[2,3] SiteSync™ with 7 pin PCR SWUSB SiteSync™ Software on USB SWTAB[10] SiteSync™ Windows® ...

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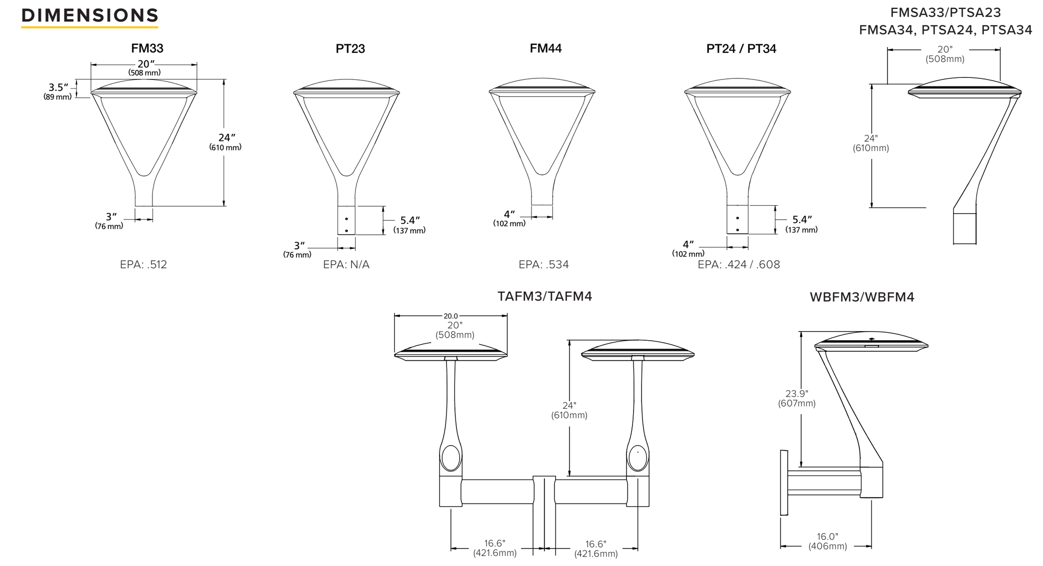
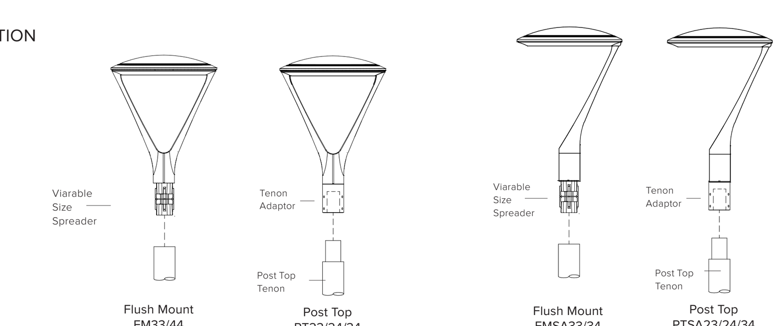
UR20
ARCHITECTURAL AREA/SITE

DATE: | LOCATION:
TYPE: | PROJECT:
CATALOG #:

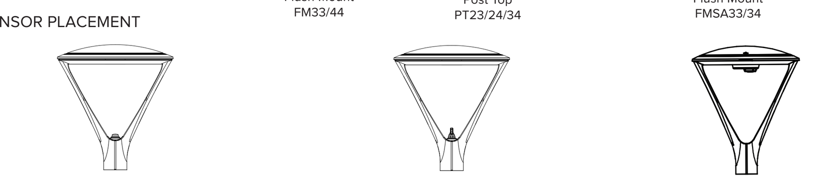
DIMENSIONS



MOUNTING INSTALLATION



SENSOR PLACEMENT



MOUNTING VIBRATION RATINGS

UR 20 Arm Ordering Code	UR 20 Arm Rating	UR28 Arm Ordering Code	UR28 Arm Rating	UR 20 Post Top Ordering Code	UR 20 Post Top Rating	UR 28 Post Top Ordering Code	UR 28 Post Top Rating	UR 20 Solo Arm Ordering Code	UR 20 Solo Arm Rating
ASQ	4G	ASQ	4G	FM33	4G	FM44	1.5G	FMSA33	1.5G
A34	4G	A34	4G	FM44	1.5G	FM45	1.5G	FMSA34	1.5G
A46	4G	A46	4G	PT23	4G	PT24	1.5G	PTSA23	1.5G
MAF	4G	MAF	4G	PT24	4G	PT34	1.5G	PTSA24	1.5G
				PT34	1.5G	PT25	1.5G	PTSA34	1.5G

For the 4 G test, ANSI C136.31-2010 Vibration is tested to comply with Vibration Test Level 1 Normal Applications, Vibration Test Level 2 Bridge/Overpass Applications, and Vibration Test Level 3

For the 1.5G test, ANSI C136.31-2010 Vibration is tested to comply with Vibration Level 1 Bridge/Overpass Applications

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UR20
ARCHITECTURAL AREA/SITE

DATE: | LOCATION:
TYPE: | PROJECT:
CATALOG #:

DELIVERED LUMENS

LEDs #	Lumens Package	Drive Current	Nominal Watts	Lens Options	Distribution	3000K 70CRI Lumen	B	U	G	lm/w	4000K 70CRI Lumen	B	U	G	lm/w	5000K 70CRI Lumen	B	U	G	lm/w
24L	3,000	298mA	25	No lens	FR	2932	0	0	1	115	3119	0	0	1	123	3098	0	0	1	124
					FR-BC	1994	0	0	0	78	2121	0	0	0	83	2107	0	0	0	83
					2	2943	1	0	1	116	3099	1	0	1	122	3110	1	0	1	124
					2-BC	1724	0	0	1	68	1834	0	0	1	72	1822	0	0	1	72
					3	3007	1	0	1	118	3200	1	0	1	126	3178	1	0	1	127
					3-BC	1830	0	0	1	73	1947	0	0	1	78	1934	0	0	1	77
					4	3056	0	0	1	120	3251	0	0	1	128	3229	0	0	1	129
					4-BC	2235	0	0	1	88	2377	0	0	1	93	2362	0	0	1	93
					4W	3171	1	0	1	125	3374	1	0	1	133	3351	1	0	1	134
					4W-BC	1912	0	0	1	75	2034	0	0	1	80	2020	0	0	1	79
					5QM	2931	2	0	1	115	3119	2	0	1	123	3098	2	0	1	124
					5QN	2694	2	0	1	106	2866	2	0	1	113	2847	2	0	1	114
					5R	3054	2	0	2	120	3250	2	0	2	128	3228	2	0	2	129
					5W	3043	2	0	1	120	3237	2	0	1	127	3216	2	0	1	129
				Clear lens	FR	2773	0	0	1	109	2951	0	0	1	116	2930	0	0	1	117
					FR-BC	1886	0	0	1	74	2007	0	0	1	79	1993	0	0	1	78
					2	2784	1	0	1	109	2963	1	0	1	116	2942	1	0	1	118
					2-BC	1631	0	0	1	64	1736	0	0	1	68	1723	0	0	1	67
					3	2845	1	0	1	111	3028	1	0	1	119	3007	1	0	1	120
					3BC	1806	0	0	1	72	1922	0	0	1	77	1909	0	0	1	76
					4	2891	0	0	1	113	3076	0	0	1	120	3055	0	0	1	122
					4-BC	2114	0	0	1	83	2250	0	0	1	88	2234	0	0	1	88
					4W	2999	1	0	1	117	3192	1	0	1	125	3169	1	0	1	127
					4W-BC	1808	0	0	1	71	1924	0	0	1	75	1911	0	0	1	76
					5QM	2773	1	0	1	109	2950	2	0	1	116	2931	2	0	1	117
					5QN	2549	1	0	0	100	2712	2	0	1	106	2693	2	0	1	108
					5R	2890	2	0	2	113	3075	2	0	2	120	3054	2	0	2	122
					5W	2879	2	0	1	113	3064	2	0	1	120	3042	2	0	1	122
28L		298mA	30	HDL lens	3	2816	1	0	1	96	2997	1	0	1	102	3020	1	0	1	101
					5W	2917	1	0	1	100	3105	1	0	1	106	3084	1	0	1	103

Scaling factors 27K8 = 0.859, 35K8 = 0.906 of 5K7 lumen packages

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HUBBELL Lighting

DEVELOPER
FOULGER-PRATT DEVELOPMENT
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

LANDSCAPE ARCHITECT
O C U L U S
1611 CONNECTICUT AVE NW 3RD FLOOR
WASHINGTON DC 20009
P 202 588 5454
US@OCULUS.INFO

CONSULTANTS
FOUNTAIN CONSULTANT
FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291

PLAYGROUND CONSULTANT
EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972

ICE RINK CONSULTANT
B32 ENGINEERING GROUP, INC.
2211 O'NEIL ROAD
HUDSON, WI 54016
1.651.256.3090

LIGHTING DESIGNER
MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062

PROJECT NAME

WestEnd Open Space Blocks
City of Alexandria

SEAL & SIGNATURE

COMPLETENESS SUBMISSION

NOT FOR CONSTRUCTION

ISSUE

MARK	DATE	DESCRIPTION
	11/29/2022	CONCEPT II
	03/10/2023	COMPLETENESS

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. ______

KEY MAP

DATE: 03/10/2023
PROJECT NUMBER: W2108
SCALE: NTS
DRAWING TITLE: LIGHTING FIXTURE SCHEDULE & CUTS
SHEET NUMBER: LT010

mcla site lmk.dwg March 01, 2023, 1:29 pm

RTA-K SERIES POLES

ROUND TAPERED ALUMINUM

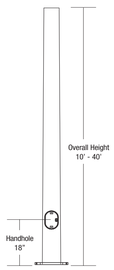
Cat.#

Job

Type

KIM LIGHTING

Approvals



APPLICATIONS

- Lighting installations for side and top mounting of luminaires with effective projected area (EPA) not exceeding maximum allowable loading of the specified pole in its installed geographic location

CONSTRUCTION

- SHAFT: One-piece tapered aluminum with round cross section, made of 6061-T6 shaft and 356-T6 cast aluminum base

GROUP 1

- ANCHOR BOLTS: Supplied with (3) galvanized anchor bolts with minimum yield of 55,000 psi (ASTM F1554). Galvanized hardware with two washers and two nuts per bolt for leveling. Top nut is acorn nut.
- POLE CAP: 3" pole top standard; Supplied with removable cover when applicable; Tenon configurations also available
- HANDHOLE: 2" X 4" handhole opening with cover grounding provision provided opposite handhole opening. The handhole is located 18" from the base of the pole.

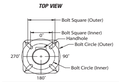
GROUP 2

- ANCHOR BOLTS: Supplied with (4) galvanized anchor bolts with minimum yield of 55,000 psi (ASTM F1554). Galvanized hardware with two washers and two nuts per bolt for leveling
- BOLT COVER: Four individual bolt covers provided
- POLE CAP: Pole shaft supplied with removable cover when applicable; Tenon and post-top configurations also available
- HANDHOLE: 4" X 6" handhole opening with cover and grounding provision handhole 3" x 5" for 20' pole. The handhole is located 18" from the base of the pole.

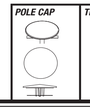
FINISH

- Durable thermoset polyester powder coat paint finish with nominal 3.0 mil thickness.
- Decorative finish coat available in multiple standard colors; Custom colors available, RAL number preferred.

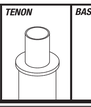
TOP VIEW



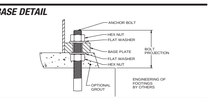
POLE CAP



TENON



BASE DETAIL



ORDERING INFORMATION

Reference page 2 for available configurations

ORDERING EXAMPLE:

RTA – K - 20 - 60 - B - K2 - DBS - VM2

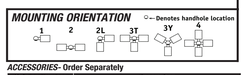
SERIES	HEIGHT	SHAFT	THICKNESS	DRILL PATTERN	FINISH	OPTIONS
RTA-K Round Tapered Aluminum Pole Hubbell Lighting	Reference page 2 Ordering matrix	Bottom O.D. Reference page 2 Ordering matrix	Reference page 2 Ordering matrix	**K1** 2 bolt 5 3/16" spacing **K2** 2 bolt 3 1/2" spacing **K3** 2 bolt 3" spacing	**BLS** Black Gloss Smooth **BLT** Black Matte Textured **DBS** Dark Bronze Gloss Smooth **DBT** Dark Bronze Gloss Textured **GTT** Graphite Matte Textured **LGS** Light Gray Gloss Smooth **LGT** Light Gray Gloss Textured **PSS** Platinum Silver Gloss Smooth **VGT** Verde Green Matte Textured **WHS** White Gloss Smooth **WHT** White Matte Textured **Color Option** **CC** [7] Custom Color	**GFI**[1] 20 Amp GFCI Receptacle and Cover **EHH**[2] Extra Handhole **C05**[3] .5" Coupling **C07**[3] .75" Coupling **C20**[3] 2" Coupling **VM2** 2nd mode vibration damper **LAB** Less Anchor Bolts

Notes:

1 Specify option location using logic found on page 2 **(Option Orientations)**

2 Consult factory for custom color, marine and corrosive finish options

MOUNTING ORIENTATION O – Denotes handhole location



***ACCESSORIES*- Order Separately**

Catalog Number	Description
VM2SXX	2nd mode vibration damper

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mcla | Landmark Parks | BD1

ARCHITECTURAL LIGHTING DESIGN | PROJECT - / - / - | FIXTURE TYPE 5 OF 6

ORDERING INFORMATION Cont.

Catalog Number	Height Feet	Height Meters	Nominal Shaft Dimensions	Wall Thickness	Bolt Circle	Bolt Circle Range	Base Plate Size	Base Plate Shape	Anchor bolt size	Bolt Projection	Pole weight
Group 1											
RTA-K-10-40-A	10	3.0	4" x 3"	.125"	7"	-	7.25	Triangular	3/4x17x3"	3.25"	24
RTA-K-12-40-A	12	3.7	4" x 3"	.125"	7"	-	7.25	Triangular	3/4x17x3"	3.25"	27
RTA-K-14-40-A	14	4.3	4" x 3"	.125"	7"	-	7.25	Triangular	3/4x17x3"	3.25"	32
RTA-K-16-50-A	16	4.9	5" x 3"	.125"	8"	-	8.31	Triangular	3/4x17x3"	3.25"	35
RTA-K-18-50-A	18	5.5	5" x 3"	.125"	8"	-	8.31	Triangular	3/4x17x3"	3.25"	42
RTA-K-20-50-A	20	6.1	5" x 3"	.125"	8"	-	8.31	Triangular	3/4x17x3"	3.25"	47
Group 2											
RTA-K-20-60-B	20	6.1	6" x 4"	.188"	9.5"	9 - 10"	9.75	Square	1" x 36" x 4"	4.25"	90
RTA-K-25-70-B	25	7.6	7" x 4"	.188"	11"	10 - 11"	10.5	Square	1" x 36" x 4"	4.25"	120
RTA-K-30-80-B	30	9.1	8" x 4.5"	.188"	11"	11 - 12"	11.25	Square	1" x 36" x 4"	4.25"	150
RTA-K-35-80-C	35	10.7	8" x 4.5"	.250"	11"	11 - 12"	11.25	Square	1" x 36" x 4"	4.25"	205
RTA-K-40-80-C	40	12.2	8" x 4.5"	.250"	11"	11 - 12"	11.25	Square	1" x 36" x 4"	4.25"	260

NOTE Factory supplied template must be used when setting anchor bolts. Hubbell Lighting will deny any claim for incorrect anchorage placement resulting from failure to use factory supplied template and anchor bolts.

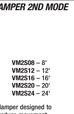
EHH - EXTRA HANDHOLE

C05 - C07 - C20 - COUPLING

VM2 - VIBRATION DAMPER 2ND MODE (GROUP 2 ONLY)

Factory installed, internal damper designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

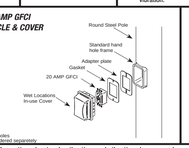
VM2SXX - VIBRATION DAMPER 2ND MODE (GROUP 2 ONLY)



VM2S08 – 8'
VM2S12 – 12'
VM2S16 – 16'
VM2S20 – 20'
VM2S24 – 24'

Field installed, internal damper designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

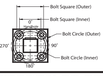
GFI – 20 AMP GFCI RECEPTACLE & COVER



* Group 2 & 3 poles
Receptacle ordered separately

OPTION ORIENTATION

Follow the logic below when ordering location specific options. For each option, include its orientation (in degrees) and its height (in feet). Example: Option C05 should be ordered as: **RTA-K-20-60-B-GTI-DBS-C05-0-15** (.5" coupling on the handhole/arm side of pole, 15 feet up from the pole base) 1' spacing required between option. Consult factory for other configurations.



For more information about pole vibration and vibration dampers, please consult http://cdn.hubbellautomotive.com/content/products/literature/literature_files/Pole_Wind_Induced_Flyer_HLO00122.pdf
Due to our continued efforts to improve our products, product specifications are subject to change without notice

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mcla | Landmark Parks | BD1

ARCHITECTURAL LIGHTING DESIGN | PROJECT - / - / - | FIXTURE TYPE 6 OF 6

KIM LIGHTING®

UR28 - Post Top

ARCHITECTURAL AREA/SITE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

FEATURES

- 28" size in post top, pole and wall mount
- High performance optics up to 35,000 delivered lumens
- Elegant form factor
- Diffusion lens for low glare comfort
- UL/cUL listed for wet locations, IP66 and 4G/1.5G vibration rated

3000K and warmer CCTs only

CONTROL TECHNOLOGY

LIGHTING CONTROLS wiSCAPE™

Ouro™

RELATED PRODUCTS

Ouro Large Arm Mount | Ouro Small Post Top | Ouro Small Arm Mount

SPECIFICATIONS

CONSTRUCTION

- Low copper aluminum alloy die-casting is designed as one-piece with internal cooling fins.
- Solid, cast aluminum wall creates a thermal barrier between the optical and electrical compartments.
- Molded silicone gasket throughout insures the sealing between the two compartments and provides ingress protection.
- Housing is designed with integral LED heat sink utilized for thermal transfer and for securing the location of each LED module.
- All external fasteners are stainless steel.
- One-piece low copper aluminum alloy die-cast lens frame is secured to housing with 6 screws.

OPTICS

- LEDs mount to a metal printed circuit board assembly (MCPCB).
- Optical lenses are clear injection molded PMMA acrylic.
- Optional Backlight Control on each LED module to completely control unwanted backlight.
- Optional fixture finish optical surfaces will not exceed BUG ratings of the standard white finish and will be greater than or equal to the delivered lumens of the optional matte black optical surface finish.

LENS

- Standard lens (CLR) IK08
- Clear Polycarbonate Lens (CP) IK10

[1] Clear Polycarbonate Lens (CP) IK10, Standard lens (CLR) IK08, Consult factory for details

INSTALLATION

- Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury.

ELECTRICAL

- Universal voltage, 120 through 277V with ±10% tolerance. Driver is Underwriters Laboratories listed.
- High voltage configurations, 347/480. Driver has a 0-10V dimming interface for multi-level illumination options. Driver is Underwriters Laboratories listed.
- "Thermal Shield", secondary side, thermistor provides protection for the sustainable life of LED module and electronic components
- Drivers shall have greater than a 0.9 power factor, less than 20% harmonic distortion, and be suitable for operation in -40°C to 40°C ambient environments.
- Luminaire shall be capable of operating at 100% brightness in a 40°C environment. Both driver and optical array have integral thermal protection that will dim the luminaire upon detection of temperatures in excess of 85°C.
- Surge protection: 10,000k in parallel, 20,000k in series
- Wiring: No. 18AWM rated 105°C, wet rating.

KEY DATA	
Lumen Range	18771 – 37140
Wattage Range	155 – 315
Efficacy Range (LPW)	103 – 140
Reported Life (Hours)	L70>60,000
Weight	56 lbs – 25.4 Kg
EPA	1.159

CONTROLS

7PR

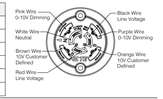
- Fully gasketed and wired 7-pin receptacle option. Easy access location above the electrical compartment. 7-pin construction allows for a user-defined interface and provides a controlled definition of operational performance. ANSI twist-lock control module by-others.

Standard customer operation modes:

- Traditional on/off photoelectric control.
- 5-pin wireless photoelectric control for added dimming feature.
- 7-pin wireless photoelectric control for for dimming and additional I/O connections for customer use.

7-Pin receptacle placement

(Specifications continued on page 3)



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ARCHITECTURAL LIGHTING DESIGN | PROJECT - / - / - | FIXTURE TYPE 1 OF 6

KIM LIGHTING®

UR28 - Post Top

ARCHITECTURAL AREA/SITE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

ORDERING GUIDE

Example: UR28-96L-155-3K8-3-L-UNV-ASQ-BLT-7PR-BC

CATALOG #

HOUSING

UR28					
Model	**LED Engine**	**CCT/CRI**	**Distribution**	**Rotation**	**Voltage**
UR28 Ouro	**No Lens or Clear Lens** **96L-155** 20,000 lm **96L-170** 22,500 lm **96L-185** 24,000 lm **96L-220** 27,000 lm **96L-255** 30,000 lm **96L-315** 35,000 lm **HDL - High Diffusion Lens** **114L-160** 18,000 lm **114L-180** 20,000 lm **114L-265** 25,000 lm	**AM** [8] Amber, 595nm **27K8** 2700K, 80 CRI **3K7** 3000K, 70 CRI **3K8** 3000K, 80 CRI **3K9** 3000K, 90 CRI **35K8** 3500K, 80 CRI **4K7** 4000K, 70 CRI **4K8** 4000K, 80 CRI **5K7** 5000K, 70 CRI Consult factory for other CCTs and CRIs	**No Lens or Clear Lens** **FR** Type 1Front Row **2** Type II **3** Type III **4** Type IV **4W** Type IV Wide<**5QM** Type V Square Medium **5QN** Type V Square Narrow **5R** Type V Rectangular **5W** Type V Wide (Round) **HDL - High Diffusion Lens** **3** Type III/Asymmetric **5W** Type V/Symmetric	**(Blank)** Blank for no rotation **L** [9] Optic rotation left **R** [9] Optic rotation right	**UNV** 120-277V **347** 347V **480** 480V **DALI** 120-277V **[1]Consult factory**

Mounting	Fixture Finish	Control Options		Options	Control Accessories
FM44 Flush mt 3.6" to 4.0" OD pole, 4" fixture base **FM45** Flush mt 3.6" to 5.0" OD pole, 5" fixture base **PT24** 4" Post Top mount for 2 3/8" OD x 4" Long Tenon **PT34** 4" Post Top mount for 2 7/8" OD x 4" Long Tenon **PT25** 5" Post Top mount for 2 3/8"OD x 4" Long Tenon **PT35** 5" Post Top mount for 2 7/8" OD x 4" Long Tenon	**BLS** Black Gloss Smooth **BLT** Black Matte Textured **DBS** Dark Bronze Gloss Smooth **DBT** Dark Bronze Matte Textured **GTT** Graphite Matte Textured **LGS** Light Grey Gloss Smooth **LGT** Light Grey Matte Textured **PSS** Platinum Silver Gloss Smooth **VGT** Verde Green Matte Textured **WHS** White Gloss Smooth **WHT** White Matte Textured **Color Option** **CC** [7] Custom Color	**0-0417 in** 7 pin PCR with twist lock photocontrol **7PR-SC** 7 pin PCR with shorting cap **7PR** 7 pin PCR, wireless control enabled **AD-01** [2] AstroDIM: 50% output at midnight **AD-02** [2] AstroDIM: 50% output midnight to 4 AM **AD-03** [2] AstroDIM: 50% output 10PM **AD-04** [2] AstroDIM: 50% output 10PM to 4AM **NXW** NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor **WSP-40F-1** [2,5] Dimming Occ. Sensor for up to 40' MH, 120/277/347V **WSP-40F-2** [2,5] Dimming Occ. Sensor for up to 40' MH, 208/240V **WSP-40F-3** [2,5] Dimming Occ. Sensor for up to 40' MH, 480V **NXWS16F** [2,5] NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming **NXWS40F** [2,5] NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming	**BC** [1] Back-light Control **SF** Single Fuse **DF** Double Fuse **CLR** [5,6,13] Clear Lens **TPL** Tamper proof latch **CP** [5,6,13] Clear Polycarbonate Lens	**WR-RME-L** wiSCAPE™ External Fixture Module Occ. Sensor for Round Pole (up to 30' MH) **SCH-R** Occ. Sensor for Square Pole (up to 30' MH) **SCH-S** **NXOFM-1R01D-UNV** NX 7-Pin Twist-Lock® with NX Networked Wireless Radio, Integral Automatic Dimming Photocell, Integral Single Pole Relay with Dimming, and Bluetooth Programming

1 Not available with SQM, SQN, and SW distributions.
2 Not available with other sensor or wireless control options.
4 Not available with 347V and 480V.
5 96L only.
6 Not available with HDL option.
7 Consult factory for custom color, marine and corrosive finish options.
8 Turtle Friendly.
9 Please see Delivered Lumens chart on Page 5 for lumen
11 Not available with 96L-255 and the 96L-315 configuration of the LED Engine
12 IK10 rated. Consult factory for details
13 IK08 rated. Consult factory for details

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ARCHITECTURAL LIGHTING DESIGN | PROJECT - / - / - | FIXTURE TYPE 2 OF 6

KIM LIGHTING

UR20

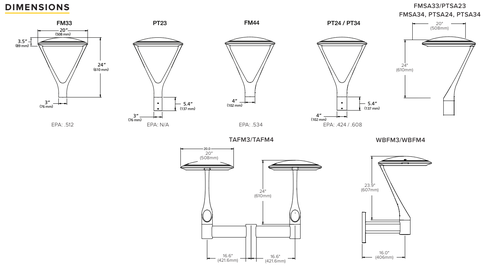
ARCHITECTURAL AREA/SITE

DATE: LOCATION:

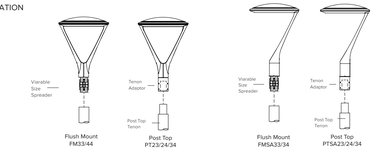
TYPE: PROJECT:

CATALOG #:

DIMENSIONS



MOUNTING INSTALLATION



SENSOR PLACEMENT

MOUNTING VIBRATION RATINGS

UR 20 Arm		UR28 Arm		UR 20 Post Top		UR 28 Post Top		UR 20 Solo Arm	
Ordering Code	Rating	Ordering Code	Rating	Ordering Code	Rating	Ordering Code	Rating	Ordering Code	Rating
ASQ	4G	ASQ	4G	FM33	4G	FM44	1.5G	FM5A33	1.5G
A34	4G	A34	4G	FM44	1.5G	FM45	1.5G	FM5A34	1.5G
A46	4G	A46	4G	PT23	4G	PT24	1.5G	PTSA23	1.5G
MAF	4G	MAF	4G	PT24	4G	PT34	1.5G	PTSA24	1.5G
				PT34	1.5G	PT25	1.5G	PTSA34	1.5G

For the 4 G test, ANSI C136.31-2010 Vibration is tested to comply with Vibration Test Level 1 Normal Applications, Vibration Test Level 2 Bridge/Overpass Applications, and Vibration Test Level 3

For the 1.5G test, ANSI C136.31-2010 Vibration is tested to comply with Vibration Level 1 Bridge/Overpass Applications

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ARCHITECTURAL LIGHTING DESIGN | PROJECT - / - / - | FIXTURE TYPE 3 OF 6

KIM LIGHTING®

UR28 - Post Top

ARCHITECTURAL AREA/SITE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

DELIVERED LUMENS (CONTINUED)

LEDs #	Lumens Package	Drive Current	Nominal Watts	Lens Options	Distribution	3000K 70CRI Lumen	BUG Rating B	U	G	lm/w	4000K 70CRI Lumen	BUG Rating B	U	G	lm/w	5000K 70CRI Lumen	BUG Rating B	U	G	lm/w
96L	24,000	600mA	185	No lens	FR	23922	2	0	2	129	24524	2	0	2	133	24804	2	0	2	134
					FR-BC	14573	1	0	1	79	14939	1	0	1	81	15110	1	0	1	82
					2	22315	3	0	3	121	22877	3	0	3	124	23138	3	0	3	125
					2-BC	12762	1	0	2	69	13083	1	0	2	71	13233	1	0	2	72
					3	22639	3	0	4	122	23208	3	0	4	125	23473	3	0	4	127
					3-BC	13780	1	0	3	74	14127	1	0	3	76	14288	1	0	3	77
					4	23203	2	0	4	125	23788	2	0	4	129	24059	2	0	4	130
					4-BC	16371	1	0	3	88	16783	1	0	4	91	16975	1	0	3	92
					4W	23407	2	0	4	127	23996	2	0	4	130	24270	2	0	4	131
					4W-BC	14483	0	0	3	78	14848	1	0	3	80	15017	1	0	3	81
					5QM	23682	4	0	2	128	24277	4	0	2	131	24554	4	0	2	133
					5QN	24071	5	0	2	130	24677	5	0	2	133	24958	5	0	2	135
					5R	23755	5	0	5	128	24352	5	0	5	132	24630	5	0	5	133
					5W	24367	5	0	3	132	24979	5	0	3	135	25266	5	0	3	137
				Clear lens	FR	22281	2	0	2	120	23103	2	0	2	125	23367	2	0	3	126
					FR-BC	14451	1	0	1	78	14815	1	0	1	80	14984	1	0	1	81
					2	20785	3	0	3	112	21551	3	0	3	116	21798	3	0	3	118
					2-BC	12656	1	0	2	68	12974	1	0	2	70	13122	1	0	2	71
					3	21086	3	0	4	114	21863	3	0	4	118	22113	3	0	4	120
					3-BC	12673	1	0	2	69	13141	1	0	2	71	13291	1	0	2	72
					4	21612	2	0	4	117	22409	2	0	4	121	22665	2	0	4	123
					4-BC	16234	1	0	3	88	16644	1	0	4	90	16834	1	0	4	91
					4W	22050	2	0	4	119	22605	2	0	4	122	22863	2	0	4	124
					4W-BC	14361	0	0	3	78	14723	0	0	3	80	14891	1	0	3	80
					5QM	22057	4	0	2	119	22870	4	0	2	124	23132	4	0	2	125
					5QN	22421	4	0	2	121	23247	4	0	2	126	23513	4	0	2	127
					5R	22126	4	0	4	120	22941	4	0	4	124	23204	5	0	5	125
					5W	22696	5	0	3	123	23532	5	0	3	127	23801	5	0	3	129

Scaling factors 27K8 = 0.859, 35K8 = 0.906 of 5K7 lumen packages

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ARCHITECTURAL LIGHTING DESIGN | PROJECT - / - / - | FIXTURE TYPE 4 OF 6

DEVELOPER

FOULGER-PRATT DEVELOPMENT
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

LANDSCAPE ARCHITECT

OCULUS
1611 CONNECTICUT AVE NW 3RD FLOOR
WASHINGTON DC 20009
P 202 588 5454
US@OCULUS.INFO

CONSULTANTS

FOUNTAIN CONSULTANT
FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291

PLAYGROUND CONSULTANT
EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972

ICE RINK CONSULTANT
B32 ENGINEERING GROUP, INC.
2211 O'NEIL ROAD
HUDSON, WI 54016
1.651.256.3090

LIGHTING DESIGNER
MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062

PROJECT NAME

WestEnd Open Space Blocks

City of Alexandria

SEAL & SIGNATURE

COMPLETENESS SUBMISSION

NOT FOR CONSTRUCTION

ISSUE

MARK	DATE	DESCRIPTION
	11/29/2022	CONCEPT II
	03/10/2023	COMPLETENESS

KEY MAP

DATE: 03/10/2023

PROJECT NUMBER: W2108

SCALE: NTS

DRAWING TITLE: LIGHTING FIXTURE CUT SHEETS

SHEET NUMBER: LT020

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.

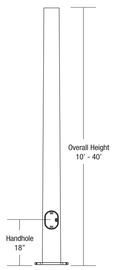
mcla site lmk.dwg March 01, 2023, 1:29 pm

K:\Landmark Parks\Drawing\MCLA\mcla site lmk.dwg -- Wednesday March 01, 2023, 1:29pm

RTA-K SERIES POLES
ROUND TAPERED ALUMINUM

Cat.#
Job
Type

KIM LIGHTING
Approvals



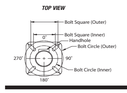
APPLICATIONS
- Lighting installations for side and top mounting of luminaires with effective projected area (EPA) not exceeding maximum allowable loading of the specified pole in its installed geographic location

CONSTRUCTION
- SHAFT: One-piece tapered aluminum with round cross section, made of 6061-T6 shaft and 356-T6 cast aluminum base

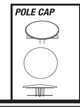
GROUP 1
- ANCHOR BOLTS: Supplied with (3) galvanized anchor bolts with minimum yield of 55,000 psi (ASTM F1554). Galvanized hardware with two washers and two nuts per bolt for leveling. Top nut is acorn nut.
- POLE CAP: 3" pole top standard; Supplied with removable cover when applicable; Tenon configurations also available
- HANDHOLE: 2" X 4" handhole opening with cover grounding provision provided opposite handhole opening. The handhole is located 18" from the base of the pole.

GROUP 2
- ANCHOR BOLTS: Supplied with (4) galvanized anchor bolts with minimum yield of 55,000 psi (ASTM F1554). Galvanized hardware with two washers and two nuts per bolt for leveling
- BOLT COVER: Four individual bolt covers provided
- POLE CAP: Pole shaft supplied with removable cover when applicable; Tenon and post-top configurations also available
- HANDHOLE: 4" X 6" handhole opening with cover and grounding provision handhole 3" x 5" for 20' pole. The handhole is located 18" from the base of the pole.

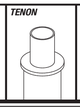
FINISH
- Durable thermoset polyester powder coat paint finish with nominal 3.0 mil thickness.
- Decorative finish coat available in multiple standard colors; Custom colors available, RAL number preferred.



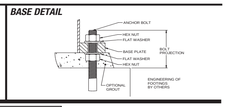
POLE CAP



TENON



BASE DETAIL



ORDERING INFORMATION
Reference page 2 for available configurations

ORDERING EXAMPLE:

RTA – K - 20 - 60 - B - K2 - DBS - VM2

SERIES	HEIGHT	SHAFT	THICKNESS
RTA-K Round Tapered Aluminum Pole Hubbell Lighting	Reference page 2 Ordering matrix	Bottom O.D. Reference page 2 Ordering matrix	Reference page 2 Ordering matrix

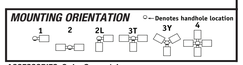
DRILL PATTERN
K1 2 bolt 5 3/16" spacing
K2 2 bolt 3 1/2" spacing
K3 2 bolt 3" spacing

FINISH
BLS Black Gloss Smooth
BLT Black Matte Textured
DBS Dark Bronze Gloss Smooth
DBT Dark Bronze Gloss Textured
GTT Graphite Matte Textured
LGS Light Gray Gloss Smooth
LGT Light Gray Gloss Textured
PSS Platinum Silver Gloss Smooth
VGT Verde Green Matte Textured
WHS White Gloss Smooth
WHT White Matte Textured
Color Option
CC [1] Custom Color

OPTIONS
GFI [1] 20 Amp GFCI Receptacle and Cover
EHH [1] Extra Handhole
C05 [1] .5" Coupling
C07 [1] .75" Coupling
C20 [1] 2" Coupling
VM2 2nd mode vibration damper
LAB Less Anchor Bolts

Notes:
1 Specify option location using logic found on page 2 **(Option Orientation)**
2 Consult factory for custom color, marine and corrosive finish options

MOUNTING ORIENTATION ▽– Denotes handhole location



***ACCESSORIES*- Order Separately**

Catalog Number	Description
VM2SXX	2nd mode vibration damper

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mcla ARCHITECTURAL LIGHTING DESIGN | Landmark Parks PROJECT - / - / - | BD5 FIXTURE TYPE | 5 OF 6

ORDERING INFORMATION Cont.

Catalog Number	Height Feet	Height Meters	Nominal Shaft Dimensions	Wall Thickness	Bolt Circle	Bolt Circle Range	Base Plate Size	Base Plate Shape	Anchor bolt size	Bolt Projection	Pole weight
Group 1											
RTA-K-10-40-A	10	3.0	4" x 3"	.125"	7"	-	7.25	Triangular	3/4x17x3"	3.25"	24
RTA-K-12-40-A	12	3.7	4" x 3"	.125"	7"	-	7.25	Triangular	3/4x17x3"	3.25"	27
RTA-K-14-40-A	14	4.3	4" x 3"	.125"	7"	-	7.25	Triangular	3/4x17x3"	3.25"	32
RTA-K-16-50-A	16	4.9	5" x 3"	.125"	8"	-	8.31	Triangular	3/4x17x3"	3.25"	35
RTA-K-18-50-A	18	5.5	5" x 3"	.125"	8"	-	8.31	Triangular	3/4x17x3"	3.25"	42
RTA-K-20-50-A	20	6.1	5" x 3"	.125"	8"	-	8.31	Triangular	3/4x17x3"	3.25"	47
Group 2											
RTA-K-20-60-B	20	6.1	6" x 4"	.188"	9.5"	9 - 10"	9.75	Square	1" x 36" x 4"	4.25"	90
RTA-K-25-70-B	25	7.6	7" x 4"	.188"	11"	10 - 11"	10.5	Square	1" x 36" x 4"	4.25"	120
RTA-K-30-80-B	30	9.1	8" x 4.5"	.188"	11"	11 - 12"	11.25	Square	1" x 36" x 4"	4.25"	150
RTA-K-35-80-C	35	10.7	8" x 4.5"	.250"	11"	11 - 12"	11.25	Square	1" x 36" x 4"	4.25"	205
RTA-K-40-80-C	40	12.2	8" x 4.5"	.250"	11"	11 - 12"	11.25	Square	1" x 36" x 4"	4.25"	260

NOTE Factory supplied template must be used when setting anchor bolts. Hubbell Lighting will deny any claim for incorrect anchorage placement resulting from failure to use factory supplied template and anchor bolts.

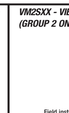
EHH - EXTRA HANDHOLE

C05 - C07 - C20 - COUPLING

VM2 - VIBRATION DAMPER 2ND MODE (GROUP 2 ONLY)

Factory installed, internal damper designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

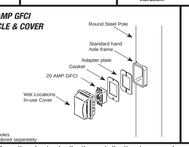
VM2SXX - VIBRATION DAMPER 2ND MODE (GROUP 2 ONLY)



VM2S08 – 8'
VM2S12 – 12'
VM2S16 – 16'
VM2S20 – 20'
VM2S24 – 24'

Field installed, internal damper designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

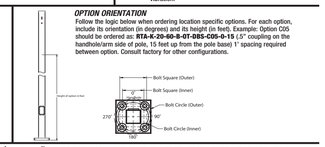
GFI – 20 AMP GFCI RECEPTACLE & COVER



* Group 2 & 3 poles Receptacle ordered separately

OPTION ORIENTATION

Follow the logic below when ordering location specific options. For each option, include its orientation (in degrees) and its height (in feet). Example: Option C05 should be ordered as: **RTA-K-20-60-B-GT-DBS-C05-0-15** (.5" coupling on the handhole/arm side of pole, 15 feet up from the pole base) 1' spacing required between option. Consult factory for other configurations.



For more information about pole vibration and vibration dampers, please consult http://cdn.hubbellautomotive.com/content/products/literature/literature_files/Pole_Wind_Induced_Flyer_HL000022.pdf
Due to our continued efforts to improve our products, product specifications are subject to change without notice.

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mcla ARCHITECTURAL LIGHTING DESIGN | Landmark Parks PROJECT - / - / - | BD5 FIXTURE TYPE | 6 OF 6

Pole top - asymmetric

BEGA

Application
A pole-top luminaire with asymmetric, Type IV distribution. Ideal for illuminating pathways, plazas and other pedestrian spaces while adding visual interest.

Materials
A360 aluminum alloy
Molybdenum-bearing 316 grade stainless steel
Clear acrylic diffuser
Pure anodized aluminum reflector
High temperature silicone gasket

NRTL listed to North American Standards, suitable for wet locations
Protection class IP65
Effective projection area: 1.93 sq. ft.
Weight: 22.0 lbs

Electrical

Operating voltage	120-277VAC
Minimum start temperature	-20°C
LED module wattage	47.7 W
System wattage	54.0 W
Controllability	0-10V dimmable
Color rendering index	Ra > 80
Luminaire lumens	6392 lumens (4000K)
LED service life (L70)	60,000 hours

LED color temperature

☐ 4000K - Product number + **K4**
☐ 3500K - Product number + **K35**
☐ 3000K - Product number + **K3**
☐ 2700K - Product number + **K27**

BEGA can supply you with suitable LED replacement modules for up to 20 years after the purchase of LED luminaires - see website for details

Finish
All BEGA standard finishes are matte, textured powder coat with minimum 3 mil thickness. BEGA Uniqure® finish, a fluoropolymer technology, provides superior fade protection in Black, Bronze, and Silver. BEGA standard White, as well as optionally available RAL and custom colors, are a polyester powder.

Available colors ☐ Black (BLK) ☐ White (WHT) ☐ RAL:
☐ Bronze (BRZ) ☐ Silver (SLV) ☐ CUS:

Type:
BEGA Product:
Project:
Modified:

Available options
☐ **FSC** Fusing

Pole top - asymmetric			
	LED	A	B
84 102	47.7 W	8⅝	34½

BEGA 1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 info@bega-us.com
Due to the dynamic nature of lighting products and the associated technologies, luminaire data on this sheet is subject to change at the discretion of BEGA North America. For the most current technical data, please refer to bega-us.com

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Updated 03/08/22

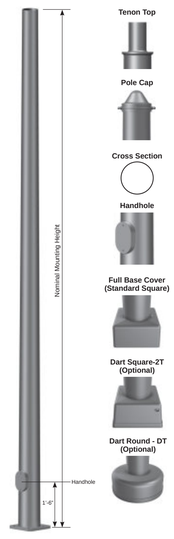
mcla ARCHITECTURAL LIGHTING DESIGN | Landmark Parks PROJECT - / - / - | BD6 FIXTURE TYPE | 1 OF 1

valmont STRUCTURES

ROUND TAPERED STEEL DS210
Light Duty

Poles - Steel | RTS / DS210 | Light Duty

Job Name: | Client Name:
Job Location - City: State: | Created By: Date:
Product: DS210 ---- Quote: | Customer Approval: Date:



SPECIFICATIONS

Pole Shaft - The pole shaft is a 1-piece assembly conforming to ASTM A595 Grade A or A572 Grade 55 with a constant linear taper of 0.14 in/ft.

Pole Top - Pole is provided with either a tenon top or drilled for a fixture mounting. A removable pole cap is provided for drilled poles. Consult the luminaire manufacturer for correct tenon size or drill pattern. Other pole top options include pole cap only (PC) or plain top (PL) which is typical when the pole top diameter matches the necessary slip fit dimensions.

Handhole - A reinforced handhole with grounding provision is provided at 1'-6" from the base end of the pole assembly. Each handhole includes a cover and the cover attachment hardware. Poles with a 5.90" base diameter are supplied with a 3" X 5" rectangular handhole. All other pole assemblies are provided with a 4" X 6.5" ovalized handhole. Handhole dimensions are nominal.

Base Cover - A two-piece full base cover fabricated from ABS plastic is provided with each pole assembly. Valmont reserves the right to provide a two-piece steel full base cover on some applications depending upon the finish requirement and/or pole base diameter. Nut covers can be substituted on most models. Additional base cover options, including the Dart Square (2T) cast aluminum cover and Dart Round (DT) cast aluminum cover, are available upon request.

Anchor Bolts - Anchor bolts conform to ASTM F1554 Grade 55 and are provided with two hex nuts and two flat washers. Bolts have an "L" bend on one end and are galvanized a minimum of 12" on the threaded end.

Hardware - All structural fasteners are galvanized high strength carbon steel. All non-structural fasteners are galvanized or zinc-plated carbon steel or stainless steel.

Finish - Standard finishes are either Galvanized (GV) or Finish Painted (FP). Additional finish options including Finish Paint over Galvanizing (FPGV) or any of the V-PRO™ Finish Coating Systems are available upon request. See the product ordering code for color options.

Design Criteria - Please reference Design Criteria Specification for appropriate design conditions.

DESIGNATION, LOAD AND DIMENSIONAL DATA

NOMINAL MOUNTING HEIGHT	DESIGN INFORMATION 80 MPH w/1.3 GUST MAX EPA (SQFT)	MAX WEIGHT (LBS)	90 MPH w/1.3 GUST MAX EPA (SQFT)	MAX WEIGHT (LBS)	100 MPH w/1.3 GUST MAX EPA (SQFT)	MAX WEIGHT (LBS)	POLE DIMENSIONS BASE OD (IN)	TOP OD (IN)	WALL THK (GA)	STRUCTURE WEIGHT (LBS)	DESIGNATION
20'-0"	19.3	482	15.1	377	12.2	305	5.90	3.10	11	140	590A200
	24.2	605	19.3	482	15.6	390	6.50	3.70	11	160	650A200
25'-0"	12.5	312	9.9	247	8.0	200	5.90	2.40	11	155	590A250
	20.3	507	16.2	405	13.1	327	7.00	3.50	11	200	700A250
	30.5	760	24.0	625	19.8	495	7.00	3.50	7	280	700E250
30'-0"	11.7	292	9.3	232	7.5	187	6.60	2.40	11	200	660A300
	18.9	473	14.9	373	12.0	300	8.00	3.80	11	265	800A300
	33.5	838	27.0	675	22.0	550	8.00	3.80	7	380	800E300
35'-0"	11.2	280	8.9	222	7.1	177	7.30	2.40	11	250	730A350
	18.9	472	15.1	377	12.2	305	8.50	3.60	11	315	850A350
	23.2	580	18.2	455	14.5	363	9.50	4.60	11	370	950A350
39'-0"	10.7	267	8.5	212	6.6	165	7.82	2.40	11	285	782A389
	17.2	430	13.5	338	10.8	270	9.00	3.58	11	355	900A389
	28.5	715	23.0	575	19.0	475	9.00	3.58	7	515	900E389
45'-0"	17.4	435	13.5	338	10.6	265	10.00	3.70	11	450	T00A450
	28.5	715	23.0	575	19.0	475	10.00	3.70	7	650	T00E450
50'-0"	13.2	330	10.6	265	8.3	208	10.00	3.00	11	475	T00A500
	20.5	512	16.5	412	13.6	340	10.00	3.00	7	680	T00E500

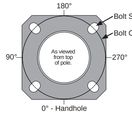
DS210 Heavy Duty poles available at valmontstructures.com

1. Maximum EPA (Effective Projected Area) and weight values are based on top mounted luminaires and/ or brackets having a centroid 2'-6" above the Nominal Mounting Height. Variations from sizes above are available upon inquiry at the factory. Satisfactory performance of poles is dependent upon the pole being properly attached to a properly designed foundation of adequate design.
2. Structure weight is a nominal value which includes the pole shaft and base plate only.

ANCHORAGE DATA

POLE BASE OD	POLE WALL THK	BASE PLATE BOLTCIRCLE DIA (IN)	± (IN)	SQUARE (IN)	THK (IN)	ANCHOR BOLTS DIA x LENGTH x HOOK (IN)	PROJECTION (IN)	± (IN)
5.90	11	9.00	0.50	10.00	0.875	1.00 x 36.00 x 4.00	4.13	0.25
6.50	11	9.50	0.50	10.50	0.875	1.00 x 36.00 x 4.00	4.13	0.25
6.60	11	9.50	0.50	10.50	0.875	1.00 x 36.00 x 4.00	4.13	0.25
7.00	11	10.00	0.50	10.88	0.875	1.00 x 36.00 x 4.00	4.13	0.25
7.00	7	10.00	0.50	10.88	1.000	1.00 x 36.00 x 4.00	4.25	0.25
7.30	11	10.50	0.50	11.25	0.875	1.00 x 36.00 x 4.00	4.13	0.25
7.82	11	11.00	0.50	11.50	0.875	1.00 x 36.00 x 4.00	4.13	0.25
8.00	11	11.00	0.50	11.50	0.875	1.00 x 36.00 x 4.00	4.13	0.25
8.00	7	11.00	0.50	11.50	1.250	1.25 x 42.00 x 6.00	5.00	0.25
8.50	11	11.50	0.50	12.00	1.000	1.00 x 36.00 x 4.00	4.25	0.25
9.00	11	12.50	0.50	12.38	1.000	1.00 x 36.00 x 4.00	4.25	0.25
9.00	7	12.50	0.50	12.38	1.250	1.25 x 42.00 x 6.00	5.00	0.25
9.50	11	13.00	0.50	13.00	1.000	1.00 x 36.00 x 4.00	4.25	0.25
10.00	11	13.50	0.50	14.00	1.000	1.00 x 36.00 x 4.00	4.25	0.25
10.00	7	13.50	0.50	14.00	1.250	1.25 x 42.00 x 6.00	5.00	0.25

Anchor Base Detail



PRODUCT ORDERING CODE

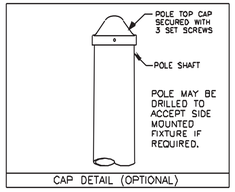
MODEL	DESIGNATION	FIXTURE MOUNTING	FINISH SYSTEM	STANDARD COLOR OPTIONS	BASE COVER	ANCHOR BOLTS	SUPPLEMENTAL INFO
DS210	Select Correct Designation from the Load and Dimensional Data Chart.	**Drill Mounting (See Orientation)** D1 = (1) Drillings @ 270° D2 = (2) Drillings @ 90° & 270° D3 = (3) Drillings @ 90°, 180°, & 300° D4 = (4) Drillings @ 0°, 90°, 180°, & 270° D5 = (2) Drillings @ 180° & 270° D6 = (3) Drillings @ 90°, 180°, & 270° **Tenon Mounting** P2 = 2.38" OD x 4" tenon P4 = 4.00" OD x 6" tenon P5 = 2.88" OD x 4" tenon P6 = 2.88" OD x 5" tenon P7 = 2.38" OD x 5" tenon P9 = Special Size (Specify) **Other Options** PC = Pole Cap PL = Plain Top (No Cap)	GV = Galvanized FP = Finish Painted ----OPTIONAL---- FPGV = Finish Paint over Galvanizing VP30 = V-PRO™ 30 System VP32 = V-PRO™ 32 System VP53 = V-PRO™ 53 System VP54 = V-PRO™ 54 System VP57 = V-PRO™ 57 System VP100 = V-PRO™ 100 System VP105 = V-PRO™ 105 System	GV = Galvanized BK = Black DB = Dark Bronze MB = Medium Bronze WH = White LG = Light Gray CB = Bronze DG = Dark Green ST = Sandstone HG = Hunter Green SG = Slate Gray SL = Silver SC = Special Color (Specify)	----OPTIONAL---- FBC = Full Base Cover NC = Nut Covers 2T = Square Dart Cover DT = Dart Round Cover	AB = With Anchor Bolts LAB = Without Anchor Bolts	

mcla ARCHITECTURAL LIGHTING DESIGN | Landmark Parks PROJECT - / - / - | BZ1 FIXTURE TYPE | 1 OF 3

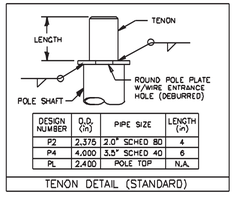
mcla ARCHITECTURAL LIGHTING DESIGN | Landmark Parks PROJECT - / - / - | BZ1 FIXTURE TYPE | 2 OF 3

DS210 Round Tapered

valmont STRUCTURES

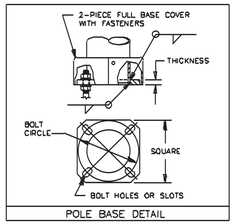


CAP DETAIL (OPTIONAL)

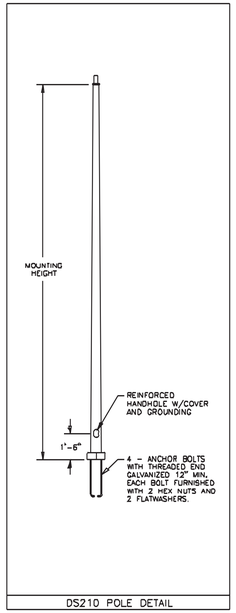


DESIGN NUMBER	O.D. (IN)	PIPE SIZE	LENGTH (IN)
P2	2.375	2.0" SCHED 80	4
P4	4.000	3.5" SCHED 40	6
PL	2.400	POLE TOP	N.A.

TENON DETAIL (STANDARD)



POLE BASE DETAIL



DS210 POLE DETAIL

SPC7294 02/17 valmontstructures.com carries the most current spec information and supersedes these guidelines.

mcla ARCHITECTURAL LIGHTING DESIGN | Landmark Parks PROJECT - / - / - | BZ1 FIXTURE TYPE | 3 OF 3

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.

DEVELOPER
FOULGER-PRATT DEVELOPMENT
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

LANDSCAPE ARCHITECT
OCULUS
1611 CONNECTICUT AVE NW 3RD FLOOR
WASHINGTON DC 20009
P 202 588 5454
US@OCULUS.INFO

CONSULTANTS
FOUNTAIN CONSULTANT
FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291

PLAYGROUND CONSULTANT
EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972

ICE RINK CONSULTANT
B32 ENGINEERING GROUP, INC.
2211 O'NEIL ROAD
HUDSON, WI 54016
1.651.256.3090

LIGHTING DESIGNER
MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062

PROJECT NAME
WestEnd Open Space Blocks
City of Alexandria

SEAL & SIGNATURE

COMPLETENESS SUBMISSION
NOT FOR CONSTRUCTION

ISSUE MARK	DATE	DESCRIPTION
	11/29/2022	CONCEPT II
	03/10/2023	COMPLETENESS

KEY MAP

DATE: 03/10/2023
PROJECT NUMBER: W2108
SCALE: NTS
DRAWING TITLE: LIGHTING FIXTURE CUT SHEETS
SHEET NUMBER: LT021

mcla site lmk.dwg March 01, 2023, 1:30 pm

H:\Landmark Parks\Drawing\MCA\mcla site lmk.dwg – Wednesday March 01, 2023, 1:30pm

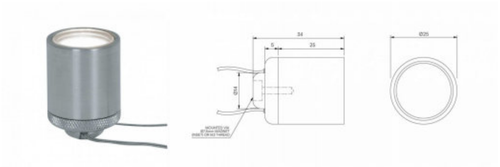
STOANE LIGHTING

EQUIPMENT DESIGN + MANUFACTURE

Module Star

order code: module-star.colourtemp.optic.finish

example: module-star.3000K.medium.clear anodised



INFORMATION

Versatile IP66 LED module. Fixed by either magnet or stud fixing.

Photometry is commonly available for currently preferred light sources. Equivalent and alternative light sources can be used depending on availability or desired specification. In this way, Stoane Lighting can react quickly to supply chain issues and tailor products to specific customer requirements.

LIGHT SOURCE TYPE	Discrete LED
USAGE TYPE	IP Rated for Exterior Use
MOUNTING METHOD	Recessed / Surface
MATERIAL	Machined Aluminium Toughened Glass
LIGHT SOURCE	MSL Star (1 x Osram Oslon Square)
COLOUR TEMPERATURE	2700K / 3000K / 3500K / 4000K
CRI RA	Min. 95 (typ.97)
INITIAL OUTPUT (WATTAGE)	100lm at 350mA (1W) / 1371m at 500mA (1.4W) / 1811m at 700mA (2W)
IP RATING	IP66
FINISH	Anodised / Painted
DIMMING	0-10V / DMX / DALI / Mains Dim / Wireless
SUPPLY	Remote Constant Current LED driver required
OPTIC	Very Narrow / Narrow / Medium / Flood / Wide Flood / Asymmetric
WEIGHT	0.04 kg

We are a Living Wage Employer

TEAMWORK DILIGENCE HONESTY

ReNew

5 Year Warranty 25 Year Duty of Care

mcla ARCHITECTURAL LIGHTING DESIGN | Landmark Parks PROJECT - / - / - | FD1 FIXTURE TYPE 1 OF 1

canlet

DATE:

PROJECT

COMMENTS:

VP

Compact Vaporproof Fixture

CONSTRUCTION
- Noncorroding, 30% glass-filled, high impact thermoset polyester housing
- High impact reinforced polymer alloy guard
- Stainless steel screws and brass inserts
- Long life silicone gaskets

LAMP
- 20W standard LED, 2580 lumen output
  - 4000K (Additional options available)
  - 80 CRI
  - Efficacy: 129 lm/w
- 150W maximum incandescent
  - E26 medium lamp base (Lamp not included)
- 32W maximum compact non-metallic fluorescent
  - 4-pin CFL with GX24q-3 lamp base (Lamp not included)

OPERATING TEMPERATURE
- -40°F to 104°F (-40°C to 40°C)

DRIVER (LED ONLY)
- Constant current
- 0-10V Dimming
- 120V=0.16A / 277V=0.077A
- 15.69% THD at 277V

BALLASTS (FLUORESCENT ONLY)
- Input voltage 120VAC or 277VAC 50/60Hz
- Sound Rating A
- Class P
- -20°F (-4°C) minimum ballast start

ORDERING LOGIC

68-01-150-I-C-F-OG-01-INC 120V ONLY

SERIES	FINISH	WATTAGE	LAMP TYPE	MOUNTING	FIXTURE TYPE	GUARD[1]	GLOBE	VOLTAGE
68	**01** White	**LED**	**I** Incandescent	**C** Ceiling	**F** With Box	**OG** Globe Guard	**01** Standard Opal Glass	**LED**
	02 Gray	**12** 12W	**F** Fluorescent	**W** Wall	**R** Retrofit Kit (without Box)	**09** Guard with Clear Dome Reflector	**09** Standard Clear Glass	**1** 1JNV 120/277V)
	03 Black	**15** 15W	**L** LED	**P** Pendant			**18** Standard Frosted	**2** 347V
	04 Red	**20** 20W		**S** Stanchion			**29** Prismatic Clear Glass	**FLUORESCENT**
	05 Blue	**FLUORESCENT**					**Heat Treated Glass[2]**	**11** 120V
	06 Green	**26** 26W					**11** Clear	**12** 277V
	07 Yellow	**32** 32W					**14** Red	**13** 347V
		INCANDESCENT					**15** Blue	**INCANDESCENT**
		150 150W Max.					**16** Green	1NC 120V ONLY
							17 Amber	
							Polycarbonate	
							39 Clear Prismatic	
							59 Clear Smooth	
68								

ORDERING NOTES
1. Not available with polycarbonate globes
2. Class I, Div. 2 when ordered with heat treated globes

CANLET LIGHTING | CANLET.COM
TEL: 708-499-1700 | FAX: 708-499-3541
5500 W. 111TH STREET OAK LAWN, ILLINOIS 60453

21 FEBRUARY 2023 | PAGE 1
SPECIFICATIONS AND DETAILS ARE SUBJECT TO CHANGE WITHOUT NOTIFICATION.
CONTACT CANLET LIGHTING FOR MOST UP TO DATE DETAILS.

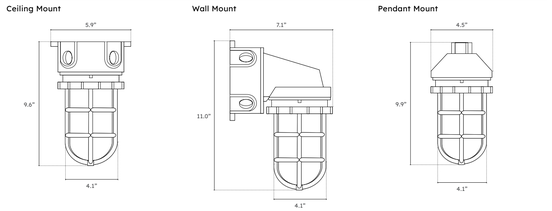
mcla ARCHITECTURAL LIGHTING DESIGN | Landmark Parks PROJECT - / - / - | FD2 FIXTURE TYPE 1 OF 2

VP

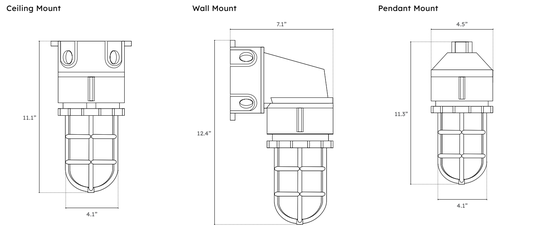
Compact Vaporproof Fixture

canlet

INCANDESCENT DIMENSIONS



FLUORESCENT DIMENSIONS



CANLET LIGHTING | CANLET.COM
TEL: 708-499-1700 | FAX: 708-499-3541
5500 W. 111TH STREET OAK LAWN, ILLINOIS 60453

21 FEBRUARY 2023 | PAGE 2
SPECIFICATIONS AND DETAILS ARE SUBJECT TO CHANGE WITHOUT NOTIFICATION.
CONTACT CANLET LIGHTING FOR MOST UP TO DATE DETAILS.

mcla ARCHITECTURAL LIGHTING DESIGN | Landmark Parks PROJECT - / - / - | FD2 FIXTURE TYPE 2 OF 2

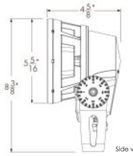
Specification Sheet

lumenbeam
Small
LBS
WHITE AND STATIC COLORS

Project Name _____ **Qty** _____

Type _____ **Catalog / Part Number** _____

Front view



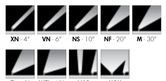
Side view

Photometric summary

Symmetric	Delivered output (lm)	Intensity (peak cd)
XN (4°)	1,031	75,454
VN (6°)	824	43,590
NS (10°)	1,290	18,876
NF (20°)	1,125	11,338
M (30°)	1,179	6,532
FL (40°)	1,057	2,691
WFL (60°)	888	693
Asymmetric		
NAS	861	12,737 (@2.5°)
WW	1,005	2,739 (@5°)

Based on 4000K configuration
Photometric performance is measured in compliance with IESNA LM79/08.

Optics



Colors and Color Temperatures

2200K 2700K 3000K 3500K 4000K 5700K

Red Green Blue

Description

The Lumenbeam Small is a compact, IP66-rated luminaire for lighting landscapes, trees, columns, monuments, and architectural details. It has numerous options, including optics for flood or accent lighting, a choice of color temperatures and colors, as well as various accessories, spread lenses, and controls. The luminaire also has an anti-corrosion option for use in harsh, chemical, or coastal environments.

Features

Color and Color Temperature	2200K, 2700K, 3000K, 3500K, 4000K, 5700K, Red, Green, Blue
Optics (nominal distribution)	XN (4°), VN (6°), NS (10°), NF (20°), M (30°), FL (40°), WFL (60°), NAS (Narrow Asymmetric), WW (Asymmetric Wallwash)
Optical Option	Linear spread lens horizontal distribution, Linear spread lens vertical distribution
Mounting Option	Stake Mounting, Knuckle Mounting, Canopy mounting option (for mounting on a standard round junction box)
Options	3G ANSI C136.31-2010 Vibration Rating for bridge applications, Corrosion-resistant coating for hostile environments
Cable Color	Black, White
Power Consumption	12.5W
Warranty	5-year limited warranty

Performance

Maximum Delivered Output	1280lm (4000k, NS 10°)
Maximum Delivered Intensity	76,352 cd at nadir (4000K, XN 4°)
Illuminance at Distance	Minimum 1 fc at 276 ft (4000K, XN 4°)
Color Consistency	3 SDCM
Color Rendering	Minimum CRI 80
Lumen Maintenance	L70 > 250,000 hrs (Ta 25 °C) (> 80,000 hrs for XN 4°, VN 6°, NAS optics only)

lumenpulse™ 1220 Marie-Victorin Blvd., Longueuil, QC, J4G 2H9, CA | T United States 617.307.5700 | Canada 1.877.937.3003 | 514.937.3003 | F 514.937.6289
info@lumenpulse.com www.lumenpulse.com www.lumenpulse.com/products/2506

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mcla ARCHITECTURAL LIGHTING DESIGN | Landmark Parks PROJECT - / - / - | LD1 FIXTURE TYPE 1 OF 5

Specification Sheet

lumenbeam
Small
LBS
WHITE AND STATIC COLORS

Controls

ON/OFF 0-10V DALI DMX rdm

Ratings

IP66 IK07

Certifications

Physical

Housing Material	Low copper content high pressure die-cast aluminum
Yoke Material	Heavy aluminum
Lens Material	Clear tempered glass
Hardware Material	Stainless steel
Gasket Material	Silicone
Surface Finish	Electrostatically applied polyester powder coat
Weight	5.2 lbs
EPA	Front = 0.19 sq ft, Side = 0.11 sq ft

Electrical and control

Voltage	100 to 277 volts
Fixture Cable	Power and data in one cable
Conductors	3C #16-3 (NO control), 5C #16-5 (DIM, DALI control), 6C #14-3/#24-3 (DMX/RDM control)
Control	On/Off control, 0-10V dimming, DALI dimming, DMX/RDM enabled, Lumentalk system is enabled with LDB accessory - see typical wiring diagrams for details
Resolution (DMX/RDM)	Per fixture, 8-bit or 16-bit

Environmental

Storage Temperature	-40 °F to 158 °F (device must reach start-up temperature value before operating)
Start-up Temperature	-13 °F to 122 °F
Operating Temperature	-40 °F to 122 °F
Ingress Protection Rating	IP66, Wet location rated
Impact Resistance Rating	IK07
Application Wind Speed	Luminaires were designed based on AASHTO 2013 standard to ensure highest quality and safety. Installation should be validated by a local project engineer to ensure the luminaires are suitable for the wind speed and exposure of the specific application

Accessories (order separately)

Optical Accessories	Snoot, Visor, Linear Spread Lens Adjustable, Wire Guard
Control Boxes	DMX/RDM enabled (daisy chain or star configuration), Ethernet enabled (daisy chain or star configuration), Lumentalk Data Bridge
Control Systems	Lumentona™ 2 (LTN2), Pharos® kit (PHAROS)
Diagnostic and Addressing Tools	LumenID (LID), LumentalkID

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mcla ARCHITECTURAL LIGHTING DESIGN | Landmark Parks PROJECT - / - / - | LD1 FIXTURE TYPE 2 OF 5

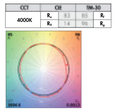
Specification Sheet

lumenbeam
Small
LBS
WHITE AND STATIC COLORS

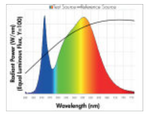
Chromaticity Data

TM-30 - 4000K

CCT	CRI	TM-30
4000K	R_a 83	R_f 85
	R_9 14	R_g 96



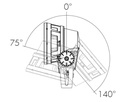
Spectral Power Distribution



Mounting details

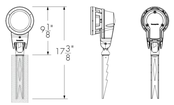
Mounting hole pattern - standard yoke

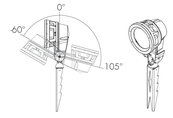
Adjustable pivot limits



Mounting options

SK - Stake mounting

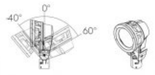




Adjustable pivot limits

KN - Knuckle mounting

Suitable for 1/2 in, 3/4 in, and 1 in pipe diameter



Adjustable pivot limits

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mcla ARCHITECTURAL LIGHTING DESIGN | Landmark Parks PROJECT - / - / - | LD1 FIXTURE TYPE 3 OF 5

DEVELOPER

FOULGER-PRATT DEVELOPMENT
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

LANDSCAPE ARCHITECT

OCULUS
1611 CONNECTICUT AVE NW 3RD FLOOR
WASHINGTON DC 20009
P 202 588 5454
US@OCULUS.INFO

CONSULTANTS

FOUNTAIN CONSULTANT
FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291

PLAYGROUND CONSULTANT
EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972

ICE RINK CONSULTANT
B32 ENGINEERING GROUP, INC.
2211 O'NEIL ROAD
HUDSON, WI 54016
1.651.256.3090

LIGHTING DESIGNER
MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062

PROJECT NAME

WestEnd Open Space Blocks

City of Alexandria

SEAL & SIGNATURE

COMPLETENESS SUBMISSION

NOT FOR CONSTRUCTION

ISSUE

MARK	DATE	DESCRIPTION
	11/29/2022	CONCEPT II
	03/10/2023	COMPLETENESS

KEY MAP

DATE: 03/10/2023

PROJECT NUMBER: W2108

SCALE: NTS

DRAWING TITLE: LIGHTING FIXTURE CUT SHEETS

SHEET NUMBER: LT022

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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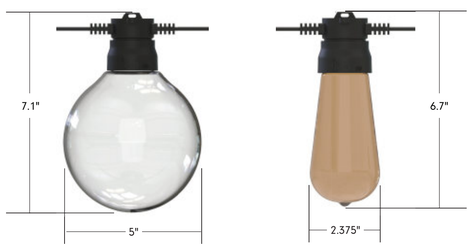
mcla site lmk.dwg March 01, 2023, 1:30 pm

Project: _____ Type: _____

Product Features

- The next evolution of ADAPT delivers a robust specification-grade strand with factory molded standard spacing for consistent quality from start to finish
- Litesphere ADAPT 2.0 design provides optional suspended mounting or a twist-off cap for surface applications
- 12V DC Low voltage system for long runs
- Socket and cord color available in black or white
- Proprietary ADAPT screw base fitting
- Silicone-coated ADAPT glassware for assisting with shatter resistance
- IP67
- cULus
- 3 Year warranty

Dimensions



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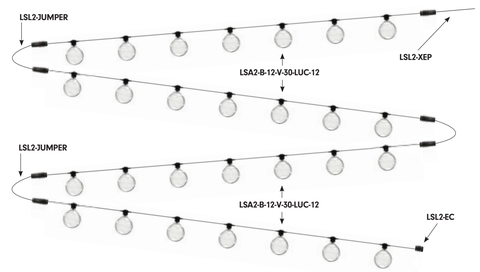
System Configuration Example



Strand Order Guide

Note: For suspension application, a catenary cable is required for proper installation. Please contact Tivoli for recommendations on unique mounting applications.

Product	Wire	Spacing	LED Type	LED Color	Globe	Light Shade*	Voltage
LSA2	B Black W White**	12 12" OC 18 18" OC 24 24" OC 36 36" OC	V Very High Output	19 1900K 27 2700K 30 3000K 35 3500K 40 4000K 50 5000K AM Amber RB Royal Blue RD Red GN Green YL Yellow	ANA Ana VIC** Victoria GAB Gaby BRE Brenda LAU** Laura GIN Gina ANG Angela KAT Katie SUS** Susan TON** Toni LUC** Lucia CG** Varied Globes	Y Yes N No	12 12V DC

Litesphere ADAPT 2.0

*Light Shade are optional. Consult factory for lead time and available style and sizes - see page 13
**Consult Factory for MOQ and Lead Time.

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Specifications

Output - Very High Output				
On-Center Spacing	12"	18"	24"	36"
Lumens/ft	90.2	60	45	30
Watts/ft	.96	.64	.48	.32
Maximum Electrical Run	55'	70'	80'	100'
Weights (G125 Globe)				
On-Center Spacing	12"	18"	24"	36"
lb/ft	0.59	0.55	0.51	0.47
lb/ft with catenary cable	0.61	0.57	0.53	0.49
Weights (ST19 Globe)				
On-Center Spacing	12"	18"	24"	36"
lb/ft	0.49	0.45	0.41	0.37
lb/ft with catenary cable	0.51	0.47	0.43	0.39
Electrical				
Input Voltage	12V DC			
Power Consumption (W/LED)	0.96			
Control				
Control System	0-10V, ELV, MLV, DMX 512			
Physical				
Dimensions	7.1" H x 5" W (G125), 6.7" H x 2.375" W (ST19)			
Socket Housing	PVC			
American Wire Gauge	14 AWG			
Globe	Glass (Shatter resistance assist with silicone coating - Glass may still break under certain conditions)			
Mounting	Surface Mount, Suspended			
Operating Temperature	-40°C to 65°C (-40°F to 149°F)			
Certification and Testing				
Certification	cULus			
Environment	Wet Location			
IP Rating	IP67			
Warranty	3 Years			

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Replacement Parts

G125 Globe (Weight: 4 oz./ea.)

Ana **LSA-ANA-N**
Angela **LSA-ANG-N**
Gina **LSA-GIN-N**
Gaby **LSA-GAB-N**
Katie **LSA-KAT-N**
Susan* **LSA-SUS-N**
Toni* **LSA-TON-N**
Lucia* **LSA-LUC-N**

ST19 Globe (Weight: 1.6 oz./ea.)

Victoria* **LSA-VIC-N**
Laura* **LSA-LAU-N**
Brenda **LSA-BRE-N**

*Consult Factory for MOQ and Lead Time.

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GEN LED acolyte Architectural Lighting Solutions

Date _____ Project _____
Notes _____

AS1 CHANNEL FIXTURE

Our AS1 Channel Fixture is a low-profile channel with a 118-degree beam angle that is ideal for a wide, even spread of light that is great for cove and toe kick applications. It can also be used in conjunction with our tiltable stands.

- Available for field assembly or factory assembly
- Beam Angle 118°
- Wattage Range from 0.75 W/ft (2.46 W/m) to 6.0 W/ft (19.7 W/m)
- Static White delivered lumen range from 44.1 lm/ft (144.6 lm/m) up to 729.4 lm/ft (2392.5 lm/m)
- Assembled in USA

HOUSING FINISHES

Silver Standard, Black*, White*, Custom RAL*
*Additional fee applies

CE RoHS

AVAILABLE LENS FINISHES

Clear Lens 92% Light Transmission
Frosted Lens 85% Light Transmission
Milky Lens 70% Light Transmission

AVAILABLE COLORS & COLOR TEMPERATURES

1800K, 2000K, 2200K, 2400K, 2700K, 3000K, 3500K, 4000K, 6000K, Red, Amber, Green, Blue, RGB, RGBA, RGBW, VW, WD

QuickShip

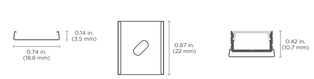
5-Day QuickShip program available with Clear, Frosted & Milky lenses and the following RibbonLyte products only:
IP20 & IP65 1.5 Static White RibbonLyte from 2700K to 4000K / 3.0 & 4.4 Static White RibbonLyte: IP20 from 2400K to 4000K, IP65 from 2700K to 3500K, IP68 3000K & 3500K / 5.0 Static White RibbonLyte: IP20 from 2700K to 4000K, IP65 3000K, IP68 3000K & 3500K / 6.0 Static White RibbonLyte: IP20 & IP65 2700K to 4000K, IP68 3000K & 3500K / IP20 3.0 Static White Matrix RibbonLyte from 2400K to 4000K / IP20 3.0 RGB Matrix RibbonLyte / IP20, IP65 & IP68 4.4 RGB RibbonLyte / IP20 4.4 RGBW/A RibbonLyte / IP20 5.5 4-in-1 RGBW+4000K RibbonLyte / IP65 & IP68 5.5 4-in-1 RGBW+3000K / IP20 1.0, 3.0, 6.0 Variable White RibbonLyte / IP20 & IP65 5.2 Warm Dim RibbonLyte

DIMENSIONS

AS1 Channel

Width: 0.68 in. (17.2 mm)
Height: 0.34 in. (8.7 mm)
Internal Width: 0.57 in. (14.6 mm)

Mounting Clip (included accessory)



Width: 0.74 in. (18.8 mm)
Length: 0.87 in. (22 mm)
Height: 0.14 in. (3.5 mm)

Note:
1. Each section of channel includes 3 mounting clips.
2. Magnetic mounting option available (see page 2)

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GEN LED acolyte Architectural Lighting Solutions

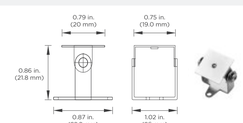
AS1 CHANNEL FIXTURE

SPECIFICATIONS

Beam Angle	118°
Lens Type	Clear Lens, Frosted Lens, Milky Lens
Length	Channel is sold by the foot and cut to your exact desired length. Required amount of mounting clips included.
Operating Voltage	24V
Dimming	MLV / 0-10 Volt / Lutron Hi-Lume 1% dimming LED drivers / Lutron VIVE code compliance available / ELV / DALI / DMX
Operating Temperature	-40° F to 158° F (-40° C to 70° C)
Colors	1800K, 2000K, 2200K, 2400K, 2700K, 3000K, 3500K, 4000K, 6000K, Red, Amber, Green, Blue, RGB, RGBW, RGBA, VW, Warm Dim (1800K, 2000K, 2200K only available in IP20)
CRI	90+ CRI (Static white only)
Lamp Life	L70 at 50,000 Hours
MacAdam Ellipses (SDCM)	2-Step Binning (For Static White LEDs only)
Certifications	ETL Listed: UL 2108 Issued: 2004/02/27 Ed: 1 Rev: 2014/02/24 Low Voltage Lighting Systems CSA C22.2#9.0 Issued: 1996/06/01 Ed: 1 (R2011) General Requirements for Luminaries; with Gen. Inst. 1: 1997, Gen Inst. 2: 1998. ROHS compliant UL 2108 - Low Voltage Lighting Systems UL 8750 - Light Emitting Diode (LED) Equipment for Use in Lighting Products UL 1598 / CSA 250.0-08 - Luminaires Suitable for use in closets, compliant with NFPA® 70, NEC® Section 410.16 (A)(3) and 410.16 (C)(5).

ACCESSORIES

Tiltable Stand (Part # TILTSTANDST)



Assembled Height with Channel: 1.28 in. (32.5 mm)

Magnetic Mount (Part #: CHMAG0.5)

Features:
- High-energy neodymium magnets come attached to mounting clips with countersink hex nuts
- Create easy-mount magnetic channels with minimal surface gaps; no tools or drilling necessary
- Magnets rated for 8 lbs. of pull force with static load

Applications:
- Industrial lighting retrofits for troffers and other metal fixtures
- Metal retail shelf lighting
- Temporary light fixture installations

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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. _____

DEVELOPER
FOULGER-PRATT DEVELOPMENT
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

LANDSCAPE ARCHITECT
OCULUS
1611 CONNECTICUT AVE NW 3RD FLOOR
WASHINGTON DC 20009
P 202 588 5454
US@OCULUS.INFO

CONSULTANTS
FOUNTAIN CONSULTANT
FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291

PLAYGROUND CONSULTANT
EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972

ICE RINK CONSULTANT
B32 ENGINEERING GROUP, INC.
2211 O'NEIL ROAD
HUDSON, WI 54016
1.651.256.3090

LIGHTING DESIGNER
MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062

PROJECT NAME
WestEnd Open Space Blocks
City of Alexandria

SEAL & SIGNATURE

COMPLETENESS SUBMISSION
NOT FOR CONSTRUCTION

ISSUE

MARK	DATE	DESCRIPTION
	11/29/2022	CONCEPT II
	03/10/2023	COMPLETENESS

KEY MAP

DATE: 03/10/2023
PROJECT NUMBER: W2108
SCALE: NTS
DRAWING TITLE: LIGHTING FIXTURE CUT SHEETS

LT023

SHEET NUMBER:

mcla site lmk.dwg March 01, 2023, 1:31 pm

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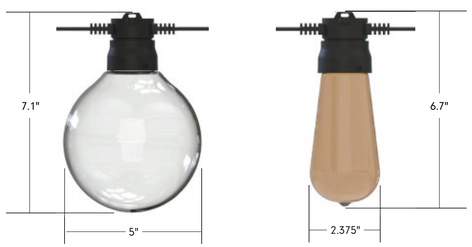
Project: _____ Type: _____

Product Features

- The next evolution of ADAPT delivers a robust specification-grade strand with factory molded standard spacing for consistent quality from start to finish
- Litesphere ADAPT 2.0 design provides optional suspended mounting or a twist-off cap for surface applications
- 12V DC Low voltage system for long runs
- Socket and cord color available in black or white
- Proprietary ADAPT screw base fitting
- Silicone-coated ADAPT glassware for assisting with shatter resistance
- IP67
- cULus
- 3 Year warranty

Dimensions



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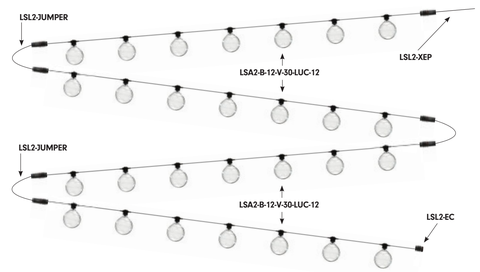
System Configuration Example



Strand Order Guide

Note: For suspension application, a catenary cable is required for proper installation. Please contact Tivoli for recommendations on unique mounting applications.

Product	Wire	Spacing	LED Type	LED Color	Globe	Light Shade*	Voltage
LSA2	B Black W White**	12 12" OC 18 18" OC 24 24" OC 36 36" OC	V Very High Output	19 1900K 27 2700K 30 3000K 35 3500K 40 4000K 50 5000K AM Amber RB Royal Blue RD Red GN Green YL Yellow	ANA Ana VIC** Victoria GAB Gaby BRE Brenda LAU** Laura GIN Gina ANG Angela KAT Katie SUS** Susan TON** Toni LUC** Lucia CG** Varied Globes	Y Yes N No	12 12V DC

Litesphere ADAPT 2.0

*Light Shade are optional. Consult factory for lead time and available style and sizes - see page 13
**Consult Factory for MOQ and Lead Time.

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Specifications

Output - Very High Output				
On-Center Spacing	12"	18"	24"	36"
Lumens/ft	90.2	60	45	30
Watts/ft	.96	.64	.48	.32
Maximum Electrical Run	55'	70'	80'	100'
Weights (G125 Globe)				
On-Center Spacing	12"	18"	24"	36"
lb/ft	0.59	0.55	0.51	0.47
lb/ft with catenary cable	0.61	0.57	0.53	0.49
Weights (ST19 Globe)				
On-Center Spacing	12"	18"	24"	36"
lb/ft	0.49	0.45	0.41	0.37
lb/ft with catenary cable	0.51	0.47	0.43	0.39
Electrical				
Input Voltage	12V DC			
Power Consumption (W/LED)	0.96			
Control				
Control System	0-10V, ELV, MLV, DMX 512			
Physical				
Dimensions	7.1" H x 5" W (G125), 6.7" H x 2.375" W (ST19)			
Socket Housing	PVC			
American Wire Gauge	14 AWG			
Globe	Glass (Shatter resistance assist with silicone coating - Glass may still break under certain conditions)			
Mounting	Surface Mount, Suspended			
Operating Temperature	-40°C to 65°C (-40°F to 149°F)			
Certification and Testing				
Certification	cULus			
Environment	Wet Location			
IP Rating	IP67			
Warranty	3 Years			

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Replacement Parts

G125 Globe (Weight: 4 oz./ea.)

Ana **LSA-ANA-N**
Angela **LSA-ANG-N**
Gina **LSA-GIN-N**
Gaby **LSA-GAB-N**

Katie **LSA-KAT-N**
Susan* **LSA-SUS-N**
Toni* **LSA-TON-N**
Lucia* **LSA-LUC-N**

Victoria* **LSA-VIC-N**

*Consult Factory for MOQ and Lead Time.

ST19 Globe (Weight: 1.6 oz./ea.)

Laura* **LSA-LAU-N**
Brenda **LSA-BRE-N**

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GEN LED acolyte Architectural Lighting Solutions

Date _____ Project _____
Notes _____

AS1 CHANNEL FIXTURE

Our AS1 Channel Fixture is a low-profile channel with a 118-degree beam angle that is ideal for a wide, even spread of light that is great for cove and toe kick applications. It can also be used in conjunction with our tiltable stands.

- Available for field assembly or factory assembly
- Beam Angle 118°
- Wattage Range from 0.75 W/ft (2.46 W/m) to 6.0 W/ft (19.7 W/m)
- Static White delivered lumen range from 44.1 lm/ft (144.6 lm/m) up to 729.4 lm/ft (2392.5 lm/m)
- Assembled in USA
- Suitable for use in closets with RibbonLyte (6.0 W/ft and less)

CE RoHS

HOUSING FINISHES

Silver Standard | Black* | White* | Custom RAL*

*Additional fee applies

AVAILABLE LENS FINISHES

Clear Lens 92% Light Transmission | Frosted Lens 85% Light Transmission | Milky Lens 70% Light Transmission

AVAILABLE COLORS & COLOR TEMPERATURES

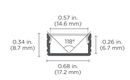
1800K 2000K 2200K 2400K 2700K 3000K 3500K 4000K 6000K Red Amber Green Blue RGB RGBA RGBW VW WD

QuickShip

5-Day QuickShip program available with Clear, Frosted & Milky lenses and the following RibbonLyte products only:
IP20 & IP65 1.5 Static White RibbonLyte from 2700K to 4000K / 3.0 & 4.4 Static White RibbonLyte: IP20 from 2400K to 4000K, IP65 from 2700K to 3500K, IP68 3000K & 3500K / 5.0 Static White RibbonLyte: IP20 from 2700K to 4000K, IP65 3000K, IP68 3000K & 3500K / 6.0 Static White RibbonLyte: IP20 & IP65 2700K to 4000K, IP68 3000K & 3500K / IP20 3.0 Static White Matrix RibbonLyte from 2400K to 4000K / IP20 3.0 RGB Matrix RibbonLyte / IP20, IP65 & IP68 4.4 RGB RibbonLyte / IP20 4.4 RGBW/A RibbonLyte / IP20 5.5 4-in-1 RGBW+4000K RibbonLyte / IP65 & IP68 5.5 4-in-1 RGBW+3000K / IP20 1.0, 3.0, 6.0 Variable White RibbonLyte / IP20 & IP65 5.2 Warm Dim RibbonLyte

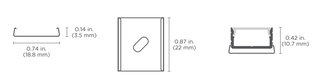
DIMENSIONS

AS1 Channel



Width: 0.68 in. (17.2 mm)
Height: 0.34 in. (8.7 mm)
Internal Width: 0.57 in. (14.6 mm)

Mounting Clip (included accessory)



Width: 0.74 in. (18.8 mm)
Length: 0.87 in. (22 mm)
Height: 0.14 in. (3.5 mm)

Note:
1. Each section of channel includes 3 mounting clips.
2. Magnetic mounting option available (see page 2)

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GEN LED acolyte Architectural Lighting Solutions

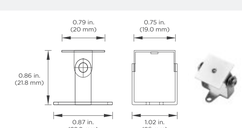
AS1 CHANNEL FIXTURE

SPECIFICATIONS

Beam Angle	118°
Lens Type	Clear Lens, Frosted Lens, Milky Lens
Length	Channel is sold by the foot and cut to your exact desired length. Required amount of mounting clips included.
Operating Voltage	24V
Dimming	MLV / 0-10 Volt / Lutron Hi-Lume 1% dimming LED drivers / Lutron VIVE code compliance available / ELV / DALI / DMX
Operating Temperature	-40° F to 158° F (-40° C to 70° C)
Colors	1800K, 2000K, 2200K, 2400K, 2700K, 3000K, 3500K, 4000K, 6000K, Red, Amber, Green, Blue, RGB, RGBW, RGBA, VW, Warm Dim (1800K, 2000K, 2200K only available in IP20)
CRI	90+ CRI (Static white only)
Lamp Life	L70 at 50,000 Hours
MacAdam Ellipses (SDCM)	2-Step Binning (For Static White LEDs only)
Certifications	ETL Listed: UL 2108 Issued: 2004/02/27 Ed: 1 Rev: 2014/02/24 Low Voltage Lighting Systems CSA C22.2#9.0 Issued: 1996/06/01 Ed: 1 (R2011) General Requirements for Luminaries; with Gen. Inst. 1: 1997, Gen Inst. 2: 1998. ROHS compliant UL 2108 - Low Voltage Lighting Systems UL 8750 - Light Emitting Diode (LED) Equipment for Use in Lighting Products UL 1598 / CSA 250.0-08 - Luminaires Suitable for use in closets, compliant with NFPA® 70, NEC® Section 410.16 (A)(3) and 410.16 (C)(5).

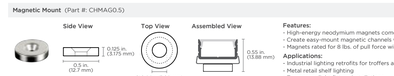
ACCESSORIES

Tiltable Stand (Part # TILTSTANDST)



Assembled Height with Channel: 1.28 in. (32.5 mm)

Magnetic Mount (Part #: CMMAG0.5)



Features:
- High-energy neodymium magnets come attached to mounting clips with countersink hex nuts
- Create easy-mount magnetic channels with minimal surface gaps; no tools or drilling necessary
- Magnets rated for 8 lbs. of pull force with static load

Applications:
- Industrial lighting retrofits for troffers and other metal fixtures
- Metal retail shelf lighting
- Temporary light fixture installations

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DEVELOPER
FOULGER-PRATT DEVELOPMENT
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

LANDSCAPE ARCHITECT
OCULUS
1611 CONNECTICUT AVE NW 3RD FLOOR
WASHINGTON DC 20009
P 202 588 5454
US@OCULUS.INFO

CONSULTANTS
FOUNTAIN CONSULTANT
FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291

PLAYGROUND CONSULTANT
EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972

ICE RINK CONSULTANT
B32 ENGINEERING GROUP, INC.
2211 O'NEIL ROAD
HUDSON, WI 54016
1.651.256.3090

LIGHTING DESIGNER
MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062

PROJECT NAME
WestEnd Open Space Blocks
City of Alexandria

SEAL & SIGNATURE

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ISSUE

MARK	DATE	DESCRIPTION
	11/29/2022	CONCEPT II
	03/10/2023	COMPLETENESS

KEY MAP

DATE: 03/10/2023
PROJECT NUMBER: W2108
SCALE: NTS
DRAWING TITLE: LIGHTING FIXTURE CUT SHEETS

LT024

SHEET NUMBER:

mcla site lmk.dwg March 01, 2023, 1:31 pm

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AS1 CHANNEL FIXTURE

ORDERING GUIDE

STEP 1 Complete Channel Part Number

CHANNEL	LENS	HOUSING COLOR
CHAS1		
CHAS1 - AS1 Channel	**C** - Clear Lens*	**SV** - Silver (default)
	F - Frosted Lens	**BK** - Black
	M - Milky Lens	**WH** - White
	* Clear lens is the default option if not specified.	Consult factory for custom colors

STEP 2 Complete RibbonLyte Part Number

CATEGORY	CRI	RIBBON TYPE & IP RATING		
RB				
RB - RibbonLyte	**0** - Static Color, Color Changing	**SWS220** - Static White Series 2 IP20	**RGB20** - RGB IP20	**VWS220** - VW Series 2 IP20
	90 - 90+ CRI Static White	**SWS265** - Static White Series 2 IP65	**RGB65** - RGB IP65	**VWS265** - VW Series 2 IP65
		SCS220 - Static Color Series 2 IP20	**RGBWA20** - RGBW/A IP20	**WD20** - Warm Dim IP20
		SCS265 - Static Color Series 2 IP65	**RGBWA65** - RGBW/A IP65	**WD65** - Warm Dim IP65

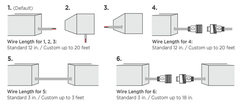
NOTE: To ensure waterproofing standards are met, IP65 RibbonLyte can NOT be cut in the field.

WATTAGE	COLOR	
0.75 - 0.75 W/ft (2.46 W/m - Static White, Static Color)	**18** - 1800K	**RGB** - Red, Green, Blue
1.0 - 1.0 W/ft (3.3 W/m - Variable White)	**20** - 2000K	**RGB30** - Red, Green, Blue + 3000K
1.5 - 1.5 W/ft (4.9 W/m - Static White, Static Color)	**22** - 2200K	**RGB40** - Red, Green, Blue + 4000K (5.5W only)
2.2 - 2.2 W/ft (7.2 W/m - Static White, Static Color, RGB)	**24** - 2400K	**RGB60** - Red, Green, Blue + 6000K
3.0 - 3.0 W/ft (9.8 W/m - Static White, Static Color, Variable White)	**27** - 2700K	**RGBA** - Red, Green, Blue + Amber
4.4 - 4.4 W/ft (14.4 W/m - Static White, Static Color, RGB, RGBW/RGBA)	**30** - 3000K	**VW** - Variable White
5.0 - 5.0 W/ft (16.4 W/m - Static White, Static Color)	**35** - 3500K	**2920** - Warm Dim 2900K-2000K (IP20)
5.2 - 5.2 W/ft (17.1 W/m - Warm Dim)	**40** - 4000K	**2721** - Warm Dim 2700K - 2100K (IP65+IP68)
5.5 - 5.5 W/ft (18.0 W/m - RGBW/RGBA)	**60** - 6000K	**Z** - Undecided**
6.0 - 6.0 W/ft (19.7 W/m - Static White, Static Color, Variable White)	**R** - Red	** For quotes only. Must be chosen before final order.
	A - Amber	
	G - Green	
	B - Blue	

CONNECTION OPTIONS (See diagrams on the right)

Custom Length (ft.)

1 - End Feed Bare Wire Connection
2 - Back Feed Bare Wire Connection
3 - Side Feed Bare Wire Connection
4 - End Feed with IP67 Male Coupler
5 - Soldered Daisy Chain
6 - Daisy Chain With IP67 Couplers



STEP 3 Complete Assembly Option & Length

ASSEMBLY OPTION	LENGTH (Standard factory assembled length up to 78 in. / 2 m)
FI - Field Assembly	Consult factory for custom factory assembled length (up to 13 ft / 4 m)
FA - Factory Assembly	

STEP 4 Add Accessories

ACCESSORIES

TILTSTANDST - Tiltable Stand **CHMAG0.5** - Magnetic Mount

mcla ARCHITECTURAL LIGHTING DESIGN | Landmark Parks PROJECT - / - / - | SL1 FIXTURE TYPE | 3 OF 5

GEN LED acolyte Architectural Lighting Solutions

AS1 CHANNEL FIXTURE

AVAILABLE DRIVERS / CONTROLLERS AND DIMMING OPTIONS / WIRE GAUGE CHART

0-10V DRIVERS AND DIMMERS

0-10V Dimmable Waterproof Drivers

96W Part No.: DRVW249610P
288W Part No.: DRVW242880P
Output Voltage: 24 V (+/- 0.5V)
Voltage Range: 100-277 VAC
Environmental Rating: UL Wet Location
UL Listed

LUTRON DIVA Dimmer

Part No.: LVDIMDIVA
Width: 2.94 in (75 mm)
Length: 4.69 in (120 mm)
Depth: 0.30 in (7.6 mm)

- Compatible with 0-10 V Dimming Module
- Large paddle switch with a captive linear-slide dimmer
- 30 mA max control current
- Available in white finish

LUTRON NOVA-T Dimmer

Part No.: LVDIMNOVA
Width: 2.75 in (70 mm)
Length: 4.56 in (116 mm)
Depth: 0.30 in (7.6 mm)

- Compatible with 0-10 V Dimming Module
- Slide adjusts brightness and On/Off control
- 30 mA max control current
- Available in white finish

DIMMING MODULE

Variable White Dimming Module

Part No.: VWDIMMOD

- 1 dimming module required per 30 ft (9.1 m)
- This product is only compatible with Variable White RibbonLyte, not Variable White Amber or Variable White Red. Works with any 0-10V dimmers to provide CCT change with one dimmer and brightness change with the other.

Note: Max length before additional power is introduced

DMX CONTROLLER AND PART NUMBER - FOR COLOR CHANGING VERSIONS

GLASS TOUCH WALL CONTROLLER
Part Number: AWCRGBWW
AWCVWW

1 ZONE WALL CONTROLLER
Part Number: DMXCTRLG

5 ZONE WALL CONTROLLER
Part Number: DMXCTRL

10 ZONE WALL CONTROLLER
Part Number: DMXCTRLD

4 CHANNEL WATERPROOF DMX INTERFACE
Part Number: DMXINFWLCD4

5 CHANNEL DMX INTERFACE
Part Number: DMXINFLCD5

DMX OPTO SPLITTER
Part Number: DMXOS8

DRIVER AND RIBBONLYTE AT FULL LOAD

Wattages	30		60		96		150		200		240		300		320	
Wire Gauge	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters
24 AWG	14	4.27	9	2.74	5.5	1.68	3.75	1.14	2.75	0.84	2.25	0.69	1.75	0.53	1.75	0.53
22 AWG	22	6.71	14	4.27	9	2.74	5.75	1.75	4.5	1.37	3.5	1.07	2.75	0.84	2.75	0.84
20 AWG	35	10.67	23	7.01	14	4.27	9	2.74	7	2.13	5.75	1.75	4.5	1.37	4.25	1.30
18 AWG	56	17.07	37	11.28	23	7.01	15	4.57	11	3.35	9	2.74	7.5	2.29	7	2.13
16 AWG	90	27.44	60	18.29	37	11.28	24	7.32	18	5.49	15	4.57	12	3.66	11	3.35
14 AWG	142	43.29	95	28.96	59	17.99	38	11.59	28	8.54	23	7.01	19	5.79	17	5.18
12 AWG	226	68.90	151	46.04	94	28.66	60	18.29	45	13.72	37	11.28	30	9.15	28	8.54
10 AWG	360	109.76	240	73.17	150	45.73	96	29.27	72	21.95	60	18.29	48	14.63	45	13.72
8 AWG	574	175.00	381	116.16	239	72.87	153	46.65	115	35.06	95	28.96	76	23.17	71	21.65

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DEVELOPER
FOULGER-PRATT DEVELOPMENT
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

LANDSCAPE ARCHITECT
O C U L U S
1611 CONNECTICUT AVE NW 3RD FLOOR
WASHINGTON DC 20009
P 202 588 5454
US@OCULUS.INFO

CONSULTANTS
FOUNTAIN CONSULTANT
FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291

PLAYGROUND CONSULTANT
EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
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	11/29/2022	CONCEPT II
	03/10/2023	COMPLETENESS

KEY MAP

DATE: 03/10/2023
PROJECT NUMBER: W2108
SCALE: NTS
DRAWING TITLE: LIGHTING FIXTURE CUT SHEETS

SHEET NUMBER: LT025

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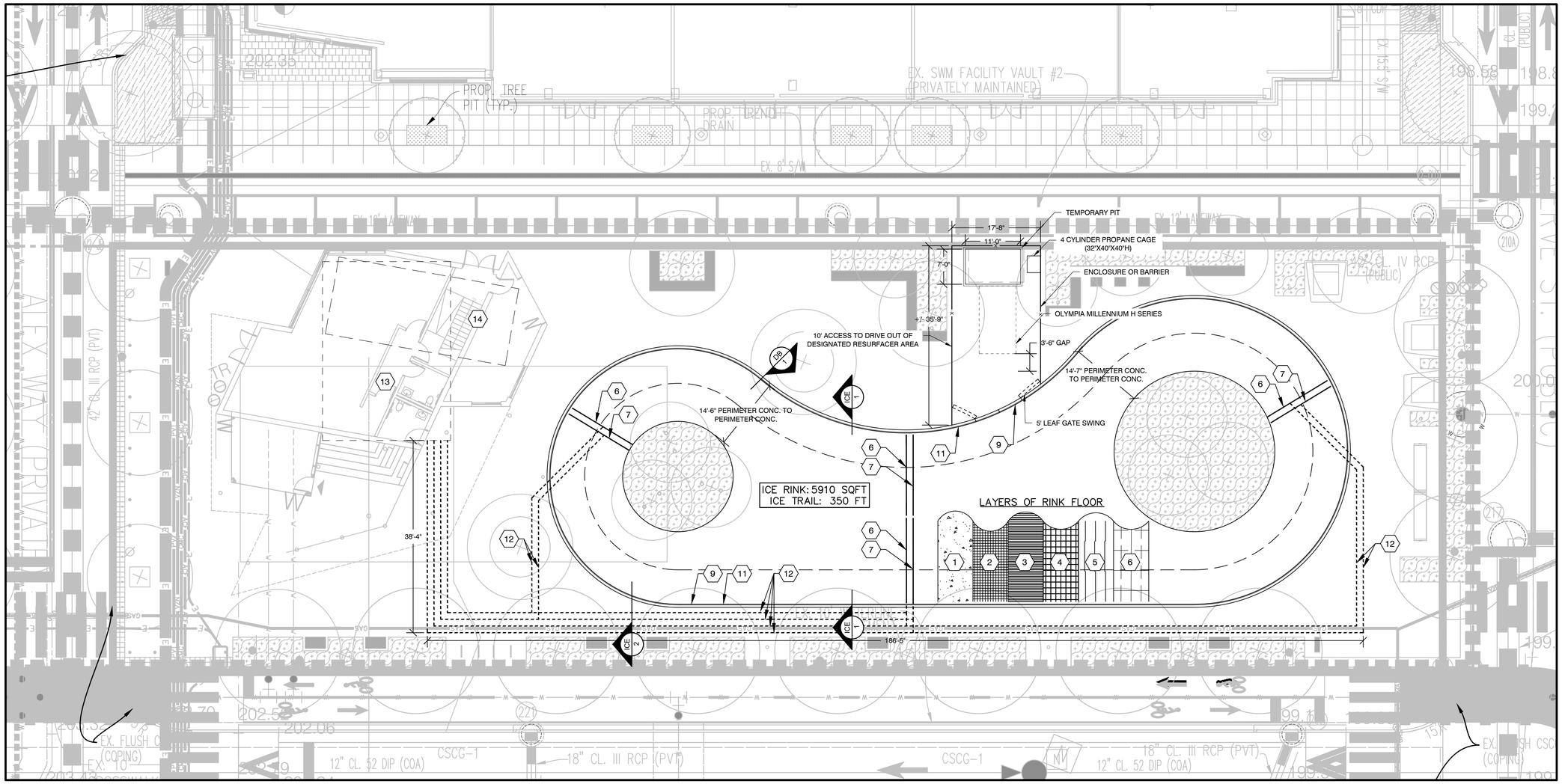

1 SKATING TRAIL FLOOR PLAN
SCALE: 3/32" = 1'-0"

GENERAL NOTES:

1. FIELD VERIFY ALL DIMENSIONS.
2. PIPING SHOWN IN SCHEMATIC FORM.
3. COORDINATE INSTALLATION OF NEW DASHER BOARD ANCHORS INSERTS WITH DASHER BOARD MANUFACTURER.

(X) KEY NOTES:

1. CONCRETE: 6" THICK
2. EPOXY COATED WIRE MESH.
3. RINK PIPING: 1" POLYETHYLENE PIPE @ 3" O.C. FUSION WELDED CONNECTIONS.
4. REINFORCEMENT: @ 12" O.C. PARALLEL WITH RINK PIPING AND 12" O.C. PERPENDICULAR WITH RINK PIPING.
5. PIPE AND REBAR SUPPORT CHAIRS @ 2'-0" O.C. THE ENTIRE LENGTH OF THE RINK.
6. FLOOR INSULATION: TWO (2) LAYERS OF EXTRUDED POLYSTYRENE 2" THICK.
7. 6" SDR 11 POLYETHYLENE SUPPLY HEADER. FUSION WELDED CONNECTIONS.
8. 6" SDR 11 POLYETHYLENE RETURN HEADER. FUSION WELDED CONNECTIONS.
9. EXPANSION JOINT AROUND ENTIRE PERIMETER OF RINK FLOOR.
10. NOT USED.
11. 395 LIN. FT. RAILING SYSTEM.
12. 6" BURIED INSULATED SDR 17 POLYETHYLENE TRANSMISSION MAINS TO/FROM ICE REFRIGERATION ROOM
13. REFRIGERATION SKID PACKAGE AND PUMP SKID INSTALLED IN BASEMENT OF PAVILION. SEE DESIGN NARRATIVE FOR DETAILS.
14. AIR COOLED CONDENSER ON THE ROOF (SHOWN WITH 4FT CLEARANCE - LOUVER TYPE, 80% FREE AREA REQUIRED). SEE DESIGN NARRATIVE FOR DETAILS.

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EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
1.877.269.2972

ICE RINK CONSULTANT
B3Z ENGINEERING GROUP, INC.
2211 O'NEIL ROAD
HUDSON, WI 54016
1.651.256.3090

LIGHTING DESIGNER
MCLA ARCHITECTURAL LIGHTING DESIGN
1000 POTOMAC STREET NW, SUITE 121
WASHINGTON, DC 20007
202.298.8062

PROJECT NAME

West End Open Space Blocks

City of Alexandria

SEAL & SIGNATURE

rev1 rev2 rev3 rev4 rev5 rev6 rev7

DSUP SUBMISSION

NOT FOR CONSTRUCTION

ISSUE

MARK	DATE	DESCRIPTION
	11/29/2022	CONCEPT II

KEY MAP

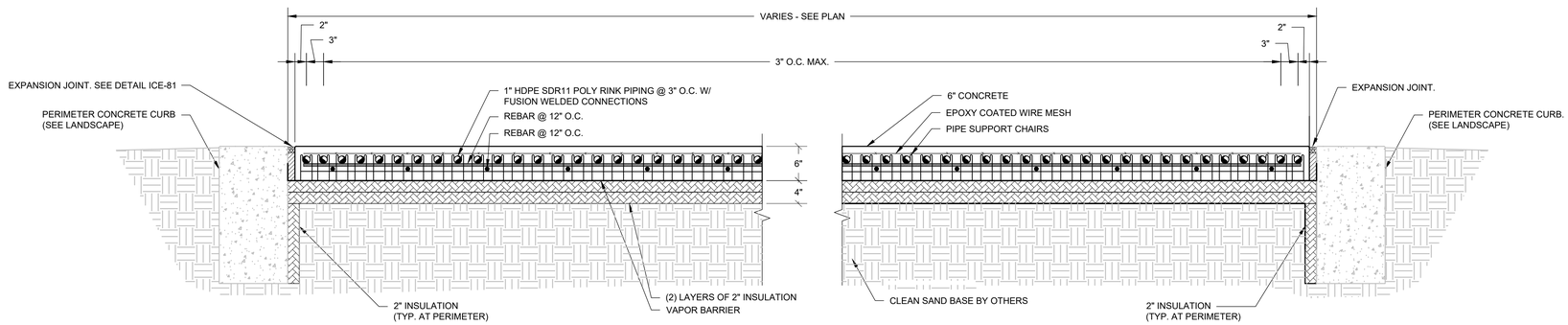
DATE: 03/09/2023

PROJECT NUMBER: W2108

SCALE:

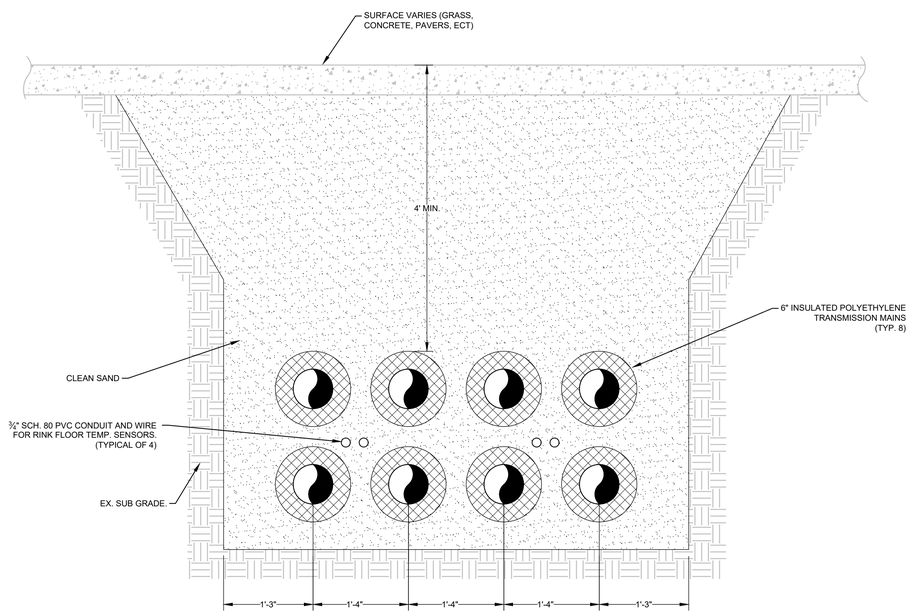
DRAWING TITLE: SKATING TRAIL FLOOR PLAN

SHEET NUMBER: R100

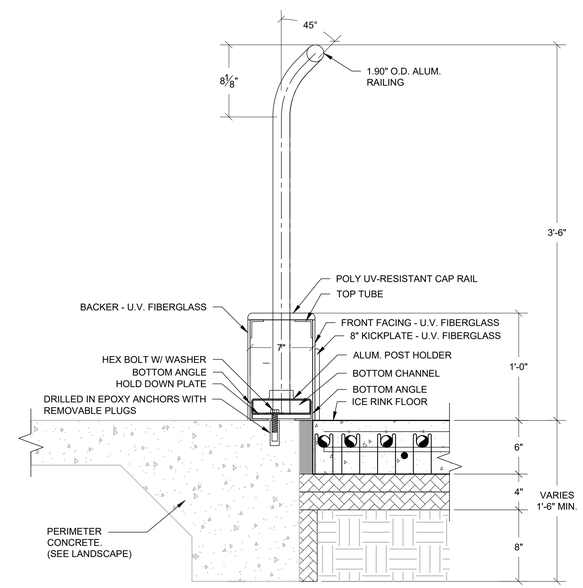


ICE RINK SUBGRADE CORRECTION AND GRADING WILL BE COMPLETED BY SITE GRADING CONTRACTOR. SITE GRADING CONTRACTOR WILL GRADE SUBGRADE TO 10-INCHES BELOW FINISH ICE SLAB ELEVATION.

ICE 1 ICE RINK FLOOR TYPICAL SECTION
SCALE: N.T.S.



ICE 2 MAINS TRENCH SECTION
SCALE: N.T.S.



DB 1 TYPICAL DASHER/RAILING SECTION
SCALE: N.T.S.

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. _____

DEVELOPER
FOULGER-PRATT DEVELOPMENT
12435 PARK POTOMAC AVENUE
SUITE 200
POTOMAC, MD 20854
240.499.9600
CONTACT: JAY KELLY

LANDSCAPE ARCHITECT
O C U L U S
1611 CONNECTICUT AVE NW 3RD FLOOR
WASHINGTON DC 20009
P 202 588 5454
US@OCULUS.INFO

CONSULTANTS
FOUNTAIN CONSULTANT
FLUIDITY DESIGN CONSULTANTS
724 S. SPRING STREET, SUITE 1401
LOS ANGELES, CALIFORNIA 90014
213.739.9291

PLAYGROUND CONSULTANT
EARTHSCAPE
7215 WELLINGTON ROAD 86
WALLENSTEIN, ON CANADA N0B 2S0
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MARK	DATE	DESCRIPTION
	11/29/2022	CONCEPT II

KEY MAP

DATE: 03/09/2023
PROJECT NUMBER: W2108
SCALE:
DRAWING TITLE: ICE RINK DETAILS AND SECTIONS
SHEET NUMBER: R500