PRELIMINARY SITE PLAN SUBMISSION
ALEXANDRIA CITY PUBLIC SCHOOLS
DOUGLAS MACARTHUR ELEMENTARY SCHOOL
AUGUST 14, 2020

AREA TABULATIONS

EXISTING:
ZONING: POS, R–8, R–12
USE: SCHOOL
TOTAL LOT AREA = 4.63 AC.
BUILDING AREA = 61,742 S.F.
IMPERVIOUS AREA = 3.02 AC.
OPEN SPACE = 1.61 AC
FRONT YARD SETBACK: 30'
SIDE YARD SETBACK: 1:1 (MIN 25')
REAR YARD SETBACK: 1:1 (MIN 25')

PROPOSED:
ZONING: R–8
USE: SCHOOL, COMMUNITY BUILDING, OUTDOOR REC. FACILITY
TOTAL LOT AREA = 5.29 AC. (CONSOLIDATED 4 PARCELS)
BUILDING AREA = 82,815 S.F
IMPERVIOUS AREA = 3.96 AC.
OPEN SPACE = 1.33 AC.
FRONT YARD SETBACK: 25'
SIDE YARD SETBACK: 46'
REAR YARD SETBACK: 0'

TRIP GENERATION

ITE LAND USE CODES – 520 (ELEMENTARY SCHOOL)
– 495 (RECREATION CENTER)

EXISTING DAILY WEEKDAY TRIPS (650 STUDENTS)	= 1,307 TRIPS
PROPOSED DAILY WEEKDAY TRIPS (850 STUDENTS)	= 1,626 TRIPS
PROPOSED DAILY WEEKDAY TRIPS (RECREATION CENTER)	= 86 TRIPS
TOTAL PROPOSED DAILY WEEKDAY TRIPS	= 1,712 TRIPS
NET NEW SITE TRIPS	= 405 TRIPS

PARKING TABULATION

TOTAL EXISTING ON–SITE PARKING SPACES = 59

PARKING REQUIRED
- 1 SPACE PER 200 SF. OF FLOOR AREA REQUIRED FOR COMMUNITY BUILDING
  - 3,000 S.F. FOR COMMUNITY USE = 15 SPACES
- 2 SPACES PER EACH NURSERY (PRE–K) CLASSROOM
  - 4 PRE–K CLASSROOMS = 8 SPACES
- 1 SPACE PER 25 CLASS ROOM SEATS REQUIRED
  - 850 MAX. CLASSROOM SEATS = 34 SPACES
- NO LOADING SPACES REQUIRED PER R12 ZONING DISTRICT
- NO PARKING REQUIRED FOR OUTDOOR RECREATION

TOTAL REQUIRED = 57 SPACES
(PARKING REQUIRED BASED ON CITY ZONING ORDINANCE SECTIONS 8–200(A)(7) AND 8–200(A)(11))

PARKING PROVIDED

• 5 SURFACE SPACES –	VISITOR PARKING ON WEST SIDE OF SITE
• 25 SURFACE SPACES –	VISITOR PARKING ON BUS LOOP (RESTRICTED PARKING DURING PICK UP AND DROP OFF HOURS)
• 86 UNDERGROUND SPACES –	SCHOOL AND RPCA FACULTY/STAFF PARKING (OPEN TO PUBLIC AFTER SCHOOL HOURS FOR RECREATIONAL USE)

TOTAL PROVIDED = 116 SPACES
COMPACT SPACES: 0, STANDARD SPACES: 110, ADA SPACES: 6

BUILDING DATA

BUILDING USE GROUP: EDUCATIONS GROUP E
STORIES: 3
CONSTRUCTION TYPE: TYPE IIA
ALLOWABLE BUILDING HEIGHT: 40'
PROPOSED BUILDING HEIGHT: 46'

FLOOR AREA PER FLOOR:	OCCUPIED	TOTAL
FIRST FLOOR:	45,518 SF	82,815 SF
SECOND FLOOR:	21,187 SF	41,751 SF
THIRD FLOOR:	19,954 SF	38,869 SF
TOTAL:	86,659 SF	163,435 SF

OCCUPANCY LOAD AND AGE GROUP:
850 STUDENTS, GRADES PK–5
FIRE PROTECTION PLAN: FULLY SPRINKLED

FLOOR AREA CALCULATIONS:	
LOT AREA:	230,461 SF
GROSS FLOOR AREA:	163,435 SF
ALLOWABLE REDUCTIONS:	N/A
NET FLOOR AREA:	86,659 SF
FAR (0.35 MAX):	0.71

BUILDING HEIGHT CALCULATIONS:	
%3–STORY, 46'–0" AFF	23.8%
%2–STORY, 30'–8" AFF	25.5%
%1–STORY, 15'–4" AFF	41.6%
%1–STORY, 19'–4" AFF	2.1%
%1–STORY, 32'–8" AFF	7.0%
AVG. BLDG. HT (FT)	33.5
AVG. FIN. GRD. (FT)	159.39
FINISHED FLOOR ELEV. (FT)	160.00

NOTES

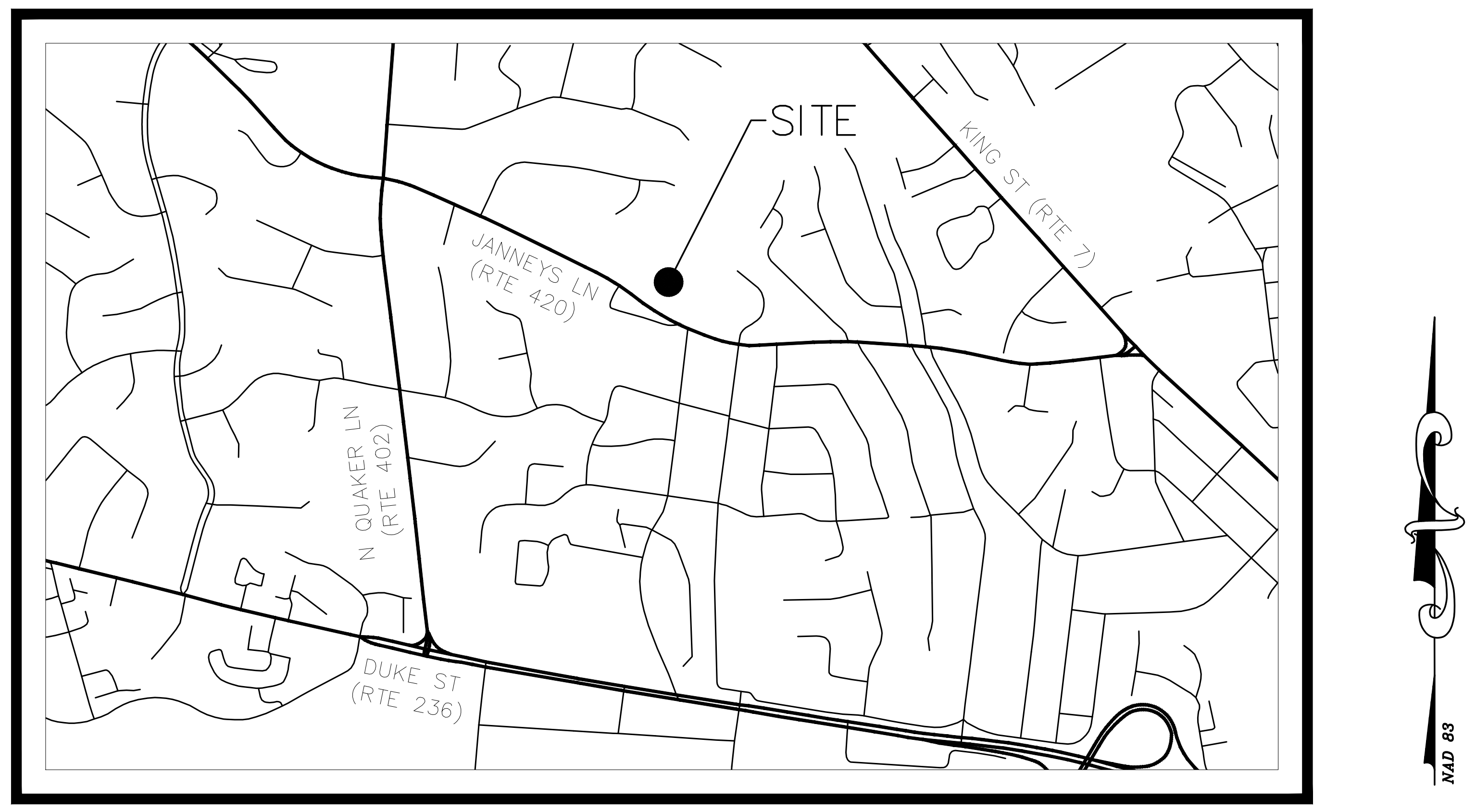
- THE SITE IS NOT LOCATED WITHIN ANY FLOOD PLAINS
- RESOURCE PROTECTION AREAS AND NATURAL INTERMITTENT STREAM BUFFER AREAS ARE LOCATED NEAR THE PROJECT AREA BUT ARE NOT PROPOSED TO BE DISTURBED WITH THIS PROJECT
- THERE IS NO EXISTING SITE CONTAMINATION KNOW BY THE APPLICANT
- THERE ARE CURRENTLY NO EXISTING ENVIRONMENTAL ISSUES KNOWN BY THE APPLICANT
- BASED ON A REVIEW OF THE CITY OF ALEXANDRIA MARINE CLAY MAP, IT APPEARS THAT MARINE CLAYS EXIST IN THE VICINITY OF THE PROJECT SITE.

APPLICATIONS REQUESTED

- SPECIAL USE PERMIT FOR INDOOR AND OUTDOOR RECREATIONAL FACILITIES AND COMMUNITY CENTER
- DEVELOPMENT SITE PLAN FOR PUBLIC SCHOOL BUILDING
- MODIFICATION TO INCREASE ALLOWABLE FLOOR AREA RATIO FROM 0.35 TO 0.75
- SPECIAL USE PERMIT TO EXCEED MAXIMUM REQUIRED PARKING
- MODIFICATION TO REDUCE REAR BUILDING SETBACK FROM 25' TO 0'
- MODIFICATION TO REDUCE FRONT BUILDING SETBACK FROM 30' TO 25'
- MODIFICATION TO INCREASE ALLOWABLE BUILDING HEIGHT FROM 40' TO 46'
- SUBDIVISION FOR LOT CONSOLIDATION
- REZONING OF PROPERTY TO R–8

VICINITY MAP

SCALE: 1" = 1,000'



PROJECT DESCRIPTION NARRATIVE

ALEXANDRIA CITY PUBLIC SCHOOLS IS SEEKING APPROVAL OF A DEVELOPMENT SPECIAL USE PERMIT IN ORDER TO CONSTRUCT A NEW PRE–K THROUGH 5TH GRADE SCHOOL ON THE EXISTING DOUGLAS MACARTHUR ELEMENTARY SCHOOL SITE. THE EXISTING DOUGLAS MACARTHUR ELEMENTARY SCHOOL WILL BE DEMOLISHED AND THE NEW BUILDING, PARKING AREAS, RECREATIONAL AREAS, AND OPEN SPACE WILL BE CONSTRUCTED IN ITS PLACE.

THE SITE PLAN SEEKS TO PROVIDE ADDITIONAL CLASSROOM SPACE FOR THE GROWING STUDENT POPULATION, PROVIDE COMMUNITY MEETING SPACE, PROVIDE PUBLIC ACTIVE RECREATION AREAS AND IMPROVE SITE CIRCULATION. THE SITE PLAN ALSO STRIVES TO IMPROVE PEDESTRIAN CONNECTIVITY BETWEEN THE SCHOOL, THE SURROUNDING COMMUNITY AND FOREST PARK TO THE NORTH OF THE PROPERTY.

WHERE POSSIBLE, EXISTING SPECIMEN TREES (AND OTHERS) WILL BE MAINTAINED AS DEEMED APPROPRIATE BY ARBORIST RECOMMENDATIONS. STREETSCAPE ALONG JANNEYS LANE WILL BE IMPROVED AND LANDSCAPE BUFFERS WILL BE PROVIDED WHERE ABLE TO ADJACENT TO RESIDENTIAL PROPERTIES

THE NEW DOUGLAS MACARTHUR ELEMENTARY SCHOOL WILL BE COMPOSED OF MOSTLY TWO STORIES AND THREE STORIES ALONG THE NORTHERN EDGE BORDERING FOREST PARK. THE NEW SCHOOL BUILDING IS APPROXIMATELY 163,435 SF IN SIZE AND HOUSING 850 STUDENTS. IT IS REPLACING AN EXISTING FACILITY OF APPROXIMATELY 61,742 SF WHICH CURRENTLY HOUSES 650 STUDENTS. THE SCHOOL SITE WILL CONTAIN PLAY AREAS AND STRUCTURES FOR ALL GRADE LEVELS INCLUDING A SYNTHETIC TURF PLAYING FIELD. THE BUS DROP–OFF ROUTE WILL MAINTAIN A SIMILAR PATTERN TO THE EXISTING ROUTE, THOUGH NOW MOVED FURTHER EAST ALONG JANNEYS LANE. IT IS CURRENTLY BEING PLANNED FOR 10 BUSES BASED UPON THE MAXIMUM POTENTIAL FUTURE STUDENT POPULATION. PARENT DROP–OFF AND KISS & RIDE HAS BEEN ADDED AT THE WESTERN SITE DRIVEWAY ENTRANCE, WHICH PROVIDES UP TO 24 STACKING SPACES WITH A COMBINATION OF ON–SITE CURB PICK–UP SPACES AND ON–STREET QUEUEING LANE. THE DROP–OFF CIRCULATION WILL BE ONE WAY TO REDUCE VEHICLE AND PEDESTRIAN CONFLICT POINTS.

ENVIRONMENTALLY SENSITIVE DESIGN STRATEGY

ACPS AND THE DESIGN TEAM HAVE ESTABLISHED THE GOAL FOR THE PROJECT TO BE NET–ZERO READY; THIS MEANS THAT INSTALLATION OF PHOTOVOLTAIC PANELS WOULD BE THE ONLY ADDITIONAL FEATURE REQUIRED TO MEET THE NET–ZERO CRITERIA. SUSTAINABILITY MEASURES FOR BOTH SITE AND BUILDING DESIGN WILL BE COMPREHENSIVELY EVALUATED TO MEET PROJECT GOALS. CRITICAL COMPONENTS IN THIS EVALUATION WILL BE SITE STRATEGIES SUCH AS STORM WATER MANAGEMENT; POSSIBLE RAINWATER HARVESTING AND USE OF SITE AREAS FOR GEOTHERMAL WELLS. THIS PROJECT WILL MEET THE CITY'S 2019 GREEN BUILDING POLICY AT A LEED GOLD OR EQUIVALENT STANDARD.

BUILDING ORIENTATION HAS BEEN SET TO MAXIMIZE SOLAR EFFICIENCY FOR CLASSROOM SPACES WITH THE MAJORITY OF THE CLASSROOMS FACING NORTH FOR BENEFICIAL, NON–GLARE DAYLIGHT AND VIEWS. OTHER SOLAR CONTROLLING FEATURES SUCH AS OVERHANGS, SUNSHADES AND SCREENS ARE PROPOSED TO CONTROL SOLAR GAIN. POTENTIAL BUILDING SYSTEMS, INCLUDING HVAC SYSTEMS, ELECTIRCAL AND LIGHTING SYTEMS AND BUILDING ENVELOPE ARE BEING EVALUATED ON A LIFE–CYCLE EFFICIENCY BASIS AND WILL BE SELECTED TO MEET NET–ZERO. INTERIOR AND EXTERIOR BUILDING MATERIALS WILL BE EVALUATED FOR THEIR GEOGRAPHIC LOCATIONS AND RENEWABLE QUALITIES AS A MEANS OF UNDERSTANDING THEIR IMPACT ON THE OVERALL CARBON FOOTPRINT OF THE PROJECT.

STORMWATER NARRATIVE

THIS PROJECT WILL BE DESIGNED TO COMPLY WITH THE STORM WATER QUANTITY AND QUALITY REQUIREMENTS OF ARTICLE XIII OF THE CITY OF ALEXANDRIA ZONING ORDINANCE, THE VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY AND THE CHESAPEAKE BAY PRESERVATION ACT.

QUANTITY:
THE POST–DEVELOPMENT IMPERVIOUS AREA WILL BE INCREASED BY APPROXIMATELY 1.18 ACRES FROM THE PRE–DEVELOPMENT CONDITIONS.

CHANNEL PROTECTION AND FLOOD PROTECTION REQUIREMENTS WILL BE MET THROUGH THE USE OF AN UNDERGROUND DETENTION SYSTEM LOCATED AT THE FRONT OF THE SITE WITHIN THE BUS LOOP. THE POST–DEVELOPMENT 1–YEAR, 24–HOUR PEAK FLOW RATE WILL BE REDUCED TO THE AMOUNT CALCULATED USING THE VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY ENERGY BALANCE EQUATION WITH AN IMPROVEMENT FACTOR OF 0.8. THE POST–DEVELOPMENT PEAK FLOW RATE FOR THE 2–YEAR AND 10–YEAR 24–HOUR WILL BE REDUCED TO EQUAL TO OR BELOW THE PRE–DEVELOPMENT 24–HOUR PEAK FLOW RATE.

QUALITY:
STORMWATER QUALITY REQUIREMENTS SHALL BE MET BY A VARIETY OF BMP'S IDENTIFIED IN THE VIRGINIA BMP CLEARINGHOUSE, AND WILL BE LOCATED AROUND THE PROPOSED SCHOOL PROPERTY. THESE LOCATIONS GENERALLY WILL BE DOWNSTREAM OF IMPERVIOUS AREAS AND INCORPORATE WATER QUALITY AND LOW IMPACT DEVELOPMENT PRACTICES. THE BMP'S CONSIDERED AT THIS TIME MAY INCLUDE BUT NOT BE LIMITED TO:

- TYPE I DRY SWALE FACILITY
- TYPE 1 URBAN BIORETENTION
- TYPE I PERMEABLE PAVEMENT

SHEET INDEX

C0.0	COVER SHEET
C0.1-C0.2	GENERAL NOTES
C1.0	EXISTING CONDITIONS PLAN
C1.1	EXISTING VEGETATION MAP
C1.2	EXISTING VEGETATION INVENTORY
C1.3	CONTEXTUAL SITE PLAN
C1.4	GIS DIMENSION PLAN
C1.5	PRELIMINARY SUBDIVISION PLAT
C1.6	REZONING PLAT
C2.0	PRELIMINARY SITE PLAN
C2.1	SURFACE AREA PLAN
C2.2	OPEN SPACE PLAN
C2.3	FIRE TRUCK CIRCULATION PLAN
C2.4	FIRE SERVICE PLAN
C2.5	TRASH AND LOADING TRUCK CIRCULATION PLAN
C2.6	SCHOOL BUS CIRCULATION PLAN
C2.7	PASSENGER VEHICLE CIRCULATION PLAN
C2.8	SIGHT DISTANCE EXHIBITS
C2.9	SITE DETAILS
C3.0	GRADING AND DRAINAGE PLAN
C3.1	PRE-DEVELOPMENT DRAINAGE AREA MAP
C3.2	POST-DEVELOPMENT DRAINAGE AREA MAP
C3.3	BMP DRAINAGE AREA MAP
C3.4 - C3.7	STORMWATER CALCULATIONS
C4.0	UTILITY PLAN
C4.1	SANITARY SEWER ADEQUATE OUTFALL ANALYSIS
L1.0	LANDSCAPE PLAN
L1.1	LANDSCAPE NOTES & CALCULATIONS
L1.2	LANDSCAPE DETAILS
A0.1	PARKING LEVEL PLAN
A0.2	FIRST LEVEL PLAN
A0.3	SECOND LEVEL PLAN
A0.4	THIRD LEVEL PLAN
A0.5	ROOF PLAN
A0.6	EXTERIOR ELEVATIONS
A0.7	EXTERIOR ELEVATIONS - COURTYARD
A0.8	BUILDING 3D VIEWS
A0.9	BUILDING SECTIONS
A0.10	CANOPY OPTIONS

OWNER / DEVELOPER / ENGINEER OF RECORD / ARCHITECT

1. RECORDED OWNER:
CITY OF ALEXANDRIA
301 KING STREET
ALEXANDRIA, VA 22314

THE SCHOOL BOARD OF THE
CITY OF ALEXANDRIA
1340 BRADDOCK PLACE
ALEXANDRIA, VA 22314

2. APPLICANT:
ALEXANDRIA CITY PUBLIC SCHOOLS
1340 BRADDOCK PLACE
ALEXANDRIA, VA 22314
703-619-8298

3. ENGINEER OF RECORD:
KIMLEY-HORN AND ASSOCIATES, INC.
11400 COMMERCE PARK DR., SUITE 400
RESTON, VA 20191

4. ARCHITECT:
DLR GROUP
419 7TH STREET, NW, 2ND FLOOR
WASHINGTON, DC 20004

TAX MAP INFO

TAX MAP REFERENCE:		
	051.02-03-16	**301 KING ST**
	051.02-03-09	**1340 BRADDOCK PL**
	051.02-03-10	**1340 BRADDOCK PL**
	051.02-09-01	**PO BOX 178**
	051.02-03-15	**FOREST PARK**

DESIGN ENGINEER AND LANDSCAPE ARCHITECT
FIRM NAME: KIMLEY-HORN AND ASSOCIATES, INC.
ADDRESS: 11400 COMMERCE PARK DRIVE, SUITE 400
RESTON, VIRGINIA 20191
PHONE NO: 703-674-1300 FAX NO: 703-674-1350
PROJ. MANAGER: KYLE BOLLINGER, P.E.
EMAIL: KYLE.BOLLINGER@KIMLEY-HORN.COM
SCALE: N/A (AT 24x36) DATE: 08/14/2020 DRAWN BY: LVA

Kimley»Horn

SEAL:

OWNER
CITY OF ALEXANDRIA
301 KING STREET
ALEXANDRIA, VA 22314
DEVELOPER
ALEXANDRIA CITY
PUBLIC SCHOOLS
CONTACT
ERIKA GULICK
(703) 619-8298

REVISION / APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DOUGLAS MACARTHUR
ELEMENTARY SCHOOL
MODERNIZATION
PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

SHEET NAME: COVER SHEET

APPROVED
SPECIAL USE PERMIT NO. DSUP#2020–0010
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.

K:\NVA_CIV\110681000 DMES Modernization\CAD\PlanSheets\Preliminary Plan\1 COVER.dwg, Layout:COVER Aug 14, 2020 Leif.VanAcker
XREFS: xBorder – 110681000
THIS DOCUMENT, TOGETHER WITH THE CONCEPTS AND DESIGNS PRESENTED HEREIN, AS AN INSTRUMENT OF SERVICE, IS INTENDED ONLY FOR THE SPECIFIC PURPOSE AND CLIENT FOR WHICH IT WAS PREPARED. REUSE OF AND IMPROPER RELIANCE ON THIS DOCUMENT WITHOUT WRITTEN AUTHORIZATION AND ADAPTATION BY KIMLEY-HORN AND ASSOCIATES, INC. SHALL BE WITHOUT LIABILITY TO KIMLEY-HORN AND ASSOCIATES, INC.

GENERAL PROJECT NOTES

1. SYNTHETIC TURF UNDERDRAIN SYSTEM MUST BE INSTALLED SO AS NEITHER TO ADVERSELY IMPACT UPON, NOR CAUSE EROSION DAMAGE TO ADJACENT PROPERTIES OR THE PUBLIC RIGHT OF WAY.
2. THE CONTRACTOR MUST ENSURE THAT POSITIVE DRAINAGE OCCURS ON SITE TO PREVENT PONDING OR DRAINAGE PROBLEMS ON ADJACENT PROPERTIES.
3. A SEPARATE DESIGN IS REQUIRED FOR ALL WALLS 24” AND OVER IN HEIGHT AND SUBJECT TO SEPARATE PERMITS TO BE OBTAINED BY THE CONTRACTOR. GEOTECHNICAL AND STRUCTURAL DESIGN IS TO BE COMPLETED BY OTHERS. THIS FINAL SITE PLAN SHOWS LOCATION, PROPOSED GRADING, AND DESIGN OF ALL THE WALLS.
4. ALL STORM DRAINS NOT SHOWN WITHIN AN EASEMENT OR IN A PUBLIC RIGHT OF WAY SHALL BE OWNED AND MAINTAINED PRIVATELY.
5. ALL SIDEWALKS SHALL REMAIN OPENED DURING CONSTRUCTION OR PEDESTRIAN ACCESS SHALL BE MAINTAINED TO THE SATISFACTION OF THE OWNER AND THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES THROUGHOUT THE CONSTRUCTION OF THE PROJECT.
6. THE APPLICANT SHALL COMPLY WITH THE CHESAPEAKE BAY PRESERVATION ACT IN ACCORDANCE WITH ARTICLE XIII OF THE CITY'S ZONING ORDINANCE, WHICH INCLUDE THE REQUIREMENTS FOR STORMWATER POLLUTANT LOAD REDUCTIONS, TREATMENT OF WATER QUALITY VOLUME DEFAULT, AND STORMWATER QUANTITY MANAGEMENT ACCORDING TO ALEXANDRIA SUPPLEMENT TO THE NORTHERN VIRGINIA BMP HANDBOOK.
7. ALL SANITARY SEWERS SHALL BE CONSTRUCTED TO THE CITY OF ALEXANDRIA STANDARDS AND SPECIFICATIONS. MINIMUM DIAMETER OF SANITARY SEWERS SHALL BE 10" IN THE PUBLIC RIGHT-OF-WAY AND SANITARY LATERALS SHALL BE 6" FOR ALL COMMERCIAL AND INSTITUTIONAL DEVELOPMENTS; HOWEVER, A 4" SANITARY LATERAL WILL BE ACCEPTABLE FOR SINGLE FAMILY RESIDENCES. THE ACCEPTABLE PIPE MATERIALS WILL BE POLYVINYL CHLORIDE (PVC) ASTM D-3034-77 SDR 26, ASTM 1785-76 SCHEDULE 40, DUCTILE IRON PIPE AWWA C-151 (ANSI A21.51) CLASS 52, OR REINFORCED CONCRETE PIPE ASTM C-76 CLASS IV (FOR 12" OR LARGER DIAMETERS). CLASS III MAY BE ACCEPTABLE ON PRIVATE PROPERTIES. THE ACCEPTABLE MINIMUM AND MAXIMUM VELOCITIES WILL BE 2.5 FPS AND 10 FPS, RESPECTIVELY. LATERALS SHALL BE CONNECTED TO THE SANITARY SEWER THROUGH A MANUFACTURED "Y" OR "T" OR APPROVED SEWER SADDLE. WHERE THE LATERALS ARE BEING CONNECTED TO EXISTING TERRACOTA PIPES, REPLACE THE SECTION OF MAIN AND PROVIDE MANUFACTURED "Y" OR 'T', OR ELSE INSTALL A MANHOLE.
8. ALL STORM SEWERS SHALL BE CONSTRUCTED TO THE CITY OF ALEXANDRIA STANDARDS AND SPECIFICATIONS. MINIMUM DIAMETER OF STORM SEWERS SHALL BE 18” IN THE PUBLIC RIGHT OF WAY AND MINIMUM SIZE STORM SEWER CATCH BASIN LEAD IS 15”. THE ACCEPTABLE PIPE MATERIALS WILL BE AWWA C-151 (ANSI A21.51) CLASS 52 OR REINFORCED CONCRETE PIPE ASTM C-76 CLASS IV. THE ACCEPTABLE MINIMUM AND MAXIMUM VELOCITIES WILL BE 2.0 FPS AND 15 FPS, RESPECTIVELY.
9. LATERAL SEPARATION OF SEWERS AND WATER MAINS: A HORIZONTAL SEPARATION OF 10' (EDGE TO EDGE) SHALL BE PROVIDED BETWEEN A STORM AND SANITARY SEWER AND A WATER LINE; HOWEVER, IF THIS HORIZONTAL SEPARATION CANNOT BE ACHIEVED THEN THE SEWER AND WATER MAIN SHALL BE INSTALLED IN SEPARATE TRENCHES AND THE BOTTOM OF THE WATER MAIN SHALL BE AT LEAST 18” ABOVE OF THE TOP OF THE SANITARY/STORM SEWER. IF BOTH THE HORIZONTAL AND VERTICAL SEPARATIONS CANNOT BE ACHIEVED THEN THE SEWER PIPE MATERIAL SHALL BE DUCTILE IRON PIPE (DIP) AWWA C-151 (ANSI A21.51) CLASS 52 AND PRESSURE TESTED IN PLACE WITHOUT LEAKAGE PRIOR TO INSTALLATION.
10. CROSSING WATER MAIN OVER AND UNDER A SANITARY OR STORM SEWER: WHEN A WATER MAIN CROSSES OVER OR CROSSES UNDER A SANITARY/STORM SEWER THEN THE VERTICAL SEPARATION BETWEEN THE BOTTOM OF ONE (I.E., SANITARY / STORM SEWER OR WATER MAIN) TO THE TOP OF THE OTHER (WATER MAIN OR SANITARY/STORM SEWER) SHALL BE AT LEAST 18” FOR SANITARY SEWER AND 12” FOR STORM SEWER; HOWEVER, IF THIS CANNOT BE ACHIEVED THEN BOTH THE WATER MAIN AND SANITARY / STORM SEWER SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE (DIP) AWWA C-151 (ANSI 21.51) CLASS 52 WITH JOINTS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING. A SECTION OF WATER MAIN PIPE SHALL BE CENTERED AT THE POINT OF CROSSING AND THE PIPES SHALL BE PRESSURE TESTED IN PLACE WITHOUT LEAKAGE PRIOR TO INSTALLATION. SANITARY SEWERS UNDER CREEKS AND STORM SEWER PIPE CROSSINGS WITH LESS THAN 6” CLEARANCE SHALL BE ENCASED IN CONCRETE.
11. NO WATER MAIN PIPE SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF SANITARY/STORM SEWER MANHOLE. MANHOLES SHALL BE PLACED AT LEAST 10 FEET HORIZONTALLY FROM THE WATER MAIN WHENEVER POSSIBLE. WHEN LOCAL CONDITIONS PROHIBIT THIS HORIZONTAL SEPARATION, THE MANHOLE SHALL BE WATERTIGHT CONSTRUCTION AND TESTED IN PLACE.
12. CROSSING EXISTING OR PROPOSED UTILITIES: UNDERGROUND TELEPHONE, CABLE T.V., GAS, AND ELECTRICAL DUCT BANKS SHALL BE CROSSED MAINTAINING A MINIMUM OF 12” OF SEPARATION OR CLEARANCE WITH WATER MAIN, SANITARY, OR STORM SEWERS. IF THIS SEPARATION CANNOT BE ACHIEVED THEN THE SEWER PIPE MATERIAL SHALL BE DUCTILE IRON PIPE (DIP) AWWA C-151 (ANSI A21.51) CLASS 52 FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING AND PRESSURE TESTED IN PLACE WITHOUT LEAKAGE PRIOR TO INSTALLATION. SANITARY/STORM SEWERS AND WATER MAIN CROSSING OVER THE UTILITIES SHALL HAVE ADEQUATE STRUCTURAL SUPPORT (PIER SUPPORT AND/OR CONCRETE ENCASEMENT) TO PREVENT DAMAGE TO THE UTILITIES.

EROSION AND SEDIMENT CONTROL NOTES

1. AN EROSION AND SEDIMENT CONTROL PLAN MUST BE APPROVED BY THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES PRIOR TO ANY LAND DISTURBING ACTIVITY GREATER THAN 2,500 SQUARE FEET.
2. UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE CITY OF ALEXANDRIA AND VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH) AND VIRGINIA REGULATIONS 4VAC50-30 SEDIMENT AND CONTROL REGULATIONS.
3. AN EROSION AND SEDIMENT CONTROL PLAN IS INCLUDED WITH THESE FINAL PLANS FOR APPROVAL BY THE DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES FOR REFERENCE BY THE EROSION AND SEDIMENT CONTROL PERMIT.
4. A “CERTIFIED LAND DISTURBER” (CLD) SHALL BE NAMED IN A LETTER TO THE DIVISION CHIEF OF CONSTRUCTION AND INSPECTION (C&I), DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES PRIOR TO ANY LAND DISTURBING ACTIVITIES. IF THE CLD CHANGES DURING THE PROJECT, THAT CHANGE MUST BE NOTED IN A LETTER TO THE DIVISION CHIEF.
5. THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES, CONSTRUCTION AND INSPECTION (C&I) DIVISION MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENTS OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION. THE RESPONSIBLE CERTIFIED LAND DISTURBER (CLD) SHALL ATTEND THE PRE-CONSTRUCTION CONFERENCE.
6. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED / CONSTRUCTED AS A FIRST STEP IN ANY LAND DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.
7. CONSTRUCTION SHALL BE SEQUENCED SUCH THAT GRADING OPERATION CAN BEGIN AND END AS QUICKLY AS POSSIBLE. AREAS NOT TO BE DISTURBED MUST BE CLEARLY MARKED OR FLAGGED.
8. AN INSPECTION BY THE CITY OF ALEXANDRIA IS REQUIRED AFTER INITIAL INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND BEFORE ANY CLEARING OR GRADING CAN BEGIN.
9. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
10. PRIOR TO COMMENCING ANY LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN THOSE INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS), THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE CITY OF ALEXANDRIA.
11. THE CONTRACTOR SHALL KEEP DENUDED AREAS TO A MINIMUM. PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR. ANY STOCKPILED MATERIAL WHICH WILL REMAIN IN PLACE LONGER THAN 10 DAYS MUST BE SEEDED FOR TEMPORARY VEGETATION AND MULCHED WITH STRAW MULCH OR OTHERWISE STABILIZED.

EROSION AND SEDIMENT CONTROL NOTES (CONT'D)

12. ALL TEMPORARY EARTH BERMS, DIVERSIONS AND SEDIMENT CONTROL DAMS SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED AS SOON AS POSSIBLE BUT NO LATER THAN 48 HOURS AFTER GRADING.
13. ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.
14. DURING DEWATERING OPERATIONS, WATER SHALL BE PUMPED THROUGH AN APPROVED FILTERING DEVICE OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY IMPACT FLOWING STREAMS OR OFF-SITE PROPERTY.
15. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES DAILY AND AFTER EACH RUNOFF-PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.
16. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES AS NECESSARY TO PREVENT EROSION AND SEDIMENTATION AND AS DETERMINED BY THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&ES) OF THE CITY OF ALEXANDRIA.
17. ANY DENUDED SLOPES, EITHER DISTURBED OR CREATED BY THIS PLAN THAT EXCEED 2500 SQUARE FEET ARE TO BE SODDED AND PEGGED FOR STABILITY AND EROSION CONTROL. AT THE COMPLETION OF THE PROJECT AND PRIOR TO THE RELEASE OF THE BOND, ALL DISTURBED AREAS SHALL BE STABILIZED PERMANENTLY AND ALL TEMPORARY EROSION AND SEDIMENT CONTROLS SHALL BE REMOVED.
18. ALL VEHICLES SHALL BE CLEANED BEFORE ENTERING THE PUBLIC RIGHT OF WAY TO PREVENT TRACKING OF SEDIMENT ON PUBLIC STREETS.
19. THE WASH WATER FROM THE CONSTRUCTION ENTRANCE SHALL BE FILTERED THROUGH THE PROVIDED SILT FENCE TO ENSURE THAT NO SEDIMENT LADEN RUNOFF IS ALLOWED TO RUNOFF ON TO THE ADJACENT PROPERTY OR THE PUBLIC RIGHT OF WAY.
20. INSTALL SILT FENCE AND TREE PROTECTION, WHERE APPLICABLE. TO THE EXTENT POSSIBLE ALL TREE PROTECTION SHALL BE INSTALLED AT THE DRIP LINE OF THE TREE(S).
21. DUST CONTROL SHALL BE ACCOMPLISHED BY TEMPORARY VEGETATIVE COVER AND BY IRRIGATION AS NEEDED.

SEQUENCE OF CONSTRUCTION FOR INSTALLATION OF EROSION AND SEDIMENT CONTROL DEVICES

1. INSTALL PERIMETER EROSION AND SEDIMENT CONTROLS; AND STABILIZE CONSTRUCTION ENTRANCE AS SHOWN ON THIS PLAN.
2. ALL VEGETATION PRESERVATION AND PROTECTION METHODS SHALL BE APPROVED/VERIFIED IN FIELD BY THE CITY ARBORIST PRIOR TO COMMENCEMENT OF ANY GROUND DISTURBING ACTIVITY.
3. INSTALL INLET PROTECTION AT EXISTING STORM DRAIN INLETS AS NECESSARY AND AS SHOWN ON THIS PLAN.
4. INSTALL ADDITIONAL EROSION AND SEDIMENT CONTROL PRACTICES AS NECESSARY AND AS DIRECTED BY THE EROSION AND SEDIMENT CONTROL INSPECTOR.
5. CONDUCT DEMOLITION AND CONSTRUCTION ACTIVITIES ACCORDING TO THE APPLICABLE PLANS.
6. AS CONTRIBUTING DRAINAGE AREAS ARE STABILIZED AND WITH THE PERMISSION OF THE EROSION AND SEDIMENT CONTROL INSPECTOR, REMOVE INDIVIDUAL EROSION AND SEDIMENT CONTROL PRACTICES.
7. UPON COMPLETION OF DEMOLITION, CONSTRUCTION AND LAND DISTURBING ACTIVITIES; PROVIDE PERMANENT STABILIZATION ACCORDING TO APPROVED METHODS AND REMOVE ALL REMAINING EROSION AND SEDIMENT CONTROL MEASURES WITH THE APPROVAL OF THE EROSION AND SEDIMENT CONTROL INSPECTOR.

UTILITY WORKS NOTES

1. 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:
   - A. ALL PRIVATE UTILITIES SHALL BE LOCATED OUTSIDE OF THE PUBLIC RIGHT OF WAY AND PUBLIC UTILITY EASEMENTS UNLESS THE UTILITY OWNERS HAVE A 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.
   - B. 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.
   - C. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN UTILITY SERVICES AT ALL TIMES DURING CONNECTION AND/OR CONSTRUCTION.
   - D. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.
   - E. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
   - F. 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.
   - G. 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.
   - H. 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.
   - I. RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE VIRGINIA REGULATIONS 4VA50-30 EROSION AND SEDIMENT CONTROL REGULATIONS, VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH).
   - J. APPLICABLE SAFETY REGULATIONS SHALL BE COMPILED WITH.
   - K. 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.
   - L. A REMEDIATION PLAN SHALL BE SUBMITTED DETAILING HOW CONTAMINATED SOILS AND/OR GROUNDWATER WILL BE DEALT WITH, INCLUDING PLANS TO REMEDIATE UTILITY CORRIDORS.
   - M. UTILITY CORRIDORS IN CONTAMINATED SOIL SHALL BE OVER EXCAVATED BY 2 FEET AND BACKFILLED WITH “CLEAN” SOIL.
   - N. GRADING CAN BE PERFORMED ON INSTALLATION OF UTILITIES.

UTILITY WORKS NOTES (CONT'D)

O. ALL UTILITIES SUCH AS ELECTRICAL LINES, GAS PIPES, COMMUNICATION CABLES, INCLUDING WATER AND SEWER LATERALS ON PRIVATE PROPERTY IN THE CITY OF ALEXANDRIA SHALL BE PROVIDED WITH MINIMUM 3” WIDE 5 MIL OVERALL THICKNESS DETECTABLE UNDERGROUND WARNING TAPE (DUWT). THE DUWT SHALL BE INSTALLED AT DEPTHS OF 12” TO 18” FOR DUWT WIDTHS OF 3” AND 24” FOR WIDTHS OF 6” SO AS TO MAKE UNDERGROUND INSTALLATIONS EASY TO FIND USING A NON-FERROUS LOCATOR. THE DUWT SHALL HAVE 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 AS FOLLOWS:

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 AND SLURRY LINES
GREEN	CAUTION SEWER, DRAIN LINES, AND FORCE MAIN

DEMOLITION NOTES

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 NON-FERROUS 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 THE 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 CODS, REGULATIONS, AND THE REQUIREMENTS OF THE UTILITY HAVING JURISDICTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE UTILITY, 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 DIFFERENT FROM 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) STANDARD DETAIL PB-1.
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 MATERIALS AS PART OF THE DEMOLITION PROCESS. CONSTRUCTION DEBRIS, INCLUDING DISCARDED MATERIALS GENERATED DURING THE DEMOLITION PROCESS, MUST BE REMOVED BY THE CONTRACTOR TO AN APPROVED LANDFILL WITH ADEQUATE FREQUENCY IN ACCORDANCE WITH THE VIRGINIA STATE LITTER CONTROL ACT.

LANDSCAPE NOTES

1. ALL PROTECTION AND PRESERVATION MEASURES FOR EXISTING VEGETATION, INCLUDING MAINTENANCE SHALL BE APPROVED BY THE CITY ARBORIST IN-FIELD PRIOR TO COMMENCEMENT OF ANY SITE DISTURBING ACTIVITY.
2. SPECIFICATION FOR ALL PLANTINGS SHALL BE IN ACCORDANCE WITH THE CURRENT AND MOST UP TO DATE EDITION OF ANSI-Z60.1, THE AMERICAN STANDARD FOR NURSERY STOCK AS PRODUCED BY THE AMERICAN ASSOCIATION OF NURSERYMEN; WASHINGTON, DC.
3. THE APPLICANT HAS MADE SUITABLE ARRANGEMENTS FOR PRE-SELECTION TAGGING, PRE-CONTRACT GROWING, OR IS UNDERTAKING SPECIALIZED PLANTING STOCK DEVELOPMENT WITH A NURSERY OR GROWER THAT IS CONVENIENTLY LOCATED TO THE PROJECT SITE, OTHER PROCEDURES THAT WILL ENSURE AVAILABILITY OF SPECIFIED MATERIALS. IN THE EVENT THAT SHORTAGES AND/OR INABILITY TO OBTAIN SPECIFIED PLANTINGS OCCURS, REMEDIAL EFFORTS INCLUDING SPECIES CHANGES, ADDITIONAL PLANTINGS AND MODIFICATION TO THE LANDSCAPE PLAN SHALL BE UNDERTAKEN BY THE APPLICANT. ALL REMEDIAL EFFORTS SHALL, WITH PRIOR APPROVAL BY THE CITY, BE PERFORMED TO THE SATISFACTION OF THE DIRECTORS OF PLANNING AND ZONING, RECREATION, PARKS AND CULTURAL ACTIVITIES AND TRANSPORTATION AND ENVIRONMENTAL SERVICES.
4. 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 ANY TIME OF CONSTRUCTION) OF LANDSCAPE SPECIFICATION GUIDELINES AS PRODUCED BY THE LANDSCAPE CONTRACTORS ASSOCIATION OF MARYLAND, DISTRICT OF COLUMBIA, AND VIRGINIA; GAITHERSBURG MARYLAND.
5. PRIOR TO COMMENCEMENT OF LANDSCAPE INSTALLATION/PLANTING OPERATION, A PRE-INSTALLATION/CONSTRUCTION MEETING WITH BE SCHEDULED WITH THE CITY'S ARBORIST AND LANDSCAPE ARCHITECTS TO REVIEW THE SCOPE OF INSTALLATION PROCEDURES AND PROCESSES.
6. MAINTENANCE FOR THIS PROJECT SHALL BE PERFORMED IN PERPETUITY, IN COMPLIANCE WITH THE CITY OF ALEXANDRIA LANDSCAPE GUIDELINES AND/OR AS CONDITIONED BY PROJECT APPROVAL.
7. A CERTIFICATION LETTER FOR TREE WELLS, TREE TRENCHES AND PLANTING ABOVE STRUCTURE SHALL BE PROVIDED BY THE PROJECT'S LANDSCAPE ARCHITECT. THE LETTER SHALL CERTIFY THAT ALL BELOW GRADE CONSTRUCTION IS IN COMPLIANCE WITH APPROVED DRAWINGS AND SPECIFICATIONS. THE LETTER SHALL BE SUBMITTED TO THE CITY ARBORIST AND APPROVED PRIOR TO APPROVAL OF THE LAST AND FINAL CERTIFICATE OF OCCUPANCY FOR THE PROJECT. THE LETTER SHALL BE SUBMITTED BY THE OWNER/APPLICANT/SUCCESSOR AND SEALED AND DATED AS APPROVED BY THE PROJECT'S LANDSCAPE ARCHITECT.
8. AS-BUILT DRAWINGS FOR THIS LANDSCAPE AND/OR IRRIGATION/WATER MANAGEMENT SYSTEM WILL BE PROVIDED IN COMPLIANCE WITH CITY OF ALEXANDRIA LANDSCAPE GUIDELINES. 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.

DESIGN ENGINEER AND LANDSCAPE ARCHITECT
FIRM NAME: KIMLEY-HORN AND ASSOCIATES, INC.
ADDRESS: 11400 COMMERCE PARK DRIVE, SUITE 400
RESTON, VIRGINIA 20191
PHONE NO: 703-674-1300 FAX NO: 703-674-1350
PROJ. MANAGER: KYLE BOLLINGER, P.E.
EMAIL: KYLE.BOLLINGER@KIMLEY-HORN.COM

SCALE: N/A (AT 24x36)
DATE: 08/14/2020
DRAWN BY: LVA

Kimley»Horn

SEAL:

OWNER
CITY OF ALEXANDRIA
301 KING STREET
ALEXANDRIA, VA 22314

DEVELOPER
ALEXANDRIA CITY
PUBLIC SCHOOLS

CONTACT
ERIKA GULICK
(703) 619-8298

REVISION / APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DOUGLAS MACARTHUR
ELEMENTARY SCHOOL
MODERNIZATION

PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

SHEET NAME:
GENERAL NOTES

APPROVED
SPECIAL USE PERMIT NO. DSUP#2020-0010
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.

\\kimley-horn.com\AT_NVA2\NVA_CIV\110681000 dmes modernization\CAD\plansheets\preliminary plan\1 COVER.dwg, Layout:GENERAL NOTES Aug 14, 2020 Brandon.Kramer
XREFS: xBorder - 110681000
THIS DOCUMENT, TOGETHER WITH THE CONCEPTS AND DESIGNS PRESENTED HEREIN, AS AN INSTRUMENT OF SERVICE, IS INTENDED ONLY FOR THE SPECIFIC PURPOSE AND CLIENT FOR WHICH IT WAS PREPARED. REUSE OF AND IMPROPER RELIANCE ON THIS DOCUMENT WITHOUT WRITTEN AUTHORIZATION AND ADAPTATION BY KIMLEY-HORN AND ASSOCIATES, INC. SHALL BE WITHOUT LIABILITY TO KIMLEY-HORN AND ASSOCIATES, INC.

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 AND PROPER STEPS TO PROTECT THE FACILITY AND ASSURE THE CONTINUANCE 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 AGENCY 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. ALL AREAS, ON OR OFF-SITE, 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.

7. 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.

8. 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.

9. THE CONTRACTOR SHALL VERIFY INVERT SIZE AND LOCATION OF BUILDING UTILITY CONNECTIONS PRIOR TO PLACEMENT OF UNDERGROUND UTILITIES.

10. EXISTING BUILDING, FENCES, AND OTHER EXISTING PHYSICAL FEATURES ARE TO BE REMOVED AS REQUIRED BY THE CONTRACTOR.

11. EXISTING CONSTRUCTION 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.

12. ALL PRIVATE BUILDING CONNECTIONS ARE TO BE INSTALLED IN ACCORDANCE WITH THE CURRENT PLUMBING CODE.

13. 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 ADJUSTMENT TO MEET FINISHED GRADE ELEVATION, IF REQUIRED, SHALL BE MADE IN THE FIELD WITH THE APPROVAL OF SITE INSPECTOR OF THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES.

14. THE CONSTRUCTION, FIELD PRACTICES AND METHODS SHALL CONFORM TO THE REQUIREMENTS SET FORTH BY THE CITY OF ALEXANDRIA AND ITS CURRENT ZONING ORDINANCE 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.

15. 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.

16. CONSTRUCTION STAKEOUT SHALL BE UNDER THE DIRECT SUPERVISION OF A LICENSED LAND SURVEYOR IN THE COMMONWEALTH OF VIRGINIA.

17. 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 THE FACES OF BUILDINGS.

18. 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 GUTTER AND/OR PONDING OF WATER ON THE ROADWAY.

19. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING A SMOOTH TRANSITION TO EXISTING CURB AND SIDEWALKS, IF APPLICABLE.

20. THE CALIFORNIA BEARING RATIO (CBR) VALUES ON IN-SITU MATERIALS SHALL BE DETERMINED BY FIELD AND/OR LABORATORY TESTS FOR ACTUAL DETERMINATION OF REQUIRED THICKNESS 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.

21. EMERGENCY VEHICLE EASEMENTS (EVE) AND 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.

22. ALL STRIPING SHALL MEET THE REQUIREMENTS OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) STANDARDS (LATEST EDITION) AND SHALL BE THERMOPLASTIC UNLESS OTHERWISE SPECIFIED.

23. 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 SOILS REPORT REQUIREMENTS.

24. THE CONTRACTORS SHALL NOT CAUSE OR PERMIT VEHICLES TO IDLE FOR MORE THAN 10 MINUTES WHEN PARKED.

25. DAMAGE TO ANY EXISTING ENTRANCES, CURB AND GUTTER, PAVEMENT OR OTHER EXISTING STRUCTURES NOT PROPOSED TO BE DISTURBED WITH THIS DEVELOPMENT, WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE REPAIRED TO THE SATISFACTION OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION AND ANY ADJOINING OWNERS THAT MAY BE AFFECTED.

26. ALL CONSTRUCTION ACTIVITES SHALL CONFORM WITH LATEST EDITION OF OSHA REGULATIONS AND GUIDELINES.

27. IN THE EVENT THE PROPOSED DRAINAGE SYSTEM ADVERSELY IMPACTS AND/OR CREATES A NUISANCE ON THE PUBLIC OR PRIVATE PROPERTIES THEN THE APPLICANT SHALL BE RESPONSIBLE TO PROVIDE ADDITIONAL IMPROVEMENTS TO THE FIELD DRAINAGE SYSTEM AND/OR SUMP PUMP DISCHARGE TO THE SATISFACTION OF THE DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&ES).

28. ALL GEOTECHNICAL AND CONCRETE TESTING AND INPECTIONS SHALL BE PROVIDED BY A CITY APPROVED, THIRD PARTY CONSULTANT. FEES FOR ALL THIRD PARTY CONSULTANT TESTING AND INSPECTIONS SHALL BE PAID BY THE CONTRACTOR AND INCLUDED IN THE CONTRACTOR'S BASE BID.

29. ALL COORDINATION WITH APPLICABLE PUBLIC UTILITIES INCLUDING BUT NOT LIMITED TO TIMING OF SERVICE DROPS, RECONNECTIONS, LOAD LETTERS, PRESSURE TESTS AND PERMITS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ALL SUCH WORK SHALL BE SCHEDULED AND PERFORMED IN A MANNER TIMELY TO COMPLETION OF THE PROJECT.

RESOURCE PROTECTION AREA NOTE

1. THE SUBJECT PROPERTY DOES NOT LIE WITHIN THE CITY OF ALEXANDRIA RESOURCE PROTECTION AREA (RPA) AND THERE ARE NO MAPPED RPA'S ON THIS PROPERTY.

FLOODPLAIN NOTE

1. THE SUBJECT PROPERTY DOES NOT LIE WITHIN A 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).

CEMETERY AND/OR BURIAL GROUNDS NOTE

1. THERE IS NO OBSERVABLE, HISTORICAL, OR ARCHAEOLOGICAL EVIDENCE OF CEMETERIES OR BURIAL GROUNDS ON THIS PROPERTY.

RODENT ABATEMENT NOTE

1. PRIOR TO ISSUANCE OF A DEMOLITION PERMIT OR LAND DISTURBANCE PERMIT, A RODENT ABATEMENT PLAN SHALL BE SUBMITTED TO THE CITY OF ALEXANDRIA BUILDING AND FIRE CODE ADMINISTRATION BY THE CONTRACTOR THAT WILL OUTLINE STEPS THAT WILL BE TAKEN TO PREVENT THE SPREAD OF RODENTS FROM THE CONSTRUCTION SITE TO THE SURROUNDING COMMUNITY AND SEWERS. THE CONTRACTOR CAN CONTACT ALEXANDRIA BUILDING AND FIRE CODE ADMINISTRATION DEPARTMENT AT (703) 838-4644 OR (703) 746-4200 FOR ANY QUESTIONS OR ADDITIONAL INFORMATION.

2. ALL NEW DAYLIGHTED DRAINAGE PIPE SHALL BE CONSTRUCTED WITH RODENT SCREENS.

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) 746-4399.

2. THE APPLICANT/DEVELOPER SHALL CALL ALEXANDRIA ARCHAEOLOGY IMMEDIATELY (703- 746-4399) IF ANY BURIED STRUCTURAL REMAINS (WALL FOUNDATIONS, WELLS, PRIVIES, CISTERNS, ETC.) 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.

3. THE APPLICANT/DEVELOPER 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.

ENVIRONMENTAL SITE ASSESSMENT

1. THERE ARE NO TIDAL WETLANDS, TIDAL SHORES, TRIBUTARY STREAMS, CONNECTED TIDAL WETLANDS, ISOLATED WETLANDS, HIGHLY ERODIBLE/PERMEABLE SOILS OR BUFFER AREAS ASSOCIATED WITH SHORES, STREAMS, OR WETLANDS LOCATED ON THIS SITE. FURTHER, THERE ARE NO WETLAND PERMITS REQUIRED FOR THIS DEVELOPMENT PROJECT. ADDITIONALLY, THERE ARE NO KNOWN UNDERGROUND STORAGE TANKS OR AREAS OF SOIL OR GROUNDWATER CONTAMINATION ON THE SITE.

2. THE CITY OF ALEXANDRIA DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES, DIVISION 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 RELEASE TO THE ENVIRONMENT SHALL BE HANDLED IN ACCORDANCE WITH FEDERAL, STATE, AND CITY REGULATIONS.

3. 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 7AM TO 6 PM AND SATURDAYS FROM 9AM TO 6 PM.
   -NO CONSTRUCTION ACTIVITIES ARE PERMITTED ON SUNDAYS.
   -PILE DRIVING IS FURTHER RESTRICTED TO THE FOLLOWING HOURS:
      -MONDAY THROUGH FRIDAY FROM 9AM TO 6 PM AND SATURDAYS FROM 10AM TO 4PM.

EXISTING CONDITIONS SURVEY NOTES

HORIZONTAL DATUM* NORTH AMERICAN DATUM OF 1983, NAD83
VERTICAL DATUM* NORTH AMERICAN DATUM OF 1988, NAVD88*

1. UTILITY INFORMATION, AS SHOWN ON THIS PLAN, IS TAKEN FROM THE RECORDS AND/OR FIELD SURVEY COMPLETED BY GRS GROUP, LLC. DATED 03/02/2020; 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. CONTRACTOR IS ENCOURAGED TO VISIT DOMINION VIRGINIA POWER'S WEB SITE AT WWW.DOM.COM (KEYWORD "SAFETY") FOR ADDITIONAL SAFETY INSTRUCTIONS.

2. LOCATION AND DEPTH OF ALL EXISTING UNDERGROUND UTILITIES SHALL BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHOULD DIG TEST PITS BY HAND AT ALL UTILITY CROSSINGS TO VERIFY EXACT LOCATION.

3. THE BOUNDARY INFORMATION FOR THE SUBJECT SITE IS BASED ON A CURRENT FIELD SURVEY PREPARED BY GRS GROUP, LLC. DATED 03/02/2020 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 N PLANE (NORTH ZONE) COORDINATES BASED ON NAD83 AND NAVD88; HOWEVER, IF THE CURRENT DRAWINGS ARE PREPARED USING NORTH AMERICAN DATUM OF 1927 (NAD27) AND NORTH GEODETIC 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.

ALEXRENEW 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 703-549-3381 X2020.

STORMWATER MANAGEMENT PLAN

1. THE PLAN DEMONSTRATES THAT THE SITE HAS BEEN DEVELOPED TO INCREASE THE POST DEVELOPMENT PEAK RUNOFF RATE FROM THE PRE-DEVELOPMENT PEAK RUNOFF RATE FOR A TWO-YEAR AND TEN-YEAR STORM, CONSIDERED INDIVIDUALLY. THEREFORE, STORMWATER DETENTION IS PROVIDED PER THE REQUIREMENTS OF ARTICLE 13-109(F)(1) OF ALEXANDRIA ZONING ORDINANCE, NOT TO RELEASE STORMWATER FROM THE SITE AT A HIGHER RATE THAN PRE-DEVELOPMENT CONDITION. AN ADEQUATE OUTFALL ANALYSIS IS PROVIDED TO DEMONSTRATE THAT THE STORMWATER IS DISCHARGED INTO AN ADEQUATE OUTFALL PER THE REQUIREMENTS OF ARTICLE XI, SECTION 11-410 (N).

2. THE PIPES AND STORM SEWER SYSTEM DEMONSTRATES THAT A TEN-YEAR STORM IS CONTAINED WITHIN THE PIPE OR SYSTEM AND THE HYDRAULIC GRADE LINE (HGL) IS AT LEAST TWO FEET BELOW THE TOP OF THE MANHOLE; THEREFORE, AN ADEQUATE STORM WATER OUTFALL IS ASSUMED TO BE AVAILABLE.

3. THE APPLICANT SHALL SUBMIT TO THE CITY OF ALEXANDRIA A STORMWATER BMP AND DETENTION FACILITIES MAINTENANCE AGREEMENT WITH FINAL #2 SUBMISSION. THE MAINTENANCE AGREEMENT SHALL BE REGISTERED WITH ALEXANDRIA LAND RECORDS

4. THE PRE AND POST DEVELOPMENT PEAK RATES OF RUNOFF ARE COMPUTED BY THE SCS METHOD USING THE CITY OF ALEXANDRIA RAINFALL DATA, DESIGN AND CONSTRUCTION STANDARDS, DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES, JULY 1989. AN INLET TIME OF CONCENTRATION OF 5 MINUTES HAS BEEN USED FOR BUSINESS, COMMERCIAL APARTMENT, AND TOWNHOUSE COMPLEXES AS AN ULTRA URBAN ENVIRONMENT. ALL HYDROLOGIC ANALYSES RELATED TO PRE AND POST DEVELOPMENT ARE BASED ON THE EXISTING WATERSHED CHARACTERISTICS AND THE ULTIMATE DEVELOPMENT OF THE SUBJECT PROJECT, RESPECTIVELY.

STORMWATER BEST MANAGEMENT PRACTICES (BMP) NOTES

1. THE STORMWATER BEST MANAGEMENT PRACTICES (BMP) REQUIRED FOR THIS PROJECT SHALL BE CONSTRUCTED AND INSTALLED UNDER THE DIRECT SUPERVISION OF THE DESIGN ENGINEER OR HIS DESIGNATED REPRESENTATIVE. THE DESIGN ENGINEER SHALL MAKE A WRITTEN CERTIFICATION TO THE CITY THAT THE BMPs ARE CONSTRUCTED AND INSTALLED AS DESIGNED AND IN ACCORDANCE WITH THE APPROVED SITE PLAN. IN ADDITION, AGGREGATE LAYERS AND COLLECTOR PIPES MAY NOT BE INSTALLED UNLESS THE DESIGN ENGINEER OR HIS REPRESENTATIVE IS PRESENT.

2. THE CONTRACTOR SHALL FURNISH THE CITY WITH AN OPERATION AND MAINTENANCE MANUAL FOR ALL BMPs ON THE PROJECT. THE MANUAL SHALL INCLUDE AN EXPLANATION OF THE FUNCTIONS AND OPERATIONS OF EACH BMP AND ANY SUPPORTING UTILITIES, CATALOG CUTS ON ANY MECHANICAL OR ELECTRICAL EQUIPMENT AND A SCHEDULE OF ROUTINE MAINTENANCE FOR THE BMPs AND SUPPORTING EQUIPMENT.

DESIGN ENGINEER AND LANDSCAPE ARCHITECT
FIRM NAME: KIMLEY-HORN AND ASSOCIATES, INC.
ADDRESS: 11400 COMMERCE PARK DRIVE, SUITE 400
RESTON, VIRGINIA 20191
PHONE NO: 703-674-1300 FAX NO: 703-674-1350
PROJ. MANAGER: KYLE BOLLINGER, P.E.
EMAIL: KYLE.BOLLINGER@KIMLEY-HORN.COM
SCALE: N/A (AT 24x36) DATE: 08/14/2020 DRAWN BY: LVA

SEAL:

OWNER
CITY OF ALEXANDRIA
301 KING STREET
ALEXANDRIA, VA 22314
DEVELOPER
ALEXANDRIA CITY
PUBLIC SCHOOLS
CONTACT
ERIKA GULICK
(703) 619-8298

REVISION / APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DOUGLAS MACARTHUR
ELEMENTARY SCHOOL
MODERNIZATION
PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

SHEET NAME:
GENERAL NOTES

APPROVED
SPECIAL USE PERMIT NO. DSUP#2020-0010
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

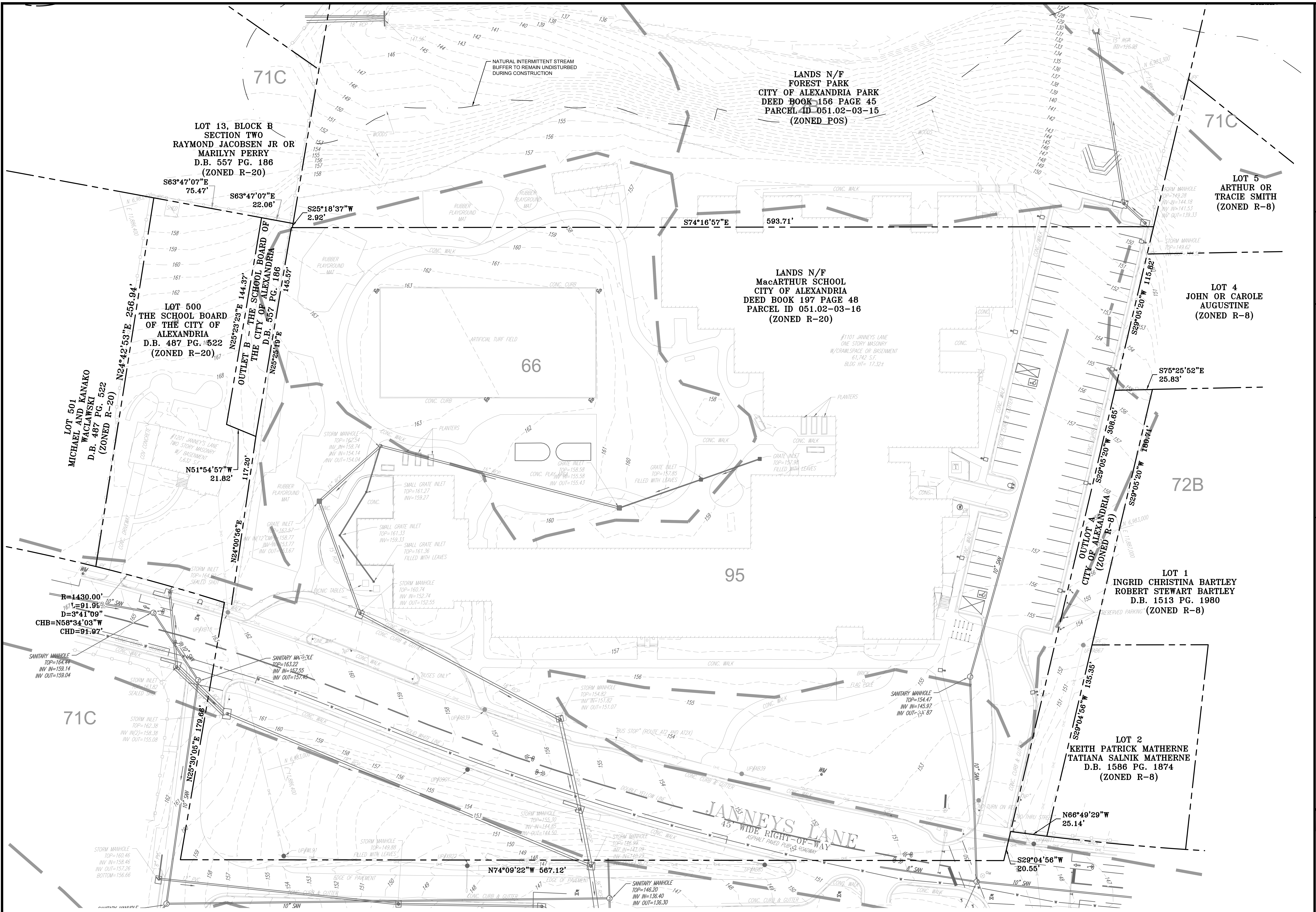
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. ____________

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED ____________
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

C0.2

\\kimley-horn.com\AT_NVA2\NVA_CIV\110681000 dmes modernization\CAD\plansheets\preliminary plan\1 COVER.dwg, Layout:GENERAL NOTES 2 Aug 14, 2020 Brandon.Kramer
XREFS: xBorder - 110681000
THIS DOCUMENT, TOGETHER WITH THE CONCEPTS AND DESIGNS PRESENTED HEREIN, AS AN INSTRUMENT OF SERVICE, IS INTENDED ONLY FOR THE SPECIFIC PURPOSE AND CLIENT FOR WHICH IT WAS PREPARED. REUSE OF AND IMPROPER RELIANCE ON THIS DOCUMENT WITHOUT WRITTEN AUTHORIZATION AND ADAPTATION BY KIMLEY-HORN AND ASSOCIATES, INC. SHALL BE WITHOUT LIABILITY TO KIMLEY-HORN AND ASSOCIATES, INC.


71C
NATURAL INTERMITTENT STREAM BUFFER TO REMAIN UNDISTURBED DURING CONSTRUCTION
LANDS N/F
FOREST PARK
CITY OF ALEXANDRIA PARK
DEED BOOK 156 PAGE 45
PARCEL ID 051.02-03-15
(ZONED POS)
71C
LOT 13, BLOCK B
SECTION TWO
RAYMOND JACOBSEN JR OR
MARILYN PERRY
D.B. 557 PG. 186
(ZONED R-20)
S63°47'07"E
75.47'
S63°47'07"E
22.06'
S25°18'37"W
2.92'
S74°16'57"E 593.71'
LOT 5
ARTHUR OR
TRACIE SMITH
(ZONED R-8)
LANDS N/F
MacARTHUR SCHOOL
CITY OF ALEXANDRIA
DEED BOOK 197 PAGE 48
PARCEL ID 051.02-03-16
(ZONED R-20)
#1101 JANNEYS LANE
ONE STORY MASONRY
W/CRAWLSPACE OR BASEMENT
ARTIFICIAL TURF FIELD
66
LOT 4
JOHN OR CAROLE
AUGUSTINE
(ZONED R-8)
S29°05'20"W 115.82'
S75°25'52"E
25.83'
LOT 500
THE SCHOOL BOARD
OF THE CITY OF
ALEXANDRIA
D.B. 487 PG. 522
(ZONED R-20)
N24°42'53"E 256.94'
N25°23'23"E 144.37'
OUTLET B - THE SCHOOL BOARD OF THE CITY OF ALEXANDRIA
D.B. 557 PG. 186
N25°25'19"E 145.57'
LOT 501
MICHAEL AND KANAKO
WACLAWSKI
D.B. 487 PG. 522
(ZONED R-20)
#1201 JANNEYS LANE
TWO STORY MASONRY
W/ BASEMENT
N51°54'57"W
21.82'
117.20'
N24°00'56"E
S29°05'20"W 308.65'
S29°05'20"W 180.71'
OUTLOT A
CITY OF ALEXANDRIA
(ZONED R-8)
72B
95
LOT 1
INGRID CHRISTINA BARTLEY
ROBERT STEWART BARTLEY
D.B. 1513 PG. 1980
(ZONED R-8)
R=1430.00'
L=91.99'
D=3°41'09"
CHB=N58°34'03"W
CHD=91.97'
SANITARY MANHOLE
71C
N25°30'05"E 179.66'
"BUSES ONLY"
"BUS STOP" (ROUTE AT2 AND AT2X)
S29°04'56"W 135.35'
LOT 2
KEITH PATRICK MATHERNE
TATIANA SALNIK MATHERNE
D.B. 1586 PG. 1874
(ZONED R-8)
N66°49'29"W
25.14'
S29°04'56"W
20.55'
N74°09'22"W 567.12'
JANNEYS LANE
45' WIDE RIGHT-OF-WAY
ASPHALT PAVED PUBLIC ROADWAY

NAD 83 VIRGINIA
STATE PLANE
NORTH ZONE, US FOOT

NORTH

GRAPHIC SCALE IN FEET
0 15 30 60

SCALE: 1"=30'

SOIL TABLE				
NUMBER	SOIL NAME	DRAINAGE CLASS	RUNOFF CLASS	HYDROLOGIC GROUP
66	KINGSTOWNE SANDY CLAY LOAM	WELL DRAINED	VERY HIGH	C
71C	KINGSTOWNE-SASSAFRAS-MARUM SCO COMPLEX	WELL DRAINED	HIGH	B/C/D
72B	KINGSTOWNE-SASSAFRAS-NEABS CO COMPLEX	WELL DRAINED	HIGH	B/C/D
95	URBAN LAND	N/A	N/A	N/A

DESIGN ENGINEER AND LANDSCAPE ARCHITECT

FIRM NAME: KIMLEY-HORN AND ASSOCIATES, INC.
ADDRESS: 11400 COMMERCE PARK DRIVE, SUITE 400
RESTON, VIRGINIA 20191
PHONE NO: 703-674-1300 FAX NO: 703-674-1350
PROJ. MANAGER: KYLE BOLLINGER, P.E.
EMAIL: KYLE.BOLLINGER@KIMLEY-HORN.COM

SCALE: 1"=30' (AT 24x36) DATE: 08/14/2020 DRAWN BY: LVA

Kimley»Horn

SEAL:

OWNER
CITY OF ALEXANDRIA
301 KING STREET
ALEXANDRIA, VA 22314

DEVELOPER
ALEXANDRIA CITY
PUBLIC SCHOOLS

CONTACT
ERIKA GULICK
(703) 619-8298

REVISION / APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DOUGLAS MACARTHUR ELEMENTARY SCHOOL MODERNIZATION

PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

SHEET NAME: EXISTING CONDITIONS PLAN

APPROVED
SPECIAL USE PERMIT NO. DSUP#2020-0010

DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

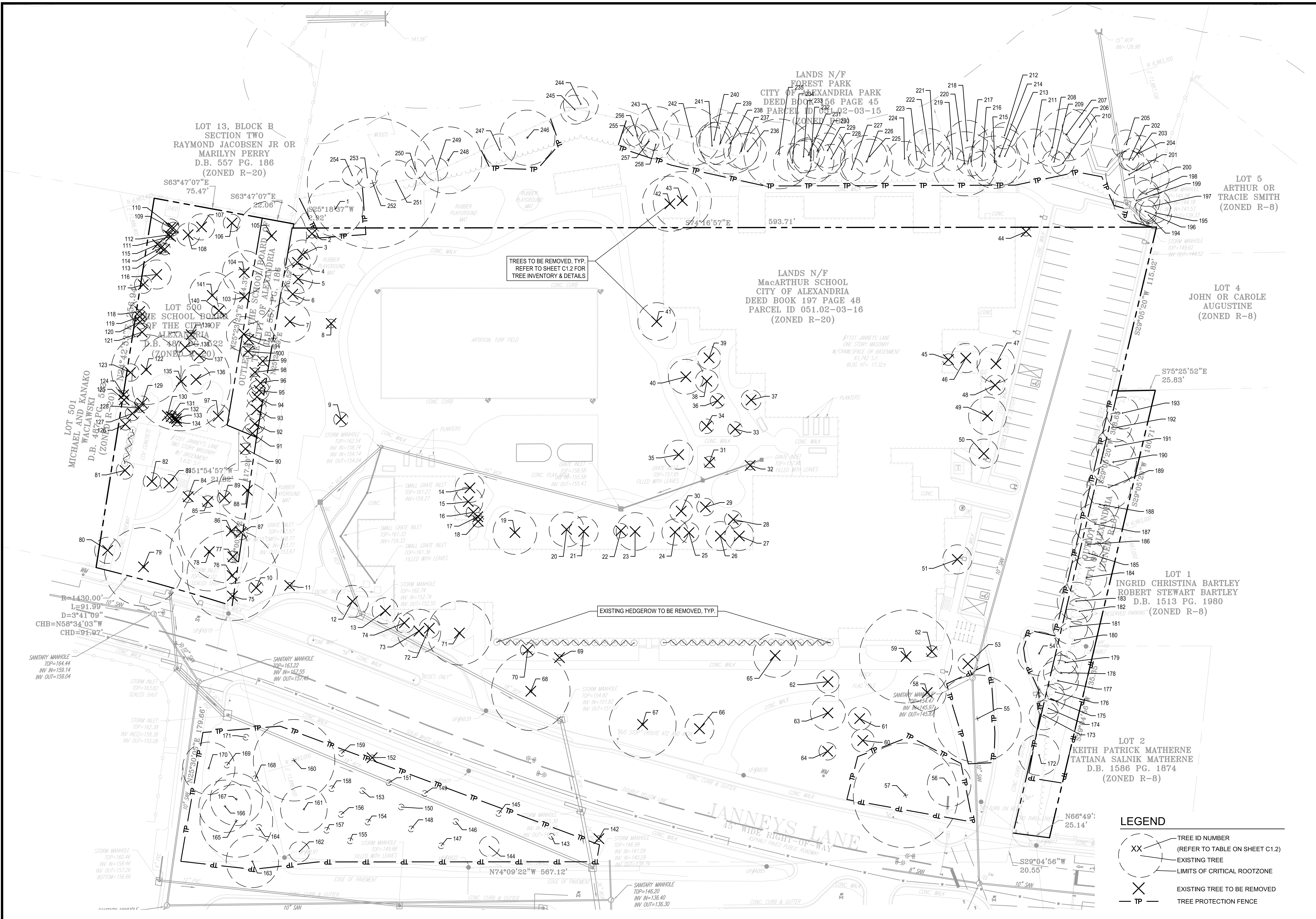
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. ______

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED ______

INSTRUMENT NO. DEED BOOK NO. PAGE NO.


LANDS N/F
FOREST PARK
CITY OF ALEXANDRIA PARK
DEED BOOK 156 PAGE 45
PARCEL ID 051.02-03-15
(ZONED POS)
LOT 13, BLOCK B
SECTION TWO
RAYMOND JACOBSEN JR OR
MARILYN PERRY
D.B. 557 PG. 186
(ZONED R-20)
LOT 500
THE SCHOOL BOARD OF THE CITY OF ALEXANDRIA
D.B. 487 PG. 22
(ZONED R-20)
LOT 501
MICHAEL AND KANAKO WACLAWSKI
(ZONED R-20)
LANDS N/F
MacARTHUR SCHOOL
CITY OF ALEXANDRIA
DEED BOOK 197 PAGE 48
PARCEL ID 051.02-03-16
(ZONED R-20)
#1101 JANNEYS LANE
ONE STORY MASONRY
W/CRAWLSPACE OR BASEMENT
LOT 5
ARTHUR OR
TRACIE SMITH
(ZONED R-8)
LOT 4
JOHN OR CAROLE
AUGUSTINE
(ZONED R-8)
LOT 1
INGRID CHRISTINA BARTLEY
ROBERT STEWART BARTLEY
D.B. 1513 PG. 1980
(ZONED R-8)
LOT 2
KEITH PATRICK MATHERNE
TATIANA SALNIK MATHERNE
D.B. 1586 PG. 1874
(ZONED R-8)
JANNEYS LANE
45' WIDE RIGHT-OF-WAY
ASPHALT PAVED PUBLIC ROADWAY
ARTIFICIAL TURF FIELD
S63°47'07"E 75.47'
S63°47'07"E 22.06'
S25°18'37"W 2.92'
S74°16'57"E 593.71'
S29°05'20"W 115.82'
S75°25'52"E 25.83'
N66°49' 25.14'
S29°04'56"W 20.55'
N74°09'22"W 567.12'
R=1430.00'
L=91.99'
D=3°41'09"
CHB=N58°34'03"W
CHD=91.97'
TREES TO BE REMOVED, TYP. REFER TO SHEET C1.2 FOR TREE INVENTORY & DETAILS
EXISTING HEDGEROW TO BE REMOVED, TYP.
SANITARY MANHOLE
TOP=146.20
INV IN=136.40
INV OUT=136.30
LEGEND
XX
TREE ID NUMBER
(REFER TO TABLE ON SHEET C1.2)
EXISTING TREE
LIMITS OF CRITICAL ROOTZONE
EXISTING TREE TO BE REMOVED
TP
TREE PROTECTION FENCE

NOTES:

1. CONTRACTOR SHALL TAKE ALL MEASURES REQUIRED TO PROTECT AND PRESERVE TREES CALLED TO REMAIN TO THE BEST OF THEIR ABILITY.
2. CONTRACTOR SHALL REMOVE THE ENTIRETY OF TREES CALLED TO BE REMOVED INCLUDING BUT NOT LIMITED TO, THE TRUNK, ROOT FLARE, AND 12 INCHES OF SOIL BELOW THE ROOT SYSTEM.

INVASIVE SPECIES REMOVAL NOTES:

1. WHERE IVY IS GROWING VERTICALLY UP THE TREE TRUNK, CONTRACTOR TO REMOVE ALL THE IVY ROOTS FROM THE BASE TO PREVENT RESPROUTING. WHERE IVY IS ATTACHED TO THE TRUNK, CONTRACTOR TO REMOVE IVY CAREFULLY OFF LOWER AREAS. ENSURE NO REMOVAL OF BARK OR OTHERWISE DAMAGE THE TREE. REMOVE A MINIMUM OF A FOOT OF IVY FROM AROUND THE BASE.

NAD 83 VIRGINIA
STATE PLANE
NORTH ZONE, US FOOT

NORTH

GRAPHIC SCALE IN FEET
0 15 30 60
SCALE: 1"=30'

DESIGN ENGINEER AND LANDSCAPE ARCHITECT

FIRM NAME: KIMLEY-HORN AND ASSOCIATES, INC.
ADDRESS: 11400 COMMERCE PARK DRIVE, SUITE 400
RESTON, VIRGINIA 20191
PHONE NO: 703-674-1300 FAX NO: 703-674-1350
PROJ. MANAGER: KYLE BOLLINGER, P.E.
EMAIL: KYLE.BOLLINGER@KIMLEY-HORN.COM

SCALE: 1"=30' (AT 24x36) | DATE: 08/14/2020 | DRAWN BY: CMP

Kimley»Horn

SEAL:
W. Davis Walker
Lic. No. 0406001891
08/14/2020

OWNER
CITY OF ALEXANDRIA
301 KING STREET
ALEXANDRIA, VA 22314

DEVELOPER
ALEXANDRIA CITY
PUBLIC SCHOOLS

CONTACT
ERIKA GULICK
(703) 619-8298

REVISION / APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DOUGLAS MACARTHUR ELEMENTARY SCHOOL MODERNIZATION

PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

SHEET NAME: EXISTING VEGETATION MAP

APPROVED
SPECIAL USE PERMIT NO. DSUP#2020-0010
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. ____________

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED ____________

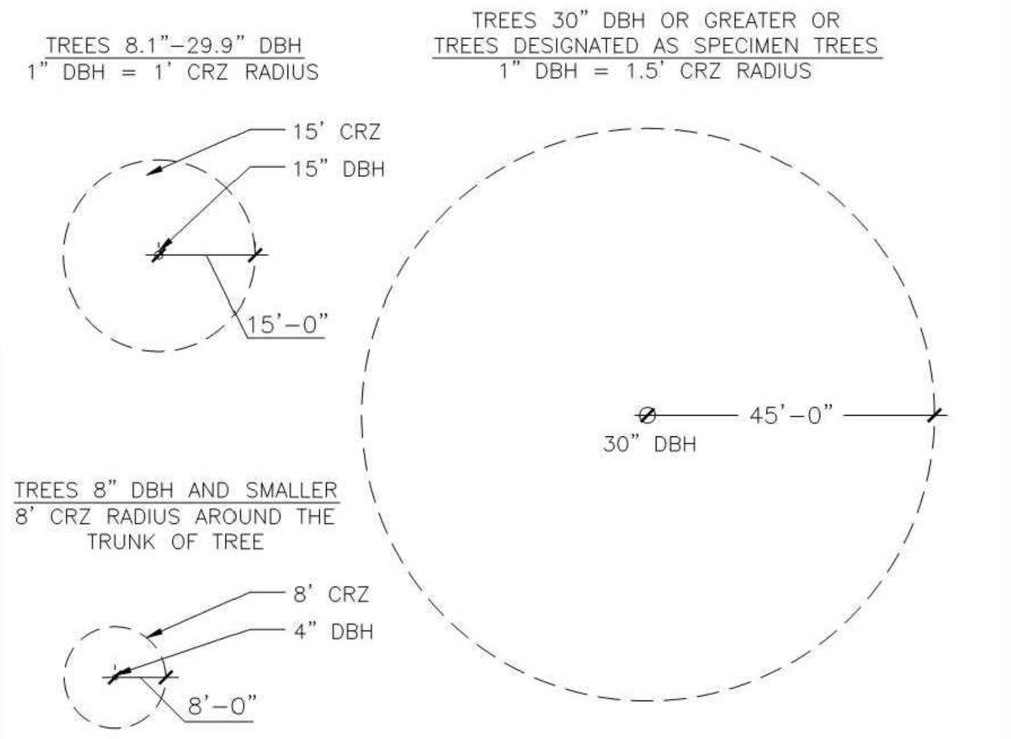
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

C1.1

Existing Tree Inventory

Tree No.	DBH	CTLA Rating	To Be Removed?	Botanical Name	Common Name	CCA	Elevation	Notes	Survival Chance
1	19"	69		*Betula spp.*	Birch	1,159 SF	159.79		High
2	3"	53	X	*Morella cerifera*	Wax Myrtle	28 SF	161.03		
3	10"	69	X	*Juniperus viginiana*	Eastern Red Cedar	308 SF	161.81		
4	9"	72	X	*Juniperus viginiana*	Eastern Red Cedar	232 SF	162.06		
5	10"	56	X	*Juniperus viginiana*	Eastern Red Cedar	311 SF	162.43		
6	8"	69	X	*Juniperus viginiana*	Eastern Red Cedar	201 SF	162.90		
7	14"	66	X	*Juniperus viginiana*	Eastern Red Cedar	628 SF	163.50		
8	3"	97	X	*Acer spp.*	Maple	28 SF	162.79		
9	5"	91	X	*Acer spp.*	Maple	79 SF	163.36		
10	5"	94	X	*Lagerstroemia spp.*	Crape Myrtle	75 SF	162.51		
11	2"	91	X	*Lagerstroemia spp.*	Crape Myrtle	19 SF	162.29		
12	11"	88	X	*Quercus spp.*	Oak	380 SF	161.54		
13	9"	72	X	*Quercus spp.*	Oak	254 SF	161.13		
14	10"	75	X	*Lagerstroemia spp.*	Crape Myrtle	301 SF	162.12		
15	10"	69	X	*Lagerstroemia spp.*	Crape Myrtle	301 SF	161.98		
16	5"	88	X	*Lagerstroemia spp.*	Crape Myrtle	75 SF	161.78		
17	3"	66	X	*Lagerstroemia spp.*	Crape Myrtle	38 SF	161.61		
18	4"	69	X	*Lagerstroemia spp.*	Crape Myrtle	63 SF	161.57		
19	15"	72	X	*Prunus spp.*	Cherry Tree	707 SF	160.64		
20	12"	50	X	*Prunus spp.*	Cherry Tree	452 SF	159.53		
21	10"	53	X	*Prunus spp.*	Cherry Tree	314 SF	159.17		
22	5"	56	X	*Prunus spp.*	Cherry Tree	79 SF	159.03		
23	13"	47	X	*Prunus spp.*	Cherry Tree	531 SF	158.86		
24	9"	53	X	*Prunus spp.*	Cherry Tree	254 SF	158.69		
25	7"	31	X	*Prunus spp.*	Cherry Tree	154 SF	158.86		
26	10"	50	X	*Prunus spp.*	Cherry Tree	314 SF	159.04		
27	10"	66	X	*Prunus spp.*	Cherry Tree	339 SF	159.17		
28	6"	69	X	*Acer spp.*	Maple	113 SF	158.88		
29	6"	63	X	*Acer spp.*	Maple	113 SF	158.83		
30	8"	78	X	*Platanus occidentalis*	Sycamore	201 SF	158.57		
31	4"	66	X	*Quercus spp.*	Oak	50 SF	158.45		
32	3"	66	X	*Acer spp.*	Maple	25 SF	158.48		
33	5"	75	X	*Lagerstroemia spp.*	Crape Myrtle	75 SF	158.27		
34	5"	59	X	*Acer spp.*	Maple	79 SF	158.19		
35	10"	72	X	*Acer spp.*	Maple	314 SF	158.77		
36	5"	75	X	*Cercis canadensis*	Redbud	75 SF	157.93		
37	7"	78	X	*Lagerstroemia spp.*	Crape Myrtle	170 SF	157.88		
38	8"	72	X	*Cercis canadensis*	Redbud	201 SF	158.32		
39	8"	78	X	*Cercis canadensis*	Redbud	201 SF	158.54		
40	12"	75	X	*Acer spp.*	Maple	452 SF	158.62		
41	13"	63	X	*Magnolia spp.*	Magnolia	531 SF	158.83		
42	19"	63	X	*Prunus spp.*	Cherry Tree	1,134 SF	158.33		
43	20"	59	X	*Prunus spp.*	Cherry Tree	1,256 SF	158.33		
44	3"	69	X	*Prunus spp.*	Cherry Tree	28 SF	154.37		
45	4"	69	X	*Ilex spp.*	Holly	50 SF	158.25		
46	10"	66	X	*Nyssa sylvatica*	Tupelo	339 SF	158.15		
47	13"	75	X	*Betula spp.*	Birch	515 SF	157.83		
48	7"	66	X	*Lagerstroemia spp.*	Crape Myrtle	170 SF	157.89		
49	13"	72	X	*Betula spp.*	Birch	515 SF	158.38		
50	10"	72	X	*Betula spp.*	Birch	339 SF	158.51		
51	10"	69	X	*Betula spp.*	Birch	314 SF	157.56		
52	4"	78	X	*Lagerstroemia spp.*	Crape Myrtle	41 SF	155.50		
53	7"	66	X	*Cornus spp.*	Dogwood	151 SF	154.82		
54	15"	75		*Acer spp.*	Maple	707 SF	153.96		Moderate
55	21"	72		*Pinus spp.*	Pine	1,413 SF	153.57		Moderate
56	15"	63		*Pinus spp.*	Pine	707 SF	152.29		High
57	36"	75		*Acer spp.*	Maple	4,069 SF	152.74		High
58	13"	66	X	*Robinia spp.*	Locust	531 SF	154.56		High
59	32"	75	X	*Acer spp.*	Maple	3,137 SF	156.58		
60	8"	66	X	*Robinia spp.*	Locust	201 SF	154.35		
61	8"	72	X	*Robinia spp.*	Locust	201 SF	154.99		
62	8"	72	X	*Robinia spp.*	Locust	201 SF	156.18		
63	8"	69	X	*Robinia spp.*	Locust	201 SF	155.23		
64	6"	75	X	*Robinia spp.*	Locust	113 SF	154.07		
65	15"	72	X	*Liquidambar styraciflua*	Sweetgum	707 SF	156.78		
66	10"	63	X	*Cercis canadensis*	Redbud	339 SF	154.36		
67	23"	53	X	*Liquidambar styraciflua*	Sweetgum	1,661 SF	154.27		
68	27"	69	X	*Pinus spp.*	Pine	2,289 SF	156.60		
69	2"	75	X	*Cornus spp.*	Dogwood	13 SF	156.76		
70	4"	94	X	*Lagerstroemia spp.*	Crape Myrtle	50 SF	157.42		
71	22"	81	X	*Acer spp.*	Maple	1,520 SF	159.82		
72	7"	78	X	*Lagerstroemia spp.*	Crape Myrtle	170 SF	160.80		
73	15"	72	X	*Acer spp.*	Maple	707 SF	160.31		
74	7"	69	X	*Lagerstroemia spp.*	Crape Myrtle	170 SF	160.62		
75	2"	75	X	*Magnolia spp.*	Magnolia	19 SF	163.05		
76	31"	66	X	*Quercus spp.*	Oak	3,018 SF	163.77		
77	4"	75	X	*Magnolia spp.*	Magnolia	50 SF	164.37		
78	27"	78	X	*Quercus spp.*	Oak	2,273 SF	164.89		
79	27"	88	X	*Quercus spp.*	Oak	2,289 SF	165.46		High
80	9"	69	X	*Nyssa sylvatica*	Tupelo	267 SF	166.79		Moderate
81	6"	97	X	*Ilex spp.*	Holly	113 SF	169.56		
82	6"	88	X	*Ilex spp.*	Holly	113 SF	169.52		
83	6"	91	X	*Ilex spp.*	Holly	113 SF	170.13		
84	4"	78	X	*Ilex spp.*	Holly	50 SF	167.46		
85	4"	91	X	*Ilex spp.*	Holly	50 SF	166.70		
86	36"	94	X	*Quercus spp.*	Oak	4,069 SF	165.11		
87	5"	66	X	*Quercus spp.*	Oak	85 SF	164.40		
88	20"	72	X	*Quercus spp.*	Oak	1,256 SF	165.43		
89	5"	88	X	*Ilex spp.*	Holly	79 SF	166.42		
90	4"	94	X	*Lagerstroemia spp.*	Crape Myrtle	50 SF	167.04		
91	7"	69	X	*Magnolia spp.*	Magnolia	170 SF	166.43		
92	7"	34	X	*Magnolia spp.*	Magnolia	170 SF	166.13		
93	7"	66	X	*Magnolia spp.*	Magnolia	170 SF	165.97		
94	7"	75	X	*Magnolia spp.*	Magnolia	170 SF	165.93		
95	7"	69	X	*Magnolia spp.*	Magnolia	170 SF	165.47		
96	7"	63	X	*Magnolia spp.*	Magnolia	170 SF	165.26		
97	8"	94	X	*Lagerstroemia spp.*	Crape Myrtle	201 SF	168.33		
98	3"	66	X	*Lagerstroemia spp.*	Crape Myrtle	38 SF	165.22		
99	3"	88	X	*Lagerstroemia spp.*	Crape Myrtle	38 SF	164.70		
100	5"	84	X	*Quercus spp.*	Oak	79 SF	166.05		
101	4"	88	X	*Quercus spp.*	Oak	50 SF	165.55		
102	12"	75	X	*Robinia spp.*	Locust	452 SF	166.18		
103	19"	72	X	*Acer spp.*	Maple	1,159 SF	163.79		
104	15"	81	X	*Acer spp.*	Maple	707 SF	161.67		
105	24"	75	X	*Platanus occidentalis*	Sycamore	1,809 SF	160.12		
106	6"	66	X	*Betula spp.*	Birch	107 SF	157.86		
107	9"	69	X	*Betula spp.*	Birch	251 SF	157.80		
108	8"	72	X	*Ilex spp.*	Holly	201 SF	158.13		
109	6"	78	X	*Ilex spp.*	Holly	113 SF	157.65		
110	4"	69	X	*Ilex spp.*	Holly	50 SF	157.68		
111	2"	75	X	*Ilex spp.*	Holly	13 SF	158.19		
112	2"	72	X	*Ilex spp.*	Holly	13 SF	158.11		
113	4"	78	X	*Ilex spp.*	Holly	63 SF	159.01		
114	4"	75	X	*Ilex spp.*	Holly	50 SF	158.93		
115	2"	63	X	*Ilex spp.*	Holly	13 SF	158.73		
116	10"	84	X	*Quercus spp.*	Oak	314 SF	160.69		
117	6"	94	X	*Juglans nigra*	Walnut	113 SF	161.30		
118	7"	81	X	*Morella cerifera*	Wax Myrtle	170 SF	162.85		
119	5"	75	X	*Ilex spp.*	Holly	75 SF	163.13		
120	5"	69	X	*Ilex spp.*	Holly	75 SF	163.46		
121	6"	94	X	*Cercis canadensis*	Redbud	113 SF	164.22		
122	24"	97	X	*Quercus spp.*	Oak	1,809 SF	167.55		
123	6"	91	X	*Quercus spp.*	Oak	113 SF	167.49		
124	3"	81	X	*Quercus spp.*	Oak	28 SF	168.53		
125	3"	88	X	*Metasequoia glyptostrobo*	Dawn Redwood	28 SF	168.71		
126	4"	75	X	*Juniperus viginiana*	Eastern Red Cedar	50 SF	169.52		
127	5"	63	X	*Morella cerifera*	Wax Myrtle	75 SF	169.55		
128	3"	81	X	*Morella cerifera*	Wax Myrtle	28 SF	169.50		
129	5"	84	X	*Thuja occidentalis*	Arborvitae	85 SF	169.40		
130	2"	91	X	*Quercus spp.*	Oak	13 SF	168.99		
131	4"	94	X	*Magnolia spp.*	Magnolia	50 SF	169.02		
132	3"	88	X	*Magnolia spp.*	Magnolia	38 SF	168.99		
133	3"	94	X	*Magnolia spp.*	Magnolia	38 SF	169.17		
134	3"	88	X	*Magnolia spp.*	Magnolia	25 SF	169.29		
135	34"	84	X	*Quercus spp.*	Oak	3,630 SF	168.48		
136	10"	91	X	*Quercus spp.*	Oak	314 SF	168.27		
137	5"	25	X	*Ilex spp.*	Holly	79 SF	167.06		
138	6"	69	X	*Quercus spp.*	Oak	107 SF	166.12		
139	3"	34	X	*Ilex spp.*	Holly	25 SF	165.16	Dead	
140	5"	88	X	*Ilex spp.*	Holly	85 SF	164.29		
141	16"	88	X	*Quercus spp.*	Oak	804 SF	163.10		
142	1"	53	X	*Quercus spp.*	Oak	3 SF	151.30		High
143	2"	91		*Quercus spp.*	Oak	13 SF	151.95		High
144	7"	75		*Cornus spp.*	Dogwood	151 SF	149.49		High
145	2"	91		*Liriodendron tulipifera*	Tulip Poplar	13 SF	153.99		High
146	2"	81		*Quercus spp.*	Oak	13 SF	152.44		High
147	2"	88		*Acer spp.*	Maple	13 SF	150.13		High
148	2"	91		*Liriodendron tulipifera*	Tulip Poplar	13 SF	151.11		High
149	2"	84		*Liriodendron tulipifera*	Tulip Poplar	13 SF	154.54		High
150	2"	91		*Quercus spp.*	Oak	13 SF	152.18		High
151	2"	88		*Liriodendron tulipifera*	Tulip Poplar	13 SF	154.52		High
152	2"	84	X	*Liriodendron tulipifera*	Tulip Poplar	13 SF	158.68		High
153	2"	88		*Quercus spp.*	Oak	13 SF	153.58		High
154	2"	94		*Liriodendron tulipifera*	Tulip Poplar	13 SF	152.52		High
155	2"	84		*Acer spp.*	Maple	13 SF	153.23		High
156	2"	97		*Nyssa sylvatica*	Tupelo	13 SF	153.81		High
157	2"	91		*Acer spp.*	Maple	13 SF	154.55		High
158	1"	88		*Liriodendron tulipifera*	Tulip Poplar	3 SF	154.84		High
159	2"	91		*Nyssa sylvatica*	Tupelo	13 SF	157.67		High
160	28"	72		*Acer spp.*	Maple	2,462 SF	157.05		High
161	16"	91		*Pinus spp.*	Pine	804 SF	156.09		High
162	7"	75		*Quercus spp.*	Oak	151 SF	155.43		High
163	18"	91		*Juniperus viginiana*	Eastern Red Cedar	1,017 SF	157.24		High
164	2"	91		*Cercis canadensis*	Redbud	13 SF	157.20		High
165	25"	88		*Pinus spp.*	Pine	1,963 SF	158.51		High
166	18"	81		*Pinus spp.*	Pine	1,017 SF	159.46		High
167	18"	72		*Pinus spp.*	Pine	1,017 SF	158.87		High
168	1"	91		*Cercis canadensis*	Redbud	3 SF	158.12		High
169	2"	94		*Acer spp.*	Maple	13 SF	160.44		High
170	18"	34		*Juniperus viginiana*	Eastern Red Cedar	1,017 SF	161.23	Dead	High
171	1"	78		*Cercis canadensis*	Redbud	3 SF	159.78		High
172	14"	88		*Pinus spp.*	Pine	615 SF	150.94		Moderate
173	10"	81		*Pinus spp.*	Pine	314 SF	152.22		Moderate
174	7"	84		*Pinus spp.*	Pine	154 SF	152.03		Moderate
175	10"	81		*Pinus spp.*	Pine	314 SF	152.20		Moderate
176	6"	75		*Pinus spp.*	Pine	113 SF	152.18		Moderate
177	14"	81		*Pinus spp.*	Pine	628 SF	152.63		Moderate
178	12"	78		*Pinus spp.*	Pine	452 SF	152.80		Moderate
179	8"	84		*× Cuprocyparis leylandii*	Leyland Cypress	201 SF	153.00		Moderate
180	13"	75		*× Cuprocyparis leylandii*	Leyland Cypress	502 SF	153.65		Moderate
181	12"	78		*× Cuprocyparis leylandii*	Leyland Cypress	452 SF	154.33		Moderate
182	9"	72		*× Cuprocyparis leylandii*	Leyland Cypress	267 SF	154.69		Moderate
183	13"	69		*× Cuprocyparis leylandii*	Leyland Cypress	531 SF	155.27		Moderate
184	14"	72		*× Cuprocyparis leylandii*	Leyland Cypress	615 SF	156.08		Moderate
185	10"	75		*× Cuprocyparis leylandii*	Leyland Cypress	314 SF	156.99		Moderate
186	11"	66		*× Cuprocyparis leylandii*	Leyland Cypress	380 SF	157.37		Moderate
187	14"	69		*× Cuprocyparis leylandii*	Leyland Cypress	615 SF	157.90		Moderate
188	13"	75		*× Cuprocyparis leylandii*	Leyland Cypress	531 SF	158.27		Moderate
189	15"	66		*× Cuprocyparis leylandii*	Leyland Cypress	707 SF	157.97		Moderate
190	16"	72		*× Cuprocyparis leylandii*	Leyland Cypress	804 SF	157.51		Moderate
191	13"	63		*× Cuprocyparis leylandii*	Leyland Cypress	531 SF	157.19		Moderate
192	10"	75		*× Cuprocyparis leylandii*	Leyland Cypress	314 SF	156.69		Moderate
193	11"	66		*× Cuprocyparis leylandii*	Leyland Cypress	380 SF	156.14		Moderate
194	6"	72		*Liriodendron tulipifera*	Tulip Poplar	113 SF	148.47	Outside Site (Not counted towards CCA)	
195	11"	75		*Liriodendron tulipifera*	Tulip Poplar	380 SF	146.85	Outside Site (Not counted towards CCA)	
196	8"	72		*Liriodendron tulipifera*	Tulip Poplar	201 SF	148.20	Outside Site (Not counted towards CCA)	
197	12"	69		*Liriodendron tulipifera*	Tulip Poplar	452 SF	146.39	Outside Site (Not counted towards CCA)	
198	9"	66		*Liriodendron tulipifera*	Tulip Poplar	254 SF	145.27	Outside Site (Not counted towards CCA)	
199	16"	72		*Quercus spp.*	Oak	807 SF	147.49	Outside Site (Not counted towards CCA)	
200	12"	53		*Quercus spp.*	Oak	452 SF	142.89	Outside Site (Not counted towards CCA)	
201	16"	75		*Liriodendron tulipifera*	Tulip Poplar	769 SF	146.79	Outside Site (Not counted towards CCA)	
202	7"	69		*Quercus spp.*	Oak	154 SF	145.90	Outside Site (Not counted towards CCA)	
203	8"	75		*Quercus spp.*	Oak	201 SF	145.12	Outside Site (Not counted towards CCA)	
204	12"	72		*Liriodendron tulipifera*	Tulip Poplar	452 SF	143.26	Outside Site (Not counted towards CCA)	
205	10"	75		*Liriodendron tulipifera*	Tulip Poplar	314 SF	142.43	Outside Site (Not counted towards CCA)	
206	12"	59		*Quercus spp.*	Oak	452 SF	141.92	Outside Site (Not counted towards CCA)	
207	18"	69		*Acer spp.*	Maple	1,017 SF	143.44	Outside Site (Not counted towards CCA)	
208	13"	75		*Quercus spp.*	Oak	515 SF	145.79	Outside Site (Not counted towards CCA)	
209	8"	69		*Liriodendron tulipifera*	Tulip Poplar	201 SF	147.84	Outside Site (Not counted towards CCA)	
210	8"	66		*Liriodendron tulipifera*	Tulip Poplar	201 SF	147.60	Outside Site (Not counted towards CCA)	
211	12"	72		*Acer spp.*	Maple	452 SF	146.15	Outside Site (Not counted towards CCA)	
212	9"	75		*Nyssa sylvatica*	Tupelo	254 SF	145.36	Outside Site (Not counted towards CCA)	
213	8"	75		*Liriodendron tulipifera*	Tulip Poplar	201 SF	149.41	Outside Site (Not counted towards CCA)	
214	20"	66		*Liriodendron tulipifera*	Tulip Poplar	1,256 SF	150.33	Outside Site (Not counted towards CCA)	
215	18"	72		*Liriodendron tulipifera*	Tulip Poplar	1,017 SF	152.68	Outside Site (Not counted towards CCA)	
216	10"	63		*Acer spp.*	Maple	314 SF	155.32	Outside Site (Not counted towards CCA)	
217	10"	59		*Quercus spp.*	Oak	314 SF	154.43	Outside Site (Not counted towards CCA)	
218	14"	88		*Liriodendron tulipifera*	Tulip Poplar	615 SF	149.34	Outside Site (Not counted towards CCA)	
219	8"	72		*Acer spp.*	Maple	226 SF	154.33	Outside Site (Not counted towards CCA)	
220	22"	72		*Platanus occidentalis*	Sycamore	1,520 SF	155.19	Outside Site (Not counted towards CCA)	
221	8"	59		*Quercus spp.*	Oak	226 SF	154.04	Outside Site (Not counted towards CCA)	
222	15"	66		*Quercus spp.*	Oak	707 SF	153.45	Outside Site (Not counted towards CCA)	
223	6"	72		*Liriodendron tulipifera*	Tulip Poplar	113 SF	154.26	Outside Site (Not counted towards CCA)	
224	12"	66		*Liriodendron tulipifera*	Tulip Poplar	452 SF	152.32	Outside Site (Not counted towards CCA)	
225	12"	63		*Liriodendron tulipifera*	Tulip Poplar	452 SF	150.92	Outside Site (Not counted towards CCA)	
226	18"	72		*Liriodendron tulipifera*	Tulip Poplar	1,017 SF	152.12	Outside Site (Not counted towards CCA)	
227	8"	66		*Quercus spp.*	Oak	201 SF	155.15	Outside Site (Not counted towards CCA)	
228	10"	75		*Acer spp.*	Maple	314 SF	154.62	Outside Site (Not counted towards CCA)	
229	12"	72		*Fagus grandifolia*	Beech	452 SF	152.93	Outside Site (Not counted towards CCA)	
230	19"	81		*Fagus grandifolia*	Beech	1,146 SF	153.26	Outside Site (Not counted towards CCA)	
231	11"	75		*Fagus grandifolia*	Beech	380 SF	154.90	Outside Site (Not counted towards CCA)	
232	16"	69		*Acer spp.*	Maple	766 SF	156.54	Outside Site (Not counted towards CCA)	
233	11"	75		*Quercus spp.*	Oak	402 SF	155.64	Outside Site (Not counted towards CCA)	
234	13"	69		*Acer spp.*	Maple	565 SF	157.06	Outside Site (Not counted towards CCA)	
235	24"	63		*Platanus occidentalis*	Sycamore	1,809 SF	155.81	Outside Site (Not counted towards CCA)	
236	13"	66		*Acer spp.*	Maple	531 SF	155.83	Outside Site (Not counted towards CCA)	
237	12"	72		*Acer spp.*	Maple	452 SF	155.33	Outside Site (Not counted towards CCA)	
238	21"	75		*Acer spp.*	Maple	1,322 SF	153.80	Outside Site (Not counted towards CCA)	
239	15"	72		*Acer spp.*	Maple	707 SF	155.21	Outside Site (Not counted towards CCA)	
240	12"	59		*Acer spp.*	Maple	452 SF	155.13	Outside Site (Not counted towards CCA)	
241	13"	63		*Liriodendron tulipifera*	Tulip Poplar	531 SF	155.95	Outside Site (Not counted towards CCA)	
242	20"	56		*Liriodendron tulipifera*	Tulip Poplar	1,269 SF	155.15	Outside Site (Not counted towards CCA)	
243	15"	59		*Quercus spp.*	Oak	707 SF	155.16	Outside Site (Not counted towards CCA)	
244	12"	69		*Quercus spp.*	Oak	452 SF	153.69	Outside Site (Not counted towards CCA)	
245	10"	75		*Liriodendron tulipifera*	Tulip Poplar	314 SF	154.25	Outside Site (Not counted towards CCA)	
246	19"	72		*Quercus spp.*	Oak	1,159 SF	155.74	Outside Site (Not counted towards CCA)	
247	11"	53		*Acer spp.*	Maple	380 SF	155.68	Outside Site (Not counted towards CCA)	
248	23"	72		*Quercus spp.*	Oak	1,661 SF	156.71	Outside Site (Not counted towards CCA)	
249	8"	69		*Robinia spp.*	Locust	201 SF	158.16	Outside Site (Not counted towards CCA)	
250	7"	75		*Fagus grandifolia*	Beech	154 SF	157.99	Outside Site (Not counted towards CCA)	
251	14"	53		*Quercus spp.*	Oak	628 SF	158.07	Outside Site (Not counted towards CCA)	
252	45"	69		*Platanus occidentalis*	Sycamore	6,280 SF	158.32	Outside Site (Not counted towards CCA)	
253	7"	75		*Quercus spp.*	Oak	154 SF	158.15	Outside Site (Not counted towards CCA)	
254	7"	63		*Betula spp.*	Birch	154 SF	158.38	Outside Site (Not counted towards CCA)	
255	7"	69		*Crataegus phaenopyrum*	Washington Hawthor	154 SF	155.81	Outside Site (Not counted towards CCA)	
256	8"	69		*Crataegus phaenopyrum*	Washington Hawthor	201 SF	155.75	Outside Site (Not counted towards CCA)	
257	7"	75		*Liriodendron tulipifera*	Tulip Poplar	154 SF	156.03	Outside Site (Not counted towards CCA)	
258	10"	81		*Liriodendron tulipifera*	Tulip Poplar	314 SF	156.19	Outside Site (Not counted towards CCA)	

Total Existing CCA:	**82,354 SF**
Total Existing CCA Removed:	**54,749 SF**
Total Existing CCA To Remain:	**27,605 SF**



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

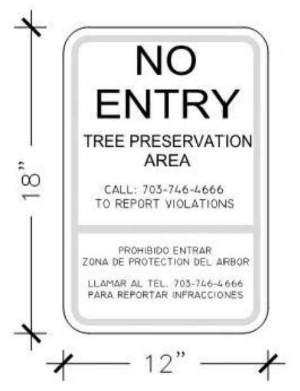
NOT TO SCALE

OF UPDATES: 00 LAST UPDATED:

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

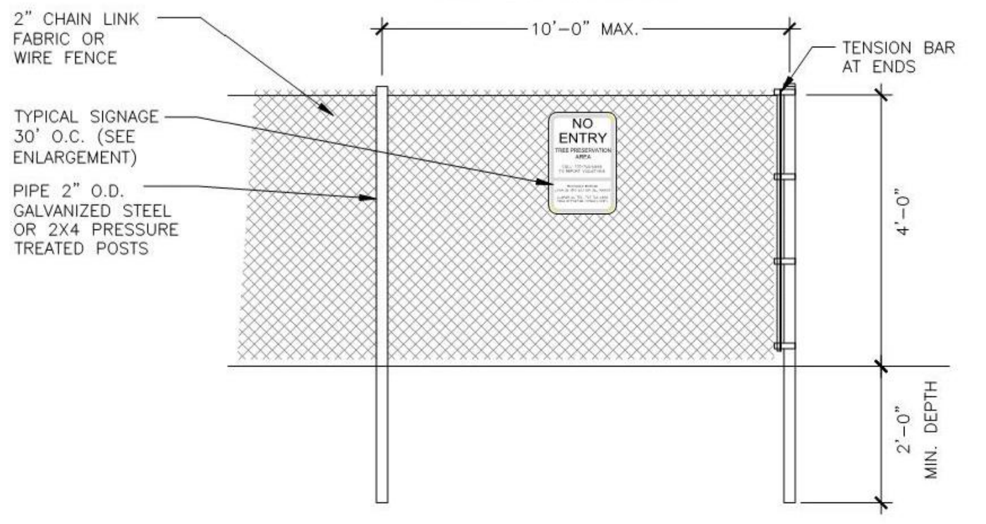
NOTE: THE INFORMATION SHOWN HEREIN THIS DOCUMENT IS FOR GENERAL GUIDANCE ONLY AND IS NOT INTENTED FOR CONSTRUCTION PURPOSES. ITS USE SHALL NOT RELIEVE THE DESIGN PROFESSIONAL OR CONTRACTOR OF ANY LEGAL RESPONSIBILITY.

Source: CITY OF ALEXANDRIA
Approved by: COA
1 OF 1
CRITICAL ROOT ZONE
Date drawn: 01/01/19
LD 013



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


2" CHAIN LINK FABRIC OR WIRE FENCE
TYPICAL SIGNAGE 30' O.C. (SEE ENLARGEMENT)
PIPE 2" O.D. GALVANIZED STEEL OR 2X4 PRESSURE TREATED POSTS
10'–0" MAX.
TENSION BAR AT ENDS
NO ENTRY
4'–0"
2'–0" MIN. DEPTH

(A) TREE PROTECTION FENCE

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
1 OF 1
TREE PROTECTION FENCE
Date drawn: 01/01/19
LD 014

DESIGN ENGINEER AND LANDSCAPE ARCHITECT

FIRM NAME: KIMLEY-HORN AND ASSOCIATES, INC.
ADDRESS: 11400 COMMERCE PARK DRIVE, SUITE 400
RESTON, VIRGINIA 20191
PHONE NO: 703-674-1300 FAX NO: 703-674-1350
PROJ. MANAGER: KYLE BOLLINGER, P.E.
EMAIL: KYLE.BOLLINGER@KIMLEY-HORN.COM

SCALE: 1"=30' (AT 24x36) DATE: 08/14/2020 DRAWN BY: CMP

SEAL:
W. Davis Walker
Lic. No. 0406001891
08/14/2020

OWNER
CITY OF ALEXANDRIA
301 KING STREET
ALEXANDRIA, VA 22314

DEVELOPER
ALEXANDRIA CITY
PUBLIC SCHOOLS
CONTACT
ERIKA GULICK
(703) 619-8298

REVISION / APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DOUGLAS MACARTHUR ELEMENTARY SCHOOL MODERNIZATION

PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

SHEET NAME: EXISTING VEGETATION INVENTORY

APPROVED
SPECIAL USE PERMIT NO. DSUP#2020-0010
DEPARTMENT OF PLANNING & ZONING

DIRECTOR ____ DATE ____

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. ____

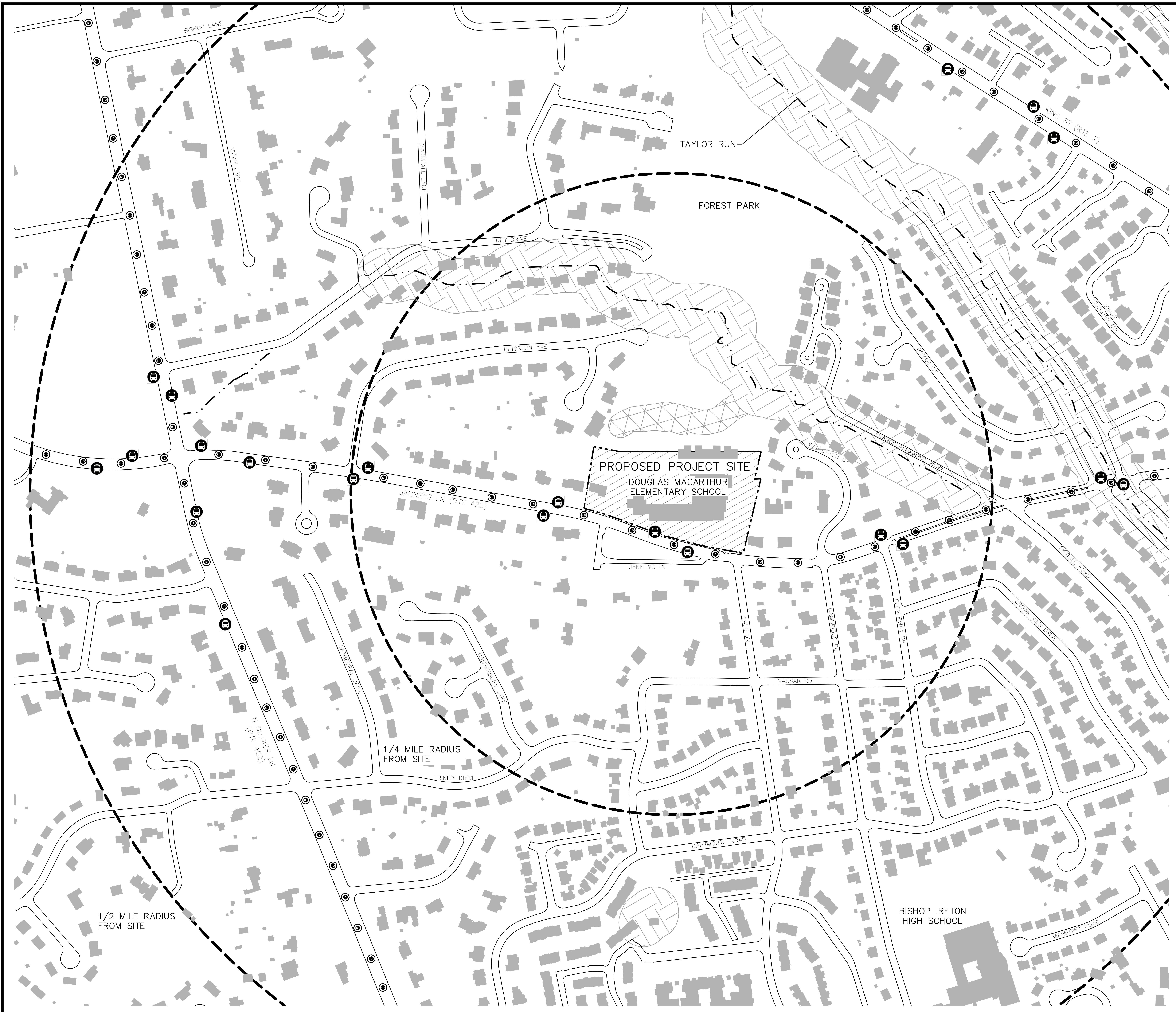
DIRECTOR ____ DATE ____

CHAIRMAN, PLANNING COMMISSION ____ DATE ____

DATE RECORDED ____

INSTRUMENT NO. ____ DEED BOOK NO. ____ PAGE NO. ____

C1.2


BISHOP LANE
VICAR LANE
MARSHALL LANE
KEY DRIVE
TAYLOR RUN
FOREST PARK
KING ST (RTE 7)
KINGS CLOISTER CIR
BRYAN ST
KINGSTON AVE
WALLESTON CT
FRANCIS HAMMOND PKWY
PROPOSED PROJECT SITE
DOUGLAS MACARTHUR ELEMENTARY SCHOOL
JANNEYS LN (RTE 420)
JANNEYS LN
SKYHILL ROAD
CROWN VIEW DRIVE
YALE DR
CAMBRIDGE RD
CLOVERWAY DR
VASSAR RD
CATHEDRAL DRIVE
CANTERBURY LANE
N QUAKER LN (RTE 402)
1/4 MILE RADIUS FROM SITE
TRINITY DRIVE
1/2 MILE RADIUS FROM SITE
DARTMOUTH ROAD
BISHOP IRETON HIGH SCHOOL
VIEWPOINT ROAD

LEGEND:

🚌	DASH BUS STOP
— — —	REFERENCE RADIUS
◎ ◎ ◎ ◎ ◎	BUS ROUTES
▨	PROPOSED PROJECT SITE
▨	100' PERENNIAL STREAM BUFFER
▨	50' NATURAL INTERMITTENT STREAM BUFFER

SITE CONTEXT:

PROPOSED PROJECT SITE LOCATION LIES WITHIN THE CITY OF ALEXANDRIA, VA. PEDESTRIAN ACCESS IS AVAILABLE TO THE WOODED AREA CREATING THE PROPERTY'S NORTH BOUNDARY, RESIDENTIAL PROPERTIES CREATE THE PROPERTY'S EAST AND WEST BOUNDARY, AND JANNEYS LANE CREATES THE SOUTH BOUNDARY.

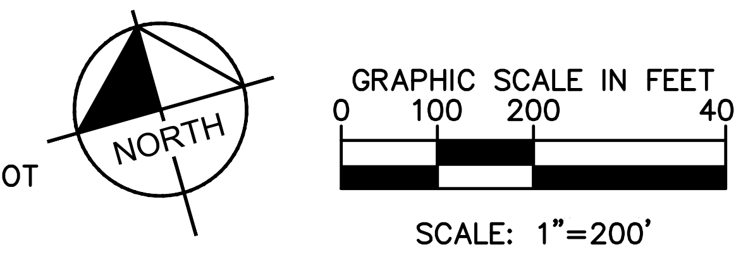
WITHIN THE DOUGLAS MACARTHUR CAMPUS, THE PROPOSED AREA OF WORK THE LIMITS OF WORK ENCOMPASSES THE ENTIRE PROPERTY.

BUS:

ALEXANDRIA'S DASH BUS SYSTEM OPERATES MULTIPLE ROUTES WITHIN 1/4 MILE OF THE SITE.

STREET	BUS LINES
KING ST.	AT5, AT6
N QUAKER LN.	8S, 8X, 8Z
JANNEYS LN	TBD

NAD 83 VIRGINIA
STATE PLANE
NORTH ZONE, US FOOT


NORTH
GRAPHIC SCALE IN FEET
0
100
200
400

SCALE: 1"=200'

DESIGN ENGINEER AND LANDSCAPE ARCHITECT

FIRM NAME: KIMLEY-HORN AND ASSOCIATES, INC.
ADDRESS: 11400 COMMERCE PARK DRIVE, SUITE 400
RESTON, VIRGINIA 20191
PHONE NO: 703-674-1300 FAX NO: 703-674-1350
PROJ. MANAGER: KYLE BOLLINGER, P.E.
EMAIL: KYLE.BOLLINGER@KIMLEY-HORN.COM

SCALE: 1"=200' (AT 24x36) DATE: 08/14/2020 DRAWN BY: LVA

Kimley»Horn

SEAL:

OWNER
CITY OF ALEXANDRIA
301 KING STREET
ALEXANDRIA, VA 22314

DEVELOPER
ALEXANDRIA CITY
PUBLIC SCHOOLS

CONTACT
ERIKA GULICK
(703) 619-8298

REVISION / APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DOUGLAS MACARTHUR ELEMENTARY SCHOOL MODERNIZATION

PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

SHEET NAME: CONTEXTUAL SITE PLAN

APPROVED
SPECIAL USE PERMIT NO. DSUP#2020-0010
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. ____________

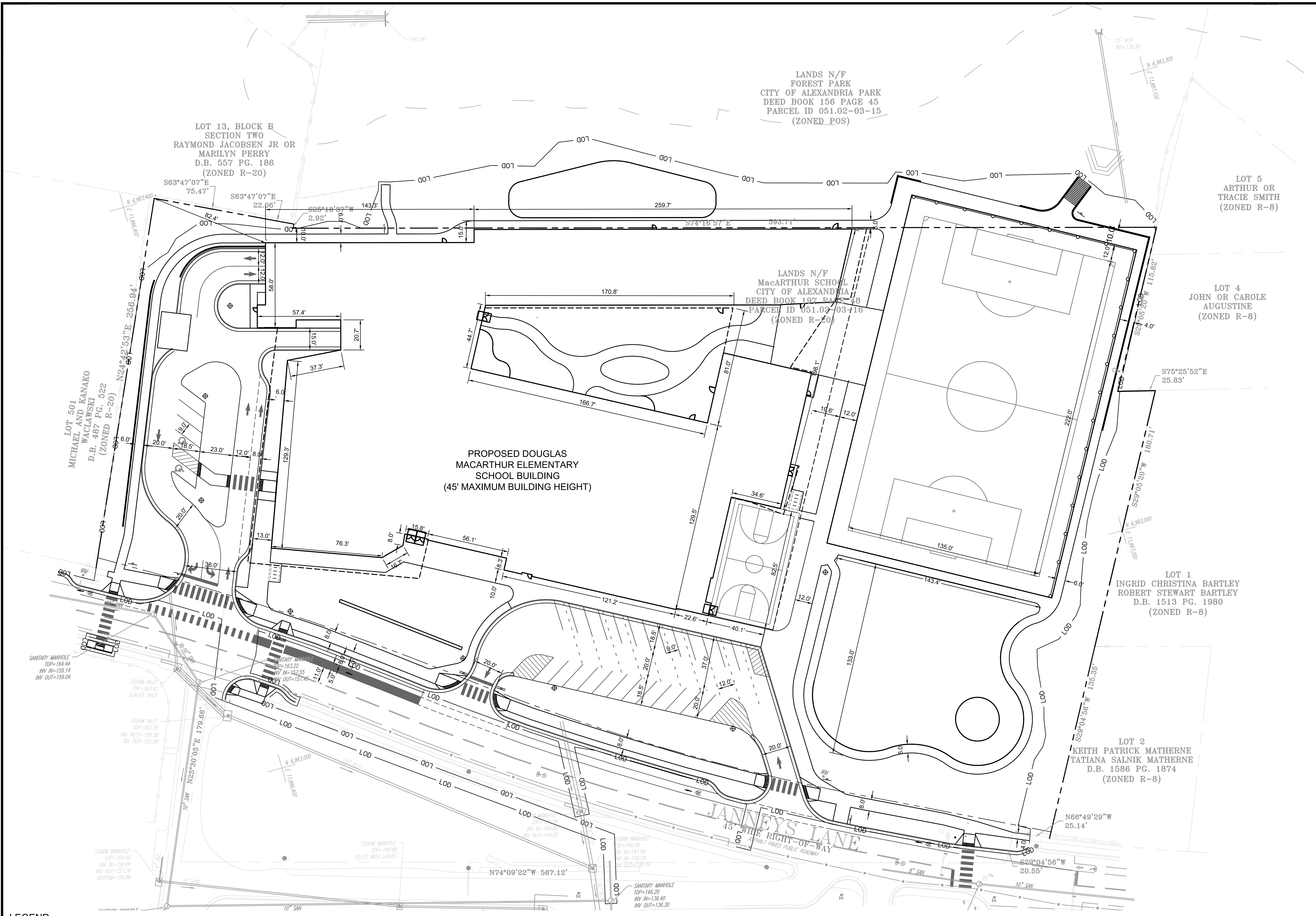
DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED ____________

INSTRUMENT NO. DEED BOOK NO. PAGE NO.

\\kimley-horn.com\AT_NVA2\NVA_CIV\110681000 dmes modernization\CAD\plansheets\preliminary plan\2 CONTEXTUAL SITE PLAN.dwg, Layout:CONTEXTUAL SITE PLAN Aug 14, 2020 Brandon.Kramer
XREFS: xBorder - 110681000 xSurvey - 110681000 xTree - 110681000


LANDS N/F
FOREST PARK
CITY OF ALEXANDRIA PARK
DEED BOOK 156 PAGE 45
PARCEL ID 051.02-03-15
(ZONED POS)
LOT 13, BLOCK B
SECTION TWO
RAYMOND JACOBSEN JR OR
MARILYN PERRY
D.B. 557 PG. 186
(ZONED R-20)
LOT 5
ARTHUR OR
TRACIE SMITH
(ZONED R-8)
LOT 4
JOHN OR CAROLE
AUGUSTINE
(ZONED R-8)
LANDS N/F
MacARTHUR SCHOOL
CITY OF ALEXANDRIA
DEED BOOK 197 PAGE 46
PARCEL ID 051.02-03-16
(ZONED R-20)
LOT 501
MICHAEL AND KANAKO
WACLAWSKI
D.B. 487 PG. 522
(ZONED R-20)
LOT 1
INGRID CHRISTINA BARTLEY
ROBERT STEWART BARTLEY
D.B. 1513 PG. 1980
(ZONED R-8)
LOT 2
KEITH PATRICK MATHERNE
TATIANA SALNIK MATHERNE
D.B. 1586 PG. 1874
(ZONED R-8)
PROPOSED DOUGLAS
MACARTHUR ELEMENTARY
SCHOOL BUILDING
(45' MAXIMUM BUILDING HEIGHT)
JANNEYS LANE
45' WIDE RIGHT-OF-WAY
ASPHALT PAVED PUBLIC ROADWAY
S63°47'07"E 75.47'
S63°47'07"E 22.06'
S25°18'37"W 2.92'
S74°16'57"E 393.71'
N24°42'53"E 256.94'
S29°05'20"W 115.82'
S75°25'52"E 25.83'
S29°05'20"W 180.71'
S29°04'56"W 135.35'
N66°49'29"W 25.14'
S29°04'56"W 20.55'
N74°09'22"W 567.12'
N25°30'05"E 179.66'
170.8'
166.7'
259.7'
143.3'
129.3'
129.5'
121.2'
76.3'
56.1'
57.4'
37.3'
34.6'
82.5'
222.0'
135.0'
143.4'
133.0'
40.1'
22.6'
SANITARY MANHOLE
TOP=164.44
INV IN=159.14
INV OUT=159.04
STORM INLET
TOP=163.92
SEALED SHUT
STORM MANHOLE
TOP=149.88
FILLED WITH LEAVES
SANITARY MANHOLE
TOP=146.20
INV IN=136.40
INV OUT=136.30
10" SAN
8" SAN
12" PVC
LOD

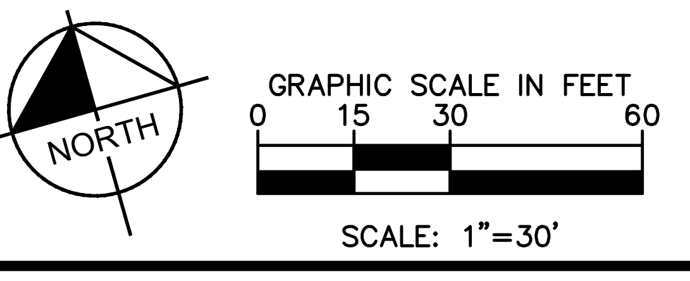
LEGEND

▬ ▬ ▬	EXISTING PROPERTY LINE / RIGHT OF WAY
— — —	PROPOSED PROPERTY LINE / RIGHT OF WAY
▬▬▬	BUILDING FOOTPRINT
- - - - -	BUILDING OVERHANG
— — — —	UNDERGROUND PARKING LAYOUT
—○—○—○—	PROPOSED FENCE

GENERAL NOTES

1. SITE BOUNDARY, TOPOGRAPHY, UTILITY AND ROAD INFORMATION TAKEN FROM A SURVEY BY GRS GROUP, LLC PREPARED ON DECEMBER 31, 2019.

NAD 83 VIRGINIA
STATE PLANE
NORTH ZONE, US FOOT


NORTH
GRAPHIC SCALE IN FEET
0
15
30
60

SCALE: 1"=30'

DESIGN ENGINEER AND LANDSCAPE ARCHITECT

FIRM NAME: KIMLEY-HORN AND ASSOCIATES, INC.
ADDRESS: 11400 COMMERCE PARK DRIVE, SUITE 400
RESTON, VIRGINIA 20191
PHONE NO: 703-674-1300 FAX NO: 703-674-1350
PROJ. MANAGER: KYLE BOLLINGER, P.E.
EMAIL: KYLE.BOLLINGER@KIMLEY-HORN.COM

SCALE: 1"=30' (AT 24x36) DATE: 08/14/2020 DRAWN BY: LVA

Kimley»Horn

SEAL:

OWNER
CITY OF ALEXANDRIA
301 KING STREET
ALEXANDRIA, VA 22314

DEVELOPER
ALEXANDRIA CITY
PUBLIC SCHOOLS

CONTACT
ERIKA GULICK
(703) 619-8298

REVISION / APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DOUGLAS MACARTHUR ELEMENTARY SCHOOL MODERNIZATION

PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

SHEET NAME: GIS DIMENSION PLAN

APPROVED
SPECIAL USE PERMIT NO. DSUP#2020-0010
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. ______

DIRECTOR DATE

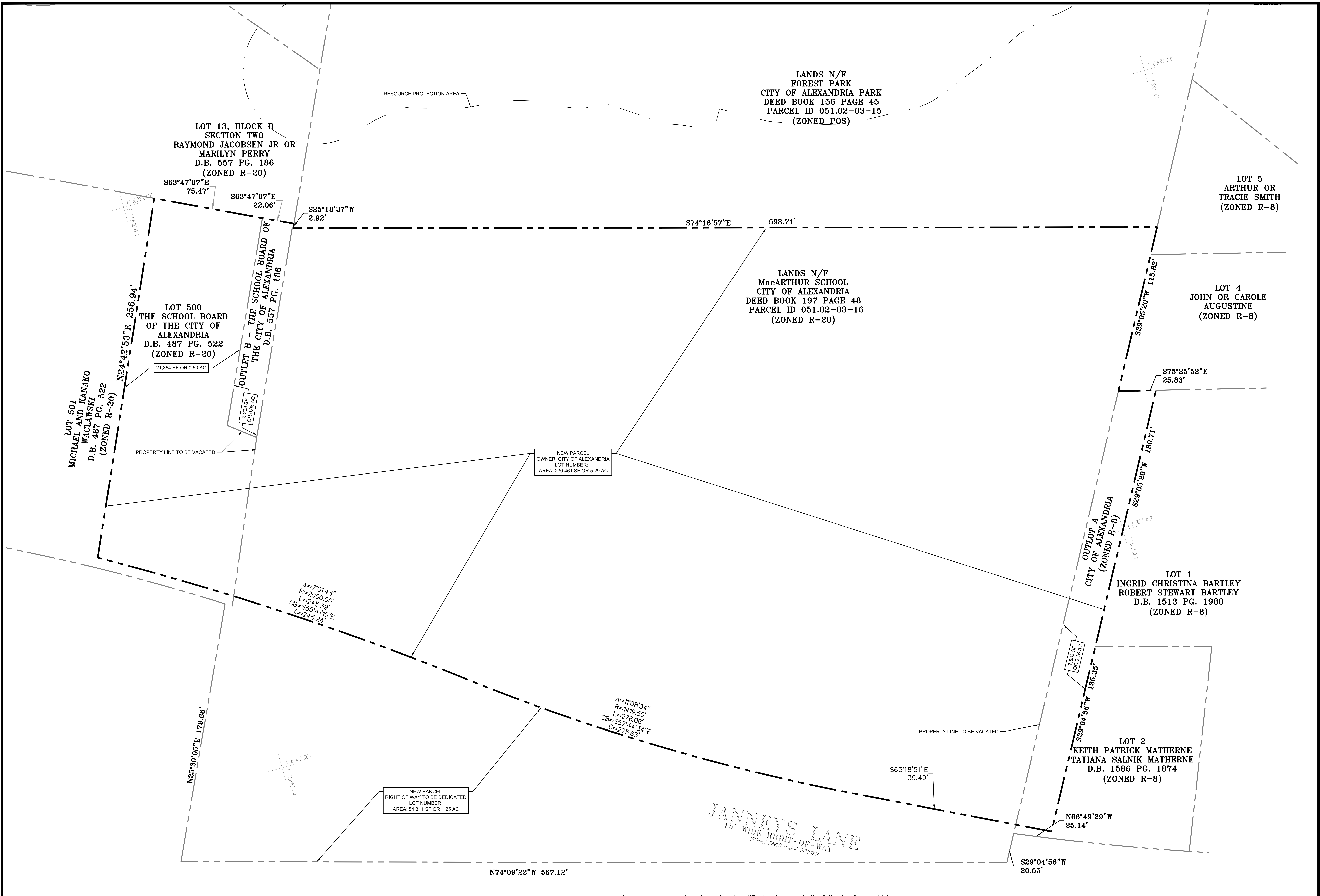
CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED ______

INSTRUMENT NO. DEED BOOK NO. PAGE NO.

C1.4

\\kimley-horn.com\AT_NVA2\NVA_CIV\110681000 dmes modernization\CAD\plansheets\preliminary plan\GIS DIMENSION PLAN.dwg, Layout:GIS DIMENSION PLAN Aug 14, 2020 Brandon.Kramer
XREFS: xBorder - 110681000 xSurvey - 110681000 xSite - 110681000

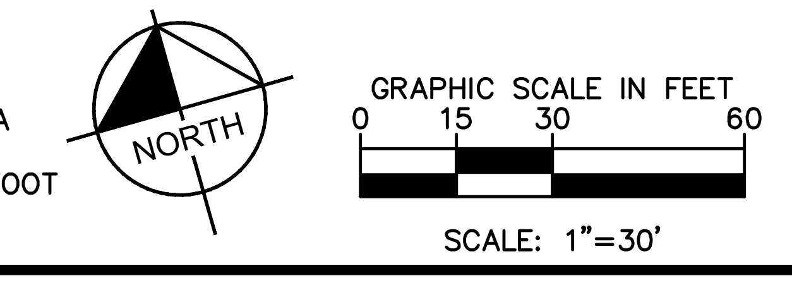

LANDS N/F
FOREST PARK
CITY OF ALEXANDRIA PARK
DEED BOOK 156 PAGE 45
PARCEL ID 051.02-03-15
(ZONED POS)
RESOURCE PROTECTION AREA
LOT 13, BLOCK B
SECTION TWO
RAYMOND JACOBSEN JR OR
MARILYN PERRY
D.B. 557 PG. 186
(ZONED R-20)
S63°47'07"E
75.47'
S63°47'07"E
22.06'
S25°18'37"W
2.92'
S74°16'57"E
593.71'
N 6,983,400
E 11,886,400
LOT 5
ARTHUR OR
TRACIE SMITH
(ZONED R-8)
LANDS N/F
MacARTHUR SCHOOL
CITY OF ALEXANDRIA
DEED BOOK 197 PAGE 48
PARCEL ID 051.02-03-16
(ZONED R-20)
N24°42'53"E 256.94'
LOT 500
THE SCHOOL BOARD
OF THE CITY OF
ALEXANDRIA
D.B. 487 PG. 522
(ZONED R-20)
21,864 SF OR 0.50 AC
OUTLET B - THE SCHOOL BOARD OF
THE CITY OF ALEXANDRIA
D.B. 557 PG. 186
3,269 SF
OR 0.08 AC
PROPERTY LINE TO BE VACATED
LOT 501
MICHAEL AND KANAKO
WACLAWSKI
D.B. 487 PG. 522
(ZONED R-20)
S29°05'20"W 115.82'
LOT 4
JOHN OR CAROLE
AUGUSTINE
(ZONED R-8)
S75°25'52"E
25.83'
S29°05'20"W 180.71'
NEW PARCEL
OWNER: CITY OF ALEXANDRIA
LOT NUMBER: 1
AREA: 230,461 SF OR 5.29 AC
N 6,983,000
E 11,887,000
OUTLOT A
CITY OF ALEXANDRIA
(ZONED R-8)
LOT 1
INGRID CHRISTINA BARTLEY
ROBERT STEWART BARTLEY
D.B. 1513 PG. 1980
(ZONED R-8)
Δ=7°01'48"
R=2000.00'
L=245.39'
CB=S55°41'10"E
C=245.24'
7,853 SF
OR 0.18 AC
S29°04'56"W 135.35'
Δ=11°08'34"
R=1419.50'
L=276.06'
CB=S57°44'34"E
C=275.63'
PROPERTY LINE TO BE VACATED
LOT 2
KEITH PATRICK MATHERNE
TATIANA SALNIK MATHERNE
D.B. 1586 PG. 1874
(ZONED R-8)
N25°30'05"E 179.86'
N 6,983,000
E 11,886,400
S63°18'51"E
139.49'
NEW PARCEL
RIGHT OF WAY TO BE DEDICATED
LOT NUMBER:
AREA: 54,311 SF OR 1.25 AC
JANNEYS LANE
45' WIDE RIGHT-OF-WAY
ASPHALT PAVED PUBLIC ROADWAY
N66°49'29"W
25.14'
S29°04'56"W
20.55'
N74°09'22"W 567.12'

PROPERTY INFORMATION				
LOT NAME	OWNER	PARCEL ID	DEED BOOK	LOT AREA
LOT 500	THE SCHOOL BOARD OF THE CITY OF ALEXANDRIA	#051.02-03-09	487 PAGE 522	21,864 SF (0.50 AC)
OUTLOT B	THE SCHOOL BOARD OF THE CITY OF ALEXANDRIA	#051.02-03-10	557 PAGE 186	3,269 SF (0.08 AC)
MACARTHUR SCHOOL	CITY OF ALEXANDRIA	#051.02-03-16	197 PAGE 48	203,554 SF (4.67 AC)
OUTLOT A	CITY OF ALEXANDRIA	#051.02-09-01	N/A	7,853 SF (0.18 AC)
PROPOSED DOUGLAS MACARTHUR CONSOLIDATED PROPERTY				230,461 SF (5.29 AC)

A surveyor's or engineer's seal and certificate of survey in the following form, which may be modified to accommodate title information:

"I hereby certify that I have carefully surveyed the property delineated by this plat, and that it is correct to the best of my knowledge and belief; that this is a subdivision of part (or all) of the land conveyed by ______________ to ____________ by deed dated _____________ and recorded among the land records of _______________ in Deed Book _________ at page ________ and is within those boundaries; and that all required monuments have been installed where indicated; except those that will be installed at a later date but before completion of the project.

"Certified Surveyor or Engineer"


NAD 83 VIRGINIA
STATE PLANE
NORTH ZONE, US FOOT
NORTH
GRAPHIC SCALE IN FEET
0
15
30
60
SCALE: 1"=30'

DESIGN ENGINEER AND LANDSCAPE ARCHITECT

FIRM NAME: KIMLEY-HORN AND ASSOCIATES, INC.
ADDRESS: 11400 COMMERCE PARK DRIVE, SUITE 400
RESTON, VIRGINIA 20191
PHONE NO: 703-674-1300 FAX NO: 703-674-1350
PROJ. MANAGER: KYLE BOLLINGER, P.E.
EMAIL: KYLE.BOLLINGER@KIMLEY-HORN.COM

SCALE: 1"=30' (AT 24x36)
DATE: 08/14/2020
DRAWN BY: LVA

Kimley»Horn

SEAL:

OWNER
CITY OF ALEXANDRIA
301 KING STREET
ALEXANDRIA, VA 22314

DEVELOPER
ALEXANDRIA CITY
PUBLIC SCHOOLS
CONTACT
ERIKA GULICK
(703) 619-8298

REVISION / APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DOUGLAS MACARTHUR ELEMENTARY SCHOOL MODERNIZATION

PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

SHEET NAME:
PRELIMINARY SUBDIVISION PLAT

APPROVED
SPECIAL USE PERMIT NO. DSUP#2020-0010
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

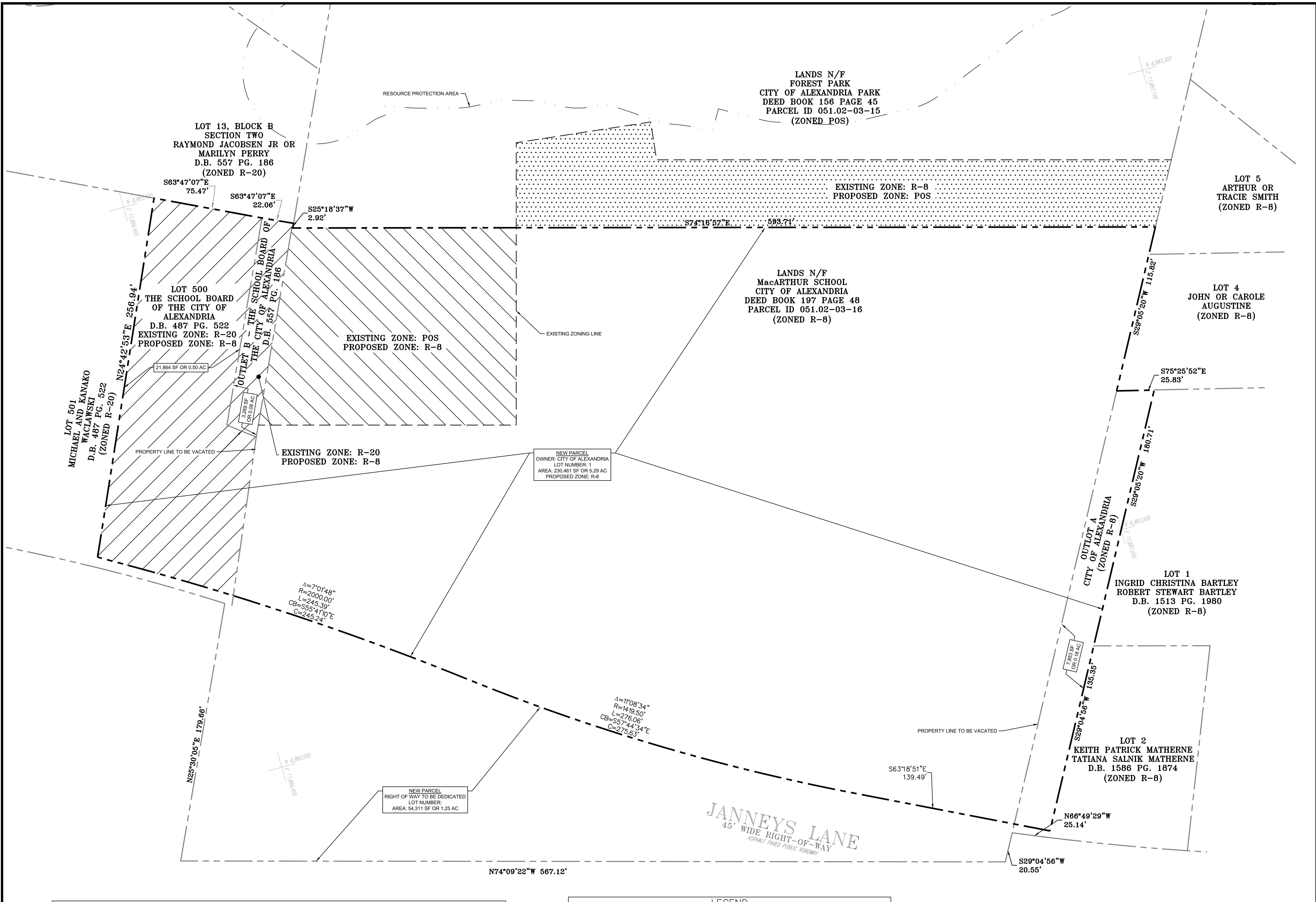
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. ____________

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED ____________
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

C1.5

\\kimley-horn.com\AT_NVA2\NVA_CIV\110681000 dmes modernization\CAD\plansheets\preliminary plan\PROPERTY CONSOLIDATION PLAN.dwg, Layout:PROP CONSOLIDATION Aug 14, 2020 Brandon.Kramer
XREFS: xBorder - 110681000 xSurvey - 110681000 xSoil - 110681000
THIS DOCUMENT, TOGETHER WITH THE CONCEPTS AND DESIGNS PRESENTED HEREIN, AS AN INSTRUMENT OF SERVICE, IS INTENDED ONLY FOR THE SPECIFIC PURPOSE AND CLIENT FOR WHICH IT WAS PREPARED. REUSE OF AND IMPROPER RELIANCE ON THIS DOCUMENT WITHOUT WRITTEN AUTHORIZATION AND ADAPTATION BY KIMLEY-HORN AND ASSOCIATES, INC. SHALL BE WITHOUT LIABILITY TO KIMLEY-HORN AND ASSOCIATES, INC.

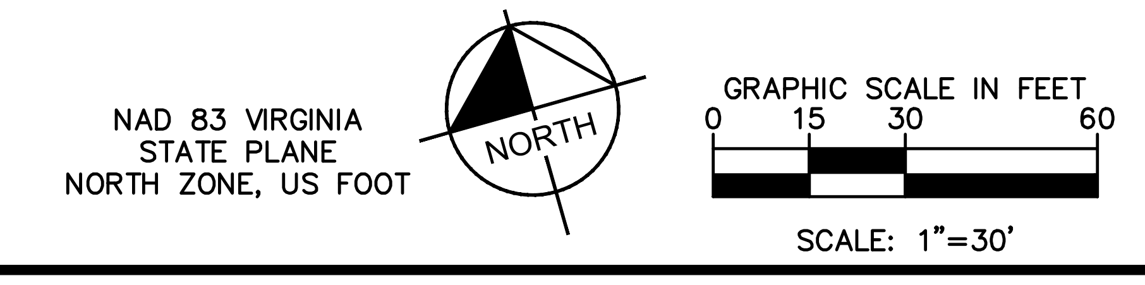

LANDS N/F
FOREST PARK
CITY OF ALEXANDRIA PARK
DEED BOOK 156 PAGE 45
PARCEL ID 051.02-03-15
(ZONED POS)
RESOURCE PROTECTION AREA
LOT 13, BLOCK B
SECTION TWO
RAYMOND JACOBSEN JR OR
MARILYN PERRY
D.B. 557 PG. 186
(ZONED R-20)
S63°47'07"E
75.47'
S63°47'07"E
22.06'
S25°18'37"W
2.92'
N 6,983,400
E 11,886,400
EXISTING ZONE: R-8
PROPOSED ZONE: POS
S74°16'57"E 593.71'
LOT 5
ARTHUR OR
TRACIE SMITH
(ZONED R-8)
LOT 500
THE SCHOOL BOARD
OF THE CITY OF
ALEXANDRIA
D.B. 487 PG. 522
EXISTING ZONE: R-20
PROPOSED ZONE: R-8
N24°42'53"E 256.94'
21,864 SF OR 0.50 AC
OUTLET B - THE SCHOOL BOARD OF THE CITY OF ALEXANDRIA D.B. 557 PG. 186
3,269 SF OR 0.08 AC
EXISTING ZONE: POS
PROPOSED ZONE: R-8
EXISTING ZONING LINE
LANDS N/F
MacARTHUR SCHOOL
CITY OF ALEXANDRIA
DEED BOOK 197 PAGE 48
PARCEL ID 051.02-03-16
(ZONED R-8)
S29°05'20"W 115.82'
LOT 4
JOHN OR CAROLE
AUGUSTINE
(ZONED R-8)
S75°25'52"E
25.83'
LOT 501
MICHAEL AND KANAKO
WACLAWSKI
D.B. 487 PG. 522
(ZONED R-20)
PROPERTY LINE TO BE VACATED
EXISTING ZONE: R-20
PROPOSED ZONE: R-8
NEW PARCEL
OWNER: CITY OF ALEXANDRIA
LOT NUMBER: 1
AREA: 230,461 SF OR 5.29 AC
PROPOSED ZONE: R-8
S29°05'20"W 180.71'
N 6,983,000
E 11,886,400
OUTLOT A
CITY OF ALEXANDRIA
(ZONED R-8)
LOT 1
INGRID CHRISTINA BARTLEY
ROBERT STEWART BARTLEY
D.B. 1513 PG. 1980
(ZONED R-8)
Δ=7°01'48"
R=2000.00'
L=245.39'
CB=S55°41'10"E
C=245.24'
7,853 SF OR 0.18 AC
135.35'
S29°04'56"W
Δ=11°08'34"
R=1419.50'
L=276.06'
CB=S57°44'34"E
C=275.63'
PROPERTY LINE TO BE VACATED
N25°30'05"E 179.86'
N 6,983,000
E 11,886,400
LOT 2
KEITH PATRICK MATHERNE
TATIANA SALNIK MATHERNE
D.B. 1586 PG. 1874
(ZONED R-8)
S63°18'51"E
139.49'
NEW PARCEL
RIGHT OF WAY TO BE DEDICATED
LOT NUMBER:
AREA: 54,311 SF OR 1.25 AC
JANNEYS LANE
45' WIDE RIGHT-OF-WAY
ASPHALT PAVED PUBLIC ROADWAY
N66°49'29"W
25.14'
S29°04'56"W
20.55'
N74°09'22"W 567.12'

PROPERTY INFORMATION

LOT NAME	OWNER	PARCEL ID	DEED BOOK	LOT AREA
LOT 500	THE SCHOOL BOARD OF THE CITY OF ALEXANDRIA	#051.02-03-09	487 PAGE 522	21,864 SF (0.50 AC)
OUTLOT B	THE SCHOOL BOARD OF THE CITY OF ALEXANDRIA	#051.02-03-10	557 PAGE 186	3,269 SF (0.08 AC)
MACARTHUR SCHOOL	CITY OF ALEXANDRIA	#051.02-03-16	197 PAGE 48	203,554 SF (4.67 AC)
OUTLOT A	CITY OF ALEXANDRIA	#051.02-09-01	N/A	7,853 SF (0.18 AC)
PROPOSED DOUGLAS MACARTHUR CONSOLIDATED PROPERTY				230,461 SF (5.29 AC)

LEGEND

▨	EXISTING ZONE: R-20 PROPOSED ZONE: R-8	— - — -	PROPERTY LINE
▧	EXISTING ZONE: POS PROPOSED ZONE: R-8	— — —	ZONING LINE
░	EXISTING ZONE: R-8 PROPOSED ZONE: POS		


NORTH
GRAPHIC SCALE IN FEET
0
15
30
60
SCALE: 1"=30'

NAD 83 VIRGINIA
STATE PLANE
NORTH ZONE, US FOOT

DESIGN ENGINEER AND LANDSCAPE ARCHITECT

FIRM NAME: KIMLEY-HORN AND ASSOCIATES, INC.
ADDRESS: 11400 COMMERCE PARK DRIVE, SUITE 400
RESTON, VIRGINIA 20191
PHONE NO: 703-674-1300 FAX NO: 703-674-1350
PROJ. MANAGER: KYLE BOLLINGER, P.E.
EMAIL: KYLE.BOLLINGER@KIMLEY-HORN.COM

SCALE: 1"=30' (AT 24x36) DATE: 08/14/2020 DRAWN BY: LVA

Kimley»Horn

SEAL:

OWNER
CITY OF ALEXANDRIA
301 KING STREET
ALEXANDRIA, VA 22314

DEVELOPER
ALEXANDRIA CITY
PUBLIC SCHOOLS

CONTACT
ERIKA GULICK
(703) 619-8298

REVISION / APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DOUGLAS MACARTHUR ELEMENTARY SCHOOL MODERNIZATION

CITY OF ALEXANDRIA, VIRGINIA

SHEET NAME:
REZONING PLAT

APPROVED
SPECIAL USE PERMIT NO. DSUP#2020-0010
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

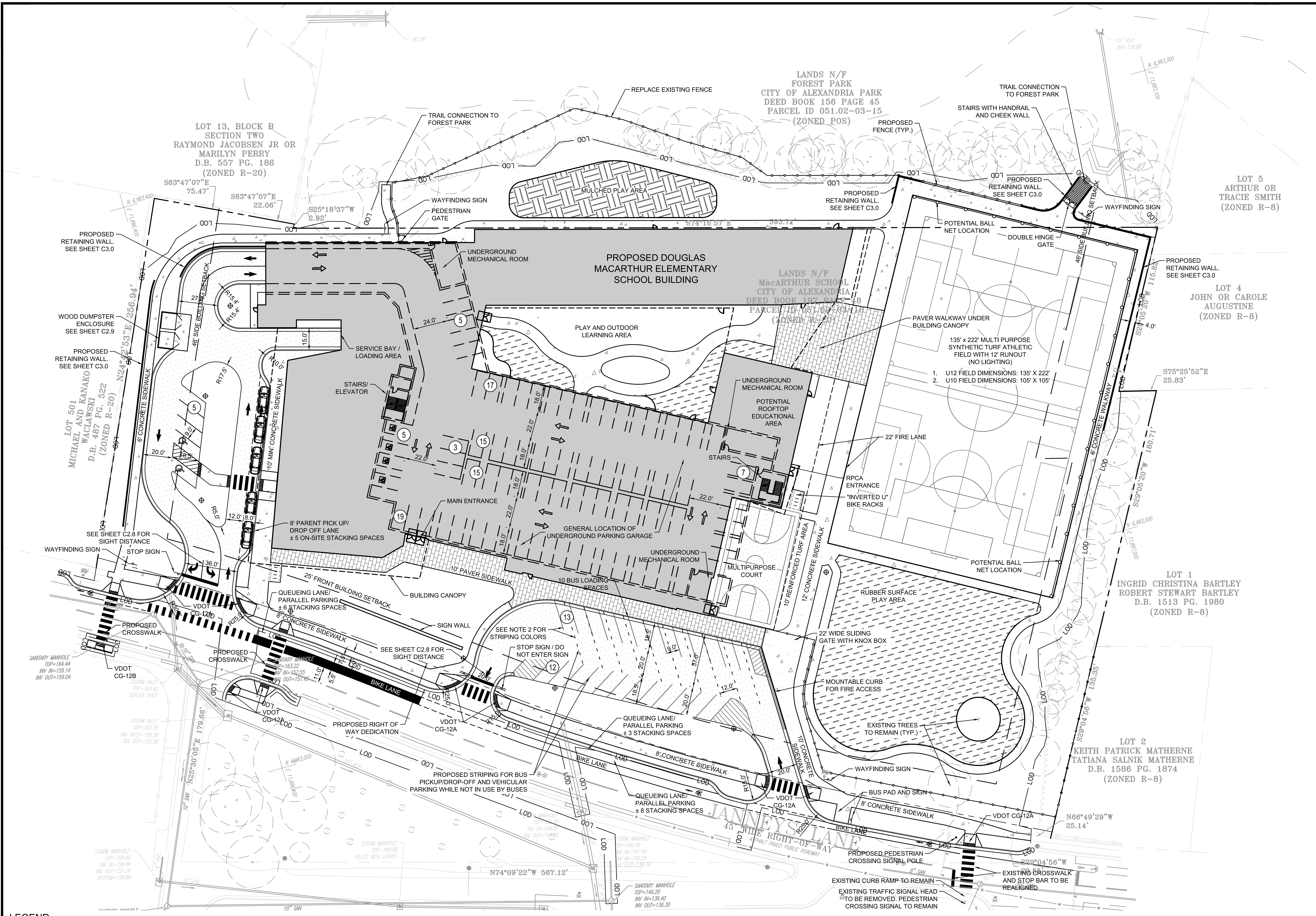
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. __________

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED __________

INSTRUMENT NO. DEED BOOK NO. PAGE NO.


PROPOSED DOUGLAS MACARTHUR ELEMENTARY SCHOOL BUILDING
LANDS N/F FOREST PARK CITY OF ALEXANDRIA PARK DEED BOOK 156 PAGE 45 PARCEL ID 051.02-03-15 (ZONED POS)
LANDS N/F MacARTHUR SCHOOL CITY OF ALEXANDRIA DEED BOOK 197 PAGE 46 PARCEL ID 051.02-03-14 (ZONED R-20)
LOT 13, BLOCK B SECTION TWO RAYMOND JACOBSEN JR OR MARILYN PERRY D.B. 557 PG. 186 (ZONED R-20)
LOT 501 MICHAEL AND KANAKO WACLAWSKI D.B. 487 PG. 522 (ZONED R-20)
LOT 5 ARTHUR OR TRACIE SMITH (ZONED R-8)
LOT 4 JOHN OR CAROLE AUGUSTINE (ZONED R-8)
LOT 1 INGRID CHRISTINA BARTLEY ROBERT STEWART BARTLEY D.B. 1513 PG. 1980 (ZONED R-8)
LOT 2 KEITH PATRICK MATHERNE TATIANA SALNIK MATHERNE D.B. 1586 PG. 1874 (ZONED R-8)
JANNEYS LANE 45' WIDE RIGHT-OF-WAY ASPHALT PAVED PUBLIC ROADWAY
REPLACE EXISTING FENCE
TRAIL CONNECTION TO FOREST PARK
WAYFINDING SIGN
PEDESTRIAN GATE
MULCHED PLAY AREA
PROPOSED FENCE (TYP.)
PROPOSED RETAINING WALL. SEE SHEET C3.0
STAIRS WITH HANDRAIL AND CHEEK WALL
POTENTIAL BALL NET LOCATION
DOUBLE HINGE GATE
UNDERGROUND MECHANICAL ROOM
WOOD DUMPSTER ENCLOSURE SEE SHEET C2.9
SERVICE BAY / LOADING AREA
STAIRS/ ELEVATOR
PLAY AND OUTDOOR LEARNING AREA
PAVER WALKWAY UNDER BUILDING CANOPY
135' x 222' MULTI PURPOSE SYNTHETIC TURF ATHLETIC FIELD WITH 12' RUNOUT (NO LIGHTING)
1. U12 FIELD DIMENSIONS: 135' X 222'
2. U10 FIELD DIMENSIONS: 105' X 105'
POTENTIAL ROOFTOP EDUCATIONAL AREA
22' FIRE LANE
STAIRS
RPCA ENTRANCE
"INVERTED U" BIKE RACKS
6' CONCRETE SIDEWALK
6' CONCRETE WALKWAY
10' MIN. CONCRETE SIDEWALK
MAIN ENTRANCE
8' PARENT PICK UP/ DROP OFF LANE ± 5 ON-SITE STACKING SPACES
GENERAL LOCATION OF UNDERGROUND PARKING GARAGE
SEE SHEET C2.8 FOR SIGHT DISTANCE
STOP SIGN
10' PAVER SIDEWALK
10 BUS LOADING SPACES
MULTIPURPOSE COURT
10' REINFORCED TURF AREA
12' CONCRETE SIDEWALK
RUBBER SURFACE PLAY AREA
25' FRONT BUILDING SETBACK
48' SIDE BUILDING SETBACK
46' SIDE BUILDING SETBACK
BUILDING CANOPY
QUEUEING LANE/ PARALLEL PARKING ± 6 STACKING SPACES
SIGN WALL
SEE NOTE 2 FOR STRIPING COLORS
STOP SIGN / DO NOT ENTER SIGN
22' WIDE SLIDING GATE WITH KNOX BOX
MOUNTABLE CURB FOR FIRE ACCESS
EXISTING TREES TO REMAIN (TYP.)
PROPOSED CROSSWALK
VDOT CG-12B
VDOT CG-12A
BIKE LANE
PROPOSED RIGHT OF WAY DEDICATION
QUEUEING LANE/ PARALLEL PARKING ± 3 STACKING SPACES
8' CONCRETE SIDEWALK
PROPOSED STRIPING FOR BUS PICKUP/DROP-OFF AND VEHICULAR PARKING WHILE NOT IN USE BY BUSES
QUEUEING LANE/ PARALLEL PARKING ± 8 STACKING SPACES
10' CONCRETE SIDEWALK
BUS PAD AND SIGN
PROPOSED PEDESTRIAN CROSSING SIGNAL POLE
EXISTING CURB RAMP TO REMAIN
EXISTING TRAFFIC SIGNAL HEAD TO BE REMOVED. PEDESTRIAN CROSSING SIGNAL TO REMAIN
EXISTING CROSSWALK AND STOP BAR TO BE REALIGNED
SANITARY MANHOLE TOP=164.44 INV IN=159.14 INV OUT=159.04
SANITARY MANHOLE TOP=146.20 INV IN=136.40 INV OUT=136.30
S63°47'07"E 75.47'
S63°47'07"E 22.06'
S25°18'37"W 2.92'
S74°16'57"E 393.72'
N24°52'53"E 256.94'
S29°05'20"W 115.82'
S75°25'52"E 25.83'
S29°05'20"W 180.71'
S29°04'56"W 135.35'
N66°49'29"W 25.14'
S29°04'56"W
N25°30'05"E 179.66'
N74°09'22"W 567.12'
LOD

LEGEND

EXISTING PROPERTY LINE / RIGHT OF WAY	CONCRETE SIDEWALK
PROPOSED PROPERTY LINE / RIGHT OF WAY	ASPHALT PAVING
BUILDING FOOTPRINT	SIDEWALK PAVERS
BUILDING OVERHANG	RUBBERIZED PLAY SURFACE
UNDERGROUND PARKING LAYOUT	MULCHED PLAY AREA
PROPOSED FENCE	
⊕ PROPOSED SITE LIGHT	

GENERAL NOTES

1. SITE BOUNDARY, TOPOGRAPHY, UTILITY AND ROAD INFORMATION TAKEN FROM A SURVEY BY GRS GROUP, LLC PREPARED ON DECEMBER 31, 2019.
2. PAVEMENT STRIPING LOCATED WITHIN BUS LOOP SHALL BE AS FOLLOWS: STANDARD PARKING SPACES TO BE WHITE COLOR, BUS PARKING TO BE YELLOW COLOR AND 2' STRIPE, 4' SKIP LENGTHS.

NAD 83 VIRGINIA
STATE PLANE
NORTH ZONE, US FOOT

NORTH

GRAPHIC SCALE IN FEET
0 15 30 60
SCALE: 1"=30'

DESIGN ENGINEER AND LANDSCAPE ARCHITECT
FIRM NAME: KIMLEY-HORN AND ASSOCIATES, INC.
ADDRESS: 11400 COMMERCE PARK DRIVE, SUITE 400
RESTON, VIRGINIA 20191
PHONE NO: 703-674-1300 FAX NO: 703-674-1350
PROJ. MANAGER: KYLE BOLLINGER, P.E.
EMAIL: KYLE.BOLLINGER@KIMLEY-HORN.COM
SCALE: 1"=30' (AT 24x36) DATE: 08/14/2020 DRAWN BY: LVA

Kimley»Horn

SEAL:

OWNER
CITY OF ALEXANDRIA
301 KING STREET
ALEXANDRIA, VA 22314

DEVELOPER
ALEXANDRIA CITY PUBLIC SCHOOLS
CONTACT
ERIKA GULICK
(703) 619-8298

REVISION / APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DOUGLAS MACARTHUR ELEMENTARY SCHOOL MODERNIZATION

PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

SHEET NAME: PRELIMINARY SITE PLAN

APPROVED
SPECIAL USE PERMIT NO. DSUP#2020-0010
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. ____________

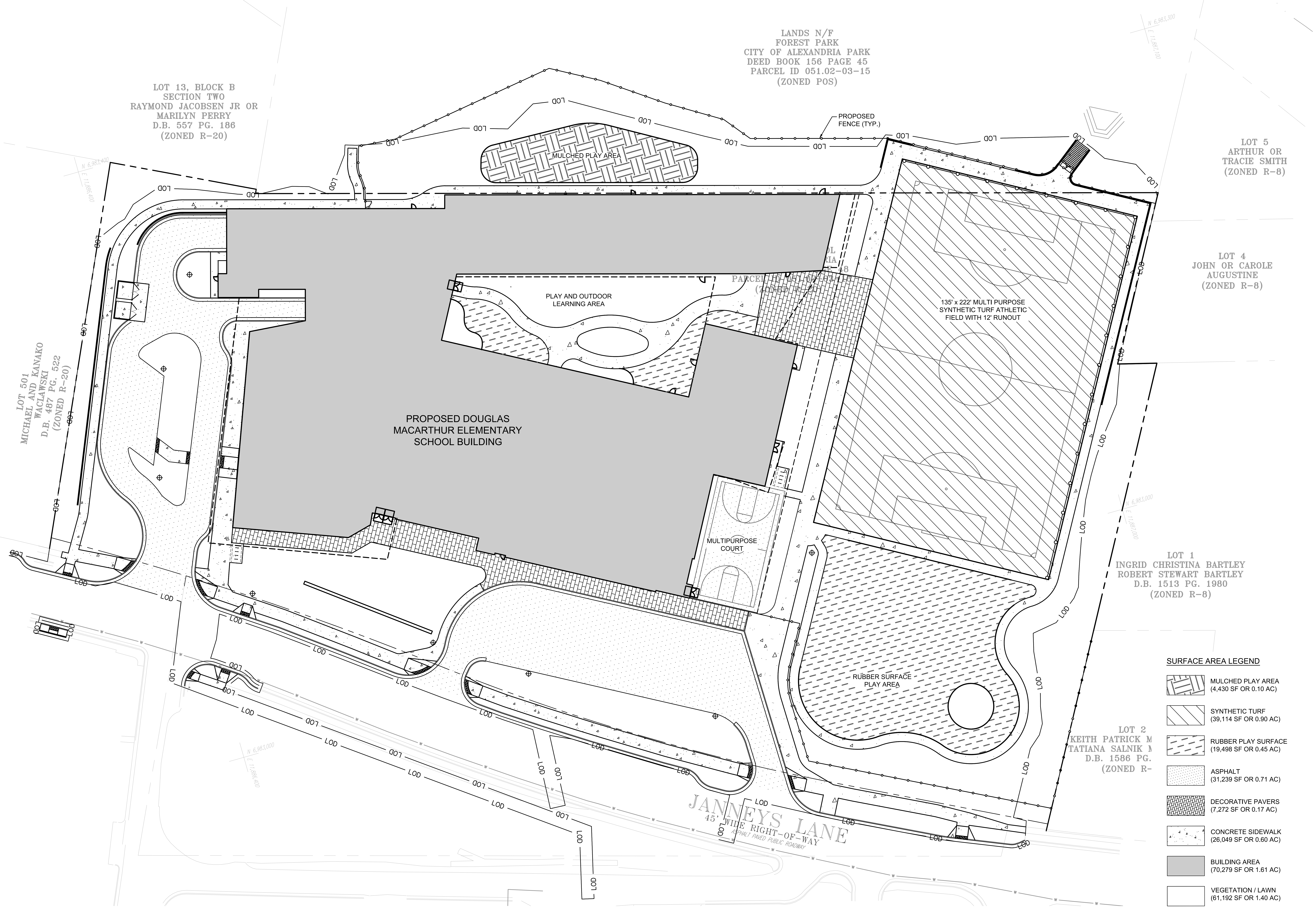
DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED ____________

INSTRUMENT NO. DEED BOOK NO. PAGE NO.

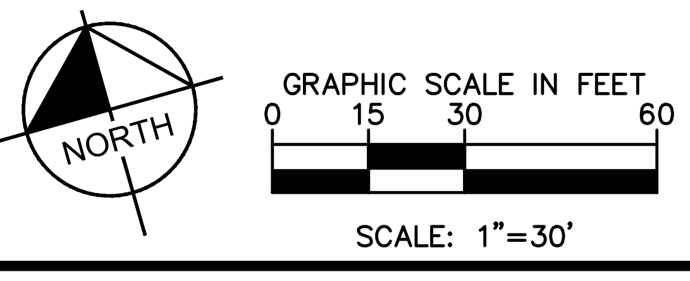
C2.0


LANDS N/F
FOREST PARK
CITY OF ALEXANDRIA PARK
DEED BOOK 156 PAGE 45
PARCEL ID 051.02-03-15
(ZONED POS)
LOT 13, BLOCK B
SECTION TWO
RAYMOND JACOBSEN JR OR
MARILYN PERRY
D.B. 557 PG. 186
(ZONED R-20)
LOT 5
ARTHUR OR
TRACIE SMITH
(ZONED R-8)
LOT 4
JOHN OR CAROLE
AUGUSTINE
(ZONED R-8)
LOT 501
MICHAEL AND KANAKO
WACLAWSKI
D.B. 487 PG. 522
(ZONED R-20)
LOT 1
INGRID CHRISTINA BARTLEY
ROBERT STEWART BARTLEY
D.B. 1513 PG. 1980
(ZONED R-8)
LOT 2
KEITH PATRICK M
TATIANA SALNIK M
D.B. 1586 PG.
(ZONED R-
PROPOSED
FENCE (TYP.)
MULCHED PLAY AREA
PLAY AND OUTDOOR
LEARNING AREA
135' x 222' MULTI PURPOSE
SYNTHETIC TURF ATHLETIC
FIELD WITH 12' RUNOUT
PROPOSED DOUGLAS
MACARTHUR ELEMENTARY
SCHOOL BUILDING
MULTIPURPOSE
COURT
RUBBER SURFACE
PLAY AREA
JANNEYS LANE
45' WIDE RIGHT-OF-WAY
ASPHALT PAVED PUBLIC ROADWAY
LOD

SURFACE AREA LEGEND

▨	MULCHED PLAY AREA (4,430 SF OR 0.10 AC)
▨	SYNTHETIC TURF (39,114 SF OR 0.90 AC)
▨	RUBBER PLAY SURFACE (19,498 SF OR 0.45 AC)
▨	ASPHALT (31,239 SF OR 0.71 AC)
▨	DECORATIVE PAVERS (7,272 SF OR 0.17 AC)
▨	CONCRETE SIDEWALK (26,049 SF OR 0.60 AC)
▨	BUILDING AREA (70,279 SF OR 1.61 AC)
☐	VEGETATION / LAWN (61,192 SF OR 1.40 AC)

NAD 83 VIRGINIA
STATE PLANE
NORTH ZONE, US FOOT


NORTH
GRAPHIC SCALE IN FEET
0
15
30
60

SCALE: 1"=30'

DESIGN ENGINEER AND LANDSCAPE ARCHITECT

FIRM NAME: KIMLEY-HORN AND ASSOCIATES, INC.
ADDRESS: 11400 COMMERCE PARK DRIVE, SUITE 400
RESTON, VIRGINIA 20191
PHONE NO: 703-674-1300 FAX NO: 703-674-1350
PROJ. MANAGER: KYLE BOLLINGER, P.E.
EMAIL: KYLE.BOLLINGER@KIMLEY-HORN.COM

SCALE: 1"=30' (AT 24x36) DATE: 08/14/2020 DRAWN BY: LVA

Kimley»Horn

SEAL:

OWNER
CITY OF ALEXANDRIA
301 KING STREET
ALEXANDRIA, VA 22314
DEVELOPER
ALEXANDRIA CITY
PUBLIC SCHOOLS
CONTACT
ERIKA GULICK
(703) 619-8298

REVISION / APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DOUGLAS MACARTHUR ELEMENTARY SCHOOL MODERNIZATION

PRELIMINARY SITE PLAN

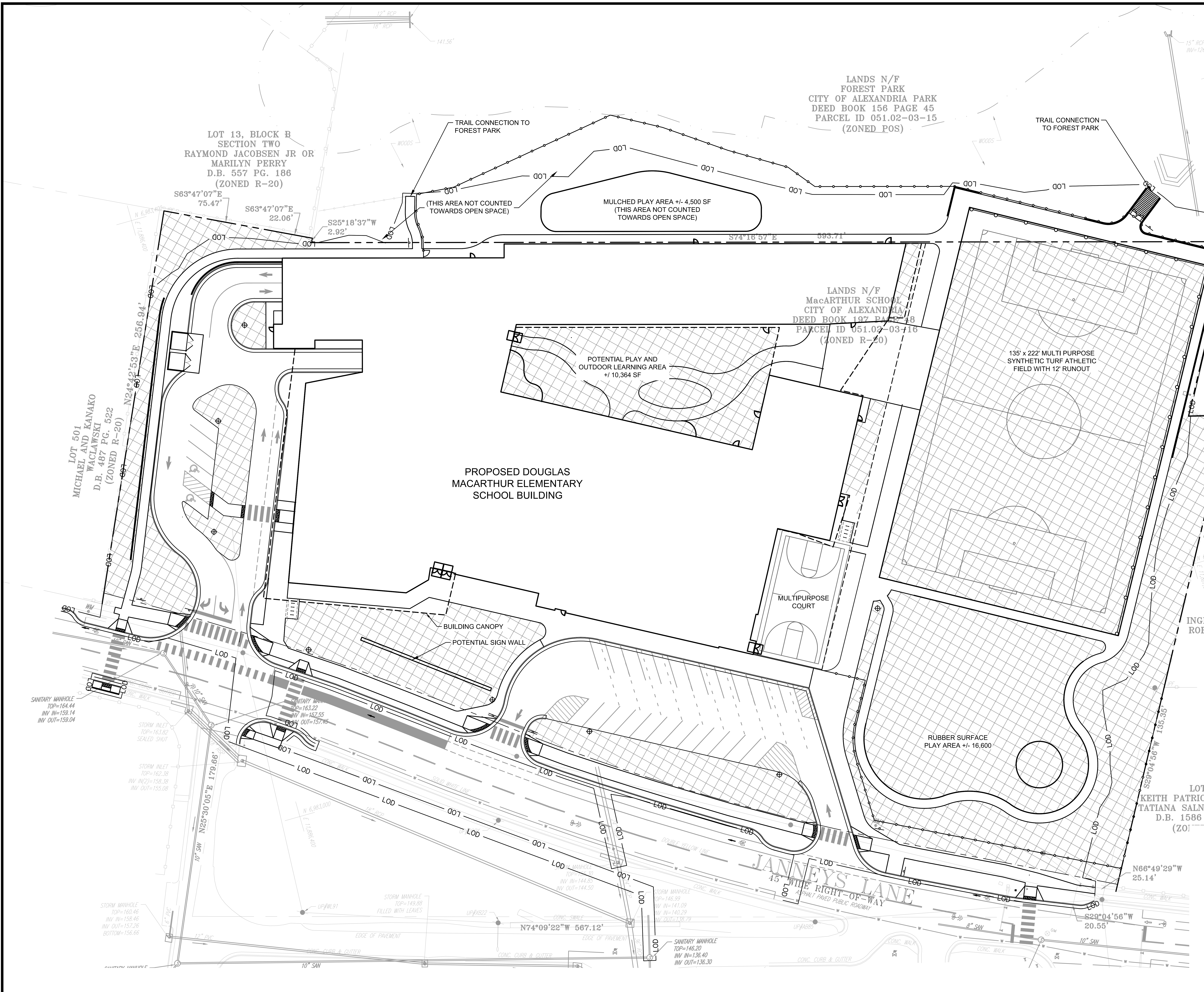
CITY OF ALEXANDRIA, VIRGINIA

SHEET NAME:
SURFACE AREA PLAN

APPROVED
SPECIAL USE PERMIT NO. DSUP#2020-0010
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.

C2.1

\\kimley-horn.com\AT_NVA2\NVA_CIV\110681000 dmes modernization\CAD\plansheets\preliminary plan\SURFACE AREA PLAN.dwg, Layout:SURFACE AREA PLAN Aug 14, 2020 Brandon.Kramer
XREFS: xBorder - 110681000 xSurvey - 110681000 xSite - 110681000


LANDS N/F
FOREST PARK
CITY OF ALEXANDRIA PARK
DEED BOOK 156 PAGE 45
PARCEL ID 051.02-03-15
(ZONED POS)
LOT 13, BLOCK B
SECTION TWO
RAYMOND JACOBSEN JR OR
MARILYN PERRY
D.B. 557 PG. 186
(ZONED R-20)
S63°47'07"E
75.47'
S63°47'07"E
22.06'
S25°18'37"W
2.92'
TRAIL CONNECTION TO
FOREST PARK
(THIS AREA NOT COUNTED
TOWARDS OPEN SPACE)
MULCHED PLAY AREA +/- 4,500 SF
(THIS AREA NOT COUNTED
TOWARDS OPEN SPACE)
TRAIL CONNECTION
TO FOREST PARK
S74°16'57"E 593.71'
LOD
LOT 5
ARTHUR OR
TRACIE SMITH
(ZONED R-8)
LANDS N/F
MacARTHUR SCHOOL
CITY OF ALEXANDRIA
DEED BOOK 197 PAGE 46
PARCEL ID 051.02-03-16
(ZONED R-20)
POTENTIAL PLAY AND
OUTDOOR LEARNING AREA
+/ 10,364 SF
135' x 222' MULTI PURPOSE
SYNTHETIC TURF ATHLETIC
FIELD WITH 12' RUNOUT
S29°05'20"W 115.82'
LOT 4
JOHN OR CAROLE
AUGUSTINE
(ZONED R-8)
S75°25'52"E
25.83'
N24°49'53"E 256.94'
LOT 501
MICHAEL AND KANAKO
WACLAWSKI
D.B. 487 PG. 522
(ZONED R-20)
PROPOSED DOUGLAS
MACARTHUR ELEMENTARY
SCHOOL BUILDING
S29°05'20"W 180.71'
MULTIPURPOSE
COURT
BUILDING CANOPY
POTENTIAL SIGN WALL
LOT 1
INGRID CHRISTINA BARTLEY
ROBERT STEWART BARTLEY
D.B. 1513 PG. 1980
(ZONED R-8)
SANITARY MANHOLE
TOP=164.44
INV IN=159.14
INV OUT=159.04
STORM INLET
TOP=163.92
SEALED SHUT
SANITARY MANHOLE
TOP=163.22
INV IN=157.55
INV OUT=157.45
RUBBER SURFACE
PLAY AREA +/- 16,600
S29°04'56"W 135.35'
LOT 2
KEITH PATRICK MATHERNE
TATIANA SALNIK MATHERNE
D.B. 1586 PG. 1874
(ZONED R-8)
N25°30'05"E 179.66'
JANNEYS LANE
45' WIDE RIGHT-OF-WAY
ASPHALT PAVED PUBLIC ROADWAY
DOUBLE YELLOW LINE
N66°49'29"W
25.14'
S29°04'56"W
20.55'
N74°09'22"W 567.12'
STORM MANHOLE
FILLED WITH LEAVES
SANITARY MANHOLE
TOP=146.20
INV IN=136.40
INV OUT=136.30
EDGE OF PAVEMENT
CONC. CURB & GUTTER
CONC. WALK
10" SAN
8" SAN
WOODS

OPEN SPACE CALCULATIONS:

NOTE:
AREA CALCULATED AT GROUND LEVEL INCLUDES PLAY SURFACE, SYNTHETIC TURF ATHLETIC FIELD, LANDSCAPE VEGETATION, AND ANY OTHER AREA 8' OR GREATER IN WIDTH, UNOCCUPIED OR UNOBSTRUCTED AREAS, NOT INCLUDING ROADS, DRIVES, ALLEYS, AND PARKING AS PER CITY OF ALEXANDRIA CODE (2-180) FOR OPEN SPACE.

▨	TOTAL OPEN SPACE - 2.34 AC (101,895 SF OR 44.2% OF SITE AREA)

TOTAL SITE AREA - 230,461 SF (5.29 AC)

NAD 83 VIRGINIA
STATE PLANE
NORTH ZONE, US FOOT

NORTH

GRAPHIC SCALE IN FEET
0 15 30 60

SCALE: 1"=30'

DESIGN ENGINEER AND LANDSCAPE ARCHITECT

FIRM NAME: KIMLEY-HORN AND ASSOCIATES, INC.
ADDRESS: 11400 COMMERCE PARK DRIVE, SUITE 400
RESTON, VIRGINIA 20191
PHONE NO: 703-674-1300 FAX NO: 703-674-1350
PROJ. MANAGER: KYLE BOLLINGER, P.E.
EMAIL: KYLE.BOLLINGER@KIMLEY-HORN.COM

SCALE: 1"=30' (AT 24x36) | DATE: 08/14/2020 | DRAWN BY: LVA

Kimley»Horn

SEAL:

OWNER
CITY OF ALEXANDRIA
301 KING STREET
ALEXANDRIA, VA 22314
DEVELOPER
ALEXANDRIA CITY
PUBLIC SCHOOLS
CONTACT
ERIKA GULICK
(703) 619-8298

REVISION / APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DOUGLAS MACARTHUR ELEMENTARY SCHOOL MODERNIZATION

PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

SHEET NAME: OPEN SPACE PLAN

APPROVED
SPECIAL USE PERMIT NO. DSUP#2020-0010
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. ____________

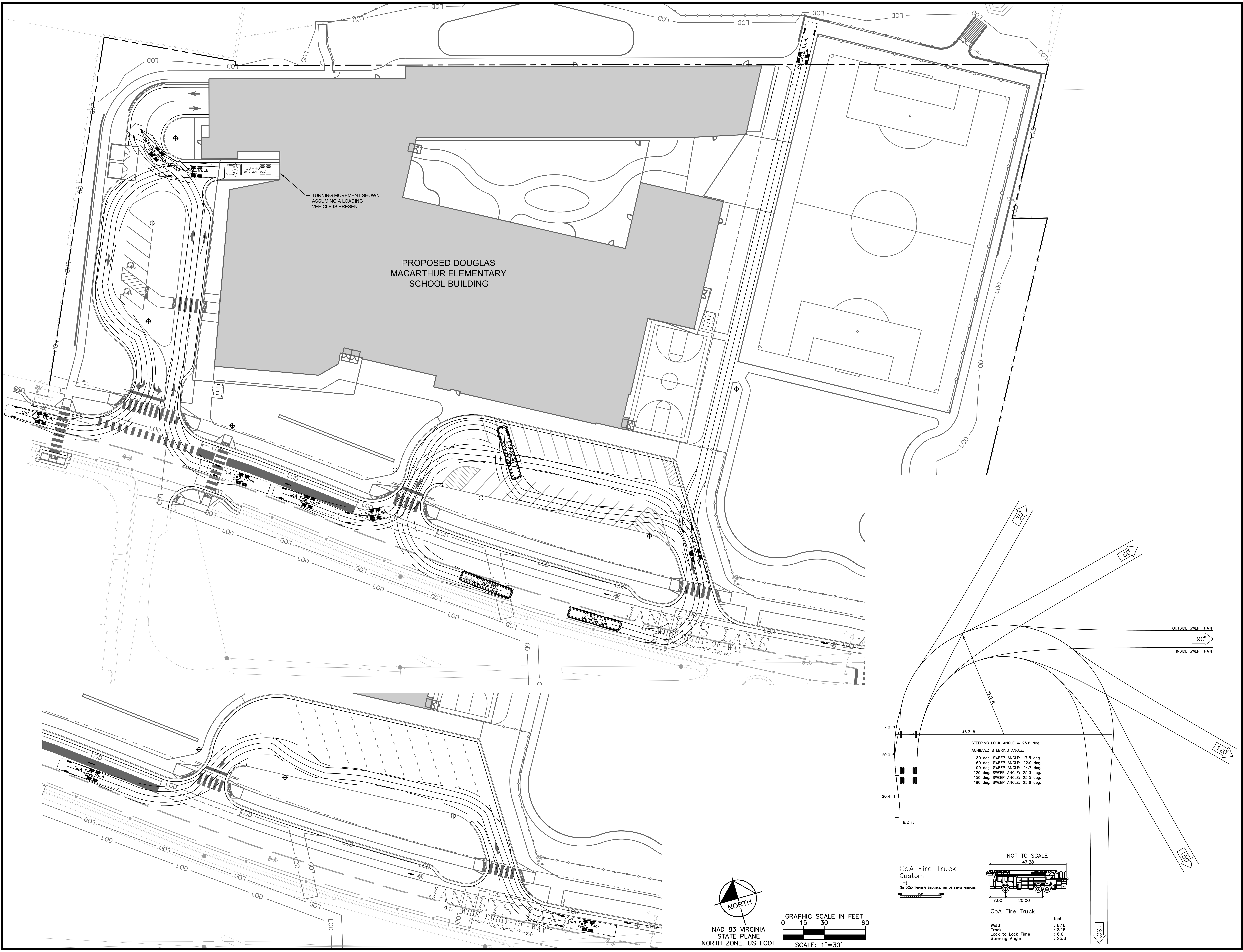
DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED ____________

INSTRUMENT NO. DEED BOOK NO. PAGE NO.

\\kimley-horn.com\AT_NVA2\NVA_CIV\110681000 dmes modernization\CAD\plansheets\preliminary plan\6 OPEN SPACE PLAN.dwg, Layout:OPEN SPACES PLAN Aug 14, 2020 Brandon.Kramer
XREFS: xBorder - 110681000 xSurvey - 110681000 xSite - 110681000
THIS DOCUMENT, TOGETHER WITH THE CONCEPTS AND DESIGNS PRESENTED HEREIN, AS AN INSTRUMENT OF SERVICE, IS INTENDED ONLY FOR THE SPECIFIC PURPOSE AND CLIENT FOR WHICH IT WAS PREPARED. REUSE OF AND IMPROPER RELIANCE ON THIS DOCUMENT WITHOUT WRITTEN AUTHORIZATION AND ADAPTATION BY KIMLEY-HORN AND ASSOCIATES, INC. SHALL BE WITHOUT LIABILITY TO KIMLEY-HORN AND ASSOCIATES, INC.


PROPOSED DOUGLAS MACARTHUR ELEMENTARY SCHOOL BUILDING
TURNING MOVEMENT SHOWN ASSUMING A LOADING VEHICLE IS PRESENT
CoA Fire Truck
S-BUS-40
LOD
JANNEYS LANE
45' WIDE RIGHT-OF-WAY
ASPHALT PAVED PUBLIC ROADWAY
30°
60°
90°
120°
150°
180°
OUTSIDE SWEPT PATH
INSIDE SWEPT PATH
52.9 ft
46.3 ft
7.0 ft
20.0 ft
20.4 ft
8.2 ft
NOT TO SCALE
47.38
7.00
20.00
0ft
10ft
20ft
NORTH
GRAPHIC SCALE IN FEET
0
15
30
60

STEERING LOCK ANGLE = 25.6 deg.

ACHIEVED STEERING ANGLE:

30 deg. SWEEP ANGLE: 17.5 deg.
60 deg. SWEEP ANGLE: 22.9 deg.
90 deg. SWEEP ANGLE: 24.7 deg.
120 deg. SWEEP ANGLE: 25.3 deg.
150 deg. SWEEP ANGLE: 25.5 deg.
180 deg. SWEEP ANGLE: 25.6 deg.

CoA Fire Truck
Custom
[ft]

(c) 2020 Transoft Solutions, Inc. All rights reserved.

CoA Fire Truck

	feet
Width	: 8.16
Track	: 8.16
Lock to Lock Time	: 6.0
Steering Angle	: 25.6

NAD 83 VIRGINIA
STATE PLANE
NORTH ZONE, US FOOT

SCALE: 1"=30'

\\kimley-horn.com\AT_NVA2\NVA_CIV\110681000 dmes modernization\CAD\plansheets\preliminary plan\5 TRUCK TURN PLAN.dwg, Layout:FIRE TRUCK Aug 14, 2020 Brandon.Kramer
XREFS: xBorder – 110681000 xSurvey – 110681000 xSite – 110681000

DESIGN ENGINEER AND LANDSCAPE ARCHITECT
FIRM NAME: KIMLEY-HORN AND ASSOCIATES, INC.
ADDRESS: 11400 COMMERCE PARK DRIVE, SUITE 400
RESTON, VIRGINIA 20191
PHONE NO: 703-674-1300 FAX NO: 703-674-1350
PROJ. MANAGER: KYLE BOLLINGER, P.E.
EMAIL: KYLE.BOLLINGER@KIMLEY-HORN.COM

SCALE: 1"=30' (AT 24x36) DATE: 08/14/2020 DRAWN BY: LVA

Kimley»Horn

SEAL:

OWNER
CITY OF ALEXANDRIA
301 KING STREET
ALEXANDRIA, VA 22314

DEVELOPER
ALEXANDRIA CITY
PUBLIC SCHOOLS
CONTACT
ERIKA GULICK
(703) 619-8298

REVISION / APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DOUGLAS MACARTHUR ELEMENTARY SCHOOL MODERNIZATION

PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

SHEET NAME:
FIRE TRUCK CIRCULATION PLAN

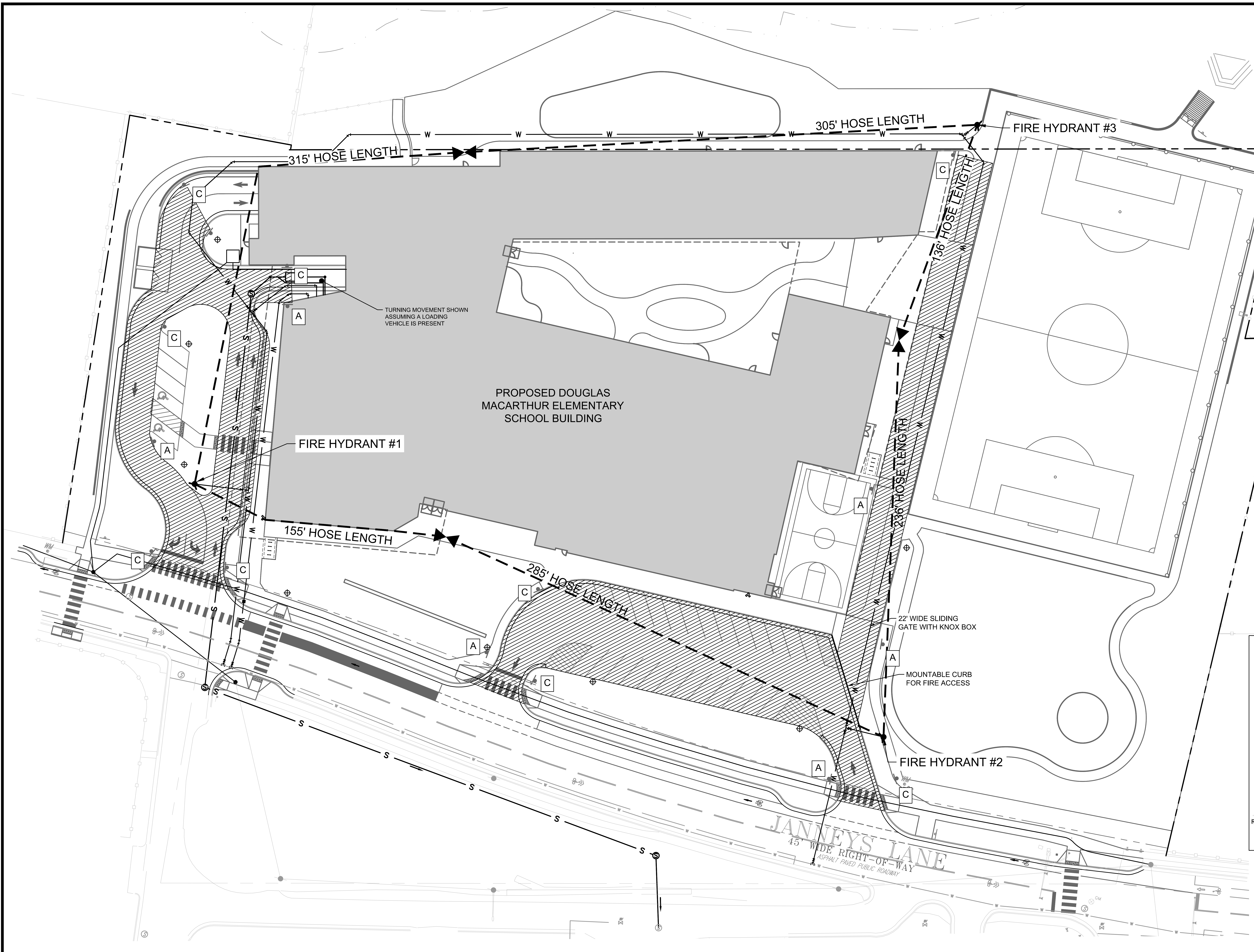
APPROVED
SPECIAL USE PERMIT NO. DSUP#2020-0010
DEPARTMENT OF PLANNING & ZONING

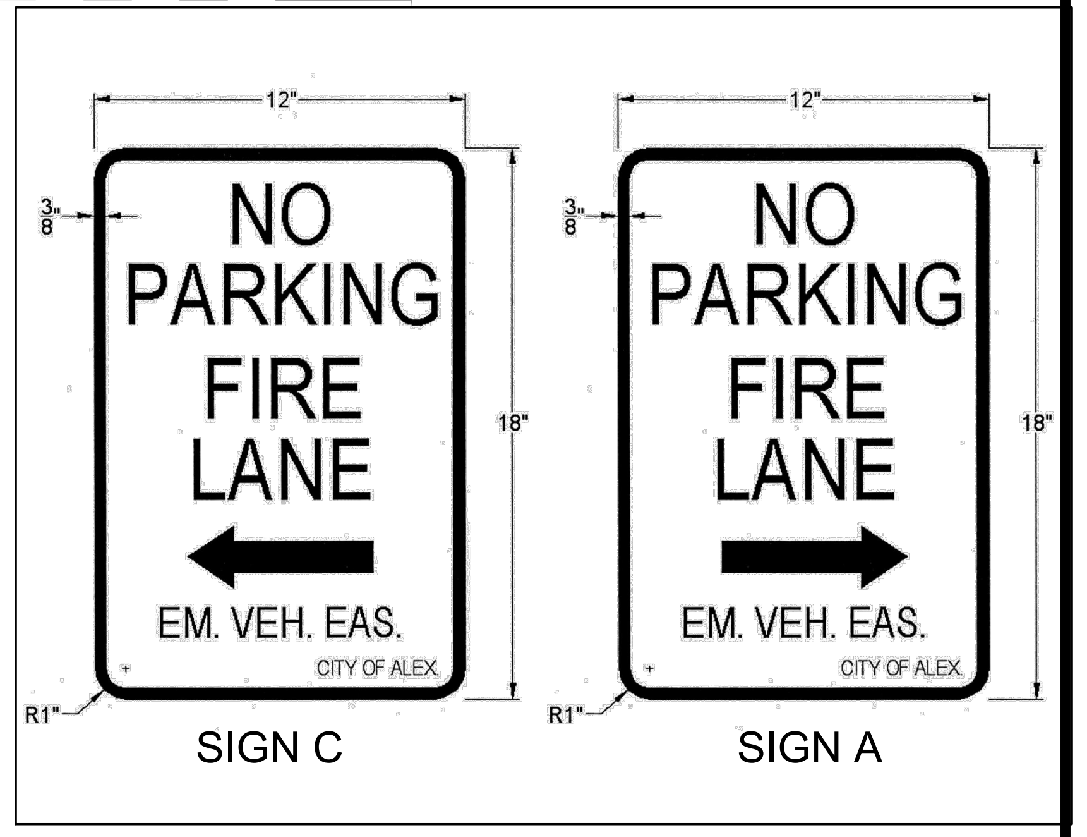
DIRECTOR DATE

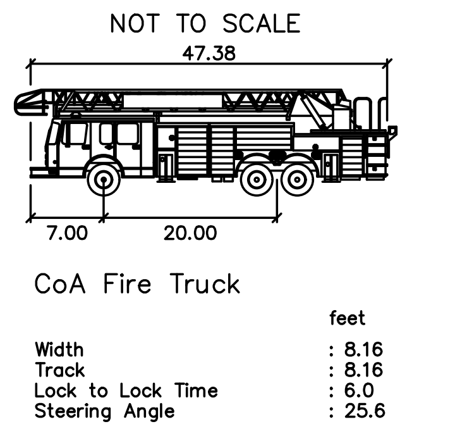
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. ____________

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED ____________
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

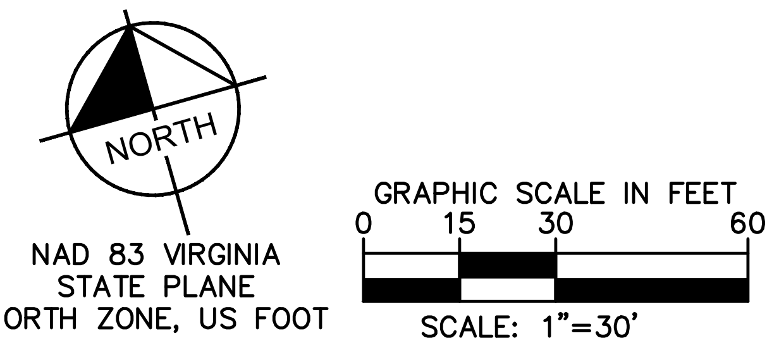

315' HOSE LENGTH
305' HOSE LENGTH
FIRE HYDRANT #3
136' HOSE LENGTH
TURNING MOVEMENT SHOWN ASSUMING A LOADING VEHICLE IS PRESENT
PROPOSED DOUGLAS MACARTHUR ELEMENTARY SCHOOL BUILDING
FIRE HYDRANT #1
236' HOSE LENGTH
155' HOSE LENGTH
285' HOSE LENGTH
22' WIDE SLIDING GATE WITH KNOX BOX
MOUNTABLE CURB FOR FIRE ACCESS
FIRE HYDRANT #2
JANNEYS LANE
45' WIDE RIGHT-OF-WAY
ASPHALT PAVED PUBLIC ROADWAY
A
C
W
S


12"
NO PARKING FIRE LANE
EM. VEH. EAS.
CITY OF ALEX
18"
R1"
SIGN C
SIGN A


NOT TO SCALE
47.38
7.00
20.00

CoA Fire Truck

	feet
Width	: 8.16
Track	: 8.16
Lock to Lock Time	: 6.0
Steering Angle	: 25.6


NORTH
GRAPHIC SCALE IN FEET
0 15 30 60

NAD 83 VIRGINIA
STATE PLANE
NORTH ZONE, US FOOT

SCALE: 1"=30'

LEGEND

▬ ▬ ▬	FIRE HOSE
▨	EMERGENCY VEHICLE EASEMENT (EVE)
⊤	PROPOSED EMERGENCY VEHICLE SIGN

GENERAL NOTES

1. SITE BOUNDARY, TOPOGRAPHY, UTILITY AND ROAD INFORMATION TAKEN FROM A SURVEY BY GRS GROUP, LLC PREPARED ON DECEMBER 31, 2019.

DESIGN ENGINEER AND LANDSCAPE ARCHITECT

FIRM NAME: KIMLEY-HORN AND ASSOCIATES, INC.
ADDRESS: 11400 COMMERCE PARK DRIVE, SUITE 400
RESTON, VIRGINIA 20191
PHONE NO: 703-674-1300 FAX NO: 703-674-1350
PROJ. MANAGER: KYLE BOLLINGER, P.E.
EMAIL: KYLE.BOLLINGER@KIMLEY-HORN.COM

SCALE: 1"=30' (AT 24x36) DATE: 08/14/2020 DRAWN BY: LVA

Kimley»Horn

SEAL:

OWNER
CITY OF ALEXANDRIA
301 KING STREET
ALEXANDRIA, VA 22314

DEVELOPER
ALEXANDRIA CITY
PUBLIC SCHOOLS

CONTACT
ERIKA GULICK
(703) 619-8298

REVISION / APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DOUGLAS MACARTHUR ELEMENTARY SCHOOL MODERNIZATION

PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

SHEET NAME: FIRE SERVICE PLAN

APPROVED
SPECIAL USE PERMIT NO. DSUP#2020-0010

DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. ____________

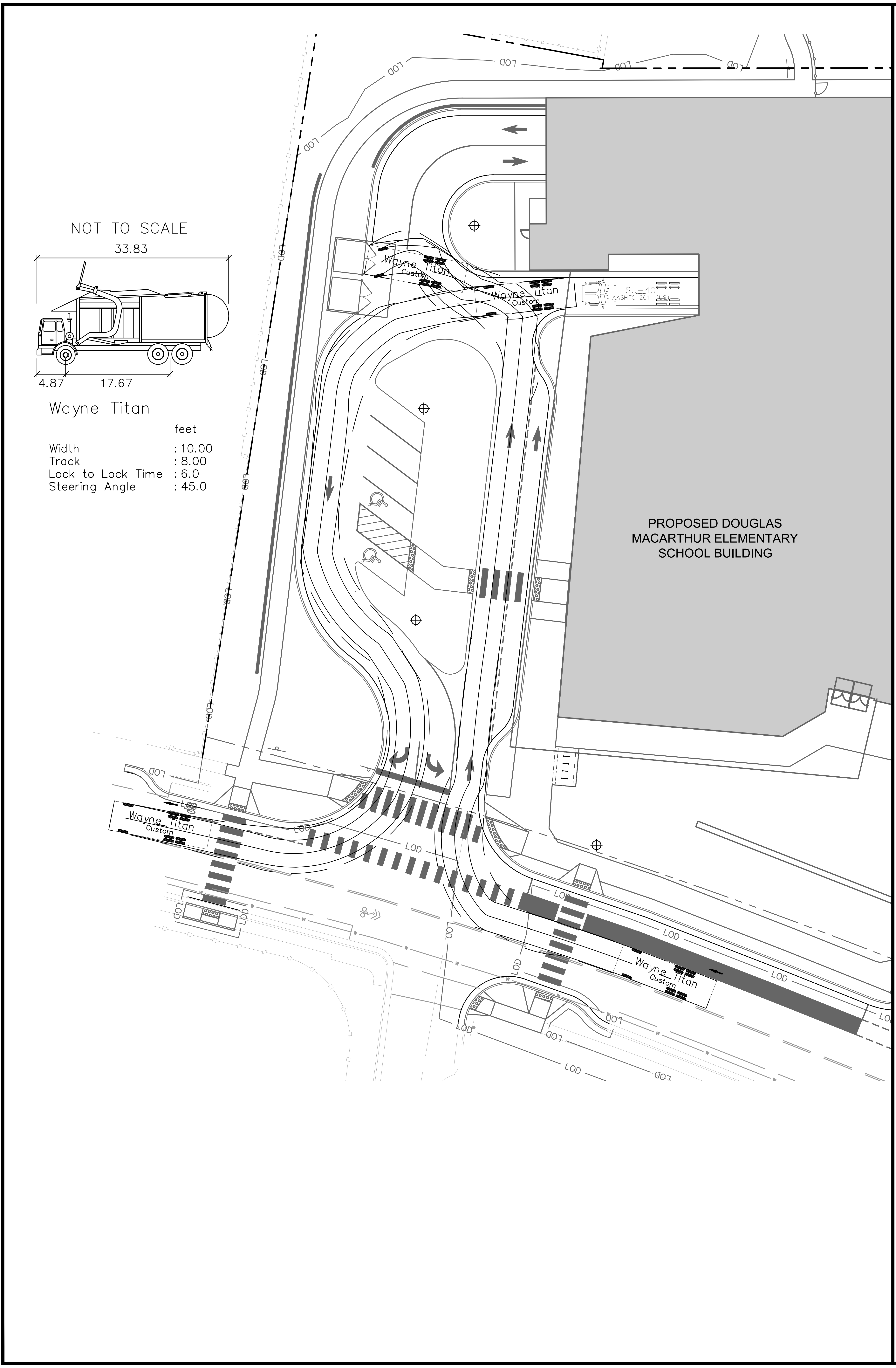
DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED ____________

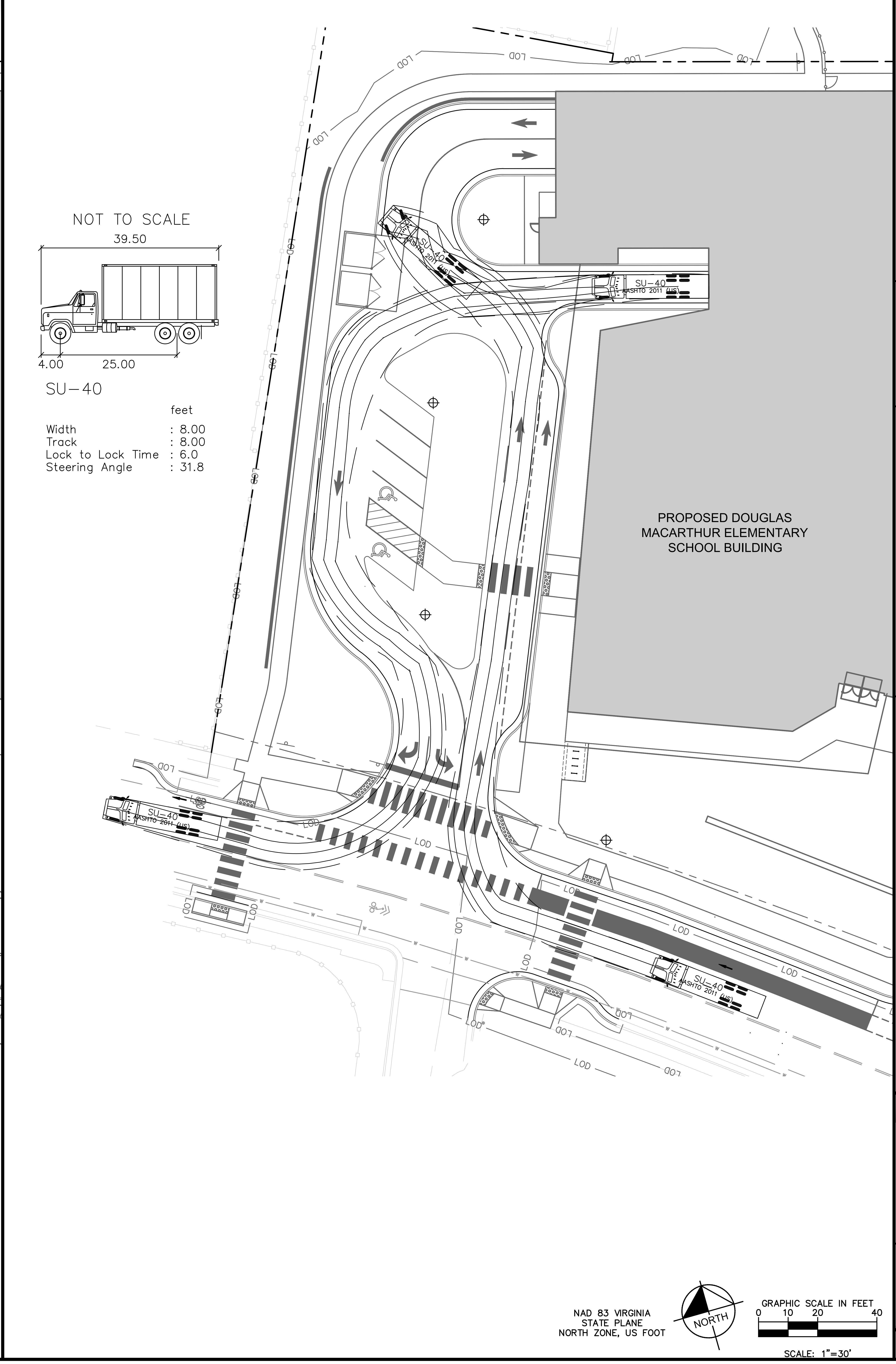
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

\\kimley-horn.com\AT_NVA2\NVA_CIV\110681000 dmes modernization\CAD\plansheets\preliminary plan\FIRE SERVICE PLAN.dwg, Layout:FIRE SERVICE PLAN Aug 14, 2020 Brandon.Kramer
XREFS: xBorder - 110681000 xSurvey - 110681000 xSite - 110681000 xutil - 110681000
THIS DOCUMENT, TOGETHER WITH THE CONCEPTS AND DESIGNS PRESENTED HEREIN, AS AN INSTRUMENT OF SERVICE, IS INTENDED ONLY FOR THE SPECIFIC PURPOSE AND CLIENT FOR WHICH IT WAS PREPARED. REUSE OF AND IMPROPER RELIANCE ON THIS DOCUMENT WITHOUT WRITTEN AUTHORIZATION AND ADAPTATION BY KIMLEY-HORN AND ASSOCIATES, INC. SHALL BE WITHOUT LIABILITY TO KIMLEY-HORN AND ASSOCIATES, INC.


NOT TO SCALE
33.83
4.87
17.67
Wayne Titan
PROPOSED DOUGLAS MACARTHUR ELEMENTARY SCHOOL BUILDING
Wayne Titan Custom
SU-40 AASHTO 2011 (US)
LOD

Wayne Titan

	feet
Width	: 10.00
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 45.0


NOT TO SCALE
39.50
4.00
25.00
SU-40
PROPOSED DOUGLAS MACARTHUR ELEMENTARY SCHOOL BUILDING
SU-40 AASHTO 2011 (US)
LOD
NAD 83 VIRGINIA STATE PLANE NORTH ZONE, US FOOT
NORTH
GRAPHIC SCALE IN FEET
0
10
20
40
SCALE: 1"=30'

SU-40

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

DESIGN ENGINEER AND LANDSCAPE ARCHITECT

FIRM NAME: KIMLEY-HORN AND ASSOCIATES, INC.
ADDRESS: 11400 COMMERCE PARK DRIVE, SUITE 400
RESTON, VIRGINIA 20191
PHONE NO: 703-674-1300 FAX NO: 703-674-1350
PROJ. MANAGER: KYLE BOLLINGER, P.E.
EMAIL: KYLE.BOLLINGER@KIMLEY-HORN.COM

SCALE: 1"=30' (AT 24x36) DATE: 08/14/2020 DRAWN BY: LVA

Kimley»Horn

SEAL:

OWNER
CITY OF ALEXANDRIA
301 KING STREET
ALEXANDRIA, VA 22314

DEVELOPER
ALEXANDRIA CITY
PUBLIC SCHOOLS

CONTACT
ERIKA GULICK
(703) 619-8298

REVISION / APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DOUGLAS MACARTHUR ELEMENTARY SCHOOL MODERNIZATION

PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

SHEET NAME:
TRASH AND LOADING TRUCK CIRCULATION PLAN

APPROVED
SPECIAL USE PERMIT NO. DSUP#2020-0010
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. ____________

DIRECTOR DATE

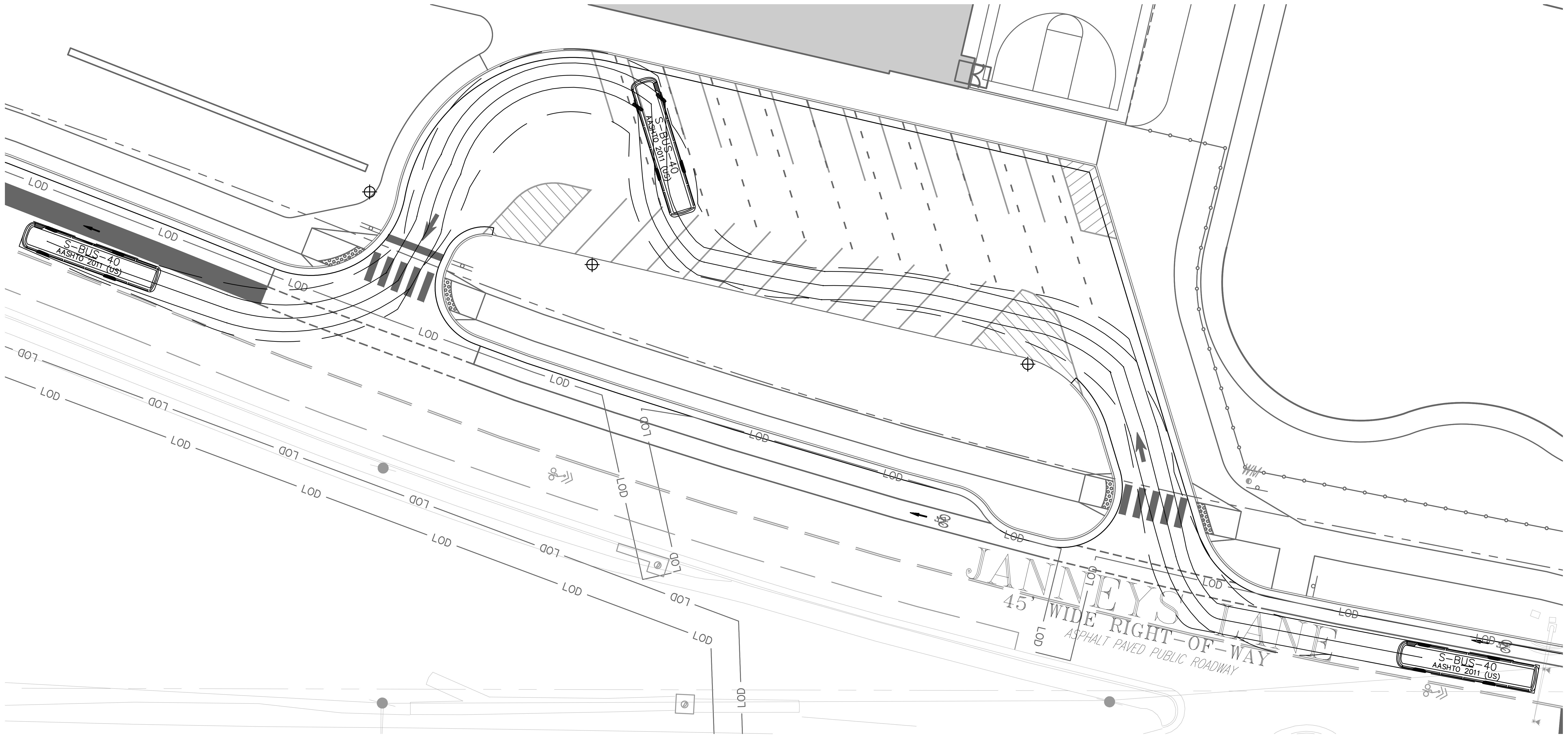
CHAIRMAN, PLANNING COMMISSION DATE

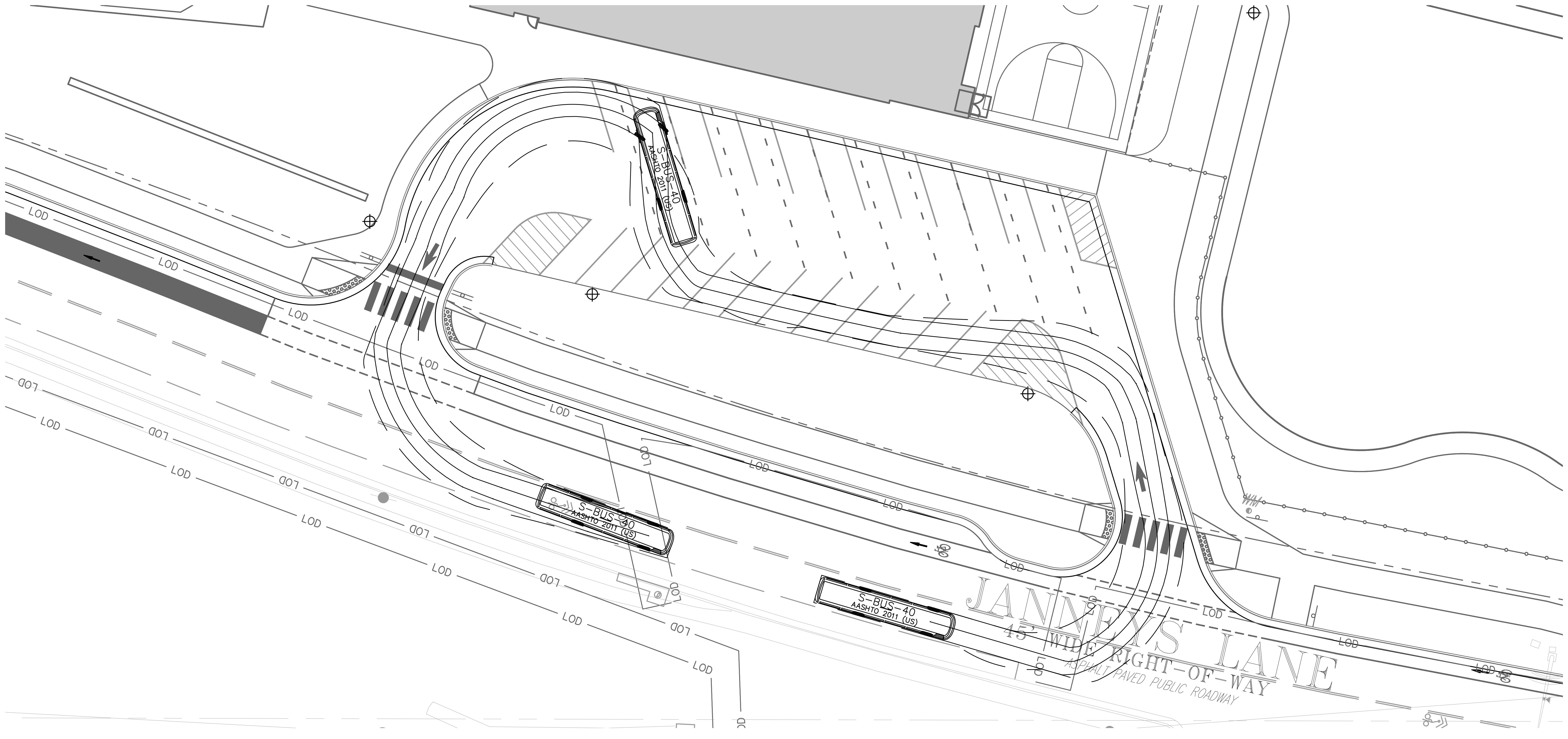
DATE RECORDED ____________

INSTRUMENT NO. DEED BOOK NO. PAGE NO.

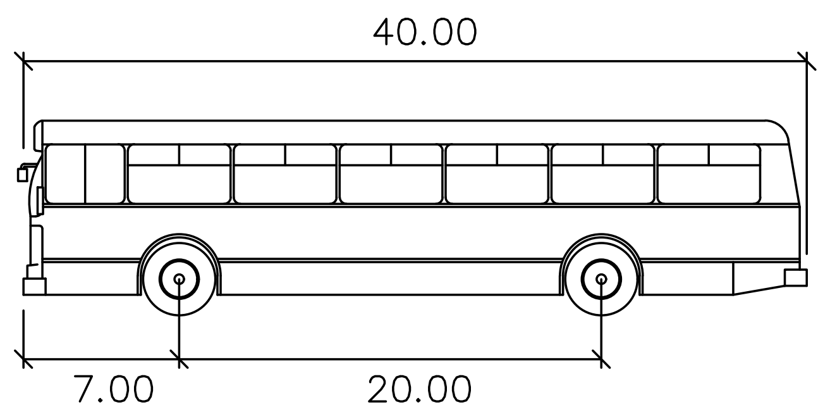
C2.5

\\kimley-horn.com\AT_NVA2\NVA_CIV\110681000 dmes modernization\CAD\plansheets\preliminary plan\5 TRUCK TURN PLAN.dwg, Layout:TRASH AND LOADING Aug 14, 2020 Brandon.Kramer
XREFS: xBorder - 110681000 xSurvey - 110681000 xSite - 110681000


S-BUS-40
AASHTO 2011 (US)
LOD
JANNEYS LANE
45' WIDE RIGHT-OF-WAY
ASPHALT PAVED PUBLIC ROADWAY

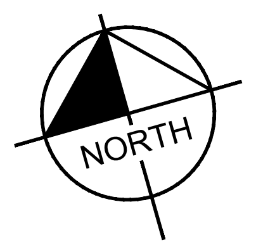

S-BUS-40
AASHTO 2011 (US)
LOD
JANNEYS LANE
45' WIDE RIGHT-OF-WAY
ASPHALT PAVED PUBLIC ROADWAY

NOT TO SCALE

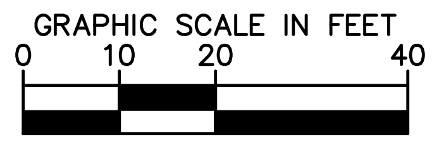

40.00
7.00
20.00

S-BUS-40
feet

Width : 8.00
Track : 8.00
Lock to Lock Time : 6.0
Steering Angle : 34.4



NAD 83 VIRGINIA
STATE PLANE
NORTH ZONE, US FOOT


GRAPHIC SCALE IN FEET
0
10
20
40

SCALE: 1"=30'

DESIGN ENGINEER AND LANDSCAPE ARCHITECT

FIRM NAME: KIMLEY-HORN AND ASSOCIATES, INC.
ADDRESS: 11400 COMMERCE PARK DRIVE, SUITE 400
RESTON, VIRGINIA 20191
PHONE NO: 703-674-1300 FAX NO: 703-674-1350
PROJ. MANAGER: KYLE BOLLINGER, P.E.
EMAIL: KYLE.BOLLINGER@KIMLEY-HORN.COM

SCALE: 1"=30' (AT 24x36) DATE: 08/14/2020 DRAWN BY: LVA

Kimley»Horn

SEAL:

OWNER
CITY OF ALEXANDRIA
301 KING STREET
ALEXANDRIA, VA 22314

DEVELOPER
ALEXANDRIA CITY
PUBLIC SCHOOLS

CONTACT
ERIKA GULICK
(703) 619-8298

REVISION / APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DOUGLAS MACARTHUR ELEMENTARY SCHOOL MODERNIZATION

PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

SHEET NAME: SCHOOL BUS CIRCULATION PLAN

APPROVED
SPECIAL USE PERMIT NO. DSUP#2020-0010
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. ____________

DIRECTOR DATE

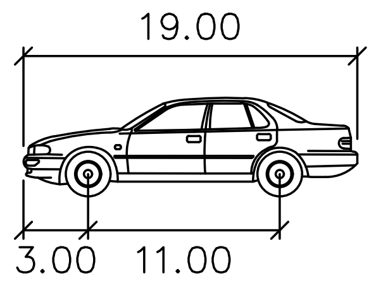
CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED ____________

INSTRUMENT NO. DEED BOOK NO. PAGE NO.

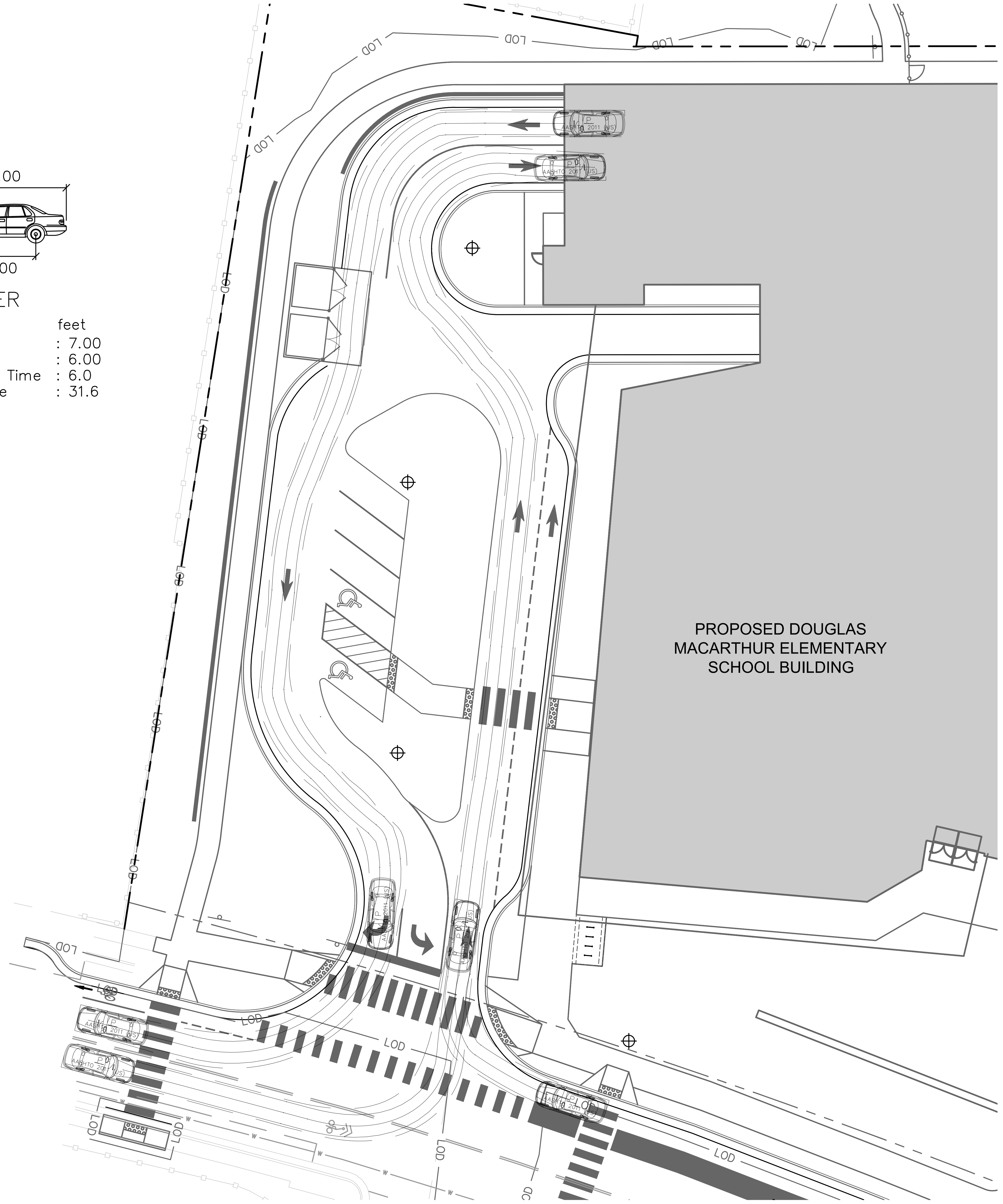
C2.6

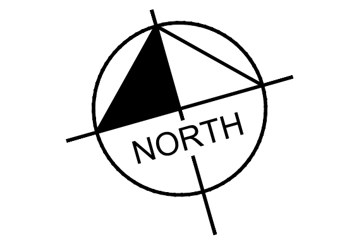
\\kimley-horn.com\AT_NVA2\NVA_CIV\110681000 dmes modernization\CAD\plansheets\preliminary plan\5 TRUCK TURN PLAN.dwg, Layout:SCHOOL BUS Aug 14, 2020 Brandon.Kramer
XREFS: xBorder - 110681000 xSurvey - 110681000 xSite - 110681000



PASSENGER

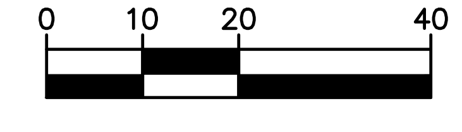
	feet
Width	: 7.00
Track	: 6.00
Lock to Lock Time	: 6.0
Steering Angle	: 31.6





NAD 83 VIRGINIA
STATE PLANE
NORTH ZONE, US FOOT

GRAPHIC SCALE IN FEET



SCALE: 1"=30'

DESIGN ENGINEER AND LANDSCAPE ARCHITECT
FIRM NAME: KIMLEY-HORN AND ASSOCIATES, INC.
ADDRESS: 11400 COMMERCE PARK DRIVE, SUITE 400
RESTON, VIRGINIA 20191
PHONE NO: 703-674-1300 FAX NO: 703-674-1350
PROJ. MANAGER: KYLE BOLLINGER, P.E.
EMAIL: KYLE.BOLLINGER@KIMLEY-HORN.COM
SCALE: 1"=30' (AT 24x36) DATE: 08/14/2020 DRAWN BY: LVA

Kimley»Horn

SEAL:

OWNER
CITY OF ALEXANDRIA
301 KING STREET
ALEXANDRIA, VA 22314
DEVELOPER
ALEXANDRIA CITY
PUBLIC SCHOOLS
CONTACT
ERIKA GULICK
(703) 619-8298

REVISION / APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DOUGLAS MACARTHUR ELEMENTARY SCHOOL MODERNIZATION

PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

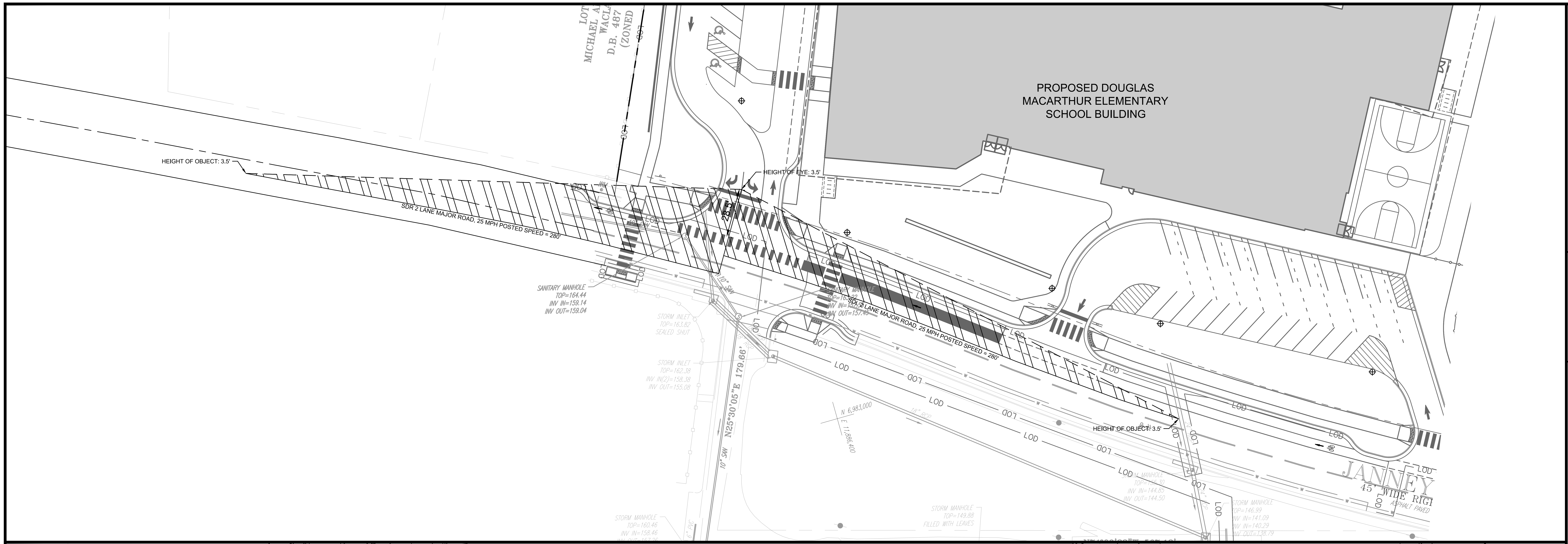
SHEET NAME: PASSENGER VEHICLE CIRCULATION PLAN

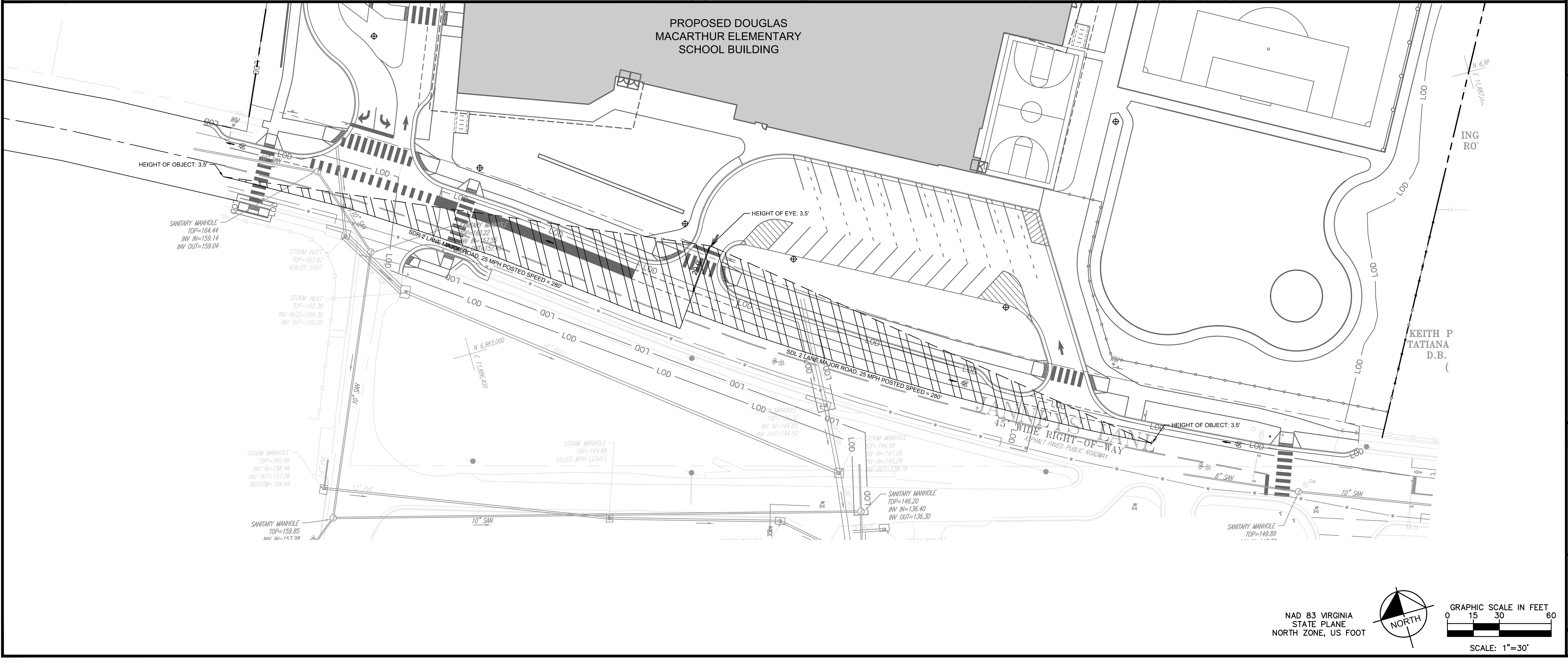
APPROVED
SPECIAL USE PERMIT NO. DSUP#2020-0010
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. ____________
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED ____________
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

C2.7

\\kimley-horn.com\AT_NVA2\NVA_CIV\110681000 dmes modernization\CAD\plansheets\preliminary plan\5 TRUCK TURN PLAN.dwg, Layout:PASSENGER VEHICLE Aug 14, 2020 Brandon.Kramer
XREFS: xBorder - 110681000 xSurvey - 110681000 xSite - 110681000

\\kimley-horn.com\AT_NVA2\NVA_CIV\110681000 dmes modernization\CAD\plansheets\preliminary plan\SIGHT DISTANCE EXHIBIT.dwg, Layout: SIGHT DISTANCE Aug 14, 2020 Brandon.Kramer
XREFS: xBorder – 110681000 xSurvey – 110681000 xSite – 110681000


PROPOSED DOUGLAS MACARTHUR ELEMENTARY SCHOOL BUILDING
HEIGHT OF OBJECT: 3.5'
HEIGHT OF EYE: 3.5'
SDR 2 LANE MAJOR ROAD, 25 MPH POSTED SPEED = 280'
SDL 2 LANE MAJOR ROAD, 25 MPH POSTED SPEED = 280'
HEIGHT OF OBJECT: 3.5'
28.5'
SANITARY MANHOLE TOP=164.44 INV IN=159.14 INV OUT=159.04
STORM INLET TOP=163.82 SEALED SHUT
STORM INLET TOP=162.38 INV IN=158.38 INV IN(2)=158.38 INV OUT=155.08
N25°30'05"E 179.66'
10" SAN
N 6,983,000
E 11,886,400
STORM MANHOLE TOP=160.46
STORM MANHOLE TOP=149.88 FILLED WITH LEAVES
STORM MANHOLE TOP=146.99 INV IN=141.09 INV IN=140.29
LOD
LOT
MICHAEL A
WACLA
D.B. 487
(ZONED
JANNEY
45' WIDE RIGHT
ASPHALT PAVED


PROPOSED DOUGLAS MACARTHUR ELEMENTARY SCHOOL BUILDING
HEIGHT OF OBJECT: 3.5'
HEIGHT OF EYE: 3.5'
SDR 2 LANE MAJOR ROAD, 25 MPH POSTED SPEED = 280'
SDL 2 LANE MAJOR ROAD, 25 MPH POSTED SPEED = 280'
HEIGHT OF OBJECT: 3.5'
29.0'
SANITARY MANHOLE TOP=164.44 INV IN=159.14 INV OUT=159.04
STORM INLET TOP=163.82 SEALED SHUT
STORM INLET TOP=162.38 INV IN=158.38 INV IN(2)=158.38 INV OUT=155.08
STORM MANHOLE TOP=160.46 INV IN=158.46 INV OUT=157.26 BOTTOM=156.66
STORM MANHOLE TOP=149.88 FILLED WITH LEAVES
SANITARY MANHOLE TOP=146.20 INV IN=136.40 INV OUT=136.30
SANITARY MANHOLE TOP=159.85
SANITARY MANHOLE TOP=149.89
10" SAN
8" SAN
10" PVC
N 6,983,000
E 11,886,400
JANNEY'S LANE
45' WIDE RIGHT-OF-WAY
ASPHALT PAVED PUBLIC ROADWAY
KEITH P
TATIANA
D.B.
LOD
NAD 83 VIRGINIA STATE PLANE NORTH ZONE, US FOOT
NORTH
GRAPHIC SCALE IN FEET
0 15 30 60
SCALE: 1"=30'

REVISION / APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

SEAL:

OWNER
CITY OF ALEXANDRIA
301 KING STREET
ALEXANDRIA, VA 22314

DEVELOPER
ALEXANDRIA CITY
PUBLIC SCHOOLS

CONTACT
ERIKA GULICK
(703) 619-8298

DESIGN ENGINEER AND LANDSCAPE ARCHITECT

FIRM NAME: KIMLEY-HORN AND ASSOCIATES, INC.
ADDRESS: 11400 COMMERCE PARK DRIVE, SUITE 400
RESTON, VIRGINIA 20191
PHONE NO: 703-674-1300 FAX NO: 703-674-1350
PROJ. MANAGER: KYLE BOLLINGER, P.E.
EMAIL: KYLE.BOLLINGER@KIMLEY-HORN.COM

SCALE: 1"=30' (AT 24x36) DATE: 08/14/2020 DRAWN BY: LVA

Kimley»Horn

DOUGLAS MACARTHUR ELEMENTARY SCHOOL MODERNIZATION

PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

SHEET NAME:
SIGHT DISTANCE EXHIBITS

APPROVED
SPECIAL USE PERMIT NO. DSUP#2020-0010
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

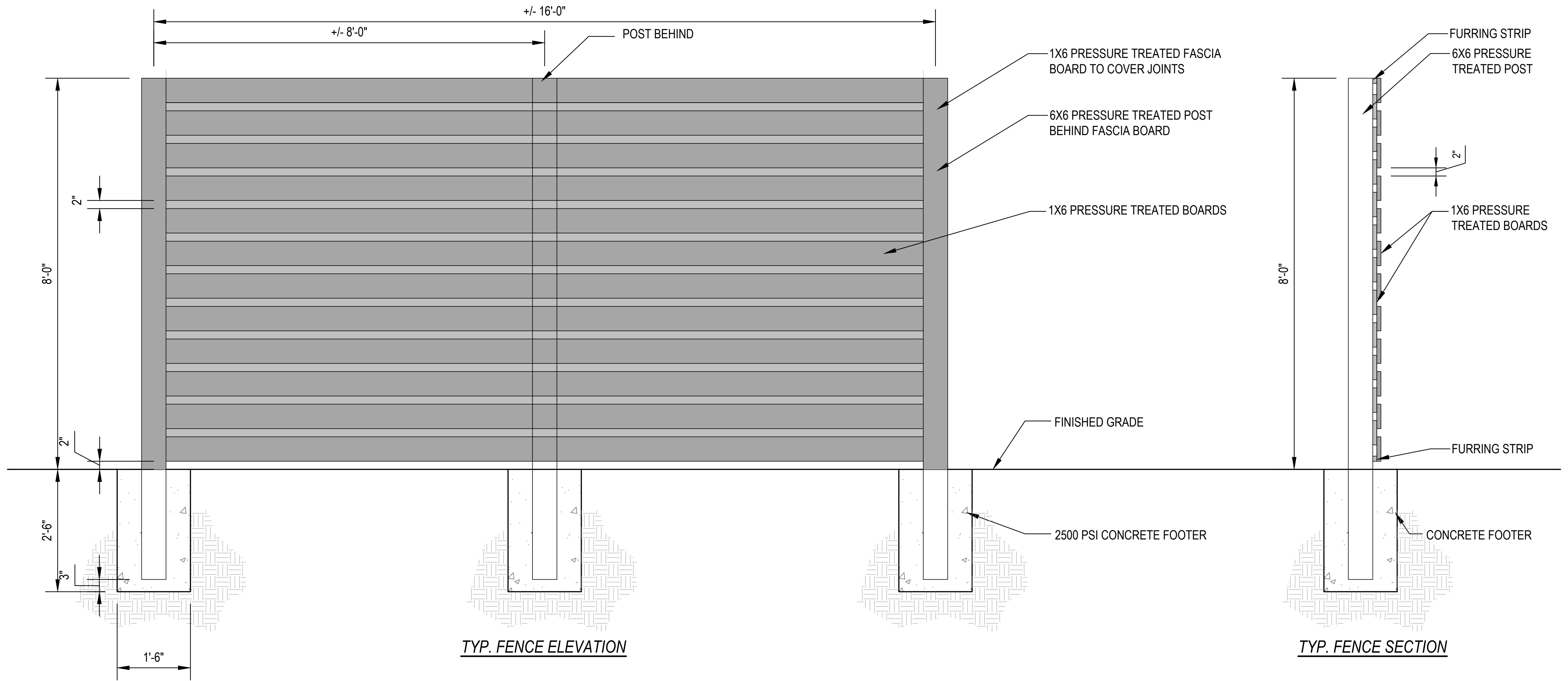
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. ____________

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED ____________

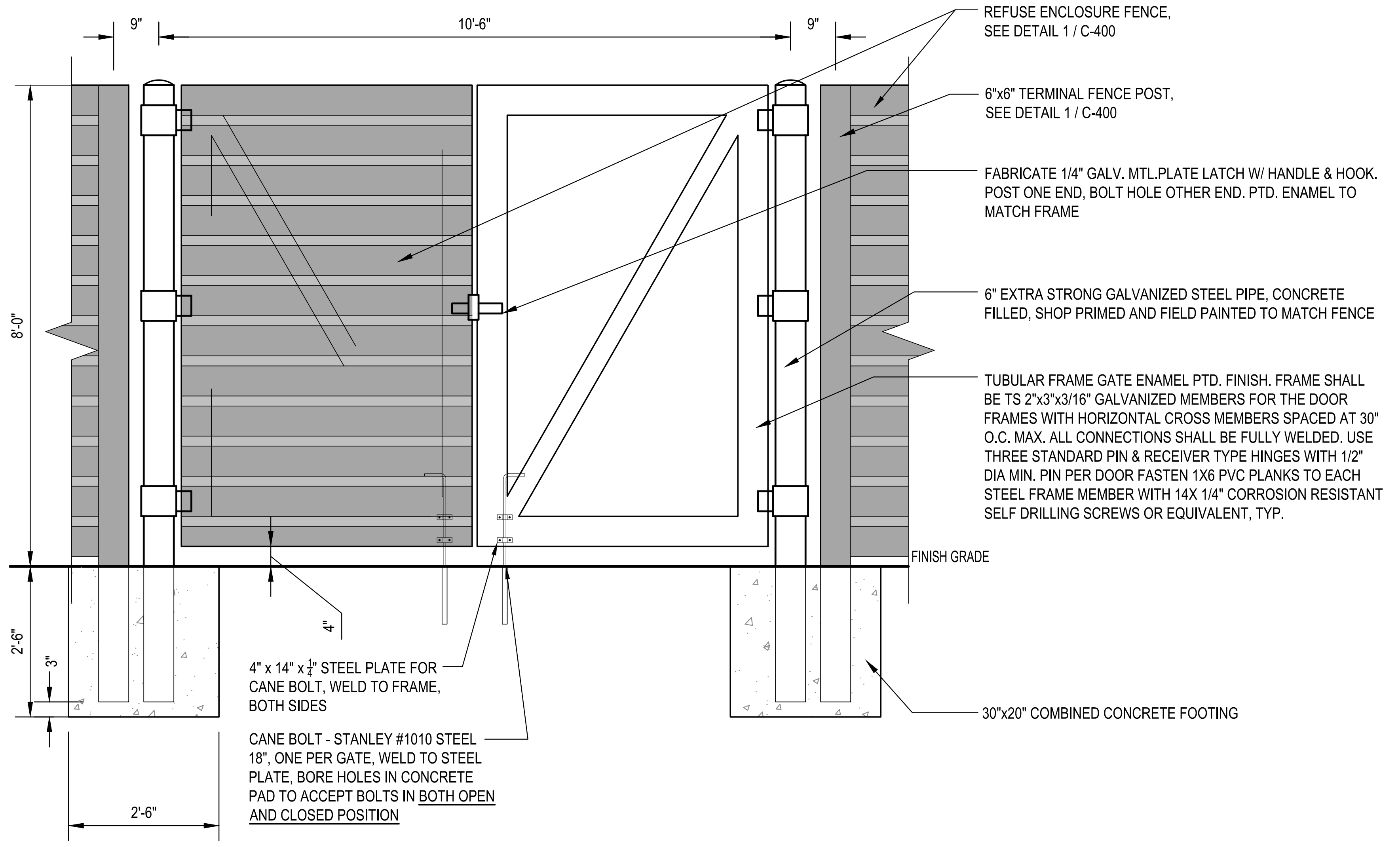
INSTRUMENT NO. DEED BOOK NO. PAGE NO.


+/- 16'-0"
+/- 8'-0"
POST BEHIND
1X6 PRESSURE TREATED FASCIA BOARD TO COVER JOINTS
6X6 PRESSURE TREATED POST BEHIND FASCIA BOARD
1X6 PRESSURE TREATED BOARDS
FINISHED GRADE
2500 PSI CONCRETE FOOTER
2"
8'-0"
2"
2'-6"
3"
1'-6"
TYP. FENCE ELEVATION
FURRING STRIP
6X6 PRESSURE TREATED POST
2"
1X6 PRESSURE TREATED BOARDS
8'-0"
FURRING STRIP
CONCRETE FOOTER
TYP. FENCE SECTION

1 REFUSE ENCLOSURE FENCE

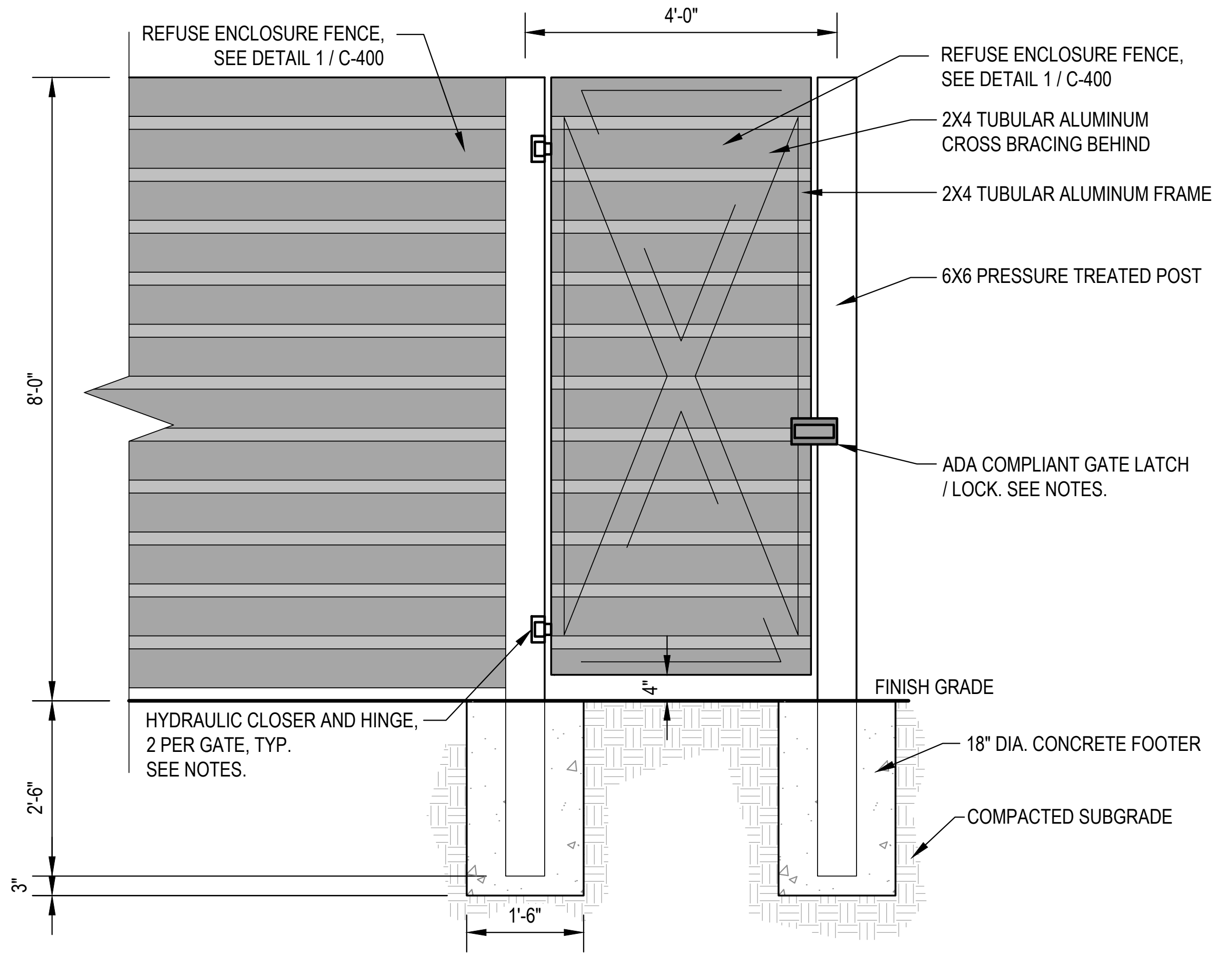
1/2"=1'-0"

NOTE:
1. ALL BOARDS TO FACE THE EXTERIOR


9"
10'-6"
9"
REFUSE ENCLOSURE FENCE, SEE DETAIL 1 / C-400
6"x6" TERMINAL FENCE POST, SEE DETAIL 1 / C-400
FABRICATE 1/4" GALV. MTL.PLATE LATCH W/ HANDLE & HOOK. POST ONE END, BOLT HOLE OTHER END. PTD. ENAMEL TO MATCH FRAME
6" EXTRA STRONG GALVANIZED STEEL PIPE, CONCRETE FILLED, SHOP PRIMED AND FIELD PAINTED TO MATCH FENCE
TUBULAR FRAME GATE ENAMEL PTD. FINISH. FRAME SHALL BE TS 2"x3"x3/16" GALVANIZED MEMBERS FOR THE DOOR FRAMES WITH HORIZONTAL CROSS MEMBERS SPACED AT 30" O.C. MAX. ALL CONNECTIONS SHALL BE FULLY WELDED. USE THREE STANDARD PIN & RECEIVER TYPE HINGES WITH 1/2" DIA MIN. PIN PER DOOR FASTEN 1X6 PVC PLANKS TO EACH STEEL FRAME MEMBER WITH 14X 1/4" CORROSION RESISTANT SELF DRILLING SCREWS OR EQUIVALENT, TYP.
FINISH GRADE
8'-0"
2'-6"
3"
4"
4" x 14" x 1/4" STEEL PLATE FOR CANE BOLT, WELD TO FRAME, BOTH SIDES
CANE BOLT - STANLEY #1010 STEEL 18", ONE PER GATE, WELD TO STEEL PLATE, BORE HOLES IN CONCRETE PAD TO ACCEPT BOLTS IN BOTH OPEN AND CLOSED POSITION
30"x20" COMBINED CONCRETE FOOTING
2'-6"

2 REFUSE ENCLOSURE GATE

1/4"=1'-0"


REFUSE ENCLOSURE FENCE, SEE DETAIL 1 / C-400
4'-0"
REFUSE ENCLOSURE FENCE, SEE DETAIL 1 / C-400
2X4 TUBULAR ALUMINUM CROSS BRACING BEHIND
2X4 TUBULAR ALUMINUM FRAME
6X6 PRESSURE TREATED POST
ADA COMPLIANT GATE LATCH / LOCK. SEE NOTES.
8'-0"
4"
FINISH GRADE
HYDRAULIC CLOSER AND HINGE, 2 PER GATE, TYP. SEE NOTES.
18" DIA. CONCRETE FOOTER
COMPACTED SUBGRADE
2'-6"
3"
1'-6"

NOTES:
1. CLOSER AND HINGES TO BE SURECLOSE 108 HYDRAULIC CLOSER AND HINGE, FLUSH MOUNT, COLOR TO MATCH FENCE. INSTALL WITH ALUMINUM GATE MOUNTING BRACKETS PER MFTR INSTRUCTIONS.
WEB: HTTP://DDTECHGLOBAL.COM/
2. ADA COMLPLIANT GATE LOCK / LATCH TO BE LOKKLATCH MAGNETIC ADA COMPLIANT GATE LATCH / LOCK, COLOR TO MATCH FENCE. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
WEB: HTTP://DDTECHGLOBAL.COM/

3 PEDESTRIAN REFUSE ENCLOSURE GATE

Scale: 1/2"=1'-0"

NOTE:
PRIOR TO CONSTRUCTION, CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, SEALED BY A LICENSED STRUCTURAL ENGINEER IN THE COMMONWEALTH OF VIRGINIA, VERIFYING ALL STRUCTURAL INFORMATION SHOWN HEREIN

DESIGN ENGINEER AND LANDSCAPE ARCHITECT
FIRM NAME: KIMLEY-HORN AND ASSOCIATES, INC.
ADDRESS: 11400 COMMERCE PARK DRIVE, SUITE 400
RESTON, VIRGINIA 20191
PHONE NO: 703-674-1300 FAX NO: 703-674-1350
PROJ. MANAGER: KYLE BOLLINGER, P.E.
EMAIL: KYLE.BOLLINGER@KIMLEY-HORN.COM

SCALE: 1"=30' (AT 24x36) DATE: 08/14/2020 DRAWN BY: LVA

SEAL:

OWNER
CITY OF ALEXANDRIA
301 KING STREET
ALEXANDRIA, VA 22314
DEVELOPER
ALEXANDRIA CITY
PUBLIC SCHOOLS
CONTACT
ERIKA GULICK
(703) 619-8298

REVISION / APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DOUGLAS MACARTHUR ELEMENTARY SCHOOL MODERNIZATION

PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

SHEET NAME: SITE DETAILS

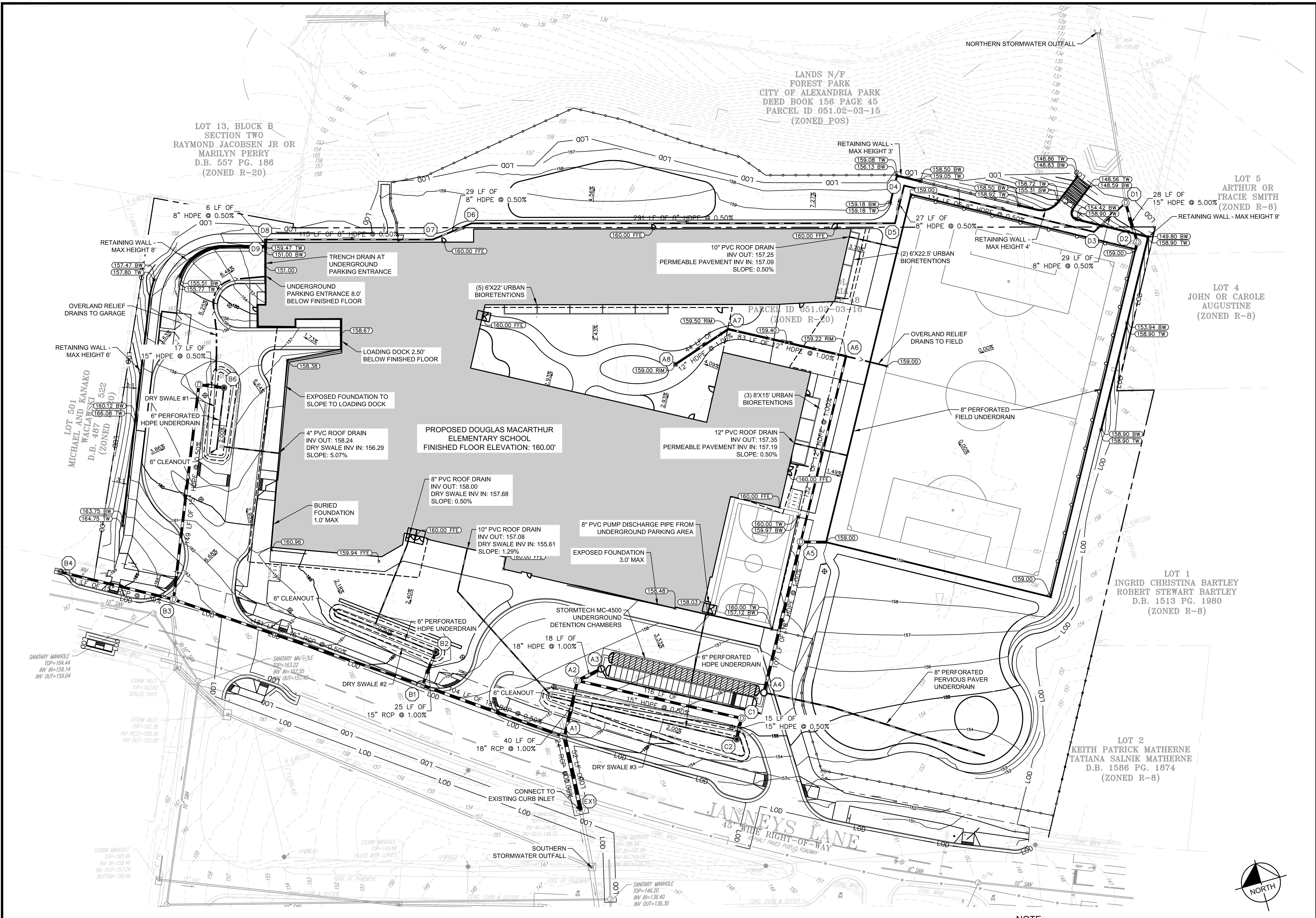
APPROVED
SPECIAL USE PERMIT NO. DSUP#2020-0010
DEPARTMENT OF PLANNING & ZONING

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.

\\kimley-horn.com\AT_NVA2\NVA_CIV\110681000 dmes modernization\CAD\plansheets\preliminary plan\SITE DETAILS.dwg, Layout:SITE DETAILS Aug 14, 2020 Brandon.Kramer
XREFS: xBorder - 110681000
THIS DOCUMENT, TOGETHER WITH THE CONCEPTS AND DESIGNS PRESENTED HEREIN, AS AN INSTRUMENT OF SERVICE, IS INTENDED ONLY FOR THE SPECIFIC PURPOSE AND CLIENT FOR WHICH IT WAS PREPARED. REUSE OF AND IMPROPER RELIANCE ON THIS DOCUMENT WITHOUT WRITTEN AUTHORIZATION AND ADAPTATION BY KIMLEY-HORN AND ASSOCIATES, INC. SHALL BE WITHOUT LIABILITY TO KIMLEY-HORN AND ASSOCIATES, INC.


NORTHERN STORMWATER OUTFALL
LANDS N/F
FOREST PARK
CITY OF ALEXANDRIA PARK
DEED BOOK 156 PAGE 45
PARCEL ID 051.02-03-15
(ZONED POS)
LOT 13, BLOCK B
SECTION TWO
RAYMOND JACOBSEN JR OR
MARILYN PERRY
D.B. 557 PG. 186
(ZONED R-20)
LOT 5
ARTHUR OR
TRACIE SMITH
(ZONED R-8)
LOT 4
JOHN OR CAROLE
AUGUSTINE
(ZONED R-8)
LOT 1
INGRID CHRISTINA BARTLEY
ROBERT STEWART BARTLEY
D.B. 1513 PG. 1980
(ZONED R-8)
LOT 2
KEITH PATRICK MATHERNE
TATIANA SALNIK MATHERNE
D.B. 1586 PG. 1874
(ZONED R-8)
LOT 501
MICHAEL AND KANAKO
WACLAWSKI
D.B. 487 PG. 522
(ZONED R-20)
PARCEL ID 051.02-03-16
(ZONED R-20)
JANNEYS LANE
45' WIDE RIGHT-OF-WAY
RETAINING WALL - MAX HEIGHT 3'
RETAINING WALL - MAX HEIGHT 9'
RETAINING WALL - MAX HEIGHT 4'
RETAINING WALL - MAX HEIGHT 8'
RETAINING WALL - MAX HEIGHT 6'
29 LF OF 8" HDPE @ 0.50%
6 LF OF 8" HDPE @ 0.50%
115 LF OF 8" HDPE @ 0.50%
291 LF OF 8" HDPE @ 0.50%
134 LF OF 8" HDPE @ 0.50%
27 LF OF 8" HDPE @ 0.50%
28 LF OF 15" HDPE @ 5.00%
29 LF OF 8" HDPE @ 0.50%
17 LF OF 15" HDPE @ 0.50%
149 LF OF 15" HDPE
83 LF OF 12" HDPE @ 1.00%
44 LF OF 12" HDPE @ 1.00%
18 LF OF 18" HDPE @ 1.00%
116 LF OF 15" HDPE @ 0.50%
15 LF OF 15" HDPE @ 0.50%
25 LF OF 15" RCP @ 1.00%
40 LF OF 18" RCP @ 1.00%
181 LF OF 15" RCP @ 0.50%
104 LF OF 18" RCP @ 0.50%
TRENCH DRAIN AT UNDERGROUND PARKING ENTRANCE
UNDERGROUND PARKING ENTRANCE 8.0' BELOW FINISHED FLOOR
OVERLAND RELIEF DRAINS TO GARAGE
LOADING DOCK 2.50' BELOW FINISHED FLOOR
(5) 6'X22' URBAN BIORETENTIONS
(2) 6'X22.5' URBAN BIORETENTIONS
(3) 8'X15' URBAN BIORETENTIONS
10" PVC ROOF DRAIN INV OUT: 157.25 PERMEABLE PAVEMENT INV IN: 157.09 SLOPE: 0.50%
12" PVC ROOF DRAIN INV OUT: 157.35 PERMEABLE PAVEMENT INV IN: 157.19 SLOPE: 0.50%
4" PVC ROOF DRAIN INV OUT: 158.24 DRY SWALE INV IN: 156.29 SLOPE: 5.07%
8" PVC ROOF DRAIN INV OUT: 158.00 DRY SWALE INV IN: 157.68 SLOPE: 0.50%
10" PVC ROOF DRAIN INV OUT: 157.08 DRY SWALE INV IN: 155.61 SLOPE: 1.29%
EXPOSED FOUNDATION TO SLOPE TO LOADING DOCK
PROPOSED DOUGLAS MACARTHUR ELEMENTARY SCHOOL FINISHED FLOOR ELEVATION: 160.00'
BURIED FOUNDATION 1.0' MAX
8" PVC PUMP DISCHARGE PIPE FROM UNDERGROUND PARKING AREA
EXPOSED FOUNDATION 3.0' MAX
OVERLAND RELIEF DRAINS TO FIELD
8" PERFORATED FIELD UNDERDRAIN
DRY SWALE #1
DRY SWALE #2
DRY SWALE #3
6" PERFORATED HDPE UNDERDRAIN
6" CLEANOUT
STORMTECH MC-4500 UNDERGROUND DETENTION CHAMBERS
8" PERFORATED PERVIOUS PAVER UNDERDRAIN
CONNECT TO EXISTING CURB INLET
SOUTHERN STORMWATER OUTFALL
SANITARY MANHOLE TOP=164.44 INV IN=159.14 INV OUT=159.04
SANITARY MANHOLE TOP=163.22 INV IN=157.55 INV OUT=157.45
SANITARY MANHOLE TOP=146.20 INV IN=136.40 INV OUT=136.30
STORM MANHOLE TOP=160.46 INV IN=151.56 INV OUT=151.26 BOTTOM=150.56
D1 D2 D3 D4 D5 D6 D7 D8 D9
A1 A2 A3 A4 A5 A6 A7 A8
B1 B2 B3 B4 B6
C1 C2 EX1
160.00 FFE
LOD
NORTH

NOTE:
ALL PIPES WITHIN THE RIGHT OF WAY SHALL BE CLASS IV RCP

NAD 83 VIRGINIA
STATE PLANE
NORTH ZONE, US FOOT

GRAPHIC SCALE IN FEET
0 15 30 60

SCALE: 1"=30'

DESIGN ENGINEER AND LANDSCAPE ARCHITECT

FIRM NAME: KIMLEY-HORN AND ASSOCIATES, INC.
ADDRESS: 11400 COMMERCE PARK DRIVE, SUITE 400
RESTON, VIRGINIA 20191
PHONE NO: 703-674-1300 FAX NO: 703-674-1350
PROJ. MANAGER: KYLE BOLLINGER, P.E.
EMAIL: KYLE.BOLLINGER@KIMLEY-HORN.COM

SCALE: 1"=30' (AT 24x36) DATE: 08/14/2020 DRAWN BY: LVA

Kimley»Horn

SEAL:

OWNER
CITY OF ALEXANDRIA
301 KING STREET
ALEXANDRIA, VA 22314

DEVELOPER
ALEXANDRIA CITY
PUBLIC SCHOOLS

CONTACT
ERIKA GULICK
(703) 619-8298

REVISION / APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DOUGLAS MACARTHUR ELEMENTARY SCHOOL MODERNIZATION

PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

SHEET NAME: GRADING AND DRAINAGE PLAN

APPROVED
SPECIAL USE PERMIT NO. DSUP#2020-0010
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. ____

DIRECTOR DATE

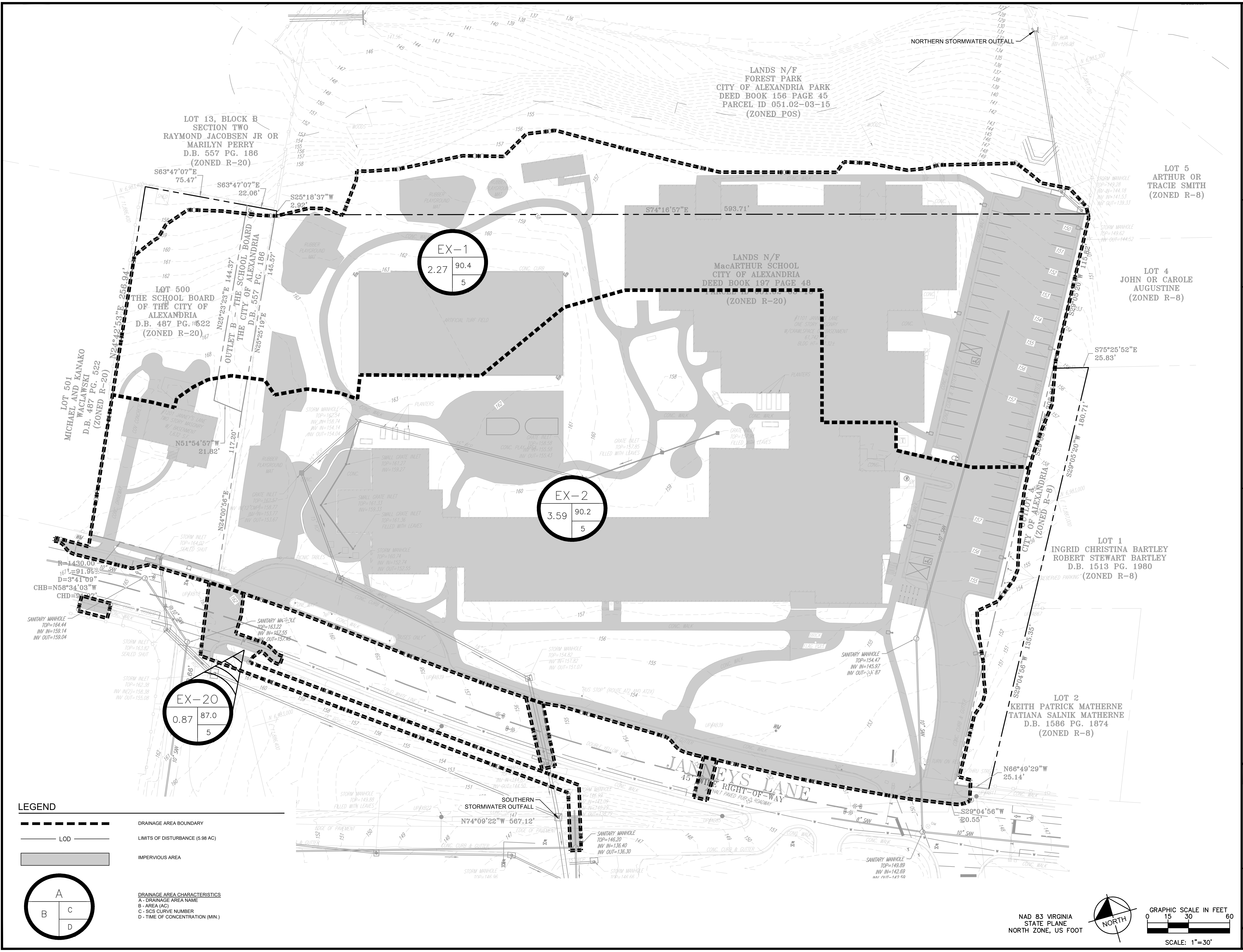
CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED ____

INSTRUMENT NO. DEED BOOK NO. PAGE NO.

C3.0

\\kimley-horn.com\AT_NVA2\NVA_CIV\110681000 dmes modernization\CAD\plansheets\preliminary plan\DRAINAGE AREA MAPS.dwg, Layout:PRE-DA Aug 14, 2020 Brandon.Kramer
XREFS: xBorder – 110681000 xSurvey – 110681000 xSite – 110681000 xStrm – 110681000 xBMP – 110681000 xPostDA – 110681000 xPreDA – 110681000
THIS DOCUMENT, TOGETHER WITH THE CONCEPTS AND DESIGNS PRESENTED HEREIN, AS AN INSTRUMENT OF SERVICE, IS INTENDED ONLY FOR THE SPECIFIC PURPOSE AND CLIENT FOR WHICH IT WAS PREPARED. REUSE OF AND IMPROPER RELIANCE ON THIS DOCUMENT WITHOUT WRITTEN AUTHORIZATION AND ADAPTATION BY KIMLEY-HORN AND ASSOCIATES, INC. SHALL BE WITHOUT LIABILITY TO KIMLEY-HORN AND ASSOCIATES, INC.


NORTHERN STORMWATER OUTFALL
LANDS N/F
FOREST PARK
CITY OF ALEXANDRIA PARK
DEED BOOK 156 PAGE 45
PARCEL ID 051.02-03-15
(ZONED POS)
LOT 13, BLOCK B
SECTION TWO
RAYMOND JACOBSEN JR OR
MARILYN PERRY
D.B. 557 PG. 186
(ZONED R-20)
S63°47'07"E
75.47'
S63°47'07"E
22.06'
S25°18'37"W
2.92'
S74°16'57"E
593.71'
LOT 5
ARTHUR OR
TRACIE SMITH
(ZONED R-8)
EX-1
2.27
90.4
5
LANDS N/F
MacARTHUR SCHOOL
CITY OF ALEXANDRIA
DEED BOOK 197 PAGE 48
(ZONED R-20)
LOT 4
JOHN OR CAROLE
AUGUSTINE
(ZONED R-8)
LOT 500
THE SCHOOL BOARD
OF THE CITY OF
ALEXANDRIA
D.B. 487 PG. 522
(ZONED R-20)
OUTLET B - THE SCHOOL BOARD
THE CITY OF ALEXANDRIA
D.B. 557 PG. 186
N25°23'23"E 144.37'
N25°25'19"E
145.57'
N24°42'53"E 256.94'
LOT 501
MICHAEL AND KANAKO
WACLAWSKI
D.B. 487 PG. 522
(ZONED R-20)
N51°54'57"W
21.82'
117.20'
N24°00'56"E
S75°25'52"E
25.83'
S29°05'20"W
180.71'
S29°05'20"W
115.82'
OUTLOT A
CITY OF ALEXANDRIA
(ZONED R-8)
EX-2
3.59
90.2
5
LOT 1
INGRID CHRISTINA BARTLEY
ROBERT STEWART BARTLEY
D.B. 1513 PG. 1980
(ZONED R-8)
R=1430.00'
L=91.96'
D=3°41'09"
CHB=N58°34'03"W
CHD=91.97'
SANITARY MANHOLE
TOP=164.44
INV IN=159.14
INV OUT=159.04
SANITARY MANHOLE
TOP=163.22
INV IN=157.55
INV OUT=157.45
EX-20
0.87
87.0
5
66'
SANITARY MANHOLE
TOP=154.47
INV IN=145.97
INV OUT=145.87
S29°04'56"W
135.35'
LOT 2
KEITH PATRICK MATHERNE
TATIANA SALNIK MATHERNE
D.B. 1586 PG. 1874
(ZONED R-8)
JANNEYS LANE
45' WIDE RIGHT-OF-WAY
N66°49'29"W
25.14'
SOUTHERN
STORMWATER OUTFALL
N74°09'22"W 567.12'
S29°04'56"W
20.55'
SANITARY MANHOLE
TOP=146.20
INV IN=136.40
INV OUT=136.30
SANITARY MANHOLE
TOP=149.89
INV IN=142.69
NAD 83 VIRGINIA
STATE PLANE
NORTH ZONE, US FOOT
NORTH
GRAPHIC SCALE IN FEET
0
15
30
60
SCALE: 1"=30'

LEGEND

▬ ▬ ▬ ▬	DRAINAGE AREA BOUNDARY
—— LOD ——	LIMITS OF DISTURBANCE (5.98 AC)
▨	IMPERVIOUS AREA

DRAINAGE AREA CHARACTERISTICS
A - DRAINAGE AREA NAME
B - AREA (AC)
C - SCS CURVE NUMBER
D - TIME OF CONCENTRATION (MIN.)

DESIGN ENGINEER AND LANDSCAPE ARCHITECT

FIRM NAME: KIMLEY-HORN AND ASSOCIATES, INC.
ADDRESS: 11400 COMMERCE PARK DRIVE, SUITE 400
RESTON, VIRGINIA 20191
PHONE NO: 703-674-1300 FAX NO: 703-674-1350
PROJ. MANAGER: KYLE BOLLINGER, P.E.
EMAIL: KYLE.BOLLINGER@KIMLEY-HORN.COM

SCALE: 1"=30' (AT 24x36) DATE: 08/14/2020 DRAWN BY: LVA

Kimley»Horn

OWNER
CITY OF ALEXANDRIA
301 KING STREET
ALEXANDRIA, VA 22314

DEVELOPER
ALEXANDRIA CITY
PUBLIC SCHOOLS
CONTACT
ERIKA GULICK
(703) 619-8298

SEAL:

REVISION / APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DOUGLAS MACARTHUR ELEMENTARY SCHOOL MODERNIZATION

PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

SHEET NAME: PRE-DEVELOPMENT DRAINAGE AREA MAP

APPROVED
SPECIAL USE PERMIT NO. DSUP#2020-0010
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. ____

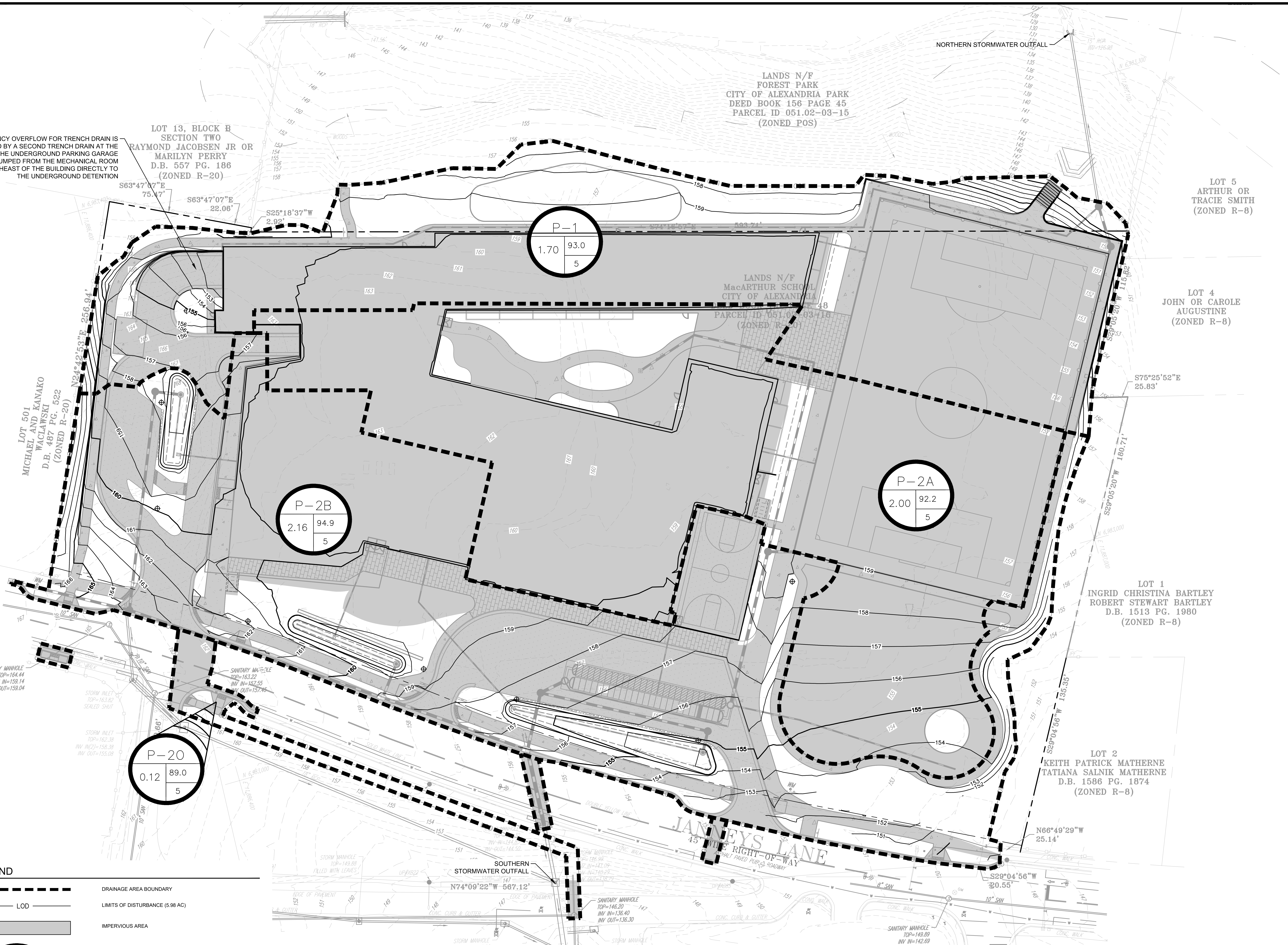
DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED ____

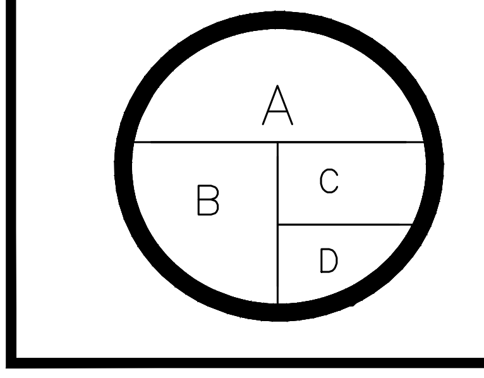
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

C3.1


NORTHERN STORMWATER OUTFALL
LANDS N/F
FOREST PARK
CITY OF ALEXANDRIA PARK
DEED BOOK 156 PAGE 45
PARCEL ID 051.02-03-15
(ZONED POS)
LOT 13, BLOCK B
SECTION TWO
RAYMOND JACOBSEN JR OR
MARILYN PERRY
D.B. 557 PG. 186
(ZONED R-20)
EMERGENCY OVERFLOW FOR TRENCH DRAIN IS CAPTURED BY A SECOND TRENCH DRAIN AT THE BOTTOM OF THE UNDERGROUND PARKING GARAGE RAMP AND PUMPED FROM THE MECHANICAL ROOM AT THE SOUTHEAST OF THE BUILDING DIRECTLY TO THE UNDERGROUND DETENTION
S63°47'07"E
75.47'
S63°47'07"E
22.06'
S25°18'37"W
2.92'
LOT 5
ARTHUR OR
TRACIE SMITH
(ZONED R-8)
LOT 4
JOHN OR CAROLE
AUGUSTINE
(ZONED R-8)
LANDS N/F
MacARTHUR SCHOOL
CITY OF ALEXANDRIA
PARCEL ID 051.02-03-16
LOT 501
MICHAEL AND KANAKO
WACLAWSKI
D.B. 487 PG. 522
(ZONED R-20)
N24°49'53"E 256.94'
P-1
1.70
93.0
5
P-2B
2.16
94.9
5
P-2A
2.00
92.2
5
P-20
0.12
89.0
5
S75°25'52"E
25.83'
S29°05'20"W 180.71'
S29°05'20"W 115.82'
LOT 1
INGRID CHRISTINA BARTLEY
ROBERT STEWART BARTLEY
D.B. 1513 PG. 1980
(ZONED R-8)
LOT 2
KEITH PATRICK MATHERNE
TATIANA SALNIK MATHERNE
D.B. 1586 PG. 1874
(ZONED R-8)
S29°04'56"W 135.35'
N66°49'29"W
25.14'
S29°04'56"W
20.55'
SANITARY MANHOLE
TOP=164.44
INV IN=159.14
INV OUT=159.04
SANITARY MANHOLE
TOP=163.22
INV IN=157.55
INV OUT=157.45
STORM INLET
TOP=163.82
SEALED SHUT
STORM INLET
TOP=162.38
INV IN(2)=158.38
INV OUT=155.08
JANNEYS LANE
45' WIDE RIGHT-OF-WAY
ASPHALT PAVED PUBLIC ROADWAY
DOUBLE YELLOW LINE
SOUTHERN
STORMWATER OUTFALL
N74°09'22"W 567.12'
SANITARY MANHOLE
TOP=146.20
INV IN=136.40
INV OUT=136.30
SANITARY MANHOLE
TOP=149.89
INV IN=142.69
INV OUT=142.59
10" SAN
8" SAN
18" RCP
CONC. WALK
CONC. CURB & GUTTER
EDGE OF PAVEMENT

LEGEND

▬ ▬ ▬	DRAINAGE AREA BOUNDARY
—— LOD ——	LIMITS OF DISTURBANCE (5.98 AC)
▨	IMPERVIOUS AREA



DRAINAGE AREA CHARACTERISTICS
A - DRAINAGE AREA NAME
B - AREA (AC)
C - SCS CURVE NUMBER
D - TIME OF CONCENTRATION (MIN.)

NAD 83 VIRGINIA
STATE PLANE
NORTH ZONE, US FOOT

NORTH

GRAPHIC SCALE IN FEET
0 15 30 60
SCALE: 1"=30'

K:\NVA_CIV\110681000 DMES Modernization\CAD\PlanSheets\Preliminary Plan\DRAINAGE AREA MAPS.dwg, Layout:POST-DA Aug 14, 2020 Leif.VanAcker
XREFS: xBorder - 110681000 xSurvey - 110681000 xSite - 110681000 xStrm - 110681000 xBMP - 110681000 xPostDA - 110681000 xPreDA - 110681000

DESIGN ENGINEER AND LANDSCAPE ARCHITECT
FIRM NAME: KIMLEY-HORN AND ASSOCIATES, INC.
ADDRESS: 11400 COMMERCE PARK DRIVE, SUITE 400
RESTON, VIRGINIA 20191
PHONE NO: 703-674-1300 FAX NO: 703-674-1350
PROJ. MANAGER: KYLE BOLLINGER, P.E.
EMAIL: KYLE.BOLLINGER@KIMLEY-HORN.COM
SCALE: 1"=30' (AT 24x36) DATE: 08/14/2020 DRAWN BY: LVA

Kimley»Horn

OWNER
CITY OF ALEXANDRIA
301 KING STREET
ALEXANDRIA, VA 22314

DEVELOPER
ALEXANDRIA CITY
PUBLIC SCHOOLS

CONTACT
ERIKA GULICK
(703) 619-8298

SEAL:

REVISION / APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DOUGLAS MACARTHUR ELEMENTARY SCHOOL MODERNIZATION

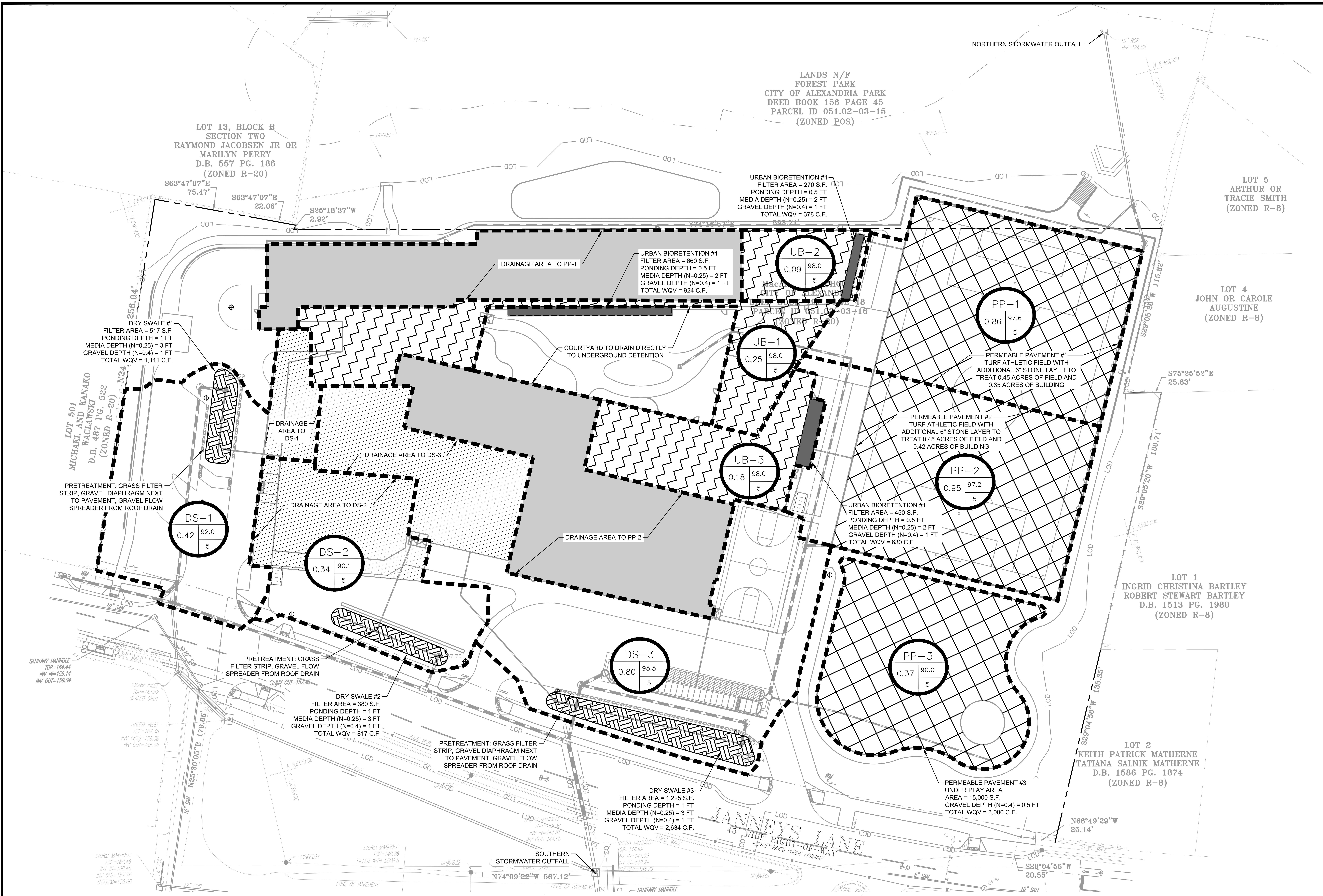
PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

SHEET NAME:
POST-DEVELOPMENT DRAINAGE AREA MAP

APPROVED
SPECIAL USE PERMIT NO. DSUP#2020-0010
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.

C3.2


NORTHERN STORMWATER OUTFALL
LANDS N/F
FOREST PARK
CITY OF ALEXANDRIA PARK
DEED BOOK 156 PAGE 45
PARCEL ID 051.02-03-15
(ZONED POS)
LOT 13, BLOCK B
SECTION TWO
RAYMOND JACOBSEN JR OR
MARILYN PERRY
D.B. 557 PG. 186
(ZONED R-20)
S63°47'07"E
75.47'
S63°47'07"E
22.06'
S25°18'37"W
2.92'
593.71'
LOT 5
ARTHUR OR
TRACIE SMITH
(ZONED R-8)
URBAN BIORETENTION #1
FILTER AREA = 270 S.F.
PONDING DEPTH = 0.5 FT
MEDIA DEPTH (N=0.25) = 2 FT
GRAVEL DEPTH (N=0.4) = 1 FT
TOTAL WQV = 378 C.F.
DRAINAGE AREA TO PP-1
URBAN BIORETENTION #1
FILTER AREA = 660 S.F.
PONDING DEPTH = 0.5 FT
MEDIA DEPTH (N=0.25) = 2 FT
GRAVEL DEPTH (N=0.4) = 1 FT
TOTAL WQV = 924 C.F.
UB-2
0.09
98.0
5
LOT 4
JOHN OR CAROLE
AUGUSTINE
(ZONED R-8)
PP-1
0.86
97.6
5
115.82'
S29°05'20"W
DRY SWALE #1
FILTER AREA = 517 S.F.
PONDING DEPTH = 1 FT
MEDIA DEPTH (N=0.25) = 3 FT
GRAVEL DEPTH (N=0.4) = 1 FT
TOTAL WQV = 1,111 C.F.
256.94'
COURTYARD TO DRAIN DIRECTLY
TO UNDERGROUND DETENTION
UB-1
0.25
98.0
5
PERMEABLE PAVEMENT #1
TURF ATHLETIC FIELD WITH
ADDITIONAL 6" STONE LAYER TO
TREAT 0.45 ACRES OF FIELD AND
0.35 ACRES OF BUILDING
S75°25'52"E
25.83'
LOT 501
MICHAEL AND KANAKO
WACLAWSKI
D.B. 487 PG. 522
(ZONED R-20)
DRAINAGE
AREA TO
DS-1
DRAINAGE AREA TO DS-3
PERMEABLE PAVEMENT #2
TURF ATHLETIC FIELD WITH
ADDITIONAL 6" STONE LAYER TO
TREAT 0.45 ACRES OF FIELD AND
0.42 ACRES OF BUILDING
180.71'
S29°05'20"W
UB-3
0.18
98.0
5
PP-2
0.95
97.2
5
PRETREATMENT: GRASS FILTER
STRIP, GRAVEL DIAPHRAGM NEXT
TO PAVEMENT, GRAVEL FLOW
SPREADER FROM ROOF DRAIN
DRAINAGE AREA TO DS-2
URBAN BIORETENTION #1
FILTER AREA = 450 S.F.
PONDING DEPTH = 0.5 FT
MEDIA DEPTH (N=0.25) = 2 FT
GRAVEL DEPTH (N=0.4) = 1 FT
TOTAL WQV = 630 C.F.
DS-1
0.42
92.0
5
DRAINAGE AREA TO PP-2
DS-2
0.34
90.1
5
LOT 1
INGRID CHRISTINA BARTLEY
ROBERT STEWART BARTLEY
D.B. 1513 PG. 1980
(ZONED R-8)
SANITARY MANHOLE
TOP=164.44
INV IN=159.14
INV OUT=159.04
PRETREATMENT: GRASS
FILTER STRIP, GRAVEL FLOW
SPREADER FROM ROOF DRAIN
DS-3
0.80
95.5
5
PP-3
0.37
90.0
5
DRY SWALE #2
FILTER AREA = 380 S.F.
PONDING DEPTH = 1 FT
MEDIA DEPTH (N=0.25) = 3 FT
GRAVEL DEPTH (N=0.4) = 1 FT
TOTAL WQV = 817 C.F.
N25°30'05"E 179.66'
PRETREATMENT: GRASS FILTER
STRIP, GRAVEL DIAPHRAGM NEXT
TO PAVEMENT, GRAVEL FLOW
SPREADER FROM ROOF DRAIN
S29°04'56"W 135.35'
LOT 2
KEITH PATRICK MATHERNE
TATIANA SALNIK MATHERNE
D.B. 1586 PG. 1874
(ZONED R-8)
PERMEABLE PAVEMENT #3
UNDER PLAY AREA
AREA = 15,000 S.F.
GRAVEL DEPTH (N=0.4) = 0.5 FT
TOTAL WQV = 3,000 C.F.
DRY SWALE #3
FILTER AREA = 1,225 S.F.
PONDING DEPTH = 1 FT
MEDIA DEPTH (N=0.25) = 3 FT
GRAVEL DEPTH (N=0.4) = 1 FT
TOTAL WQV = 2,634 C.F.
JANNEYS LANE
45' WIDE RIGHT-OF-WAY
ASPHALT PAVED PUBLIC ROADWAY
N66°49'29"W
25.14'
S29°04'56"W
20.55'
SOUTHERN
STORMWATER OUTFALL
N74°09'22"W 567.12'
STORM MANHOLE
TOP=160.46
INV IN=158.46
INV OUT=157.26
BOTTOM=156.66
STORM MANHOLE
TOP=149.88
FILLED WITH LEAVES
STORM MANHOLE
TOP=146.99
INV IN=141.09
INV IN=140.29
INV OUT=138.79
EDGE OF PAVEMENT
SANITARY MANHOLE
LOD

LEGEND

▨	PERMEABLE PAVEMENT
▩	DRY SWALE
■	URBAN BIORETENTION
▒	BUILDING AREA DRAINING TO PERMEABLE PAVEMENT STONE LAYER UNDER ATHLETIC FIELD
░	BUILDING AREA DRAINING TO DRY SWALE
▧	BUILDING AREA DRAINING TO URBAN BIORETENTION
▬ ▬ ▬	DRAINAGE AREA BOUNDARY
—— LOD ——	LIMITS OF DISTURBANCE (5.98 AC)

DRAINAGE AREA CHARACTERISTICS
A - DRAINAGE AREA NAME
B - AREA (AC)
C - SCS CURVE NUMBER
D - TIME OF CONCENTRATION (MIN.)

NOTE:
FINAL ROOF DRAIN LOCATIONS TO BE DETERMINED AT FINAL SITE PLAN FOR BMP TREATMENT LOCATIONS

STORMWATER BMP COORDINATES

	NORTHING	EASTING	DESCRIPTION
DRY SWALE #1	6983246.88	1886426.93	LEVEL 1 DRY SWALE
DRY SWALE #2	6983067.68	11886495.00	LEVEL 1 DRY SWALE
DRY SWALE #3	6982960.13	11886652.94	LEVEL 1 DRY SWALE
URBAN BIORETENTION #1	6983244.81	11886680.44	LEVEL 1 URBAN BIORETENTION
URBAN BIORETENTION #2	6983223.4400	11886866.9000	LEVEL 1 URBAN BIORETENTION
URBAN BIORETENTION #3	6983123.60	11886813.8200	LEVEL 1 URBAN BIORETENTION
PERMEABLE PAVEMENT #1	6983166.22	11886958.13	LEVEL 1 PERMEABLE PAVEMENT
PERMEABLE PAVEMENT #2	6983063.10	11886902.63	LEVEL 1 PERMEABLE PAVEMENT
PERMEABLE PAVEMENT #3	6982950.48	11886838.4800	LEVEL 1 PERMEABLE PAVEMENT

NAD 83 VIRGINIA
STATE PLANE
NORTH ZONE, US FOOT

NORTH

GRAPHIC SCALE IN FEET
0 15 30 60
SCALE: 1"=30'

K:\NVA_CIV\110681000 DMES Modernization\CAD\PlanSheets\Preliminary Plan\DRAINAGE AREA MAPS.dwg, Layout:BMP DA MAP Aug 14, 2020 Leif.VanAcker
XREFS: xBorder - 110681000 xSurvey - 110681000 xSite - 110681000 xStrm - 110681000 xBMP - 110681000 xPostDA - 110681000 xPreDA - 110681000

DESIGN ENGINEER AND LANDSCAPE ARCHITECT

FIRM NAME: KIMLEY-HORN AND ASSOCIATES, INC.
ADDRESS: 11400 COMMERCE PARK DRIVE, SUITE 400
RESTON, VIRGINIA 20191
PHONE NO: 703-674-1300 FAX NO: 703-674-1350
PROJ. MANAGER: KYLE BOLLINGER, P.E.
EMAIL: KYLE.BOLLINGER@KIMLEY-HORN.COM

SCALE: 1"=30' (AT 24x36) DATE: 08/14/2020 DRAWN BY: LVA

Kimley»Horn

SEAL:

OWNER
CITY OF ALEXANDRIA
301 KING STREET
ALEXANDRIA, VA 22314

DEVELOPER
ALEXANDRIA CITY
PUBLIC SCHOOLS

CONTACT
ERIKA GULICK
(703) 619-8298

REVISION / APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DOUGLAS MACARTHUR ELEMENTARY SCHOOL MODERNIZATION

PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

SHEET NAME: BMP DRAINAGE AREA MAP

APPROVED
SPECIAL USE PERMIT NO. DSUP#2020-0010
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.

C3.3

Pre-Development Drainage Area Calculations for SCS Method

Project: Douglas MacArthur Elementary School **Date:** 06/15/20 LVA

Curve Numbers				
Land Cover	**A**	**B**	**C**	**D**
Open Space (good)	39	61	74	80
Impervious	98	98	98	98
Woods (good)	30	55	70	77
-	-	-	-	-
-	-	-	-	-

Drainage Area	Open Space (good) C Runoff Coefficient 74	Open Space (good) D Runoff Coefficient 80	Rubber Play Surface Runoff Coefficient 90	Impervious Runoff Coefficient 98	Runoff Coefficient	Total Area	Curve Number
	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	A	C
EX-1		0.91	0.11	1.25		**2.27**	**90.4**
EX-2		1.53	0.07	1.99		**3.59**	**90.2**
EX-2O OFFSITE		0.06		0.06		**0.12**	**89.0**
Total		2.50	0.18	3.30		**5.98**	**90.2**

Post-Development Drainage Area Calculations for SCS Method

Project: Douglas MacArthur Elementary School **Date:** 08/14/20 LVA

Curve Numbers				
Land Cover	**A**	**B**	**C**	**D**
Open Space (good)	39	61	74	80
Impervious	98	98	98	98
Woods (good)	30	55	70	77
-	-	-		
-	-	-		

Drainage Area	Woods (good) D Runoff Coefficient 77	Open Space (good) D Runoff Coefficient 80	Rubber Play Surface Runoff Coefficient 90	Impervious Runoff Coefficient 98	Runoff Coefficient	Total Area	Curve Number	RCN (FROM VRRM)
	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	A	C	
P-1		0.47		1.23		**1.70**	**93.0**	**91**
P-2A DETAINED		0.18	0.43	1.55		**2.16**	**94.9**	**92***
P-2B UNDETAINED		0.65		1.35		**2.00**	**92.2**	**89**
P-2O OFFSITE		0.06		0.06		**0.12**	**89.0**	
Total		1.36	0.43	4.19		**5.98**	**93.3**	

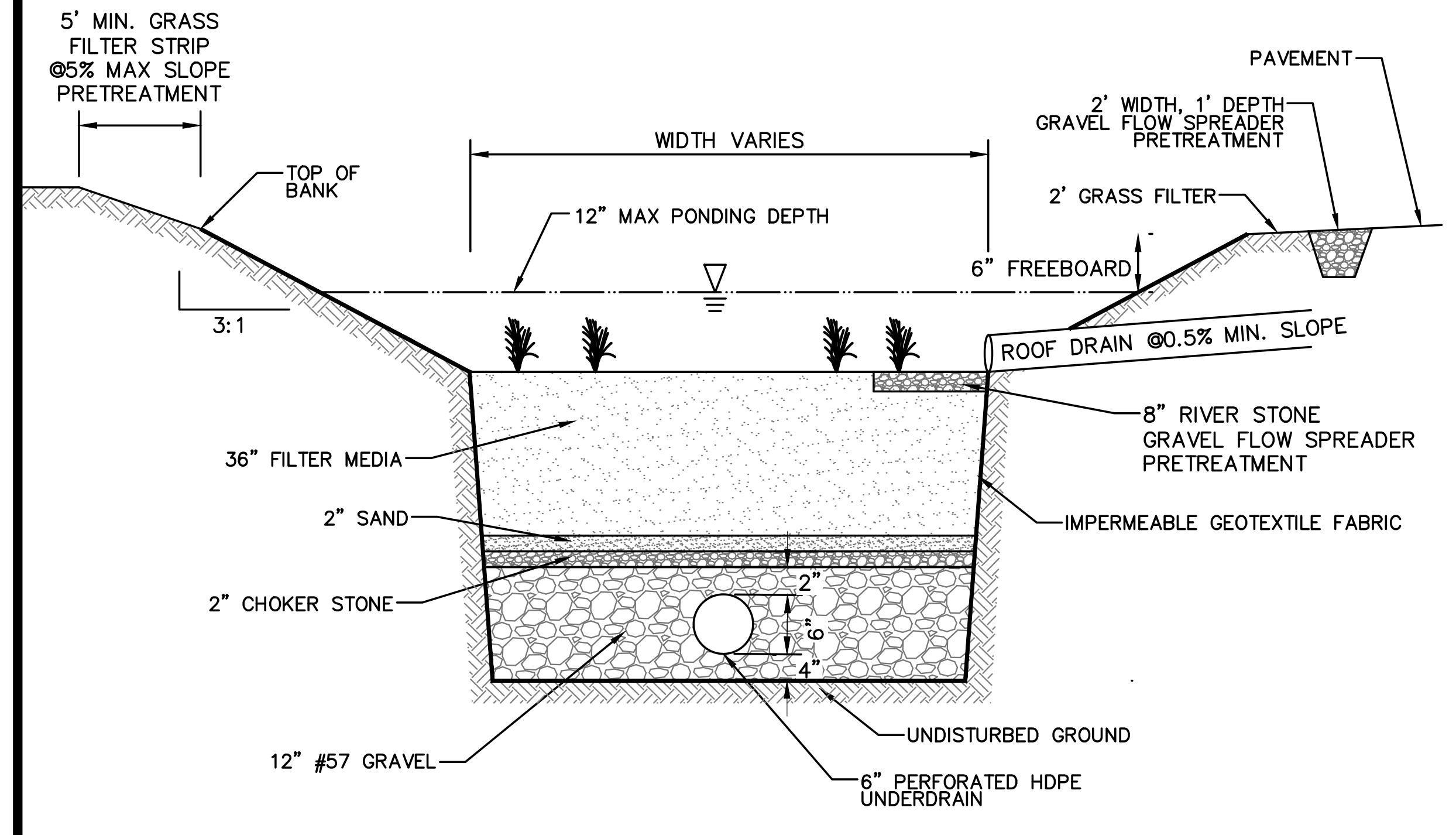
*Calculated based on runoff reduction volume in VRRM, since the rubber play surface has a lower curve number than other impervious cover

BMP Drainage Area Calculations for SCS Method

Project: Douglas MacArthur Elementary School **Date:** 08/14/20 LVA

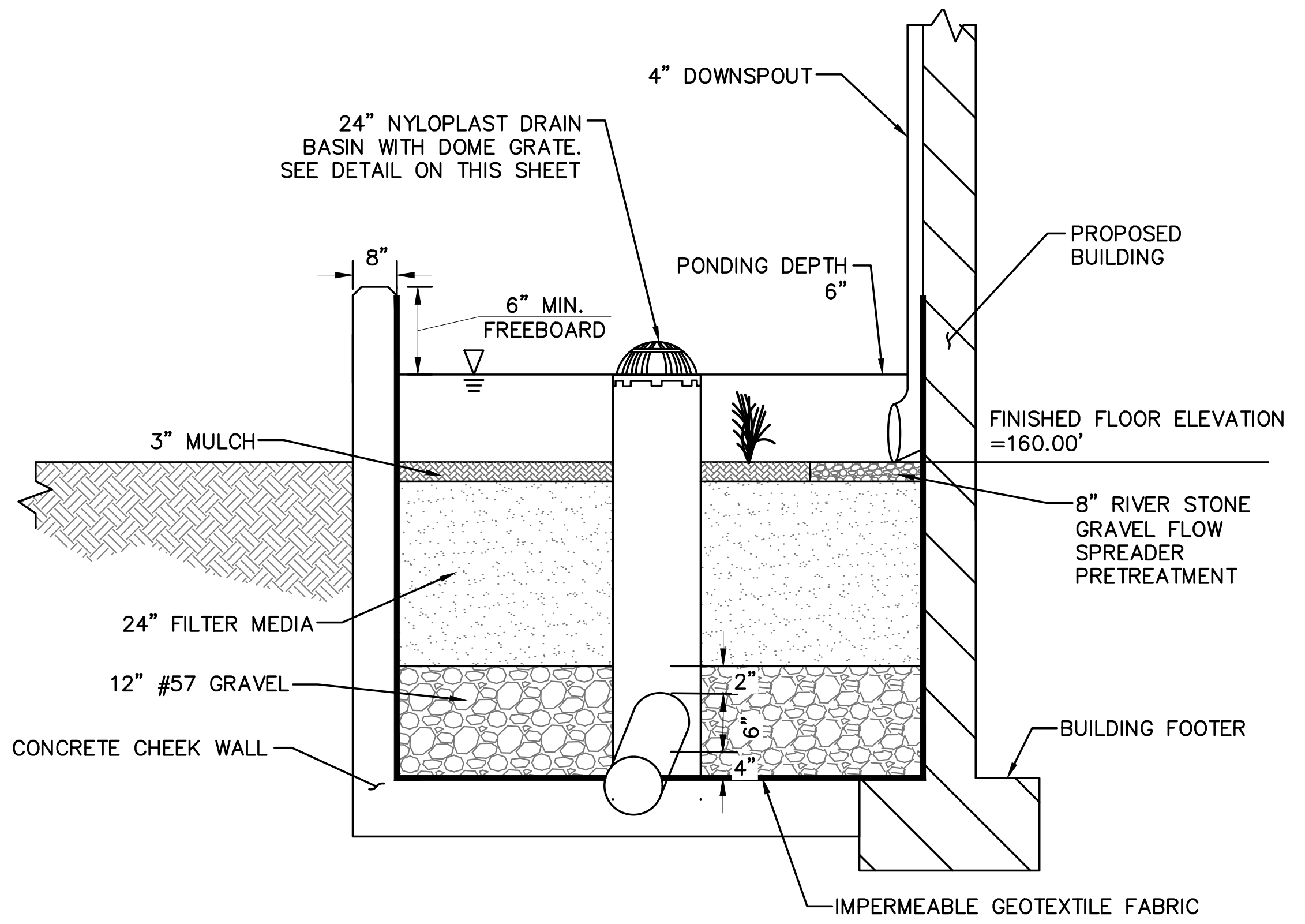
Curve Numbers				
Land Cover	**A**	**B**	**C**	**D**
Open Space (good)	39	61	74	80
Impervious	98	98	98	98

Drainage Area	Open Space (good) C Runoff Coefficient 74	Open Space (good) D Runoff Coefficient 80	Rubber Play Surface Runoff Coefficient 90	Impervious Runoff Coefficient 98	Runoff Coefficient	Total Area	Curve Number
	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	A	C
DS-1		0.14		0.28		**0.42**	**92.0**
DS-2		0.15		0.19		**0.34**	**90.1**
DS-3		0.11		0.69		**0.80**	**95.5**
UB-1				0.25		**0.25**	**98.0**
UB-2				0.09		**0.09**	**98.0**
UB-3				0.18		**0.18**	**98.0**
PP-1		0.02		0.84		**0.86**	**97.6**
PP-2		0.04		0.91		**0.95**	**97.2**
PP-3			0.37			**0.37**	**90.0**
Total		0.46	0.37	3.43		**4.26**	**95.4**


5' MIN. GRASS FILTER STRIP @5% MAX SLOPE PRETREATMENT
TOP OF BANK
WIDTH VARIES
12" MAX PONDING DEPTH
PAVEMENT
2' WIDTH, 1' DEPTH GRAVEL FLOW SPREADER PRETREATMENT
2' GRASS FILTER
6" FREEBOARD
ROOF DRAIN @0.5% MIN. SLOPE
3:1
36" FILTER MEDIA
2" SAND
2" CHOKER STONE
8" RIVER STONE GRAVEL FLOW SPREADER PRETREATMENT
IMPERMEABLE GEOTEXTILE FABRIC
UNDISTURBED GROUND
12" #57 GRAVEL
6" PERFORATED HDPE UNDERDRAIN

DRY SWALE TYPICAL CROSS SECTION

SCALE = N.T.S.


4" DOWNSPOUT
24" NYLOPLAST DRAIN BASIN WITH DOME GRATE. SEE DETAIL ON THIS SHEET
8"
6" MIN. FREEBOARD
PONDING DEPTH 6"
PROPOSED BUILDING
FINISHED FLOOR ELEVATION =160.00'
3" MULCH
8" RIVER STONE GRAVEL FLOW SPREADER PRETREATMENT
24" FILTER MEDIA
12" #57 GRAVEL
CONCRETE CHEEK WALL
BUILDING FOOTER
IMPERMEABLE GEOTEXTILE FABRIC

URBAN BIORETENTION TYPICAL CROSS SECTION

SCALE = N.T.S.

In accordance with the following methodology (**Energy Balance**):

$$Q_{1\text{-yr-Developed}} \leq I.F.*(Q_{1\text{-yr-Pre-developed}} * RV_{1\text{-yr-Pre-Developed}})/RV_{1\text{-yr-Developed}}$$

Under no condition shall:

$$Q_{1\text{-yr-Developed}} > Q_{1\text{-yr-Pre-Developed}}$$

$$Q_{1\text{-yr-Developed}} < (Q_{1\text{-yr-Forest}} * RV_{1\text{-yr-Forest}})/RV_{1\text{-yr-Developed}};$$

where

I.F. (Improvement Factor) = 0.8 for sites > 1 acre or 0.9 for sites ≤ 1 acre

$Q_{1\text{-yr-Developed}}$ = the allowable peak flow rate of runoff from the developed site

$RV_{1\text{-yr-Developed}}$ = the volume of runoff from the site in the developed condition

$Q_{1\text{-yr-Pre-Developed}}$ = the peak flow rate of runoff from the site in the pre-developed condition

$RV_{1\text{-yr-Pre-Developed}}$ = the volume of runoff from the site in pre-developed condition

$Q_{1\text{-yr-Forest}}$ = the peak flow rate of runoff from the site in a forested condition

$RV_{1\text{-yr-Forest}}$ = the volume of runoff from the site in a forested condition

Outfall #1 Peak Flow Comparison

Storm Frequency (years)	Pre-Development (cfs)	Post-Development (cfs)
1	6.54	5.02
2	8.18	6.24
10	14.71	11.13

Outfall #1 Channel Protection (9VAC25-870-66 B.3.a)

I.F. (improvement factor)	0.80	
$RV_{1\text{-yr-Developed}}$	10,375	cf
$Q_{1\text{-yr-Pre-Developed}}$	6.540	cfs
$RV_{1\text{-yr-Pre-Developed}}$	13,468	cf
$Q_{1\text{-yr-Developed}}$ Allowed	6.792	cfs
$Q_{1\text{-yr-Developed}}$ Proposed	5.016	cfs

Outfall #1 Flood Protection (9VAC25-870-66 C)

$Q_{10\text{-yr-Pre-Developed}}$	14.71	cfs
$Q_{10\text{-yr--Developed}}$	11.13	cfs

Outfall #2 Peak Flow Comparison

Storm Frequency (years)	Pre-Development (cfs)	Post-Development (cfs)
1	10.58	6.78
2	13.26	8.49
10	23.94	22.51

Outfall #2 Channel Protection (9VAC25-870-66 B.3.a)

I.F. (improvement factor)	0.80	
$RV_{1\text{-yr-Developed}}$	25,468	cf
$Q_{1\text{-yr-Pre-Developed}}$	10.580	cfs
$RV_{1\text{-yr-Pre-Developed}}$	21,765	cf
$Q_{1\text{-yr-Developed}}$ Allowed	7.233	cfs
$Q_{1\text{-yr-Developed}}$ Proposed	6.777	cfs

Outfall #2 Flood Protection (9VAC25-870-66 C)

$Q_{10\text{-yr-Pre-Developed}}$	23.94	cfs
$Q_{10\text{-yr--Developed}}$	22.51	cfs

NOTE:
AN ONSITE UNDERGROUND DETENTION SYSTEM IS PROPOSED WITH THIS PROJECT TO MANAGE THE PEAK RUNOFF FROM DRAINAGE AREA 2. ADDITIONAL ROUTING CALCULATIONS WILL BE PROVIDED WITH FINAL SITE PLAN SUBMISSION.

Stormwater Management - Treatment Summary

BMP ID	BMP Type	Spec #	Total Drainage Area		Impervious Area		%I	Rv	Length	Width	SA (Prov'd)	SA (Req'd)	Ponding Depth	Filter Depth: Media Depth	Filter Depth: Gravel Depth	Porosity, n: Media	Porosity, n: Gravel	Tv Prov'd	Tv Req'd
			(sf)	(ac)	(sf)	(ac)	(%)		(ft)	(ft)	(sf)	(sf)	(ft)	(ft)	(ft)			(cf)	(cf)
S-1	Level 1 Dry Swale	#10	18,400	0.42	12,170	0.28	66%	0.71	54.4	9.5	517	508	1.00	3.0	1.0	0.25	0.4	1111	1093
S-2	Level 1 Dry Swale	#10	15,000	0.34	8,100	0.19	54%	0.63	76	5	380	365	1.00	3.0	1.0	0.25	0.4	817	785
S-3	Level 1 Dry Swale	#10	34,750	0.80	30,130	0.69	87%	0.86	122.5	10	1225	1154	1.00	3.0	1.0	0.25	0.4	2634	2482
UB-1	Urban Bioretention	#9	11,000	0.25	11,000	0.25	100%	0.95	110	6	660	622	0.50	2.0	1.0	0.25	0.4	924	871
UB-2	Urban Bioretention	#9	4,000	0.09	4,000	0.09	100%	0.95	45	6	270	226	0.50	2.0	1.0	0.25	0.4	378	317
UB-3	Urban Bioretention	#9	7,750	0.18	7,750	0.18	100%	0.95	45	10	450	438	0.50	2.0	1.0	0.25	0.4	630	614

DRY SWALE SPECIFICATIONS:

DRY SWALE SPECIFICATIONS SHALL BE PER VIRGINIA DEQ STORMWATER DESIGN SPECIFICATION #10 – LEVEL 1 DRY SWALE IF NOT SPECIFIED BELOW

PLANTING SOIL MEDIUM:
- A HOMOGENOUS SOIL MIX OF 80–90% SAND; 10–20% SOIL FINES, AND 3–5% ORGANIC MATTER TO PROVIDE A SOIL MEDIUM WITH A HIGH INFILTRATION/FILTRATION CAPACITY.

SOIL PLACEMENT:
- PLACEMENT OF THE FILTER MEDIA IN THE DRY SWALE SHOULD BE IN LIFTS OF 12 TO 18 INCHES AND LIGHTLY COMPACTED. MINIMAL COMPACTION EFFORT CAN BE APPLIED TO THE SOIL BY TAMPING WITH A BUCKET FROM A DOZER OR BACKHOE.
- FILTER MEDIA SHALL BE STORED WITHIN STOCKPILE AREA TO KEEP IT FREE OF MUD, DIRT, AND OTHER FOREIGN MATERIALS
- FILTER MEDIA SHALL BE OBTAINED FROM AN APPROVED VENDOR AND STORED ON AN IMPERVIOUS SURFACE OR PLASTIC SHEETING.

GEOTEXTILE SPECIFICATIONS:
- GEOTEXTILE FABRIC SHALL BE PLACED ALONG SIDES AND BOTTOM OF DRY SWALE AND UNDERDRAIN STONE LAYER
- GEOTEXTILE FABRIC SHALL MEET ASTM D–751 (PUNCTURE STRENGTH – 125 LB)
- ASTM D–1117 (MULLEN BURST STRENGTH–400 PSI)
- ASTM D–1682 (TENSILE STRENGTH–300 LB)
- FABRIC SHALL HAVE 0.08" THICK E.O.S OF #80 SIEVE, AND MAINTAIN 125 GPM PER SQ. FT. FLOW RATE.
- FABRIC SHALL HAVE A 6–INCH MINIMUM OVERLAP AT THE TOP OF EXCAVATION

GRAVEL FILTER SPECIFICATIONS:
- UNDERDRAIN STONE LAYER SHALL BE DOUBLE WASHED, #57 STONE, 1–½" IN SIZE. CHOKER STONE LAYER SHALL BE EITHER #8 OR #78 DOUBLE WASHED STONE

PLANTING:
- DRY SWALE SHALL BE PLANTED WITH RED FESCUE SEED OR SIMILAR PER TABLE 3.17–A OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK
- DURING INITIAL INSTALLATION, DRY SWALE GRASS SHALL BE REPAIRED IMMEDIATELY AND GRASS REESTABLISHED IF NECESSARY
- GRASS SEED FOR DRY SWALE PLANTING SHOULD BE TRANSPORTED PER SPECIFICATION 3.32 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK

CLEANOUT/OBSERVATION WELL:
- 6" RIGID SCHEDULE 40 PVC OBSERVATION WELL WITH 3/8–INCH PERFORATIONS AT 6 INCHES ON CENTER, TO BE INSTALLED AT SPECIFIED LOCATIONS AS INDICATED ON SHEET C3.0. SEE DETAIL ON SHEET C3.4.
- 6" RIGID SCHEDULE 40 PVC CLEANOUT TO BE INSTALLED AT SPECIFIED LOCATIONS AS INDICATED ON SHEET C3.0. SEE DETAIL ON SHEET C3.4.
- OBSERVATION WELL TO BE CONNECTED TO UNDERDRAIN VIA T– CONNECTION

DRY SWALE MAINTENANCE:

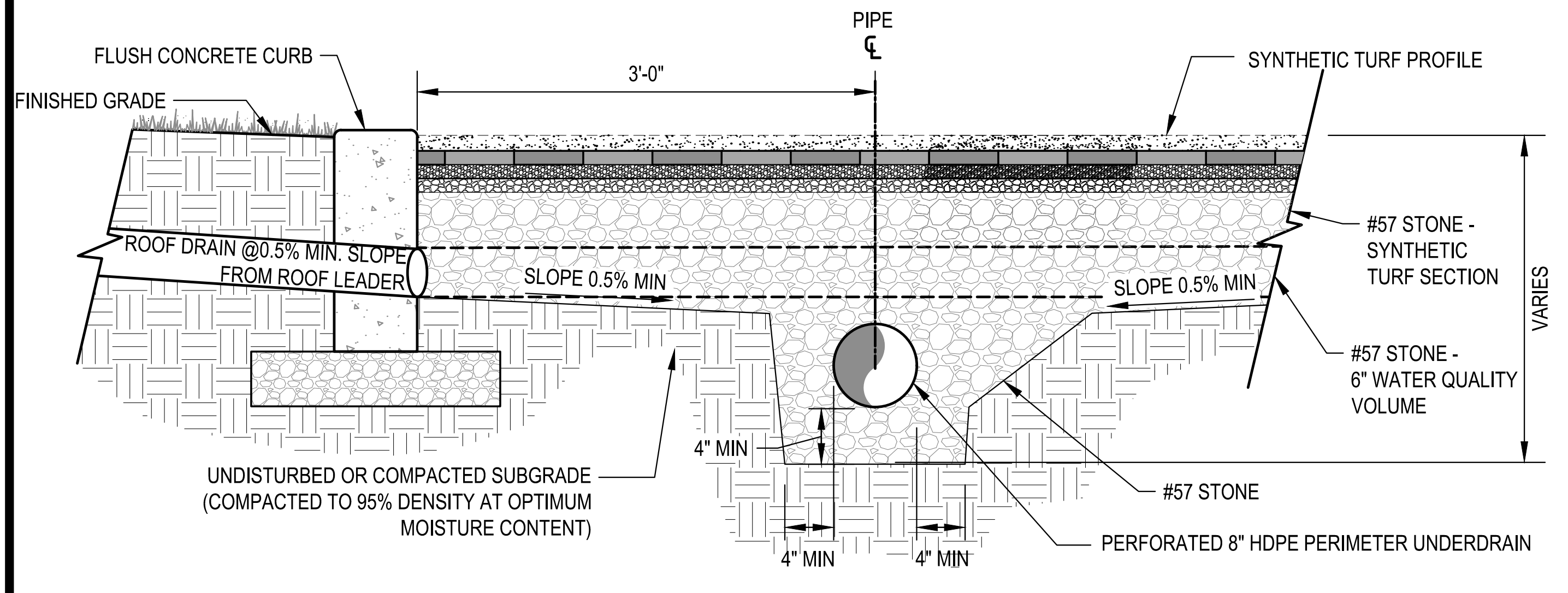
ALL DRY SWALES MUST INCLUDE A LONG TERM MAINTENANCE AGREEMENT CONSISTENT WITH THE PROVISIONS OF THE VSMP REGULATIONS

FIRST YEAR MAINTENANCE:
- FOR THE FIRST 6 MONTHS FOLLOWING CONSTRUCTION, THE SITE SHOULD BE INSPECTED AT LEAST TWICE AFTER STORM EVENTS THAT EXCEED ½ INCH OF RAINFALL
- SPOT RESEEDING SHOULD BE USED FOR BARE OR ERODING AREAS IN THE CONTRIBUTING DRAINAGE AREA
- ONE–TIME START–UP FERTILIZATION MAY BE NEEDED FOR INITIAL SEED
- WATERING IS NEEDED ONCE A WEEK DURING THE FIRST 2 MONTHS AND AS NEEDED DURING THE FIRST GROWING SEASON (APRIL–OCTOBER)
- MINIMUM SURVIVAL FOR PLANTED SPECIES IN DRY SWALE SHALL BE 75% AFTER THE FIRST GROWING SEASON AND SHOULD BE INCLUDED IN A CARE AND REPLACEMENT WARRANTY.

MAINTENANCE INSPECTIONS:
- INSPECTIONS SHOULD BE CONDUCTED IN THE SPRING OF EACH YEAR
- CHECK FOR 95% TURF COVER OR VEGETATION DENSITY IN THE BED
- CHECK FOR SEDIMENT BUILDUP OR TRASH AT PAVEMENT EDGES
- INSPECT SIDE SLOPES FOR EVIDENCE OF EROSION AND REPAIR IF NECESSARY
- CHECK FOR EVIDENCE OF EXCESSIVE PONDING OR CONCENTRATED FLOWS AND TAKE APPROPRIATE REMEDIAL ACTION
- STABILIZE ANY BARE SOIL OR SEDIMENT SOURCES IN THE CONTRIBUTING DRAINAGE AREA
- CHECK FOR CLOGGED OR SLOW–DRAINING SOIL MEDIA, A CRUST FORMED ON THE TOP LAYER, AND RESTORE PROPER FILTRATION CHARACTERISTICS
- IF WATER REMAINS ON THE SURFACE FOR MORE THAN 48 HOURS AFTER A STORM, ADJUSTMENTS TO THE GRADING, REHABILITATION OF THE INFILTRATION, OR UNDERDRAIN REPAIRS MAY BE NEEDED.
- DRY SWALE SHOULD BE CHECKED PERIODICALLY TO DETERMINE IF THE GRASS IS WITHSTANDING FLOW VELOCITIES WITHOUT DAMAGE.
- IF THE DRY SWALE IS TO BE MOWED, IT SHOULD BE DONE IN A MANNER THAT WILL NOT DAMAGE THE GRASS

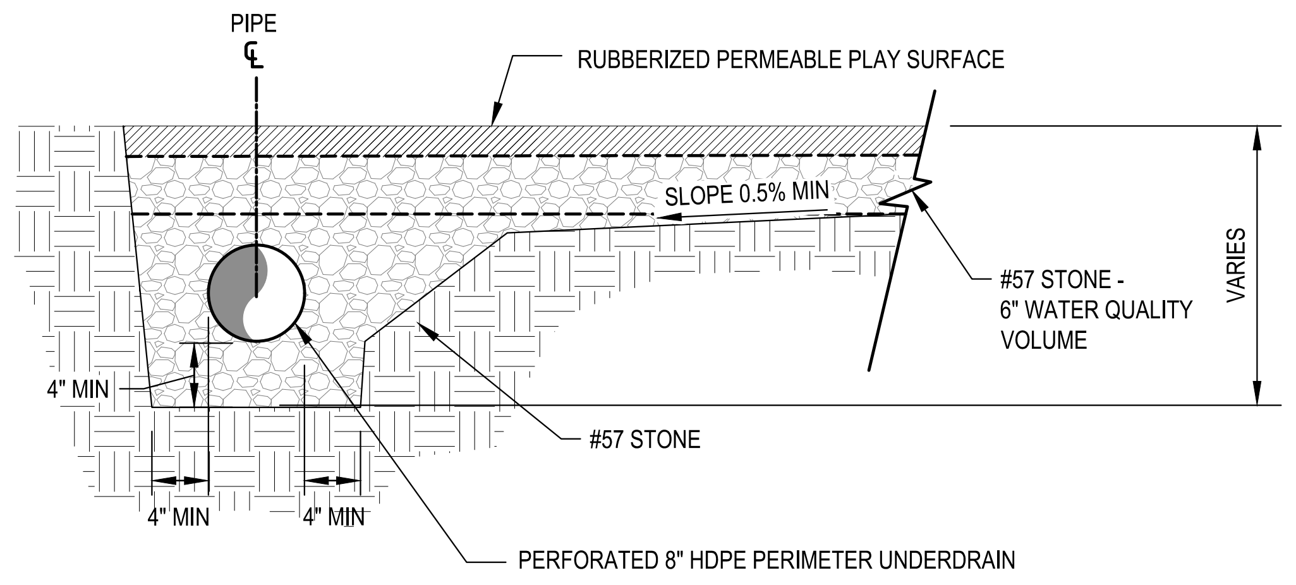
STRUCTURE TABLE

STRUCTURE NAME:	DETAILS:	PIPES IN:	PIPES OUT
A1	VDOT DI–2B RIM: 155.93	FROM B1, 18" RCP INV IN: 149.08 @ 0.50% FROM A2, 18" RCP INV IN: 147.67 @ 1.00%	TO EX1, 24" RCP INV OUT: 147.17 @ 1.00%
A2	VDOT MH–2 RIM: 157.55	FROM C1, 15" HDPE INV IN: 148.17 @ 0.50% FROM A3, 18" HDPE INV IN: 148.57 @ 1.00%	TO A1, 18" RCP INV OUT: 148.07 @ 1.00%
A3	VDOT MH–2 RIM: 157.58	FROM A4, 60" HDPE INV IN: 148.75 @ 0.00%	TO A2, 18" HDPE INV OUT: 148.75 @ 1.00%
A4	VDOT MH–2 RIM: 155.85	FROM A5, 18" HDPE INV IN: 152.25 @ 1.00%	TO A3, 60" HDPE INV OUT: 148.75 @ 0.00%
A5	VDOT MH–2 RIM: 159.26	FROM A6, 12" HDPE INV IN: 153.42 @ 1.00%	TO A4, 18" HDPE INV OUT: 153.32 @ 1.00%
A6	CLEANOUT RIM: 159.22	FROM A7, 12" HDPE INV IN: 154.83 @ 1.00%	TO A5, 12" HDPE INV OUT: 154.73 @ 1.00%
A7	CLEANOUT RIM: 159.50	FROM A8, 12" HDPE INV IN: 155.76 @ 1.00%	TO A6, 12" HDPE INV OUT: 155.66 @ 1.00%
A8	VDOT DI–1 RIM: 159.00		TO A7, 12" HDPE INV OUT: 156.20 @ 1.00%
B1	VDOT DI–2B RIM: 158.53	FROM B3, 15" RCP INV IN: 149.70 @ 0.50% FROM B2, 15" RCP INV IN: 153.45 @ 1.00%	TO A1, 18" RCP INV OUT: 149.60 @ 0.50%
B2	NYLOPLAST DRAIN BASIN RIM: 157.45		TO B1, 15" RCP INV OUT: 153.70 @ 1.00%
B3	VDOT DI–2B RIM: 163.76	FROM B5, 15" HDPE INV IN: 150.70 @ 0.50% FROM B4, 15" RCP INV IN: 150.55 @ 1.39%	TO B1, 15" RCP INV OUT: 150.60 @ 0.50%
B4	VDOT DI–2B RIM: 167.75		TO B3, 15" RCP INV OUT: 151.67 @ 1.39%
B5	VDOT MH–2 RIM: 157.52	FROM B6, 15" HDPE INV IN: 151.55 @ 0.50%	TO B3, 15" HDPE INV OUT: 151.45 @ 0.50%
B6	NYLOPLAST DRAIN BASIN RIM: 155.48		TO B5, 15" HDPE INV OUT: 151.63 @ 0.50%
D1	VDOT MH–2 RIM: 149.23	FROM D2, 15" HDPE INV IN: 145.00 @ 5.00% FROM D3, 8" HDPE INV IN: 146.19 @ 0.50%	TO , 15" RCP INV OUT: 139.33 @ 10.41%
D2	VDOT MH–2 RIM: 158.94		TO D1, 15" HDPE INV OUT: 146.41 @ 5.00%
D3	8" CLEANOUT RIM: 158.95	FROM D4, 8" HDPE INV IN: 146.33 @ 0.50%	TO D1, 8" HDPE INV OUT: 146.33 @ 0.50%
D4	8" CLEANOUT RIM: 159.07	FROM D5, 8" HDPE INV IN: 147.00 @ 0.50%	TO D3, 8" HDPE INV OUT: 147.00 @ 0.50%
D5	8" CLEANOUT RIM: 159.09	FROM D6, 8" HDPE INV IN: 147.14 @ 0.50%	TO D4, 8" HDPE INV OUT: 147.14 @ 0.50%
D6	8" CLEANOUT RIM: 159.91	FROM D7, 8" HDPE INV IN: 148.59 @ 0.50%	TO D5, 8" HDPE INV OUT: 148.59 @ 0.50%
D7	8" CLEANOUT RIM: 159.98	FROM D8, 8" HDPE INV IN: 148.74 @ 0.50%	TO D6, 8" HDPE INV OUT: 148.74 @ 0.50%
D8	8" CLEANOUT RIM: 159.96	FROM D9, 8" HDPE INV IN: 149.32 @ 0.50%	TO D7, 8" HDPE INV OUT: 149.32 @ 0.50%
D9	CONNECT TO TRENCH DRAIN RIM: 151.01		TO D8, 8" HDPE INV OUT: 149.35 @ 0.50%
EX1	VDOT DI–3B RIM: 155.30	FROM A1, 24" RCP INV IN: 146.66 @ 1.00%	TO , 24" RCP INV OUT: 144.50 @ 8.54%


PIPE ℄
FLUSH CONCRETE CURB
3'-0"
SYNTHETIC TURF PROFILE
FINISHED GRADE
ROOF DRAIN @0.5% MIN. SLOPE FROM ROOF LEADER
SLOPE 0.5% MIN
SLOPE 0.5% MIN
#57 STONE - SYNTHETIC TURF SECTION
VARIES
#57 STONE - 6" WATER QUALITY VOLUME
UNDISTURBED OR COMPACTED SUBGRADE (COMPACTED TO 95% DENSITY AT OPTIMUM MOISTURE CONTENT)
4" MIN
#57 STONE
4" MIN
4" MIN
PERFORATED 8" HDPE PERIMETER UNDERDRAIN

ATHLETIC FIELD PERIMETER UNDERDRAIN SECTION

SCALE = 1"=1'-0"


PIPE ℄
RUBBERIZED PERMEABLE PLAY SURFACE
SLOPE 0.5% MIN
#57 STONE - 6" WATER QUALITY VOLUME
VARIES
4" MIN
#57 STONE
4" MIN
4" MIN
PERFORATED 8" HDPE PERIMETER UNDERDRAIN

RUBBER PLAY SURFACE PERMEABLE PAVER SECTION

SCALE = 1"=1'-0"

K:\NVA_CIV\110681000 DMES Modernization\CAD\PlanSheets\Preliminary Plan\STORMWATER CALCULATIONS.dwg, Layout: STORM CALCS 1 Aug 14, 2020 Leif.VanAcker
XREFS: xBorder – 110681000 xStrm – 110681000 oStrm – 110681000

DESIGN ENGINEER AND LANDSCAPE ARCHITECT
FIRM NAME: KIMLEY-HORN AND ASSOCIATES, INC.
ADDRESS: 11400 COMMERCE PARK DRIVE, SUITE 400
RESTON, VIRGINIA 20191
PHONE NO: 703-674-1300 FAX NO: 703-674-1350
PROJ. MANAGER: KYLE BOLLINGER, P.E.
EMAIL: KYLE.BOLLINGER@KIMLEY-HORN.COM

SCALE: N/A (AT 24x36) DATE: 08/14/2020 DRAWN BY: LVA

Kimley»Horn

SEAL:

OWNER
CITY OF ALEXANDRIA
301 KING STREET
ALEXANDRIA, VA 22314
DEVELOPER
ALEXANDRIA CITY
PUBLIC SCHOOLS
CONTACT
ERIKA GULICK
(703) 619-8298

REVISION / APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DOUGLAS MACARTHUR ELEMENTARY SCHOOL MODERNIZATION

PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

SHEET NAME: STORMWATER CALCULATIONS

APPROVED
SPECIAL USE PERMIT NO. DSUP#2020–0010
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.

DEQ Virginia Runoff Reduction Method Re-Development Compliance Spreadsheet - Version 3.0

○ 2011 BMP Standards and Specifications ● 2013 Draft BMP Standards and Specifications

Project Name:	Douglas MacArthur Elementary School
Date:	8/14/2020
Linear Development Project?	No

CLEAR ALL (*Ctrl+Shift+R*)

data input cells
constant values
calculation cells
final results

Site Information

Post-Development Project (Treatment Volume and Loads)

Enter Total Disturbed Area *(acres)* → 5.98

Maximum reduction required:	*20%*
The site's net increase in impervious cover (acres) is:	*1.14*
Post-Development TP Load Reduction for Site (lb/yr):	*3.67*

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				2.50	2.50
Impervious Cover (acres)				3.48	3.48
					5.98

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				1.36	1.36
Impervious Cover (acres)				4.62	4.62
Area Check	OK.	OK.	OK.	OK.	5.98

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)	2.50	1.36
Weighted Rv(turf)	0.25	0.25
% Managed Turf	42%	28%
Impervious Cover (acres)	3.48	3.48
Rv(impervious)	0.95	0.95
% Impervious	58%	72%
Total Site Area (acres)	**5.98**	**4.84**
Site Rv	**0.66**	**0.75**

Treatment Volume and Nutrient Load

Pre-ReDevelopment Treatment Volume (acre-ft)	0.3276	0.3038
Pre-ReDevelopment Treatment Volume (cubic feet)	14,270	13,235
Pre-ReDevelopment TP Load (lb/yr)	**8.97**	**8.32**
Pre-ReDevelopment TP Load per acre (lb/acre/yr)	1.50	1.72
Baseline TP Load (lb/yr) (**0.41 lbs/acre/yr** applied to pre-redevelopment area excluding pervious land proposed for new impervious cover)		*1.98*

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)	1.36
Weighted Rv (turf)	0.25
% Managed Turf	23%
Impervious Cover (acres)	4.62
Rv(impervious)	0.95
% Impervious	77%
Final Site Area (acres)	**5.98**
Final Post Dev Site Rv	**0.79**

Land Cover Summary-Post

Post-ReDevelopment	
Forest/Open Space Cover (acres)	0.00
Weighted Rv(forest)	0.00
% Forest	0%
Managed Turf Cover (acres)	1.36
Weighted Rv (turf)	0.25
% Managed Turf	28%
ReDev. Impervious Cover (acres)	3.48
Rv(impervious)	0.95
% Impervious	72%
Total ReDev. Site Area (acres)	**4.84**
ReDev Site Rv	**0.75**

Land Cover Summary-Post

Post-Development New Impervious	
New Impervious Cover (acres)	1.14
Rv(impervious)	0.95

Treatment Volume and Nutrient Load

Final Post-Development Treatment Volume (acre-ft)	0.3941
Final Post-Development Treatment Volume (cubic feet)	17,166
Final Post-Development TP Load (lb/yr)	**10.79**
Final Post-Development TP Load per acre (lb/acre/yr)	1.80

Post-ReDevelopment Treatment Volume (acre-ft)	0.3038
Post-ReDevelopment Treatment Volume (cubic feet)	13,235
Post-ReDevelopment Load (TP) (lb/yr)*	8.32
Post-ReDevelopment TP Load per acre (lb/acre/yr)	1.72
Max. Reduction Required (Below Pre-ReDevelopment Load)	20%
TP Load Reduction Required for Redeveloped Area (lb/yr)	**1.66**

Post-Development Treatment Volume (acre-ft)	0.0903
Post-Development Treatment Volume (cubic feet)	3,931
Post-Development TP Load (lb/yr)	2.47
TP Load Reduction Required for New Impervious Area (lb/yr)	**2.00**

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

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

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

Post-Development Requirement for Site Area

TP Load Reduction Required (lb/yr)	**3.67**

Nitrogen Loads (Informational Purposes Only)

Pre-ReDevelopment TN Load (lb/yr)	64.14
Final Post-Development TN Load (Post-ReDevelopment & New Impervious) (lb/yr)	77.16

Drainage Area A

CLEAR BMP AREAS

Drainage Area A Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv
Forest/Open Space (acres)					0.00	0.00
Managed Turf (acres)				0.47	0.47	0.25
Impervious Cover (acres)				1.23	1.23	0.95
				Total	1.70	

Total Phosphorus Available for Removal in D.A. A (lb/yr)	2.93
Post Development Treatment Volume in D.A. A (ft^3)	4,668

Stormwater Best Management Practices (RR = Runoff Reduction)

--Select from dropdown lists

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft^3)	Runoff Reduction (ft^3)	Remaining Runoff Volume (ft^3)	Total BMP Treatment Volume (ft^3)	Phosphorus Removal Efficiency (%)	Phosphorus Load from Upstream Practices (lb)	Untreated Phosphorus Load to Practice (lb)	Phosphorus Removed By Practice (lb)	Remaining Phosphorus Load (lb)	Downstream Practice to be Employed
3. Permeable Pavement (RR)													
3.a. Permeable Pavement #1 (Spec #7)	45		0.45	0	698	854	1,552	25	0.00	0.97	0.57	0.40	
3.b. Permeable Pavement #2 (Spec #7)	75				0	0	0	25		0.00	0.00	0.00	
6. Bioretention (RR)													
6.a. Bioretention #1 or Micro-Bioretention #1 or Urban Bioretention (Spec #9)	40		0.09	0	124	186	310	25	0.00	0.19	0.11	0.09	
6.b. Bioretention #2 or Micro-Bioretention #2 (Spec #9)	80			0	0	0	0	50	0.00	0.00	0.00	0.00	

TOTAL IMPERVIOUS COVER TREATED (ac)	0.54	AREA CHECK: OK.
TOTAL MANAGED TURF AREA TREATED (ac)	0.00	AREA CHECK: OK.
TOTAL RUNOFF REDUCTION IN D.A. A (ft^3)	822	

TOTAL PHOSPHORUS AVAILABLE FOR REMOVAL IN D.A. A (lb/yr)	2.93
TOTAL PHOSPHORUS REMOVED WITH RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr)	0.68
TOTAL PHOSPHORUS REMAINING AFTER APPLYING RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr)	2.25

SEE WATER QUALITY COMPLIANCE TAB FOR SITE COMPLIANCE CALCULATIONS

Drainage Area B

CLEAR BMP AREAS

Drainage Area A Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv
Forest/Open Space (acres)					0.00	0.00
Managed Turf (acres)				0.18	0.18	0.25
Impervious Cover (acres)				1.98	1.98	0.95
				Total	2.16	

'otal Phosphorus Available for Removal in D.A. B (lb/yr)	4.39
Post Development Treatment Volume in D.A. B (ft^3)	6,991

Stormwater Best Management Practices (RR = Runoff Reduction)

--Select from dropdown lists

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft^3)	Runoff Reduction (ft^3)	Remaining Runoff Volume (ft^3)	Total BMP Treatment Volume (ft^3)	Phosphorus Removal Efficiency (%)	Phosphorus Load from Upstream Practices (lb)	Untreated Phosphorus Load to Practice (lb)	Phosphorus Removed By Practice (lb)	Remaining Phosphorus Load (lb)	Downstream Practice to be Employed
3. Permeable Pavement (RR)													
3.a. Permeable Pavement #1 (Spec #7)	45		0.82	0	1,272	1,555	2,828	25	0.00	1.77	1.04	0.73	
3.b. Permeable Pavement #2 (Spec #7)	75				0	0	0	25		0.00	0.00	0.00	
6. Bioretention (RR)													
6.a. Bioretention #1 or Micro-Bioretention #1 or Urban Bioretention (Spec #9)	40		0.43	0	593	890	1,483	25	0.00	0.93	0.51	0.42	
6.b. Bioretention #2 or Micro-Bioretention #2 (Spec #9)	80			0	0	0	0	50	0.00	0.00	0.00	0.00	

TOTAL IMPERVIOUS COVER TREATED (ac)	1.25	AREA CHECK: OK.
TOTAL TURF AREA TREATED (ac)	0.00	AREA CHECK: OK.
TOTAL RUNOFF REDUCTION IN D.A. B (ft^3)	1,866	

TOTAL PHOSPHORUS AVAILABLE FOR REMOVAL IN D.A. B (lb/yr)	4.39
TOTAL PHOSPHORUS REMOVED WITH RUNOFF REDUCTION PRACTICES IN D.A. B (lb/yr)	1.55
TOTAL PHOSPHORUS REMAINING AFTER APPLYING RUNOFF REDUCTION PRACTICES IN D.A. B (lb/yr)	2.84

SEE WATER QUALITY COMPLIANCE TAB FOR SITE COMPLIANCE CALCULATIONS

Drainage Area C

CLEAR BMP AREAS

Drainage Area A Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv
Forest/Open Space (acres)					0.00	0.00
Managed Turf (acres)				0.65	0.65	0.25
Impervious Cover (acres)				1.35	1.35	0.95
				Total	2.00	

'otal Phosphorus Available for Removal in D.A. C (lb/yr)	3.30
Post Development Treatment Volume in D.A. C (ft^3)	5,245

Stormwater Best Management Practices (RR = Runoff Reduction)

--Select from dropdown lists

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft^3)	Runoff Reduction (ft^3)	Remaining Runoff Volume (ft^3)	Total BMP Treatment Volume (ft^3)	Phosphorus Removal Efficiency (%)	Phosphorus Load from Upstream Practices (lb)	Untreated Phosphorus Load to Practice (lb)	Phosphorus Removed By Practice (lb)	Remaining Phosphorus Load (lb)	Downstream Practice to be Employed
5. Dry Swale (RR)													
5.a. Dry Swale #1 (Spec #10)	40	0.40	1.16	0	1,752	2,628	4,381	20	0.00	2.75	1.43	1.32	
5.b. Dry Swale #2 (Spec #10)	60			0	0	0	0	40	0.00	0.00	0.00	0.00	

TOTAL IMPERVIOUS COVER TREATED (ac)	1.16	AREA CHECK: OK.
TOTAL MANAGED TURF AREA TREATED (ac)	0.40	AREA CHECK: OK.
TOTAL RUNOFF REDUCTION IN D.A. C (ft^3)	1,752	

TOTAL PHOSPHORUS AVAILABLE FOR REMOVAL IN D.A. C (lb/yr)	3.30
TOTAL PHOSPHORUS REMOVED WITH RUNOFF REDUCTION PRACTICES IN D.A. C (lb/yr)	1.43
TOTAL PHOSPHORUS REMAINING AFTER APPLYING RUNOFF REDUCTION PRACTICES IN D.A. C (lb/yr)	1.87

SEE WATER QUALITY COMPLIANCE TAB FOR SITE COMPLIANCE CALCULATIONS

DESIGN ENGINEER AND LANDSCAPE ARCHITECT
FIRM NAME: KIMLEY-HORN AND ASSOCIATES, INC.
ADDRESS: 11400 COMMERCE PARK DRIVE, SUITE 400
RESTON, VIRGINIA 20191
PHONE NO: 703-674-1300 FAX NO: 703-674-1350
PROJ. MANAGER: KYLE BOLLINGER, P.E.
EMAIL: KYLE.BOLLINGER@KIMLEY-HORN.COM
SCALE: N/A (AT 24x36) DATE: 08/14/2020 DRAWN BY: LVA

Kimley»Horn

SEAL:

OWNER
CITY OF ALEXANDRIA
301 KING STREET
ALEXANDRIA, VA 22314
DEVELOPER
ALEXANDRIA CITY
PUBLIC SCHOOLS
CONTACT
ERIKA GULICK
(703) 619-8298

REVISION / APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DOUGLAS MACARTHUR
ELEMENTARY SCHOOL
MODERNIZATION
PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

SHEET NAME:
STORMWATER CALCULATIONS

APPROVED
SPECIAL USE PERMIT NO. DSUP#2020-0010
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.

C3.5

K:\NVA_CIV\110681000 DMES Modernization\CAD\PlanSheets\Preliminary Plan\STORMWATER CALCULATIONS.dwg, Layout:STORM CALCS 2 Aug 14, 2020 Leif.VanAcker
XREFS: xBorder - 110681000 xStrm - 110681000 oStrm - 110681000
THIS DOCUMENT, TOGETHER WITH THE CONCEPTS AND DESIGNS PRESENTED HEREIN, AS AN INSTRUMENT OF SERVICE, IS INTENDED ONLY FOR THE SPECIFIC PURPOSE AND CLIENT FOR WHICH IT WAS PREPARED. REUSE OF AND IMPROPER RELIANCE ON THIS DOCUMENT WITHOUT WRITTEN AUTHORIZATION AND ADAPTATION BY KIMLEY-HORN AND ASSOCIATES, INC. SHALL BE WITHOUT LIABILITY TO KIMLEY-HORN AND ASSOCIATES, INC.

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)	1.23	1.98	1.35	0.00	0.00	OK.
IMPERVIOUS COVER TREATED (ac)	0.54	1.25	1.16	0.00	0.00	OK.
MANAGED TURF AREA (ac)	0.47	0.18	0.65	0.00	0.00	OK.
MANAGED TURF AREA TREATED (ac)	0.00	0.00	0.40	0.00	0.00	OK.
AREA CHECK	OK.	OK.	OK.	OK.	OK.	

Site Treatment Volume (ft^3) 17,166

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)	822	1,866	1,752	0	0	4,440
TP LOAD AVAILABLE FOR REMOVAL (lb/yr)	2.93	4.39	3.30	0.00	0.00	10.62
TP LOAD REDUCTION ACHIEVED (lb/yr)	0.68	1.55	1.43	0.00	0.00	3.66
TP LOAD REMAINING (lb/yr)	2.25	2.84	1.87	0.00	0.00	6.96
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	4.99	11.72	10.82	0.00	0.00	27.52

Total Phosphorus

FINAL POST-DEVELOPMENT TP LOAD (lb/yr)	10.79
TP LOAD REDUCTION REQUIRED (lb/yr)	3.67
TP LOAD REDUCTION ACHIEVED (lb/yr)	3.66
TP LOAD REMAINING (lb/yr):	7.12
REMAINING TP LOAD REDUCTION REQUIRED (lb/yr):	0.00 **

**No further TP load reduction required (Required - Achieved < 0.005 lb/yr)

Total Nitrogen (For Information Purposes)

POST-DEVELOPMENT LOAD (lb/yr)	77.16
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	27.52
REMAINING POST-DEVELOPMENT NITROGEN LOAD (lb/yr)	49.64

Project Description

Development or [✓ Redevelopment]

Drainage Area	Impervious	Pervious	Total
Site Area	4.09	1.20	5.29
On-Site Treated	2.95	0.40	3.35
Off-Site Treated	0.00	0.00	0.00
Total Treated	2.95	0.40	3.35
Any On-Site Disconnected by a Vegetated Buffer (25 ft)	0.00	▨	▨
Total On-Site Treated or Disconnected	▨	▨	0.00

Water Treatment on site

BMP Type	*Area treated by BMP (acres)*	*Impervious area treated by BMP (acres)*	*BMP efficiency (%)*
DRY SWALE	1.56	1.16	20%
PERVIOUS PVMT	1.27	1.27	25%
URBAN BIO	0.52	0.52	25%

Miscellaneous

Total WQV treated: [✓ yes] no

Detention on site: [✓ yes] no

Project is within which watershed? CAMERON RUN - HUC 020700100302

Project discharges to which body of water? POTOMAC RIVER

Runoff Volume and Curve Number Calculations

Enter design storm rainfall depths (in):

1-year storm	2-year storm	10-year storm
2.70	3.20	5.20

Use NOAA Atlas 14 (http://hdsc.nws.noaa.gov/hdsc/pfds/)

***Notes (see below):**

[1] The curve numbers and runoff volumes computed in this spreadsheet for each drainage area are limited in their applicability for determining and demonstrating compliance with water quantity requirements. See VRRM User's Guide and Documentation for additional information.

[2] Runoff Volume (RV) for pre- and post-development drainage areas must be in volumetric units (e.g., acre-feet or cubic feet) when using the Energy Balance Equation. Runoff measured in watershed-inches and shown in the spreadsheet as RV(watershed-inch) can only be used in the Energy Balance Equation when the pre- and post-development drainage areas are equal. Otherwise RV(watershed-inch) must be multiplied by the drainage area.

[3] Adjusted CNs are based on runoff reduction volumes as calculated in D.A. tabs. An alternative CN adjustment calculation for Vegetated Roofs is included in BMP specification No. 5.

Drainage Area Curve Numbers and Runoff Depths*

Curve numbers (CN, CNadj) and runoff depths ($RV_{Developed}$) are computed with and without reduction practices.

Drainage Area A		A Soils	B Soils	C Soils	D Soils
Forest/Open Space -- undisturbed, protected forest/open space or reforested land	Area (acres)	0.00	0.00	0.00	0.00
	CN	30	55	70	77
Managed Turf -- disturbed, graded for yards or other turf to be mowed/managed	Area (acres)	0.00	0.00	0.00	0.47
	CN	39	61	74	80
Impervious Cover	Area (acres)	0.00	0.00	0.00	1.23
	CN	98	98	98	98

Total Area (acres): 1.70

Runoff Reduction Volume (ft^3): 822

$CN_{(D.A.\ A)}$ 93

	1-year storm	2-year storm	10-year storm
$RV_{Developed}$ *(watershed-inch)* with no Runoff Reduction*	1.97	2.45	4.39
$RV_{Developed}$ *(watershed-inch)* with Runoff Reduction*	1.84	2.31	4.26
Adjusted CN*	91	91	92

See Notes above

Drainage Area B		A Soils	B Soils	C Soils	D Soils
Forest/Open Space -- undisturbed, protected forest/open space or reforested land	Area (acres)	0.00	0.00	0.00	0.00
	CN	30	55	70	77
Managed Turf -- disturbed, graded for yards or other turf to be mowed/managed	Area (acres)	0.00	0.00	0.00	0.18
	CN	39	61	74	80
Impervious Cover	Area (acres)	0.00	0.00	0.00	1.98
	CN	98	98	98	98

Total Area (acres): 2.16

Runoff Reduction Volume (ft^3): 1,866

$CN_{(D.A.\ B)}$ 97

	1-year storm	2-year storm	10-year storm
$RV_{Developed}$ *(watershed-inch)* with no Runoff Reduction*	2.36	2.86	4.85
$RV_{Developed}$ *(watershed-inch)* with Runoff Reduction*	2.12	2.62	4.61
Adjusted CN*	95	95	95

See Notes above

Drainage Area C		A Soils	B Soils	C Soils	D Soils
Forest/Open Space -- undisturbed, protected forest/open space or reforested land	Area (acres)	0.00	0.00	0.00	0.00
	CN	30	55	70	77
Managed Turf -- disturbed, graded for yards or other turf to be mowed/managed	Area (acres)	0.00	0.00	0.00	0.65
	CN	39	61	74	80
Impervious Cover	Area (acres)	0.00	0.00	0.00	1.35
	CN	98	98	98	98

Total Area (acres): 2.00

Runoff Reduction Volume (ft^3): 1,752

$CN_{(D.A.\ C)}$ 92

	1-year storm	2-year storm	10-year storm
$RV_{Developed}$ *(watershed-inch)* with no Runoff Reduction*	1.88	2.35	4.28
$RV_{Developed}$ *(watershed-inch)* with Runoff Reduction*	1.64	2.11	4.04
Adjusted CN*	89	89	90

See Notes above

DESIGN ENGINEER AND LANDSCAPE ARCHITECT

FIRM NAME: KIMLEY-HORN AND ASSOCIATES, INC.
ADDRESS: 11400 COMMERCE PARK DRIVE, SUITE 400
RESTON, VIRGINIA 20191
PHONE NO: 703-674-1300 FAX NO: 703-674-1350
PROJ. MANAGER: KYLE BOLLINGER, P.E.
EMAIL: KYLE.BOLLINGER@KIMLEY-HORN.COM

SCALE: N/A (AT 24x36) DATE: 08/14/2020 DRAWN BY: LVA

Kimley»Horn

SEAL:

OWNER
CITY OF ALEXANDRIA
301 KING STREET
ALEXANDRIA, VA 22314

DEVELOPER
ALEXANDRIA CITY
PUBLIC SCHOOLS

CONTACT
ERIKA GULICK
(703) 619-8298

REVISION / APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DOUGLAS MACARTHUR ELEMENTARY SCHOOL MODERNIZATION

PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

SHEET NAME: STORMWATER CALCULATIONS

APPROVED
SPECIAL USE PERMIT NO. DSUP#2020-0010
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.

K:\NVA_CIV\110681000 DMES Modernization\CAD\PlanSheets\Preliminary Plan\STORMWATER CALCULATIONS.dwg, Layout: STORM CALCS 3 Aug 14, 2020 Leif.VanAcker
XREFS: xBorder - 110681000 xStrm - 110681000 oStrm - 110681000
THIS DOCUMENT, TOGETHER WITH THE CONCEPTS AND DESIGNS PRESENTED HEREIN, AS AN INSTRUMENT OF SERVICE, IS INTENDED ONLY FOR THE SPECIFIC PURPOSE AND CLIENT FOR WHICH IT WAS PREPARED. REUSE OF AND IMPROPER RELIANCE ON THIS DOCUMENT WITHOUT WRITTEN AUTHORIZATION AND ADAPTATION BY KIMLEY-HORN AND ASSOCIATES, INC. SHALL BE WITHOUT LIABILITY TO KIMLEY-HORN AND ASSOCIATES, INC.

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER	
ADS SALES REP	
PROJECT NO.	

ADVANCED DRAINAGE SYSTEMS, INC.

SiteASSIST® Stormtech
FOR STORMTECH INSTRUCTIONS, DOWNLOAD THE INSTALLATION APP

DOUGLAS MACARTHUR ELEMENTARY SCHOOL
ALEXANDRIA, VA

MC-4500 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH MC-4500.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101.
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LBS/IN/IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-4500 CHAMBER SYSTEM

1. STORMTECH MC-4500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH MC-4500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM 9" (230 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
8. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE MEETING THE AASHTO M43 DESIGNATION OF #3 OR #4.
9. STONE SHALL BE BROUGHT UP EVENLY AROUND CHAMBERS SO AS NOT TO DISTORT THE CHAMBER SHAPE. STONE DEPTHS SHOULD NEVER DIFFER BY MORE THAN 12" (300 mm) BETWEEN ADJACENT CHAMBER ROWS.
10. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
11. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIAL BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
12. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH MC-4500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
2. THE USE OF EQUIPMENT OVER MC-4500 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

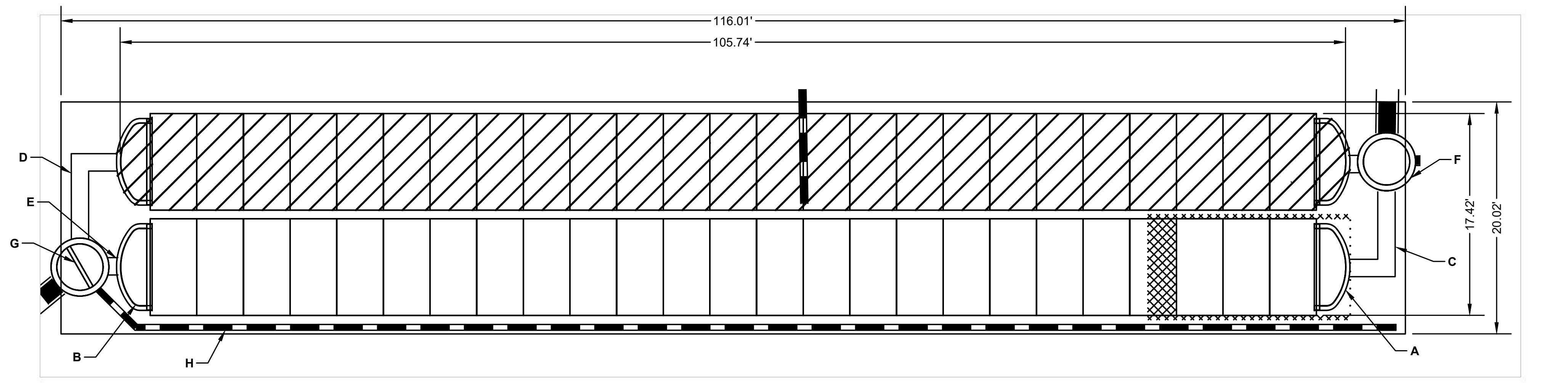
©2013 ADS, INC.

PROPOSED LAYOUT	
50	STORMTECH MC-4500 CHAMBERS
4	STORMTECH MC-4500 END CAPS
12	STONE ABOVE (in)
12	STONE BELOW (in)
40	STONE VOID
9792	INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED) (COVER STONE INCLUDED) (BASE STONE INCLUDED)
2322	SYSTEM AREA (SF)
272.1	SYSTEM PERIMETER (ft)

PROPOSED ELEVATIONS	
MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	161.75
MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	157.25
MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	156.75
MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	156.75
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	156.75
TOP OF STONE:	155.75
TOP OF MC-4500 CHAMBER:	154.75
24" ISOLATOR ROW INVERT:	149.94
18" x 18" BOTTOM MANIFOLD INVERT:	149.91
18" x 18" BOTTOM MANIFOLD INVERT:	149.91
18" BOTTOM CONNECTION INVERT:	149.91
BOTTOM OF MC-4500 CHAMBER:	149.75
UNDERDRAIN INVERT:	148.75
BOTTOM OF STONE:	148.75

*INVERT ABOVE BASE OF CHAMBER

PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT*	MAX FLOW
PREFABRICATED END CAP	A	24" BOTTOM PARTIAL CUT END CAP/TYP OF ALL 24" BOTTOM CONNECTIONS AND ISOLATOR ROWS	2.26"	
PREFABRICATED END CAP	B	18" BOTTOM PARTIAL CUT END CAP/TYP OF ALL 18" BOTTOM CONNECTIONS AND ISOLATOR ROWS	1.97"	
MANIFOLD	C	18" x 18" BOTTOM MANIFOLD, ADS N-12	1.97"	
MANIFOLD	D	18" x 18" BOTTOM MANIFOLD, ADS N-12	1.97"	
PIPE CONNECTION	E	18" BOTTOM CONNECTION	1.97"	
CONCRETE STRUCTURE	F	OCS (DESIGN BY ENGINEER / PROVIDED BY OTHERS)		8.0 CFS OUT
CONCRETE STRUCTURE W/WEIR	G	(DESIGN BY ENGINEER / PROVIDED BY OTHERS)		5.5 CFS IN
UNDERDRAIN	H	6" ADS N-12 DUAL WALL PERFORATED HDPE UNDERDRAIN		



▨	ISOLATOR ROW (SEE DETAIL)
▩	PLACE MINIMUM 17.50' OF ADS GEOSYNTHETICS 315WTM WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS
— —	BED LIMITS

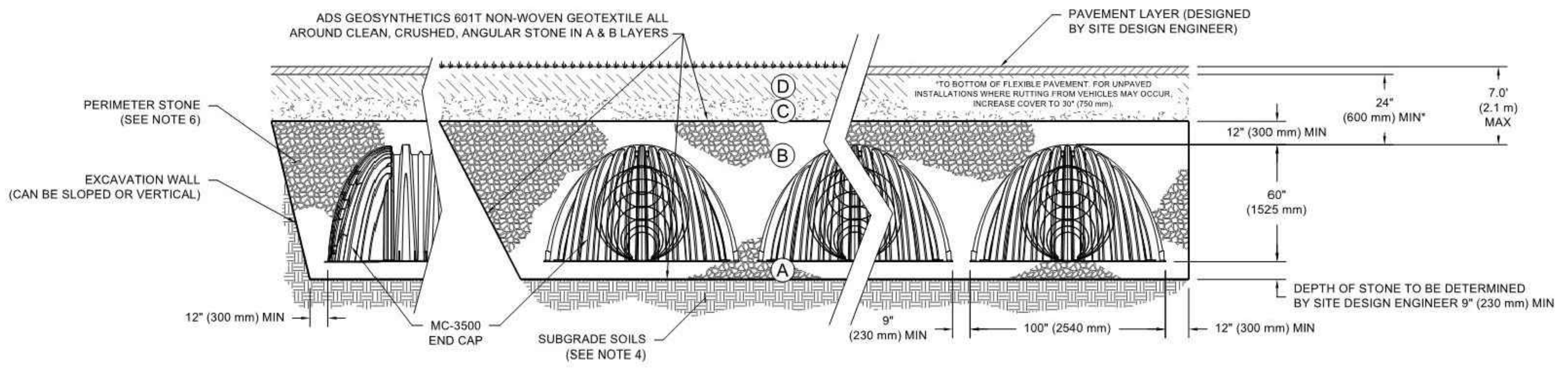
NOTES

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6.32 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.
- **NOT FOR CONSTRUCTION:** THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.

ACCEPTABLE FILL MATERIALS: STORMTECH MC-4500 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 4	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

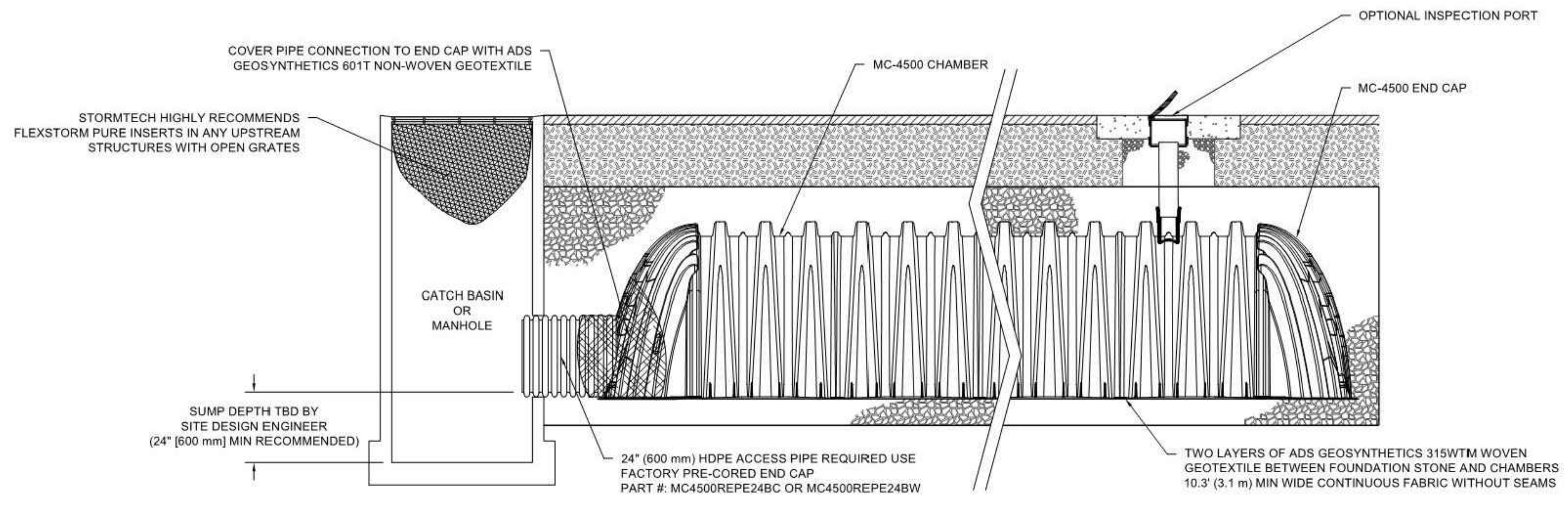
PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



ADS GEOSYNTHETICS 601T NON-WOVEN GEOTEXTILE ALL AROUND CLEAN, CRUSHED, ANGULAR STONE IN A & B LAYERS
PAVEMENT LAYER (DESIGNED BY SITE DESIGN ENGINEER)
PERIMETER STONE (SEE NOTE 6)
EXCAVATION WALL (CAN BE SLOPED OR VERTICAL)
D
C
B
A
*TO BOTTOM OF FLEXIBLE PAVEMENT. FOR UNPAVED INSTALLATIONS WHERE RUTTING FROM VEHICLES MAY OCCUR, INCREASE COVER TO 30" (750 mm).
24" (600 mm) MIN*
7.0' (2.1 m) MAX
12" (300 mm) MIN
60" (1525 mm)
DEPTH OF STONE TO BE DETERMINED BY SITE DESIGN ENGINEER 9" (230 mm) MIN
12" (300 mm) MIN
MC-3500 END CAP
SUBGRADE SOILS (SEE NOTE 4)
9" (230 mm) MIN
100" (2540 mm)
12" (300 mm) MIN

NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101
2. MC-4500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LBS/IN/IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.



COVER PIPE CONNECTION TO END CAP WITH ADS GEOSYNTHETICS 601T NON-WOVEN GEOTEXTILE
MC-4500 CHAMBER
OPTIONAL INSPECTION PORT
MC-4500 END CAP
STORMTECH HIGHLY RECOMMENDS FLEXSTORM PURE INSERTS IN ANY UPSTREAM STRUCTURES WITH OPEN GRATES
CATCH BASIN OR MANHOLE
SUMP DEPTH TBD BY SITE DESIGN ENGINEER (24" [600 mm] MIN RECOMMENDED)
24" (600 mm) HDPE ACCESS PIPE REQUIRED USE FACTORY PRE-CORED END CAP PART #: MC4500REPE24BC OR MC4500REPE24BW
TWO LAYERS OF ADS GEOSYNTHETICS 315WTM WOVEN GEOTEXTILE BETWEEN FOUNDATION STONE AND CHAMBERS 10.3' (3.1 m) MIN WIDE CONTINUOUS FABRIC WITHOUT SEAMS

MC-4500 ISOLATOR ROW DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

DESIGN ENGINEER AND LANDSCAPE ARCHITECT
FIRM NAME: KIMLEY-HORN AND ASSOCIATES, INC.
ADDRESS: 11400 COMMERCE PARK DRIVE, SUITE 400
RESTON, VIRGINIA 20191
PHONE NO: 703-674-1300 FAX NO. 703-674-1350
PROJ. MANAGER: KYLE BOLLINGER, P.E.
EMAIL: KYLE.BOLLINGER@KIMLEY-HORN.COM

SCALE: N/A (AT 24x36) DATE: 08/14/2020 DRAWN BY: LVA

Kimley»Horn

SEAL:

OWNER
CITY OF ALEXANDRIA
301 KING STREET
ALEXANDRIA, VA 22314

DEVELOPER
ALEXANDRIA CITY PUBLIC SCHOOLS
CONTACT
ERIKA GULICK
(703) 619-8298

REVISION / APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DOUGLAS MACARTHUR ELEMENTARY SCHOOL MODERNIZATION
PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

SHEET NAME: STORMWATER CALCULATIONS

APPROVED
SPECIAL USE PERMIT NO. DSUP#2020-0010
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

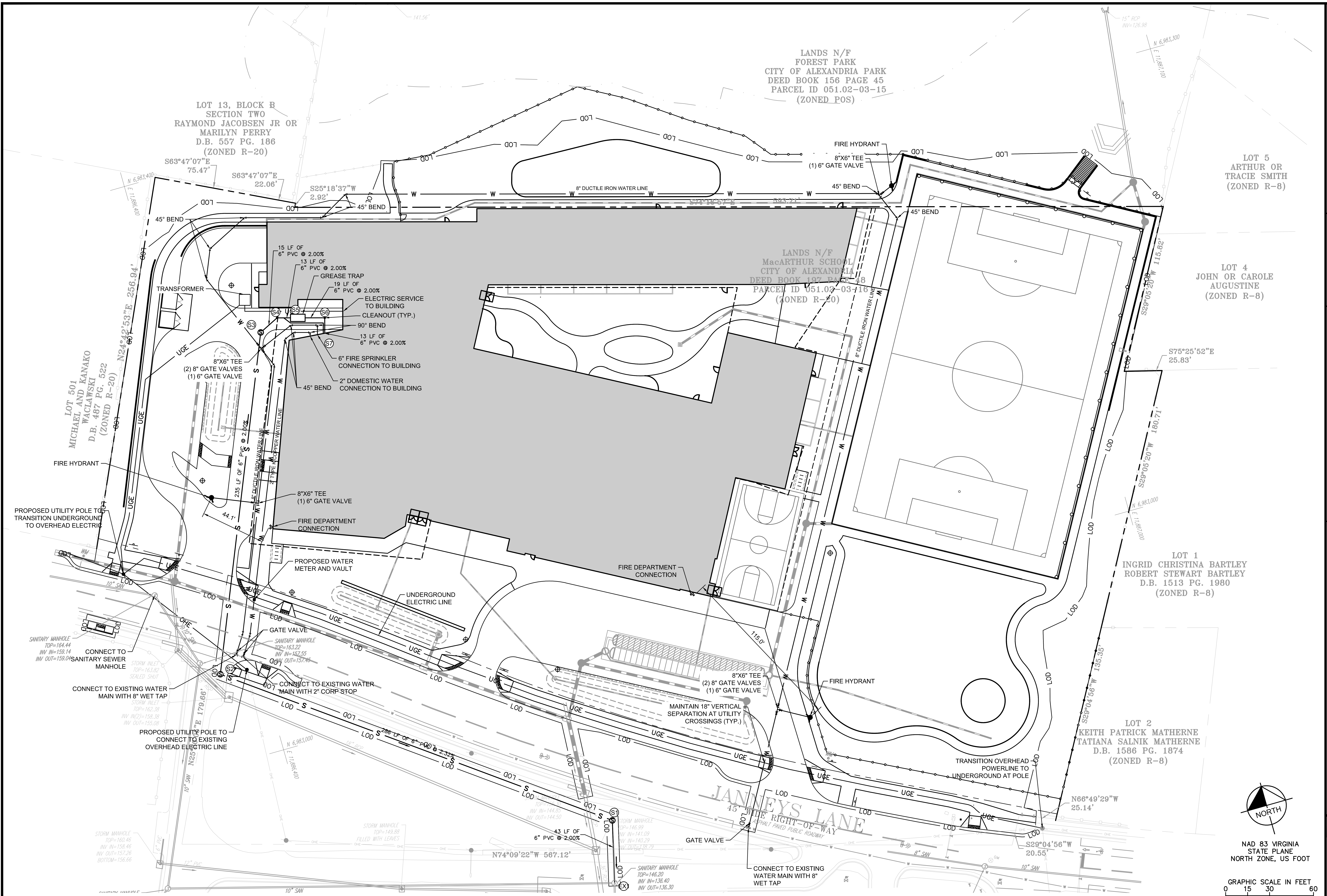
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. ______

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED ______

INSTRUMENT NO. DEED BOOK NO. PAGE NO.


LANDS N/F
FOREST PARK
CITY OF ALEXANDRIA PARK
DEED BOOK 156 PAGE 45
PARCEL ID 051.02-03-15
(ZONED POS)
LOT 13, BLOCK B
SECTION TWO
RAYMOND JACOBSEN JR OR
MARILYN PERRY
D.B. 557 PG. 186
(ZONED R-20)
S63°47'07"E
75.47'
S63°47'07"E
22.06'
S25°18'37"W
2.92'
45° BEND
8" DUCTILE IRON WATER LINE
FIRE HYDRANT
8"X6" TEE
(1) 6" GATE VALVE
LOT 5
ARTHUR OR
TRACIE SMITH
(ZONED R-8)
LANDS N/F
MacARTHUR SCHOOL
CITY OF ALEXANDRIA
DEED BOOK 197 PAGE 48
PARCEL ID 051.02-03-16
(ZONED R-20)
LOT 4
JOHN OR CAROLE
AUGUSTINE
(ZONED R-8)
S29°05'20"W 115.82'
S75°25'52"E
25.83'
S29°05'20"W 180.71'
15 LF OF
6" PVC @ 2.00%
13 LF OF
6" PVC @ 2.00%
GREASE TRAP
19 LF OF
6" PVC @ 2.00%
ELECTRIC SERVICE
TO BUILDING
CLEANOUT (TYP.)
90° BEND
13 LF OF
6" PVC @ 2.00%
6" FIRE SPRINKLER
CONNECTION TO BUILDING
2" DOMESTIC WATER
CONNECTION TO BUILDING
TRANSFORMER
8"X6" TEE
(2) 8" GATE VALVES
(1) 6" GATE VALVE
S1
S2
S3
S4
S5
S6
S7
EX1
LOT 501
MICHAEL AND KANAKO
WACLAWSKI
D.B. 487 PG. 522
(ZONED R-20)
N24°42'53"E 256.94'
FIRE HYDRANT
8"X6" TEE
(1) 6" GATE VALVE
235 LF OF 6" PVC @ 2.00%
8" DUCTILE IRON WATER LINE
2" TYPE K COPPER WATER LINE
FIRE DEPARTMENT
CONNECTION
44.1'
PROPOSED UTILITY POLE TO
TRANSITION UNDERGROUND
TO OVERHEAD ELECTRIC
PROPOSED WATER
METER AND VAULT
UNDERGROUND
ELECTRIC LINE
FIRE DEPARTMENT
CONNECTION
SANITARY MANHOLE
TOP=164.44
INV IN=159.14
INV OUT=159.04
CONNECT TO
SANITARY SEWER
MANHOLE
GATE VALVE
SANITARY MANHOLE
TOP=163.22
INV IN=157.55
INV OUT=157.45
CONNECT TO EXISTING WATER
MAIN WITH 8" WET TAP
CONNECT TO EXISTING WATER
MAIN WITH 2" CORP STOP
PROPOSED UTILITY POLE TO
CONNECT TO EXISTING
OVERHEAD ELECTRIC LINE
286 LF OF 6" PVC @ 2.32%
115.0'
8"X6" TEE
(2) 8" GATE VALVES
(1) 6" GATE VALVE
MAINTAIN 18" VERTICAL
SEPARATION AT UTILITY
CROSSINGS (TYP.)
FIRE HYDRANT
LOT 1
INGRID CHRISTINA BARTLEY
ROBERT STEWART BARTLEY
D.B. 1513 PG. 1980
(ZONED R-8)
LOT 2
KEITH PATRICK MATHERNE
TATIANA SALNIK MATHERNE
D.B. 1586 PG. 1874
(ZONED R-8)
S29°04'56"W 135.35'
TRANSITION OVERHEAD
POWERLINE TO
UNDERGROUND AT POLE
N66°49'29"W
25.14'
S29°04'56"W
20.55'
JANNEYS LANE
45' WIDE RIGHT-OF-WAY
ASPHALT PAVED PUBLIC ROADWAY
N74°09'22"W 567.12'
43 LF OF
6" PVC @ 2.00%
GATE VALVE
CONNECT TO EXISTING
WATER MAIN WITH 8"
WET TAP
SANITARY MANHOLE
TOP=146.20
INV IN=136.40
INV OUT=136.30
STORM MANHOLE
TOP=160.46
INV IN=158.46
INV OUT=157.26
BOTTOM=156.66
STORM MANHOLE
TOP=149.88
FILLED WITH LEAVES
10" SAN
12" PVC
8" SAN
LOD
UGE
OHE
W
S
NORTH
NAD 83 VIRGINIA
STATE PLANE
NORTH ZONE, US FOOT
GRAPHIC SCALE IN FEET
0
15
30
60
SCALE: 1"=30'

LEGEND

—— — — ——	EXISTING PROPERTY LINE / RIGHT OF WAY
—— — — ——	PROPOSED PROPERTY LINE / RIGHT OF WAY
————	BUILDING FOOTPRINT
—— S ——	PROPOSED SANITARY SEWER PIPE
—— W ——	PROPOSED WATERLINE
—— UGE ——	PROPOSED UNDERGROUND ELECTRIC LINE
—— OHE ——	PROPOSED OVERHEAD ELECTRIC LINE

UTILITY NOTES

1. EXISTING HYDRANTS TO REMAIN OPERATIONAL AS LONG AS FEASIBLE DURING DEMOLITION AND RECONSTRUCTION OPERATIONS
2. THE PROPOSED SECURITY GATES SHALL BE EQUIPPED WITH AN OVERRIDE SYSTEM THAT OPENS THE GATES IN THE EVENT OF A POWER FAILURE, ACTIVATION OF A YELP SIREN, OR WITH A KNOX BOX KEY. THESE FEATURES SHALL BE DESIGNED AND INSTALLED TO THE SATISFACTION OF THE ALEXANDRIA FIRE DEPARTMENT OPERATIONS AND FIRE PREVENTION AND LIFE SAFETY SECTIONS. ALL FIRE DEPARTMENT CONNECTIONS SHALL BE KNOX® STORZGUARD® WITH LOCKING CAP AND 30-DEGREE ELBOW KNOX® PART NUMBER.

STRUCTURE TABLE

STRUCTURE NAME:	DETAILS:	PIPES IN:	PIPES OUT
EX1	MANHOLE RIM: 146.20	FROM S1, 6" PVC INV IN: 139.81 @ 2.00%	TO , 10" PVC INV OUT: 136.30 @ 0.50%
S1	MANHOLE RIM: 151.88	FROM S2, 6" PVC INV IN: 140.76 @ 2.32%	TO EX1, 6" PVC INV OUT: 140.66 @ 2.00%
S2	MANHOLE RIM: 162.35	FROM S3, 6" PVC INV IN: 147.49 @ 2.00%	TO S1, 6" PVC INV OUT: 147.39 @ 2.32%
S3	MANHOLE RIM: 156.82	FROM S4, 6" PVC INV IN: 152.30 @ 2.00%	TO S2, 6" PVC INV OUT: 152.20 @ 2.00%
S4	6" CLEANOUT RIM: 156.83	FROM S5, 6" PVC INV IN: 152.60 @ 2.00%	TO S3, 6" PVC INV OUT: 152.60 @ 2.00%
S5	GREASE TRAP RIM: 153.41	FROM S6, 6" PVC INV IN: 152.86 @ 2.00%	TO S4, 6" PVC INV OUT: 152.86 @ 2.00%
S6	6" CLEANOUT RIM: 157.31	FROM S7, 6" PVC INV IN: 153.25 @ 2.00%	TO S5, 6" PVC INV OUT: 153.25 @ 2.00%
S7	BUILDING CONNECTION RIM: 154.04		TO S6, 6" PVC INV OUT: 153.50 @ 2.00%

\\kimley-horn.com\AT_NVA2\NVA_CIV\110681000 dmes modernization\CAD\plansheets\preliminary plan\UTILITY PLAN.dwg, Layout:UTILITY PLAN Aug 14, 2020 Brandon.Kramer
XREFS: xBorder - 110681000 xSurvey - 110681000 xSite - 110681000 xUtil - 110681000 oUtil - 110681000 xStrm - 110681000
THIS DOCUMENT, TOGETHER WITH THE CONCEPTS AND DESIGNS PRESENTED HEREIN, AS AN INSTRUMENT OF SERVICE, IS INTENDED ONLY FOR THE SPECIFIC PURPOSE AND CLIENT FOR WHICH IT WAS PREPARED. REUSE OF AND IMPROPER RELIANCE ON THIS DOCUMENT WITHOUT WRITTEN AUTHORIZATION AND ADAPTATION BY KIMLEY-HORN AND ASSOCIATES, INC. SHALL BE WITHOUT LIABILITY TO KIMLEY-HORN AND ASSOCIATES, INC.

DESIGN ENGINEER AND LANDSCAPE ARCHITECT
FIRM NAME: KIMLEY-HORN AND ASSOCIATES, INC.
ADDRESS: 11400 COMMERCE PARK DRIVE, SUITE 400
RESTON, VIRGINIA 20191
PHONE NO: 703-674-1300 FAX NO: 703-674-1350
PROJ. MANAGER: KYLE BOLLINGER, P.E.
EMAIL: KYLE.BOLLINGER@KIMLEY-HORN.COM

SCALE: 1"=30' (AT 24x36) DATE: 08/14/2020 DRAWN BY: LVA

Kimley»Horn

OWNER
CITY OF ALEXANDRIA
301 KING STREET
ALEXANDRIA, VA 22314

DEVELOPER
ALEXANDRIA CITY
PUBLIC SCHOOLS

CONTACT
ERIKA GULICK
(703) 619-8298

SEAL:

REVISION / APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DOUGLAS MACARTHUR ELEMENTARY SCHOOL MODERNIZATION

PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

SHEET NAME:
UTILITY PLAN

APPROVED
SPECIAL USE PERMIT NO. DSUP#2020-0010
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. ____________

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED ____________

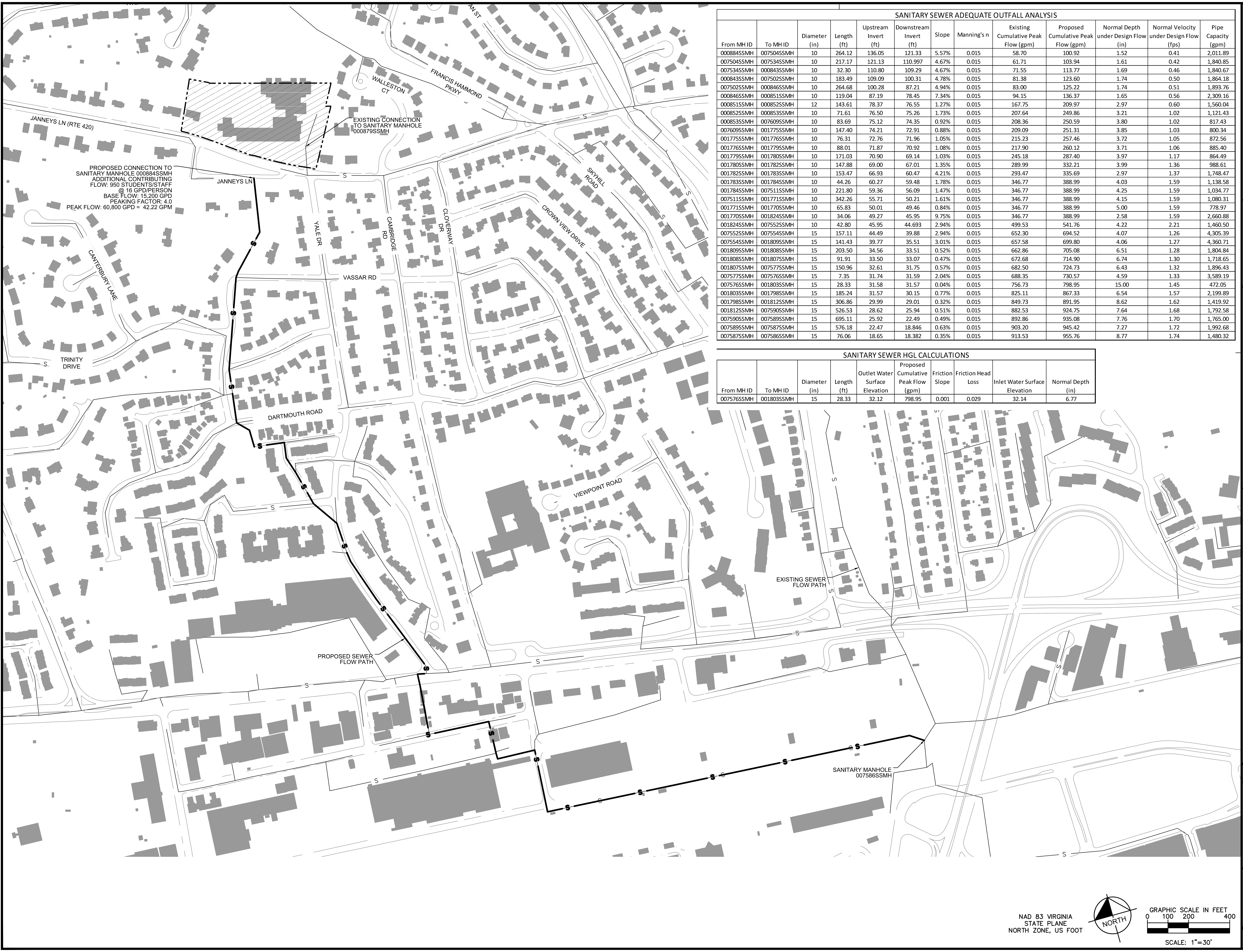
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

SANITARY SEWER ADEQUATE OUTFALL ANALYSIS

From MH ID	To MH ID	Diameter (in)	Length (ft)	Upstream Invert (ft)	Downstream Invert (ft)	Slope	Manning's n	Existing Cumulative Peak Flow (gpm)	Proposed Cumulative Peak Flow (gpm)	Normal Depth under Design Flow (in)	Normal Velocity under Design Flow (fps)	Pipe Capacity (gpm)
000884SSMH	007504SSMH	10	264.12	136.05	121.33	5.57%	0.015	58.70	100.92	1.52	0.41	2,011.89
007504SSMH	007534SSMH	10	217.17	121.13	110.997	4.67%	0.015	61.71	103.94	1.61	0.42	1,840.85
007534SSMH	000843SSMH	10	32.30	110.80	109.29	4.67%	0.015	71.55	113.77	1.69	0.46	1,840.67
000843SSMH	007502SSMH	10	183.49	109.09	100.31	4.78%	0.015	81.38	123.60	1.74	0.50	1,864.18
007502SSMH	000846SSMH	10	264.68	100.28	87.21	4.94%	0.015	83.00	125.22	1.74	0.51	1,893.76
000846SSMH	000851SSMH	10	119.04	87.19	78.45	7.34%	0.015	94.15	136.37	1.65	0.56	2,309.16
000851SSMH	000852SSMH	12	143.61	78.37	76.55	1.27%	0.015	167.75	209.97	2.97	0.60	1,560.04
000852SSMH	000853SSMH	10	71.61	76.50	75.26	1.73%	0.015	207.64	249.86	3.21	1.02	1,121.43
000853SSMH	007609SSMH	10	83.69	75.12	74.35	0.92%	0.015	208.36	250.59	3.80	1.02	817.43
007609SSMH	001775SSMH	10	147.40	74.21	72.91	0.88%	0.015	209.09	251.31	3.85	1.03	800.34
001775SSMH	001776SSMH	10	76.31	72.76	71.96	1.05%	0.015	215.23	257.46	3.72	1.05	872.56
001776SSMH	001779SSMH	10	88.01	71.87	70.92	1.08%	0.015	217.90	260.12	3.71	1.06	885.40
001779SSMH	001780SSMH	10	171.03	70.90	69.14	1.03%	0.015	245.18	287.40	3.97	1.17	864.49
001780SSMH	001782SSMH	10	147.88	69.00	67.01	1.35%	0.015	289.99	332.21	3.99	1.36	988.61
001782SSMH	001783SSMH	10	153.47	66.93	60.47	4.21%	0.015	293.47	335.69	2.97	1.37	1,748.47
001783SSMH	001784SSMH	10	44.26	60.27	59.48	1.78%	0.015	346.77	388.99	4.03	1.59	1,138.58
001784SSMH	007511SSMH	10	221.80	59.36	56.09	1.47%	0.015	346.77	388.99	4.25	1.59	1,034.77
007511SSMH	001771SSMH	10	342.26	55.71	50.21	1.61%	0.015	346.77	388.99	4.15	1.59	1,080.31
001771SSMH	001770SSMH	10	65.83	50.01	49.46	0.84%	0.015	346.77	388.99	5.00	1.59	778.97
001770SSMH	001824SSMH	10	34.06	49.27	45.95	9.75%	0.015	346.77	388.99	2.58	1.59	2,660.88
001824SSMH	007552SSMH	10	42.80	45.95	44.693	2.94%	0.015	499.53	541.76	4.22	2.21	1,460.50
007552SSMH	007554SSMH	15	157.11	44.49	39.88	2.94%	0.015	652.30	694.52	4.07	1.26	4,305.39
007554SSMH	001809SSMH	15	141.43	39.77	35.51	3.01%	0.015	657.58	699.80	4.06	1.27	4,360.71
001809SSMH	001808SSMH	15	203.50	34.56	33.51	0.52%	0.015	662.86	705.08	6.51	1.28	1,804.84
001808SSMH	001807SSMH	15	91.91	33.50	33.07	0.47%	0.015	672.68	714.90	6.74	1.30	1,718.65
001807SSMH	007577SSMH	15	150.96	32.61	31.75	0.57%	0.015	682.50	724.73	6.43	1.32	1,896.43
007577SSMH	007576SSMH	15	7.35	31.74	31.59	2.04%	0.015	688.35	730.57	4.59	1.33	3,589.19
007576SSMH	001803SSMH	15	28.33	31.58	31.57	0.04%	0.015	756.73	798.95	15.00	1.45	472.05
001803SSMH	001798SSMH	15	185.24	31.57	30.15	0.77%	0.015	825.11	867.33	6.54	1.57	2,199.89
001798SSMH	001812SSMH	15	306.86	29.99	29.01	0.32%	0.015	849.73	891.95	8.62	1.62	1,419.92
001812SSMH	007590SSMH	15	526.53	28.62	25.94	0.51%	0.015	882.53	924.75	7.64	1.68	1,792.58
007590SSMH	007589SSMH	15	695.11	25.92	22.49	0.49%	0.015	892.86	935.08	7.76	1.70	1,765.00
007589SSMH	007587SSMH	15	576.18	22.47	18.846	0.63%	0.015	903.20	945.42	7.27	1.72	1,992.68
007587SSMH	007586SSMH	15	76.06	18.65	18.382	0.35%	0.015	913.53	955.76	8.77	1.74	1,480.32

SANITARY SEWER HGL CALCULATIONS

From MH ID	To MH ID	Diameter (in)	Length (ft)	Outlet Water Surface Elevation	Proposed Cumulative Peak Flow (gpm)	Friction Slope	Friction Head Loss	Inlet Water Surface Elevation	Normal Depth (in)
007576SSMH	001803SSMH	15	28.33	32.12	798.95	0.001	0.029	32.14	6.77



EXISTING CONNECTION
TO SANITARY MANHOLE
000879SSMH

PROPOSED CONNECTION TO
SANITARY MANHOLE 000884SSMH
ADDITIONAL CONTRIBUTING
FLOW: 950 STUDENTS/STAFF
@ 16 GPD/PERSON
BASE FLOW: 15,200 GPD
PEAKING FACTOR: 4.0
PEAK FLOW: 60,800 GPD = 42.22 GPM

EXISTING SEWER
FLOW PATH

PROPOSED SEWER
FLOW PATH

SANITARY MANHOLE
007586SSMH

NAD 83 VIRGINIA
STATE PLANE
NORTH ZONE, US FOOT

SCALE: 1"=30'

DESIGN ENGINEER AND LANDSCAPE ARCHITECT

FIRM NAME: KIMLEY-HORN AND ASSOCIATES, INC.
ADDRESS: 11400 COMMERCE PARK DRIVE, SUITE 400
RESTON, VIRGINIA 20191
PHONE NO: 703-674-1300 FAX NO: 703-674-1350
PROJ. MANAGER: KYLE BOLLINGER, P.E.
EMAIL: KYLE.BOLLINGER@KIMLEY-HORN.COM

SCALE: 1"=30' (AT 24x36) | DATE: 08/14/2020 | DRAWN BY: LVA

Kimley»Horn

OWNER
CITY OF ALEXANDRIA
301 KING STREET
ALEXANDRIA, VA 22314
DEVELOPER
ALEXANDRIA CITY
PUBLIC SCHOOLS
CONTACT
ERIKA GULICK
(703) 619-8298

SEAL:

REVISION / APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DOUGLAS MACARTHUR ELEMENTARY SCHOOL MODERNIZATION

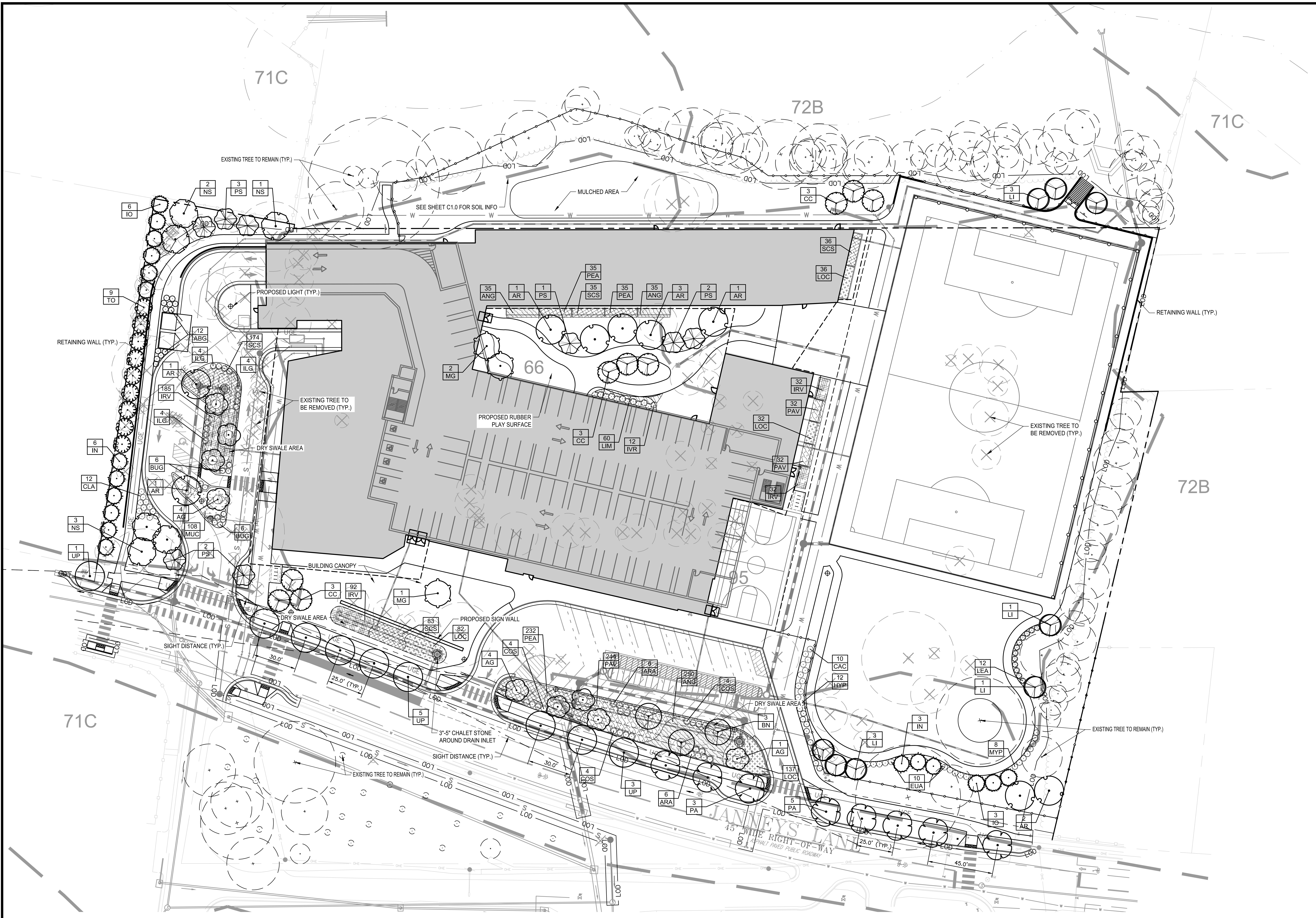
PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

SHEET NAME: SANITARY SEWER ADEQUATE OUTFALL ANALYSIS

APPROVED
SPECIAL USE PERMIT NO. DSUP#2020-0010
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.

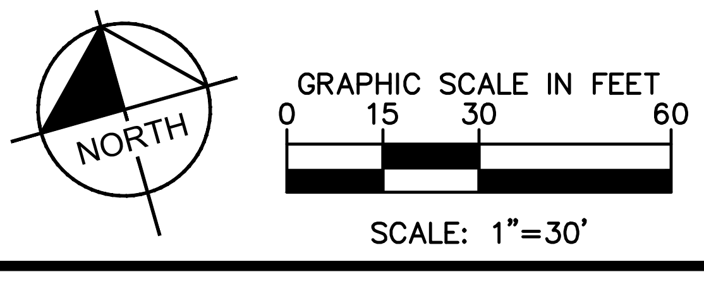
\\kimley-horn.com\AT_NVA2\NVA_CIV\110681000 dmes modernization\CAD\plansheets\preliminary plan\ADEQUATE OUTFALL ANALYSIS.dwg, Layout:ADEQUATE OUTFALL ANALYSIS Aug 14, 2020 Brandon.Kramer
XREFS: xBorder - 110681000 xGIS - 110681000
THIS DOCUMENT, TOGETHER WITH THE CONCEPTS AND DESIGNS PRESENTED HEREIN, AS AN INSTRUMENT OF SERVICE, IS INTENDED ONLY FOR THE SPECIFIC PURPOSE AND CLIENT FOR WHICH IT WAS PREPARED. REUSE OF AND IMPROPER RELIANCE ON THIS DOCUMENT WITHOUT WRITTEN AUTHORIZATION AND ADAPTATION BY KIMLEY-HORN AND ASSOCIATES, INC. SHALL BE WITHOUT LIABILITY TO KIMLEY-HORN AND ASSOCIATES, INC.


71C
72B
71C
72B
71C
EXISTING TREE TO REMAIN (TYP.)
MULCHED AREA
SEE SHEET C1.0 FOR SOIL INFO
LOD
W
6 IO
2 NS
3 PS
1 NS
3 CC
1 LI
36 SCS
36 LOC
9 TO
PROPOSED LIGHT (TYP.)
35 PEA
35 ANG
1 AR
1 PS
35 SCS
35 PEA
35 ANG
3 AR
2 PS
1 AR
RETAINING WALL (TYP.)
12 ABG
174 SCS
4 ILG
4 ILG
1 AR
185 IRV
4 ILG
EXISTING TREE TO BE REMOVED (TYP.)
2 MG
66
PROPOSED RUBBER PLAY SURFACE
3 CC
60 LIM
12 IVR
32 IRV
32 PAV
32 LOC
32 PAV
32 IRV
6 IN
DRY SWALE AREA
6 BUG
1 AR
12 CLA
4 AG
108 MUC
6 BUG
3 NS
2 PS
1 UP
EXISTING TREE TO BE REMOVED (TYP.)
RETAINING WALL (TYP.)
BUILDING CANOPY
3 CC
92 IRV
1 MG
95
DRY SWALE AREA
PROPOSED SIGN WALL
83 SCS
82 LOC
4 COS
4 AG
232 PEA
SIGHT DISTANCE (TYP.)
30.0'
25.0' (TYP.)
5 UP
3"-5" CHALET STONE AROUND DRAIN INLET
SIGHT DISTANCE (TYP.)
30.0'
241 PAV
6 ARA
250 ANG
4 COS
DRY SWALE AREA
3 BN
1 AG
137 LOC
4 COS
3 UP
6 ARA
3 PA
5 PA
10 CAC
12 HYP
1 LI
12 LEA
1 LI
3 IN
3 LI
10 EUA
8 MYP
EXISTING TREE TO REMAIN (TYP.)
EXISTING TREE TO REMAIN (TYP.)
3 IO
2 AR
25.0' (TYP.)
45.0'
JANNEYS LANE
45' WIDE RIGHT-OF-WAY
ASPHALT PAVED PUBLIC ROADWAY

GENERAL NOTES

1. THERE ARE NO ANTICIPATED CONTAMINATED SOILS BASED ON REVIEW OF CITY AND VADEQ INFORMATION.
2. THERE ARE AREAS OF MARINE CLAY IDENTIFIED TOWARDS THE REAR OF THE SITE PER CITY OF ALEXANDRIA MARINE CLAY AREAS MAP #43A.

NAD 83 VIRGINIA
STATE PLANE
NORTH ZONE, US FOOT


NORTH
GRAPHIC SCALE IN FEET
0
15
30
60

SCALE: 1"=30'

DESIGN ENGINEER AND LANDSCAPE ARCHITECT

FIRM NAME: KIMLEY-HORN AND ASSOCIATES, INC.
ADDRESS: 11400 COMMERCE PARK DRIVE, SUITE 400
RESTON, VIRGINIA 20191
PHONE NO: 703-674-1300 FAX NO: 703-674-1350
PROJ. MANAGER: KYLE BOLLINGER, P.E.
EMAIL: KYLE.BOLLINGER@KIMLEY-HORN.COM

SCALE: 1"=30' (AT 24x36) DATE: 08/14/2020 DRAWN BY: CMP

Kimley»Horn

SEAL:

W. Davis Walker
W. Davis Walker
Lic. No. 0406001891
08/14/2020

OWNER
CITY OF ALEXANDRIA
301 KING STREET
ALEXANDRIA, VA 22314
DEVELOPER
ALEXANDRIA CITY
PUBLIC SCHOOLS
CONTACT
ERIKA GULICK
(703) 619-8298

REVISION / APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DOUGLAS MACARTHUR ELEMENTARY SCHOOL MODERNIZATION

PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

SHEET NAME: LANDSCAPE PLAN

APPROVED
SPECIAL USE PERMIT NO. DSUP#2020-0010
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.

L1.0

\\kimley-horn.com\AT_NVA2\NVA_CIV\110681000 dmes modernization\CAD\plansheets\preliminary plan\LANDSCAPE PLAN.dwg, Layout:LS NOTES & CALCS Aug 14, 2020 Brandon.Kramer
XREFS: xBorder – 110681000 xsite – 110681000 xsurvey – 110681000 xlandscape – 110681000 xtree – 110681000 xutil – 110681000 xsoil – 110681000 xstrm – 110681000
THIS DOCUMENT, TOGETHER WITH THE CONCEPTS AND DESIGNS PRESENTED HEREIN, AS AN INSTRUMENT OF SERVICE, IS INTENDED ONLY FOR THE SPECIFIC PURPOSE AND CLIENT FOR WHICH IT WAS PREPARED. REUSE OF AND IMPROPER RELIANCE ON THIS DOCUMENT WITHOUT WRITTEN AUTHORIZATION AND ADAPTATION BY KIMLEY-HORN AND ASSOCIATES, INC. SHALL BE WITHOUT LIABILITY TO KIMLEY-HORN AND ASSOCIATES, INC.

CROWN COVER TABULATIONS	
TOTAL PROJECT AREA	281,065 SF
25% CROWN COVER REQUIRED	70,266 SF
EXISTING CROWN COVER	82,354 SF
REMOVED CROWN COVER	54,749 SF
PRESERVED CROWN COVER	27,605 SF
Crown Cover from Preserved Trees	*27,605 SF*
Crown Cover from Preserved Shrubs	*0 SF*
PROPOSED CROWN COVER	41,250 SF
Crown Cover from Proposed Trees	*41,250 SF*
Crown Cover from Proposed Shrubs	*1,804 SF*
TOTAL CROWN COVER PROPOSED	25.1% 70,659 SF
TOTAL CROWN COVER SURPLUS (SF)	393 SF

STREET TREES	
TOTAL STREET FRONTAGE (LF)*	500
STREET TREES REQUIRED *(1 Tree per 30 LF)*	17 Trees
STREET TREES PROVIDED	17 Trees

* Note: Linear footage excludes entry drive aisles and bus stop

NATIVE PLANT TABULATIONS

			JANUARY 2, 2020 – JANUARY 1, 2024		
PLANT TYPE	**QUANTITY**	**NATIVE TYPE**	REQUIRED	PROVIDED	
			%	QTY.	%
Standard Trees	99	Regional/Local	25%	63	54.5%
		Total Natives	60%	117	118.2%
Evergreen Shrubs	32	Regional/Local	15%	20	62.5%
		Total Natives	60%	40	125.0%
Deciduous Shrubs	104	Regional/Local	15%	82	157.7%
		Total Natives	60%	164	157.7%
Groundcovers	0	Regional/Local	10%	0	-
		Total Natives	20%	0	-
Perennials, Ferns, Ornamental Grasses	1631	Regional/Local	15%	1381	84.7%
		Total Natives	40%	2762	169.3%

TOTALS		
TOTAL PLANTS SPECIFIED	TOTAL SUM OF REGIONAL/LOCAL	TOTAL SUM OF NATIVE PLANTS
1866	1546	3083
	82.9%	165.2%

NOTES:
1) Percentages apply to the total quantity of each plant type specifed on Completeness / Preliminary Plans submitted during the listed time frames.
2) Total Natives is the sum of Eastern U.S. Native, Regionally Native, and Locally Native vegetation specifed on the plans for each plant type.
3) Non-native vegetation for the purposes of providing edible fruits, seeds, or nuts may be planted and shall not be calculated in the above-stated requirements for native species regardless of plant type.

BIODIVERSITY TABULATIONS

TREES (URBAN AND STANDARD)
TOTAL NUMBER OF TREES PROPOSED: 99 Trees

GENUS	QTY.	PERCENT OF TOTAL PROPOSED	MAXIMUM PERCENT ALLOWED	SPECIES	QTY.	PERCENT OF TOTAL PROPOSED	MAXIMUM PERCENT ALLOWED
Acer	9	9.1%	33%	rubrum	9	9.1%	10%
Amelanchier	9	9.1%	33%	grandiflora	9	9.1%	10%
Betula	3	3.0%	33%	nigra	3	3.0%	10%
Cercis	9	9.1%	33%	canadensis	9	9.1%	10%
Ilex	18	18.2%	33%	x 'Nellie R. Stevens'	9	9.1%	10%
				opaca	9	9.1%	10%
Lagerstroemia	8	8.1%	33%	indica	8	8.1%	10%
Metasequoia	3	3.0%	33%	glyptostroboides	3	3.0%	10%
Nyssa	6	6.1%	33%	sylvatica	6	6.1%	10%
Platanus	8	8.1%	33%	x acerifolia	8	8.1%	10%
Prunus	8	8.1%	33%	sargentii	8	8.1%	10%
Thuja	9	9.1%	33%	occidentalis	9	9.1%	10%
Ulmus	9	9.1%	33%	americana	9	9.1%	10%

SHRUBS
TOTAL NUMBER OF SHRUBS PROPOSED: 136 Shrubs

GENUS	QTY.	PERCENT OF TOTAL PROPOSED	MAXIMUM PERCENT ALLOWED	SPECIES	QTY.	PERCENT OF TOTAL PROPOSED	MAXIMUM PERCENT ALLOWED
Abelia	12	9%	33%	grandiflora	12	8.8%	10%
Ilex	24	18%	33%	glabra	12	8.8%	10%
				verticillata	12	8.8%	10%
Myrica	8	6%	33%	pensylvanica	8	5.9%	10%
Aronia	12	9%	33%	arbutifolia	12	8.8%	10%
Buxus	12	9%	33%	x 'Green Gem'	12	8.8%	10%
Caryopteris	10	7%	33%	x clandonensis	10	7.4%	10%
Clethra	12	9%	33%	alnifolia	12	8.8%	10%
Cornus	12	9%	33%	serica	12	8.8%	10%
Euonymus	10	7%	33%	atropurpureus	10	7.4%	10%
Hydrangea	12	9%	33%	paniculata	12	8.8%	10%
Leucothoe	12	9%	33%	axillaris	12	8.8%	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.

9)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.

A STANDARD LANDSCAPE PLAN NOTES

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
STANDARD LANDSCAPE PLAN NOTES
1 OF 1
Date drawn: 01/01/19
LD 016

PLANT SCHEDULE

PLANT TYPE	PLAN INFORMATION		BOTANIC/COMMON NAME				SIZE	NOTES	CROWN COVER ALLOWANCE (CCA)		NATIVE PLANTS PROVIDED		
STANDARD TREES	PLAN KEY	QUANTITY	GENUS	SPECIES		COMMON NAME	CALIPER/HEIGHT	NOTES	CCA PER TREE (SF)	TOTAL CROWN COVER (SF)	LOCAL/ REGIONAL (#)	EASTERN U.S. (#)	TOTAL
	AR	9	*Acer*	*rubrum*	*'Armstrong'*	Armstrong Red Maple	2"-3" cal./12-14 ft. ht.	B&B; symmetrical, single leader	1,250	11,250	9	9	18
	AG	9	*Amelanchier*	*grandiflora*	*'Autumn Brilliance'*	Autumn Brilliance Serviceberry	1.5"-1.75" cal./6-10 ft. ht.	B&B, multistem, branching	500	4,500	9	9	18
	BN	3	*Betula*	*nigra*	*'Heritage'*	Heritage River Birch	2"-3" cal./12-14 ft. ht.	B&B, multistem, branching	750	2,250	3	3	6
	CC	9	*Cercis*	*canadensis*		Eastern Redbud	1.5"-1.75" cal./6-10 ft. ht.	B&B; symmetrical, single leader	500	4,500	9	9	18
	IN	9	*Ilex*	*x 'Nellie R. Stevens'*		Nellie R. Stevens Holly	1.5"-1.75" cal./6-10 ft. ht.	B&B; symmetrical, single leader	250	2,250	-	-	-
	IO	9	*Ilex*	*opaca*	*'Jersey Knight'*	Jersey Knight Holly	1.5"-1.75" cal./6-10 ft. ht.	B&B; symmetrical, single leader	250	2,250	9	9	18
	LI	8	*Lagerstroemia*	*indica*	*'Dynamite'*	Dynamite Crape Myrtle	1.5"-1.75" cal./6-10 ft. ht.	B&B, multistem, branching	250	2,000	-	-	-
	MG	3	*Metasequoia*	*glyptostroboides*		Dawn Redwood	2"-3" cal./12-14 ft. ht.	B&B; symmetrical, single leader	500	1,500	-	-	-
	NS	6	*Nyssa*	*sylvatica*		Black Gum	2"-3" cal./12-14 ft. ht.	B&B; symmetrical, single leader	750	4,500	6	6	12
	*PA	8	*Platanus*	*x acerifolia*	*'Bloodgood'*	London Plane Tree	4" cal./15-20 ft. ht.	B&B; symmetrical, single leader	-	-	-	-	-
	PS	8	*Prunus*	*sargentii*		Sargent Cherry	1.5"-1.75" cal./6-10 ft. ht.	B&B; symmetrical, single leader	500	4,000	-	-	-
	TO	9	*Thuja*	*occidentalis*	*'Green Giant'*	Green Giant Arborvitae	1.5"-1.75" cal./6-10 ft. ht.	B&B; symmetrical, single leader	250	2,250	-	9	9
	*UP	9	*Ulmus*	*americana*	*'Princeton'*	American Elm	4" cal./15-20 ft. ht.	B&B; symmetrical, single leader	-	-	9	9	18
	TOTALS	**99**							**STANDARD TREE CCA:**	**41,250**	**54**	**63**	117
											54.5%	**63.6%**	**118.2%**
EVERGREEN SHRUBS	PLAN KEY	QUANTITY	GENUS	SPECIES	VAR./CULTIVAR/HYBRID	COMMON NAME	HEIGHT	NOTES	CCA PER SHRUB (SF)	TOTAL CROWN COVER (SF)	LOCAL/ REGIONAL (#)	EASTERN U.S. (#)	TOTAL
	ABG	12	*Abelia*	*grandiflora*		Glossy Abelia	18" Min	Container; symmetrical	10	120	-	-	-
	ILG	12	*Ilex*	*glabra*	*'Shamrock'*	Inkberry	18" Min	Container; symmetrical	25	300	12	12	24
	MYP	8	*Myrica*	*pensylvanica*		Northern Bayberry	18" Min	Container; symmetrical	25	200	8	8	16
	TOTALS	**32**							**EVERGREEN SHRUB CCA:**	**620**	20	20	40
											62.5%	**62.5%**	**125.0%**
DECIDUOUS SHRUBS	PLAN KEY	QUANTITY	GENUS	SPECIES	VAR./CULTIVAR/HYBRID	COMMON NAME	HEIGHT	NOTES	CCA PER SHRUB (SF)	TOTAL CROWN COVER (SF)	LOCAL/ REGIONAL (#)	EASTERN U.S. (#)	TOTAL
	ARA	12	*Aronia*	*arbutifolia*		Red Chokeberry	18" Min	Container; symmetrical	10	120	12	12	24
	BUG	12	*Buxus*	*x 'Green Gem'*		Green Gem Boxwood	18" Min	Container; symmetrical	2	24	12	12	24
	CAC	10	*Caryopteris*	*x clandonensis*	*'Dark Knight'*	Dark Knight Bluebeard	18" Min	Container; symmetrical	2	20	-	-	-
	CLA	12	*Clethra*	*alnifolia*	*'Hummingbird'*	Summersweet	18" Min	Container; symmetrical	10	120	12	12	24
	COS	12	*Cornus*	*serica*	*'Cardinal'*	Redtwig Dogwood	18" Min	Container; symmetrical	25	300	12	12	24
	EUA	10	*Euonymus*	*atropurpureus*		American Burning Bush	18" Min	Container; symmetrical	50	500	10	10	20
	HYP	12	*Hydrangea*	*paniculata*	*'Limelight'*	Limelight Hydrangea	18" Min	Container; symmetrical	25	300	-	-	-
	IVR	12	*Ilex*	*verticillata*	*Red Sprite'*	Red Sprite Winterberry	18" Min	Container; symmetrical	25	300	12	12	24
	LEA	12	*Leucothoe*	*axillaris*		Coastal Leucothoe	18" Min	Container; symmetrical	10	120	12	12	24
	TOTALS	**104**							**DECIDUOUS SHRUB CCA:**	**1,804**	82	82	164
											78.8%	**78.8%**	**157.7%**
									TOTAL PROPOSED CCA (SF):	**43,674**			
GROUNDCOVERS	PLAN KEY	QUANTITY	GENUS	SPECIES	VAR./CULTIVAR/HYBRID	COMMON NAME	SIZE/CONT.	NOTES	N/A		LOCAL/ REGIONAL (#)	EASTERN U.S. (#)	TOTAL
											-	-	-
	TOTALS	**0**									**-**	**-**	**-**
PERENNIALS, FERNS, ORNAMENTAL GRASSES	PLAN KEY	QUANTITY	GENUS	SPECIES	VAR./CULTIVAR/HYBRID	COMMON NAME	SIZE/CONT.	NOTES	N/A		LOCAL/ REGIONAL (#)	EASTERN U.S. (#)	TOTAL
	ANG	250	*Andropogon*	*gerardii*		Big Bluestem	Flat / 24" o.c.				-	-	-
	IRV	294	*Iris*	*versicolor*		Blue Flag	Flat / 24" o.c.				294	294	588
	LOC	221	*Lobelia*	*cardinalis*		Cardinal Flower	Flat / 24" o.c.				221	221	442
	MUC	111	*Muhlenbergia*	*capillaris*		Pink Muhly Grass	Flat / 24" o.c.				111	111	222
	PAV	244	*Panicum*	*virgatum*	*\`Shenandoah\`*	Shenandoah Switchgrass	Flat / 24" o.c.				244	244	488
	PEA	225	*Pennisetum*	*alopecuroides*	*'Hameln'*	Hameln Fountain Grass	Flat / 24" o.c.				225	225	450
	SCS	286	*Schizachyrium*	*scoparium*		Little Bluestem Grass	Flat / 24" o.c.				286	286	572
	TOTALS	**1631**									1381	1381	2762
											84.7%	**84.7%**	**169.3%**

*NOTE: Per 2019 Landscape Guidelines, Street Trees in public Right-of-Way do not apply toward Crown Coverage Allowances

DESIGN ENGINEER AND LANDSCAPE ARCHITECT

FIRM NAME: KIMLEY-HORN AND ASSOCIATES, INC.
ADDRESS: 11400 COMMERCE PARK DRIVE, SUITE 400
RESTON, VIRGINIA 20191
PHONE NO: 703-674-1300 FAX NO: 703-674-1350
PROJ. MANAGER: KYLE BOLLINGER, P.E.
EMAIL: KYLE.BOLLINGER@KIMLEY-HORN.COM

SCALE: 1"=30' (AT 24x36) DATE: 08/14/2020 DRAWN BY: CMP

Kimley»Horn

SEAL:
W. Davis Walker
Lic. No. 0406001891
08/14/2020

OWNER
CITY OF ALEXANDRIA
301 KING STREET
ALEXANDRIA, VA 22314

DEVELOPER
ALEXANDRIA CITY
PUBLIC SCHOOLS

CONTACT
ERIKA GULICK
(703) 619-8298

REVISION / APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DOUGLAS MACARTHUR ELEMENTARY SCHOOL MODERNIZATION

PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

SHEET NAME:
LANDSCAPE NOTES & CALCULATIONS

APPROVED
SPECIAL USE PERMIT NO. DSUP#2020-0010
DEPARTMENT OF PLANNING & ZONING

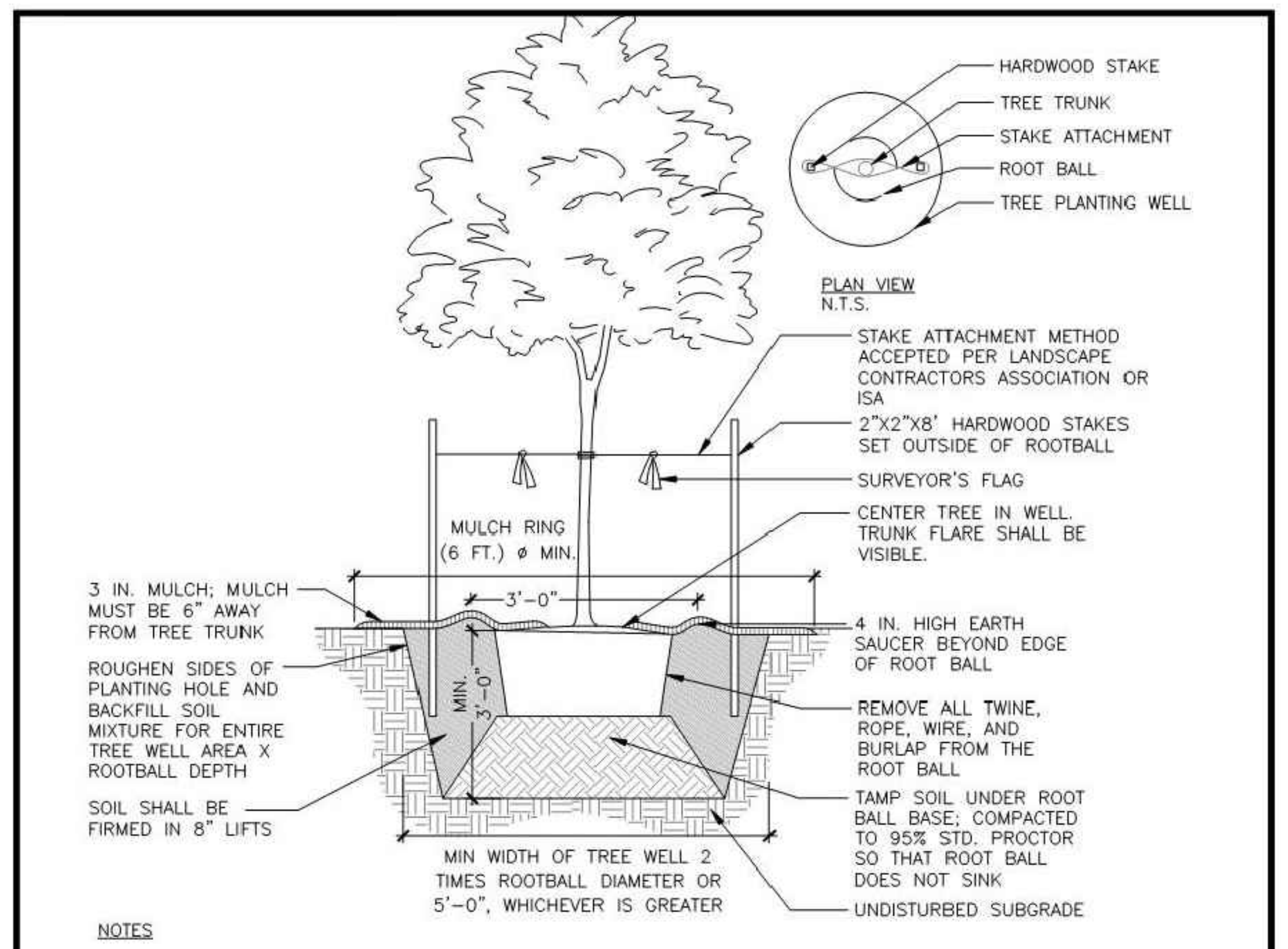
DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. ________

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED ________
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

L1.1



HARDWOOD STAKE
TREE TRUNK
STAKE ATTACHMENT
ROOT BALL
TREE PLANTING WELL
PLAN VIEW
N.T.S.
STAKE ATTACHMENT METHOD ACCEPTED PER LANDSCAPE CONTRACTORS ASSOCIATION OR ISA
2"X2"X8' HARDWOOD STAKES SET OUTSIDE OF ROOTBALL
SURVEYOR'S FLAG
CENTER TREE IN WELL. TRUNK FLARE SHALL BE VISIBLE.
MULCH RING (6 FT.) ø MIN.
3'-0"
3 IN. MULCH; MULCH MUST BE 6" AWAY FROM TREE TRUNK
4 IN. HIGH EARTH SAUCER BEYOND EDGE OF ROOT BALL
ROUGHEN SIDES OF PLANTING HOLE AND BACKFILL SOIL MIXTURE FOR ENTIRE TREE WELL AREA X ROOTBALL DEPTH
MIN. 3'-0"
REMOVE ALL TWINE, ROPE, WIRE, AND BURLAP FROM THE ROOT BALL
SOIL SHALL BE FIRMED IN 8" LIFTS
TAMP SOIL UNDER ROOT BALL BASE; COMPACTED TO 95% STD. PROCTOR SO THAT ROOT BALL DOES NOT SINK
MIN WIDTH OF TREE WELL 2 TIMES ROOTBALL DIAMETER OR 5'-0", WHICHEVER IS GREATER
UNDISTURBED SUBGRADE

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

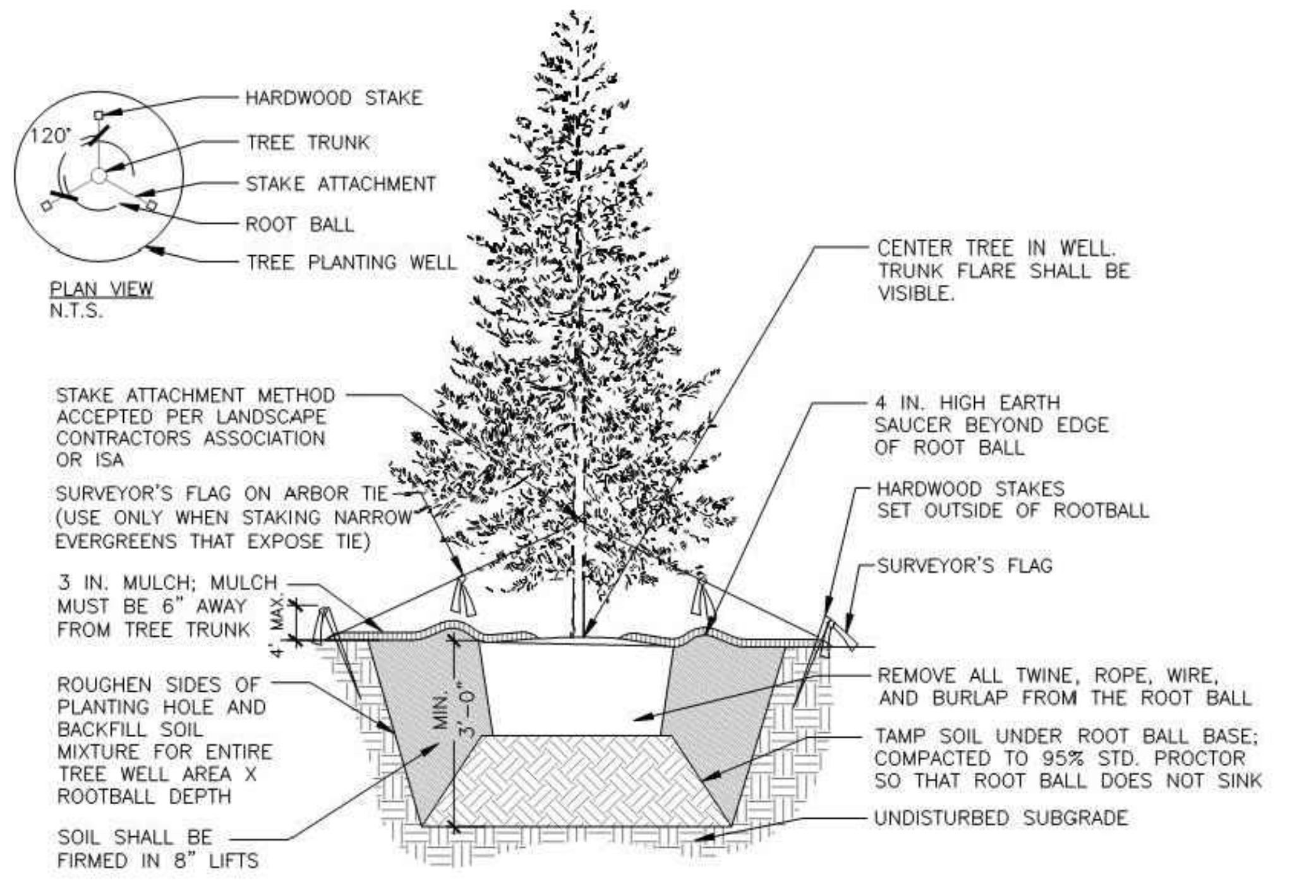
NOT TO SCALE

OF UPDATES: 00 LAST UPDATED:

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

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
1 OF 1
DECIDUOUS TREE PLANTING
Date drawn: 01/01/19
LD 001



120°
HARDWOOD STAKE
TREE TRUNK
STAKE ATTACHMENT
ROOT BALL
TREE PLANTING WELL
PLAN VIEW
N.T.S.
CENTER TREE IN WELL. TRUNK FLARE SHALL BE VISIBLE.
STAKE ATTACHMENT METHOD ACCEPTED PER LANDSCAPE CONTRACTORS ASSOCIATION OR ISA
4 IN. HIGH EARTH SAUCER BEYOND EDGE OF ROOT BALL
SURVEYOR'S FLAG ON ARBOR TIE (USE ONLY WHEN STAKING NARROW EVERGREENS THAT EXPOSE TIE)
HARDWOOD STAKES SET OUTSIDE OF ROOTBALL
SURVEYOR'S FLAG
3 IN. MULCH; MULCH MUST BE 6" AWAY FROM TREE TRUNK
4" MAX.
ROUGHEN SIDES OF PLANTING HOLE AND BACKFILL SOIL MIXTURE FOR ENTIRE TREE WELL AREA X ROOTBALL DEPTH
MIN. 3'-0"
REMOVE ALL TWINE, ROPE, WIRE, AND BURLAP FROM THE ROOT BALL
TAMP SOIL UNDER ROOT BALL BASE; COMPACTED TO 95% STD. PROCTOR SO THAT ROOT BALL DOES NOT SINK
UNDISTURBED SUBGRADE
SOIL SHALL BE FIRMED IN 8" LIFTS

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) EVERGREEN TREE PLANTING

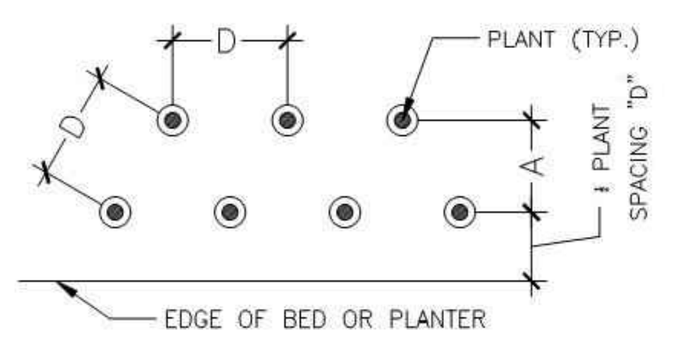
NOT TO SCALE

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.

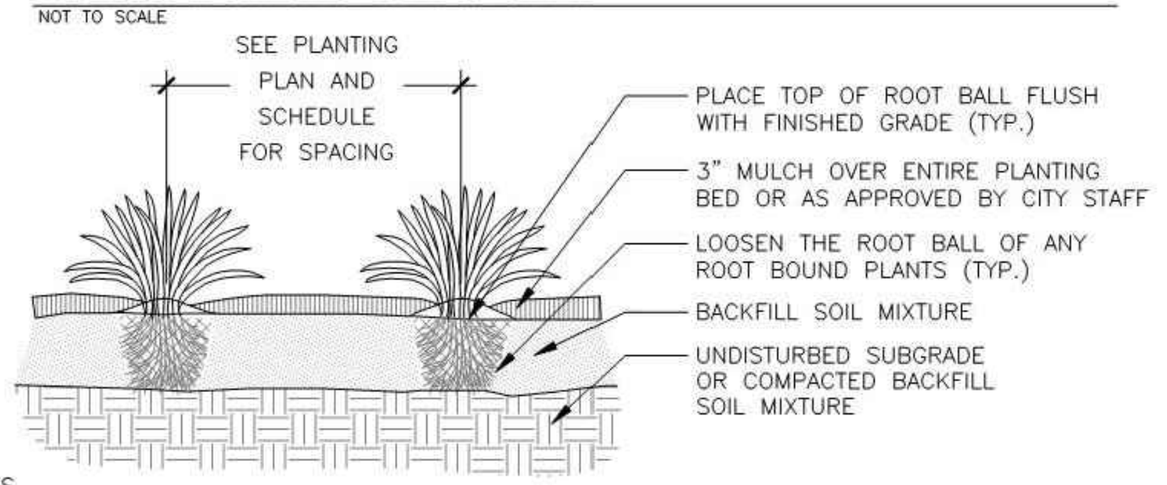
Source: CITY OF ALEXANDRIA
Approved by: COA
1 OF 1
EVERGREEN TREE PLANTING
Date drawn: 01/01/19
LD 002



D
D
PLANT (TYP.)
A
PLANT SPACING "D"
EDGE OF BED OR PLANTER

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



SEE PLANTING PLAN AND SCHEDULE FOR SPACING
PLACE TOP OF ROOT BALL FLUSH WITH FINISHED GRADE (TYP.)
3" MULCH OVER ENTIRE PLANTING BED OR AS APPROVED BY CITY STAFF
LOOSEN THE ROOT BALL OF ANY ROOT BOUND PLANTS (TYP.)
BACKFILL SOIL MIXTURE
UNDISTURBED SUBGRADE OR COMPACTED BACKFILL SOIL MIXTURE

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

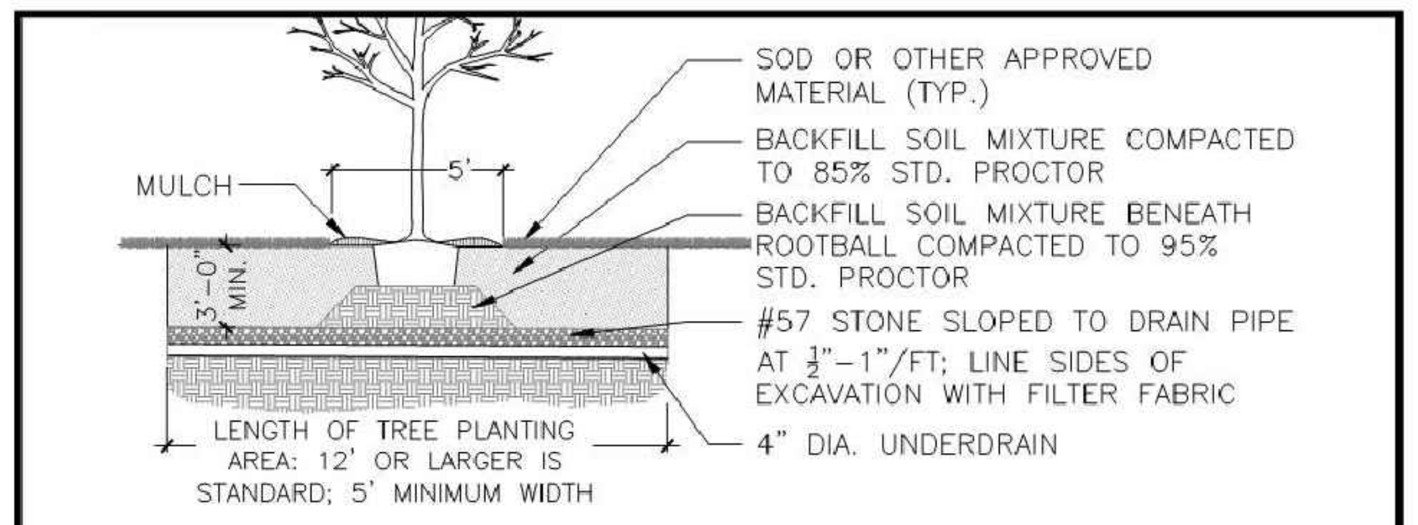
NOT TO SCALE

OF UPDATES: 00 LAST UPDATED:

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

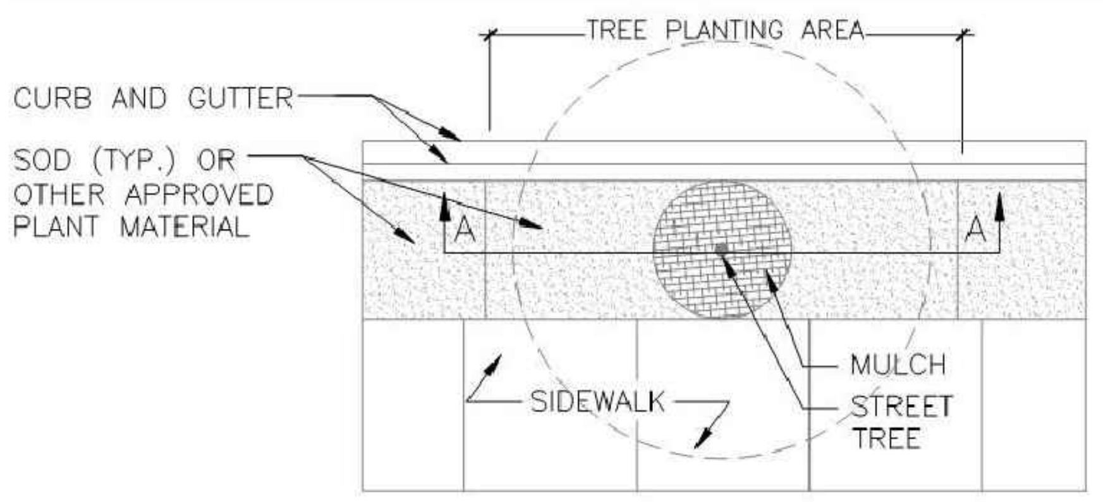
NOTE:
THE INFORMATION SHOWN HEREIN THIS DOCUMENT IS FOR GENERAL GUIDANCE ONLY AND IS NOT INTENTED FOR CONSTRUCTION PURPOSES. ITS USE SHALL NOT RELIEVE THE DESIGN PROFESSIONAL OR CONTRACTOR OF ANY LEGAL RESPONSIBILITY.

Source: CITY OF ALEXANDRIA
Approved by: COA
1 OF 1
GROUNDCOVER & PERENNIAL PLANTING
Date drawn: 01/01/19
LD 011



MULCH
5'
3'-0" MIN.
SOD OR OTHER APPROVED MATERIAL (TYP.)
BACKFILL SOIL MIXTURE COMPACTED TO 85% STD. PROCTOR
BACKFILL SOIL MIXTURE BENEATH ROOTBALL COMPACTED TO 95% STD. PROCTOR
#57 STONE SLOPED TO DRAIN PIPE AT ½"-1"/FT; LINE SIDES OF EXCAVATION WITH FILTER FABRIC
4" DIA. UNDERDRAIN
LENGTH OF TREE PLANTING AREA: 12' OR LARGER IS STANDARD; 5' MINIMUM WIDTH

A. CROSS SECTION



TREE PLANTING AREA
CURB AND GUTTER
SOD (TYP.) OR OTHER APPROVED PLANT MATERIAL
A
A
SIDEWALK
MULCH
STREET TREE

PLAN

NOTES

1. REFER TO LANDSCAPE GUIDELINES FOR TREE STRIP PLANTING AREA INFORMATION.
2. REFER TO LANDSCAPE GUIDELINES FOR GENERAL TREE PLANTING NOTES.
3. SEE STAKING DETAIL FOR MORE INFORMATION.
4. SITE CONDITIONS MAY REQUIRE INSTALLATION OF GRANITE BLOCK IN LIEU OF SOD AND BRICK EDGE. SEE TREE WELL WITH GRANITE BLOCK DETAIL.
5. REFER TO STREET TREE WELL DETAIL FOR CROSS-SECTION.

(A) TREE PLANTING STRIP

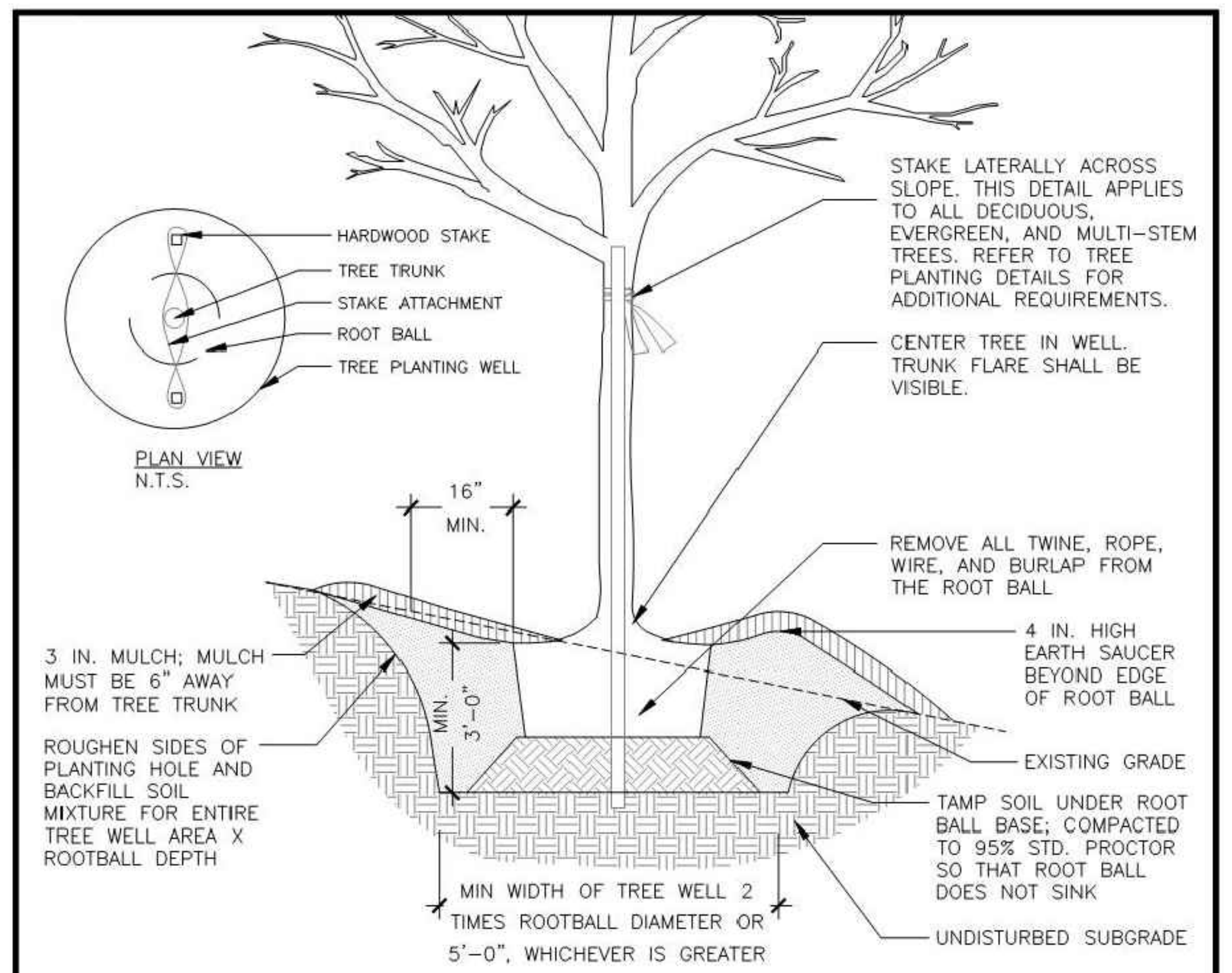
NOT TO SCALE

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.
1 OF 1
TREE PLANTING STRIP
Date drawn: 01/01/19
LD 006



HARDWOOD STAKE
TREE TRUNK
STAKE ATTACHMENT
ROOT BALL
TREE PLANTING WELL
PLAN VIEW
N.T.S.
STAKE LATERALLY ACROSS SLOPE. THIS DETAIL APPLIES TO ALL DECIDUOUS, EVERGREEN, AND MULTI-STEM TREES. REFER TO TREE PLANTING DETAILS FOR ADDITIONAL REQUIREMENTS.
CENTER TREE IN WELL. TRUNK FLARE SHALL BE VISIBLE.
16" MIN.
REMOVE ALL TWINE, ROPE, WIRE, AND BURLAP FROM THE ROOT BALL
3 IN. MULCH; MULCH MUST BE 6" AWAY FROM TREE TRUNK
4 IN. HIGH EARTH SAUCER BEYOND EDGE OF ROOT BALL
MIN. 3'-0"
ROUGHEN SIDES OF PLANTING HOLE AND BACKFILL SOIL MIXTURE FOR ENTIRE TREE WELL AREA X ROOTBALL DEPTH
EXISTING GRADE
TAMP SOIL UNDER ROOT BALL BASE; COMPACTED TO 95% STD. PROCTOR SO THAT ROOT BALL DOES NOT SINK
MIN WIDTH OF TREE WELL 2 TIMES ROOTBALL DIAMETER OR 5'-0", WHICHEVER IS GREATER
UNDISTURBED SUBGRADE

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

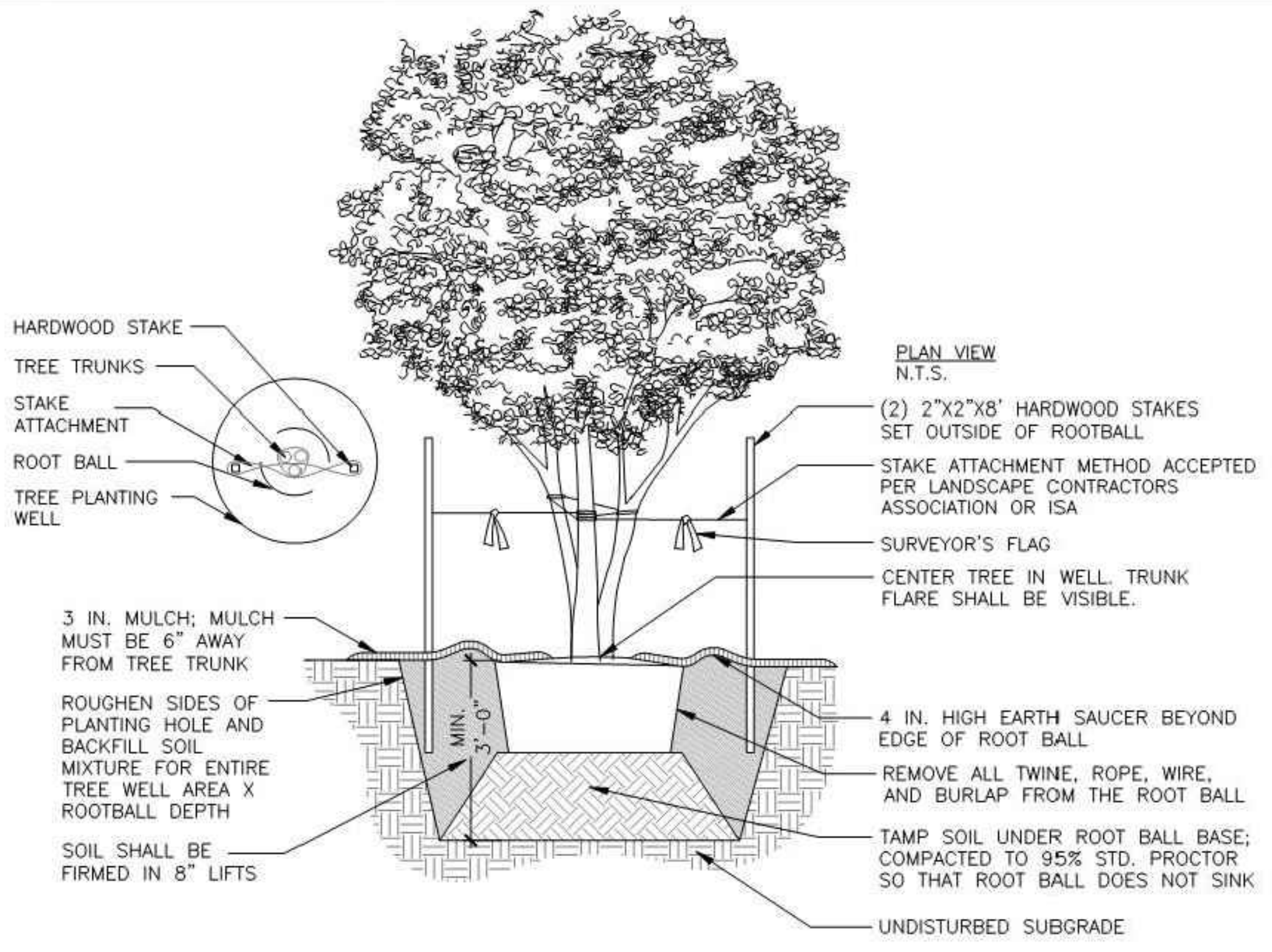
NOT TO SCALE

OF UPDATES: 00 LAST UPDATED:

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

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
1 OF 1
TREE PLANTING ON SLOPE
Date drawn: 01/01/19
LD 004



HARDWOOD STAKE
TREE TRUNKS
STAKE ATTACHMENT
ROOT BALL
TREE PLANTING WELL
PLAN VIEW
N.T.S.
(2) 2"X2"X8' HARDWOOD STAKES SET OUTSIDE OF ROOTBALL
STAKE ATTACHMENT METHOD ACCEPTED PER LANDSCAPE CONTRACTORS ASSOCIATION OR ISA
SURVEYOR'S FLAG
CENTER TREE IN WELL. TRUNK FLARE SHALL BE VISIBLE.
3 IN. MULCH; MULCH MUST BE 6" AWAY FROM TREE TRUNK
ROUGHEN SIDES OF PLANTING HOLE AND BACKFILL SOIL MIXTURE FOR ENTIRE TREE WELL AREA X ROOTBALL DEPTH
MIN. 3'-0"
4 IN. HIGH EARTH SAUCER BEYOND EDGE OF ROOT BALL
REMOVE ALL TWINE, ROPE, WIRE, AND BURLAP FROM THE ROOT BALL
SOIL SHALL BE FIRMED IN 8" LIFTS
TAMP SOIL UNDER ROOT BALL BASE; COMPACTED TO 95% STD. PROCTOR SO THAT ROOT BALL DOES NOT SINK
UNDISTURBED SUBGRADE

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) MULTI-STEM TREE PLANTING

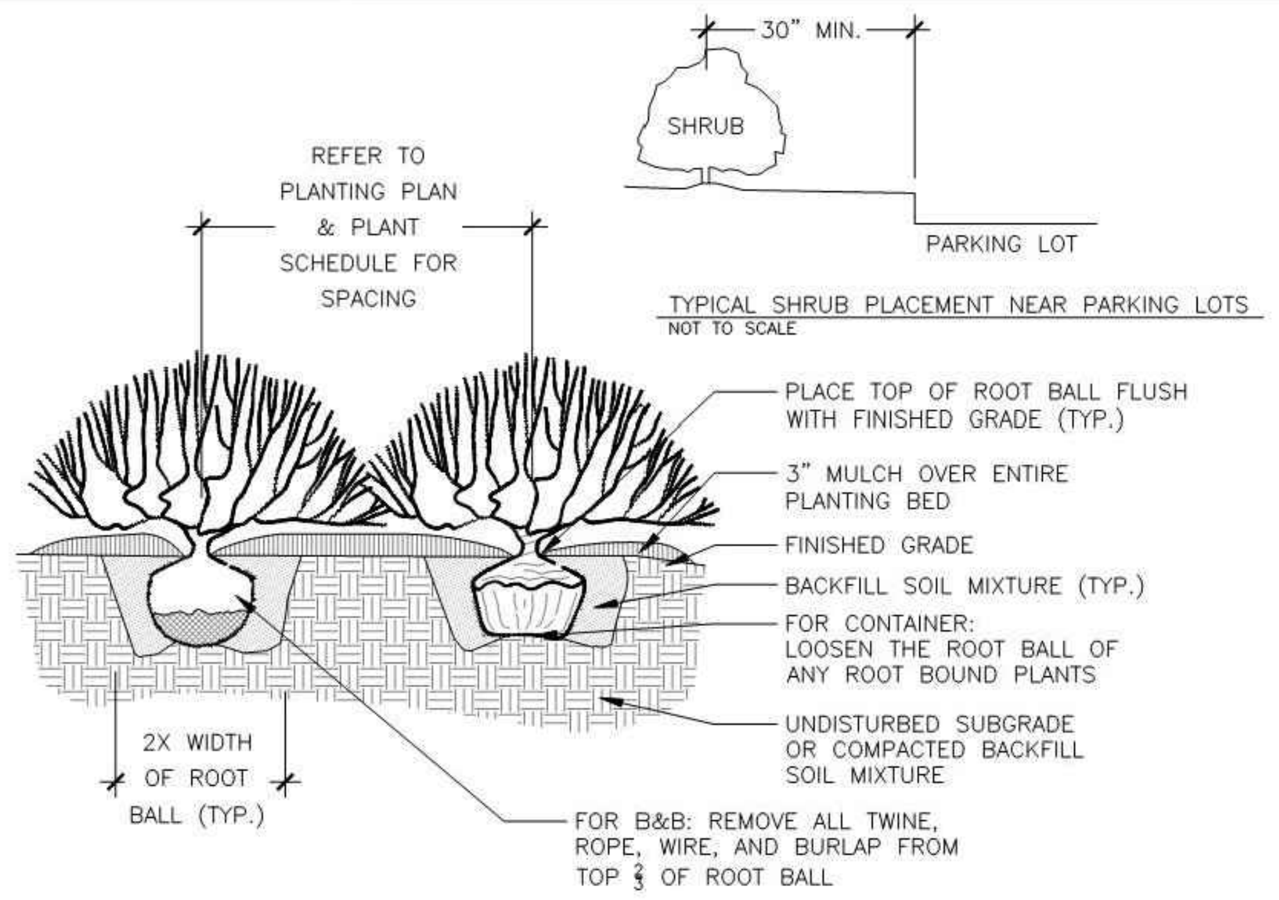
NOT TO SCALE

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
1 OF 1
MULTI-STEM TREE PLANTING
Date drawn: 01/01/19
LD 003



30" MIN.
SHRUB
PARKING LOT
TYPICAL SHRUB PLACEMENT NEAR PARKING LOTS
NOT TO SCALE
REFER TO PLANTING PLAN & PLANT SCHEDULE FOR SPACING
PLACE TOP OF ROOT BALL FLUSH WITH FINISHED GRADE (TYP.)
3" MULCH OVER ENTIRE PLANTING BED
FINISHED GRADE
BACKFILL SOIL MIXTURE (TYP.)
FOR CONTAINER: LOOSEN THE ROOT BALL OF ANY ROOT BOUND PLANTS
UNDISTURBED SUBGRADE OR COMPACTED BACKFILL SOIL MIXTURE
2X WIDTH OF ROOT BALL (TYP.)
FOR B&B: REMOVE ALL TWINE, ROPE, WIRE, AND BURLAP FROM TOP ⅔ OF ROOT BALL

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

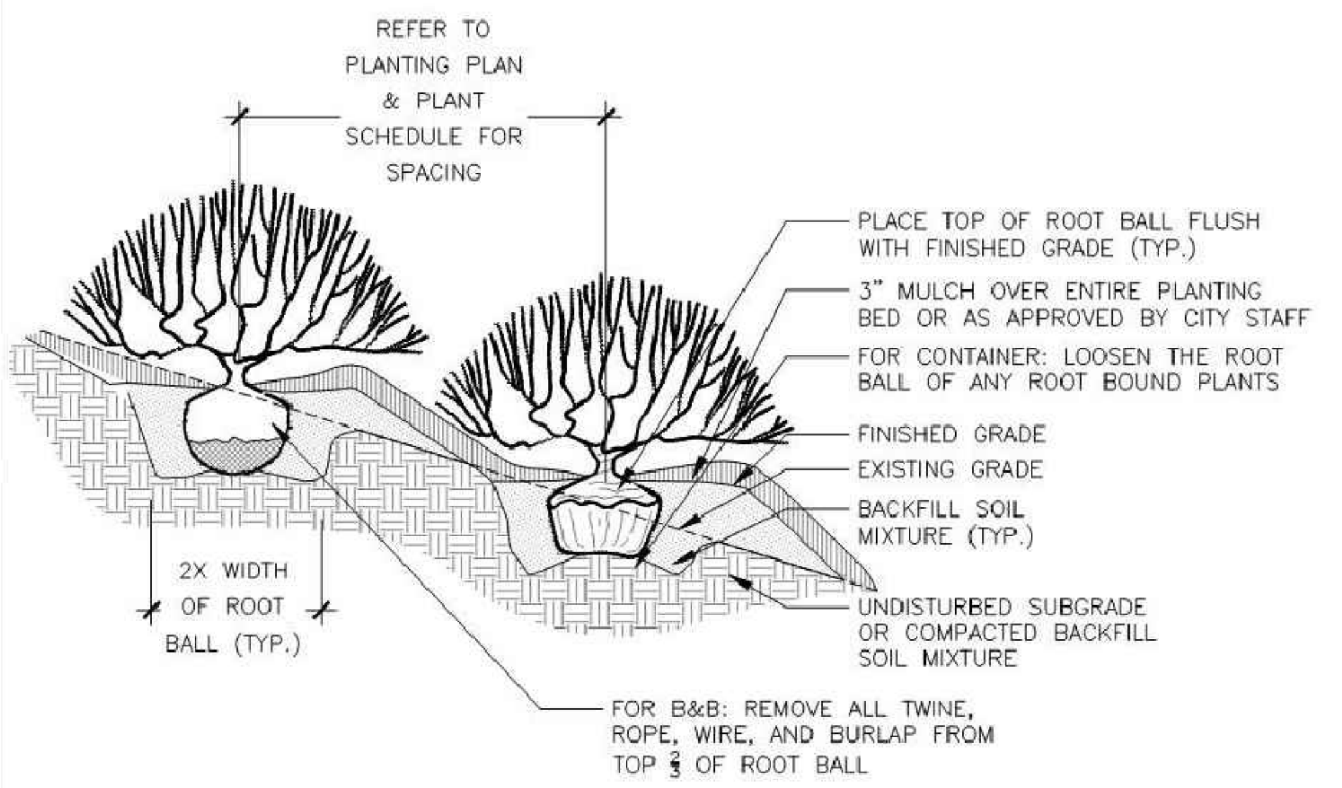
NOT TO SCALE

OF UPDATES: 00 LAST UPDATED:

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

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
1 OF 1
SHRUB PLANTING
Date drawn: 01/01/19
LD 009



REFER TO PLANTING PLAN & PLANT SCHEDULE FOR SPACING
PLACE TOP OF ROOT BALL FLUSH WITH FINISHED GRADE (TYP.)
3" MULCH OVER ENTIRE PLANTING BED OR AS APPROVED BY CITY STAFF
FOR CONTAINER: LOOSEN THE ROOT BALL OF ANY ROOT BOUND PLANTS
FINISHED GRADE
EXISTING GRADE
BACKFILL SOIL MIXTURE (TYP.)
2X WIDTH OF ROOT BALL (TYP.)
UNDISTURBED SUBGRADE OR COMPACTED BACKFILL SOIL MIXTURE
FOR B&B: REMOVE ALL TWINE, ROPE, WIRE, AND BURLAP FROM TOP ⅔ OF ROOT BALL

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
1 OF 1
SHRUB PLANTING ON SLOPE
Date drawn: 01/01/19
LD 010

DESIGN ENGINEER AND LANDSCAPE ARCHITECT
FIRM NAME: KIMLEY-HORN AND ASSOCIATES, INC.
ADDRESS: 11400 COMMERCE PARK DRIVE, SUITE 400
RESTON, VIRGINIA 20191
PHONE NO: 703-674-1300 FAX NO: 703-674-1350
PROJ. MANAGER: KYLE BOLLINGER, P.E.
EMAIL: KYLE.BOLLINGER@KIMLEY-HORN.COM
SCALE: 1"=30' (AT 24x36) DATE: 08/14/2020 DRAWN BY: LVA

SEAL:
W. Davis Walker
Lic. No. 0406001891
08/14/2020

OWNER
CITY OF ALEXANDRIA
301 KING STREET
ALEXANDRIA, VA 22314

DEVELOPER
ALEXANDRIA CITY
PUBLIC SCHOOLS

CONTACT
ERIKA GULICK
(703) 619-8298

REVISION / APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DOUGLAS MACARTHUR ELEMENTARY SCHOOL MODERNIZATION

PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

SHEET NAME: LANDSCAPE DETAILS

APPROVED
SPECIAL USE PERMIT NO. DSUP#2020-0010
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. ____________

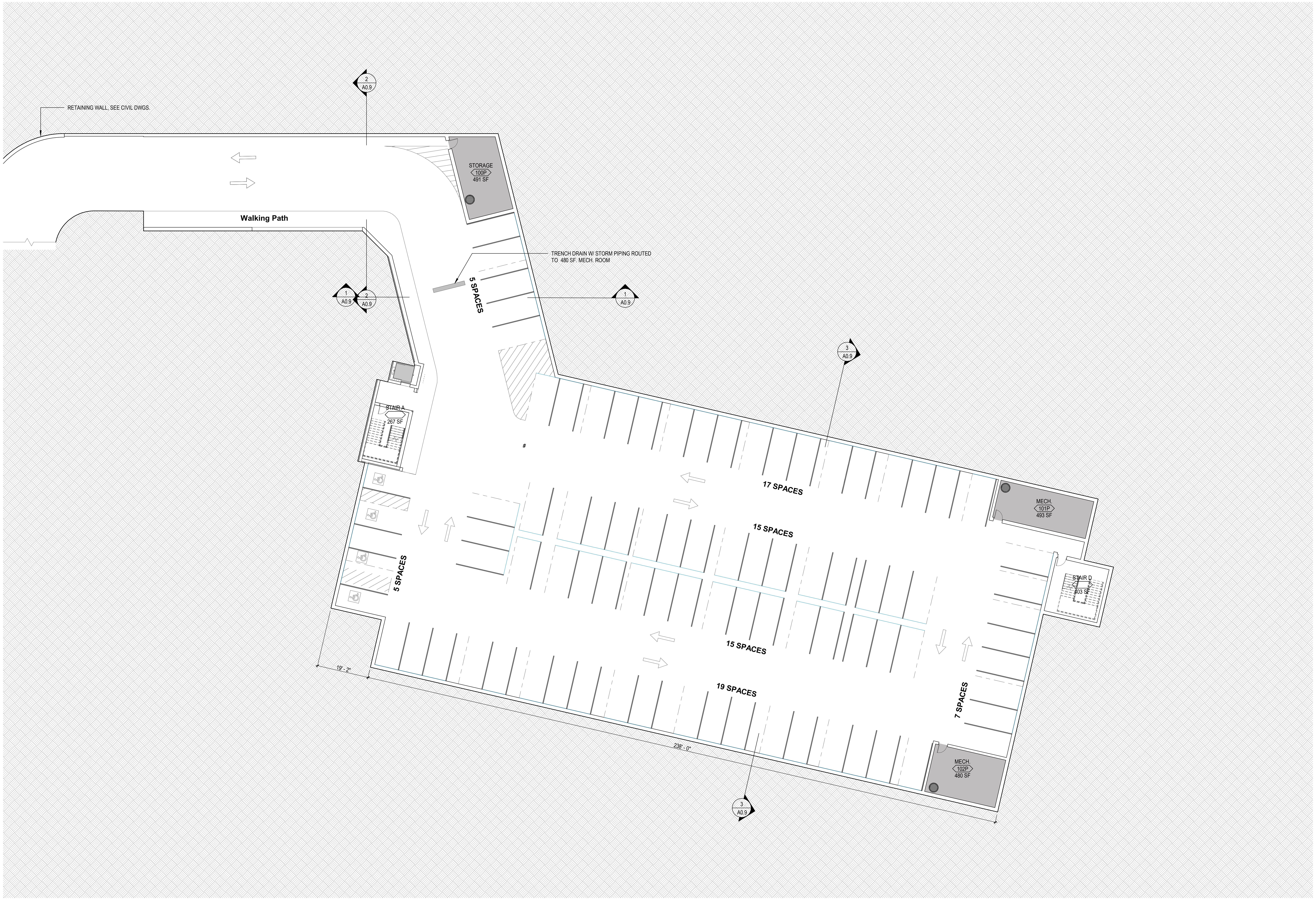
DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED ____________

INSTRUMENT NO. DEED BOOK NO. PAGE NO.

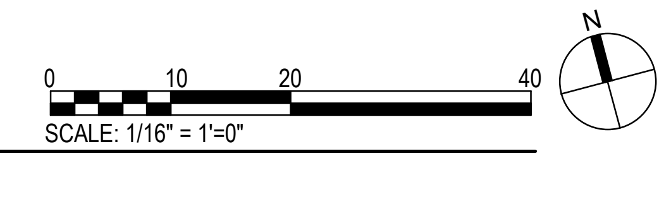
\\kimley-horn.com\AT_NVA2\NVA_CIV\110681000 dmes modernization\CAD\plansheets\preliminary plan\LANDSCAPE PLAN.dwg, Layout:LS DETAILS Aug 14, 2020 Brandon.Kramer
XREFS: xBorder - 110681000 xsite - 110681000 xsurvey - 110681000 xlandscape - 110681000 xtree - 110681000 xutil - 110681000 xsoil - 110681000 xstrm - 110681000
THIS DOCUMENT, TOGETHER WITH THE CONCEPTS AND DESIGNS PRESENTED HEREIN, AS AN INSTRUMENT OF SERVICE, IS INTENDED ONLY FOR THE SPECIFIC PURPOSE AND CLIENT FOR WHICH IT WAS PREPARED. REUSE OF AND IMPROPER RELIANCE ON THIS DOCUMENT WITHOUT WRITTEN AUTHORIZATION AND ADAPTATION BY KIMLEY-HORN AND ASSOCIATES, INC. SHALL BE WITHOUT LIABILITY TO KIMLEY-HORN AND ASSOCIATES, INC.


RETAINING WALL, SEE CIVIL DWGS.
2
A0.9
STORAGE
100P
491 SF
Walking Path
TRENCH DRAIN W/ STORM PIPING ROUTED
TO 480 SF. MECH. ROOM
1
A0.9
2
A0.9
1
A0.9
5 SPACES
3
A0.9
STAIR A
267 SF
17 SPACES
MECH.
101P
493 SF
15 SPACES
5 SPACES
STAIR D
103 SF
15 SPACES
19' - 2"
19 SPACES
7 SPACES
238' - 0"
MECH.
102P
480 SF
3
A0.9

1
A0.1

00_PARKING LEVEL PLAN

SCALE: 1/16" = 1'-0"


0
10
20
40
SCALE: 1/16" = 1'=0"
N

DLR Group
© DLR Group

- NOT FOR CONSTRUCTION -

Consultant Logo

Project Logo

New Douglas MacArthur
Elementary School
1100 Janneys Lane, Alexandria VA 22314

PRELIMINARY
SITE PLAN
SUBMISSION
05/01/2020

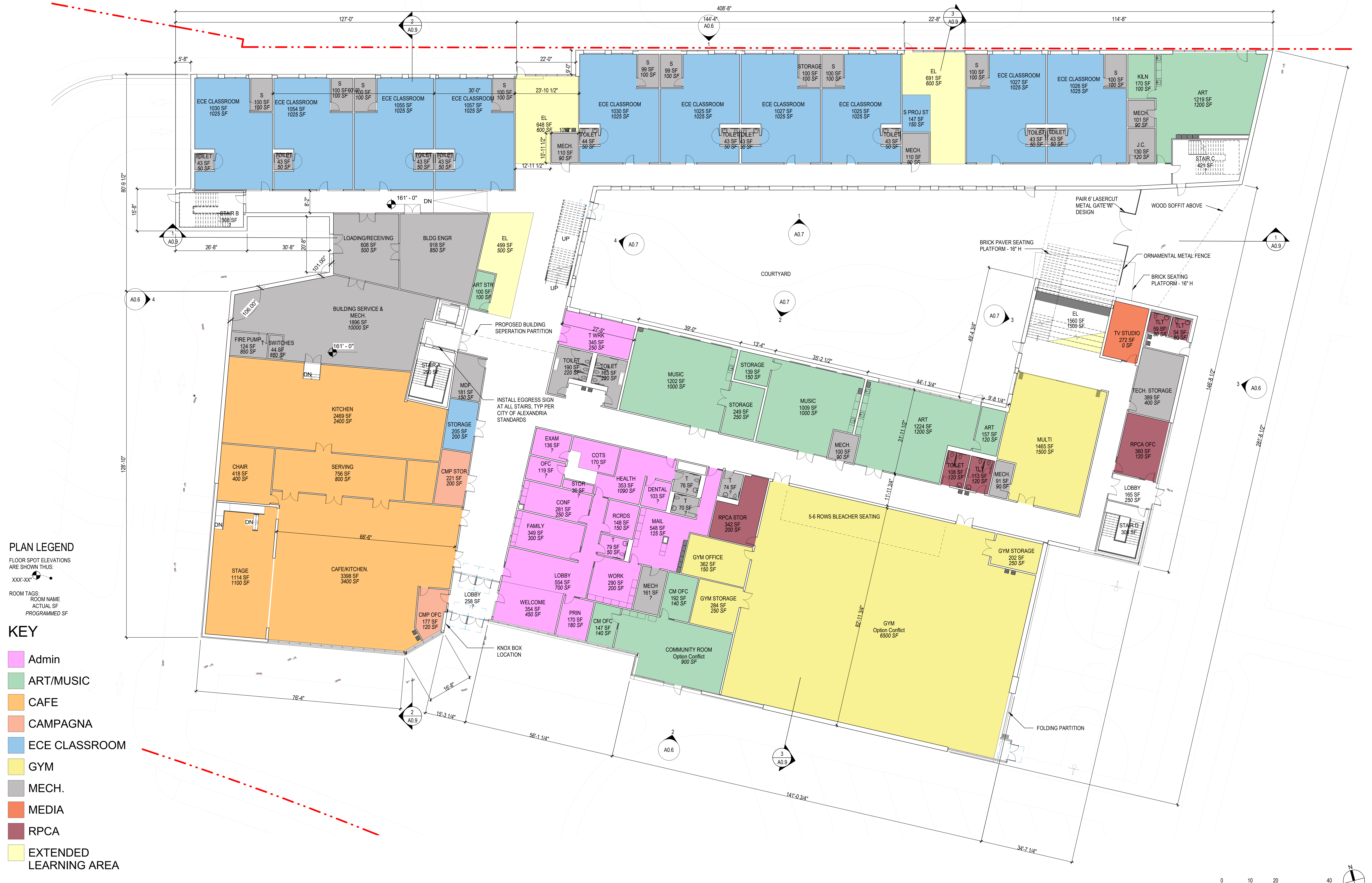
Revisions

1	REVISION 1	06/15/2020
2	REVISION 2	08/14/2020

54-19111-00

PARKING LEVEL

A0.1


408'-8"
127'-0"
144'-4"
22'-8"
114'-8"
5'-8"
22'-0"
9'-0"
30'-0"
60'-0"
23'-10 1/2"
10'-0"
10'-11 1/2"
12'-11 1/2"
2 A0.9
1 A0.6
3 A0.9
ECE CLASSROOM 1030 SF 1025 SF
S 100 SF 100 SF
ECE CLASSROOM 1054 SF 1025 SF
S 100 SF 100 SF
S 100 SF 100 SF
ECE CLASSROOM 1055 SF 1025 SF
ECE CLASSROOM 1057 SF 1025 SF
S 100 SF 100 SF
TOILET 43 SF 50 SF
TOILET 43 SF 50 SF
TOILET 43 SF 50 SF
TOILET 43 SF 50 SF
EL 648 SF 600 SF
MECH. 110 SF 90 SF
TOILET 44 SF 50 SF
ECE CLASSROOM 1030 SF 1025 SF
S 99 SF 100 SF
S 99 SF 100 SF
ECE CLASSROOM 1025 SF 1025 SF
TOILET 43 SF 50 SF
TOILET 43 SF 50 SF
ECE CLASSROOM 1027 SF 1025 SF
STORAGE 100 SF 100 SF
S 100 SF 100 SF
ECE CLASSROOM 1025 SF 1025 SF
TOILET 43 SF 50 SF
EL 691 SF 600 SF
S PROJ ST 147 SF 150 SF
MECH. 110 SF 90 SF
S 100 SF 100 SF
ECE CLASSROOM 1027 SF 1025 SF
ECE CLASSROOM 1026 SF 1025 SF
S 100 SF 100 SF
TOILET 43 SF 50 SF
TOILET 43 SF 50 SF
KILN 170 SF 100 SF
MECH. 101 SF 90 SF
J.C. 130 SF 120 SF
ART 1219 SF 1200 SF
STAIR C 421 SF ?
80'-9 1/2"
15'-8"
8'-2"
161' - 0"
DN
STAIR B 308 SF ?
1 A0.9
26'-8"
30'-8"
20'-8"
101.00°
LOADING/RECEIVING 608 SF 500 SF
BLDG ENGR 918 SF 850 SF
EL 499 SF 500 SF
ART STR 100 SF 100 SF
UP
UP
4 A0.7
1 A0.7
COURTYARD
A0.7 2
PAIR 6' LASERCUT METAL GATE W/ DESIGN
WOOD SOFFIT ABOVE
1 A0.9
BRICK PAVER SEATING PLATFORM - 16" H
ORNAMENTAL METAL FENCE
BRICK SEATING PLATFORM - 16" H
A0.6 4
106.00°
BUILDING SERVICE & MECH. 1896 SF 10000 SF
FIRE PUMP 124 SF 850 SF
T - SWITCHES 44 SF 850 SF
161' - 0"
DN
STAIR A 290 SF
MDF 181 SF 150 SF
PROPOSED BUILDING SEPERATION PARTITION
INSTALL EGGRESS SIGN AT ALL STAIRS, TYP PER CITY OF ALEXANDRIA STANDARDS
27'-5"
T WRK 345 SF 250 SF
TOILET 190 SF 220 SF
TOILET 163 SF 220 SF
39'-0"
13'-4"
35'-2 1/2"
44'-1 3/4"
9'-8 1/4"
49'-4 3/4"
31'-11 1/2"
11'-11 3/4"
MUSIC 1202 SF 1000 SF
STORAGE 139 SF 150 SF
STORAGE 249 SF 250 SF
MUSIC 1009 SF 1000 SF
MECH. 100 SF 90 SF
ART 1224 SF 1200 SF
ART 157 SF 120 SF
TOILET 108 SF 120 SF
TLT 113 SF 120 SF
MECH. 91 SF 90 SF
MULTI 1465 SF 1500 SF
A0.7 3
EL 1560 SF 1500 SF
TV STUDIO 272 SF 0 SF
TLT 59 SF 80 SF
TLT 54 SF 80 SF
TECH. STORAGE 389 SF 400 SF
RPCA OFC 360 SF 120 SF
LOBBY 165 SF 250 SF
STAIR D 308 SF
3 A0.6
146'-8 1/2"
281'-8 1/2"
KITCHEN 2469 SF 2400 SF
STORAGE 205 SF 200 SF
CMP STOR 221 SF 200 SF
CHAIR 418 SF 400 SF
SERVING 756 SF 800 SF
DN
DN
66'-6"
STAGE 1114 SF 1100 SF
CAFE/KITCHEN. 3398 SF 3400 SF
CMP OFC 177 SF 120 SF
LOBBY 258 SF ?
KNOX BOX LOCATION
128'-10"
76'-4"
16'-8"
15'-3 1/4"
56'-1 1/4"
2 A0.9
EXAM 136 SF ?
COTS 170 SF ?
OFC 119 SF ?
STOR 36 SF ?
HEALTH 353 SF 1090 SF
DENTAL 103 SF ?
T 76 SF ?
T 70 SF ?
T 74 SF ?
CONF 281 SF 250 SF
RCRDS 148 SF 150 SF
MAIL 548 SF 125 SF
FAMILY 349 SF 300 SF
T 79 SF 50 SF
RPCA STOR 342 SF 200 SF
GYM OFFICE 362 SF 150 SF
LOBBY 554 SF 700 SF
WORK 290 SF 200 SF
MECH 161 SF ?
CM OFC 192 SF 140 SF
GYM STORAGE 284 SF 250 SF
WELCOME 354 SF 450 SF
PRIN 170 SF 180 SF
CM OFC 147 SF 140 SF
COMMUNITY ROOM Option Conflict 900 SF
5-6 ROWS BLEACHER SEATING
GYM STORAGE 202 SF 250 SF
82'-11 3/4"
GYM Option Conflict 6500 SF
FOLDING PARTITION
2 A0.6
3 A0.9
141'-0 3/4"
34'-7 1/4"
0 10 20 40
SCALE: 1/16" = 1'=0"
N

PLAN LEGEND

FLOOR SPOT ELEVATIONS
ARE SHOWN THUS:
XXX'-XX"

ROOM TAGS:
ROOM NAME
ACTUAL SF
PROGRAMMED SF

KEY

🟪 Admin
🟩 ART/MUSIC
🟧 CAFE
🟧 CAMPAGNA
🟦 ECE CLASSROOM
🟨 GYM
⬜ MECH.
🟥 MEDIA
🟥 RPCA
🟨 EXTENDED LEARNING AREA

01_FIRST LEVEL PLAN

DLR Group
© DLR Group

- NOT FOR CONSTRUCTION -

Consultant Logo

Project Logo

New Douglas MacArthur
Elementary School
1100 Janneys Lane, Alexandria VA 22314

PRELIMINARY
SITE PLAN
SUBMISSION
05/01/2020

Revisions

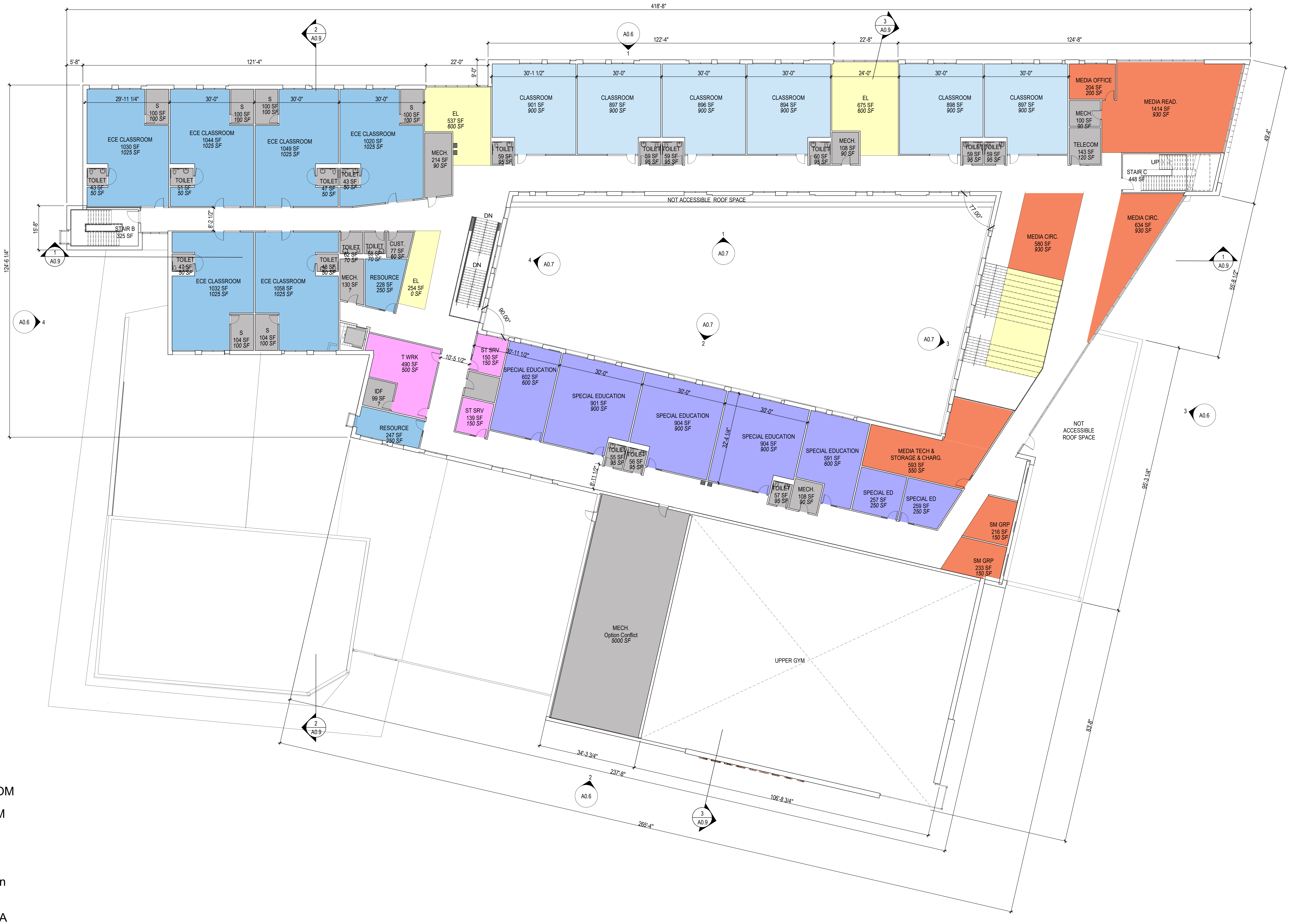
1	REVISION 1	06/15/2020
2	REVISION 2	08/14/2020

54-19111-00

LEVEL ONE

A0.2

BIM 360://54-19111-00 Douglas MacArthur ES - VA/54-19111-00_Douglas MacArthur ES_AR_2019.rvt
8/12/2020 5:37:59 PM


418'-8"
5'-8"
121'-4"
22'-0"
9'-0"
122'-4"
22'-8"
124'-8"
2 A0.9
A0.6 1
3 A0.9
29'-11 1/4"
30'-0"
30'-1 1/2"
24'-0"
S 100 SF 100 SF
ECE CLASSROOM 1030 SF 1025 SF
ECE CLASSROOM 1044 SF 1025 SF
ECE CLASSROOM 1049 SF 1025 SF
ECE CLASSROOM 1020 SF 1025 SF
TOILET 43 SF 50 SF
TOILET 51 SF 50 SF
TOILET 47 SF 50 SF
TOILET 43 SF 50 SF
EL 537 SF 600 SF
MECH. 214 SF 90 SF
CLASSROOM 901 SF 900 SF
CLASSROOM 897 SF 900 SF
CLASSROOM 896 SF 900 SF
CLASSROOM 894 SF 900 SF
EL 675 SF 600 SF
CLASSROOM 898 SF 900 SF
CLASSROOM 897 SF 900 SF
TOILET 59 SF 95 SF
TOILET 60 SF 95 SF
MECH. 108 SF 90 SF
MEDIA OFFICE 204 SF 200 SF
MEDIA READ. 1414 SF 930 SF
MECH. 100 SF 90 SF
TELECOM 143 SF 120 SF
UP
STAIR C 448 SF
49'-4"
STAIR B 325 SF
15'-8"
1 A0.9
8'-2 1/2"
ECE CLASSROOM 1032 SF 1025 SF
ECE CLASSROOM 1058 SF 1025 SF
TOILET 47 SF 50 SF
TOILET 48 SF 50 SF
S 104 SF 100 SF
TOILET 62 SF 70 SF
TOILET 58 SF 70 SF
CUST. 77 SF 60 SF
MECH. 130 SF ?
RESOURCE 228 SF 250 SF
EL 254 SF 0 SF
124'-6 1/4"
A0.6 4
DN
NOT ACCESSIBLE ROOF SPACE
77.00°
90.00°
1 A0.7
4 A0.7
A0.7 2
A0.7 3
MEDIA CIRC. 580 SF 930 SF
MEDIA CIRC. 634 SF 930 SF
1 A0.9
55'-8 1/2"
T WRK 490 SF 500 SF
IDF 99 SF ?
RESOURCE 247 SF 250 SF
10'-5 1/2"
ST SRV 150 SF 150 SF
ST SRV 139 SF 150 SF
30'-11 1/2"
SPECIAL EDUCATION 602 SF 600 SF
SPECIAL EDUCATION 901 SF 900 SF
SPECIAL EDUCATION 904 SF 900 SF
SPECIAL EDUCATION 904 SF 900 SF
SPECIAL EDUCATION 591 SF 600 SF
TOILET 55 SF 95 SF
TOILET 56 SF 95 SF
32'-4 1/4"
8'-11 1/2"
TOILET 57 SF 95 SF
MECH. 108 SF 90 SF
MEDIA TECH & STORAGE & CHARG. 593 SF 550 SF
SPECIAL ED 257 SF 250 SF
SPECIAL ED 259 SF 250 SF
NOT ACCESSIBLE ROOF SPACE
3 A0.6
95'-3 1/4"
SM GRP 216 SF 150 SF
SM GRP 233 SF 150 SF
MECH. Option Conflict 5000 SF
UPPER GYM
83'-8"
2 A0.9
34'-3 3/4"
237'-8"
106'-8 3/4"
265'-4"
2 A0.6
3 A0.9

KEY

🟪	Admin
🟦	ECE CLASSROOM
🟦	UL CLASSROOM
⬜	MECH.
🟧	MEDIA
🟪	Special Education
🟨	EXTENDED LEARNING AREA

02_SECOND LEVEL PLAN

0 10 20 40
SCALE: 1/16" = 1'-0"

BIM 360://54-19111-00 Douglas MacArthur ES - VA/54-19111-00_Douglas MacArthur ES_AR_2019.rvt
8/13/2020 12:33:47 PM

DLR Group
© DLR Group

- NOT FOR CONSTRUCTION -

Consultant Logo

Project Logo

New Douglas MacArthur
Elementary School
1100 Janneys Lane, Alexandria VA 22314

PRELIMINARY
SITE PLAN
SUBMISSION
05/01/2020

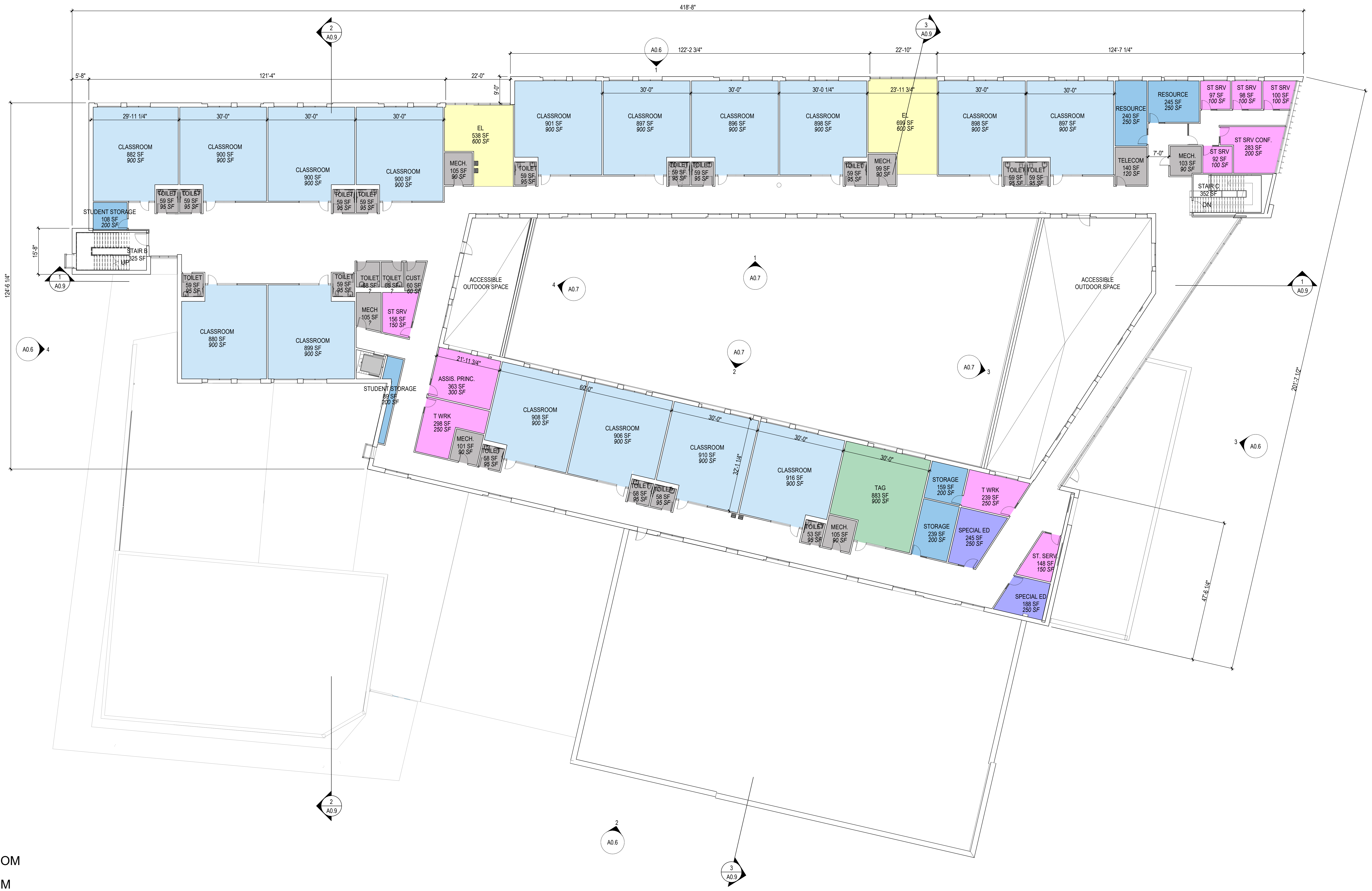
Revisions

1	REVISION 1	06/15/2020
2	REVISION 2	08/14/2020

54-19111-00

LEVEL TWO

A0.3


418'-8"
121'-4"
22'-0"
5'-8"
122'-2 3/4"
22'-10"
124'-7 1/4"
CLASSROOM 882 SF 900 SF
CLASSROOM 900 SF 900 SF
CLASSROOM 900 SF 900 SF
CLASSROOM 900 SF 900 SF
EL 538 SF 600 SF
MECH. 105 SF 90 SF
CLASSROOM 901 SF 900 SF
CLASSROOM 897 SF 900 SF
CLASSROOM 896 SF 900 SF
CLASSROOM 898 SF 900 SF
EL 699 SF 600 SF
MECH. 99 SF 90 SF
CLASSROOM 898 SF 900 SF
CLASSROOM 897 SF 900 SF
RESOURCE 240 SF 250 SF
RESOURCE 245 SF 250 SF
ST SRV 97 SF 100 SF
ST SRV 98 SF 100 SF
ST SRV 100 SF 100 SF
ST SRV CONF. 283 SF 200 SF
ST SRV 92 SF 100 SF
MECH. 103 SF 90 SF
TELECOM 140 SF 120 SF
STAIR C 352 SF
DN
TOILET 59 SF 95 SF
STUDENT STORAGE 108 SF 200 SF
STAIR B 325 SF
UP
124'-6 1/4"
15'-8"
CLASSROOM 880 SF 900 SF
CLASSROOM 899 SF 900 SF
TOILET 58 SF
CUST. 60 SF 60 SF
MECH 105 SF
ST SRV 156 SF 150 SF
STUDENT STORAGE 83 SF 200 SF
ACCESSIBLE OUTDOOR SPACE
ACCESSIBLE OUTDOOR SPACE
ASSIS. PRINC. 363 SF 300 SF
T WRK 298 SF 250 SF
MECH. 101 SF 90 SF
TOILET 68 SF 95 SF
21'-11 3/4"
60'-0"
CLASSROOM 908 SF 900 SF
CLASSROOM 906 SF 900 SF
CLASSROOM 910 SF 900 SF
CLASSROOM 916 SF 900 SF
TOILET 58 SF 95 SF
TOILET 53 SF 95 SF
MECH. 105 SF 90 SF
32'-1 1/4"
TAG 883 SF 900 SF
STORAGE 159 SF 200 SF
STORAGE 239 SF 200 SF
T WRK 239 SF 250 SF
SPECIAL ED 245 SF 250 SF
ST. SERV. 148 SF 150 SF
SPECIAL ED 188 SF 250 SF
47'-6 1/4"
201'-7 1/2"
A0.6
A0.7
A0.9

PLAN LEGEND

FLOOR SPOT ELEVATIONS
ARE SHOWN THUS:
XXX'-XX"

ROOM TAGS:
ROOM NAME
ACTUAL SF
PROGRAMMED SF

KEY

- ■ Admin
- ■ ART/MUSIC
- ■ ECE CLASSROOM
- ■ UL CLASSROOM
- ■ MECH.
- ■ Special Education
- ■ EXTENDED LEARNING AREA

03_THIRD LEVEL PLAN

0 10 20 40
SCALE: 1/16" = 1'-0"

BIM 360://54-19111-00 Douglas MacArthur ES - VA/54-19111-00_Douglas MacArthur ES_AR_2019.rvt
8/13/2020 12:33:48 PM

DLR Group
© DLR Group

- NOT FOR CONSTRUCTION -

Consultant Logo

Project Logo

New Douglas MacArthur
Elementary School
1100 Janneys Lane, Alexandria VA 22314

PRELIMINARY
SITE PLAN
SUBMISSION
05/01/2020

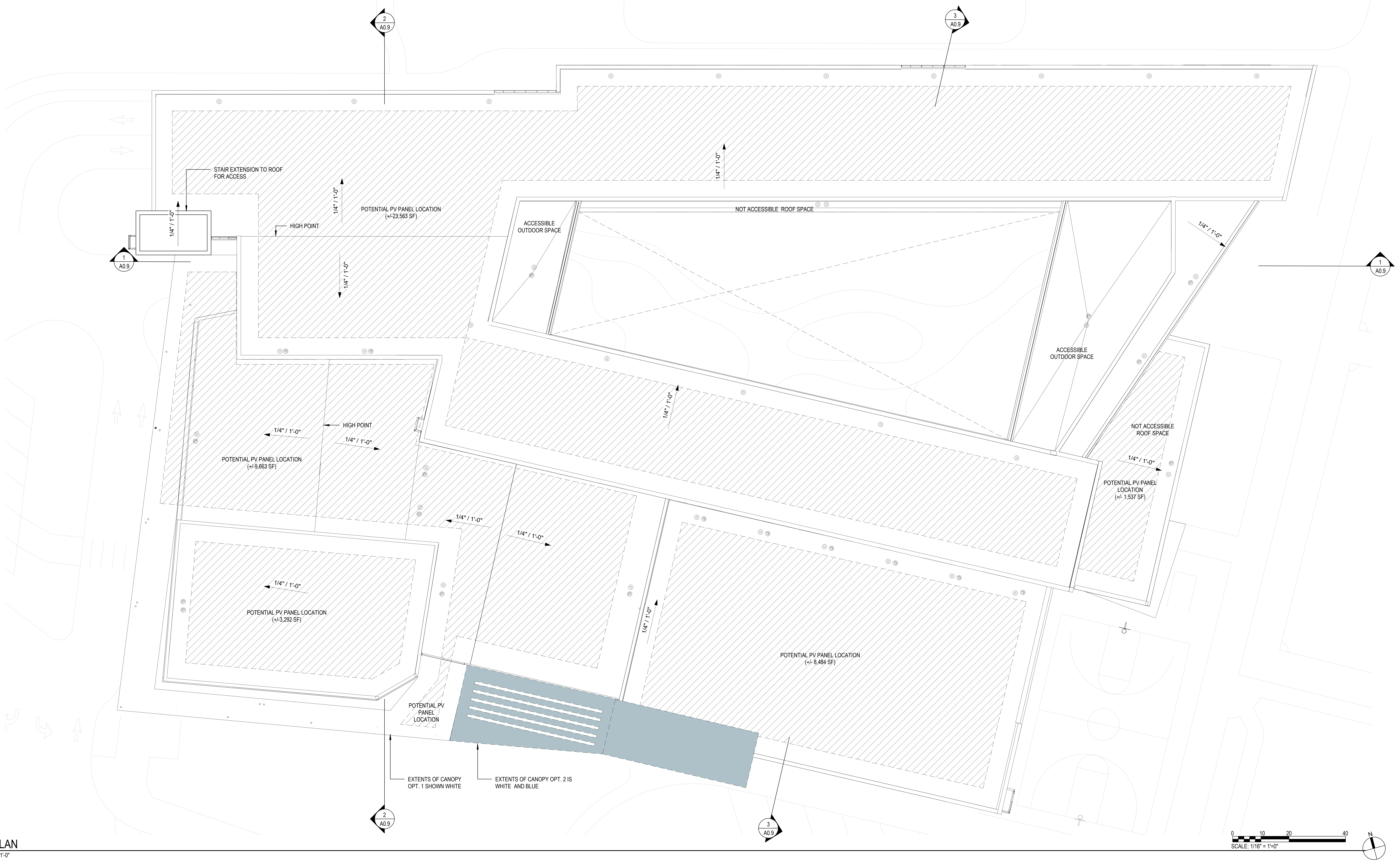
Revisions

1	REVISION 1	06/15/2020
2	REVISION 2	08/14/2020

54-19111-00

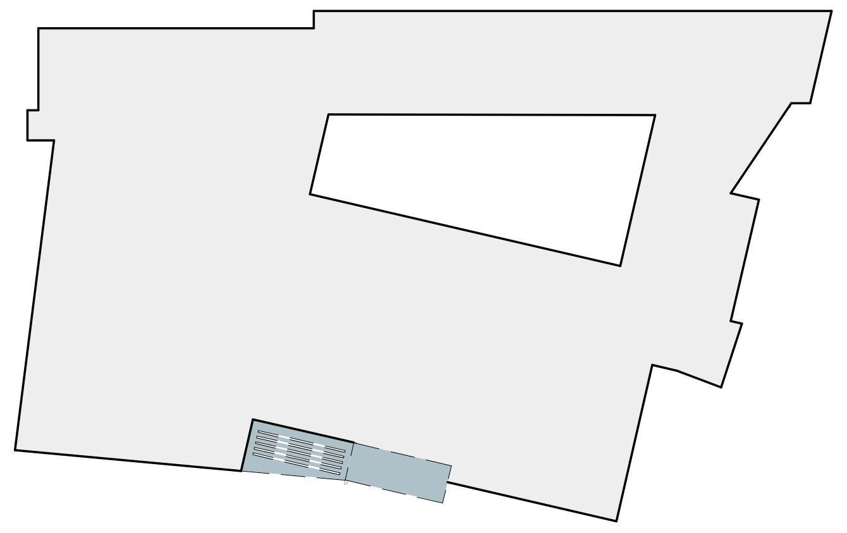
LEVEL THREE

A0.4



2
A0.9
3
A0.9
STAIR EXTENSION TO ROOF
FOR ACCESS
1/4" / 1'-0"
POTENTIAL PV PANEL LOCATION
(+/-23,563 SF)
HIGH POINT
NOT ACCESSIBLE ROOF SPACE
ACCESSIBLE
OUTDOOR SPACE
1
A0.9
POTENTIAL PV PANEL LOCATION
(+/-9,663 SF)
ACCESSIBLE
OUTDOOR SPACE
NOT ACCESSIBLE
ROOF SPACE
POTENTIAL PV PANEL
LOCATION
(+/- 1,537 SF)
POTENTIAL PV PANEL LOCATION
(+/-3,292 SF)
POTENTIAL PV PANEL LOCATION
(+/- 8,484 SF)
POTENTIAL PV
PANEL
LOCATION
EXTENTS OF CANOPY
OPT. 1 SHOWN WHITE
EXTENTS OF CANOPY OPT. 2 IS
WHITE AND BLUE
0
10
20
40
SCALE: 1/16" = 1'=0"
N

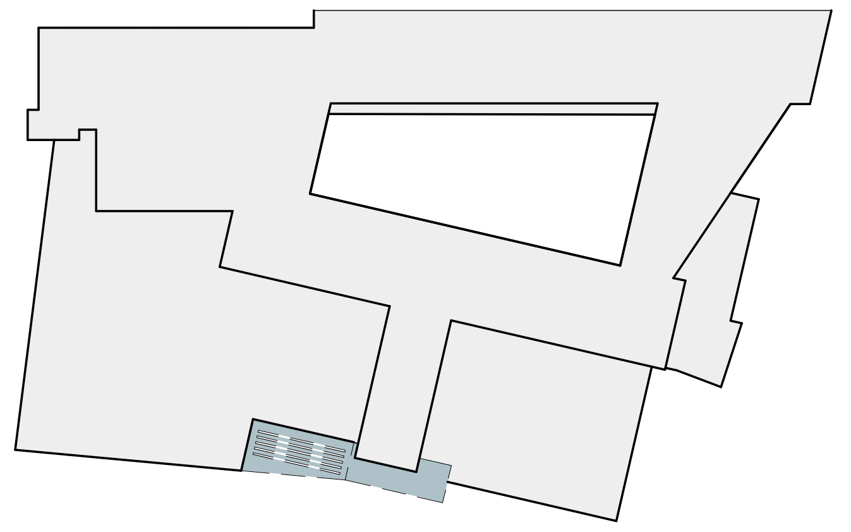
1
A0.5
ROOF PLAN
SCALE: 1/16" = 1'-0"



OPTION 1: 76,217 SF

OPTION 2: 77,875 SF

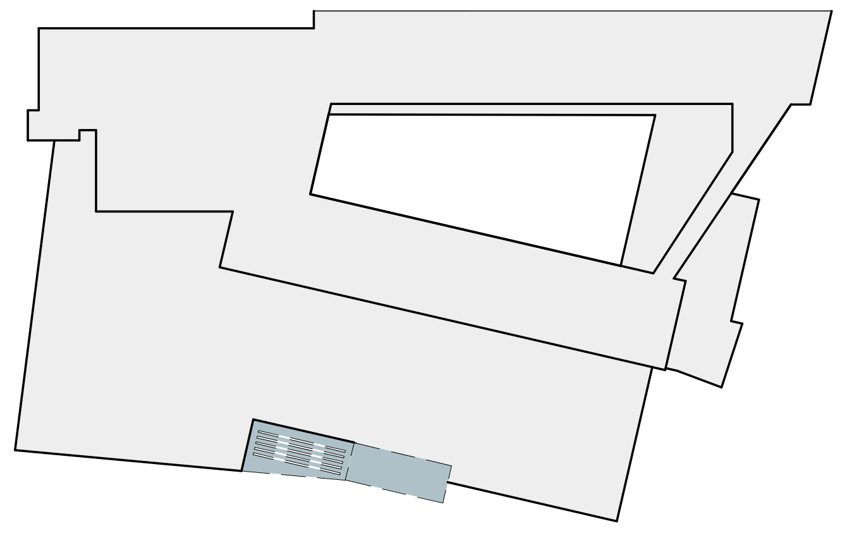
2
A0.5
F.A.R - LEVEL ONE
SCALE: 1" = 100'-0"



OPTION 1: 43,360 SF

OPTION 2: 43,360 SF

3
A0.5
F.A.R.- LEVEL TWO
SCALE: 1" = 100'-0"



OPTION 1: 37,719 SF

OPTION 2: 37,719 SF

4
A0.5
F.A.R - LEVEL THREE
SCALE: 1" = 100'-0"

DLR Group
© DLR Group

- NOT FOR
CONSTRUCTION -

Consultant Logo

Project
Logo

New Douglas MacArthur
Elementary School
1100 Janneys Lane, Alexandria VA 22314

PRELIMINARY
SITE PLAN
SUBMISSION
05/01/2020

Revisions

1	REVISION 1	06/15/2020
2	REVISION 2	08/14/2020

54-19111-00

ROOF PLAN

A0.5

BIM 360://54-19111-00 Douglas MacArthur ES - VA/54-19111-00_Douglas MacArthur ES_AR_2019.rvt
8/13/2020 12:33:51 PM

EXTERIOR LEGEND

MASONRY :
BASIS OF DESIGN:
UTILITY SIZE

🟧	MASONRY, TYPE-A
🟩	GLAZED MASONRY, TYPE-B
🟩	MASONRY W/ POTENTIAL MURAL, TYPE-C

KALWALL PANEL SYSTEM:
BASIS OF DESIGN:
KALWALL

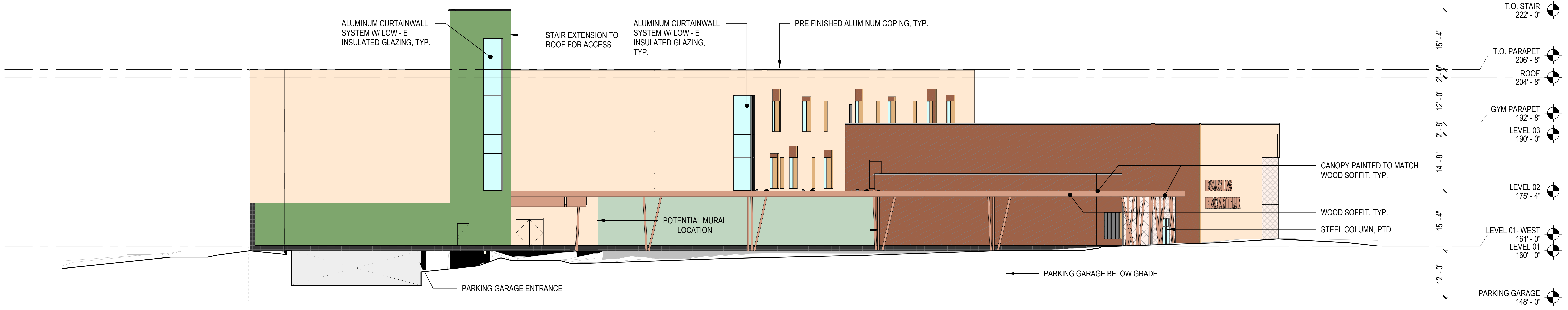
▨

WOOD PANEL RAINSCREEN SYSTEM:
BASIS OF DESIGN:
PARKLEX
ALTERNATE CLADDING 1:
ACOYA
ALTERNATE CLADDING 2: PHENOLIC PANEL RAINSCREEN SYSTEM, FUNDERMAX MAX COMPACT EXTERIOR F-QUALITY

🟫	WOOD PANEL RAINSCREEN SYSTEM
🟫	WOOD PANEL RAINSCREEN SYSTEM

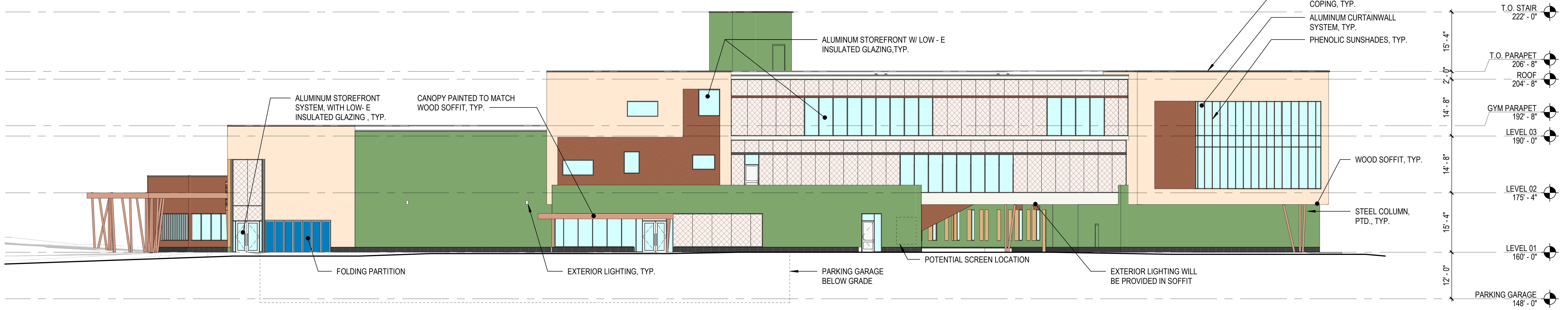
MASONRY BASE
BASIS OF DESIGN:
6 COURSES FACE BRICK, BLACK (16" TALL)
ALTERNATE CLADDING 1:
ARIA SLIM STONE, BLACK

NOTES:
* MASONRY BASE AROUND ENTIRE BUILDING



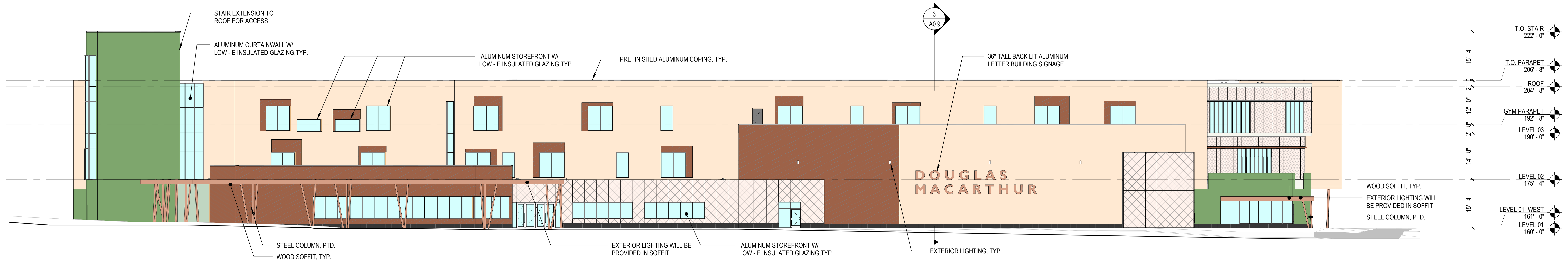
ALUMINUM CURTAINWALL SYSTEM W/ LOW - E INSULATED GLAZING, TYP.
STAIR EXTENSION TO ROOF FOR ACCESS
ALUMINUM CURTAINWALL SYSTEM W/ LOW - E INSULATED GLAZING, TYP.
PRE FINISHED ALUMINUM COPING, TYP.
CANOPY PAINTED TO MATCH WOOD SOFFIT, TYP.
WOOD SOFFIT, TYP.
STEEL COLUMN, PTD.
POTENTIAL MURAL LOCATION
PARKING GARAGE ENTRANCE
PARKING GARAGE BELOW GRADE
T.O. STAIR 222' - 0"
T.O. PARAPET 206' - 8"
ROOF 204' - 8"
GYM PARAPET 192' - 8"
LEVEL 03 190' - 0"
LEVEL 02 175' - 4"
LEVEL 01- WEST 161' - 0"
LEVEL 01 160' - 0"
PARKING GARAGE 148' - 0"
15' - 4"
2' - 0"
12' - 0"
2' - 8"
14' - 8"
15' - 4"
12' - 0"

4
A0.6
EXTERIOR ELEVATION - W
SCALE: 1/16" = 1'-0"



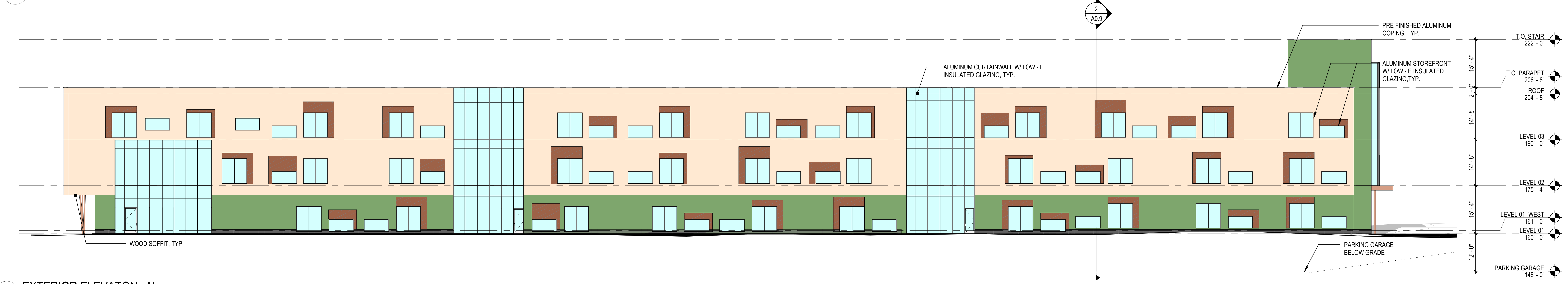
ALUMINUM STOREFRONT SYSTEM, WITH LOW- E INSULATED GLAZING , TYP.
CANOPY PAINTED TO MATCH WOOD SOFFIT, TYP.
ALUMINUM STOREFRONT W/ LOW - E INSULATED GLAZING,TYP.
PRE FINISHED ALUMINUM COPING, TYP.
ALUMINUM CURTAINWALL SYSTEM, TYP.
PHENOLIC SUNSHADES, TYP.
WOOD SOFFIT, TYP.
STEEL COLUMN, PTD., TYP.
FOLDING PARTITION
EXTERIOR LIGHTING, TYP.
PARKING GARAGE BELOW GRADE
POTENTIAL SCREEN LOCATION
EXTERIOR LIGHTING WILL BE PROVIDED IN SOFFIT
T.O. STAIR 222' - 0"
T.O. PARAPET 206' - 8"
ROOF 204' - 8"
GYM PARAPET 192' - 8"
LEVEL 03 190' - 0"
LEVEL 02 175' - 4"
LEVEL 01 160' - 0"
PARKING GARAGE 148' - 0"
15' - 4"
2' - 0"
14' - 8"
14' - 8"
15' - 4"
12' - 0"

3
A0.6
EXTERIOR ELEVATION - E
SCALE: 1/16" = 1'-0"



STAIR EXTENSION TO ROOF FOR ACCESS
ALUMINUM CURTAINWALL W/ LOW - E INSULATED GLAZING,TYP.
ALUMINUM STOREFRONT W/ LOW - E INSULATED GLAZING, TYP.
PREFINISHED ALUMINUM COPING, TYP.
3
A0.9
36" TALL BACK LIT ALUMINUM LETTER BUILDING SIGNAGE
DOUGLAS MACARTHUR
WOOD SOFFIT, TYP.
EXTERIOR LIGHTING WILL BE PROVIDED IN SOFFIT
STEEL COLUMN, PTD.
STEEL COLUMN, PTD.
WOOD SOFFIT, TYP.
EXTERIOR LIGHTING WILL BE PROVIDED IN SOFFIT
ALUMINUM STOREFRONT W/ LOW - E INSULATED GLAZING,TYP.
EXTERIOR LIGHTING, TYP.
T.O. STAIR 222' - 0"
T.O. PARAPET 206' - 8"
ROOF 204' - 8"
GYM PARAPET 192' - 8"
LEVEL 03 190' - 0"
LEVEL 02 175' - 4"
LEVEL 01- WEST 161' - 0"
LEVEL 01 160' - 0"
15' - 4"
2' - 0"
12' - 0"
2' - 8"
14' - 8"
15' - 4"

2
A0.6
EXTERIOR ELEVATION - S
SCALE: 1/16" = 1'-0"



2
A0.9
PRE FINISHED ALUMINUM COPING, TYP.
ALUMINUM CURTAINWALL W/ LOW - E INSULATED GLAZING, TYP.
ALUMINUM STOREFRONT W/ LOW - E INSULATED GLAZING,TYP.
WOOD SOFFIT, TYP.
PARKING GARAGE BELOW GRADE
T.O. STAIR 222' - 0"
T.O. PARAPET 206' - 8"
ROOF 204' - 8"
LEVEL 03 190' - 0"
LEVEL 02 175' - 4"
LEVEL 01- WEST 161' - 0"
LEVEL 01 160' - 0"
PARKING GARAGE 148' - 0"
15' - 4"
2' - 0"
14' - 8"
14' - 8"
15' - 4"
12' - 0"

1
A0.6
EXTERIOR ELEVATON - N
SCALE: 1/16" = 1'-0"

BIM 360://54-19111-00 Douglas MacArthur ES - VA/54-19111-00_Douglas MacArthur ES_AR_2019.rvt
8/12/2020 5:38:22 PM

DLR Group
© DLR Group

- NOT FOR CONSTRUCTION -

Consultant Logo

Project Logo

New Douglas MacArthur
Elementary School
1100 Janneys Lane, Alexandria VA 22314

PRELIMINARY
SITE PLAN
SUBMISSION
05/01/2020

Revisions

1	REVISION 1	06/15/2020
2	REVISION 2	08/14/2020

54-19111-00

EXTERIOR
ELEVATIONS

A0.6

EXTERIOR LEGEND

MASONRY :
BASIS OF DESIGN:
UTILITY SIZE

- ▨ MASONRY, TYPE-A
- ▨ GLAZED MASONRY, TYPE-B
- ▨ MASONRY W/ POTENTIAL MURAL, TYPE-C

KALWALL PANEL SYSTEM:
BASIS OF DESIGN:
KALWALL

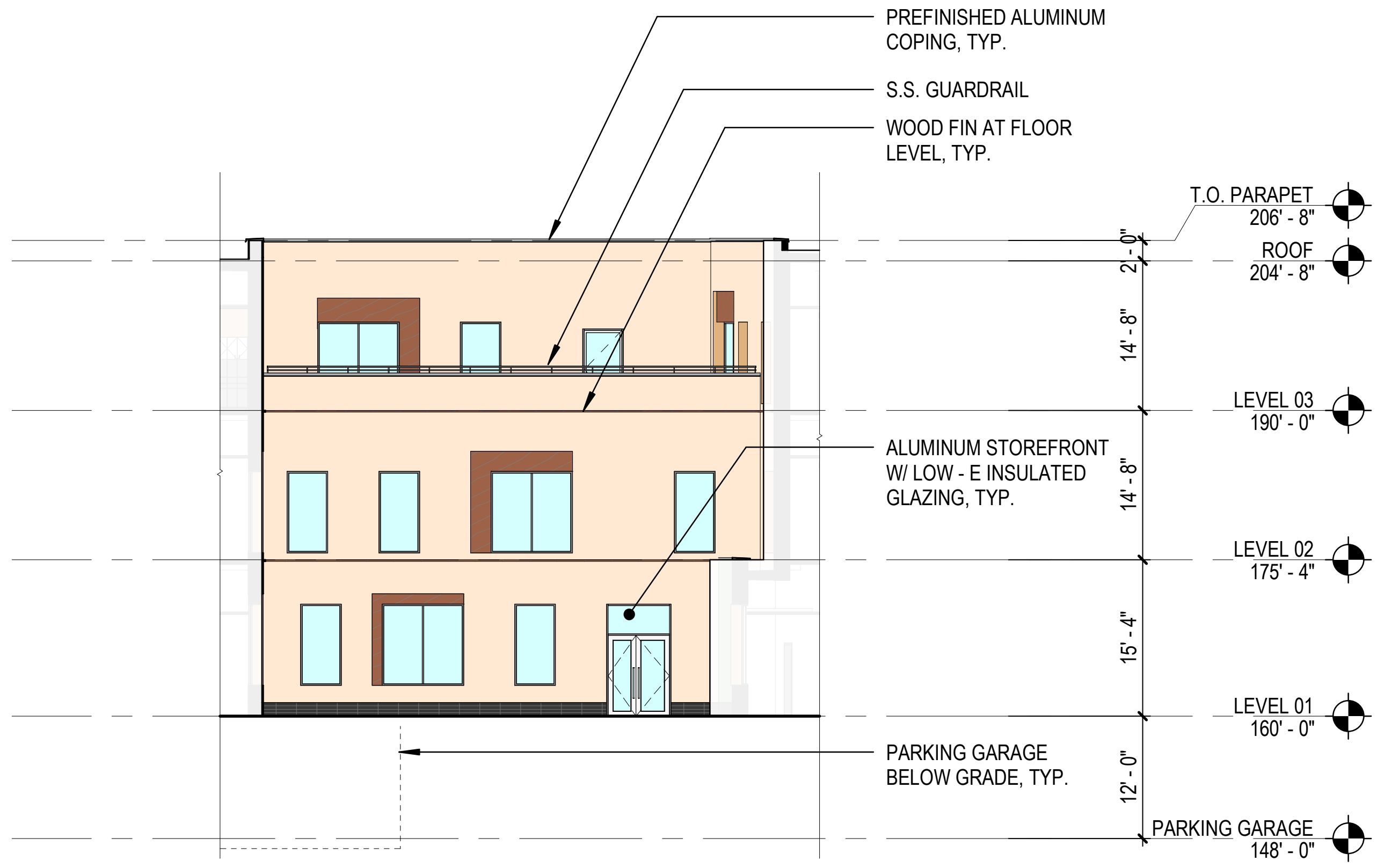
▨

WOOD PANEL RAINSCREEN SYSTEM:
BASIS OF DESIGN:
PARKLEX
ALTERNATE CLADDING 1:
ACOYA
ALTERNATE CLADDING 2: PHENOLIC PANEL RAINSCREEN SYSTEM, FUNDERMAX MAX COMPACT EXTERIOR F-QUALITY

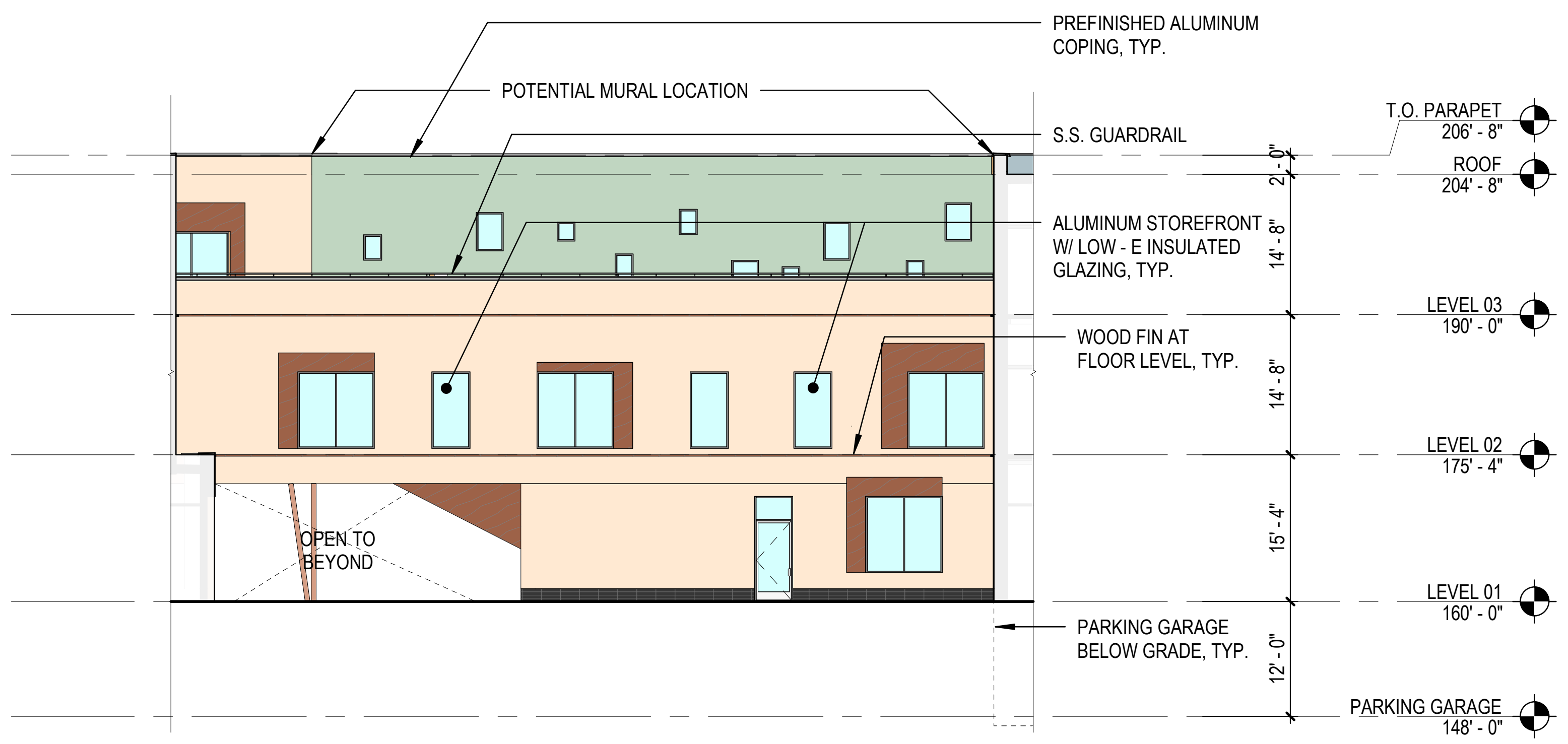
- ▨ WOOD PANEL RAINSCREEN SYSTEM
- ▨ WOOD PANEL RAINSCREEN SYSTEM

MASONRY BASE
BASIS OF DESIGN:
6 COURSES FACE BRICK, BLACK (16" TALL)
ALTERNATE CLADDING 1:
ARIA SLIM STONE, BLACK

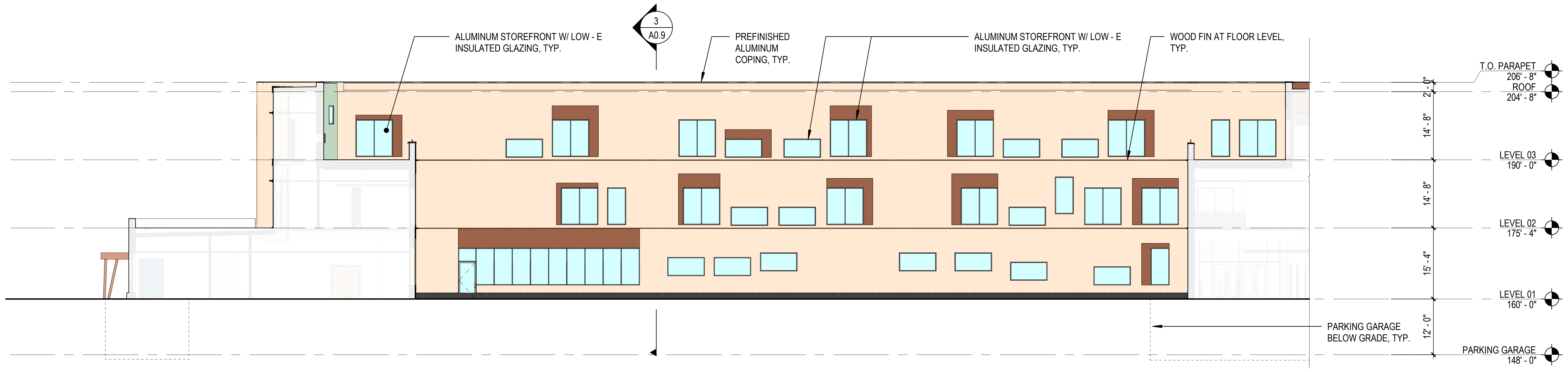
NOTES:
* MASONRY BASE AROUND ENTIRE BUILDING


PREFINISHED ALUMINUM COPING, TYP.
S.S. GUARDRAIL
WOOD FIN AT FLOOR LEVEL, TYP.
ALUMINUM STOREFRONT W/ LOW - E INSULATED GLAZING, TYP.
PARKING GARAGE BELOW GRADE, TYP.
T.O. PARAPET 206' - 8"
ROOF 204' - 8"
LEVEL 03 190' - 0"
LEVEL 02 175' - 4"
LEVEL 01 160' - 0"
PARKING GARAGE 148' - 0"
2' - 0"
14' - 8"
14' - 8"
15' - 4"
12' - 0"

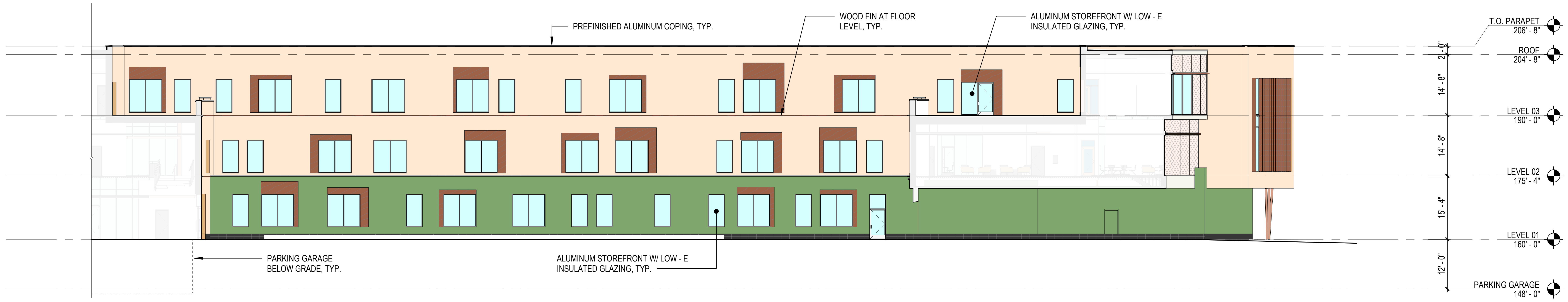
4
A0.7
COURTYARD ELEVATION - W
SCALE: 1/16" = 1'-0"


PREFINISHED ALUMINUM COPING, TYP.
POTENTIAL MURAL LOCATION
S.S. GUARDRAIL
ALUMINUM STOREFRONT W/ LOW - E INSULATED GLAZING, TYP.
WOOD FIN AT FLOOR LEVEL, TYP.
OPEN TO BEYOND
PARKING GARAGE BELOW GRADE, TYP.
T.O. PARAPET 206' - 8"
ROOF 204' - 8"
LEVEL 03 190' - 0"
LEVEL 02 175' - 4"
LEVEL 01 160' - 0"
PARKING GARAGE 148' - 0"
2' - 0"
14' - 8"
14' - 8"
15' - 4"
12' - 0"

3
A0.7
COURTYARD ELEVATION - E
SCALE: 1/16" = 1'-0"


3
A0.9
ALUMINUM STOREFRONT W/ LOW - E INSULATED GLAZING, TYP.
PREFINISHED ALUMINUM COPING, TYP.
ALUMINUM STOREFRONT W/ LOW - E INSULATED GLAZING, TYP.
WOOD FIN AT FLOOR LEVEL, TYP.
PARKING GARAGE BELOW GRADE, TYP.
T.O. PARAPET 206' - 8"
ROOF 204' - 8"
LEVEL 03 190' - 0"
LEVEL 02 175' - 4"
LEVEL 01 160' - 0"
PARKING GARAGE 148' - 0"
2' - 0"
14' - 8"
14' - 8"
15' - 4"
12' - 0"

2
A0.7
COURTYARD ELEVATION - S
SCALE: 1/16" = 1'-0"


PREFINISHED ALUMINUM COPING, TYP.
WOOD FIN AT FLOOR LEVEL, TYP.
ALUMINUM STOREFRONT W/ LOW - E INSULATED GLAZING, TYP.
PARKING GARAGE BELOW GRADE, TYP.
ALUMINUM STOREFRONT W/ LOW - E INSULATED GLAZING, TYP.
T.O. PARAPET 206' - 8"
ROOF 204' - 8"
LEVEL 03 190' - 0"
LEVEL 02 175' - 4"
LEVEL 01 160' - 0"
PARKING GARAGE 148' - 0"
2' - 0"
14' - 8"
14' - 8"
15' - 4"
12' - 0"

1
A0.7
COURTYARD ELEVATION - N
SCALE: 1/16" = 1'-0"

DLR Group
© DLR Group

- NOT FOR CONSTRUCTION -

Consultant Logo

Project Logo

New Douglas MacArthur
Elementary School
1100 Janneys Lane, Alexandria VA 22314

PRELIMINARY SITE PLAN SUBMISSION
05/01/2020

Revisions

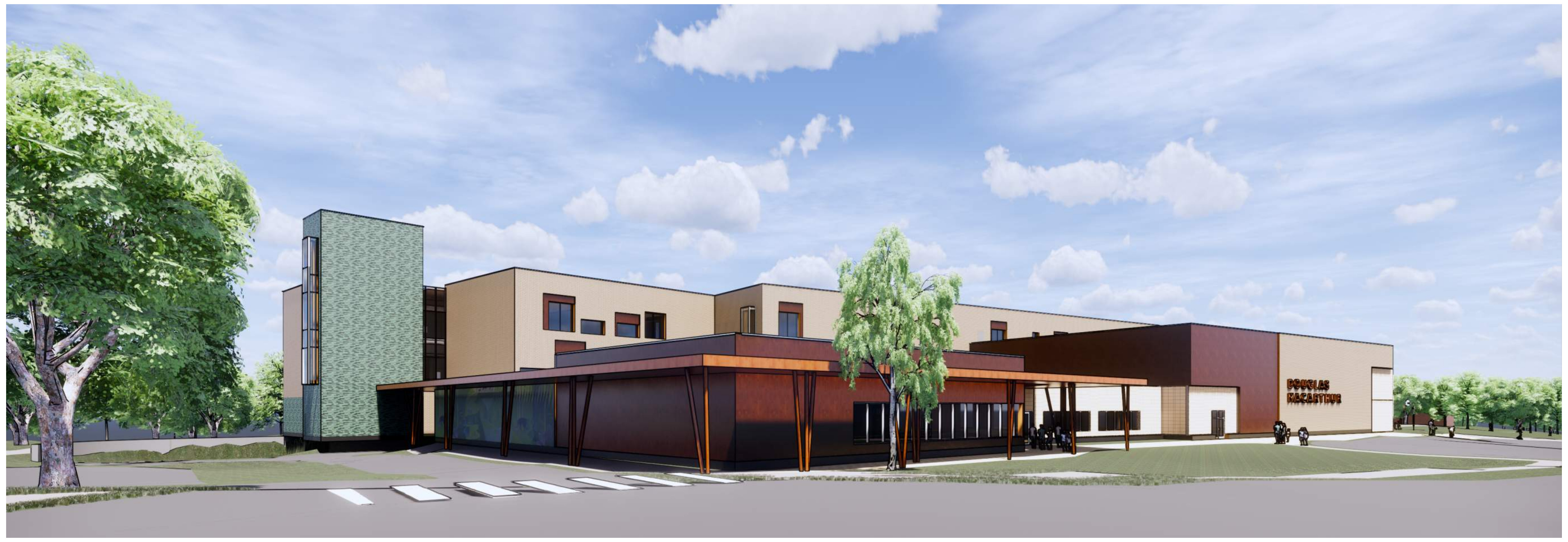
1	REVISION 1	06/15/2020
2	REVISION 2	08/14/2020

54-19111-00

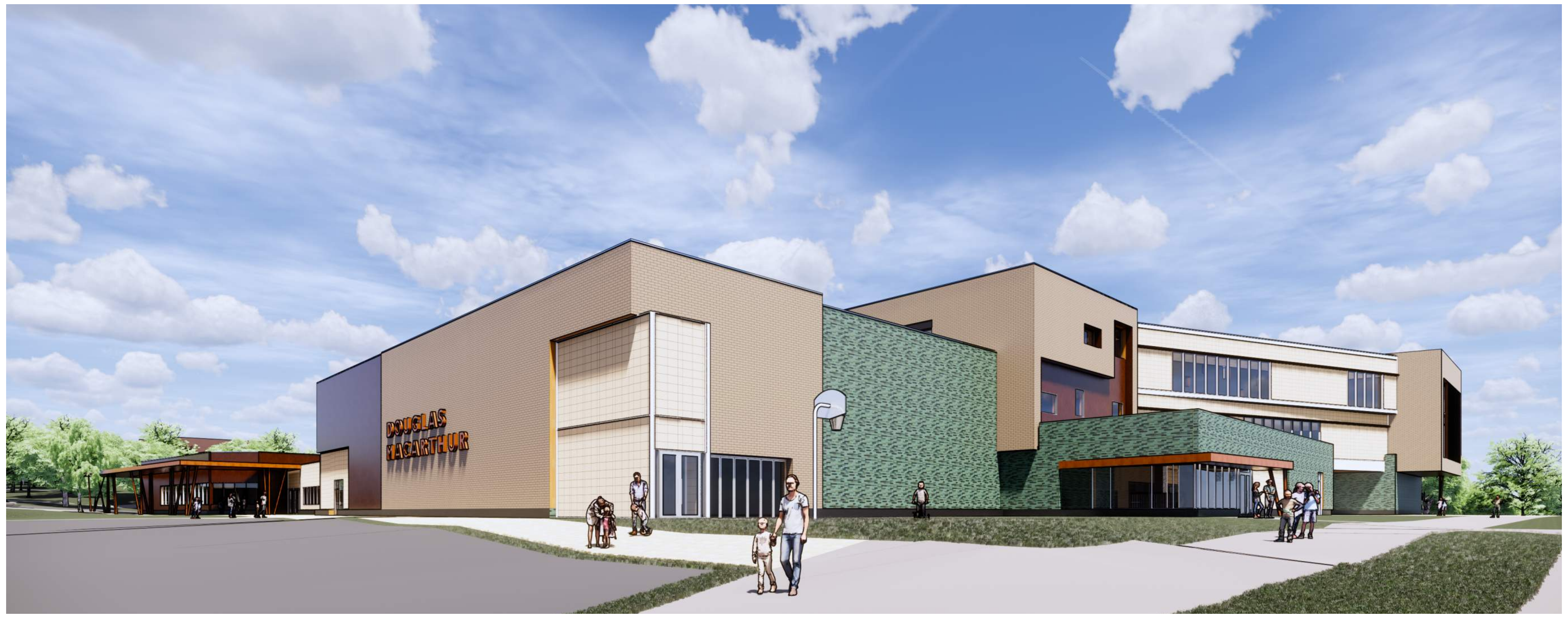
EXTERIOR ELEVATIONS - COURTYARD

A0.7

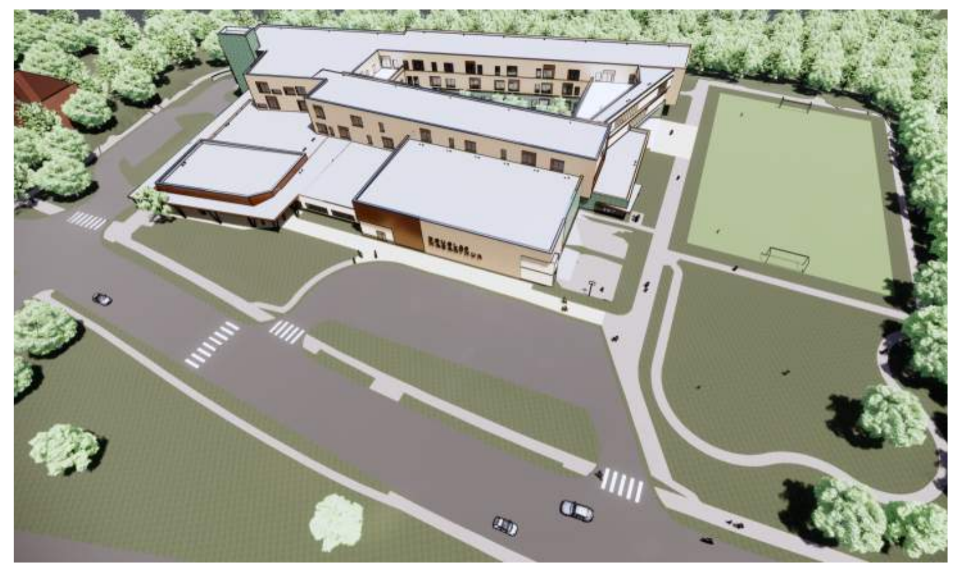
BIM 360://54-19111-00 Douglas MacArthur ES - VA/54-19111-00_Douglas MacArthur ES_AR_2019.rvt
8/12/2020 5:38:33 PM


DOUGLAS MACARTHUR

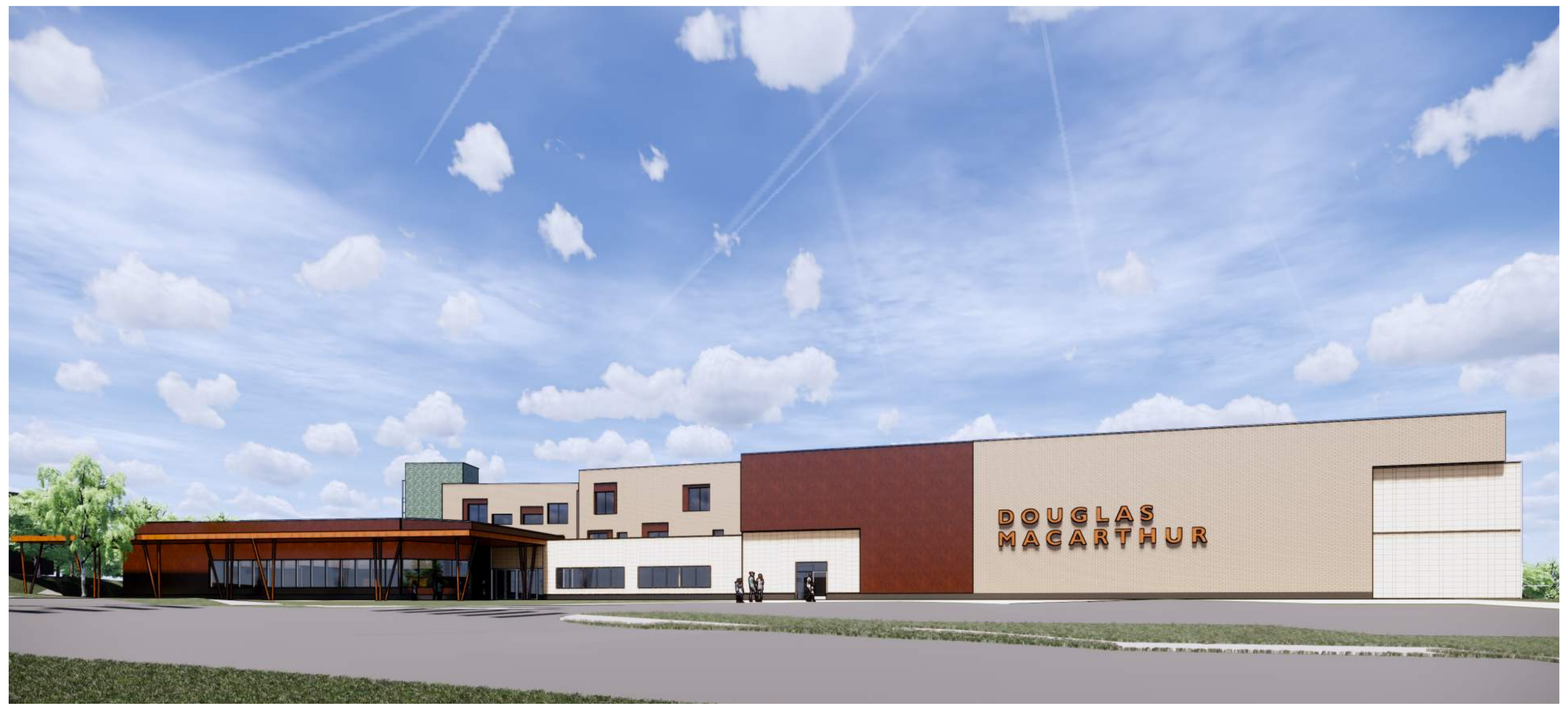
VIEW OF ENTRANCE


DOUGLAS MACARTHUR

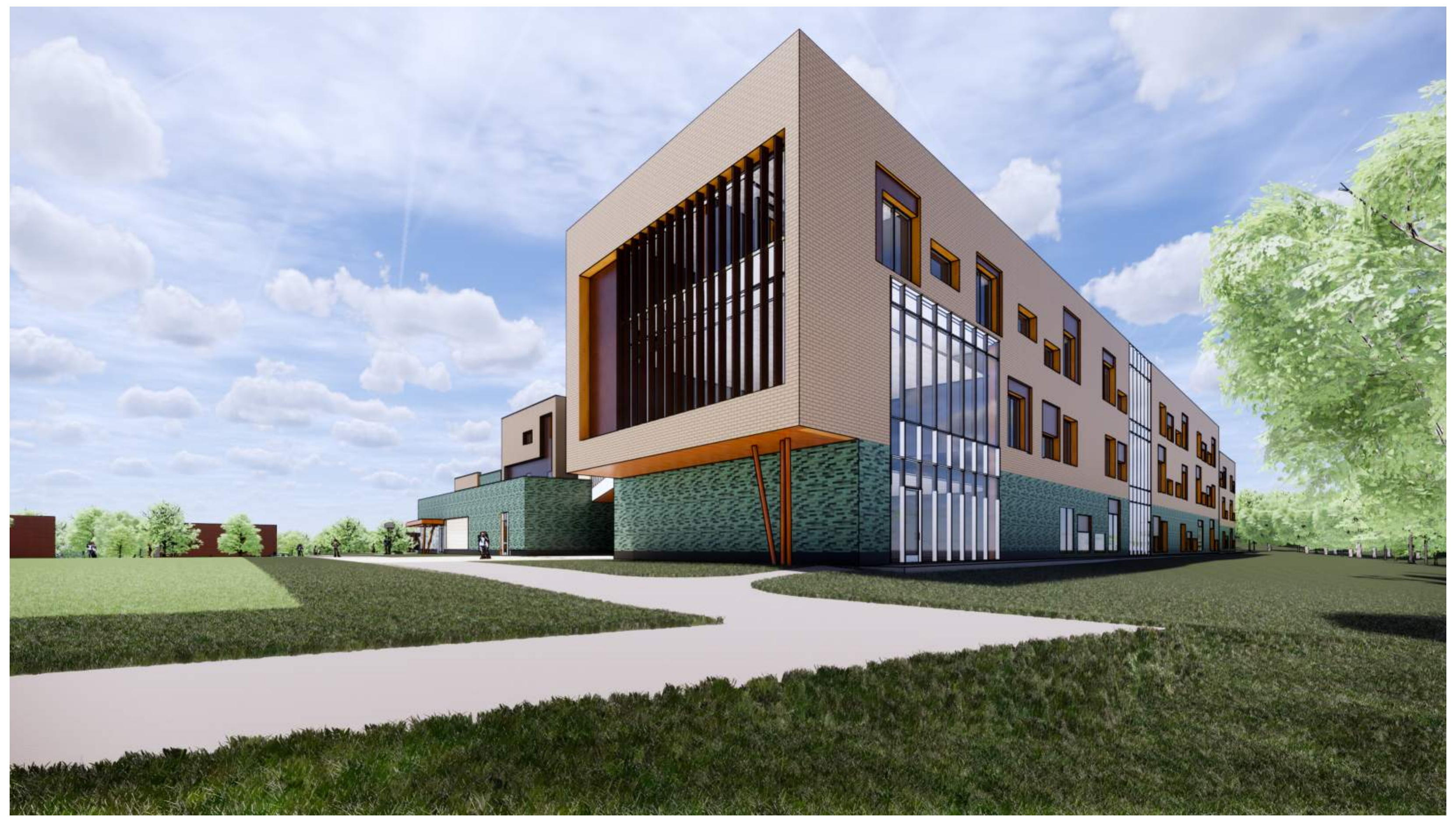
VIEW LOOKING AT GYM



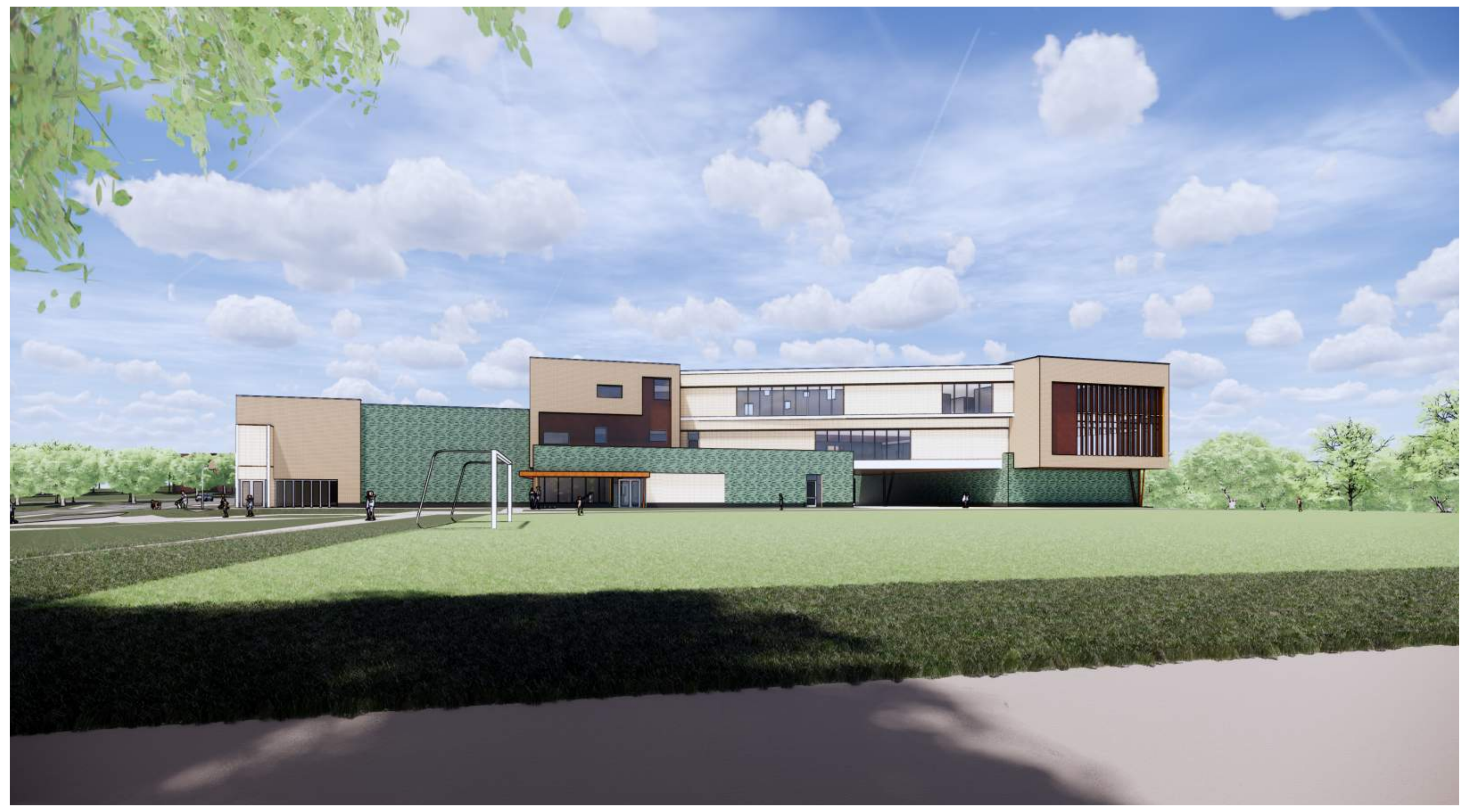
AERIAL VIEW


DOUGLAS MACARTHUR

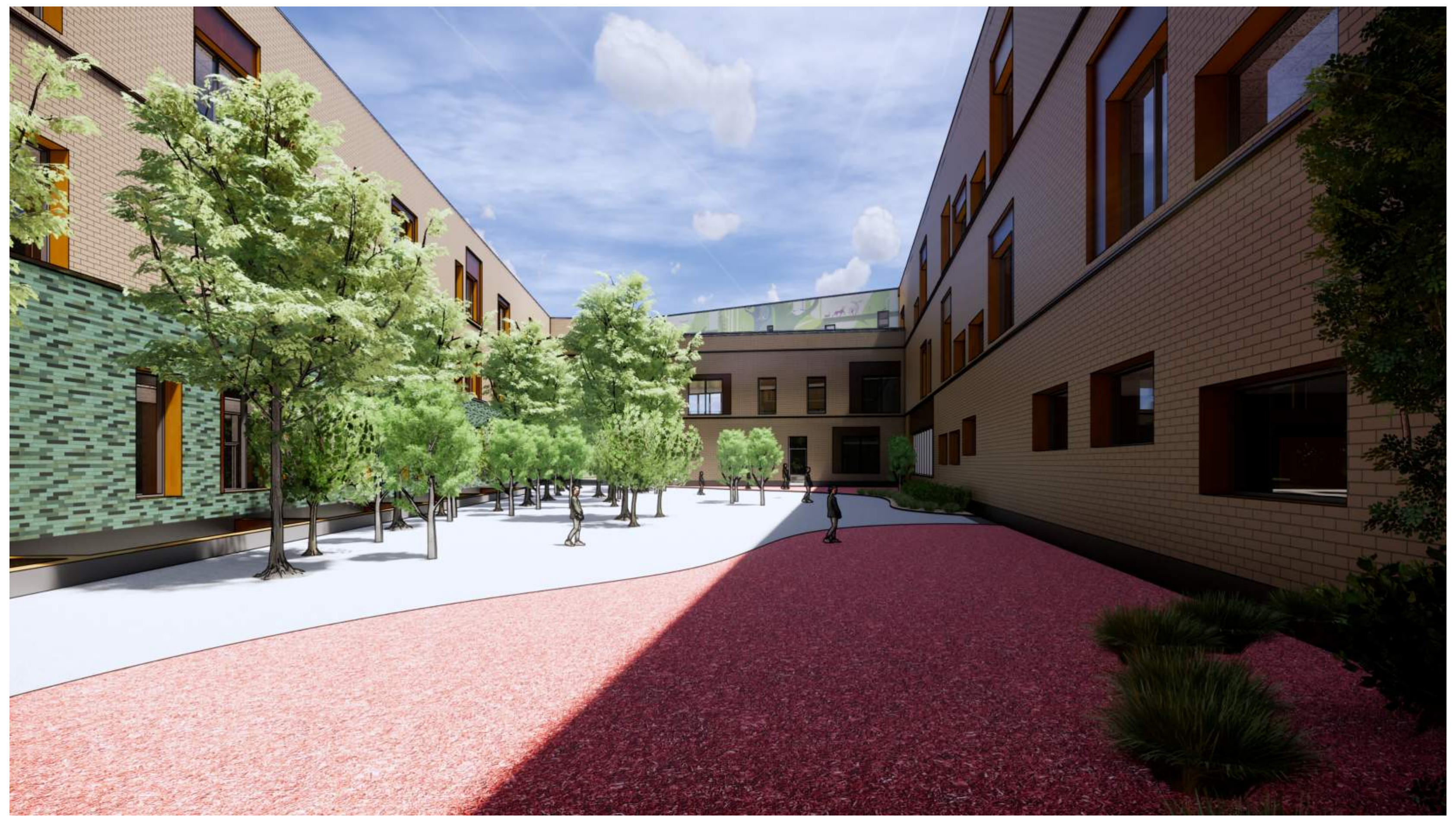
VIEW AT ENTRANCE



VIEW OF CLASSROOMS



VIEW FROM THE FIELDS



VIEW IN THE COURTYARD

DLR Group
© DLR Group

- NOT FOR CONSTRUCTION -

Consultant Logo

Project Logo

New Douglas MacArthur
Elementary School
1100 Janneys Lane, Alexandria VA 22314

PRELIMINARY SITE PLAN SUBMISSION
05/01/2020

Revisions

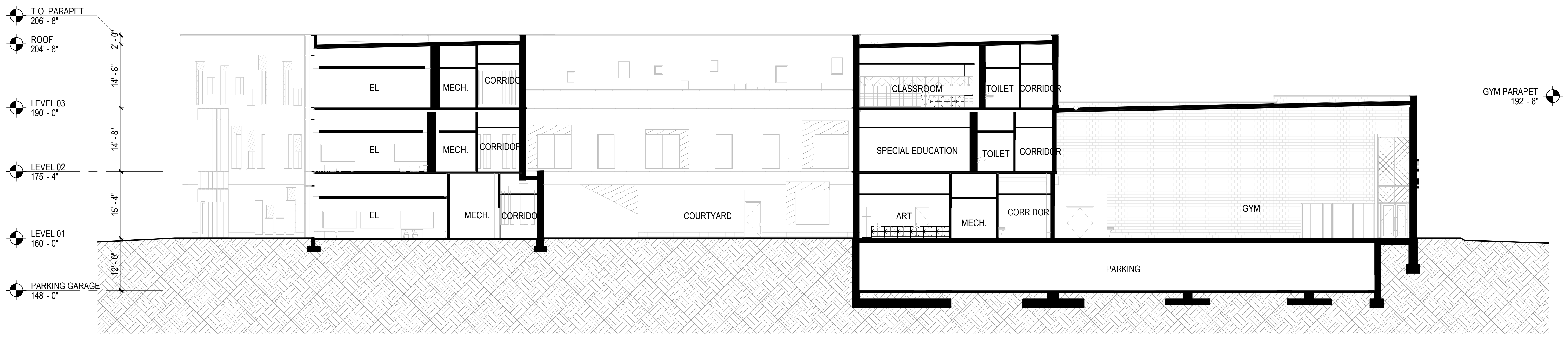
1	REVISION 1	06/15/2020
2	REVISION 2	08/14/2020

54-19111-00

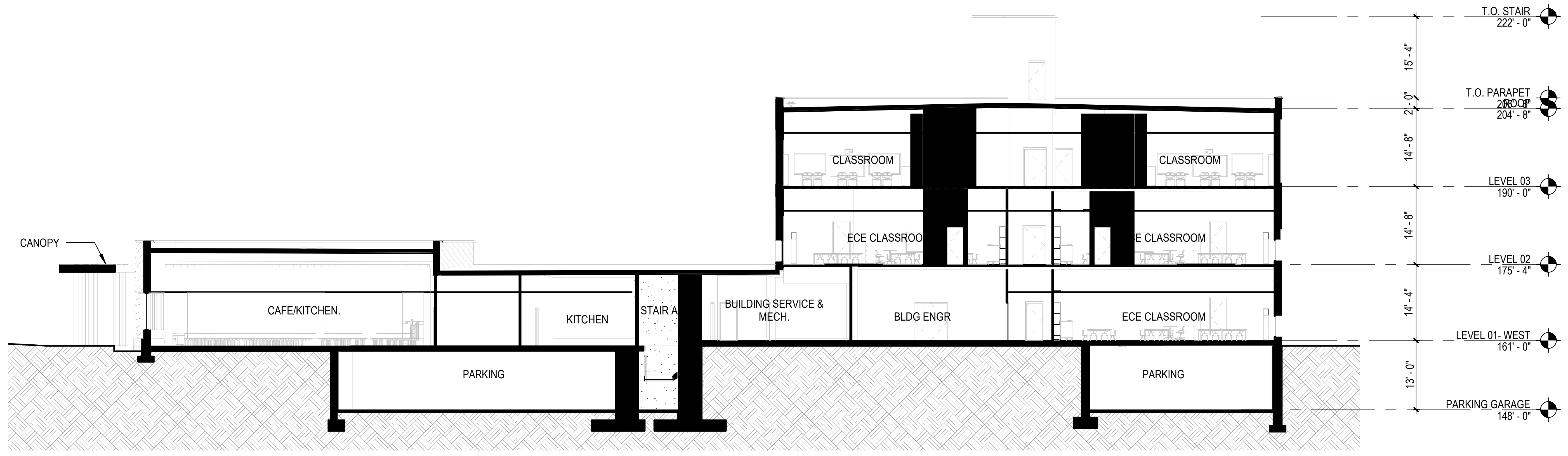
BUILDING 3D VIEWS

A0.8

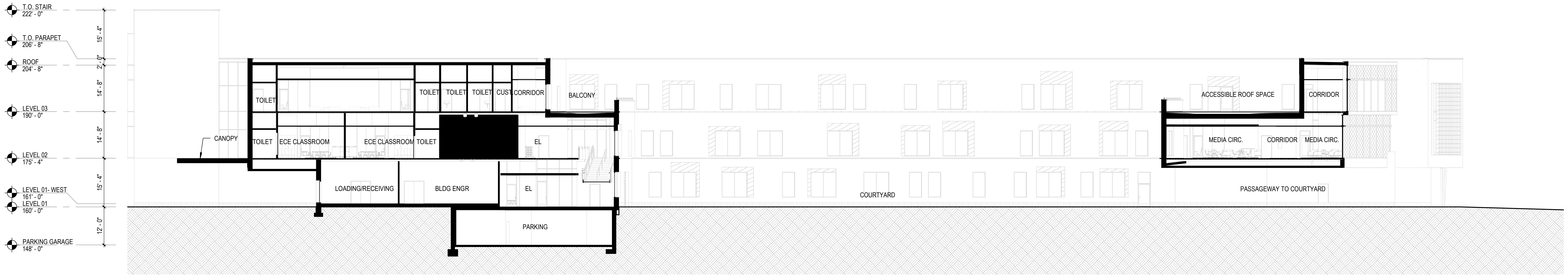
BIM 360://54-19111-00 Douglas MacArthur ES - VA/54-19111-00_Douglas MacArthur ES_AR_2019.rvt
8/12/2020 5:38:34 PM


T.O. PARAPET
206' - 8"
ROOF
204' - 8"
LEVEL 03
190' - 0"
LEVEL 02
175' - 4"
LEVEL 01
160' - 0"
PARKING GARAGE
148' - 0"
2' - 0"
14' - 8"
14' - 8"
15' - 4"
12' - 0"
EL
MECH.
CORRIDO
EL
MECH.
CORRIDOR
EL
MECH.
CORRIDO
COURTYARD
CLASSROOM
TOILET
CORRIDOR
SPECIAL EDUCATION
TOILET
CORRIDOR
ART
MECH.
CORRIDOR
GYM
PARKING
GYM PARAPET
192' - 8"

3
A0.9
BUILDING SECTION THROUGH COURTYARD - E (24x36)
SCALE: 1/16" = 1'-0"


CANOPY
CAFE/KITCHEN.
KITCHEN
STAIR A
BUILDING SERVICE & MECH.
BLDG ENGR
ECE CLASSROOM
CLASSROOM
ECE CLASSROOM
CLASSROOM
E CLASSROOM
PARKING
PARKING
T.O. STAIR
222' - 0"
T.O. PARAPET
206' - 8"
ROOF
204' - 8"
LEVEL 03
190' - 0"
LEVEL 02
175' - 4"
LEVEL 01- WEST
161' - 0"
PARKING GARAGE
148' - 0"
15' - 4"
2' - 0"
14' - 8"
14' - 8"
14' - 4"
13' - 0"

2
A0.9
BUILDING SECTION THROUGH CAFE - W (24x36)
SCALE: 1/16" = 1'-0"


T.O. STAIR
222' - 0"
T.O. PARAPET
206' - 8"
ROOF
204' - 8"
LEVEL 03
190' - 0"
LEVEL 02
175' - 4"
LEVEL 01- WEST
161' - 0"
LEVEL 01
160' - 0"
PARKING GARAGE
148' - 0"
15' - 4"
2' - 0"
14' - 8"
14' - 8"
15' - 4"
12' - 0"
TOILET
TOILET
TOILET
TOILET
CUST.
CORRIDOR
BALCONY
CANOPY
TOILET
ECE CLASSROOM
ECE CLASSROOM
TOILET
EL
LOADING/RECEIVING
BLDG ENGR
EL
PARKING
COURTYARD
ACCESSIBLE ROOF SPACE
CORRIDOR
MEDIA CIRC.
CORRIDOR
MEDIA CIRC.
PASSAGEWAY TO COURTYARD

1
A0.9
BUILDING SECTION THROUGH BRIDGE - N
SCALE: 1/16" = 1'-0"

BIM 360://54-19111-00 Douglas MacArthur ES - VA/54-19111-00_Douglas MacArthur ES_AR_2019.rvt
8/12/2020 5:38:41 PM

DLR Group
© DLR Group

- NOT FOR CONSTRUCTION -

Consultant Logo

Project Logo

New Douglas MacArthur
Elementary School
1100 Janneys Lane, Alexandria VA 22314

PRELIMINARY
SITE PLAN
SUBMISSION
05/01/2020

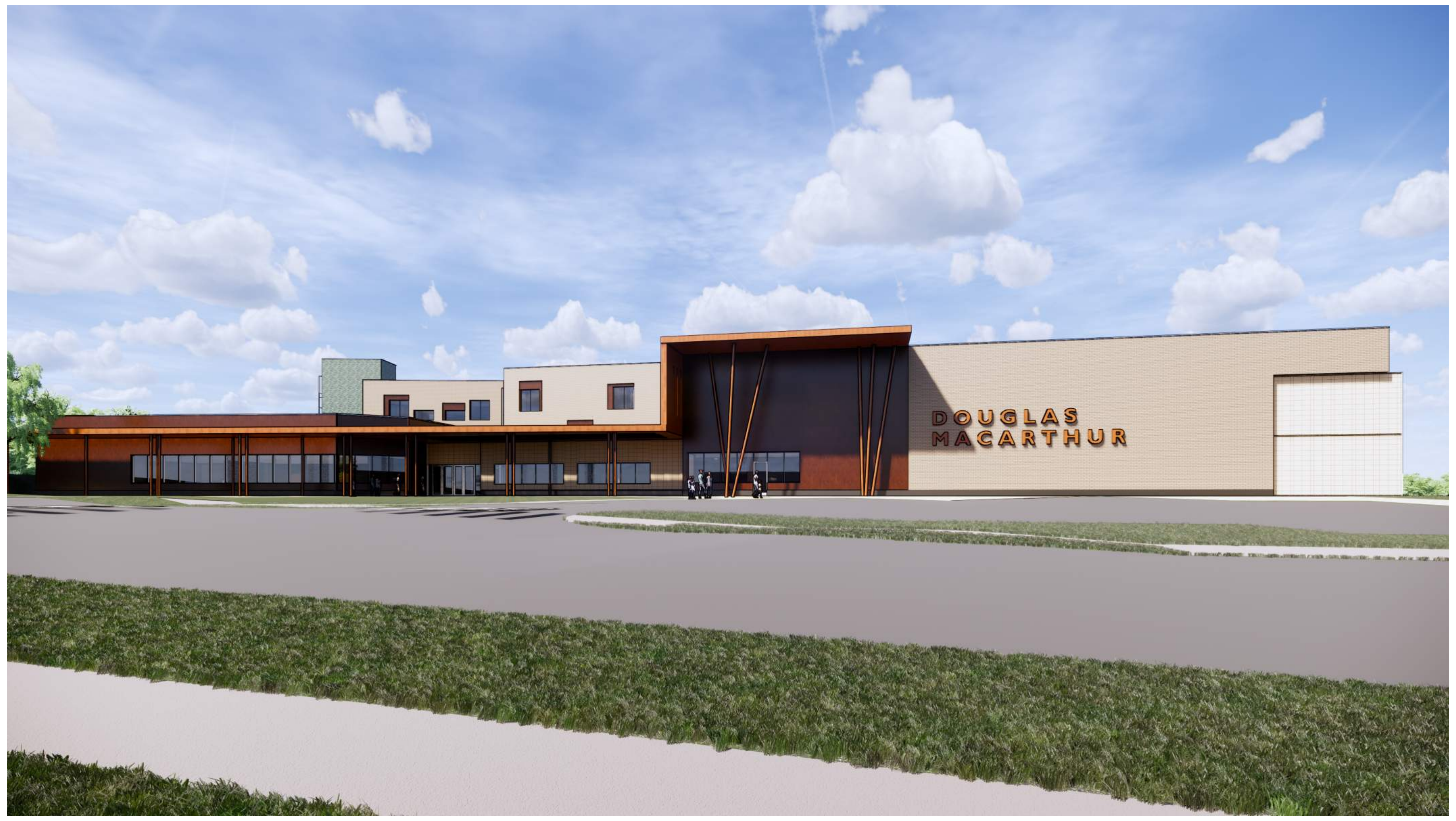
Revisions

1	REVISION 1	06/15/2020
2	REVISION 2	08/14/2020

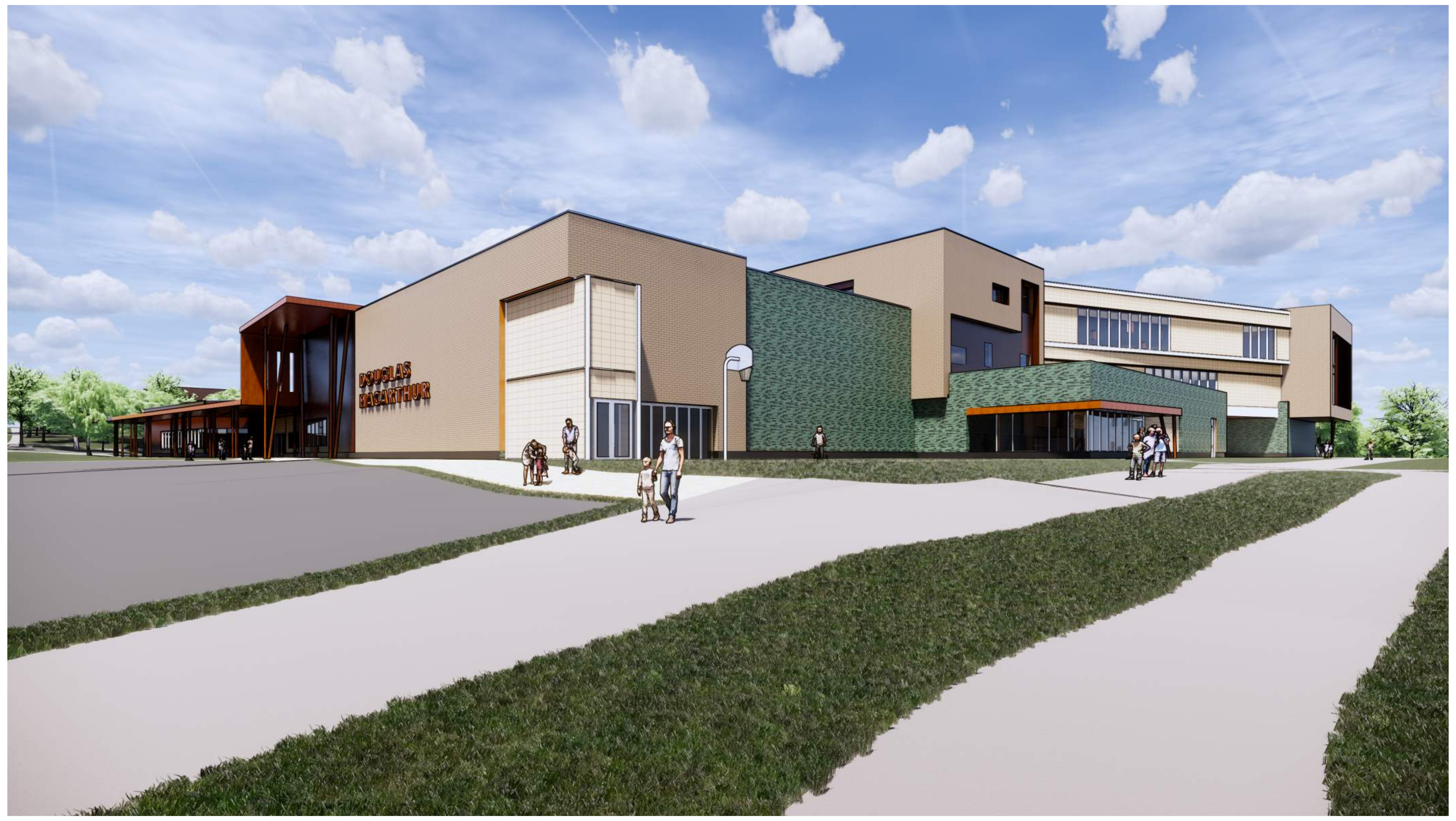
54-19111-00

BUILDING
SECTIONS

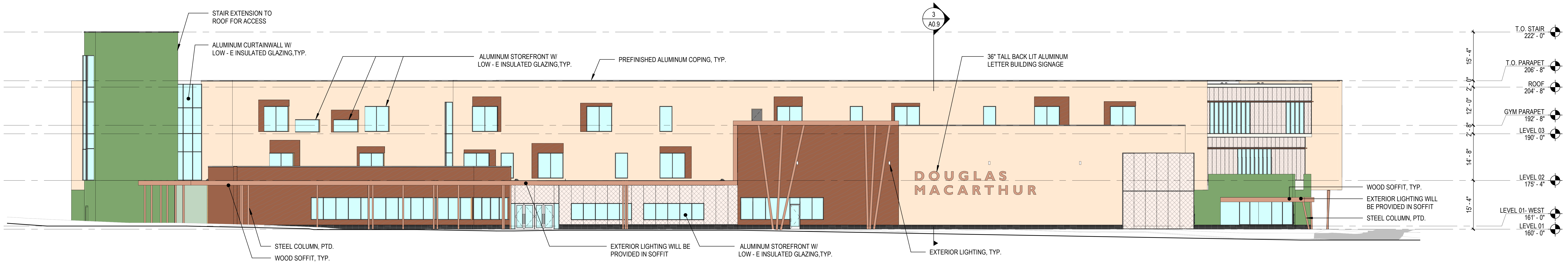
A0.9


DOUGLAS
MACARTHUR

VIEW AT ENTRANCE


DOUGLAS
MACARTHUR

VIEW LOOKING AT GYM


STAIR EXTENSION TO
ROOF FOR ACCESS
ALUMINUM CURTAINWALL W/
LOW - E INSULATED GLAZING,TYP.
ALUMINUM STOREFRONT W/
LOW - E INSULATED GLAZING,TYP.
PREFINISHED ALUMINUM COPING, TYP.
3
A0.9
36" TALL BACK LIT ALUMINUM
LETTER BUILDING SIGNAGE
DOUGLAS
MACARTHUR
T.O. STAIR
222' - 0"
T.O. PARAPET
206' - 8"
ROOF
204' - 8"
GYM PARAPET
192' - 8"
LEVEL 03
190' - 0"
LEVEL 02
175' - 4"
LEVEL 01- WEST
161' - 0"
LEVEL 01
160' - 0"
15' - 4"
2' - 0"
12' - 0"
2' - 8"
14' - 8"
15' - 4"
WOOD SOFFIT, TYP.
EXTERIOR LIGHTING WILL
BE PROVIDED IN SOFFIT
STEEL COLUMN, PTD.
STEEL COLUMN, PTD.
WOOD SOFFIT, TYP.
EXTERIOR LIGHTING WILL BE
PROVIDED IN SOFFIT
ALUMINUM STOREFRONT W/
LOW - E INSULATED GLAZING,TYP.
EXTERIOR LIGHTING, TYP.

2
A0.10
EXTERIOR ELEVATION - S OPT. 2
SCALE: 1/16" = 1'-0"

BIM 360://54-19111-00 Douglas MacArthur ES - VA/54-19111-00_Douglas MacArthur ES_AR_2019.rvt
8/12/2020 5:38:46 PM

DLR Group
© DLR Group

- NOT FOR CONSTRUCTION -

Consultant Logo

Project Logo

New Douglas MacArthur
Elementary School
1100 Janneys Lane, Alexandria VA 22314

PRELIMINARY
SITE PLAN
SUBMISSION
05/01/2020

Revisions

2	REVISION 2	08/14/2020

54-19111-00

CANOPY OPTIONS

A0.10