Harrison Elementary School-Preschool Addition & HVAC Upgrade

Lexington, Kentucky

for the

Fayette County Board of Education 450 Park Place, Lexington, Kentucky 40511 p 859. 381.4100

BG # 23-124

RTA # 2251



101 old lafayette avenue lexington, kentucky 40502 p 859.254.4018 www.rosstarrant.com



enhancing education through great design

STRUCTURAL DESIGN GROUP, INC. STRUCTURAL ENGINEER:

> 220 Great Circle Road, Suite 106 Nashville, Tennessee 37228

p 615.255.5537

KFI ENGINEERS. M.E.P. ENGINEER:

3264 Loch Ness Drive p 859.271.3246

Lexington, Kentucky 40517

HARDWARE CONSULTANT:

CALVERT INDEPENDENT HARDWARE SPECIFICATIONS, LLC 307 Oakwood Circle Vine Grove, Kentucky 40175

p 502.930.2039

161 Bruce St. Lexington, Kentucky40507 VICINITY MAP PROJECT VICINITY MAP

PROJECT SITE ADDRESS:

G1.0 CODE REVIEW SD1.2 SITE LAYOUT PLAN SD2.2 SITE DRAINAGE PLAN ALTERNATE#1 SITE DEVELOPMENT PLAN S SD3.2 | ALTERNATE#2 SITE DEVELOPMENT PLAN SD4.1 SITE DRAINAGE DETAILS 0 SD4.2 SITE DETAILS SD4.3 SITE DETAILS SD4.4 SITE DETAILS STRUCTURAL NOTES STRUCTURAL QUALITY ASSURANCE PLAN LOWER LEVEL FOUNDATION PLAN LEVEL 1 FOUNDATION PLAN FOUNDATION SECTIONS AND DETAILS GENERAL ARCHITECTURAL DETAILS A1.1 OVERALL & BASEMENT PLAN A2.1 FLOOR PLANS FF&E A4.1 BUILDING SECTIONS & ELEVATIONS A5.1 WALL SECTIONS DOORS AND FRAME SCHEDULE REFLECTED CEILING - FIRST FLOOR A7.2 REFLECTED CEILING - SECOND FLOOR ENLARGED FIRE PROTECTION PLAN MECHANICAL SYMBOLS M2.2 ENLARGED PLUMBING PLAN M3.1 WASTE & VENT RISER DIAGRAMS M4.1 FIRST FLOOR HVAC PLAN M4.3 ENLARGED HVAC PIPING PLAN M4.4 ENLARGED HVAC PLAN M6.1 PLUMBING DETAILS AND SCHEDULE M6.3 MECHANICAL DETAILS MECHANICAL SITE PLAN ELECTRICAL SYMBOLS AND ABBREVIATIONS SITE UTILITIES DEMOLITION PLAN E1.2 ENLARGED SECOND FLOOR ELECTRICAL

ENLARGED LIGHTING PLAN E3.1 ENLARGED POWER PLAN E3.2 ENLARGED FIRST FLOOR MECHANICAL POWER PLAI E3.3 ENLARGED SECOND FLOOR MECHANICAL POWER PLAN

E4.1 ENLARGED TECHNOLOGY PLAN

E6.1 ELECTRICAL SINGLE LINE DIAGRAM & SCHEDULES E7.1 ELECTRICAL DETAILS

FAYETTE COUNTY BOARD OF EDUC 450 PARK PLACE, LEXINGTON, KY

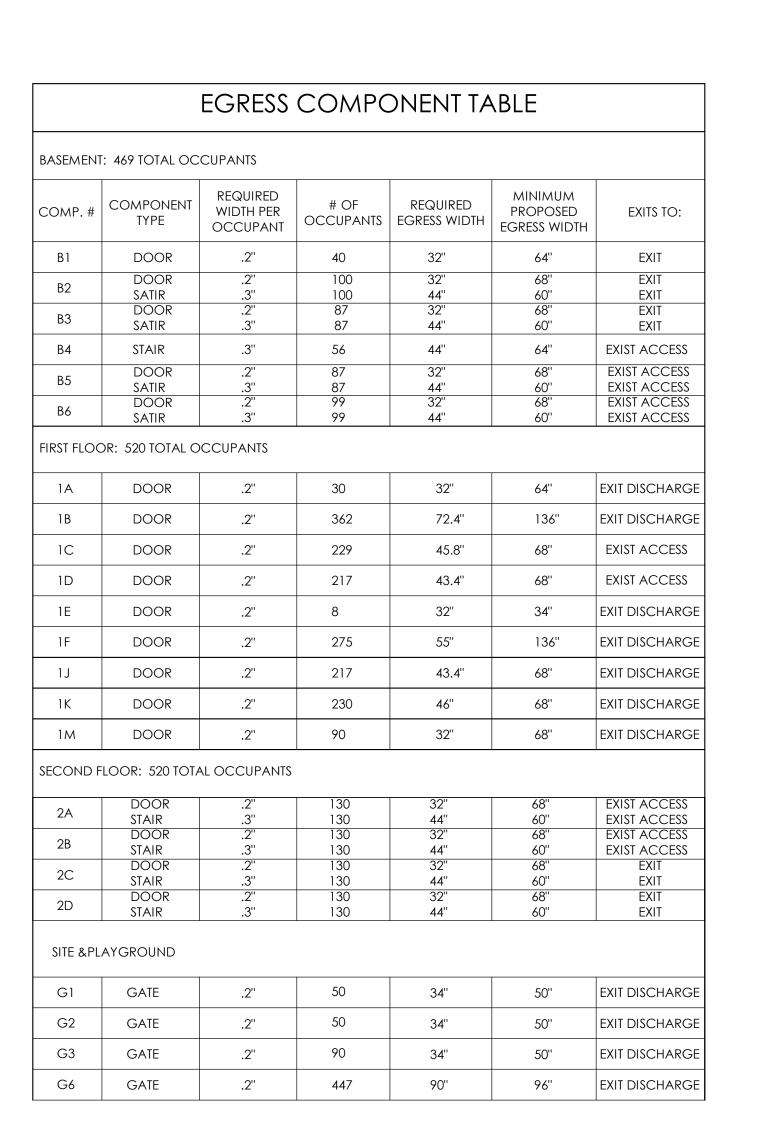
M,E,&P Engineer: KFI Engineers. tructural Design Group, Inc 220 Great Circle Rd. Suite 10

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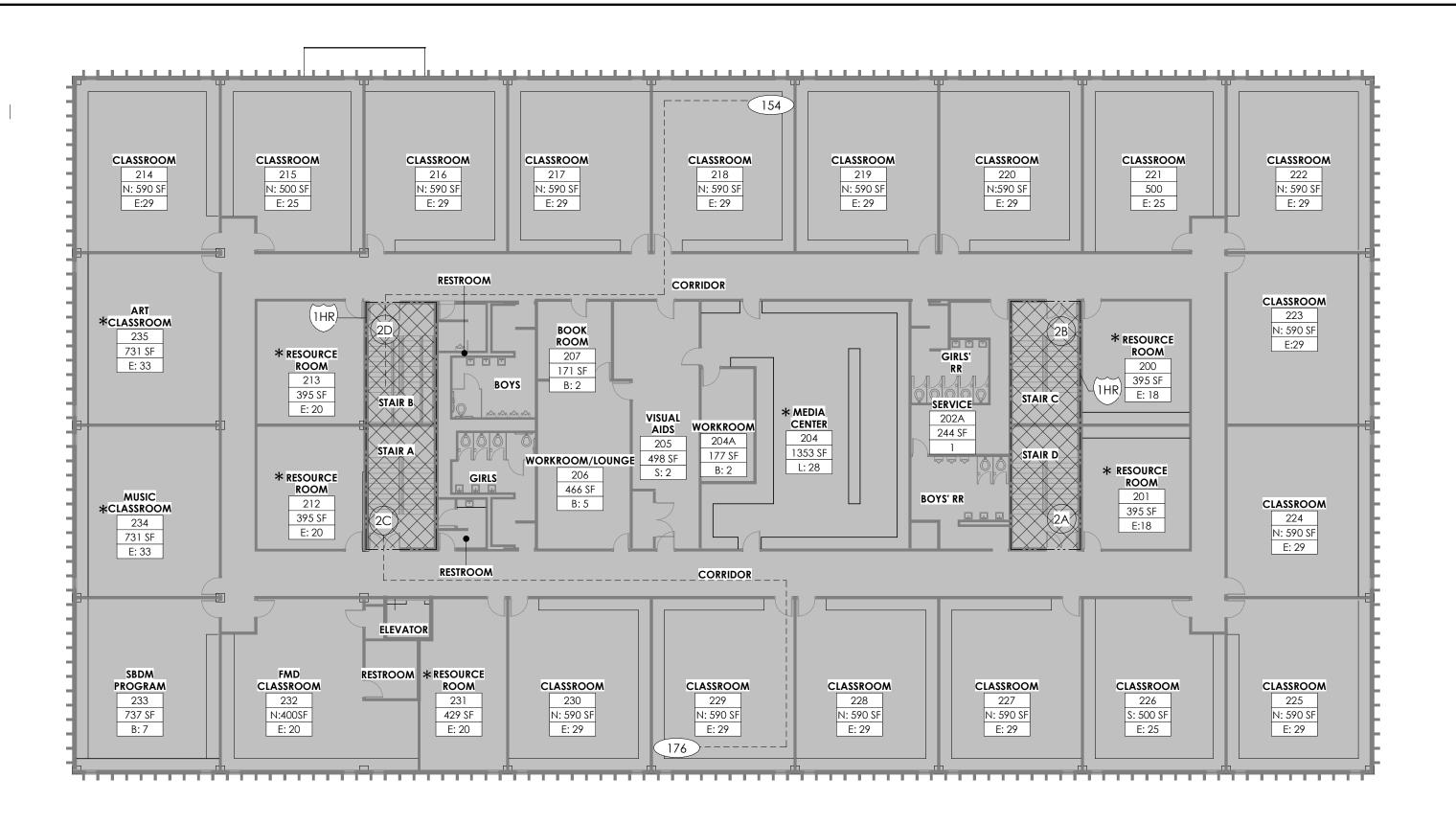
CONSTRUCTION DOCUMEN

COVER SHEET

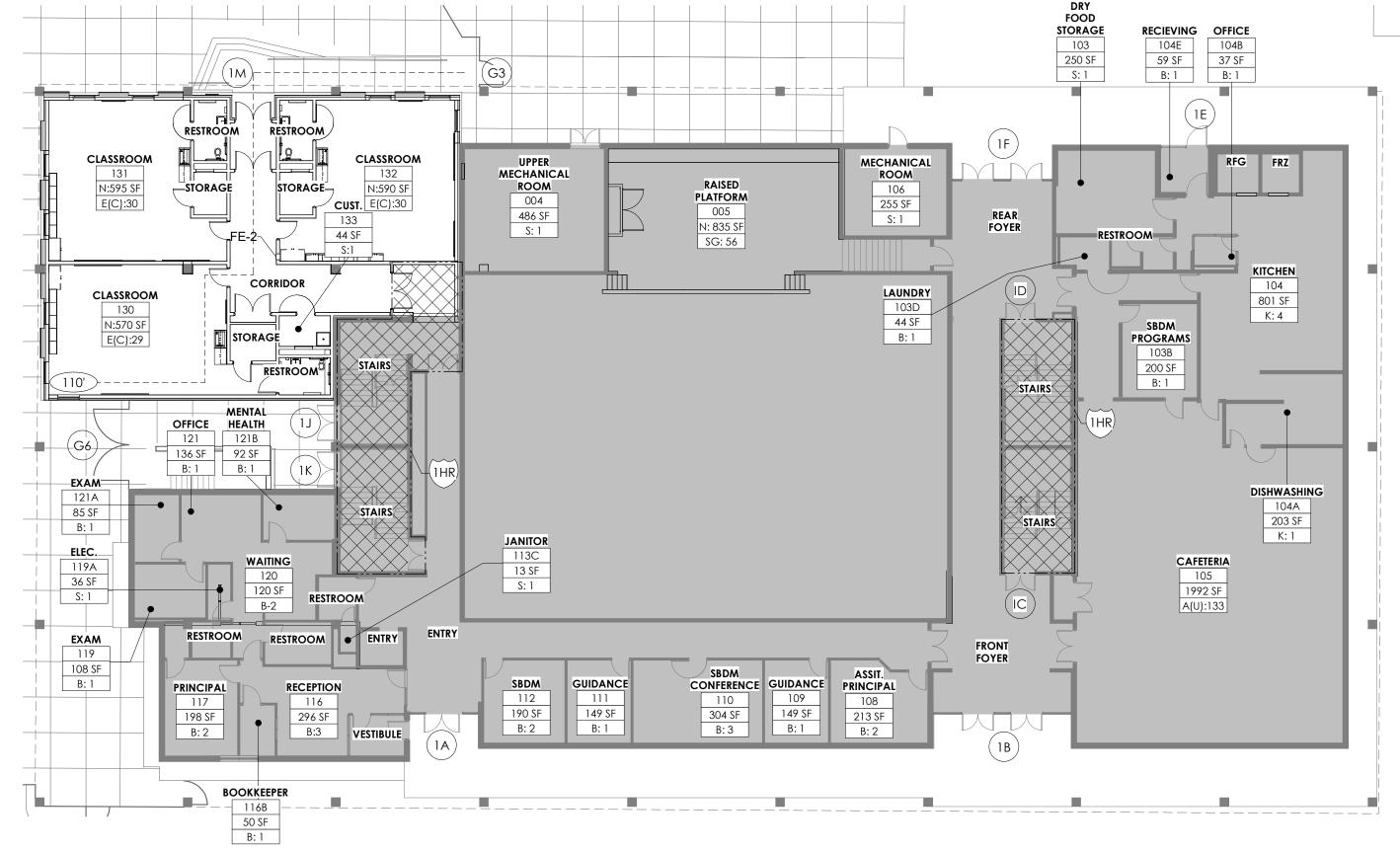
DATE ISSUED: 09/15/2023

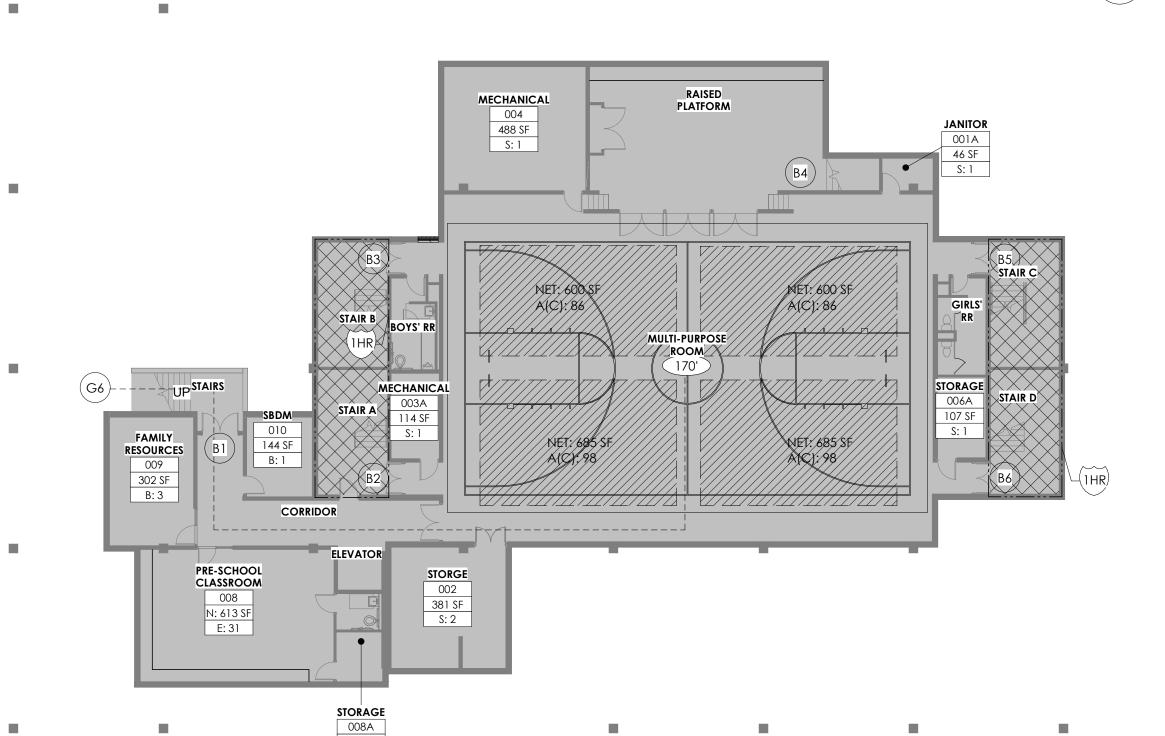






TOTAL OCCUPANCY: 520 LIFE SAFETY - SECOND FLOOR 1/16" = 1'-0"





TOTAL OCCUPANCY: 258

1/16" = 1'-0"

TOTAL OCCUPANCY: 469

1/16" = 1'-0"

LIFE SAFETY - BASEMENT

LIFE SAFETY - FIRST FLOOR

CODES AND APPLICABLE STANDARDS 2018 KENTUCKY BUILDING CODE (BASED ON THE 2015 INTERNATIONAL BUILDING CODE) 2009 ICC/ANSI A117.1--ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES KENTUCKY STANDARDS OF SAFETY, LATEST EDITION 2012 INTERNATIONAL FIRE CODE (IFC), FOR NEW CONSTRUCTION AS PER KBC REQUIREMENTS 2012 INTERNATIONAL FIRE CODE FOR PORTABLE EXTINGUISHERS, SECTION 906 2012 INTERNATIONAL ENERGY CONSERVATION CODE (FOR USE WITH THE KENTUCKY BUILDING CODE ONLY) 2015 INTERNATIONAL MECHANICAL CODE STATE BOILER CODES & REGULATIONS, LATEST EDITION ASME BOILER, PRESSURE VESSEL, AND PRESSURE PIPING CODES, LATEST EDITION KENTUCKY PLUMBING CODE, LATEST EDITION 2012 NFPA 01 - FIRE PREVENTION CODE 2010 NFPA 13 - SPRINKLER SYSTEMS 2010 NFPA 14 - STANDPIPE, HOSE SYSTEMS 2009 NFPA 54 - NATIONAL FUEL GAS 2017 NFPA 70 - NATIONAL ELECTRICAL CODE 2010 NFPA 72 - FIRE ALARM UNITED LABORATORIES (UL) STANDARDS FOR FIRE RESISTANT CONSTRUCTION AMERICAN STANDARDS AND TESTING METHODS (ASTM) 702 KAR 4:170 FACILITY PROGRAMMING AND CONSTRUCTION CRITERIA PLANNING GUIDE, KENTUCKY DEPARTMENT OF EDUCATION (KDE) FIRE RESISTANCE REQUIREMENTS FIRE RESISTANCE PER CONSTRUCTION TYPE: 2B **BUILDING ELEMENT:** FIRE-RESISTANCE RATING RQMT., HRS: STRUCTURAL FRAME: BEARING WALLS, EXTERIOR: BEARING WALLS, INTERIOR: NONBEARING WALLS & PARTITIONS, EXTERIOR: NONBEARING WALLS & PARTITIONS, INTERIOR: FLOOR CONSTRUCTION, INCL. SUPPORTING BEAMS & JOISTS: ROOF CONSTRUCTION, INCL. SUPPORTING BEAMS & JOISTS:

RECORDS ROOM IN ADMIN AREA (PER KDE) N/A DUE TO SPRINKLER SMOKE-TIGHT CONSTRUCTION REQUIRED FOR INCIDENTAL USE AREAS AS FOLLOWS: INCIDENTAL USE AREA:

ADDITIONAL FIRE-RESISTANT CONSTRUCTION

FIRE-RESISTANT ASSEMBLY TYPE:

VERTICAL SHAFT, INCL. ELEVATOR

VERTICAL EXIT ENCLOSURE

FIRE WALL

FIRE BARRIERS

FURNACE ROOM WHERE ANY PIECE OF EQUIPMENT IS OVER 400,000 BTU/HR INPUT ROOMS WITH BOILERS WHERE THE LARGEST PIECE OF EQUIPMENT IS OVER 15 PSI AND 10 HP REFRIGERANT MACHINERY ROOM LABORATORIES AND VOCATIONAL SHOPS

FIRE-RESISTANCE RATING RQMT., HRS:

*NOTE: THE ABOVE REQUIRE ONLY SMOKE-TIGHT CONSTRUCTION PER KBC DUE TO AUTOMATIC SPRINKLER HEIGHT AND AREA CALCULATIONS BUILDING: HARRISON ELEMENTARY SCHOOL W/NEW ADDITION OCCUPANCY CLASSIFICATION: **E** CONSTRUCTION TYPE: IIB Sprinkler: **Yes** BUILDING PERIMETER, P: 615' OPEN PERIMETER, F: 296' WIDTH, W: 20' ALLOWABLE HEIGHT ACTUAL HEIGHT (FROM TABLE 504.3) 75'-0'' ALLOWABLE STORIES ACTUAL STORIES, Sa (FROM TABLE 504.4) ALLOWABLE AREA ALLOWABLE AREA (FROM TABLE 506.2) $I_f = [F/P-0.25] \times (W/30)$ Basement:10,828 $I_f = [552/615 - 0.25] \times (20/30)$ Second Floor: 27,519 First Floor: 18,125 At=58,000 SF NS=14,500 SF $Aa=[At+(NSxI_f)] \times S_a$ Aa=[58,000+(14,500x**0.23**)] x **1** Aa=61,335 (each floor)

M,E,&P Engineer: KFI Engineers. 3264 Lochness Dr. Lexington, KY 40517 p 859.271.3246 <u>Structural Engineer:</u> Structural Design Group, Inc. 220 Great Circle Rd. Suite 10

BG#

Drawn By: __IDK__

Rev'd By: MH

SHEET RELEASE

CONSTRUCTION DOCUMENT

09/15/2023

23-124

FAYETTE COUNTY BOARD OF EDUC 450 PARK PLACE, LEXINGTON , KY

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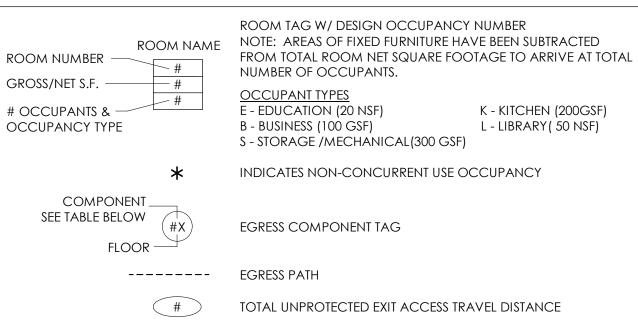
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EGRESS PLAN - SYMBOL KEY

INDICATE AREAS OF EXISTING TO REMAIN



OPEN PERIMETER FRONTAGE DEMARCATION LINE BETWEEN EXISTING & NEW CONSTRUCTION FIRE PROTECTED AREA - I.E. ALL SURROUNDING WALLS ARE OF A FIRE-RESISTANT ASSEMBLY - SEE FIRE RESISTANCE REQUIREMENTS

CODE REVIEW DATE ISSUED:

SEE TABLE BELOW

DURATION OF #HR FIRE-RESISTANCE ABOVE FOR ADDITIONAL INFORMATION

* SEE AO.1 SHEET FOR ADDITIONAL FIRE-RESISTANCE SYMBOLS THAT MAY APPEAR ON THIS SHEET.

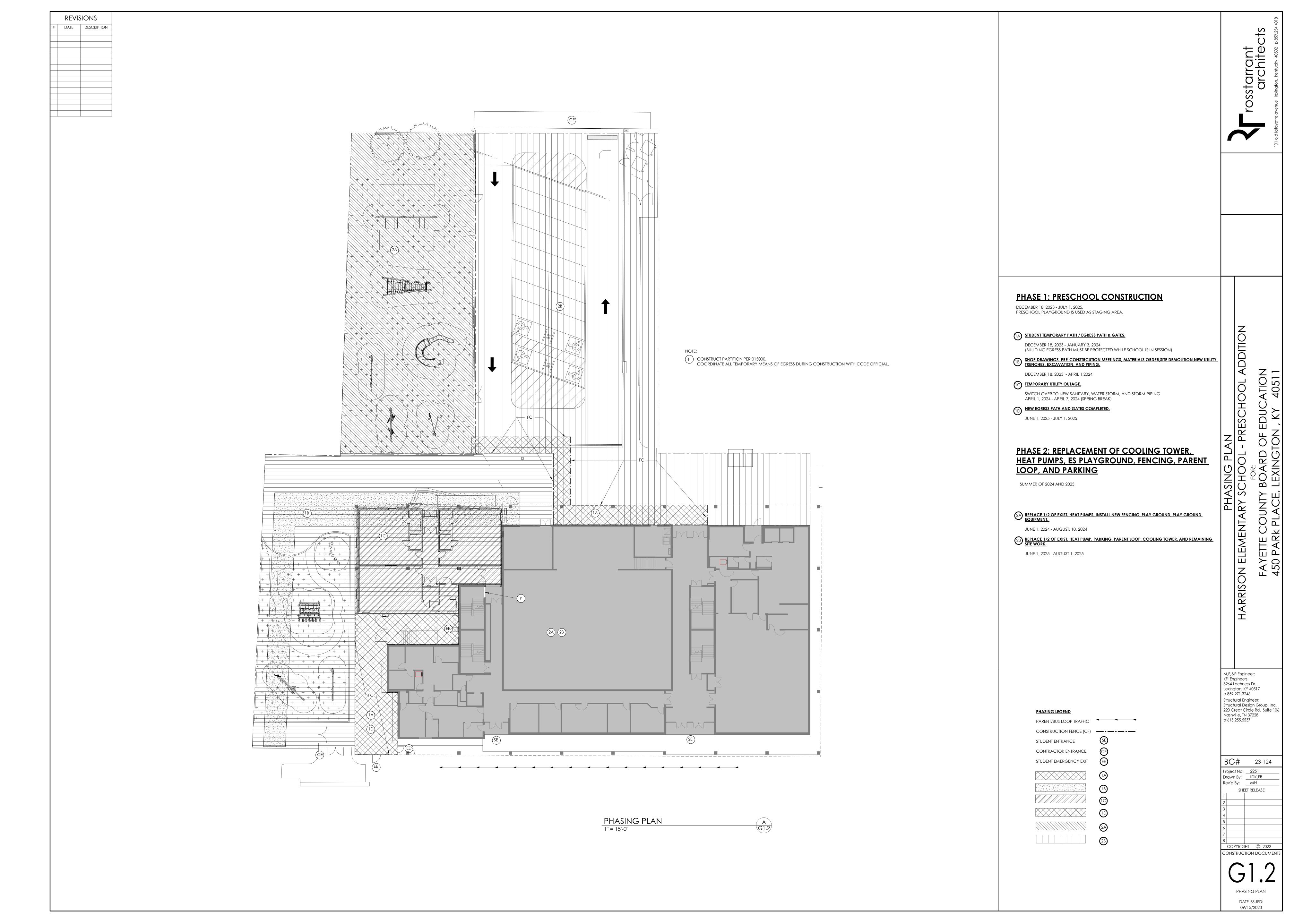
__150' - 0 1/8"

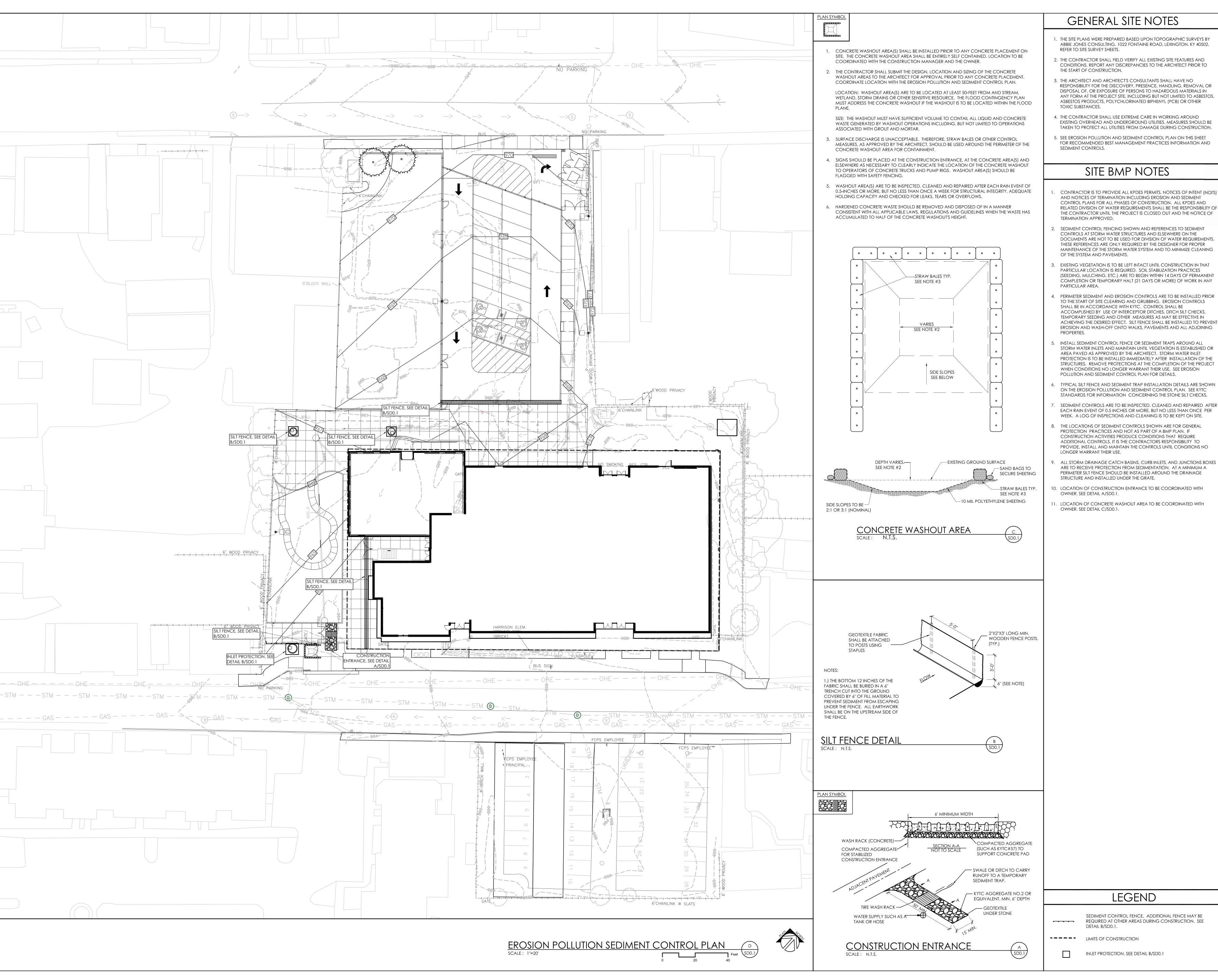
90' - 0''

205' - 11"

LIFE SAFETY - FIRST FLOOR -Site

PLAYGROUND





GENERAL SITE NOTES

- . THE SITE PLANS WERE PREPARED BASED UPON TOPOGRAPHIC SURVEYS BY ABBIE JONES CONSULTING, 1022 FONTAINE ROAD, LEXINGTON, KY 40502, REFER TO SITE SURVEY SHEETS.
- 2. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING SITE FEATURES AND
- CONDITIONS. REPORT ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO THE START OF CONSTRUCTION. 3. THE ARCHITECT AND ARCHITECT'S CONSULTANTS SHALL HAVE NO RESPONSIBILITY FOR THE DISCOVERY, PRESENCE, HANDLING, REMOVAL OR
- 4. THE CONTRACTOR SHALL USE EXTREME CARE IN WORKING AROUND EXISTING OVERHEAD AND UNDERGROUND UTILITIES. MEASURES SHOULD BE
- 5. SEE EROSION POLLUTION AND SEDIMENT CONTROL PLAN ON THIS SHEET FOR RECOMMENDED BEST MANAGEMENT PRACTICES INFORMATION AND

SITE BMP NOTES

- CONTRACTOR IS TO PROVIDE ALL KPDES PERMITS, NOTICES OF INTENT (NOI'S) AND NOTICES OF TERMINATION INCLUDING EROSION AND SEDIMENT CONTROL PLANS FOR ALL PHASES OF CONSTRUCTION. ALL KPDES AND RELATED DIVISION OF WATER REQUIREMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR UNTIL THE PROJECT IS CLOSED OUT AND THE NOTICE OF TERMINATION APPROVED.
- SEDIMENT CONTROL FENCING SHOWN AND REFERENCES TO SEDIMENT CONTROLS AT STORM WATER STRUCTURES AND ELSEWHERE ON THE DOCUMENTS ARE NOT TO BE USED FOR DIVISION OF WATER REQUIREMENTS. THESE REFERENCES ARE ONLY REQUIRED BY THE DESIGNER FOR PROPER MAINTENANCE OF THE STORM WATER SYSTEM AND TO MINIMIZE CLEANING OF THE SYSTEM AND PAVEMENTS.
- EXISTING VEGETATION IS TO BE LEFT INTACT UNTIL CONSTRUCTION IN THAT PARTICULAR LOCATION IS REQUIRED. SOIL STABILIZATION PRACTICES (SEEDING, MULCHING, ETC.) ARE TO BEGIN WITHIN 14 DAYS OF PERMANENT COMPLETION OR TEMPORARY HALT (21 DAYS OR MORE) OF WORK IN ANY PARTICULAR AREA.
- 4. PERIMETER SEDIMENT AND EROSION CONTROLS ARE TO BE INSTALLED PRIOR TO THE START OF SITE CLEARING AND GRUBBING. EROSION CONTROLS SHALL BE IN ACCORDANCE WITH KYTC. CONTROL SHALL BE ACCOMPLISHED BY USE OF INTERCEPTOR DITCHES, DITCH SILT CHECKS, TEMPORARY SEEDING AND OTHER MEASURES AS MAY BE EFFECTIVE IN ACHIEVING THE DESIRED EFFECT. SILT FENCE SHALL BE INSTALLED TO PREVENT EROSION AND WASH-OFF ONTO WALKS, PAVEMENTS AND ALL ADJOINING
- INSTALL SEDIMENT CONTROL FENCE OR SEDIMENT TRAPS AROUND ALL STORM WATER INLETS AND MAINTAIN UNTIL VEGETATION IS ESTABLISHED OR AREA PAVED AS APPROVED BY THE ARCHITECT. STORM WATER INLET PROTECTION IS TO BE INSTALLED IMMEDIATELY AFTER INSTALLATION OF THE STRUCTURES. REMOVE PROTECTIONS AT THE COMPLETION OF THE PROJECT WHEN CONDITIONS NO LONGER WARRANT THEIR USE. SEE EROSION POLLUTION AND SEDIMENT CONTROL PLAN FOR DETAILS.
- ON THE EROSION POLLUTION AND SEDIMENT CONTROL PLAN. SEE KYTC STANDARDS FOR INFORMATION CONCERNING THE STONE SILT CHECKS. SEDIMENT CONTROLS ARE TO BE INSPECTED, CLEANED AND REPAIRED AFTER
- WEEK. A LOG OF INSPECTIONS AND CLEANING IS TO BE KEPT ON SITE. THE LOCATIONS OF SEDIMENT CONTROLS SHOWN ARE FOR GENERAL PROTECTION PRACTICES AND NOT AS PART OF A BMP PLAN. IF CONSTRUCTION ACTIVITIES PRODUCE CONDITIONS THAT REQUIRE
- ALL STORM DRAINAGE CATCH BASINS, CURB INLETS, AND JUNCTIONS BOXES ARE TO RECEIVE PROTECTION FROM SEDIMENTATION. AT A MINIMUM A PERIMETER SILT FENCE SHOULD BE INSTALLED AROUND THE DRAINAGE STRUCTURE AND INSTALLED UNDER THE GRATE.
- 10. LOCATION OF CONSTRUCTION ENTRANCE TO BE COORDINATED WITH OWNER. SEE DETAIL A/SD0.1.
- 11. LOCATION OF CONCRETE WASHOUT AREA TO BE COORDINATED WITH

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3264 Lochness Dr. Lexington, KY 40517 p 859.271.3246 <u>Structural Engineer:</u> Structural Design Group, Inc. 220 Great Circle Rd. Suite 106 Nashville, TN 37228 p 615.255.5537

23-124 Project No: 2251 Drawn By: EGS, ELM Rev'd By: KAM, SL, LMR SHEET RELEASE

LEGEND

SEDIMENT CONTROL FENCE. ADDITIONAL FENCE MAY BE REQUIRED AT OTHER AREAS DURING CONSTRUCTION. SEE DETAIL B/SD0.1.

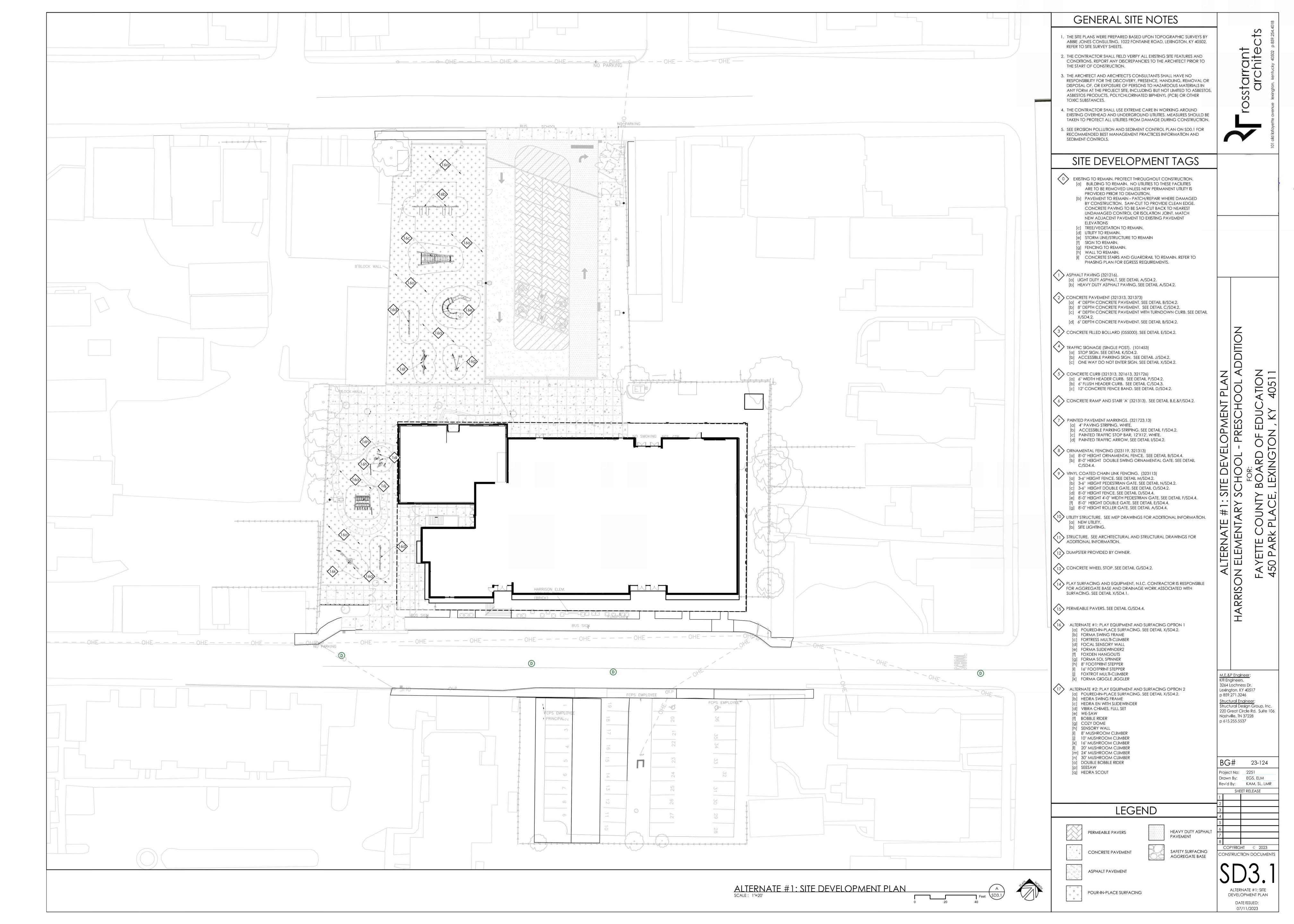
LIMITS OF CONSTRUCTION

INLET PROTECTION. SEE DETAIL B/SD0.1

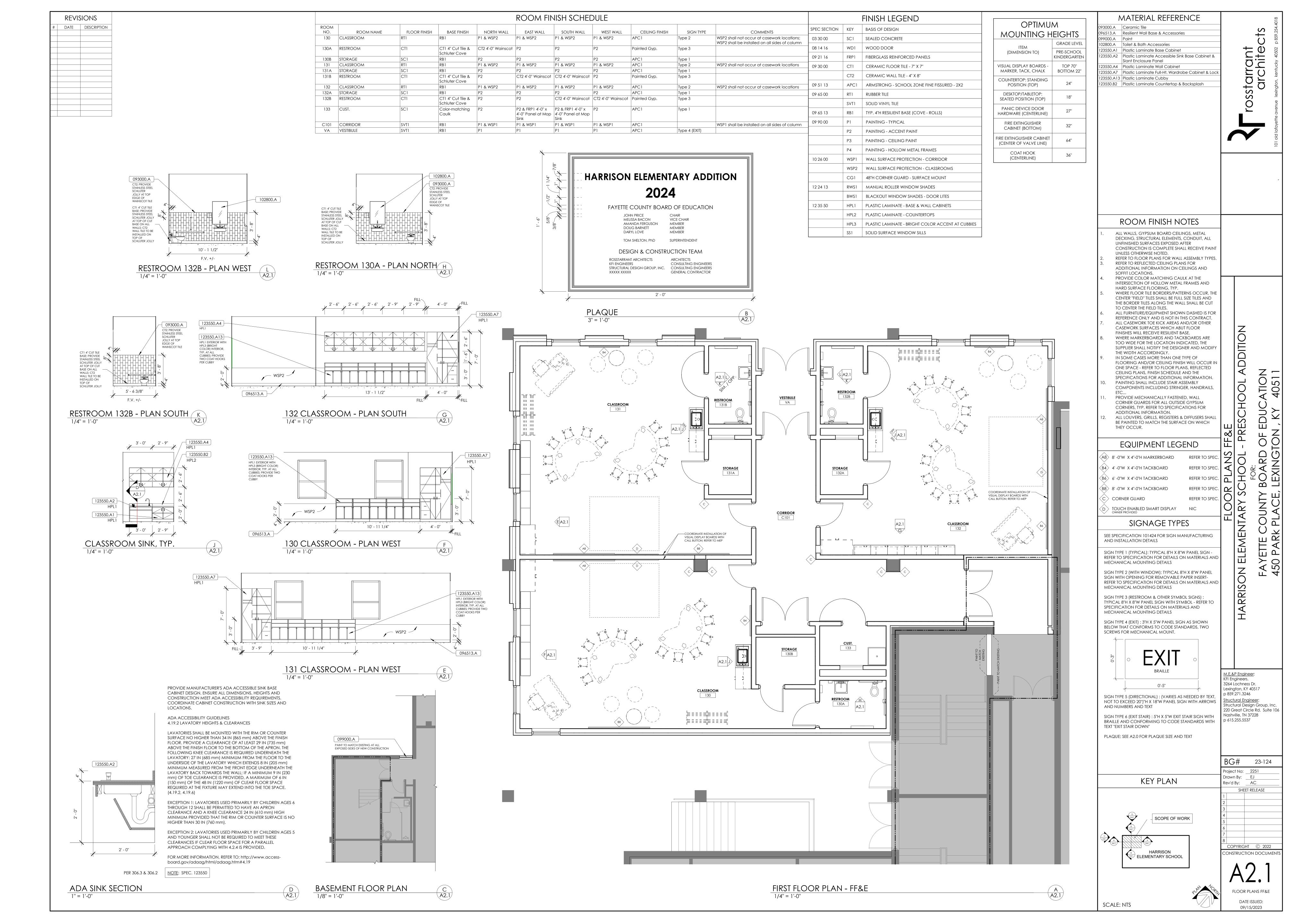
EPSC PLAN

CONSTRUCTION DOCUMENTS

DATE ISSUED: 07/11/2023







KEYNOTES

- M1 EXISTING UNIT TO REMAIN AND BE RELOCATED FROM ORIGINAL LOCATION TO LOCATION SHOWN. TRIM/EXTEND EXISTING REFRIGERANT PIPING AS NECESSARY AND RECONNECT TO
- M2 MOUNT UNIT UP HIGH SO AS NOT TO INTERFERE WITH OTHER DISCIPLINES. M3 COORDINATE EXACT ROUTING OF DUCTWORK
- WITH EXISTING STRUCTURE. M6 INTAKE AND EXHAUST LOUVERS SHALL BE NOT LESS THAN 10 FT HORIZONTAL DISTANCE APART.
- M7 MOUNT OUTDOOR HVAC UNIT UP HIGH ON
- WALL BRACKETS ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- M8 APPROXIMATE LOCATION OF EXISTING BOILER EXHAUST FLUE OUTLET. FRESH AIR INTAKES AND EXHAUST OUTLETS SHALL BE NOT LESS THAN 10 FT HORIZONTAL DISTANCE APART. IF 10 FT DISTANCE IS NOT ACHIEVED UPON INTAKE LOUVER INSTALLATION. INTAKE LOUVER INSTALLATION,
 RE-ROUTE/EXTEND BOILER EXHAUST FLUE AS
 NECESSARY TO ACHIEVE 10 FT MINIMUM DISTANCE.

NOT FOR CONSTRUCTION

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ADDITION

FIRST FLOOR HVAC PLAN

NO ELEMENTARY SCHOOL - PRESCHOOL A

FOR:

FAYETTE COUNTY BOARD OF EDUCATION

161 BRUCE STREET, LEXINGTON, KY 40507 HARRIS

M,E,&P Engineer: KFI Engineers. 3264 Lochness Dr. Lexington, KY 40517 p 859.271.3246 Structural Engineer:
Structural Design Group, Inc.
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Nashville, TN 37228
p 615.255.5537

Drawn By: <u>MEW</u> Rev'd By: GWK

SHEET RELEASE SCOPE OF WORK

KEY PLAN

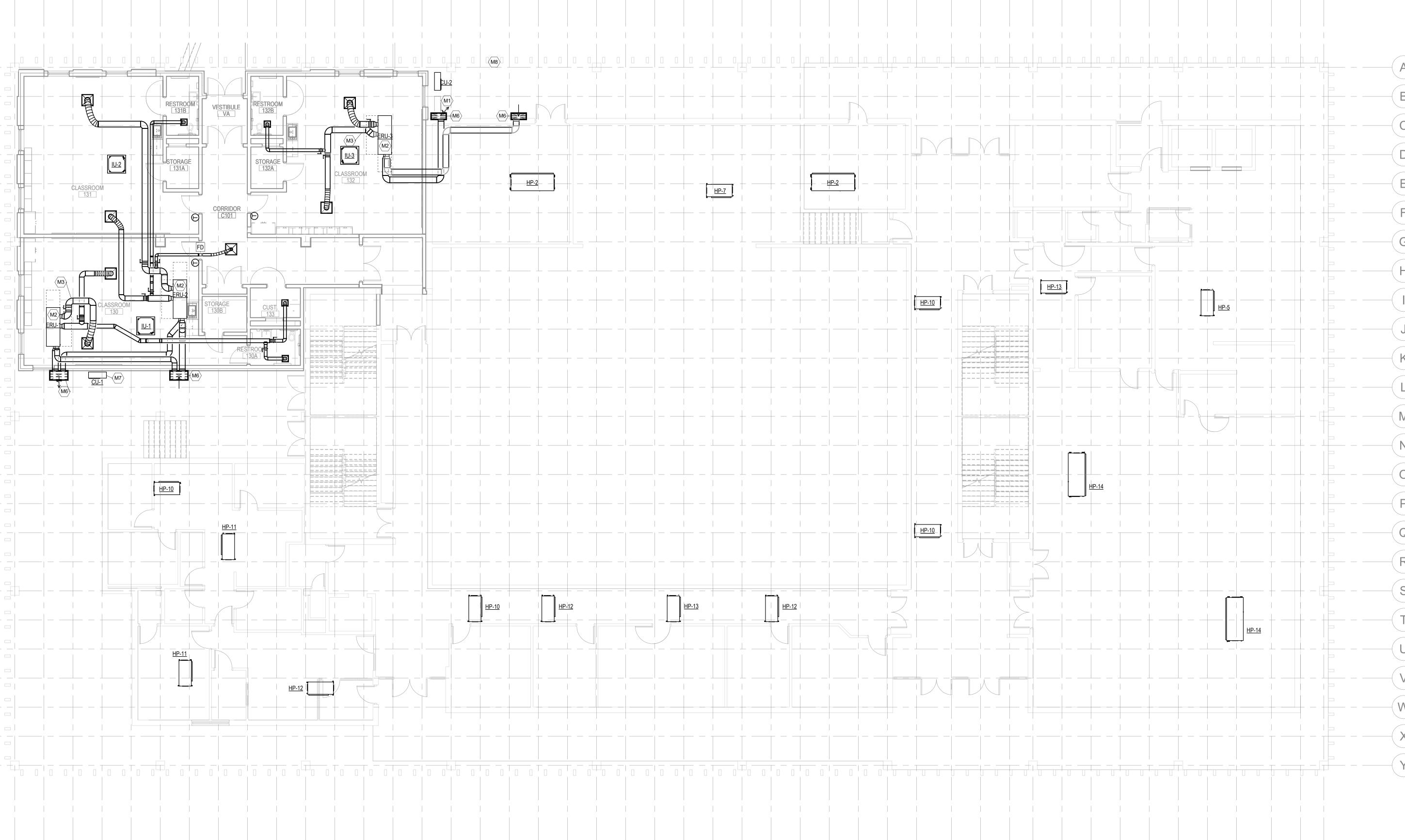
ELEMENTARY SCHOOL

SCALE: NTS

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09/07/2023

1 FIRST FLOOR HVAC PLAN
M4.1 1/8" = 1'-0" IT IS NOT INTENDED THAT THE PLANS SHOW ALL OFFSETS IN PIPES, CONDUITS, AND DUCTS REQUIRED FOR INSTALLATION OF THE WORK. DETAILS AND SECTIONS ARE INCLUDED FOR SOME AREAS TO SHOW INTENDED RELATIONSHIP OF THE WORK OF VARIOUS TRADES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SUB-CONTRACTORS TO COORDINATE INSTALLATION OF THE WORK AND TO PROVIDE THE NECESSARY OFFSETS, TRANSFORMATIONS, AND FITTINGS REQUIRED. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR CORRECTION CONFLICTS BETWEEN THE WORK OF VARIOUS TRADES. DETAILS AND SECTIONS ARE SHOWN FOR THE CONTRACTORS CONVENIENCE AND SHALL NOT BE CONSIDERED COMPLETE IN EVERY DETAIL.



REVISIONS DATE DESCRIPTION

KEYNOTES

M11 EXISTING HVAC UNIT.

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NOT FOR CONSTRUCTION

SECOND FLOOR HVAC PLAN
ON ELEMENTARY SCHOOL - PRESCHOOL A
FOR:
FAYETTE COUNTY BOARD OF EDUCATION
161 BRUCE STREET, LEXINGTON, KY 40507 HARRIS

M,E,&P Engineer: KFI Engineers. 3264 Lochness Dr. Lexington, KY 40517 p 859.271.3246 Structural Engineer:
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SECOND FLOOR HVAC PLAN DATE ISSUED:

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1 SECOND FLOOR HVAC PLAN 1/8" = 1'-0"