Carolina Charter Academy Exp.

Angier, North Carolina

RATIO

PACKAGE

100% Construction Documents

SEAL | DATE

RATIO STATES-NC, PLLC
ARCHITECTURAL CORPORATION
53352
NORTH CAROLINA
RALEIGH, N.C.

HAL M. BOWEN
REGISTERED ARCHITECT
5950
NORTH CAROLINA
RALEIGH, N.C.

OWNER

HIGHMARK
746 East Winchester Street
Suite 150
Murray, Utah 84107
801-256-9550

ARCHITECT

RATIO
227 Fayetteville Street, Suite 301
Raleigh, North Carolina 27601
(919) 821-0805

STRUCTURAL ENGINEER

Lynch Mykins Structural Engineers
301 North West Street
Suite 105
Raleigh, North Carolina 27603
919-782-1833

CIVIL ENGINEER

Timmons Group
5410 Trinity Road
Suite 102
Raleigh, North Carolina 27607
919-866-4938

CONTRACTOR

Swinerton
5 West Hargett Street
Suite 800, Raleigh, NC 27601
(919) 867-4780

VOLUME
1

RATIO PROJECT NO.
20408.000

DATE
2/24/2021

PROJECT ADDRESS
8529 Highway 55
Angier, North Carolina
27501

VOLUME	SET NO.	DATE	PACKAGE	RATIO PROJECT NO.	PROJECT NAME
1		2/24/2021	100% Construction Documents	20408.000	Carolina Charter Academy Exp.

RATIO

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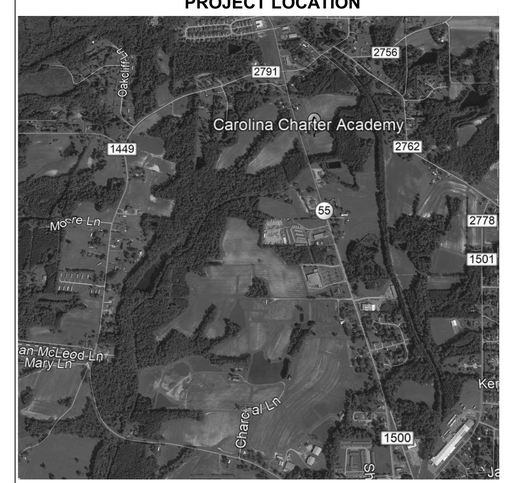
GENERAL PROJECT NOTES

A. THE FOLLOWING GENERAL NOTES APPLY TO THESE CONTRACT DOCUMENTS AND ARE NOT SPECIFIC TO ANY ONE DISCIPLINE.
B. IT IS THE CONTRACTORS RESPONSIBILITY TO REVIEW AND COORDINATE THE WORK OF ALL SUB-CONTRACTORS, TRADES AND SUPPLIERS WITH THE REQUIREMENTS OF THE CONTRACT BEFORE COMMENCING CONSTRUCTION, AND TO ASSURE THAT ALL PARTIES ARE AWARE OF ALL REQUIREMENTS, REGARDLESS OF WHERE THE REQUIREMENTS OCCUR IN THE CONTRACT DOCUMENTS, WHICH MIGHT AFFECT THE WORK OF THAT PARTY.
C. PARTIAL SETS OF DRAWINGS ARE INCOMPLETE AND SHOULD NOT BE DISTRIBUTED OR UTILIZED BY THE CONTRACTOR.
D. THE CONSTRUCTION DOCUMENTS ESTABLISH DETAILED MINIMUM REQUIREMENTS FOR THE CONSTRUCTION OF THE PROJECT.
E. THE GENERAL NOTES, SYMBOLS AND DEFINITIONS APPLICABLE ONLY TO EACH DISCIPLINE CAN BE FOUND AT THE FRONT OF EACH DISCIPLINES PORTION OF THE SET OF DRAWINGS AND IS LISTED AS PART OF THE OVERALL PROJECT INDEX OF DRAWINGS.
F. BASIC FIRE PROTECTION AND THE EXITING SCHEME ARE ILLUSTRATED BY THE LIFE SAFETY PLAN(S) AND APPLICABLE FIRE AND BUILDING CODE SUMMARY ON SHEET G-003
G. THE ARCHITECTURAL DRAWINGS ESTABLISH, COORDINATE, AS WELL AS TAKE PRECEDENCE FOR THE FINISH APPEARANCE OF ALL EXPOSED ELEMENTS OF THE WORK OF ALL TRADES INCLUDING THAT WORK WHICH IS ILLUSTRATED PRIMARILY ON DRAWINGS OF OTHER DISCIPLINES. IF THERE IS A DESCREPANCY IN THE NUMBER OF FIXTURES, DEVICES, ETC. SHOWN ON ARCHITECTURAL DOCUMENTS AND THE DOCUMENTS OF OTHER DISCIPLINES CONTRACTOR'S PRICING SHALL ACCOUNT FOR THE GREATER QUANTITY SHOWN.
H. THE DRAWINGS MAY MAKE REFERENCE TO AND/OR ILLUSTRATE ITEMS WHICH ARE NOT PART OF THE WORK OF THE CONTRACT. THESE NOT IN CONTRACT ITEMS ARE REFERENCED AND/OR ILLUSTRATED FOR THE CONTRACTORS REFERENCE, INFORMATION, AND COORDINATION ONLY.
I. THE CONTRACTOR IS RESPONSIBLE TO COMPLY WITH APPLICABLE LAWS, CODES, REGULATIONS, AND ORDINANCES OF THE PLACE (CITY, COUNTY, DISTRICT AND STATE) WHERE THE PROJECT IS LOCATED. SUCH REQUIREMENTS MAY NOT BE REFLECTED BY THESE CONTRACT DOCUMENTS.
J. EXISTING CONDITIONS SHOWN ARE FROM AVAILABLE RECORD DRAWINGS AND OR VISUAL FIELD SURVEYS. THE CONTRACTOR SHALL VERIFY ACTUAL EXISTING CONDITIONS AT THE SITE PRIOR TO SUBMITTING A BID. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
K. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS AND SIMILAR RELEASES REQUIRED FOR THE CONSTRUCTION AND OCCUPANCY OF THE PROJECT. THE CONTRACTOR SHALL FURNISH COPIES OF ALL SUCH ITEMS TO THE OWNER AND ARCHITECT WITHIN 10 DAYS OF RECEIPT OF SUCH ITEMS. IF PERMITS ARE ISSUED SUBJECT TO CERTAIN CONDITIONS OR REVISIONS TO THE WORK OR IF PERMITS ARE DELAYED FOR ANY REASON, THE CONTRACTOR SHALL NOTIFY THE OWNER AND ARCHITECT.
L. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO MAINTAIN AND PROTECT NEW WORK AS WELL AS EXISTING SYSTEMS AND ELEMENTS WHICH ARE TO REMAIN. ANY DAMAGE TO SUCH SYSTEMS AND ELEMENTS SHALL BE IMMEDIATELY REPAIRED IN A MANNER ACCEPTABLE TO THE ARCHITECT. IF SATISFACTORY REPAIRS CANNOT BE MADE, THE CONTRACTOR SHALL REPLACE SYSTEMS AND ELEMENTS WITH LIKE NEW QUALITY ACCEPTABLE TO THE ARCHITECT. ALL REPAIRS AND REPLACEMENT COST SHALL BE THE FINANCIAL RESPONSIBILITY OF THE CONTRACTOR.

REGION MAP

PROJECT LOCATION



Carolina Charter Academy Exp.

8529 Highway 55
Angier, North Carolina
27501

Owner
Highmark School Development
746 East Winchester Street
Suite 150
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801-256-9550

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919-782-1833

Civil Engineer
Timmons Group
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Suite 102
Raleigh, North Carolina 27607
919-866-4938

SEAL | DATE 2/24/2021

HAL M. BOWEN REGISTERED ARCHITECT 5950 NORTH CAROLINA RALEIGH, N.C.

CODE CERT.
I HEREBY CERTIFY THAT THE BUILDING CODE SUMMARY COMPLETED ON THIS PAGE IS ACCURATE FOR THE TYPE OF BUILDING AND OCCUPANCY INTENDED FOR THIS PROJECT AND THAT THESE PLANS ARE COMPLETE AND COMPLY WITH ALL APPLICABLE STATE AND LOCAL BUILDING REGULATIONS

SHEET ISSUE

1	100% Construction Documents	2/24/2021

RATIO

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PROJECT NO. 20408.000

SHEET TITLE
SHEET INDEX, PROJ LOCATION

SHEET NUMBER
G-102

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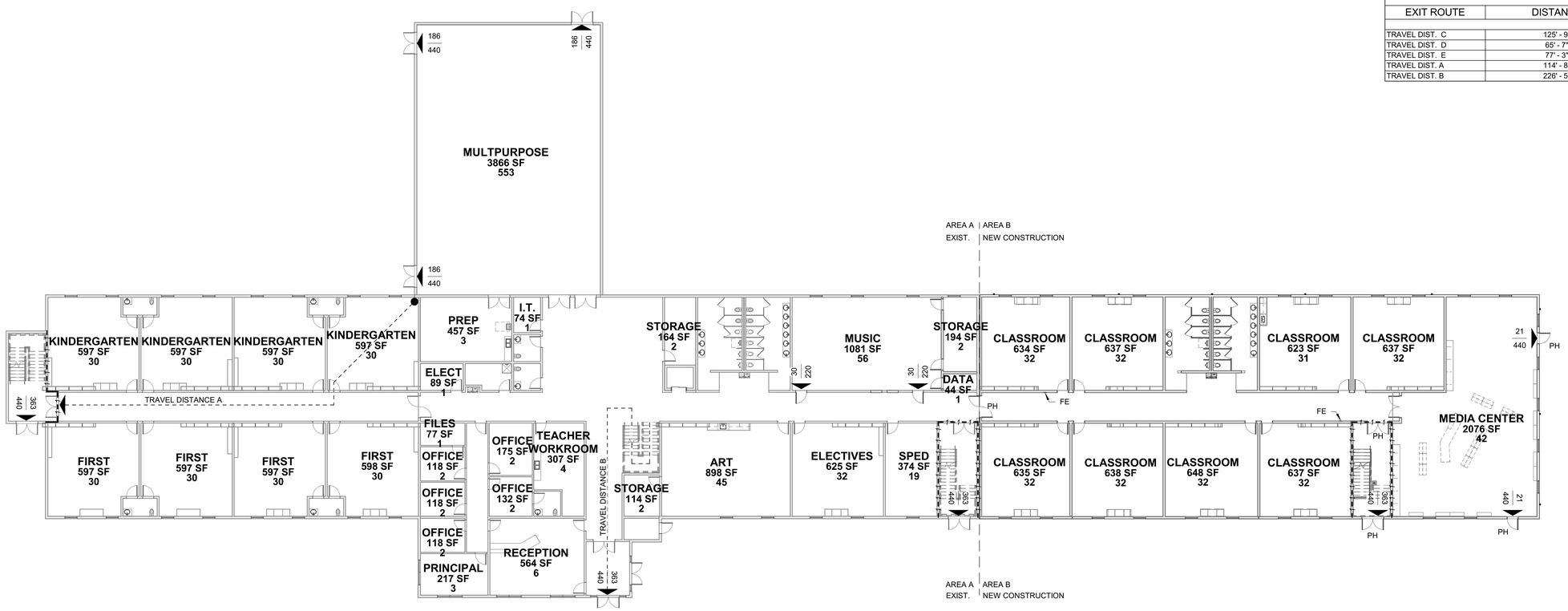

A1
G-103

FIRST FLOOR LIFE SAFETY PLAN

1/16" = 1'-0"

GENERAL LIFE SAFETY PLAN NOTES

A. REFER TO SHEET G-104 FOR CODE SUMMARY.
B. REFER TO DOOR SCHEDULE FOR REQUIRED DOOR RATING.
C. REFER TO INTERIOR PARTITION TYPES AND FLOOR PLAN FOR ADDITIONAL PARTITION REQUIREMENTS INCLUDING WALL HEIGHT, UL DESIGN, AND FIRE RATING.
D. REFER TO C-03 FOR BUILDING ADJACENCIES AND PROPERTY LINES.

LIFE SAFETY PLAN LEGEND

- RM NAME / 150 SF / 20 — ROOM NAME, AREA & OCCUPANT CAPACITY
- EXIT DIRECTION ARROW
- 45 — EXIT POPULATION
- 120 — EXIT CAPACITY [POPULATION]
- PATH OF TRAVEL
- 2 — FIRE RATED WALL
- RATING REQUIRED..30-MIN, 1-HR, 2-HR, ETC.
- 3S — SMOKE BARRIER
- RATING IF REQUIRED..1-HR, 2-HR, ETC.
- FIRE RATED WALL
- PATTERN INDICATES CODE REQUIRED SEPARATION AS NOTED
- FIRE BA.... — FIRE SEPARATION AND OTHER ANNOTATION SO NOTED
- 1-HR — FIRE RATED CEILING. RATING AS NOTED...1-HR, 2-HR, ETC.

OCCUPANT LOAD SCHEDULE

FLOOR LEVEL	OCCUPANT LOAD
FIRST FLOOR	1278
SECOND FLOOR	755
	2033

TRAVEL DISTANCE SCHEDULE

EXIT ROUTE	DISTANCE
TRAVEL DIST. C	125' - 9"
TRAVEL DIST. D	65' - 7"
TRAVEL DIST. E	77' - 3"
TRAVEL DIST. A	114' - 8"
TRAVEL DIST. B	226' - 5"

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SEAL | DATE 2/24/2021

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SHEET ISSUE

1	100% Construction Documents	2/24/2021

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PROJECT NO. 20408.000

SHEET TITLE
LIFE SAFETY PLANS AND CODE SUMMARY

SHEET NUMBER
G-103

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GENERAL LIFE SAFETY PLAN NOTES

A. REFER TO SHEET G-104 FOR CODE SUMMARY.
B. REFER TO DOOR SCHEDULE FOR REQUIRED DOOR RATING.
C. REFER TO INTERIOR PARTITION TYPES AND FLOOR PLAN FOR ADDITIONAL PARTITION REQUIREMENTS INCLUDING WALL HEIGHT, UL DESIGN, AND FIRE RATING.
D. REFER TO C-03 FOR BUILDING ADJACENCIES AND PROPERTY LINES.

LIFE SAFETY PLAN LEGEND

RM NAME
150 SF
20 — ROOM NAME, AREA & OCCUPANT CAPACITY

EXIT DIRECTION ARROW

45 — EXIT POPULATION

120 — EXIT CAPACITY [POPULATION]

PATH OF TRAVEL

2 2 2 — FIRE RATED WALL

RATING REQUIRED..30-MIN, 1-HR, 2-HR, ETC.

3S 3S 3S — SMOKE BARRIER

RATING IF REQUIRED..1-HR, 2-HR, ETC.

FIRE RATED WALL

PATTERN INDICATES CODE REQUIRED SEPARATION AS NOTED

FIRE BA.... — FIRE SEPARATION AND OTHER ANNOTATION SO NOTED

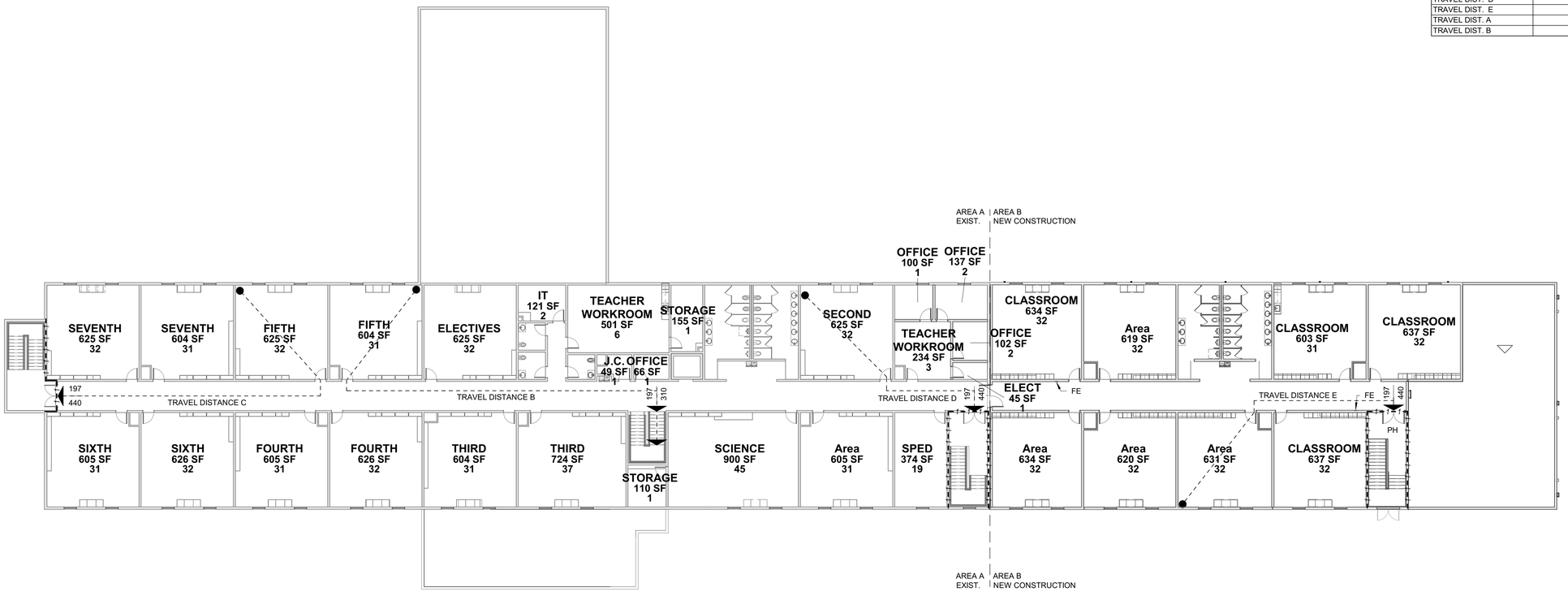
1-HR — FIRE RATED CEILING. RATING AS NOTED...1-HR, 2-HR, ETC.

OCCUPANT LOAD SCHEDULE

FLOOR LEVEL	OCCUPANT LOAD
FIRST FLOOR	1278
SECOND FLOOR	755
	2033

TRAVEL DISTANCE SCHEDULE

EXIT ROUTE	DISTANCE
TRAVEL DIST. C	125' - 9"
TRAVEL DIST. D	65' - 7"
TRAVEL DIST. E	77' - 3"
TRAVEL DIST. A	114' - 8"
TRAVEL DIST. B	226' - 5"



A1 / G-104 **SECOND LEVEL LIFE SAFETY PLAN**
1/16" = 1'-0"

2/26/2021 4:50:33 PM

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SHEET ISSUE

1	100% Construction Documents	2/24/2021

RATIO

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PROJECT NO. 20408.000

SHEET TITLE
LIFE SAFETY PLANS AND CODE SUMMARY

SHEET NUMBER
G-104

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

Name of Project: Carolina Charter Academy Exp.

Address: 8529 Highway 55
Angier, North Carolina 27501

Owner/Authorized Agent: PATRICK ALCORN -iDIRECTOR OF FACILITY DEVELOPEMENT
palcorn@highmarkschools.com (801)335-6514

Owned by: ☐ CITY/COUNTY ☒ PRIVATE ☐ STATE
Code Enforcement Jurisdiction: ☒ CITY: ANGIER, NC ☐ COUNTY: HARNETT ☐ STATE

LEAD DESIGN PROFESSIONAL: Harold M Bowen, RATIO

GROSS BUILDING AREA:

DESIGNER	FIRM	NAME	LICENSE #	PHONE #	EMAIL
Architectural	RATIO	Harold M Bowen	5950	(919)821-0805	hbowen@ratiodesign.com
Civil	TIMMONS	Blake Hall	38616	(919)866-4933	BLAKE.HALL@TIMMONSGROUP.COM
Electrical	--	--	--	--	--
Fire Alarm	--	--	--	--	--
Plumbing	--	--	--	--	--
Mechanical	--	--	--	--	--
Sprinkler/Standpipe	--	--	--	--	--
Structural	LYNCH MYKINS	JEFF MORRISON	027813	(919)782-1822	jmorrison@lynchmykins.com
Retaining Walls>5' High	--	--	--	--	--
Other	--	--	--	--	--
Other	--	--	--	--	--

2018 NC BUILDING CODE: ☐ NEW BUILDING ☒ ADDITION ☐ 1st TIME INTERIOR COMPLETIONS
☐ SHELL/CORE* ☐ PHASED CONSTRUCTION*

*CONTACT THE LOCAL INSPECTION JURISDICTION FOR POSSIBLE PROCEDURES AND REQUIREMENTS

2018 NC EXISTING BUILDING CODE: ☐ PRESCRIPTIVE ☐ ALTERATION LEVEL I ☐ HISTORIC PROPERTY
☐ REPAIR ☒ ALTERATION LEVEL II ☐ CHANGE OF USE
☐ CHAPTER 14 ☐ ALTERATION LEVEL III

CONSTRUCTED: (DATE) _____ **CURRENT OCCUPANCY(S):** (CH. 3) _____

RENOVATED: (DATE) _____ **PROPOSED OCCUPANCY(S):** (CH. 3) _____

OCCUPANCY CATEGORY: (TABLE 1604.5) **CURRENT:** _____ **PROPOSED:** _____

BASIC BUILDING DATA

CONSTRUCTION TYPE: (check all that apply) ☐ I-A ☐ II-A ☐ III-A ☐ IV ☐ V-A
☐ I-B ☐ II-B ☐ III-B ☒ V-B

SPRINKLERS: ☐ NO ☒ PARTIAL ☐ YES ☒ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D

STANDPIPES: ☐ NO ☐ YES CLASS ☐ I ☐ II ☐ III ☐ WET ☐ DRY

FIRE DISTRICT: ☒ NO ☐ YES (PRIMARY) **FLOOD HAZARD AREA** ☒ NO ☐ YES

SPECIAL INSPECTIONS REQUIRED: ☐ YES ☐ NO IF SPECIAL INSTRUCTIONS ARE REQUIRED, CONTACT THE LOCAL JURISDICTION

BUILDING HEIGHT: (feet) 30'-0"

GROSS BUILDING AREA:

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
6th Floor	0 SF	0 SF	0 SF
5th Floor	0 SF	0 SF	0 SF
4th Floor	0 SF	0 SF	0 SF
3rd Floor	0 SF	0 SF	0 SF
2nd Floor	16071 SF	7618 SF	23689 SF
Mezzanine	0 SF	0 SF	0 SF
1st Floor	21901 SF	9770 SF	31671 SF
Basement	0 SF	0 SF	0 SF
TOTAL:	37972 SF	17388 SF	55360 SF

ALLOWABLE AREA

PRIMARY OCCUPANCY CLASSIFICATION(S):

ASSEMBLY: ☐ A-1 ☐ A-2 ☐ A-3 ☒ A-4 ☐ A-5
BUSINESS: ☐
EDUCATIONAL: ☒
FACTORY: ☐ F-1 MODERATE ☐ F-2 LOW
HAZARDOUS: ☐ H-1 DETONATE ☐ H-2 DEFLAGRATE ☐ H-3 COMBUST
☐ H-4 HEALTH ☐ H-5 HPM
INSTITUTIONAL: ☐ I-1 ☐ I-2 ☐ 1-3 ☐ I-4
I-1 AND I-2 CONDITION: ☐ 1 ☐ 2
I-3 CONDITION: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
MERCANTILE: ☐
RESIDENTIAL: ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4
STORAGE: ☒ S-1 MODERATE ☐ S-2 LOW ☐ HIGH-PILED
☐ PARKING GARAGE ☐ OPEN ☐ ENCLOSED ☐ REPAIR GARAGE
UTILITY AND MISCELLANEOUS: ☐

ACCESSORY OCCUPANCY CLASSIFICATION(S): BUSINESS

INCIDENTAL USES: (TABLE 509) _____

SPECIAL USES (CHAPTER 4 - LIST CODE SECTION): _____

SPECIAL PROVISIONS (CHAPTER 5 - LIST CODE SECTION): _____

MIXED OCCUPANCY:

☐ Yes ☒ No **SEPARATION:** ____ HR **EXCEPTION:** _____

☒ Non-Separated Use (508.3)

☐ Separated Use (508.4) - See below for area calculations
For each story, the area of the occupancy shall be such that the sum of the ratios of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1.

$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} \geq 1.00$$

_____ + _____ + _____ = ≥ 1.00

Story No.	Description and Use	(A) Bldg Area Per Story (Actual)	(B) Table 506.2 Area (Note 4)	(C) Area for Frontage Increase (note 1,5)	(D) Allowable Area or Unlimited (note 2,3)
FIRST	EDUCATION	31671 SF	9500 SF	7125 SF	35625 SF
SECOND	EDUCATION	23689 SF	9500 SF	7125 SF	35625 SF
		0 SF	0 SF	0 SF	0 SF
		0 SF	0 SF	0 SF	0 SF

Notes:
1. Frontage area increases from Section 506.2 are computed thus:
   a. Perimeter which fronts a public way or open space having 20 feet minimum width = 600'-0" (F)
   b. Total Building Perimeter = 800'-0" (P)
   c. Ratio (F/P) = 0.75 (F/P)
   d. W = Minimum width of public way = 30'-0" (W)
   e. Percent of frontage increase If = 100 [F/P - 0.25] x W/30 = 50.00 (%)
2. Unlimited area applicable under conditions of Section 507
3. Maximum Building Area = total number of stories in the building x D (506.2).
4. The maximum area of open parking garages must comply with Table 406.5.4. The maximum area of air traffic control towers must comply with Table 412.3.1.
5. Frontage increase is based on the unsprinklered area value in Table 506.2

ALLOWABLE HEIGHT Provide code reference if "Shown on Plans" quantity is not based on Table 504.3 or 504.4

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE
Building Height in Feet (Table 504.3)	40'-0"	30'-0"	504.2
Building Height in Stories (Table 504.4)	2	2	504.2

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	Fire Separation Distance (feet)	Rating Req'd	Rating Provided (w/ Reduction) *	Detail No. / Sheet No.	Design No. for Rated Assembly	Design No. for Rated Penetration	Design No. for Rated Joints
Structural Frame, including columns, girders, trusses	0"	0					
Bearing Walls	0"	0					
Exterior	0"	0					
North	0"	0					
East	0"	0					
West	0"	0					
South	0"	0					
Interior	0"	0					
Nonbearing Walls and Partitions	0"	0					
Exterior	0"	0					
North	30'-0"	0					
East	30'-0"	0					
West	30'-0"	0					
South	30'-0"	0					
Interior partitions	0"	0					
Floor Construction including supporting beams and joists		0					
Floor Ceiling Assembly							
Columns Supporting Flrs							
Roof Construction including supporting beams and joists		0					
Roof Ceiling Assembly							
Columns Supporting Rf							
Shaft Enclosures- Exit		1	1	2/T-4.0	UL-U305		
Shaft Enclosures- Other		1	1	2/T-4.0; 3/T-4.0	UL-U305		
Corridor Separation		1					
Occupancy/Fire Barrier Separation							
Party/Fire Wall Separation		0					
Smoke Barrier Separation		0					
Smoke Partition							
Tenant Separation		0					
Incidental Use Separation		0					

LIFE SAFETY SYSTEM REQUIREMENTS

EMERGENCY LIGHTING: ☐ NO ☒ YES
EXIT SIGNS: ☐ NO ☒ YES
FIRE ALARM: ☐ NO ☒ YES
SMOKE DETECTION SYSTEMS: ☐ NO ☐ YES ☒ PARTIAL DUCT & ELEVATOR DETECTION
PANIC HARDWARE: ☐ NO ☒ YES

LIFE SAFETY PLAN REQUIREMENTS

LIFE SAFETY PLAN SHEET #:G-004

☒ FIRE AND/OR SMOKE RATED WALL LOCATIONS (CHAPTER 7)
☒ ASSUMED AND REAL PROPERTY LINE LOCATIONS (IF NOT ON THE SITE PLAN)
☒ EXTERIOR WALL OPENING AREA WITH RESPECT TO DISTANCE TO ASSUMED PROPERTY LINES (705.8)
☒ OCCUPANCY USE FOR EACH AREA AS IT RELATES TO OCCUPANT LOAD CALCULATION (TABLE 1004.1.2)
☒ EXISTING STRUCTURES WITHIN 30' OF THE PROPOSED BUILDING
☒ OCCUPANCY TYPES FOR EACH AREA AS IT RELATES TO OCCUPANT LOAD CALCULATION (TABLE 1004.1.1)
☒ OCCUPANT LOADS FOR EACH AREA
☒ EXIT ACCESS TRAVEL DISTANCES (1017)
☒ COMMON PATH OF TRAVEL DISTANCES (1006.2.1, 1006.3.2(1))
☒ DEAD END LENGTHS (1020.4)
☒ CLEAR EXIT WIDTHS FOR EACH EXIT DOOR
☒ MAXIMUM CALCULATED OCCUPANT LOAD CAPACITY EACH EXIT DOOR CAN ACCOMMODATE BASED ON EGRESS WIDTH (1005.3)
☒ ACTUAL OCCUPANT LOAD FOR EACH EXIT DOOR
☐ A SEPARATE SCHEMATIC PLAN INDICATING WHERE FIRE RATED FLOOR/CEILING AND/OR ROOF STRUCTURE IS PROVIDED FOR PURPOSES OF OCCUPANCY SEPARATION
☒ LOCATION OF DOORS WITH PANIC HARDWARE (1010.1.10)
☐ LOCATION OF DOORS WITH DELAYED EGRESS LOCKS AND THE AMOUNT OF DELAY (1010.1.9.7)
☐ LOCATION OF DOORS WITH ELECTROMAGNETIC EGRESS LOCKS (1010.1.9.9)
☒ LOCATION OF DOORS EQUIPPED WITH HOLD-OPEN DEVICES
☐ LOCATION OF EMERGENCY ESCAPE WINDOWS (1030)
☐ THE SQUARE FOOTAGE OF EACH FIRE AREA (202)
☒ THE SQUARE FOOTAGE OF EACH SMOKE COMPARTMENT FOR OCCUPANCY CLASSIFICATION 1-2 (407.5)
☐ NOTE ANY CODE EXCEPTIONS OR TABLE NOTES THAT MAY HAVE BEEN UTILIZED REGARDING THE ITEMS ABOVE

SEE SHEET C-0.0 FOR PARKING REQUIREMENTS

PLUMBING FIXTURE REQUIREMENTS (TABLE 2902.1)

USE		WATERCLOSETS (TOILETS) MALE	FEMALE	UNISEX	URINALS *ALLOWED	LAVATORIES (SINKS) MALE	FEMALE	UNISEX	SHOWERS/ TUBS	DRINKING FOUNTAINS REGULAR	ACCESSIBLE
SPACE	EXISTING	8	15	5	6	8	15	5			8
	NEW	6	12	0	6	6	12	0			4
	REQUIRED	22	22		*	9	9				10

SPECIAL APPROVALS

Special Approvals: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, ICC, etc., describe below)

TOWN OF ANGIER	0	0	0	0	0	0	0	0	0	0
HARNETT COUNTY	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0

ENERGY SUMMARY

ENERGY REQUIREMENTS:

The following data shall be considered minimum and any special attribute required to meet the energy code shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If performance method, state the annual energy cost for the standard reference design vs annual energy cost for the proposed design.

EXISTING BUILDING ENVELOPE COMPLIES WITH CODE: ☐ No ☒ Yes (If checked, the remainder of this section is not applicable)

EXEMPT BUILDING: ☐ No ☐ Yes (Provide code or statutory reference):

CLIMATE ZONE: ☐ 3A ☒ 4A ☐ 5A

METHOD OF COMPLIANCE:
☐ Prescriptive (Energy Code) ☐ Performance (Energy Code) ☐ Other, Specify Source Here:
☐ Prescriptive (ASHRAE 90.1) ☐ Performance (ASHRAE 90.1)

THERMAL ENVELOPE (Prescriptive Method Only):

ROOF/CEILING ASSEMBLY (each assembly)
Description of assembly: T.P.O. MEMBRANE; POLYISO INSULATION; 1/2" SHEATHING ON OPEN WEB WOOD TRUSSES
U-Value of total assembly: 0.039
R-Value of insulation: 25
Skylights in each assembly:
U-Value of Skylight: 0
Total square footage of skylights in each assembly 0 SF

EXTERIOR WALLS (each assembly)
Description of assembly: 5/8" GWB, 2"X6" WOOD STUD WITH BATT INSULATION; OSB SHEATHING; FIBER CEMENT BOARD SIDING
U-Value of total assembly: 0.037
R-Value of insulation: 19
Openings (windows or doors with glazing)
U-Value of Assembly: 0.28
Solar heat gain coefficient: 0.32
Projection Factor: 0
Door R-Values: 8

WALLS BELOW GRADE (each assembly)
Description of assembly: N/A
U-Value of total assembly: 0
R-Value of insulation: 0

FLOORS OVER UNCONDITIONED SPACE (each
Description of assembly: N/A
U-Value of total assembly: 0
R-Value of insulation: 0

FLOORS SLAB ON GRADE
Description of assembly: 4" CONCRETE SLAB OVER VAPOR RETARDER; 4" DEPTH OF POROUS FILL
U-Value of total assembly: 0.1
R-Value of insulation: 10
Horizontal/Vertical Requirement:
Slab Heated:

SEE SHEET S-001 FOR STRUCTURAL DESIGN LOADS

SEE SHEET S-011 FOR SPECIAL INSPECTIONS

Carolina Charter Academy Exp.
8529 Highway 55
Angier, North Carolina 27501

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Highmark School Development
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Civil Engineer
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5410 Trinity Road
Suite 102
Raleigh, North Carolina 27607
919-866-4938

SEAL | DATE 2/24/2021

HAL M. BOWEN REGISTERED ARCHITECT 5950 NORTH CAROLINA RALEIGH, N.C.

CODE CERT.
I HEREBY CERTIFY THAT THE BUILDING CODE SUMMARY COMPLETED ON THIS PAGE IS ACCURATE FOR THE TYPE OF BUILDING AND OCCUPANCY INTENDED FOR THIS PROJECT AND THAT THESE PLANS ARE COMPLETE AND COMPLY WITH ALL APPLICABLE STATE AND LOCAL BUILDING REGULATIONS

SHEET ISSUE

1	100% Construction Documents	2/24/2021

RATIO

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PROJECT NO. 20408.000

SHEET TITLE
APPENDIX B 2018

SHEET NUMBER
G-105

2/26/2021 4:50:51 PM

100% CONSTRUCTION DOCUMENTS

CAROLINA CHARTER ACADEMY ADDITION

8529 S NC 55 HWY ANGIER, NC

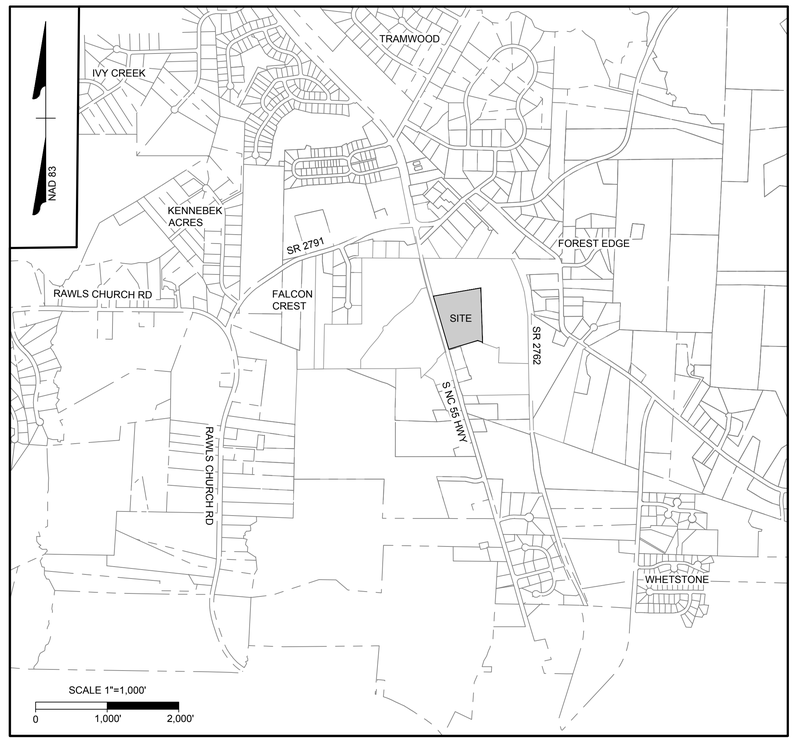
SHEET LIST

SHEET NUMBER	SHEET TITLE
C0.0	COVER SHEET
C1.0	EXISTING CONDITIONS & DEMOLITION PLAN
C3.0	SITE PLAN
C4.0	GRADING & DRAINAGE PLAN
C5.0	NOTES & DETAILS

OWNER: RM CAROLINA NC LLC
810 7TH AVE FL 27
NEW YORK, NY 10019-5818

ENGINEER: WILL ALTMAN, PE
TIMMONS GROUP
5410 TRINITY ROAD; SUITE 102
RALEIGH, NC 27607
PHONE: 919-866-4938
FAX: 919-859-5663
EMAIL: WILLIAM.ALTMAN@TIMMONS.COM

ARCHITECT: BRENT COVINGTON
RATIO DESIGN
227 FAYETTEVILLE STREET; SUITE 301
RALEIGH, NC 27601
919-256-4994
EMAIL: BCOVINGTON@RATIODESIGN.COM



VICINITY MAP

SITE DATA

PROJECT:	CAROLINA CHARTER ACADEMY
PROJECT #.:	42087
PROJECT ADDRESS:	8529 S NC 55 HWY ANGIER, NC
PIN:	0674690126
CURRENT ZONING:	RA-30
TOTAL TRACT AREA:	10 ACRES
DISTURBED AREA:	0.95 ACRES

PARKING: SCHOOLS (PUBLIC AND PRIVATE ELEMENTARY AND MIDDLE) - 2 SPACE PER CLASSROOM

TOTAL NUMBER OF CLASSROOMS:	
EXISTING:	27 CLASSROOMS (K-8TH GRADE)
PROPOSED:	16 CLASSROOMS (K-8TH GRADE)
PARKING SPACES REQUIRED:	
EXISTING:	54 PARKING SPACES
PROPOSED ADDITION:	32 PARKING SPACES
PARKING SPACES PROVIDED:	
EXISTING:	56 PARKING SPACES
PROPOSED:	30 PARKING SPACES
H/C SPACES REQ'D:	4 (WITH 1 BEING VAN ACCESSIBLE)
H/C SPACES PROVIDED:	4 (WITH 1 BEING VAN ACCESSIBLE)
TOTAL PARKING SPACES PROVIDED:	86 SPACES (INCLUDING 4 H/C)

IMPERVIOUS:
EXISTING IMPERVIOUS: 2.96 ACRES

PROPOSED IMPERVIOUS: 0.41 ACRES

TOTAL IMPERVIOUS: 2.96 AC (EXISTING) - 0.04 AC (DEMO) +0.41 AC (PROPOSED) = 3.33 AC

*THE EXISTING STORMWATER CONTROL MEASURE WAS DESIGNED TO TREAT 3.54 ACRES OF IMPERVIOUS AREA

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SEAL | DATE

NORTH CAROLINA PROFESSIONAL SEAL 045892 ENGINEER William P. Altman 02/24/21

SHEET ISSUE

1	Schematic Design	11/24/2020
2	Town Of Angier-TRC	1/06/2021
3	Town Of Angier-TRC	1/28/2021
4	100% Construction Documents	2/24/2021

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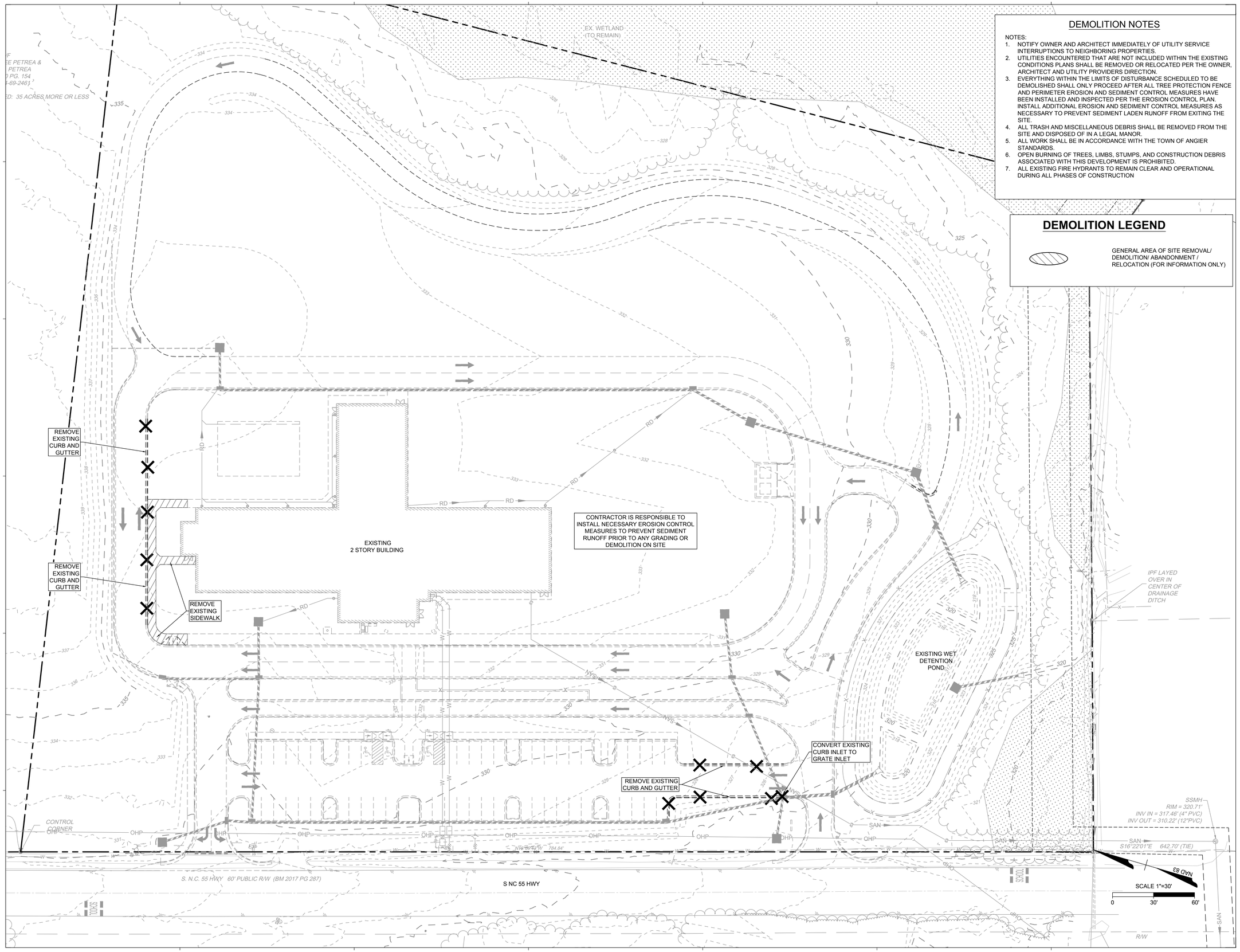
PROJECT NO. 20408.000

SHEET TITLE

COVER SHEET

SHEET NUMBER

C0.0



DEMOLITION NOTES

NOTES:

1. NOTIFY OWNER AND ARCHITECT IMMEDIATELY OF UTILITY SERVICE INTERRUPTIONS TO NEIGHBORING PROPERTIES.
2. UTILITIES ENCOUNTERED THAT ARE NOT INCLUDED WITHIN THE EXISTING CONDITIONS PLANS SHALL BE REMOVED OR RELOCATED PER THE OWNER, ARCHITECT AND UTILITY PROVIDERS DIRECTION.
3. EVERYTHING WITHIN THE LIMITS OF DISTURBANCE SCHEDULED TO BE DEMOLISHED SHALL ONLY PROCEED AFTER ALL TREE PROTECTION FENCE AND PERIMETER EROSION AND SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED AND INSPECTED PER THE EROSION CONTROL PLAN. INSTALL ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES AS NECESSARY TO PREVENT SEDIMENT LADEN RUNOFF FROM EXITING THE SITE.
4. ALL TRASH AND MISCELLANEOUS DEBRIS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LEGAL MANOR.
5. ALL WORK SHALL BE IN ACCORDANCE WITH THE TOWN OF ANGIER STANDARDS.
6. OPEN BURNING OF TREES, LIMBS, STUMPS, AND CONSTRUCTION DEBRIS ASSOCIATED WITH THIS DEVELOPMENT IS PROHIBITED.
7. ALL EXISTING FIRE HYDRANTS TO REMAIN CLEAR AND OPERATIONAL DURING ALL PHASES OF CONSTRUCTION

DEMOLITION LEGEND

GENERAL AREA OF SITE REMOVAL/ DEMOLITION/ ABANDONMENT / RELOCATION (FOR INFORMATION ONLY)

CAROLINA CHARTER ACADEMY ADDITION

8529 S NC 55 HWY, ANGIER NC 27501

Owner

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919-866-4938

SEAL | DATE

NORTH CAROLINA PROFESSIONAL SEAL 045892 02/24/21 ENGINEER William P. Altman

SHEET ISSUE

1	Schematic Design	11/24/2020
2	Town Of Angier-TRC	1/06/2021
3	Town Of Angier-TRC	1/28/2021
4	100% Construction Documents	2/24/2021

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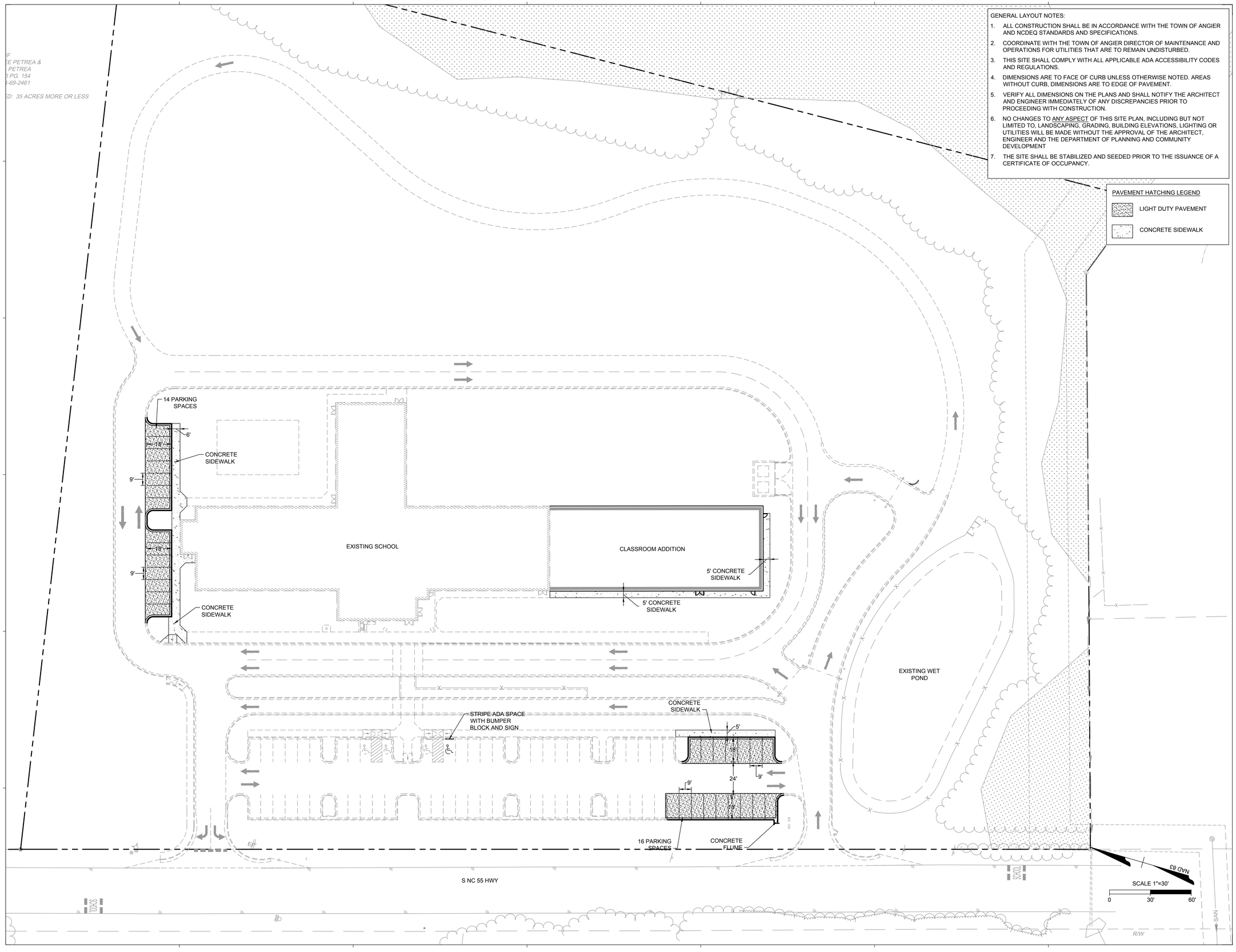
PROJECT NO. 20408.000

SHEET TITLE

EXISTING CONDITIONS & DEMOLITION PLAN

SHEET NUMBER

C1.0



GENERAL LAYOUT NOTES:

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TOWN OF ANGIER AND NCDEQ STANDARDS AND SPECIFICATIONS.
2. COORDINATE WITH THE TOWN OF ANGIER DIRECTOR OF MAINTENANCE AND OPERATIONS FOR UTILITIES THAT ARE TO REMAIN UNDISTURBED.
3. THIS SITE SHALL COMPLY WITH ALL APPLICABLE ADA ACCESSIBILITY CODES AND REGULATIONS.
4. DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED. AREAS WITHOUT CURB, DIMENSIONS ARE TO EDGE OF PAVEMENT.
5. VERIFY ALL DIMENSIONS ON THE PLANS AND SHALL NOTIFY THE ARCHITECT AND ENGINEER IMMEDIATELY OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH CONSTRUCTION.
6. NO CHANGES TO ANY ASPECT OF THIS SITE PLAN, INCLUDING BUT NOT LIMITED TO, LANDSCAPING, GRADING, BUILDING ELEVATIONS, LIGHTING OR UTILITIES WILL BE MADE WITHOUT THE APPROVAL OF THE ARCHITECT, ENGINEER AND THE DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT
7. THE SITE SHALL BE STABILIZED AND SEEDED PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

PAVEMENT HATCHING LEGEND

LIGHT DUTY PAVEMENT

CONCRETE SIDEWALK

CAROLINA CHARTER ACADEMY ADDITION

8529 S NC 55 HWY, ANGIER NC 27501

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SEAL | DATE

NORTH CAROLINA PROFESSIONAL SEAL 045892 ENGINEER William P. Altman 02/24/21

SHEET ISSUE

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4	100% Construction Documents	2/24/2021

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PROJECT NO. 20408.000

SHEET TITLE

SITE PLAN

SHEET NUMBER

C3.0

GENERAL LAYOUT NOTES:

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TOWN OF ANGIER AND NCDEQ STANDARDS AND SPECIFICATIONS.
2. COORDINATE WITH THE TOWN OF ANGIER DIRECTOR OF MAINTENANCE AND OPERATIONS FOR UTILITIES THAT ARE TO REMAIN UNDISTURBED.
3. THIS SITE SHALL COMPLY WITH ALL APPLICABLE ADA ACCESSIBILITY CODES AND REGULATIONS.
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5. VERIFY ALL DIMENSIONS ON THE PLANS AND SHALL NOTIFY THE ARCHITECT AND ENGINEER IMMEDIATELY OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH CONSTRUCTION.
6. NO CHANGES TO ANY ASPECT OF THIS SITE PLAN, INCLUDING BUT NOT LIMITED TO, LANDSCAPING, GRADING, BUILDING ELEVATIONS, LIGHTING OR UTILITIES WILL BE MADE WITHOUT THE APPROVAL OF THE ARCHITECT, ENGINEER AND THE DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT
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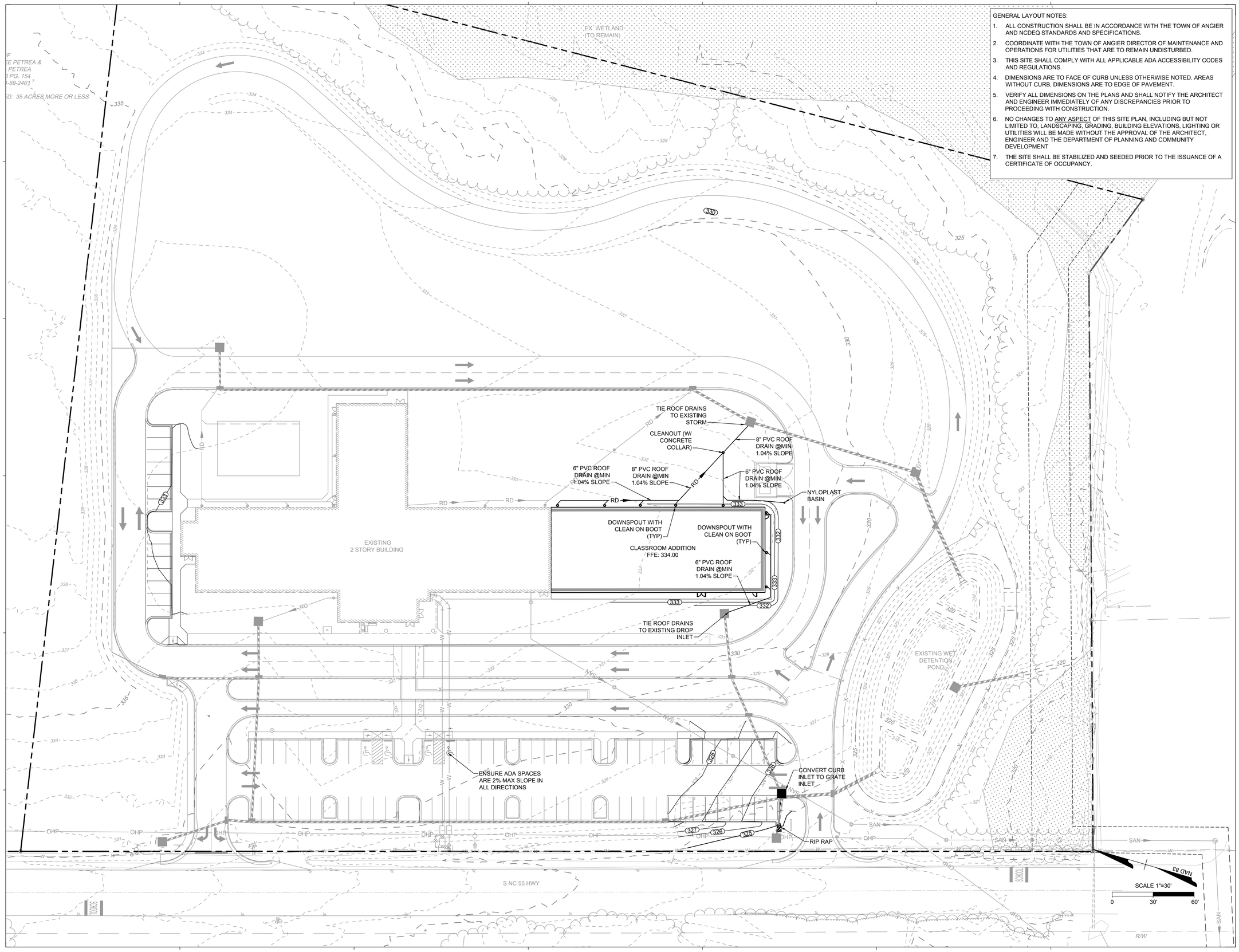

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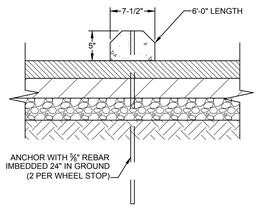
PROJECT NO. 20408.000

SHEET TITLE

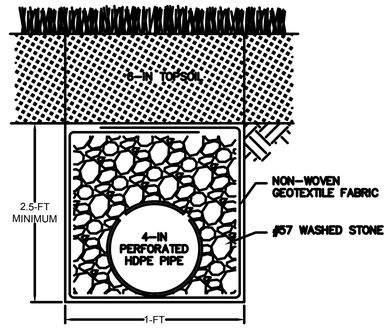
GRADING & DRAINAGE PLAN

SHEET NUMBER

C4.0



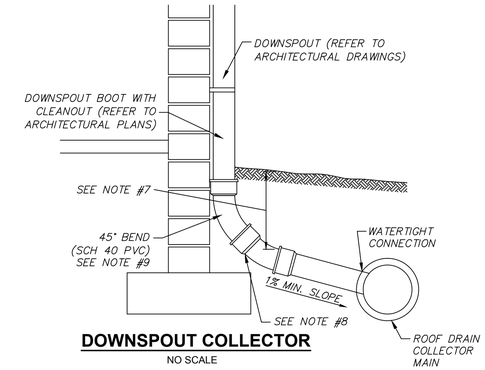
PRECAST BUMPER BLOCK
NO SCALE



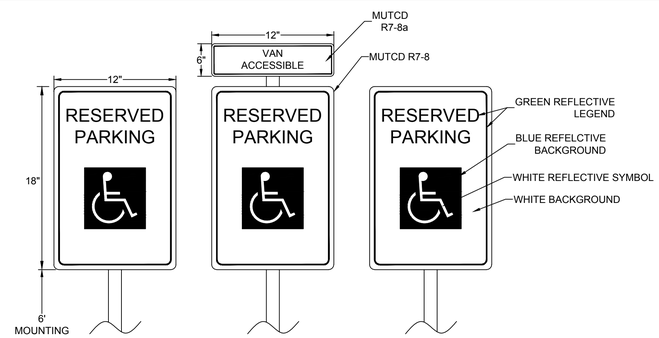
FRENCH DRAIN
NO SCALE

DOWNSPOUT COLLECTOR NOTES:

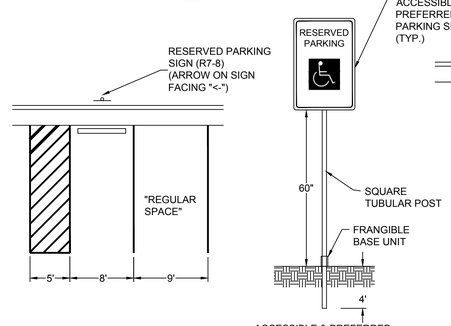
1. CONNECT ALL BUILDING DOWNSPOUTS INTO THE ROOF DRAIN COLLECTOR SYSTEM OR DIRECTLY INTO THE STORM SEWER SYSTEM.
2. THE ROOF DRAIN COLLECTOR SYSTEM IS SMOOTH-LINED, CORRUGATED POLYETHYLENE PIPE LAID AT MINIMUM SLOPES AS INDICATED.
3. PIPES CONNECTING TO INDIVIDUAL DOWNSPOUTS ARE 6" PROVIDE MINIMUM 6" PIPE SIZE 5' OUTSIDE BUILDING. ALL OTHER DRAIN PIPES ARE SIZED AS INDICATED INCREASING IN SIZE FROM UPSTREAM TO DOWNSTREAM.
4. PROVIDE CLEANOUTS AS INDICATED AND AS REQUIRED BY LOCAL BUILDING CODE.
5. MAKE CONNECTIONS INTO CONCRETE PIPES WITH A FLEXIBLE WATERTIGHT TEE CONNECTOR THAT IS MECHANICALLY EXPANDED INTO A CORDED OPENING. CONNECTOR SHALL BE KOR-N-TEE OR APPROVED EQUAL.
6. MAINTAIN ADEQUATE OUTFALL FOR ROOF DRAIN DURING AND AFTER THE COMPLETION OF CONSTRUCTION.
7. MINIMUM DEPTH OF COVER SHALL BE ONE (1) FOOT. FOR ALL DEPTHS OF COVER LESS THAN TWO (2) FEET, PIPE MUST BE SCHEDULE 40 PVC. FOR DEPTHS OF COVER GREATER THAN TWO (2) FEET, FLEXIBLE PIPE MAY BE USED. REFER TO SPECIFICATIONS FOR ALLOWABLE PIPE TYPES.
8. MAINTAIN A WATERTIGHT CONNECTION AT ALL PIPE CONNECTIONS BELOW GRADE.
9. INSTALL THE DOWNSPOUT COLLECTOR DRAIN BEFORE THE DOWNSPOUTS ARE INSTALLED ON THE BUILDING. THE SITE WORK CONTRACTOR IS RESPONSIBLE FOR ALL WORK TO AND INCLUDING THE 45° BEND. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF DOWNSPOUTS ON BUILDING EXTERIOR WALLS.



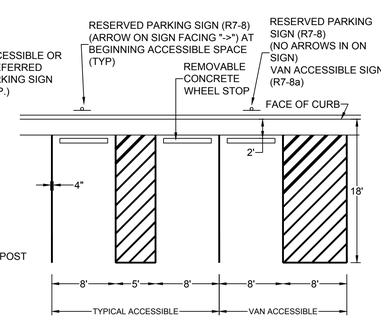
DOWNSPOUT COLLECTOR
NO SCALE



REFER TO DETAIL BELOW AND LAYOUT PLAN FOR PLACEMENT OF ACCESSIBLE SIGN AND VAN ACCESSIBLE SIGNS



ACCESSIBLE & PREFERRED PARKING SIGN FOUNDATION
N.T.S.

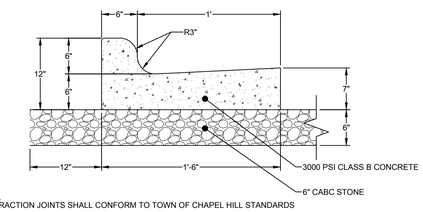


TYPICAL ACCESSIBLE SPACE LAYOUT

NOTE:

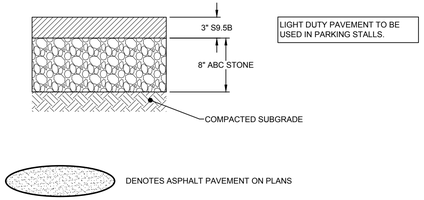
1. VERIFY WITH SITE PLANS FOR NON-TYPICAL ACCESSIBLE SPACES.
2. FOR SPACES LABELED 'VAN' PROVIDE MUTCD R7-8 SIGN AND ADDITIONAL R7-8a.

ACCESSIBLE PARKING SPACE MARKINGS AND SIGNAGE
NO SCALE



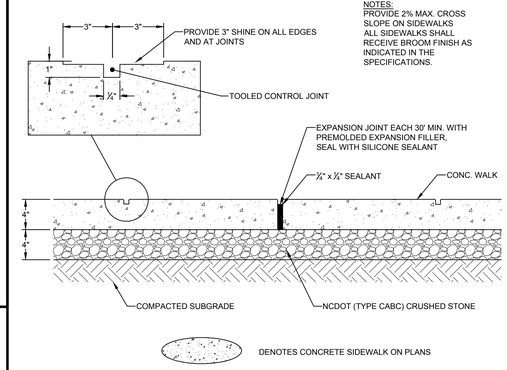
NOTE:
CONTRACTION JOINTS SHALL CONFORM TO TOWN OF CHAPEL HILL STANDARDS

STANDARD 18" CURB & GUTTER
NO SCALE



LIGHT-DUTY PAVEMENT
NO SCALE

NOTES:
PROVIDE 2% MAX. CROSS SLOPE ON SIDEWALKS
ALL SIDEWALKS SHALL RECEIVE BROOM FINISH AS INDICATED IN THE SPECIFICATIONS.



CONCRETE SIDEWALKS
NO SCALE

CAROLINA CHARTER ACADEMY ADDITION

8529 S NC 55 HWY, ANGIER NC 27501

Owner
Highmark School Development
746 East Winchester Street
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Civil Engineer
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5410 Trinity Road
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Raleigh, North Carolina 27607
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SEAL | DATE

NORTH CAROLINA PROFESSIONAL SEAL 045892 ENGINEER William P. Altman 02/24/21

SHEET ISSUE

1	Schematic Design	11/24/2020
2	Town Of Angier-TRC	1/06/2021
3	Town Of Angier-TRC	1/28/2021
4	100% Construction Documents	2/24/2021

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PROJECT NO. 20408.000

SHEET TITLE
NOTES & DETAILS

SHEET NUMBER
C5.0

GENERAL NOTES:

1. THE STRUCTURAL DRAWINGS MUST BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, CIVIL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS, AND THE SPECIFICATIONS. THE CONTRACTOR MUST VERIFY THE REQUIREMENTS OF OTHER TRADES AS TO SLEEVES, CHASES, HANGERS, INSERTS, ANCHORS, HOLES, AND ADDITIONAL ITEMS TO BE PLACED OR SET IN THE STRUCTURAL WORK.

2. THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE PROVISIONS OF THE NORTH CAROLINA STATE BUILDING CODE, 2018 EDITION AND THE NORTH CAROLINA EXISTING BUILDING CODE, 2018 EDITION.

3. THE WORK OUTLINED IN SPECIFICATION SECTION 014100 IS SUBJECT TO SPECIAL INSPECTIONS AS DESCRIBED IN THE TECHNICAL SPECIFICATIONS AND BUILDING CODE.

4. THE CONTRACTOR MUST PROVIDE TEMPORARY SHORING AND BRACING REQUIRED TO ERECT AND HOLD THE STRUCTURE IN PROPER ALIGNMENT UNTIL PERMANENT SUPPORTS AND LATERAL BRACING ARE IN PLACE.

5. PORTIONS OF THE STRUCTURE NOT ALTERED AND NOT AFFECTED BY THE ALTERATION HAVE NOT BEEN REVIEWED FOR COMPLIANCE WITH THE CODE REQUIREMENTS FOR A NEW STRUCTURE.

6. THE CONTRACTOR MUST SUBMIT A DETAILED PLAN, INCLUDING WORK SEQUENCE, PREPARED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF NORTH CAROLINA FOR SHORING, BRACING, AND OTHER SAFEGUARDS TO MAINTAIN ALL PARTS OF THE STRUCTURE IN A SAFE CONDITION AT ALL TIMES DURING THE PROCESS OF DEMOLITION AND CONSTRUCTION AND TO PROTECT FROM DAMAGE THOSE PORTIONS OF THE EXISTING STRUCTURE WHICH ARE TO REMAIN. SUBMIT PLAN PRIOR TO BEGINNING WORK.

7. THE CONTRACTOR MUST FIELD VERIFY THE DIMENSIONS, ELEVATIONS, AND OTHER REQUIREMENTS NECESSARY FOR THE PROPER CONSTRUCTION AND ALIGNMENT OF THE NEW PORTIONS OF THE STRUCTURE TO THE EXISTING. ANY DIMENSIONS SHOWN OF EXISTING STRUCTURES MUST BE CONSIDERED AS APPROXIMATE AND ADEQUATE FOR BIDDING PURPOSES ONLY. THE CONTRACTOR MUST MAKE ALL MEASUREMENTS NECESSARY FOR THE FABRICATION AND ERECTION OF STRUCTURAL MEMBERS. DISCREPANCIES MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER.

8. IF INCONSISTENCIES, DISCREPANCIES OR CONTRADICTIONS IN THE CONTRACT DOCUMENTS ARE DISCOVERED AFTER THE CLOSE OF BIDDING QUESTIONS, THE CONTRACTOR SHALL BE DEEMED BY SUBMITTAL OF THEIR BID, TO HAVE BID THE MOST COSTLY AS TO LABOR, MATERIALS, DURATION, SEQUENCE AND METHOD OF CONSTRUCTION TO PROVIDE THE WORK.

9. DESIGN CRITERIA:

CLASSIFICATION OF BUILDING
- RISK CATEGORY . . . III

SUPER IMPOSED ROOF DEAD LOADS - UNIFORM:
- 1 1/2" INSULATION AND ROOF MEMBRANE . . . 3 PSF
- CEILING . . . 2 PSF
- SPRINKLERS . . . 1.5 PSF
- DUCTS, LIGHTS, MISC. MECHANICAL . . . 5 PSF
- SHEATHING . . . 3 PSF±

SUPER IMPOSED FLOOR DEAD LOADS - UNIFORM:
- FLOOR FINISH . . . 3 PSF
- CEILING . . . 2 PSF
- SPRINKLERS . . . 3 PSF
- DUCTS, LIGHTS, MISC. MECHANICAL . . . 3 PSF
- COLLATERAL . . . 2 PSF
- 1 1/2" GYPCRETE . . . 13 PSF
- SHEATHING . . . 3 PSF±

LIVE LOADS - UNIFORM:
- SLAB ON GRADE . . . 100 PSF
- ROOF . . . 20 PSF
- CLASSROOMS . . . 40 PSF
- PARTITION ALLOWANCE . . . 15 PSF
- CORRIDORS (FIRST FLOOR) . . . 100 PSF
- CORRIDORS (SERVING PUBLIC SPACES) . . . 100 PSF
- STAIRWAYS . . . 100 PSF

LIVE LOADS - CONCENTRATED:
- FLOORS . . . 1,000#
- ROOFS . . . 300#

UNLESS OTHERWISE NOTED, CONCENTRATED LOADS ARE APPLIED UNIFORMLY OVER 2'-6" x 2'-6" AREA.

SNOW LOADS:
- GROUND SNOW LOAD . . . 15 PSF
- FLAT ROOF LOAD . . . 16.5 PSF
- IMPORTANCE FACTOR (Is) . . . 1.1
- THERMAL FACTOR (Ct) . . . 1.0
- EXPOSURE FACTOR (Ce) . . . 1.0
- DRIFT SURCHARGE (Pd) . . . REF PLAN

WIND LOADS:
- NOMINAL DESIGN (VASD) WIND SPEED . . . 96 MPH
- EXPOSURE CATEGORY . . . C
- INTERNAL PRESSURE COEFFICIENT . . . ±0.18
- COMPONENT AND CLADDING PRESSURES:
  - WALLS, ZONE 5 (10 SF) . . . +22/-29 PSF
  - ROOF, ZONE 3 (10 SF) . . . +22/-40 PSF
  - PARAPET, END/CORNER (10 SF) . . . +47/-32 PSF
- ULTIMATE WIND BASE SHEARS (FOR MWFRS):
  - Vx . . . 35 KIPS
  - Vy . . . 87 KIPS

SEISMIC LOADS:
- SITE CLASSIFICATION . . . D(ASSUMED)
- SEISMIC DESIGN CATEGORY . . . B
- IMPORTANCE FACTOR (IE) . . . 1.25
- SPECTRAL RESPONSE ACCELERATIONS:
  - S_S . . . 0.171 S_{1} . . . 0.082
  - S_{MS} . . . 0.274 S_{M1} . . . 0.197
  - S_{DS} . . . 0.182 S_{D1} . . . 0.131
- ANALYSIS PROCEDURE . . . EQUIVALENT LATERAL FORCE
- LATERAL FORCE RESISTING SYSTEM . . . LIGHT-FRAMED WALLS SHEATHED WITH WOOD STRUCTURAL PANELS RATED FOR SHEAR
- RESPONSE MODIFICATION COEFFICIENT (R) . . . 6.5
- SEISMIC RESPONSE COEFFICIENT (Cs) . . . 0.035
- ULTIMATE SEISMIC BASE SHEAR (V) . . . 25 KIPS

LATERAL DESIGN CONTROL
- CONTROLLING LATERAL LOADS . . . WIND

FOUNDATION NOTES:

1. FOUNDATIONS HAVE BEEN DESIGNED FOR AN ASSUMED NET ALLOWABLE SOIL BEARING PRESSURE OF 3000 PSF.

2. PRIOR TO PLACING FOUNDATION CONCRETE, ALL FOUNDATION EXCAVATIONS MUST BE INSPECTED BY THE SPECIAL INSPECTOR TO EXPLORE THE EXTENT OF LOOSE, SOFT, EXPANSIVE, OR OTHERWISE UNSATISFACTORY SOIL MATERIAL AND TO VERIFY DESIGN BEARING PRESSURE. DIRECTION FOR CORRECTIVE ACTION WILL BE PROVIDED WHERE REQUIRED.

3. NO UNBALANCED BACKFILLING MUST BE DONE AGAINST MASONRY OR CONCRETE WALLS UNLESS WALLS ARE SECURELY BRACED AGAINST OVERTURNING, EITHER BY TEMPORARY CONSTRUCTION BRACING OR BY PERMANENT CONSTRUCTION.

4. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONTROL OF GROUNDWATER AND SURFACE RUNOFF THROUGHOUT THE CONSTRUCTION PROCESS. INUNDATION AND LONG TERM EXPOSURE OF BEARING SURFACES WHICH RESULT IN DETERIORATION OF BEARING MUST BE PREVENTED.

CAST-IN-PLACE CONCRETE NOTES:

1. CONCRETE MUST BE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301 AND 318.

2. CONCRETE MUST BE NORMAL WEIGHT AND MUST OBTAIN 28 DAY COMPRESSIVE STRENGTHS AS FOLLOWS:
   - A. SLAB-ON-GRADE . . . 3,500 PSI
   - B. FOUNDATIONS . . . 3,500 PSI
   - C. CONCRETE NOT OTHERWISE NOTED . . . 3,000 PSI

3. REINFORCING MATERIALS MUST BE AS FOLLOWS:
   - A. REINFORCING BARS - ASTM A 615, GRADE 60, DEFORMED.
   - B. WELDED REINFORCING BARS - ASTM A 706, GRADE 60.
   - C. WELDED WIRE REINFORCEMENT - ASTM A1064, WELDED STEEL WIRE REINFORCEMENT; PROVIDE SHEET TYPE, ROLL TYPE IS NOT ACCEPTABLE.

4. ALL REINFORCING STEEL AND EMBEDDED ITEMS SUCH AS ANCHOR RODS AND WELD PLATES MUST BE ACCURATELY PLACED AND ADEQUATELY TIED AND SUPPORTED BEFORE CONCRETE IS PLACED TO PREVENT DISPLACEMENT BEYOND PERMITTED TOLERANCES.

5. CONCRETE COVER TO REINFORCING STEEL MUST CONFORM TO THE MINIMUM COVER RECOMMENDATIONS IN ACI 318, UNLESS THE DRAWINGS SHOW GREATER COVER REQUIREMENTS.

6. LAP CONTINUOUS REINFORCING STEEL 57 X BAR DIAMETER, TYPICAL UNLESS OTHERWISE NOTED.

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SEAL | DATE 02-24-21

SHEET ISSUE

	100% CONSTRUCTION DOCUMENTS	02-24-21

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PROJECT NO. 20408.000

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
S-001

2/24/2021 12:43:25 PM

ROUGH CARPENTRY NOTES:

1. ROUGH CARPENTRY MUST BE IN ACCORDANCE WITH THE AMERICAN WOOD COUNCIL (AWC) "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION."
2. UNLESS OTHERWISE NOTED, USE 'COMMON' NAILS AND ALL NAILING MUST CONFORM TO THE "FASTENING SCHEDULE" TABLE 2304.10.1 OF THE BUILDING CODE.
3. WOOD FRAMING MEMBERS MUST COMPLY WITH PS 20 "AMERICAN SOFTWOOD LUMBER STANDARD" AND THE FOLLOWING REQUIREMENTS:
   A. MOISTURE CONTENT - SEASONED, WITH 19 PERCENT MAXIMUM MOISTURE CONTENT.
   B. GRADE - NO. 2, OR BETTER UNLESS OTHERWISE NOTED.
   C. SPECIES - SPRUCE-PINE-FIR UNDER NLGA RULES.
4. WOOD STRUCTURAL PANELS (WSP) MUST COMPLY WITH PS 1 "U.S. PRODUCT STANDARD FOR CONSTRUCTION AND INDUSTRIAL PLYWOOD" FOR PLYWOOD CONSTRUCTION PANELS AND THE FOLLOWING REQUIREMENTS:
   A. EXTERIOR WALL AND SHEARWALL SHEATHING: 7/16" INCH, APA RATED SHEATHING, EXPOSURE 1 DURABILITY CLASSIFICATION.
   B. FLOOR SHEATHING: 3/4" INCH, TONGUE AND GROOVE, APA RATED SHEATHING, EXPOSURE 1 DURABILITY CLASSIFICATION.
   C. ROOF SHEATHING: 7/16" INCH, APA RATED SHEATHING, EXTERIOR EXPOSURE DURABILITY CLASSIFICATION. PROVIDE TONGUE-AND-GROOVE EDGES OR USE "PLY-CLIPS" AT MID-SPAN BETWEEN EACH SUPPORT.
5. ALL WOOD FRAMING MEMBERS PERMANENTLY EXPOSED TO THE WEATHER AND ALL SILL PLATES IN CONTACT WITH CONCRETE MUST BE PRESERVATIVE-TREATED. REFER TO THE SPECIFICATIONS.
6. STEEL PLATE CONNECTORS MUST COMPLY WITH ASTM A 36 SPECIFICATIONS (Fy= 36 KSI\). BOLTS CONNECTING WOOD MEMBERS MUST COMPLY WITH ASTM A 307 COMMON STEEL BOLTS, AND MUST BE 3/4 INCH DIAMETER, UNLESS OTHERWISE NOTED.
7. METAL FRAMING ANCHORS, HOLD DOWNS, HURRICANE TIES, HANGERS, ETC. MUST COMPLY WITH ASTM A 653 AND BE CAPABLE OF SUPPORTING THE REACTIONS SHOWN. WHERE PRODUCTS OF A SPECIFIC MANUFACTURER ARE SHOWN, EQUAL PRODUCTS OF ANOTHER MANUFACTURER MAY BE USED IF APPROVED.
8. PROVIDE BRIDGING FOR ALL FLOOR JOISTS AND ROOF RAFTERS. MAXIMUM SPACING MUST BE 4'-0", UNLESS OTHERWISE NOTED.
9. PROVIDE DOUBLE JOISTS UNDER ALL PARTITIONS WHICH RUN PARALLEL WITH JOISTS, AND UNDER ALL CONCENTRATED LOADS FROM FLOORS ABOVE UNLESS OTHERWISE INDICATED. PROVIDE MULTIPLE STUDS WHERE INDICATED ON THE PLANS.
10. PROVIDE HEADERS OF THE SAME CROSS SECTION AS JOISTS OR RAFTERS TO FRAME AROUND ALL OPENINGS TO SUPPORT SHEATHING, UNLESS OTHERWISE NOTED OR DETAILED ON THE DRAWINGS.
11. WHERE MULTIPLE FRAMING MEMBERS ARE INDICATED, SCAB CONTINGENT MEMBERS TOGETHER WITH 16d NAILS AT 12 INCHES ON CENTER, ALTERNATING AT 2 INCHES FROM EACH EDGE.
12. ALL CONNECTION HARDWARE IN CONTACT WITH PRESERVATIVE TREATED WOOD MUST BE HOT-DIP GALVANIZED COATED.
13. POWDER ACTUATED FASTENERS (PAF) MUST HAVE A MINIMUM ALLOWABLE CAPACITY INTO THE BASE MATERIAL AS FOLLOWS UNLESS OTHERWISE NOTED:
    A. STEEL: SHEAR = 600 LBS
       TENSION = 250 LBS
    B. CONCRETE: SHEAR = 260 LBS
       TENSION = 255 LBS
14. LAMINATED VENEER LUMBER (LVL) MUST BE WEYERHAEUSER OR EQUAL AND CONFORM TO THE FOLLOWING MINIMUM STANDARD:
    Fb.....2800 PSI
    FC, PERP.....750 PSI
    Fv.....285 PSI
    E BEND.....2.0 E 6 PSI

PREFABRICATED METAL-PLATE-CONNECTED WOOD TRUSS NOTES:

1. PREFABRICATED METAL-PLATE-CONNECTED WOOD TRUSSES MUST BE IN ACCORDANCE WITH THE AMERICAN FOREST AND PAPER ASSOCIATION (AF&PA) "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION" AND THE TRUSS PLATE INSTITUTE (TPI) "NATIONAL DESIGN STANDARDS FOR METAL-PLATE-CONNECTED WOOD TRUSS CONSTRUCTION".
2. SUBMIT SHOP DRAWINGS SIGNED AND SEALED BY A NORTH CAROLINA LICENSED PROFESSIONAL ENGINEER RESPONSIBLE FOR THE DESIGN OF PREFABRICATED METAL-PLATE-CONNECTED WOOD TRUSSES. SHOP DRAWINGS MUST INCLUDE DESIGN LOADINGS AND REACTIONS APPLIED TO THE SUPPORTING STRUCTURE. INCLUDE ALL TRUSS SPLICE DETAILS AND TRUSS-TO-TRUSS CONNECTION DETAILS. SECONDARY BENDING STRESSES IN TRUSS TOP AND BOTTOM CHORDS DUE TO MEMBER LOADS MUST BE CONSIDERED IN THE DESIGN.
3. WOOD TRUSS FRAMING MEMBERS MUST COMPLY WITH PS 20 "AMERICAN SOFTWOOD LUMBER STANDARD" AND MUST BE SIZED BY THE MANUFACTURER FOR THE LOADS INDICATED.
4. METAL CONNECTOR PLATES MUST COMPLY WITH ASTM A 653, GRADE A WITH COATING AS SPECIFIED.
5. WOOD TRUSS DESIGN LOADS MUST BE AS INDICATED IN "GENERAL NOTES" AND AS FOLLOWS:
   A. TOP CHORD DEAD LOAD: 10 PSF (PLUS ADDITIONAL 5 PSF AT SUPERIMPOSED ROOF FRAMING AREAS).
   B. WIND LOAD: WHEN CALCULATING NET UPLIFT REACTIONS, USE MAXIMUM RESISTING DEAD LOAD = 5 PSF ON TOP CHORD AND 0 PSF ON BOTTOM CHORD.
   C. BOTTOM CHORD DEAD LOAD: 10 PSF.
6. WHERE MULTIPLE TRUSSES ARE INDICATED, SCAB CONTINGENT TRUSS MEMBERS TOGETHER WITH 16d NAILS AT 12 INCHES ON CENTER.
7. IN ADDITION TO THE TRUSS BRACING SHOWN, THE CONTRACTOR MUST PROVIDE ALL TEMPORARY AND PERMANENT BRACING AS REQUIRED FOR SAFE ERECTION OF THE TRUSSES, OR AS RECOMMENDED BY THE MANUFACTURER. THE GUIDELINES SET FORTH IN THE TRUSS PLATE INSTITUTE PUBLICATION "BRACING WOOD TRUSSES, COMMENTARY AND RECOMMENDATIONS" MUST BE CONSIDERED AS MINIMUM REQUIREMENTS.
8. TRUSSES MUST BE DESIGNED ASSUMING THAT THE BOTTOM CHORD IS NOT BRACED BY THE CEILING. PROVIDE ALL ADDITIONAL BRACING OF BOTH WEB AND CHORD MEMBERS REQUIRED BY THE TRUSS SHOP DRAWINGS.
9. TRUSS MANUFACTURER MAY USE ALTERNATIVE TRUSS WEB CONFIGURATIONS SUBJECT TO APPROVAL OF THE ENGINEER.
10. ALL CONNECTION HARDWARE FOR TRUSS-TO-TRUSS CONNECTIONS AND TRUSS TO SUPPORTING STRUCTURE CONNECTIONS MUST BE SUPPLIED BY THE MANUFACTURER.
11. FOR ADJACENT TRUSSES WHERE THE WEB CONFIGURATION IS CAPABLE OF CONTAINING A RECTANGLE 42 INCHES HIGH BY 24 INCHES WIDE OR GREATER BETWEEN TOP OF THE BOTTOM CHORD AND THE BOTTOM OF ANY OTHER TRUSS MEMBER, SUCH AREAS MUST HAVE THE BOTTOM CHORD DESIGNED FOR A LIVE LOAD OF 20 PSF IN ADDITION TO ANY OTHER LOADS SHOWN.

PLAN LEGEND:

BOD = +X'-X"	=	BOTTOM OF DECK ELEVATION MEASURED FROM REFERENCED FINISHED FIRST FLOOR ELEVATION = 0'-0"
XXX#	=	MECHANICAL UNIT SUPPORTED ABOVE FRAMING (WEIGHT IN POUNDS) - COORDINATE W/ MECH DWGS
	=	FLOOR / ROOF OPENING
(-X'-X")	=	TOP OF FOOTING ELEVATION MEASURED FROM REFERENCED FINISHED FIRST FLOOR ELEVATION = 0'-0"
<-X'-X">	=	TOP OF EXISTING FOOTING ELEVATION MEASURED FROM REFERENCED FINISHED FIRST FLOOR ELEVATION = 0'-0"
SL	=	DIRECTION OF SLOPE
	=	KCJ, CJ, OR SJ LINE ON PLAN
SF SF PIPE	=	PIPE CROSSING FOOTING
X OR X	=	PLAN KEY NOTE MARK
X	=	COLUMN GRID MARK
X SX	=	SECTION/DETAIL NUMBER/LETTER SECTION/DETAIL MARK SHEET NUMBER WHERE SECTION/DETAIL MARK IS DRAWN
WFX	=	WALL FOOTING MARK
CFX	=	COLUMN FOOTING MARK
±	=	FIELD VERIFY

ABBREVIATIONS:

AFF	ABOVE FINISHED FLOOR	EQ	EQUAL	NTS	NOT TO SCALE
ARCH	ARCHITECT	EW	EACH WAY	OC	ON CENTER
BD	BAR DIAMETER	EXIST	EXISTING	OPH	OPPOSITE HAND
BEJ	BUILDING EXPANSION JOINT	EXP	EXPANSION	OPNG	OPENING
BLDG	BUILDING	EXT	EXTERIOR	PAF	POWDER ACTUATED FASTENER
BM	BEAM	FDN	FOUNDATION	PAR	PARALLEL
BOD	BOTTOM OF DECK	FO	FACE OF	PEMB	PRE-ENGINEERED METAL BUILDING
BOT, B	BOTTOM	FF EL	FINISHED FLOOR ELEVATION	PERP	PERPENDICULAR
BRG	BEARING			PL	PLATE
BTWN	BETWEEN	FIN	FINISH	PT	PRESSURE TREATED
C TO C	CENTER TO CENTER	FIN FLR	FINISHED FLOOR	REF	REFERENCE, REFER TO
CJ	CONTROL JOINT	FOB	FACE OF BUILDING	REINF	REINFORCE, REINFORCED, REINFORCING
CL	CENTERLINE	FOC	FACE OF CONCRETE	REQD	REQUIRED
CLR	CLEAR	FOS	FACE OF SLAB/ STUD	REQMTS	REQUIREMENTS
COL	COLUMN	FRMG	FRAMING	SCHED	SCHEDULE
CONC	CONCRETE	FTG	FOOTING	SF	STEPPED FOOTING
CONN	CONNECTION	FV, ±	FIELD VERIFY	SIM	SIMILAR
CONSTR	CONSTRUCTION	GEN	GENERAL	SJ	SAWED JOINT
CONT	CONTINUOUS	H	HIGH	SL	SLOPE
COORD	COORDINATE	HK	HOOK	SOG	SLAB-ON-GRADE
CTR	CENTER	HORIZ	HORIZONTAL	STD	STANDARD
CTRD	CENTERED	INT	INTERIOR	TBE	TRUSS BEARING ELEVATION
DBL	DOUBLE	JBE	JOIST BEARING ELEVATION	T&B	TOP & BOTTOM
DCJ	DOWELED CONSTRUCTION JOINT	JT	JOINT	THK	THICKNESS
		KCJ	KEYED CONSTRUCTION JOINT	TOC	TOP OF CONCRETE
DIA, Ø	DIAMETER	L	LOW	TOF	TOP OF FOOTING
DJ	DOUBLE JOIST	LWC	LIGHTWEIGHT CONCRETE	TS	THICKENED SLAB
DT	DRAG TRUSS	MATL	MATERIAL	TYP	TYPICAL
DWGS	DRAWINGS	MAX	MAXIMUM	UON	UNLESS OTHERWISE NOTED
EA	EACH	MECH	MECHANICAL	VERT	VERTICAL
EF	EACH FACE	MFR	MANUFACTURER	W/	WITH
EJ	EXPANSION JOINT	MID	MIDDLE	WSP	WOOD STRUCTURAL PANEL(S)
EL	ELEVATION	MIN	MINIMUM	WWR	WELDED WIRE REINFORCING
EMBED	EMBEDMENT	MOD	MODIFY		
EOD	EDGE OF DECK	NOM	NOMINAL		
EOS	EDGE OF SLAB				

Carolina Charter Academy Exp.

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SEAL | DATE 02-24-21

SHEET ISSUE

	100% CONSTRUCTION DOCUMENTS	02-24-21

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PROJECT NO. 20408.000

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
S-002

2/24/2021 12:43:26 PM

STATEMENT OF SPECIAL INSPECTION SERVICES

PROJECT: CAROLINA CHARTER ACADEMY ADDITION
LOCATION: 8529 HIGHWAY 55, ANGIER, NORTH CAROLINA 27501
OWNER'S REPRESENTATIVE:
OWNER'S ADDRESS:

THIS STATEMENT OF SPECIAL INSPECTIONS IS SUBMITTED AS A CONDITION FOR PERMIT ISSUANCE IN ACCORDANCE WITH THE SPECIAL INSPECTION REQUIREMENTS OF THE 2018 NORTH CAROLINA STATE BUILDING CODE. IT INCLUDES A SCHEDULE OF SPECIAL INSPECTION SERVICES APPLICABLE TO THIS PROJECT, THE NAME OF THE SPECIAL INSPECTOR, THE IDENTITY OF OTHER APPROVED AGENCIES RETAINED FOR CONDUCTING SPECIAL INSPECTIONS, AND THE REQUIRED INSPECTOR QUALIFICATIONS. THIS STATEMENT OF SPECIAL INSPECTIONS WAS PREPARED BY THE FOLLOWING DESIGNERS OF RECORD:

STRUCTURAL	KRISTINA K. WARNAAR, P.E.		02/24/2021
	(Type or print name)	(Signature)	(Date)
ARCHITECTURAL			
	(Type or print name)	(Signature)	(Date)
MECHANICAL			
	(Type or print name)	(Signature)	(Date)
OTHER			
	(Type or print name)	(Signature)	(Date)

THE SPECIAL INSPECTOR MUST KEEP RECORDS OF ALL SPECIAL INSPECTIONS AND TESTS AND MUST FURNISH REPORTS TO THE STATE CONSTRUCTION OFFICE AND THE DESIGNERS OF RECORD. REPORTS MUST INDICATE IF THE WORK INSPECTED OR TESTED WAS OR WAS NOT COMPLETED IN CONFORMANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS. DISCOVERED DISCREPANCIES MUST BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF SUCH DISCREPANCIES ARE NOT CORRECTED, THE DISCREPANCIES MUST BE BROUGHT TO THE ATTENTION OF THE STATE CONSTRUCTION OFFICE AND THE DESIGNERS OF RECORD. THE SPECIAL INSPECTIONS PROGRAM DOES NOT RELIEVE THE CONTRACTOR OF HIS OR HER RESPONSIBILITIES.

INTERIM REPORTS MUST BE SUBMITTED TO THE STATE CONSTRUCTION OFFICE, OWNER, AND THE DESIGNERS OF RECORD.

INTERIM REPORT FREQUENCY: MONTHLY

A FINAL REPORT OF SPECIAL INSPECTIONS DOCUMENTING COMPLETION OF ALL REQUIRED SPECIAL INSPECTIONS, TESTING, AND CORRECTION OF ANY DISCREPANCIES SHOULD BE SUBMITTED PRIOR TO ISSUANCE OF A CERTIFICATE OF USE AND OCCUPANCY.

JOB SITE SAFETY AND MEANS AND METHODS OF CONSTRUCTION ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.

OWNER'S AUTHORIZATION

(Signature) (Date)

ACCEPTED FOR THE SCO BY:

(Signature) (Date)

SCHEDULE OF SPECIAL INSPECTION SERVICES A

THE FOLLOWING COMPRISES THE REQUIRED SCHEDULE OF SPECIAL INSPECTIONS FOR THIS PROJECT. THE CONSTRUCTION DIVISIONS WHICH REQUIRE SPECIAL INSPECTIONS FOR THIS PROJECT ARE AS FOLLOWS.

- ☐ STRUCTURAL STEEL & HIGH STRENGTH BOLTING
- ☐ WELDING OF STRUCTURAL STEEL
- ☐ COLD-FORMED STEEL DECK
- ☐ OPEN-WEB STEEL JOISTS & JOIST GIRDERS
- ☐ COLD-FORMED STEEL FRAMING
- ☒ CONCRETE CONSTRUCTION
- ☐ MASONRY CONSTRUCTION B
- ☒ WOOD CONSTRUCTION
- ☒ SOILS
- ☐ DRIVEN DEEP FOUNDATIONS
- ☐ CAST-IN-PLACE DEEP FOUNDATIONS
- ☐ HELICAL PILE FOUNDATIONS
- ☐ RAMMED AGGREGATE PIERS & STONE COLUMNS
- ☐ SPRAYED FIRE-RESISTANT MATERIAL
- ☒ MASTIC & INTUMESCENT FIRE-RESISTANT COATINGS
- ☐ EXTERIOR INSULATION & FINISH SYSTEM
- ☒ FIRE-RESISTANT PENETRATIONS & JOINTS
- ☐ SMOKE CONTROL
- ☐ RETAINING WALL & SYSTEMS > 5 FEET
- ☐ SPECIAL INSPECTIONS FOR WIND RESISTANCE
- ☐ SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE

A. THE INSPECTION FREQUENCY INDICATED ON THE FOLLOWING INSPECTION TABLES ARE "C" CONTINUOUS, "P" PERIODIC, & "O" RANDOM ON A DAILY BASIS.
B. LEVEL A IS THE MINIMUM INSPECTION PROGRAM FOR EMPIRICALLY / PRESCRIPTIVELY DESIGNED MASONRY IN RISK CATEGORY I, II OR III STRUCTURES. LEVEL B IS THE MINIMUM INSPECTION PROGRAM FOR EMPIRICALLY / PRESCRIPTIVELY DESIGNED MASONRY IN RISK CATEGORY IV STRUCTURES AND ENGINEERED MASONRY IN RISK CATEGORY I, II OR III STRUCTURES. LEVEL C IS THE MINIMUM INSPECTION PROGRAM FOR ENGINEERED MASONRY IN RISK CATEGORY IV STRUCTURES. ENGINEERED MASONRY STRUCTURES ARE THOSE DESIGNED IN ACCORDANCE WITH PORTIONS OF THE TMS 402-13 / ACI 530-13/ASCE 5-13 OTHER THAN PART 4 OR APPENDIX A.

INSPECTION AGENTS	FIRM NAME & POINT OF CONTACT	ADDRESS / PHONE / E-MAIL
1. SPECIAL INSPECTOR (SI-1)		
2. TESTING AGENCY (TA-1)		
3. TESTING AGENCY (TA-2)		
4. GEOTECHNICAL ENGINEER (GE-1)		
5. OTHER (O-1)		

NOTE: THE INSPECTION AND TESTING AGENT(S) MUST BE ENGAGED BY THE OWNER OR THE REGISTERED DESIGN PROFESSIONAL OF RECORD ACTING AS THE OWNER'S AGENT, AND NOT BY THE CONTRACTOR OR SUBCONTRACTOR WHOSE WORK IS TO BE INSPECTED OR TESTED. ANY CONFLICT OF INTEREST MUST BE DISCLOSED TO THE STATE CONSTRUCTION OFFICE, PRIOR TO COMMENCING WORK.

SEISMIC DESIGN CATEGORY: ☐ A ☒ B ☐ C ☐ D

BASIC WIND SPEED (V_{ASD}): ☒ 90-109 MPH ☐ 110-119 MPH ☐ >120 MPH

WIND EXPOSURE CATEGORY: ☐ B ☒ C ☐ D

WOOD CONSTRUCTION

INSPECTION TASK	TASK REQD	FREQ	REFERENCE FOR CRITERIA	
			STANDARD	NCBC
1. FABRICATOR CERTIFICATION / VERIFICATION OF QUALITY CONTROL PROCEDURES FOR PREFABRICATED WOOD STRUCTURAL ELEMENTS AND ASSEMBLIES				
a. VERIFY FABRICATOR QUALIFICATIONS	☒	C		1704.2.5.1, 1705.5
b. COLLECT CERTIFICATES OF COMPLIANCE FROM THE FABRICATOR AT COMPLETION OF FABRICATION	☒	C		1704.5, 1705.5
2. HIGH-LOAD DIAPHRAGMS				2306.2
a. VERIFY THAT WOOD STRUCTURAL PANEL SHEATHING IS THE CORRECT GRADE AND THICKNESS	☒	P		1705.5.1
b. VERIFY NOMINAL SIZE OF FRAMING MEMBERS AND BLOCKING AT ADJOINING PANEL EDGES	☒	P	AWC-SDPWS 4.2.7.1.2	1705.5.1
c. NAIL AND OR STAPLE DIAMETER, LENGTH, QUANTITY AND SPACING COMPLY WITH THE CONTRACT DOCUMENTS	☒	P		1705.5.1
3. FOR METAL-PLATE-CONNECTED TRUSSES CLEAR SPANNING 60 FEET OR MORE, VERIFY THAT BOTH TEMPORARY AND PERMANENT RESTRAINTS AND BRACES ARE INSTALLED IN ACCORDANCE WITH THE APPROVED TRUSS SUBMITTAL PACKAGE	☒	P		1705.5.2

MASTIC AND INTUMESCENT FIRE-RESISTANT COATINGS

INSPECTION TASK	TASK REQD	FREQ	REFERENCE FOR CRITERIA	
			STANDARD	NCBC
1. PRIOR TO APPLICATION, VERIFY PREPARATION OF SUBSTRATE AND SUITABILITY OF PRIMERS, IF PRESENT, ARE IN ACCORDANCE WITH APPROVED FIRE RESISTANCE DESIGN, APPROVED MANUFACTURER'S WRITTEN INSTRUCTIONS, AND THE REQUIREMENTS OF AWCI 12-B	☒	P	AWCI 12-B	1705.15
2. OBSERVE THE APPLICATION OF FIRE-RESISTANT COATINGS ENSURING COMPLIANCE WITH APPROVED FIRE RESISTANCE DESIGN, APPROVED MANUFACTURER'S WRITTEN INSTRUCTIONS, AND THE REQUIREMENTS OF AWCI 12-B	☒	P	AWCI 12-B	1705.15
3. AFTER ADEQUATE DRYING BUT PRIOR TO THE APPLICATION OF ANY TOPCOAT, MEASURE THE FINAL MASTIC / INTUMESCENT MATERIAL THICKNESS ENSURING COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS AND APPROVED MATERIAL / INSTALLATION SUBMITTALS. MEASUREMENTS MUST CONSIDER THE THICKNESS OF PRIMERS OR OTHER EXISTING COATINGS ON THE SURFACE OF THE SUBSTRATE.	☒	P	AWCI 12-B	1705.15

FIRE-RESISTANT PENETRATIONS AND JOINTS A

INSPECTION TASK	TASK REQD	FREQ	REFERENCE FOR CRITERIA	
			STANDARD	NCBC
1. INSPECT THROUGH-PENETRATION FIRESTOP SYSTEMS AT FIRE WALLS, FIRE BARRIERS, SMOKE BARRIERS AND FIRE PARTITION WALLS IN ACCORDANCE WITH ASTM E2174	☒	P		1705.17.1, 714.3.1.2
2. INSPECT PENETRATION FIRESTOP SYSTEMS AT PENETRATIONS THROUGH MEMBRANES THAT ARE PART OF A HORIZONTAL ASSEMBLY IN ACCORDANCE WITH ASTM E2174	☒	P		1705.17.1, 714.4.2
3. INSPECT FIRE-RESISTANT JOINT SYSTEMS IN ACCORDANCE WITH ASTM 2393	☒	P		1705.17.2, 715.3, 715.4

A. THE INSPECTION OF FIRE-RESISTANT PENETRATIONS AND JOINTS APPLIES ONLY TO HIGH-RISE BUILDINGS OR BUILDINGS ASSIGNED TO RISK CATEGORY III OR IV.

CONCRETE CONSTRUCTION

INSPECTION TASK	TASK REQD	FREQ	REFERENCE FOR CRITERIA	
			STANDARD A	NCBC
1. INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT	☒	P	ACI CH.20, 25.2, 25.3, 26.6.1-26.6.3	1908.4
2. REINFORCING BAR WELDING:			AWS D1.4	
a. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706 AND COLLECT REPORTS	☐	P	ACI 26.6.4	1704.5
b. INSPECT SINGLE-PASS FILLET WELDS ≤ 5/16"	☐	P	ACI 26.6.4	
c. INSPECT ALL WELDS OTHER THAN SINGLE-PASS FILLET WELDS ≤ 5/16"	☐	C	ACI 26.6.4	
3. CONCRETE ANCHORS:				
a. INSPECT ANCHORS CAST IN CONCRETE	☒	P	ACI 17.8.2	
b. INSPECT ADHESIVE ANCHORS INSTALLED IN HARDENED CONCRETE WITH HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS THAT RESIST SUSTAINED TENSION LOADS	☒	C	ACI 17.8.2.4	
c. INSPECT ADHESIVE ANCHORS INSTALLED IN HARDENED CONCRETE WITH ORIENTATIONS DIFFERENT FROM ITEM 3.B	☒	P	ACI 17.8.2	
d. INSPECT MECHANICAL ANCHORS INSTALLED IN HARDENED CONCRETE	☒	P	ACI 17.8.2	
4. COLLECT MIX DESIGNS AND VERIFY THE CORRECT MIX USED DURING INSTALLATION	☒	P	ACI CH 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3
5. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	☒	C	ASTM C172, ASTM C31, ACI 26.4, 26.12	1908.10
6. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	☒	C	ACI 26.5	1908.6, 1908.7, 1908.8
7. COLLECT REPORTS OF PRECONSTRUCTION TESTS FOR SHOTCRETE WHEN PRECONSTRUCTION TESTS ARE REQUIRED BY NCBC SECTION 1908.4	☒	C		1704.5, 1908.5
8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	☒	P	ACI 26.5.3-26.5.5	1908.9
9. INSPECTIONS FOR PRESTRESSED CONCRETE				
a. OBSERVE APPLICATION OF PRESTRESSING FORCE	☐	C	ACI 26.10	
b. INSPECT GROUTING OF BONDED PRESTRESSING TENDONS	☐	C	ACI 26.10	
10. VERIFY CONCRETE STRENGTH PRIOR TO STRESSING OF PT TENDONS AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM PT & MILD BEAMS AND STRUCTURAL SLABS	☐	P	ACI 26.11.2	
11. INSPECT ERECTION OF PRECAST MEMBERS	☐	P	ACI 26.8	
12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED	☒	P	ACI 26.11.1.2(B)	
13. COLLECT MILL TEST REPORTS FOR ASTM A615 REBAR USED BY SFRS SPECIAL MOMENT FRAMES, SPECIAL STRUCTURAL WALLS OR COUPLING BEAMS	☐	C	ACI 20.2.2.5	1704.5

A. REFERENCES TO "ACI" IN THIS TABLE ARE TO THE ACI 318-14.

SOILS

INSPECTION TASK	TASK REQD	FREQ	REFERENCE FOR CRITERIA	
			STANDARD	NCBC
1. VERIFY MATERIALS BELOW MUSTOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	☒	P		1705.6
2. VERIFY EXCAVATIONS EXTEND TO PROPER DEPTH AND HAVE REACHED THE CORRECT SOIL MATERIAL	☒	P		1705.6
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS	☒	P		1705.6
4. VERIFY THAT MATERIALS USED, DENSITIES, LIFT THICKNESS AND PROCEDURES USED DURING PLACEMENT AND COMPACTION OF COMPACTED FILL ARE IN ACCORDANCE WITH THE APPROVED SOILS REPORT AND THE CONSTRUCTION DOCUMENTS	☒	C		1705.6
5. PRIOR TO PLACEMENT OF COMPACTED FILL, VERIFY THAT THE SUBGRADE HAS BEEN PREPARED IN ACCORDANCE WITH THE APPROVED SOILS REPORT AND THE CONSTRUCTION DOCUMENTS	☒	P		1705.6

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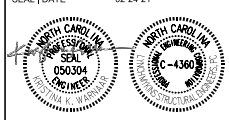

SHEET ISSUE

	100% CONSTRUCTION DOCUMENTS	02-24-21

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PROJECT NO. 20408.000

SHEET TITLE
SPECIAL INSPECTIONS

SHEET NUMBER
S-011

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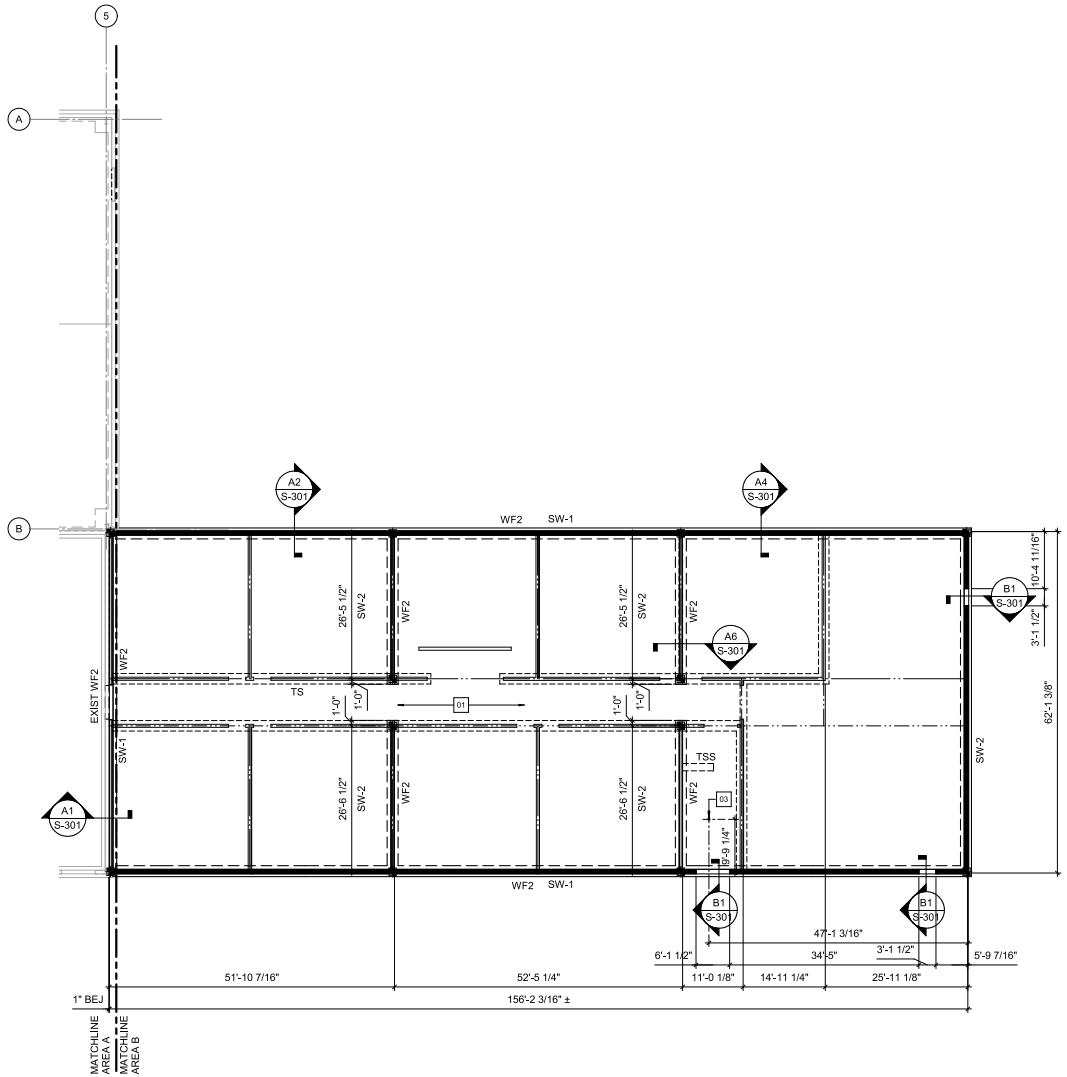
WALL FOOTING SCHEDULE					
	SIZE		REINFORCING		
MARK	WIDTH	DEPTH	CONTINUOUS	TRANSVERSE	REMARKS
WF2	2' - 0"	1'-0"	3 - #5 BOT	#5 AT 12" OC BOT	-



A1 S-101B FOUNDATION PLAN - AREA B

3/32" = 1'-0"

FOUNDATION / SLAB-ON-GRADE PLAN NOTES

1. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS TO NONBEARING WALLS, WALL CONTROL JOINTS AND OPENINGS.
2. UNLESS OTHERWISE NOTED, ALL ELEVATIONS ARE BASED ON A FINISHED FIRST FLOOR REFERENCE OF 100'-0". ACTUAL FINISHED FLOOR ELEVATION IS 334.00'. REFER TO ARCHITECTURAL DRAWINGS FOR FINISHED FLOOR MATERIAL.
3. TOP OF ALL FOOTINGS SHALL BE AT ELEVATION 98'-8" UNLESS OTHERWISE NOTED.
4. NOT ALL UTILITY LOCATIONS ARE SHOWN ON PLAN. THE CONTRACTOR SHALL COORDINATE THE LOCATIONS, SIZES, AND INVERTS OF UTILITIES. AT LOCATIONS WHERE UTILITIES PASS BELOW THE TOP OF FOOTING ELEVATION, STEP THE TOP OF FOOTING DOWN ON EACH SIDE PER THE "STEPPED FOOTING DETAIL" AND SLEEVE THE UTILITY THROUGH THE FOUNDATION WALL. THE CONTRACTOR MAY, AT HIS OPTION, SLEEVE THE UTILITY THROUGH THE FOUNDATION PER THE "UTILITY SLEEVE DETAIL."
5. UNLESS OTHERWISE INDICATED, EXTEND WALL FOOTINGS A MINIMUM OF 6 INCHES BEYOND ENDS OF WALLS.
6. SLAB-ON-GRADE JOINTS SHALL BE SAWED JOINTS CONTROL JOINTS OR KEYED CONSTRUCTION JOINTS UNLESS SPECIFICALLY DENOTED TO BE KEYED CONSTRUCTION JOINTS. CONTRACTOR SHALL COORDINATE ALL SLAB JOINTS WITH JOINTS IN BONDED FLOOR FINISHES. REFER TO ARCHITECTURAL DRAWINGS FOR FLOOR FINISH JOINT LOCATIONS.
7. PLACE 1 - #4 x 3'-0" IN MIDDLE OF SLAB AT REENTRANT CORNERS WHERE A SLAB CONTROL JOINT DOES NOT OCCUR.
8. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LIMITS OF SLAB DEPRESSIONS.
9. FLOOR DRAINS AND FLOOR SINKS ARE NOT SHOWN ON PLAN. REFER TO PLUMBING DRAWINGS FOR LOCATIONS.
10. REFER TO CIVIL DRAWINGS FOR EXTERIOR CONCRETE SLABS AND PAVING.

KEY NOTES

01 4" CONCRETE SLAB-ON-GRADE OVER VAPOR RETARDER AND 4" DEPTH OF POROUS FILL UNLESS OTHERWISE INDICATED. REINFORCE SLAB WITH 6x6 W2.9xW2.9 WELDED WIRE REINFORCING PLACED 1" CLEAR BELOW TOP OF SLAB. MAINTAIN REINFORCEMENT IN POSITION ON BOLSTERS, CHAIRS OR SPACERS DURING CONCRETE PLACEMENT.

03 2x12 FLOOR JOISTS AT 16" OC.

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PROJECT NO. 20408.000

SHEET TITLE
FOUNDATION PLAN - AREA B

SHEET NUMBER
S-101B

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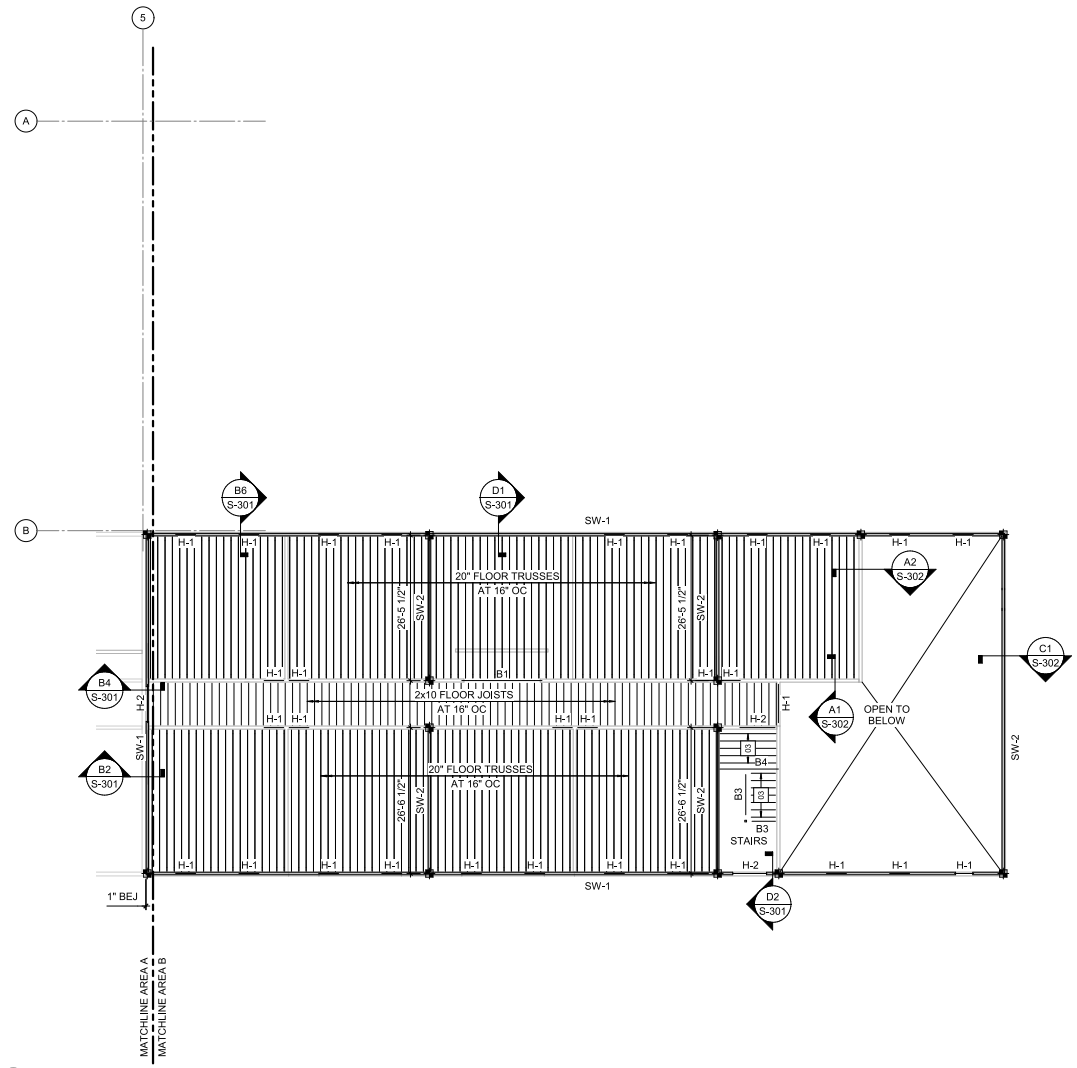

A1 S-102 SECOND FLOOR FRAMING PLAN - AREA B

3/32" = 1'-0"

FRAMING PLAN NOTES

1. REFER TO FOUNDATION PLAN AND ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT SHOWN.
2. TOP OF FINISHED FLOOR ELEVATION SHALL BE: SECOND FLOOR ELEVATION = +112'-0.
3. FLOOR JOISTS SHALL BE EQUALLY SPACED NOT TO EXCEED 1'-4" OC TO SUPPORT FLOOR SHEATHING.
4. COORDINATE AND VERIFY ALL MEMBER LOCATIONS, DIMENSIONS, WEIGHTS, OPENING SIZES, AND CURB DIMENSIONS FOR ALL MECHANICAL EQUIPMENT WITH THE ACTUAL EQUIPMENT FURNISHED. INCLUD THIS INFORMATION ON THE JOIST AND STRUCTURAL STEEL SHOP DRAWINGS.
5 ALL WALLS ARE 2x6 STUDS AT 16" OC, UNLESS OTHERWISE NOTED.

KEY NOTES

03 2x12 FLOOR JOISTS AT 16" OC.

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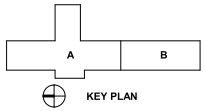

KEY PLAN

SEAL | DATE 02-24-21

SHEET ISSUE

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PROJECT NO. 20408.000

SHEET TITLE
SECOND FLOOR FRAMING PLAN - AREA B

SHEET NUMBER
S-102

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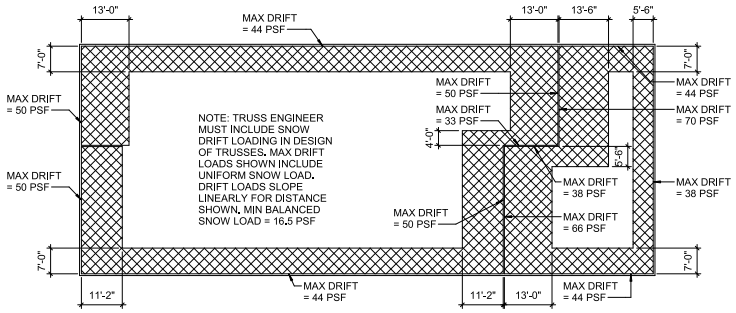
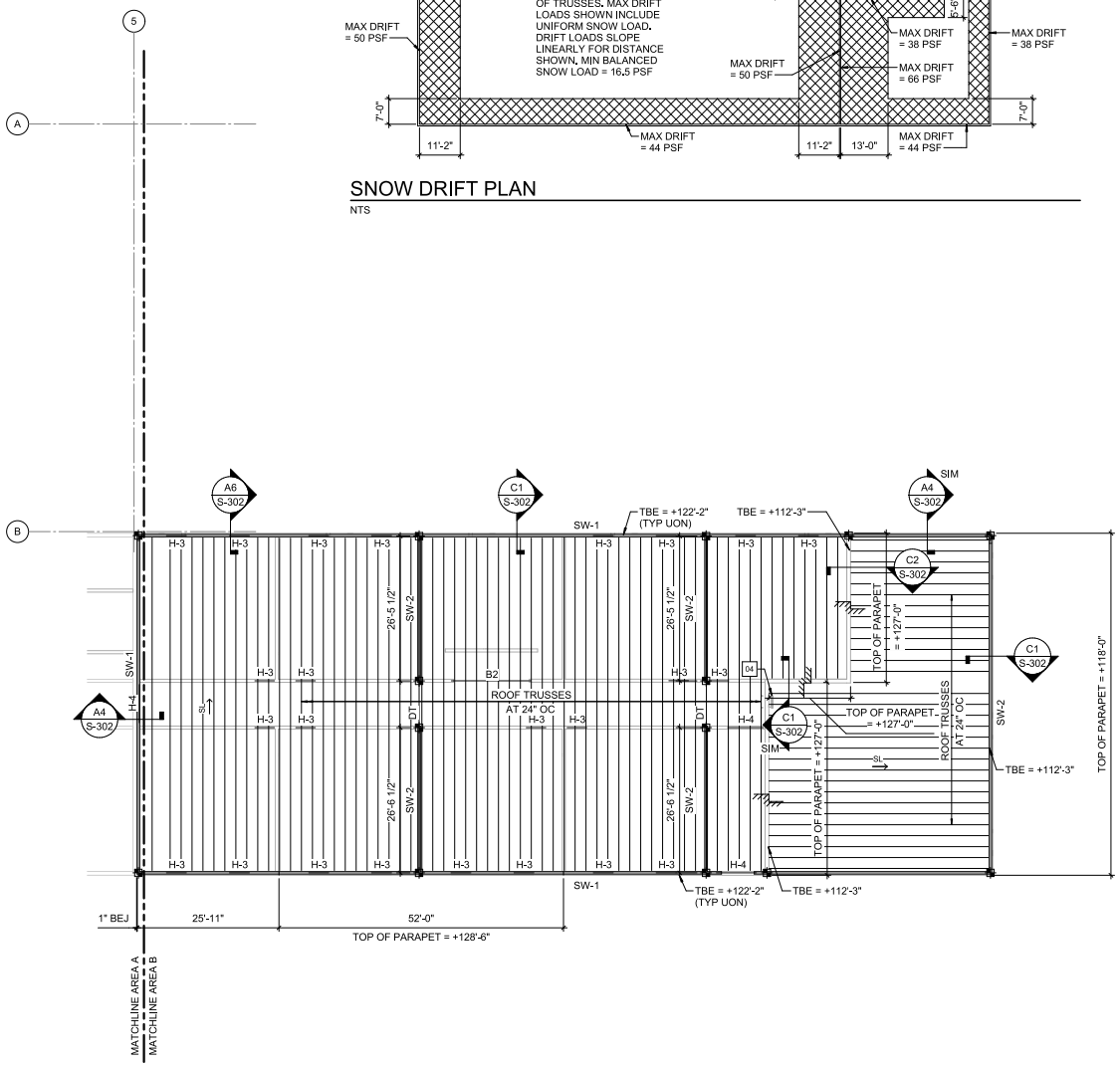


SNOW DRIFT PLAN

NTS



A1 ROOF FRAMING PLAN - AREA B

S-103

3/32" = 1'-0"

ROOF FRAMING PLAN NOTES

1. REFER TO FOUNDATION PLAN AND ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT SHOWN.
2. TRUSS BEARING ELEVATIONS ARE SHOWN ON PLAN. INTERMEDIATE ELEVATIONS SHALL BE STRAIGHT LINES BETWEEN GIVEN ELEVATIONS. INTERPOLATE AS REQUIRED FOR INTERMEDIATE BEARING ELEVATIONS, UNLESS OTHERWISE NOTED.
3. TOP OF PARAPET = +127'-0" UNLESS OTHERWISE NOTED.
4. COORDINATE AND VERIFY ALL MEMBER LOCATIONS, DIMENSIONS, WEIGHTS, OPENING SIZES, AND CURB DIMENSIONS FOR ALL MECHANICAL EQUIPMENT WITH THE ACTUAL EQUIPMENT FURNISHED. INCLUD THIS INFORMATION ON THE JOIST AND STRUCTURAL STEEL SHOP DRAWINGS.
5. PREFABRICATED WOOD TRUSSE AND FRAMING SHALL BE EQUALLY SPACED NOT TO EXCEED 24" OC TO SUPPORT ROOF SHEATHING.

KEY NOTES

04 ACCESS LADDER. REFERENCE ARCHITECTURAL DRAWINGS.

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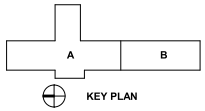

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SHEET ISSUE

	100% CONSTRUCTION DOCUMENTS	02-24-21

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PROJECT NO. 20408.000

SHEET TITLE
ROOF FRAMING PLAN - AREA B

SHEET NUMBER
S-103

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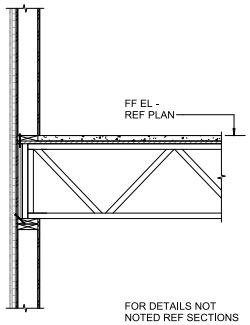
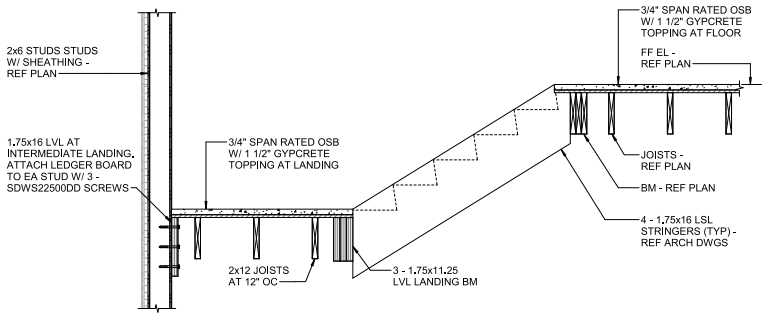
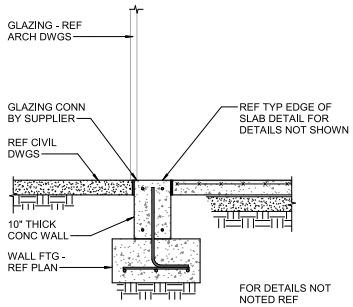


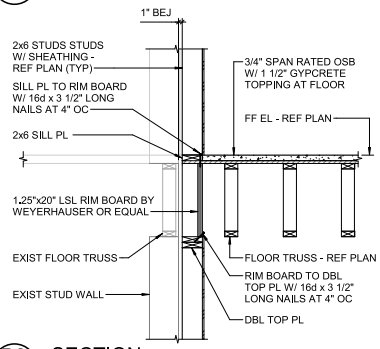
D1 S-301 SECTION
3/4" = 1'-0"



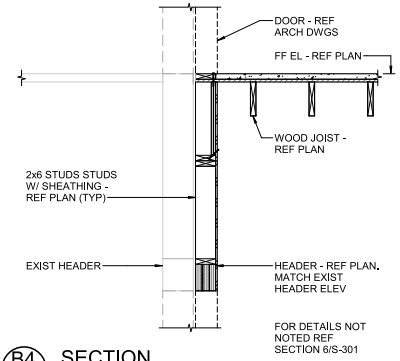
D2 S-301 SECTION
3/4" = 1'-0"



B1 S-301 SECTION
3/4" = 1'-0"



B2 S-301 SECTION
3/4" = 1'-0"



B4 S-301 SECTION
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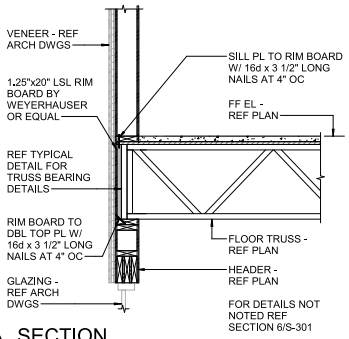

B6 S-301 SECTION
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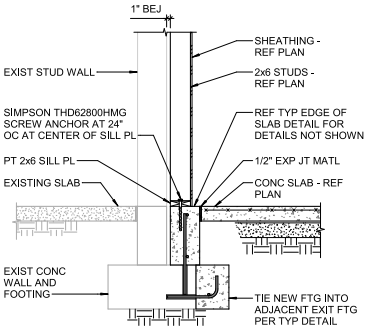

A1 S-301 SECTION
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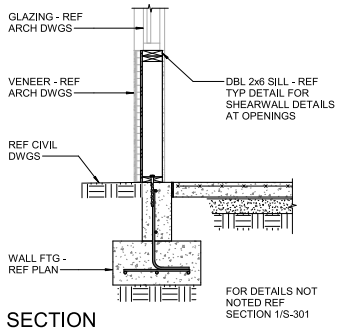

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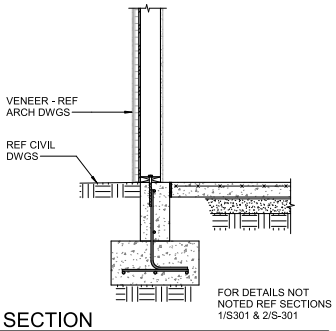

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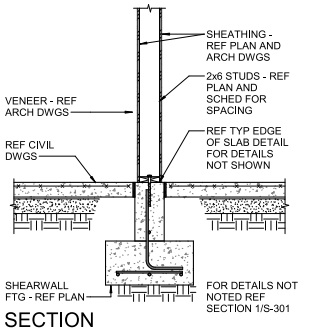

A6 S-301 SECTION
3/4" = 1'-0"

Carolina Charter Academy Exp.

8529 Highway 55
Angier, North Carolina
27501

Owner
Highmark School Development
746 East Winchester Street
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Civil Engineer
Timmons Group
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919-866-4938

SEAL | DATE 02-24-21

SHEET ISSUE

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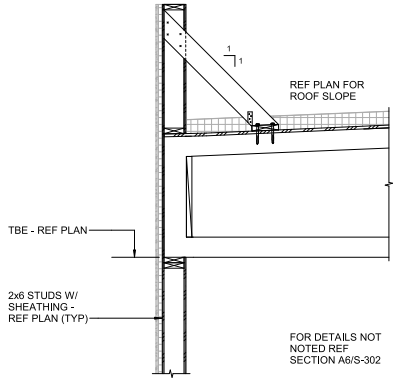
PROJECT NO. 20408.000

SHEET TITLE
SECTIONS

SHEET NUMBER
S-301

2/24/2021 12:43:31 PM



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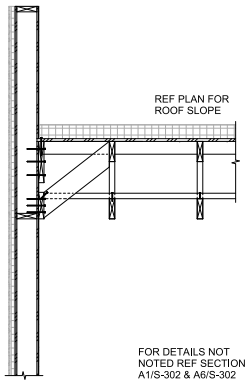

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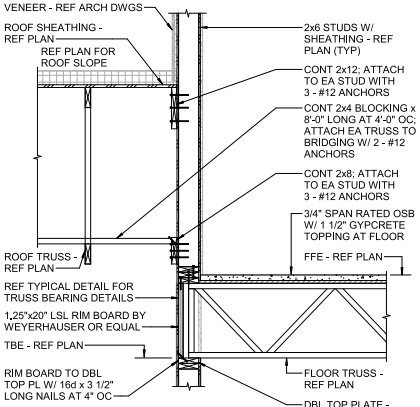

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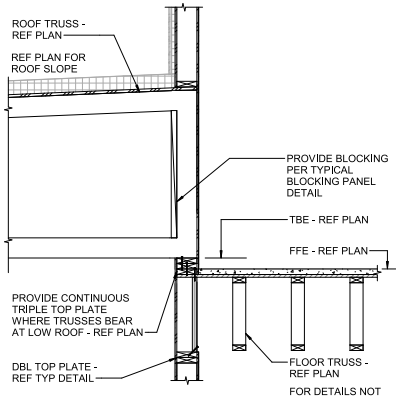

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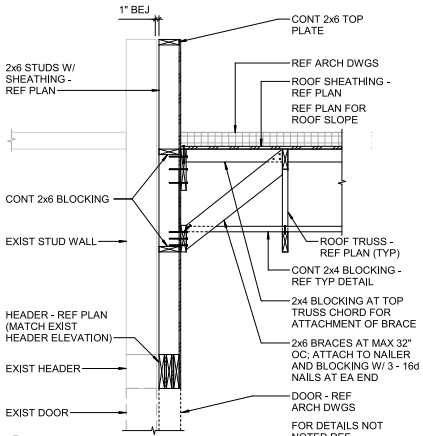

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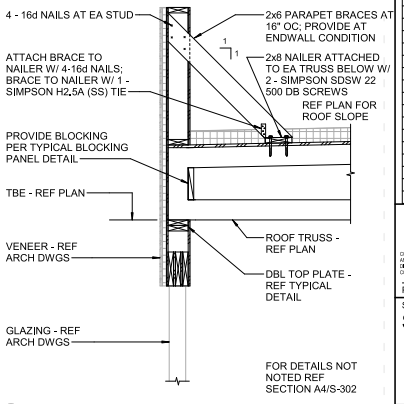

A6 S-302 SECTION
3/4" = 1'-0"

2/24/2021 12:43:33 PM

Carolina Charter Academy Exp.

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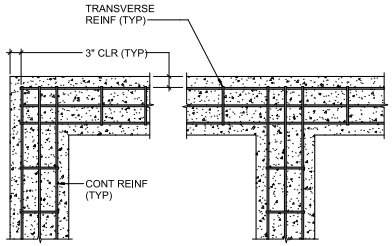
PROJECT NO. 20408.000

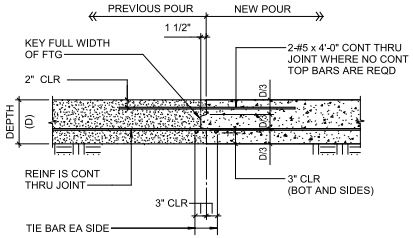
SHEET TITLE
SECTIONS

SHEET NUMBER
S-302



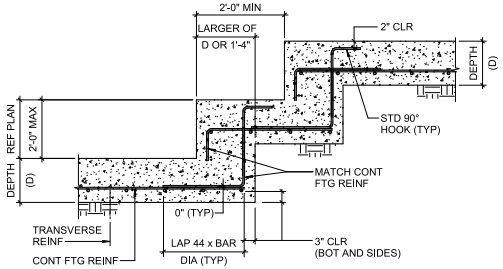
TYPICAL WALL FOOTING CORNER AND INTERSECTION DETAILS

NTS



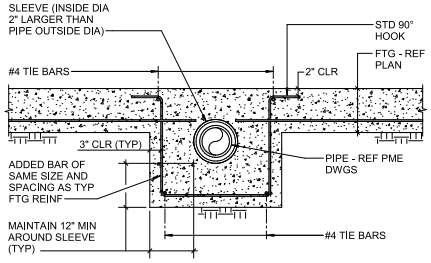
TYPICAL WALL FOOTING CONSTRUCTION JOINT DETAIL

NTS



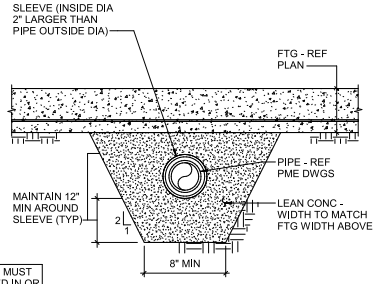
TYPICAL STEPPED FOOTING DETAIL

NTS (DENOTED SF ON PLAN)



THROUGH FOOTING

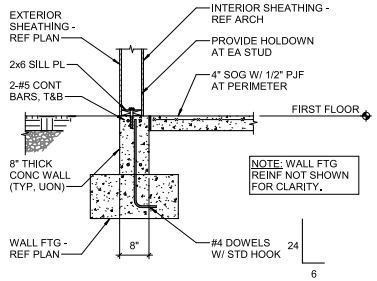
NOTE: SLEEVES MUST NOT BE LOCATED IN OR UNDER COL FTGS.



BELOW FOOTING

TYPICAL PIPE SLEEVE DETAILS

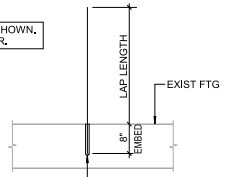
NTS



TYPICAL EDGE OF SLAB

NTS

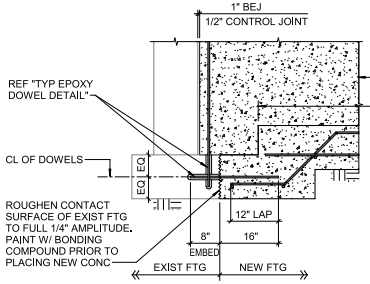
NOTE: VERT DOWEL SHOWN. HORIZ DOWEL SIMILAR.



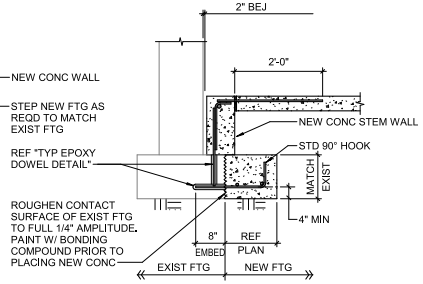
DRILL HOLES INTO EXIST FTG TO RECEIVE DOWELS. CLEAN HOLES THOROUGHLY OF DEBRIS AND FILL W/ EPOXY. DIA OF HOLES MUST BE AS RECOMMENDED BY MFR OF EPOXY MATL. IF NOT SPECIFIED BY EPOXY MFR. DIA OF HOLES MUST BE 1/8" LARGER THAN DOWEL SIZE.

TYPICAL EPOXY DOWEL DETAIL

NTS



PERPENDICULAR



PARALLEL

TYPICAL DETAIL AT INTERSECTION OF NEW AND EXISTING FOOTINGS

NTS

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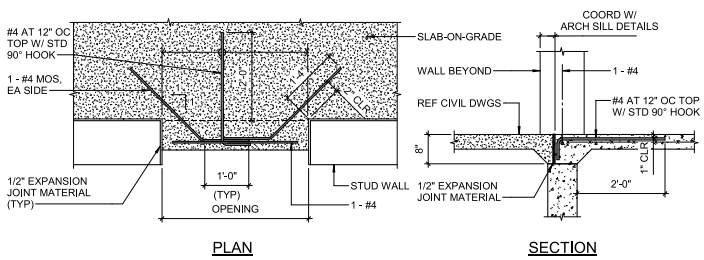
PROJECT NO. 20408.000

SHEET TITLE
TYPICAL DETAILS

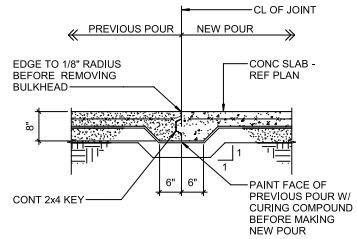
SHEET NUMBER
S-501

2/24/2021 12:43:33 PM



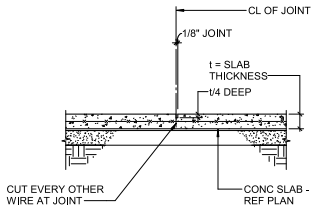
TYPICAL EXTERIOR DOORS / OPENINGS DETAIL

NTS



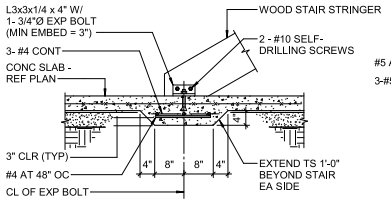
TYPICAL KEYED CONSTRUCTION JOINT DETAIL

(DENOTED KCJ ON PLAN)



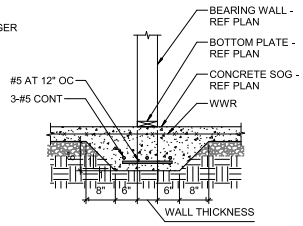
TYPICAL SAWED JOINT DETAIL

NTS (DENOTED SJ ON PLAN)



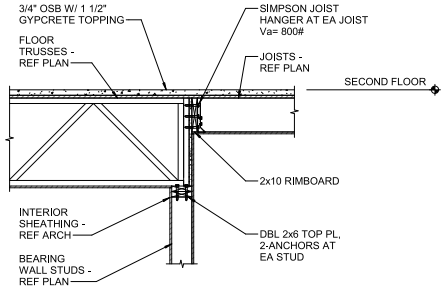
TYPICAL THICKENED SLAB AT STAIR STRINGER DETAIL

NTS (DENOTED TS/STR ON PLAN)



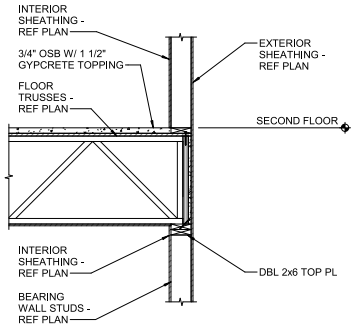
TYPICAL THICKENED SLAB AT INTERIOR BEARING WALLS

3/4" = 1'-0"



TYPICAL CORRIDOR FRAMING

NTS



TYPICAL TRUSS BEARING

NTS

Carolina Charter Academy Exp.

8529 Highway 55
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27501

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746 East Winchester Street
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PROJECT NO. 20408.000

SHEET TITLE
TYPICAL DETAILS

SHEET NUMBER
S-502

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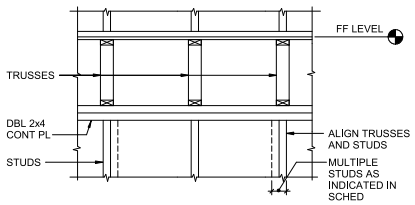
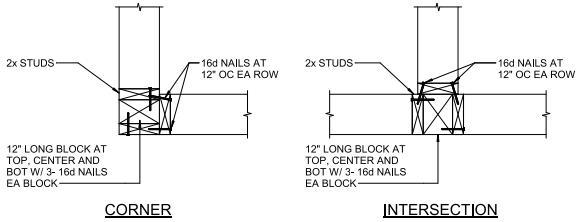


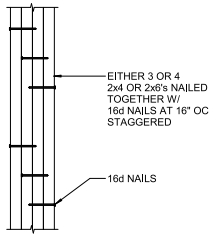
TYPICAL LOAD BEARING WALL DETAIL

NTS



TYPICAL WALL CORNERS AND INTERSECTIONS

NTS

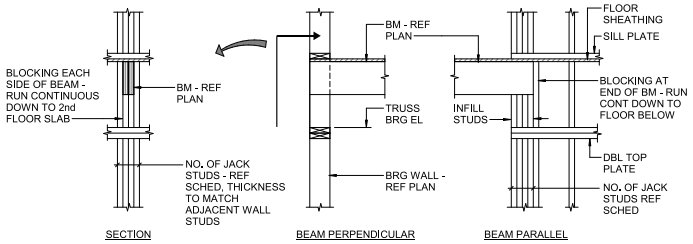


TYPICAL BUILT-UP COLUMN NAILING PATTERN DETAIL

NTS

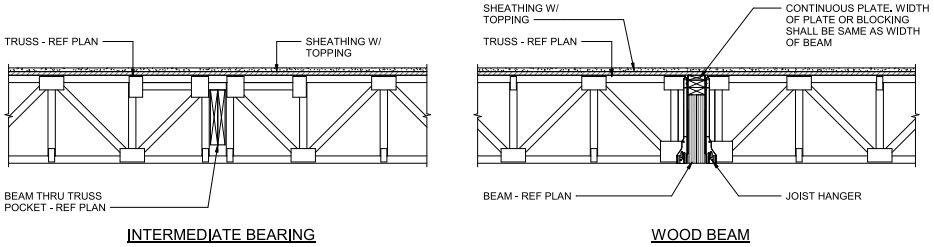
NOTES:

1. REFER TO "ROUGH CARPENTRY NOTES" ON SHEET S0.02 FOR MATERIAL PROPERTY REQUIREMENTS.
2. ATTACH MEMBERS OF MULTI-PLY BEAMS TOGETHER:
   A. SAWN LUMBER - ATTACH PER TABLE 2304.9.1 OF THE BUILDING CODE.
   B. LVL- ATTACH PER MANUFACTURER'S REQUIREMENTS.
3. JACK STUDS AT BEAM BEARING SHALL BE CONTINUOUS TO LEVEL 2.
4. JACK STUDS ARE AS NOTED IN SCHEDULE UNLESS NOTED OTHERWISE ON PLAN.



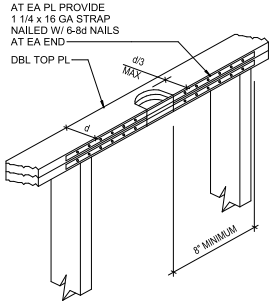
TYPICAL WOOD BEAM BEARING DETAILS

NTS



TYPICAL TRUSS TO BEAM CONNECTION DETAILS

NTS

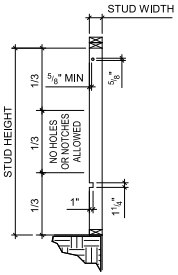


AT DOUBLE PLATE

NOTCH AND HOLE BORING SCHEDULE			
MEMBER (d)	d/3	d/4	d/6
2x4	1 1/8"	7/8"	5/8"
2x6	1 3/4"	1 5/8"	7/8"
2x8	2 5/8"	1 3/4"	1 1/8"
2x10	3"	2 1/4"	1 1/2"
2x12	3 5/8"	2 3/4"	1 7/8"

NOTE:

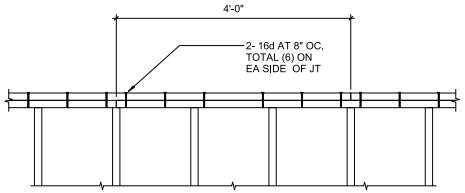
1. HOLES AND NOTCHES IN BEAMS ARE NOT ALLOWED UNLESS OTHERWISE APPROVED IN WRITING BY THE ENGINEER.



NOTCHING AND HOLE BORING OF EXTERIOR OR BEARING WALL STUDS

ALLOWABLE PENETRATIONS IN LIGHT FRAMED 2x LUMBER

NTS



DOUBLE TOP PLATE LAP

NTS

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PROJECT NO. 20408.000

SHEET TITLE
TYPICAL DETAILS

SHEET NUMBER
S-503

2/24/2021 12:43:33 PM

SHEAR WALL SCHEDULE					
TYPE	FLOOR	COMMON WIRE NAILS - 8d (TYP)	CHORD STUDS NO. 2 SPF (TYP)	HOLDOWN	BLOCKING NAILS AND HEADED ANCHOR RODS (7" EMBED)
		SPACING EDGE / FIELD	6" STUD WALL ENDS		
SW1	ROOF	6" / 12"	2	HD3BDF	16d AT 8" OC
	2	4"/ 12"	3	HD7BDF	1/2"Ø AT 12" OC

NOTES:

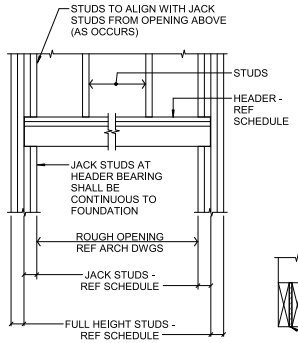
1. SHEATHING IS 7/16" STRUCTURAL SHEATHING. AT EXTERIOR WALLS: APPLY TO EXTERIOR. AT SINGLE STUD WALLS: APPLY TO CORRIDOR OR COORDINATE WITH MEP UTILITIES.
2. NAIL ALL MULTI-PLY MEMBERS TOGETHER PER NOTE 12 UNDER ROUGH CARPENTRY NOTES ON S-002.
3. PROVIDE CHORD STUDS AT WALL ENDS AND AT OPENINGS, EXCEPT AT EXTERIOR, REF "TYPICAL FRAMED OPENING DETAIL AND SCHEDULE" THIS SHEET.
4. BLOCKING NAILS CONNECT THE SILL PLATE ABOVE THE FLOOR SHEATHING TO THE BLOCKING BELOW THE FLOOR SHEATHING WITHIN THE FLOOR FRAMING DEPTH.
5. WHERE NAILING IS 3" OC OR LESS, PROVIDE 3" THICK MEMBERS (MIN) AT ALL SHEATHING PANEL EDGES. IT IS ACCEPTABLE TO USE MULTI-PLY MEMBERS AT VERTICAL JOINTS AND 2x4 BLOCKING ON THE FLAT AT HORIZONTAL JOINTS.
6. PROVIDE HOLDOWN ON EACH SIDE OF CHORD STUD (4 HOLDOWNS TOTAL PER SHEAR WALL AT LEVEL INDICATED), UON.

WOOD BEAM SCHEDULE				
MARK	SIZE	NUMBER OF JACK STUDS AT EACH LEVEL		FULL HEIGHT STUDS
		2nd	ROOF	
B1	3 - 1.75x14 LVL	5	N/A	2
B2	3 - 1.75x9.25 LVL	N/A	3	2
B3	3-2x12	N/A	N/A	N/A
B4	4-2x12	2	N/A	1

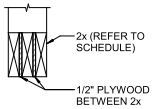
HOLDOWN SCHEDULE	
MARK	HOLDOWN BOLT DIA
HD3BDF	2 - 5/8"Ø
HD7BDF	3 - 3/4"Ø

NOTES:

1. AT CORNERS OF 2 SHEAR WALLS, OFFSET CHORDS AND HOLDOWNS WITHOUT REDUCING SHEAR WALL LENGTH.
2. PROVIDE CHORD STUDS AT WALL ENDS. HOLDOWN ANCHORS ARE BASED ON THE STANDARD PRODUCTS OF SIMPSON STRONG-TIE COMPANY, INC. INSTALLATION MUST CONFORM TO THE RECOMMENDED DETAILS OF THE MANUFACTURER. ALTERNATIVE PRODUCTS MAY BE SUBMITTED FOR APPROVAL.



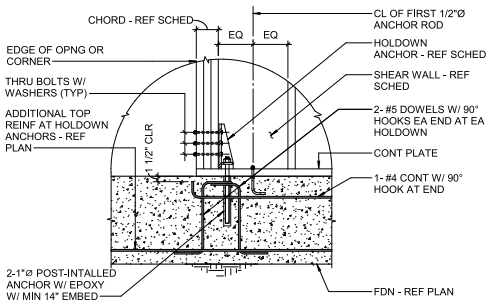
WOOD HEADER SCHEDULE				
MARK	SIZE	NUMBER OF JACK STUDS AT EACH LEVEL		FULL HEIGHT STUDS
		2nd	ROOF	
H-1	3-2x8	2	N/A	1
H-2	3 - 1.75x7.25 LVL	3	2	2
H-3	3-2x6	N/A	1	1
H-4	3-2x10	2	1	1



SECTION

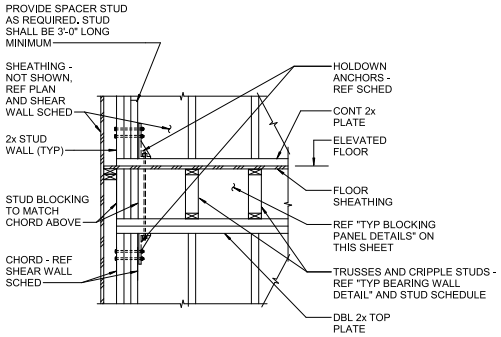
TYPICAL FRAMED OPENING DETAIL AND SCHEDULE

NTS



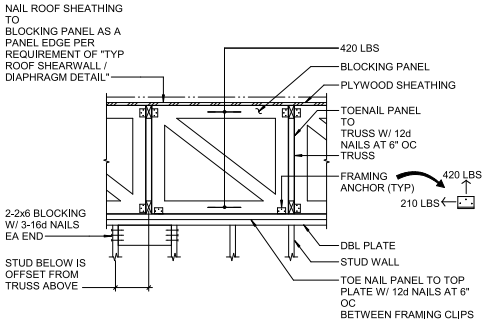
TYPICAL HOLDOWN ANCHOR DETAIL

NTS



TYPICAL HOLDOWN ANCHOR DETAIL

NTS



TYPICAL BLOCKING PANEL DETAIL

NTS

Carolina Charter Academy Exp.

8529 Highway 55
Angier, North Carolina
27501

Owner
Highmark School Development
746 East Winchester Street
Suite 150
Murray, Utah 84107
801-256-9550

Architect
RATIO
227 Fayetteville Street, Suite 301
Raleigh, North Carolina 27601
919-821-0805

Structural Engineer
Lynch Mykins Structural Engineers, PC
301 North West Street
Suite 105
Raleigh, North Carolina 27603
919-782-1833

Civil Engineer
Timmons Group
5410 Trinity Road
Suite 102
Raleigh, North Carolina 27607
919-866-4938

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SHEET ISSUE

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PROJECT NO. 20408.000

SHEET TITLE
TYPICAL DETAILS

SHEET NUMBER
S-504

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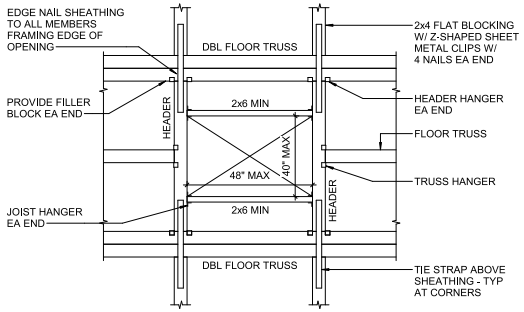
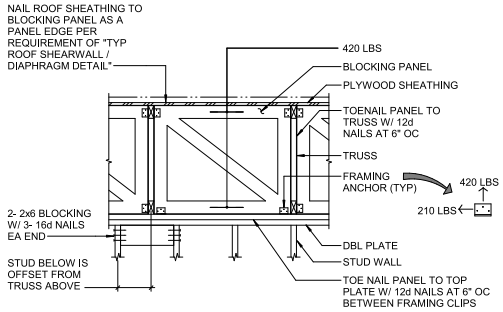


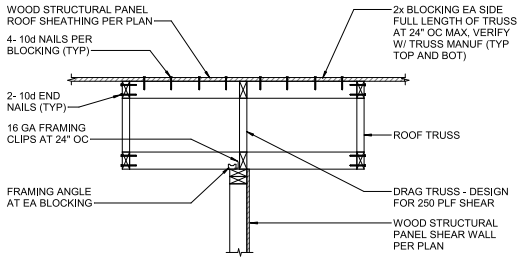
TYPICAL SHAFT OPENING AT TRUSS OR JOIST DETAIL

NTS



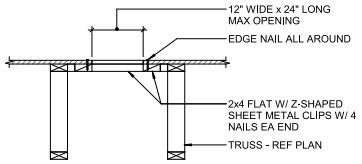
TYPICAL BLOCKING PANEL DETAIL

NTS



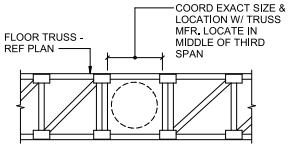
TYPICAL SHEAR TRANSFER PARALLEL TO TRUSS DETAIL

NTS



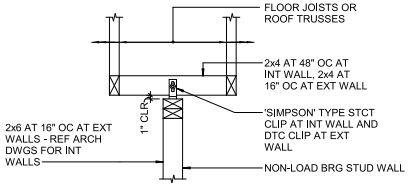
TYPICAL SMALL OPENING BETWEEN TRUSS OR JOIST DETAIL

NTS



TYPICAL MECHANICAL DUCT OPENING DETAIL

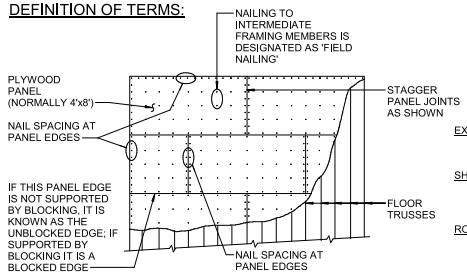
NTS



TYPICAL NON-LOAD BEARING WALL TOP BRACE DETAIL

NTS

DEFINITION OF TERMS:



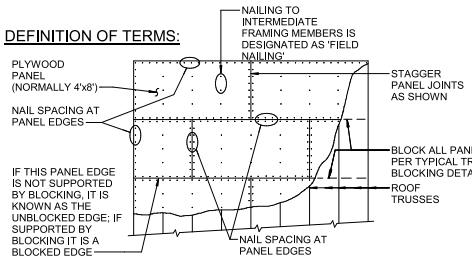
FLOOR

EXTERIOR SHEATHING:
LAP ALL EXTERIOR SHEATHING MIN 12" ABOVE AND BELOW EA. FLOOR SYSTEM AND ROOF SYSTEM.

SHEARWALLS:
ALL SHEARWALL PANEL EDGES SHALL BE BRACED BY 2 INCH NOMINAL OR WIDER FRAMING.

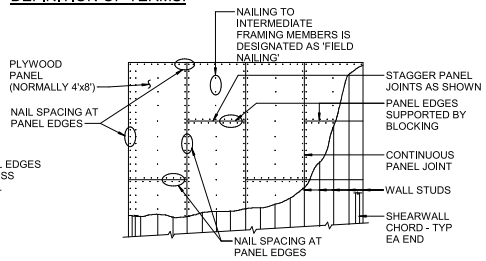
ROOF/ FLOOR DIAPHRAGM NAILING SCHEDULE:
EXCEPT WHERE OTHERWISE NOTED OR DETAILED, PLYWOOD ROOF SHEATHING SHALL BE NAILED W/ 8dx1-3/8" NAILS AT 6" OC AT PANEL EDGES, 12" OC FIELD.

DEFINITION OF TERMS:



ROOF

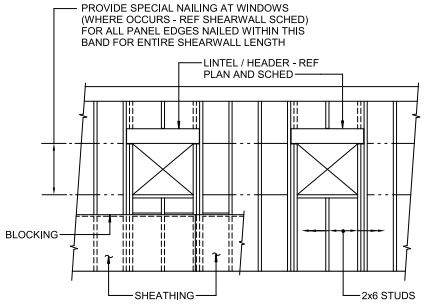
DEFINITION OF TERMS:



EXTERIOR WALLS AND SHEARWALLS

TYPICAL SHEATHING NAILING DETAILS

NTS



TYPICAL SHEARWALL ELEVATION DETAIL AT WINDOWS

NTS

Carolina Charter Academy Exp.

8529 Highway 55
Angier, North Carolina
27501

Owner
Highmark School Development
746 East Winchester Street
Suite 150
Murray, Utah 84107
801-256-9550

Architect
RATIO
227 Fayetteville Street, Suite 301
Raleigh, North Carolina 27601
919-821-0805

Structural Engineer
Lynch Mykins Structural Engineers, PC
301 North West Street
Suite 105
Raleigh, North Carolina 27603
919-782-1833

Civil Engineer
Timmons Group
5410 Trinity Road
Suite 102
Raleigh, North Carolina 27607
919-866-4938

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PROJECT NO. 20408.000

SHEET TITLE
TYPICAL DETAILS

SHEET NUMBER
S-505

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ABBREVIATIONS

A

A/C	AIR CONDITIONING
ACOUS.	ACOUSTICAL
A.C.T.	ACOUSTICAL CEILING TILE
ACP	ACOUSTICAL CEILING PANEL
ADA	AMERICANS W/DISABILITIES ACT
ADAAG	AMERICANS W/DISABILITIES ACCESSIBILITY GUIDELINES
ADJ.	ADJUSTABLE
A/E	ARCHITECT/ENGINEER
A.F.F.	ABOVE FINISHED FLOOR
ALT.	ALTERNATE
ALUM.	ALUMINUM
A.P.	ACCESS PANEL
ARCH.	ARCHITECT/ARCHITECTURAL
A.V.	AUDIO/VISUAL

B

BD.	BOARD
BITUM.	BITUMINOUS
BLDG.	BUILDING
B/O	BOTTOM OF
B.O.W.	BOTTOM OF WALL
BSMT.	BASEMENT

C

CAB.	CABINET
C.F.C.I.	CONTRACTOR FURNISHED-CONTRACTOR INSTALLED
C.G.	CORNER GUARD
C.I.P.	CAST-IN-PLACE
C.J.	CONTROL JOINT
CL	CENTERLINE
CLG.	CEILING
CLR	CLEAR(ANCE)
C.M.	CONSTRUCTION MANAGER
CMP	COMPOSITE METAL PANEL
C.M.U.	CONCRETE MASONRY UNIT
COL.	COLUMN
CONC.	CONCRETE
CONST.	CONSTRUCTION
CONT.	CONTINUOUS
CONTR.	CONTRACTOR
COOR.	COORDINATE
CPT.	CARPET
C.T.	CERAMIC TILE
C.W.	COLD WATER

D

D.E.F.S.	DIRECT APPLIED EXTERIOR FINISH SYSTEM
DEPT.	DEPARTMENT
DET.	DETAIL
D.F.	DRINKING FOUNTAIN
DIA.	DIAMETER
DIM.	DIMENSION
DISP.	DISPENSER
D.M.B.	DRY MARKER BOARD
DN	DOWN
DS	DOWNSPOUT
DWG.	DRAWING

E

EA.	EACH
E.C.	ELECTRICAL CONTRACTOR
E.I.F.S.	EXTERIOR INSULATION FINISH SYSTEM
E.J.	EXPANSION JOINT
EL	ELEVATION
ELEC.	ELECTRIC/ELECTRICAL
ELEV.	ELEVATOR/ELEVATION
ENGR.	ENGINEER
E.P.	ELECTRICAL PANEL
EQ.	EQUAL
EQUIP.	EQUIPMENT
E.W.C.	ELECTRIC WATER COOLER
EXIST.	EXISTING
EXP.	EXPOSED
EXT.	EXTERIOR

F

F-R	FIRE RESISTIVE
FAB.	FABRICATE/FABRICATOR
F.C.U.	FAN COIL UNIT
F.D.	FLOOR DRAIN
F.E.	FIRE EXTINGUISHER
F.E.C.	FIRE EXTINGUISHER CABINET
F.F.E.	FINISH FLOOR ELEVATION
F.F.&E.	FURNISHINGS, FIXTURES AND EQUIPMENT
F.H.C.	FIRE HOSE CABINET
FIN.	FINISH(ED)
FLR.	FLOOR
FLUOR.	FLUORESCENT
F/O	FACE OF
F.O.	FINISH OPENING
F.O.B.	FACE OF BLOCK
F.O.BR.	FACE OF BRICK
F.O.C.	FACE OF CONCRETE
F.O.F.	FACE OF FINISH
F.O.G.	FACE OF GYPSUM BD.
F.O.S.	FACE OF STUD
FPRF.	FIREPROOF
FT.	FOOT/FEET
F.V.	FIELD VERIFY

G

GA.	GAUGE
G.C.	GENERAL CONTRACTOR
GEN.	GENERAL
GL.	GLASS
G.W.B./ GWB	GYPSUM WALL BOARD

H

H.	HEIGHT
HB	HOSE BIBB
HDWR.	HARDWARE
H.M.	HOLLOW METAL
HORIZ.	HORIZONTAL
HT.	HEIGHT
HVAC.	HEATING, VENTILATION & A.C.
H.W.	HOT WATER

I

I.D.	INSIDE DIAMETER
INCAN.	INCANDESCENT
INFO.	INFORMATION
INSUL.	INSULATION
INT.	INTERIOR

J

JAN.	JANITOR
J.C.	JANITOR CLOSET
JST. BRG.	JOIST BEARING
JT.	JOINT

L

L	LENGTH
LAV.	LAVATORY
LB.	POUND
L.H.	LEFT HAND
L.L.H.	LONG LEG HORIZONTAL
L.L.O.	LONG LEG OUT
L.L.V.	LONG LEG VERTICAL

M

MAX.	MAXIMUM
MB	MARKER BOARD
M.C.	MECHANICAL CONTRACTOR
M.D.F.	MEDIUM DENSITY FIBERBOARD
MECH.	MECHANICAL
M.E.P.	MECH./ELECT./PLUMBING
MFR.	MANUFACTURER(ING)
M.H.	MANHOLE
MIN.	MINIMUM
MISC.	MISCELLANEOUS
M.O.	MASONRY OPENING
MTL.	METAL

N

N.A.F.	NO APPLIED FINNISH
N.I.C.	NOT IN CONTRACT
NO.	NUMBER
N.T.S.	NOT TO SCALE

O

O.A.	OVER ALL
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
O.F.C.I.	OWNER FURNISHED-CONTRACTOR INSTALLED
O.F.O.I.	OWNER FURNISHED-OWNER INSTALLED
O.H.	OPPOSITE HAND
OPG.	OPENING
OPP.	OPPOSITE

P

P.L.	PROPERTY LINE
P. LAM	PLASTIC LAMINATE
PLAS.	PLASTER
PR.	PAIR
PREFAB.	PREFABRICATED
PT. BD.	PARTICLE BOARD
PTD.	PAINTED
PWD.	PLYWOOD

Q

Q.T.	QUARRY TILE

R

R	RADIUS
R.C.P.	REFLECTED CEILING PLAN
R.D.	ROOF DRAIN
REF.	REFERENCE
REFL.	REFLECTED
REINF.	REINFORCED
RESIL.	RESILIENT
R.H.	RIGHT HAND
RM	ROOM
R.O.	ROUGH OPENING

S

SCHED.	SCHEDULE
S.D.	SOAP DISPENSER
SECT.	SECTION
S.F.	SQUARE FEET
SHT.	SHEET
SIM.	SIMILAR
SPEC.	SPECIFICATION
SQ.	SQUARE
S.S.	STAINLESS STEEL
STD.	STANDARD
STL.	STEEL
STOR.	STORAGE
STRUCT.	STRUCTURAL
SUSP.	SUSPEND(ED)
SYM.	SYMMETRICAL

T

T.	THICKNESS
T.B.	TACK BOARD
TBD	TO BE DETERMINED
T.C.	TOP OF CURB
T.D.	TOP OF DECK
TECH.	TECHNICAL
TEL.	TELEPHONE
TEMP.	TEMPORARY
T&G	TONGUE AND GROOVE
T.M.	TOP OF MASONRY
TMPRD.	TEMPERED
T/O	TOP OF
T.P.	TOP OF PAVEMENT
T.S.	TOP OF STEEL
T.W.	TOP OF WALL
TYP.	TYPICAL

U

U.N.O.	UNLESS NOTED OTHERWISE
UTIL.	UTILITY
U.V.	UNIT VENTILATOR

V

VCT	VINYL COMPOSITION TILE
VERT.	VERTICAL
VEST.	VESTIBULE
VIF	VERIFY IN FIELD

W

W	WIDE/WIDTH
W/	WITH
W.C.	WATER CLOSET
WD	WOOD
W.H.	WATER HEATER
W/O	WITHOUT
WT.	WEIGHT
W.W.F.	WELDED WIRE FABRIC

ARCHITECTURAL SYMBOLS LEGEND

COLUMN GRIDS — A, 1 — *EXISTING* / *NEW*

ELEVATION DATUM REFERENCE

ENLARGED DRAWING REFERENCE — 1 / A101

BUILDING SECTION CUT REFERENCE — 1 / A101 — *DRAWING NUMBER* / *SHEET NUMBER*

WALL SECTION CUT REFERENCE — 1 / A101 — *DRAWING NUMBER* / *SHEET NUMBER*

ELEVATION REFERENCE — 1 / A101 — *DRAWING NUMBER* / *SHEET NUMBER*

101 — DOOR / DOOR NUMBER

CT-1 — KEY NOTE (SHAPE VARIES)

W10 — WINDOW NUMBER

ALIGN DESIGNATED SURFACES

NORTH ARROW — *INDICATES NORTH DIRECTION*

4 — REVISION REFERENCE

1/4" / FOOT — ROOF SLOPE - ARROW POINTS TOWARD DRAIN

Room Name 101 — ROOM NAME AND NUMBER

PARTITION TYPE SYMBOL* — M8A.D.2.A / S2A.P — **REFER TO INTERIOR PARTITION LEGEND*

ACCESSIBLE PLUMBING FIXTURES INDICATED WITH HATCH ON FLOOR PLANS

MISCELLANEOUS
- ∠ ANGLE
- ℄ CENTER LINE
- # NUMBER

ARCHITECTURAL MATERIAL LEGEND

EARTH
GRANULAR FILL
SAND, GROUT AS NOTED
CAST-IN-PLACE CONCRETE
PRECAST CONCRETE, CAST STONE
CONCRETE MASONRY UNIT
BRICK MASONRY
STONE: LIMESTONE, GRANITE, MARBLE OR AS NOTED
TERRA COTTA, STRUCTURAL CLAY TILE
METAL: TYPE AS NOTED
METAL: ROLLED SHAPES
WOOD FRAMING / BLOCKING: CONTINOUS
WOOD SHIM

FINISHED WOOD SHOWN CUT AND ELEVATION
ENGINEERED WOOD: GLUE LAMINATED
WOOD FLOOR, WOOD SHINGLES, OR SIDING
PLYWOOD
GLASS FIBER REINFORCED CONCRETE SIDING OR TRIM
EIFS
SPRAYED FIREPROOFING SHOWN ON ROLLED SHAPE
BATT INSULATION: THERMAL OR ACOUSTICAL, UNO
RIGID INSULATION: THERMAL, ACOUSTICAL, OR SAFING
GYPSUM BOARD
PLASTER ON METAL LATH
SHEATHING: GYPSUM, OR AS NOTED

ACOUSTICAL CEILING TILE
RESINOUS FLOORING: TERRAZO, TROWEL-ON, UNO
TILE: CERAMIC, QUARRY, UNO
CARPET, CARPET TILE (DETAIL)
GRATING SHOWN IN PLAN
GRATING
INSULATED GLASS: (SMALL SCALE)
INSULATED GLASS: (DETAIL)
MEMBRANE: WATERPROOF, ROOF, DAMPPROOFING
AIR BARRIER SYSTEM

NOTE: PATTERNS SHOWN REPRESENT CUT MATERIALS IN PLAN OR SECTION, UNLESS NOTED OTHERWISE ABOVE.

GENERAL ARCHITECTURAL NOTES

A. THESE GENERAL NOTES APPLY TO ARCHITECTURAL DRAWINGS.
B. WORK SHOWN ON THE DRAWINGS SHALL BE BASE BID UNLESS SPECIFICALLY NOTED TO BE BY ALTERNATE BID.
C. FIELD VERIFY EXISTING FINISH FLOOR ELEVATIONS PRIOR TO STARTING CONSTRUCTION. MATCH NEW FLOOR ELEVATIONS WITH EXISTING UNLESS NOTED OTHERWISE.
D. DIMENSIONS TO EXISTING CONSTRUCTION ARE TO FINISH SURFACE. DIMENSIONS TO NEW CONSTRUCTION ARE TO STRUCTURAL CENTERLINE, FACE OF CONCRETE, FACE OF MASONRY CONSTRUCTION, OR TO FACE OF EXTERIOR OF INTERIOR PARTITION TYPE UNLESS NOTED OTHERWISE. FIELD VERIFY ALL CONDITIONS AND DIMENSIONS PRIOR TO STARTING WORK AND NOTIFY ARCHITECT IMMEDIATELY IF DISCREPANCIES ARE FOUND BETWEEN CONTRACT DOCUMENTS AND ACTUAL FIELD CONDITIONS.
E. DO NOT SCALE DRAWINGS. REFER DIMENSION QUESTIONS TO ARCHITECT FOR INTERPRETATION.
F. DOOR AND FRAME NUMBERS CORRESPOND TO RESPECTIVE ROOM NUMBERS. IN ROOMS WITH MULTIPLE OPENINGS, A SUFFIX HAS BEEN ADDED TO DOOR NUMBERS, I.E., A101-B.
G. LOCATE INSIDE FACE OF DOOR FRAME JAMBS 6 INCHES FROM FINISH FACE OF ADJACENT WALLS UNLESS NOTED OTHERWISE.
H. COORDINATE EQUIPMENT WORK WITH MANUFACTURERS AND SUPPLIERS TO INSURE PROPER ROUGH-IN CLEARANCES FOR INSTALLATION, USE AND MAINTENANCE.
I. PROTECT EXISTING SURFACES TO REMAIN THAT ARE NOT INCLUDED IN SCOPE OF WORK BUT THAT ARE WITHIN AREAS OF CONSTRUCTION ACTIVITY.
J. PATCH, REPAIR AND RESTORE EXISTING FINISHES AND SURFACES TO AS NEW CONDITION AS REQUIRED TO MATCH SURROUNDING MATERIALS OR TO PROVIDE APPROPRIATE SUBSTRATE PRIOR TO INSTALLING NEW FINISHES. AREAS NOTED TO BE PATCHED OR REPAIRED ON THE DRAWINGS ARE GIVEN FOR REFERENCE AND SHALL NOT BE INTERPRETED TO LIMIT THE SCOPE OF WORK.
K. VERTICAL COURSING FOR NEW MASONRY WALL CONSTRUCTION SHALL EQUAL EIGHT INCHES (8") FOR ONE CONCRETE MASONRY UNIT PLUS ONE MORTAR JOINT AND THREE BRICK COURSES PLUS THREE MORTAR JOINTS, UNLESS NOTED OTHERWISE.
L. TOOTH NEW MASONRY INTO EVERY OTHER COURSE OF EXISTING MASONRY UNLESS OTHERWISE INDICATED. PROVIDE HORIZONTAL ANCHORS BETWEEN NEW AND EXISTING MASONRY AT CONDITIONS THAT PROHIBIT TOOTHED-TYPE CONSTRUCTION. HORIZONTAL JOINTS OF NEW MASONRY SHALL MATCH EXISTING UNLESS OTHERWISE INDICATED. NEW MASONRY BOND SHALL MATCH EXISTING UNLESS OTHERWISE INDICATED.
M. PROVIDE CONTROL JOINTS (C.J.) IN MASONRY CONSTRUCTION AS INDICATED. WHERE NOT SHOWN, PROVIDE MAXIMUM SPACING BETWEEN VERTICAL JOINTS OF 30'-0" AND MAXIMUM DISTANCE BETWEEN OUTSIDE CORNERS AND JOINTS OF 8'-0". PROVIDE JOINTS BETWEEN INTERIOR LOAD BEARING AND NON-LOAD BEARING PARTITIONS, AT ALL ABRUPT CHANGES IN WALL HEIGHT, AT CHANGES IN PARTITION THICKNESS AND AT PILASTER LOCATIONS. VERIFY FINAL CONTROL JOINT LOCATIONS WITH ARCHITECT PRIOR TO STARTING WORK.
N. PROVIDE CONTROL JOINTS (C.J.) IN GYPSUM BOARD WALL CONSTRUCTION AS INDICATED. VERIFY FINAL CONTROL JOINT LOCATIONS WHETHER OR NOT INDICATED ON THE DRAWINGS WITH ARCHITECT PRIOR TO STARTING WORK. PROVIDE MAXIMUM SPACING BETWEEN JOINTS AS FOLLOWS:
   a. CEILINGS: INSTALL CONTROL JOINTS IN CEILINGS PER ASTM C840 IN ALL CEILINGS WITH AREA EXCEEDING 250 S.F., SPACED 50'-0" O.C. MAXIMUM. CONTROL JOINTS ALSO TO BE INSTALLED WHERE FRAMING OR FURRING CHANGES DIRECTION. REFER TO REFLECTED CEILING PLANS FOR DESIRED LOCATIONS.
   b. WALLS: INSTALL CONTROL JOINTS IN INTERIOR PARTITIONS AND FURRING PER ASTM C840 IN AREAS EXCEEDING 30'-0", SPACED 30'-0" O.C. MAXIMUM. REFER TO INTERIOR ELEVATIONS FOR DESIRED LOCATIONS.
O. WOOD OR METAL STUD SPACING SHALL BE 16" ON CENTER MAXIMUM UNLESS OTHERWISE REQUIRED BY DELEGATED DESIGN OR NOTED OTHERWISE.
P. VERIFY MOUNTING HEIGHTS OF ACCESSORIES, EQUIPMENT, DOOR HARDWARE, CASEWORK, ETC., AND PROVIDE SOLID BLOCKING BEHIND ITEMS REQUIRING ANCHORAGE. PROVIDE FIRE TREATED WOOD BLOCKING OR METAL STRAPS BETWEEN FRAMING MEMBERS AS REQUIRED TO SUPPORT WEIGHT AND USE OF ITEMS TO BE SUPPORTED. WHERE MOUNTING HEIGHTS ARE NOT INDICATED, MOUNT ITEMS IN ACCORDANCE WITH RECOGNIZED INDUSTRY STANDARDS, COORDINATE LOCATIONS WITH MANUFACTURER OR SUPPLIER AND REFER MOUNTING HEIGHT QUESTIONS TO ARCHITECT FOR INTERPRETATION.
Q. PROVIDE SEALANT AT PERIMETERS OF METAL FRAMES AT OPENINGS AND AT JOINTS BETWEEN DISSIMILAR MATERIALS SUCH AS GYPSUM BOARD AND MASONRY, MASONRY AND CONCRETE, CASEWORK AND WALLS, ETC. UNLESS OTHERWISE INDICATED.
R. STAIRWELLS, ELEVATOR HOISTWAYS, AND SHAFT WALLS SHALL BE ONE-HOUR FIRE-RATED CONSTRUCTION UNLESS OTHERWISE INDICATED.
S. REPAIR AND PATCH SPRAYED FIRE-RESISTIVE AND FIRESTOP MATERIALS WHERE DAMAGED DUE TO INSTALLATION OF NEW MATERIALS TO RESTORE SPECIFIED FIRE RATING.
T. THESE NOTES ARE APPLICABLE TO THIS BID PACKAGE ONLY AND MAY NOT BE APPLICABLE TO FUTURE BID PACKAGES. SOME WORK WHICH WAS INCLUDED IN PREVIOUS BID PACKAGES OR WILL BE INCLUDED IN FUTURE BID PACKAGES IS SHOWN ON THESE CONSTRUCTION DOCUMENTS FOR REFERENCE PURPOSES ONLY AND IS IDENTIFIED AS SUCH.
U. DO NOT BEGIN WORK THAT MAY REQUIRE COORDINATION, SUCH AS CEILING INSTALLATION, PRIOR TO FINAL SUBMITTAL TO ARCHITECT OF COORDINATION DRAWINGS FOR MEP ITEMS BOTH ABOVE CEIING AND IN CEILING, NOR PRIOR TO RESOLUTION AND APPROVAL OF COORDINATION ISSUES.
V. REFER TO LIFE SAFETY PLAN DRAWINGS AND CODE SUMMARY FOR FIRE-RATED FLOOR, WALL, CEILING AND ROOF LOCATIONS. INSTALL FIRESTOPPING AT PENETRATIONS IN RATED CONSTRUCTION AND AT TOPS OF RATED WALLS.
W. REFER TO STRUCTURAL DRAWINGS FOR FOOTING AND FOUNDATION DRAINS, UNDERSLAB DRAINAGE AND BACKFILL REQUIREMENTS.
X. REFER TO LANDSCAPE AND CIVIL DRAWINGS FOR SITE ELEMENTS AND IMPROVEMENTS ADJACENT TO BUILDING EXTERIOR.
Y. REFER TO CIVIL DRAWINGS FOR FINISH FLOOR ELEVATIONS.
Z. REFER TO A-003 FOR PARTITION CONSTRUCTION TYPE.

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SEAL | DATE 2/24/2021

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SHEET ISSUE

1	100% Construction Documents	2/24/2021

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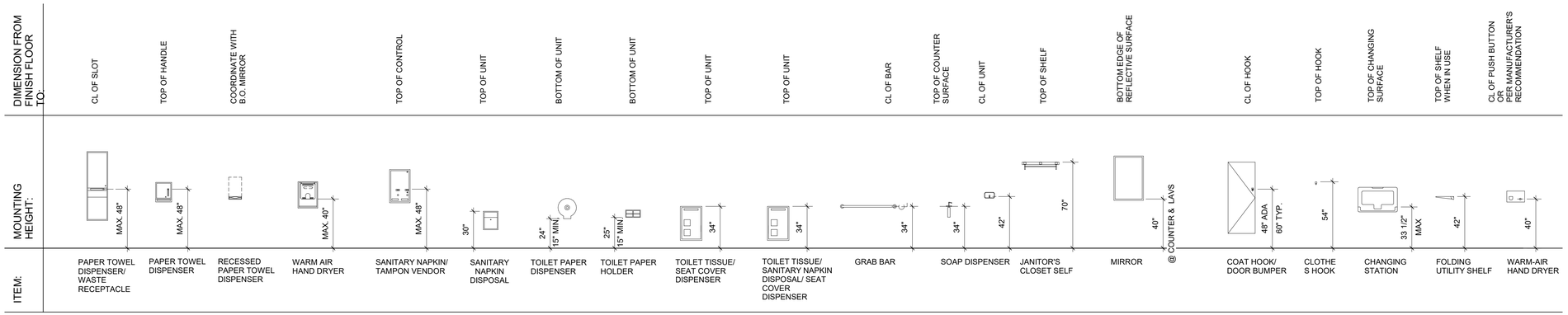
PROJECT NO. 20408.000

SHEET TITLE
GENERAL NOTES, SYMBOLS, AND STANDARD MOUNTING HEIGHTS

SHEET NUMBER
A-001

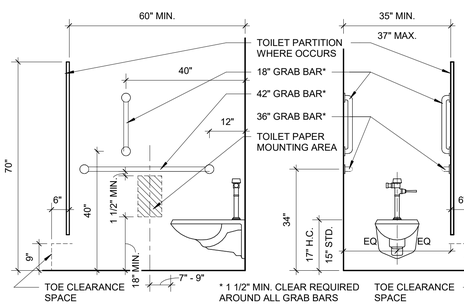
2/24/2021 4:34:35 PM



STANDARD TOILET ROOM ACCESSORY MOUNTING HEIGHTS

1/4" = 1'-0"

AMBULATORY ACCESSIBLE TOILET COMPARTMENT

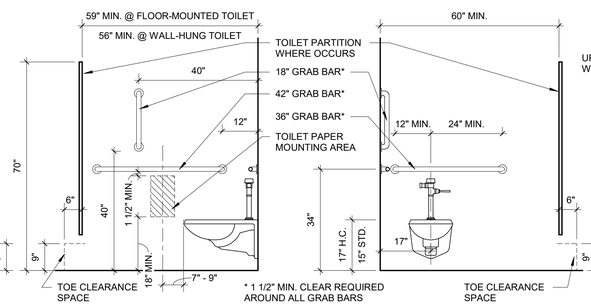


WATER CLOSET SIDE WALL

WATER CLOSET BACK WALL

ACCESSIBLE FIXTURES INDICATED WITH HATCH ON FLOOR PLAN

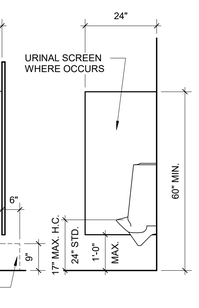
WHEELCHAIR ACCESSIBLE TOILET COMPARTMENT



WATER CLOSET SIDE WALL

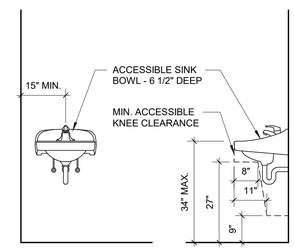
WATER CLOSET BACK WALL

ACCESSIBLE FIXTURES INDICATED WITH HATCH ON FLOOR PLAN



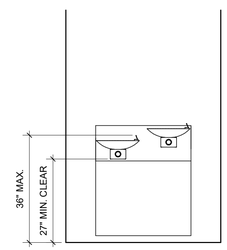
URINAL

ACCESSIBLE FIXTURES INDICATED WITH HATCH ON FLOOR PLAN

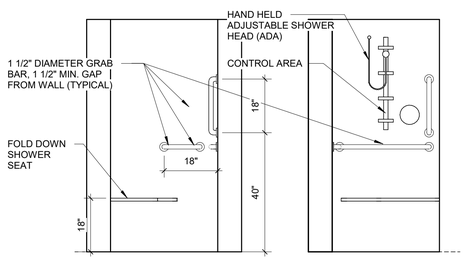


LAVATORY OR VANITY SINK

ACCESSIBLE FIXTURES INDICATED WITH HATCH ON FLOOR PLAN



ELECTRIC WATER COOLER



TRANSFER ADA SHOWER

1 A-002 **STANDARD-PLUMBING FIXTURE REQUIREMENTS**

1/2" = 1'-0"

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PROJECT NO. 20408.000

SHEET TITLE

GENERAL NOTES, SYMBOLS, AND STANDARD MOUNTING HEIGHTS

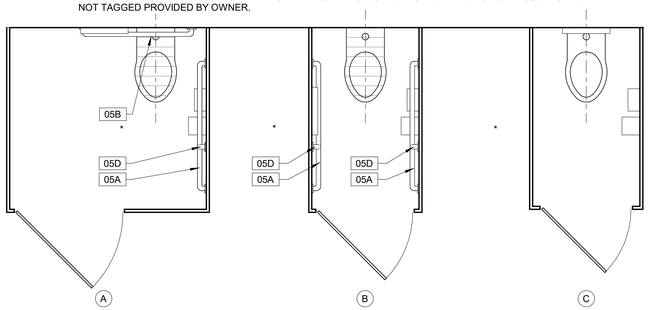
SHEET NUMBER

A-002

2/24/2021 4:34:38 PM

STANDARD TOILET COMPARTMENT TYPES - TYPICAL ACCESSORIES-

REFERENCE STANDARD PLUMBING FIXTURE REQUIREMENTS AND STANDARD TOILET TOOM ACCESSORY MOUNTING HEIGHTS ON A-001 FOR ADDITIONAL INFORMATION UNLESS OTHERWISE NOTED. *ACCESSORIES NOT TAGGED PROVIDED BY OWNER.



A
WHEELCHAIR ACCESSIBLE TOILET COMPARTMENT

* 04A AT WOMEN'S RESTROOMS

B
AMBULATORY ACCESSIBLE TOILET COMPARTMENT

* 04A AT WOMEN'S RESTROOMS

C
TOILET COMPARTMENT

* 04A AT WOMEN'S RESTROOMS

INTERIOR PARTITION TYPES

* FIRE RATING AND ACOUSTICAL ATTENUATION WHEN REQUIRED BY PARTITION SYMBOL

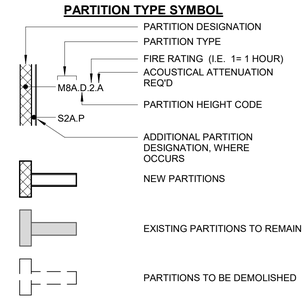
W4C	2x4 WOOD STUDS WITH (1) LAYER 5/8" GYPSUM WALL BOARD ONE SIDE	4 1/8"
W4A	2x4 WOOD STUDS WITH (1) LAYER 5/8" GYPSUM WALL BOARD EACH SIDE	4 3/4"
W4A.A	2x4 WOOD STUDS WITH (1) LAYER 5/8" GYPSUM WALL BOARD EACH SIDE * ACOUSTIC ATTEN. COMPONENTS STC-44	4 3/4"
W4A.1	2x4 WOOD STUDS WITH (1) LAYER 5/8" GYPSUM WALL BOARD EACH SIDE * 1 HR RATED U305	4 3/4"
W6C	2x6 WOOD STUDS WITH (1) LAYER 5/8" GYPSUM WALL BOARD ONE SIDE	6 1/8"
W6A	2x6 WOOD STUDS WITH (1) LAYER 5/8" GYPSUM WALL BOARD EACH SIDE	6 3/4"
W6A.A	2x6 WOOD STUDS WITH (1) LAYER 5/8" GYPSUM WALL BOARD EACH SIDE * ACOUSTIC ATTEN. COMPONENTS STC-44	6 3/4"
W6A.1	2x6 WOOD STUDS WITH (1) LAYER 5/8" GYPSUM WALL BOARD EACH SIDE * 1 HR RATED U379	6 3/4"

INTERIOR PARTITION NOTES

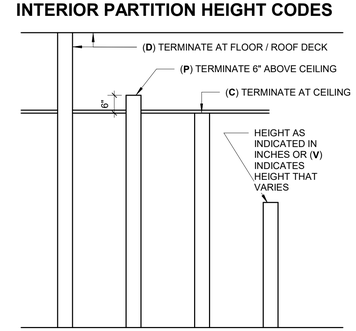
A. ALL WALLS ARE TYPE W6A.D UNLESS NOTED OTHERWISE.
B. PARTITION SYMBOLS APPEAR ON THE 1/8" = 1'-0" SCALE FLOOR PLANS.
C. REFER TO FINISH AND CEILING PLANS FOR WALL FINISH, WALL BASE, AND CEILING INFORMATION.
D. REFER TO WALL SECTIONS FOR EXTERIOR WALL CONSTRUCTION.
E. PROVIDE MOLD AND MOISTURE RESISTANT GYPSUM BOARD IN ALL ROOMS CONTAINING OPERABLE PLUMBING FIXTURES AND WITHIN 4'-0" OF DRINKING FOUNTAINS / WATER COOLERS, UNLESS NOTED OTHERWISE.
F. PROVIDE LATERAL BRACING AT 48" ON CENTER FOR NON-STRUCTURAL METAL FRAMED PARTITIONS WHICH EXTEND ABOVE THE CEILING UNLESS NOTED OTHERWISE. LATERAL BRACING NOT REQUIRED FOR PARTITIONS THAT EXTEND TO THE DECK ABOVE UNLESS NOTED OTHERWISE.
G. PROVIDE FIRE RESISTIVE RATED GYPSUM BOARD AT ALL RATED ASSEMBLIES TO MEET ASSEMBLY REQUIREMENTS.
H. PROVIDE FIRE RESISTIVE JOINT SYSTEMS EQUAL TO WALL RATING AT ALL PENETRATIONS AND AT HEAD / FLOOR INTERSECTIONS WITH RATED ASSEMBLIES.
I. PROVIDE ACOUSTICAL SEALANT AT WALL SILL, HEAD, PENETRATIONS AND ADDITIONAL SPECIFIED SOUND ATTENUATION COMPONENTS AT SOUND RATED WALLS.
J. PROVIDE SPECIFIED TILE BACKER BOARD AT ALL WALLS INDICATED TO HAVE CERAMIC TILE, REFER TO FINISH PLANS.
K. ISOLATE NON-LOAD-BEARING STUD FRAMING FROM BUILDING STRUCTURE TO PREVENT TRANSFER OF VERTICAL LOADS WHILE PROVIDING LATERAL SUPPORT AS SPECIFIED.
L. WOOD OR METAL STUD SPACING SHALL BE 16" ON CENTER MAXIMUM UNLESS OTHERWISE REQUIRED BY DELEGATED DESIGN OR NOTED OTHERWISE.

INTERIOR PARTITION LEGEND

PARTITION TYPE SYMBOL



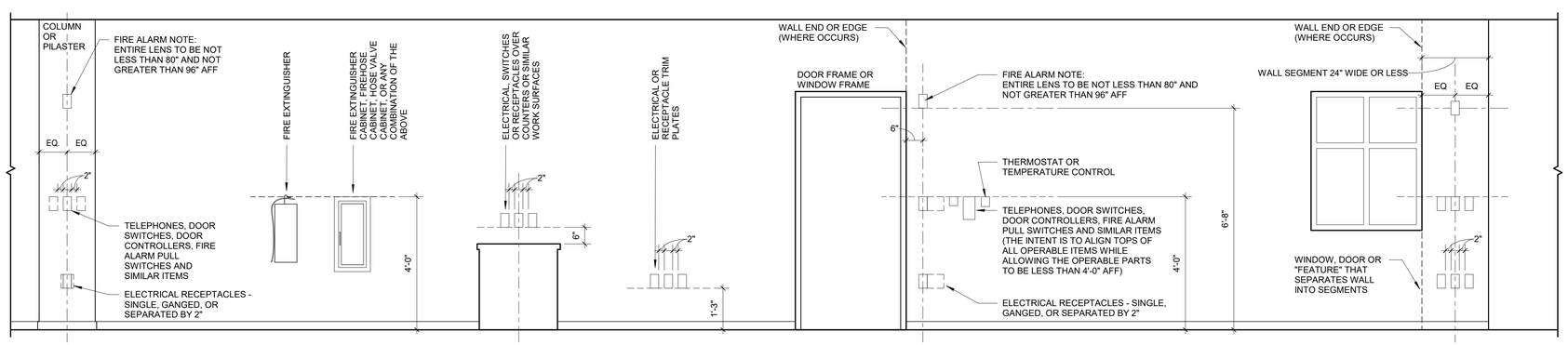
INTERIOR PARTITION HEIGHT CODES



STANDARD-DEVICE MOUNTING GUIDELINES

NOTES:

1. USE THIS DETAIL TO LOCATE DEVICES THAT ARE INDICATED ON THE DRAWINGS BUT NOT LOCATED BY DIMENSION, OR TO LOCATE REQUIRED DEVICES THAT ARE NOT INDICATED ON THE DRAWINGS.
2. ALIGN MULTIPLE DEVICES HORIZONTALLY AND/OR VERTICALLY AS DETAILED.
3. ITEMS OTHER THAN ELECTRICAL RECEPTACLES SHALL BE MOUNTED NEAR DOORWAYS OR INTERSECTING WALLS AS DETAILED SO AS NOT TO INTERFERE WITH THE PLACEMENT OF ART OR FUNITURE - EXCEPT THAT WHERE THE WALL SEGMENT IS LESS THAN 24" WIDE, CENTER THE DEVICES AS DETAILED.



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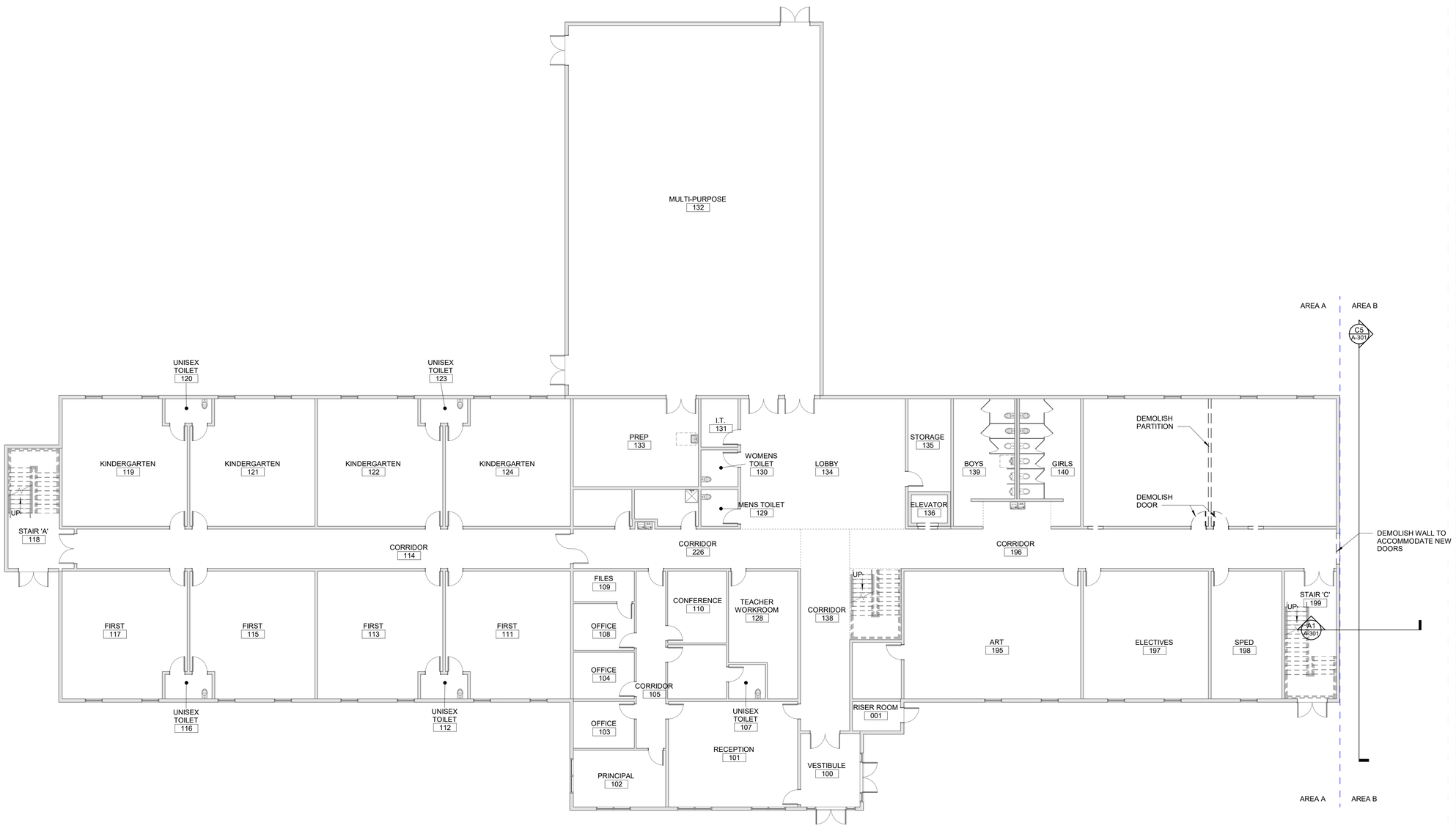
PROJECT NO. 20408.000

SHEET TITLE
INTERIOR PARTITION TYPES AND STANDARD PARTITION DETAILS

SHEET NUMBER
A-003

2/24/2021 4:34:42 PM



A1
AD-101

FIRST LEVEL DEMOLITION PLAN

3/32" = 1'-0"

2/24/2021 4:49:31 PM

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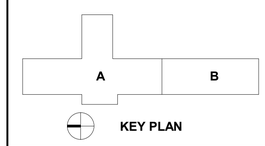

KEY PLAN

SEAL | DATE 2/24/2021

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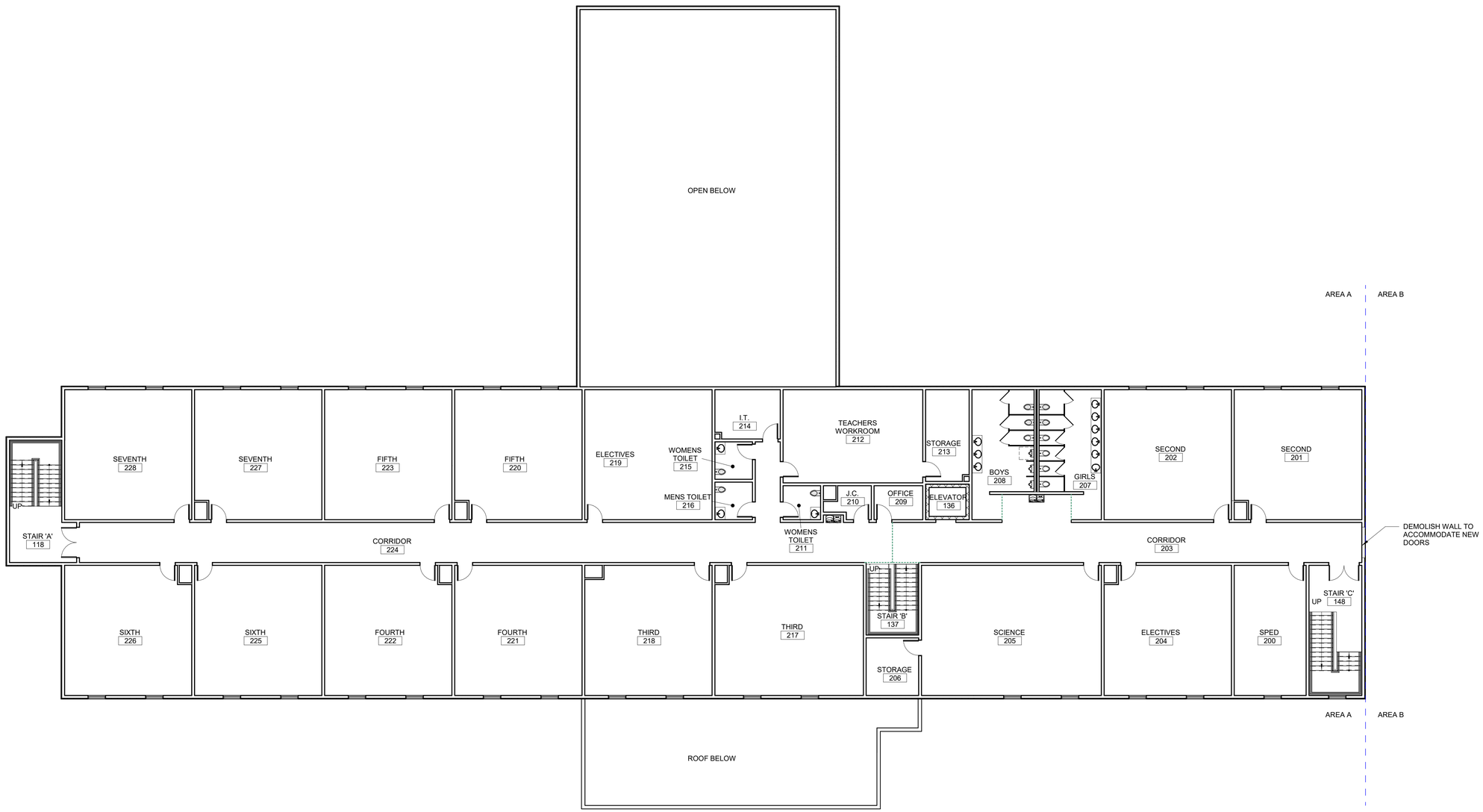
PROJECT NO. 20408.000

SHEET TITLE

FIRST FLOOR DEMO PLAN

SHEET NUMBER

AD-101



A1
AD-102

SECOND FLOOR DEMOLITION PLAN

3/32" = 1'-0"

2/24/2021 4:49:32 PM

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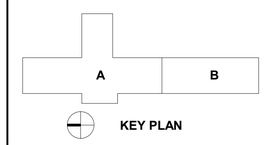
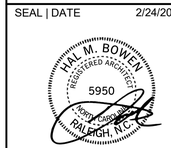


KEY PLAN

SEAL | DATE 2/24/2021



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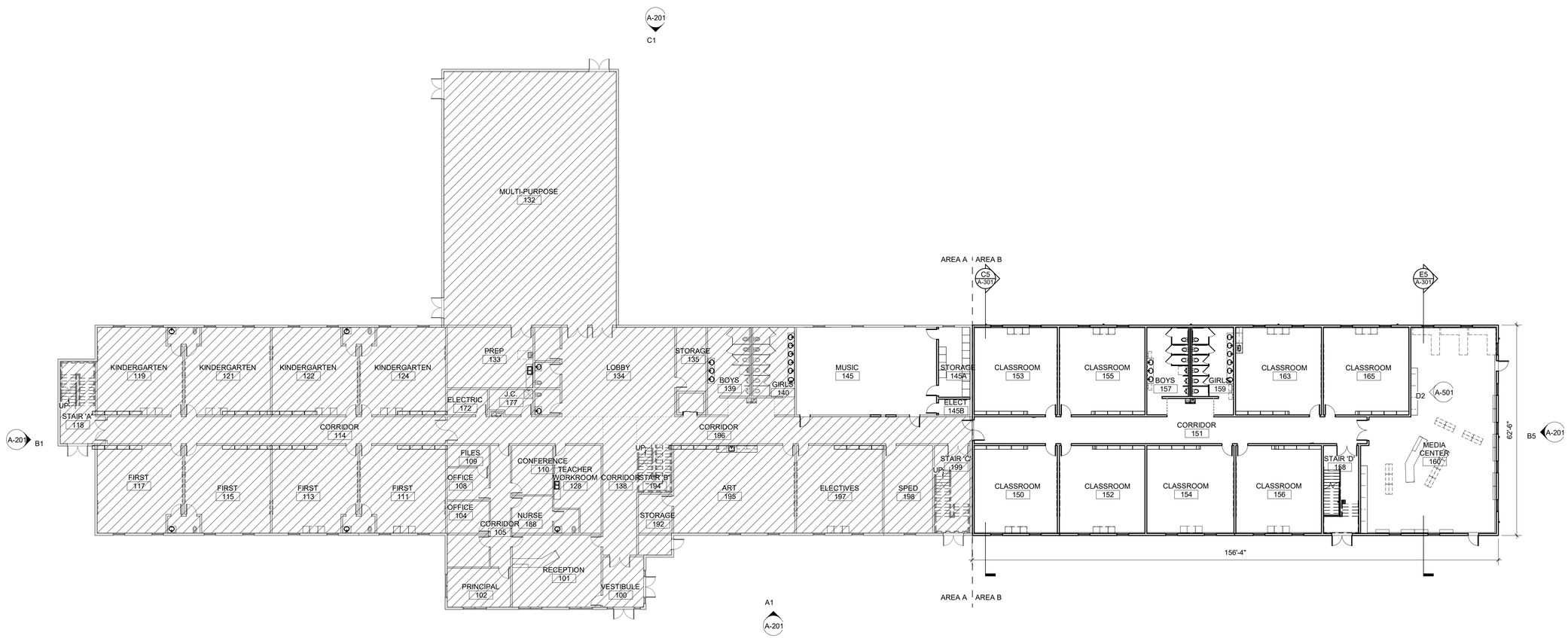
PROJECT NO. 20408.000

SHEET TITLE

SECOND FLOOR DEMO PLAN

SHEET NUMBER

AD-102



A1
A-101

FIRST FLOOR PLAN - COMPOSITE

1/16" = 1'-0"

2/24/2021 4:34:47 PM

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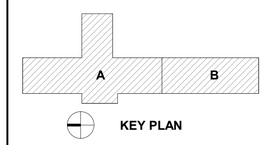
919-782-1833

Civil Engineer

Timmons Group
5410 Trinity Road
Suite 102
Raleigh, North Carolina 27607
919-866-4938



KEY PLAN

SEAL | DATE 2/24/2021

HAL M. BOWEN
REGISTERED ARCHITECT
5950
RALEIGH, N.C.

CODE CERT.
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SHEET ISSUE

1	100% Construction Documents	2/24/2021

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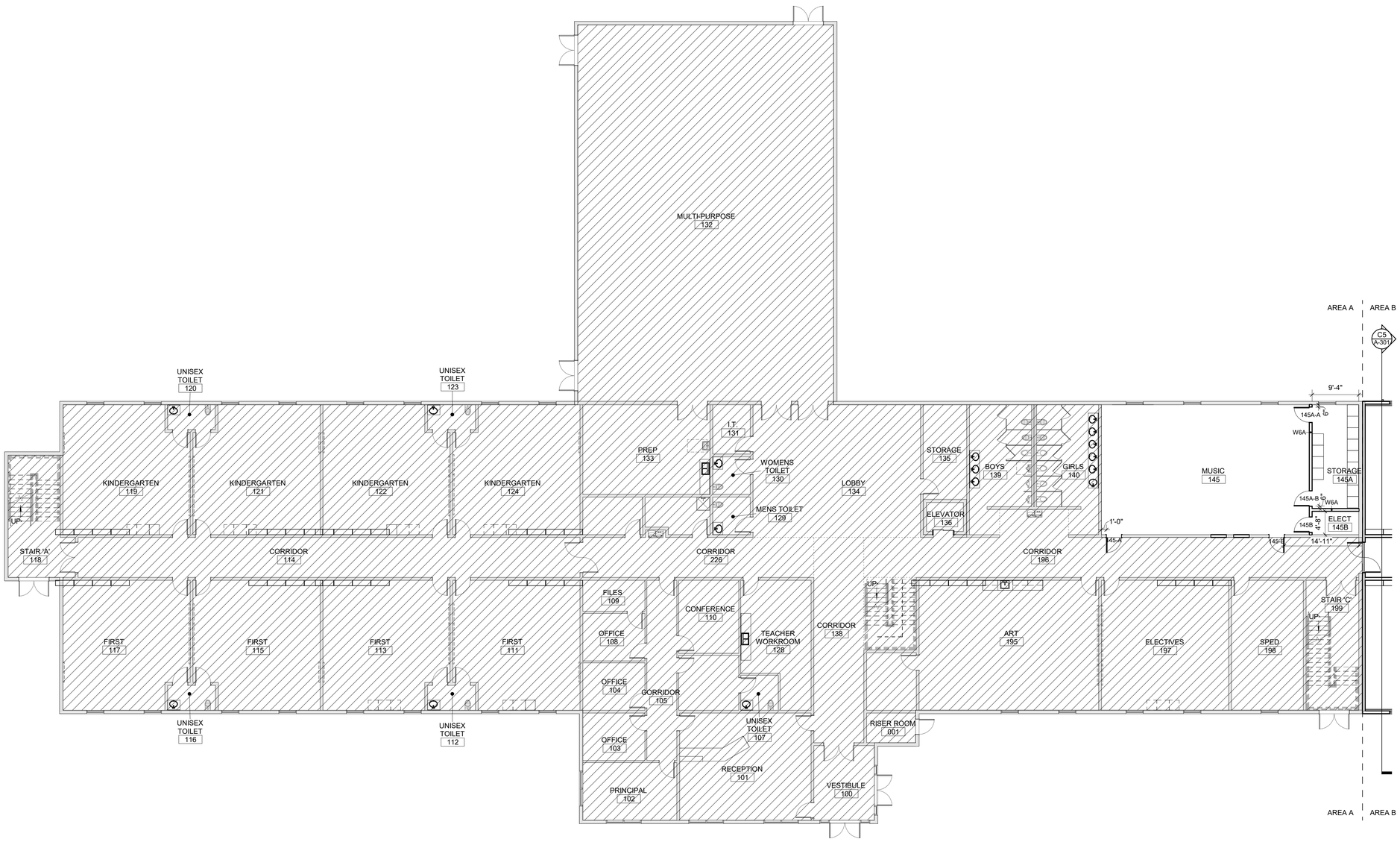
PROJECT NO. 20408.000

SHEET TITLE

FIRST FLOOR PLAN

SHEET NUMBER

A-101



A1
A-101A

FIRST FLOOR PLAN - AREA A

3/32" = 1'-0"

2/24/2021 4:34:51 PM

Carolina Charter Academy Exp.

8529 Highway 55
Angier, North Carolina
27501

Owner

Highmark School Development
746 East Winchester Street
Suite 150
Murray, Utah 84107
801-256-9550

Architect

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227 Fayetteville Street, Suite 301
Raleigh, North Carolina 27601
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Structural Engineer

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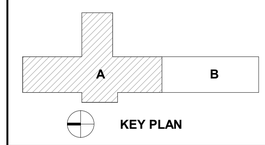
919-866-4938



KEY PLAN

SEAL | DATE 2/8/2021

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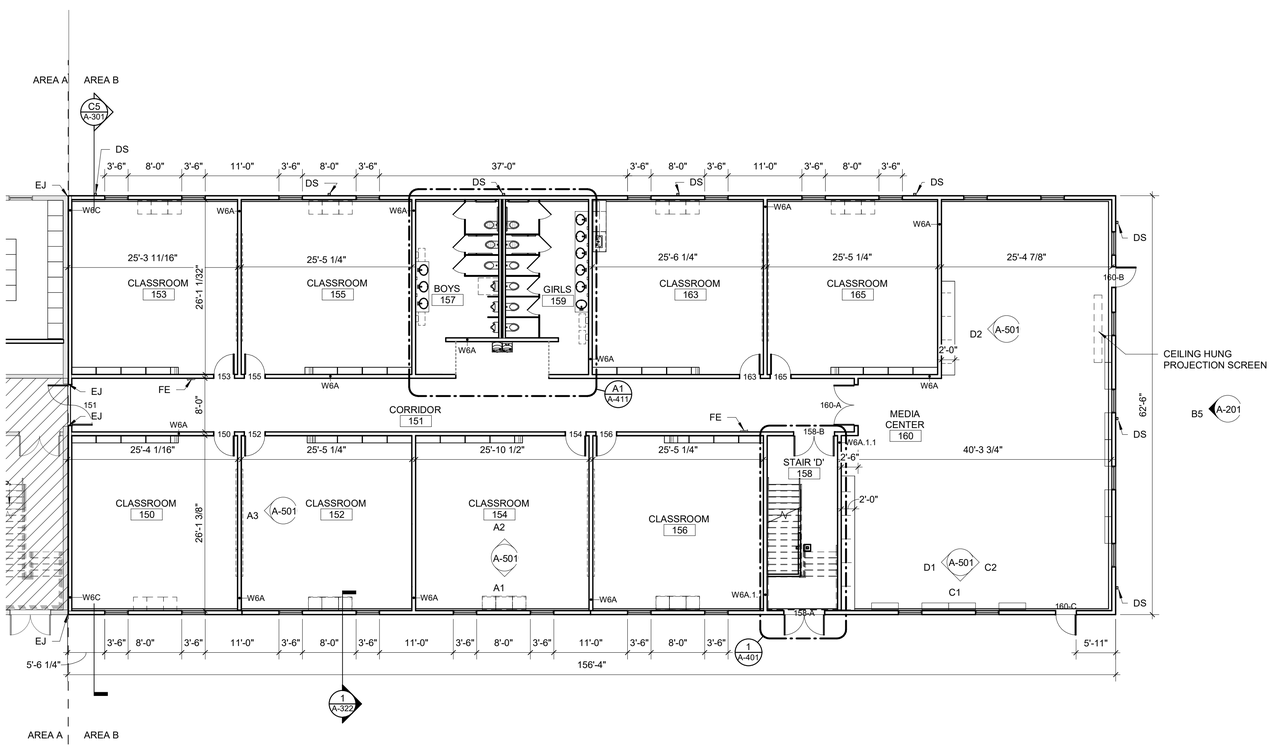
PROJECT NO. 20408.000

SHEET TITLE
FIRST FLOOR PLAN
-AREA A

SHEET NUMBER
A-101A



A1
A-101B

FIRST FLOOR PLAN - AREA B

3/32" = 1'-0"

2/24/2021 4:34:54 PM

Carolina Charter Academy Exp.

8529 Highway 55
Angier, North Carolina
27501

Owner

Highmark School Development
746 East Winchester Street
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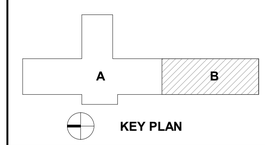

KEY PLAN

SEAL | DATE 2/24/2021

HAL M. BOWEN
REGISTERED ARCHITECT
5950
RALEIGH, N.C.

CODE CERT.
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SHEET ISSUE

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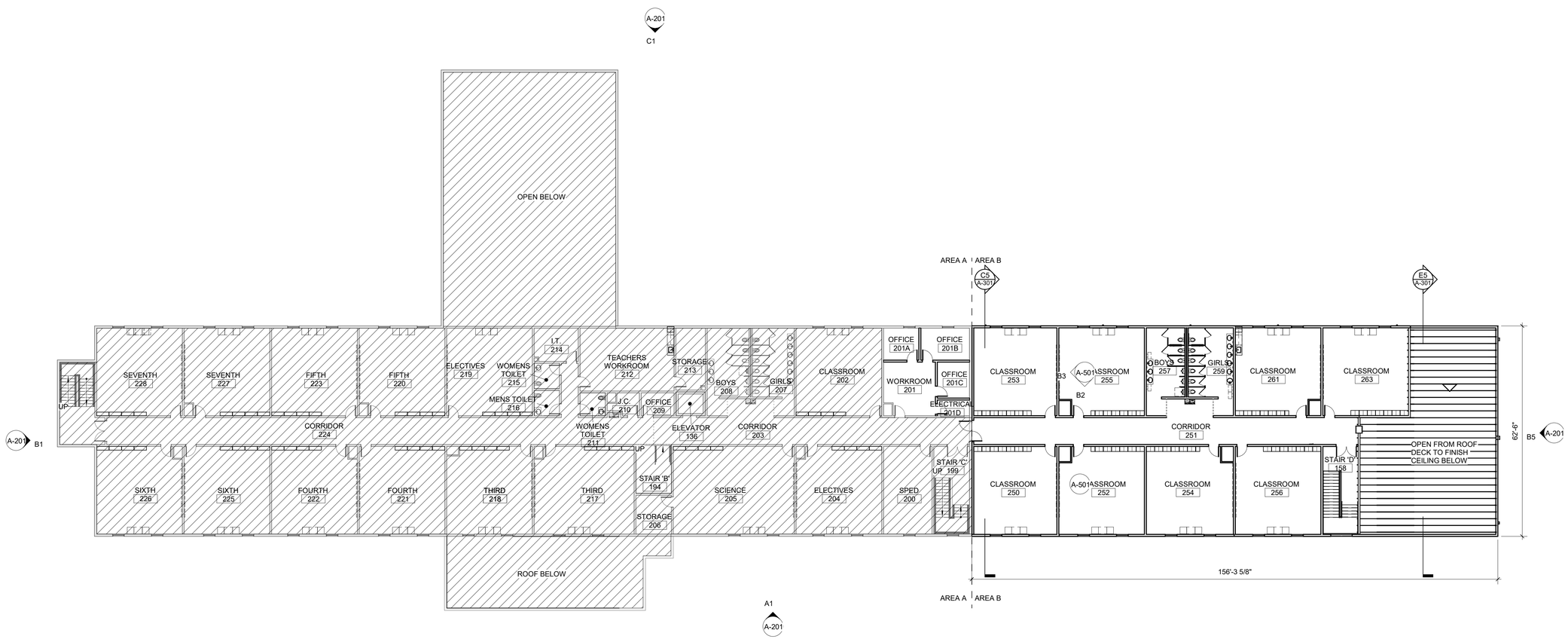
PROJECT NO. 20408.000

SHEET TITLE

FIRST FLOOR PLAN - AREA B

SHEET NUMBER

A-101B



A1
A-102

SECOND FLOOR PLAN - COMPOSITE

1/16" = 1'-0"

2/24/2021 4:34:59 PM

Carolina Charter Academy Exp.

8529 Highway 55
Angier, North Carolina
27501

Owner

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746 East Winchester Street
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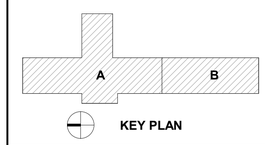

KEY PLAN

SEAL | DATE 2/24/2021

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PROJECT NO. 20408.000

SHEET TITLE

SECOND FLOOR PLAN

SHEET NUMBER

A-102

A1
A-102A

SECOND FLOOR PLAN - AREA A

3/32" = 1'-0"

2/24/2021 4:35:03 PM

Carolina Charter Academy Exp.

8529 Highway 55
Angier, North Carolina
27501

Owner

Highmark School Development
746 East Winchester Street
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Timmons Group
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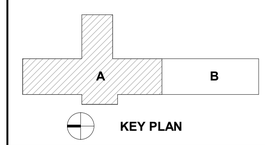
Raleigh, North Carolina 27607
919-866-4938



KEY PLAN

SEAL | DATE 2/24/2021

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REGISTERED ARCHITECT
5950
RALEIGH, N.C.

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SHEET ISSUE

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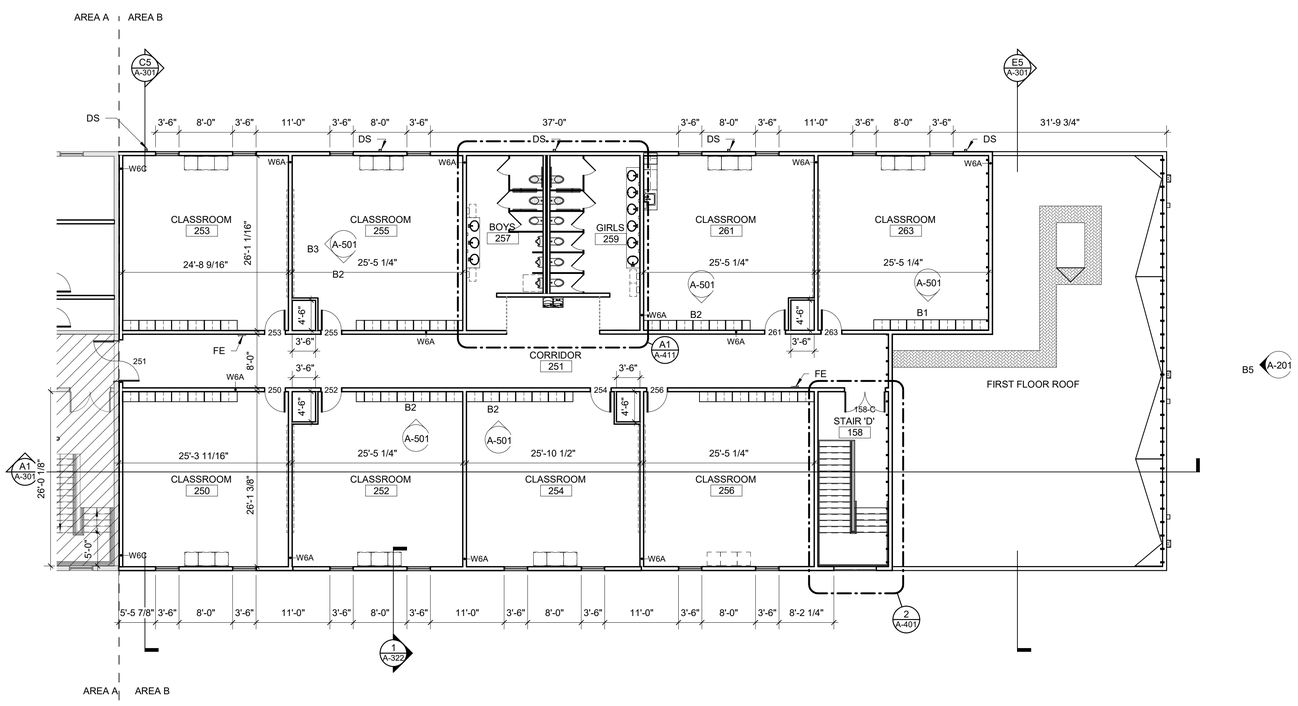
PROJECT NO. 20408.000

SHEET TITLE
SECOND FLOOR PLAN - AREA A

SHEET NUMBER
A-102A



SECOND FLOOR PLAN - AREA B

3/32" = 1'-0"

2/24/2021 4:35:06 PM

Carolina Charter Academy Exp.

8529 Highway 55
Angier, North Carolina
27501

Owner

Highmark School Development
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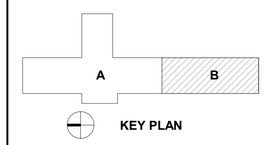

KEY PLAN

SEAL | DATE 2/24/2021

HAL M. BOWEN REGISTERED ARCHITECT 5950 NORTH CAROLINA RALEIGH, N.C.

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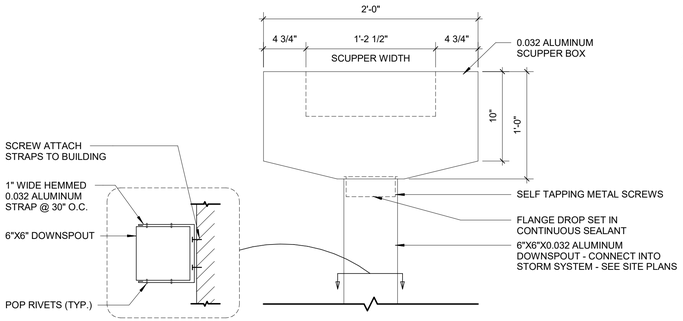
PROJECT NO. 20408.000

SHEET TITLE

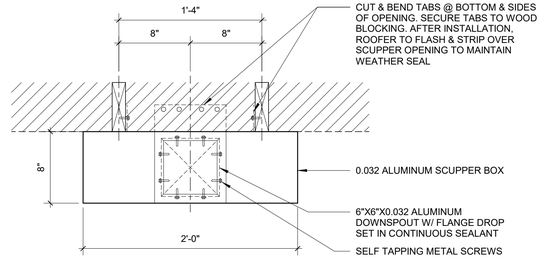
SECOND FLOOR PLAN - AREA B

SHEET NUMBER

A-102B



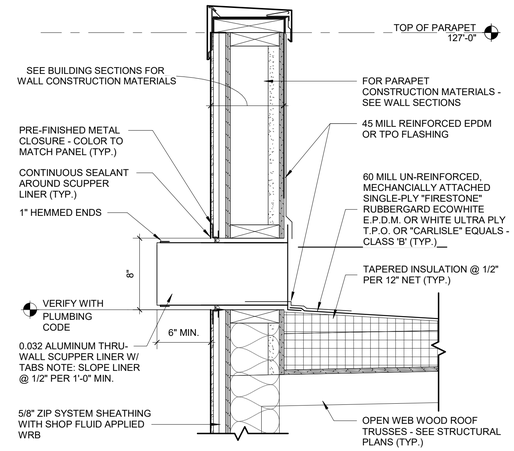
ELEVATION



PLAN

E1 / A-105 **SCUPPER DETAILS**

1 1/2" = 1'-0"

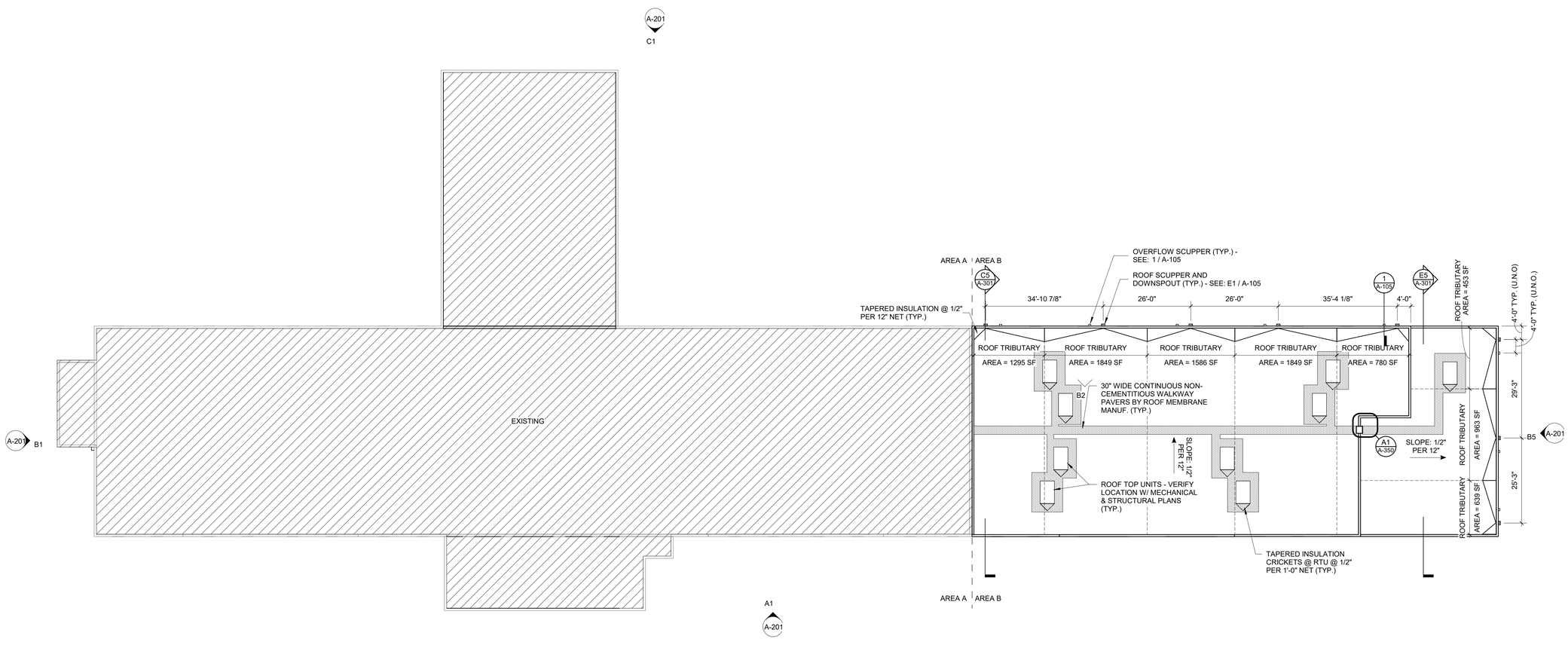


1 / A-105 **SECTION DETAIL - OVERFLOW SCUPPER**

1 1/2" = 1'-0"

GENERAL ROOFING NOTES

A. THESE GENERAL NOTES APPLY TO ROOF DRAWINGS.
B. VERIFY SIZE, LOCATION AND NUMBER OF ROOF PENETRATIONS INCLUDING VENTS, PIPES, CURBS, ROOF DRAINS, CONDUITS, ETC. PROVIDE NEW FLASHING AND SEAL PENETRATIONS WHETHER OR NOT INDICATED ON THE DRAWINGS.
C. COMPLETE WORK ABOVE ROOF, SUCH AS MASONRY, WELDING, MASONRY RESTORATION, ETC., PRIOR TO STARTING ROOFING WORK.
D. VERIFY AND MAINTAIN ROOF SLOPES AND DRAINAGE PATTERNS. TEST FOR AND CORRECT ANY PONDING CONDITIONS.
E. REPAIR AND REPLACE ROOFING SYSTEM OR STRUCTURE DAMAGED BY IMPROPER STORAGE, CONSTRUCTION ACTIVITIES, OR LACK OF ADEQUATE TEMPORARY PROTECTION. THIS ALSO INCLUDES INTERIOR DAMAGE TO FINISHES, EQUIPMENT, FURNISHINGS, ETC., RESULTING FROM LEAKS.
F. NEW BLOCKING SHALL BE PRESERVATIVE-TREATED WOOD.
G. PAINT EXTERIOR LADDERS, BRACKETS, ETC., UNLESS NOTED OTHERWISE.
H. CAP FASTENERS THAT PENETRATE ROOF DECK IN AREAS NOT CONCEALED BY CEILINGS WITH WIRE NUTS OR OTHER MEANS ACCEPTABLE TO ARCHITECT UNLESS OTHERWISE INDICATED. AREAS SUCH AS JANITOR CLOSETS, STORAGE ROOMS, MECHANICAL AND ELECTRICAL EQUIPMENT ROOMS, ETC., ARE EXEMPT FROM THIS REQUIREMENT UNLESS OTHERWISE INDICATED.
I. REFER TO WALL SECTIONS NOTED ON ROOF PLANS FOR INFORMATION.
J. REFER TO MECHANICAL DRAWINGS TO COORDINATE ROOF CONDUCTOR LOCATIONS.



A1 / A-105 **ROOF PLAN**

1/16" = 1'-0"

Carolina Charter Academy Exp.

8529 Highway 55
Angier, North Carolina
27501

Owner
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746 East Winchester Street
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Civil Engineer
Timmons Group
5410 Trinity Road
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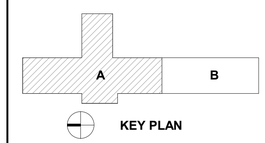
Raleigh, North Carolina 27607
919-866-4938



KEY PLAN

SEAL | DATE 2/24/2021

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RATIO

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PROJECT NO. 20408.000

SHEET TITLE
ROOF PLAN

SHEET NUMBER
A-105

2/24/2021 4:35:11 PM

RCP LEGEND

CEILING TAG
XXX-01 / 10'-10" A.F.F. — *CEILING TYPE* / *CEILING HEIGHT (ABOVE FINISH FLOOR)*

SPOT ELEVATION MARKER

GYB BOARD CEILING, PAINTED PT-02 (REFER TO PLAN FOR SUSPENSION TYPE)

ACOUSTIC CEILING TILE ACT-01 24" X 48"

A — 24" x 48" LIGHT FIXTURE (SEE ELECTRICAL PLANS FOR FURTHER INFORMATION)

DOWNLIGHT

MECHANICAL RETURN REGISTER

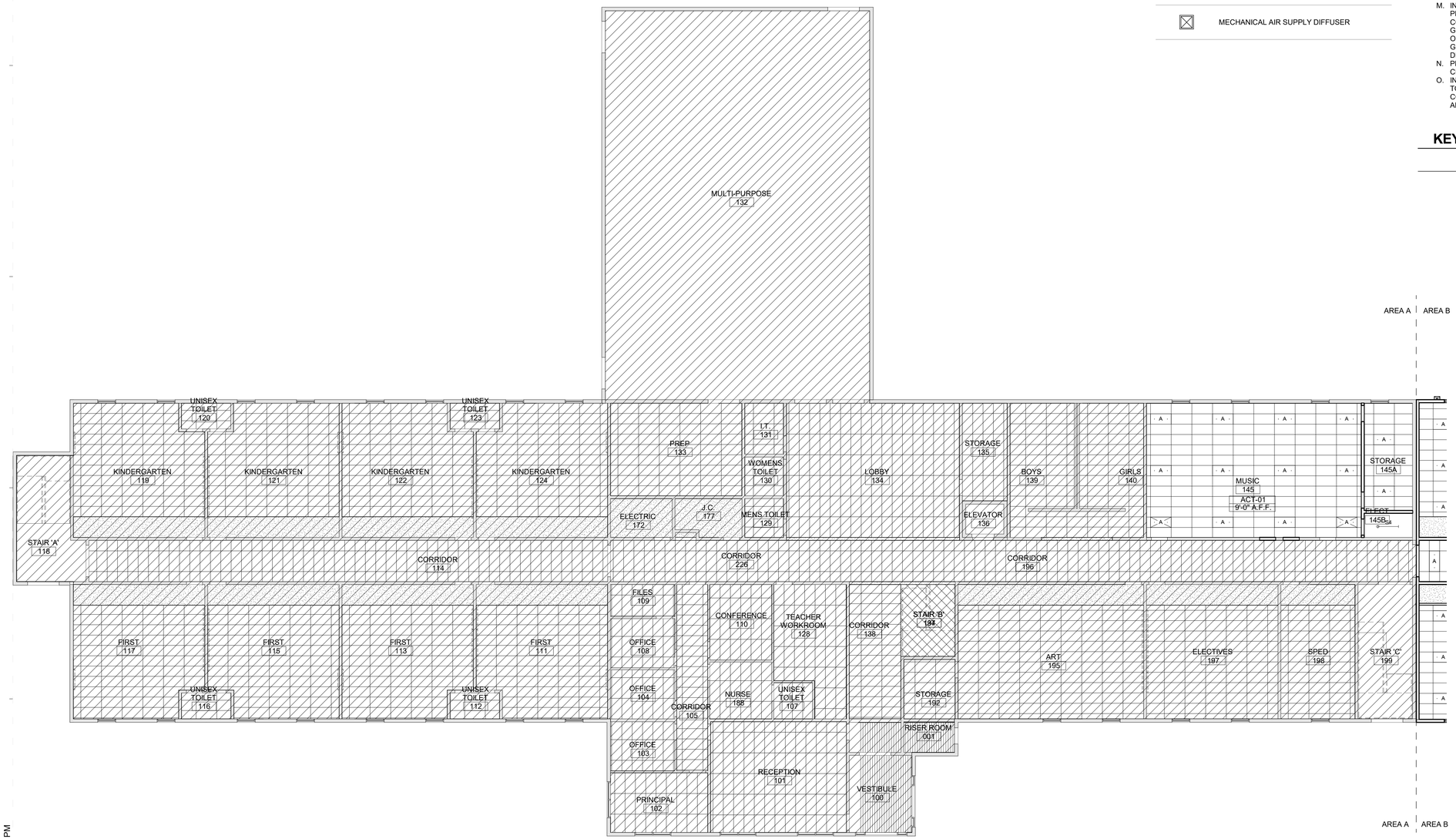
MECHANICAL AIR SUPPLY DIFFUSER

GENERAL CEILING PLAN NOTES

A. THESE GENERAL NOTES APPLY TO SERIES A-130 REFLECTED CEILING DRAWINGS.
B. INSTALL NEW CEILINGS AT +9'-0" A.F.F. UNLESS NOTED OTHERWISE. ALL CEILINGS TO BE ACT-01 UNLESS NOTED OTHERWISE.
C. CENTER CEILING GRIDS WITHIN ROOMS EACH DIRECTION UNLESS NOTED OTHERWISE.
D. LOCATE CEILING GRIDS WITHIN ROOMS SUCH THAT BORDERS CONTAIN NOT LESS THAN 1/2 TILE WIDTH, UNLESS OTHERWISE INDICATED.
E. CENTER PENETRATIONS IN ACOUSTICAL CEILING SYSTEMS WITHIN INDIVIDUAL CEILING PANELS, SUCH AS SPRINKLER HEADS, DIFFUSERS, LIGHT FIXTURES, ETC., UNLESS OTHERWISE INDICATED.
F. PAINT EXPOSED GYPSUM BOARD AND PLASTER CEILING SURFACES PT-02 UNLESS OTHERWISE INDICATED.
G. PROVIDE CONTROL JOINTS (C.J.) IN GYPSUM BOARD CEILING CONSTRUCTION AS INDICATED. WHERE NOT SHOWN, PROVIDE MAXIMUM SPACING BETWEEN JOINTS OF 30'-0". VERIFY FINAL CONTROL JOINT LOCATIONS WITH ARCHITECT PRIOR TO STARTING WORK WHETHER OR NOT INDICATED ON THE DRAWINGS.
H. CEILING ACCESS PANELS INDICATED ARE NOT INTENDED TO LIMIT NUMBER OF PANELS REQUIRED. PANEL QUANTITY SHALL BE SUFFICIENT TO PROVIDE REQUIRED ACCESS WHETHER OR NOT INDICATED ON THE DRAWINGS. VERIFY FINAL LOCATIONS WITH ARCHITECT PRIOR TO STARTING WORK.
I. REFER TO SERIES A-650 FINISH SCHEDULE FOR ADDITIONAL CEILING FINISH INFORMATION.
J. REFER TO ELECTRICAL DRAWINGS FOR CEILING-MOUNTED LIGHT FIXTURE TYPES AND QUANTITIES.
K. REFER TO MECHANICAL DRAWINGS FOR CEILING-MOUNTED DIFFUSERS, GRILLE TYPES AND QUANTITIES.
L. REFER TO FIRE PROTECTION DRAWINGS FOR SPRINKLER HEAD TYPES AND QUANTITIES. HEADS HAVE BEEN INTENTIONALLY OMITTED FROM REFLECTED CEILING PLANS FOR CLARITY.
M. INSTALLATION OF CEILING SYSTEMS SHALL NOT BEGIN PRIOR TO SUBMITTAL AND REVIEW OF CEILING COORDINATION DRAWINGS SHOWING LAYOUT OF CEILING GRIDS OR CONTROL JOINTS AND ITEMS TO BE INSTALLED IN OR ON CEILINGS SUCH AS SPRINKLER HEADS, DIFFUSERS, GRILLES, LIGHT FIXTURES, FIRE DETECTION AND ALARM DEVICES, ACCESS PANELS, ETC.
N. PROVIDE 4" AXIOM EDGE TRIM ON ALL EXPOSED EDGES OF CEILINGS UNLESS NOTED OTHERWISE.
O. IN AREAS WHERE STRUCTURE IS EXPOSED, CONTRACTOR TO PROVIDE FANAL LAYOUTS OF ALL DUCTWORK, PIPING, CONDUIT, LIGHTING, ETC. FOR FINAL APPROVAL BY ARCHITECT PRIOR TO INSTALLATION.

KEYNOTES (ACTION/GENERAL)

00-A1



A1 / A-131A

RCP- FIRST FLOOR -AREA A

3/32" = 1'-0"

2/24/2021 4:44:21 PM

Carolina Charter Academy Exp.

8529 Highway 55
Angier, North Carolina 27501

Owner
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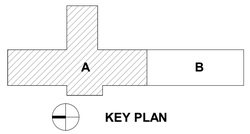

KEY PLAN

SEAL | DATE 2/24/2021

HAL M. BOWEN REGISTERED ARCHITECT 5950 RALEIGH, N.C.

CODE CERT.
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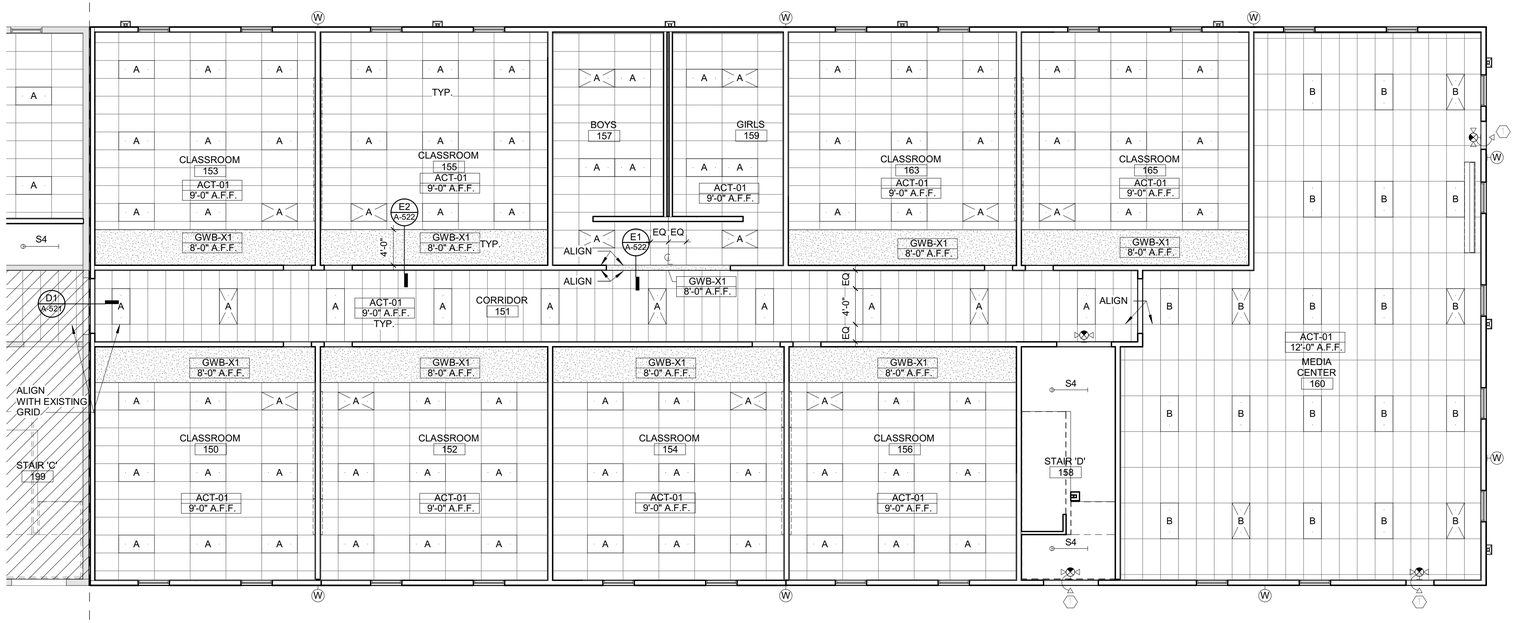
PROJECT NO. 20408.000

SHEET TITLE
FIRST FLOOR REFLECTED CEILING PLAN - AREA A

SHEET NUMBER
A-131A



A1 A-131B

RCP- FIRST FLOOR-AREA B

1/8" = 1'-0"

A. THESE GENERAL NOTES APPLY TO SERIES A-130 REFLECTED CEILING DRAWINGS.
B. INSTALL NEW CEILINGS AT +9'-0" A.F.F. UNLESS NOTED OTHERWISE. ALL CEILINGS TO BE ACT-01 UNLESS NOTED OTHERWISE.
C. CENTER CEILING GRIDS WITHIN ROOMS EACH DIRECTION UNLESS NOTED OTHERWISE.
D. LOCATE CEILING GRIDS WITHIN ROOMS SUCH THAT BORDERS CONTAIN NOT LESS THAN 1/2 TILE WIDTH, UNLESS OTHERWISE INDICATED.
E. CENTER PENETRATIONS IN ACOUSTICAL CEILING SYSTEMS WITHIN INDIVIDUAL CEILING PANELS, SUCH AS SPRINKLER HEADS, DIFFUSERS, LIGHT FIXTURES, ETC., UNLESS OTHERWISE INDICATED.
F. PAINT EXPOSED GYPSUM BOARD AND PLASTER CEILING SURFACES PT-02 UNLESS OTHERWISE INDICATED.
G. PROVIDE CONTROL JOINTS (C.J.) IN GYPSUM BOARD CEILING CONSTRUCTION AS INDICATED. WHERE NOT SHOWN, PROVIDE MAXIMUM SPACING BETWEEN JOINTS OF 30'-0". VERIFY FINAL CONTROL JOINT LOCATIONS WITH ARCHITECT PRIOR TO STARTING WORK WHETHER OR NOT INDICATED ON THE DRAWINGS.
H. CEILING ACCESS PANELS INDICATED ARE NOT INTENDED TO LIMIT NUMBER OF PANELS REQUIRED. PANEL QUANTITY SHALL BE SUFFICIENT TO PROVIDE REQUIRED ACCESS WHETHER OR NOT INDICATED ON THE DRAWINGS. VERIFY FINAL LOCATIONS WITH ARCHITECT PRIOR TO STARTING WORK.
I. REFER TO SERIES A-650 FINISH SCHEDULE FOR ADDITIONAL CEILING FINISH INFORMATION.
J. REFER TO ELECTRICAL DRAWINGS FOR CEILING-MOUNTED LIGHT FIXTURE TYPES AND QUANTITIES.
K. REFER TO MECHANICAL DRAWINGS FOR CEILING-MOUNTED DIFFUSERS, GRILLE TYPES AND QUANTITIES.
L. REFER TO FIRE PROTECTION DRAWINGS FOR SPRINKLER HEAD TYPES AND QUANTITIES. HEADS HAVE BEEN INTENTIONALLY OMITTED FROM REFLECTED CEILING PLANS FOR CLARITY.
M. INSTALLATION OF CEILING SYSTEMS SHALL NOT BEGIN PRIOR TO SUBMITTAL AND REVIEW OF CEILING COORDINATION DRAWINGS SHOWING LAYOUT OF CEILING GRIDS OR CONTROL JOINTS AND ITEMS TO BE INSTALLED IN OR ON CEILINGS SUCH AS SPRINKLER HEADS, DIFFUSERS, GRILLES, LIGHT FIXTURES, FIRE DETECTION AND ALARM DEVICES, ACCESS PANELS, ETC.
N. PROVIDE 4" AXIOM EDGE TRIM ON ALL EXPOSED EDGES OF CEILINGS UNLESS NOTED OTHERWISE.
O. IN AREAS WHERE STRUCTURE IS EXPOSED, CONTRACTOR TO PROVIDE FANAL LAYOUTS OF ALL DUCTWORK, PIPING, CONDUIT, LIGHTING, ETC. FOR FINAL APPROVAL BY ARCHITECT PRIOR TO INSTALLATION.

CEILING TAG
XXX-01 — *CEILING TYPE*
10'-10" A.F.F. — *CEILING HEIGHT (ABOVE FINISH FLOOR)*

SPOT ELEVATION MARKER

GYB BOARD CEILING, PAINTED PT-02 (REFER TO PLAN FOR SUSPENSION TYPE)

ACOUSTIC CEILING TILE ACT-01 24" X 48"

A — 24" x 48" LIGHT FIXTURE (SEE ELECTRICAL PLANS FOR FURTHER INFORMATION)

DOWNLIGHT

MECHANICAL RETURN REGISTER

MECHANICAL AIR SUPPLY DIFFUSER

Carolina Charter Academy Exp.

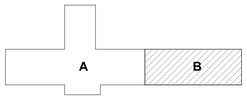
8529 Highway 55
Angier, North Carolina 27501

Owner
Highmark School Development
746 East Winchester Street
Suite 150
Murray, Utah 84107
801-256-9550

Architect
RATIO
227 Fayetteville Street, Suite 301
Raleigh, North Carolina 27601
919-821-0805

Structural Engineer
Lynch Mykins Structural Engineers, PC
301 North West Street
Suite 105
Raleigh, North Carolina 27603
919-782-1833

Civil Engineer
Timmons Group
5410 Trinity Road
Suite 102
Raleigh, North Carolina 27607
919-866-4938



KEY PLAN

SEAL | DATE 2/24/2021

CODE CERT.
I HEREBY CERTIFY THAT THE BUILDING CODE SUMMARY COMPLETED ON THIS PAGE IS ACCURATE FOR THE TYPE OF BUILDING AND OCCUPANCY INTENDED FOR THIS PROJECT AND THAT THESE PLANS ARE COMPLETE AND COMPLY WITH ALL APPLICABLE STATE AND LOCAL BUILDING REGULATIONS

SHEET ISSUE

1	100% Construction Documents	2/24/2021

RATIO

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PROJECT NO. 20408.000

SHEET TITLE
FIRST FLOOR REFLECTED CEILING PLAN -AREA B

SHEET NUMBER
A-131B

2/26/2021 5:18:35 PM

CEILING TAG

XXX-01
10'-10" A.F.F.

CEILING TYPE

CEILING HEIGHT (ABOVE FINISH FLOOR)

SPOT ELEVATION MARKER

GYB BOARD CEILING, PAINTED PT-02 (REFER TO PLAN FOR SUSPENSION TYPE)

ACOUSTIC CEILING TILE ACT-01
24" X 48"

A — 24" x 48" LIGHT FIXTURE (SEE ELECTRICAL PLANS FOR FURTHER INFORMATION)

DOWNLIGHT

MECHANICAL RETURN REGISTER

MECHANICAL AIR SUPPLY DIFFUSER

A. THESE GENERAL NOTES APPLY TO SERIES A-130 REFLECTED CEILING DRAWINGS.
B. INSTALL NEW CEILINGS AT +9'-0" A.F.F. UNLESS NOTED OTHERWISE. ALL CEILINGS TO BE ACT-01 UNLESS NOTED OTHERWISE.
C. CENTER CEILING GRIDS WITHIN ROOMS EACH DIRECTION UNLESS NOTED OTHERWISE.
D. LOCATE CEILING GRIDS WITHIN ROOMS SUCH THAT BORDERS CONTAIN NOT LESS THAN 1/2 TILE WIDTH, UNLESS OTHERWISE INDICATED.
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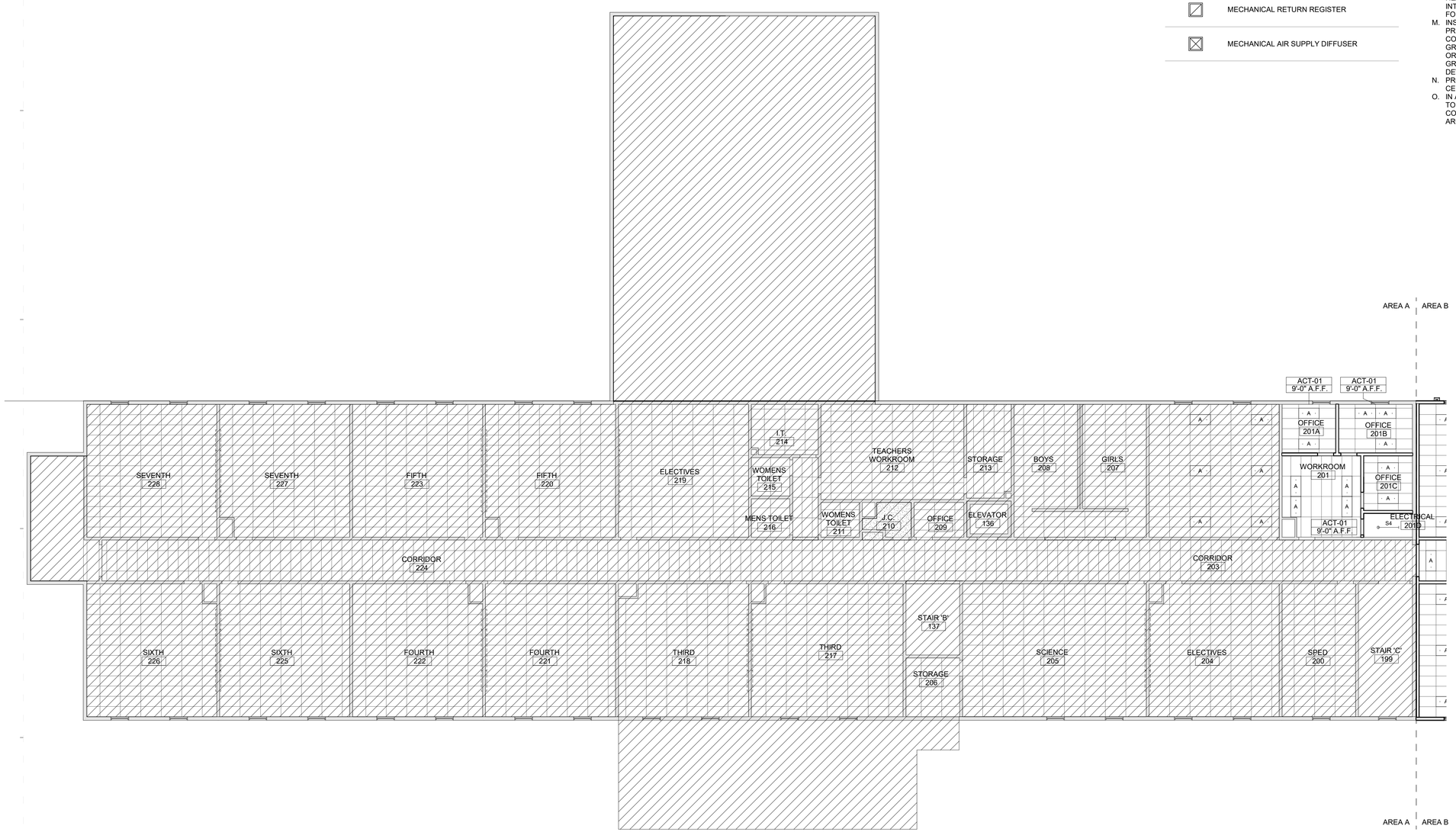

A1
A-132A

RCP - SECOND FLOOR- AREA A

3/32" = 1'-0"

2/24/2021 4:44:28 PM

Carolina Charter Academy Exp.

8529 Highway 55
Angier, North Carolina
27501

Owner

Highmark School Development
746 East Winchester Street
Suite 150
Murray, Utah 84107
801-256-9550

Architect

RATIO
227 Fayetteville Street, Suite 301
Raleigh, North Carolina 27601
919-821-0805

Structural Engineer

Lynch Mykins Structural Engineers, PC
301 North West Street
Suite 105
Raleigh, North Carolina 27603
919-782-1833

Civil Engineer

Timmons Group
5410 Trinity Road
Suite 102
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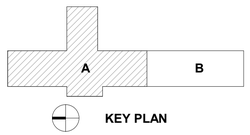
919-866-4938



KEY PLAN

SEAL | DATE 2/24/2021

HAL M. BOWEN
REGISTERED ARCHITECT
5950
NORTH CAROLINA
RALEIGH, N.C.

CODE CERT.
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SHEET ISSUE

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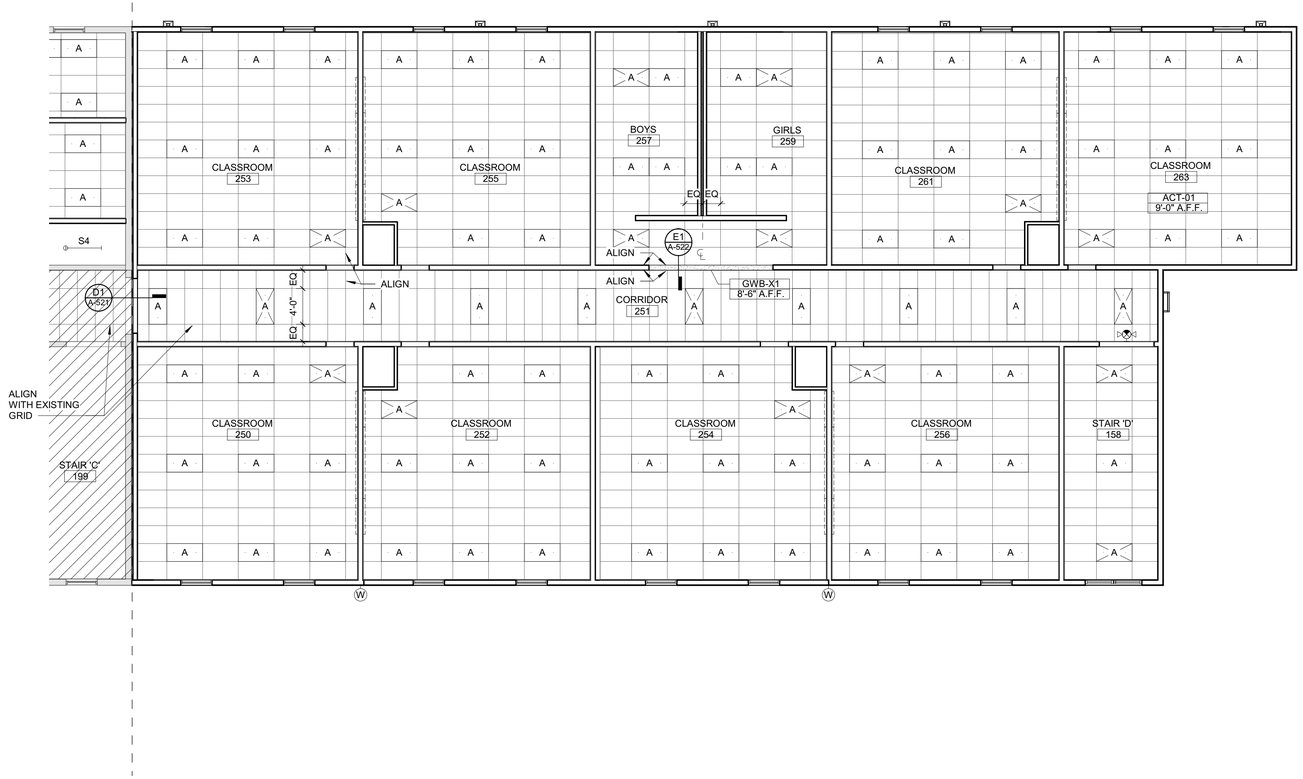
PROJECT NO. 20408.000

SHEET TITLE

SECOND FLOOR REFLECTED CEILING PLAN -AREA A

SHEET NUMBER

A-132A



A1 A-132B

RCP - SECOND FLOOR- AREA B

1/8" = 1'-0"

A. THESE GENERAL NOTES APPLY TO SERIES A-130 REFLECTED CEILING DRAWINGS.
B. INSTALL NEW CEILINGS AT +9'-0" A.F.F. UNLESS NOTED OTHERWISE. ALL CEILINGS TO BE ACT-01 UNLESS NOTED OTHERWISE.
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CEILING TAG
XXX-01 — *CEILING TYPE*
10'-10" A.F.F. — *CEILING HEIGHT (ABOVE FINISH FLOOR)*

SPOT ELEVATION MARKER

GYB BOARD CEILING, PAINTED PT-02 (REFER TO PLAN FOR SUSPENSION TYPE)

ACOUSTIC CEILING TILE ACT-01 24" X 48"

A — 24" x 48" LIGHT FIXTURE (SEE ELECTRICAL PLANS FOR FURTHER INFORMATION)

DOWNLIGHT

MECHANICAL RETURN REGISTER

MECHANICAL AIR SUPPLY DIFFUSER

Carolina Charter Academy Exp.

8529 Highway 55
Angier, North Carolina
27501

Owner
Highmark School Development
746 East Winchester Street
Suite 150
Murray, Utah 84107
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Architect
RATIO
227 Fayetteville Street, Suite 301
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919-821-0805

Structural Engineer
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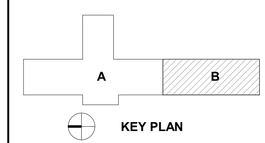

KEY PLAN

SEAL | DATE 2/8/2021

CODE CERT.
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SHEET ISSUE

1	50% Construction Documents	2/8/2021

RATIO

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PROJECT NO. 20408.000

SHEET TITLE
SECOND FLOOR REFLECTED CEILING PLAN -AREA B

SHEET NUMBER
A-132B

2/26/2021 5:18:35 PM

KEYNOTES (ACTION/GENERAL)

00-A1

09-C1	START TILE PATTERN WITH FULL TILE, AT THIS LOCATION

FINISH TRANSITION AT DOORS

LVT LVT LVT

CT CPT SC

A1 / A-521 A2 / A-521 A3 / A-521

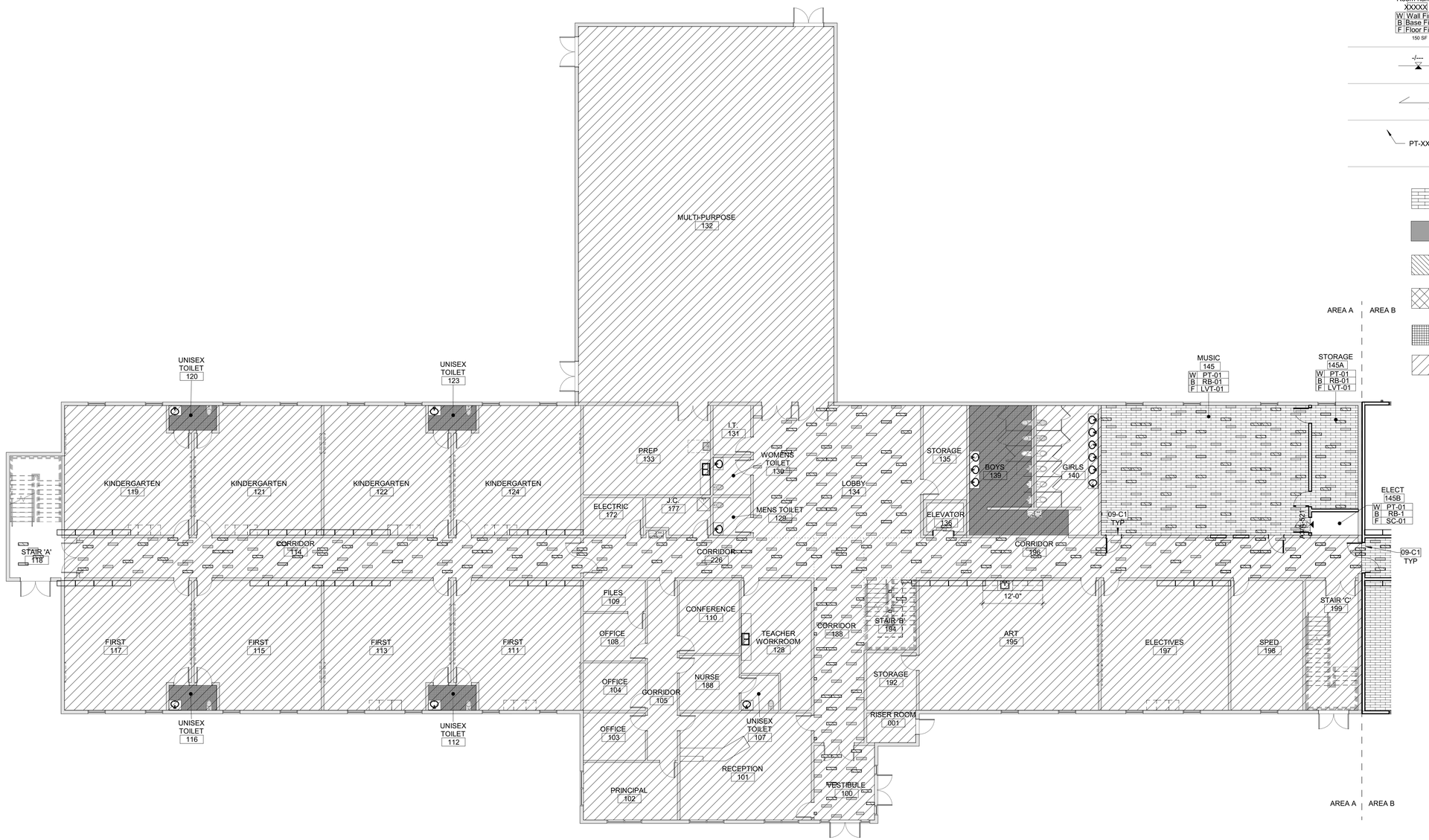
CONC

SC

A4 / A-521

FINISHES-SYMBOLS LEGEND

Room name XXXXX; W Wall Fin; B Base Fin; F Floor Fin; 150 SF	ROOM NAME AND ROOM FINISHES
-/----	FLOORING MATERIAL TRANSITION VIEW REFERENCE
	FLOORING DIRECTION
PT-XX	ACCENT WALL FINISH DESIGNATION
	LVT-01
	LVT-02 (ACCENT)
	LVT-03 (ACCENT)
	CPT-01
	CT-01
	NOT IN SCOPE



A1 / A-150A

FIRST FLOOR FINISH PLAN - AREA A

3/32" = 1'-0"

2/26/2021 5:18:38 PM

Carolina Charter Academy Exp.

8529 Highway 55
Angier, North Carolina 27501

Owner

Highmark School Development
746 East Winchester Street
Suite 150
Murray, Utah 84107
801-256-9550

Architect

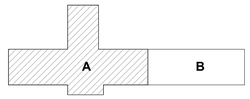
RATIO
227 Fayetteville Street, Suite 301
Raleigh, North Carolina 27601
919-821-0805

Structural Engineer

Lynch Mykins Structural Engineers, PC
301 North West Street
Suite 105
Raleigh, North Carolina 27603
919-782-1833

Civil Engineer

Timmons Group
5410 Trinity Road
Suite 102
Raleigh, North Carolina 27607
919-866-4938



KEY PLAN

SEAL | DATE 2/24/2021

HAL M. BOWEN REGISTERED ARCHITECT 5950 NORTH CAROLINA RALEIGH, N.C.

CODE CERT.
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SHEET ISSUE

1	100% Construction Documents	2/24/2021

RATIO

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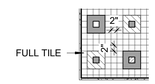
PROJECT NO. 20408.000

SHEET TITLE

FIRST FLOOR FINISH PLAN - AREA A

SHEET NUMBER

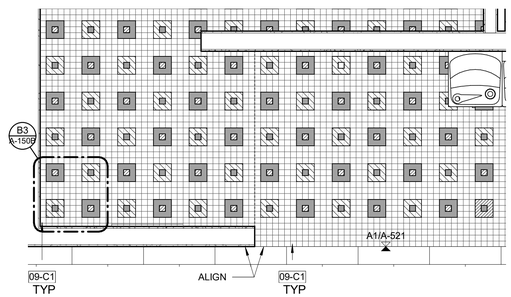
A-150A



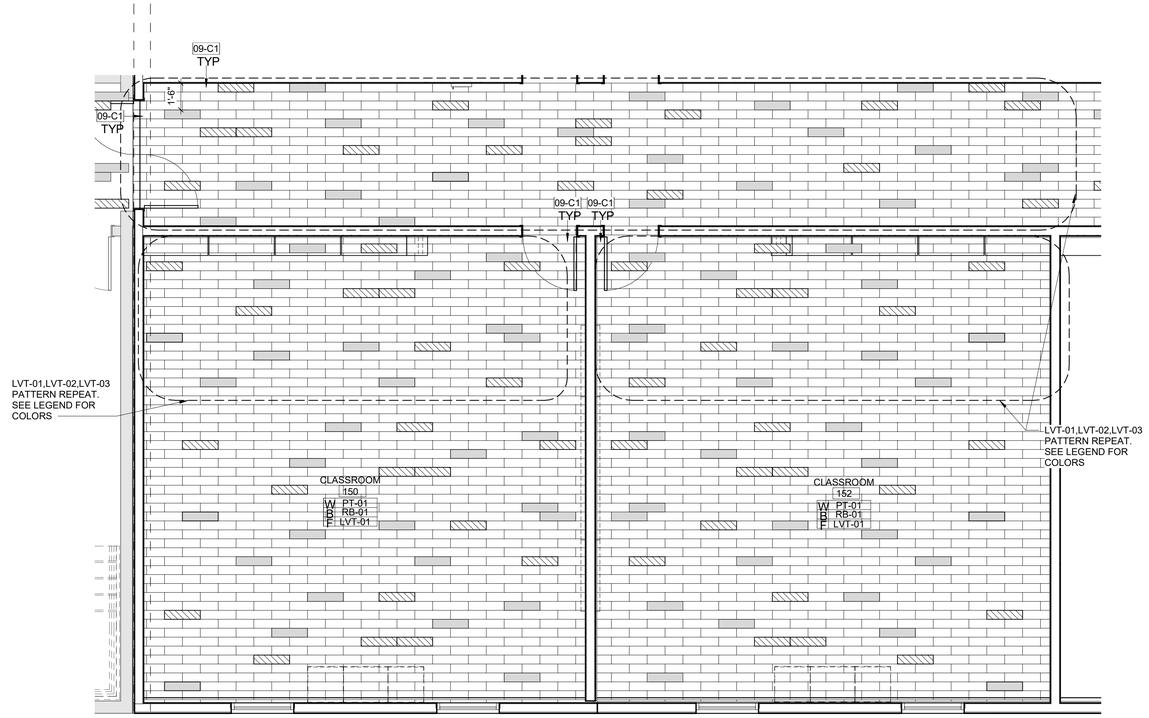
B3 A-150B **TILE DETAIL**
1/2" = 1'-0"

FLOOR TILE LEGEND

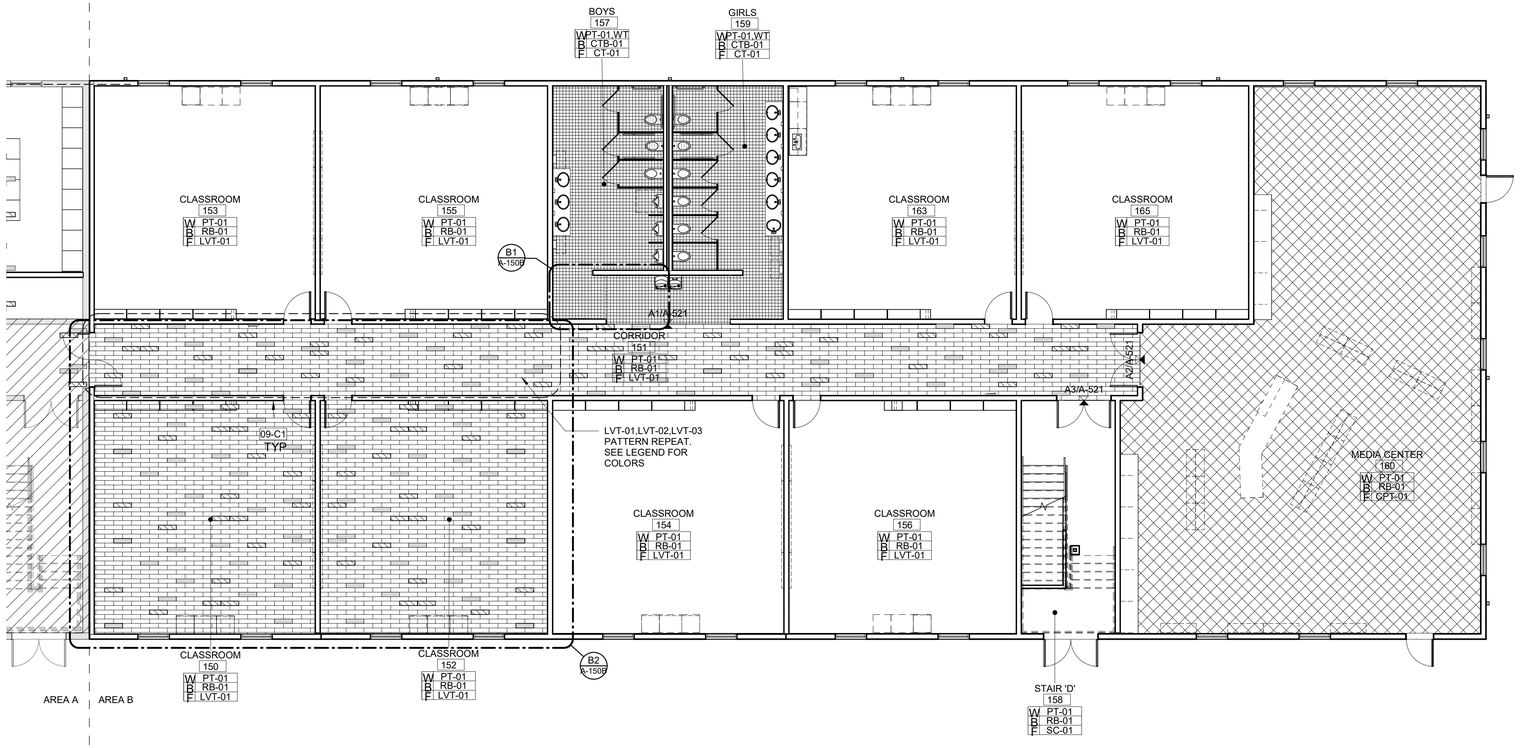
- CT-01 (FIELD)
- CT-02 (ACCENT "A")
- CT-03 (ACCENT "B")



B1 A-150B **ENLARGED FINISH PLAN - TYP. RESTROOM**
1/2" = 1'-0"

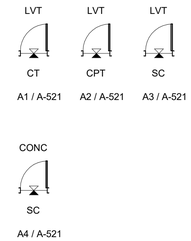


B2 A-150B **ENLARGED FINISH PLAN - TYP. CLASSROOM**
1/4" = 1'-0"



A1 A-150B **FIRST FLOOR FINISH PLAN - AREA B**
1/8" = 1'-0"

FINISH TRANSITION AT DOORS



FINISHES-SYMBOLS LEGEND

Room name XXXXX; W Wall Fin, B Base Fin, F Floor Fin; 150 SF	ROOM NAME AND ROOM FINISHES
-/---	FLOORING MATERIAL TRANSITION VIEW REFERENCE
	FLOORING DIRECTION
PT-XX	ACCENT WALL FINISH DESIGNATION
	LVT-01
	LVT-02 (ACCENT)
	LVT-03 (ACCENT)
	CPT-01
	CT-01
	NOT IN SCOPE

KEYNOTES (ACCIDENT/GENERAL)

00-A1

09-C1	START TILE PATTERN WITH FULL TILE, AT THIS LOCATION

Carolina Charter Academy Exp.
8529 Highway 55
Angier, North Carolina 27501

Owner
Highmark School Development
746 East Winchester Street
Suite 150
Murray, Utah 84107
801-256-9550

Architect
RATIO
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Raleigh, North Carolina 27601
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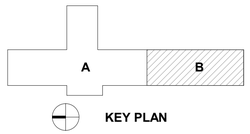

KEY PLAN

SEAL | DATE 2/24/2021

HAL M. BOWEN REGISTERED ARCHITECT 5950 RALEIGH, N.C.

CODE CERT.
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SHEET ISSUE

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RATIO

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PROJECT NO. 20408.000

SHEET TITLE
FIRST FLOOR FINISH PLAN - AREA B

SHEET NUMBER
A-150B

2/24/2021 5:20:53 PM

A1 / A-151A

SECOND FLOOR FINISH PLAN - AREA A

3/32" = 1'-0"

FINISH TRANSITION AT DOORS

LVT — CT — A1 / A-521

LVT — CPT — A2 / A-521

LVT — SC — A3 / A-521

CONC — SC — A4 / A-521

FINISHES-SYMBOLS LEGEND

Room name XXXXX; W Wall Fin; B Base Fin; F Floor Fin; 150 SF	ROOM NAME AND ROOM FINISHES
-/--- XXX	FLOORING MATERIAL TRANSITION VIEW REFERENCE
	FLOORING DIRECTION
PT-XX	ACCENT WALL FINISH DESIGNATION
	LVT-01
	LVT-02 (ACCENT)
	LVT-03 (ACCENT)
	CPT-01
	CT-01
	NOT IN SCOPE

Carolina Charter Academy Exp.

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Angier, North Carolina
27501

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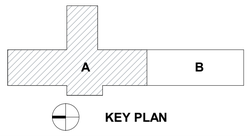
Raleigh, North Carolina 27607
919-866-4938



KEY PLAN

SEAL | DATE 2/24/2021

HAL M. BOWEN REGISTERED ARCHITECT 5950 RALEIGH, N.C.

CODE CERT.
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SHEET ISSUE

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PROJECT NO. 20408.000

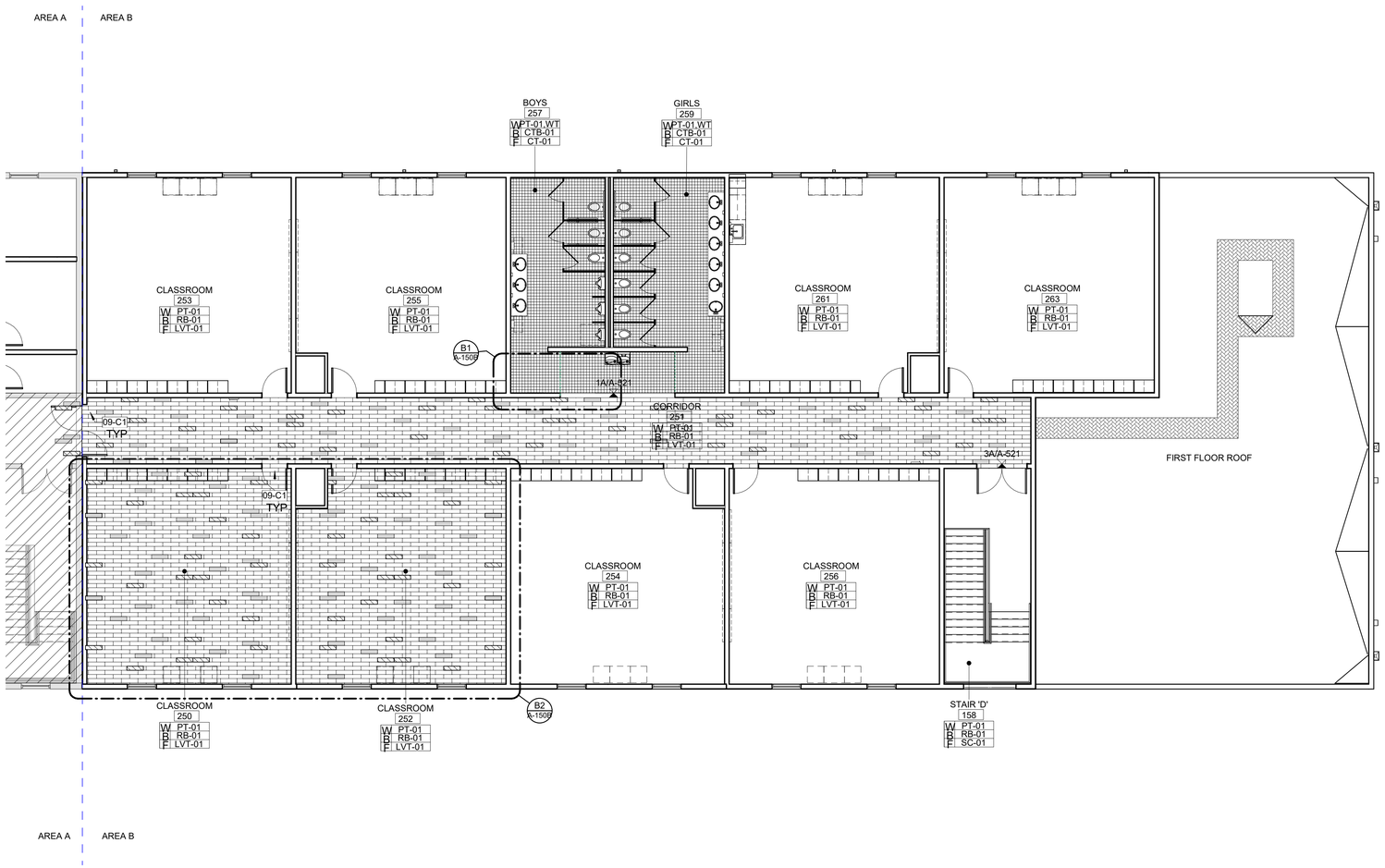
SHEET TITLE

SECOND FLOOR FINISH PLAN -AREA A

SHEET NUMBER

A-151A

2/24/2021 4:39:37 PM



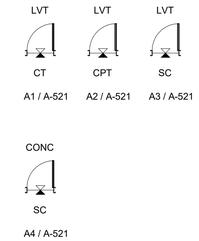
A1
A-151B

SECOND FLOOR FINISH PLAN - AREA B

1/8" = 1'-0"

2/24/2021 4:39:38 PM

FINISH TRANSITION AT DOORS



FINISHES-SYMBOLS LEGEND

Room name XXXXX; W Wall Fin.; B Base Fin.; F Floor Fin.; 150 SF	ROOM NAME AND ROOM FINISHES
-/---	FLOORING MATERIAL TRANSITION VIEW REFERENCE
	FLOORING DIRECTION
PT-XX	ACCENT WALL FINISH DESIGNATION
	LVT-01
	LVT-02 (ACCENT)
	LVT-03 (ACCENT)
	CPT-01
	CT-01
	NOT IN SCOPE

Carolina Charter Academy Exp.

8529 Highway 55
Angier, North Carolina
27501

Owner
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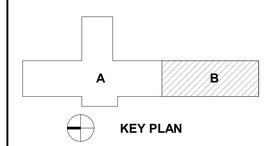
Raleigh, North Carolina 27607
919-866-4938



KEY PLAN

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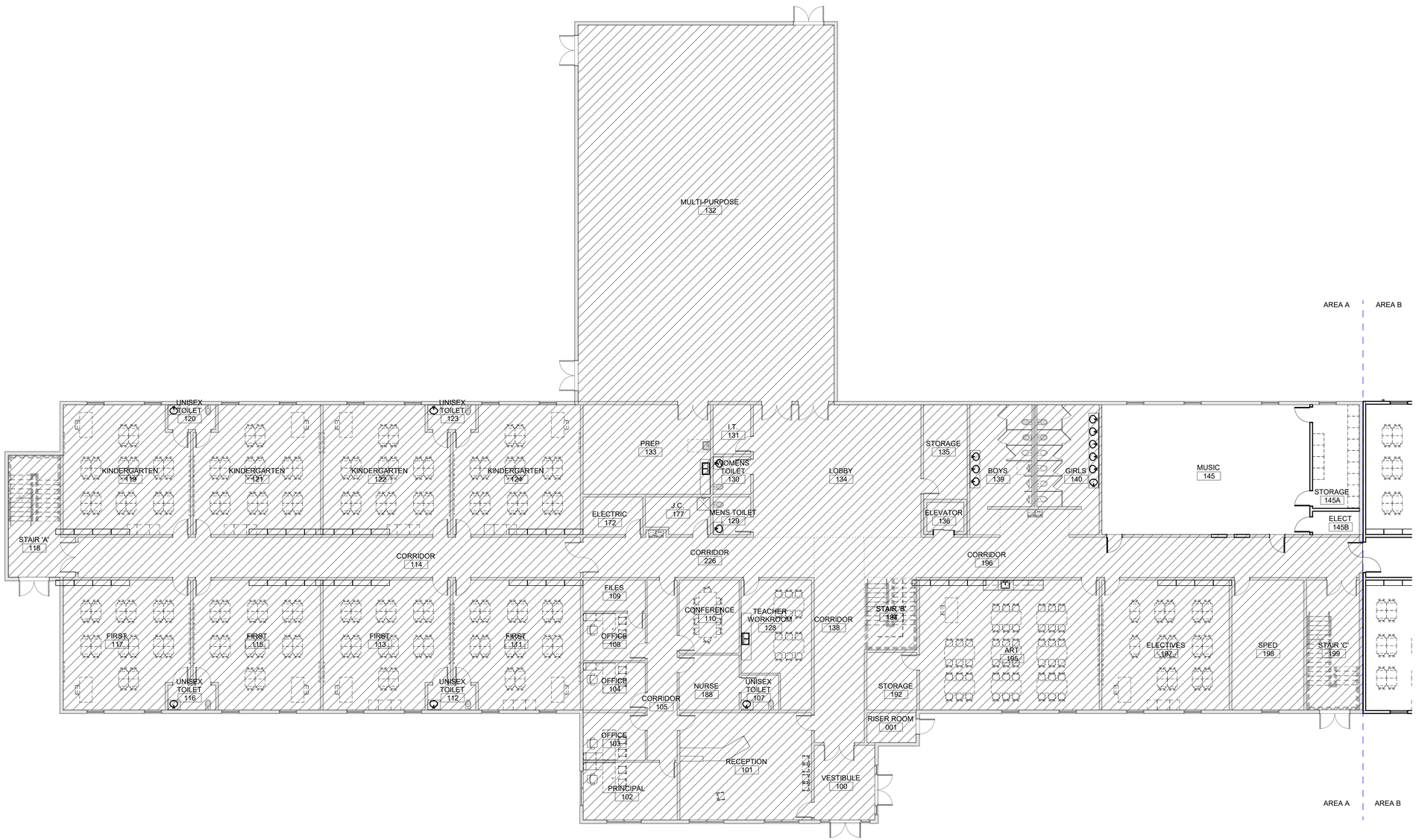
SHEET TITLE
SECOND FLOOR FINISH PLAN - AREA B

SHEET NUMBER
A-151B



A1 / A-170A

FIRST FLOOR EQUIPMENT PLAN-AREA A

3/32" = 1'-0"

FOR REFERENCE ONLY

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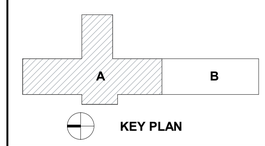
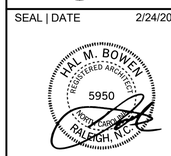


KEY PLAN

SEAL | DATE 2/24/2021



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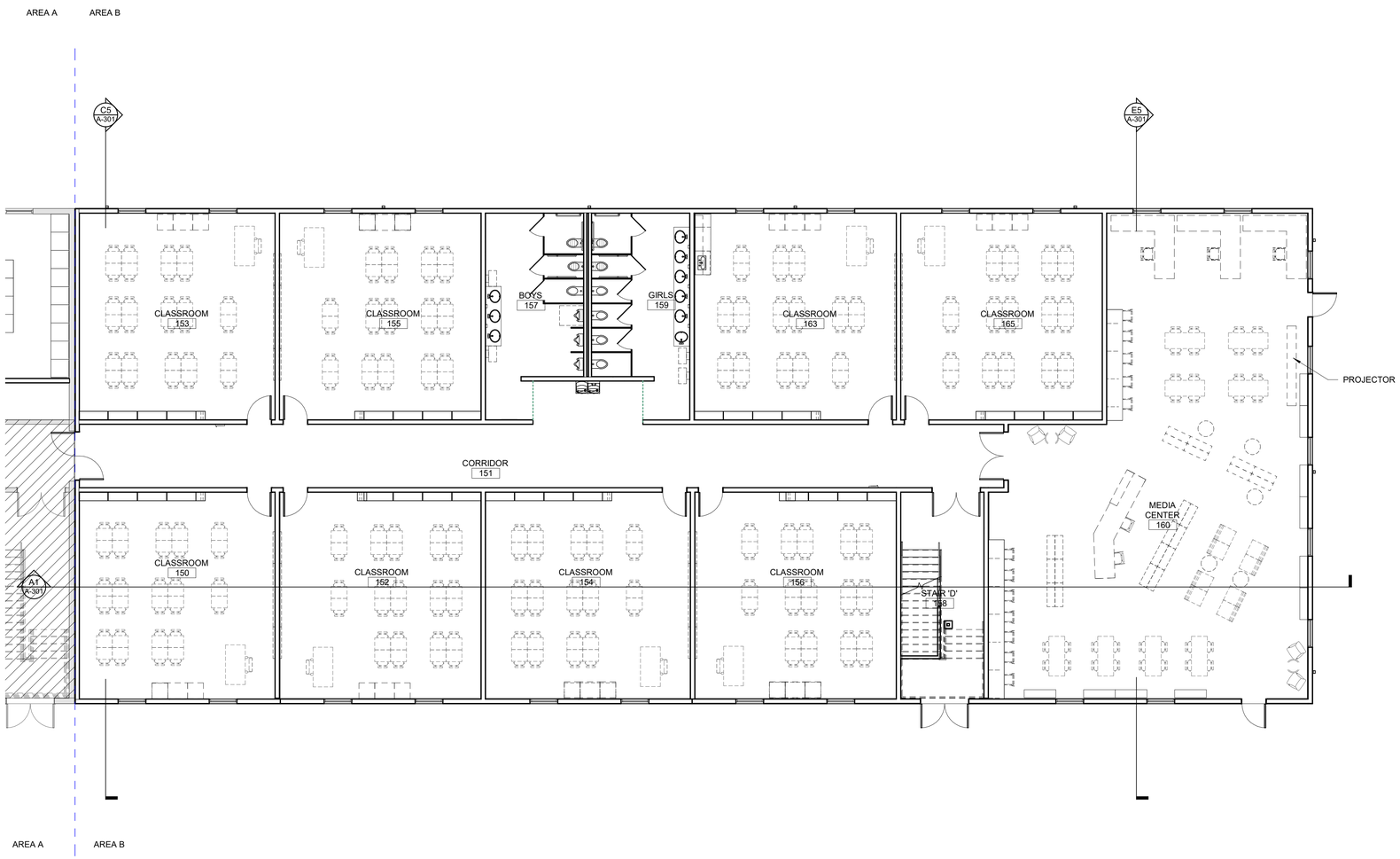
SHEET TITLE

FIRST FLOOR EQUIPMENT PLAN-AREA A

SHEET NUMBER

A-170A



2/24/2021 4:39:42 PM

A1
A-170B

FIRST FLOOR EQUIPMENT PLAN -AREA B

1/8" = 1'-0"

FOR REFERENCE ONLY

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746 East Winchester Street
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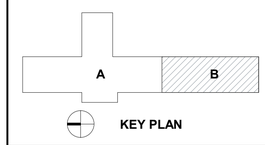

KEY PLAN

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SHEET TITLE

FIRST FLOOR EQUIPMENT PLAN -AREA B

SHEET NUMBER

A-170B

A1
A-171A

SECOND FLOOR EQUIPMENT PLAN -AREA A

3/32" = 1'-0"

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5950
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RALEIGH, N.C.

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SHEET TITLE

SECOND FLOOR EQUIPMENT PLAN - AREA A

SHEET NUMBER

A-171A

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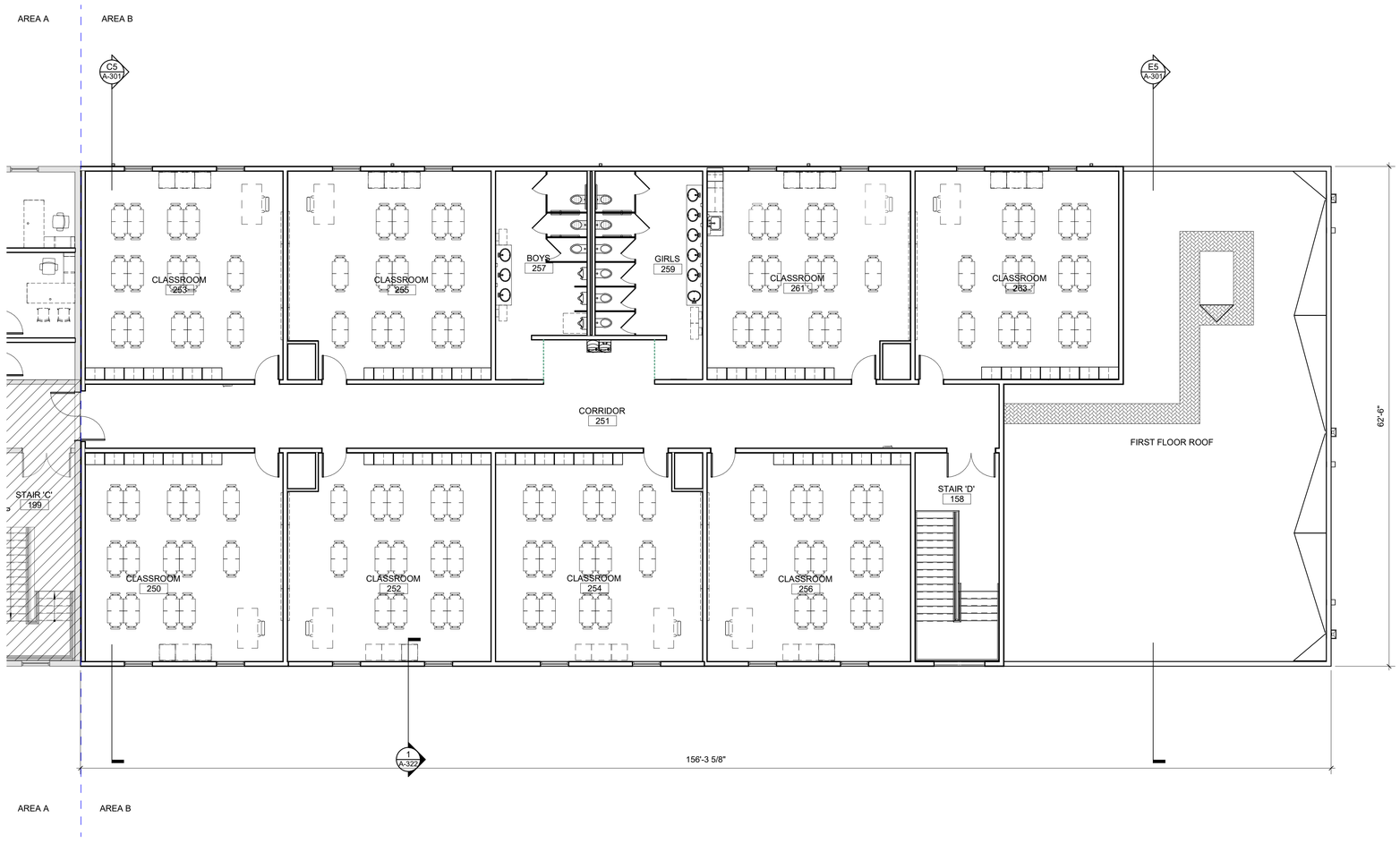

A1
A-171B

SECOND FLOOR EQUIPMENT PLAN - AREA B

1/8" = 1'-0"

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2/24/2021 4:39:45 PM

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SHEET TITLE

SECOND FLOOR EQUIPMENT PLAN-AREA B

SHEET NUMBER

A-171B

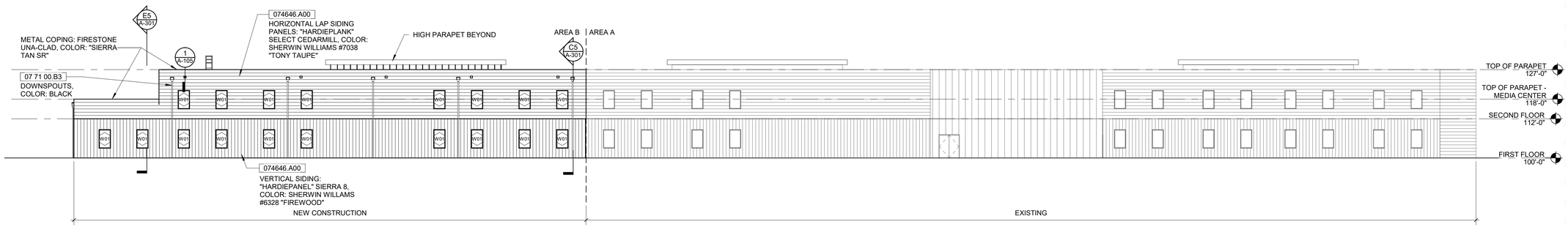
KEYNOTES (SPEC BASED)

061600.A00

07 71 00.B3	
074646.A00	FIBER-CEMENT SIDING
074646.B02	FIBER-CEMENT SIDING, FASCIA

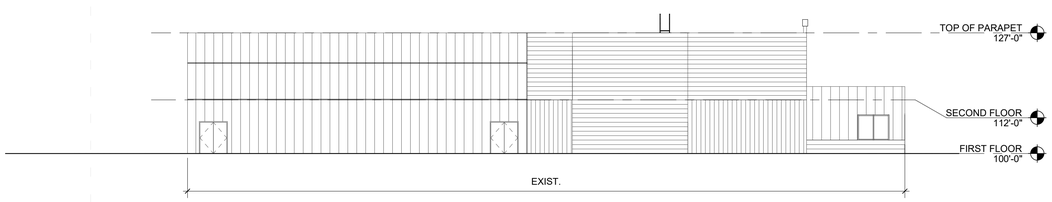
GLAZING SCHEDULE

GL-01	1" CLEAR INSULATING GLASS, LOW-E COATED, TEMPERED - EXTERIOR APPLICATIONS
GL-11	1/4" CLEAR TEMPERED GLASS - INTERIOR APPLICATIONS, WINDOWS AND DOORS
GL-12	3/16" LAMINATED CERAMIC GLASS



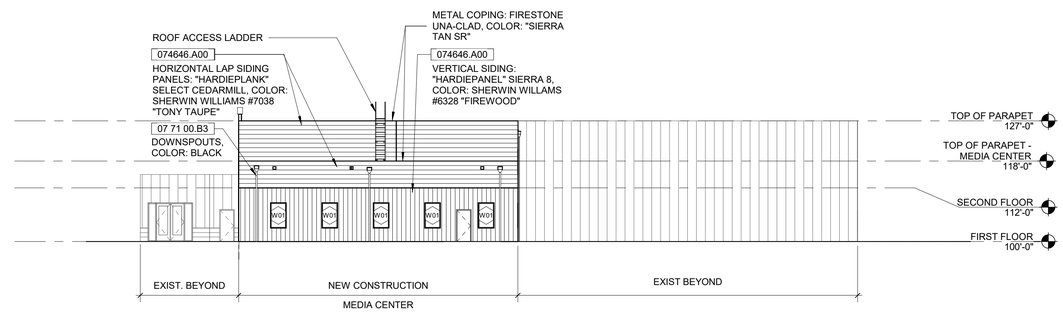
C1 A-201 **EAST ELEVATION**

1/16" = 1'-0"



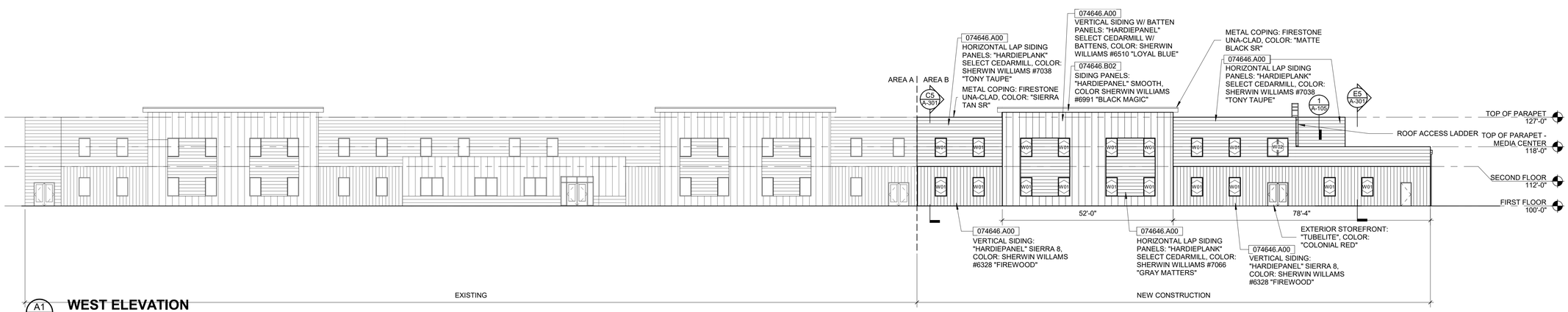
B1 A-201 **NORTH ELEVATION**

1/16" = 1'-0"



B5 A-201 **SOUTH ELEVATION**

1/16" = 1'-0"



A1 A-201 **WEST ELEVATION**

1/16" = 1'-0"

2/24/2021 4:47:50 PM

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Owner
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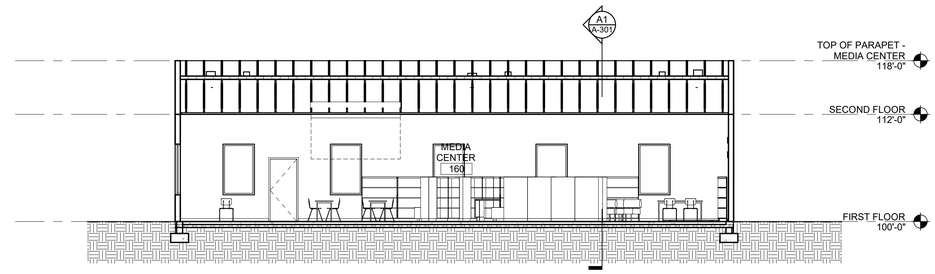
SHEET TITLE
EXTERIOR ELEVATIONS

SHEET NUMBER
A-201

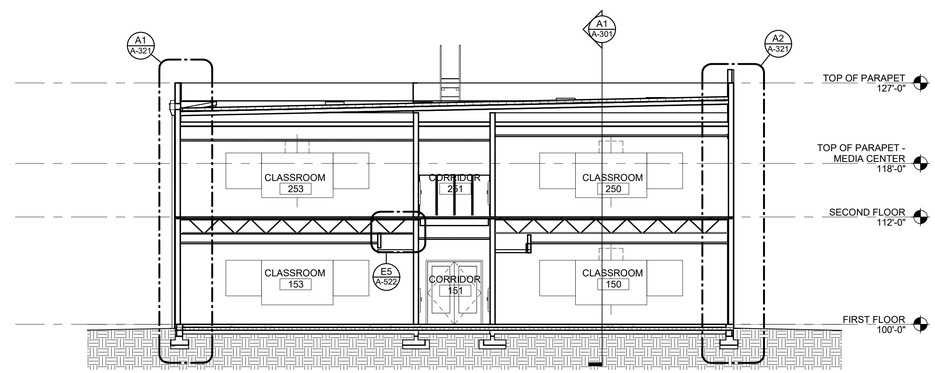
KEYNOTES (SPEC BASED)

061600.A00



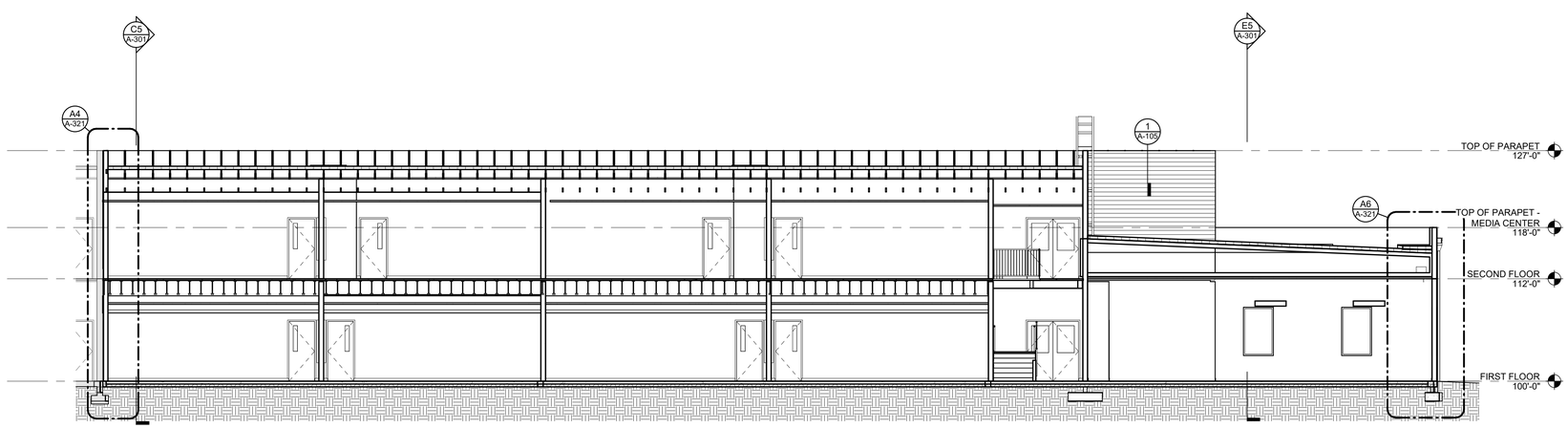
E5 A-301 **BS -Classroom Wing 2**

1/8" = 1'-0"



C5 A-301 **BS -Classroom Wing 1**

1/8" = 1'-0"



A1 A-301 **BS - Classroom Wing 3**

1/8" = 1'-0"

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PROJECT NO. 20408.000

SHEET TITLE

BUILDING SECTIONS

SHEET NUMBER

A-301

2/24/2021 4:47:56 PM

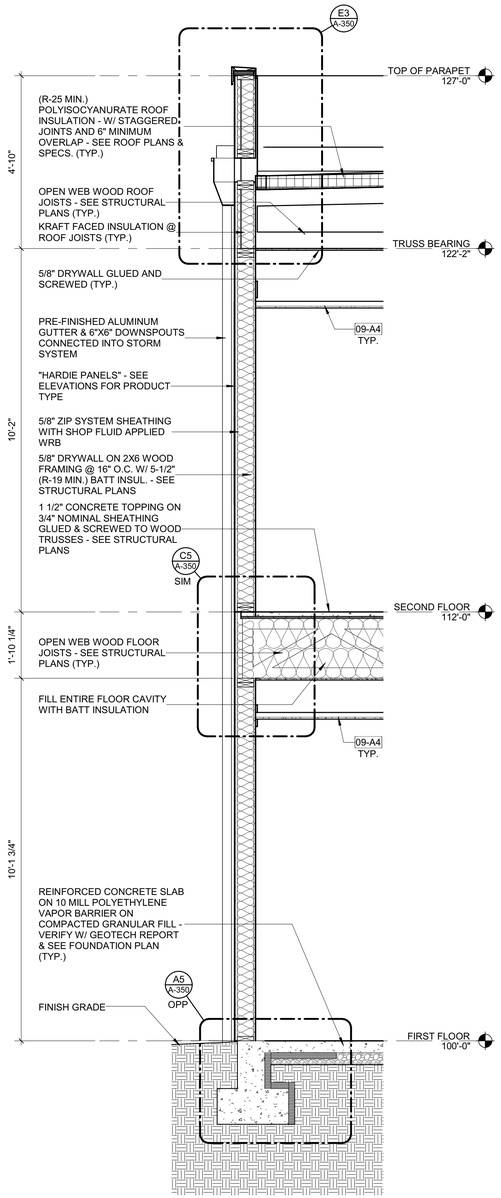
KEYNOTES (SPEC BASED)

061600.A00

KEYNOTES (ACTION/GENERAL)

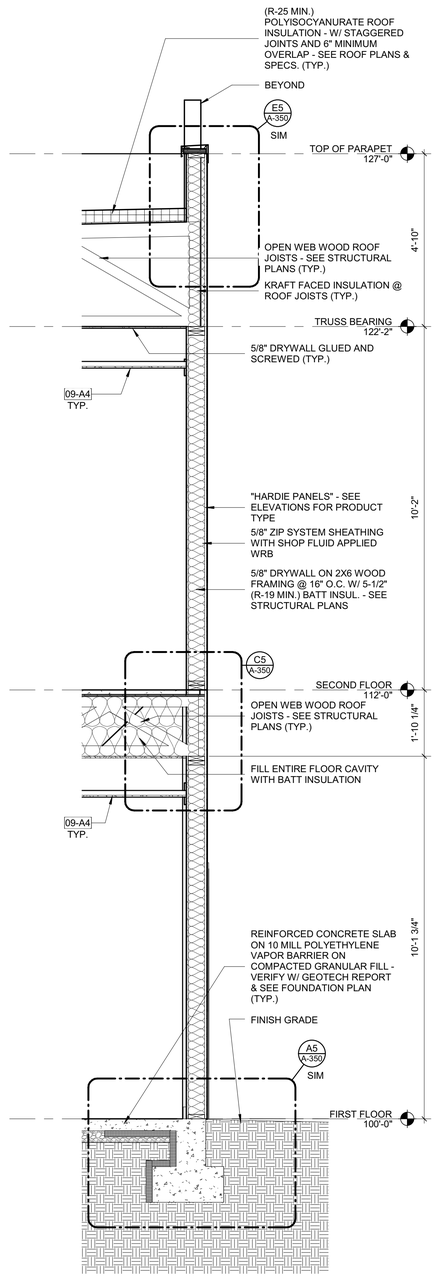
00-A1

00-D3	REFER TO EQUIPMENT PLAN FOR EQUIPMENT TYPE
09-A4	CEILING, REFER TO REFLECTED CEILING PLAN FOR TYPE



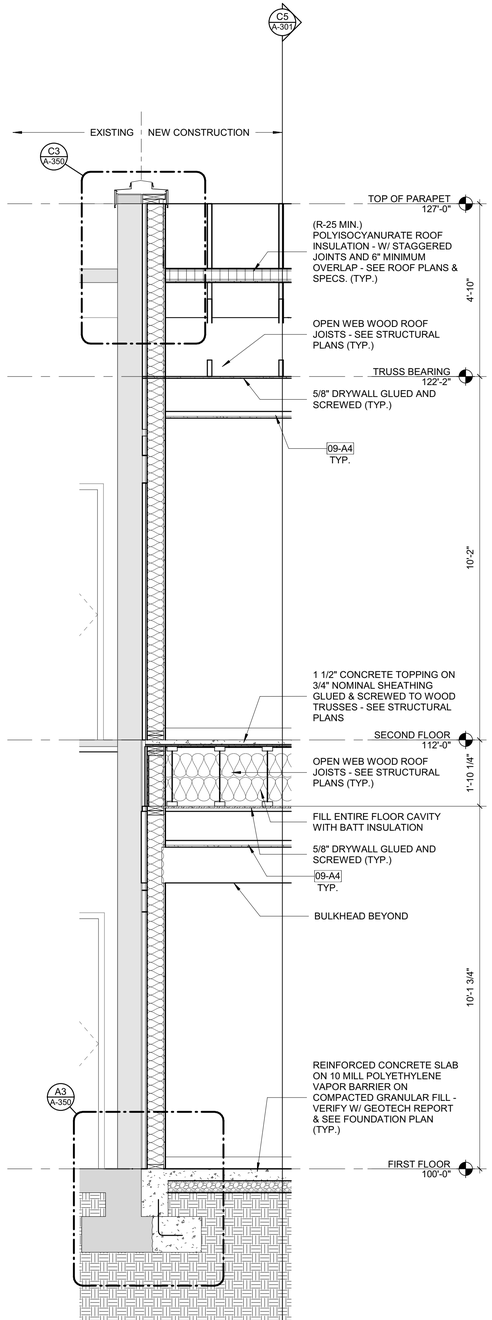
A1 A-321 **WALL SECTION @ CLASSROOM ADDITION**

1/2" = 1'-0"



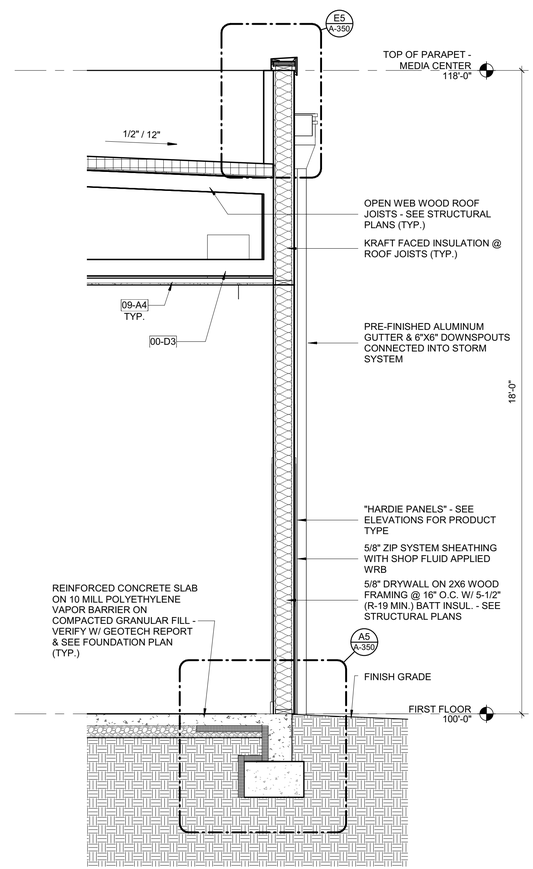
A2 A-321 **WALL SECTION @ CLASSROOM ADDITION**

1/2" = 1'-0"



A4 A-321 **WALL SECTION @ EXIST. WALL**

1/2" = 1'-0"



A6 A-321 **WALL SECTION @ MEDIA CENTER**

1/2" = 1'-0"

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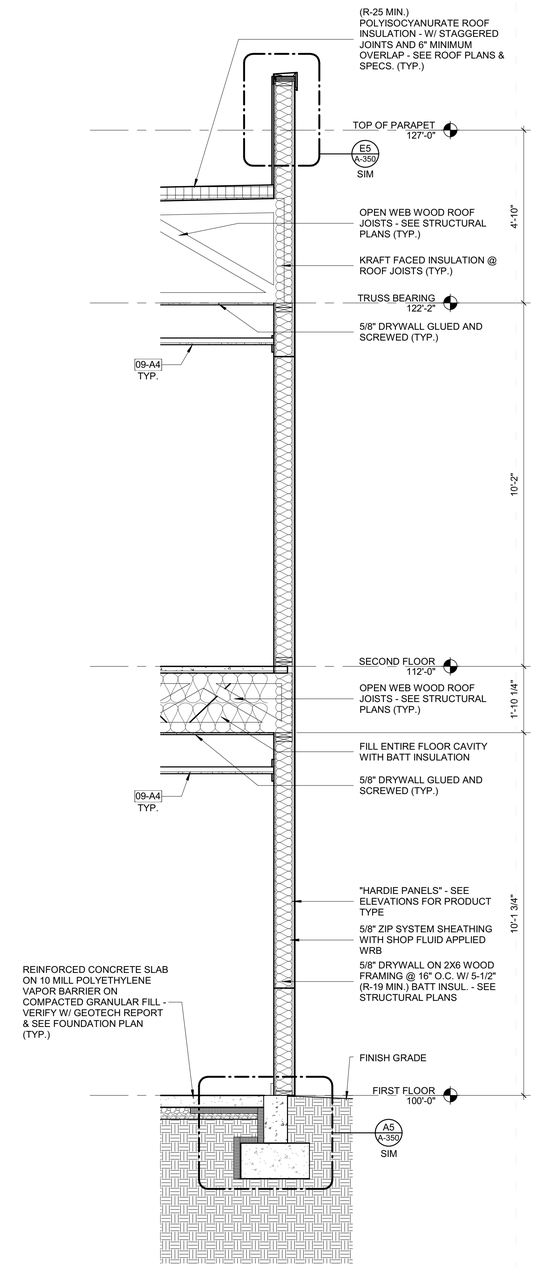
SHEET TITLE

WALL SECTIONS

SHEET NUMBER

A-321

2/25/2021 3:07:21 PM



1 A-322 **WALL SECTION**

1/2" = 1'-0"

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SHEET ISSUE

1	100% Construction Documents	2/24/2021

RATIO

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PROJECT NO. 20408.000

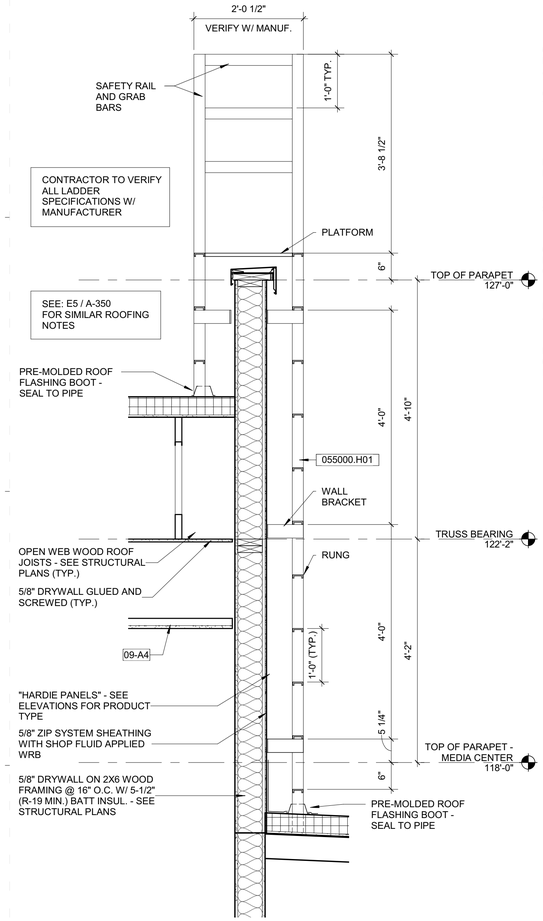
SHEET TITLE

WALL SECTIONS

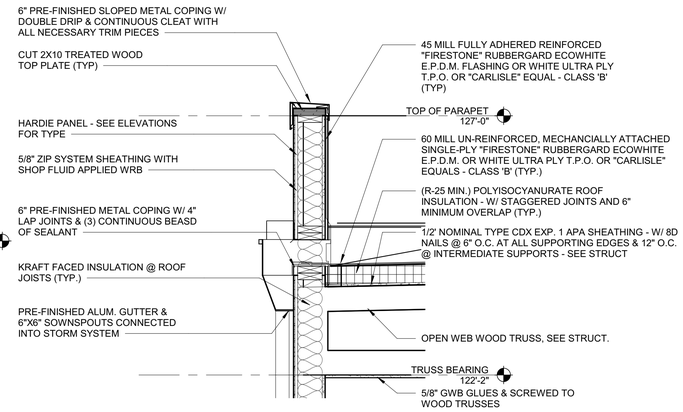
SHEET NUMBER

A-322

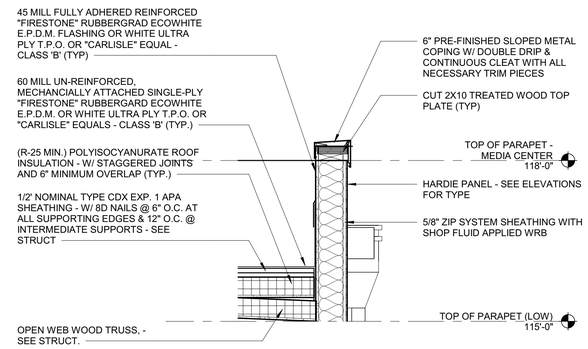
2/25/2021 3:08:33 PM



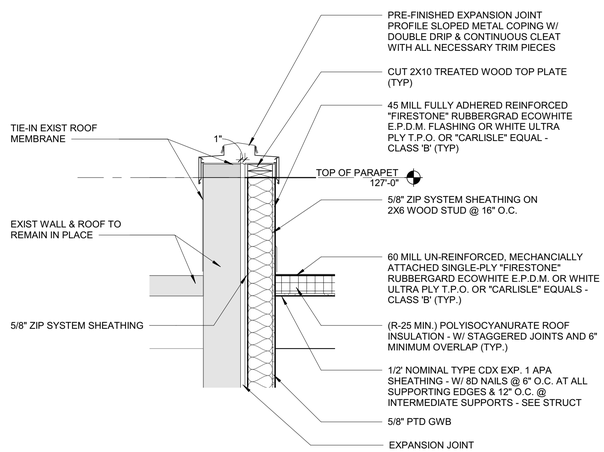
C1 A-350 **SECTION DETAIL - ROOF LADDER**
3/4" = 1'-0"



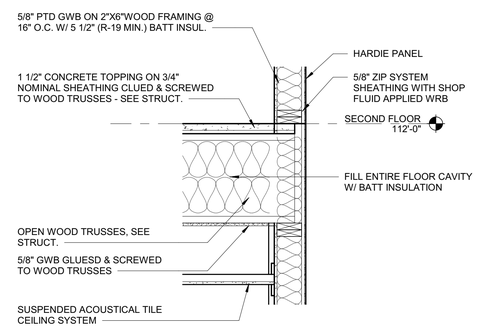
E3 A-350 **DETAIL @ DOWNSPOUT**
3/4" = 1'-0"



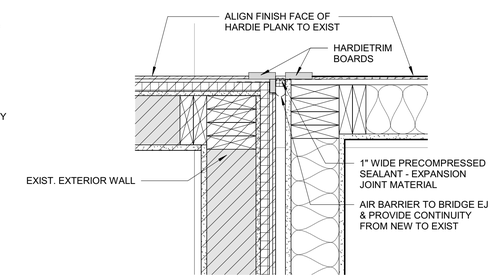
E5 A-350 **DETAIL @ PARAPET COPING, TYP.**
3/4" = 1'-0"



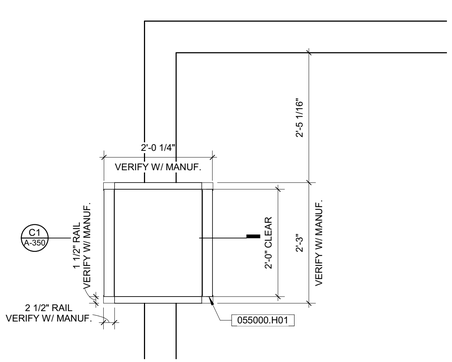
C3 A-350 **DETAIL @ EXIST. COPING**
3/4" = 1'-0"



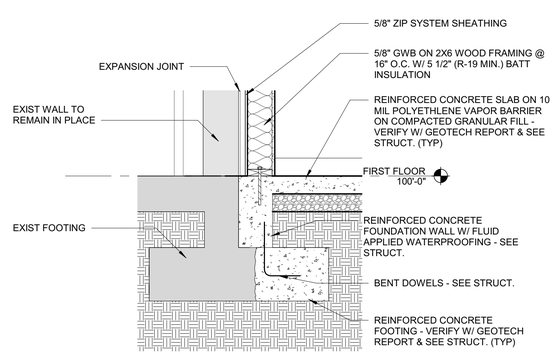
C5 A-350 **DETAIL @ SECOND FLOOR, TYP.**
3/4" = 1'-0"



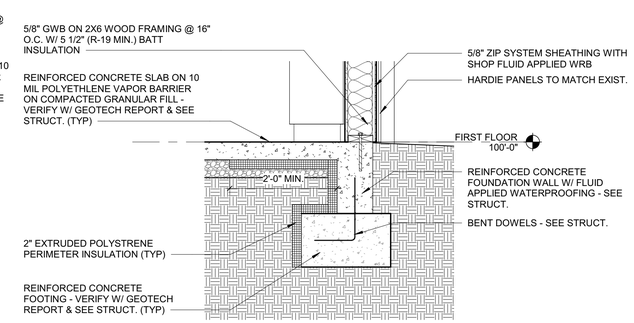
C6 A-350 **EXPANSION JOINT DETAIL**
1 1/2" = 1'-0"



A1 A-350 **PLAN DETAIL - ROOF LADDER**
3/4" = 1'-0"



A3 A-350 **DETAIL @ EXIST. FOOTING**
3/4" = 1'-0"



A5 A-350 **DETAIL @ FOOTING, TYP.**
3/4" = 1'-0"

KEYNOTES (SPEC BASED)

061600.A00

055000.H01	

Carolina Charter Academy Exp.

8529 Highway 55
Angier, North Carolina
27501

Owner
Highmark School Development
746 East Winchester Street
Suite 150
Murray, Utah 84107
801-256-9550

Architect
RATIO
227 Fayetteville Street, Suite 301
Raleigh, North Carolina 27601
919-821-0805

Structural Engineer
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Raleigh, North Carolina 27603
919-782-1833

Civil Engineer
Timmons Group
5410 Trinity Road
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Raleigh, North Carolina 27607
919-866-4938

SEAL | DATE 2/24/2021

HAL M. BOWEN REGISTERED ARCHITECT 5950 RALEIGH, N.C.

SHEET ISSUE

1	100% Construction Documents	2/24/2021

RATIO

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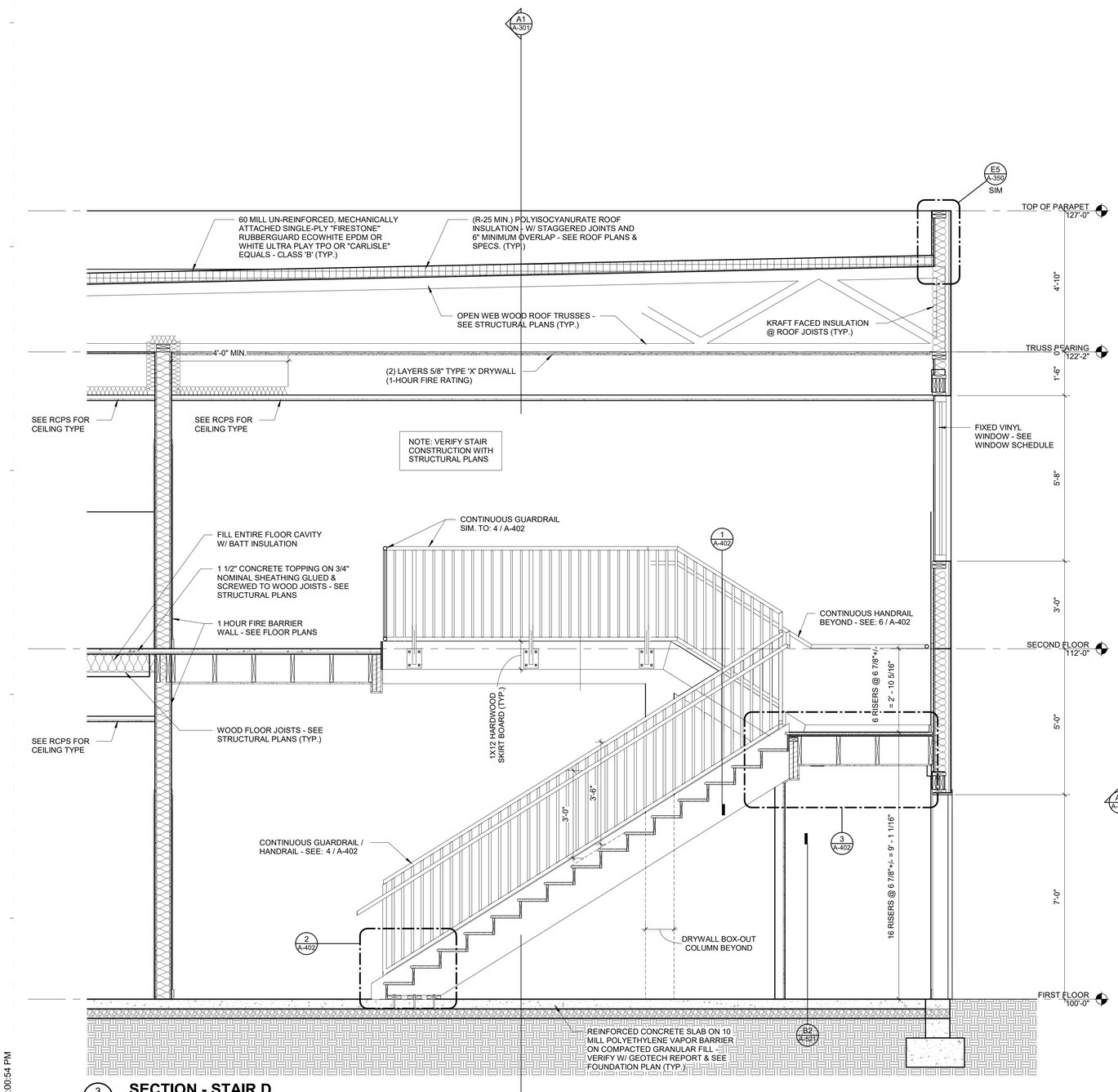
PROJECT NO. 20408.000

SHEET TITLE
EXTERIOR DETAILS

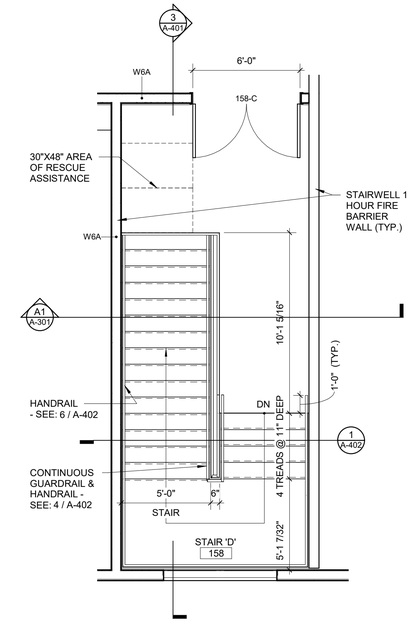
SHEET NUMBER
A-350

2/25/2021 3:05:48 PM



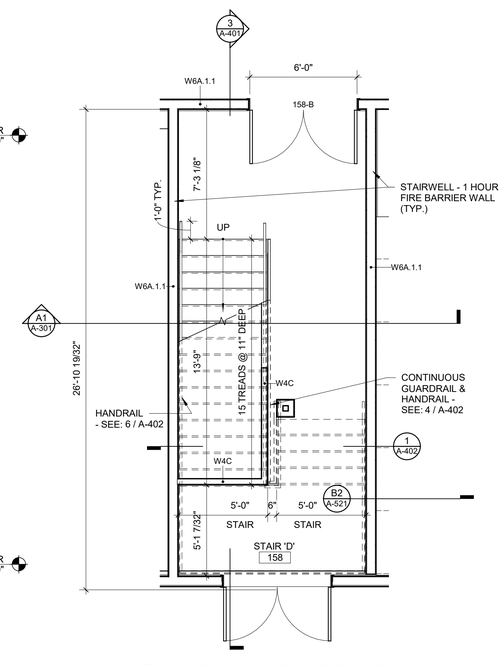
3 A-401 **SECTION - STAIR D**

1/2" = 1'-0"



2 A-401 **STAIR D - SECOND FLOOR**

1/4" = 1'-0"



1 A-401 **STAIR D - FIRST FLOOR**

1/4" = 1'-0"

KEYNOTES (SPEC BASED)

061600.A00

A-501
C1

A-501
C1

Carolina Charter Academy Exp.

8529 Highway 55
Angier, North Carolina
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Owner
Highmark School Development
746 East Winchester Street
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SEAL | DATE 2/8/2021

HAL M. BOWEN
REGISTERED ARCHITECT
5950
NORTH CAROLINA
RALEIGH, N.C.

SHEET ISSUE

1	50% Construction Documents	2/8/2021

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PROJECT NO. 20408.000

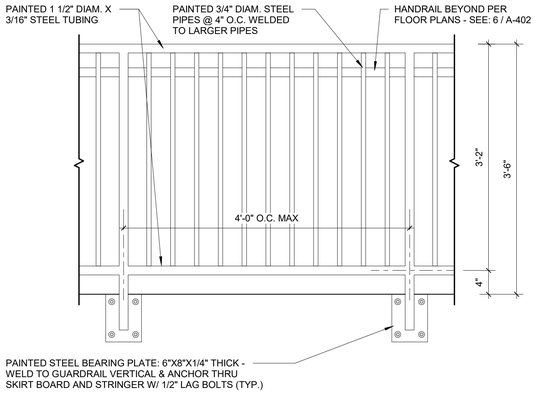
SHEET TITLE

ENLARGED STAIR PLANS AND SECTIONS

SHEET NUMBER

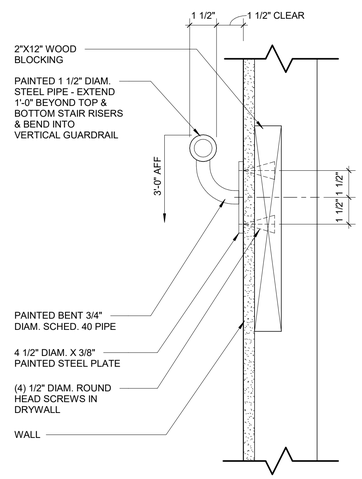
A-401

2/24/2021 5:00:54 PM



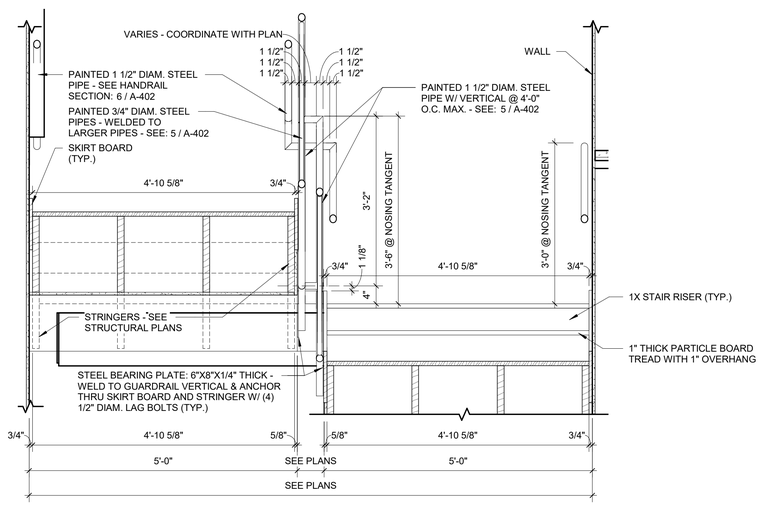
4 / A-402 **PICKET GUARDRAIL - FACE ANCHOR**

1" = 1'-0"



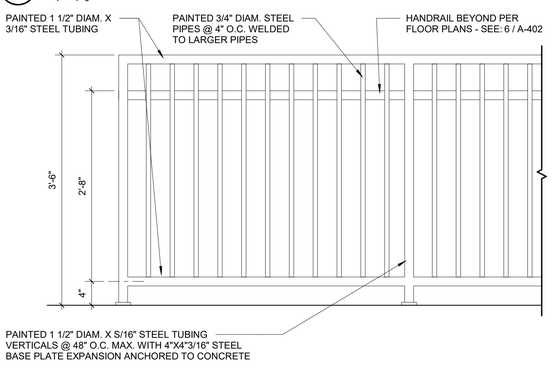
6 / A-402 **WALL MOUNTED HANDRAIL DETAIL**

3" = 1'-0"



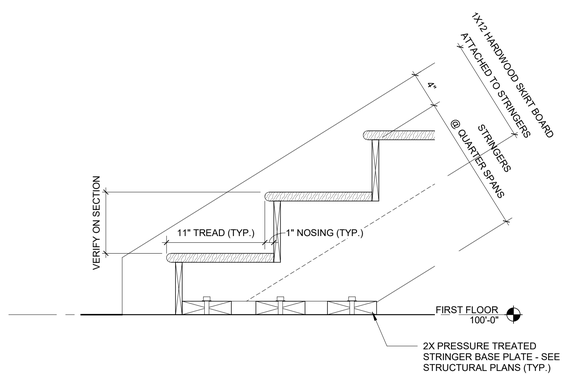
1 / A-402 **STAIR GUARDRAIL / HANDRAIL CROSS SECTION**

3/4" = 1'-0"



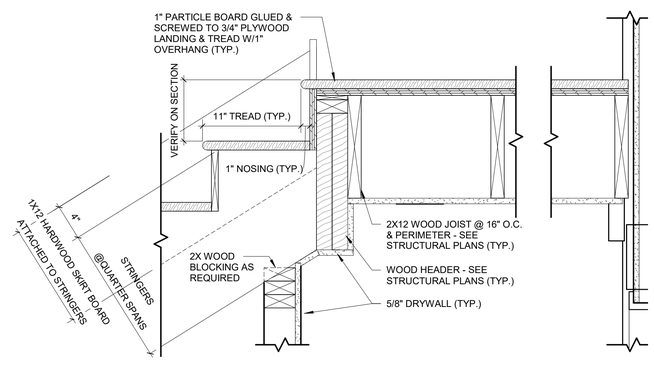
5 / A-402 **PICKET GUARDRAIL - TOP ANCHOR**

1" = 1'-0"



2 / A-402 **STAIR DETAIL @ BOTTOM**

1 1/2" = 1'-0"



3 / A-402 **STAIR DETAIL @ LANDING**

1 1/2" = 1'-0"

2/24/2021 4:51:53 PM

Carolina Charter Academy Exp.

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5410 Trinity Road
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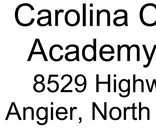
919-866-4938

SEAL | DATE 2/24/2021



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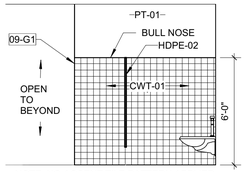
PROJECT NO. 20408.000

SHEET TITLE

STAIR DETAILS

SHEET NUMBER

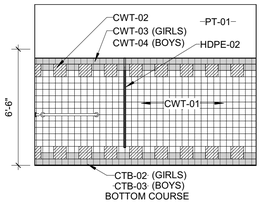
A-402



NOTE: NO ACCENT TILE PATTERN APPLIED

D1 / A-411 INTERIOR ELEVATION - TOILET ROOM

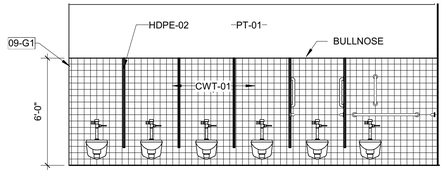
1/4" = 1'-0"



TYPICAL WALL ACCENT TILE PATTERN

C1 / A-411 INTERIOR ELEVATION - TOILET ROOM NORTH

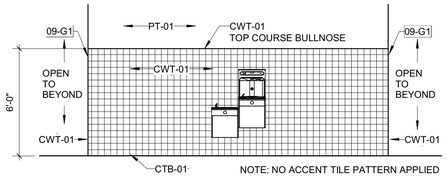
1/4" = 1'-0"



TYPICAL WALL ACCENT TILE PATTERN-SEE C1/A-4111

C2 / A-411 INTERIOR ELEVATION - TOILET TOOM

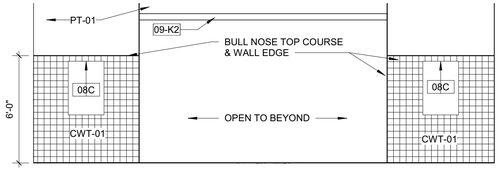
1/4" = 1'-0"



NOTE: NO ACCENT TILE PATTERN APPLIED

B1 / A-411 INTERIOR ELEVATION - TOILET ROOM ENTRY

1/4" = 1'-0"



TYPICAL WALL ACCENT TILE PATTERN-SEE C1/A-4111

B2 / A-411 INTERIOR ELEVATION - TOILET ROOM AT MIRROR

1/4" = 1'-0"

TOILET ROOM ACCESSORIES

05A

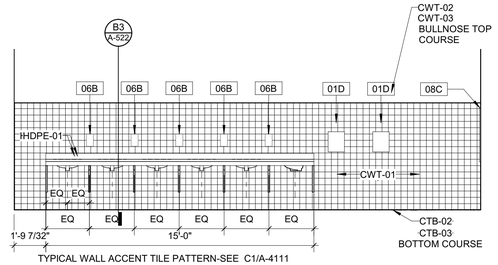
REFER TO SHEET A-002 FOR TOILET COMPARTMENT TYPES AND ACCESSORIES

TAG	DESCRIPTION	MFR	MODEL NO.	PROVIDED AND INSTALLED BY
01D	PAPER TOWEL DISPENSER, SURFACE MOUNTED	BOBRICK	B-4262	OWNER
05A	GRAB BAR, 42"	BOBRICK	B-5806 x 42	CONTRACTOR
05B	GRAB BAR, 36"	BOBRICK	B-5806 x 36	CONTRACTOR
05D	GRAB BAR, 18"	BOBRICK	B-5806 x 18	CONTRACTOR
06B	SOAP DISPENSER, WALL MOUNTED	BOBRICK	B-2111	OWNER
08C	MIRROR, CUSTOM	PER SPECIFICATIONS	N/A	OWNER

WALL TILE LEGEND

- CWT-01 (FIELD)
  CTB-01 (FIELD)
- CWT-03 (ACCENT "A")
  *TOP COURSE BULLNOSE
- CWT-04 (ACCENT "B")
  *TOP COURSE BULLNOSE
- CTB-02 (ACCENT "A")
- CTB-03 (ACCENT "B")
- CWT-02 (ACCENT "C")

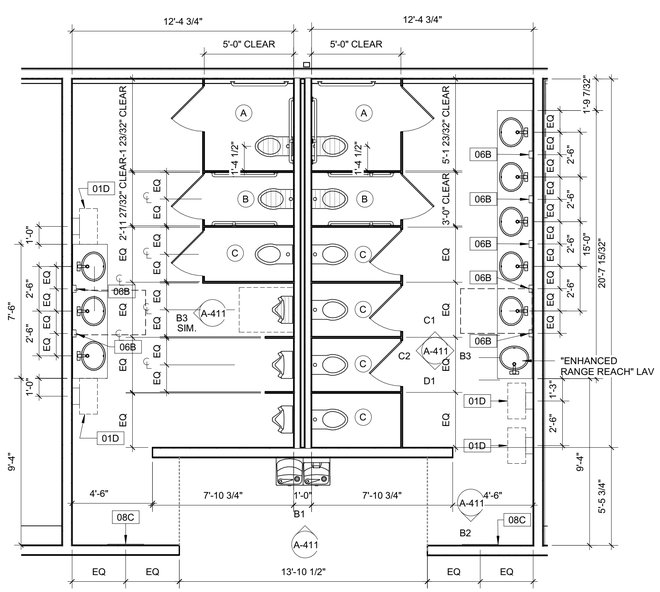
*ACCENT WALL TILE APPLIED TO ALL WALLS IN BATHROOMS U.N.O.



TYPICAL WALL ACCENT TILE PATTERN-SEE C1/A-4111

B3 / A-411 INTERIOR ELEVATION - TOILET ROOM EAST

1/4" = 1'-0"



A1 / A-411 ENLARGED TOILET PLAN

1/4" = 1'-0"

KEYNOTES (SPEC BASED)

061600.A00

KEYNOTES (ACTION/GENERAL)

00-A1

09-G1	WALL FINISH TO WRAP AROUND CORNER
09-K2	PAINTED, MATCH SURROUNDING ELEMENTS

GENERAL TOILET ROOM NOTES

A. REFERENCE STANDARD PLUMBING FIXTURE REQUIREMENTS AND STANDARD TOILET TOOM ACCESSORY MOUNTING HEIGHTS ON A-001 FOR ADDITIONAL INFORMATION UNLESS OTHERWISE NOTED.
B. REFERENCE STANDARD TOILET COMPARTMENTS - TYPICAL ACCESSORIES ON A-002 FOR TOILET ROOM ACCESSORIES LOCATED IN STALLS.
C. B1/A411 WALL TILE PATTERN TO BE APPLIED IN BOTH BATHROOMS. SEE WALL TILE LEGEND FOR FINISH TAG/COLORS
D. SEE NOTES IN TOILET ACCESSORY SCHEDULE FOR PROVIDED AND INSTALLED BY INFORMATION.

Carolina Charter Academy Exp.

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Architect
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Structural Engineer
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919-782-1833

Civil Engineer
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5410 Trinity Road
Suite 102
Raleigh, North Carolina 27607
919-866-4938

SEAL | DATE 2/24/2021

HAL M. BOWEN REGISTERED ARCHITECT 5950 RALEIGH, N.C.

CODE CERT.
I HEREBY CERTIFY THAT THE BUILDING CODE SUMMARY COMPLETED ON THIS PAGE IS ACCURATE FOR THE TYPE OF BUILDING AND OCCUPANCY INTENDED FOR THIS PROJECT AND THAT THESE PLANS ARE COMPLETE AND COMPLY WITH ALL APPLICABLE STATE AND LOCAL BUILDING REGULATIONS

SHEET ISSUE

1	100% Construction Documents	2/24/2021

RATIO

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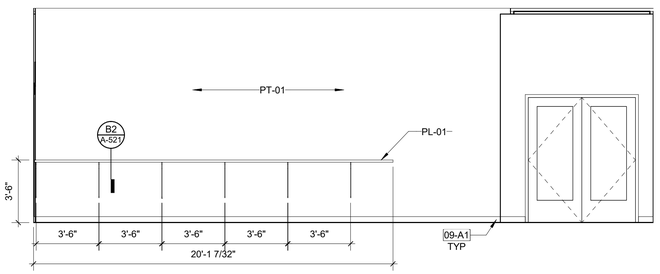
PROJECT NO. 20408.000

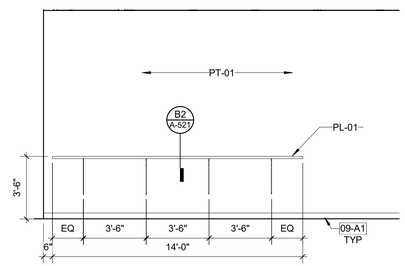
SHEET TITLE
ENLARGED TOILET PLANS

SHEET NUMBER
A-411

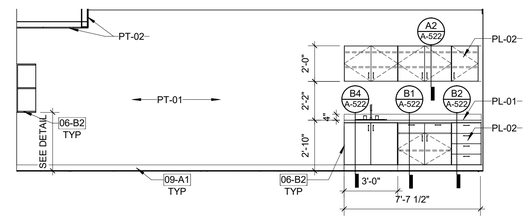
2/26/2021 6:31:35 AM



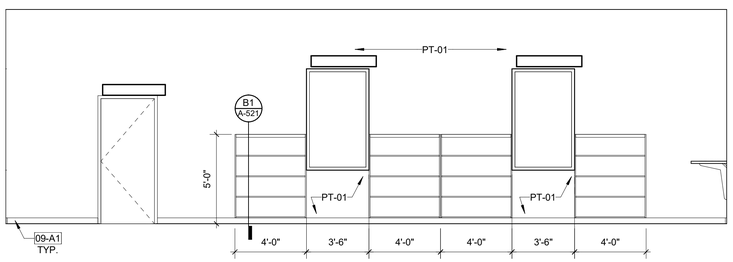
D1 A-501 **INTELEV-MEDIA CENTER WEST**
1/4" = 1'-0"



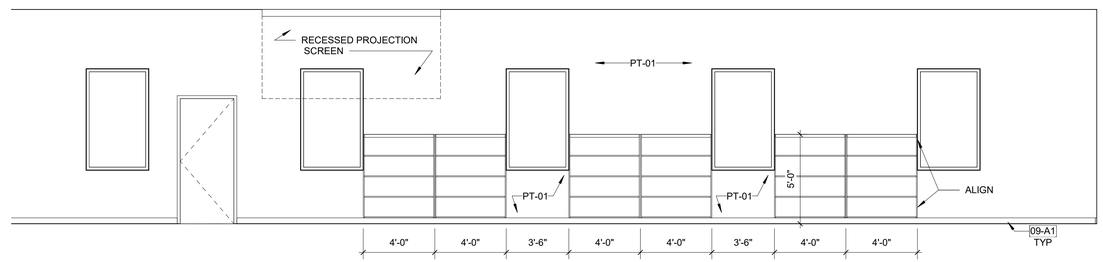
D2 A-501 **INTELEV-MEDIA COUNTER WEST 2**
1/4" = 1'-0"



D3 A-501 **INTELEV-CLASSROOM 163/263**
1/4" = 1'-0"

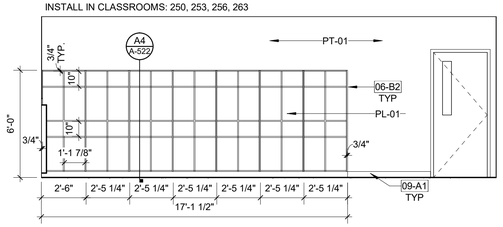


C1 A-501 **INTELEV-MEDIA CENTER**
1/4" = 1'-0"

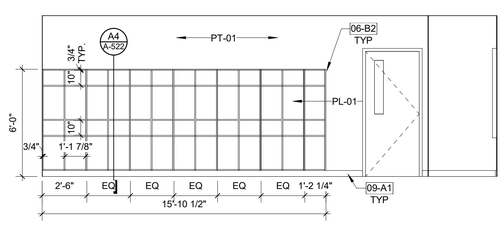


C2 A-501 **INTELEV-MEDIA CENTER EAST**
1/4" = 1'-0"

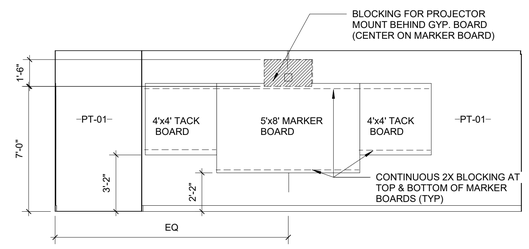
INSTALL IN CLASSROOMS: 250, 253, 256, 263



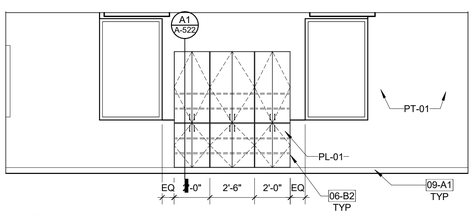
B1 A-501 **INTELV-TYP CLASSROOM CUBBIES -UPPER GRADES**
1/4" = 1'-0"



B2 A-501 **INTELEV-MIDDLE SCHOOL CUBBIES WITH CHASE**
1/4" = 1'-0"

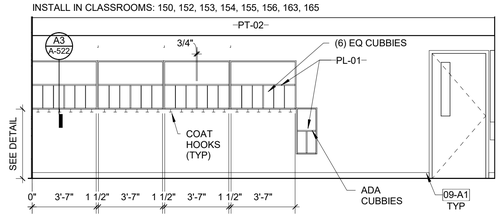


B3 A-501 **INTELEV-2ND FLOOR TEACHING WALL WITH CHASE**
1/4" = 1'-0"

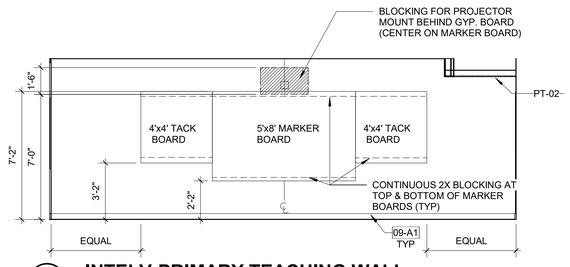


A1 A-501 **INTELEV-TYP CLASSROOM CASE**
1/4" = 1'-0"

INSTALL IN CLASSROOMS: 150, 152, 153, 154, 155, 156, 163, 165



A2 A-501 **INTELV-TYP CLASSROOM CUBBIES**
1/4" = 1'-0"



A3 A-501 **INTELV-PRIMARY TEACHING WALL**
1/4" = 1'-0"

KEYNOTES (SPEC BASED)

061600.A00

KEYNOTES (ACTION/GENERAL)

00-A1

06-B2	PROVIDE FINISHED END PANEL AT EXPOSED CASEWORK END
09-A1	WALL BASE, REFER TO FINISH PLAN FOR TYPE

GENERAL CASEWORK NOTES

A. PROVIDE FINISHED END PANELS AT ALL EXPOSED CABINET ENDS.
B. PROVIDE FILLER PANELS BETWEEN CORNER CABINETS AND BETWEEN CABINETS AND WALLS, UNLESS NOTED OTHERWISE
C. PROVIDE SEALANT BETWEEN BACKSPLASH AND COUNTER AT PERIMETER WALLS.
D. PROVIDE COUNTERTOP SUPPORT BRACKETS AS REQUIRED UNLESS NOTED OTHERWISE ON ELEVATIONS. BRACKETS TO BE SPACED 48" ON CENTER, MINIMUM.
E. COORDINATE FINAL ELECTRICAL AND DATA OUTLET LOCATIONS IN CASEWORK/MILLWORK WITH OWNERPRIOR TO INSTALLATION.
F. PROVIDE FINISHED END PANELS, FILLERS, SUPPORTS, ETC. REQUIRED FOR A COMPLETE CABINETRY INSTALLATION.
G. PROVIDE CUTOUTS, ACCESS PANELS AND REMOVABLE COMPONENTS AS REQUIRED BY NEW OR EXISTING CONDITIONS SUCH AS ELECTRICAL OUTLETS, JUNCTION BOXES, CLEANOUTS, ETC.
H. MOUNT TOP OF WALL CABINETS AT +7'-0" A.F.F. UNLESS NOTED OTHERWISE.
I. PROVIDE GROMMETS IN COUNTERTOPS WHERE ELECTRICAL OR COMMUNICATIONS OUTLETS ARE INDICATED IN KNEE SPACE BELOW. GROMMETS TO BE INSTALLED IN FIELD. VERIFY ALL LOCATIONS WITH OWNER PRIOR TO INSTALL.
J. ALL TOE KICKS TO BE 4" HIGH AFF AND 3" DEEP, UNLESS NOTED OTHERWISE.
K. ALL CABINET INTERIORS TO BE WHITE MELAMINE UNLESS NOTED OTHERWISE. TRASH AND RECYCLE CABINET INTERIORS SHALL BE BLACK MELAMINE, UNLESS NOTED OTHERWISE.
L. FINAL KEYING TO CABINET DOORS AND DRAWERS TO BE PROVIDED BY OWNER,PRIOR TO MANUFACTURING.

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919-821-0805

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919-782-1833

Civil Engineer
Timmons Group
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Raleigh, North Carolina 27607
919-866-4938

SEAL | DATE 2/24/2021

HAL M. BOWEN REGISTERED ARCHITECT 5950 RALEIGH, N.C.

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SHEET ISSUE

1	100% Construction Documents	2/24/2021

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PROJECT NO. 20408.000

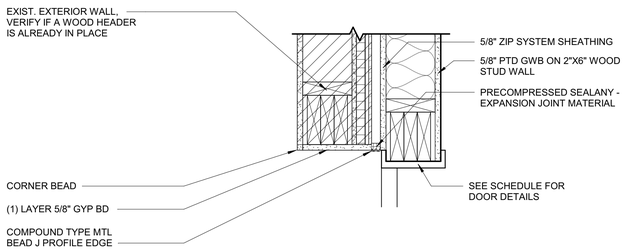
SHEET TITLE
INTERIOR ELEVATIONS

SHEET NUMBER
A-501

2/24/2021 5:02:31 PM

KEYNOTES (SPEC BASED)

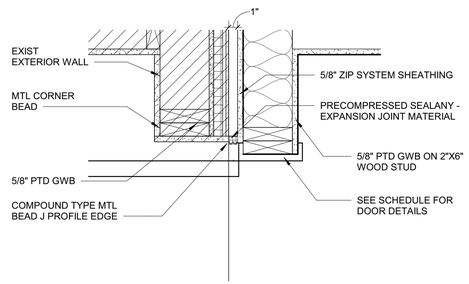
061600.A00



D1 / A-521

EXPANSION JOINT DETAIL AT DOOR HEAD CONDITION

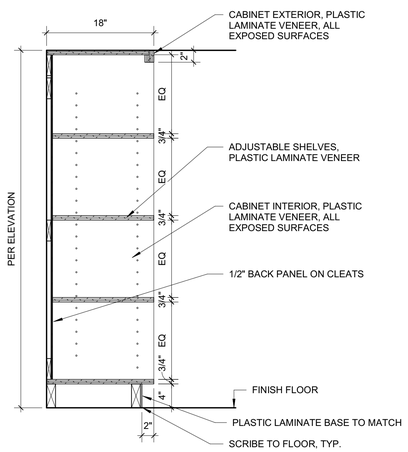
1 1/2" = 1'-0"



D3 / A-521

EXPANSION JOINT DETAIL AT JAMB CONDITION

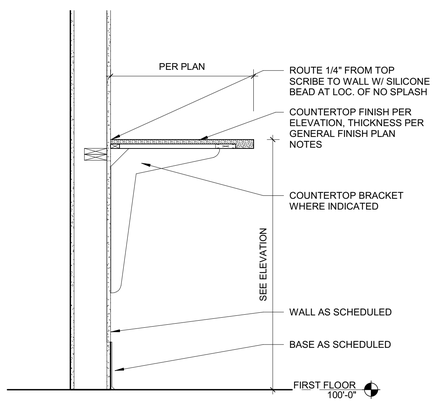
1 1/2" = 1'-0"



B1 / A-521

SECTION-MEDIA CENTER SHELVING

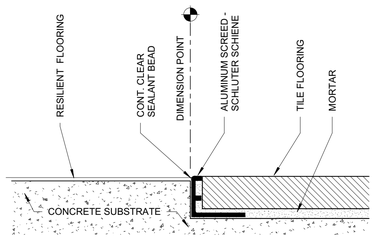
1" = 1'-0"



B2 / A-521

SECDTL-COUNTERTOP BRACKET SUPPORT

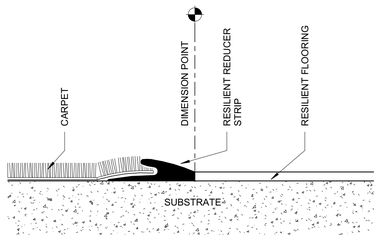
1" = 1'-0"



A1 / A-521

RESILIENT TO TILE

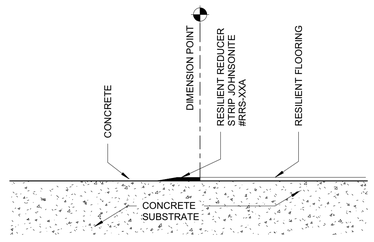
12" = 1'-0"



A2 / A-521

CARPET TO RESILIENT

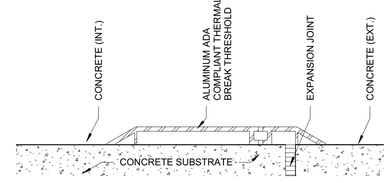
12" = 1'-0"



A3 / A-521

CONCRETE TO RESILIENT

12" = 1'-0"



A4 / A-521

CONCRETE (INT.) TO CONCRETE (EXT.)

6" = 1'-0"

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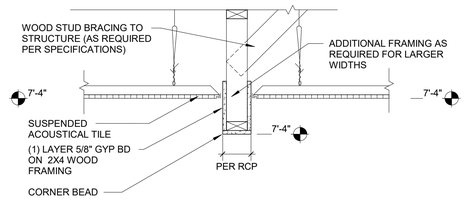
PROJECT NO. 20408.000

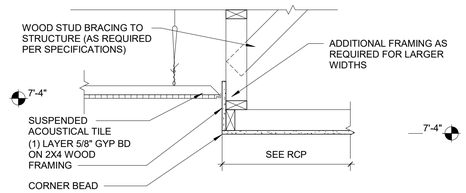
SHEET TITLE
INTERIOR DETAILS

SHEET NUMBER
A-521

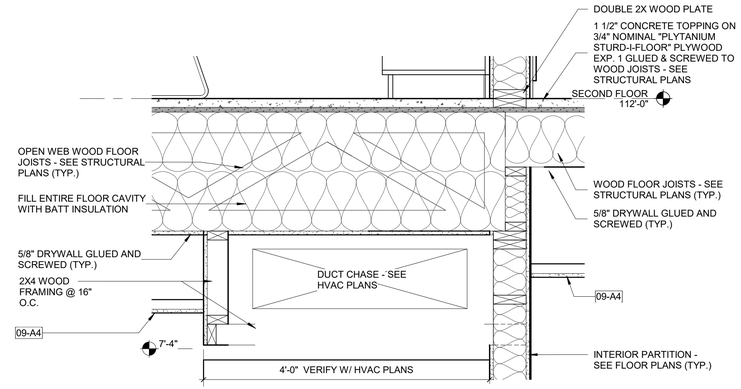
2/25/2021 3:03:33 PM



E1 A-522 **CEILING AT BULKHEAD**
1" = 1'-0"



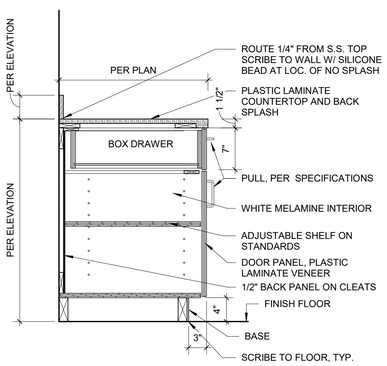
E2 A-522 **CEILING AT BULKHEAD**
1" = 1'-0"



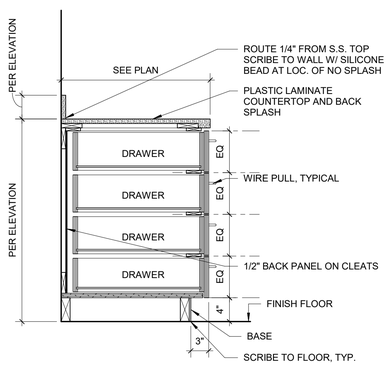
E5 A-522 **SECTION DETAIL - DUCT BULKHEAD**
1" = 1'-0"

KEYNOTES (SPEC BASED)

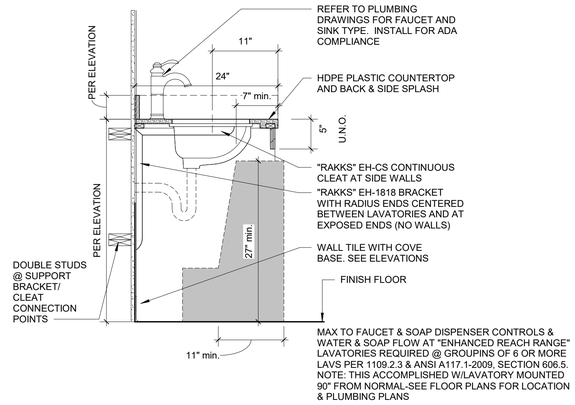
061600.A00



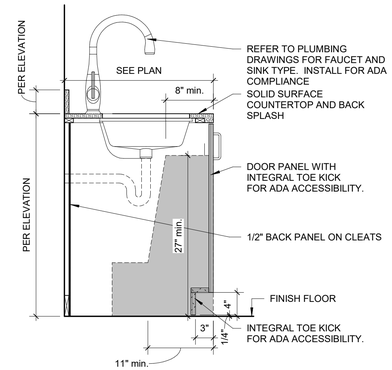
B1 A-522 **BASE CABINET - ONE DRAWER**
1" = 1'-0"



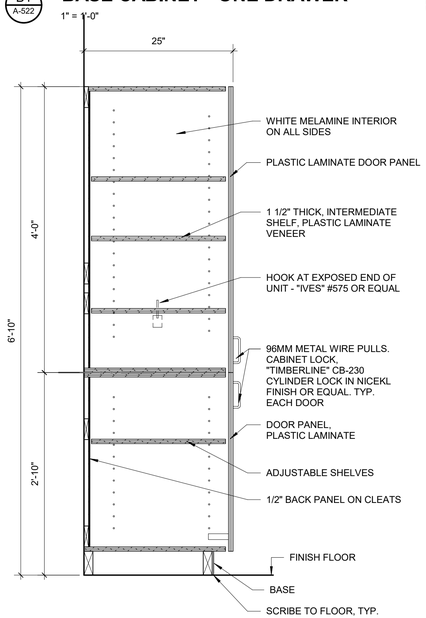
B2 A-522 **DRAWER BASE CABINET**
1" = 1'-0"



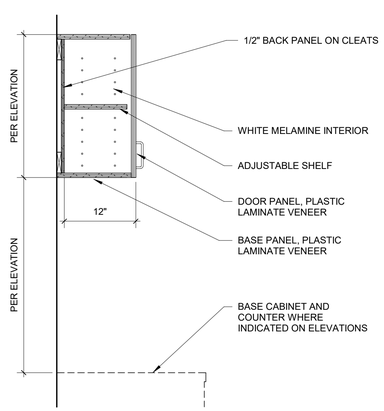
B3 A-522 **TYP. RESTROOM SINK BASE ADA**
1" = 1'-0"



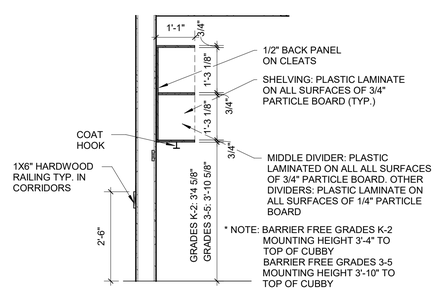
B4 A-522 **TYP. KITCHEN SINK BASE ADA**
1" = 1'-0"



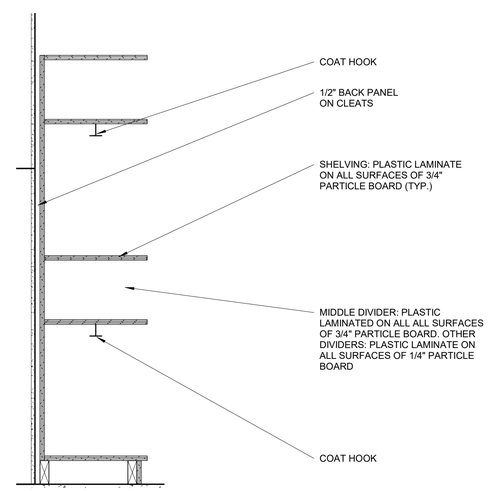
A1 A-522 **SUPPLY CABINET**
1" = 1'-0"



A2 A-522 **UPPER CABINET**
1" = 1'-0"



A3 A-522 **1ST FLOOR CUBBIES**
1/2" = 1'-0"



A4 A-522 **SECDTL-2ND FLOOR CUBBIES**
1" = 1'-0"

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SEAL | DATE 2/24/2021

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SHEET ISSUE

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PROJECT NO. 20408.000

SHEET TITLE
INTERIOR DETAILS

SHEET NUMBER
A-522

2/24/2021 5:02:39 PM

DOOR HARDWARE SCHEDULE								
Door Hardware	Room Type	Hinges	Lockset / Exit Device	Cylinder	Floor Stop	Silencer	Closer	Doors_Hardware_OtherParameters
1	CLASSROOMS	MCKINNEY, MPB79 4.5X4.5, US26D	SARGENT, 28-10G05 LL, LESS CYLINDER US26D	SARGENT, L-SECTION - KEYED BY OWNER, US26D	ROCKWOOD, 442	ROCKWOOD, 608, GRAY	NONE	
2	OFFICE	MCKINNEY, T2714 4.5X4.5, US26D	SARGENT, 28-10G05 LL	SARGENT, L-SECTION - US26D	ROCKWOOD, 442	ROCKWOOD, 608, GRAY	NONE	
3	STORAGE	MCKINNEY, T2714 4.5X4.5, US26D	SARGENT, 28-10G04 LL, US26D	SARGENT, L-SECTION - US26D	ROCKWOOD, 442	ROCKWOOD, 608, GRAY	SARGENT 351, EN FINISH	
4	BI-PARTING DOORS	MCKINNEY, T2714 US26D	SURFACE VERTICAL ROD EXIT DEVICE: SARGENT 12-43-8710F EOXTB, US32D	NONE	NONE	ROCKWOOD, 608, GRAY	SARGENT, 1431 RUO X TB (PA), EN	INTERCHANGEABLE MULLION
5	PAIR EXTERIOR EGRESS DOORS	MCKINNEY, T2714 4.5X4.5 NRP	RIM EXIT DEVICE: SARGENT 43-8804FXTBX826 PULL	SARGENT, L-SECTION - US26D	NONE	ROCKWOOD, 608, GRAY	SARGENT 351, EN FINISH	REMOVEABLE MULLIONS: SARGENT #980 WEATHERSTRIP SEAL: NATIONAL GUARD 160V-3070 SWEEP: NATIONAL GUARD D608A-36 THRESHOLD: NATIONAL GUARD 424-36 (NOTE: 1/2" HIGH MAX.)
6	PAIR ALUMINUM INTERIOR DOORS	ROTON, 780-112HD OR MCKINNEY MCK-12HD CONTINUOUS HINGE	NONE	NONE	NONE	NONE	LCN, 4110, GRAY	PULLS: ROCKWOOD, BF157, US26D OR EQUAL PUSH: ROCKWOOD #70F OR EQUAL
7	PAIR ALUMINUM EXTERIOR EGRESS DOORS	ROTON, 780-112HD OR MCKINNEY MCK-12HD CONTINUOUS HINGE	DOR-O-MATIC, 1690 EO, US26D	SARGENT, L-SECTION - US26D	NONE	NONE	LCN, 4110, GRAY	PULLS: ROCKWOOD, BF157, US26D REMOVABLE MULLION: DOR-O-MATIC, RM150 WEATHER STRIP SEAL: NATIONAL GUARD 160V-3070 SWEEP: NATIONAL GUARD D608A-36 THRESHOLD: NATIONAL GUARD 424-36 (NOTE: 1/2" HIGH MAX)
8	MECHANICAL / ELECTRICAL, JANITOR CLOSET	MCKINNEY, MPB79 4.5X4.5	SARGENT, 28-10G04 LL, 26D	SARGENT, L-SECTION - KEYED BY OWNER, US26D	ROCKWOOD, 442	ROCKWOOD, 608, GRAY	YALE 3501 X SNB	

GENERAL DOOR SCHEDULE NOTES

A. THESE GENERAL NOTES APPLY TO ▶SERIES 600◀ DOOR SCHEDULE DRAWINGS.
B. UNDERCUT DOORS AS REQUIRED BY FINAL FLOOR FINISH.
C. PROVIDE SEALANT BETWEEN HOLLOW METAL FRAME PERIMETERS AND SURROUNDING WALL CONSTRUCTION UNLESS OTHERWISE INDICATED.
D. PROVIDE SEALANT BETWEEN INTERIOR AND EXTERIOR STOREFRONT FRAME PERIMETERS AND SURROUNDING WALL CONSTRUCTION UNLESS OTHERWISE INDICATED.
E. GROUT FULL NEW HOLLOW METAL DOOR FRAMES IN MASONRY WALL CONSTRUCTION.
F. SPOT GROUT NEW HOLLOW METAL DOOR FRAMES IN GYPSUM BOARD WALL CONSTRUCTION.
G. WHERE A FIRE RATING IS INDICATED ON THE DOOR SCHEDULE, HARDWARE AND DOOR ASSEMBLY COMPONENTS SHALL MEET THE REQUIREMENTS OF THAT LABEL.
H. WHERE ACOUSTICAL RATING IS INDICATED ON THE DOOR SCHEDULE, HARDWARE AND DOOR ASSEMBLY COMPONENTS SHALL MEET THE REQUIREMENTS OF THAT RAITING.
I. INSTALL DOOR GLASS USING WET-GLAZING METHOD.
J. REFER TO PROJECT MANUAL DIVISION 08 FOR GLAZING.
K. REFER TO PROJECT MANUAL DIVISION 08 FOR HARDWARE SCHEDULE.

DOOR SCHEDULE REMARKS

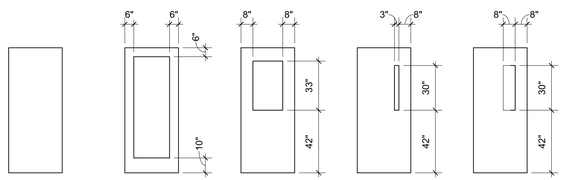
1. CASED OPENING

REV. 07/22/09

2. HOLLOW METAL DOORS AND FRAMES TO BE PAINTED PT-04

GLAZING SCHEDULE

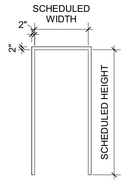
GL-01	1" CLEAR INSULATING GLASS, LOW-E COATED, TEMPERED - EXTERIOR APPLICATIONS
GL-11	1/4" CLEAR TEMPERED GLASS - INTERIOR APPLICATIONS, WINDOWS AND DOORS
GL-12	3/16" LAMINATED CERAMIC GLASS



F FG HG N1 N2

DOOR PANEL LEGEND

1/4" = 1'-0"



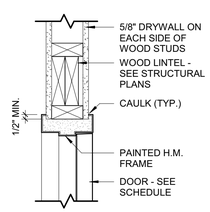
F1

DOOR FRAME LEGEND

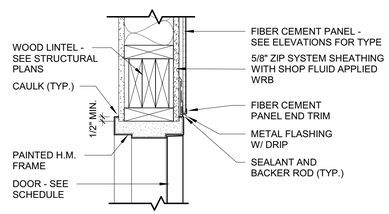
1/4" = 1'-0"

DOOR SCHEDULE

DOOR NUMBER	PAIR	DOOR SIZE W	DOOR SIZE W2	DOOR SIZE H	DOOR SIZE T	MTRL.	ELEV.	GLASS	HDWR. SET	FRAME MTRL.	FRAME ELEV.	FRAME DETAILS HEAD	FRAME DETAILS JAMB	FRAME DETAILS THRESHOLD	FIRE RATING	REMARKS
FIRST FLOOR																
145-A		3'-0"		7'-0"	1 3/4"	WD	N2	GL-11	1	HM	F1	A2 / A-601	A2 / A-601		NR	PH
145-B		3'-0"		7'-0"	1 3/4"	WD	N2	GL-11	1	HM	F1	A2 / A-601	A2 / A-601		NR	PH
145A-A		3'-0"		7'-0"	1 3/4"	WD	F	--	3	HM	F1	A2 / A-601	A2 / A-601		NR	
145A-B		3'-0"		7'-0"	1 3/4"	WD	F	--	3	HM	F1	A2 / A-601	A2 / A-601		NR	
145B		3'-0"		7'-0"	1 3/4"	WD	F	--	8	HM	F1	A2 / A-601	A2 / A-601		NR	
150		3'-0"		7'-0"	1 3/4"	WD	N2	GL-11	1	HM	F1	A2 / A-601	A2 / A-601		NR	
151	Yes	3'-0"	3'-0"	7'-0"	1 3/4"	WD	F	--	4	HM	F1				NR	PH
152		3'-0"		7'-0"	1 3/4"	WD	N2	GL-11	1	HM	F1	A2 / A-601	A2 / A-601		NR	
153		3'-0"		7'-0"	1 3/4"	WD	N2	GL-11	1	HM	F1	A2 / A-601	A2 / A-601		NR	
154		3'-0"		7'-0"	1 3/4"	WD	N2	GL-11	1	HM	F1	A2 / A-601	A2 / A-601		NR	
155		3'-0"		7'-0"	1 3/4"	WD	N2	GL-11	1	HM	F1	A2 / A-601	A2 / A-601		NR	
156		3'-0"		7'-0"	1 3/4"	WD	N2	GL-11	1	HM	F1	A2 / A-601	A2 / A-601		NR	
158-A	Yes	3'-0"	3'-0"	7'-0"	1 3/4"	AL	FG	GL-01	7	AL	F1	A6 / A-601	A6 / A-601		NR	PH
158-B	Yes	3'-0"	3'-0"	7'-0"	1 3/4"	WD	N1	GL-12	5	HM	F1	A2 / A-601	A2 / A-601		45 MIN	PH; 20 MIN FIRE RATED
160-A	Yes	3'-0"	3'-0"	7'-0"	1 3/4"	AL	FG	GL-11	6	AL	F1	A5/A-601	A5/A-601		NR	
160-B		3'-0"		7'-0"	1 3/4"	HM	F	--	7	HM	F1	A3 / A-601	A3 / A-601		NR	PH, 2
160-C		3'-0"		7'-0"	1 3/4"	HM	F	--	7	HM	F1	A3 / A-601	A3 / A-601		NR	PH, 2
163		3'-0"		7'-0"	1 3/4"	WD	N2	GL-11	1	HM	F1	A2 / A-601	A2 / A-601		NR	
165		3'-0"		7'-0"	1 3/4"	WD	N2	GL-11	1	HM	F1	A2 / A-601	A2 / A-601		NR	
SECOND FLOOR																
158-C	Yes	3'-0"	3'-0"	7'-0"	1 3/4"	WD	N1	GL-12	5	HM	F1	A2 / A-601	A2 / A-601		45 MIN	PH; 20 MIN FIRE RATED
201A		3'-0"		7'-0"	1 3/4"	WD	HG	GL-11	2	HM	F1	A2 / A-601	A2 / A-601		NR	
201B		3'-0"		7'-0"	1 3/4"	WD	HG	GL-11	2	HM	F1	A2 / A-601	A2 / A-601		NR	
201C		3'-0"		7'-0"	1 3/4"	WD	HG	GL-11	2	HM	F1	A2 / A-601	A2 / A-601		NR	
201D		3'-0"		7'-0"	1 3/4"	WD	F	--	8	HM	F1	A2 / A-601	A2 / A-601		NR	
250		3'-0"		7'-0"	1 3/4"	WD	N2	GL-11	1	HM	F1	A2 / A-601	A2 / A-601		NR	
251	Yes	3'-0"	3'-0"	7'-0"	1 3/4"	WD	F	--	4	HM	F1				NR	
252		3'-0"		7'-0"	1 3/4"	WD	N2	GL-11	1	HM	F1	A2 / A-601	A2 / A-601		NR	
253		3'-0"		7'-0"	1 3/4"	WD	N2	GL-11	1	HM	F1	A2 / A-601	A2 / A-601		NR	
254		3'-0"		7'-0"	1 3/4"	WD	N2	GL-11	1	HM	F1	A2 / A-601	A2 / A-601		NR	
255		3'-0"		7'-0"	1 3/4"	WD	N2	GL-11	1	HM	F1	A2 / A-601	A2 / A-601		NR	
256		3'-0"		7'-0"	1 3/4"	WD	N2	GL-11	1	HM	F1	A2 / A-601	A2 / A-601		NR	
261		3'-0"		7'-0"	1 3/4"	WD	N2	GL-11	1	HM	F1	A2 / A-601	A2 / A-601		NR	
263		3'-0"		7'-0"	1 3/4"	WD	N2	GL-11	1	HM	F1	A2 / A-601	A2 / A-601		NR	



HEAD DETAIL



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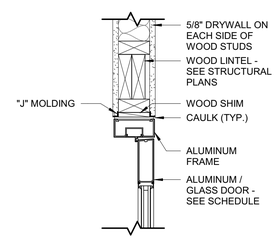

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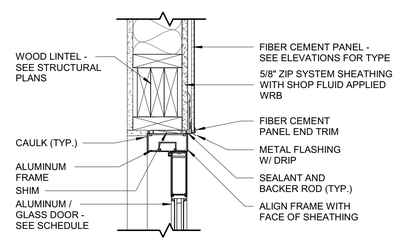

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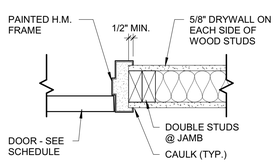
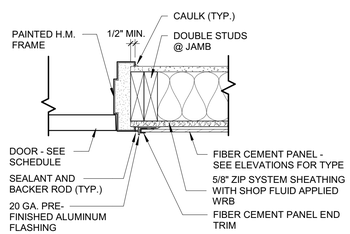


JAMB DETAIL



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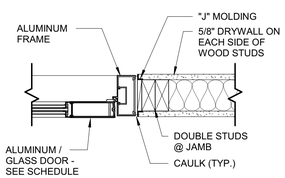

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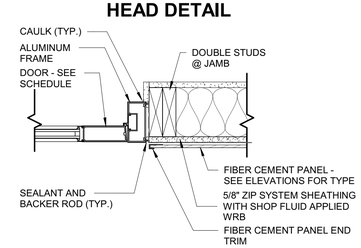

JAMB DETAIL

A2 / A-601 **INTERIOR WOOD STUD / HM FRAME**
1 1/2" = 1'-0"

A3 / A-601 **EXTERIOR WOOD STUD / HM FRAME**
1 1/2" = 1'-0"

A5 / A-601 **INTERIOR WOOD STUD / ALUM FRAME**
1 1/2" = 1'-0"

A6 / A-601 **EXTERIOR WOOD STUD / ALUM FRAME**
1 1/2" = 1'-0"

Carolina Charter Academy Exp.

8529 Highway 55
Angier, North Carolina
27501

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Highmark School Development
746 East Winchester Street
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Murray, Utah 84107
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919-782-1833

Civil Engineer
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Raleigh, North Carolina 27607
919-866-4938

SEAL | DATE 2/24/2021

CODE CERT.
I HEREBY CERTIFY THAT THE BUILDING CODE SUMMARY COMPLETED ON THIS PAGE IS ACCURATE FOR THE TYPE OF BUILDING AND OCCUPANCY INTENDED FOR THIS PROJECT AND THAT THESE PLANS ARE COMPLETE AND COMPLY WITH ALL APPLICABLE STATE AND LOCAL BUILDING REGULATIONS

SHEET ISSUE

1	100% Construction Documents	2/24/2021

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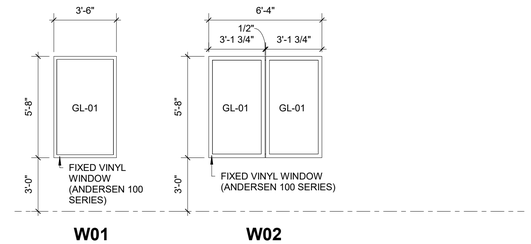
PROJECT NO. 20408.000

SHEET TITLE
DOOR SCHEDULE AND DETAILS

SHEET NUMBER
A-601

2/25/2021 3:46:45 PM

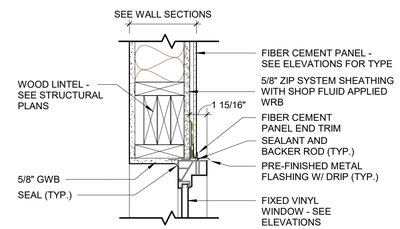


WINDOW TYPE ELEVATIONS

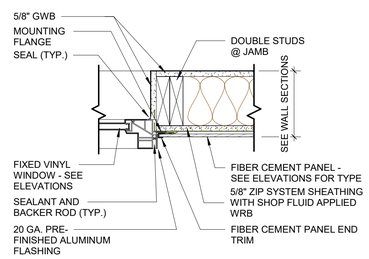
1/4" = 1'-0"

GLAZING SCHEDULE

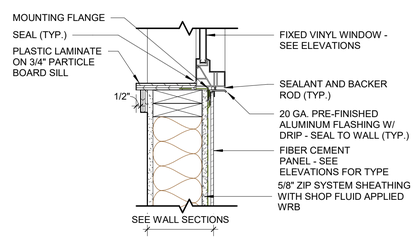
GL-01	1" CLEAR INSULATING GLASS, LOW-E COATED, TEMPERED - EXTERIOR APPLICATIONS
GL-11	1/4" CLEAR TEMPERED GLASS - INTERIOR APPLICATIONS, WINDOWS AND DOORS
GL-12	3/16" LAMINATED CERAMIC GLASS



HEAD DETAIL



JAMB DETAIL



SILL DETAIL

A5
A-621

TYPICAL VINYL WINDOW DETAILS

1 1/2" = 1'-0"

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Civil Engineer
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Raleigh, North Carolina 27607
919-866-4938

SEAL | DATE 2/24/2021

HAL M. BOWEN
REGISTERED ARCHITECT
5950
NORTH CAROLINA
RALEIGH, N.C.

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SHEET ISSUE

1	100% Construction Documents	2/24/2021

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PROJECT NO. 20408.000

SHEET TITLE
WINDOW ELEVATIONS AND DETAILS

SHEET NUMBER
A-621

2/24/2021 4:44:46 PM

FINISH SCHEDULE

CT-01

LOCATION	FINISH TYPE	TAG	MANUFACTURER	FINISH DESCRIPTION					
				STYLE	SIZE	PRODUCT NUMBER	COLOR	INSTALL NOTES	COMMENTS
WALL	PAINT	PT-01	SHERWIN WILLIAMS	PER SPECIFICATION	N/A		SW7063 NEBULOUS WHITE		
CEILING	PAINT	PT-02	SHERWIN WILLIAMS	PER SPECIFICATION	N/A		SW7007 CEILING BRIGHT WHITE		CEILING PAINTED STRUCTURE/DRYWALL
GAURDRAILS AND HANDRAILS	EPOXY PAINT	PT-03	SHERWIN WILLIAMS	PER SPECIFICATION	N/A		SW6531 INDIGO		GAURDRAILS AND HANDRAILS
HOLLOW METAL DOORS AND FRAMES	EPOXY PAINT	PT-04	SHERWIN WILLIAMS	PER SPECIFICATION, SEMI-GLOSS	N/A		SW6321 RED BAY		HOLLOW METAL DOORS AND FRAMES
WALL	CERAMIC TILE	CTB-01	DALTILE	BRIGHT GLAZED CERAMIC WALL	4 1/4" X 4 1/4"	A-3401, ACR/L-3401, SCR/L-3401	0042 LIGHT SMOKE	BOTTOM COURSE COVE BASE	
WALL	CERAMIC TILE	CTB-02	DALTILE	BRIGHT GLAZED CERAMIC WALL	4 1/4" X 4 1/4"	A-3401, ACR/L-3401, SCR/L-3401	0121 RUBY RED	BOTTOM COURSE COVE BASE	GIRLS/WOMENS RESTROOMS
WALL	CERAMIC TILE	CTB-03	DALTILE	BRIGHT GLAZED CERAMIC WALL	4 1/4" X 4 1/4"	A-3401, ACR/L-3401, SCR/L-3401	A0070 SAPPHIRE SKY	BOTTOM COURSE COVE BASE	BOYS/MENS RESTROOMS
WALL	CERAMIC TILE	CWT-01	DALTILE	BRIGHT GLAZED CERAMIC WALL	4 1/4" X 4 1/4"		0091 BISCUIT		WALL FIELD TILE
WALL	CERAMIC TILE	CWT-02	DALTILE	BRIGHT GLAZED CERAMIC WALL	4 1/4" X 4 1/4"		0042 LIGHT SMOKE		
WALL	CERAMIC TILE	CWT-03	DALTILE	BRIGHT GLAZED CERAMIC WALL	4 1/4" X 4 1/4"		0121 RUBY RED	TOP COURSE BULLNOSE TILE,S-4449,SCRL-4449	GIRLS/WOMENS RESTROOMS
WALL	CERAMIC TILE	CWT-04	DALTILE	BRIGHT GLAZED CERAMIC WALL	4 1/4" X 4 1/4"		0070 SAPHIRE SKY	TOP COURSE BULLNOSE TILE,S-4449,SCRL-4449	BOYS/MENS RESTROOMS
BASE	WALL BASE-RUBBER	RB-01	JOHNSONITE	ROLLED GOODS, COVE	4"H		#18 NAVY BLUE		
FLOOR	CARPET TILE	CPT-01	PATCRAFT	EXPERIENCE MODERN	2x2		00425 SOLUTION (BLUE)		
FLOOR	PORCELAIN TILE	CT-01	DALTILE	KEYSTONES	2"x2"		D037 PEPPER WHITE		FLOOR FIELD TILE
FLOOR	PORCELAIN TILE	CT-02	DALTILE	KEYSTONES	2"x2"		D208 SUEDE GRAY SPECKLE		FLOOR ACCENT TILE "A"
FLOOR	PORCELAIN TILE	CT-03	DALTILE	KEYSTONES	2"x2"		D209 NAVY SPECKLE		FLOOR ACCENT TILE "B"
FLOOR	LUXURY VINYL TILE	LVT-01	PATCRAFT	STRATIFIED 20 MIL	6" X 24"		00500 FROST		FIELD TILE
FLOOR	LUXURY VINYL TILE	LVT-02	PATCRAFT	STRATIFIED 20 MIL	6" X 24"		00880 GARNET (RED)		ACCENT TILE "A"
FLOOR	LUXURY VINYL TILE	LVT-03	PATCRAFT	STRATIFIED 20 MIL	6" X 24"		00480 SAPPHIRE (BLUE)		ACCENT TILE "B"
FLOOR	SEALED CONCRETE	SC		ENVIROSEAL 20					
CEILING	ACOUSTICAL CEILING	ACT-01	USG		24"X48"X3/4"	2410 RADAR PLUS	FLAT WHITE		
MILLWORK/ CASEWORK	HIGH DENSITY POLYETHYLENE	HDPE-01	HINY HIDERS				LINEN		RESTROOM COUNTERTOPS
MILLWORK/ CASEWORK	HIGH DENSITY POLYETHYLENE	HDPE-02	HINY HIDERS				BLUEBERRY		TOILET PARTITIONS
MILLWORK/ CASEWORK	PLASTIC LAMINATE	PL-01	WILSONART				4942-38 CRISP LINEN		COUNTERTOPS
MILLWORK/ CASEWORK	PLASTIC LAMINATE	PL-02	WILSONART				4879-38 STEEL MESH		WINDOW SILLS, CABINET FACES

Carolina Charter Academy Exp.

8529 Highway 55
Angier, North Carolina
27501

Owner

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746 East Winchester Street
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Civil Engineer

Timmons Group
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Suite 102
Raleigh, North Carolina 27607
919-866-4938

SEAL | DATE 2/24/2021

HAL M. BOWEN REGISTERED ARCHITECT 5950 RALEIGH, N.C.

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SHEET ISSUE

1	100% Construction Documents	2/24/2021

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PROJECT NO. 20408.000

SHEET TITLE

FINISH SCHEDULE

SHEET NUMBER

A-650

2/24/2021 4:44:46 PM

PLUMBING LEGEND

GENERAL

- W — WASTE WATER
- DOMESTIC COLD WATER
- HOT WATER RECIRC.
- HOT WATER RECIRC.
- VENT PIPING
- PIPE TURNING DOWN
- PIPE TURNING UP
- BRANCH BOTTOM CONNECTION
- BRANCH SIDE CONNECTION
- BRANCH TOP CONNECTION
- CO — CLEANOUT
- FCO — CLEANOUT, FLOOR TYPE
- FD / TP — FLOOR DRAIN WITH TRAP PRIMER
- UNION
- WCO — WALL CLEANOUT
- VENT THROUGH ROOF - DIAGRAMMATIC (VTR)
- CONNECT TO EXISTING

VALVES & ACCESSORIES

- AUTOMATIC AIR VENT
- AUTOMATIC FLOW CONTROL VALVE
- BACKFLOW PREVENTER (BFP)
- BALL VALVE
- BUTTERFLY VALVE
- CAPPED PIPE
- CHECK VALVE
- CONCENTRIC REDUCER
- DIRECTION OF FLOW
- ECCENTRIC REDUCER
- FLANGED CONNECTION
- FLEXIBLE CONNECTION
- FLOW METER
- GATE VALVE
- GLOBE VALVE
- MANUAL AIR VENT
- METERED BALANCING VALVE W/PRESSURE TAPS
- GAS COCK
- PIPE SLEEVE
- PRESSURE REDUCING VALVE
- PRESSURE RELIEF VALVE
- PRESSURE GAUGE WITH GAUGE COCK
- SQUARE HEAD COCK
- STRAINER
- STRAINER W/BLOW DOWN VALVE
- THERMOMETER
- VACUUM BREAKER
- SOLENOID VALVE.

PLUMBING SPECIFICATIONS

SCOPE OF WORK

1. ALL WORK REQUIRED CONSISTS OF PERFORMING ALL LABOR AND FURNISHING ALL MATERIALS, FIXTURES AND EQUIPMENT REQUIRED TO PROVIDE A COMPLETE PLUMBING INSTALLATION AS INDICATED ON THE DRAWINGS. IT SHALL FURTHER INCLUDE FURNISHING AND INSTALLING ALL MISCELLANEOUS ITEMS REQUIRED FOR THE OPERATION OF THE SYSTEMS, WHETHER SPECIFICALLY CALLED FOR OR NOT. CONNECT ALL EQUIPMENT FURNISHED UNDER OTHER TRADES AS REQUIRED. DETERMINE IN ADVANCE THE SHUT-DOWN OF EXISTING UTILITIES.

CODES

1. ALL MATERIALS, EQUIPMENT AND INSTALLATION MUST COMPLY WITH ALL APPLICABLE LAWS, CODES, RULES, AND REGULATION, REQUIRED BY CITY, COUNTY AND STATE, AS WILL AS FEDERAL REQUIREMENTS.

PERMITS

1. THIS CONTRACTOR SHALL PAY FOR ALL PERMITS, LICENSES AND FEES REQUIRED BY STATE AND LOCAL AUTHORITIES.

INSPECTION

1. FURNISH ARCHITECT WITH CERTIFICATE OF INSPECTION AND APPROVAL BY LOCAL AUTHORITIES PRIOR TO FINAL ACCEPTANCE OF THE PROJECT BY THE ARCHITECT. ALL WORK MUST BE INSPECTED.

MATERIALS

1. WATER PIPING:
   - A. ALL PIPING SHALL CONFORM TO THE REQUIREMENTS OF THE ANSI SAFETY CODE AND BE FREE FROM ALL DEFECTS AND BE PROPERLY IDENTIFIED.
   - B. ABOVE GROUND: SHALL BE TYPE "L" HARD DRAWN COPPER TUBING CONFORMING TO ASTM B 88-72.
   - C. BELOW GROUND: (INSTALLED IN CONCRETE OR UNDER CONCRETE) TYPE "K" SOFT DRAWN COPPER TUBING, CONFORMING TO ASTM B 88-72, SPIRALLY WRAP PIPING BELOW GRADE OR FLOORS WITH 3 LAYERS OF 30 MIL POLYETHYLENE TAPE WITH 1/2 OVERLAP. INSTALL NO PIPING JOINTS BELOW FLOOR.
   - D. ALL COPPER TUBING SHALL UTILIZE SWEAT FITTINGS SOLDERED WITH ASTM B 32, ALLOY SN95, SN94, OR E, LEAD FREE SOLDER.
   - E. ALL CONDENSATE PIPING SHALL BE COPPER PIPE.
2. SOIL, WASTE, AND VENT PIPING:
   - A. CAST IRON: NO-HUB CAST IRON, CISPI 301-72T SPECIFICATION FOR ALL SOIL, WASTE AND VENT PIPING 2 INCHES AND LARGER WITH STANDARD WEIGHT FITTINGS, USE STAINLESS STEEL NO-HUB CAST IRON COUPLINGS THROUGHOUT THE PROJECT.
   - B. GALVANIZED IRON: SCHEDULE 40 STANDARD WEIGHT CONFORMING TO ASTM A72-68, FOR ALL VENT PIPING 1-1/2" AND SMALLER, USE WROUGHT IRON SCREWED FITTINGS TO MATCH PIPE. MAKE ALL SCREWED JOINTS WITH TEFLON TAPE.
   - C. ALL SOIL AND WASTE PIPING 2-1/2" AND SMALLER SHALL SLOPE MINIMUM OF 1/4" PER FOOT, PIPING 3" AND LARGER SHALL SLOPE MINIMUM OF 1/8" PER FOOT.
3. GAS PIPING:
   - A. THE PLUMBING CONTRACTOR SHALL SEE THAT THE PROPER GAS METER AND REGULATOR ARE INSTALLED BY THE UTILITY CO., AND PAY FOR ANY FEES CHARGED FOR THE INSTALLATION OF THE METER AND SERVICE LINES. GAS LINES SHALL EXTEND FROM THE METER TO ALL EQUIPMENT REQUIRING GAS.
   - B. GAS PIPING: SCREWED STANDARD WEIGHT SCHEDULE 40 BLACK STEEL CONFORMING TO ASTM A53 SPECIFICATIONS FOR GAS PIPING.
   - C. GAS PIPING INSTALLED BELOW GRADE SHALL BE PROVIDED WITH FACTORY WRAPPED PROTECTIVE COATING WITH FITTINGS TRIPLE SPIRALLY WRAPPED WITH 20 MIL POLYETHYLENE TAPE WITH 1/2 OVERLAP. PROVIDE CATHODIC PROTECTION CONSISTING OF ONE 17 POUND MAGNESIUM ANODE PER 100 SQUARE FEET OF GROUND EXPOSED SURFACE, TO THE PIPING.
   - D. GAS PIPE SHALL BE PROVIDED WITH SUITABLE DRIP LEGS ON ALL MAINS AND RISERS AT EQUIPMENT CONNECTIONS. ALL EQUIPMENT CONNECTIONS SHALL BE PROVIDED WITH AN AGA APPROVED BUTTERFLY VALVE. CAP WHERE REQUIRED.
   - E. PROVIDE SLEEVES AT ALL PIPING PENETRATING MASONRY WALLS AND PACKED WATERTIGHT WITH APPROVED PACKING.
4. VALVES:
   - A. SIZE OF SHUT-OFF VALVE, CONTROL VALVES, BALANCING COCKS, UNIONS ETC., SHALL BE FULL LINE SIZE.
5. PIPE HANGERS:
   - A. PIPE HANGERS SHALL BE MICHIGAN #400 FOR STEEL PIPING, #402 FOR GAS AND COPPER PIPING. SUPPORT PIPING 3/4" AND LESS AT 6'-0" O/C, 1-1/4" O/C AND SMALLER 8'-0" O/C, AND PIPING 1-1/2" AND LARGER 10'-0" O/C. WASTE PIPING SHALL BE SUPPORTED AT 5'-0" O/C. PROVIDE 3/8" DIA. THREADED ROD PROPERLY BRACED FOR SEISMIC RESTRAINT ZONE 2.
6. PIPE INSULATION:
   - A. ALL HOT WATER PIPING AND HOT WATER RETURN PIPING (IF APPLICABLE) SHALL HAVE 1 INCH THICK FIBERGLASS INSULATION WITH ASJ JACKET, HAVING A THERMAL CONDUCTIVITY (K-FACTOR) OF 0.24 AT 75 DEGREES MEAN TEMPERATURE.
   - B. THE MAXIMUM FIRE HAZARD CLASSIFICATION OF THE INSULATION SYSTEM SHALL NOT HAVE MORE THAN A FLAME SPREAD OF 25, AND A FUEL CONTRIBUTED RATING OF 50, AND A SMOKE DEVELOPED RATING OF 50, WHEN TESTED IN ACCORDANCE WITH U.L. REQUIREMENTS. PIPE COVERING SHALL BEAR THE U.L. LABEL.
   - C. INSULATE ALL FITTINGS VALVE BODIES ETC. WITH SINGLE OR MULTIPLE LAYERS OF INSULATION WITH PREFABRICATED FITTINGS WITH P.V.C. JACKETS.
   - D. ALL CONDENSATE PIPING SHALL HAVE 1 INCH THICK FIBERGLASS INSULATION WITH ASJ JACKET, HAVING A THERMAL CONDUCTIVITY (K-FACTOR) OF 0.24 AT 75 DEGREES MEAN TEMPERATURE.
   - E. SUBMIT SHOP DRAWINGS FOR ALL INSULATION MATERIALS.
7. CLEAN OUTS: (ZURN, JOSAM, SMITH)
   - A. CLEAN OUTS SHALL BE THE SAME SIZE AS THE LARGEST DOWNSTREAM PIPE IT IS SERVING. NO PLASTIC CLEAN OUTS WILL BE ACCEPTED. PLUGS SHALL BE BRONZE.
8. PIPE INSTALLATION:
   - **A.** INSTALL PIPING TO BEST SUIT FIELD CONDITIONS, COORDINATE LAYER OF PIPING WITH DUCT WORK AND OFFSET PIPING AS REQUIRED TO CLEAR NEW DUCTWORK.

EXISTING CONDITIONS

1. THE CONTRACTOR SHALL VERIFY EXACT LOCATIONS OF ALL UTILITIES PRIOR TO BID. THE CONTRACTOR SHALL VISIT THE SITE AND INSPECT THE WORK THEY MUST PERFORM, IN ADDITION TO WHAT IS SHOWN HEREIN, AND INCLUDE IN THEIR BID AN AMOUNT TO DO SUCH WORK.

UNIONS

1. PROVIDE A UNION BETWEEN CONNECTIONS TO EACH FIXTURE, DEVICE OR PIECE OF EQUIPMENT FOR DISCONNECTING OF PIPING.

STERILIZATION

1. STERILIZE THE ENTIRE WATER DISTRIBUTION SYSTEM THOROUGHLY WITH A SOLUTION CONTAINING NOT LESS THAN 50 PARTS PER MILLION OF AVAILABLE CHLORINE. FOR CHLORINATING MATERIALS USE SODIUM HYPOCHLORITE SOLUTION CONFORMING TO FEDERAL SPEC. 0-8-441, GRADE D, AND INTRODUCE INTO THE SYSTEM BY USE OF A COCK AT A SLOW, EVEN, CONTINUOUS RATE. ALLOW THE STERILIZING SOLUTION TO REMAIN IN THE SYSTEM FOR A PERIOD OF 8 HOURS, DURING WHICH TIME ALL VALVES AND FAUCETS SHALL BE OPENED AND CLOSED SEVERAL TIMES. AFTER STERILIZATION, FLUSH THE SOLUTION FROM THE SYSTEM WITH CLEAN WATER UNTIL THE RESIDUAL CHLORINE CONTENT IS NOT GREATER THAN 0.2 PARTS PER MILLION. PLATE COUNT SHALL INDICATE COUNT LESS THAN 100 BACTERIA PER CC.

TESTING

1. FILL DOMESTIC WATER SYSTEM WITH WATER AND PRESSURIZE TO 125 PSI AND MAINTAIN FOR FOUR (4) HOURS WITH NO PRESSURE DROP.
2. FILL WASTE, SOIL, AND VENT SYSTEM WITH WATER TO HIGHEST POINT OF THE SYSTEM. HOLD PRESSURE FOR FOUR (4) HOURS WITH NO DROP IN WATER LEVEL.
3. TEST AND OBTAIN APPROVAL ON ALL UNDERGROUND PIPING BEFORE COVERING WORK. PROVIDE WRITTEN TESTING REPORT TO ARCHITECT.
4. GAS TESTING:
   - A. AIR PRESSURE TEST SYSTEM TO 75 PSI AND MAINTAIN FOR A PERIOD OF EIGHT (8) HOURS WITH NO PRESSURE DROP.
   - B. PURGE LINE WITH NITROGEN AT JUNCTION WITH MAIN LINE AT GAS METER TO REMOVE ALL AIR. CLEAR COMPLETE LINE BY ATTACHING A TEST PILOT FIXTURE AT CAPPED STUB-IN LINE AT THE BUILDING LOCATION, AND LET GAS FLOW UNTIL TEST PILOT IGNITES. CAUTION FAILURE TO PURGE SYSTEM MAY RESULT IN EXPLOSION WITHIN LINE WHEN AIR-TO-GAS IS AT CORRECT MIXTURE.

CLEANING

1. AT THE COMPLETION OF THE WORK AND PRIOR TO FINAL ACCEPTANCE, ALL PARTS OF THE WORK INSTALLED UNDER THIS SPECIFICATION SHALL BE THOROUGHLY CLEANED. ALL EQUIPMENT, FIXTURES, PIPE, VALVES AND FITTINGS SHALL BE CLEANED OF GREASE, METAL CUTTINGS AND SLUDGE WHICH MAY HAVE ACCUMULATED BY OPERATION OF THE SYSTEM FOR TESTING HEREIN BEFORE SPECIFIED OR FROM OTHER CAUSES.

GUARANTEE

1. THE CONTRACTOR SHALL GUARANTEE ALL MATERIALS, EQUIPMENT AND WORKMANSHIP FROM DEFECT OF MATERIAL AND WORKMANSHIP, AND SHALL REPLACE OR REPAIR, WITHOUT ADDITIONAL COST TO THE OWNER, ALL DEFECTIVE MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR AFTER COMPLETION AND ACCEPTANCE.

COORDINATION

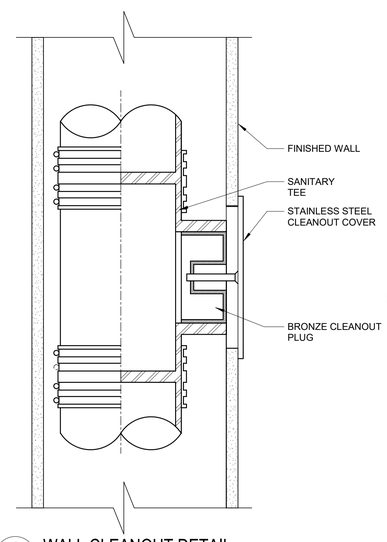
1. ALL CONTRACTORS SHALL BE RESPONSIBLE FOR COORDINATING WORK WITH OTHER TRADES AFFECTED BY EACH OTHERS WORK AND FOR CUTTING AND RE-FINISHING OF EXISTING WALLS, FLOORS, SOLID AND SUSPENDED CEILINGS ETC., WHERE REQUIRED BY WORK SHOWN AND NOTED HEREIN. INSTALL ALL WORK TO CLEAR NEW AND EXISTING ARCHITECTURAL AND STRUCTURAL MEMBERS. ITEMS SUCH AS PIPE, FITTINGS, ETC., SHALL NOT BE INSTALLED IN CONFLICT WITH EQUIPMENT. COORDINATE ALL CUTTING AND PATCHING WITH THE GENERAL CONTRACTOR. SUBCONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING OF HIS WORK. OBTAIN WRITTEN PERMISSION OF ARCHITECT BEFORE PROCEEDING WITH ANY CUTTING OR PATCHING OF STRUCTURAL SYSTEMS.

SUBSTITUTIONS

1. SUBSTITUTIONS OF MATERIALS OR PRODUCTS SHOWN HEREIN SHALL BE AT THE OWNER'S, ARCHITECTS OR ENGINEER'S WRITTEN APPROVAL ONLY WITH COPIES OF APPROVAL SENT TO ARCHITECT FOR PROJECT FILE. DEVIATION FROM THESE DRAWINGS WILL NOT BE ALLOWED.
2. ANY FIELD CHANGES BY THE CONTRACTOR FOR WHICH THE LOCAL AUTHORITY REQUIRES A SEALED LETTER AND/OR DRAWING BY THE ENGINEER SHALL RESULT IN A COST TO THE CONTRACTOR. THE FEE FOR THESE CHANGES SHALL BE PAYABLE UPON DELIVERY OF THE LETTER/DRAWING AND UNLESS THE CHANGE WAS INSTITUTED BY THE OWNER. THE CONTRACTOR SHALL NOT CHARGE THE OWNER THIS FEE.
3. THE FEE FOR THE ABOVE NOTED LETTER/DRAWING SHALL BE $250.00 PER ITEM.
4. ANY DEVIATIONS FROM THESE PLANS (FOR ANY REASON INCLUDING ACTUAL FIELD CONDITIONS) WITH OUT PRIOR WRITTEN APPROVAL SHALL BE THE COMPLETE RESPONSIBILITY OF THE INSTALLING CONTRACTOR.

RECORD DRAWINGS

1. PROVIDE TWO (2) SETS OF "RECORD" DRAWINGS AND TWO (2) BOUND SETS OF ALL OPERATIONS MANUALS, DIAGRAMS, SERVICE CONTRACTS, GUARANTEES, ETC., ONE FOR THE OWNER AND ONE FOR BUILDING OPERATIONS DEPARTMENT. OBTAIN A COMPLETE SET OF RECORD DRAWINGS OF EXISTING CONSTRUCTION FROM THE OWNERS FOR INFORMATION ON EXISTING CONDITIONS. INCORPORATE ANY EXISTING CONDITIONS ON NEW RECORD DRAWINGS REQUIRED TO SHOW THE "INSTALLED" INSTALLATION.



1 / P0.0 WALL CLEANOUT DETAIL
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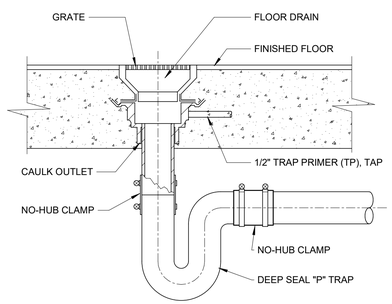

2 / P0.0 FLOOR DRAIN DETAIL
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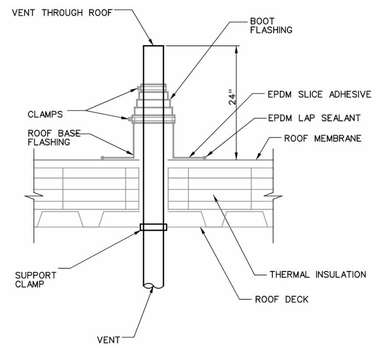

NOTE: 24" MINIMUM FROM ANY WALL OR VERTICAL SURFACE. COORDINATE WITH HVAC UNIT LOCATIONS.

3 / P0.0 VENT THROUGH ROOF
NOT TO SCALE

PLUMBING FIXTURE SCHEDULE

TAG	ITEM	MANUFACTURER	NAME	MODEL NO.	DESCRIPTION	
EWC-1	ELECTRIC WATER COOLER	ELKAY	BI-LEVEL (38-7/8" & 32 7/8" HEIGHT)	LZSTL8WSLP	**FIXTURE**	TWO LEVEL WHEELCHAIR ACCESS - BOTTLE FILLING STATION LEAD FREE, LIGHT GRAY FINISH, 8 GHP BASE FLOW RATE, 370 WATTS, 5.0 FULL LOAD AMPS, 120V, 1 PH
FD-1	FLOOR DRAIN	MIFAB	----	F1000	**FIXTURE**	LACQUERED CAST IRON BODY, ANCHOR FLANGE, 5-INCH DIAMETER HEAVY DUTY POLISHED STAINLESS STEEL STRAINER. PROVIDE WITH TRAP PRIMER CONNECTION.
					ACCESSORIES	TRAP PRIMER
HB-1	HOSE BIBB	WOODFORD	----	MODEL 24	**FIXTURE**	CHROME PLATED BRASS CONSTRUCTED FAUCET WITH CHROME PLATED ANTI-SIPHON VACUUM BREAKER, POLYCARBONATE WHEEL HANDLE. STEM LOCK
L-1	LAVATORY	AMERICAN STANDARD	AQUALYN	0476.028	**FIXTURE**	COUNTER TOP TYPE, 4-INCH CENTERS, VITREOUS CHINA, 20-INCH x 17-INCH OVAL (WHITE).
					FAUCET	ZURN, SINGLE LEVER, POLISHED CHROME, MODEL NO. Z7440-WF WITH GRID STRAINER
					STOPS	1/2-INCH CHROME PLATED, ANGLE SUPPLY WITH LOOSE KEY.
					TRAP	CHROME PLATED P-TRAP
					ACCESSORIES	TRUEBRO, LAV-GUARD, UNDERSINK PROTECTIVE PIPE, AERATOR
S-1	SINGLE COMPARTMENT SINK	ELKAY	LUSTERTONE	LR-1919	**FIXTURE**	SINGLE COMPARTMENT STAINLESS STEEL, 18 GAUGE - TYPE 302 SELF RIM, 2-HOLES.
					FAUCET	ZURN, SINGLE LEVER, POLISHED CHROME, MODEL NO. Z824SO WITH GOOSENECK SPOUT.
					STOPS:	1/2 INCH CHROME PLATED, ANGLE SUPPLY WITH LOOSE KEY
					TRAP	CHROME PLATED P-TRAP
					ACCESSORIES	IN-SINK-ERATOR, DISPOSER BADGER 5, 1/2 HP, 6.9 AMPS, 120V, 3 PH; GRID STRAINER CUP
U-1	URINAL	AMERICAN STANDARD	TRIMBROOK (17" HEIGHT)	6561.017	**FIXTURE**	WALL HUNG, VITREOUS CHINA, SIPHON JET, 3/4-INCH INLET SPUD, LOW CONSUMPTION-1.0 GPF (WHITE)
					FLUSH VALVE	ZURN AQUAFLUSH, EXPOSED FLUSHOMETER, CHROME PLATED, 3/4-INCH TOP SPUD, LOW CONSUMPTION-1.0 GPF
U-2	URINAL (ADA)	AMERICAN STANDARD	TRIMBROOK (17" HEIGHT)	6561.017	**FIXTURE**	WALL HUNG, VITREOUS CHINA, SIPHON JET, 3/4-INCH INLET SPUD, LOW CONSUMPTION-1.0 GPF (WHITE)
					FLUSH VALVE	ZURN AQUAFLUSH, EXPOSED FLUSHOMETER, CHROME PLATED, 3/4-INCH TOP SPUD, LOW CONSUMPTION-1.0 GPF
WC-1	WATER CLOSET	AMERICAN STANDARD	MADERA (14-1/8" HEIGHT)	2234.015	**FIXTURE**	FLOOR MOUNT, VITREOUS CHINA, SIPHON JET, 1-1/2 INCH INLET SPUD, LOW CONSUMPTION-1.6 GPF, ENLONGATED BOWL (WHITE)
					FLUSH VALVE	ZURN AQUAFLUSH, EXPOSED FLUSHOMETER, CHROME PLATED, LOW CONSUMPTION 1.6 GPF
					SEAT	CENTOCO, HEAVY DUTY, OPEN FRONT, SOLID PLASTIC, MODEL NO. 500CC-SS-WHT (WHITE)
WC-2	WATER CLOSET (ADA)	AMERICAN STANDARD	MADERA (16-1/8" HEIGHT)	2305.100	**FIXTURE**	FLOOR MOUNT, VITREOUS CHINA, SIPHON JET, 1-1/2 INCH INLET SPUD, LOW CONSUMPTION-1.6 GPF, ENLONGATED BOWL (WHITE)
					FLUSH VALVE	ZURN AQUAFLUSH, EXPOSED FLUSHOMETER, CHROME PLATED, LOW CONSUMPTION 1.6 GPF
					SEAT	CENTOCO, HEAVY DUTY, OPEN FRONT, SOLID PLASTIC, MODEL NO. 500CC-SS-WHT (WHITE)
WCO	WALL CLEANOUT	ZURN	----	Z1446	**FIXTURE**	CLEANOUT WITH ROUND ACCESS COVER.

HAMMER ARRESTOR SCHEDULE

PDI RATING	A		B		C		D		E		F	
FIXTURE UNIT CAP	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
	1	11	12	32	**33**	60	61	113	114	154	155	330

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PROJECT NO: 121006

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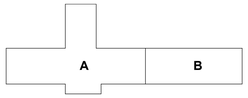

KEY PLAN

SEAL | DATE

SHEET ISSUE

1	PERMIT SUBMITTAL	02/22/21

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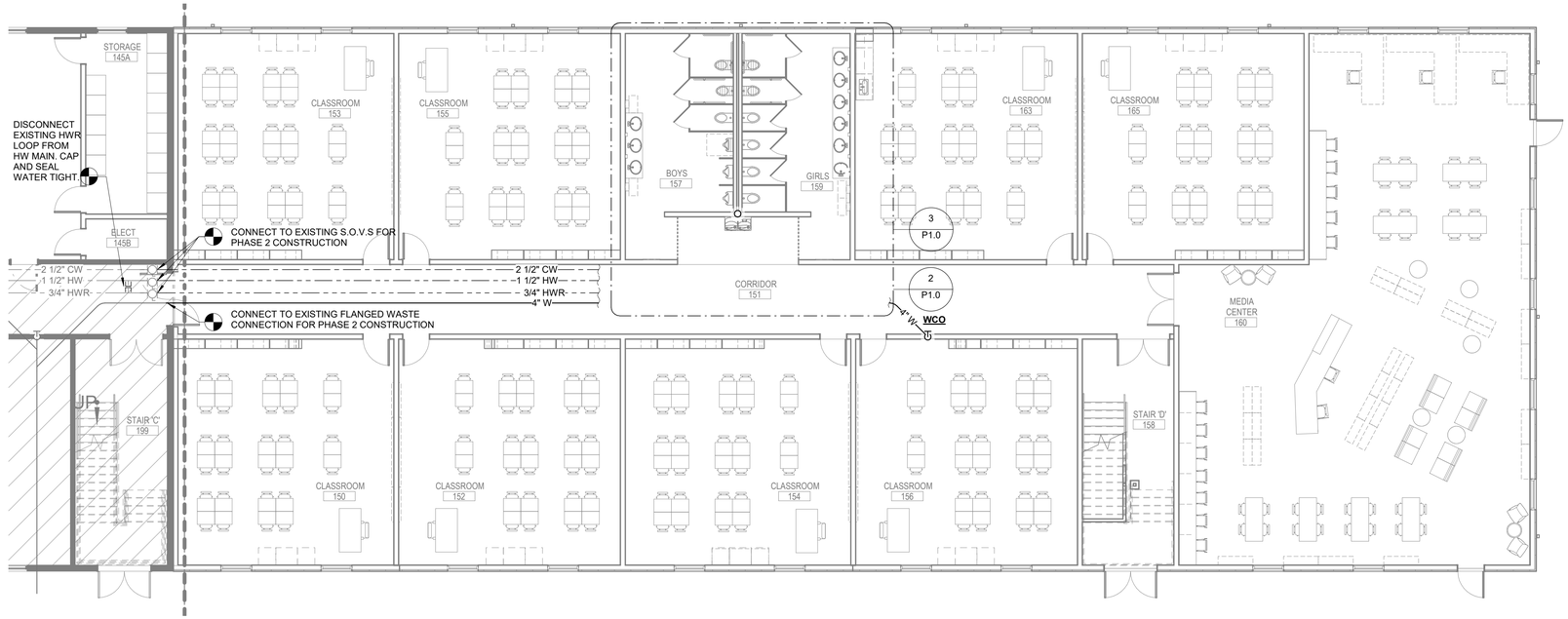
PROJECT NO. 20408.000

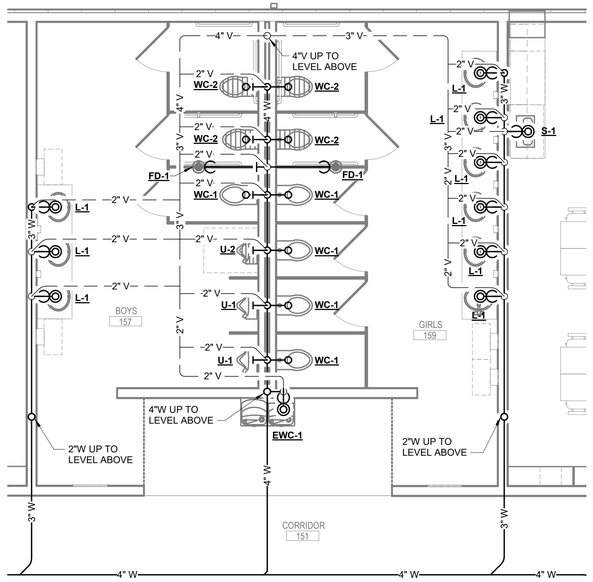
SHEET TITLE
PLUMBING SPECIFICATIONS & LEGEND

SHEET NUMBER
P0.0



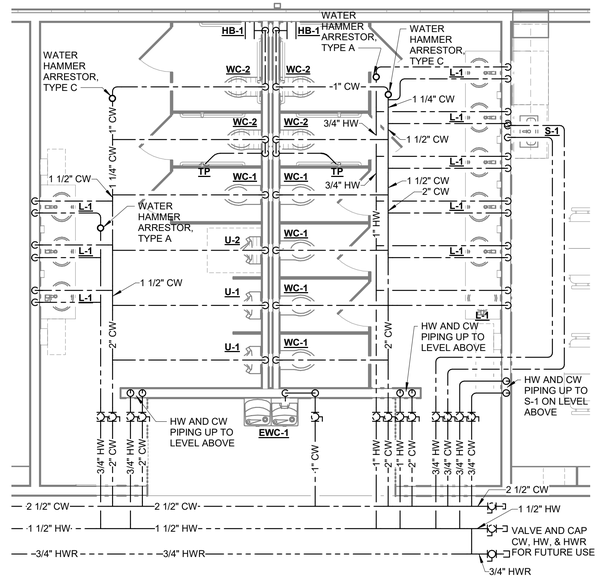
1 / P1.0 LEVEL 1 - PLUMBING PLAN - AREA B

1/8" = 1'-0"



2 / P1.0 LEVEL 1 - ENLARGED DRAINAGE PLAN

1/4" = 1'-0"



3 / P1.0 LEVEL 1 - ENLARGED SUPPLY PLAN

1/4" = 1'-0"

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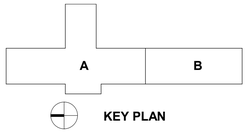

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SHEET TITLE
PLUMBING PLAN - LEVEL 1

SHEET NUMBER
P1.0

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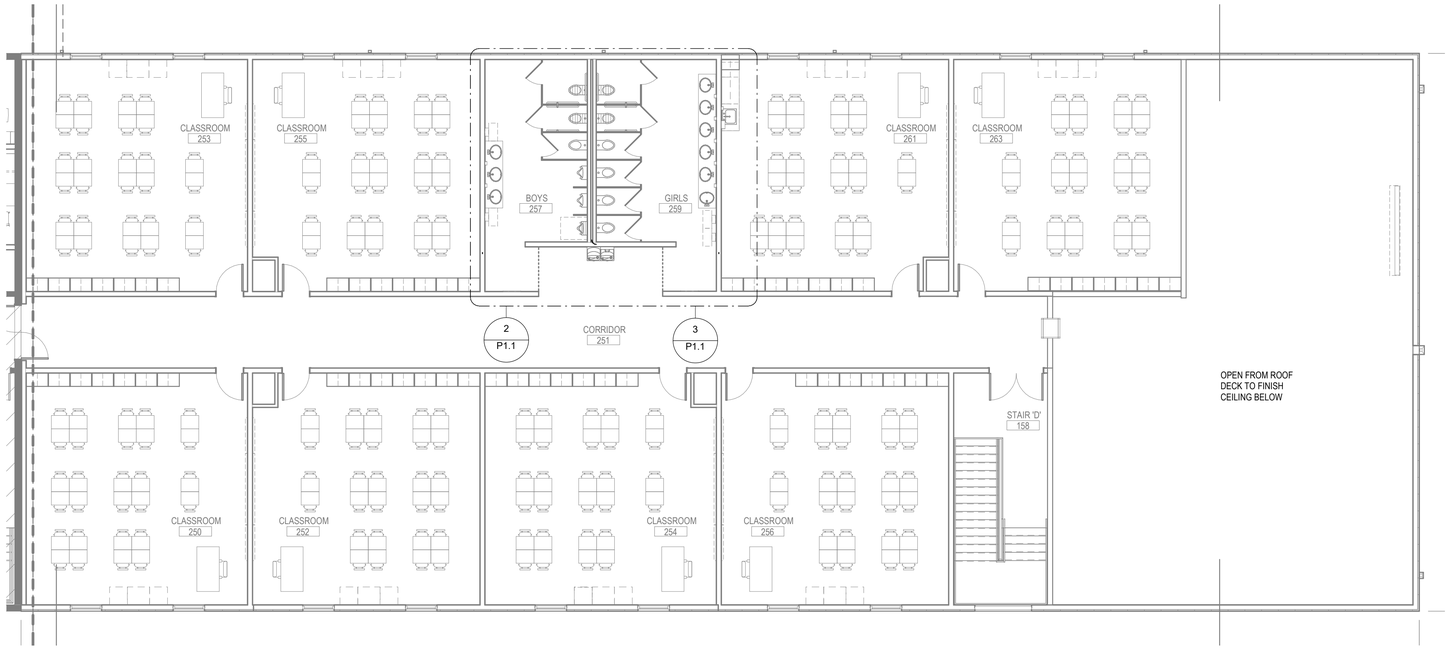
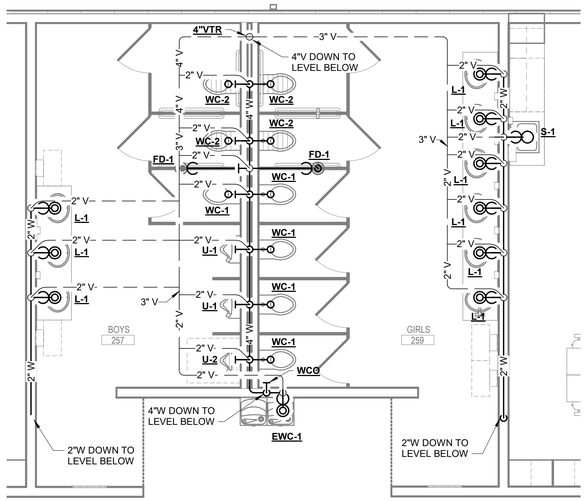
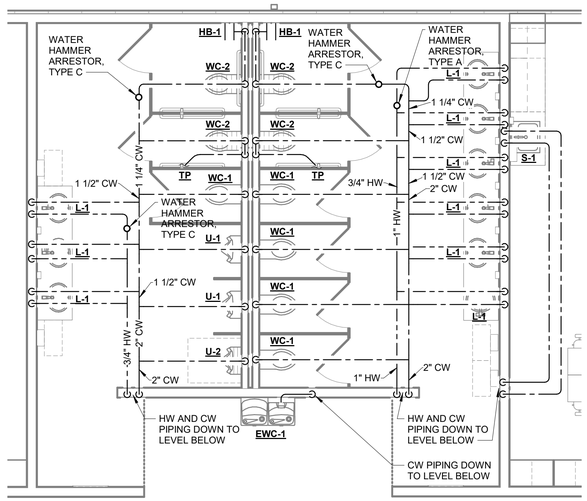


1 P1.1 LEVEL 2 - PLUMBING PLAN - AREA B
1/8" = 1'-0"



2 P1.1 LEVEL 2 - ENLARGED DRAINAGE PLAN
1/4" = 1'-0"



3 P1.1 LEVEL 2 - ENLARGED SUPPLY PLAN
1/4" = 1'-0"

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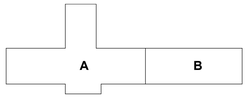

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PLUMBING PLAN - LEVEL 2

SHEET NUMBER
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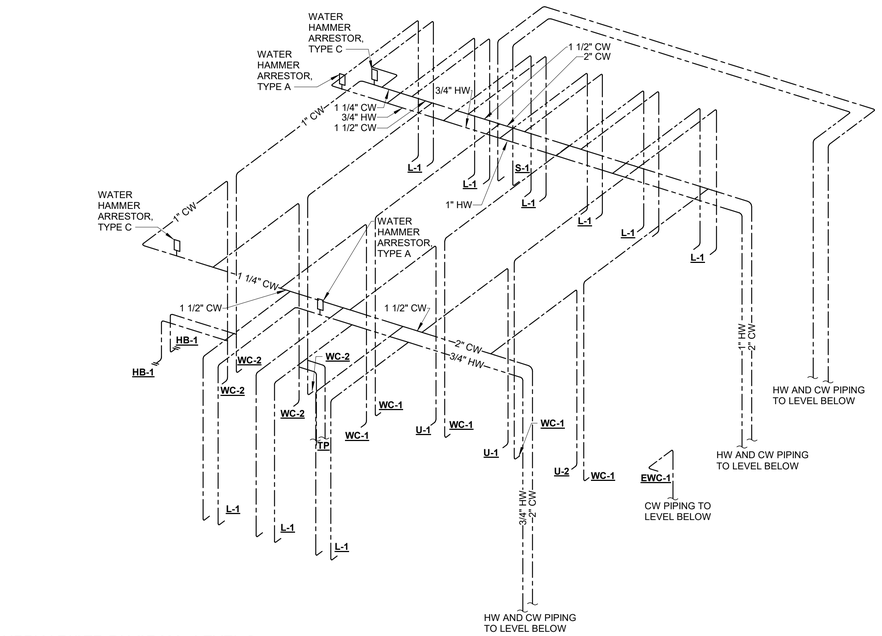

1 P6.0 SUPPLY RISER DIAGRAM - LEVEL 2

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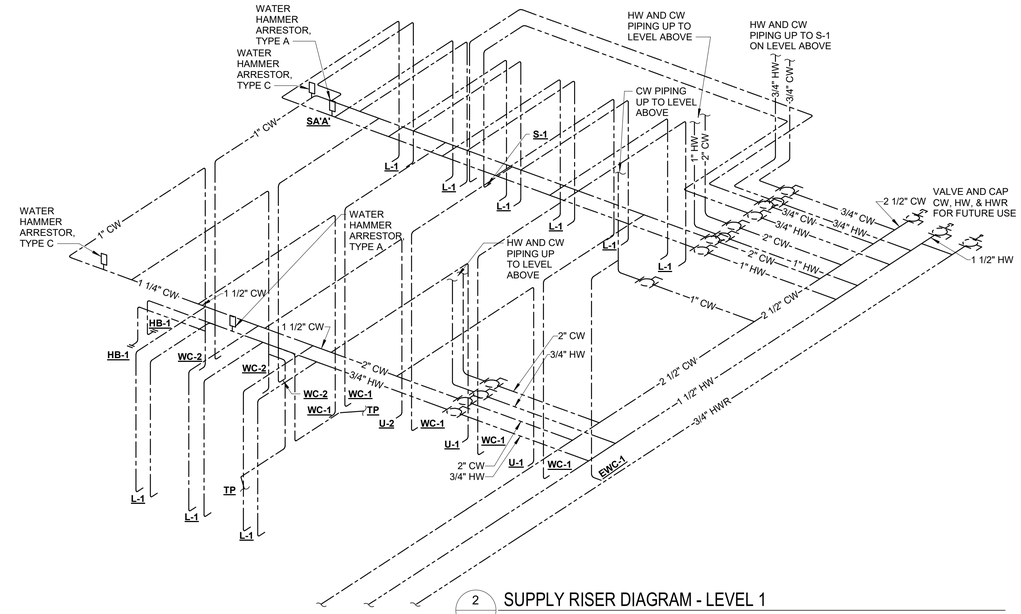
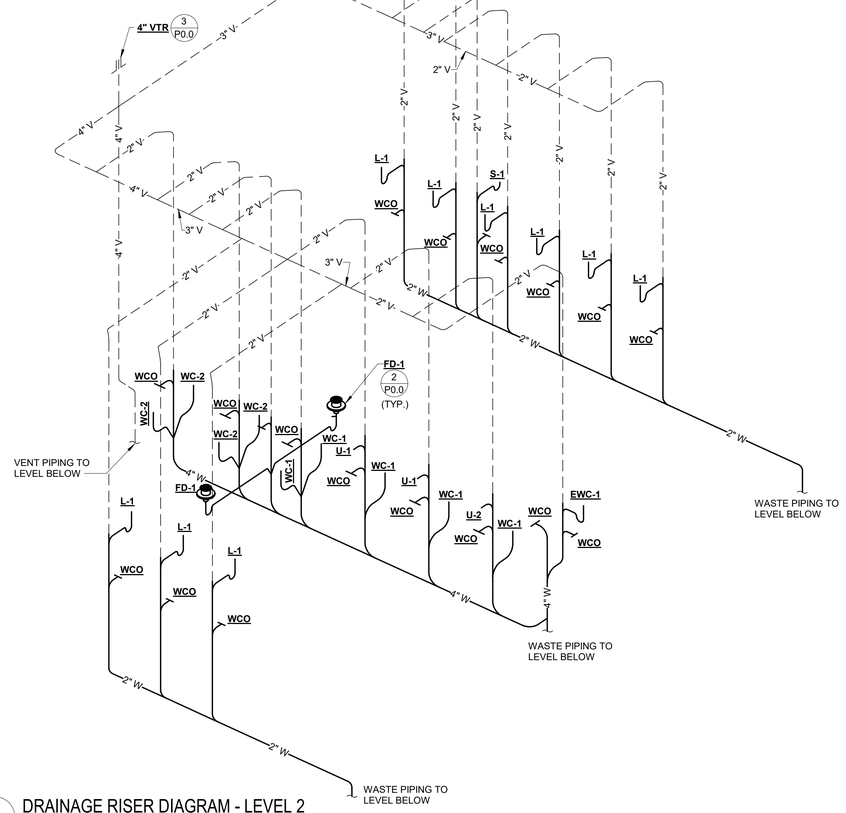


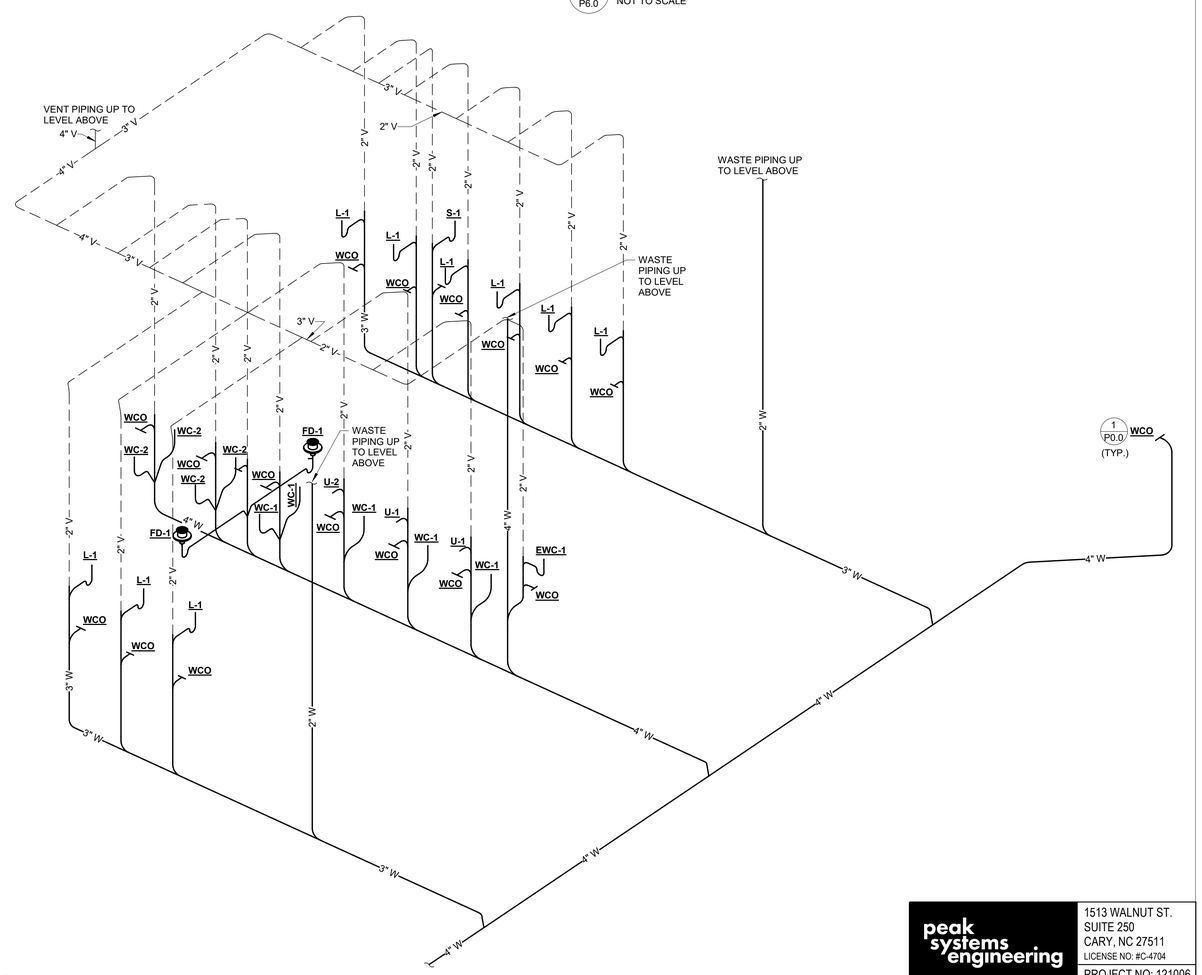
2 P6.0 SUPPLY RISER DIAGRAM - LEVEL 1

NOT TO SCALE



3 P6.0 DRAINAGE RISER DIAGRAM - LEVEL 2

NOT TO SCALE



4 P6.0 DRAINAGE RISER DIAGRAM - LEVEL 1

NOT TO SCALE

peak systems engineering

1513 WALNUT ST.
SUITE 250
CARY, NC 27511
LICENSE NO: #C-4704

PROJECT NO: 121006

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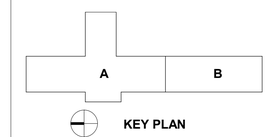

KEY PLAN

SEAL | DATE

SHEET ISSUE

1	PERMIT SUBMITTAL	02/22/21

RATIO

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PROJECT NO. 20408.000

SHEET TITLE

PLUMBING RISER DIAGRAMS

SHEET NUMBER

P6.0

2/22/2021 5:36:38 PM

GENERAL MECHANICAL NOTES:

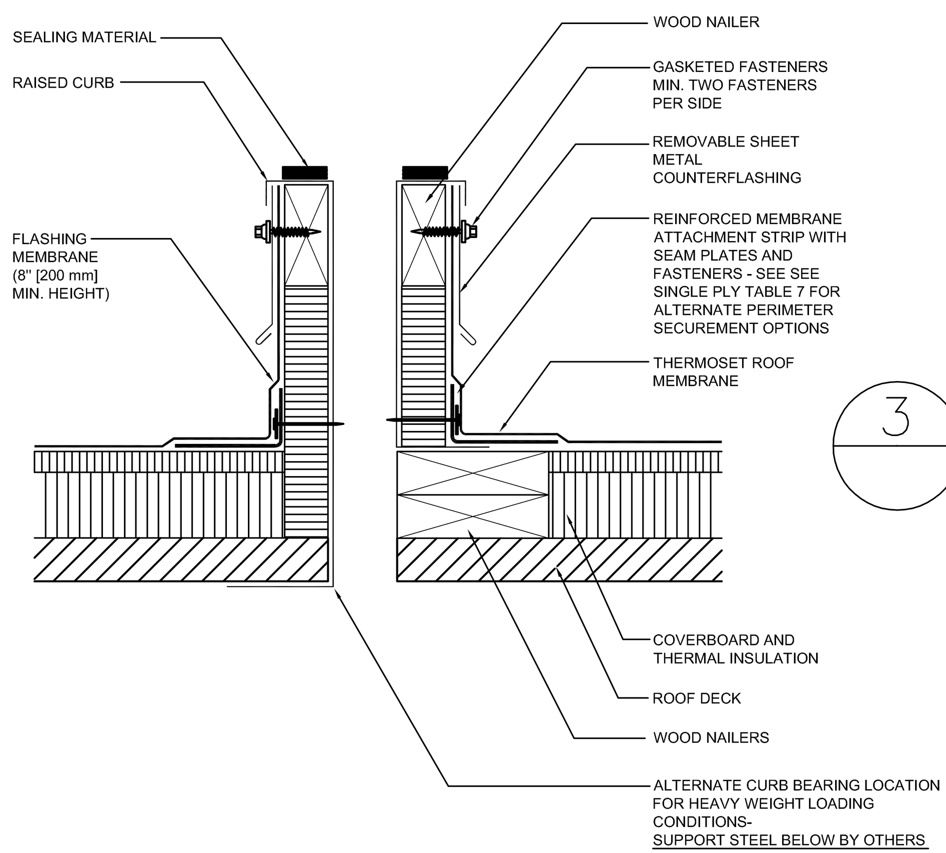
1. ALL PIPING PENETRATIONS THRU SMOKE AND FIRE WALLS SHALL BE SEALED WITH APPROPRIATE UL RATED/LISTED SEALANT.
2. ALL OUTSIDE AIR INTAKES SHALL BE LOCATED 10'–0" MIN. FROM ANY VENT/EXHAUST TERMINAL.
3. BRANCH DUCT CONNECTION TO DIFFUSER OR GRILLE MAY HAVE 7'–0" LONG MAX. FLEX DUCT CONNECTOR
4. COORDINATE DUCTWORK AND PIPING INSTALLATIONS WITH BUILDING ELEMENTS AND OTHER TRADES. DUCT AND PIPING ROUTING ON PLANS ARE DIAGRAMATIC. ADDITIONAL DUCTWORK AND OFFSETS MAY BE REQUIRED TO INSTALL DUCTWORK AND PIPING IN ACTUAL FIELD CONDITIONS. MAINTAIN MANUFACTURERS SERVICE CLEARANCES FOR ALL EQUIPMENT.
5. PROVIDE TEST AND BALANCE. BALANCE ALL FAN AND AIR CONDITIONING SYSTEM TO CFM'S INDICATED ON PLANS. PROVIDE NEW SHEAVES AS REQ'D. & FURNISH BALANCE REPORT TO ENGINEER. PROVIDE "COMFORT BALANCE" TO AIRFLOWS TO ACCOMODATE OCCUPANT COMFORT AFTER OCCUPANCY.
6. INSULATE ALL INDOOR SUPPLY DUCTWORK WITH 2.2" FG BLANKET WITH SEALED FSK VAPOR BARRIER.
7. BLANK OFF OPENINGS WHERE DUCTS TRAVEL DOWN TO FIRST LEVEL WITH SHEET METAL AND MINERAL WOOL AT SECOND FLOOR LEVEL.

PACKAGE ROOFTOP SCHEDULE

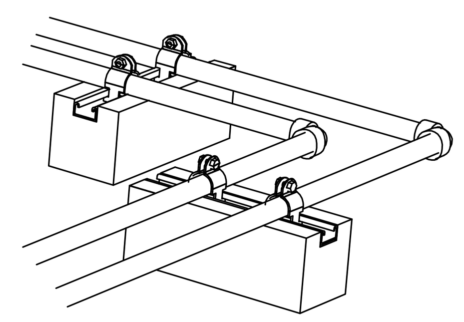
TAG	SUPPLY FAN CFM	SUPPLY FAN ESP (IN. H_2O)	SUPPLY FAN BHP	SUPPLY FAN RPM	MIN. O/A	COOLING COIL TOT MBH (MIN)	COOLING COIL SENS MBH (MIN)	COOLING COIL COIL EAT DB/WB (°F)	HEATING SECTION TOT MBH INPUT	HEATING SECTION TOT MBH OUTPUT	HEATING SECTION COIL EAT DB (°F)	HEATING SECTION	UNIT VOLTAGE	MCA	MOP	MANUF./MODEL	REMARKS	WEIGHTS (APPX)
RTU–1–1	1841	1	X	X	400	60	48	80/67	60	49	60		480/3P	12	15	TRANE	1–8	1200
RTU–1–2	1841	1	X	X	400	60	48	80/67	60	49	60		480/3P	12	15		1–8	1200
RTU–1–3	1853	1	X	X	400	60	48	80/67	60	49	60		480/3P	12	15		1–8	1200
RTU–1–4	1840	1	X	X	400	60	48	80/67	60	49	60		480/3P	12	15		1–8	1200
RTU–1–5	3496	1	X	x	425	120	90		120	96	60		480/3P	22	25		1–8	1600
RTU–2–1	2277	1	X	X	430	72	58	80/67	80	64	60		480/3P	15	20		1–8	1400
RTU–2–2	2277	1	X	X	430	72	58	80/67	80	64	60		480/3P	15	20		1–8	1400
RTU–1–1	1947	1	X	X	400	60	48	80/67	60	49	60		480/3P	12	15		1–8	1200
RTU–1–1	1997	1	X	X	400	60	48	80/67	60	49	60		480/3P	12	15		1–8	1200

REMARKS / ACCESSORIES

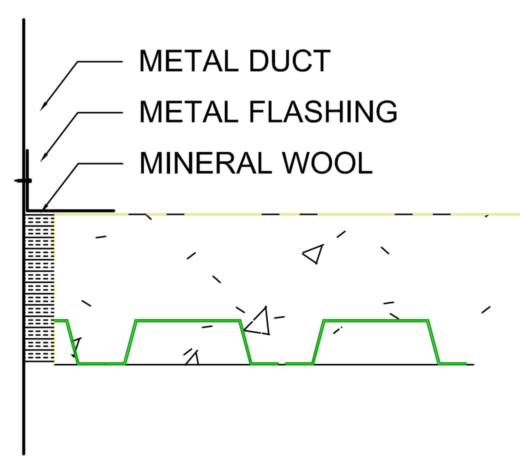
1. PROVIDE INTEGRATED HOT GAS REHEAT COIL AND DEHUMIDIFICATION CYCLE.
2. PROVIDE HUMIDITY SENSORS INTEGRAL TO PROGRAMMABLE THERMOSTATS.
3. PROVIDE NEW SHEAVES AS REQUIRED TO MEET REQUIRED AIRFLOW, CFM'S. PROVIDE TEST & BALANCE REPORT.
4. PROVIDE 30% 2" PLEATED FILTERS.
5. PROVIDE DDC INTERNAL CONTROLS AND PROGRAMMABLE THERMOSTATS. WHERE INDICATED, PROVIDE AN ADDITIONAL SENSOR AND AVERAGE TWO ROOMS.
6. PROVIDE ECONOMIZER WITH FAN POWERED RELIEF.
7. PROVIDE C02 SENSOR, DEMAND CONTROL VENTILATION OA DAMPER OPERATION. SET OA AIRFLOW AT 75% OA CALCULATED ABOVE.
8. STOP OPERATION IF FIRE ALARM (SMOKE DETECTORS AND CO SENSORS BY EC) DETECTS PRODUCTS OF COMBUSTION OR CO



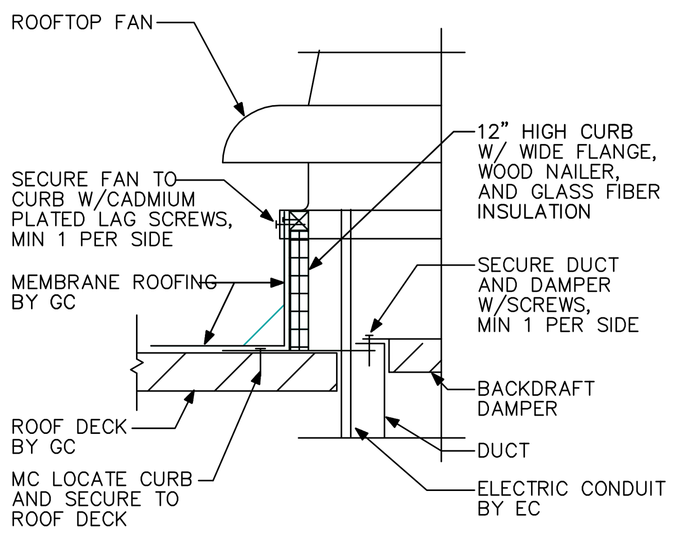
4 ROOF CURB DETAIL
NOT TO SCALE



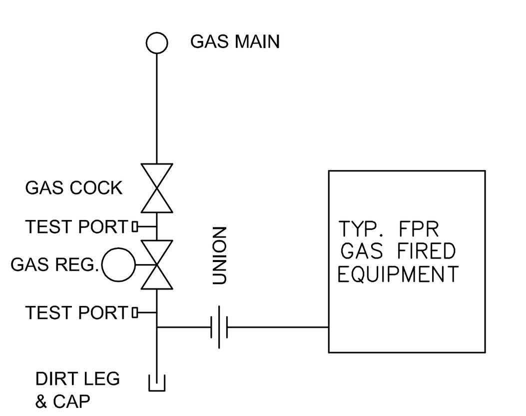
3 ROOF PIPING SUPPORT
NOT TO SCALE



2 DUCT FLOOR PENETRATION
NOT TO SCALE

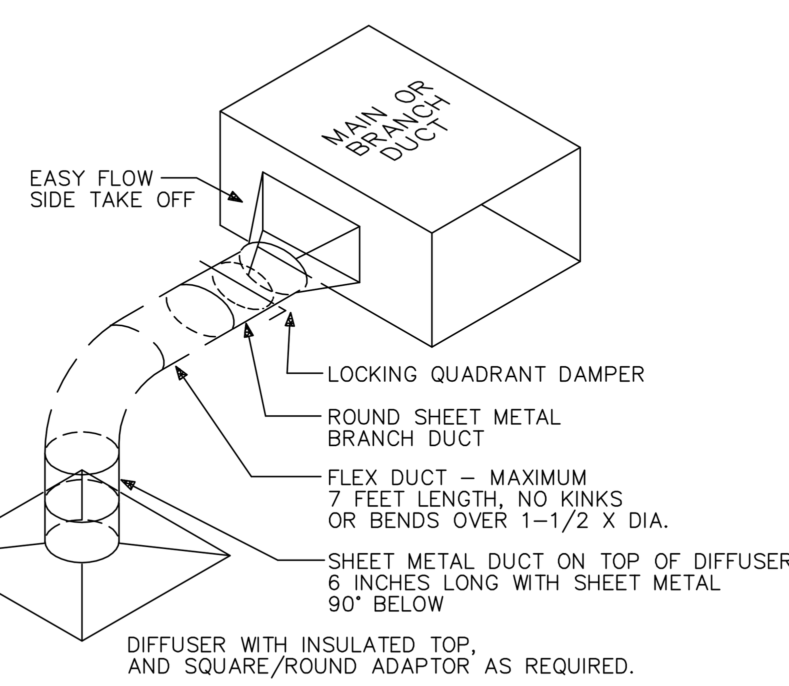


5 FAN CURB DETAIL
NOT TO SCALE



NOTE: PAINT ALL GAS PIPING WITH YELLOW OIL BASED PAINT.

6 TYPICAL GAS CONNECTION
NO SCALE



1 TYPICAL DIFFUSER DETAIL
NOT TO SCALE

RETURN SIZE SCHEDULE

AIRFLOW RANGE, CFM	ROUND DUCT AND FLEX SIZE
8"	0–180
10"	181–280
12"	281–400
14"	401–580
16"	581–725
18"	726–925

SIZES ON PLANS SHEETS SUPERCEDE SCHEDULE
PROVIDE MULTIPLES IF NECESSAY FOR ROOM AIRFLOW

AIR RUNOUT SCHEDULE

AIRFLOW RANGE, CFM	ROUND DUCT AND FLEX SIZE
4"	0–40
5"	41–70
6"	71–120
7"	121–165
8"	166–225
10"	226–325
12"	326–500
14"	501–1000

FAN SCHEDULE

TAG	SERVICE	TYPE	CFM	ESP (IN. H_2O)	RPM	BHP	HP	MAX SOUND SONES	VOLTAGE	MANUFACTURER	MODEL	REMARKS
EF–1–1	BATH EXH	CEILING	300	.5	–	–	–	7	120/1P	GREENHECK	SP	2,3
EF–1–2	BATH EXH	CEILING	300	.5	–	–	–	7	120/1P	GREENHECK	SP	2,3
EF–1–2	BATH EXH	ROOF DB DD	600	.5	–	–	–	7	120/1P	GREENHECK	SP	1,3

1. PROVIDE CURB, INT. DISCONNECT, BIRD SCREEN, SPEED SWITCH, SS FASTENERS, BD DAMPER.
2. PROVIDE WITH SPEED SWITCH, BACKDRAFT DAMPER, WALL CAP.
3. CONTROL WITH TIME CLOCK.

AIR TERMINAL SCHEDULE

DEVICE	SYMBOL	MFG.	MODEL	DESCRIPTION	DAMPER	COLOR	REMARKS
CEILING DIFFUSER	HxW / A–CFM ◄NECK SIZE ◄A–AIR FLOW	NAILOR	RNS	SQUARE, LOUVERED FACE, STEEL CONSTRUCTION, ROUND NECK ADAPTOR 24x24 T–BAR MTD., INSULATED TOP	NO	WHITE	1,2,3
RETURN AIR REGISTER	HxW / B–CFM ◄NECK SIZE ◄B–AIR FLOW	NAILOR	4360	PREFORATED FACE RETURN REGISTER, STEEL CONSTRUCTION, REMOVABLE FACE, FOR 24x24 LAY–IN TBAR FRAME	NO	WHITE	1,3,4
SIDEWALL DIFFUSER	HxW / C–CFM ◄NECK SIZE ◄C–AIR FLOW	NAILOR	51DH	RECTANGLE SIDEWALL TYPE, STEEL CONSTRUCTION WITH ADAPTOR DOUBLE DEFFLECTION, ADJUSTABLE	NO	WHITE	
RETURN SIDEWALL DIFFUSER	HxW / D–CFM ◄NECK SIZE ◄D–AIR FLOW	NAILOR	6145	35° FIXED DEFLECTION, BLADES SPACED AT 3/4", STEEL, RECTANGULAR NECK FLANGE FRAME, SEE PLANS FOR SIZES	NO	WHITE	
RND SUPPLY DIFFUSER	HxW / E–CFM ◄NECK SIZE ◄E–AIR FLOW	NAILOR	RNR	ROUND CEILING DIFFUSER WITH OBD 24x24 CEILING, INSULATED TOP	NO	WHITE	
MODULATING DIFFUSER	HxW / F–CFM ◄NECK SIZE ◄F–AIR FLOW	RICKARD	–	HEATING–COOLING MODULATING DIFFUSER WITH ACTION CHANGE OVER, HEAT MODULATION 24x24 CEILING, INSULATED TOP	NO	WHITE	

REMARKS/ACCESSORIES:

1. PROVIDE PLASTER FRAMES FOR DIFFUSERS MOUNTED IN HARD SURFACES
2. ~~ARROWS INDICATE DIFFUSERS OTHER THAN 4–WAY BLOW. PROVIDE DIFFUSERS WITH INDICATED BLOW DIRECTIONS.~~
3. WHERE PLANS INDICATE, FURNISH 12x12 FACE SIZE DIFFUSER.
4. PROVIDE SOUND TRAP ELBOW FOR ALL PLENUM RETURN DIFFUSERS – TAG B

MINI-SPLIT SYSTEM SCHEDULE

MARK	GENERAL DATA CFM TOTAL	GENERAL DATA CFM O.A.	SEER	COP	VOLTAGE	MCA	MOCP	COOLING CAPACITY TOTAL MBH	COOLING CAPACITY SENS. MBH	COOLING CAPACITY OAT °Fdb/°Fwb	COOLING CAPACITY	HEAT PUMP HEATING CAPACITY-NA TOTAL BTH/H	OAT °Fdb	TOTAL BTH/H	OAT °Fdb
MS–1	350	––	18	2.9	208/1P	7	15	12	10	95/75		NA	47	NA	17

REMARKS/ACCESSORIES:

1. RUN LIQUID AND SUCTION LINES IN MOST INCONSPICUOUS ROUTE TO CONDENSING UNIT
2. PROVIDE PROGRAMABLE T'STATS BY UNIT MANUFACTURER, MOUNTED 54" TO 60" A.F.F. PROVIDE WIRING FROM INDOOR TO OUTDOOR UNIT.
3. PROVIDE LOW AMBIENT OPERATION, FLOAT SWITCH TO STOP OPERATION IF CONDENSATE DRAIN FAILS. PROVIDE CONDENSATE PUMP

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 14846 ROBERT K. BOUKNIGHT 2/24/21

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TITLE: CAROLINA CHARTER ACADEMY 2021 ADDITION
8529 NC-55
ANGIER, NC
CUSTOMER: SWINERTON CONSTRUCTION
JOB No.: SHEET No.: SCALE:

DESIGNED BY: RKB DATE:
DRAWN BY: RKB DATE:
CHECKED BY: DATE:
APPROVED BY: RKB DATE:
DRAWING NUMBER: M0.1
SCHEDULES/DETAILS

AREA A | AREA B

ROBERT BOUKNIGHT, PE
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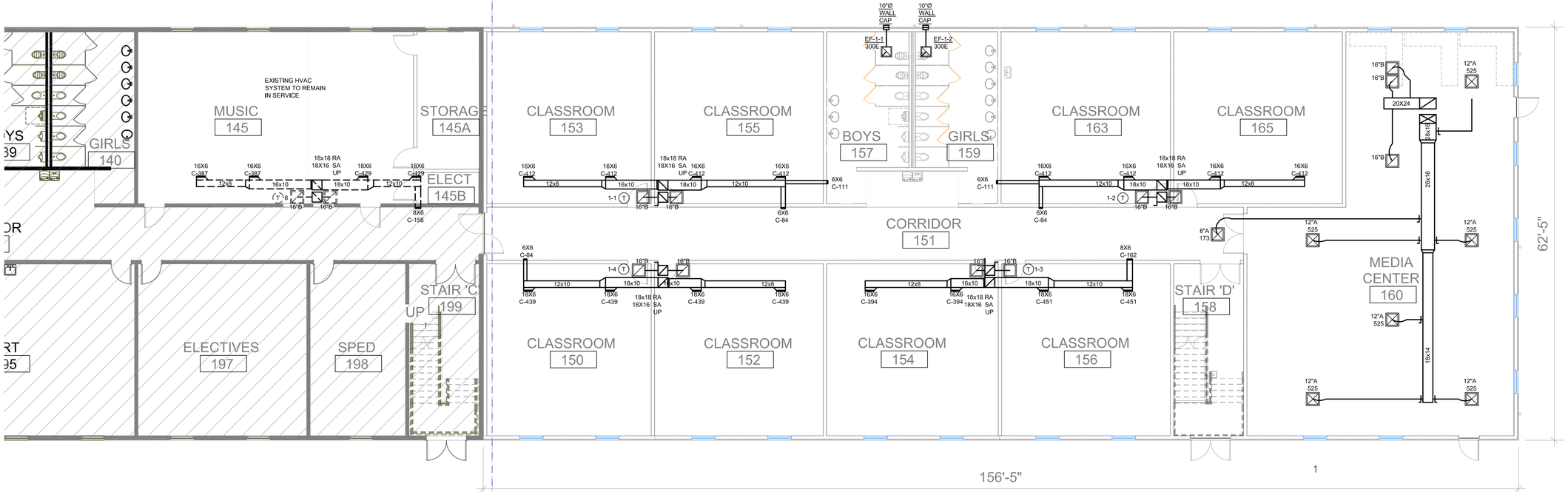
Zone Name / Space Name	Mult.	Supply Air (CFM)	Floor Area (ft²)	OA Floor Rate (CFM)	Timed Average Occupancy	People OA Rate (CFM/Person)	Air Dist Eff. (Ez)	Space Required OA (CFM) Voz	Breathing Zone OA (CFM) Vbz
RTU-1-1									
153 CLRM	1	823	650	0.12	26	10	0.8	423	338
155 CLRM(1)	1	823	650	0.12	26	10	0.8	423	338
157 BATH	1	111	288	0.06	1	0	0.8	22	17
1 CORRIDOR QUARTER(1)	1	84	250	0.06	1	0	0.8	19	15
Totals (incl. Space Multipliers)		1841							708
RTU-1-2									
163 CLRM(1)	1	823	650	0.12	26	10	0.8	423	338
165 CLRM(2)	1	823	650	0.12	26	10	0.8	423	338
157 BATH	1	111	288	0.06	1	0	0.8	22	17
1 CORRIDOR QUARTER(1)	1	84	250	0.06	1	0	0.8	19	15
Totals (incl. Space Multipliers)		1841							708
RTU-1-3									
154 CLRM(3)	1	788	650	0.12	26	10	0.8	423	338
156 CLRM(2)	1	902	650	0.12	26	10	0.8	423	338
158 STAIR HALF	1	162	150	0.06	1	0	0.8	11	9
Totals (incl. Space Multipliers)		1853							685
RTU-1-4									
150 CLRM(1)	1	878	650	0.12	26	10	0.8	423	338
152 CLRM(2)	1	878	650	0.12	26	10	0.8	423	338
1 CORRIDOR QUARTER(1)	1	84	250	0.06	1	0	0.8	19	15
Totals (incl. Space Multipliers)		1840							691
RTU-1-5									
Zone 1									
160 MEDIA	1	2789	2076	0.12	50	10	0.8	936	749
158 STAIR HALF	2	174	150	0.06	1	0	0.8	11	9
2 CORRIDOR QUARTER	2	180	250	0.06	1	0	0.8	19	15
Totals (incl. Space Multipliers)		3496							797



AREA A | AREA B

HVAC FIRST FLOOR PLAN

SCALE 1/8" = 1'-0"

0 4' 8' 16'

MECHANICAL TECHNOLIGIES & SOLUTIONS, LLC.
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Winston-Salem, NC 27107
Phone (336) 399-5168 Fax (336) 893-7712
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TITLE: CAROLINA CHARTER ACADEMY
2021 ADDITION
8529 NC-55
ANGIER, NC

CUSTOMER: SWINERTON CONSTRUCTION

JOB No.: | SHEET No.: | SCALE:

DESIGNED BY: RKB DATE:
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APPROVED BY: RKB DATE:

DRAWING NUMBER: M1.1A
HVAC 1ST LEV PLAN

AREA A | AREA B

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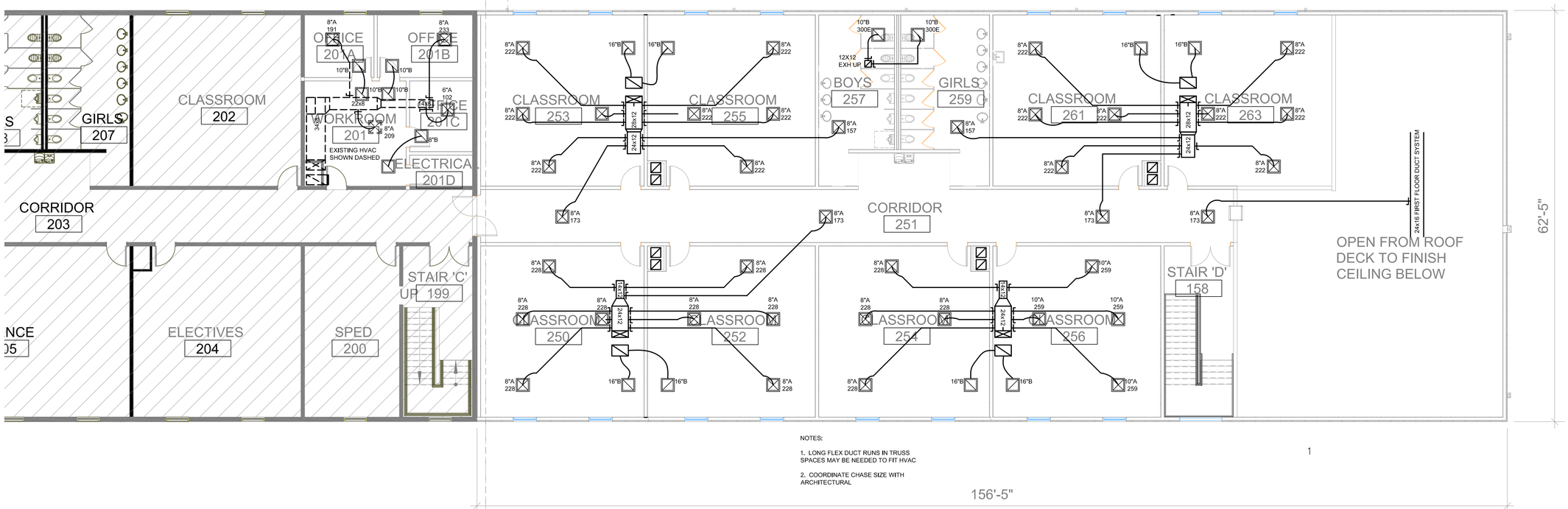
Zone Name / Space Name	Mult.	Supply Air (CFM)	Floor Area (ft²)	OA Floor Rate (CFM)	Timed Average Occupancy	People OA Rate (CFM/Person)	Air Dist Eff. (Ez)	Space Required OA (CFM) Voz	Breathing Zone OA (CFM) Vbz
RTU-2-1									
253 CLRM(1)	1	887	650	0.12	26	10	0.8	423	338
255 CLRM(2)	1	887	650	0.12	26	10	0.8	423	338
257 BATH(1)	1	157	288	0.06	1	0	0.8	22	17
2 CORRIDOR QUARTER	2	173	250	0.06	1	0	0.8	19	15
Totals (incl. Space Multipliers)		2277							723
RTU-2-2									
261 CLRM(3)	1	887	650	0.12	26	10	0.8	423	338
263 CLRM(4)	1	887	650	0.12	26	10	0.8	423	338
257 BATH(1)	1	157	288	0.06	1	0	0.8	22	17
2 CORRIDOR QUARTER	2	173	250	0.06	1	0	0.8	19	15
Totals (incl. Space Multipliers)		2277							723
RTU-2-3									
254 CLRM(4)	1	912	650	0.12	26	10	0.8	423	338
256 CLRM(5)	1	1035	650	0.12	26	10	0.8	423	338
Totals (incl. Space Multipliers)		1947							676
RTU-2-4									
250 CLRM(2)	1	912	650	0.12	26	10	0.8	423	338
252 CLRM(3)	1	912	650	0.12	26	10	0.8	423	338
2 CORRIDOR QUARTER	1	173	250	0.06	1	0	0.8	19	15
Totals (incl. Space Multipliers)		1997							691



NOTES:

1. LONG FLEX DUCT RUNS IN TRUSS SPACES MAY BE NEEDED TO FIT HVAC

2. COORDINATE CHASE SIZE WITH ARCHITECTURAL

HVAC 2ND FLOOR PLAN

SCALE 1/8" = 1'-0"

0 4' 8' 16'

MECHANICAL TECHNOLIGIES & SOLUTIONS, LLC.
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Winston-Salem, NC 27107
Phone (336) 399-5168 Fax (336) 893-7712
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REV.	BY	DATE	DESCRIPTION

TITLE: CAROLINA CHARTER ACADEMY
2021 ADDITION
8529 NC-55
ANGIER, NC

CUSTOMER: SWINERTON CONSTRUCTION

JOB No.: | SHEET No.: | SCALE:

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DRAWING NUMBER: M1.2
HVAC 2ND LEV PLAN

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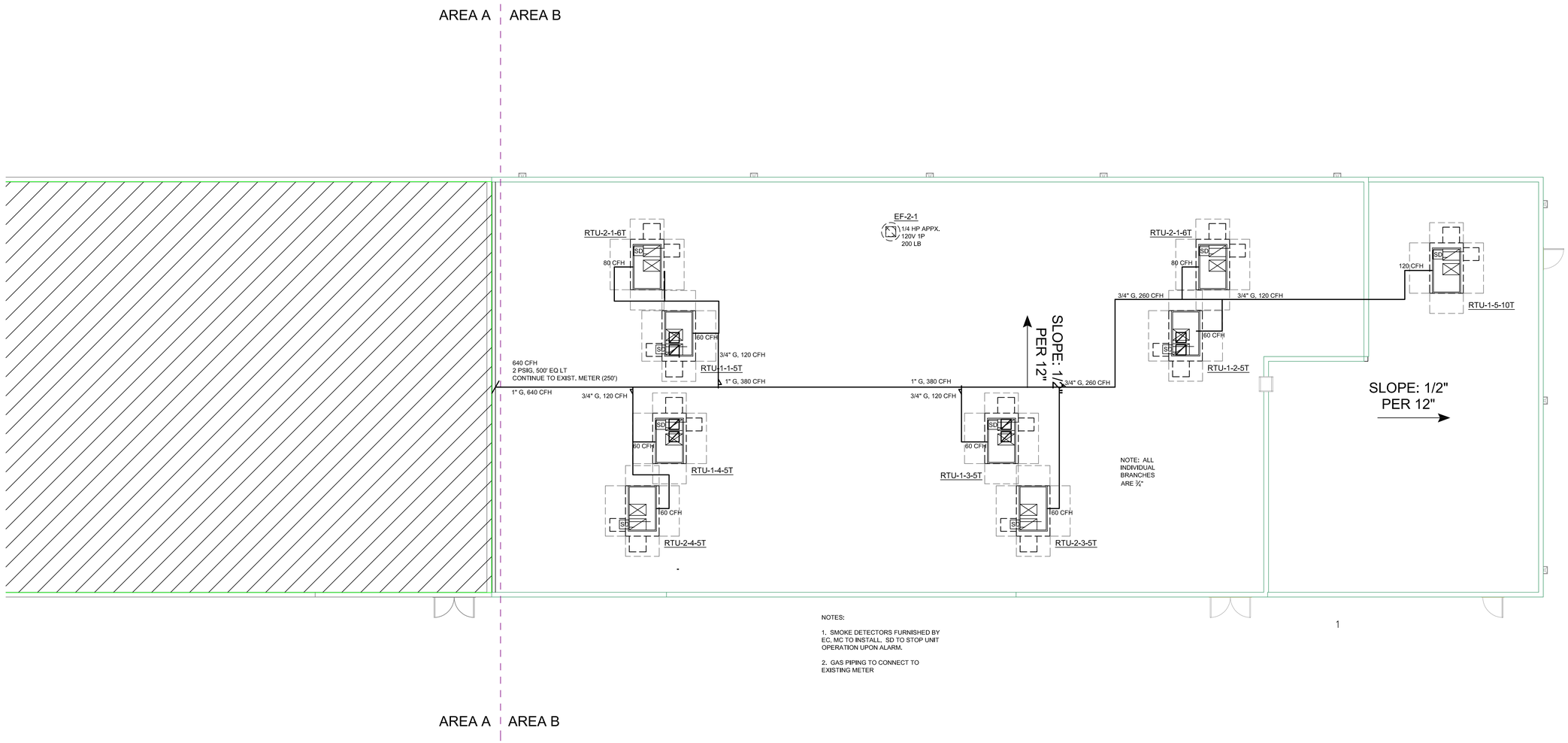

NOTES:

1. SMOKE DETECTORS FURNISHED BY EC, MC TO INSTALL. SD TO STOP UNIT OPERATION UPON ALARM.

2. GAS PIPING TO CONNECT TO EXISTING METER

HVAC ROOF PLAN

SCALE 1/8" = 1'-0"

0 4' 8' 16'

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TITLE: CAROLINA CHARTER ACADEMY
2021 ADDITION
8529 NC-55
ANGIER, NC

CUSTOMER: SWINERTON CONSTRUCTION

JOB No.: | SHEET No.: | SCALE:

DESIGNED BY: RKB DATE:
DRAWN BY: RKB DATE:
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APPROVED BY: RKB DATE:

DRAWING NUMBER: M1.3

HVAC ROOF LEV PLAN

SYMBOLS & LEGEND

BRANCH CIRCUIT CONDUIT CONCEALED IN CEILING AND/OR WALLS, 2#12AWG & 1#12AWG EG UNLESS OTHERWISE INDICATED, HASHMARKS INDICATE NO. OF WIRES.

BRANCH CIRCUIT CONDUIT EXPOSED ON WALL AND OR CEILING, 2#12AWG & 1#12AWG EG UNLESS OTHERWISE INDICATED. HASHMARKS INDICATE NO. OF WIRES.

BRANCH CIRCUIT CONDUIT CONCEALED IN OR UNDER FLOOR OR IN FURRED CEILING BELOW, TWO 2#12AWG & 1#12AWG EG UNLESS OTHERWISE INDICATED. HASHMARKS INDICATE NO. OF WIRES.

HOMERUN TO PANELBOARD. NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS

PHASE WIRES

NEUTRAL

NOTE: ALL CONDUITS TO BE 3/4" C - 2#12AWG & 1#12AWG EG UNLESS OTHERWISE INDICATED BY HASH MARKS OR CONDUIT AND WIRE SCHEDULE
CONDUIT FITTINGS TO BE STEEL COMPRESSION TYPE
WHERE SUBJECT TO PHYICAL DAMAGE, IMC OR RIGID CONDUIT TO BE UTILIZED

3-WIRE TIE CONNECTION BETWEEN MASTER/SLAVE LIGHTING FIXTURE COMBINATIONS

1/2" FLEXIBLE CONDUIT CONNECTION WITH 3#14 & 1#14 E.G.

FLUORESCENT LIGHTING FIXTURE, SURFACE.

FLUORESCENT LIGHTING FIXTURE, RECESSED.

H WALL OR CEILING MOUNTED EXIT LIGHT. SHADE INDICATES FACE.

RECESSED LIGHTING FIXTURE.

$ SINGLE POLE SWITCH. (SEE MOUNTING DETAIL)

$3 THREE WAY SWITCH. (SEE MOUNTING DETAIL)

$D DIMMER SWITCH EQUAL TO LUTRON NOVA SERIES, SIZED FOR LOAD. (SEE MOUNTING DETAIL)

$FD FLUORESCENT DIMMER SWITCH EQUAL TO LUTRON NOVA SERIES. (SEE MOUNTING DETAIL) SIZED FOR LOAD SIZED FOR LOAD, PROVIDE POWER PACKS FOR LOAD

DUPLEX CONVENIENCE OUTLET. (SEE MOUNTING DETAIL)
CROSSMARK INDICATES 46" A.F.F.

SINGLE CONVENIENCE OUTLET, MOUNTED AS DETAILED. NEMA TYPE AS NOTED OR REQUIRED.

EWC ELECTRIC WATER COOLER OUTLET, VERIFY ROUGH-IN

G,T WP DUPLEX CONVENIENCE OUTLET, WP-WITH WEATHER PROOF COVER, G-GFI TYPE, L-LOCKABLE COVER. T - TAMPER RESISTANT

QUAD. CONVENIENCE OUTLET.

TELEPHONE, TV, SOUND, ETC., CABINET, AS NOTED.

LIGHTING AND POWER PANELBOARD 120/208 VOLTS.

MECHANICAL PANELBOARD 277/480 VOLTS.

J JUNCTION BOX, HEIGHT & SIZE AS NOTED OR REQUIRED.

F EXHAUST FAN OUTLET, VERIFY ROUGH-IN

SAFETY SWITCH, RATING AS INDICATED.

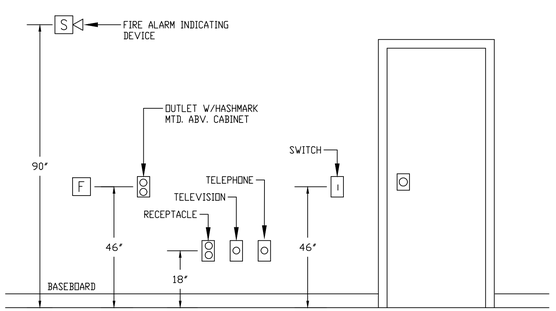
TELEPHONE/DATA OUTLET (SEE TYPICAL TELE/DATA RISER; SHEET E01

C CEILING RECEPTACLE MOUNTED IN CEILING FOR FUTURE CONNECTION; COORDINATE EXACT LOCATION WITH OWNER PRIOR TO INSTALLATION.

M CEILING MOUNTED INFRARED AND ULTRASONIC OCCUPANCY SENSOR WITH POWER CONTROL STATION LITHONIA LMTD-H-LPCS WITH EQUALS BY HUBBELL, WATT STOPPER, OR NOVITAS

ELECTRICAL DEVICE NOTES

PRIOR TO PLACING ORDER FOR ELECTRICAL DEVICES; E.C. TO CONFIRM WITH ARCHITECH AND OWNER ON EXACT DEVICE COLOR & FACE PLATE; ALL CEILING MOUNTED DEVICES TO HAVE DEVICE PLATE THAT MATCH CEILING; ALL OTHERS TO BE PRICED WITH GREY DEVICES AND STAINLESS COVER PLATE; FINAL COLOR & DEVICE SELECTION BY OWNER/ARCHITECT.
ALL DEVICES TO BE SPEC INDUSTRIAL GRADE, MATCH EXISTING



OUTLET LOCATION DETAIL

NO SCALE D-MOUNT

NOTE: HASHMARK INDICATES TO BE MTD. AT 46" ABOVE FLOOR

COORDINATION NOTES

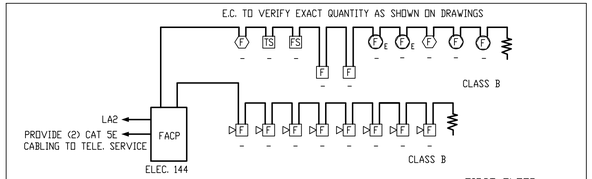
1. MOUNTING HEIGHTS SHOWN ARE FROM THE FINISHED FLOOR TO THE CENTER OF DEVICE UNLESS OTHERWISE NOTED (SEE DETAIL).
2. ELECTRICAL DEVICES SHALL BE ALIGNED WITH THE ARCHITECTURAL FEATURES OF THE BUILDING. DEVICES FOR VARIOUS SYSTEMS (LIGHT SWITCHES, RECEPTACLES, FIRE ALARM HORNS, THERMOSTATS, ETC.) LOCATED IN THE SAME GENERAL AREA SHALL BE ALIGNED AT THEIR RESPECTIVE MOUNTING HEIGHTS. THE E.C. SHALL COORDINATE WITH THE OTHER TRADES TO ENSURE ALIGNMENT OF ALL DEVICES, BACK BOXES SHALL BE MOUNTED ON THE SAME SIDE OF THE SAME WALL STUD TO PRESENT AN ALIGNED APPEARANCE. ANY DIMENSIONING SHOWN ON THE DRAWING SHALL SUPERSEDE THIS GUIDANCE.
3. WHERE A MULTIPLE GANG BOX HAS CIRCUITS OF DIFFERENT VOLTAGES OR SYSTEMS WHICH ARE REQUIRED TO BE SEPARATED. THE BOX SHALL BE PROVIDED WITH THE CODE REQUIRED SEPARATION USING A FULL HEIGHT AND DEPTH BARRIER PLATE.
4. MECHANICAL EQUIPMENT WILL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR. THE LOCATION SHOWN ON THE ELECTRICAL PLANS ARE APPROXIMATE. THE E.C. SHALL FULLY COORDINATE WITH THE M.C. TO DETERMINE THE EXACT LOCATION OF EACH PIECE OF EQUIPMENT, PRIOR TO ANY INSTALLATION.
5. WHERE COVER PLATES FOR LIGHT SWITCHES OR RECEPTACLES CONFLICT WITH CASEWORK OR MILLWORK, THE MOUNTING HEIGHTS OF THE WIRING DEVICES SHALL BE ADJUSTED SLIGHTLY SO THAT THE COVER PLATES CLEAR THE BACK SPLASH BY 1/4". THE ELECTRICAL CONTRACTOR SHALL THOROUGHLY REVIEW THE CASEWORK DRAWINGS AND ARCHITECTURAL ELEVATIONS PRIOR TO ROUGH INS.
6. FOR ANY WALL OR FLOOR PENETRATIONS, E.C. TO SHALL PROVIDE FIRE PROOFING TO SEAL ALL THE PENETRATIONS AFTER THE CONDUIT AND WIRING HAS BEEN INSTALLED. E.C. TO USE U.L. SYSTEMS PER PENETRATION MADE. REFER TO ARCHITECTURAL SHEETS FOR LOCATIONS OF RATED WALLS AND PARTITIONS.
7. ALL ROUGH-INS BOXES TO BE INSTALLED SO THAT NO BOX EXTENSION ARE UTILIZED.

FIRE ALARM NOTES

NEW FIRE ALARM SYSTEM (VOICE EVAC); E.C. TO PROVIDE ALL DEVICES TO MEET NFPA 72
PROVIDE ALL CIRCUITRY AND PROGRAMMING FOR A COMPLETE INSTALLATION
DACT TO BE INTEGRAL ADDRESSABLE POINT REPORTING TYPE.
IF ACCEPTABLE WITH FIRE MARSHAL, ALL STROBES AND HORN/STROBES TO HAVE RED FINISH; PROVIDE DEVICE MAP AT ANNUNCIATOR

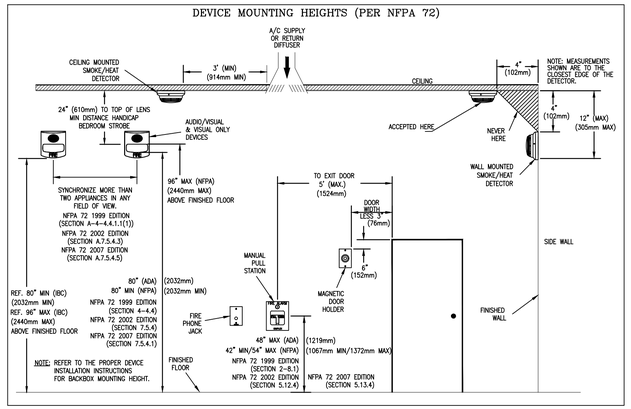
FIRE ALARM LEGEND

FACP	ANALOG ADDRESSABLE FIRE ALARM CONTROL PANEL
NAC	NOTIFICATION ALARM CIRCUIT PANEL W/BATTERIES
SS	FLUSH MOUNTED SPEAKER WITH LIGHT
F	DOUBLE ACTION ADDRESSABLE PULL STATION
HD	CEILING MOUNTED FIXED HEAT DETECTOR
ST	FLUSH MOUNTED STROBE LIGHT ONLY
SD	CEILING MOUNTED ADDRESSABLE PHOTO SMOKE DETECTOR "S" DENOTES SURFACE MOUNTED "E" DENOTES ELEVATOR RECALL CEILING MOUNTED STROBE LIGHT ONLY
SD D	DUCT MOUNTED SMOKE DETECTOR WITH DUCT HOUSING ASSEMBLY PROVIDED BY ELEC. CONTRACTOR 1- THE MECHANICAL CONTRACTOR WILL MOUNT THE DETECTOR & WIRE FROM FAM TO AHU SHUT DOWN 2- THE ELECTRICAL CONTRACTOR SHALL WIRE INTO FIRE ALARM SYSTEM.
R	REMOTE TEST STATION FOR DUCT MOUNTED SMOKE DETECTOR, 90"
DH	FIRE ALARM DOOR HOLDER OUTLET, 24 VOLT DC
FS	SPRINKLER WATER FLOW MONITORING DEVICE, COORDINATE EXACT LOCATION AND REQUIRED QUANTITIES
TS	SPRINKLER TAMPER MONITORING DEVICE, COORDINATE EXACT LOCATION AND REQUIRED QUANTITIES
SS	CEILING MOUNTED SPEAKER WITH LIGHT
ZAM	CONTROL ZAM; COMPATIBLE WITH DELAYED EGRESS HARDWARE MAG LOCKS/ACCESS CONTROL TO RELEASE UPON FIRE ALARM ACTIVATION
CO	CARBON MONOXIDE DETECTOR
BT	BEAM DETECTOR TRANSMITTER
BR	BEAM DETECTOR REFLECTOR



TYPICAL FIRE ALARM RISER

NO SCALE (SEE DRAWINGS FOR EXACT QUANTITY OF DEVICES)



SAFETY SWITCH SCHEDULE

* FUSE SIZE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS
* * FUSE SIZE AS NOTED ON PLANS.
NF NON-FUSED

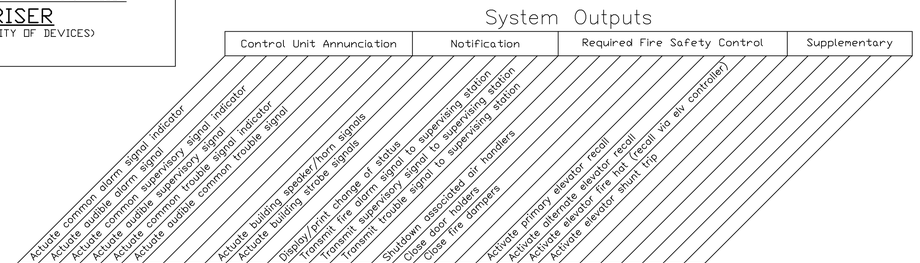
MARK	POLE	AMPS	VOLTS	NEMA	FUSE	GROUND BAR	COMMENTS
1	2	30	240	3R	*	YES	HEAVY DUTY
2	3	100	600	3R	*	YES	HEAVY DUTY
3	3	30	600	3R	*	YES	HEAVY DUTY
4	3	60	600	3R	*	YES	HEAVY DUTY
5	3	200	600	3R	*	YES	HEAVY DUTY

TRANSFORMER SCHEDULE

MARK	KVA	PHASE	WIRE	VOLTAGE PRI.	VOLTAGE SEC.	ENCLOSURE	MOUNTING
1	45*	3	4	480	120/208	NEMA 1	FLOOR
2	–	–	–	–	–	–	–
3	–	–	–	–	–	–	–
4	–	–	–	–	–	–	–
5	–	–	–	–	–	–	–

* NEMA TP-1, 150° RISE, AL WINDINGS

System Outputs



		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	BB	CC	DD	EE	FF	GG	
1	Manual fire alarm boxes	●	●								●	●		●	●																				1
2	In-duct smoke detector for damper			●	●									●		●			●		●														2
3	In-duct smoke detector			●	●									●		●			●		●														3
4	Smoke detectors – general	●	●								●	●		●	●																				4
5	Heat detectors – general	●	●								●	●		●	●																				5
6	Smoke detectors – door holders	●	●								●	●		●	●					●															6
7	Smoke detectors – elevator 2 floor	●	●								●	●		●	●									●											7
8	Smoke detectors – elevator equipment room	●	●								●	●		●	●											●									8
9	Smoke detectors – elevator shaft	●	●								●	●		●	●											●									9
10	Heat detectors – elevator equipment room	●	●								●	●		●	●												●								10
11	Heat detectors – elevator shaft, pit	●	●								●	●		●	●												●								11
12	Fire alarm system low battery					●	●							●			●																		12
13	Open circuit					●	●							●			●																		13
14	Ground fault					●	●							●			●																		14
15	Notification appliance circuit short					●	●							●			●																		15
16	Signaling Line circuit short					●	●							●			●																		16
17	Initiating device circuit open					●	●							●			●																		17
18	Fire Alarm AC failure					●	●							●			●																		18
19	Amplifier AC failure					●	●							●			●																		19
20	SNAC AC failure					●	●							●			●																		20
21	CO detectors	●	●											●	●				●																21
22																																			22
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		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	BB	CC	DD	EE	FF	GG	

FIRE ALARM SYSTEM MATRIX

NO SCALE

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Angier, North Carolina
27501

Owner
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801-256-9550

Architect
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919-821-0805

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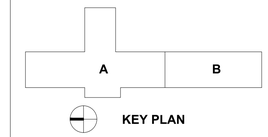

KEY PLAN

SEAL | DATE 2/12/2021

SHEET ISSUE

1	50% Construction Documents	2/8/2021

RATIO

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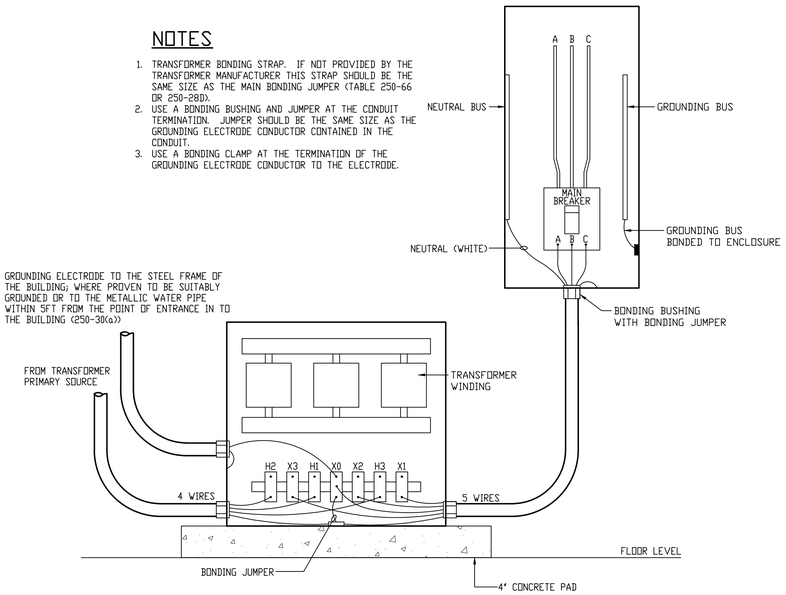
PROJECT NO. 20408.000

SHEET TITLE
Electrical - Symbols & Legends, Notes & Details

SHEET NUMBER
E-01

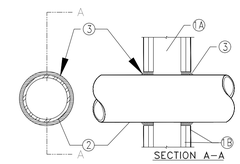
NOTES

1. TRANSFORMER BONDING STRAP. IF NOT PROVIDED BY THE TRANSFORMER MANUFACTURER THIS STRAP SHOULD BE THE SAME SIZE AS THE MAIN BONDING JUMPER (TABLE 250-66 OR 250-28D).
2. USE A BONDING BUSHING AND JUMPER AT THE CONDUIT TERMINATION. JUMPER SHOULD BE THE SAME SIZE AS THE GROUNDING ELECTRODE CONDUCTOR CONTAINED IN THE CONDUIT.
3. USE A BONDING CLAMP AT THE TERMINATION OF THE GROUNDING ELECTRODE CONDUCTOR TO THE ELECTRODE.



DRY TYPE TRANSFORMER GROUNDING DETAIL

NO SCALE



SYSTEM NO. W-L-1001

SEPTEMBER 07, 2004
(FORMERLY SYSTEM NO. 147)

F Ratings-1, 2, 3 and 4 Hr (See Items 2 and 3)
T Ratings-0, 1, 2, 3, and 4 Hr (See Item 3)
L Rating At Ambient-less than 1 CFM/sq ft
L Rating At 400 F-less than 1 CFM/sq ft

Filename = XHEZ.W-L-1001
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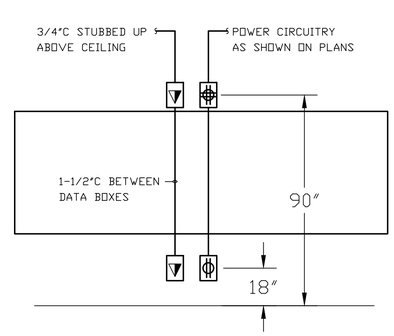
1. Wall Assembly-The 1, 2, 3 or 4 hr fire-rated gypsum wallboard stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
A. Studs-Wall framing may consist of either wood studs (max 2 h fire rated assemblies) or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC with nom 2 by 4 in. lumber end plates and cross braces. Steel studs to be min 3-5/8 in. wide by 1-3/8 in. deep channels spaced max 24 in. OC.
B. Gypsum Board*-Nom 1/2 or 5/8 in. thick, 4 ft. wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 13-1/2 in.
2. Through-Penetrant- One metallic pipe, conduit or tubing installed either concentrically or eccentrically within firestop system. The annular space between pipe, conduit or tubing
and peripher, of opening shall be min of 0 in.(point contact to max 2 in. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits, or tubing may be used:
A. Steel Pipe-Nom 24 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.
B. Iron Pipe-Nom 24 in. diam (or smaller) service weight (or heavier) cast iron soil pipe, nom 12 in diam (or smaller) or Class 50 (or heavier) ductile iron pressure pipe.
C. Conduit-Nom 6 in. diam (or smaller) steel conduit or nom 4 in diam (or smaller) steel electrical metallic tubing
D. Copper Tubing - Nom 6 in. diam (or smaller) Type L (or heavier) copper pipe.
E. Copper Pipe-Nom 6 in. diam (or smaller) Regular (or heavier) copper pipe.
Through Pentratrating Product*-Flexibile Metal Piping The following types of steel flexible metal gas piping may be used:
1. Nom 2 in. diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may not be removed on both sides of floor or wall assembly.
OMEGA FLEX INC - 2. Nom 1 in. diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may not be removed on both sides of floor or wall assembly. TITEWFLEX CORP - A BUNDY CO 3 . Nom 2 in. diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may not be removed on both sides of floor or wall assembly.
3. Fill, Void or Cavity Material*-Caulk or Sealant - Min 5/8, 1-1/4, 1-7/8 and 2-1/2 in. thickness of caulk for 1,2,3 and 4 hr rated assemblies, respectively, applied within annulus, flush with both surfaces of wall. Min 1/4 in. diam bead of caulk applied to gypsum board/penetrant interface at point contact location on both sides of wall. The hourly F Rating of the firestop system is dependent upon the hourly fire rating of the wall assembly in which it is installed, as shown in the following table. The hourly T Rating of the firestop system is dependent upon the type or size of the pipe or conduit and the hourly fire rating of the wall assembly in which it is installed, as tabulated below:

Max Pipe or Conduit Diam, In	F Rating, Hr	T Rating, Hr
1	1 or 2	0+, 1 or 2
1	3 or 4	3 or 4
4	1 or 2	0
6	3 or 4	0
12	1 or 2	0

+When copper pipe is used, T Rating is 0 h.
3M COMPANY - CP 25 WB+ or FB-3000WT
*Bearing the UL Classification Marking

VOLTS	A-PH.	B-PH.	C-PH.	NU.	GROUND
120/240	BLACK		BLUE	WHITE	GREEN
208Y/120	BLACK	RED	BLUE	WHITE	GREEN
480Y/277	BROWN	ORANGE	YELLOW	GRAY	GREEN OR BR.
575	BLACK	RED	BLUE		GREEN OR BR.

VERIFY INSTALLATION W/OWNER PRIOR TO INSTALL

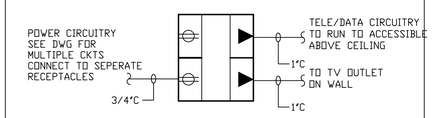


CLASSROOM FRONT WALL

NO SCALE

FLOOR BOX LEGEND

CONCEALED MULTI-SERVICE FLOOR BOX WITH 4-GANGS AVAILABLE FOR MOUNTING DEVICES; BOXES IN CONTACT WITH EARTH TO BE CAST IRON; BOXES ABOVE GRADE IN POURED FLOOR TO BE STAMPED STEEL AND COMPATIBLE WITH 3" FLOOR POUR; SEE DETAILS FOR DEVICES AND SERVICE FEEDS
EQUAL TO HUBBELL HBLCFB401CB
CAST ALUMINUM TOP PLATE COORDINATED WITH FLOORING MATERIAL



DETAIL 1-E.02
FLOOR BOX - FB1

NO SCALE

LOCATED IN ELEC #201A — FED FROM PANEL-MDP VIA 225A CIRCUIT BREAKER

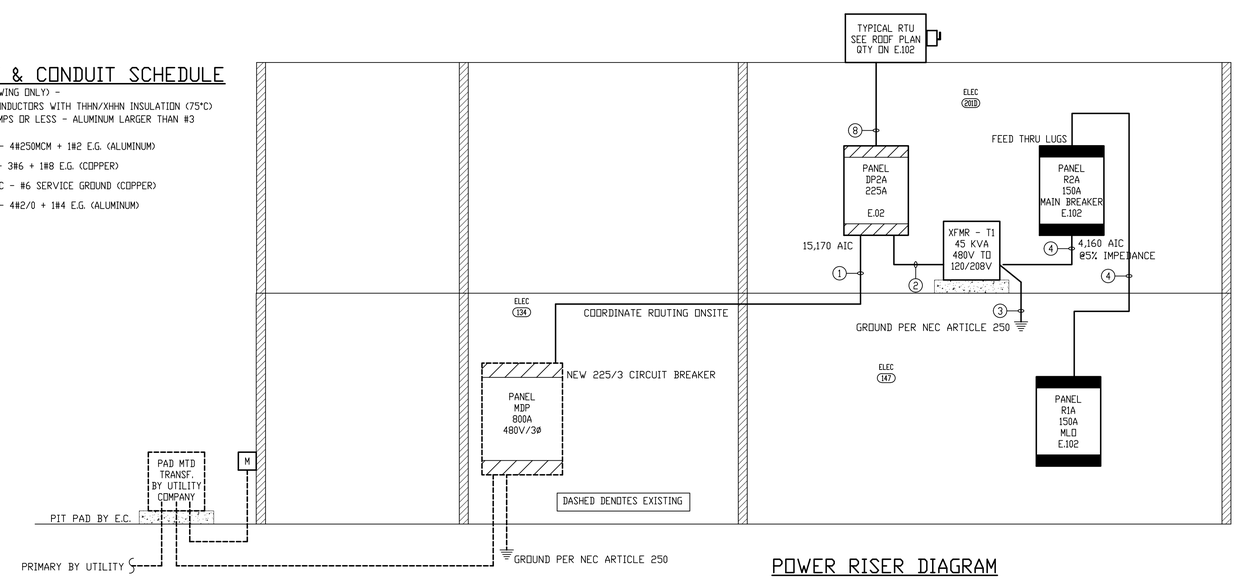
PANEL-DP2A — MAKE: SQ D — TYPE: NF — RATING: 277/480V 3ø 4W — MOUNTING: SURFACE — MLO MAIN CIRCUIT BREAKER (FRAME ____) — EQUIPMENT GROUND BUS ☒ YES ☐ NO

LOAD SERVED	VA PER PHASE A	B	C		CKT BRKR	CKT NO.	NEUTRAL A B C	CKT NO.	CKT BRKR		VA PER PHASE A	B	C	LOAD SERVED
LTG-STAIR 1B,1C	870				20/1	1		2	20/1		2230			LTG-219-223,225
LTG-WALL PAKS,EXTERIOR		440			20/1	3		4	20/1			1020		LTG-155,231,232,227,228,217
LTG-128,130-135,127			2120		20/1	5		6	20/1				2270	LTG-229,230,233,234,215,216
SPARE	–				20/1	7		8	20/1		–			SPARE
SPARE		–			20/1	9		10	20/1			–		SPARE
SPARE			–		20/1	11		12	20/1				–	SPARE
–	3600				–	13		14	–		2800			–
RTU-2-1		3600			20/3	15		16	15/3			2800		RTU-2-3
3/4"C – 3#12 + 1#12 E.G.			3600		–	17		18	–				2800	3/4"C – 3#12 + 1#12 E.G.
–	2800				–	19		20			3600			
RTU-1-1		2800			15/3	21		22	20/3			3600		RTU-1-2
3/4"C – 3#12 + 1#12 E.G.			2800		–	23		24					3600	3/4"C – 3#12 + 1#12 E.G.
–	2800				–	25		26			2800			
RTU-1-4		2800			15/3	27		28	15/3			2800		RTU-2-1
3/4"C – 3#12 + 1#12 E.G.			2800		–	29		30					2800	3/4"C – 3#12 + 1#12 E.G.
–	2800				–	31		32			2800			
RTU-2-4		2800			15/3	33		34	25/3			2800		RTU-1-5
3/4"C – 3#12 + 1#12 E.G.			2800		–	35		36					2800	3/4"C – 3#10 + 1#10 E.G.
–	2800				–	37		38			12480			
RTU-1-3		2800			15/3	39		40	70/3			12480		45 KVA XFMR-PNLS R2A
3/4"C – 3#12 + 1#12 E.G.			2800		–	41		42					12480	1"C – 3#6 + 1#8 E.G. (Cu)
REMARKS	17520	17580	16920	SUB-TOTAL "B"		225	BUS	SUB-TOTAL "A"			26710	25500	26750	MIN. 35,000 A.I.C. SYM. AMPERES
–						225	LUGS	SUB-TOTAL "B"			17520	17580	16920	
–						225	S/N	GRAND TOTAL			44230	43080	43670	LUGS/PHASE (1) – #250MCM
–						TOP	FEED	AMPS / PHASE			160	156	158	LUGS/NEUT. (1) – #250MCM

WIRE & CONDUIT SCHEDULE

(THIS DRAWING ONLY) –
COPPER CONDUCTORS WITH THHN/XHHN INSULATION (75°C)
FOR 100 AMPS OR LESS - ALUMINUM LARGER THAN #3

1. 3"C – 4#250MCM + 1#2 E.G. (ALUMINUM)
2. 1"C – 3#6 + 1#8 E.G. (COPPER)
3. 3/4"C – #6 SERVICE GROUND (COPPER)
4. 2"C – 4#2/0 + 1#4 E.G. (ALUMINUM)



POWER RISER DIAGRAM

NO SCALE

Carolina Charter Academy Exp.
8529 Highway 55
Angier, North Carolina 27501

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Highmark School Development
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Architect
RATIO
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Raleigh, North Carolina 27601
919-821-0805

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DESIGNED FOR
SAMMY PHILLIPS ELECTRIC
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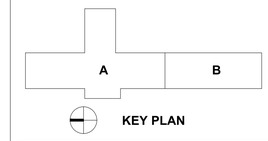
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 029468 CHARLES B. LAUNAY 2/12/21

GREENSBORO ENGINEERING PLLC REGISTERED ARCHITECTURAL ENGINEERING CORPORATION P-0395 GREENSBORO, NC



KEY PLAN

SEAL | DATE 2/12/2021

SHEET ISSUE

1	50% Construction Documents	2/8/2021

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PROJECT NO. 20408.000

SHEET TITLE
Electrical -
Power Riser, Schedules, Notes & Details

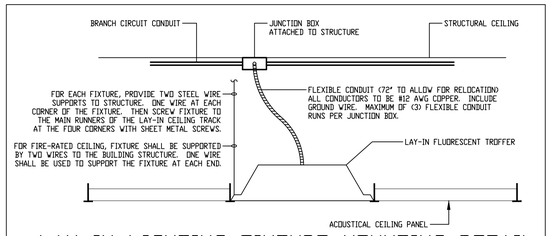
SHEET NUMBER
E-02

LIGHTING VENDOR NOTES - EQUALS BY R.L. VANSTORY, EGI ASSOCIATES, AND COOPER LIGHTING

SEE DRAWINGS AND EMERGENCY LIGHTING LEGEND FOR EM FIXTURES

LUMINAIRE SCHEDULE

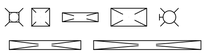
MARK	MANUFACTURER	CATALOG NUMBER	LAMP(S) #	LAMP(S) TYPE	LAMP(S) WATT.	BALLAST(S) #	BALLAST(S) TYPE	BALLAST(S) WATT.	FIXTURE WATT.	FIXTURE VOLTAGE	MOUNTING	REMARKS
A	LITHONIA	EPANL SERIES										2' X 4' RECESSED LED TROFFER; 120/277V;
	DAY-BRITE	EQUAL		4500 LUMEN PACKAGE	–		0-10V DIMMING					CURVED LINEAR PRISMS; 0-10V DIMMING DRIVER
	COOPER	EQUAL	–	LED 3500° K MIN 85 CRI	39	–	DRIVER	39	39	120/277	CEILING RECESSED	A – 4500 LUMENS
				–	–		DIM TO BLACK					–
												–
B	LITHONIA	EPANL SERIES										2' X 4' RECESSED LED TROFFER; 120/277V;
	DAY-BRITE	EQUAL		7200 LUMEN PACKAGE	–		0-10V DIMMING					CURVED LINEAR PRISMS; 0-10V DIMMING DRIVER
	COOPER	EQUAL	–	LED 3500° K MIN 85 CRI	60	–	DRIVER	60	60	120/277	CEILING RECESSED	A – 7200 LUMENS
				–	–		DIM TO BLACK					–
												–
S4	LITHONIA	ZL1N SERIES										4' LED STRIP LIGHT; 120/277V;
	DAY-BRITE	EQUAL		4,000 LUMEN			–					4,000 LUMEN PACKAGE; FACTORY CHAIN MOUNT
	COOPER	EQUAL	–	LED MODULE PACKAGE	36	–	DRIVER	36	36	120/277	PENDANT MOUNT 8' AFF	* PLEASE VERIFY CEILINGS AS SOME S4 MAY NEED TO BE ADJUSTED TO
				3500° K							CHAIN HUNG	WRAP AROUNDS (SURFACE MOUNTED); SEE PLANS FOR CONNECTED
				MINIMUM 85 CRI								S4 – 8' LONG; ADJUST PER PLANS – 6K LUMENS FOR 8' UNIT
W	LITHONIA	WPX2 SERIES										GENERAL PURPOSE WALL PAK
	DAY-BRITE	EQUAL		6K LUMEN								6000 LUMEN OUTPUT; DARK BRONZE COLOR
	PRESCOLITE	EQUAL	1	LED OUTLET	45	1	LED DRIVER	45	45	120/277	WALL MOUNTED	BUILT IN PE CELL
				–							12' AFG	FINSH AND STYLE TO MATCH EXISTING (VERIFY PRIOR TO ORDERED)
				–							SEE ARCH. ELEVATIONS	
EL	LITHONIA	ELM4L SERIES										TWO HEADED, SELF-CONTAINED EMERGENCY LIGHTING UNIT;
	DAY-BRITE	EQUAL		9.6 VOLT							WALL MOUNTED	120/277 DUAL VOLTAGE INPUT; 9.6 VOLT, 3 WATT SEALED BEAM
	COOPER	EQUAL	2	2 WATT	12	–	–	–	12	120/277	8'-0" AFF	LED LAMPS; HIGH-IMPACT POLYCARBONATE HOUSING;
				LED								MAINTENANCE FREE LEAD CALCIUM BATTERY; WHITE HOUSING
												90 MINUTE BATTERY RUN TIME
	LITHONIA	QUANTUM SERIES										THERMOPLASTIC LED EXIT LIGHT WITH EMERGENCY 90 MINUTE
	SURE LITES	CCX SERIES	–	LED								BATTERY BACK-UP; WHITE HOUSING; GREEN LETTERS; 120/277V
	McPHILBEN	CXXL SERIES			5				5	120/277	CEILING OR	PROVIDE WIRE CAGE IN GYM #100
	–	–	–	LED EXIT							WALL-12" ABOVE DOOR	COMBINATION EXIT/EMERGENCY EQUAL TO LITHONIA THQM
	LITHONIA	QUANTUM COMBINATION EXIT/EMERGENCY										TWIN LAMP EXTERIOR EMERGENCY LIGHT EQUAL LED ELA T Q WP



LAY-IN LIGHTING FIXTURE MOUNTING DETAIL

NO SCALE

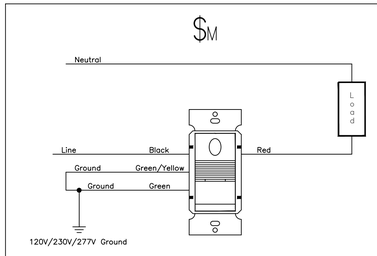
EMERGENCY LIGHTING LEGEND



LIGHT FIXTURES WITH 'CROSSHAIRS' TO BE PROVIDED WITH EMERGENCY BATTERY BACK-UP. SEE NOTES FOR SPECIFIC DETAILS.

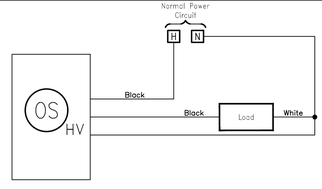
EMERGENCY LIGHTING NOTES

1. EMERGENCY BATTERIES IN DESIGNATED FIXTURES ARE TO BE WIRED SUCH THAT FIXTURES ARE CONTROLLED BY LOCAL SWITCHING AND OPERATE BY BATTERY DURING POWER OUTAGE UNLESS NOTED OTHERWISE. ALL BATTERIES TO HAVE SELF-DIAGNOSTICS. ALL FIXTURES TO BE PROVIDED WITH REMOTE TEST SWITCH AND SELF-DIAGNOSTICS INDICATING LIGHT IN FIXTURE.
2. BATTERIES SERVING LED LAMPS ARE TO BE CONNECTED TO TWO ARRAYS (IF AVAILABLE) BATTERIES SHALL HAVE 1100-1400 LUMEN OUTPUT AND BE FACTORY INSTALLED WITH 5 YEAR WARRANTY; MINIMUM 90 MINUTES OF BATTERY BACKUP PER CODE



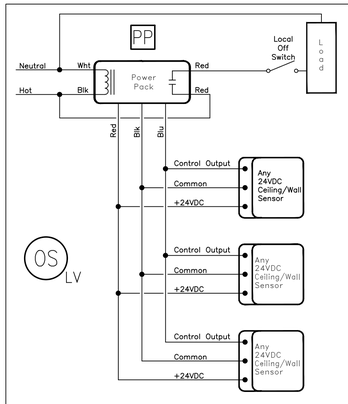
OCCUPANCY SENSOR 'OS1' TYPICAL WIRING DIAGRAM

NO SCALE



OCCUPANCY SENSOR 'OS hv' TYPICAL ONE CIRCUIT WIRING DIAGRAM

NO SCALE



OCCUPANCY SENSOR 'OS lv' MULTIPLE SENSORS CONTROLLING ONE POWER PACK TYPICAL WIRING DIAGRAM

NO SCALE

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Architect

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 029468 CHARLES B. LAONG 2/12/21

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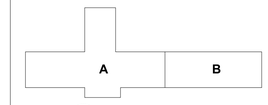

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SEAL | DATE 2/12/2021

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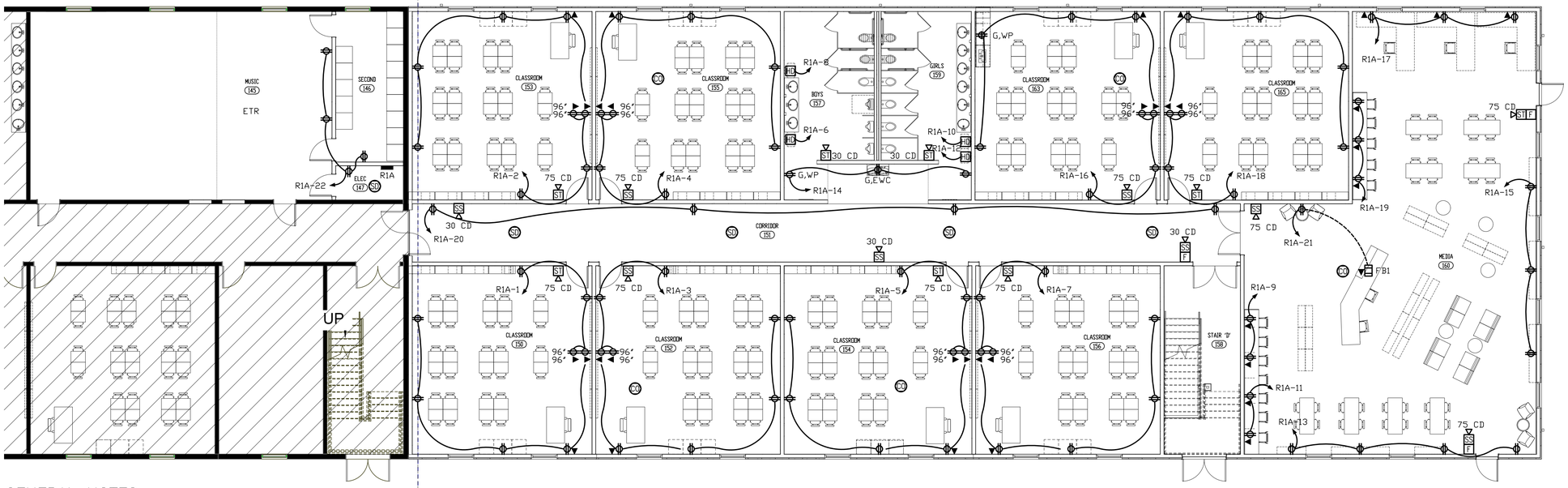
PROJECT NO. 20408.000

SHEET TITLE
Electrical-
Luminaire Schedule,
Notes & Details

SHEET NUMBER
E-03



GENERAL NOTES

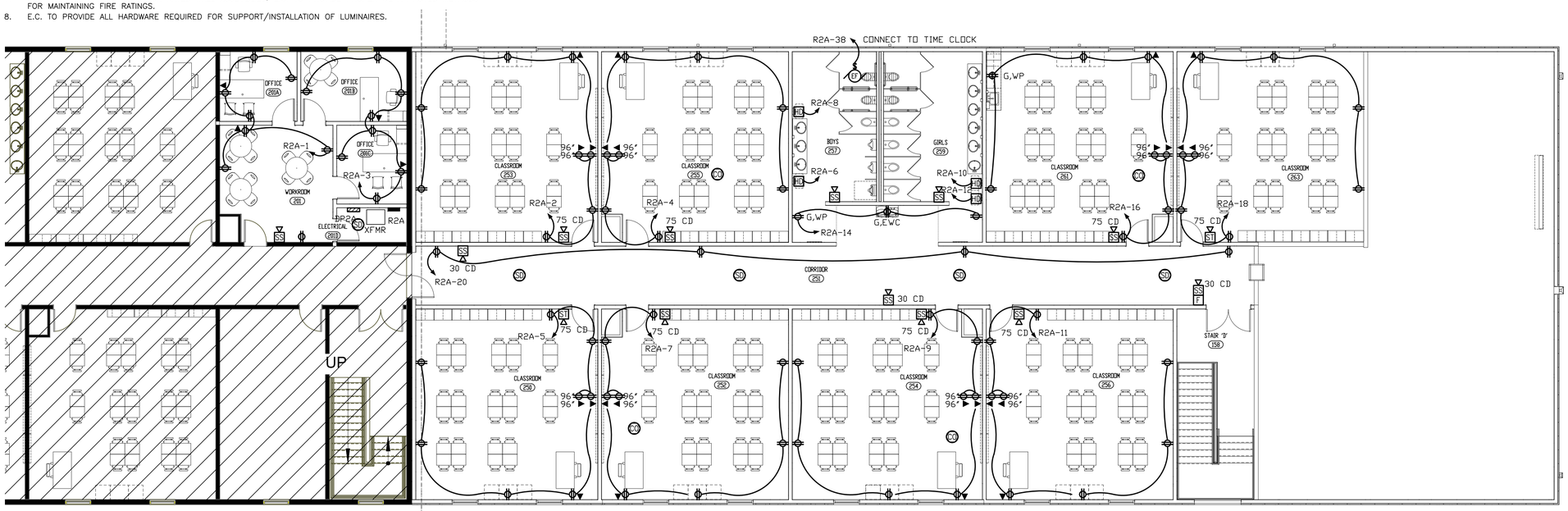
1. CONDUIT RACEWAYS SHOWN ARE DIAGRAMMATIC. CONTRACTOR IS RESPONSIBLE FOR PROVIDING APPROPRIATE WIRE COUNTS WITHIN RACEWAYS TO MAKE SYSTEM FUNCTION AS SHOWN/INDICATED ON PLANS.
2. CONTRACTOR TO PROVIDE SEPARATE NEUTRALS PER NEC 2017.
3. ALL EXITS AND EMERGENCY LIGHTING UNITS SHALL BE CONNECTED TO UNSWITCHED LIGHTING CIRCUITRY IN AREA WHICH IT IS LOCATED. PROVIDE CIRCUITRY FOR COMPLETE INSTALLATION.
4. ALL STAND ALONE WALL BOX DIMMERS TO BE LUTRON NOVA SERIES MATCHED TO LOAD TYPE AND CAPACITY CONTROLLING. E.C. TO VERIFY CAPABILITY OF DIMMER WITH LUMINAIRES; SOME FIXTURES MAY BE LINE VOLTAGE AND SOME MAY REQUIRE 0–10V; E.C. TO VERIFY WITH LIGHTING SUPPLIER/CUT SHEETS PRIOR TO PLACING ORDER.
5. ALL CABLING ABOVE LAY–IN CEILING TO BE PLENUM RATED. ALL CABLING TO BE IN CONDUIT (3/4" MINIMUM).
6. ALL 120V HOMERUNS OVER 75 FEET IN LENGTH TO HAVE UPSIZED (ONE SIZE LARGER) WIRE FOR VOLTAGE DROP.
7. SEE ARCHITECTURAL SHEETS FOR RATED WALL ASSEMBLIES; E.C. TO PROVIDE PROPER UL APPROVED METHODS FOR MAINTAINING FIRE RATINGS.
8. E.C. TO PROVIDE ALL HARDWARE REQUIRED FOR SUPPORT/INSTALLATION OF LUMINAIRES.

GROUND FLOOR – POWER, TELE/DATA & FA

SCALE 1/8" = 1'–0"

0 2' 4' 8' 16'

CO PROVIDE CARBON MONOXIDE DETECTOR TIED INTO FIRE ALARM SYSTEM CO DETECTOR TO BE LOCATED BY AHJ AND MECHANICAL CONTRACTOR PRIOR TO INSTALLATION; INTENT IS AT 1ST SUPPLY DIFFUSER LOCATION VERIFY PRIOR TO INSTALLATION; TYPICAL OF (9) GAS ROOF TOP UNITS



KEYED PLAN NOTES

1. ALL CLASSROOM RECEPTACLES TO BE TAMPER RESISTANT.
2. COORDINATE HEIGHT OF RECEPTACLES AT CLASSROOM WHITE BOARD/PROJECT; COORDINATE WITH OWNER PROVIDED EQUIPMENT.
3. PROVIDE ALTERNATE FOR DOOR CONTROL SYSTEM TIED INTO MAG LOCKS (PROVIDED BY DOOR HARDWARE PROVIDER); E.C. TO WIRE INSTALL RACEWAYS ONLY; COORDINATE EXACT LOCATION WITH OWNER PRIOR TO INSTALLATION. FIRE ALARM TO TIE INTO ACCESS CONTROL AND RELEASE ALL DOORS IF FA ACTIVATED.

2ND FLOOR – POWER, TELE/DATA & FA

SCALE 1/8" = 1'–0"

0 2' 4' 8' 16'

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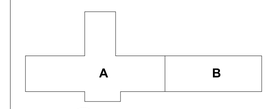

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PROJECT NO. 20408.000

SHEET TITLE
Electrical - Power, Tele/Data & FA; Notes & Details

SHEET NUMBER
E-101

GENERAL NOTES

1. CONDUIT RACEWAYS SHOWN ARE DIAGRAMMATIC. CONTRACTOR IS RESPONSIBLE FOR PROVIDING APPROPRIATE WIRE COUNTS WITHIN RACEWAYS TO MAKE SYSTEM FUNCTION AS SHOWN/INDICATED ON PLANS.
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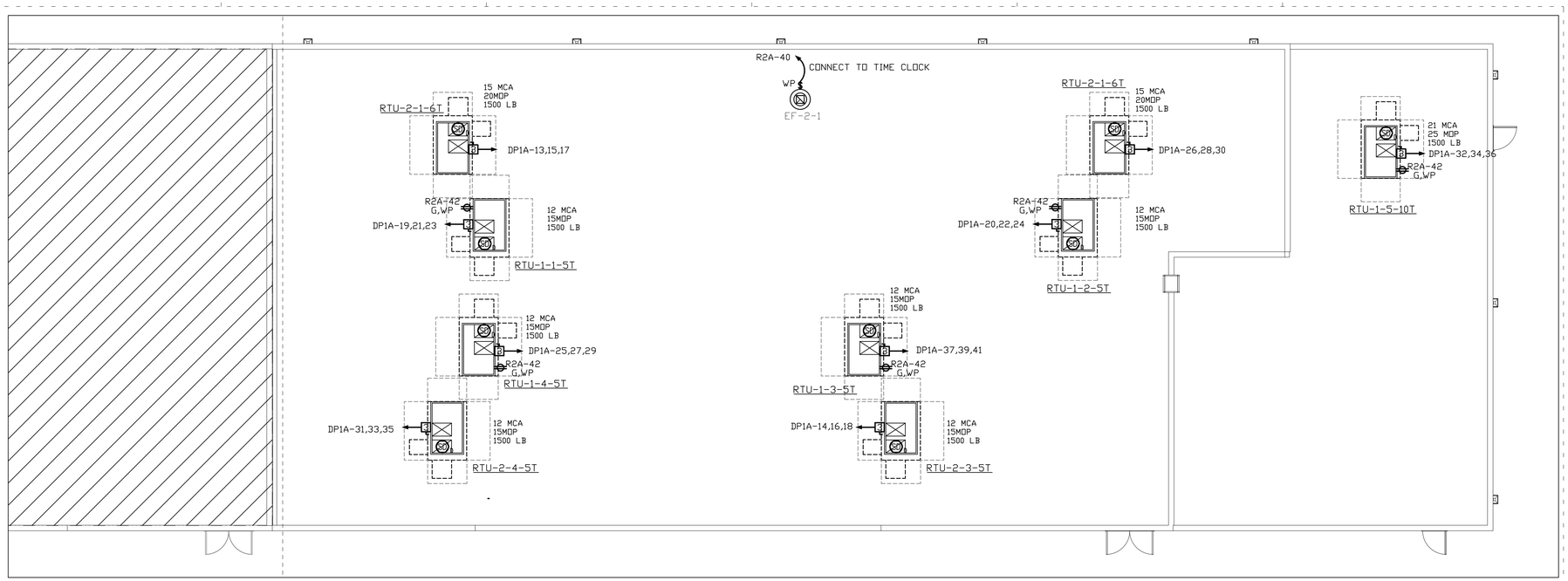
8. E.C. TO PROVIDE ALL HARDWARE REQUIRED FOR SUPPORT/INSTALLATION OF LUMINAIRES.



ROOF ELECTRICAL - POWER & FA

SCALE 1/8" = 1'-0"

0 2' 4' 8' 16'

LOCATED IN ELEC# 147 — FED FROM PANEL-DP1A VIA 45 KVA XFMR

PANEL-R1A — MAKE: SQ D — TYPE: NQOD — RATING: 120/208V 3ø 4W — MOUNTING: SURFACE — MLO MAIN CIRCUIT BREAKER (FRAME) — EQUIPMENT GROUND BUS ☒ YES ☐ NO

LOAD SERVED	VA PER PHASE A	B	C		CKT BRKR	CKT NO.	NEUTRAL A B C	CKT NO.	CKT BRKR		VA PER PHASE A	B	C	LOAD SERVED
REC-CLASSROOM 150	720				20/1	1		2	20/1		720			REC-CLASSROOM 153
REC-CLASSROOM 152		720			20/1	3		4	20/1			720		REC-CLASSROOM 155
REC-CLASSROOM 154			720		20/1	5		6	20/1	GFCI			720	HAND DRYER 157
REC-CLASSROOM 156	720				20/1	7		8	20/1	GFCI	720			HAND DRYER 157
REC-MEDIA 160		720			20/1	9		10	20/1	GFCI		720		HAND DRYER 159
REC-MEDIA 160			720		20/1	11		12	20/1	GFCI			1200	HAND DRYER 159
REC-MEDIA 160	720				20/1	13		14	20/1		720			REC-TLT 157,159, EWC
REC-MEDIA 160		720			20/1	15		16	20/1			720		REC-CLASSROOM 163
REC-MEDIA 160			720		20/1	17		18	20/1				720	REC-CLASSROOM 165
REC-MEDIA 160	720				20/1	19		20	20/1		720			REC-CORRIDOR 151
REC-MEDIA 160		720			20/1	21		22	20/1			720		REC-MUSIC 145, 146, 147
SPARE			–		20/1	23		24	20/1				–	SPARE
SPARE	–				20/1	25		26	20/1		–			SPARE
SPARE		–			20/1	27		28	20/1			–		SPARE
SPARE			–		20/1	29		30	20/1				–	SPARE
SPARE	–				20/1	31		32	30/2		–			SPARE
SPARE		–			20/1	33		34	–			–		–
SPARE			–		20/1	35		36	30/2				–	SPARE
SPARE	–			GFCI	20/1	37		38	–		–			–
SPARE		–		GFCI	20/1	39		40	30/2			–		SPARE
FIRE NAC			–	*	20/1	41		42	–				–	–
REMARKS	4320	4320	4320	SUB-TOTAL "B"		200A BUS		SUB-TOTAL "A"			5040	5040	5040	MIN. 18,000 A.I.C. SYM. AMPERES
* DENOTES RED CIRCUIT BREAKER LOCKING DEVICE – GFCI – GROUND FAULT INTERRUPTER CIRCUIT BREAKER						200A LUGS		SUB-TOTAL "B"			4320	4320	4320	
						200A S/N		GRAND TOTAL			9360	9360	9360	LUGS/PHASE (1) – #2/0 LUGS/NEUT. (1) – #2/0
						BOTT FEED		AMPS / PHASE			78	78	78	

LOCATED IN ELEC # 201D — FED FROM PANEL-DP1A VIA 45 KVA XFMR

PANEL-R2A — MAKE: SQ D — TYPE: NQOD — RATING: 120/208V 3ø 4W — MOUNTING: SURFACE — 150A MAIN CIRCUIT BREAKER (FRAME) — EQUIPMENT GROUND BUS ☒ YES ☐ NO

LOAD SERVED	VA PER PHASE A	B	C		CKT BRKR	CKT NO.	NEUTRAL A B C	CKT NO.	CKT BRKR		VA PER PHASE A	B	C	LOAD SERVED
REC-201,201A	720				20/1	1		2	20/1		720			REC-CLASSROOM 253
REC-OFFICE 201B, 201C, 201D		720			20/1	3		4	20/1			720		REC-CLASSROOM 255
REC-CLASSROOM 250			720		20/1	5		6	20/1				1200	HAND DRYER 257
REC-CLASSROOM 252	720				20/1	7		8	20/1		720			HAND DRYER 257
REC-CLASSROOM 254		720			20/1	9		10	20/1			1200		HAND DRYER 259
REC-CLASSROOM 256			720		20/1	11		12	20/1				1200	HAND DRYER 259
SPARE	–				20/1	13		14	20/1		720			REC-257,259
SPARE		–			20/1	15		16	20/1			720		REC-CLASSROOM 261
SPARE			–		20/1	17		18	20/1				720	REC-CLASSROOM 263
SPARE	–				20/1	19		20	20/1		720			REC-CORRIDOR 251
SPARE		–			20/1	21		22	20/1			–		SPARE
SPARE			–		20/1	23		24	20/1				–	SPARE
SPARE	–				20/1	25		26	20/1		–			SPARE
SPARE		–			20/1	27		28	20/1			–		SPARE
SPARE			–		20/1	29		30	20/1				–	SPARE
SPARE	–				20/1	31		32	30/2		–			SPARE
SPARE		–			20/1	33		34	–			–		–
SPARE			–		20/1	35		36	30/2				–	SPARE
SPARE	–			GFCI	20/1	37		38	–		–			–
SPARE		–		GFCI	20/1	39		40	30/2			–		SPARE
FIRE NAC			–	*	20/1	41		42	–				–	–
REMARKS	4320	4320	4320	SUB-TOTAL "B"		200A BUS		SUB-TOTAL "A"			5040	5040	5040	MIN. 18,000 A.I.C. SYM. AMPERES
* DENOTES RED CIRCUIT BREAKER LOCKING DEVICE FEED THRU LUGS GFCI – GROUND FAULT INTERRUPTER CIRCUIT BREAKER –						200A LUGS		SUB-TOTAL "B"			4320	4320	4320	
						200A S/N		GRAND TOTAL			9360	9360	9360	LUGS/PHASE (1) – #2/0 LUGS/NEUT. (1) – #2/0
						BOTT FEED		AMPS / PHASE			78	78	78	

[redacted]

Carolina Charter Academy Exp.

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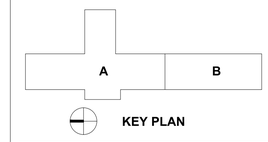

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SEAL | DATE 2/12/2021

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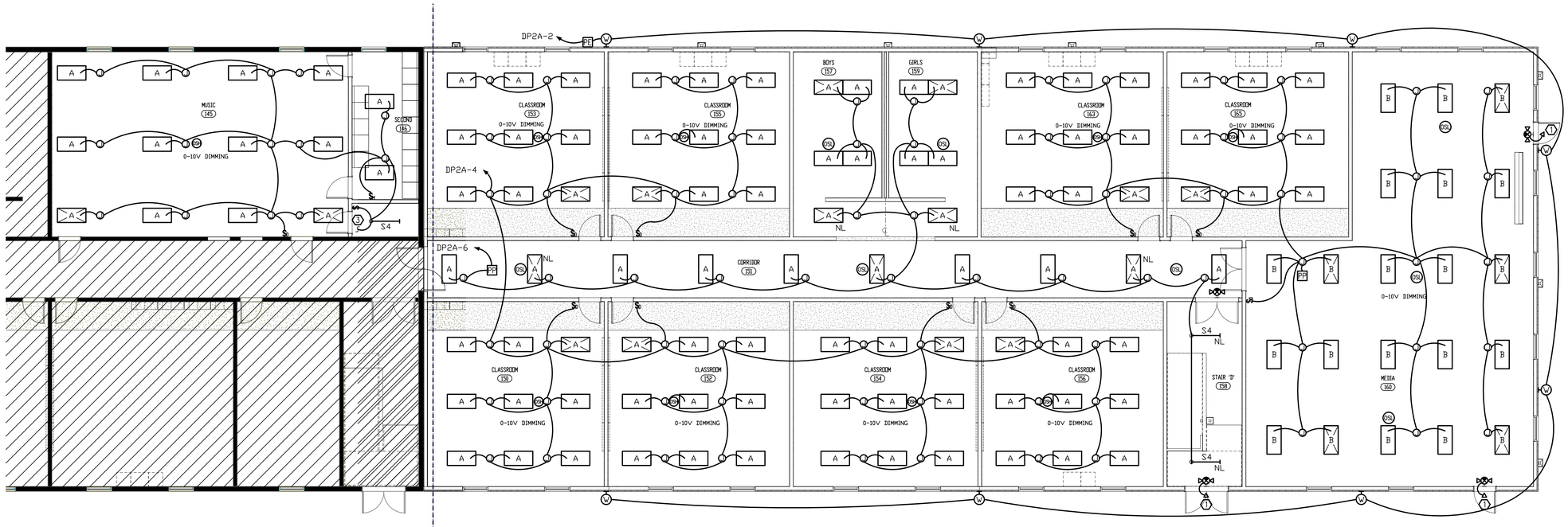
PROJECT NO. 20408.000

SHEET TITLE
Electrical - Roof Power & FA Plan; Panel Schedules

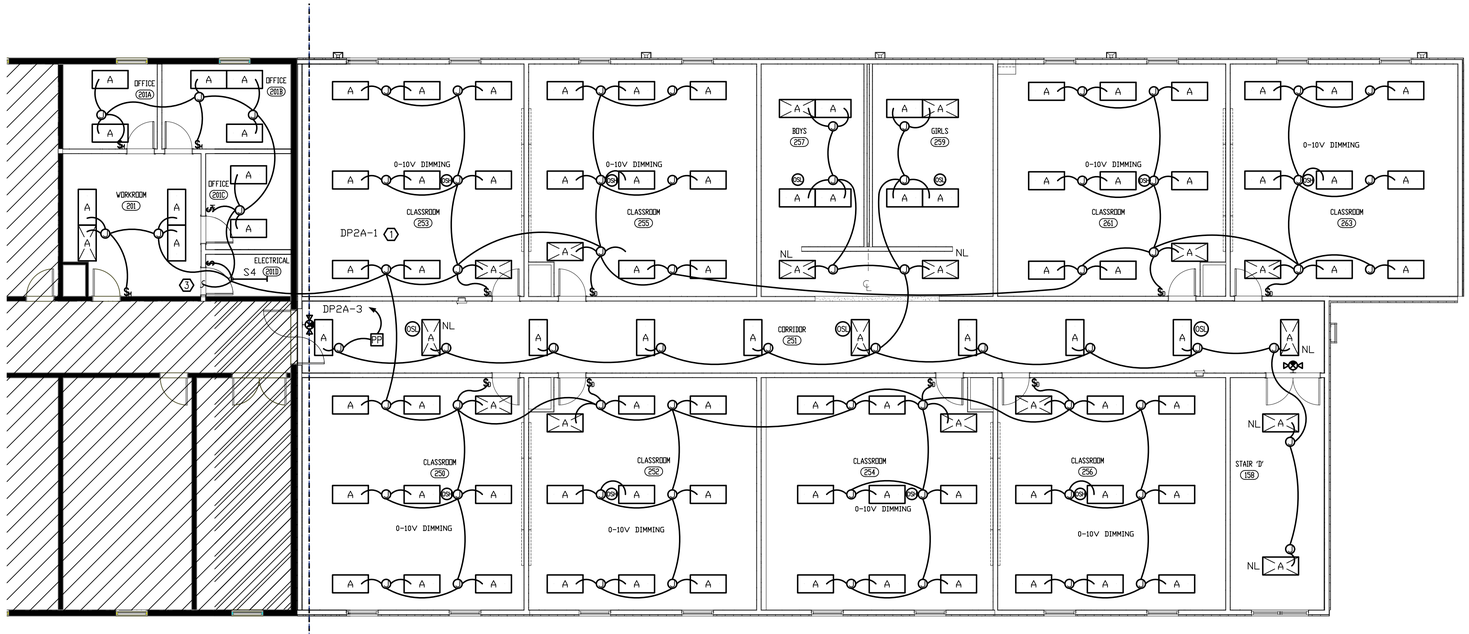
SHEET NUMBER
E-102



GROUND FLOOR - LIGHTING PLAN

SCALE 1/8" = 1'-0"

0 2' 4' 8' 16'



2ND FLOOR - LIGHTING PLAN

SCALE 1/8" = 1'-0"

0 2' 4' 8' 16'

GENERAL NOTES

1. CONDUIT RACEWAYS SHOWN ARE DIAGRAMMATIC. CONTRACTOR IS RESPONSIBLE FOR PROVIDING APPROPRIATE WIRE COUNTS WITHIN RACEWAYS TO MAKE SYSTEM FUNCTION AS SHOWN/INDICATED ON PLANS.
2. CONTRACTOR TO PROVIDE SEPARATE NEUTRALS PER NEC 2017.
3. ALL EXITS AND EMERGENCY LIGHTING UNITS SHALL BE CONNECTED TO UNSWITCHED LIGHTING CIRCUITRY IN AREA WHICH IT IS LOCATED. PROVIDE CIRCUITRY FOR COMPLETE INSTALLATION.
4. ALL STAND ALONE WALL BOX DIMMERS TO BE LUTRON NOVA SERIES MATCHED TO LOAD TYPE AND CAPACITY CONTROLLING. E.C. TO VERIFY CAPABILITY OF DIMMER WITH LUMINAIRES; SOME FIXTURES MAY BE LINE VOLTAGE AND SOME MAY REQUIRE 0-10V; E.C. TO VERIFY WITH LIGHTING SUPPLIER/CUT SHEETS PRIOR TO PLACING ORDER.
5. ALL CABLING ABOVE LAY-IN CEILING TO BE PLENUM RATED. ALL CABLING TO BE IN CONDUIT (3/4" MINIMUM).
6. ALL 120V HOMERUNS OVER 75 FEET IN LENGTH TO HAVE UPSIZED (ONE SIZE LARGER) WIRE FOR VOLTAGE DROP.
7. SEE ARCHITECTURAL SHEETS FOR RATED WALL ASSEMBLIES; E.C. TO PROVIDE PROPER UL APPROVED METHODS FOR MAINTAINING FIRE RATINGS.
8. E.C. TO PROVIDE ALL HARDWARE REQUIRED FOR SUPPORT/INSTALLATION OF LUMINAIRES.

KEYED PLAN NOTES

1. FIXTURES SHOWN WITH CROSS HAIRS TO BE WIRED AS NITE LIGHTS; CONNECTED TO UNSWITCHED LIGHTING LEG SERVING SAME AREA; TYPICAL OF ALL
2. ALL EXTERIOR LIGHTS CONNECTED TO PE CELL; PE CELL TO BE LED RATED AND MADE FOR LOAD; COORDINATE INSTALLATION.
3. CONNECT TO EXISTING LIGHTING CIRCUITRY; COORDINATE WITH EXISTING CONDITIONS.

EMERGENCY LIGHTING LEGEND

LIGHT FIXTURES WITH 'CROSSHAIRS' TO BE PROVIDED WITH EMERGENCY BATTERY BACK-UP. SEE NOTES FOR SPECIFIC DETAILS.

EMERGENCY LIGHTING NOTES

1. EMERGENCY BATTERIES IN DESIGNATED FIXTURES ARE TO BE WIRED SUCH THAT FIXTURES ARE CONTROLLED BY LOCAL SWITCHING AND OPERATE BY BATTERY DURING POWER OUTAGE UNLESS NOTED OTHERWISE. ALL BATTERIES TO HAVE SELF-DIAGNOSTICS. ALL FIXTURES TO BE PROVIDED WITH REMOTE TEST SWITCH AND SELF-DIAGNOSTICS INDICATING LIGHT IN FIXTURE.
2. BATTERIES SERVING LED LAMPS ARE TO BE CONNECTED TO TWO ARRAYS (IF AVAILABLE) BATTERIES SHALL HAVE 1100-1400 LUMEN OUTPUT AND BE FACTORY INSTALLED WITH 5 YEAR WARRANTY; MINIMUM 90 MINUTES OF BATTERY BACKUP PER CODE

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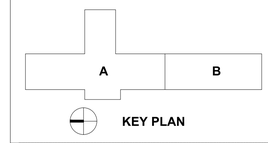

KEY PLAN

SEAL | DATE 2/12/2021

SHEET ISSUE

1	50% Construction Documents	2/8/2021

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PROJECT NO. 20408.000

SHEET TITLE

Electrical -
1st and 2nd Floor
Lighting Plans; Notes

SHEET NUMBER

E-201