WACCAMAW ELEMENTARY SCHOOL

5901 WACCAMAW SCHOOL RD
ASH, NC 28420

BID DOCUMENTS
04.22.2020
8201-191240



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WACCAMAW ELEMENTARY SCHOOL

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ASH, NC 28420

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SHEET INDEX

GENERAL

SHEET NO.	SHEET NAME	SHT REV NO.	SHT REV DATE	REVISION DESCRIPTION
G-000	COVER SHEET (OPTIONAL) 30X42			
G-001	PROJECT INFORMATION SHEET			
G-002	BUILDING CODE SUMMARY_NC			
G-003	U.L. DETAILS			
G-004	FIRST FLOOR LIFE SAFETY PLAN			

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SHEET NO.	SHEET NAME	SHT REV NO.	SHT REV DATE	REVISION DESCRIPTION
C-1.0	GENERAL NOTES - CIVIL			
C-1.1	GENERAL NOTES - CIVIL			
C-2.0	DEMOLITION PLAN			
C-2.1	SITE & PLANTING PLAN			
C-2.1A	SITE & PLANTING PLAN (ALTERNATE CANOPY BID)			
C-3.0	GRADING, DRAINAGE, & EROSION CONTROL PLAN			
C-3.0A	GRADING, DRAINAGE, & EROSION CONTROL PLAN (ALTERNATE CANOPY BID)			
C-4.0	UTILITY PLAN			
C-4.0A	UTILITY PLAN (ALTERNATE CANOPY BID)			
C-5.0	DETAILS			
C-5.1	DETAILS			
C-5.2	DETAILS			
C-5.3	DETAILS			
C-5.4	DETAILS			

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SHEET NO.	SHEET NAME	SHT REV NO	SHT REV DATE	REVISION DESCRIPTION
S-1.01	GENERAL NOTES			
S-1.02	TYPICAL DETAILS			
S-2.01	FOUNDATION PLAN			
S-2.02	ROOF FRAMING PLAN			
S-2.03	CANOPY FRAMING			
S-2.04	ALTERNATE CANOPY PLANS			
S-3.01	SECTIONS AND DETAIL			
S-4.01	FRAMING SECTIONS AND DETAILS			
S-4.02	FRAMING SECTIONS AND DETAILS			
S-5.01	SHEAR WALL ELEVATIONS & DETAILS			

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SHEET NO.	SHEET NAME	SHT REV NO.	SHT REV DATE	REVISION DESCRIPTION
A-002	CONSTRUCTION SUBSYSTEMS & PARTITION TYPES			
A-101	FIRST FLOOR PLAN			
A-121	REFLECTED CEILING PLAN			
A-151	ROOF PLAN			
A-152	ROOF DETAILS			
A-161	CANOPY PLANS			
A-162	CANOPY SECTIONS			
A-163	CANOPY DETAILS			
A-164	ALTERNATE CANOPY PLANS & SECTIONS			
A-165	ALTERNATE CANOPY DETAILS			
A-201	EXTERIOR ELEVATIONS			
A-301	BUILDING SECTIONS & WALL SECTIONS			
A-401	ENLARGED TOILET PLANS & ELEVATIONS			
A-501	PLAN & SECTION DETAILS			
A-521	HEAD, JAMB & SILL DETAILS			
A-522	HEAD, JAMB & SILL DETAILS			
A-531	INTERIOR DETAILS			
A-601	DOOR SCHEDULE, DOOR TYPE LEGEND & FRAME TYPES			
A-721	INTERIOR ELEVATIONS			
A-731	FIRST FLOOR FINISH PLAN & FINISH SCHEDULE			
A-741	FIRST FLOOR FURNITURE PLAN			
A-751	CASEWORK PLANS & ELEVATIONS			
A-752	CASEWORK SECTIONS			
A-801	SIGNAGE			
A-803	SIGNAGE PLAN			

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SHEET NO.	SHEET NAME	SHT REV NO.	SHT REV DATE	REVISION DESCRIPTION
F-101	FIRE PROTECTION PLANS			
F-102	FIRE PROTECTION SITE DIAGRAM			

PLUMBING

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SHEET NO.	SHEET NAME	SHT REV NO.	SHT REV DATE	REVISION DESCRIPTION
P-001	PLUMBING LEGEND, SCHEDULES AND DETAILS			
P-101	PLUMBING PLANS			
P-102	CANOPY PLANS			
P-401	ENLARGED PLUMBING PLANS			

MECHANICAL

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SHEET NO.	SHEET NAME	SHT REV NO.	SHT REV DATE	REVISION DESCRIPTION
M-001	MECHANICAL LEGEND, SCHEDULES & DETAILS			
M-101	MECHANICAL PLANS			
M-501	MECHANICAL DETAILS			
M-701	MECHANICAL CONTROL DIAGRAMS			

ELECTRICAL

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SHEET NO.	SHEET NAME	SHT REV NO.	SHT REV DATE	REVISION DESCRIPTION
E-001	ELECTRICAL NOTES, LEGENDS, SCHEDULES, DETAILS			
E-011	ELECTRICAL SITE PLAN			
E-012	ELECTRICAL SITE PLAN			
E-101	ELECTRICAL POWER PLAN			
E-111	ELECTRICAL LIGHTING PLAN			
E-121	ELECTRICAL AUXILIARY SYSTEMS PLAN			
E-501	ELECTRICAL DETAILS			
E-502	ELECTRICAL DETAILS			
E-503	ELECTRICAL DETAILS			
E-601	ELECTRICAL LUMINAIRE SCHEDULE & PANEL SCHEDULE			
E-701	ELECTRICAL RISER DIAGRAMS			

VICINITY MAP



AREA MAP



UDS SHEET DESIGNATORS AND SHEET ORDER

LEVEL 1 - DISCIPLINE DESIGNATORS

G	GENERAL	F	FIRE PROTECTION
H	HAZARDOUS MATERIALS	P	PLUMBING
V	SURVEY / MAPPING	M	MECHANICAL
B	GEOTECHNICAL	E	ELECTRICAL
C	CIVIL	T	TELECOM
L	LANDSCAPE	R	RESOURCE
S	STRUCTURAL		
A	ARCHITECTURAL		
I	INTERIORS		
Q	EQUIPMENT		

LEVEL 3 - SHEET TYPE DESIGNATORS

0	GENERAL / OVERALL
1	PLANS
2	ELEVATIONS
3	SECTIONS
4	LARGE SCALE VIEWS
5	DETAILS
6	SCHEDULES & DIAGRAMS
7	USER DEFINED
8	USER DEFINED
9	3D REPRESENTATIONS

LEVEL 4 - PLAN TYPE DESIGNATORS

0	DEMOLITION PLAN
1	CONSTRUCTION PLAN
2	REFLECTED CEILING PLAN
3	FINISH PLAN
4	FURNITURE PLAN
5	OUTLET LOCATION PLAN
6	EQUIPMENT PLAN
7	INTERIOR SIGNAGE
8	ACCESS FLOOR GRID PLAN
9	BUILDING AUTOMATION PLAN

A-121

LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4 SEQUENCE

MATERIAL LEGEND

(NOT ALL MATERIALS APPLICABLE)

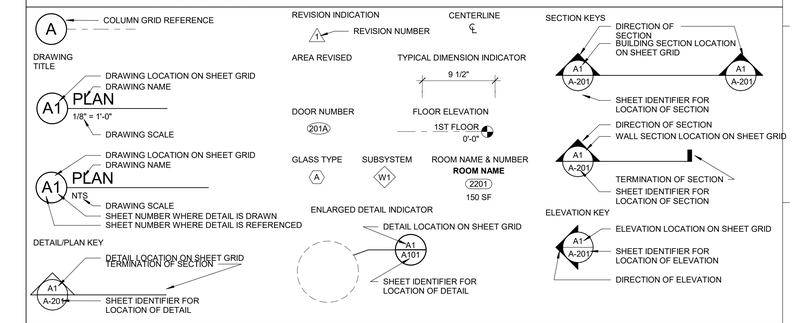
PLAN AND SECTION

- EARTH
- POROUS FILL (STONE OR GRAVEL)
- ROCK
- LIGHTWEIGHT CONCRETE (OR CONCRETE FILL)
- STRUCTURAL CONCRETE (CAST IN PLACE, ETC.)
- BRICK (COMMON OR FACE)
- CONC. MASONRY UNITS (C.M.U.)
- PLASTER, CEMENT, SAND, GROUT
- STEEL, IRON
- ALUMINUM
- WOOD (FINISH)
- WOOD (ROUGH)
- WOOD BLOCKING
- PLYWOOD
- SPRAY-ON FIREPROOFING
- BATT/LOOSE FILL INSULATION
- EXTRUDED POLYSTYRENE
- ACOUSTICAL TILE
- GYPSUM WALLBOARD
- CARPET AND PAD

ELEVATION

- BRICK
- CERAMIC TILE
- CONCRETE / PLASTER / STUCCO
- GLASS
- SHINGLES/SIDING

GRAPHIC SYMBOL LEGEND



ABBREVIATIONS

A/C	AIR CONDITION(ING)	EQUIP	EQUIPMENT	MAX	MAXIMUM	ROW	RIGHT OF WAY
ADMIN	ADMINISTRATION	EWC	ELECTRIC WATER COOLER	MB	MARKER BOARD	S	SOUTH
AFF	ABOVE FINISHED FLOOR	EXIST	EXISTING	MECH	MECHANICAL	SC	SOLID CORE
ALT	ALTERNATE	EXP JT	EXPANSION JOINT	MEZZ	MEZZANINE	SD	STORM DRAIN
ALUM	ALUMINUM	EXT	EXTERIOR	MFG	MANUFACTURING	SECT	SECTION
APPROX	APPROXIMATE(LY)	F/F	FACE TO FACE	MFR	MANUFACTURER	SF	SQUARE FEET
ARCH	ARCHITECT(URAL)	FD	FLOOR DRAIN	MIN	MINIMUM	SIM	SIMILAR
AUTO	AUTOMATIC	FE	FIRE EXTINGUISHER	MISC	MISCELLANEOUS	SPEC	SPECIFICATION
AUX	AUXILIARY	FEC	FIRE EXTINGUISHER CABINET	MN	MONITOR	SPKR	SPEAKER
AV	AUDIOVISUAL	FF EL	FINISH FLOOR ELEVATION	MO	MASONRY OPENING	SQ	SQUARE
BITUM	BITUMINOUS	FHC	FIRE HOSE CABINET	MOP	MOP AND BROOM HOLDER	SS	STAINLESS STEEL
BL	BUILDING LINE	FIN FLR	FINISHED FLOOR	MR	MOISTURE RESISTANT	STD	STANDARD
BLDG	BUILDING	FLR	FLOOR, FILLER	MTD	MOUNTED	STOR	STORAGE
BN	BULL NOSE	FOC	FACE OF CURB	MTG	MOUNTING	SUSP	SUSPENDED
BOS	BOTTOM OF STEEL	FOF	FACE OF FINISH	MTL	METAL	SYS	SYSTEM
BOT	BOTTOM	FOM	FACE OF MASONRY	N	NORTH	T	TREAD
CAB	CABINET	FOS	FACE OF SLAB	NIC	NOT IN CONTRACT	TB	TACK BOARD
CJ	CONTROL JOINT	FOW	FACE OF WALL	NOM	NOMINAL	TEL	TELEPHONE
CL	CENTER LINE	FT	FOOT, FEET	NON COMB	NON-COMBUSTIBLE	TEMP	TEMPORARY
CLG	CEILING	FTG	FOOTING	NTS	NOT TO SCALE	TFF	TOP OF FINISH FLOOR
CLG HT	CEILING HEIGHT	FURN	FURNISH, FURNITURE	OC	ON CENTER	THK	THICKNESS
CLO	CLOSET	GA	GAGE	OD	OUTSIDE DIAMETER	THRUH	THROUGH
CLR	CLEAR(ANCE)	GALV	GALVANIZED	OPP	OPPOSITE	TO	TOP OF
CMU	CONCRETE MASONRY UNIT	GC	GENERAL CONTRACTOR	OPT	OPTION(AL)	TOB	TOP OF BEAM
COL	COLUMN	GYP BD	GYPSUM BOARD	PCF	POUNDS PER CUBIC FEET	TOC	TOP OF CONCRETE, CURB
CONC	CONCRETE	GYP PLAS	GYPSUM PLASTER	PLAM	PLASTIC LAMINATE	TOF	TOP OF FOOTING
CONF	CONFERENCE	HC	HANDICAP	PLF	POUNDS PER LINEAR FEET	TOJ	TOP OF JOIST
CONT	CONTINUE. CONTINUOUS	HD	HEAVY DUTY	PLYWD	PLYWOOD	TOM	TOP OF MASONRY
CORR	CORRIDOR	HDWD	HARDWOOD	PNL	PANEL	TOP	TOP OF PARAPET
CU FT	CUBIC FOOT	HDWR	HARDWARE	PR	PAIR	TOS	TOP OF SLAB
CU YD	CUBIC YARD	HM	HOLLOW METAL	PREFAB	PREFABRICATED	TOW	TOP OF WALL
DEMO	DEMOLISH	HORIZ	HORIZONTAL	PREFIN	PREFINISH	TRTD	TREATED
DEPT	DEPARTMENT	HT	HEIGHT	PRKG	PARKING	TS	TACK STRIP
DET	DETAIL	HVAC	HEATING, VENTILATION & AIR CONDITIONING	PSF	POUNDS PER SQUARE FOOT	TV	TELEVISION
DF	DRINKING FOUNTAIN	ID	INSIDE DIAMETER	PSI	POUNDS PER SQUARE INCH	TYP	TYPICAL
DIA	DIAMETER	INCL	INCLUDE(D), (ING)	PT	PAINT, POST-TENSIONED, PRE-TREATED	UL	UNDERWRITERS LABORATORIES
DIAG	DIAGONAL	INFO	INFORMATION	PVC	POLYVINYL CHLORIDE (PLASTIC)	UNO	UNLESS NOTED OTHERWISE
DIM	DIMENSION	INSUL	INSULATION	QTR	QUARTER	VERT	VERTICAL
DIV	DIVISION	INT	INTERIOR	QTY	QUANTITY	VEST	VESTIBULE
DS	DOWNSPOUT	JAN CLO	JANITOR CLOSET	R	RADIUS, RISER	VIF	VERIFY IN FIELD
E	EAST	KIT	KITCHEN	RAL	ROOF ACCESS LADDER	W	WEST, WIDE
EA	EACH	KO	KNOCKOUT	RCP	REFLECTED CEILING PLAN	W/	WITH
EIFS	EXTERIOR INSULATION & FINISH SYSTEM	LAB	LABORATORY	RD	ROOF DRAIN	W/O	WITHOUT
EJ	EXPANSION JOINT	LAM	LAMINATE	REF	REFRIGERATOR, REFERENCE	W/W	WALL TO WALL
EL	ELEVATION	LAU	LAUNDRY	REQD	REQUIRED	WC	WATER CLOSET
ELEC	ELECTRIC(AL)	LAV	LAVATORY	RL	ROOF LEADER	WD	WOOD
ELEV	ELEVATOR	LF	LINEAR FEET	RM	ROOM	WP	WORKING POINT, WATERPROOFING
ENCL	ENCLOSE(D)	LVR	LOUVER	RO	ROUGH OPENING	WR	WATER REPELLENT
EOS	EDGE OF SLAB	MAINT	MAINTENANCE			WT	WEIGHT
EQ	EQUAL	MATL	MATERIAL			WWF	WELDED WIRE FABRIC
						YD	YARD

BRUNSWICK CTY

BRUNSWICK COUNTY SCHOOLS — A Community of Learners

WACCAMAW ELEMENTARY SCHOOL

LS3P

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LS3P ASSOCIATES LTD. — REGISTERED ARCHITECTURAL COMPANY — CERT.NO. 50417 — NORTH CAROLINA — RALEIGH, NORTH CAROLINA

MARY H. BREHLER — REGISTERED ARCHITECT — 13105 — April 22, 2020 — NORTH CAROLINA — Raleigh, N.C.

MEMBERS OF THE AMERICAN INSTITUTE OF ARCHITECTS

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REVISIONS:

No.	Description	Date

PROJECT: 8201-191240
DATE: 04.22.2020
DRAWN BY: AL
CHECKED BY: MB

PROJECT INFORMATION SHEET

G-001

BID DOCUMENTS

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2018 APPENDIX B BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES) (Reproduce the following data on the building plans sheet 1 or 2) (UPDATED 12-6-18)

Name of Project: Waccamaw K-2 Building Replacement

Address: 5901 Waccamaw School Rd Zip Code: 28420

Owner / Authorized Agent: Craig Eckert Phone #: 910-253-1078 E-Mail: ceckert@bcswan.net

Owned By: ☒ City/ County ☐ Private ☐ State

Code Enforcement Jurisdiction: ☐ City _____ ☒ County, BRUNSWICK ☐ State _____

CONTACT:

DESIGNER	FIRM	NAME	LICENSE#	TELEPHONE#	E-MAIL
Architectural	LS3P	Mary Brehler	13105	919-829-2706	marybrehler@ls3p.com
Civil	Paramounte Engineering	Robert Ballard	031591	910.791.6707	rballard@paramounte-eng.com
Electrical	Cheatham and Associates	Ken Lynch	C-1073	910.452.4210	klynch@cheathampa.com
Fire Alarm	--	--	--	--	--
Plumbing	Cheatham and Associates	Ken Lynch	C-1073	910.452.4210	klynch@cheathampa.com
Mechanical	Cheatham and Associates	Ken Lynch	C-1073	910.452.4210	klynch@cheathampa.com
Sprinkler-Standpipe	--	--	--	--	--
Structural	Woods Engineering	Don Woods	NC 19475	910.343-8007	donwoods@woodseng.com
Retaining Walls >5' High	--	--	--	--	--
Other	--	--	--	--	--

("Other" should include firms and individuals such as truss, precast, pre-engineered, interior designers, etc.)

2018 NC BUILDING CODE: ■ New Building ☐ Addition ☐ 1st Time Interior Completion
☐ Shell/Core - Contact the local inspection jurisdiction for possible additional procedures and requirements
☐ Phased Construction-Shell/Core - Contact the local inspection jurisdiction for possible additional procedures and requirements

2018 NC EXISTING BUILDING CODE: ■ N/A ☐ Prescriptive ☐ Repair ☐ Chapter 14
☐ Alteration Level I ☐ Alteration Level II ☐ Alteration Level III
☐ Historic Property ☐ Change of Use

CONSTRUCTED: (date) N/A **CURRENT OCCUPANCY (S)** (Ch. 3): N/A
RENOVATED: (date) N/A **PROPOSED OCCUPANCY (S)** (Ch. 3): N/A

OCCUPANCY CATEGORY (Table 1604.5):
Current: ■ N\A ☐ I ☐ II ☐ III ☐ IV
Proposed: ☐ N\A ☐ I ☐ II ☐ III ☐ IV

BASIC BUILDING DATA

Construction Type: ☐ I-A ☐ II-A ☐ III-A ☐ IV ☐ V-A ☐
☐ I-B ■ II-B ☐ III-B ☐ V-B

Sprinklers: ☐ N\A ■ Yes ☐ No ☐ Partial ☐ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D

Standpipes: ☐ N\A ☐ No Class: ☐ I-Wet ☐ I-Dry ☐ II-Wet ☐ II-Dry ☐ III-Wet ☐ III-Dry

Primary Fire District: ☐ Yes ■ No **Flood Hazard Area:** ☐ Yes ☐ No

Special Inspections Required: ■ No ☐ Yes (Contact the local inspection jurisdiction for possible additional procedures and requirements)

Gross Building Area Table

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
3rd Floor	--	--	--
2nd Floor	--	--	--
Mezzanine	--	--	--
1st Floor	--	12730	12730
Basement	--	--	--
TOTAL	0	12730	12730

ALLOWABLE AREA

Primary Occupancy Classification(s):

Assembly ☐A-1 ☐A-2 ☐A-3 ☐A-4 ☐A-5
Business ☐B
Educational ■E
Factory ☐F-1 ☐F-2
Hazardous ☐H-1 Detonate ☐H-2 Deflagrate ☐H-3 Combust ☐H-4 Health ☐H-5 HPM
Institutional ☐I-1 Condition 1 ☐I-1 Condition 2 ☐I-2 Condition 1 ☐I-2 Condition 2
☐I-3 Condition 1 ☐I-3 Condition 2 ☐I-3 Condition 3 ☐I-3 Condition 4 ☐I-3 Condition 5
Mercantile ☐M
Residential ☐R-1 ☐R-2 ☐R-3 ☐R-4
Storage ☐S-1 ☐S-1 High-Piled ☐S-2 ☐S-2 High-piled
☐Parking Garage (Open) ☐Parking Garage (Enclosed) ☐Repair Garage
Utility and Miscellaneous ☐U

Accessory Occupancy Classification(s): N/A

Assembly ☐A-1 ☐A-2 ☐A-3 ☐A-4 ☐A-5
Business ☐B
Educational ☐E
Factory ☐F-1 ☐F-2
Hazardous ☐H-1 Detonate ☐H-2 Deflagrate ☐H-3 Combust ☐H-4 Health ☐H-5 HPM
Institutional ☐I-1 Condition 1 ☐I-1 Condition 2 ☐I-2 Condition 1 ☐I-2 Condition 2
☐I-3 Condition 1 ☐I-3 Condition 2 ☐I-3 Condition 3 ☐I-3 Condition 4 ☐I-3 Condition 5
Mercantile ☐M
Residential ☐R-1 ☐R-2 ☐R-3 ☐R-4
Storage ☐S-1 ☐S-1 High-Piled ☐S-2 ☐S-2 High-piled
☐Parking Garage (Open) ☐Parking Garage (Enclosed) ☐Repair Garage
Utility and Miscellaneous ☐U

Incidental Uses (Table 509): N/A

Special Uses (Chapter 4 - List Code Sections): _____

Special Provisions (Chapter 5 - List Code Sections): _____

Mixed Occupancy: ☐ Yes ■ No ☐ 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 sums of the ratios of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1.

Separation: ☐ 1 HR ☐ 2 HR ☐ 3 HR ☐ 4 HR **Exception:** _____

$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} \leq 1$$

84 + N/A = N/A + N/A = N/A ≤ 1.00

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2 AREA [4]	(C) AREA FOR FRONTAGE INCREASE [1,5]	(E) ALLOWABLE AREA PER STORY OR UNLIMITED [2,3]
--	--	--	--	--	--
--	--	--	--	--	--
--	--	--	--	--	--
--	--	--	--	--	--

[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. N/A (F).
b. Total Building Perimeter =N/A (P).
c. Ratio (F/P) =N/A (F/P).
d. W = Minimum width of public way = N/A (W).

[2] Unlimited area applicable under conditions of Section 507.

[3] Maximum Building Area = total number of stories in the building x D (maximum 3 stories) (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

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE
Building Height in Feet	55'-0"	17'-4"	TABLE 503
Building Height in Stories	2	1	TABLE 503

[1] Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3 or 504.4.

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING Req'd	RATING Provided (w/ Reduction)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	SHEET # FOR RATED PENETRATION	SHEET # FOR RATED JOINTS
Structural frame, including columns, girders, trusses		0	--	--	--	--	--
Bearing Walls		0	--	--	--	--	--
Exterior	--	0	--	--	--	--	--
North	230'		--	--	--	--	--
East	12'-6"		--	--	--	--	--
West	253'		--	--	--	--	--
South	27'		--	--	--	--	--
Interior	--	0	--	--	--	--	--
Nonbearing Walls and Partitions Exterior walls	--	0	--	--	--	--	--
North	--		--	--	--	--	--
East	--		--	--	--	--	--
West	--		--	--	--	--	--
South	--		--	--	--	--	--
Interior walls and partitions	--	0	--	--	--	--	--
Floor Construction Including supporting beams and joists	--	0	--	--	--	--	--
Floor Ceiling Assembly	--	0	--	--	--	--	--
Columns Supporting Floors	--	0	--	--	--	--	--
Roof construction Including supporting beams and joists	--	0	--	--	--	--	--
Roof Ceiling Assembly	--		--	--	--	--	--
Columns Supporting Roof	--	0	--	--	--	--	--
Shaft Enclosures-Exit	--	1	--	--	--	--	--
Shaft Enclosures-Other	--	1	--	--	--	--	--
Corridor Separation	--	0	--	--	--	--	--
Occupancy/Fire Barrier Separation	--	--	--	--	--	--	--
Party/Fire Wall Separation	--	2	--	--	--	--	--
Smoke Barrier Separation	--	--	--	--	--	--	--
Smoke Partition	--	--	--	--	--	--	--
Tenant/Dwelling Unit/ Sleeping Unit Separation	--	--	--	--	--	--	--
Incidental Use Separation	--	--	--	--	--	--	--

* Indicate section number permitting reduction

PERCENTAGE OF WALL OPENING CALCULATIONS

FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES	DEGREE OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)
--	--	--	--
--	--	--	--
--	--	--	--

LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting:	☐ No	■ Yes
Exit Signs:	☐ No	■ Yes
Fire Alarm:	☐ No	■ Yes
Smoke Detection Systems:	☐ No	■ Yes ☐ Partial _____
Carbon Monoxide Detection:	■ No	☐ Yes

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet #: G-004

■ Fire and/or smoke rated wall locations (Chapter 7)
☐ Assured 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)
■ Occupant loads for each area
■ Exit access travel distances (1017)
■ Common path of travel distances (Tables 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 I-2 (407.5)
☐ Note any code exceptions or table notes that may have been utilized regarding the items above

ACCESSIBLE DWELLING UNITS
(SECTION 1107)

TOTAL UNITS	ACCESSIBLE UNITS REQUIRED	ACCESSIBLE UNITS PROVIDED	TYPE A UNITS REQUIRED	TYPE A UNITS PROVIDED	TYPE B UNITS REQUIRED	TYPE B UNITS PROVIDED	TOTAL ACCESSIBLE UNITS PROVIDED
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

ACCESSIBLE PARKING
(SECTION 1106)

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES REQUIRED		# OF ACCESSIBLE SPACES PROVIDED			TOTAL # ACCESSIBLE PROVIDED
	REQUIRED	PROVIDED	REGULAR WITH 5' ACCESS AISLE	VAN SPACES WITH 132" ACCESS AISLE	VAN SPACES WITH 8' ACCESS AISLE	
EXISTING - NO CHANGE IN POPULATION			N/A	N/A	N/A	N/A
	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL	N/A	N/A	N/A	N/A	N/A	N/A

PLUMBING FIXTURE REQUIREMENTS
(TABLE 2902.1)

USE		WATERCLOSETS			URINALS	LAVATORIES			SHOWERS / TUBS	DRINKING FOUNTAINS	
		MALE	FEMALE	UNI SEX		MALE	FEMALE	UNI SEX		REGULAR	ACCESSIBLE
SPACE	EXIST'G	--	--	--	--	--	--	--	--	--	--
	NEW	1	2	-	1	2	2	-	--	1	1
	REQ'D	2	2	--	0	1	1	--	--	1	1

SPECIAL APPROVALS

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

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 (the remainder of this section is not applicable N/A

Exempt Building: ■ No ☐ Yes

Climate Zone: ☐ N/A ■ 3A ☐ 4A ☐ 5A

Method of Compliance:
■ Energy Code - Prescriptive
☐ Energy Code - Performance
☐ ASHRAE 90.1 - Prescriptive
☐ ASHRAE 90.1 - Performance
☐ Other - Performance, If "Other" specify source here -- _____

THERMAL ENVELOPE: (Prescriptive Method Only)

Roof/Ceiling Assembly (each assembly)
Description of assembly: REFER TO SHEET A-002
U-Value of total assembly: .039
R-Value of insulation: R-25 ci
Skylights in each assembly N/A
U-Value of skylight: N/A
Total square footage of skylights in each assembly N/A

Exterior Walls (each assembly)
Description of assembly: REFER TO SHEET A-002
U-Value of total assembly: .064
R-Value of insulation: R-13 + R-7.5 ci
Openings (windows or doors with glazing)
U-Value of assembly: --
Solar heat gain coefficient: --
Projection Factor: --
Door R-values: --

Walls below grade (each assembly)
Description of assembly: --
U-Value of total assembly: --
R-Value of insulation: --

Floors over unconditioned space (each assembly)
Description of assembly: --
U-Value of total assembly: --
R-Value of insulation: --

Floor slabs on grade (each assembly)
Description of assembly: REFER TO SHEET A-002
U-Value of total assembly: F-0.730
R-Value of insulation: NR
Horizontal/Vertical requirement: --
Slab Heated: --

STRUCTURAL DESIGN
(PROVIDE ON THE STRUCTURAL SHEETS IF APPLICABLE

DESIGN LOADS:

Importance Factors: Wind (Iw) ☐ 1.0
Snow (Is) ☐ 0.8 ☐ 1.0 ■ 1.1 ☐ 1.2
Seismic (Ie) ☐ 1.0 ■ 1.25 ☐ 1.5

Live Loads: Roof 20 psf
Mezzanine -- psf
Floor 100 psf

Ground Snow Load: -- psf

Wind Load: Basic Wind Speed 154 mph (ASCE-7)
Exposure Category: ☐ N/A ☐ B ☐ C ☐ D

SEISMIC DESIGN CATEGORY ☐ N/A ☐ A ☐ B ■ C ☐ D

Provide the following Seismic Design Parameters:
Occupancy Category (Table 1604.5) ☐ N/A ☐ I ☐ II ■ III ☐ IV
Spectral Response Acceleration: S_s 0.311 %g S_1 0.121 %g
Site Classification (ASCE 7) ☐ N/A ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F
Data Source ☐ N/A ■ Field Test ☐ Presumptive ☐ Historical Data

Basic structural system (check one) ☐ N/A
☐ Bearing Wall ☐ Dual w/ Special Moment Frame
☐ Building Frame ☐ Dual w/ Intermediate R/C or Special Steel
☐ Moment Frame ☐ Inverted Pendulum

Analysis Procedure: ☐ Simplified ■ Equivalent Lateral Force ☐ Dynamic
Architectural, Mechanical, Components anchored? ☐ N/A ☐ Yes ■ No

LATERAL DESIGN CONTROL: ☐ N/A ☐ Earthquake ■ Wind

SOIL BEARING CAPACITIES:
Field Test (provide copy of test report) 2,000 psf
Presumptive Bearing Capacity -- psf
Pile size, type, and capacity --

MECHANICAL DESIGN
(PROVIDE ON MECHANICAL SHEETS IF APPLICABLE)
MECHANICAL SUMMARY

Thermal Zone
winter dry bulb: --
summer dry bulb: --
Interior design conditions
winter dry bulb: 70° F
summer dry bulb: 75° F
relative humidity: 50%
Building heating load: BLOCK LOAD = 307.1 MBH
Building cooling load: BLOCK LOAD = 29.1 TONS
Mechanical Spacing Conditioning System
Unitary --
description of unit: --
heating efficiency: --
cooling efficiency: --
size category of unit: --
Boiler
Size category. If oversized, state reason.: --
Chiller
Size category. If oversized, state reason.: --
List equipment efficiencies: SEE SHEET M-001

SEE SCHEDULE (M-001)

ELECTRICAL DESIGN
(PROVIDE ON ELECTRICAL SHEETS IF APPLICABLE)
ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance:
Energy Code: ■ Prescriptive ☐ Performance
ASHRAE 90.1: ☐ Prescriptive ☐ Performance

Lighting schedule (each fixture type)
lamp type required in fixture
number of lamps in fixture
ballast type used in the fixture
number of ballasts in fixture
total wattage per fixture
total interior wattage specified vs. allowed (whole building or space by space)
total exterior wattage specified vs. allowed

SEE LIGHT FIXTURE / LUMINAIRE SCHEDULE (E-601)

Additional Required Prescriptive Compliance
☐ 406.2 More Efficient Mechanical Equipment
■ 406.3 Reduced Lighting Power Density
☐ 406.4 Energy Recovery Ventilation Systems
☐ 406.5 Higher Efficiency Service Water Heating
☐ 406.6 On-Site Supply of Renewable Energy
☐ 406.7 Automatic Daylighting Control Systems

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BRUNSWICK CTY

WACCAMAW ELEMENTARY SCHOOL

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LS3P ASSOCIATES LTD. REGISTERED ARCHITECTURAL COMPANY CERT. NO. 50417 NORTH CAROLINA RALEIGH, NORTH CAROLINA

MARY H. BREHLER REGISTERED ARCHITECT 13105 NORTH CAROLINA Raleigh, N.C. April 22, 2020

MEMBERS OF THE AMERICAN INSTITUTE OF ARCHITECTS

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REVISIONS:

No.	Description	Date

PROJECT: 8201-191240
DATE: 04.22.2020
DRAWN BY: AL
CHECKED BY: MB

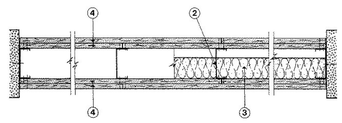
BUILDING CODE SUMMARY_NC

G-002

BID DOCUMENTS

Design No. U411

Nonbearing Wall Rating — 2 HR.



1. Floor and Ceiling Runner — (Not Shown) — Min. 25 MSG galv steel 1 in. high, return legs 2-1/2 in. wide (min), attached to floor and ceiling with fasteners 24 in. OC.

2. Steel Studs — Min 2-1/2 in. wide, 1-1/4 in. legs, 3/8 in. return, formed of min 25 MSG galv steel max stud spacing 24 in. OC. Studs to be cut 3/4 in. less than assembly height.

3. Batts and Blankets* — (Optional) — Mineral wool or glass fiber batts partially or completely filling stud cavity. Fasten each batt to wallboard base layer with a min 9/16 in. long staple. Use five staples for each 4 ft piece. Drive one staple in the center of each piece and a staple at each corner, approx 3 in. from edges.
See Batts and Blankets (BZJZ) category for names of manufacturers.

3A. Fiber, Sprayed* — As an alternate to Batts and Blankets (Item 3) — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. Nominal dry density of 3.0 lb/ft3. Alternate application method: The fiber is applied with U.S. Greenfiber LLC Type AD100 hot melt adhesive at a nominal ratio of one part adhesive to 6.6 parts fiber to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. Nominal dry density of 2.5 lb/ft3.
U S GREENFIBER L L C — — Cocoon2 Stabilized or Cocoon-FRM (Fire Rated Material)

3B. Fiber, Sprayed* — As an alternate to Batts and Blankets (Item 3) and Item 3A - Spray applied cellulose insulation material. The fiber is applied with water to interior surfaces in accordance with the application instructions supplied with the product. Applied to completely fill the enclosed cavity. Minimum dry density of 4.3 pounds per cubic ft.

NU-WOOL CO INC — Cellulose Insulation

4. Gypsum Board* — 5/8 in. thick, outer layer paper or vinyl surfaced. (Laminated System) Wallboard applied vertically in two layers. Inner layer attached to studs with 1 in. long Type S steel screws spaced 8 in. OC along vertical edges, and 12 in. OC in the field and outer layer laminated to inner layer with joint compound, applied with a notched spreader producing continuous beads of compound about 3/8 in. in diameter, spaced not greater than 2 in. OC. Joints of laminated outer layer offset 12 in. from inner layer joints Outer layer wallboard attached to floor and ceiling runner track with 1-5/8 in. long Type S steel screws spaced 12 in. OC.
Optional, (Direct Attached System), Inner layer attached to studs with 1 in. long Type S steel screws spaced 16 in. OC in the field and along the vertical edges. Outer layer attached to the studs over the inner layer with 1-5/8 in. long Type S steel screws spaced 16 in. OC in the field and along the vertical edges and 12 in. OC to the floor and ceiling runners. Joints of screw-attached outer layer offset from inner layer joints. Joints of outer layer may be taped or untaped.

Nom 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard. Joints reinforced.

AMERICAN GYPSUM CO — Types AG-C, AGX-1, AGX-11.
BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO — Type DBX-1
BPB AMERICA INC — Types 1, FRPC, EGRG, ProRoc Type X or ProRoc Type C.
BPB CANADA INC — ProRoc Type C, ProRoc Type X or ProRoc Type Abuse-Resistant.
CANADIAN GYPSUM COMPANY — Type AR, C, FCV, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC or WRX.
G-P GYPSUM CORP, SUB OF GEORGIA-PACIFIC CORP — Types 5, 9, C, DAP, DD, DA, DGG, DS, GPFS6.
LAFARGE NORTH AMERICA INC — Types LGFC2, LGFC2A, LGFC3, LGFC6, LGFC6A, LGFC-C, LGFC-C/A.
NATIONAL GYPSUM CO — Types FSK-C, FSW, FSW-3, FSW-5, FSW-C, FSW-G, FSMR-C.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type C, PG-3, PG-5, PG-9 or PG-C.
PANEL REY S A — Type PRX.
SIAM GYPSUM INDUSTRY (SARABURI) CO LTD — Type EX-1
TEMPLE-INLAND FOREST PRODUCTS CORP — Types TG-C, Type X, Veneer Plaster Base-Type X, Water Rated-Type X, Sheathing Type-X, Soffit-Type X.
UNITED STATES GYPSUM CO — Type AR, C, FCV, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC or WRX.
USG MEXICO S A DE C V — Type AR, C, FCV, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC or WRX.

4A. Gypsum Board* — (As an alternate to Item 4) — Nom 3/4 in. thick, installed as described in Item 4 with 1-1/4 in. long Type S screws for inner layer and 2-1/4 in. long Type S screws for outer layer.

CANADIAN GYPSUM COMPANY — Types AR, IP-AR.
UNITED STATES GYPSUM CO — Types AR, IP-AR.
USG MEXICO S A DE C V — Types AR, IP-AR.

4B. Gypsum Board* — (As an alternate to Item 4, 4A and 4B)—5/8 in. thick, 24 to 54 in. wide, applied horizontally as the outer layer to one side of the assembly. Secured as described in Item 4 for the direct attached system. When used in widths other than 48 in., gypsum panels to be installed horizontally.

CANADIAN GYPSUM COMPANY — Type SHX.
UNITED STATES GYPSUM CO — Type SHX, FRX-G.
USG MEXICO S A DE C V — Type SHX.

*Bearing the UL Classification Mark

Last Updated on 2006-11-13

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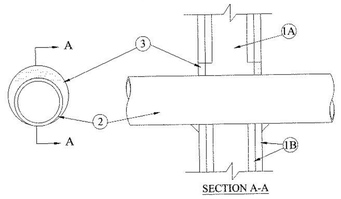
System No. W-L-1054

F Ratings — 1 and 2 Hr (See Items 1 and 3)
T Rating — 0 Hr
L Rating At Ambient — Less Than 1 CFM/Sq Ft
L Rating At 400 F — 4 CFM/Sq Ft



SECTION A-A

1. **Wall Assembly —** The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and 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 or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. wider and 4 to 6 in. higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. clearance is present between the penetrating item and the framing on all four sides.

B. **Gypsum Board* —** 5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum board 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 32-1/4 in. for steel stud walls. Max diam of opening is 14-1/2 in. for wood stud walls.

The F Rating of the firestop system is equal to the fire rating of the wall assembly.

2. **Through-Penetrants —** One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space shall be min 0 in. to max 2-1/4 in. Pipe may be installed with continuous point contact. Pipe, conduit or tubing may be installed at an angle not greater than 45 degrees from perpendicular. 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 30 in diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. **Iron Pipe —** Nom 30 in. diam (or smaller) cast or ductile iron pipe.

C. **Conduit —** Nom 4 in diam (or smaller) steel electrical metallic tubing or 6 in. diam steel conduit.

D. **Copper Tubing —** Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.

E. **Copper Pipe —** Nom 6 in. diam (or smaller) regular (or heavier) copper pipe.

3. Fill, Void or Cavity Material* — Sealant — Min 5/8 in. thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point or continuous contact locations between pipe and wall, a min 1/2 in. diam bead of fill material shall be applied at the pipe wall interface on both surfaces of wall .
HILTI CONSTRUCTION CHEMICALS, DIV OF

HILTI INC — FS-One Sealant

*Bearing the UL Classification Mark

Last Updated on 2002-12-04

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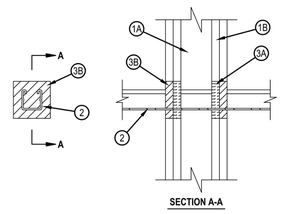
WL 7130

System No. W-L-7130

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings - 1 and 2 Hr (See Item 1)	F Ratings - 1 and 2 Hr (See Item 1)
T Rating - 0 Hr	FT Rating - 0 Hr
	FH Ratings - 1 and 2 Hr (See Item 1)
	FTH Rating - 0 Hr



SECTION A-A

1. Wall Assembly — The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400, V400 or W400 Series Wall and 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 or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced max 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC.
   B. Gypsum Board* — One or two layers of gypsum board, as specified in the individual Wall and Partition Design. Max area of rectangular opening is 15 sq in. (96 cm2) with max dimension of 5 in. (127 mm). In lieu of rectangular opening max diam of circular opening is 3 in. (76 mm).
   The F and FH Ratings of the firestop system are equal to the hourly fire rating of the wall assembly.
2. Through Penetrants — One metallic strut, cable, rod or angle service support to be installed within the firestop system. An annular space of min 1/8 in. (3 mm) to max 7/8 in. (22 mm) is required within the firestop system. Strut, cable, rod or angle service support to be rigidly supported on both sides of floor or wall assembly. The strut, cable, rod or angle service support may be installed at an angle not greater than 45 degrees from the perpendicular. The following types and sizes of metallic strut, cable, rod or angle service support may be used:
   A. Steel Strut — Max 1-5/8 by 1-5/8 in. (41 by 41 mm) channel strut formed from min 0.105 in. (2.7 mm) thick galv or painted steel.
   B. Steel Strut — Max 3-1/4 by 1-5/8 in. (83 by 41 mm) H strut formed from min 0.105 in. (2.7 mm) thick galv or painted steel.
   C. Cable — Max 3/8 in. (9.5 mm) diam unjacketed galv steel cable.
   D. Threaded Rod — Max 1 in. (25 mm) diam galv steel threaded rod.
   E. Steel Angle — 2 by 2 by 1/8 in. (51 by 51 by 3 mm) thick steel angle.

HILTI
Hilti Firestop Systems

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January 27, 2015

WL 7130

System No. W-L-7130

3. Firestop System — The firestop system shall consist of the following:
   A. Packing Material — Min 1/2 in. (13 mm) thickness of min 4 pcf (64 kg/m3) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be located between penetrant and periphery of opening, and within channels of struts. Packing material to be recessed from both surfaces of wall to accommodate the required thickness of fill material. When through penetrant is oriented perpendicular to wall or when Type FS-ONE Sealant (Item 3B) is used, packing material is optional.
   B. Fill, Void or Cavity Material* - Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within the annulus and within the channel struts, flush with both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant, CP 606 Sealant or FS-ONE MAX Intumescent Sealant
* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

BRUNSWICK CTY

WACCAMAW ELEMENTARY SCHOOL

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REGISTERED ARCHITECTURAL COMPANY
CERT. NO. 50417
RALEIGH, NORTH CAROLINA
NORTH CAROLINA

MARY H. BRECHER
REGISTERED ARCHITECT
13105
April 22, 2020
NORTH CAROLINA
Raleigh, N.C.

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REVISIONS:

No.	Description	Date

PROJECT: 8201-191240
DATE: 04.22.2020
DRAWN BY: AL
CHECKED BY: MB

U.L. DETAILS

G-003

BID DOCUMENTS

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A1 1ST FLOOR LIFE SAFETY PLAN
1/8" = 1'-0"

PROJECT NORTH N

TRUE NORTH

LIFE SAFETY AREA OCCUPANCY SCHEDULE			
AREA	OCCUPANCY TYPE	AREA PER OCCUPANT	ENTER OCCUPANCY LOAD FOR TAG
196 SF	Business	100 SF	2
943 SF	Educational - Classroom	20 SF	49
949 SF	Educational - Classroom	20 SF	49
952 SF	Educational - Classroom	20 SF	50
1047 SF	Educational - Classroom	20 SF	53
1040 SF	Educational - Classroom	20 SF	53
1057 SF	Educational - Classroom	20 SF	54
921 SF	Educational - Classroom	20 SF	47
917 SF	Educational - Classroom	20 SF	47
120 SF	Mechanical Room	300 SF	1
Not Placed	Mechanical Room	300 SF	1
Not Placed	Mechanical Room	300 SF	1
Not Placed	Business	100 SF	2
900 SF	Educational - Classroom	20 SF	47
85 SF	Storage Areas	300 SF	1
107 SF	Storage Areas	300 SF	1
136 SF	Mechanical Room	300 SF	1
120 SF	Mechanical Room	300 SF	1
			460

LIFE SAFETY PLAN LEGEND

EGRESS TRAVEL PATH:
DISTANCE NOTED IS ACTUAL.
ALLOWABLE DISTANCE IS 300'-0"

ROOM NAME
1 OCC — OCCUPANCY LOAD
150 SF — ROOM AREA
OCC Type / SF per OCC — OCCUPANCY LOAD FACTOR AND METHOD
OCCUPANCY GROUP

EXIT DOOR
34" 170 — EXIT CAPACITY (DOOR EGRESS WIDTH / .2)
111 — ANTICIPATED LOAD
EGRESS WIDTH

EXIT STAIR
48" 160 — EXIT CAPACITY (STAIR EGRESS WIDTH / .3)
137 — ANTICIPATED LOAD
EGRESS WIDTH

HO — HOLD OPEN
PD — PANIC DEVICE
FEC — FIRE EXTINGUISHER CABINET WITH FIRE EXTINGUISHER
EXIT SIGN
MECHANICAL
EDUCATIONAL - CLASSROOM
BUSINESS
STORAGE

LIFE SAFETY AREA OCCUPANCY KEY

Occupancy Type	Area per Occupant
Assembly - Concentrated	7 SF
Assembly - Standing Space	5 SF
Assembly - Unconcentrated	15 SF
Business	100 SF
Courtrooms	40 SF
Dormitories	50 SF
Educational - Classroom	20 SF
Educational - Vocational	50 SF
Exercise Rooms	50 SF
Institutional - Inpatient	240 SF
Institutional - Outpatient	100 SF
Institutional - Sleeping Areas	120 SF
Kitchens - Commercial	200 SF
Library - Reading	50 SF
Library - Stack	100 SF
Locker Rooms	50 SF
Mechanical Room	300 SF
Parking Garages	200 SF
Residential	200 SF
Stages and Platforms	15 SF
Storage Areas	300 SF

BRUNSWICK CTY

WACCAMAW ELEMENTARY SCHOOL

LS3P

434 FAYETTEVILLE STREET SUITE 1700
RALEIGH, NORTH CAROLINA 27601
TEL. 919.829.2700 FAX 919.829.2730
WWW.LS3P.COM

LS3P ASSOCIATES LTD. REGISTERED ARCHITECTURAL COMPANY CERT. NO. 50417 NORTH CAROLINA RALEIGH, NORTH CAROLINA

MARY H. BRECHER REGISTERED ARCHITECT 13105 April 22, 2020 NORTH CAROLINA Raleigh, N.C.

MEMBERS OF THE AMERICAN INSTITUTE OF ARCHITECTS

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REVISIONS:

No.	Description	Date

PROJECT: 8201-191240
DATE: 04.22.2020
DRAWN BY: AL
CHECKED BY: MB

FIRST FLOOR LIFE SAFETY PLAN

G-004

BID DOCUMENTS

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PARAMOUNTE ENGINEERING, INC.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
NC License #: C-2846
PEI Project #: 15348.PE

COORDINATION NOTES:

1. THE CONTRACTOR IS REQUIRED TO OBTAIN ANY/ALL PERMITS REQUIRED FOR CONSTRUCTION OF THESE PLANS.
2. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH PERMITS ISSUED AND WITH BRUNSWICK COUNTY, BRUNSWICK COUNTY PUBLIC UTILITIES, AND THE STATE OF NORTH CAROLINA.
3. THE CONTRACTOR IS TO ESTABLISH AND CHECK ALL HORIZONTAL AND VERTICAL CONTROLS TO BE USED WITH THE PROJECT. IN ADDITION, THE CONTRACTOR IS TO COMPUTE THE LAYOUT OF THE ENTIRE SITE PLAN IN ADVANCE OF BEGINNING ANY WORK ASSOCIATED WITH THE SUBJECT PLANS. CONTRACTOR SHALL EMPLOY A PROFESSIONAL SURVEYOR TO PERFORM SITE IMPROVEMENT STAKEOUT(S).
4. ANYTIME WORK IS PERFORMED OFF-SITE OR WITHIN AN EXISTING EASEMENT, THE CONTRACTOR IS TO NOTIFY THE HOLDER OF SAID EASEMENT AS TO THE NATURE OF PROPOSED WORK, AND TO FOLLOW ANY GUIDELINES OR STANDARDS WHICH ARE ASSOCIATED WITH OR REFERENCED IN THE RECORDED EASEMENT.
5. CONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS BY OTHERS FOR ALL BUILDING DIMENSIONS AND DETAILS.

GENERAL NOTES:

1. TREE INVENTORY AND TOPOGRAPHIC SURVEY COMPLETED BY PARAMOUNTE ENGINEERING, INC. THE SURVEY SHALL BE FIELD VERIFIED BY CONTRACTOR AND ANY DISCREPANCIES REPORTED TO THE OWNER AND ENGINEER.
2. REASONABLE CARE HAS BEEN EXERCISED IN SHOWING THE LOCATION OF EXISTING UTILITIES ON THE PLANS. THE EXACT LOCATION OF ALL EXISTING UTILITIES IS NOT KNOWN IN ALL CASES. THE CONTRACTOR SHALL EXPLORE THE AREA AHEAD OF DITCHING OPERATIONS BY OBSERVATIONS, ELECTRONIC DEVICES, HAND DIGGING AND BY PERSONAL CONTACT WITH THE UTILITY COMPANIES. IN ORDER TO LOCATE EXISTING UTILITIES IN ADVANCE OF TRENCHING OPERATIONS SO AS TO ELIMINATE OR MINIMIZE DAMAGE TO EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS RESULTING FROM ANY DAMAGE TO THE EXISTING UTILITY LINES INCLUDING LOSS OF UTILITY REVENUES. CONTRACTOR SHALL ARRANGE FOR TEMPORARY SUPPORT OF EXISTING UTILITIES, SUCH AS POLES, CONDUITS, FIBER OPTIC CABLES, TELEPHONE CABLES, WATER LINES, ETC.
3. CONTRACTOR SHALL COMPLY WITH THE LATEST REVISIONS AND INTERPRETATIONS OF THE DEPARTMENT OF LABOR SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION PROMULGATED UNDER THE OCCUPATIONAL SAFETY AND HEALTH ACT.
4. CONTRACTOR SHALL PLAN AND CONSTRUCT WORK SO AS TO CAUSE MINIMUM INCONVENIENCE TO THE OWNER AND THE PUBLIC. THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN AT ALL TIMES DURING THE PROGRESS OR TEMPORARY SUSPENSION OF WORK, SUITABLE BARRIERS, FENCES, SIGNS OR OTHER ADEQUATE PROTECTION, INCLUDING FLAGMEN AND WATCHMEN AS NECESSARY TO INSURE THE SAFETY OF THE PUBLIC AS WELL AS THOSE ENGAGED IN THE CONSTRUCTION WORK. CONSTRUCTION SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF "CONSTRUCTION AND MAINTENANCE OPERATIONS SUPPLEMENT TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" BY THE USDOT.
5. ALL MATERIAL CLEARED OR DEMOLISHED BY THE CONTRACTOR IN ORDER TO CONSTRUCT THE WORK SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF OFF-SITE.
6. ALL WORK BY THE CONTRACTOR SHALL BE WARRANTED BY THE CONTRACTOR FOR A PERIOD OF ONE YEAR AFTER THE OWNER ACCEPTS THE WORK.
7. CONTRACTOR SHALL CALL THE NORTH CAROLINA ONE-CALL CENTER AT 811 AN ALLOW THE CENTER TO LOCATE EXISTING UTILITIES BEFORE DIGGING.
8. ANY DISCREPANCY IN THIS PLAN AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE OWNER PRIOR TO START OF CONSTRUCTION. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL SETBACKS, EASEMENTS AND DIMENSIONS SHOWN HEREON BEFORE BEGINNING CONSTRUCTION.
9. CONTRACTOR SHALL MAINTAIN THE SITE IN A MANNER SO THAT WORKMEN AND PUBLIC SHALL BE PROTECTED FROM INJURY, AND ADJOINING PROPERTY PROTECTED FROM DAMAGE.
10. ACCESS TO UTILITIES, FIRE HYDRANTS, STREET LIGHTING, ETC., SHALL REMAIN UNDISTURBED, UNLESS COORDINATED WITH THE RESPECTIVE UTILITY.
11. DO NOT SCALE THIS DRAWING AS IT IS A REPRODUCTION AND SUBJECT TO DISTORTION.
12. THE GENERAL CONTRACTOR SHALL REMOVE ALL DEBRIS FROM THE SITE UPON COMPLETION OF THE PROJECT AND AT LEAST ONCE A WEEK DURING CONSTRUCTION.
13. THE GENERAL CONTRACTOR SHALL KEEP THE AREA OUTSIDE THE "CONSTRUCTION LIMITS" BROOM CLEAN AT ALL TIMES.
14. ALL STREET SURFACES, DRIVEWAYS, CULVERTS, CURB AND GUTTERS, ROADSIDE DRAINAGE DITCHES AND OTHER STRUCTURES THAT ARE DISTURBED OR DAMAGED IN ANY MANNER AS A RESULT OF CONSTRUCTION SHALL BE REPLACED OR REPAIRED IN ACCORDANCE WITH THE SPECIFICATIONS.
15. CONTRACTOR SHALL MAINTAIN AN "AS-BUILT" SET OF DRAWINGS TO RECORD THE EXACT LOCATION OF ALL PIPING PRIOR TO CONCEALMENT. DRAWINGS SHALL BE GIVEN TO THE OWNER UPON COMPLETION OF THE PROJECT WITH A COPY OF THE TRANSMITTAL LETTER TO THE ENGINEER.
16. IF DEPARTURES FROM THE SPECIFICATIONS OR DRAWINGS ARE DEEMED NECESSARY BY THE CONTRACTOR, DETAILS OF SUCH DEPARTURES AND REASONS THEREOF SHALL BE GIVEN TO THE OWNER FOR REVIEW, NO DEPARTURES FROM THE CONTRACT DOCUMENTS SHALL BE MADE WITHOUT THE PERMISSION OF THE OWNER, BRUNSWICK COUNTY, OR BRUNSWICK COUNTY PUBLIC UTILITIES, RESPECTIVELY.
17. CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES. THE LOCATION OF ALL EXISTING UTILITIES ARE NOT NECESSARILY SHOWN ON PLANS AND WHERE SHOWN ARE ONLY APPROXIMATE. THE CONTRACTOR SHALL ON HIS INITIATIVE AND AT NO EXTRA COST HAVE LOCATED ALL UNDERGROUND LINES AND STRUCTURES AS NECESSARY. NO CLAIMS FOR DAMAGES OR EXTRA COMPENSATION SHALL ACCRUE TO THE CONTRACTOR FROM THE PRESENCE OF SUCH PIPE OTHER OBSTRUCTIONS OR FROM DELAY DUE TO REMOVAL OR REARRANGEMENT OF THE SAME. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO UNDERGROUND STRUCTURES. CONTACT NORTH CAROLINA ONE CALL" TOLL FREE 1-800-632-4949 AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL NONSUBSCRIBING UTILITIES.
18. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL INSPECTIONS, CERTIFICATIONS, EQUIPMENT, ETC., THAT MAY BE REQUIRED.
19. THE ENGINEER AND/OR OWNER DISCLAIM ANY ROLE IN THE CONSTRUCTION MEANS AND METHODS ASSOCIATED WITH THE PROJECT AS SET FORTH IN THESE PLANS.
20. ALL LOT STRIPING AND DIRECTIONAL ARROWS TO BE REFLECTIVE MARKINGS AND SHALL CONFORM TO MUTCD. ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
21. LANDSCAPE PLANTINGS AT ENTRANCE/ EXITS WILL BE INSTALLED AND MAINTAINED SO AS NOT TO INTERFERE WITH SIGHT DISTANCE NEEDS OF DRIVERS IN THE PARKING AREA AND AT ENTRANCE/EXIT LOCATIONS PER LOCAL STANDARDS.
22. ALL DIMENSIONS AND RADII ARE TO OUTSIDE FACE OF BUILDING OR TO FACE OF CURB UNLESS OTHERWISE NOTED.

TRAFFIC NOTES:

1. ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY & FOR DRIVEWAY(S) ARE TO BE THERMOPLASTIC & MEET BRUNSWICK COUNTY AND/OR NCDOT STANDARDS.
2. TRAFFIC CONTROL DEVICES (INCLUDING SIGNS AND PAVEMENT MARKINGS) IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
3. ALL TRAFFIC CONTROL SIGNS AND MARKINGS NOT WITHIN THE PUBLIC RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
4. ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
5. ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS AND/OR CURBING SHALL BE REPLACED.
6. TACTILE WARNING MATS TO BE INSTALLED AT ALL WHEELCHAIR RAMPS.

CONTACT INFORMATION

BRUNSWICK COUNTY PLANNING & ZONING
ATTN: BRANDON HACKNEY, PROJECT PLANNER
PH: 910-253-2042

PIEDMONT NATURAL GAS
ATTN: CATHY PLEASANT
PH: 910-251-2827

EMERGENCY DIAL 911
POLICE - FIRE - RESCUE
ATTN: BRUNSWICK COUNTY SHERIFF DEPARTMENT
NON-EMERGENCY PH: 910-253-2777 OR 800-672-6379

OWNER/DEVELOPER:
BRUNSWICK COUNTY SCHOOLS
35 REFERENDUM DRIVE NE
BOLIVIA, NC 28422
ATTN: CRAIG ECKERT, (910) 253-1078

ENGINEER (CIVIL) & LANDSCAPE ARCHITECT:
PARAMOUNTE ENGINEERING, INC.
122 CINEMA DRIVE
WILMINGTON, NORTH CAROLINA 28403
ATTN: ROB BALLAND, P.E. (910) 791-6707 - ENGINEER
ATTN: ALLISON ENGEBRETSON, RLA (910) 791-6707 - LANDSCAPE

SURVEYING:
PARAMOUNTE ENGINEERING, INC.
122 CINEMA DRIVE
WILMINGTON, NORTH CAROLINA 28403
ATTN: CHRIS GAGNE, P.L.S. (910) 791-6707

BRUNSWICK COUNTY PUBLIC WORKS (SEWER & WATER)
ATTN: BILL PINNIX & AMY AYCOCK
PH: 910-253-2408 & 910-253-2407

AFTER HOURS EMERGENCY
PH: 910-755-7921 / 910-371-3490 / 910-454-0512

DUKE ENERGY
DISTRIBUTION CONSTRUCTION SERVICE
ALLISON WALSH
PH: 910-350-3457

TRANSMISSION AGENT
BILL WILDER
PH: 910-772-4903

REPORT A POWER OUTAGE: 1-800-419-6356

AT&T/BELL SOUTH
ATTN: STEVE DAYVAULT (BUILDING ENGINEERING)
PH: 910-341-0741

ATTN: JAMES BATSON, ENGINEERING
PH: 910-341-1621

SPECTRUM
ATTN: STEVE BARNETTE
PH: 910-772-5755

GENERAL EROSION AND SEDIMENT CONTROL NOTES:

1. THE EROSION CONTROL PLAN SHALL INCLUDE PROVISIONS FOR GROUNDCOVER ON ALL EXPOSED PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1 WITHIN 7 CALENDAR DAYS FROM THE LAST LAND DISTURBING ACTIVITY. GROUND COVER SHALL BE PROVIDED ON ALL OTHER DISTURBED AREAS WITHIN 14 CALENDAR DAYS FROM THE LAST LAND DISTURBING ACTIVITY.
2. UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE NORTH CAROLINA EROSION AND SEDIMENT CONTROL HANDBOOK. (NO SEPARATE PAYMENT).
3. THE CONTRACTOR SHALL NOTIFY PLAN APPROVING AUTHORITY ONE WEEK PRIOR TO THE PRE-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO FINAL INSPECTION.
4. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO CLEARING AND/OR LAND DISTURBANCE.
5. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN AND PERMIT SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
6. PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO OFF-SITE BORROW OR WASTE AREAS STAGING OR STORAGE AREAS), THE CONTRACTOR SHALL PREPARE AND SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND TO NEW HANOVER COUNTY FOR APPROVAL. CONTRACTOR SHALL PAY ALL FEES REQUIRED AND SHALL INSTALL NECESSARY MEASURES AT NO SEPARATE PAYMENT. THE CONTRACTOR SHALL PROVIDE THE OWNER AND THE ENGINEER A COPY OF THE AMENDED PERMIT.
7. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY EITHER THE REVIEWING AGENCY OR THE ENGINEER. (NO SEPARATE PAYMENT).
8. ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.
9. ALL AREAS DISTURBED BY CONSTRUCTION UNLESS OTHERWISE IMPROVED SHALL BE SODDED OR SEEDED AS INDICATED AND ESTABLISHED.
10. DURING DEWATERING OPERATIONS, WATER SHALL BE PUMPED INTO AN APPROVED FILTERING DEVICE PRIOR TO DISCHARGE TO RECEIVING OUTLET.
11. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF-PRODUCING EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.
12. ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED BY CONTRACTOR ONCE STABILIZATION OR A SUFFICIENT GROUND COVER HAS BEEN ESTABLISHED OR AS DIRECTED BY THE ENGINEER. (NO SEPARATE PAYMENT). NCDENR'S FINAL APPROVAL IS REQUIRED.
13. TEMPORARY GRAVEL CONSTRUCTION ENTRANCE SHALL BE REQUIRED AT ALL CONSTRUCTION STAGING AREA ENTRANCES AND ALL CONSTRUCTION ACCESS LOCATIONS INTO NON-PAVED AREA. (NO SEPARATE PAYMENT).
14. WHEN CROSSING CREEK OR DRAINAGE-WAY, THE DIVISION OF WATER QUALITY SHALL BE CONTACTED PRIOR TO DISTURBING A CREEK. THE CONTRACTOR SHALL INSTALL RIP-RAP WITH FABRIC ALONG DISTURBED BANKS AND CHANNEL AND RESTORE SLOPES TO ORIGINAL CONTOURS, BUT NOT STEEPER THAN 2:1 MAXIMUM. DISTURBED CREEK AREA SHALL BE STABILIZED IMMEDIATELY.

DEMOLITION NOTES:

1. CONTRACTOR TO COORDINATE WITH THE OWNER TO PROPERLY MAINTAIN OR RELOCATE EXISTING SERVICE CONNECTIONS WHEN NECESSARY.
2. CONTRACTOR IS TO WALK THE SITE AND BECOME FAMILIAR WITH THE SCOPE OF DEMOLITION REQUIRED. ALL DEMOLITION WORK REQUIRED TO CONSTRUCT NEW SITE IMPROVEMENTS WILL BE PERFORMED BY THE CONTRACTOR AND WILL BE CONSIDERED UNCLASSIFIED EXCAVATION.
3. DEMOLITION SHALL INCLUDE BUT IS NOT LIMITED TO THE EXCAVATION, HAULING AND OFFSITE DISPOSAL OF CONCRETE PADS, CONCRETE DITCHES, FOUNDATIONS, SLABS, STEPS, AND STRUCTURES; ABANDONED UTILITIES, BUILDINGS, PAVEMENTS AND ALL MATERIALS CLEARED AND STRIPPED TO THE EXTENT NECESSARY AS DIRECTED BY THE GEOTECHNICAL ENGINEER FOR THE INSTALLATION OF THE NEW IMPROVEMENTS AND WITHIN THE LIMITS OF CLEARING AND GRADING AND AS SHOWN ON THESE PLANS.
4. THE CONTRACTOR SHALL PROTECT ALL ADJACENT PROPERTY, STRUCTURES AND UTILITIES ON THE PROPERTY NOT TO BE DEMOLISHED. DAMAGE TO PROPERTIES OF OTHERS DUE TO THE CONTRACTOR'S ACTIVITIES SHALL BE REPLACED IN KIND BY THE CONTRACTOR AT NO COST TO OWNER.
5. ELECTRIC, TELEPHONE, SANITARY SEWER, WATER AND STORM SEWER UTILITIES THAT SERVICE OFF-SITE PROPERTIES SHALL BE MAINTAINED DURING THE CONSTRUCTION PROCESS BY THE CONTRACTOR.
6. THE CONTRACTOR SHALL PRODUCE A PHOTOGRAPHIC RECORD (DIGITAL) OF DEVELOPMENT COMMENCING WITH A RECORD OF THE SITE AS IT APPEARS BEFORE DEMOLITION HAS BEGUN. AFTERWARDS, A PHOTOGRAPHIC RECORD SHALL BE MAINTAINED WEEKLY DURING CONSTRUCTION AND ENDING WITH A PHOTOGRAPHIC RECORD OF THE DEVELOPMENT AS IT APPEARS AFTER DEMOLITION. THIS RECORD SHALL BE DELIVERED TO THE OWNER.
7. EXISTING CURB AND GUTTER, LIGHTS, SIDEWALK, AND UTILITIES NOT INTENDED FOR DEMOLITION SHALL BE MAINTAINED, PROTECTED AND UNDISTURBED DURING DEMOLITION.
8. ALL EXISTING IMPROVEMENTS INDICATED OR REQUIRED TO BE DEMOLISHED SHALL INCLUDE REMOVAL FROM THE PROPERTY AND PROPER DISPOSAL.
9. CONTRACTOR SHALL COORDINATE RELOCATION OF ALL EXISTING OVERHEAD AND UNDERGROUND UTILITIES INCLUDING CABLE, GAS, TELEPHONE AND ELECTRIC AND ANY OTHER UTILITIES THROUGH THE SITE WITH THE RESPECTIVE COMPANIES.
10. CONTRACTOR SHALL MAINTAIN REQUIRED DISTANCES FROM HIGH VOLTAGE OVERHEAD LINES AND REMOVE TREES SO THEY DO NOT FALL TOWARDS OVERHEAD ELECTRICITY.
11. PROVIDE SMOOTH SAW CUT OF EXISTING PAVEMENTS, CURBS AND GUTTERS AND SIDEWALKS TO BE DEMOLISHED.
12. ALL DEMOLITION WORK SHALL BE DONE IN STRICT ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS AS WELL AS OSHA REGULATIONS.
13. EXISTING FIRE HYDRANTS ON OR NEAR THE SITE ARE TO REMAIN IN SERVICE.
14. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATIONS.

EROSION CONTROL AND SEQUENCE OF CONSTRUCTION NOTES:

NOTE: THESE EROSION CONTROL AND SEQUENCE OF CONSTRUCTION NOTES ARE INTENDED FOR EACH "PHASE" OF CONSTRUCTION. THE ORDER AND STEPS TAKEN MUST BE IMPLEMENTED AS EACH PART OF THE PROJECT IS DEVELOPED WHETHER AS A WHOLE OR IN PHASES. ANY EROSION CONTROL DEVICES/MEASURES MUST REMAIN IN PLACE UNTIL THE ENTIRE DISTURBANCE IS STABILIZED AND ALL IMPROVEMENTS WITHIN THE DISTURBANCE LIMITS ARE COMPLETE.

1. CONSTRUCT TEMPORARY GRAVEL CONSTRUCTION ENTRANCE(S), ESTABLISH THE LIMITS OF DISTURBANCE, TREE PROTECTION FENCING, AND TEMPORARY SILT FENCE.
2. CLEAR AND REMOVE FROM SITE TREES AS DESIGNATED, ROOTS, ROOT MAT, ETC. FROM THE AREA WITHIN THE DESIGNED CLEARING LIMITS.
3. CONSTRUCT TEMPORARY SEDIMENT BASIN(S) AND ASSOCIATED SKIMMER, OUTLET PIPE, SPILLWAY, ETC.
4. INSTALL REMAINING EROSION CONTROL MEASURES AS SHOWN ON THE PLANS WITHIN THE AREA DISTURBED. ALL EROSION CONTROL MEASURES MUST BE INSTALLED BEFORE COMMENCING CONSTRUCTION.
5. PLANT GRASS OVER ALL GRADED AREAS WITHIN 14 WORKING DAYS OF CEASE OF ANY GRADING ACTIVITY.
6. IMMEDIATELY UPON THE INSTALLATION OF ANY STORM DRAINAGE CATCH BASIN, DROP INLET, ETC., THE CONTRACTOR SHALL INSTALL INLET PROTECTION TO PREVENT SEDIMENT FROM ENTERING THE DRAINAGE SYSTEM.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING AND RESTORING TO PRE-CONSTRUCTION CONDITIONS ANY AREAS OUTSIDE THE PROJECT LIMITS THAT MAY INADVERTENTLY BE DAMAGED DUE TO THE FAILURE OF THE EROSION CONTROL MEASURES.
8. DURING GRADING AND AFTER GRADING HAS BEEN COMPLETE, THE CONTRACTOR SHALL CONTINUE TO MAINTAIN PERMANENT AND TEMPORARY EROSION CONTROL MEASURES UNTIL FINAL APPROVAL BY ENGINEER OR EROSION CONTROL INSPECTOR.
9. UPON RECEIVING FINAL APPROVAL, THE CONTRACTOR CAN REMOVE TEMPORARY EROSION CONTROL MEASURES.
10. THE CONTRACTOR SHALL CONTINUE TO WATER, FERTILIZE, MOW AND MAINTAIN GRASS & PLANTED AREAS UNTIL ALL CONSTRUCTION IS COMPLETE.

EROSION CONTROL MAINTENANCE PLAN:

1. ALL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CHECKED FOR STABILITY AND OPERATION FOLLOWING EVERY 1/2-INCH OR GREATER RAINFALL BUT IN NO CASE LESS THAN ONCE EVERY WEEK. ANY NEEDED REPAIRS WILL BE MADE IMMEDIATELY TO MAINTAIN ALL PRACTICES AS DESIGNED.
2. ALL CONSTRUCTION ENTRANCES WILL BE PERIODICALLY TOP DRESSED WITH AN ADDITIONAL 2 INCHES OF #6 STONE TO MAINTAIN PROPER DEPTH. ANY SEDIMENT THAT IS TRACKED INTO THE STREET WILL BE IMMEDIATELY REMOVED.
3. SEDIMENT FENCE / SEDIMENT FENCE OUTLETS - SEDIMENT WILL BE REMOVED BEHIND THE SEDIMENT FENCE WHEN IT BECOMES HALF-FILLED. THE SEDIMENT FENCE WILL BE BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER. STAKES MUST BE STEEL, AND SPACED 6 FEET WITH EXTRA STRENGTH FABRIC AND NO WIRE BACKING. STAKE SPACING CAN BE 8 FEET WHEN STANDARD STRENGTH FABRIC AND WIRE BACKING ARE USED. IF ROCK FILTERS OR EXCELSICOR WATTLE(S) ARE DESIGNED AT LOW POINTS IN THE SEDIMENT FENCE THE ROCK OR WATTLE WILL BE REPAIRED OR REPLACED IF IT BECOMES HALF FULL OF SEDIMENT. NO LONGER DRAINS, OR IS DAMAGED.
4. ALL SEEDED AREAS WILL BE FERTILIZED, RESEEDED AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS ON THESE PLANS AND CONTRACT SPECIFICATIONS TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.
5. INLET PROTECTION - SEDIMENT SHALL BE REMOVED FROM HARDWARE CLOTH AND GRAVEL, BLOCK AND GRAVEL, OR SOCK-PIPE INLETS. WHEN IT REACHES HALF-FILLED, ROCK WILL BE CLEANED OR REPLACED WHEN NO LONGER DRAINS. SILT SACKS, BEAVER DAMS, SANDY SACKS, AND SOCKS NEED CHECKING EVERY WEEK AND AFTER RAIN.

NPDES BUILDING WASTES HANDLING:

1. NO PAINT OR LIQUID WASTES IN STREAM OR STORM DRAINS.
2. DEDICATED AREAS FOR DEMOLITION, CONSTRUCTION AND OTHER WASTES MUST BE LOCATED 50' FROM STORM DRAINS AND STREAMS UNLESS NO REASONABLE ALTERNATIVES AVAILABLE.
3. EARTHEN-MATERIALS STOCKPILES MUST BE LOCATED 50' FROM STORM DRAINS AND STREAMS UNLESS NO REASONABLE ALTERNATIVES AVAILABLE.
4. CONCRETE MATERIALS MUST BE CONTROLLED TO AVOID CONTACT WITH SURFACE WATERS, WETLANDS, OR BUFFERS.

NPDES INSPECTIONS:

1. SAME WEEKLY INSPECTION REQUIREMENTS.
2. SAME RAIN GAUGE & INSPECTIONS AFTER 0.5" RAIN EVENT.
3. INSPECTIONS ARE ONLY REQUIRED DURING "NORMAL BUSINESS HOURS".
4. INSPECTION REPORTS MUST BE AVAILABLE ON-SITE DURING BUSINESS HOURS UNLESS A SITE-SPECIFIC EXEMPTION IS APPROVED.
5. RECORDS MUST BE KEPT FOR 3 YEARS AND AVAILABLE UPON REQUEST.
6. ELECTRONICALLY AVAILABLE RECORDS MAY BE SUBSTITUTED UNDER CERTAIN CONDITIONS.

NPDES SEDIMENT BASINS:

1. OUTLET STRUCTURES MUST WITHDRAW FROM BASIN SURFACE UNLESS DRAINAGE AREA IS LESS THAN 1 ACRE.
2. USE ONLY DWQ-APPROVED FLOCULANTS.

NPDES - SPECIFIC PLAN SHEETS NOTES:

1. THIS PAGE IS SUBMITTED TO COMPLY WITH NPDES GENERAL STORMWATER PERMIT NCG010000.
2. THIS PAGE CAN BE APPROVED BY THE COUNTY PURSUANT TO NPDES GENERAL STORMWATER PERMIT NCG010000 ONLY.
3. THIS PAGE OF THE APPROVED PLANS IS ENFORCEABLE EXCLUSIVELY PURSUANT TO NPDES GENERAL STORMWATER PERMIT NCG010000.
4. THE COUNTY IS NOT AUTHORIZED TO ENFORCE THE NPDES PORTION OF THIS PAGE OF THE PLANS AND THEY ARE NOT A PART OF THE APPROVED PLANS FOR THE PURPOSES OF ENFORCEMENT ACTION UNDER THE COUNTY CODE.

PERMANENT SEEDING			
GRASS TYPE	LBS/ ACRE	TIME OF SEEDING	FERTILIZER LIMESTONE
BERMUDA, HULLED BERMUDA, UNHULLED	10-20 35	MARCH - AUGUST SEPT. - FEB.	BY SOIL TEST
CENTIPEDE	10	MARCH - AUGUST	BY SOIL TEST (NO HIGH PH)
TALL FESCUE (COASTAL CULTIVAR RECOMMENDED)	50	MARCH - AUGUST	300 LB/AC 10-20-20 OR BY SOIL TEST
SLOPES >= 2:1 CENTIPEDE SERICEA LESPEDEZA	5 20	JAN - DEC	BY SOIL TEST

TEMPORARY SEEDING			
GRASS TYPE	LBS/ ACRE	TIME OF SEEDING	FERTILIZER LIMESTONE
RYE GRAIN	50	OCT. - APR.	400 LBS/AC. 10-20-20
SWEET SUDAN GRASS	50	JUNE - AUGUST	400 LBS/AC. 10-20-20
GERMAN or BROWNTOP MILLET	50	JUNE - AUGUST	400 LBS/AC. 10-20-20
STRAW MULCH AS NEEDED	4,000		

STABILIZATION TIME FRAMES:
*IN THE EVENT THAT THE GOVERNING AGENCIES TIMEFRAME FOR STABILIZATION VARY, CONTRACTOR SHALL MEET THE MORE STRINGENT REQUIREMENT.

NPDES WATER QUALITY STABILIZATION TIME FRAMES		
SITE AREA DESCRIPTION	STABILIZATION	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES

NC ACCESSIBILITY NOTES:

GENERAL NOTES:

1. SPECIAL ATTENTION SHALL BE GIVEN TO COMPLIANCE WITH AMERICANS WITH DISABILITIES ACT (2010 ADA STANDARDS), THE NORTH CAROLINA BUILDING CODE/ANSI A117.1, AND APPLICABLE LOCAL LAWS & REGULATIONS.
2. IT IS ESSENTIAL THAT CONTRACTORS ARE AWARE OF THE SITE ACCESSIBILITY REQUIREMENTS. PARAMOUNTE ENGINEERING HAS DEVELOPED THESE NOTES AND DETAILS TO ASSURE THAT CONTRACTORS ARE AWARE OF THE REQUIREMENTS AT THE POINT IN TIME WHEN THEY ARE BIDDING THE PROJECT. IN ADDITION, PARAMOUNTE ENGINEERING HAS MADE A POINT IN THESE NOTES AND DETAILS, AS WELL AS IN OUR DRAWINGS, TO PROVIDE SLOPES / GRADES AND DIMENSIONS THAT COMPLY WITH THE AMERICANS WITH DISABILITIES ACT (2010 ADA STANDARDS), THE NORTH CAROLINA BUILDING CODE/ANSI A117.1 AND APPLICABLE LOCAL LAWS & REGULATIONS. IF THESE SLOPES / GRADES AND DIMENSIONS ARE NOT ACHIEVABLE, THE CONTRACTOR IS REQUIRED TO CONTACT THE OWNER IMMEDIATELY AND BEFORE MOVING FORWARD WITH THE WORK.
3. THE CONTRACTOR SHALL NOTIFY PARAMOUNTE ENGINEERING IMMEDIATELY OF ANY CONFLICT BETWEEN THESE NOTES AND DETAILS AND OTHER PROJECT DRAWINGS, WHETHER BY PARAMOUNTE ENGINEERING OR OTHERS. THE CONTRACTOR SHALL NOT PROCEED WITH THE WORK FOR WHICH THE ALLEGED CONFLICT HAS BEEN DISCOVERED UNTIL SUCH ALLEGED CONFLICT HAS BEEN RESOLVED. NO CLAIM SHALL BE MADE BY THE CONTRACTOR FOR DELAY OR DAMAGES AS A RESULT OF RESOLUTION OF ANY SUCH CONFLICT(S).
4. THESE ACCESSIBILITY NOTES AND DETAILS ARE INTENDED TO DEPICT SLOPE AND DIMENSIONAL REQUIREMENTS ONLY. REFER TO SIDEWALK, CURBING, AND PAVEMENT DETAILS FOR ADDITIONAL INFORMATION.

ACCESSIBLE ROUTE NOTES:

1. AT LEAST ONE ACCESSIBLE ROUTE SHALL BE PROVIDED WITHIN THE SITE FROM ACCESSIBLE PARKING SPACES AND ACCESSIBLE PASSENGER LOADING ZONES; PUBLIC STREETS OR SIDEWALKS; AND PUBLIC TRANSPORTATION STOPS TO THE ACCESSIBLE BUILDING OR FACILITY ENTRANCE THEY SERVE.
2. AT LEAST ONE ACCESSIBLE ROUTE SHALL CONNECT ACCESSIBLE BUILDINGS, ACCESSIBLE FACILITIES, ACCESSIBLE ELEMENTS, AND ACCESSIBLE SPACES THAT ARE ON THE SAME SITE.
3. WALKING SURFACES THAT ARE PART OF AN ACCESSIBLE ROUTE SHALL HAVE A MAXIMUM RUNNING SLOPE OF 5.0% AND A MAXIMUM CROSS SLOPE OF 2.0%.
4. ANY WALKING SURFACE THAT IS PART OF AN ACCESSIBLE ROUTE WITH A RUNNING SLOPE GREATER THAN 5.0% IS A RAMP AND SHALL COMPLY WITH THE GUIDELINES FOR RAMPS OR CURB RAMPS.
5. TRANSITIONS BETWEEN RAMPS, WALKS, LANDINGS, GUTTERS OR STREETS SHALL BE FLUSHAND FREE OF

GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

Required Ground Stabilization Timeframes

Site Area Description	Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
• Temporary grass seed covered with straw or other mulches and tackifiers • Hydroseeding • Rolled erosion control products with or without temporary grass seed • Appropriately applied straw or other mulch • Plastic sheeting	• Permanent grass seed covered with straw or other mulches and tackifiers • Geotextile fabrics such as permanent soil reinforcement matting • Hydroseeding • Shrubs or other permanent plantings covered with mulch • Uniform and evenly distributed ground cover sufficient to restrain erosion • Structural methods such as concrete, asphalt or retaining walls • Rolled erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

1. Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
2. Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
3. Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
4. Provide ponding area for containment of treated Stormwater before discharging offsite.
5. Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

1. Maintain vehicles and equipment to prevent discharge of fluids.
2. Provide drip pans under any stored equipment.
3. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
4. Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
5. Remove leaking vehicles and construction equipment from service until the problem has been corrected.
6. Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

1. Never bury or burn waste. Place litter and debris in approved waste containers.
2. Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
4. Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
5. Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
6. Anchor all lightweight items in waste containers during times of high winds.
7. Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
8. Dispose waste off-site at an approved disposal facility.
9. On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

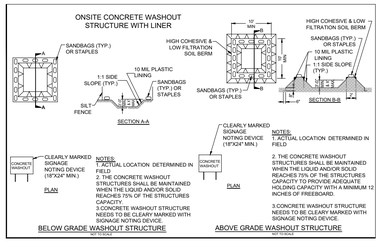
1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
3. Contain liquid wastes in a controlled area.
4. Containment must be labeled, sized and placed appropriately for the needs of site.
5. Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

PORTABLE TOILETS

1. Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
3. Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

1. Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
3. Provide stable stone access point when feasible.
4. Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.



CONCRETE WASHOUTS

1. Do not discharge concrete or cement slurry from the site.
2. Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
3. Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
4. Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
5. Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
6. Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
7. Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
8. Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
9. Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
10. At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

HERBICIDES, PESTICIDES AND RODENTICIDES

1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
2. Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
3. Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
4. Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

1. Create designated hazardous waste collection areas on-site.
2. Place hazardous waste containers under cover or in secondary containment.
3. Do not store hazardous chemicals, drums or bagged materials directly on the ground.

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING | EFFECTIVE: 04/01/19

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those un-attended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the measures inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Indication of whether the measures were operating properly, 5. Description of maintenance needs for the measure, 6. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDOs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the discharge outfalls inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, 5. Indication of visible sediment leaving the site, 6. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If visible sedimentation is found outside site limits, then a record of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits, 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, item (2)(a) of this permit of this permit.
(6) Ground stabilization measures	After each phase of grading	1. The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover). 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. E&SC Plan Documentation

The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be documented in the manner described:

Item to Document	Documentation Requirements
(a) Each E&SC Measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC Plan.	Initial and date each E&SC Measure on a copy of the approved E&SC Plan or complete, date and sign an inspection report that lists each E&SC Measure shown on the approved E&SC Plan. This documentation is required upon the initial installation of the E&SC Measures or if the E&SC Measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC Plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&SC Plan.	Initial and date a copy of the approved E&SC Plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&SC Measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&SC Measures.	Initial and date a copy of the approved E&SC Plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

2. Additional Documentation

In addition to the E&SC Plan documents above, the following items shall be kept on the site

and available for agency inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

(a) This general permit as well as the certificate of coverage, after it is received.

(b) Records of inspections made during the previous 30 days. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

(c) All data used to complete the Notice of Intent and older inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

1. Occurrences that must be reported

Permittees shall report the following occurrences:

(a) Visible sediment deposition in a stream or wetland.

(b) Oil spills if:
- They are 25 gallons or more,
- They are less than 25 gallons but cannot be cleaned up within 24 hours,
- They cause sheen on surface waters (regardless of volume), or
- They are within 100 feet of surface waters (regardless of volume).

(a) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.

(b) Anticipated bypasses and unanticipated bypasses.

(c) Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timeframes and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Division's Emergency Response personnel at (800) 662-7956, (800) 858-0368 or (919) 733-3300.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. • If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	• ***Within 24 hours***, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	• ***A report at least ten days before the date of the bypass, if possible***. The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that includes an evaluation of the quality and effect of the bypass.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment[40 CFR 122.41(l)(7)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR 122.41(l)(6). • Division staff may waive the requirement for a written report on a case-by-case basis.

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING | EFFECTIVE: 04/01/19

Know what's below. Call before you dig. 811

PARAMOUNTE ENGINEERING, INC.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
NC License #: C-2846
PEI Project #: 15348.PE

BRUNSWICK COUNTY SCHOOLS — A Community of Learners

WACCAMAW ELEMENTARY SCHOOL IMPROVEMENTS

LS3P

LS3P ASSOCIATES LTD.
101 N. THIRD STREET, SUITE 500
WILMINGTON, NORTH CAROLINA 28401
TEL. 910.790.9901 FAX 910.790.3111
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NORTH CAROLINA PROFESSIONAL SEAL 031591 ENGINEER ROBERT P. BALLARD
04/22/2020

MEMBERS OF THE AMERICAN INSTITUTE OF ARCHITECTS

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REVISIONS:

No.	Description	Date

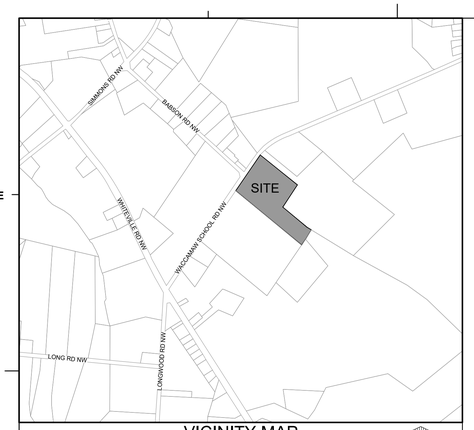
BID DOCUMENTS - NOT RELEASED FOR CONSTRUCTION

PROJECT: 8201-191240
DATE: 04/22/2020
DRAWN BY: AEC
CHECKED BY: RPB

GENERAL NOTES - CIVIL

C-1.1

SOLUTIONS THROUGH LISTENING
SERVICE BY DESIGN
BID DOCUMENTS



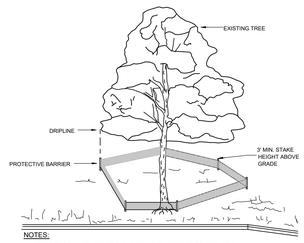
VICINITY MAP
SCALE: 1" = 1,000'
NORTH

DEMOLITION NOTES:

1. CONTRACTOR SHALL REFER TO SHEET C-1.0 GENERAL NOTES FOR DEMOLITION NOTES.
2. ALL UTILITIES SHALL BE ABANDONED AND/OR DEMOLISHED AND CAPPED PROPERLY IN ACCORDANCE WITH THE UTILITY OWNERS RULES AND REGULATIONS.
3. CONTRACTOR SHALL COORDINATE WITH ELECTRIC UTILITY OWNER/PROVIDER FOR RELOCATION OF EXISTING STRUCTURES.
4. CONTRACTOR SHALL COORDINATE WITH BRUNSWICK COUNTY SCHOOLS FOR PROTECTION OF ADJACENT STRUCTURES DURING DEMOLITION AND CONSTRUCTION.

EX. VEGETATION NOTES:

1. CONTRACTOR SHALL REMOVE SHRUBS AS NECESSARY ALONG THE BUILDINGS FOR CONSTRUCTION AS LONG AS THE SAME QUANTITY AND SPECIES ARE REPLACED WHEN CONSTRUCTION IS COMPLETE.



NOTES:
- TREES TO BE SAVED WILL BE CLEARLY MARKED PRIOR TO CONSTRUCTION
- INSTALLATION OF PROTECTION FENCING IS REQUIRED PRIOR TO LAND DISTURBING ACTIVITY AND IS TO BE MAINTAINED UNTIL AFTER FINAL SITE INSPECTION
- FENCING SHALL BE INSTALLED AT THE DRIPLINE OR AT THE BOUNDARY OF THE CRITICAL ROOT ZONE, WHICHEVER IS GREATER
  DRIP LINE - THE AREA OF SOIL DIRECTLY BENEATH THE TREE EXTENDING OUT TO THE TIPS OF THE OUTERMOST BRANCHES.
  CRITICAL ROOT ZONE - 1' RADIUS FROM THE TREE TRUNK PER 1" CALIPER

A METHOD OF TREE PROTECTION DURING CONSTRUCTION
NTS

SYMBOLS LEGEND	
	EXISTING CONCRETE TO BE REMOVED
	EXISTING ASPHALT TO BE REMOVED
	EXISTING UTILITY LINE TO BE REMOVED
	EXISTING STORM STRUCTURE TO BE REMOVED
	EXISTING SIGN/LIGHT/UTILITY POLE TO BE REMOVED
	EXISTING FENCE TO BE REMOVED
	TREE PROTECTION FENCING
X	EXISTING TREE/SHRUBS TO BE REMOVED
	EXISTING BUILDING/STRUCTURE TO BE REMOVED

BABSON RD NW
60' PUBLIC R/W

WACCAMAW SCHOOL RD
(S.R. 1330)
60' PUBLIC R/W

EX. ASPHALT PARKING LOT TO REMAIN

EX. 2-STORY BUILDING TO REMAIN

PIN: 114100648421
WACCAMAW SCHOOL
DB 81 PG 455
ZONING RR

EX. 1-STORY BUILDING TO REMAIN

EXISTING BUILDING FFE=67.40

EX. TREE FROM BUILDING ENTRANCE TO BE RELOCATED TO EX. LANDSCAPE ISLAND (SEE SHEET C-2.1 FOR DETAILS)

FLAG POLES & LIGHTS

STATUE

ASPHALT

EX. CONCRETE SIDEWALK AND CANOPY TO BE REMOVED IN THEIR ENTIRETY

APPROX. 320 LF (TOTAL) OF EX. FENCE TO BE REMOVED IN IT ENTIRETY

EX. BUILDING, BUILDING OVERHANG/CANOPY, AND FOUNDATION TO BE DEMOLISHED IN THEIR ENTIRETY

EX. BUILDING APPROX. 10,640 SF (FOOTPRINT)

EX. INSET LANDSCAPED AREA TO BE REMOVED IN ITS ENTIRETY.
EX. TREE TO BE RELOCATED TO LANDSCAPE ISLAND AS INDICATED ABOVE. (SEE SHEET C-2.1 FOR DETAILS).

APPROX. 3,900 SF OF EX. CONCRETE SIDEWALK TO BE REMOVED IN ITS ENTIRETY (WIDTH VARIES)

TWO (2) EX. ELECTRICAL TRANSFORMERS TO BE RELOCATED. SEE UTILITY PLAN FOR PROPOSED LOCATION.

EX. SEPTIC TANKS AND CLEANOUTS TO BE REMOVED IN THEIR ENTIRETY

APPROX. 205 SY OF EX. ASPHALT PARKING LOT TO BE REMOVED IN ITS ENTIRETY

CONTRACTOR SHALL REMOVE IN ITS ENTIRETY 165LF EX. 8" PVC GRAVITY SANITARY SEWER

EX. SEPTIC TANKS AND CLEANOUTS TO BE REMOVED IN THEIR ENTIRETY

EX. LIGHTPOLE AND FOUNDATION TO BE RELOCATED. CONTRACTOR SHALL COORDINATE WITH OWNER & POWER PROVIDER.

EX. CONCRETE SIDEWALK TO BE REMOVED IN ITS ENTIRETY & REPLACED. (SEE SHEET C-2.1 FOR DETAILS)

EX. 1-STORY BUILDING TO REMAIN

EXISTING BUILDING FFE=67.30

EX. 1-STORY BUILDING TO REMAIN

EX. 1-STORY BUILDING TO REMAIN

EX. ASPHALT PARKING LOT TO REMAIN

CONTRACTOR SHALL REINSTALL EX. FENCE ONCE CONSTRUCTION IS COMPLETE. IF ANY PORTIONS OF THE FENCE BECOME DAMAGED DURING CONSTRUCTION ACTIVITIES, CONTRACTOR SHALL REPLACE AT THEIR SOLE COST

EX. LIGHTPOLE AND FOUNDATION TO BE RELOCATED. CONTRACTOR SHALL COORDINATE WITH OWNER & POWER PROVIDER.

EX. STORM SEWER AND STRUCTURES, TYP. (TO REMAIN)

EX. STORMWATER WETLAND (TO REMAIN)

EX. ASPHALT DRIVEWAY TO REMAIN (TO BE USED AS CONSTRUCTION ENTRANCE)

APPROX. LOCATION EX. 12" WATER MAIN

APPROX. LOCATION EX. 6" WATER MAIN

APPROX. LOCATION EX. 6" WATER MAIN

EX. 8" PVC @ 0.51%

8" PVC INV=62.63

SMH RIM=65.81

SMH RIM=65.38

SMH RIM=65.55

SMH RIM=65.32

SMH RIM=67.38

CB RIM=59.50

OUTLET STRUCTURE 1" PVC=57.78

CMP 6"

RIM=61.17 INV=57.41

RIM=60.87 INV=56.87

INV=55.99

INV=55.07

INV=56.23

PNE 14

811 Know what's below. Call before you dig.

NAD83 (2011)

GRAPHIC SCALE
0 10 20 40 60
SCALE: 1"=20'

PARAMOUNTE ENGINEERING, INC.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
NC License #: C-2846
PEI Project #: 15348.PE

BRUNSWICK COUNTY SCHOOLS — A Community of Learners

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NORTH CAROLINA PROFESSIONAL SEAL 031591 ENGINEER ROBERT P. BALLARD
04/22/2020

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REVISIONS:

No.	Description	Date

PROJECT: 8201-191240
DATE: 04/22/2020
DRAWN BY: AEC
CHECKED BY: RPB

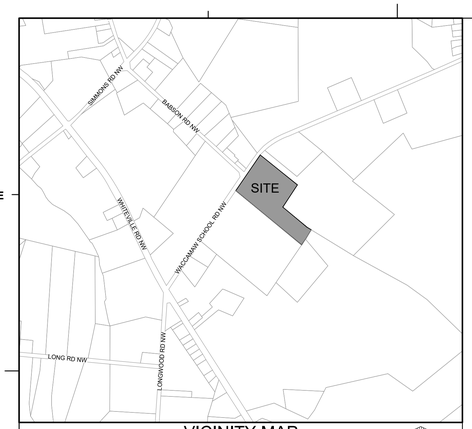
DEMOLITION PLAN

C-2.0

SOLUTIONS THROUGH LISTENING
SERVICE BY DESIGN

BID DOCUMENTS

BID DOCUMENTS - NOT RELEASED FOR CONSTRUCTION



VICINITY MAP

SCALE: 1" = 1,000'

NORTH

SITE INFORMATION

OWNER INFORMATION:	BRUNSWICK COUNTY SCHOOLS 35 REFERENDUM DRIVE BOLIVIA, NC 28422
PROJECT NAME:	WACCAMAW ELEMENTARY SCHOOL
PROJECT ADDRESS:	5901 WACCAMAW SCHOOL RD ASH, NC 28420
PARCEL ID:	132000008
PARCEL PIN:	114100648421
RECORDED DEED BOOK:	DB 81/PG 455
CURRENT ZONING:	RR
EXISTING USE:	ELEMENTARY SCHOOL
PROPOSED USE:	ELEMENTARY SCHOOL
TOTAL SITE AREA:	16.57 AC (721,789 SF)
FLOOD INFORMATION:	THIS PARCEL LIES WITHIN AN AREA OF MINIMAL FLOOD HAZARD (ZONE X) AS INDICATED BY FEMA FLOOD ZONE MAP NUMBER 3720213000K BEARING AN EFFECTIVE DATE OF 08/28/2018.
SPECIAL HIGHWAY DISTRICT:	N/A
CAMA CLASSIFICATION:	CONSERVATION

BUILDING INFORMATION:

PROPOSED BLDG. GFA	12,213 SF GFA
ALLOWABLE BLDG. HEIGHT	55'
PROPOSED BLDG. HEIGHT	17'-4"
CONSTRUCTION TYPE	II-B
SPRINKLER SYSTEM	YES

SETBACKS

	REQUIRED	PROVIDED
FRONT	40'	185'
SIDE	30'	235'
REAR	40'	420'

PARKING INFORMATION

EX. TOTAL SPACES	81 SPACES
EX. HANDICAP	6 SPACES
EX. BUS PARKING	9 SPACES

NO CHANGES TO EXISTING PARKING SPACES PROPOSED. THE EXISTING NINE (9) BUS PARKING SPACES WILL BE RE-STRIPED AS SHOWN.

IMPERVIOUS INFORMATION

TOTAL EXISTING IMPERVIOUS	245,330 SF
EXISTING IMPERVIOUS TO BE REMOVED	17,750 SF
EXISTING IMPERVIOUS TO REMAIN	227,580 SF

PROPOSED IMPERVIOUS

ASPHALT	2,100 SF
BUILDINGS	13,800 SF
CONCRETE	2,710 SF
TOTAL PROPOSED IMPERVIOUS	18,610 SF
TOTAL NEW IMPERVIOUS	860 SF

TOTAL IMPERVIOUS = EX. IMPERVIOUS TO REMAIN + PROPOSED IMPERVIOUS = 246,190 SF

GENERAL NOTES

1. ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET BRUNSWICK COUNTY AND/OR NCDOT STANDARDS.
2. ALL SIGNS AND PAVEMENT MARKINGS IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD STANDARDS.
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4. ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.

GARBAGE REMOVAL

EXISTING DUMPSTER TO REMAIN AND BE USED AS-IS.

WATER AND SEWER CAPACITY

189 STUDENTS
SCHOOL - 12 GAL./STUDENT WITH CAFETERIA
TOTAL = 2,268 GPD

GENERAL NOTES

PROPOSED 2 ½" DOMESTIC WATER SERVICE AND 6" FIRE SERVICE FOR PROPOSED BUILDING ADDITION. PROPOSED 8" SANITARY SERVICES TO CONNECT TO EX. SANITARY INFRASTRUCTURE AND SCHOOL WASTEWATER TREATMENT SYSTEM. SEE UTILITY PLAN FOR MORE DETAIL.

LANDSCAPE NOTE

NO NEW LANDSCAPE REQUIRED OR PROPOSED PER BRUNSWICK COUNTY UDO. PROPOSED BUILDING UTILIZES SAME FOOTPRINT AS EXISTING BUILDING. NO MODIFICATIONS TO PARKING AREAS ARE PROPOSED.

KEY NOTES:

1. HEAVY DUTY ASPHALT PAVING: REFER TO DETAILS
2. ASPHALT OVERLAY AREA: REFER TO DETAILS
3. CONCRETE SIDEWALK: REFER TO DETAILS
4. EXPOSED FACE CONCRETE SIDEWALK TO ASPHALT DETAIL: REFER TO DETAILS
5. STRIPING & PAVEMENT MARKINGS: PROVIDE 4" WIDE PARKING LOT STRIPING AS SHOWN. USE HIGHWAY MARKING PAINT - WHITE (2 COATS).
6. 4' CHAIN LINK FENCING: REFER TO DETAILS
7. HANDRAILS: FOLLOW ADA REQUIREMENTS. SEE ARCHITECTURAL AND STRUCTURAL PLANS FOR DETAILS.
8. HANDICAP RAMP (SIDEWALK): REFER TO DETAILS
9. DETECTIBLE WARNING MAT: REFER TO DETAILS

LEGEND:

- PROPOSED ASPHALT OVERLAY
- PROPOSED FULL DEPTH ASPHALT SECTION
- PROPOSED BUILDING
- PROPOSED ROOF LINE
- PROPOSED CONCRETE
- EXISTING CONCRETE
- X — PROPOSED FENCE
- TP — PROPOSED TREE PROTECTION FENCE

PLANT SCHEDULE

CANOPY TREES	QTY	BOTANICAL / COMMON NAME	SIZE
LO	2	Quercus virginiana Southern Live Oak	5" HGT. MIN.
EXISTING TREES	**QTY**	**BOTANICAL / COMMON NAME**	**SIZE**
EX	1	Quercus virginiana Southern Live Oak RELOCATED TREE	existing

EX. TREE FROM BUILDING ENTRANCE TO BE RELOCATED TO EXISTING LANDSCAPE ISLAND. CONTRACTOR TO ENSURE SUFFICIENT WATER SUPPLY, THROUGH USE OF TREEGATOR WATERING BAG OR SIMILAR APPROVED FORM OF TEMPORARY IRRIGATION, TO ENSURE SURVIVAL OF TRANSPLANTED TREE.
REFERENCE NOTE #11 OF LANDSCAPE NOTES, THIS SHEET.

BABSON RD NW
60' PUBLIC R/W

WACCAMAW SCHOOL RD (S.R. 1330)
60' PUBLIC R/W

APPROX. LOCATION EX. 12" WATER MAIN

APPROX. LOCATION EX. 6" WATER MAIN

EX. 2-STORY BUILDING TO REMAIN

EX. ASPHALT PARKING LOT TO REMAIN

EX. HYDRANT ASSEMBLY, TYP.

EX. TREE FROM BUILDING ENTRANCE TO BE RELOCATED TO EXISTING LANDSCAPE ISLAND

PIN: 114100648421
WACCAMAW SCHOOL
DB 81 PG 455
ZONING RR

EX. 1-STORY BUILDING TO REMAIN

EX. CONCRETE SIDEWALK

EXISTING BUILDING
FFE=67.40

FLAG POLES & LIGHTS

EX. STORM SEWER AND STRUCTURES, TYP.

PROPOSED SIDEWALK CANOPY TO REPLACE EXISTING (SEE ARCHITECTURAL PLANS).

PROPOSED 9' WIDE CONCRETE SIDEWALK TO REPLACE EX. SIDEWALK.

OVERHANG

PROPOSED CONCRETE SIDEWALK (WIDTH VARIES)

STATUE

EX. STATUE & FLAGPOLES TO REMAIN

EX. CONCRETE SIDEWALK

PROPOSED CANOPY OVER CONCRETE SIDEWALK, TYP.

TIE INTO EX. CONCRETE SIDEWALK

PROPOSED 4' WIDE SINGLE GATE

PROPOSED
1-STORY BUILDING
12,213 SF GFA
HEIGHT = 17'-4"
FFE = 66.35

PROPOSED CONCRETE SIDEWALK, WIDTH VARIES, WITH CANOPY

PROPOSED CANOPY OVER CONCRETE SIDEWALK, TYP.

EXISTING BUILDING
FFE=67.30

SMH
RIM=67.38

SMH
RIM=E:
INV(S)=

EX. 6" PVC @ 0.51%

PROPOSED 6' WIDE DOUBLE GATE

PROPOSED 6' WIDE DOUBLE GATE

PROPOSED 4' HIGH CHAIN LINK FENCING, SEE DETAILS

TIE INTO EX. CONCRETE SIDEWALK

TIE INTO EX. CHAIN LINK FENCING

EX. FENCE TO REMAIN

EX. 1-STORY BUILDING TO REMAIN

EX. ASPHALT PARKING LOT TO REMAIN

CONTRACTOR SHALL REINSTALL EX. FENCE ONCE CONSTRUCTION IS COMPLETE. IF ANY PORTIONS OF THE FENCE BECOME DAMAGED DURING CONSTRUCTION ACTIVITIES, CONTRACTOR SHALL REPLACE AT THEIR SOLE COST

PAVEMENT REPAIR AREA DUE TO UTILITY INSTALLATION. MATCH EXISTING PAVEMENT SECTION

(1) LO

LO (1)

WIDEN EX. ASPHALT DRIVEWAY TO MEET MIN. 20' WIDTH REQUIREMENT

EX. STORMWATER WETLAND

TIE INTO EX. EDGE OF PAVEMENT

PAVEMENT REPAIR AREA DUE TO UTILITY INSTALLATION. MATCH EXISTING PAVEMENT SECTION

PNF

NAD83 (2011)

LANDSCAPE NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING ALL UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
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3. ALL PLANT MATERIAL SHALL MEET THE CURRENT VERSION OF THE AMERICAN ASSOCIATION OF NURSERYMENS STANDARDS.
4. NO TREE, OTHER THAN THOSE SHOWN ON APPROVED PLANS FOR REMOVAL WITH THESE PLANS AND/ OR TREE REMOVAL PERMIT PLANS, SHALL BE REMOVED WITHOUT WRITTEN AUTHORIZATION FROM THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE. ALL SHRUB BEDS AND/OR PLANTING AREAS EXCLUDING TURF AREAS SHALL BE MULCHED WITH 3 INCH MINIMUM AND 4 INCH MAXIMUM DEPTH PINE STRAW MULCH UNLESS OTHERWISE NOTED.
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6. PLANTING SOIL MIX: MIX EXISTING SOIL WITH THE SOIL AMENDMENTS AND FERTILIZERS IN THE QUANTITIES RECOMMENDED BY THE SOIL TESTING LABORATORY, THIRD PARTY RECOGNIZED BY THE STATE DEPARTMENT OF AGRICULTURE OR AS OTHERWISE APPROVED BY THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE.
7. ANY AND ALL SUBSTITUTIONS OF PLANT MATERIAL SHALL BE APPROVED BY LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE. FAILURE IN OBTAINING APPROVAL MAY RESULT IN LIABILITY TO THE CONTRACTOR.
8. THE CONTRACTOR SHALL REPLACE DEAD AND/OR UNHEALTHY PLANT MATERIAL WITHIN 12 MONTHS OF ACCEPTANCE OF THE INSTALLED MATERIAL FROM THE OWNER OR OWNER'S REPRESENTATIVE.
9. THE CONTRACTOR SHALL PREPARE ALL SEEDED OR SODDED AREAS TO ASSURE THAT THE SUBGRADE HAS BEEN RAKED AND ROLLED TO ACCEPT THE SOD/SEED. ALL SOD/SEED AREAS MUST BE IRRIGATED OR HAND WATERED. ALL SOD SHALL BE PLACED WITH STAGGERED JOINTS AND NO GAPS BETWEEN SOD JOINTS. SOD SHOULD BE ROLLED AFTER INSTALLATION. ALL SEEDED AND/OR SODDED AREAS SHOULD PROVIDE A SMOOTH SURFACE FREE OF DIPS AND UNLEVELED GROUND.
10. IF REQUIRED, IRRIGATION SHALL BE DESIGNED AND INSTALLED BY A LICENSED IRRIGATION CONTRACTOR IN THE STATE OF NORTH CAROLINA.
11. THE CONTRACTOR IS RESPONSIBLE FOR HAND WATERING THE INSTALLED PLANT MATERIAL FOR A PERIOD OF 6 MONTHS FROM THE ACCEPTANCE FROM THE OWNER OR OWNER'S REPRESENTATIVE IF IRRIGATION HAS NOT BEEN INSTALLED AT THE TIME OF SUBSTANTIAL COMPLETION. ALL MATERIAL INCLUDING SOD AND SEEDED AREAS SHALL BE HAND WATERED ONCE WEEKLY OR AS NEEDED TO ENSURE SURVIVAL OF PLANTS.
12. CONTRACTOR IS RESPONSIBLE FOR REMOVING TRASH, DEBRIS AND EXCESS MATERIALS FROM THE JOB SITE ONCE THE PROJECT IS COMPLETE. SECURING ANY MATERIALS LEFT ON SITE DURING THE COURSE OF THE PROJECT IS THE CONTRACTOR'S RESPONSIBILITY.
13. ALL DISTURBED AREAS NOT DESIGNATED FOR SOD SHALL BE SEEDED.
14. ALL VEGETATION PROPOSED WITHIN SIGHT DISTANCE AREAS SHALL NOT INTERFERE WITH SIGHT DISTANCE FROM 30" TO 10'.
15. PRIOR TO ANY CLEARING, GRADING, OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING SHALL BE INSTALLED. NO CONSTRUCTION WORKERS, TOOLS, MATERIALS OR VEHICLES ARE PERMITTED WITHIN TREE PROTECTION FENCING.

GRAPHIC SCALE
0 10 20 40 60
SCALE: 1"=20'

Know what's below. Call before you dig. 811

BID DOCUMENTS - NOT RELEASED FOR CONSTRUCTION

PARAMOUNTE ENGINEERING, INC.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
NC License #: C-2846
PEI Project #: 15348.PE

BRUNSWICK COUNTY SCHOOLS — A Community of Learners

WACCAMAW ELEMENTARY SCHOOL IMPROVEMENTS

LS3P

LS3P ASSOCIATES LTD.
101 N. THIRD STREET, SUITE 500
WILMINGTON, NORTH CAROLINA 28401
TEL. 910.790.9901 FAX 910.790.3111
WWW.LS3P.COM

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No.	Description	Date

PROJECT: 8201-191240
DATE: 04/22/2020
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SITE & PLANTING PLAN

C-2.1

SOLUTIONS THROUGH LISTENING
SERVICE BY DESIGN
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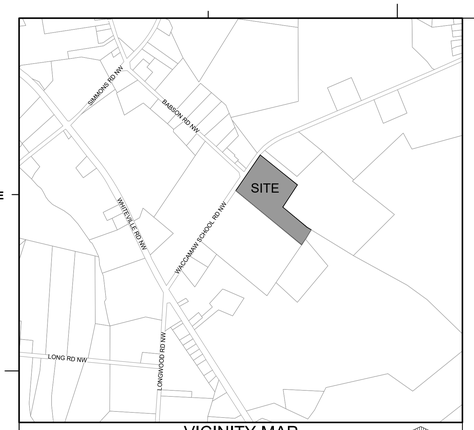

VICINITY MAP

SCALE: 1" = 1,000'

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PROJECT NAME:	WACCAMAW ELEMENTARY SCHOOL
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PARCEL ID:	132000068
PARCEL PIN:	114100648421
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PLANT SCHEDULE

CANOPY TREES	QTY	BOTANICAL / COMMON NAME	SIZE
LO	2	Quercus virginiana Southern Live Oak	5" HGT. MIN.

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GRAPHIC SCALE
0 10 20 40 60
SCALE: 1"=20'

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122 Cinema Drive
Wilmington, North Carolina 28403
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NC License #: C-2846
PEI Project #: 15348.PE

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WACCAMAW ELEMENTARY SCHOOL IMPROVEMENTS

LS3P ASSOCIATES LTD.
101 N. THIRD STREET, SUITE 500
WILMINGTON, NORTH CAROLINA 28401
TEL. 910.790.9901 FAX 910.790.3111
WWW.LS3P.COM

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REVISIONS:

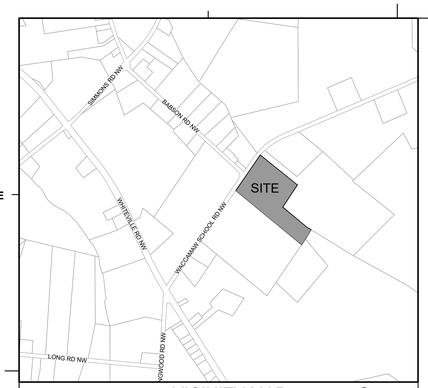
No.	Description	Date

PROJECT: 8201-191240
DATE: 04/22/2020
DRAWN BY: AEC
CHECKED BY: RPB

SITE & PLANTING PLAN (ALTERNATE CANOPY BID)

C-2.1A

SOLUTIONS THROUGH LISTENING
SERVICE BY DESIGN
BID DOCUMENTS



VICINITY MAP

SCALE: 1" = 1,000'

NORTH

GENERAL NOTES:

1. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL STATE OF NC AND BRUNSWICK COUNTY STANDARDS AND SPECIFICATIONS.
2. THE CONTRACTOR SHALL PLACE INLET PROTECTION AROUND ALL STORM DRAIN INLETS TO PROTECT THE SYSTEM FROM COLLECTING SEDIMENTATION DURING CONSTRUCTION. INLET PROTECTION SHALL REMAIN IN PLACE UNTIL THE ROADS ARE PAVED.
3. CONTRACTOR SHALL ADJUST ALL FRAMES OF EX. UTILITY INFRASTRUCTURE WITHIN ASPHALT OVERLAY AND NEW ASPHALT AREAS TO MATCH PROPOSED GRADES.
4. ALL PROPOSED SPOT ELEVATIONS SHOWN ARE PROPOSED EDGE OF PAVEMENT UNLESS NOTED OTHERWISE.
5. CONNECT ROOF DRAINS AS SHOWN. THERE IS SOME ROOF DRAINS ON EXISTING BUILDINGS AND SOME PARKING THAT DOES NOT CARRY FLOW TOWARDS THE POND, BUT OFFSITE TOWARDS HUNT CLUB RD. DITCH. IF THERE ARE ANY DRAINAGE QUESTIONS, PLEASE NOTIFY OWNER AND ENGINEER PRIOR TO MAKING CONNECTIONS.
6. ALL SIDEWALK CROSS SLOPES HAVE BEEN GRADED TO MEET ADA REGULATIONS. CONTRACTOR SHALL CONFIRM GRADES BEFORE PLACING PAVEMENT OR SIDEWALKS AND REPORT ANY DISCREPANCIES TO OWNER AND/OR ENGINEER.
7. THE CONTRACTOR SHALL USE EITHER RCP (CL. III or CL. IV) OR ADS N-12 WT PIPE FOR THE STORM DRAINAGE SYSTEM UNLESS NOTED OTHERWISE. IF THE CONTRACTOR CHOOSES TO USE ADS N-12 WT STORM PIPE, IT SHALL BE INSTALLED TO MANUFACTURER SPECIFICATIONS. IN ADDITION, THE CONTRACTOR SHALL BE SURE TO PROVIDE CONCRETE COLLARS AROUND EACH F.E.S. TO PREVENT FLOATATION IF HDPE PIPE IS CHOSEN.
8. CONTRACTOR SHALL COORDINATE WITH OWNER TO DETERMINE IF A GEOTECHNICAL ENGINEERING REPORT WAS COMPLETED FOR THE SITE.
9. CONTRACTOR SHALL STAKE SILT FENCE ALONG LIMITS OF DISTURBANCE LINE. THE SILT FENCE LINETYPE IS OFFSET ON THE DRAWING FOR CLARITY.

ASPHALT AREA NOTE:

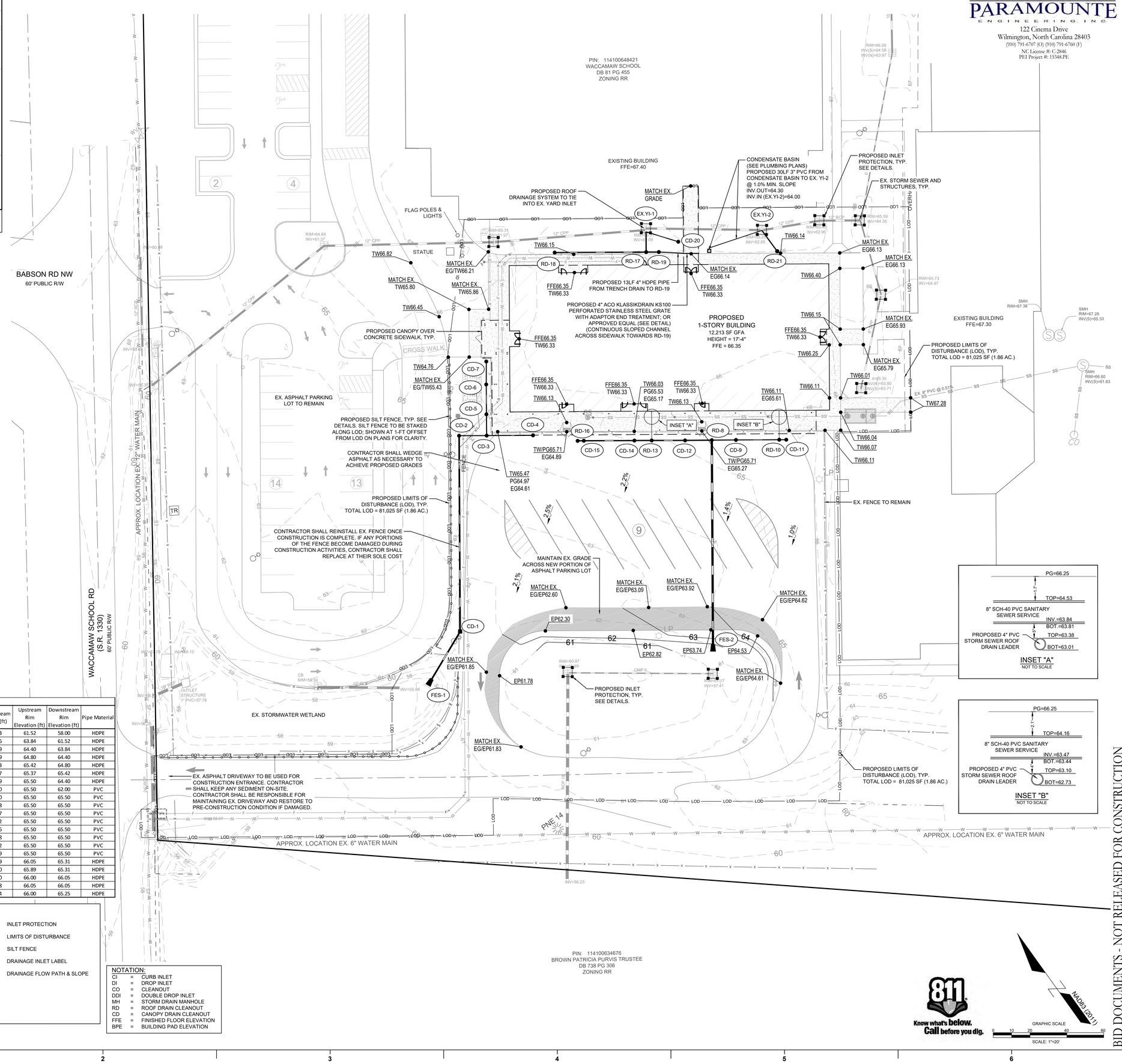
1. SITE CONTRACTOR SHALL STRIP TOPSOIL AND ANY UNSUITALBE MATERIAL AND PROVIDE CUT/FILL OPERATIONS TO PROVIDE A COMPACTED CONTROLLED SUBGRADE, IN ACCORDANCE WITH THE SUBSURFACE GEOTECHNICAL EXPLORATION AND TECHNICAL SPECIFICATIONS.

BUILDING PAD NOTE:

1. SITE CONTRACTOR SHALL STRIP TOPSOIL AND ANY UNSUITALBE MATERIAL AND PROVIDE CUT/FILL OPERATIONS TO PROVIDE A COMPACTED CONTROLLED BUILDING PAD, IN ACCORDANCE WITH STRUCTURAL DRAWINGS.

STORMWATER NOTES:

1. A PORTION OF THE SITE IMPERVIOUS IS CAPTURED AND CONVEYED BY AN UNDERGROUND STORM SEWER SYSTEM TO AN EXISTING STORMWATER WETLAND (PERMITTED UNDER EX. SW PERMIT SW8 150101). OTHER SITE IMPERVIOUS IS CAPTURED BY AN UNDERGROUND STORM SEWER SYSTEM AND OUTFALLS TO EXISTING DITCHES ALONG THE SOUTHERN PROPERTY BOUNDARY AND WACCAMAW SCHOOL ROAD.



STORM PIPE SCHEDULE									
Upstream Node	Downstream Node	Diameter (in.)	Pipe Length (ft)	Pipe Slope (%)	Upstream Invert (ft)	Downstream Invert (ft)	Upstream Rim Elevation (ft)	Downstream Rim Elevation (ft)	Pipe Material
CD-1	FES-1	8	30	1.22	58.20	57.83	61.52	58.00	HDPE
CD-2	CD-1	8	106	2.00	60.49	58.36	63.84	61.52	HDPE
CD-3	CD-2	4	15	2.00	60.79	60.49	64.40	63.84	HDPE
CD-5	CD-3	4	12	2.07	61.03	60.79	64.80	64.40	HDPE
CD-6	CD-5	4	16	2.04	61.36	61.03	65.42	64.80	HDPE
CD-7	CD-6	4	12	2.00	61.62	61.37	65.37	65.42	HDPE
CD-4	CD-3	4	25	2.03	61.30	60.79	65.50	64.40	HDPE
RD-8	FES-2	12	111	0.30	62.33	62.00	65.50	62.00	PVC
CD-12	RD-8	6	14	0.55	62.68	62.60	65.50	65.50	PVC
RD-13	CD-12	6	18	0.50	62.77	62.68	65.50	65.50	PVC
CD-14	RD-13	6	9	0.53	62.82	62.77	65.50	65.50	PVC
CD-15	CD-14	6	27	0.50	62.96	62.82	65.50	65.50	PVC
RD-16	CD-15	6	3	0.50	62.97	62.96	65.50	65.50	PVC
CD-9	RD-8	4	13	0.30	62.42	62.38	65.50	65.50	PVC
RD-10	CD-9	4	23	0.30	62.49	62.42	65.50	65.50	PVC
CD-11	RD-10	4	4	0.30	62.50	62.49	65.50	65.50	PVC
RD-17	EX. YI-1	6	11	0.06	62.73	62.09	66.05	65.31	HDPE
RD-20	EX. YI-1	3	18	0.02	64.30	64.00	65.89	65.31	HDPE
RD-18	RD-17	6	50	0.01	63.40	62.90	66.00	66.05	HDPE
RD-19	RD-17	6	7	0.02	63.50	63.38	66.05	66.05	HDPE
RD-21	EX. YI-2	6	13	0.50	63.60	63.54	66.00	65.25	HDPE

LEGEND:

16	EXISTING CONTOUR
29	PROPOSED CONTOUR
EG25.05	EXISTING GRADE SPOT ELEVATION
PG25.05	PROPOSED GRADE SPOT ELEVATION
EP25.05	PROPOSED EDGE OF PAVEMENT
TW25.05	PROPOSED TOP OF WALK ELEVATION
FFE25.05	PROPOSED FINISH FLOOR ELEVATION
BC25.05	PROPOSED BACK OF CURB ELEVATION
	INLET PROTECTION
LOD	LIMITS OF DISTURBANCE
	SILT FENCE
CB-202	DRAINAGE INLET LABEL
1.5%	DRAINAGE FLOW PATH & SLOPE

NOTATION:

CI	=	CURB INLET
DI	=	DROP INLET
CO	=	CLEANOUT
DDI	=	DOUBLE DROP INLET
MH	=	STORM DRAIN MANHOLE
RD	=	ROOF DRAIN CLEANOUT
CD	=	CANOPY DRAIN CLEANOUT
FFE	=	FINISHED FLOOR ELEVATION
BPE	=	BUILDING PAD ELEVATION

Know what's below. Call before you dig. 811

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NC License #: C-2846
PEI Project #: 15348.PE

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NORTH CAROLINA PROFESSIONAL SEAL 031591 ENGINEER ROBERT P. BALLARD
04/22/2020

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REVISIONS:

No.	Description	Date

BID DOCUMENTS - NOT RELEASED FOR CONSTRUCTION

PROJECT: 8201-191240
DATE: 04/22/2020
DRAWN BY: AEC
CHECKED BY: RPB

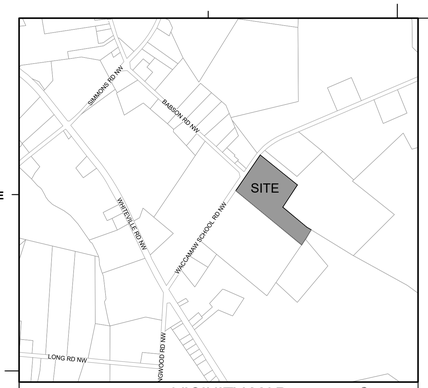
GRADING, DRAINAGE, & EROSION CONTROL PLAN

C-3.0

SOLUTIONS THROUGH LISTENING

SERVICE BY DESIGN

BID DOCUMENTS



VICINITY MAP

SCALE: 1" = 1,000'

NORTH

GENERAL NOTES:

1. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL STATE OF NC AND BRUNSWICK COUNTY STANDARDS AND SPECIFICATIONS.
2. THE CONTRACTOR SHALL PLACE INLET PROTECTION AROUND ALL STORM DRAIN INLETS TO PROTECT THE SYSTEM FROM COLLECTING SEDIMENTATION DURING CONSTRUCTION. INLET PROTECTION SHALL REMAIN IN PLACE UNTIL THE ROADS ARE PAVED.
3. CONTRACTOR SHALL ADJUST ALL FRAMES OF EX. UTILITY INFRASTRUCTURE WITHIN ASPHALT OVERLAY AND NEW ASPHALT AREAS TO MATCH PROPOSED GRADES.
4. ALL PROPOSED SPOT ELEVATIONS SHOWN ARE PROPOSED EDGE OF PAVEMENT UNLESS NOTED OTHERWISE.
5. CONNECT ROOF DRAINS AS SHOWN. THERE IS SOME ROOF DRAINS ON EXISTING BUILDINGS AND SOME PARKING THAT DOES NOT CARRY FLOW TOWARDS THE POND, BUT OFFSITE TOWARDS HUNT CLUB RD. DITCH. IF THERE ARE ANY DRAINAGE QUESTIONS, PLEASE NOTIFY OWNER AND ENGINEER PRIOR TO MAKING CONNECTIONS.
6. ALL SIDEWALK CROSS SLOPES HAVE BEEN GRADED TO MEET ADA REGULATIONS. CONTRACTOR SHALL CONFIRM GRADES BEFORE PLACING PAVEMENT OR SIDEWALKS AND REPORT ANY DISCREPANCIES TO OWNER AND/OR ENGINEER.
7. THE CONTRACTOR SHALL USE EITHER RCP (CL. III or CL. IV) OR ADS N-12 WT PIPE FOR THE STORM DRAINAGE SYSTEM UNLESS NOTED OTHERWISE. IF THE CONTRACTOR CHOOSES TO USE ADS N-12 WT STORM PIPE, IT SHALL BE INSTALLED TO MANUFACTURER SPECIFICATIONS. IN ADDITION, THE CONTRACTOR SHALL BE SURE TO PROVIDE CONCRETE COLLARS AROUND EACH F.E.S. TO PREVENT FLOATATION IF HDPE PIPE IS CHOSEN.
8. CONTRACTOR SHALL COORDINATE WITH OWNER TO DETERMINE IF A GEOTECHNICAL ENGINEERING REPORT WAS COMPLETED FOR THE SITE.
9. CONTRACTOR SHALL STAKE SILT FENCE ALONG LIMITS OF DISTURBANCE LINE. THE SILT FENCE LINETYPE IS OFFSET ON THE DRAWING FOR CLARITY.

ASPHALT AREA NOTE:

1. SITE CONTRACTOR SHALL STRIP TOPSOIL AND ANY UNSUITALBE MATERIAL AND PROVIDE CUT/FILL OPERATIONS TO PROVIDE A COMPACTED CONTROLLED SUBGRADE, IN ACCORDANCE WITH THE SUBSURFACE GEOTECHNICAL EXPLORATION AND TECHNICAL SPECIFICATIONS.

BUILDING PAD NOTE:

1. SITE CONTRACTOR SHALL STRIP TOPSOIL AND ANY UNSUITALBE MATERIAL AND PROVIDE CUT/FILL OPERATIONS TO PROVIDE A COMPACTED CONTROLLED BUILDING PAD, IN ACCORDANCE WITH STRUCTURAL DRAWINGS.

STORMWATER NOTES:

1. A PORTION OF THE SITE IMPERVIOUS IS CAPTURED AND CONVEYED BY AN UNDERGROUND STORM SEWER SYSTEM TO AN EXISTING STORMWATER WETLAND (PERMITTED UNDER EX. SW PERMIT SW8 150101). OTHER SITE IMPERVIOUS IS CAPTURED BY AN UNDERGROUND STORM SEWER SYSTEM AND OUTFALLS TO EXISTING DITCHES ALONG THE SOUTHERN PROPERTY BOUNDARY AND WACCAMAW SCHOOL ROAD.

STORM PIPE SCHEDULE (ALTERNATE BID FOR CANOPY DESIGN)

Upstream Node	Downstream Node	Diameter (in.)	Pipe Length (ft)	Pipe Slope (%)	Upstream Invert (ft)	Downstream Invert (ft)	Upstream Rim Elevation (ft)	Downstream Rim Elevation (ft)	Pipe Material
CD-1	FES-1	8.00	29.99	0.01	58.20	57.83	61.52	58.00	HDPE
CD-2	CD-1	8.00	103.74	0.02	60.49	58.36	63.72	61.52	HDPE
CD-3	CD-2	4.00	16.50	0.02	60.79	60.49	64.33	63.72	HDPE
CD-7	CD-3	4.00	14.17	0.02	61.03	60.79	64.93	64.33	HDPE
CD-4	CD-3	4.00	9.99	0.02	61.00	60.79	64.36	64.33	HDPE
CD-5	CD-4	4.00	13.74	0.02	61.30	61.00	64.25	64.36	HDPE
CD-8	CD-7	4.00	16.19	0.02	61.36	61.03	65.49	64.93	HDPE
CD-6	CD-5	4.00	13.75	0.00	61.36	61.30	65.50	64.25	HDPE
CD-9	CD-8	4.00	12.47	0.02	61.62	61.37	65.44	65.49	HDPE
CD-10	FES-2	12.00	110.75	0.01	62.33	61.67	65.50	62.00	PVC
CD-11	CD-10	4.00	13.12	0.00	62.42	62.38	65.50	65.50	PVC
CD-16	CD-10	6.00	14.49	0.01	62.68	62.60	65.50	65.50	PVC
CD-17	CD-16	6.00	13.70	0.00	62.75	62.68	65.50	65.50	PVC
CD-12	CD-11	4.00	13.71	0.00	62.46	62.42	65.50	65.50	PVC
RD-18	CD-17	6.00	4.42	0.00	62.77	62.75	65.50	65.50	PVC
RD-13	CD-12	4.00	9.79	0.00	62.49	62.46	65.50	65.50	PVC
CD-19	RD-18	6.00	9.41	0.01	62.82	62.77	65.50	65.50	PVC
CD-14	RD-13	4.00	3.81	0.00	62.50	62.49	65.50	65.50	PVC
CD-20	CD-19	6.00	13.65	0.01	62.89	62.82	65.50	65.50	PVC
CD-15	CD-14	4.00	13.91	0.01	62.60	62.50	65.50	65.50	PVC
CD-21	CD-20	6.00	13.80	0.00	62.96	62.89	65.50	65.50	PVC
RD-22	CD-21	6.00	3.36	0.01	62.97	62.96	65.50	65.50	PVC
RD-23	EX. YI-1	6.00	11.00	0.06	62.73	62.09	66.05	65.31	HDPE
CD-26	EX. YI-1	3.00	18.32	0.02	64.30	64.00	65.89	65.31	HDPE
RD-24	RD-23	6.00	49.68	0.01	63.40	62.90	66.00	66.05	HDPE
RD-25	RD-23	6.00	6.87	0.02	63.50	63.38	66.05	66.05	HDPE
RD-27	EX. YI-2	6	13	0.50	63.60	63.54	66.00	65.25	HDPE

LEGEND:

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING GRADE SPOT ELEVATION
- PROPOSED GRADE SPOT ELEVATION
- PROPOSED EDGE OF PAVEMENT
- PROPOSED TOP OF WALK ELEVATION
- PROPOSED FINISH FLOOR ELEVATION
- PROPOSED BACK OF CURB ELEVATION
- INLET PROTECTION
- LIMITS OF DISTURBANCE
- SILT FENCE
- DRAINAGE INLET LABEL
- DRAINAGE FLOW PATH & SLOPE

NOTATION:

CI	=	CURB INLET
DI	=	DROP INLET
CO	=	CLEANOUT
DDI	=	DOUBLE DROP INLET
MH	=	STORM DRAIN MANHOLE
RD	=	ROOF DRAIN CLEANOUT
CD	=	CANOPY DRAIN CLEANOUT
FFE	=	FINISHED FLOOR ELEVATION
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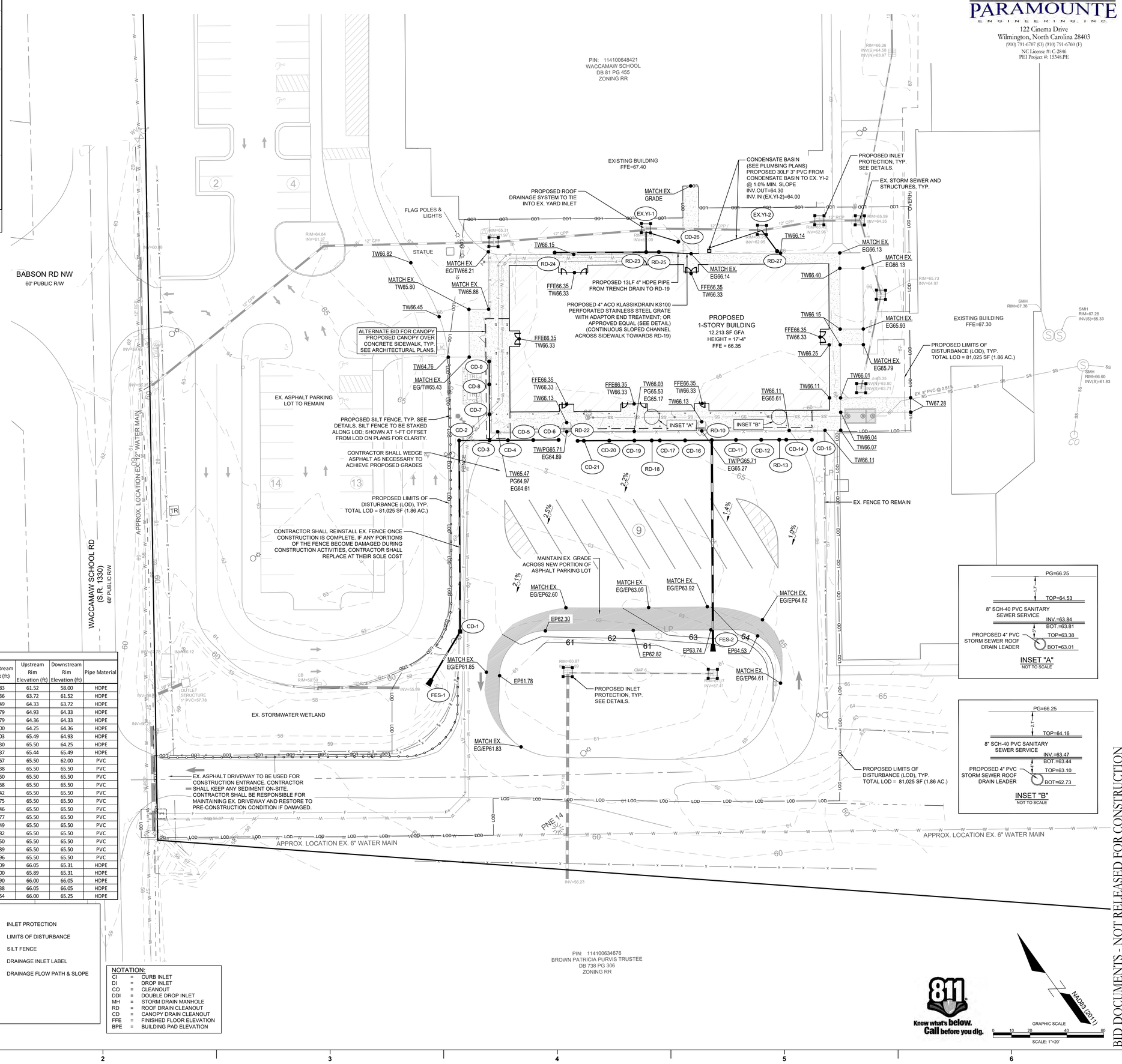

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BID DOCUMENTS - NOT RELEASED FOR CONSTRUCTION

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122 Cinema Drive
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NC License #: C-2846
PEI Project #: 15348.PE

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NORTH CAROLINA PROFESSIONAL SEAL 031591 ENGINEER ROBERT P. BALLARD
04/22/2020

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REVISIONS:

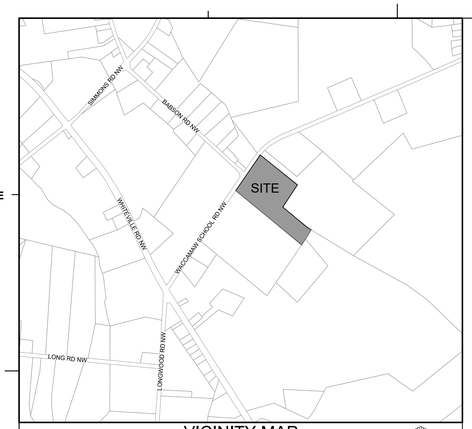
No.	Description	Date

PROJECT: 8201-191240
DATE: 04/22/2020
DRAWN BY: AEC
CHECKED BY: RPB

GRADING, DRAINAGE, & EROSION CONTROL PLAN (ALTERNATE CANOPY BID)

C-3.0A

SOLUTIONS THROUGH LISTENING
SERVICE BY DESIGN
BID DOCUMENTS



VICINITY MAP

SCALE: 1" = 1,000'

NORTH

SITE INFORMATION

OWNER INFORMATION:	WACCAMAW SCHOOL 5901 WACCAMAW SCHOOL RD ASH, NC 28420
PROJECT NAME:	WACCAMAW ELEMENTARY SCHOOL
PROJECT ADDRESS:	1109 OLD OCEAN HWY BOLIVIA, NC 28422
PARCEL ID:	13200008
PARCEL PIN:	114100648421
RECORDED DEED BOOK:	DB 81/PG 455
CURRENT ZONING:	RR
EXISTING USE:	ELEMENTARY SCHOOL
PROPOSED USE:	ELEMENTARY SCHOOL
TOTAL SITE AREA:	16.57 AC (721,789 SF)
FLOOD INFORMATION:	THIS PARCEL LIES WITHIN AN AREA OF MINIMAL FLOOD HAZARD (ZONE X) AS INDICATED BY FEMA FLOOD ZONE MAP NUMBER 3720213000K BEARING AN EFFECTIVE DATE OF 08/28/2018.
SPECIAL HIGHWAY DISTRICT:	N/A
CAMA CLASSIFICATION:	CONSERVATION

WATER AND SEWER CAPACITY

189 STUDENTS
SCHOOL - 12 GAL./STUDENT WITIH CAFETERIA
TOTAL = 2,268 GPD

UTILITY NOTES

ALL WATER SERVICES PROVIDED BY BRUNSWICK COUNTY PUBLIC UTILITIES. THERE ARE TWO (2) 2" EXISTING WATER METERS SERVING THIS SITE. CONTRACTOR SHALL CONFIRM LOCATION OF EXISTING METERS IN FIELD AND SHALL CONTACT BRUNSWICK COUNTY PUBLIC UTILITIES AS REQUIRED. THIS PROJECT IS PROPOSING A 2 ½" DOMESTIC WATER SERVICE FOR THE BUILDING ADDITION.

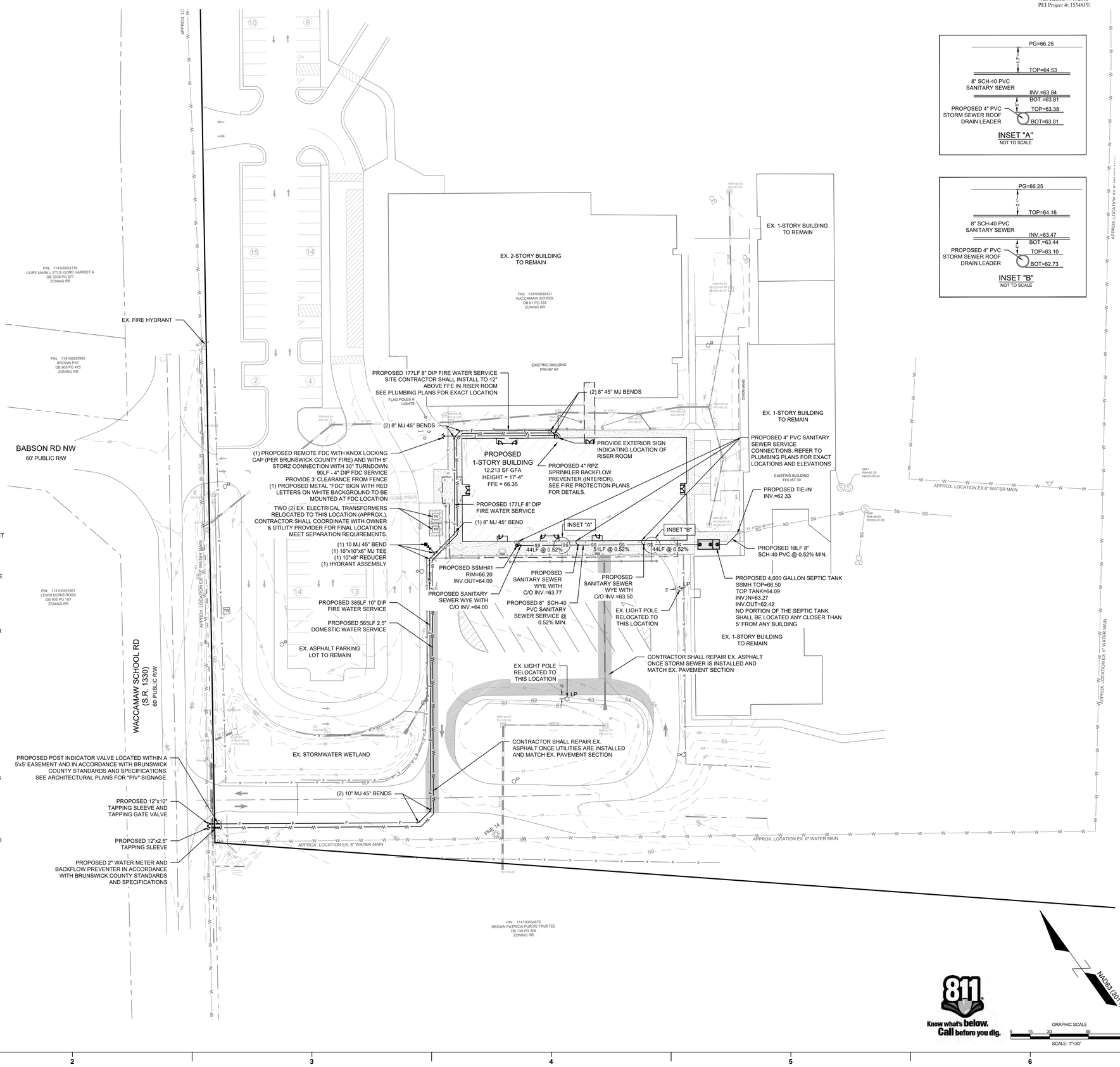
THERE ARE NO PUBLIC SEWER SERVICES ON-SITE. THE SCHOOL IS SERVED BY AN EXISTING SEPTIC FIELD (SEPTIC PERMIT HELD BY NCDEQ). THE PROPOSED BUILDING ADDITION HAS 189 OCCUPANTS.

UTILITY NOTES: (NCAC 15A.02T.0305 / T15A.18C.0906)

1. WATER MAINS SHALL BE LAID SO AS TO PROVIDE A MINIMUM HORIZONTAL SEPARATION OF 10 FEET FROM SEWERS. IF CONDITIONS EXIST SUCH THAT THIS SEPARATION CANNOT BE ACHIEVED, THE WATER MAIN CAN BE INSTALLED AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER, EITHER IN A SEPARATE TRENCH, OR IN THE SAME TRENCH ON A BENCH OF UNDISTURBED EARTH.
2. WHEN CROSSING A WATER MAIN OVER A SEWER, THE WATER MAIN SHALL BE LAID AT LEAST 18 INCHES ABOVE THE SEWER. IF CONDITIONS EXIST SUCH THAT THIS SEPARATION CANNOT BE ACHIEVED, BOTH THE WATER MAIN AND SEWER SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE WITH JOINTS THAT MEET WATER MAIN STANDARDS. THE DUCTILE IRON PIPE SHALL EXTEND 10 FEET ON EACH SIDE OF THE CROSSING WITH A SECTION OF WATER MAIN PIPE CENTERED ON THE CROSSING.
3. CROSSING A WATER MAIN UNDER A SEWER. WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS UNDER A SEWER, BOTH THE WATER MAIN AND THE SEWER SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING. A SECTION OF WATER MAIN PIPE SHALL BE CENTERED AT THE POINT OF CROSSING.
4. WHERE VERTICAL CLEARANCE IS LESS THAN 24" BETWEEN SANITARY SEWER AND STORM DRAIN, SANITARY SEWER SHALL BE DUCTILE IRON PIPE FOR A MINIMUM OF 10' EITHER SIDE OF CROSSING AND STORM DRAIN SHALL BE RC PIPE.
5. WHERE VERTICAL CLEARANCE IS LESS THAT 18" BETWEEN WATER MAIN AND STORM DRAIN, WATER MAIN SHALL BE DUCTILE IRON PIPE FOR A MINIMUM OF 10' EITHER SIDE OF CROSSING AND STORM DRAIN SHALL BE RC PIPE.

FIRE & LIFE SAFETY NOTES:

1. CONTRACTOR SHALL COORDINATE WITH BRUNSWICK COUNTY FIRE & LIFE SAFETY FOR INSTALLATION OF PROPOSED FIRE LINE AND RELATED APPURTENANCES. CONTACT BRAD BABSON AT 910-253-2021 FOR REQUIRED INPECTIONS.
2. NEW HYDRANTS MUST BE AVAILABLE FOR USE PRIOR TO CONSTRUCTION OF THE PROPOSED ADDITION.
3. HYDRANTS MUST BE LOCATED WITHIN 8' OF THE CURB.
4. CONTRACTOR SHALL MAINTAIN AN ALL WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
5. A MINIMUM OF 4' SHALL SEPARATE UNDERGROUND FIRE LINES OR PRIVATE WATER MAINS FROM OTHER UNDERGROUND UTILITIES.
6. LANDSCAPING OR PARKING CAN NOT BLOCK OR IMPEDE THE FDC OR FIRE HYDRANTS. A 3-FOOT (3') CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF HYDRANTS AND FDC.
7. FIRE CODE OFFICIAL WILL NEED TO VERIFY FIRE LINE ROUGH-IN FOR THE PROPER BRACING AT BENDS. DO NOT COVER UNTIL INSPECTION HAS BEEN COMPLETED.
8. FIRE CODE OFFICIAL WILL NEED TO OBSERVE A HYDRAULICS TEST ON THE FIRE LINE FOR 2 HOURS AT 200 PSI.
9. FIRE CODE OFFICIAL WILL NEED TO OBSERVE A FLUSH OF THE FIRE LINE (WITH BURLAP BAG TO CATCH ANY DEBRIS) PRIOR TO CONNECTING TO THE RISER.
10. CONTRACTOR SHALL PROVIDE UNDERGROUND RECORD OF COMPLETION TO FIRE CODE OFFICIAL.



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REVISIONS:

No.	Description	Date

PROJECT: 8201-191240
DATE: 04/22/2020
DRAWN BY: AEC
CHECKED BY: RPB

BID DOCUMENTS - NOT RELEASED FOR CONSTRUCTION

UTILITY PLAN

C-4.0

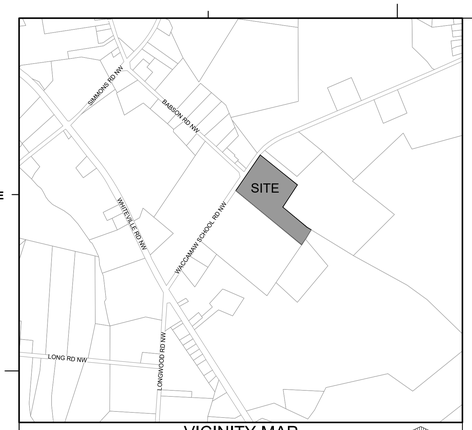
SOLUTIONS THROUGH LISTENING
SERVICE BY DESIGN

BID DOCUMENTS

811 Know what's below. Call before you dig.

NAD83 (2011)

GRAPHIC SCALE
0 15 30 60 90
SCALE: 1"=30'



VICINITY MAP

SCALE: 1" = 1,000'

NORTH

SITE INFORMATION

OWNER INFORMATION:	WACCAMAW SCHOOL 5901 WACCAMAW SCHOOL RD ASH, NC 28420
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PROJECT ADDRESS:	1109 OLD OCEAN HWY BOLIVIA, NC 28422
PARCEL ID:	13200008
PARCEL PIN:	114100648421
RECORDED DEED BOOK:	DB 81/PG 455
CURRENT ZONING:	RR
EXISTING USE:	ELEMENTARY SCHOOL
PROPOSED USE:	ELEMENTARY SCHOOL
TOTAL SITE AREA:	16.57 AC (721,789 SF)
FLOOD INFORMATION:	THIS PARCEL LIES WITHIN AN AREA OF MINIMAL FLOOD HAZARD (ZONE X) AS INDICATED BY FEMA FLOOD ZONE MAP NUMBER 3720213000K BEARING AN EFFECTIVE DATE OF 08/28/2018.
SPECIAL HIGHWAY DISTRICT:	N/A
CAMA CLASSIFICATION:	CONSERVATION

WATER AND SEWER CAPACITY

189 STUDENTS
SCHOOL - 12 GAL./STUDENT WITIH CAFETERIA
TOTAL = 2,268 GPD

UTILITY NOTES

ALL WATER SERVICES PROVIDED BY BRUNSWICK COUNTY PUBLIC UTILITIES. THERE ARE TWO (2) 2" EXISTING WATER METERS SERVING THIS SITE. CONTRACTOR SHALL CONFIRM LOCATION OF EXISTING METERS IN FIELD AND SHALL CONTACT BRUNSWICK COUNTY PUBLIC UTILITIES AS REQUIRED. THIS PROJECT IS PROPOSING A 2 ½" DOMESTIC WATER SERVICE FOR THE BUILDING ADDITION.

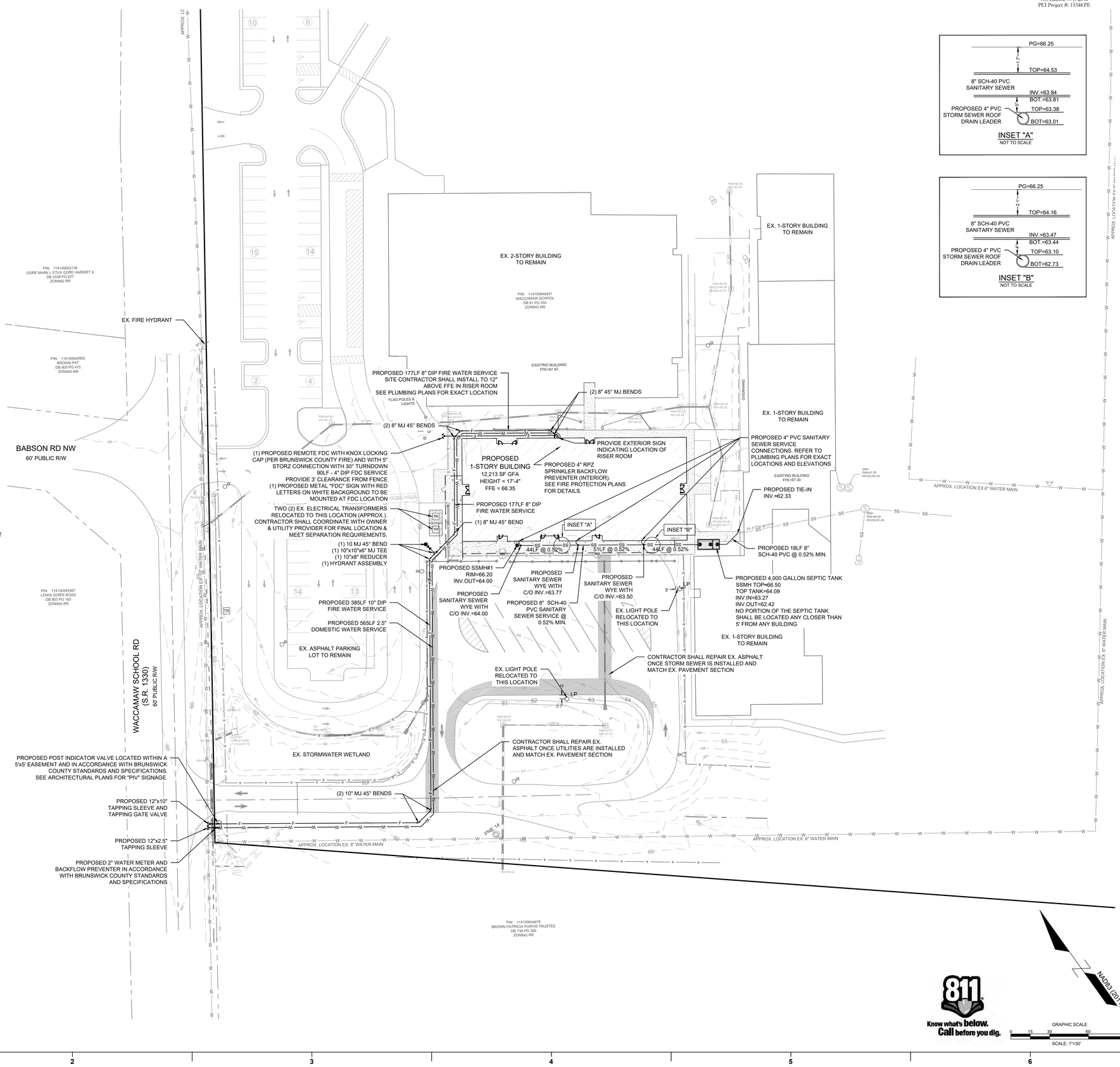
THERE ARE NO PUBLIC SEWER SERVICES ON-SITE. THE SCHOOL IS SERVED BY AN EXISTING SEPTIC FIELD (SEPTIC PERMIT HELD BY NCDEQ). THE PROPOSED BUILDING ADDITION HAS 189 OCCUPANTS.

UTILITY NOTES: (NCAC 15A 02T.0305 / T15A.18C.0906)

1. WATER MAINS SHALL BE LAID SO AS TO PROVIDE A MINIMUM HORIZONTAL SEPARATION OF 10 FEET FROM SEWERS. IF CONDITIONS EXIST SUCH THAT THIS SEPARATION CANNOT BE ACHIEVED, THE WATER MAIN CAN BE INSTALLED AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER, EITHER IN A SEPARATE TRENCH, OR IN THE SAME TRENCH ON A BENCH OF UNDISTURBED EARTH.
2. WHEN CROSSING A WATER MAIN OVER A SEWER, THE WATER MAIN SHALL BE LAID AT LEAST 18 INCHES ABOVE THE SEWER. IF CONDITIONS EXIST SUCH THAT THIS SEPARATION CANNOT BE ACHIEVED, BOTH THE WATER MAIN AND SEWER SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE WITH JOINTS THAT MEET WATER MAIN STANDARDS. THE DUCTILE IRON PIPE SHALL EXTEND 10 FEET ON EACH SIDE OF THE CROSSING WITH A SECTION OF WATER MAIN PIPE CENTERED ON THE CROSSING.
3. CROSSING A WATER MAIN UNDER A SEWER. WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS UNDER A SEWER, BOTH THE WATER MAIN AND THE SEWER SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING. A SECTION OF WATER MAIN PIPE SHALL BE CENTERED AT THE POINT OF CROSSING.
4. WHERE VERTICAL CLEARANCE IS LESS THAN 24" BETWEEN SANITARY SEWER AND STORM DRAIN, SANITARY SEWER SHALL BE DUCTILE IRON PIPE FOR A MINIMUM OF 10' EITHER SIDE OF CROSSING AND STORM DRAIN SHALL BE RC PIPE.
5. WHERE VERTICAL CLEARANCE IS LESS THAT 18" BETWEEN WATER MAIN AND STORM DRAIN, WATER MAIN SHALL BE DUCTILE IRON PIPE FOR A MINIMUM OF 10' EITHER SIDE OF CROSSING AND STORM DRAIN SHALL BE RC PIPE.

FIRE & LIFE SAFETY NOTES:

1. CONTRACTOR SHALL COORDINATE WITH BRUNSWICK COUNTY FIRE & LIFE SAFETY FOR INSTALLATION OF PROPOSED FIRE LINE AND RELATED APPURTENANCES. CONTACT BRAD BABSON AT 910-253-2021 FOR REQUIRED INPECTIONS.
2. NEW HYDRANTS MUST BE AVAILABLE FOR USE PRIOR TO CONSTRUCTION OF THE PROPOSED ADDITION.
3. HYDRANTS MUST BE LOCATED WITHIN 8' OF THE CURB.
4. CONTRACTOR SHALL MAINTAIN AN ALL WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
5. A MINIMUM OF 4' SHALL SEPARATE UNDERGROUND FIRE LINES OR PRIVATE WATER MAINS FROM OTHER UNDERGROUND UTILITIES.
6. LANDSCAPING OR PARKING CAN NOT BLOCK OR IMPEDE THE FDC OR FIRE HYDRANTS. A 3-FOOT (3') CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF HYDRANTS AND FDC.
7. FIRE CODE OFFICIAL WILL NEED TO VERIFY FIRE LINE ROUGH-IN FOR THE PROPER BRACING AT BENDS. DO NOT COVER UNTIL INSPECTION HAS BEEN COMPLETED.
8. FIRE CODE OFFICIAL WILL NEED TO OBSERVE A HYDRAULICS TEST ON THE FIRE LINE FOR 2 HOURS AT 200 PSI.
9. FIRE CODE OFFICIAL WILL NEED TO OBSERVE A FLUSH OF THE FIRE LINE (WITH BURLAP BAG TO CATCH ANY DEBRIS) PRIOR TO CONNECTING TO THE RISER.
10. CONTRACTOR SHALL PROVIDE UNDERGROUND RECORD OF COMPLETION TO FIRE CODE OFFICIAL.



INSET "A"
NOT TO SCALE

INSET "B"
NOT TO SCALE

Know what's below. Call before you dig.

NAD83 (2011)

GRAPHIC SCALE
0 15 30 60 90
SCALE: 1"=30'

BID DOCUMENTS - NOT RELEASED FOR CONSTRUCTION

PARAMOUNTE ENGINEERING, INC.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
NC License #: C-2846
PEI Project #: 15348.PE

BRUNSWICK COUNTY SCHOOLS — A Community of Learners

WACCAMAW ELEMENTARY SCHOOL IMPROVEMENTS

LS3P

LS3P ASSOCIATES LTD.
101 N. THIRD STREET, SUITE 500
WILMINGTON, NORTH CAROLINA 28401
TEL. 910.790.9901 FAX 910.790.3111
WWW.LS3P.COM

NORTH CAROLINA PROFESSIONAL SEAL 031591 ENGINEER ROBERT P. BALLARD
04/22/2020

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REVISIONS:

No.	Description	Date

PROJECT: 8201-191240
DATE: 04/22/2020
DRAWN BY: AEC
CHECKED BY: RPB

UTILITY PLAN (ALTERNATE CANOPY BID)

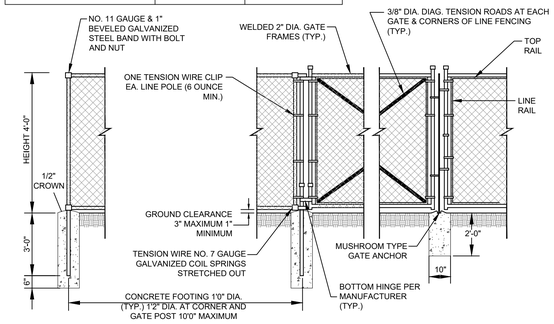
C-4.0A

SOLUTIONS THROUGH LISTENING
SERVICE BY DESIGN

BID DOCUMENTS

DIMENSIONS AND WEIGHTS: NOMINAL DIAMETER AND MINIMUM WEIGHTS FOR ALL CHAIN LINK POSTS, FRAMES AND GATES SHALL BE IN ACCORDANCE WITH THE FOLLOWING TABLE:

USE AND SECTION	OUTSIDE DIAMETER NOMINAL INCHES	MINIMUM WT. PER FOOT NOMINAL LBS.
END CORNER AND PULL POST (TUBULAR FABRIC HEIGHTS, 6'0" AND LESS: ROUND	2.375	3.65
OVER 6'0": ROUND	2.875	5.79
INTERMEDIATE POST FOR FABRIC HEIGHTS (TUBULAR) 6'0" AND LESS	1.90	2.72
OVER 6'0"	2.375	3.65
RAILS AND POST BRACES	1.66	1.35
GATE POSTS FOR NOMINAL WIDTH OF GATE SINGLE OR ONE LEAF OF DOUBLE GATE WIDTH 6'0" OR LESS: ROUND	2.875	5.79
	4.00	9.10
13'0" OR LESS: ROUND	6.625	18.97
13'0" TO 18'0": ROUND	6.625	24.70
GATE LEAVES OVER 18'0"		
GATE FRAMES 6'0" OR LESS IN HEIGHT 8'0" OR LESS IN WIDTH: ROUND	1.660	1.806
GATE FRAMES OVER 6'0" IN HEIGHT OVER 8'0" IN WIDTH: ROUND	1.90	2.72



FENCING

A. FENCING SHALL CONFORM TO DETAIL SHOWN AND THE CURRENT STANDARDS ESTABLISHED BY THE CHAIN LINK FENCE MANUFACTURERS INSTITUTE.

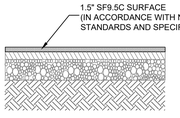
B. FRAMES SHALL CONSIST OF CLFMI TYPE 1 MATERIALS SIZED TO ACCOMMODATE THE SPANS REQUIRED POSTS SHALL BE OF STANDARD WEIGHT, HOT DIPPED GALVANIZED PIPE CONFORMING TO ASTM A-120 SCHEDULE 40 FOR CORNER AND GATE POSTS, AND SCHEDULE 20 FOR LINE AND TOP RAILS.

C. GATE FRAMES SHALL BE FABRICATED OF GALVANIZED STEEL AND SIZED TO ACCOMMODATE SPANS REQUIRED. GATES SHALL BE SWING TYPE, SUPPORTED WITH TENSION BARS AND BRACING AS REQUIRED. GATE POSTS SHALL BE SIZED TO ADEQUATELY SUPPORT THE GATE OVER THE SPAN SHOWN ON THE PLANS. GATE POSTS, GATE HINGES, GATE STOPS AND LATCHES SHALL BE OF ADEQUATE STRENGTH FOR THE GATE PROVIDED AND LATCHES SHALL BE SUITABLE FOR SECURING WITH A PADLOCK PROVIDED BY CLIENT.

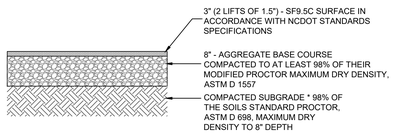
D. EACH SWING GATE WITHIN ASPHALT AREA SHALL INCLUDE A GALVANIZED WHEEL ASSEMBLY CAPABLE OF SUPPORTING THE SWING GATE AND A GALVANIZED DROP ROD FOR SECURING THE GATE IN THE OPEN AND CLOSED POSITON.

E. FENCE FABRIC SHALL BE 2 INCH MESH, 9-GAUGE CHEMICALLY CLEANED AND ZINC COATED, BLACK VINYL, CONFORMING TO ASTM A-392 FOR CLASS 2 FABRIC.

CHAIN LINK FENCE DETAIL
NOT TO SCALE



ASPHALT OVERLAY PAVEMENT SECTION
N.T.S.



HEAVY DUTY ASPHALT PAVEMENT SECTION
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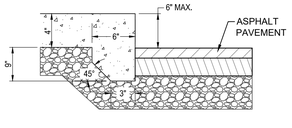
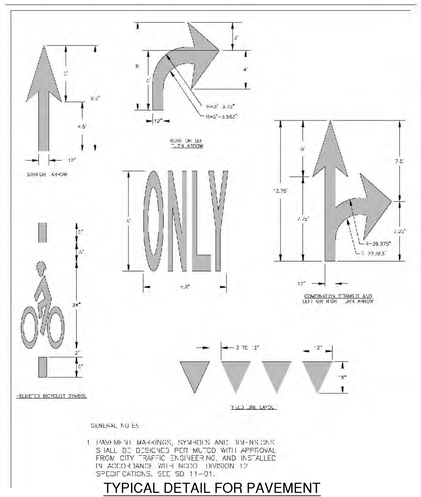
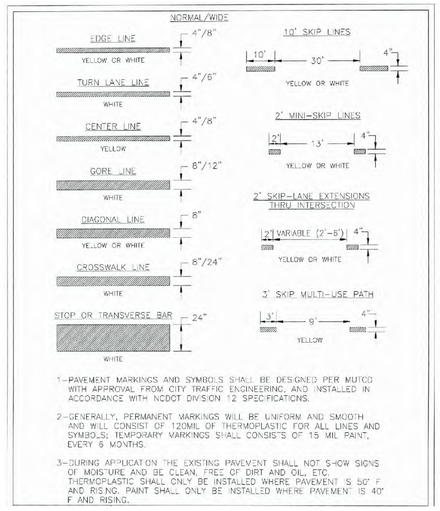


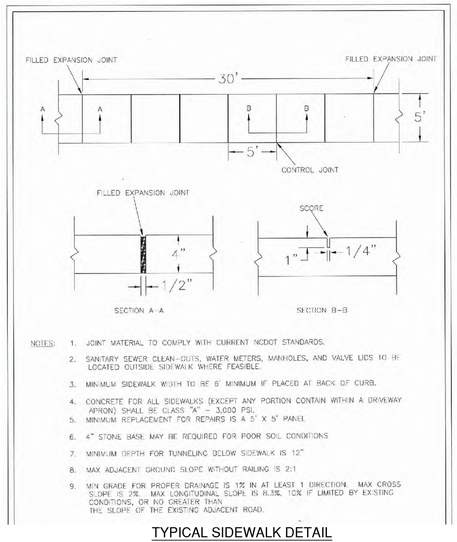
EXPOSED FACE CONCRETE WALK TO ASPHALT DETAIL
NOT TO SCALE



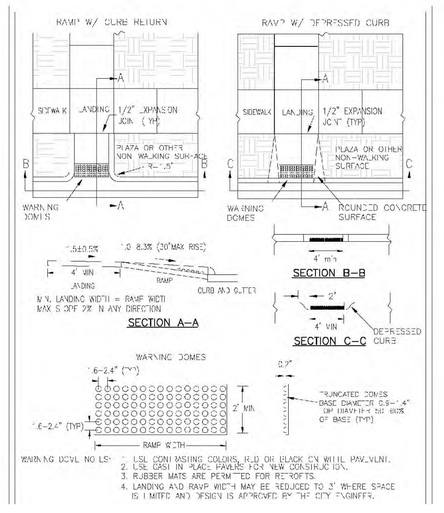
TYPICAL DETAIL FOR PAVEMENT MARKINGS & SYMBOLS
NOT TO SCALE



TYPICAL DETAIL FOR PAVEMENT MARKINGS LINE TYPES
NOT TO SCALE



TYPICAL SIDEWALK DETAIL
NOT TO SCALE



PERPENDICULAR CURB RAMP ADJACENT TO PLAZA DETAIL
NOT TO SCALE

PARAMOUNTE ENGINEERING, INC.
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NC License #: C-2846
PEI Project #: 15348.PE

BRUNSWICK COUNTY SCHOOLS — A Community of Learners

WACCAMAW ELEMENTARY SCHOOL IMPROVEMENTS

LS3P

LS3P ASSOCIATES LTD.
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WILMINGTON, NORTH CAROLINA 28401
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NORTH CAROLINA PROFESSIONAL SEAL 031591 ENGINEER ROBERT P. BALLARD
04/22/2020

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REVISIONS:

No.	Description	Date

PROJECT: 8201-191240
DATE: 04/22/2020
DRAWN BY: AEC
CHECKED BY: RPB

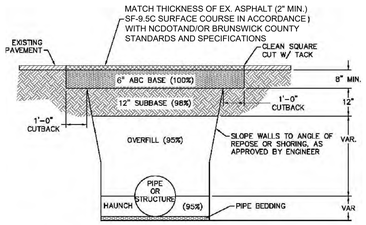
DETAILS

C-5.0

SOLUTIONS THROUGH LISTENING
SERVICE BY DESIGN

BID DOCUMENTS

BID DOCUMENTS - NOT RELEASED FOR CONSTRUCTION

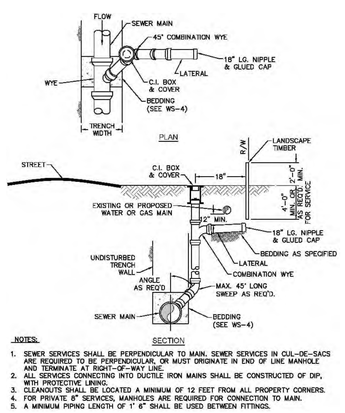


NOTES:

1. CONTRACTOR SHALL ENSURE BOTTOM OF TRENCH IS SUITABLE FOR INSTALLATION AND DOES NOT REQUIRE FOUNDATION CONDITIONING STONE.
2. FILL SHALL BE SUITABLE MATERIAL THAT IS FREE FROM HEAVY CLAY, GUMBOS, DEBRIS, ORGANICS AND LITTLE TO NO EXCESSIVE MOISTURE.
3. SELECT BACKFILL MAY BE SUBSTITUTED OR REQUIRED BY CITY TO ACHIEVE COMPACTION, (I.E. #57 STONE, ABC, CRUSHED LIMESTONE, CLEAN SAND, FLOWABLE FILL, ETC).
4. SOIL SHALL BE INSTALLED IN 6"-8" LIFTS AND COMPACTED BY A MECHANIZED TAMPER (I.E. JUMPING JACK). HOWEVER, VIBRATORY ROLLERS > 18" WIDTH MAY BE USED FOR LARGER EXCAVATIONS. THE PLATE TAMP METHOD SHALL NOT BE USED.
5. ALL APPROVED CASTINGS SHALL BE SET FLUSH TO GRADE AND SUPPORTED IF APPLICABLE.
6. COMPACT MATERIALS TO MINIMUM % DENSITY SHOWN IN DIAGRAM AS DETERMINED BY THE STANDARD PROCTOR METHOD ASTM D-698-A FOR SOILS, AND ASTM D-698-C FOR ABC STONE, AND BY NUCLEAR GAGE OR CORE SAMPLE FOR ASPHALT.
7. CUTBACKS OF ASPHALT SHALL BE PREPARED ON EDGE OF EXCAVATION OVER TOP OF UNDISTURBED SOIL.

TYPICAL DETAIL FOR PAVEMENT REPAIRS-UTILITY CUTS

NOT TO SCALE

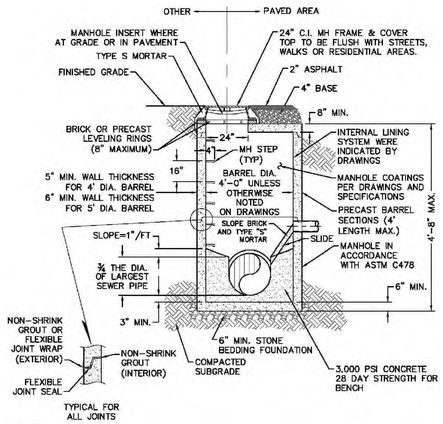


NOTES:

1. SEWER SERVICES SHALL BE PERPENDICULAR TO MAIN. SEWER SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN END OF LINE MANHOLE AND TERMINATE AT RIGHT-OF-WAY LINE.
2. ALL SERVICES CONNECTING INTO DUCTILE IRON MAINS SHALL BE CONSTRUCTED OF DIP, WITH PROTECTIVE LINING.
3. CLEANOUTS SHALL BE LOCATED A MINIMUM OF 12 FEET FROM ALL PROPERTY CORNERS.
4. FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR CONNECTION TO MAIN.
5. A MINIMUM PIPING LENGTH OF 1' 6" SHALL BE USED BETWEEN FITTINGS.

TYPICAL DETAIL FOR SEWER SERVICE CONNECTION

NOT TO SCALE

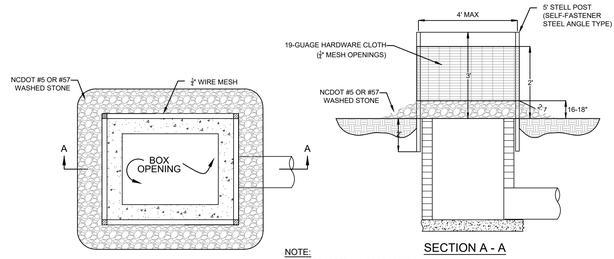


NOTES:

1. PROVIDE A MINIMUM DISTANCE OF SIX (6) INCHES BETWEEN EDGE OF MANHOLE CORE HOLES AND MANHOLE BARREL JOINTS. PROVIDE A MINIMUM OF SIX (6) INCHES BETWEEN EDGES OF CORE HOLES. CORING THE MANHOLE CONE IS NOT ALLOWED.
2. ALL MANHOLE MAIN LINE AND SERVICE PIPING TO BE INSTALLED AT A MINIMUM OF CROWN TO CROWN OF THE LARGEST DIAMETER PIPE.

PRECAST CONCRETE MANHOLE SECTION

NOT TO SCALE

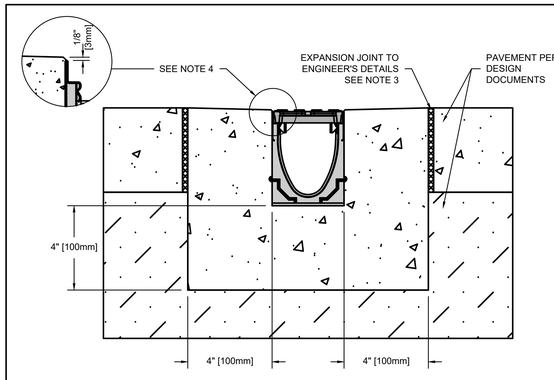


NOTE:
FOR CURB INLETS AND DROP INLETS

SECTION A - A

INLET PROTECTION

N.T.S.



NOTES:

1. IT IS NECESSARY TO ENSURE MINIMUM DIMENSIONS SHOWN ARE SUITABLE FOR EXISTING GROUND CONDITIONS. *ENGINEERING ADVICE MAY BE REQUIRED.*
2. MINIMUM CONCRETE STRENGTH OF 4,000 PSI IS RECOMMENDED. CONCRETE SHOULD BE VIBRATED TO ELIMINATE AIR POCKETS.
3. EXPANSION AND CONTRACTION CONTROL JOINTS AND REINFORCEMENT ARE RECOMMENDED TO PROTECT CHANNEL AND CONCRETE SURROUND. *ENGINEERING ADVICE MAY BE REQUIRED.*
4. THE FINISHED LEVEL OF THE CONCRETE SURROUND MUST BE APPROX. 1/8" [3mm] ABOVE THE TOP OF THE CHANNEL EDGE.
5. CONCRETE BASE THICKNESS SHOULD MATCH SLAB THICKNESS. ENGINEERING ADVICE MAY BE REQUIRED TO DETERMINE PROPER LOAD CLASS.
6. REFER TO ACO'S LATEST INSTALLATION INSTRUCTIONS FOR FURTHER DETAILS.

SPECIFICATION CLAUSE

K100 KLASSIKDRAIN "DRAINLOK' LOAD CLASS A

GENERAL
THE SURFACE DRAINAGE SYSTEM SHALL BE POLYMER CONCRETE K100 CHANNEL SYSTEM WITH GALVANIZED STEEL EDGE RAILS AS MANUFACTURED BY ACO POLYMER PRODUCTS, INC.

MATERIALS
CHANNELS SHALL BE MANUFACTURED FROM POLYESTER RESIN POLYMER CONCRETE WITH AN INTEGRALLY CAST-IN GALVANIZED STEEL EDGE RAIL. MINIMUM PROPERTIES OF POLYMER CONCRETE WILL BE AS FOLLOWS:

COMPRESSIVE STRENGTH:	14,000 PSI
FLEXURAL STRENGTH:	4,000 PSI
TENSILE STRENGTH:	1,500 PSI
WATER ABSORPTION:	0.07%
FROST PROOF	YES
DILUTE ACID AND ALKALI RESISTANT	YES
B117 SALT SPRAY TEST COMPLIANT	YES

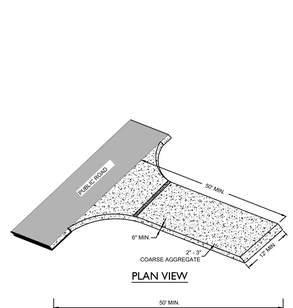
THE SYSTEM SHALL BE 4" (100mm) NOMINAL INTERNAL WIDTH WITH A 5.1" (130mm) OVERALL WIDTH AND A BUILT-IN SLOPE OF 0.5%. CHANNEL INVERT SHALL HAVE DEVELOPED "V" SHAPE. ALL CHANNELS SHALL BE INTERLOCKING WITH A MALE/FEMALE JOINT.

THE COMPLETE DRAINAGE SYSTEM SHALL BE BY ACO POLYMER PRODUCTS, INC. ANY DEVIATION OR PARTIAL SYSTEM DESIGN AND/OR IMPROPER INSTALLATION WILL VOID ANY AND ALL WARRANTIES PROVIDED BY ACO POLYMER PRODUCTS, INC.

CHANNEL SHALL WITHSTAND LOADING TO PROPER LOAD CLASS AS OUTLINED BY EN 1433. GRATE TYPE SHALL BE APPROPRIATE TO MEET THE SYSTEM LOAD CLASS SPECIFIED AND INTENDED APPLICATION. GRATES SHALL BE SECURED USING 'DRAINLOK' BOLTLESS LOCKING SYSTEM. CHANNEL AND GRATE SHALL BE CERTIFIED TO MEET THE SPECIFIED EN 1433 LOAD CLASS. THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

ACO KLASSIKDRAIN TRENCH DETAIL

NOT TO SCALE



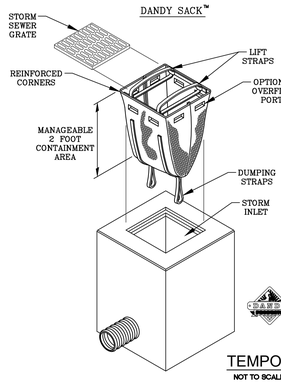
PLAN VIEW



SECTION VIEW

TEMPORARY CONSTRUCTION ENTRANCE

N.T.S.



DANDY SACK™ SPECIFICATIONS

NOTE: THE DANDY SACK™ WILL BE MANUFACTURED IN THE U.S.A. FROM A WOVEN MONOFILAMENT FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS

REGULAR FLOW DANDY SACK™ (BLACK)

Mechanical Properties	Test Method	Units	MARV
Grab Tensile Strength	ASTM D 4632	kN (lbs)	1.78 (400) x 1.40 (315)
Grab Tensile Elongation	ASTM D 4632	%	24 x 10
Puncture Strength	ASTM D 4833	kN (lbs)	0.67 (150)
Mullen Burst Strength	ASTM D 3786	kPa (psi)	5506 (800)
Trapezoid Tear Strength	ASTM D 4533	kN (lbs)	0.67 (150) x 0.73 (165)
UV Resistence	ASTM D 4355	%	90
Apparent Opening Size	ASTM D 4751	Mm (US Std Sieve)	0.425 (40)
Flow Rate	ASTM D 4491	l/min/m² (gal/min/ft²)	2852 (70)
Permittivity	ASTM D 4491	Sec⁻¹	0.80

HI-FLOW DANDY SACK™ (SAFETY ORANGE)

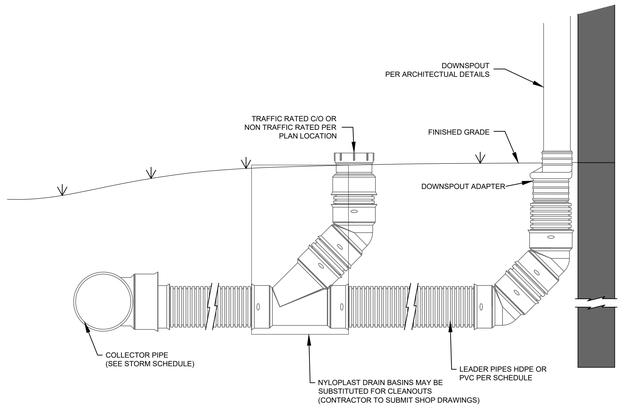
Mechanical Properties	Test Method	Units	MARV
Grab Tensile Strength	ASTM D 4632	kN (lbs)	1.62 (365) X 0.89 (200)
Grab Tensile Elongation	ASTM D 4632	%	24 X 10
Puncture Strength	ASTM D 4833	kN (lbs)	0.40 (90)
Mullen Burst Strength	ASTM D 3786	kPa (psi)	3097 (450)
Trapezoid Tear Strength	ASTM D 4533	kN (lbs)	0.51 (115) X 0.33 (75)
UV Resistence	ASTM D 4355	%	90
Apparent Opening Size	ASTM D 4751	Mm (US Std Sieve)	0.425 (40)
Flow Rate	ASTM D 4491	l/min/m² (gal/min/ft²)	5907 (145)
Permittivity	ASTM D 4491	Sec⁻¹	2.1

*Note: All Dandy Socks™ can be ordered with our optional oil absorbent pillows

TEMPORARY DANDY SACK® INLET PROTECTION

NOT TO SCALE

NOTE
CONTRACTOR SHALL PROPERLY DISPOSE OF SEDIMENT IN A DESIGNATED DISPOSAL AREA AND NOT WITHIN LIMITS OF DISTURBANCE. SEDIMENT SHALL BE REMOVED FROM HARDWARE CLOTH AND GRAVEL, BLOCK AND GRAVEL, OR ROCK-PIPE INLETS, WHEN IT REACHES HALF-FILLED. ROCK WILL BE CLEANED OR REPLACED WHEN NO LONGER DRAINS. SILT SACKS, BEAVER DAMS, SANDY SACKS, AND SOCKS NEED CHECKING EVERY WEEK AND AFTER RAIN.

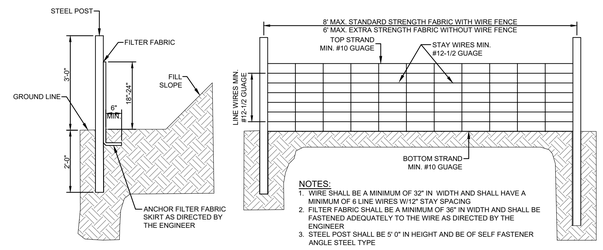


NOTES:

1. 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.
2. THE DOWNSPOUT COLLECTOR DRAIN SHALL BE INSTALLED BEFORE THE DOWNSPOUTS ARE INSTALLED ON THE BUILDING. SITE WORK CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE PIPE LOCATIONS WITH DOWNSPOUTS PER THE ARCHITECTURE PLANS. BUILDING CONTRACTOR IS NORMALLY RESPONSIBLE FOR FOR EXTENDING DOWNSPOUT THROUGH CAP.
3. INSTALL PIPES CLEAR OF PORCHES, BOLLARDS, AND OTHER BUILDING APPURTENANCES.
4. POP-UP DRAIN EMITTERS MAY BE USED AT THE END OF LEADER PIPES AS LONG AS WATER DRAINS TOWARD THE PERMITTED STORMWATER DEVICE AFTER SURFACING.
5. STONE MAY BE ADDED AROUND PIPES FOR SOIL DRAINAGE AS WELL AS PIPE STRUCTURAL STABILITY.

TYPICAL ROOF DRAINAGE WITH CLEANOUT

N.T.S.



NOTES:

1. WIRE SHALL BE A MINIMUM OF 32" IN WIDTH AND SHALL HAVE A MINIMUM OF 6 LINE WIRES W/12" STAY SPACING
2. FILTER FABRIC SHALL BE A MINIMUM OF 36" IN WIDTH AND SHALL BE FASTENED ADEQUATELY TO THE WIRE AS DIRECTED BY THE ENGINEER
3. STEEL POST SHALL BE 5'-0" IN HEIGHT AND BE OF SELF FASTENER ANGLE STEEL TYPE

GUIDELINES FOR TEMPORARY SILT FENCE DETAIL

NOT TO SCALE

PARAMOUNTE ENGINEERING, INC.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
NC License #: C-2846
PEI Project #: 15348.PE

WACCAMAW ELEMENTARY SCHOOL IMPROVEMENTS

LS3P ASSOCIATES LTD.
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WILMINGTON, NORTH CAROLINA 28401
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REVISIONS:

No.	Description	Date

PROJECT: 8201-191240
DATE: 04/22/2020
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CHECKED BY: RPB

DETAILS

C-5.1

SOLUTIONS THROUGH LISTENING

SERVICE BY DESIGN

BID DOCUMENTS

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PROJECT: 8201-191240
DATE: 04/22/2020
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DETAILS

C-5.2

SOLUTIONS THROUGH LISTENING
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Revisions
1 - 11/13/2019 12/20/20
2 - 12/13/2019 1/29/20
3 - 12/13/2019 3/20/20

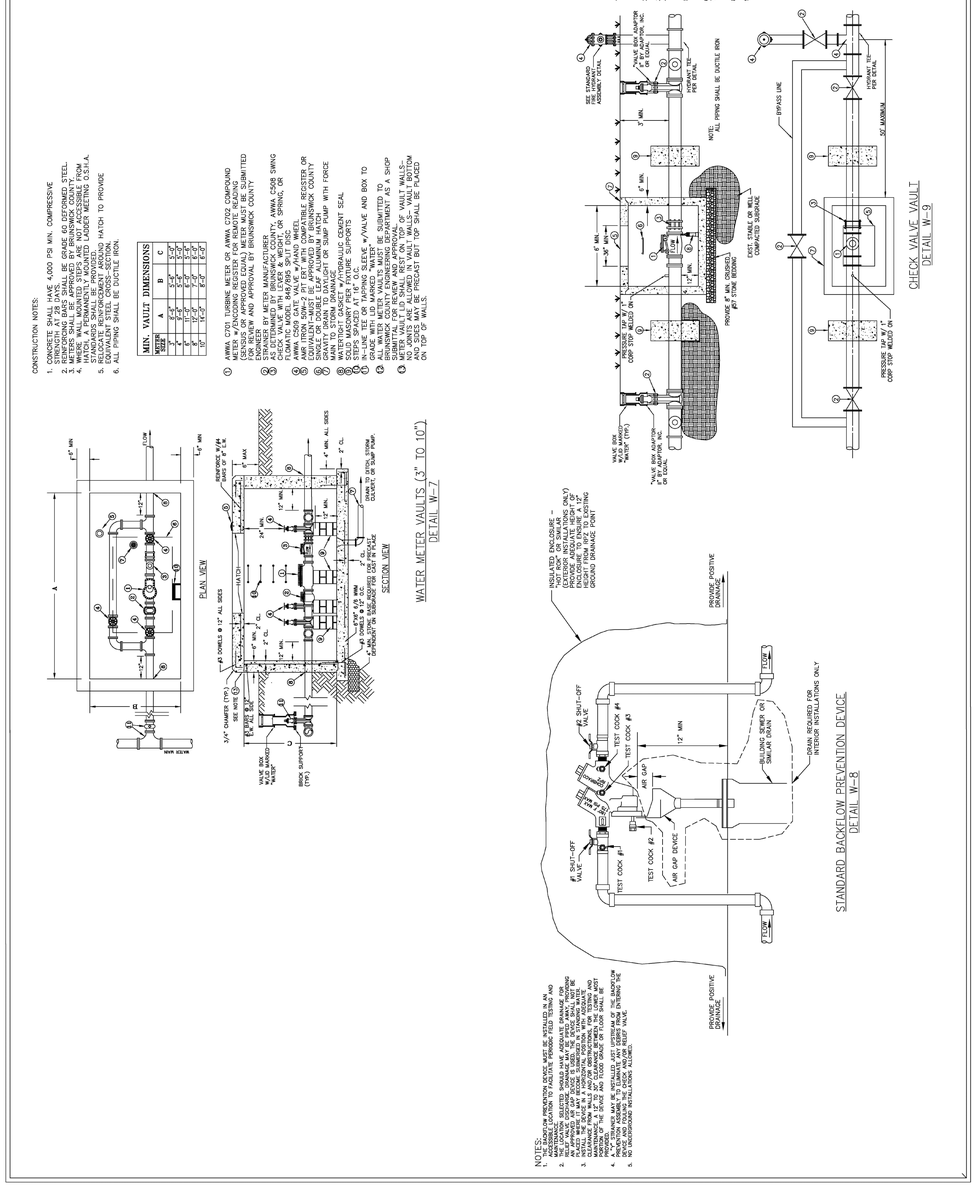
COUNTY OF BRUNSWICK

BRUNSWICK COUNTY
FOR
NORTH CAROLINA

GENERAL WATER DETAILS

Date: 03.11.20
Scale: NTS
Drawn By: JSM
Chkd By: RPB

3 OF 5



Revisions
1 - 11/13/2019 12/20/20
2 - 12/13/2019 1/29/20
3 - 12/13/2019 3/20/20

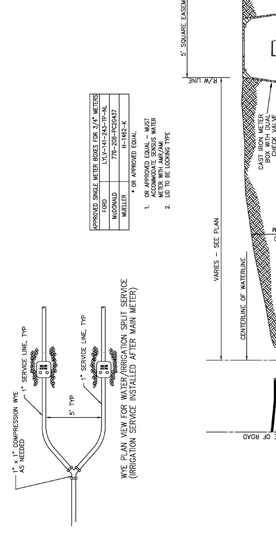
COUNTY OF BRUNSWICK

BRUNSWICK COUNTY
FOR
NORTH CAROLINA

GENERAL WATER DETAILS

Date: 03.11.20
Scale: NTS
Drawn By: JSM
Chkd By: RPB

2 OF 5



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REVISIONS:

No.	Description	Date

PROJECT: 8201-191240
DATE: 04/22/2020
DRAWN BY: AEC
CHECKED BY: RPB

DETAILS

C-5.3

SOLUTIONS THROUGH LISTENING
SERVICE BY DESIGN
BID DOCUMENTS

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4 OF 5

GENERAL SEWER DETAILS FOR BRUNSWICK COUNTY NORTH CAROLINA

COUNTY OF BRUNSWICK

Revisions
11 - 5/6/2020 10/27/2015
12 - 5/6/2020 12/9/2019
Mod 5-15C
Mod 5-15C,5-15E

Date: 05.01.15
Scale: NTS
Drawn By: JMM
Checked By: WLP

S-15C
LESS THAN 12" VERTICAL CLEARANCE

STORM SEWER
LESS THAN 12"
CONCRETE ENCASEMENT PIPE WITH SCALED ENDS
ALL BRUNSWICK COUNTY UTILITIES (DIR-19 G800 PVC ONLY)
#57 STONE AS NEEDED TO STABILIZE FOUNDATION
NO JOINTS ON STORM DRAIN PIPES ALLOWED BETWEEN PIPES
STEEL ENCASEMENT PIPE 10' ON EITHER SIDE OF CROSSING WITH SCALED ENDS
BLOCK 6" MIN. FROM EDGE OF PIPE

S-15D
12-24" VERTICAL CLEARANCE

STORM SEWER
12-24" VERTICAL CLEARANCE
#57 STONE FROM TOP OF SANITARY SEWER TO UNDER SIDE OF STORM SEWER
STEEL ENCASEMENT PIPE 10' ON EITHER SIDE OF CROSSING WITH SCALED ENDS
ALL BRUNSWICK COUNTY UTILITIES (DIR-19 G800 PVC ONLY)
REFER TO BRUNSWICK COUNTY SPECIFICATIONS FOR BEDDING REQUIREMENTS

S-15A
STANDARD CONDITION

STORM SEWER
24" MINIMUM (PER 21 RULES)
ALL BRUNSWICK COUNTY UTILITIES (DIR-19 G800 PVC ONLY)
REFER TO BRUNSWICK COUNTY SPECIFICATIONS FOR BEDDING REQUIREMENTS

DETAIL S-15
GRAVITY SEWER CROSSING BELOW STORM SEWER

STORM SEWER
STORM SEWER
#57 STONE AS NEEDED TO STABILIZE FOUNDATION
ALL BRUNSWICK COUNTY UTILITIES (DIR-19 G800 PVC ONLY)
CONCRETE FOOTING/PIER OR MASONRY BLOCK WITH GRADE BEAM FULLY GROUTED
FROM CROWN OF PIPE TO TOP OF GRADE
TYP. OF 4 CORNERS
NO JOINTS ON STORM DRAIN PIPES ALLOWED BETWEEN PIPES

DETAIL S-16
1,000 GALLON OIL/SAND/GREASE SEPARATOR

PLAN
SECTION
4" INLET
4" OUTLET
INVERT
BAFFLE
MANHOLE FRAME & COVER (SEE NOTE 1)
CAST IRON FRAME & COVER (SEE NOTES)
PRECAST CONCRETE GREASE TRAP
FINISH GRADE
WORTHAM
WATER SURFACE
SEE NOTE 1
SEE NOTE 2
SEE NOTE 3
SEE NOTE 4
SEE NOTE 5
SEE NOTE 6
SEE NOTE 7
SEE NOTE 8
SEE NOTE 9
SEE NOTE 10
SEE NOTE 11
SEE NOTE 12
SEE NOTE 13
SEE NOTE

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DETAILS

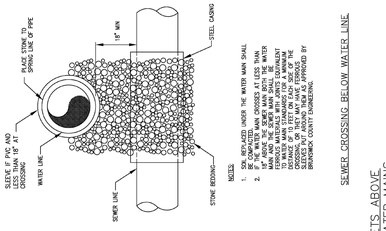
C-5.4

SOLUTIONS THROUGH LISTENING
SERVICE BY DESIGN
BID DOCUMENTS

Revisions
1) 7/24/13 (7/31/13)
2) 1/24/14 (1/31/14)
3) 4/24/14 (5/1/14)
4) 10/23/14 (10/28/14)
5) 5/4/15 (5/8/15)
6) 3/28/16 (4/1/16)
7) 5/24/16 (5/31/16)
8) 3/2/18

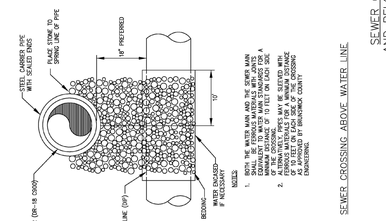
Date: 08/31/12
Scale: NTS
Drawn By: JDM
Checked By: SLH

SEWER CROSSING BELOW WATER LINE



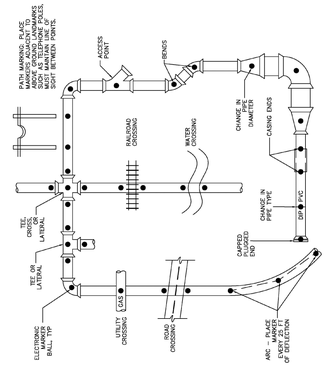
NOTES
1. SEW REPLACED UNDER THE WATER MAIN SHALL BE CENTERED UNDER THE WATER MAIN WITH THE JOINTS EQUIDISTANT FROM THE JOINTS OF THE WATER MAIN.
2. IF THE WATER MAIN CROSSES AT LESS THAN 18" ABOVE THE SEWER MAIN, ONE JOINT OF WATER MAIN AND THE SEWER MAIN SHALL BE ENCASED IN CONCRETE OR THE WATER MAIN SHALL BE REPLACED WITH DUCTILE IRON PIPE WITH NO JOINTS TO WATER MAIN STANDARDS FOR A MINIMUM DISTANCE OF 10 FEET EACH SIDE OF THE CROSSING, OR THAT WAY HAVE TERRIFIED MATERIALS APPROVED BY BRUNSWICK COUNTY ENGINEERING.

SEWER CROSSING ABOVE WATER LINE



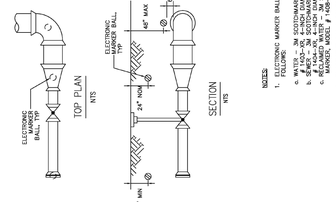
NOTES
1. BOTH THE WATER MAIN AND THE SEWER MAIN SHALL BE TELEVISED WITH CCTV EQUIPMENT AND APPROVED BY BRUNSWICK COUNTY PRIOR TO ACCEPTANCE.
2. ALL MATERIALS USED SHALL BE APPROVED FERROUS MATERIALS FOR A MINIMUM DISTANCE OF 10 FEET ON EACH SIDE OF THE CROSSING AS APPROVED BY BRUNSWICK COUNTY ENGINEERING.

SEWER OFFSETS ABOVE AND BELOW WATER MAINS
DETAIL WS-21



TOP PLAN
NTS

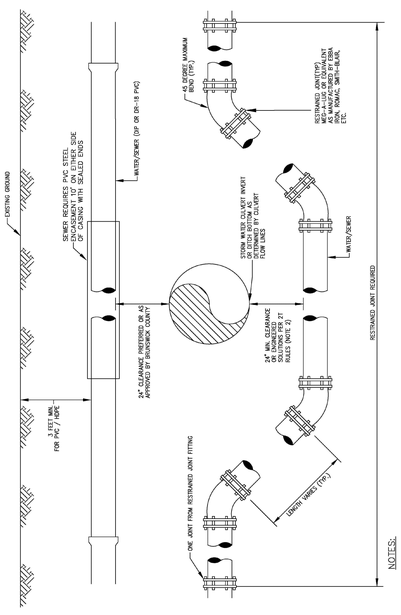
ELECTRONIC MARKER BALL DETAIL
DETAIL WS-23



NOTES
1. ELECTRONIC MARKER BALL MATERIALS SHALL BE AS FOLLOWS:
   a. WATER – 3M SCOTCHMARK ELECTRONIC MARKER, MODEL #1406 OR APPROVED EQUAL, BLUE IN COLOR.
   b. SEWER – 3M SCOTCHMARK ELECTRONIC MARKER, MODEL #1410 OR APPROVED EQUAL, GREEN IN COLOR.
   c. RECLAIMED WATER – 3M SCOTCHMARK ELECTRONIC MARKER, MODEL # 1404, 3" HIGH, 9" INCH DIAMETER, PURPLE IN COLOR.
2. PLACEMENT SHALL CONFORM TO DETAILS ABOVE, FOR HORIZONTAL LOCATING AND SHALL BE IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS SECTION 01525, "LOCATING MARKER BALLS FOR WATER AND SEWER MAINS".

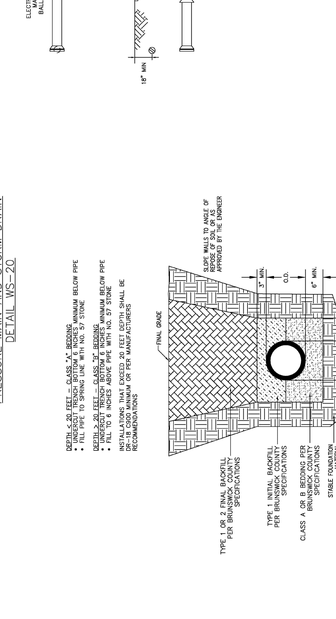
ELECTRONIC MARKER BALL PLACEMENT DETAIL
DETAIL WS-23

DITCH AND/OR STORM DRAIN CROSSING OFFSETS BETWEEN WATER/SEWER PRESSURE MAIN AND STORM DRAIN
DETAIL WS-20



NOTES:
1. USE STAINLESS STEEL THREADED RODS, MEGA-LUG OR APPROVED EQUAL FOR JOINT RESTRAINT.
2. SEWER REQUIRES DR-14 C900 WITH STEEL ENCASEMENT PIPE 10' ON EITHER SIDE OF CROSSING
3. WATER MAIN OR SEWER CANNOT BE MAINTAINED.

GRAVITY SEWER PIPE TRENCH / BEDDING DETAIL
DETAIL WS-22



DEPTH <20 FEET – CLASS "A" BEDDING
- UNCRUSHED TRENCH BOTTOM 4 INCHES MINIMUM BELOW PIPE
- THE FIRST 12 INCHES OVER PIPE SHALL BE HAND PLACED

DEPTH 20-30 FEET – CLASS "A" BEDDING
- UNCRUSHED TRENCH BOTTOM 6 INCHES MINIMUM BELOW PIPE
- THE FIRST 12 INCHES OVER PIPE SHALL BE HAND PLACED

INSTALLATIONS THAT EXCEED 30 FEET DEPTH SHALL BE PER MANUFACTURER OR PER MANUFACTURERS RECOMMENDATIONS

NOTES
1. REFER TO THE BRUNSWICK COUNTY REGIONAL SPECIFICATIONS FOR BACKFILL AND TRENCHING REQUIREMENTS.
2. PIPE SIZE AS INDICATED ON PLANS

Revisions
1) 7/24/13 (7/31/13)
2) 1/24/14 (1/31/14)
3) 4/24/14 (5/1/14)
4) 10/23/14 (10/28/14)
5) 5/4/15 (5/8/15)
6) 3/28/16 (4/1/16)
7) 5/24/16 (5/31/16)
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Date: 08/31/12
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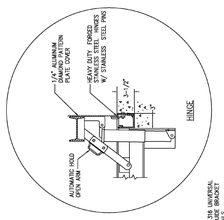
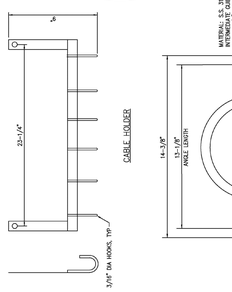
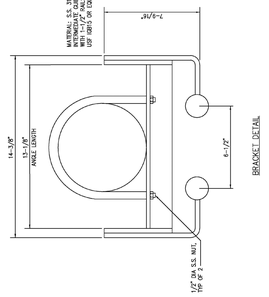
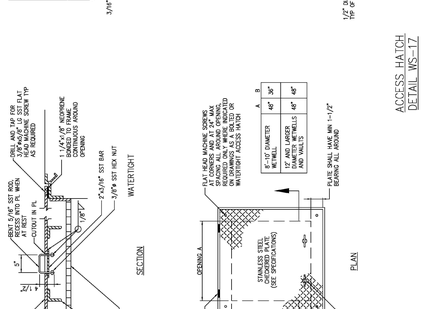
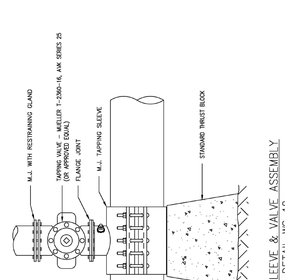




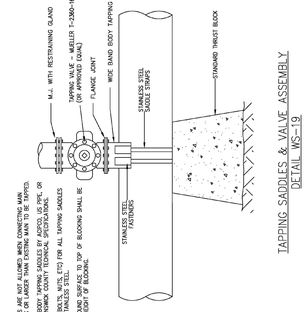




ACCESS HATCH
DETAIL WS-17



TAPPING SLEEVE & VALVE ASSEMBLY
DETAIL WS-18



TAPPING SADDLES & VALVE ASSEMBLY
DETAIL WS-19

NOTES
1. TAPPING SADDLES ARE NOT ALLOWED WHEN CONNECTING MAIN DIAMETER IS 30IN OR LARGER THAN EXISTING MAIN TO BE TAPPED.
2. USE WIDE BAND BODY TAPPING SADDLES BY ADVCO, CL PIPE, OR EQUAL PER BRUNSWICK COUNTY TECHNICAL SPECIFICATIONS.
3. ALL HARDWARE (BOLTS, NUTS, ETC) FOR ALL TAPPING SADDLES SHALL BE 304 STAINLESS STEEL.
4. DEPTH FROM GROUND SURFACE TO TOP OF BLOCKING SHALL BE GREATER THAN HEIGHT OF BLOCKING.

NOTES
1. TAPPING SADDLES ARE NOT ALLOWED WHEN CONNECTING MAIN DIAMETER IS 30IN OR LARGER THAN EXISTING MAIN TO BE TAPPED.
2. USE STAINLESS STEEL TAPPING SLEEVES BY DRESSER, CASCADE, AND FOR TAP SIZES 4"– 24".
3. ALL HARDWARE (BOLTS, NUTS, ETC) FOR ALL TAPPING SLEEVES SHALL BE 304 STAINLESS STEEL.
4. DEPTH FROM GROUND SURFACE TO TOP OF BLOCKING SHALL BE GREATER THAN HEIGHT OF BLOCKING.
5. ALL STAINLESS STEEL THREADED RODS, MEGA-LUG OR APPROVED EQUAL FOR JOINT RESTRAINT.
6. SEWER REQUIRES DR-14 C900 WITH STEEL ENCASEMENT PIPE 10' ON EITHER SIDE OF CROSSING
7. WATER MAIN OR SEWER CANNOT BE MAINTAINED.

1.0 CODES AND STANDARDS:

1.1 "2018 North Carolina State Building Code" and "International Building Code", 2015.

1.2 "Minimum Design Loads for Buildings and other Structures" SEI/ASCE 7-10.

1.3 "Building Code Requirements for Structural Concrete (ACI 318-14)" American Concrete Institute 2014.

1.4 "Manual of Standard Practice", Concrete Reinforcing Steel Institute, latest edition.

1.5 "Specification for Structural Steel Buildings (AISC 360-10)" American Institute of Steel Construction, 2011 – 14th Edition

1.6 "Structural Welding Code – Steel (AWS D1.1)" and "Structural Welding Code – Reinforcing Steel (AWS D1.4)", American Welding Society.

1.7 "Specification for the Design of Cold-Formed Steel Structural Members", American Iron and Steel Institute (AISI), S100-12.

1.8 "Standard Specifications for Joist Girders (JG-10)", "Standard Specifications for Open Web Steel Joists, K-Series (k-10)", "Standard Specifications for Long Span Steel Joist, LH Series and Deep Longspan Steel Joists, DLH Series (LH/DLH-1.1)", Steel Joist Institute

1.9 "Design Manual For Floor Decks and Roof Decks", Steel Deck Institute, latest edition.

2.0 DESIGN LOADS:
Project Located in: Town of Ash, County of Brunswick, State of North Carolina.

2.1 Gravity Loads: (Reduced where allowed)

GRAVITY LOADS		
Location	Uniform (psf)	Concentrated (lbs) (Over 2.5'x2.5')
Roof Loads:		
Dead Load	20	
Live Load	20	300
Floor Live Loads:		
Classrooms	40	
Storage	125	
Electrical and Mechanical	125	
Floor	100	

2.2 Drifting Snow Loads per N.C. Building Code.

Pg = 10 psf
I = 1.1
Ce = 1.0
Ct = 1.0

2.3 Risk Category = III

2.4 Wind Loads per N.C. State Building Codes, 2018 edition (IBC 2015) & ASCE 7-10 (3-second gust)

Main Wind Force Resisting System:
V 154 mph
Exposure Category "C"

Building is enclosed & Internal Pressure coefficient (GCpi) = +0.18 & -0.18
Topographic Factor Kzt = 1.0
Wind Directionality Factor, Kd = 0.85

Calculated Wind Base Shear (For MWFRS)
Vx = 44.6k Vy = 97k

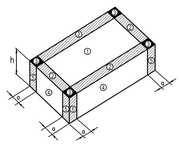
Components and Cladding:
V 154 mph
Exposure Category "C"

Components and Cladding Wind Pressure (psf)

Walls	Area < 10ft²		< 20ft²		Area < 50ft²		Area < 100ft²		Area < 500ft²	
Zone 4	51.7	-56.0	49.4	-53.8	46.3	-50.7	43.9	-48.3	38.6	-42.9
Zone 5	51.7	-69.2	49.4	-64.5	46.3	-58.3	43.9	-53.8	38.6	-42.9

Roof	Area < 10ft²		Area < 20ft²		Area < 50ft²		Area < 100ft²		Area < 500ft²	
Zone 1	21.0	-51.7	19.7	-50.4	18.0	-48.7	16.7	-47.3	16.7	-47.3
Zone 2	21.0	-86.7	19.7	-77.5	18.0	-65.2	16.7	-56.0	16.7	-56.0
Zone 3	21.0	-130.5	19.7	-108.2	18.0	-78.5	16.7	-56.0	16.7	-56.0

Notes:
1. Areas noted are effective wind areas as per ASCE 7-10, 26.2 definitions.
2. See figures below for Zone locations.
3. Plus and minus signs signify pressures acting toward and away from surfaces, respectively.
4. Design pressures shown in table are strength design wind pressures. Allowable stress design wind pressures may be calculated by factoring the pressures by 0.6.
5. Design pressures for effective wind areas between those noted in schedule may be interpolated.
6. Tributary area = greater of LxW or LxL/3.
7. Deflections may be calculated based on 42% of these loads.



Flat Roof

a = 6ft "corner zone"

2.5 Seismic Loads per 2018 North Carolina State Building Code (IBC 2015) & ASCE 7-10

Risk Category = III
Seismic Site Class = "F" per geotechnical report, however per IBC 2015 and ASCE 7-10, 20.3.1 exception the seismic site class can be determined without regard to liquefaction provided the structure fundamental period "T" is less than 0.5 sec.
The seismic site class = "D" per the geotechnical report provided that Ta < 0.5sec. Per ASCE 7-10, 12.8.2.1 Ta = 0.15sec.
The liquefaction potential will be mitigated with earthquake drains, see Foundation note 3.13, this sheet.

Spectral Response Coefficients:
SDS = 0.311g
SD1 = 0.121g
Cs = 0.0494g

Seismic Design Category = C
Seismic Importance Factor = 1.25
Basic Seismic – Force – Resisting System
Bearing Wall System – Light-Frame Walls (Cold-Formed Steel) Sheathed With Steel Sheets

RX=RY=6.5, DX=DY=3.0, CDX=CDY=4.0
Design Base Shear Vx = 26.3k Vy = 26.3k
Building Height Limit = NL
Analysis Procedure – 12.8.1 ASCE 7-10
Equivalent Lateral Force Procedure

2.6 Guardrail designed per North Carolina State Building Code, Section 1607.8

Guardrail:
Uniform load = 50 plf, any direction – per 1607.8.1
Concentrated load = 200 lbs, any direction – per 1607.8.1.1
Intermediate Rail: (all those expect handrail) per 1607.8.1.2

2.7 Flood Loads:
Project is not located in a flood zone.

3.0 FOUNDATIONS:

3.1 Foundation design is based on geotechnical report 1306-19-019 by S&ME, Inc. Wilmington, NC dated September 24, 2019. This report is in the project manual.

3.2 Footings shall bear on strata capable of sustaining a minimum bearing pressure of 2000 psf.

3.3 Top of footing (T/FTG) elevations are shown on the drawings or are to be determined by the Contractor in the field in accordance with the guidelines set forth in the drawings.

3.4 Bottom of exterior footings, grade beams and walls shall bear at a minimum depth of 1'-6" below final grade for frost protection.

3.5 Testing and Inspection:
a. All areas to have slabs on grade shall be proof rolled in accordance with and under observation for the Geotechnical Engineer and approved prior to preparation for concrete placement.
b. All foundation bearing strata shall be inspected and approved by the Geotechnical Engineer prior to any concrete placement.
c. Geotechnical Engineer shall be the sole judge as to suitability of all foundation and/or slab bearing strata.
d. Footing bearing elevations shall be adjusted in the field as required to meet the design bearing pressures by additional excavation or compaction and/or backfilling or by other means acceptable to the Geotechnical Engineer.

3.6 Undercutting to remove existing fill beneath footings and slab shall be performed at the direction of the Geotechnical Engineer.

3.7 Engineered Fill: All fill material shall be selected in accordance with the Geotechnical Report. Material shall be a clean sand, a slightly silty sand, a slightly clayey sand, or a silty sand with less than 20% fines and having a Unified Classification of SP,SP-SM, SP-SC, or SM be used. The Geotechnical Report indicates that on-site soils down to a depth of approximately 6 feet are potentially suitable for use as structural fill and backfill provided moister content is controlled with ±3% of optimum moister content. On-site material must be tested by the Geotechnical Engineer and approved prior to placement.

3.8 Compaction: All fill shall be placed in loose lifts 8-10 inches in thickness and compacted to a minimum of 96 percent Standard Proctor (ASTM D-698) except that the top 12 inches shall be compacted to a minimum of 98 percent Standard Proctor. Moisture shall be controlled to within 3 percent above or below optimum content.

3.9 Remove all topsoil and organic materials. The stripping should extend at least 10' beyond the proposed construction limits.

3.10 Groundwater at the time of Geotechnical Exploration was 3'-6' below existing ground surface.

3.11 The Geotechnical Report indicates potentially unsuitable soil material may be encountered below design elevations. Undercutting of footing bearing soils should be anticipated in localized areas. See Specification Section "012100 Allowances" for Quantity to be included in your bids. See Specification Section 012200 for required unit rates to be supplied with bids. These unit rates will be used to adjust the allowances up and down as required by site conditions.

3.12 The exposed subgrade can deteriorate and loose support when exposed to construction traffic and adverse weather conditions. The Geotechnical Report recommends that during construction, exposed subgrade surfaces be sealed at the end of each day or when wet weather is forecast. Heavy rubber-tired construction equipment should not be allowed to operate on subgrade during wet conditions.

3.13 The site has a severe potential for seismic liquefaction. Woods Engineering recommends the installation of earthquake drains to mitigate the liquefaction to acceptable limits (less than 2"). The depth of the earthquake drains are estimated to be 35'-45'. The final earthquake drain design shall be by a qualified design-build contractor that specializes in earthquake drain installation. Also see specification 316329-Earthquake Drains.

4.0 CONCRETE:

4.1 Concrete Strength:
All concrete shall be in accordance with the American Concrete Institute (ACI) 301 and 318.

4.2 Concrete shall have a 28 day compressive strength and density as follows:
a. Footings, Grade Beams, and Interior Slab-on-grade.....3,000psi, Density = ±145pcf
b. Exterior Slab on Grade.....4,000psi, Density = ±145pcf

4.3 Concrete Mix Designs:
a. Submittals: Submit written reports of each proposed concrete mix not less than 15 days prior to the start of work.
b. Mix designs, including water, cement ratios and slumps, shall be prepared in accordance with ACI 301-05, Section 4, Cement shall conform to ASTM C 150 Type 1 or at contractor's option, ASTM C 595 Type IP where fly ash is permitted. Normal weight aggregate shall conform to ASTM C 33 and light weight aggregate shall conform to ASTM C 330. No admixtures containing calcium chloride shall be permitted in any concrete.
c. Aggregate size shall be #67 stone for supported slabs or other formed concrete elements; #57 stone for slabs on grade and footings or other concrete elements formed from and poured against earth; #89 stone for masonry grout.
d. Water reducing admixture shall be used in all concrete.
e. Air entraining admixture in accordance with ACI 301 shall be used in all concrete exposed freezing and thawing during construction or service conditions.
f. Concrete subjected to freezing/thawing shall have a maximum water/cement ratio of 0.45 and shall contain the amount of air entraining agent specified in ACI 301-05 Section 4.

4.4 Curing:
See specifications for curing method options and apply within two (2) hours after completion of finishing to all concrete flatwork and walls, U.N.O., other than footings and grade beams.

4.5 Use a non-corrosive, non-chloride accelerating admixture in concrete exposed to temperatures below 40 degrees. Uniformly heat the water and aggregates to a temperature of not less than 50 degrees. Place and cure concrete in accordance with ACI 306.

4.6 When hot weather conditions exist, place and cure concrete in accordance with ACI 301. Cool ingredients before mixing to maintain concrete temp. at time of placement below 90 degrees.

4.7 Reinforcing in all abutting concrete, including footings shall be continuous through or around all corners or intersections. Dowels or splices shall be equal in size and spacing to the reinforcing in the abutting members.

4.8 Refer to architectural drawings for door and window openings, drips, reglets, washes, masonry anchors, brick ledge elevations, slab depressions and miscellaneous embedded plates, bolts, anchors, angles, etc.

4.9 Refer to plumbing, mechanical and electrical drawings for underfloor, perimeter and other drains and for sleeves, outlet boxes, conduit, anchors, etc. The various trades are responsible for their items.

4.10 Base plates, anchor rods, support angles and other steel exposed to earth or granular fill shall be covered with a minimum of 3" of concrete.

4.11 Fill slabs, not shown on the structural drawings, shall be reinforced with a minimum of 3.0 lbs/yd³ of synthetic macro-fibers – see plan notes, unless noted otherwise on other drawings.

4.12 Finish surfaces to the following tolerances, according to ASTM E 1155, for a randomly trafficked floor surface:
a. Specified overall values of flatness, F(F) 25; and of levelness, F(L) 20; with minimum local values equal to ⅔ of the overall flatness and levelness values.
b. The composite F(F) and F(L) numbers shall be measured and reported within 72 hours after completion of slab concrete finishing operations and before removal of any supporting shores.

4.13 Non-shrink grout shall be pre-mixed, non-corrosive, non-metallic, non-staining containing silica sands, Portland cement, shrinkage compensating and water reducing agents. Product shall only require the addition of water. Minimum compressive strength shall be 2500 psi after one day and 7000 psi after 28 days. Grout shall be free of gas producing or air releasing and oxidizing agents and contain no corrosive iron, aluminum or gypsum.

4.14 Provide concrete grout – not mortar – for reinforced masonry lintel and bond beams where indicated on drawing or as scheduled.

4.15 Tolerance for anchor rods and other embedded items shall be per the AISC Code of Standard Practice Section 7.5.

4.16 Unless otherwise shown in the architectural drawings, provide 3/4-inch chamfers at all column, wall, slab or beam edges that are exposed to view in the finished structure.

4.17 Concrete cover for cast-in-place concrete reinforcement:
Concrete cast against & permanently exposed to earth:.....3 Inches
Concrete exposed to earth or weather:
No. 6 through No. 18 Bars:.....2 Inches
No. 5 Bar and smaller:.....1 1/2" Inches
Concrete not exposed to weather or in contact with ground:
Slabs, Walls, Joists:
No. 11 Bar and smaller:.....3/4" Inches
Beams, Columns:
Primary Reinforcement, Ties, Stirrups:.....1 1/2" Inches

5.0 REINFORCING STEEL:

5.1 Reinforcing shall be domestic new billet steel conforming to ASTM A615, Grade 60 or 60S including stirrups and ties, except that reinforcing which is required to be welded shall conform to ASTM A706.

5.2 Field bending of concrete reinforcing steel is not permitted.

5.3 Welded wire mat and fabric shall conform to ASTM A184 and A185 respectively and shall be provided in flat sheets. Welded wire mat/fabric shall be lapped 0'-6" at all splices.

5.4 Bar Splices:

	f'c = 3,000psi		f'c = 4,000psi		f'c = 5,000psi	
Bar Size	Ld (in)	Class "B" Lap Splice (in)	Ld (in)	Class "B" Lap Splice (in)	Ld (in)	Class "B" Lap Splice (in)
#3	17	22	15	19	13	17
#4	22	29	19	25	17	23
#5	28	36	24	31	22	28
#6	33	43	29	37	26	34
#7	48	63	42	54	38	49
#8	55	72	48	62	43	56

1. Values are based on normal weight concrete.
2. Ld = minimum embed of rebar
3. Class "B" lap splice refers to minimum distance bars must be lapped for a full tension splice.

6.0 LIGHT GAUGE STEEL FRAMING (DIETRICH):

6.1 All members shall be designed in accordance with the American Iron and Steel Institute (AISI) "Specifications for the Design of Cold-formed Steel Structural Members", Latest Edition.

6.2 All framing members shall be formed from corrosion-resistant steel corresponding to the requirements of ASTM A446, with a minimum yield strength of 33 ksi for joists and studs and 33 ksi for runners.

6.3 All members shown are standard designations of "Dietrich Industries, Inc."

6.4 Design of members indicated in structural drawings is based on minimum properties of products provided by "Dietrich Industries." No substitution of materials is acceptable for use without prior approval of the structural engineer. Substitutions shall meet or exceed all properties produced by "Dietrich Industries, Inc."

6.5 All shop drawing submittals shall show layout, spacing, sizes, thicknesses and types of cold-formed metal framing, fabrication, and fastening and anchorage details, including mechanical fasteners. Show reinforcing channels, opening framing, supplemental framing, strapping, bracing, bridging, splices, accessories, connection details and attachment to adjoining work.

6.6 Shop drawings, design calculations and other structural data shall be prepared and sealed by a qualified engineer. The Structural Engineer shall be legally qualified to practice in the jurisdiction where the project is located and shall be experienced in providing engineering services of the kind indicated.

6.7 All framing components shall be cut squarely for attachment to perpendicular members or as required for an angular fit tight against abutting members. All load bearing stud/walls shall be factory assembled into panels with studs bearing squarely and fully in top and bottom tracks.

6.8 Fastening components shall be by self-drilling screws or by welding as defined below UNO on the drawings.

6.9 Screwed connections:
a. Screws shall be type S-12 or type S-4 for all framing members per manufacturer's recommendations.
b. A minimum of three (3) exposed threads shall penetrate through at joined materials.
c. Corrosion-resistant cadmium-plated screws shall be used for screws attaching metal lath, masonry ties, and other exterior materials.

6.10 Welded connections:
a. Gas metal arc welding (GMAW) shall be used for 20 ga. Or lighter members. AWSE-705-3, E-705-E, E-705-6 wire electrodes .030"-.035" diameter shall be used with carbon dioxide, argon-oxygen or argon-carbon dioxide shielding. Welding equipment 60-100 amperes at 25 volts using 220-volt 3-phase electric service.
b. Shielded metal arc welding (SMAW) shall be used for 18 ga' and heavier members. AWS E-6012, E-6013, or E-7014 electrodes of 3/32" or 1/8" diameter shall be used. Welding equipment heat setting shall be varied dependent on material thickness.
c. All welds shall be touched up with zinc rich paint, or paint similar to that used by the framing member manufacturer.

6.11 Alignment of studs (plumbness) and walls (straightness) shall be within 1/960 of their respective heights and lengths.

6.12 Studs shall be plumbed, aligned, and securely attached to top and bottom runners. Splices in studs are not permitted.

6.13 Where manufacturer's recommendations for erection, attachment, assembly, bracing, alignment, or other installation, or assembly requirements are more stringent than indicated in these drawings, the manufacturer's recommendations shall apply.

6.14 Shear wall steel sheets shall have a base steel thickness of 0.027" and shall be of the following grade of steel: ASTM A1003 structural grade 33 (grade 230) type "H". See S5.01 for additional information.

STEEL THICKNESS

Gauge:	Mils	Design Thickness		Minimum Thickness		Yield Strength
		Inches	mm	Inches	mm	ksi
20	33	0.0346	0.879	0.0329	0.836	33
18	43	0.0451	1.146	0.0428	1.087	33
16	54	0.0566	1.438	0.0538	1.367	50
14	68	0.0713	1.811	0.0677	1.720	50
12	97	0.1017	2.583	0.0966	2.454	50

7.0 STRUCTURAL STEEL:

7.1 All structural steel shall be of the grades indicated below, unless noted otherwise on plans or details.
Rolled shapes ASTM A992 Gr. 50
Steel pipe ASTM A53, Type E or S, Grade B, Fy-35ksi
Structural tubing ASTM A500, Grade B, Fy-46ksi
Plates and bars ASTM A36 U.N.O.
Anchor rods ASTM F1554, Grade 36 U.N.O.
Miscellaneous ASTM A36 U.N.O.

7.2 All structural steel shall be detailed, fabricated and erected in accordance with the AISC Code of Standard Practice. The fabricator is responsible for the design of connections not shown on the structural drawings. For the purpose of the connection design, the fabricator shall retain a professional engineer registered in the state where the project is located. The engineer shall seal and sign each shop drawing containing connection design. A note shall accompany the drawings stating that the seal is for "Connection Design Only".

7.3 Connection Design:
a. Generally, connections shown on the drawings are schematic and are intended to show the relationship of the members.
b. Connections shall be designed for one-half (1/2) the allowable uniform load on the member, as defined in Part 3, "Allowable Loads on Beams" tables in the AISC "Manual of Steel Construction", 13th Edition, Allowable Stress Design or for the reactions as shown on the drawings or a minimum of 10 kips, whichever is greater.

7.4 Bolted connections:
a. Bearing type connections shall be snug tight with A325N or A490N bolts, U.N.O. Oversized and long-slotted holes are NOT permitted U.N.O. At single shear plate connections, provide bearing type fasteners with horizontal short slotted holes. All bolts shall be snug tight. DO NOT over torque bolts.
b. Protruding bolt heads, shafts or nuts shall not extend nor prohibit the application of architectural finishes or placement of steel deck at its correct location and elevation.
c. Connection designer is responsible for verifying the axial capacity after a section is reduced for bolt holes. Member size may be increased or plates added to maintain required capacity.
d. Bolted connections shall be assembled and inspected in accordance with RCSC-2009 (Specification for Structural Joints Using High-Strength Bolts).

7.5 Welded connections:
a. All welding shall be in accordance with the "Structural Welding Code – Steel" (AWS D1.1) of the American Welding Society, Latest Edition.
b. Electrodes for welding shall comply with the requirements of Table 4.1.1 of the AWS code.
c. At Moment Connections and Braced Frames Provide filler Metal that has a minimum CVN Toughness of 20 ft-lbs at minus 20 degrees F, As determined by AWS classification or Manufacturer Certification.
d. Proof of welder certification shall be available at the job site during times of inspection.

7.6 Minimum plate thickness shall be 3/8" U.N.O.; minimum bolt diameter shall be 3/4-inch U.N.O.; minimum shop weld shall be 3/16" and minimum field weld shall be 1/4-inch U.N.O.

7.7 All re-entrant corners (such as copes and blocks) shall be cut and shaped notch free with a radius of at least 1/2-inch.

8.0 STEEL DECK:

8.1 Building roof deck shall be galvanized, Type B, 1 ½" deep, 20 gauge.

8.2 Fasten 1½" and 3" roof deck to supporting members as noted on plan.

8.3 For steel roof deck spans, mechanically fasten side laps at mid-span using "Buildex", self-tapping TEKS No. 10 or larger machine screws or as noted on plan.
Provide additional sidelap fasteners where noted on plan.
Fasten roof deck to supporting members as noted on plan.

8.4 Do not hang pipes or ducts from steel roof deck. Fasten roof deck to supporting members as noted on plan.

9.0 STEEL JOISTS:

9.1 All steel joists shall be designed, fabricated, and erected in accordance with the SJI Specifications.

9.2 Joist ends shall be fixed and bridging shall be placed prior to application of any loads.

9.3 End Support:
a. Minimum bearing requirements shall be in accordance with the SJI Specification. Extended joist ends for bearing on masonry shall be provided by the joist manufacturer where required to accommodate bearing conditions shown on the drawings.
b. K Series joists shall be welded to supports with 1/8" fillet welds, one each side, 2" long.
c. Bolt joists as indicated below to structural steel supports at column centerlines or where joists do not space on centerlines, bolt connections for each joist adjacent to centerline. K Series: 2 Ø 1/2-inch diameter bolts (minimum)

9.4 Joist bridging:
a. Shall be placed in accordance with the SJI Specification U.N.O. and shall be horizontal rods or angles at top & bottom chords for all K Series joists.
b. Bridging that terminates at or is interrupted by structural steel members, shall be welded or bolted thereto. Provide diagonal ("X") bridging for ends of bridging lines terminating at walls/beams.

9.5 Holes in joist chords are not permitted, except at bearing and bolted connections.

9.6 All joists (40) forty feet and longer shall require a row of bolted bridging to be in place before slackening of hoisting lines.

10.0 POST-INSTALLED ANCHORS:

10.1 Except where indicated on the drawings, post-installed anchors shall consist of the following anchor types as provided by HILTI, Inc. Contact HILTI at (800) 879-8000 for product related questions.

Anchorage to Concrete
a. Adhesive anchors for cracked and uncracked concrete use:
1. HILTI HIT-HY 200 Safe Set System with HILTI HIT-Z Rod per ICC ESR-3187 (pending).
2. HILTI HIT-HY 200 Safe Set System with HILTI Hollow Drill Bit System with HAS-E threaded rod per ICC ESR-3187.
3. HILTI HIT-RE 500-SD Epoxy Adhesive Anchoring system with HAS-E threaded rod per ICC ESR-2322 for slow cure applications.

b. Medium duty mechanical anchors for cracked and uncracked concrete use:
1. HILTI KWIK HUS EZ and KWIK HUS EZ-I Screw Anchors per ICC ESR-3027
2. HILTI KWIK BOLT-TZ Expansion Anchors per ICC ESR-1917
3. HILTI KWIK Bolt 3 Expansion Anchors (uncracked concrete only) per ICC ESR-2302

c. Heavy duty mechanical anchors for cracked and uncracked concrete use:
1. HILTI HDA Undercut Anchors per ICC ESR 1546
2. HILTI HSL-3 Expansion Anchors per ICC ESR 1545

Rebar Doweling into Concrete
a. Adhesive anchors for cracked and uncracked concrete use:
1. HILTI HIT-HY 200 Safe Set System with HILTI Hollow Drill Bit System with continuously deformed rebar per ICC ESR-3187.
2. HILTI HIT-RE 500-SD Epoxy Adhesive Anchoring System with continuously deformed rebar per ICC ESR-2322.

Anchorage to Solid Grouted Masonry
a. Adhesive Anchors use:
1. HILTI HIT-HY 70 Masonry Adhesive Anchoring System (ICC pending).
2. Steel anchor element shall be HILTI HAS-E continuously threaded rod or continuously deformed steel rebar.
b. Mechanical Anchors use:
1. HILTI KWIK BOLT-3 Expansion Anchors per ICC ESR 1385.

Anchorage to Hollow/Multi-wythe Masonry
a. Adhesive Anchors use:
1. HILTI HIT-HY 70 Masonry Adhesive Anchoring System per ICC ESR-3342.
2. Steel anchor element shall be HILTI HAS-E continuously threaded rod or continuously deformed steel rebar.
3. The appropriate size screen tube shall be used per adhesive manufacturer's recommendation.

10.2 Anchor capacity used in design shall be based on the technical data published by HILTI or such other method as approved by the Structural Engineer of record. Substitution requests for alternate products must be approved in writing by the Structural Engineer of record prior to use. Contractor shall provide calculations demonstrating that the substituted product is capable of achieving the performance values of the specified product. Substitutions will be evaluated by their having and ICC ESR showing compliance with the relevant building code for seismic uses, load resistance, installation category, and availability of comprehensive installation instructions. Adhesive anchor evaluation will also consider creep, in-service temperature and installation temperature.

10.3 Install anchors per the manufacturer instructions, as included in the anchor packaging.

10.4 Overhead adhesive anchors must be installed using the HILTI PROFI System.

10.5 The contractor shall arrange an anchor manufacturer's representative to provide onsite installation training for all of their anchoring products specified. The Structural Engineer of record must receive documented confirmation that all of the contractor's personnel who install anchors are trained prior to the commencement of installing anchors.

10.6 Anchor capacity is dependant upon spacing between adjacent anchors and proximity of anchors to edge of concrete. Install anchors in accordance with spacing and edge clearances indicated on the drawings.

10.7 Existing reinforcing bars in the concrete structure may conflict with specific anchor locations. Unless noted on the drawings that the bars can be cut, the contractor shall review the existing structural drawings and shall undertake to locate the position of the reinforcing bars at the locations of the concrete anchors, by HILTI FERROSCAN, GPR, X-ray, chipping or other means.

11.0 CONSTRUCTION AND SAFETY:

11.1 Woods Engineering P.A.'s responsibility is limited to the details and information shown on these drawings. It is the responsibility of the Contractor to provide adequate safety measures required by local codes as well as OSHA Standards for the Construction Industry.
This should include, but not be limited to the following:
Shoring to protect new as well as existing structures.
Necessary Scaffolding.
Material Handling Equipment.
Trench Boxing.

12.0 SHOP DRAWING SUBMITTAL:

12.1 See Project Manual

12.2 Contractor shall submit Electronic copies (PDF format) of each shop drawing for review. Shop drawings shall be reviewed by the Contractor prior to submission to the Engineer. The Contractor shall allow 10 working days for shop drawing approval.

12.3 Contractor shall submit sealed light gauge steel framing shop drawings to the State Construction Office for review after the Structural Engineer has reviewed and stamped the drawings. Construction and fabrication may proceed upon Structural Engineer's approval of the shop drawings. See specifications for additional information.

13.0 SPECIAL INSPECTIONS:

13.1 Refer to Specification Section 014533 for Special Inspections requirements.

ABBREVIATIONS

@	AT	IFM	INSIDE FACE OF MASONRY
&	AND	INT	INTERIOR
AB	ANCHOR BOLTS	JBE	JOIST BEARING ELEVATION
ACI	AMERICAN CONCRETE INSTITUTE	JT	JOINT
ADDL	ADDITIONAL	K	KIP-S
AFF	ABOVE FINISHED FLOOR	KB	KICKER BRACE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	KSI	KIPS PER SQUARE INCH
AISI	AMERICAN IRON AND STEEL INSTITUTE	(L)	LONG SIDE REINFORCEMENT
ALT	ALTERNATE	LB	LONG BAR
ARCH	ARCHITECTS – ARCHITECTURAL	LBS	POUNDS
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	LLH	LONG LEG HORIZONTAL
AWS	AMERICAN WELDING SOCIETY	LLV	LONG LEG VERTICAL
B, BOTT	BOTTOM	LO	LOW
BCX	BOTTOM CHORD EXTENSION	LOC	LOCATION
BFF	BELOW FINISHED FLOOR	LWC	LIGHT WEIGHT CONCRETE
BLDG	BUILDING	MAX	MAXIMUM
BM	BEAM	MC	MOMENT CONNECTION
BOS	BOTTOM OF STEEL	MECH	MECHANICAL
BRG	BEARING	MFR	MANUFACTURER
BTWN	BETWEEN	MID	MIDDLE
CJ	CONTRACTION JOINT	MIN	MINIMUM
CL	CENTERLINE	MISC	MISCELLANEOUS
CLR	CLEAR	MOW	MIDDLE OF WALL
CMU	CONCRETE MASONRY UNITS	MP	MASONRY PILASTER
COL	COLUMN	d	NAILS – PENNY
CONC	CONCRETE	No	NUMBER
CONN	CONNECTION	NS	NEAR SIDE
CONST JT	CONSTRUCTION JOINT	NTS	NOT TO SCALE
CONT	CONTINUOUS	NWC	NORMAL WEIGHT CONCRETE
CONTR	CONTRACTOR	OC	ON CENTER
CSJ	COMPOSITE STEEL JOIST	OFB	OUTSIDE FACE OF BRICK
CTRD	CENTERED	OFM	OUTSIDE FACE OF MASONRY
DBA	DEFORMED BAR ANCHOR	OFS	OUTSIDE FACE OF STUD
DD	DELEGATED DESIGN	OPNG	OPENING
DEFL	DEFLECTION	OPP	OPPOSITE HAND
DEPR	DEPRESSION – DEPRESSED	PAF	POWER ACTUATED FASTENERS
DET	DETAIL	PEBS	PRE-ENGINEERED BUILDING SUPPLIER
DIAG	DIAGONAL	PED	PEDESTAL
ø	DIAMETER	PL	PLATE
DIM	DIMENSION	PSF	POUNDS PER SQUARE FOOT
DIST	DISTANCE	PSI	POUNDS PER SQUARE INCH
DWG(S)	DRAWING(S)	PSL	PARALLEL STRAND LUMBER
DWL(S)	DOWEL(S)	PLF	POUNDS PER LINEAR FOOT
EA	EACH	PT	PRESSURE TREATED
ELEV	ELEVATION	REF	REFERENCE
EMBED	EMBEDDED – EMBEDMENT	REINF	REINFORCING
ENG	ENGINEER	REQD	REQUIRED
EOR	ENGINEER OF RECORD	(S)	SHORT SIDE REINFORCEMENT
EQ	EQUAL	SB	SHORT BAR
EQUIP	EQUIPMENT	SCHD	SCHEDULE
EF	EACH FACE	SF	STEP FOOTING
EJ	EXPANSION JOINT	SIM	SIMILAR
EOD	EDGE OF DECK	SOG	SLAB ON GRADE
EOS	EDGE OF SLAB	SPEC(S)	SPECIFICATION(S)
EOW	EDGE OF WALL	SPF	SPRUCE PINE FUR
EW	EACH WAY	SQ	SQUARE
EXIST	EXISTING	STD	STANDARD
EXP	EXPANSION	STIFF	STIFFENER
EXT	EXTERIOR	STIRR	STIRRUP
FDN	FOUNDATION	STL	STEEL
FFE	FINISHED FLOOR ELEVATION	STR	STRUCTURAL
FS	FAR SIDE	SW	SHEAR WALL
FTG	FOOTING	SYP	SOUTHERN YELLOW PINE
GA	GAUGE	T	TOP
GALV	GALVANIZED	TCX	TOP CHORD EXTENSION
GT	GIRDER TRUSS	TOC	TOP OF CONCRETE
HD	HEADED	TOS	TOP OF STEEL
HI	HIGH	TOW	TOP OF WALL
HORIZ	HORIZONTAL	TYP	TYPICAL
HSS	HOLLOW STRUCTURAL SECTION	UNO	UNLESS NOTED OTHERWISE
HT	HIP TRUSS	VB	VEHICLE BARRIER
		VERT	VERTICAL
		VIF	VERIFY IN FIELD
		W	WITH
		WWF	WELDED WIRE FABRIC

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Unless Specifically Noted – Drawings, Plans, Sections, Details, Etc. are a graphic representation of the framing conditions and/or requirements.
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NORTH CAROLINA – WOODS ENGINEERING – CORPORATE SEAL No. C-1806 – DON R. WOODS

NORTH CAROLINA – PROFESSIONAL ENGINEER – SEAL 19475 – DON R. WOODS

Digitally signed by Don R. Woods, PE
DN: E=donwoods@woodseng.com, CN=Don R. Woods, PE*, O=Woods Engineering, P.A*, L=Wilmington, S=North Carolina, C=US
Date: 2020.04.22 09:36:35-04'00'

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REVISIONS:

No.	Description	Date

PROJECT: 19-2991
DATE: APRIL 22, 2020
DRAWN BY: MBK
CHECKED BY: DW

GENERAL NOTES

S1.01

BID DOCUMENTS

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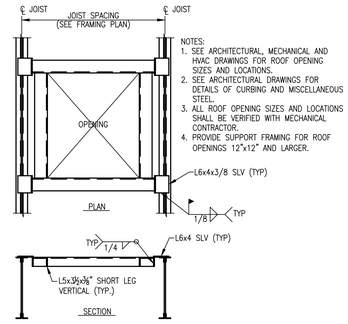
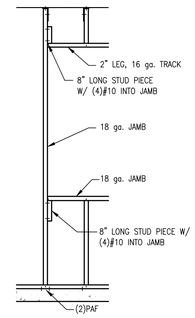
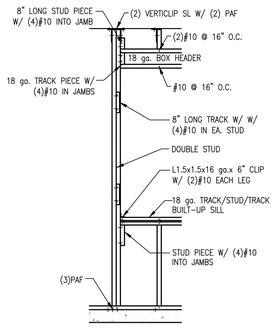


NOTES:
1. SEE ARCHITECTURAL, MECHANICAL AND HVAC DRAWINGS FOR ROOF OPENING SIZES AND LOCATIONS.
2. SEE ARCHITECTURAL DRAWINGS FOR DETAILS OF CURBING AND MISCELLANEOUS STEEL.
3. ALL ROOF OPENING SIZES AND LOCATIONS SHALL BE VERIFIED WITH MECHANICAL CONTRACTOR.
4. PROVIDE SUPPORT FRAMING FOR ROOF OPENINGS 12"x12" AND LARGER.

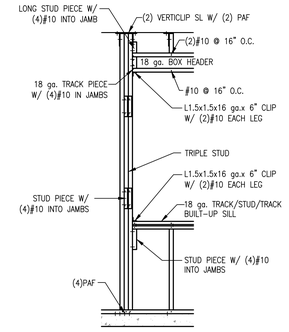
DETAIL OF TYPICAL ROOF OPENING
NOT TO SCALE



TYPICAL EXTERIOR WALL FRAMING AT WINDOW OPENING UP TO 3'-4"
SCALE: 1/2" = 1'-0"



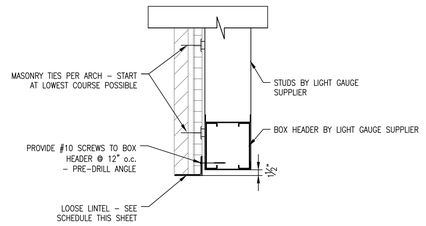
TYPICAL EXTERIOR WALL FRAMING AT WINDOW OPENING UP TO 6'-4"
SCALE: 1/2" = 1'-0"



TYPICAL EXTERIOR WALL FRAMING AT WINDOW OPENING UP TO 8'-8"
SCALE: 1/2" = 1'-0"

TYPICAL LIGHT GAUGE CONSTRUCTION DETAILS FOR NON-LOAD BEARING INTERIOR WALLS

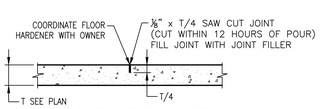
NOTE: THESE DETAILS ARE GENERIC AND ARE FOR GENERAL INFORMATION AND BUDGET PRICING. ACTUAL DESIGN BY LIGHT GAUGE SUPPLIER AND ENGINEER.



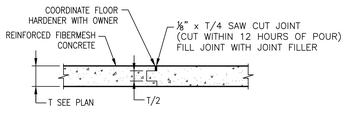
LOOSE LINTEL DETAIL
SCALE: 3/4" = 1'-0"

STEEL LINTEL SCHEDULE			
CLEAR OPENING	ONE ANGLE FOR EA 4"WYTHE	MIN BRG	MAX. HEIGHT OF BRICK
0'-8" TO 3'-4"	L7" x 4" x 5/16" LLH	4"	14'-0"

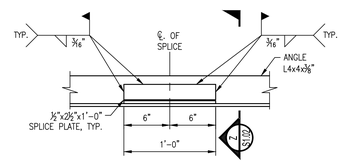
NOTES:
1. WHERE LINTELS BEAR ON HOLLOW MASONRY UNITS FILL ALL CORES UNDER BEARING WITH GROUT FROM BOTTOM OF LINTEL TO 16" MINIMUM BELOW.
2. THESE LINTELS ARE NOT DESIGNED FOR MASONRY WALLS THAT CARRY FLOOR OR ROOF LOAD.
3. LINTELS ARE DESIGNED TO CARRY THE MAXIMUM HEIGHT OF BRICK LISTED IN SCHEDULE. IF STACKED BRICK HEIGHT EXCEEDS LISTED VALUE, THEN CONTACT STRUCTURAL ENGINEER FOR ALTERNATE DESIGN.
4. ALL EXTERIOR STEEL LINTELS SHALL BE HOT DIP GALVANIZED AND PAINTED.



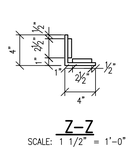
CONTRACTION JOINT
SCALE: 1" = 1'-0"



CONSTRUCTION JOINT
SCALE: 1" = 1'-0"



TYPICAL CONTINUOUS ANGLE SPLICE DETAIL
SCALE: 1 1/2" = 1'-0"



Z-Z
SCALE: 1 1/2" = 1'-0"

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NORTH CAROLINA PROFESSIONAL SEAL 19475 ENGINEER DON R. WOODS

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REVISIONS:

No.	Description	Date

PROJECT: 19-2991
DATE: APRIL 22, 2020
DRAWN BY: MBK
CHECKED BY: DW

TYPICAL DETAILS

S1.02

BID DOCUMENTS

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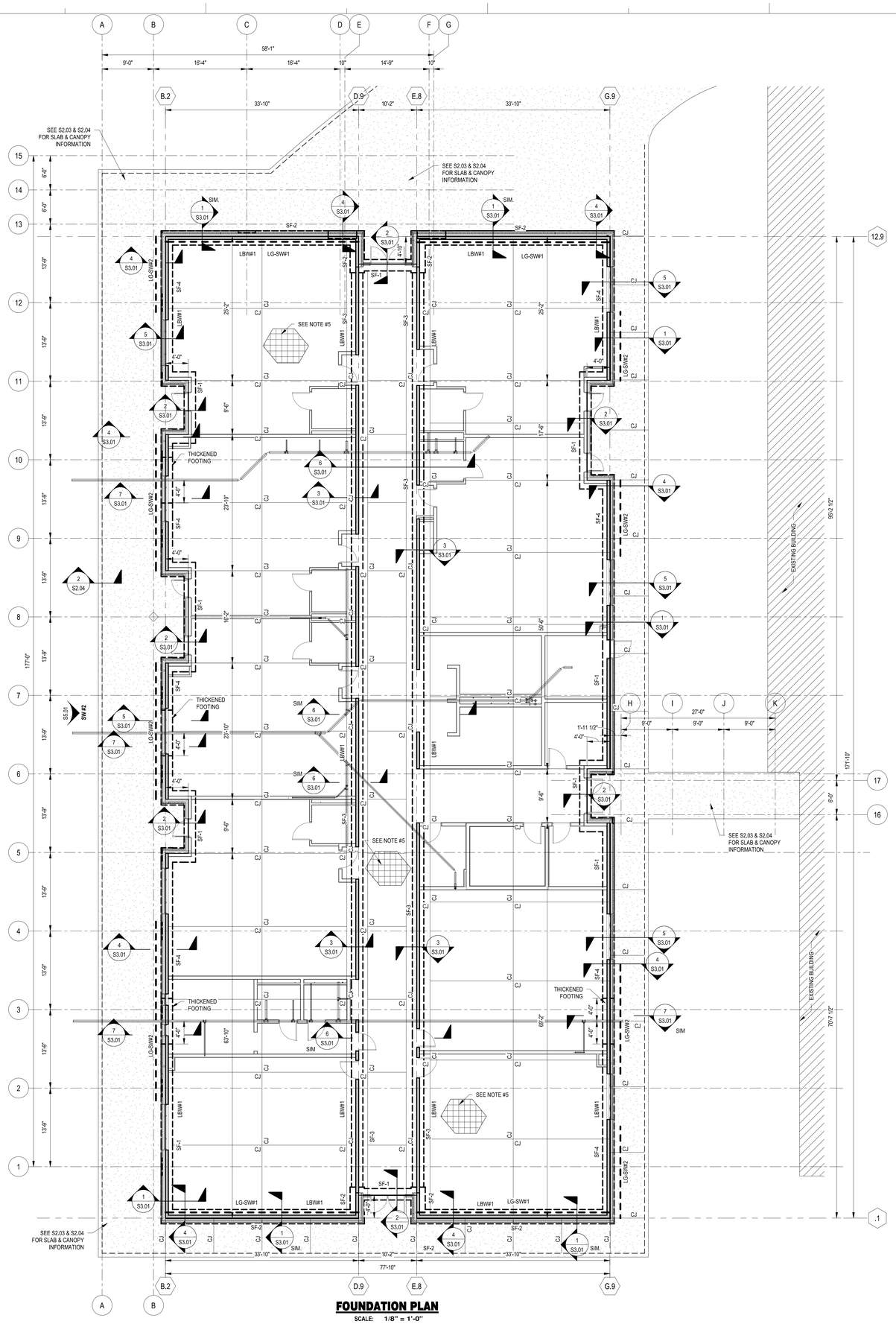

FOUNDATION PLAN

SCALE: 1/8" = 1'-0"

LEGEND - FOUNDATION

- LG-SW# — INDICATES LIGHT GAUGE SHEAR WALL, SEE S5.01 FOR DETAILS AND SCHEDULE
- FX — SPREAD FOOTING DESIGNATION SEE SCHEDULE THIS SHEET
- SF-X — STRIP FOOTING DESIGNATION SEE SCHEDULE THIS SHEET
- HSSXXX BP-X — INDICATES STEEL COLUMN BP = BASE PLATE
- 0 — GRID DESIGNATION FOR CENTERLINE OF COLUMN
- 0 — GRID DESIGNATION FOR OUTSIDE FACE OF STUD OR EDGE OF SLAB
- CJ — INDICATES CONCRETE SLAB CONTRACTION JOINTS, SEE S1.02 FOR TYPICAL DETAILS.
- INDICATES EXISTING STRUCTURE
- UNDERGROUND GRAVITY SEWER PIPING

NOTES - FOUNDATION PLAN

1. SEE SHEET S1.01 FOR ADDITIONAL GENERAL NOTES. FOUNDATION NOTES, CONCRETE NOTES AND REINFORCING STEEL NOTES. ALSO, SEE SHEET S1.02 FOR TYPICAL DETAILS. TYPICAL DETAILS ARE GENERALLY NOT SHOWN ON PLAN BUT RATHER ARE INTENDED TO DEFINE TYPICAL CONSTRUCTION CONDITIONS.
2. DATUM ELEVATION = TOP OF SLAB ELEVATION = +66.35' AS SHOWN ON CIVIL DRAWINGS PREPARED BY PARAMOUNTE ENGINEERING = ASSUMED 0'-0". OTHER ELEVATIONS ARE NOTED AS (+ OR -) FROM DATUM ELEVATION.
3. FOOTINGS ARE MONOLITHIC WITH SLAB UNLESS NOTED AS (±X'-X") FROM DATUM ELEVATION.
4. RELOCATE ANY UTILITY LINES THAT CONFLICT WITH THE FOUNDATIONS OR DROP THE FOUNDATIONS TO AN ELEVATION BELOW THE PROPOSED UTILITIES. RELOCATE ANY GRAVITY FLOW LINES THAT CONFLICT WITH SPREAD FOOTINGS AS SHOWN ON STRUCTURAL FOUNDATION PLANS. IF A GRAVITY FLOW LINE TRAVELS UNDER A CONTINUOUS STRIP FOOTING EITHER
   a. DROP THE FOOTING ELEVATION BELOW THE PROPOSED LINE
   b. ENCASE THE LINE IN A STEEL PIPE 2" LARGER IN DIAMETER THAN THE LINE AND EXTEND THE PIPE 1'-0" PAST EACH SIDE OF THE CONCRETE FOOTING. BACKFILL THE TRENCH WITH #57 STONE. THE BEARING CAPACITY OF THIS AREA MUST MEET OR EXCEED THE ALLOWABLE SOIL BEARING CAPACITY.
5. SLAB-ON-GRADE SHALL BE 4" THICK 3000 psi CONCRETE WITH 3.0 lbs/yd.^ OF SYNTHETIC MACRO-FIBERS (TUF-STRAND SF BY EUCLID, FIBER MAC SERIES BY BASF, FORTA-FERRO BY FORTA CORP, OR APPROVED EQUAL) ON 15 mil VAPOR BARRIER, ON 6" CLEAN SAND WITH LESS THAN 3% FINES ON WELL COMPACTED SUB GRADE. SEE S1.01 FOUNDATION NOTES FOR COMPACTION REQUIREMENTS, VERIFY COMPACTION w/QUALIFIED GEOTECHNICAL ENGINEER.
6. REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND OTHER DISCIPLINE DRAWINGS FOR OPENINGS AND DEPRESSIONS NOT SHOWN ON THESE DRAWINGS.
7. DIMENSIONS ARE FROM EDGE OF SLAB (E.O.S.) AND OUTSIDE FACE OF STUD (O.F.S.) / CURTAINWALL (O.F.CW.) TO COLUMN CENTERLINE UNLESS NOTED OTHERWISE.
8. PROVIDE EARTHQUAKE DRAINS TO MITIGATE LIQUEFACTION - SEE FOUNDATION NOTE 3.13/S1.01

STRIP FOOTING (SF-x) SCHEDULE

MARK	WIDTH x THICKNESS x LENGTH	REINFORCEMENT		COMMENTS
		TOP BARS	BOTTOM BARS	
SF-1	2'-0" x 2'-0" x CONT.	(1) #4	(3) #5	SEE SECTIONS 1&2/S3.01
SF-2	2'-6" x 2'-0" x CONT.	(4) #5	(4) #5	SEE SECTION 4/S3.01
SF-3	2'-0" x 1'-4" x CONT.	(2) #5	(2) #5	SEE SECTION 3/S3.01
SF-4	2'-0" x 2'-0" x CONT.	(3) #5	(3) #5	EXTEND TOP BARS 4'-0" PAST END OF LG-SW

LOAD BEARING WALL (LBW #x) SCHEDULE

MARK	STUD SPECIFICATION	REMARKS
LBW#1	600S162-54 @16"o.c.	50ksi

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NORTH CAROLINA PROFESSIONAL SEAL 19475 ENGINEER DON R. WOODS

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT SEAL 19419 Recorded DON R. WOODS

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REVISIONS:

No.	Description	Date

PROJECT: 19-2991
DATE: APRIL 22, 2020
DRAWN BY: MBK
CHECKED BY: DW

FOUNDATION PLAN

S2.01

BID DOCUMENTS

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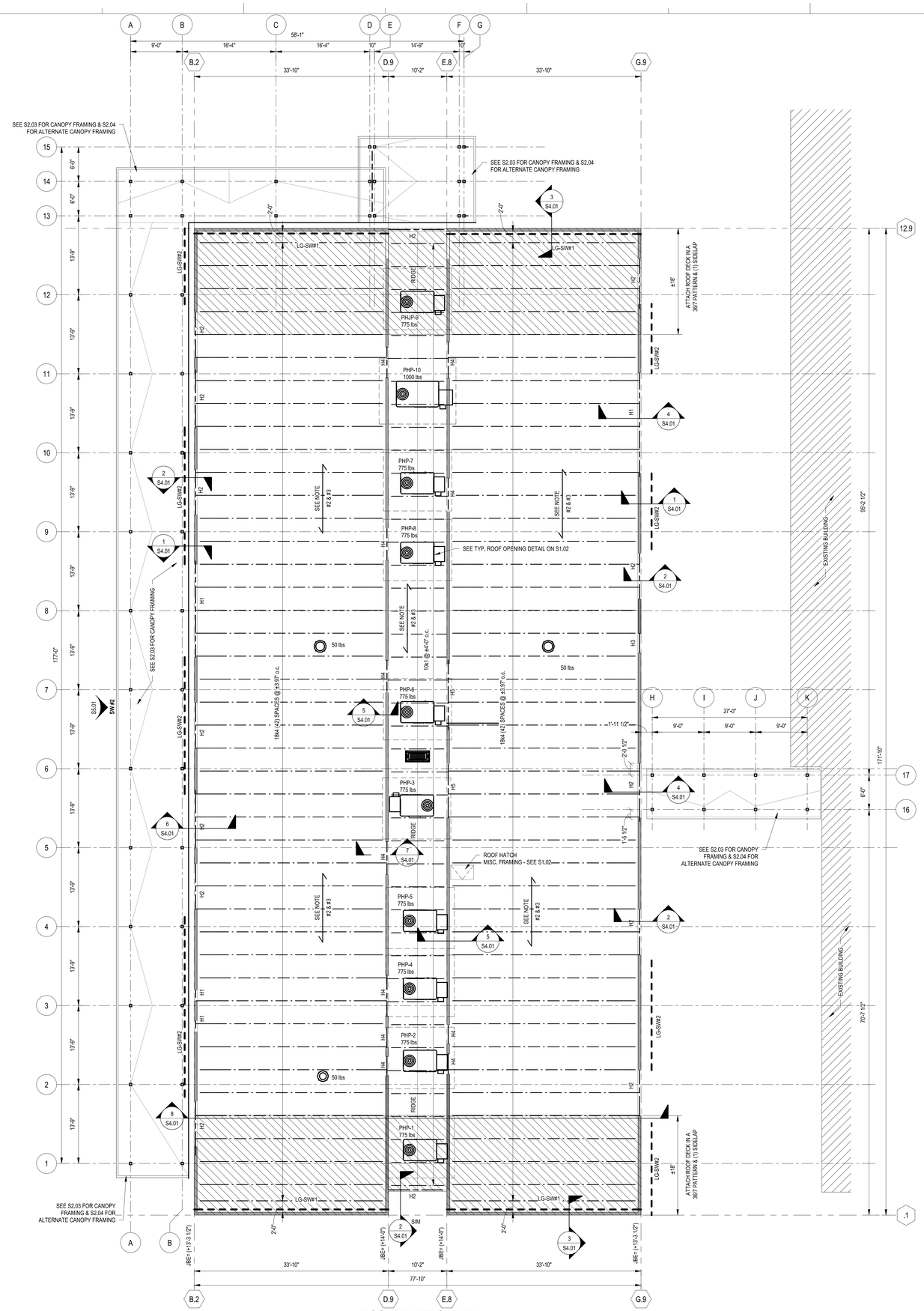


ROOF FRAMING PLAN

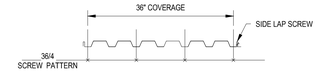
SCALE: 1/8" = 1'-0"

LEGEND - ROOF FRAMING

- LG-SW# — INDICATES LIGHT GAUGE SHEAR WALLS ABOVE, SEE S5.02 FOR REINFORCING DETAILS
- HSS ##x## — INDICATES STEEL COLUMN, SEE S3.01 FOR BASE PLATE
- Bx — INDICATES STEEL BEAM, SEE PLAN FOR SIZE AND LOCATION
- Hx — INDICATES LIGHT GAUGE STEEL HEADER, BY LIGHT GAUGE SUPPLIER
- INDICATES PRE-FABRICATED LIGHT GAUGE PARAPET TRUSSES @ 4'-0"o.c., SEE SECTIONS
- 0 — GRID DESIGNATION FOR CENTERLINE OF COLUMN
- 0 — GRID DESIGNATION FOR OUTSIDE FACE OF STUD OR CMU
- INDICATES EXISTING STRUCTURE

NOTES - ROOF FRAMING

1. SEE SHEET S1.01 FOR GENERAL STEEL, JOIST, DECK AND LIGHT GAUGE FRAMING NOTES. ALSO SEE SHEET S1.02 FOR TYPICAL DETAILS NOT SHOWN ON PLAN.
2. TYPICAL ROOF DECK IS 11/2" DEEP, 20 ga., GALVANIZED, TYPE 'B' METAL ROOF DECK.
3. METAL ROOF DECK SHALL BE ATTACHED TO STEEL SUPPORTING MEMBERS WITH HILTI X-HSN24 PAFS IN A 36/4 PATTERN - U.N.O. PROVIDE (1)- #10 TEK SIDELAP SCREW PER SPAN, U.N.O. ON PLAN.



4. ALL JOISTS SHALL BE DESIGNED FOR A NET UPLIFT PRESSURE OF 30 psf.
5. PROVIDE JOIST BRIDGING PER SJI RECOMMENDATIONS.
6. J.B.E. = JOIST BEARING ELEVATION

HEADER (Hx) SCHEDULE

Type Mark	SIZE	REMARKS
H1	HSS12x6x5/16" w/ L7x4x3/8" LLH	SEE 4/S4.01
H2	HSS6x6x5/16" w/ L7x4x3/8" LLH	SEE HEAD DETAIL ON S4.01
H3	6" LIGHT GAUGE BOX HEADER w/ LOOSE LINTEL L7x4x3/8" LLH	SEE S1.02
H4	(2) 800S200-54 & (2) 600T125-43	LIGHT GAUGE BOX HEADER
H5	HSS8x8x1/4"	SEE SECTION 7-7 & DETAIL D-D/S4.01

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DRAWN BY: MBK
CHECKED BY: DW

ROOF FRAMING PLAN

S2.02

BID DOCUMENTS

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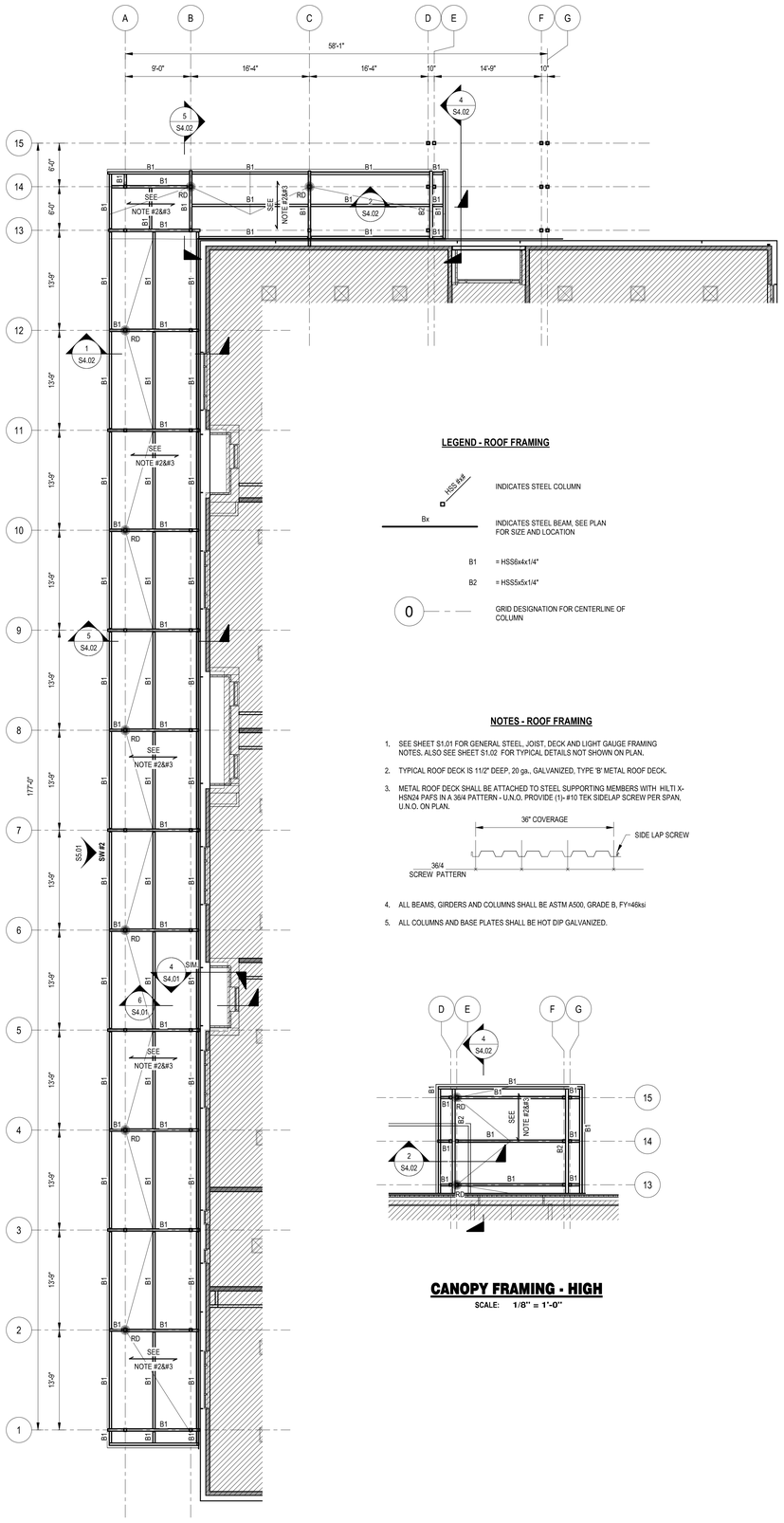


CANOPY FRAMING - LOW

SCALE: 1/8" = 1'-0"

LEGEND - ROOF FRAMING

HSS #x# — INDICATES STEEL COLUMN

Bx — INDICATES STEEL BEAM, SEE PLAN FOR SIZE AND LOCATION

B1 = HSS6x4x1/4"

B2 = HSS5x5x1/4"

0 — GRID DESIGNATION FOR CENTERLINE OF COLUMN

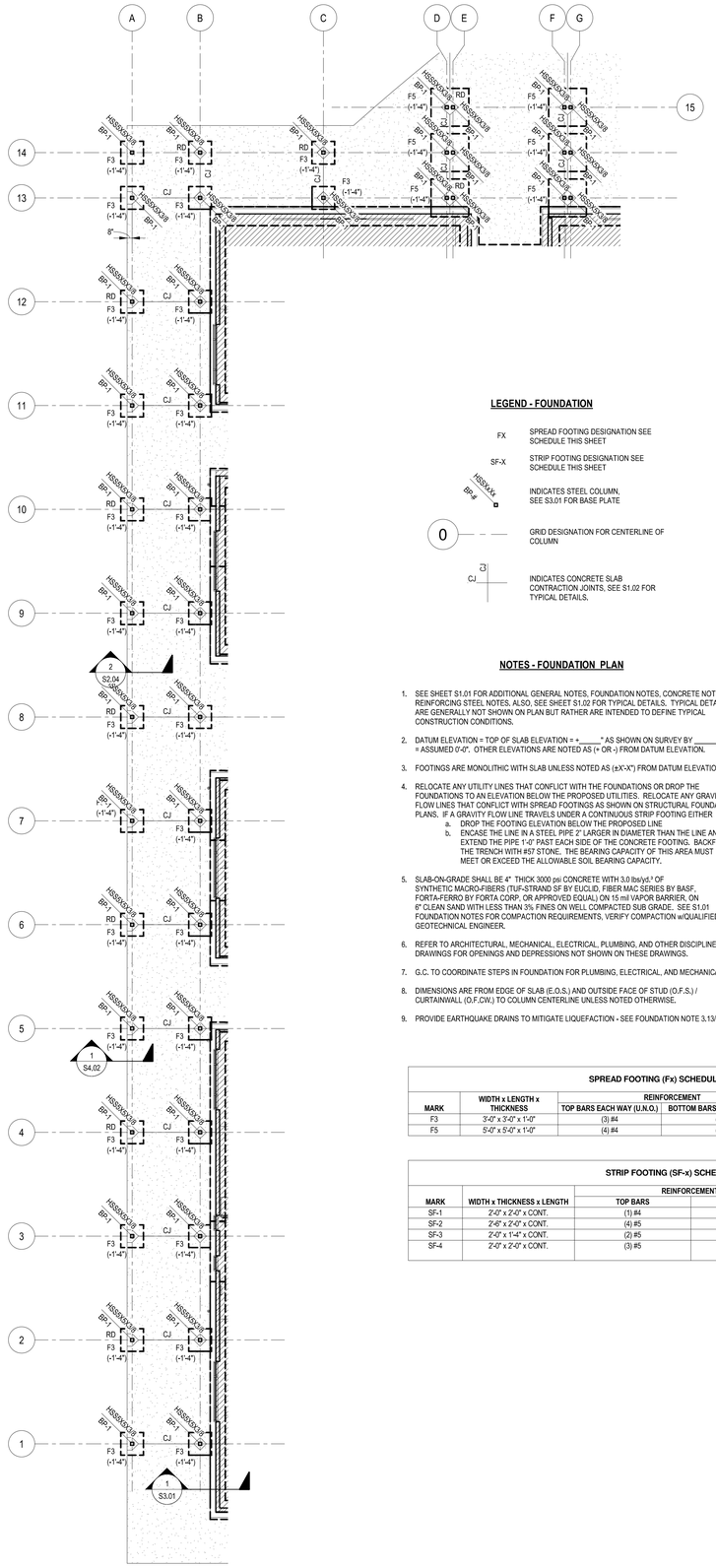
NOTES - ROOF FRAMING

1. SEE SHEET S1.01 FOR GENERAL STEEL, JOIST, DECK AND LIGHT GAUGE FRAMING NOTES. ALSO SEE SHEET S1.02 FOR TYPICAL DETAILS NOT SHOWN ON PLAN.
2. TYPICAL ROOF DECK IS 11/2" DEEP, 20 ga., GALVANIZED, TYPE 'B' METAL ROOF DECK.
3. METAL ROOF DECK SHALL BE ATTACHED TO STEEL SUPPORTING MEMBERS WITH HILTI X-HSN24 PAFS IN A 36/4 PATTERN - U.N.O. PROVIDE (1)- #10 TEK SIDELAP SCREW PER SPAN, U.N.O. ON PLAN.

4. ALL BEAMS, GIRDERS AND COLUMNS SHALL BE ASTM A500, GRADE B, FY=46ksi
5. ALL COLUMNS AND BASE PLATES SHALL BE HOT DIP GALVANIZED.

CANOPY FRAMING - HIGH

SCALE: 1/8" = 1'-0"



LEGEND - FOUNDATION

FX — SPREAD FOOTING DESIGNATION SEE SCHEDULE THIS SHEET

SF-X — STRIP FOOTING DESIGNATION SEE SCHEDULE THIS SHEET

HSSXXX BP-# — INDICATES STEEL COLUMN, SEE S3.01 FOR BASE PLATE

0 — GRID DESIGNATION FOR CENTERLINE OF COLUMN

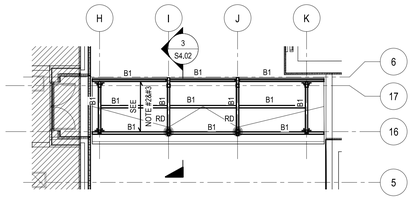
CJ — INDICATES CONCRETE SLAB CONTRACTION JOINTS, SEE S1.02 FOR TYPICAL DETAILS.

NOTES - FOUNDATION PLAN

1. SEE SHEET S1.01 FOR ADDITIONAL GENERAL NOTES, FOUNDATION NOTES, CONCRETE NOTES AND REINFORCING STEEL NOTES. ALSO, SEE SHEET S1.02 FOR TYPICAL DETAILS. TYPICAL DETAILS ARE GENERALLY NOT SHOWN ON PLAN BUT RATHER ARE INTENDED TO DEFINE TYPICAL CONSTRUCTION CONDITIONS.
2. DATUM ELEVATION = TOP OF SLAB ELEVATION = +_____" AS SHOWN ON SURVEY BY _____ = ASSUMED 0'-0". OTHER ELEVATIONS ARE NOTED AS (+ OR -) FROM DATUM ELEVATION.
3. FOOTINGS ARE MONOLITHIC WITH SLAB UNLESS NOTED AS (±X'-X") FROM DATUM ELEVATION.
4. RELOCATE ANY UTILITY LINES THAT CONFLICT WITH THE FOUNDATIONS OR DROP THE FOUNDATIONS TO AN ELEVATION BELOW THE PROPOSED UTILITIES. RELOCATE ANY GRAVITY FLOW LINES THAT CONFLICT WITH SPREAD FOOTINGS AS SHOWN ON STRUCTURAL FOUNDATION PLANS. IF A GRAVITY FLOW LINE TRAVELS UNDER A CONTINUOUS STRIP FOOTING EITHER
   a. DROP THE FOOTING ELEVATION BELOW THE PROPOSED LINE
   b. ENCASE THE LINE IN A STEEL PIPE 2' LARGER IN DIAMETER THAN THE LINE AND EXTEND THE PIPE 1'-0" PAST EACH SIDE OF THE CONCRETE FOOTING. BACKFILL THE TRENCH WITH #57 STONE. THE BEARING CAPACITY OF THIS AREA MUST MEET OR EXCEED THE ALLOWABLE SOIL BEARING CAPACITY.
5. SLAB-ON-GRADE SHALL BE 4" THICK 3000 psi CONCRETE WITH 3.0 lbs/yd.³ OF SYNTHETIC MACRO-FIBERS (TUF-STRAND SF BY EUCLID, FIBER MAC SERIES BY BASF, FORTA-FERRO BY FORTA CORP, OR APPROVED EQUAL) ON 15 mil VAPOR BARRIER, ON 6" CLEAN SAND WITH LESS THAN 3% FINES ON WELL COMPACTED SUB GRADE. SEE S1.01 FOUNDATION NOTES FOR COMPACTION REQUIREMENTS, VERIFY COMPACTION w/QUALIFIED GEOTECHNICAL ENGINEER.
6. REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND OTHER DISCIPLINE DRAWINGS FOR OPENINGS AND DEPRESSIONS NOT SHOWN ON THESE DRAWINGS.
7. G.C. TO COORDINATE STEPS IN FOUNDATION FOR PLUMBING, ELECTRICAL, AND MECHANICAL.
8. DIMENSIONS ARE FROM EDGE OF SLAB (E.O.S.) AND OUTSIDE FACE OF STUD (O.F.S.) / CURTAINWALL (O.F.C.W.) TO COLUMN CENTERLINE UNLESS NOTED OTHERWISE.
9. PROVIDE EARTHQUAKE DRAINS TO MITIGATE LIQUEFACTION - SEE FOUNDATION NOTE 3.13/S1.01

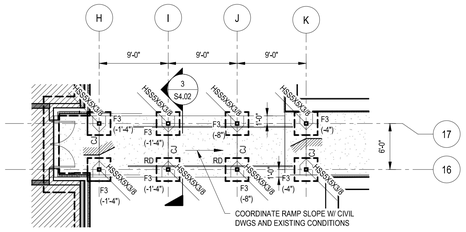
CANOPY FOUNDATION PLAN

SCALE: 1/8" = 1'-0"



EAST CANOPY FRAMING PLAN

SCALE: 1/8" = 1'-0"



EAST CANOPY FOUNDATION PLAN

SCALE: 1/8" = 1'-0"

SPREAD FOOTING (Fx) SCHEDULE

MARK	WIDTH x LENGTH x THICKNESS	REINFORCEMENT		COMMENTS
		TOP BARS EACH WAY (U.N.O.)	BOTTOM BARS EACH WAY (U.N.O.)	
F3	3'-0" x 3'-0" x 1'-0"	(3) #4	(3) #4	
F5	5'-0" x 5'-0" x 1'-0"	(4) #4	(5) #5	

STRIP FOOTING (SF-x) SCHEDULE

MARK	WIDTH x THICKNESS x LENGTH	REINFORCEMENT		COMMENTS
		TOP BARS	BOTTOM BARS	
SF-1	2'-0" x 2'-0" x CONT.	(1) #4	(3) #5	SEE SECTIONS 1&2/S3.01
SF-2	2'-6" x 2'-0" x CONT.	(4) #5	(4) #5	SEE SECTION 4/S3.01
SF-3	2'-0" x 1'-4" x CONT.	(2) #5	(2) #5	SEE SECTION 3/S3.01
SF-4	2'-0" x 2'-0" x CONT.	(3) #5	(3) #5	EXTEND TOP BARS 4'-0" PAST END OF LG-SW

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19475 DON R. WOODS

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DN: E=drwoods@woodseng.com, CN=Don R. Woods, PE", Ou=Woods Engineering, PA", L=Wilmington, S=North Carolina, C=US
Date: 2020.04.22 09:37:18-04'00'

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REVISIONS:

No.	Description	Date

PROJECT: 19-2991
DATE: APRIL 22, 2020
DRAWN BY: MBK
CHECKED BY: DW

CANOPY FRAMING

S2.03

BID DOCUMENTS

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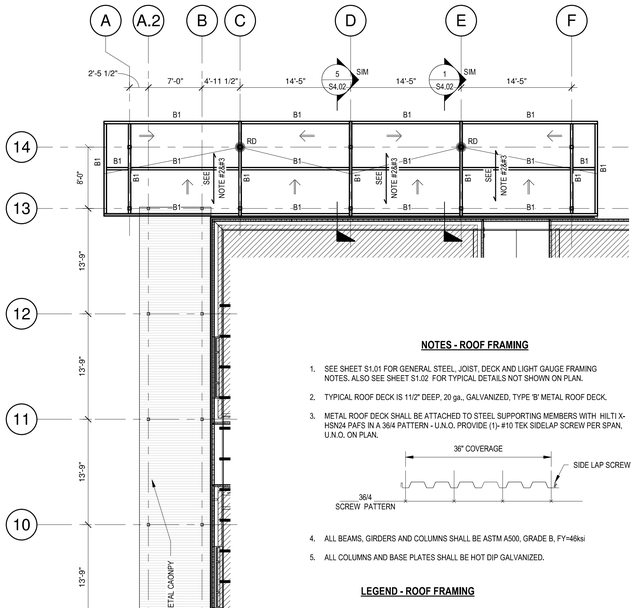


NOTES - ROOF FRAMING

1. SEE SHEET S1.01 FOR GENERAL STEEL, JOIST, DECK AND LIGHT GAUGE FRAMING NOTES. ALSO SEE SHEET S1.02 FOR TYPICAL DETAILS NOT SHOWN ON PLAN.
2. TYPICAL ROOF DECK IS 11/2" DEEP, 20 ga., GALVANIZED, TYPE 'B' METAL ROOF DECK.
3. METAL ROOF DECK SHALL BE ATTACHED TO STEEL SUPPORTING MEMBERS WITH HILTI X-HSN24 PAFS IN A 36/4 PATTERN - U.N.O. PROVIDE (1)- #10 TEK SIDELAP SCREW PER SPAN, U.N.O. ON PLAN.

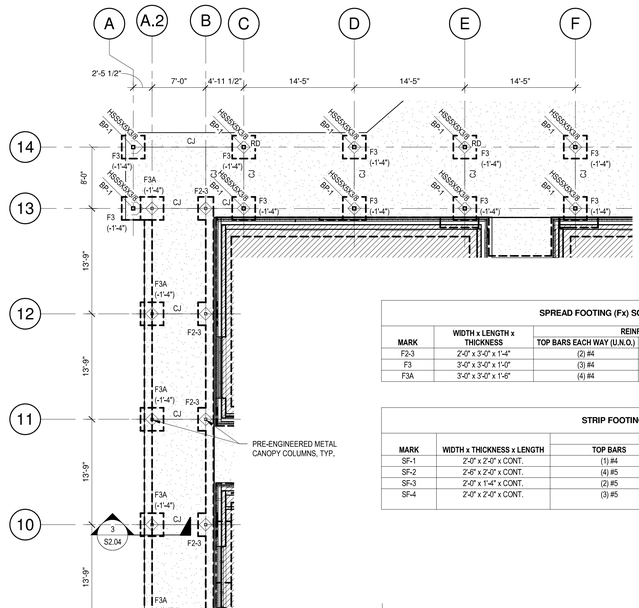
4. ALL BEAMS, GIRDERS AND COLUMNS SHALL BE ASTM A500, GRADE B, FY=46ksi
5. ALL COLUMNS AND BASE PLATES SHALL BE HOT DIP GALVANIZED.

LEGEND - ROOF FRAMING

HSS #x#
Bx
INDICATES STEEL COLUMN
INDICATES STEEL BEAM. SEE PLAN FOR SIZE AND LOCATION
B1 = HSS6x4x1/4"
0
GRID DESIGNATION FOR CENTERLINE OF COLUMN

ALTERNATE CANOPY FRAMING PLAN

SCALE: 1/8" = 1'-0"



LEGEND - FOUNDATION

FX — SPREAD FOOTING DESIGNATION SEE SCHEDULE THIS SHEET
SF-X — STRIP FOOTING DESIGNATION SEE SCHEDULE THIS SHEET
HSSXXX BP-# — INDICATES STEEL COLUMN. SEE S3.01 FOR BASE PLATE
0 — GRID DESIGNATION FOR CENTERLINE OF COLUMN
CJ — INDICATES CONCRETE SLAB CONTRACTION JOINTS. SEE S1.02 FOR TYPICAL DETAILS.

NOTES - FOUNDATION PLAN

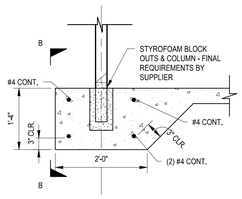
1. SEE SHEET S1.01 FOR ADDITIONAL GENERAL NOTES, FOUNDATION NOTES, CONCRETE NOTES AND REINFORCING STEEL NOTES. ALSO, SEE SHEET S1.02 FOR TYPICAL DETAILS. TYPICAL DETAILS ARE GENERALLY NOT SHOWN ON PLAN BUT RATHER ARE INTENDED TO DEFINE TYPICAL CONSTRUCTION CONDITIONS.
2. DATUM ELEVATION = TOP OF SLAB ELEVATION = +_____" AS SHOWN ON SURVEY BY _____ = ASSUMED 0'-0". OTHER ELEVATIONS ARE NOTED AS (+ OR -) FROM DATUM ELEVATION.
3. FOOTINGS ARE MONOLITHIC WITH SLAB UNLESS NOTED AS (±X'-X") FROM DATUM ELEVATION.
4. RELOCATE ANY UTILITY LINES THAT CONFLICT WITH THE FOUNDATIONS OR DROP THE FOUNDATIONS TO AN ELEVATION BELOW THE PROPOSED UTILITIES. RELOCATE ANY GRAVITY FLOW LINES THAT CONFLICT WITH SPREAD FOOTINGS AS SHOWN ON STRUCTURAL FOUNDATION PLANS. IF A GRAVITY FLOW LINE TRAVELS UNDER A CONTINUOUS STRIP FOOTING EITHER
   a. DROP THE FOOTING ELEVATION BELOW THE PROPOSED LINE
   b. ENCASE THE LINE IN A STEEL PIPE 2" LARGER IN DIAMETER THAN THE LINE AND EXTEND THE PIPE 1'-0" PAST EACH SIDE OF THE CONCRETE FOOTING. BACKFILL THE TRENCH WITH #57 STONE. THE BEARING CAPACITY OF THIS AREA MUST MEET OR EXCEED THE ALLOWABLE SOIL BEARING CAPACITY.
5. SLAB-ON-GRADE SHALL BE 4" THICK 3000 psi CONCRETE WITH 3.0 lbs/yd.³ OF SYNTHETIC MACRO-FIBERS (TUF-STRAND SF BY EUCLID). FIBER MAC SERIES BY BASF, FORTA-FERRO BY FORTA CORP, OR APPROVED EQUAL) ON 15 mil VAPOR BARRIER, ON 6" CLEAN SAND WITH LESS THAN 3% FINES ON WELL COMPACTED SUB GRADE. SEE S1.01 FOUNDATION NOTES FOR COMPACTION REQUIREMENTS, VERIFY COMPACTION w/QUALIFIED GEOTECHNICAL ENGINEER.
6. REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND OTHER DISCIPLINE DRAWINGS FOR OPENINGS AND DEPRESSIONS NOT SHOWN ON THESE DRAWINGS.
7. DIMENSIONS ARE FROM EDGE OF SLAB (E.O.S.) AND OUTSIDE FACE OF STUD (O.F.S.) / CURTAINWALL (O.F.CW.) TO COLUMN CENTERLINE UNLESS NOTED OTHERWISE.
8. PROVIDE EARTHQUAKE DRAINS TO MITIGATE LIQUEFACTION - SEE FOUNDATION NOTE 3.13/S1.01

SPREAD FOOTING (Fx) SCHEDULE ALTERNATE

MARK	WIDTH x LENGTH x THICKNESS	REINFORCEMENT		COMMENTS
		TOP BARS EACH WAY (U.N.O.)	BOTTOM BARS EACH WAY (U.N.O.)	
F2-3	2'-0" x 3'-0" x 1'-4"	(2) #4	(2) #4	MONOLITHIC W/ SLAB
F3	3'-0" x 3'-0" x 1'-0"	(3) #4	(3) #4	
F3A	3'-0" x 3'-0" x 1'-6"	(4) #4	(4) #4	

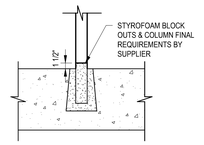
STRIP FOOTING (SF-x) SCHEDULE

MARK	WIDTH x THICKNESS x LENGTH	REINFORCEMENT		COMMENTS
		TOP BARS	BOTTOM BARS	
SF-1	2'-0" x 2'-0" x CONT.	(1) #4	(3) #5	SEE SECTIONS 1&2/S3.01
SF-2	2'-6" x 2'-0" x CONT.	(4) #5	(4) #5	SEE SECTION 4/S3.01
SF-3	2'-0" x 1'-4" x CONT.	(2) #5	(2) #5	SEE SECTION 3/S3.01
SF-4	2'-0" x 2'-0" x CONT.	(3) #5	(3) #5	EXTEND TOP BARS 4'-0" PAST END OF LO-SW



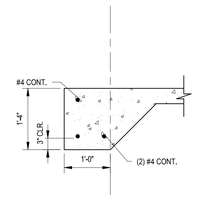
SECTION 1-1

SCALE: 3/4" = 1'-0"



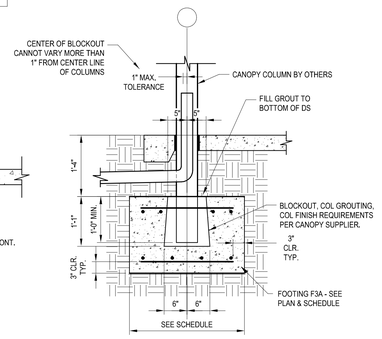
DETAIL B-B

SCALE: 3/4" = 1'-0"



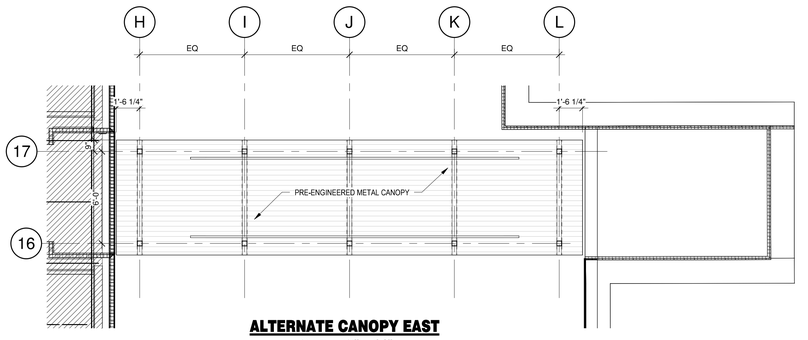
SECTION 2-2

SCALE: 3/4" = 1'-0"



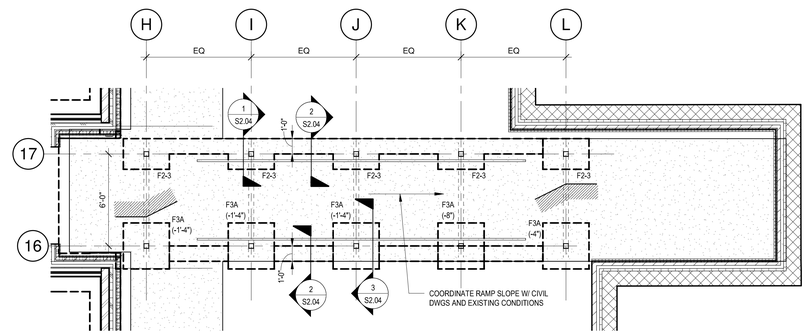
SECTION 3-3

SCALE: 3/4" = 1'-0"



ALTERNATE CANOPY EAST

SCALE: 1/4" = 1'-0"



ALTERNATE CANOPY EAST FOUNDATION

SCALE: 1/4" = 1'-0"

ALTERNATE CANOPY FOUNDATION PLAN

SCALE: 1/8" = 1'-0"

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19475 DON R. WOODS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19475 DON R. WOODS
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DN: E=donwoods@woodseng.com, CN="Don R. Woods, PE", O="Woods Engineering, P.A.", L=Wilmington, S=North Carolina, C=US
Date: 2020.04.22 08:22:57-04'00'

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REVISIONS:

No.	Description	Date

PROJECT: 19-2991
DATE: APRIL 22, 2020
DRAWN BY: MBK
CHECKED BY: DW

ALTERNATE CANOPY PLANS

S2.04

BID DOCUMENTS

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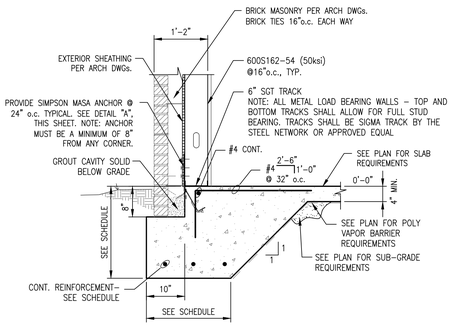
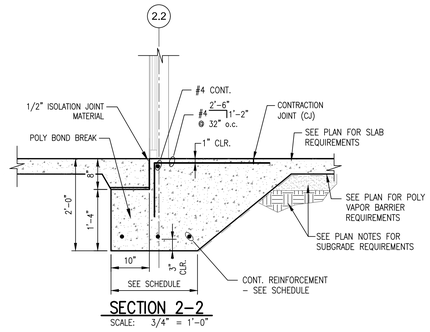


SECTION 1-1

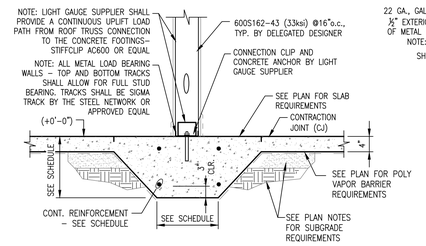
SCALE: 3/4" = 1'-0"

AT EXTERIOR LOAD BEARING WALL



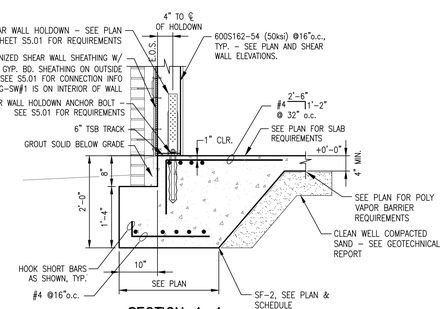
SECTION 2-2

SCALE: 3/4" = 1'-0"



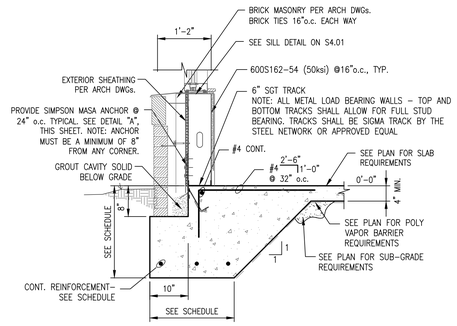
SECTION 3-3

SCALE: 3/4" = 1'-0"



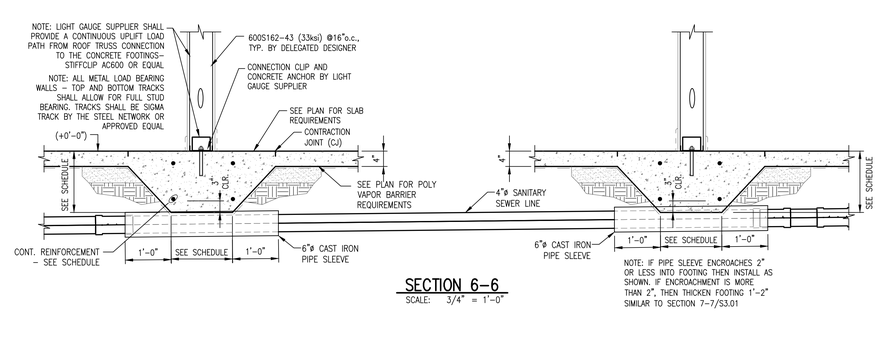
SECTION 4-4

SCALE: 3/4" = 1'-0"



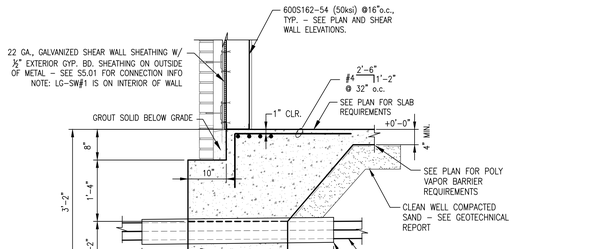
SECTION 5-5

SCALE: 3/4" = 1'-0"



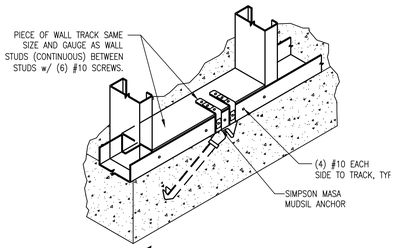
SECTION 6-6

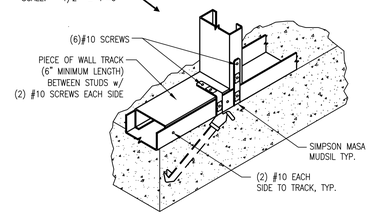
SCALE: 3/4" = 1'-0"



SECTION 7-7

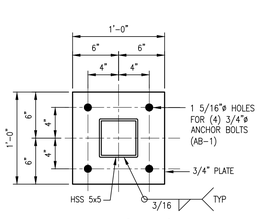
SCALE: 3/4" = 1'-0"





DETAIL "A"

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

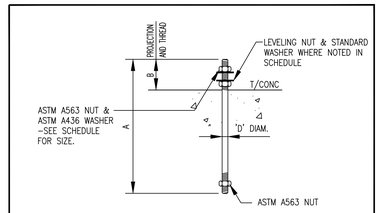


DETAIL 'BP-1'

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

(HSS 5x5 BASEPLATE)

TYPICAL, UNO



ANCHOR BOLT SCHEDULE						
MARK	BOLT DIAM. D	HOLE DIAMETER	A	B	WASHER O.D. x t	LEVELING NUT	REMARKS
AB-1	¾"	1 5/16"	1'-2"	5"	2" x ¼"	YES	
AB-2	1"	1 13/16"	2'-0"	6"	3" x ⅜"	YES	

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NORTH CAROLINA PROFESSIONAL SEAL 19475 ENGINEER DON R. WOODS

SEAL 19475 ENGINEER DON R. WOODS

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DN: cn=dwoods@woodseng.com, CN=Don R. Woods, PE, O="Woods Engineering, P.A", L=Wilmington, S=North Carolina, C=US
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REVISIONS:

No.	Description	Date

PROJECT: 19-2991
DATE: APRIL 22, 2020
DRAWN BY: MBK
CHECKED BY: DW

SECTIONS AND DETAIL

S3.01

BID DOCUMENTS

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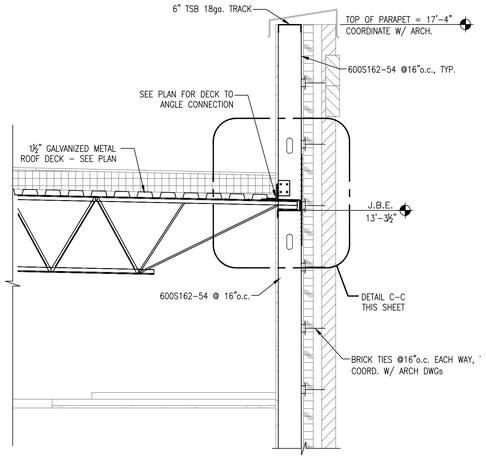
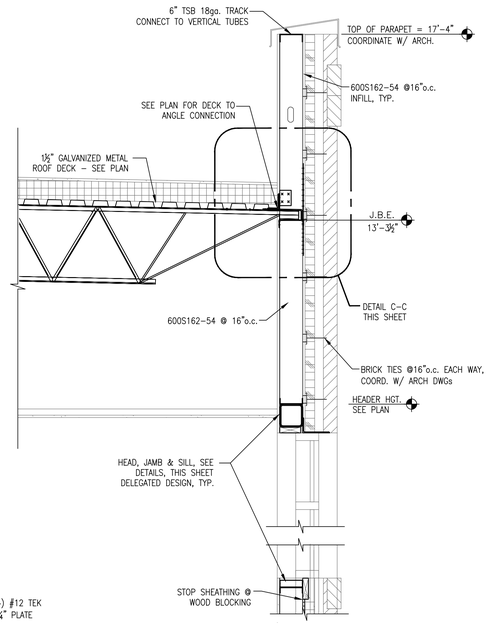


SECTION 1–1
SCALE: 3/4" = 1'-0"



SECTION 2–2
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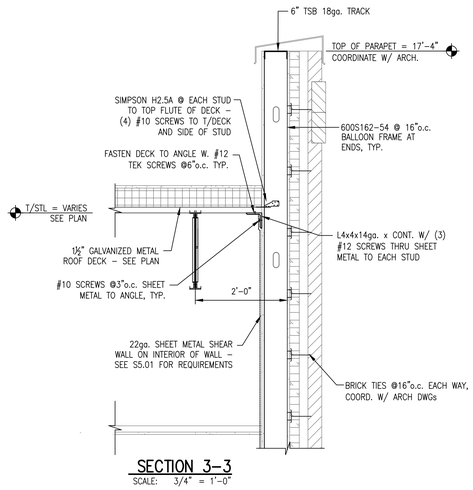

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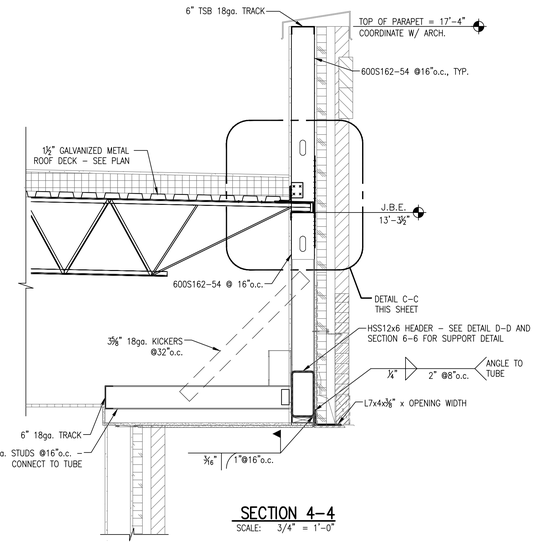
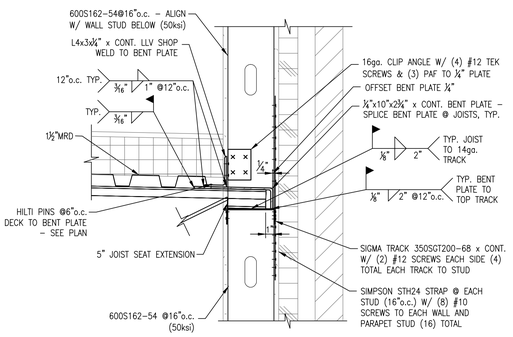
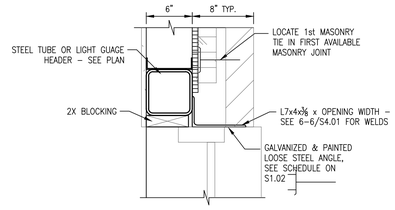


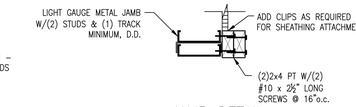
SECTION 4–4
SCALE: 3/4" = 1'-0"



DETAIL C–C
SCALE: 1 1/2" = 1'-0"



HEAD DETAIL



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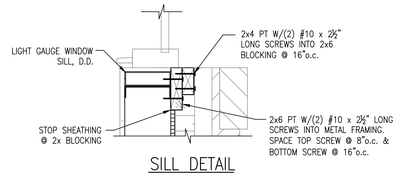

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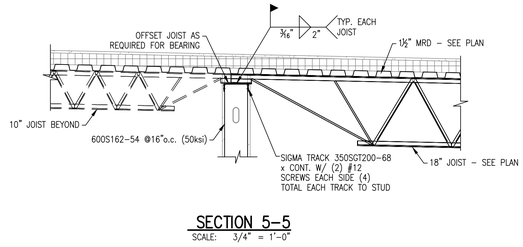
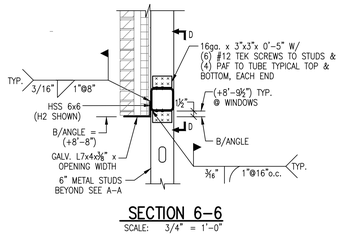


SECTION 5–5
SCALE: 3/4" = 1'-0"



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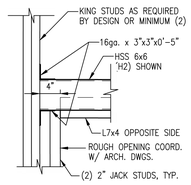
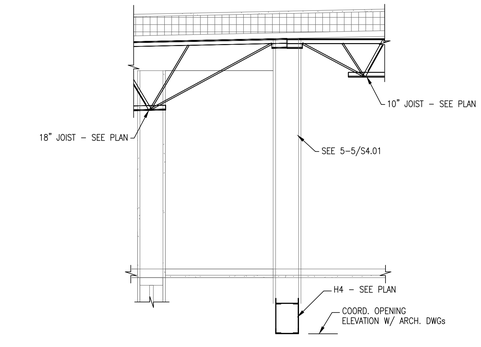


DETAIL D–D
SCALE: 1" = 1'-0"



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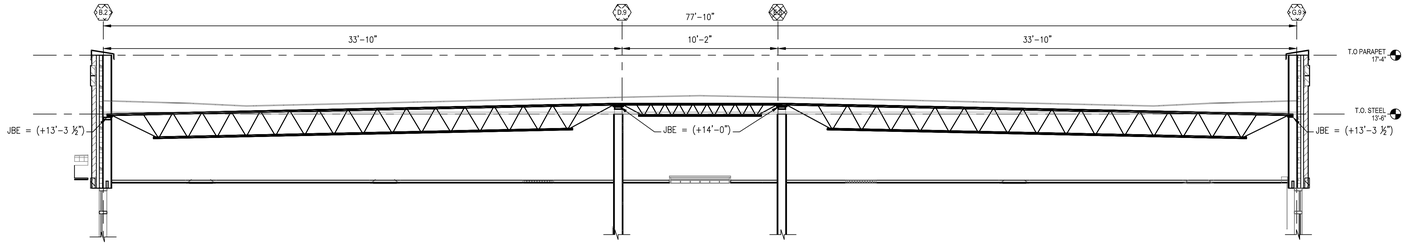

SECTION 8–8
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NORTH CAROLINA ENGINEERING CORPORATE SEAL No. C-1806

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19475 DON R. WOODS

Digitally signed by Don R. Woods, PE
DN: E=donrwoods@woodseng.com, C=Doc'Don R. Woods, PE', OU='Woods Engineering, P.A', L=Wilmington, S=North Carolina, C=Us
Date: 2020.04.22 09:37:44-04'00'

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REVISIONS:

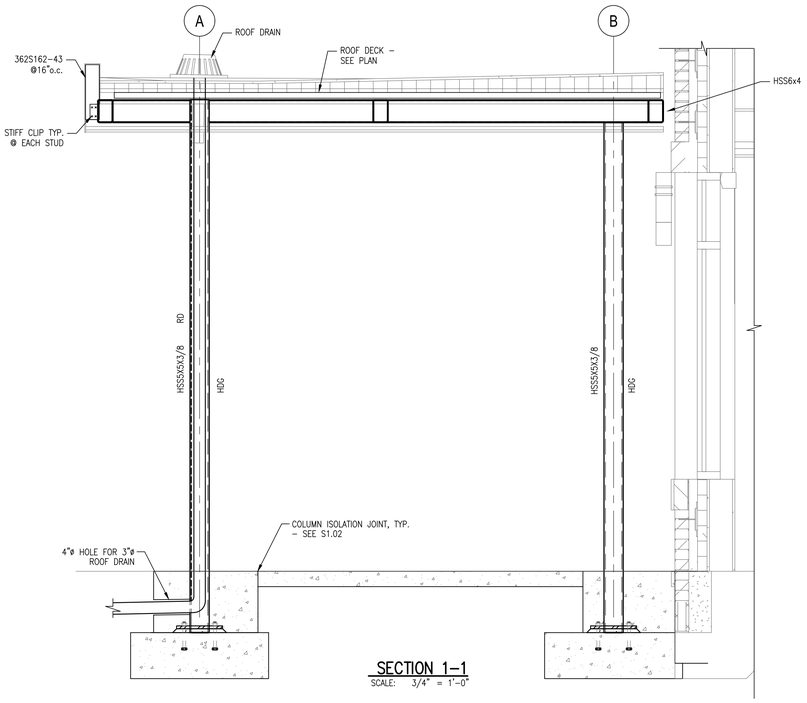
No.	Description	Date

PROJECT: 19-2991
DATE: APRIL 22, 2020
DRAWN BY: MBK
CHECKED BY: DW

FRAMING SECTIONS AND DETAILS

S4.01

BID DOCUMENTS



SECTION 1-1
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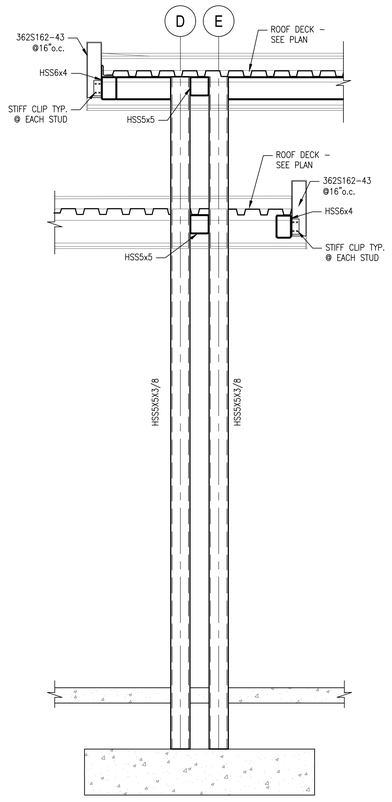

SECTION 2-2
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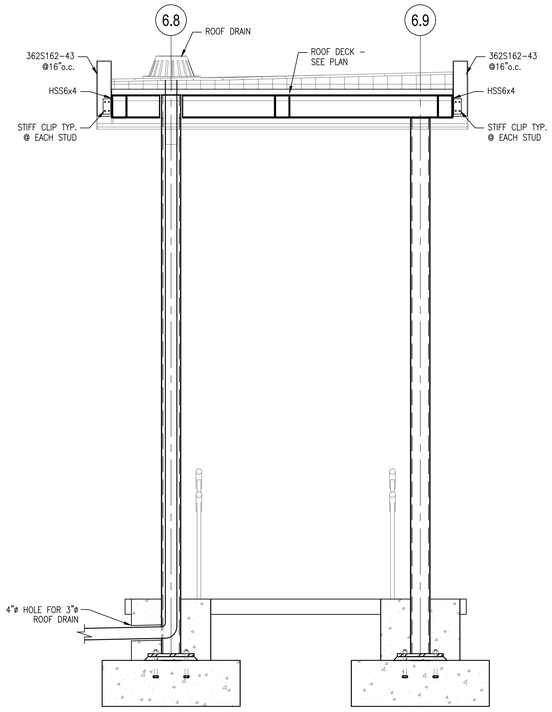
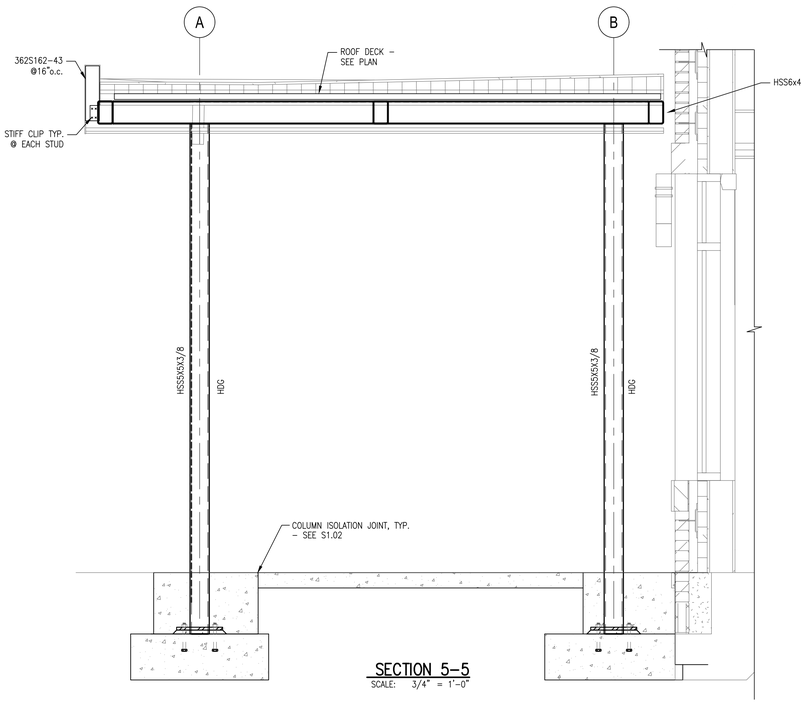


SECTION 3-3
SCALE: 3/4" = 1'-0"

SECTION 4-4
SCALE: 3/4" = 1'-0"



SECTION 5-5
SCALE: 3/4" = 1'-0"

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WOODS ENGINEERING CORPORATE SEAL No. C-1806 NORTH CAROLINA

NORTH CAROLINA PROFESSIONAL SEAL 19475 ENGINEER DON R. WOODS

Digitally signed by Don R. Woods, PE
DN: E=donwoods@woodseng.com, C=NC, CN=Don R. Woods, PE", O="Woods Engineering, PA", L=Wilmington, S=North Carolina, C=US
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REVISIONS:

No.	Description	Date

PROJECT: 19-2991
DATE: APRIL 22, 2020
DRAWN BY: MBK
CHECKED BY: DW

FRAMING SECTIONS AND DETAILS

S4.02

BID DOCUMENTS

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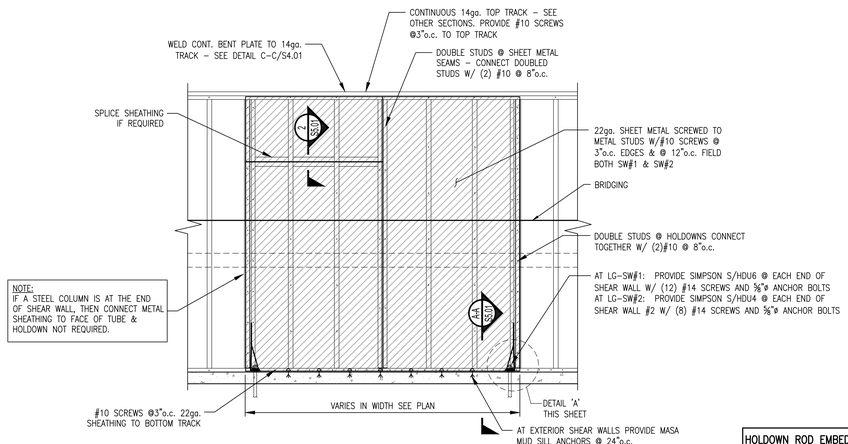
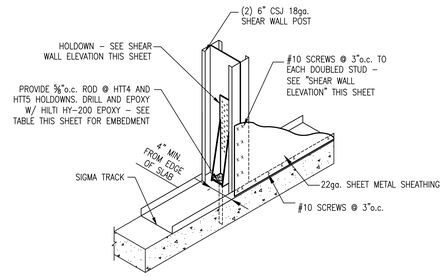


TYPICAL SHEAR WALL ELEVATION

SW#1 OR SW#2

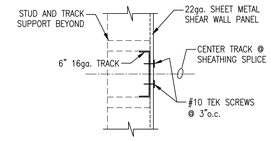
HOLDOWN ROD EMBEDMENT DEPTH TABLE	
	⅝"ø ROD
LOCATION	EMBEDMENT DEPTH
EXTERIOR WALL CORNER	12½"
EXTERIOR WALL	11½"
INTERIOR WALL	7"

– EMBEDMENT DEPTHS BASED ON HILTI HY–200 EPOXY
– CLOSELY FOLLOW MANUFACTURER REQUIREMENTS FOR INSTALLATION PROCEDURE



DETAIL A–A

SCALE: 3/4" = 1'–0"



SECTION 2–2

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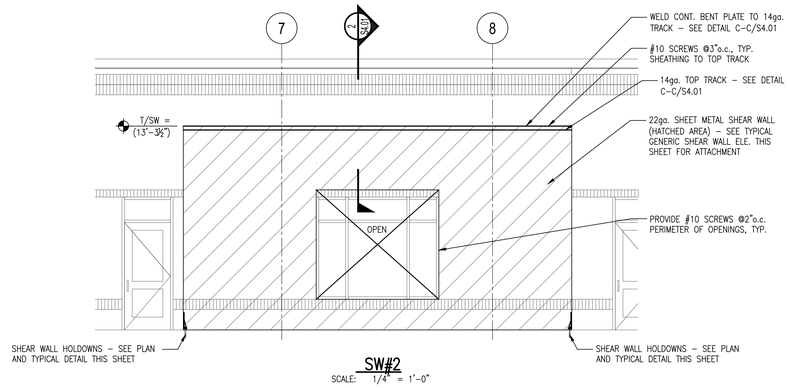

SW#2

SCALE: 1/4" = 1'–0"

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SEAL 19475 Engineer DON R. WOODS

Digitally signed by Don R. Woods, PE
DN: E=dwoods@woodseng.com, CN="Don R. Woods, PE", O="Woods Engineering, P.A.", L=Wilmington, S=North Carolina, C=US
Date: 2020.04.22 09:38:02-04'00'

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No.	Description	Date

PROJECT: 19-2991
DATE: APRIL 22, 2020
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CHECKED BY: DW

SHEAR WALL ELEVATIONS & DETAILS

S5.01

BID DOCUMENTS

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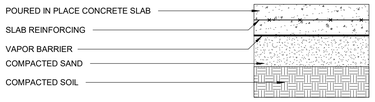
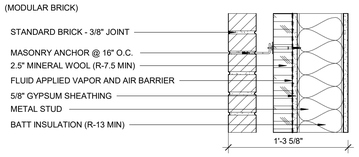
CONSTRUCTION SUBSYSTEMS

SYMBOL	DESCRIPTION	FIRE AND SOUND RATING REFERENCE
	FLOOR SYSTEMS	
S1	TYPICAL SLAB ON GRADE CONSTRUCTION	



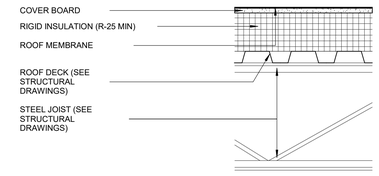
CONSTRUCTION SUBSYSTEMS

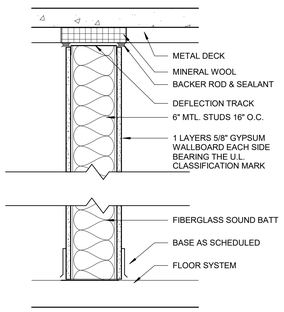
SYMBOL	DESCRIPTION	FIRE AND SOUND RATING REFERENCE
	EXTERIOR WALL SYSTEMS	
W1	FACE BRICK / STEEL STUD CAVITY WALL CONSTRUCTION (MODULAR BRICK)	



CONSTRUCTION SUBSYSTEMS

SYMBOL	DESCRIPTION	FIRE AND SOUND RATING REFERENCE
R1	TYPICAL ROOF CONSTRUCTION [NONCOMBUSTIBLE]	





A6SX	FIRE RATING	UL TEST NO.	STC RATING - 56
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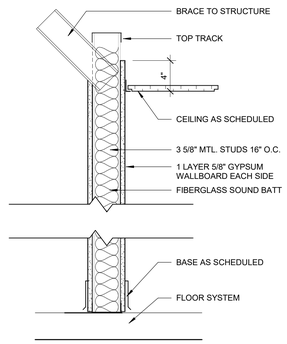

A3S0	FIRE RATING	UL TEST NO.	STC RATING - 47
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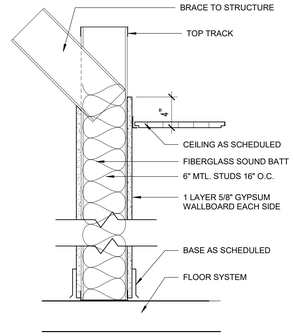

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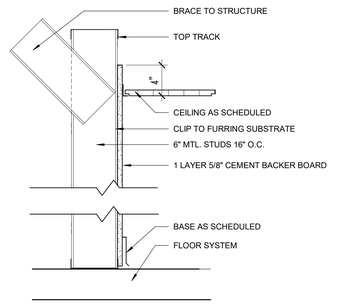

F6NT	FIRE RATING	UL TEST NO.	STC RATING - N/A
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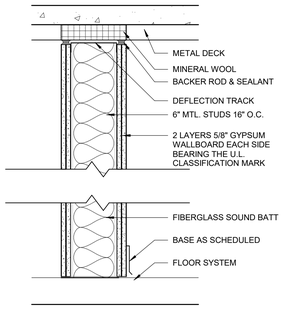
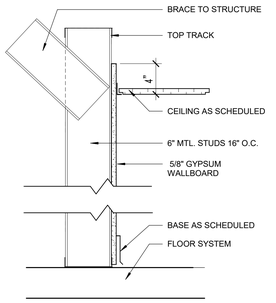
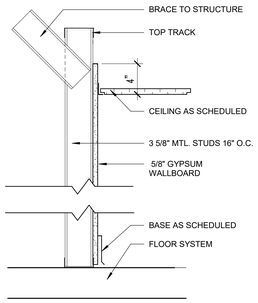


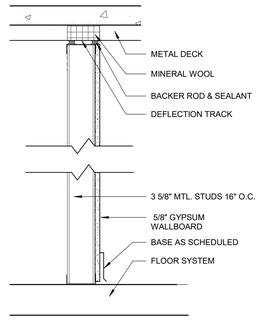
A6S2	FIRE RATING	UL TEST NO.	STC RATING - 56
	2 HOUR	U411	NGC 3022



F6N0	FIRE RATING	UL TEST NO.	STC RATING - N/A
	N/A	N/A	N/A



F3N0	FIRE RATING	UL TEST NO.	STC RATING - N/A
	N/A	N/A	N/A



F3NX	FIRE RATING	UL TEST NO.	STC RATING - N/A
	N/A	N/A	N/A

GENERAL NOTES

A. THE CONSTRUCTION SUBSYSTEMS AND PARTITION TYPES SHOWN, INDICATE THE GENERAL CONSTRUCTION FEATURES OF THE MAJORITY OF THE CONSTRUCTION SYSTEMS TO BE PROVIDED. THEY ARE NOT INTENDED TO REPRESENT A COMPLETE LISTING OF SYSTEMS REQUIRED AND DO NOT NECESSARILY INDICATE ALL OF THE CONSTRUCTION REQUIREMENTS TO BE PROVIDED BY THE CONTRACT DOCUMENTS.

B. SEE REFLECTED CEILING PLANS FOR ADDITIONAL REQUIREMENTS FOR PARTITION TYPES.

C. REFERENCE FOR FIRE RESISTANCE & SOUND RATINGS:
- CCMA: CAROLINAS CONCRETE MASONRY ASSOCIATION, CONCRETE MASONRY HANDBOOK, SOUND CONTROL
- GA: GYPSUM ASSOCIATION, FIRE RESISTANCE DESIGN MANUAL, ELEVENTH EDITION
- NCMA: NATIONAL CONCRETE MASONRY ASSOCIATION, TEK NOTES
- SA: SHINER AND ASSOCIATES
- SBCC: STANDARD BUILDING CODE CONGRESS, LATEST EDITION
- UL: UNDERWRITERS LABORATORY, INC., FIRE RESISTANCE DIRECTORY

D. WHERE FURRED/SINGLE FACED SYSTEMS OCCUR ON CONCRETE MASONRY UNIT WALL OR PARTITION SURFACE, PROVIDE GYPSUM BOARD TO 4" ABOVE CEILING, OR IF NO CEILING OCCURS, PROVIDE GYPSUM BOARD TO UNDERSIDE OF DECK.

NOTES

1. CONCRETE MASONRY UNIT WALLS AND PARTITIONS: PROVIDE HORIZONTAL JOINT REINFORCEMENT, VERTICAL REINFORCEMENT, BOND BEAMS, GROUTING, AND ADDITIONAL REQUIREMENTS AS INDICATED BY STRUCTURAL DRAWINGS AND SPECIFICATIONS.
2. COLOR, TEXTURE AND FACE PATTERN MAY VARY. SEE MISCELLANEOUS AND EXTERIOR COLOR SCHEDULE (SPEC SECT 9000), SPECIFICATIONS AND DRAWINGS FOR CLARIFICATION.
3. KEEP CAVITY CLEAR OF ALL MORTAR.
4. SEE FINISH SCHEDULE FOR LOCATION OF APPLIED FINISHES (SUCH AS CERAMIC TILE, WALL COVERING, ETC) THAT MAY AFFECT THE PARTITION SURFACE AND CONSTRUCTION REQUIREMENTS.
5. WHERE CERAMIC TILE AND CEMENTITIOUS BACKER UNIT ARE NOT SCHEDULED TO BE FULL HEIGHT OF PARTITION, PROVIDE GYPSUM BOARD (TYPE X @ RATED PARTITIONS) @ THOSE PORTIONS OF THE PARTITION NOT SCHEDULED TO RECEIVE CERAMIC TILE. CEMENTITIOUS BACKER UNIT TO BE SAME THICKNESS AS GYPSUM BOARD.
6. PROVIDE FIRE RATED CMU (OR EQUIVALENT) WHERE PARTITION INDICATED TO BE FIRE RATED ON REFLECTED CEILING PLANS. RATED PARTITION TO MEET CONSTRUCTION REQUIREMENTS OF FIRE RATING REFERENCE LISTED.
7. PROVIDE MANUFACTURER'S PROPRIETARY TYPE 'X' GYPSUM BOARD (MEETING THE DESIGNATED FIRE REFERENCE LISTED) WHERE PARTITION IS INDICATED TO BE FIRE RATED ON REFLECTED CEILING PLANS. RATED PARTITION TO MEET CONSTRUCTION REQUIREMENTS OF FIRE RATING REFERENCE LISTED.
8. PROVIDE ACOUSTICAL SEALANT (09250.K) AT PERIMETER OF ALL SOUND RATED PARTITIONS AND AT ALL PARTITION PENETRATIONS. IF PARTITION IS FIRE RATED, PROVIDE UL LABELED FIRESTOPPING IN PLACE OF ACOUSTICAL SEALANT. AT PARTITIONS THAT ARE SOUND AND FIRE RATED, PROVIDE ACOUSTICAL SEALANT AT PARTITION PENETRATIONS THAT DO NOT REQUIRE FIRESTOPPING (EXAMPLE: DUCT PENETRATIONS WITH FIRE DAMPERS).

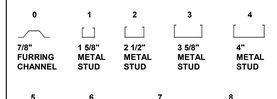
A3N0L

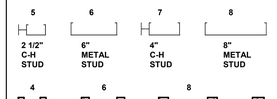
- PARTITION CATEGORY
- PARTITION SIZE
- PARTITION INSULATION
- PARTITION RATING

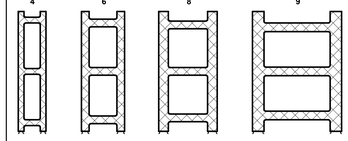
PARTITION CATEGORY

- A - METAL STUD
- C - CHASE
- F - FURRING
- G - GLASS BLOCK
- M - MASONRY
- C - CHASE
- S - SHAFT
- W - WOOD
- T-TILE

PARTITION SIZE







PARTITION INSULATION

- S - SOUND ATTENUATION
- N - NON-INSULATED

PARTITION RATING

- 0 - NON-RATED TO 4" ABOVE CEILING
- 1 - 1 HOUR FIRE PARTITION
- 2 - 2 HOUR FIRE PARTITION
- 3 - 3 HOUR FIRE PARTITION
- 4 - 4 HOUR FIRE PARTITION
- S - SMOKE PARTITION
- T - TILE SUBSTRATE PARTITION
- X - NON-RATED TO DECK, SEALED TOP & BOTTOM
- Y - STRUCTURE TO DECK, FIN MAT'L TO 4" ABOVE CLG

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LS3P ASSOCIATES LTD. REGISTERED ARCHITECTURAL COMPANY CERT. NO. 00417 NORTH CAROLINA RALEIGH, NORTH CAROLINA

MARY H. BREHER REGISTERED ARCHITECT 13105 April 22, 2020 NORTH CAROLINA Raleigh, N.C.

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REVISIONS:

No.	Description	Date

PROJECT: 8201-191240
DATE: 04.22.2020
DRAWN BY: AL
CHECKED BY: MB

CONSTRUCTION SUBSYSTEMS & PARTITION TYPES

A-002

BID DOCUMENTS

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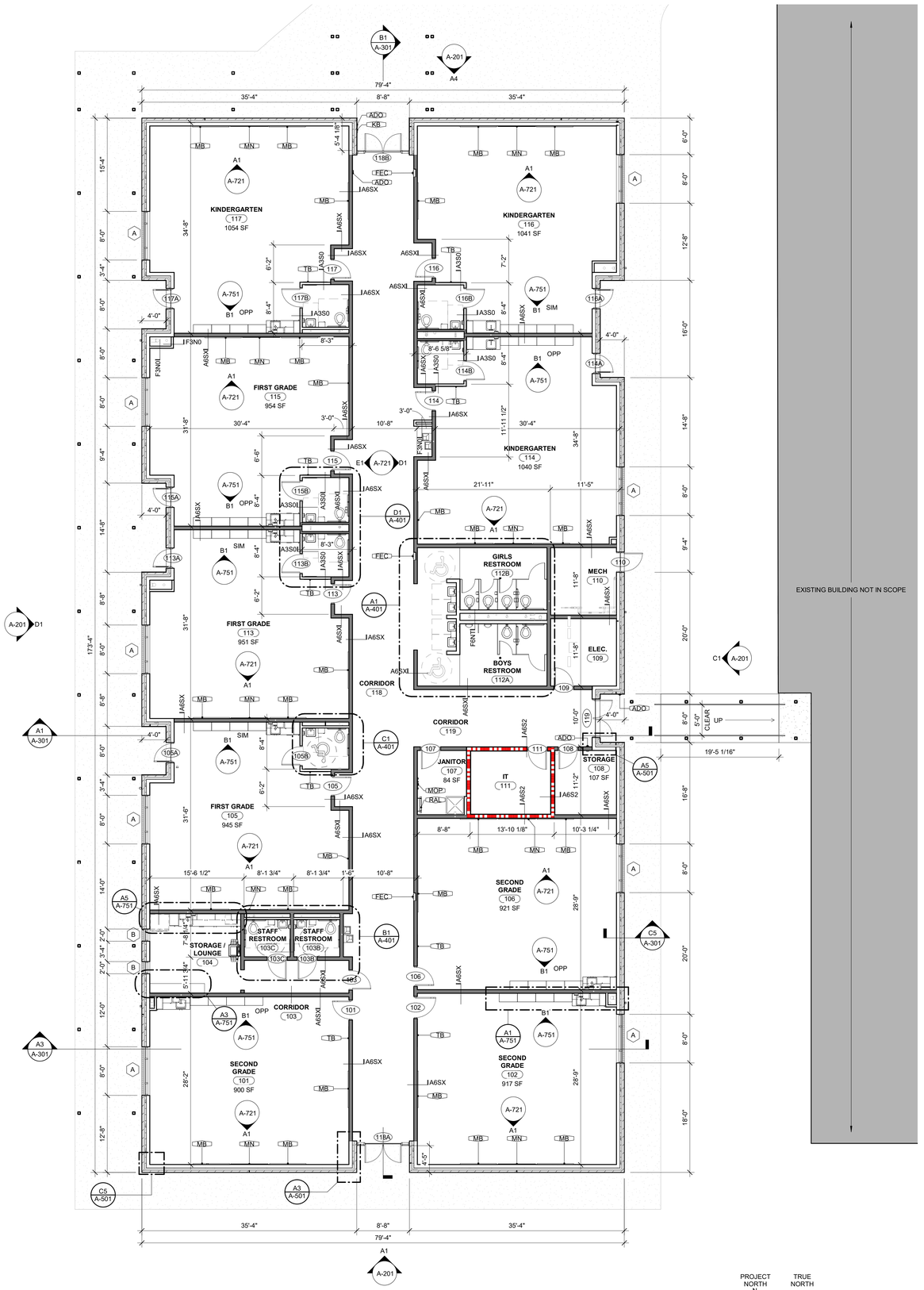
4/22/2020 12:33:32 PM



A1 FIRST FLOOR PLAN
1/8" = 1'-0"

PROJECT NORTH

TRUE NORTH

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FLOOR PLAN SHEET NOTES

1. EXTERIOR DIMENSIONS AT MASONRY VENEER ARE TO FACE OF MASONRY.
2. EXTERIOR DIMENSIONS AT STUCCO VENEER ARE TO FACE OF METAL STUD.
3. EXTERIOR DIMENSION AT PRECAST ARE TO FACE OF PRECAST.
4. INTERIOR DIMENSIONS INDICATED ARE TO (FACE OF FINISH, FACE OF STUD, PARTITION CENTERLINE) AND CENTERLINES OF COLUMNS, UNO.
5. LOCATE DOOR OPENINGS 6" FROM NEAREST PERPENDICULAR WALL.
6. FIRE AND SOUND RATED WALLS/PARTITIONS TO BE CONSTRUCTED TIGHT TO STRUCTURE, PIPING, DUCTWORK AND OTHER PENETRATIONS. ALL WORK IS TO BE BRACED TO STRUCTURE ABOVE.
7. WHERE PARTITIONS OF DIFFERENT FIRE RATINGS INTERSECT, THE HIGHEST RATED PARTITION SHALL CONTINUE THROUGH. MAINTAIN PARTITION FIRE RATING BEHIND RECESSED FIRE EXTINGUISHER CABINETS.
8. INSTALL BLOCKING IN PARTITIONS FOR CASEWORK, WALL MOUNTED EQUIPMENT, TRIM AND RELATED CONSTRUCTION AS INDICATED IN THE SPECIFICATIONS.
9. SEE LIFE SAFETY PLANS FOR REQUIRED FIRE SEPARATION WALLS.
10. SEE SHEET A-601 FOR DOOR WINDOW & GLAZING TYPES
11. SEE SHEET A-002 FOR CONSTRUCTION SUBSYSTEMS (OR PARTITION SCHEDULE).
12. SEE SHEET A-741 FOR CASEWORK SCHEDULES, DESIGNATIONS & DETAILS.
13. SEE SHEET A-401 FOR INTERIOR ELEVATIONS, ACCESSORY DESCRIPTIONS & MOUNTING HEIGHTS.
14. SEE SHEETS A-531 & A-721 FOR FINISH FLOORING, TRANSITIONS, PATTERNS AND WALL PROTECTION.
15. SEE SHEET A-721 FOR FINISH SCHEDULE.
16. SEE SHEETS A-401 FOR ENLARGED PLANS INDICATING ADDITIONAL DIMENSIONS AND PARTITION TYPES.
17. SEE SHEET A-801 FOR SIGN SCHEDULE & ELEVATIONS AND DETAILS.
18. SEE STRUCTURAL DRAWINGS FOR SLAB DEPRESSIONS AND CUTOUTS.
19. SEE BUILDING ELEVATION DRAWINGS FOR LOCATION OF EXTERIOR MASONRY CONTROL JOINTS.

PARTITION NOTES

1. ALL NON-DESIGNATED PARTITIONS SHALL BE TYPE
2. ALL PIPE AND CONDUIT PENETRATIONS THRU 2 HR RATED OR MORE PARTITIONS, FLOORS, ROOF, ETC. SHALL BE SEALED WITH A RESPECTIVELY RATED FIRE BARRIER PENETRATION SEALING SYSTEM BY 3M OR U.L. APPROVED EQUAL
3. TILE BACKER BOARD SHALL BE USED IN ALL LOCATIONS TO RECEIVE TILE FINISHES. REFER TO FINISH SCHEDULE AND INTERIOR ELEVATIONS FOR LOCATIONS..
4. CONTRACTOR SHALL COORDINATE WITH MECHANICAL DUCTWORK PRIOR TO FABRICATION OF PARTITION WALLS.
5. SHOULD CONDITIONS OCCUR WHERE A WALL IS UNABLE TO GO STRAIGHT UP TO STRUCTURE DUE TO PIPING, DUCTWORK, ETC., THE PARTITION (GYPSUM BOARD AND FRAMING) MAY JOG HORIZONTALLY ABOVE THE CEILING TO AVOID THE PROBLEM. RATED WALL INTEGRITY SHALL BE MAINTAINED.
6. WHERE STUDS EXTEND TO STRUCTURE AND GYPSUM WALLBOARD AND SOUND ATTENUATION BLANKETS EXTEND JUST ABOVE THE FINISH CEILING, CAP OFF PARTITION FINISHES WITH A RUNNER CHANNEL WHEN CEILING PLENUM IS USED AS A RETURN AIR PLENUM.
7. DIMENSIONAL CONFLICTS BETWEEN PARTITION TYPES AND THE ARCHITECTURAL FLOOR PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT.
8. SEE LIFE SAFETY PLANS FOR THE LOCATIONS OF SMOKE BARRIERS, SMOKE PARTITIONS AND FIRE-RATED PARTITIONS.
9. REFER TO UNDERWRITERS LABORATORIES, INC. FIRE RESISTANCE VOLUMES - CURRENT EDITION FOR SPECIFIC CONSTRUCTION REQUIREMENTS OF U.L. LISTED ASSEMBLIES.
10. REFER TO MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR TYPICAL U.L. LISTED PENETRATIONS THROUGH FIRE-RATED ASSEMBLIES. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING APPROPRIATE PROJECT-SPECIFIC U.L. LISTED ASSEMBLIES FOR PENETRATIONS.
11. REFER TO FIRE DAMPER MANUFACTURER DETAILS. (COORDINATE ALL PARTITION CONSTRUCTION WITH MECHANICAL PRIME CONTRACTOR PRIOR TO COMMENCING PARTITION CONSTRUCTION).
12. ALL PIPE AND CONDUIT PENETRATIONS THRU 2 HR RATED OR MORE PARTITIONS, FLOORS, ROOF, ETC. SHALL BE SEALED WITH A RESPECTIVELY RATED FIRE BARRIER PENETRATION SEALING SYSTEM BY 3M OR U.L. APPROVED EQUAL.
13. AT ALL EXISTING AND CONSTRUCTED PARTITIONS THE CONTRACTOR IS TO MAINTAIN THE FIRE-RESISTIVE INTEGRITY

PARTITION LEGEND

1. ALL EXTERIOR WALLS TO BE U.N.O.
2. ALL INTERIOR MASONRY PARTITIONS TO BE U.N.O.
3. ALL INTERIOR METAL STUD PARTITIONS TO BE TYPE U.N.O.

- NON-RATED PARTITION TO CEILING
- NON-RATED PARTITION TO DECK
- 1 HR. RATED PARTITION TO DECK
- 2 HR. RATED PARTITION TO DECK
- 4 HR. RATED PARTITION TO DECK

NOTE: SEE SHEET A002 FOR CONSTRUCTION OF PARTITION TYPES.

FLOOR PLAN KEYNOTE LEGEND

	DESCRIPTION	PROVIDED BY	INSTALLED BY
MB	MARKER BOARD	CONTRACTOR	CONTRACTOR
MN	MONITOR	OWNER	CONTRACTOR
TB	TACKBOARD	CONTRACTOR	CONTRACTOR
MOP	MOP AND BROOM HOLDER	CONTRACTOR	CONTRACTOR
RAL	ROOF ACCESS LADDER	CONTRACTOR	CONTRACTOR
ADO	AUTOMATIC DOOR OPENER	CONTRACTOR	CONTRACTOR
KB	KNOX BOX	CONTRACTOR	CONTRACTOR

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FIRST FLOOR PLAN

A-101

BID DOCUMENTS



A1 FIRST FLOOR REFLECTED CEILING PLAN
1/8" = 1'-0"

PROJECT NORTH N

TRUE NORTH

REFLECTED CEILING PLAN SHEET NOTES

1. SEE SHEET A001 FOR WALL TYPES AND HEIGHT OF WALLS ABOVE CEILING.
2. SEE FINISH SCHEDULE FOR CEILING TYPES & MATERIALS IN EACH ROOM / AREA.
3. SEE SHEET A-XXX FOR SEISMIC CEILING CONSTRUCTION DETAILS.
4. PERIMETER TRACK FOR ALL ACOUSTICAL CEILINGS GRIDS TO BE 2" WIDE INSTALLED IN ACCORDANCE WITH IBC AND CISCA GUIDELINES.
5. DIMENSIONS ARE TO FACE OF STUD OR MASONRY.
6. CEILING GRIDS/TILES TO BE CENTERED IN ALL ROOMS UNLESS NOTED OTHERWISE. PARTIAL TILES AT ROOM PERIMETERS SHALL NOT BE LESS THAN 6" IN EITHER DIMENSION.
7. ALL CEILINGS TO BE 9'-0" AFF, UNO. CEILING HEIGHTS SHOWN ON THE REFLECTED CEILING PLANS ARE NON-TYPICAL AND SPECIFIC TO THE AREA INDICATED. REFER TO INTERIOR ELEVATIONS FOR THE HEIGHTS OF SOFFITS ABOVE CASEWORK.
8. SEE ELECTRICAL, FIRE ALARM AND FIRE PROTECTION DRAWINGS FOR SPECIAL SYSTEMS, SMOKE DETECTORS, LIGHTING AND WALL MOUNTED FIXTURES NOT SHOWN ON THIS SHEET. COORDINATE LOCATIONS OF ALL FIXTURES NOT INDICATED WITH LAYOUT INDICATED ON THIS SHEET.
9. LIGHT FIXTURES AND MECHANICAL DIFFUSERS ARE SHOWN FOR POSITIONING IN FINISH CEILING SYSTEM. COORDINATE WITH MECHANICAL AND ELECTRICAL DRAWINGS FOR FIXTURE TYPES, MECHANICAL DIFFUSERS, WALL MOUNTED FIXTURES AND INSTALLATION OF FIXTURES IN SPACES WITHOUT CEILINGS. (LIGHTING AND HVAC DIFFUSERS ARE SHOWN FOR COORDINATION ONLY - SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR SPECIFIC INFORMATION).
10. SEE MECHANICAL FLOOR PLANS FOR EXTENT OF EXPOSED DUCTWORK IN EXPOSED STRUCTURE AREAS WITHOUT CEILINGS.
11. EXTEND PERIMETER WALLS AND FINISH TO STRUCTURE ABOVE AT EXPOSED STRUCTURE AREAS. PAINT ALL EXPOSED DUCTWORK, PIPING, HANGERS, ETC...
12. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR MOUNTING LOCATIONS OF ITEMS WHERE NO CEILING IS INDICATED.
13. CENTER LIGHTS, DIFFUSERS, EXIT SIGNS SMOKE DETECTORS, SPEAKERS, GENERAL ALARM SPEAKERS/STROBES & MISC DEVICES IN CEILING TILES WHERE THEY ARE LOCATED. ALIGN MULTIPLE ITEM CENTER OR EDGES.
14. LOCATE MECHANICAL GRILLES AND DIFFUSERS SHOWN IN CORNERS OR NEAR WALL TO 12" OFF WALLS, UNO.
15. INSTALL ACCESS PANELS IN GYPSUM BOARD CEILINGS AT DUCT DAMPER CONTROLS, DUCT MOUNTED SMOKE DETECTORS, MANUAL DUCT CONTROLS, ETC.
16. ALL SINGLE LIGHT FIXTURES SHALL BE CENTERED IN THE CEILING WITHIN THEY OCCUR.
17. LIGHTS LOCATED IN STAIRS SHALL OCCUR AT EACH FLOOR AND INTERMEDIATE LANDINGS.
18. LOCATE SPRINKLER HEADS IN THE CENTER ZONE OF THE CEILING TILE. ALIGN CORRIDOR SPRINKLER HEADS IN THE SAME LINE PARALLEL TO THE WALL WITHIN EACH SPECIFIC CEILING CONSTRUCTION.
19. SPRINKLER HEADS, OTHER THAN CONCEALED, SHALL BE FULLY RECESSED (CENTER IN CEILING TILE).
20. ALL GWB CEILINGS TO RECEIVE CONCEALED SPRINKLER HEADS.

RCP LEGEND

- 2x2 LAY-IN VINYL FACED CEILING PANEL
- 2X2 LAY-IN IMPACT RESISTANT CEILING PANEL
- GYPSUM BOARD
- EXPOSED STRUCTURE - PAINTED
- EXHAUST AIR GRILLE
- EXTERIOR GYP. SOFFIT
- INTEGRAL STOREFRONT SUNSHADE
- 1'-0" AFF — HEIGHT (FEET, INCHES) ABOVE FINISHED FLOOR, 9'-0" U.N.O.
- EXIT SIGN
- 1 X 4 FLUORESCENT FIXTURE
- 2 X 4 FLUORESCENT FIXTURE
- 4' INDUSTRIAL FIXTURE
- 2 X 2 FLUORESCENT FIXTURE
- INCANDESCENT FIXTURE
- SUPPLY AIR DIFFUSER
- RETURN AIR DIFFUSER
- EXHAUST DIFFUSER
- SPRINKLER HEAD
- F — HORN/STROBE, SEE ELEC.
- RECESSED CAN LIGHT
- RS — ROLLER SHADE
- PA — PA / INTERCOM SPEAKER, SEE ELEC.

PARTITION LEGEND

1. ALL EXTERIOR WALLS TO BE U.N.O.
2. ALL INTERIOR MASONRY PARTITIONS TO BE U.N.O.
3. ALL INTERIOR METAL STUD PARTITIONS TO BE TYPE U.N.O.

- NON-RATED PARTITION TO CEILING
- NON-RATED PARTITION TO DECK
- 1 HR. RATED PARTITION TO DECK
- 2 HR. RATED PARTITION TO DECK
- 4 HR. RATED PARTITION TO DECK

NOTE: SEE SHEET A002 FOR CONSTRUCTION OF PARTITION TYPES.

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REFLECTED CEILING PLAN

A-121

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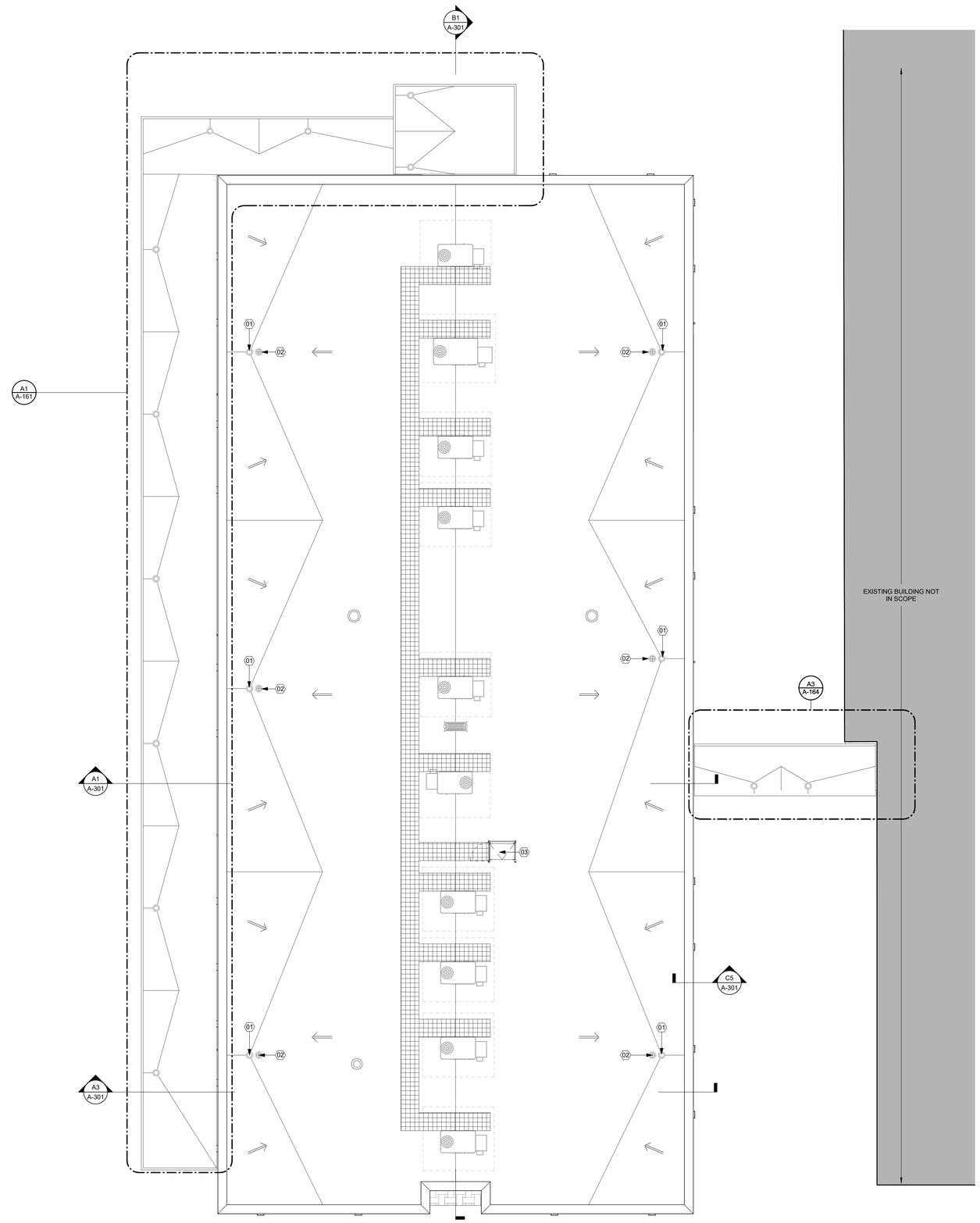

A1 ROOF PLAN
1/8" = 1'-0"

PROJECT NORTH
TRUE NORTH

ROOF PLAN SHEET NOTES

1. ROOF SURFACE SHOWN IS PVC MEMBRANE, UNO.
2. LOCATIONS AND SIZES OF MECHANICAL EQUIPMENT ARE APPROXIMATE. SEE STRUCTURAL AND MECHANICAL DRAWINGS FOR ACTUAL LOCATIONS.
3. SEE PLUMBING DRAWINGS FOR VENTS THROUGH ROOF LOCATIONS.
4. SEE SHEET A-152 FOR TYPICAL ROOF DETAILS AND NOTES.
5. SEE STRUCTURAL DRAWINGS FOR FASTENING REQUIREMENTS.
6. SLOPE ALL LOW SLOPED ROOFS TO ROOF DRAINS WITH MINIMUM SLOPE OF 1/4" PER FOOT, U.N.O. INSTALL ROOF DRAIN IN SQUARE RECESSED SUMP 18" SQUARE.
7. PROVIDE CRICKETS AT ALL CURBS AND EQUIPMENT RAILS SET PERPENDICULAR TO ROOF SLOPE WHICH ARE GREATER THAN 24" WIDE.
8. SLOPE ALL COPINGS BACK TO ROOF U.N.O.
9. COPING CORNERS TO BE PREFABRICATED PIECES WITH EQUAL RETURNS A MINIMUM OF 18" IN LENGTH. TOP HORIZONTAL JOINTS TO BE STANDING SEAM, VERTICAL JOINTS TO BE FLAT JOINTS.
10. WOOD BLOCKING SHOWN IN ROOF DETAILING SHALL BE PRESERVATIVE TREATED. USE SUITABLE FASTENERS WITH THE PRESERVATIVE TREATED WOOD.
11. EXTEND ALL PENETRATIONS, CURBS, AND COMPONENTS A MINIMUM OF 8" ABOVE THE ROOF SURFACE. PROVIDE 12" CLEAR DISTANCE BETWEEN PENETRATIONS AND TO ANY VERTICAL SURFACE.
12. IF NOT DETAILED, APPLY MOST STRINGENT CONDITION OF NRCA AND SMACNA (CURRENT EDITIONS) STANDARDS FOR ROOF DETAIL CONDITIONS.
13. PROVIDE ACCESS PATH TO CONTROLLER SIDE OF MECHANICAL UNITS.

ROOF PLAN NUMBERED NOTES

01 ROOF DRAIN
02 OVERFLOW ROOF DRAIN
03 ROOF HATCH W/GUARDRAIL AND GATE

ROOF PLAN LEGEND

- SLOPE WITH INSULATION
- ROOF DRAIN
- OVERFLOW ROOF DRAIN
- WALK-OFF PAD (SHOWN FOR APPROXIMATE LOCATION ONLY. WALK OFF MATS SHOULD BE PLACED ON THE CONTROL SIDE OF MECHANICAL ROOFTOP UNITS. VERIFY WITH MANUFACTURER)
- PRE-ENGINEERED METAL CANOPY

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ROOF PLAN

A-151

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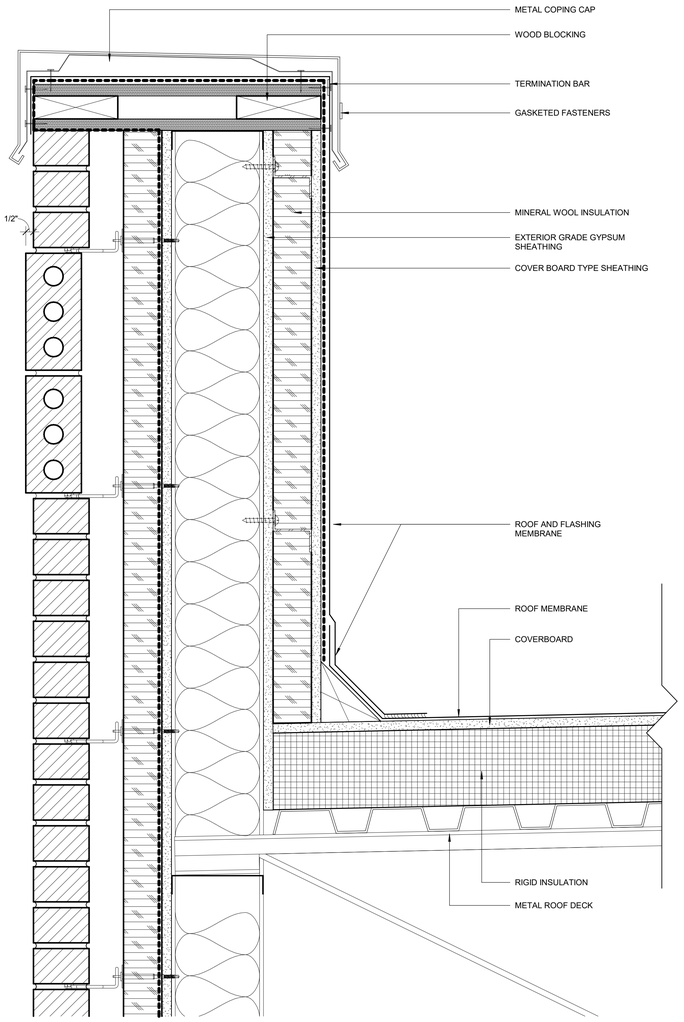
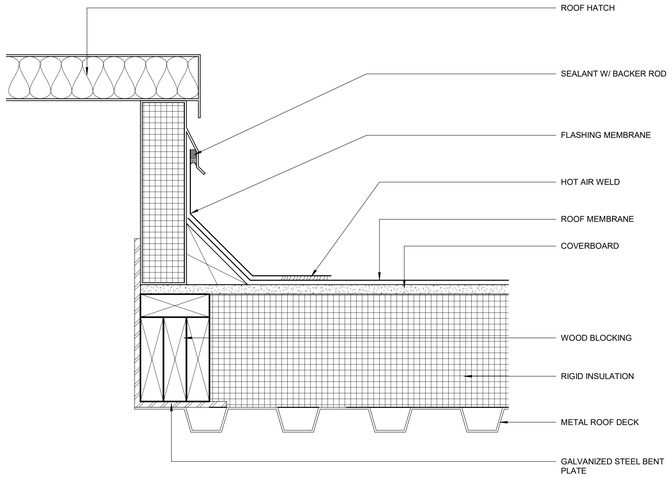
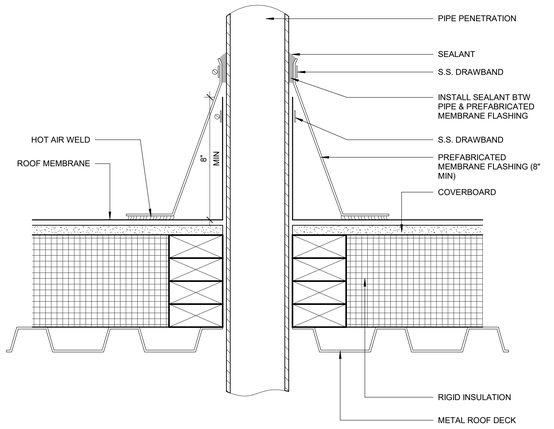


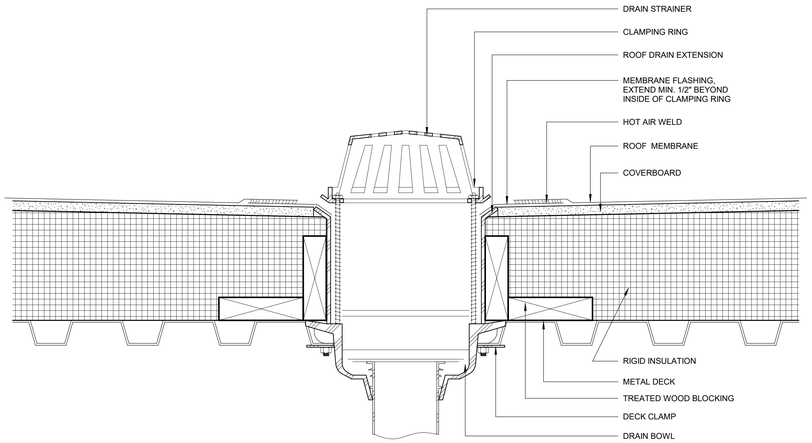
A1 TYPICAL PARAPET DETAIL
3" = 1'-0"



D3 ROOF HATCH DETAIL
3" = 1'-0"



C3 TYPICAL PIPE PENETRATION DETAIL
3" = 1'-0"



A3 TYPICAL ROOF DRAIN DETAIL
3" = 1'-0"

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ROOF DETAILS

A-152

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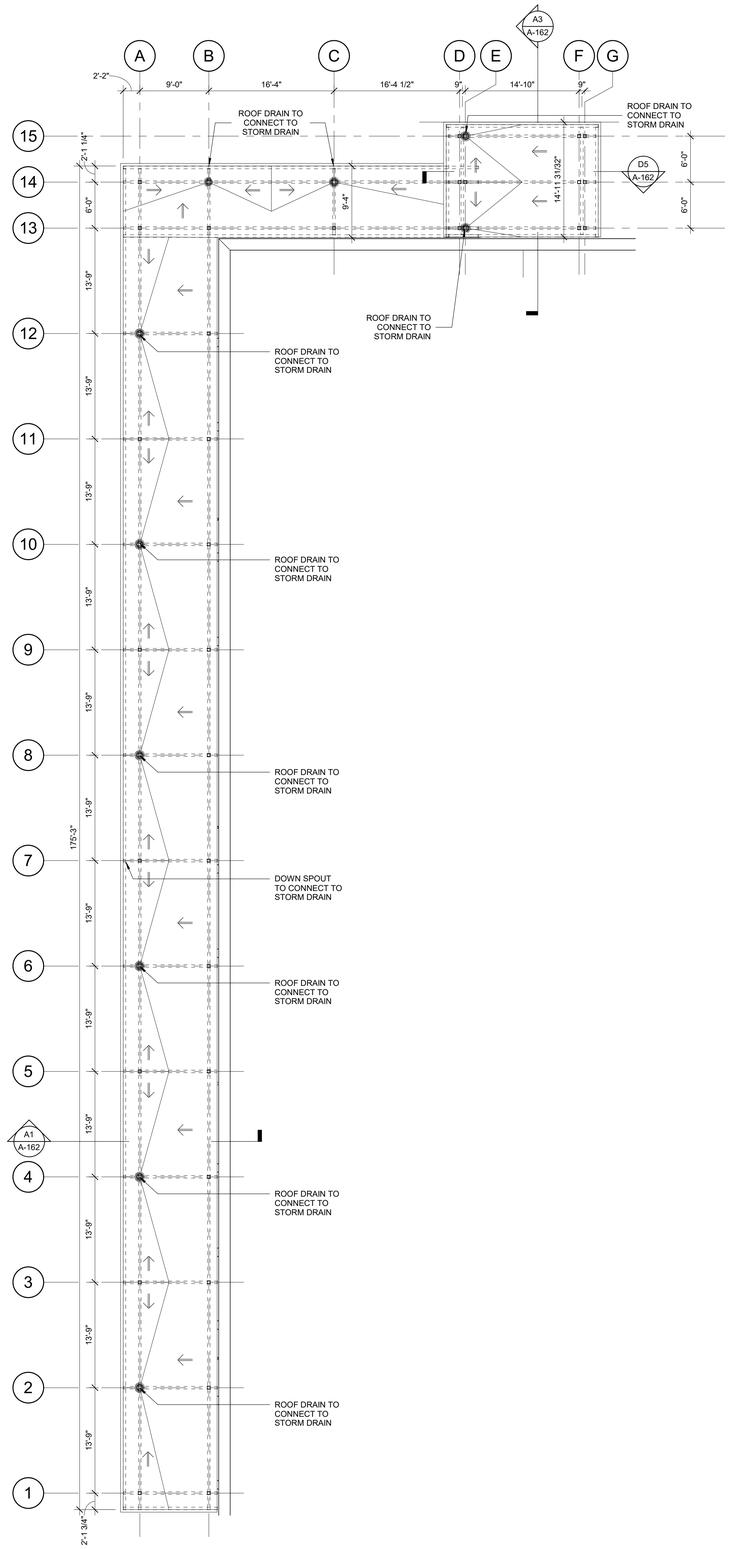
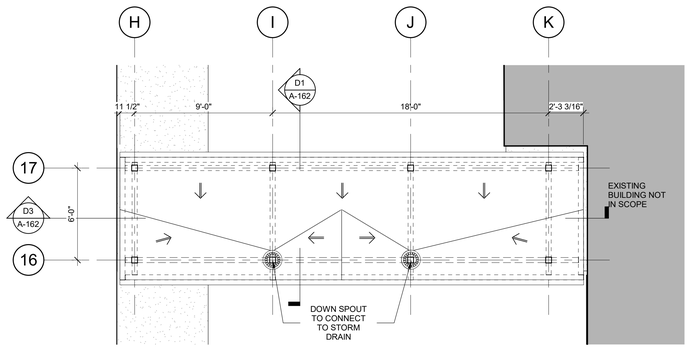


A1 CANOPY PLAN - BASE BID
1/8" = 1'-0"



A3 EAST ENTRY CANOPY PLAN - BASE BID
1/4" = 1'-0"

ROOF PLAN SHEET NOTES

1. ROOF SURFACE SHOWN IS PVC MEMBRANE, UNO.
2. LOCATIONS AND SIZES OF MECHANICAL EQUIPMENT ARE APPROXIMATE. SEE STRUCTURAL AND MECHANICAL DRAWINGS FOR ACTUAL LOCATIONS.
3. SEE PLUMBING DRAWINGS FOR VENTS THROUGH ROOF LOCATIONS.
4. SEE SHEET A-152 FOR TYPICAL ROOF DETAILS AND NOTES.
5. SEE STRUCTURAL DRAWINGS FOR FASTENING REQUIREMENTS.
6. SLOPE ALL LOW SLOPED ROOFS TO ROOF DRAINS WITH MINIMUM SLOPE OF 1/4" PER FOOT, U.N.O. INSTALL ROOF DRAIN IN SQUARE RECESSED SUMP 18" SQUARE.
7. PROVIDE CRICKETS AT ALL CURBS AND EQUIPMENT RAILS SET PERPENDICULAR TO ROOF SLOPE WHICH ARE GREATER THAN 24" WIDE.
8. SLOPE ALL COPINGS BACK TO ROOF U.N.O.
9. COPING CORNERS TO BE PREFABRICATED PIECES WITH EQUAL RETURNS A MINIMUM OF 18" IN LENGTH. TOP HORIZONTAL JOINTS TO BE STANDING SEAM, VERTICAL JOINTS TO BE FLAT JOINTS.
10. WOOD BLOCKING SHOWN IN ROOF DETAILING SHALL BE PRESERVATIVE TREATED. USE SUITABLE FASTENERS WITH THE PRESERVATIVE TREATED WOOD.
11. EXTEND ALL PENETRATIONS, CURBS, AND COMPONENTS A MINIMUM OF 8" ABOVE THE ROOF SURFACE. PROVIDE 12" CLEAR DISTANCE BETWEEN PENETRATIONS AND TO ANY VERTICAL SURFACE.
12. IF NOT DETAILED, APPLY MOST STRINGENT CONDITION OF NRCA AND SMACNA (CURRENT EDITIONS) STANDARDS FOR ROOF DETAIL CONDITIONS.
13. PROVIDE ACCESS PATH TO CONTROLLER SIDE OF MECHANICAL UNITS.

ROOF PLAN LEGEND

- SLOPE WITH INSULATION
- ROOF DRAIN
- OVERFLOW ROOF DRAIN
- WALK-OFF PAD (SHOWN FOR APPROXIMATE LOCATION ONLY. WALK OFF MATS SHOULD BE PLACED ON THE CONTROL SIDE OF MECHANICAL ROOFTOP UNITS. VERIFY WITH MANUFACTURER)
- PRE-ENGINEERED METAL CANOPY

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CANOPY PLANS

A-161

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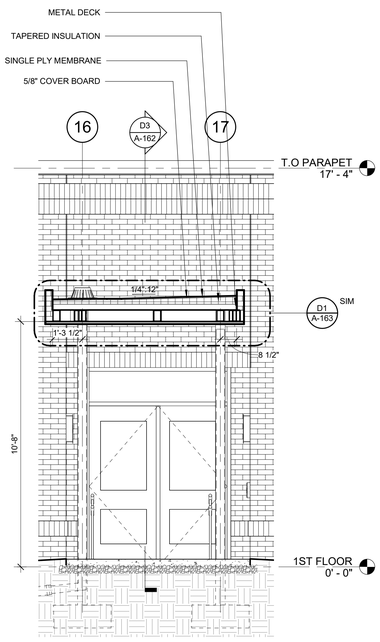
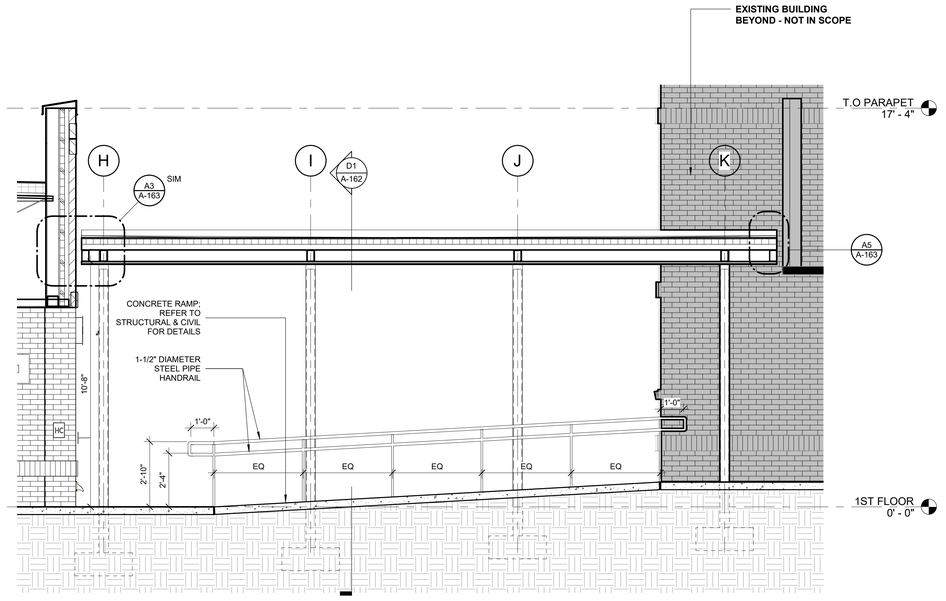
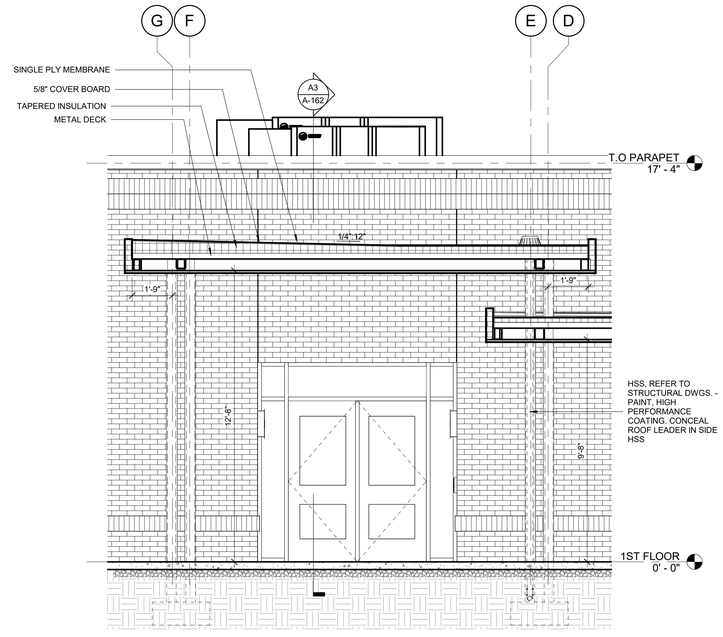


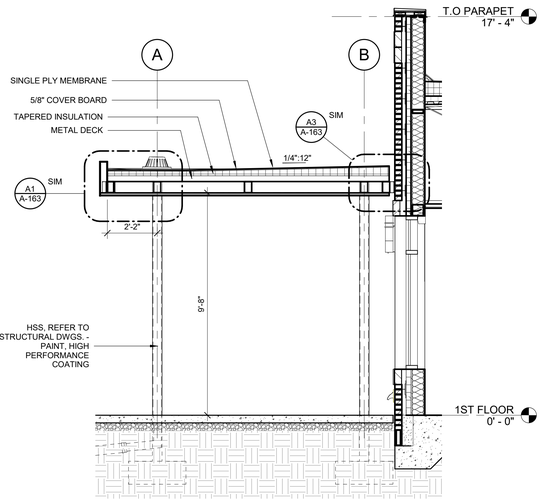
D1 EAST ENTRY CANOPY SECTION - 01
3/8" = 1'-0"



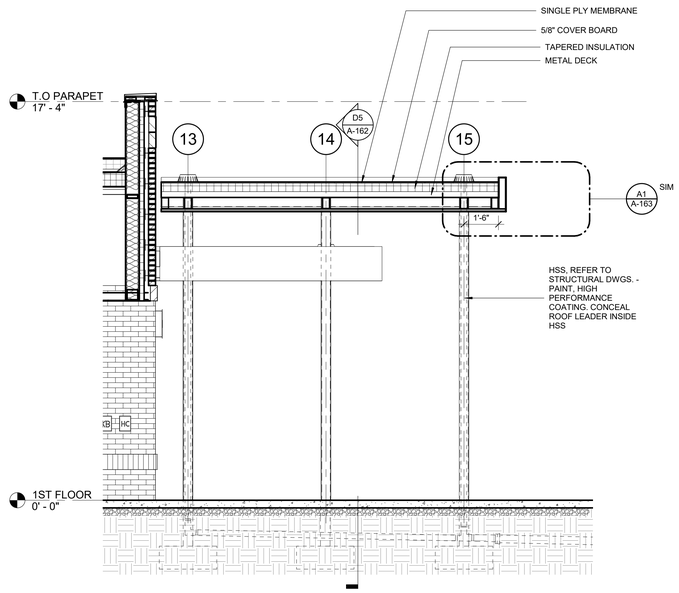
D3 EAST ENTRY CANOPY SECTION - 02
3/8" = 1'-0"



D5 MAIN ENTRY CANOPY SECTION - 02
3/8" = 1'-0"



A1 CANOPY SECTION - TYP.
3/8" = 1'-0"



A3 MAIN ENTRY CANOPY SECTION - 01
3/8" = 1'-0"

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CANOPY SECTIONS

A-162

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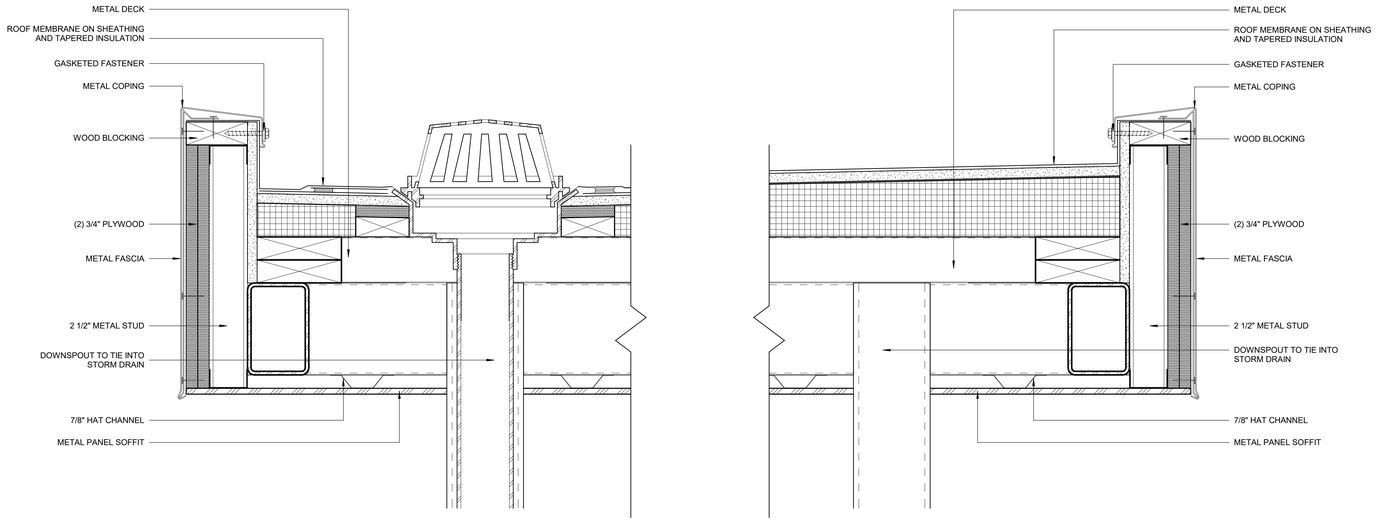
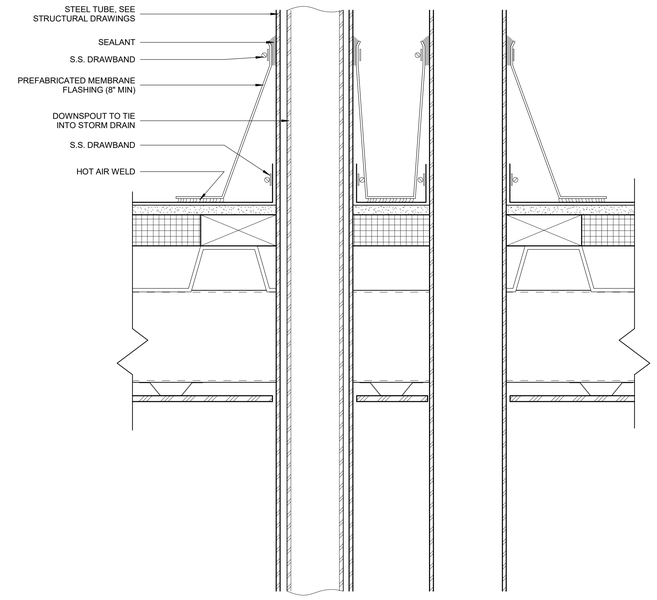
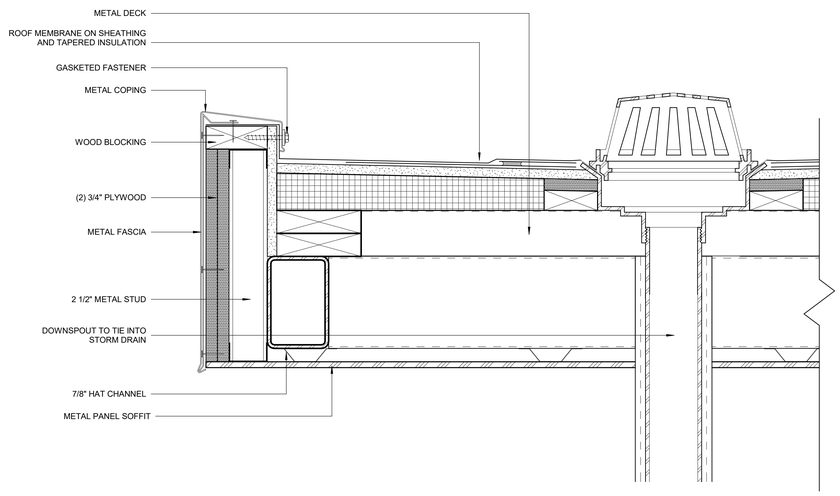


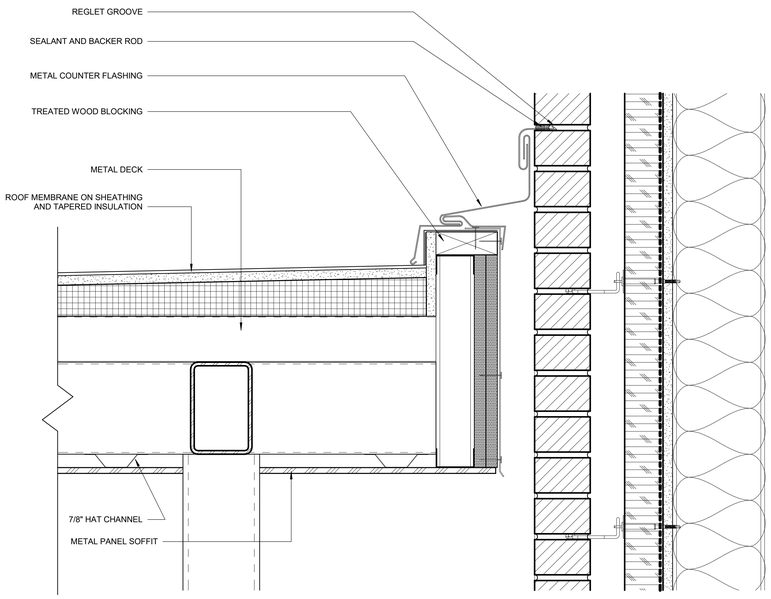
D1 CANOPY EDGE DETAIL @ CANOPY BETWEEN EXISTING AND NEW BUILDING
3" = 1'-0"



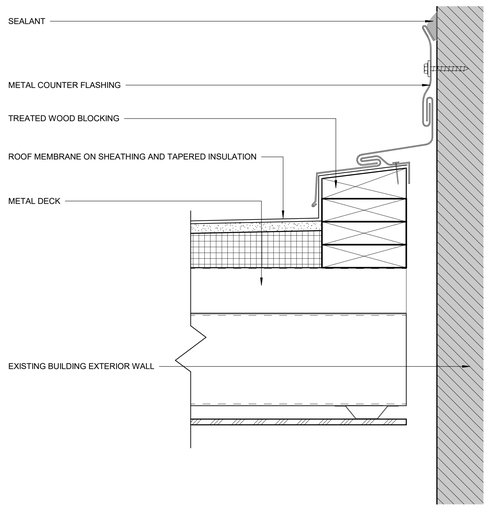
D6 CANOPY COLUMN PENETRATION
3" = 1'-0"



A1 CANOPY EDGE DETAIL
3" = 1'-0"



A3 CANOPY EDGE DETAIL @ EXTERIOR WALL
3" = 1'-0"



A5 CANOPY EDGE DETAIL @ EXISTING BUILDING WALL
3" = 1'-0"

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CANOPY DETAILS

A-163

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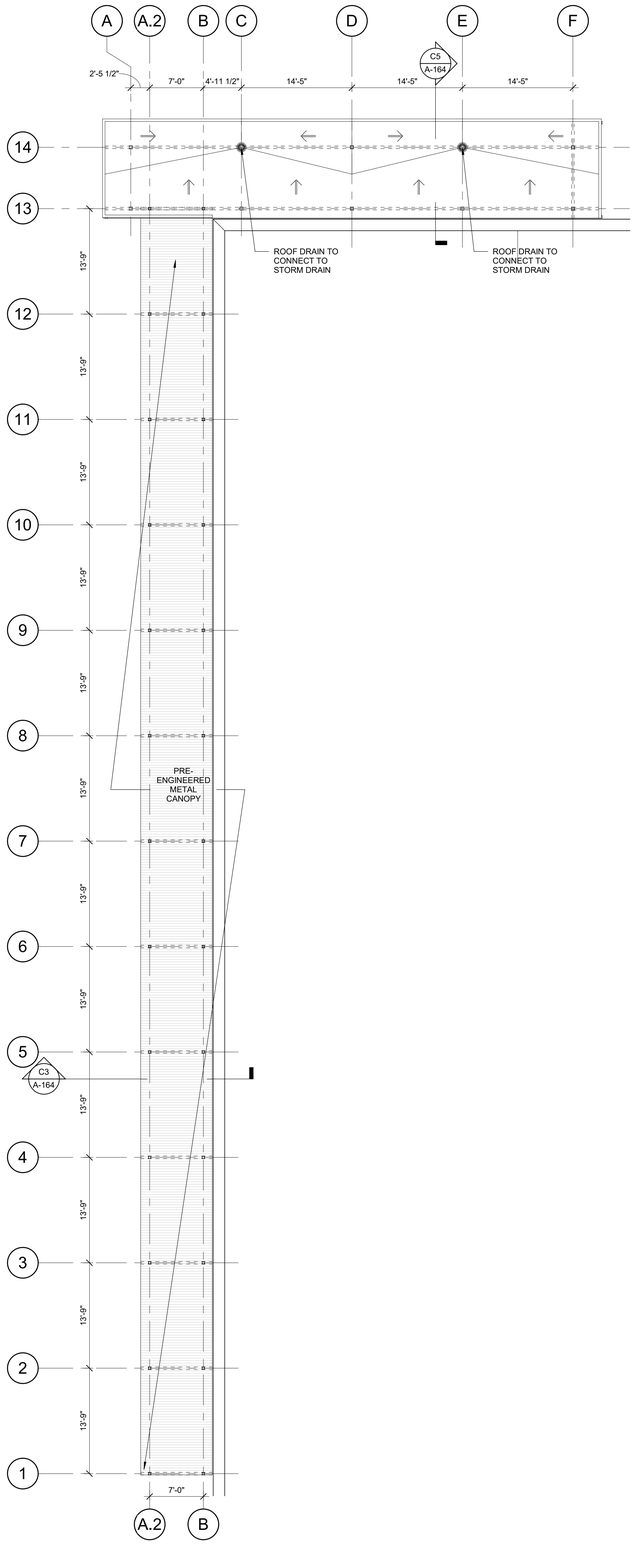
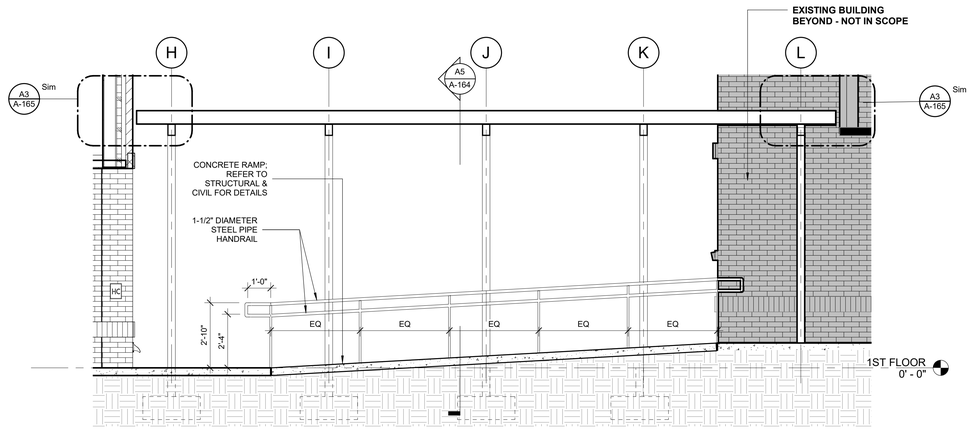
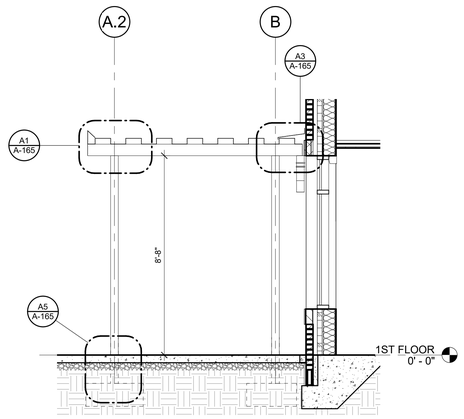


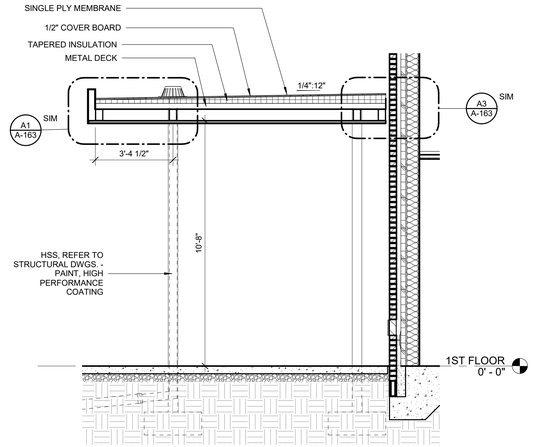
A1 CANOPY PLAN - ALTERNATE
1/8" = 1'-0"



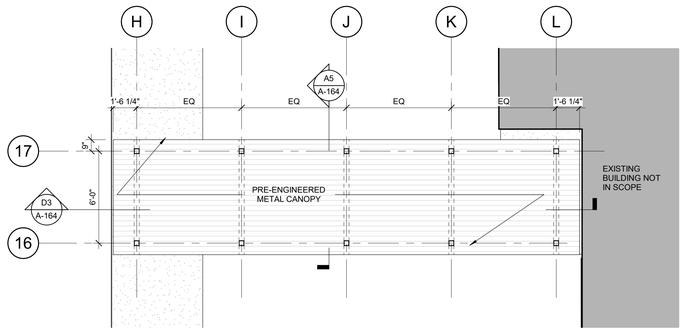
D3 EAST ENTRY CANOPY SECTION - 02 - ALTERNATE
3/8" = 1'-0"



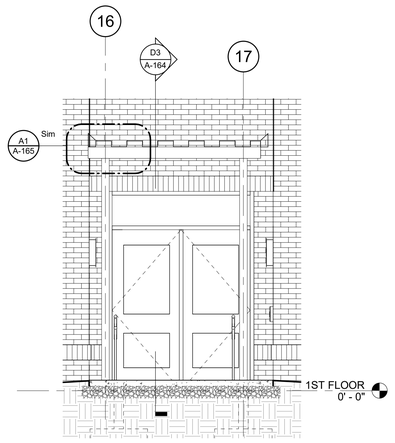
PRE-ENGINEERED METAL CANOPY SECTION - TYP - ALTERNATE
C3 3/8" = 1'-0"



C5 MAIN ENTRY CANOPY SECTION - ALTERNATE
3/8" = 1'-0"



A3 EAST ENTRY CANOPY PLAN - ALTERNATE
1/4" = 1'-0"



A5 EAST ENTRY CANOPY SECTION - 01 - ALTERNATE
3/8" = 1'-0"

ROOF PLAN SHEET NOTES

1. ROOF SURFACE SHOWN IS PVC MEMBRANE, UNO.
2. LOCATIONS AND SIZES OF MECHANICAL EQUIPMENT ARE APPROXIMATE. SEE STRUCTURAL AND MECHANICAL DRAWINGS FOR ACTUAL LOCATIONS.
3. SEE PLUMBING DRAWINGS FOR VENTS THROUGH ROOF LOCATIONS.
4. SEE SHEET A-152 FOR TYPICAL ROOF DETAILS AND NOTES.
5. SEE STRUCTURAL DRAWINGS FOR FASTENING REQUIREMENTS.
6. SLOPE ALL LOW SLOPED ROOFS TO ROOF DRAINS WITH MINIMUM SLOPE OF 1/4" PER FOOT, U.N.O. INSTALL ROOF DRAIN IN SQUARE RECESSED SUMP 18" SQUARE.
7. PROVIDE CRICKETS AT ALL CURBS AND EQUIPMENT RAILS SET PERPENDICULAR TO ROOF SLOPE WHICH ARE GREATER THAN 24" WIDE.
8. SLOPE ALL COPINGS BACK TO ROOF U.N.O.
9. COPING CORNERS TO BE PREFABRICATED PIECES WITH EQUAL RETURNS A MINIMUM OF 18" IN LENGTH. TOP HORIZONTAL JOINTS TO BE STANDING SEAM, VERTICAL JOINTS TO BE FLAT JOINTS.
10. WOOD BLOCKING SHOWN IN ROOF DETAILING SHALL BE PRESERVATIVE TREATED. USE SUITABLE FASTENERS WITH THE PRESERVATIVE TREATED WOOD.
11. EXTEND ALL PENETRATIONS, CURBS, AND COMPONENTS A MINIMUM OF 8" ABOVE THE ROOF SURFACE. PROVIDE 12" CLEAR DISTANCE BETWEEN PENETRATIONS AND TO ANY VERTICAL SURFACE.
12. IF NOT DETAILED, APPLY MOST STRINGENT CONDITION OF NRCA AND SMACNA (CURRENT EDITIONS) STANDARDS FOR ROOF DETAIL CONDITIONS.
13. PROVIDE ACCESS PATH TO CONTROLLER SIDE OF MECHANICAL UNITS.

ROOF PLAN LEGEND

- SLOPE WITH INSULATION
- ROOF DRAIN
- OVERFLOW ROOF DRAIN
- WALK-OFF PAD (SHOWN FOR APPROXIMATE LOCATION ONLY. WALK OFF MATS SHOULD BE PLACED ON THE CONTROL SIDE OF MECHANICAL ROOFTOP UNITS. VERIFY WITH MANUFACTURER)
- PRE-ENGINEERED METAL CANOPY

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ALTERNATE CANOPY PLANS & SECTIONS

A-164

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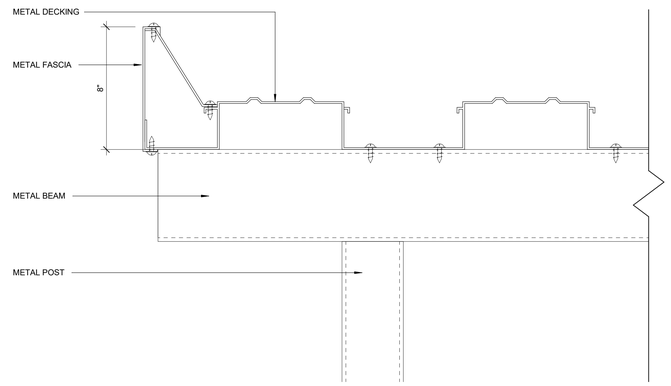
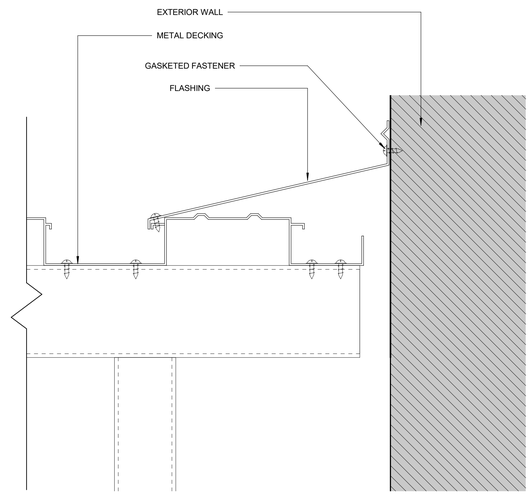
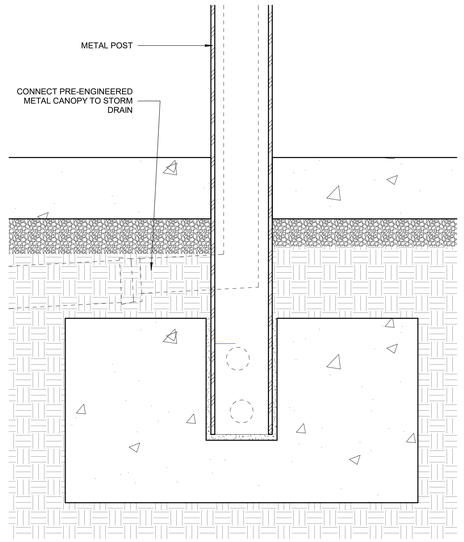


A1 PRE-ENGINEERED METAL CANOPY EDGE DETAIL
3" = 1'-0"



A3 PRE-ENGINEERED METAL CANOPY EDGE DETAIL @ EXTERIOR WALL
3" = 1'-0"



A5 PRE-ENGINEERED METAL CANOPY DETAIL @ COLUMN BASE
3" = 1'-0"

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ALTERNATE CANOPY DETAILS

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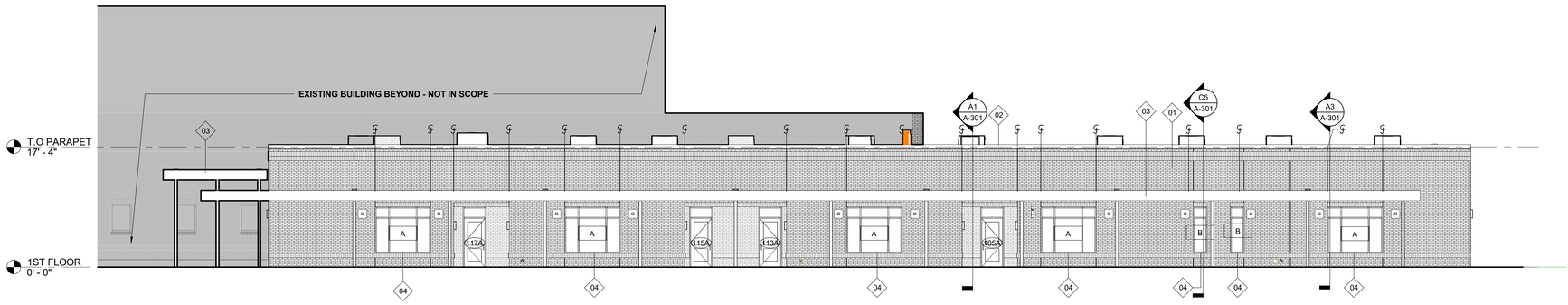
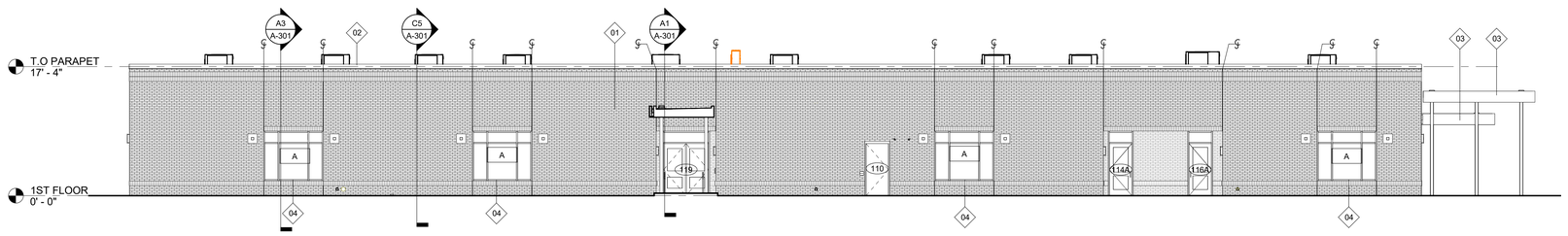
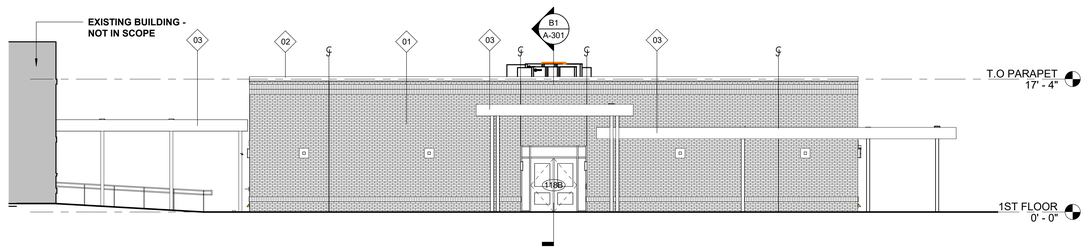


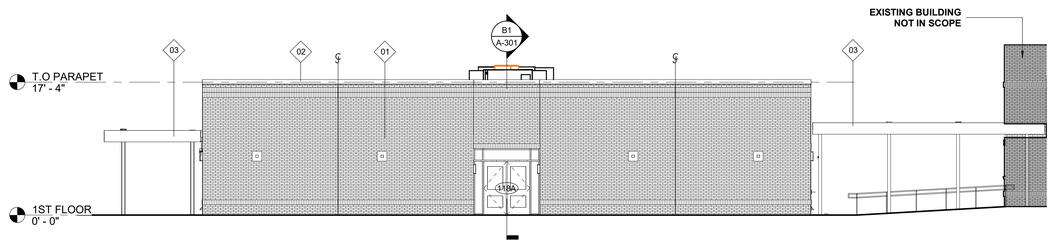
D1 WEST ELEVATION
1/8" = 1'-0"



C1 EAST ELEVATION
1/8" = 1'-0"



A4 NORTH ELEVATION
1/8" = 1'-0"



A1 SOUTH ELEVATION
1/8" = 1'-0"

EXTERIOR MATERIALS LEGEND

- 01 MASONRY 01
- 02 METAL COPING
- 03 METAL FASCIA
- 04 ALUMINUM STORE FRONT SYSTEM

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EXTERIOR ELEVATIONS

A-201

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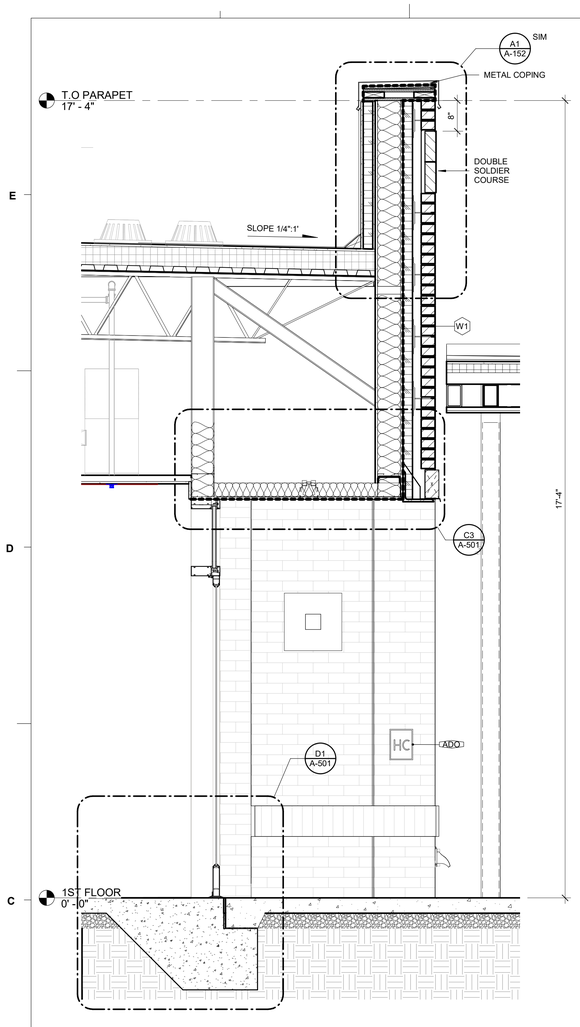
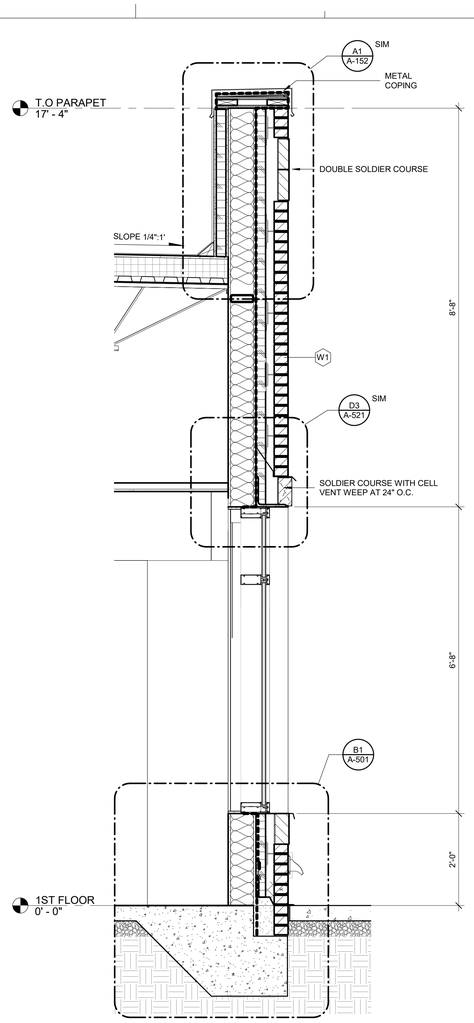


D1 WALL SECTION @ RECESSED ENTRY - TYP.
3/4" = 1'-0"



D3 WALL SECTION @ ALUM. FRAME - TYP.
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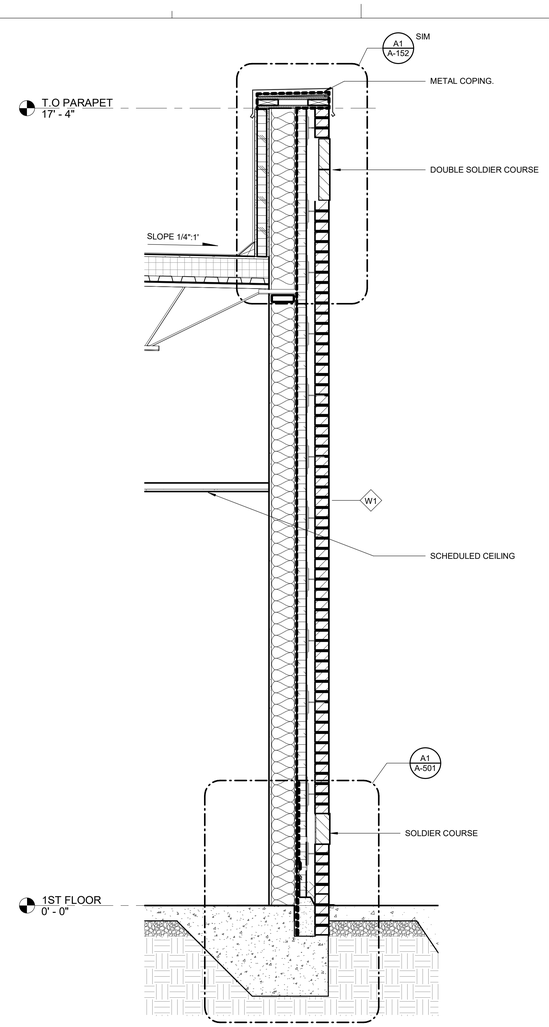
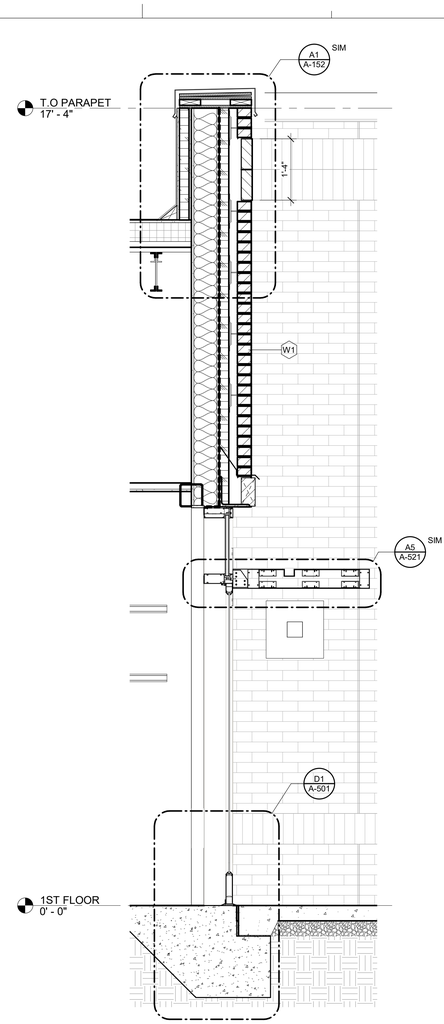


C5 WALL SECTION - TYP
3/4" = 1'-0"



C6 WALL SECTION @ SOUTH CORRIDOR ENTRY
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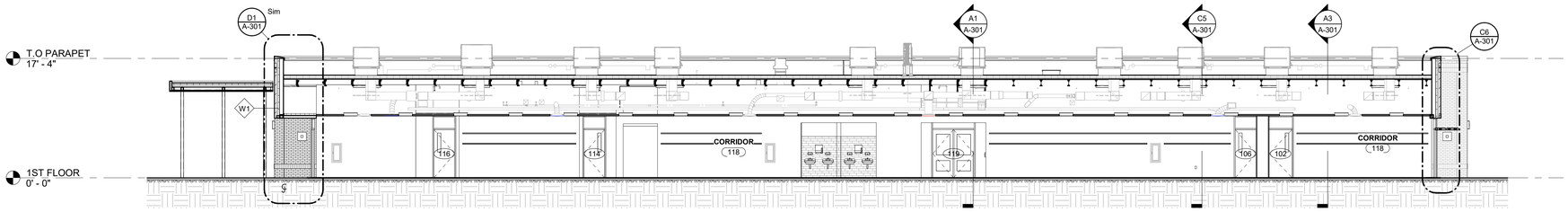
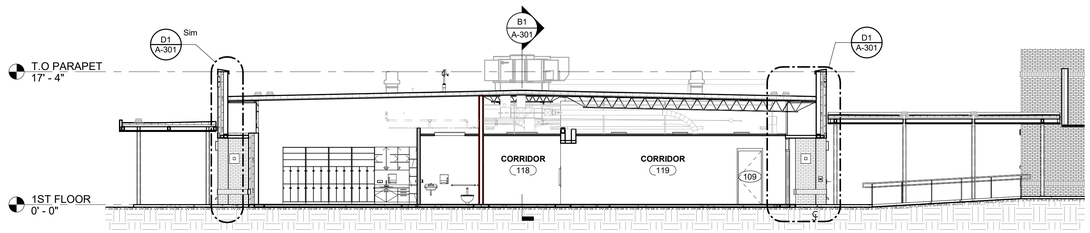
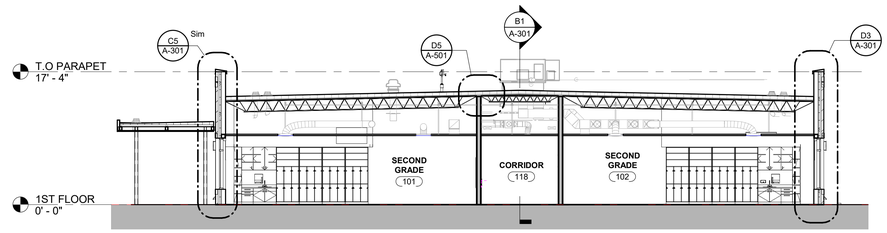


B1 BUILDING SECTION AT CORRIDOR - NORTH/SOUTH
1/8" = 1'-0"



A1 BUILDING SECTION AT EAST ENTRY - EAST/WEST
1/8" = 1'-0"



A3 BUILDING SECTION AT KINDERGARTEN CLASSROOM - EAST/WEST
1/8" = 1'-0"

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BUILDING SECTIONS & WALL SECTIONS

A-301

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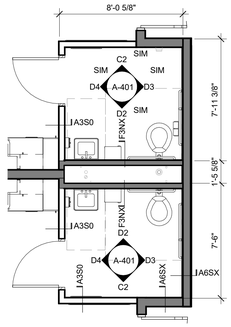
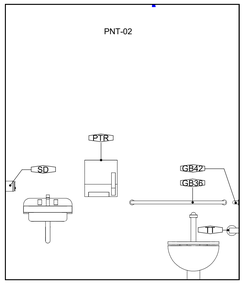
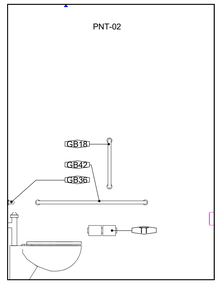


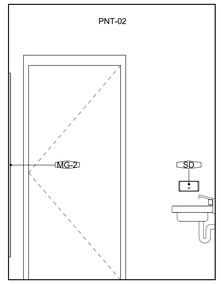
D1 CLASSROOM TOILET W/ SHARED CHASE
1/4" = 1'-0"



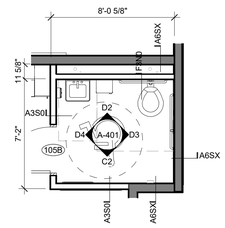
D2 TYPICAL CLASSROOM TOILET ELEVATION - 01
1/2" = 1'-0"



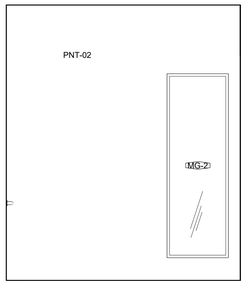
D3 TYPICAL CLASSROOM TOILET ELEVATION - 02
1/2" = 1'-0"



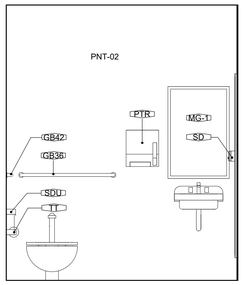
D4 TYPICAL CLASSROOM TOILET ELEVATION - 03
1/2" = 1'-0"



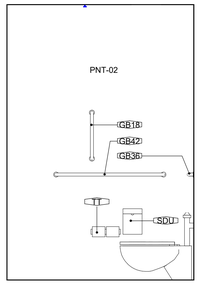
C1 TYPICAL CLASSROOM TOILET
1/4" = 1'-0"



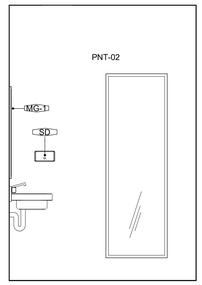
C2 TYPICAL CLASSROOM TOILET ELEVATION - 04
1/2" = 1'-0"



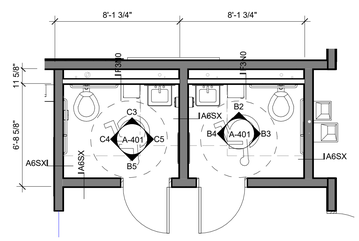
C3 STAFF RESTROOM ELEVATION - 01
1/2" = 1'-0"



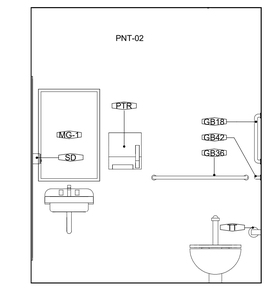
C4 STAFF RESTROOM ELEVATION - 02
1/2" = 1'-0"



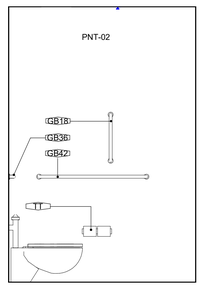
C5 STAFF RESTROOM ELEVATION - 03
1/2" = 1'-0"



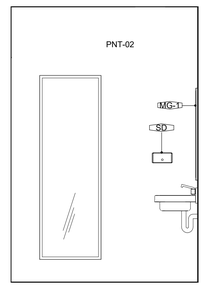
B1 STAFF RESTROOMS
1/4" = 1'-0"



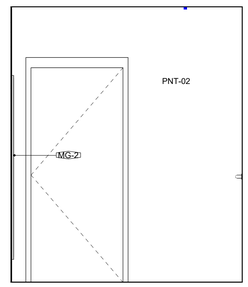
B2 STAFF RESTROOM ELEVATION - 05
1/2" = 1'-0"



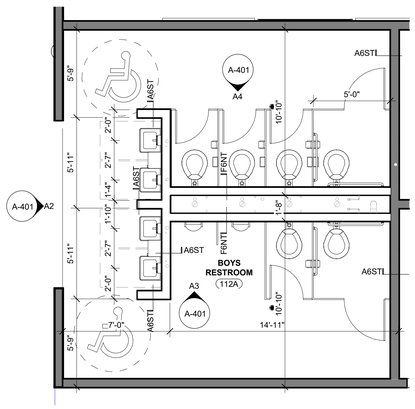
B3 STAFF RESTROOM ELEVATION - 06
1/2" = 1'-0"



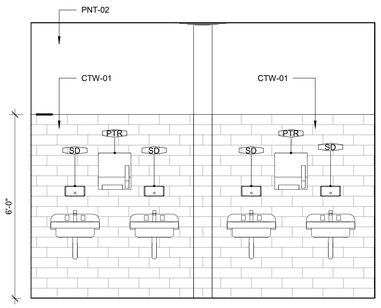
B4 STAFF RESTROOM ELEVATION - 07
1/2" = 1'-0"



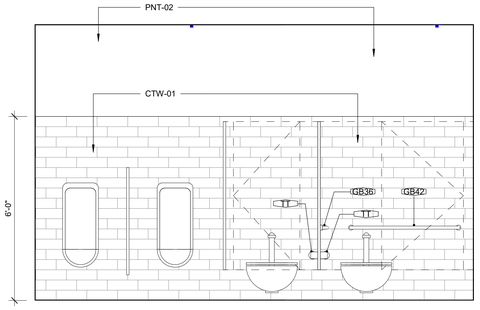
B5 STAFF RESTROOM ELEVATION - 08
1/2" = 1'-0"



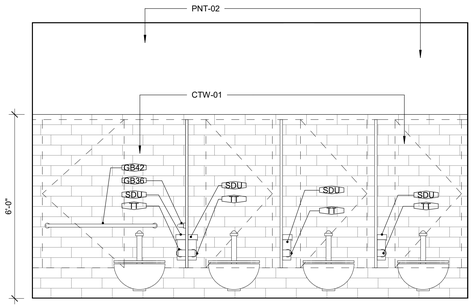
A1 GROUP TOILETS
1/4" = 1'-0"



A2 GROUP TOILETS SINK ELEVAION
1/2" = 1'-0"

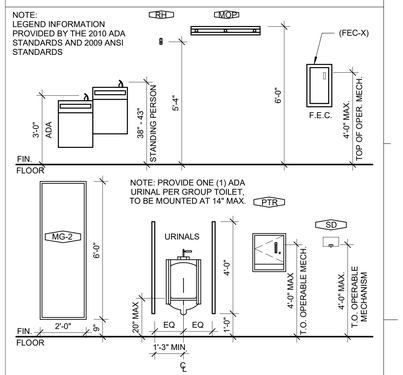


A3 GROUP TOILETS - BOYS ELEVATION
1/2" = 1'-0"

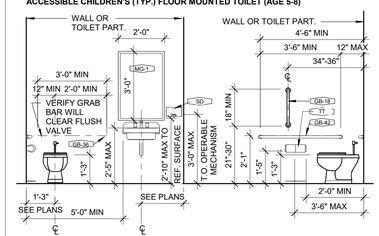


A4 GROUP TOILETS - GIRLS ELEVATION
1/2" = 1'-0"

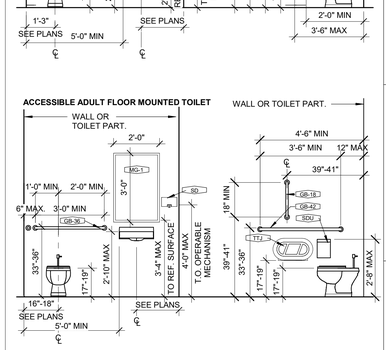
TYPICAL MOUNTING HEIGHTS



ACCESSIBLE CHILDREN'S (TYP.) FLOOR MOUNTED TOILET (AGE 5-8)



ACCESSIBLE ADULT FLOOR MOUNTED TOILET



TOILET ACCESSORIES LEGEND

	DESCRIPTION	PROVIDED BY	INSTALLED BY
TT	TOILET TISSUE DISPENSER	OWNER	CONTRACTOR
PTR	PAPER TOWEL DISPENSER, ROLL	OWNER	CONTRACTOR
WR	WASTE RECEPTACLE	OWNER	CONTRACTOR
SD	LIQUID SOAP DISPENSER	OWNER	CONTRACTOR
GB18	18" GRAB BAR	CONTRACTOR	CONTRACTOR
GB36	36" GRAB BAR	CONTRACTOR	CONTRACTOR
GB42	42" GRAB BAR	CONTRACTOR	CONTRACTOR
SDU	SANITARY PRODUCT DISPOSAL UNIT	CONTRACTOR	CONTRACTOR
MG	GLASS MIRROR UNIT	CONTRACTOR	CONTRACTOR
MOP	MOP AND BROOM HOLDER	CONTRACTOR	CONTRACTOR

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REVISIONS:

No.	Description	Date

PROJECT: 8201-191240
DATE: 04.22.2020
DRAWN BY: AL
CHECKED BY: MB

ENLARGED TOILET PLANS & ELEVATIONS

A-401

BID DOCUMENTS

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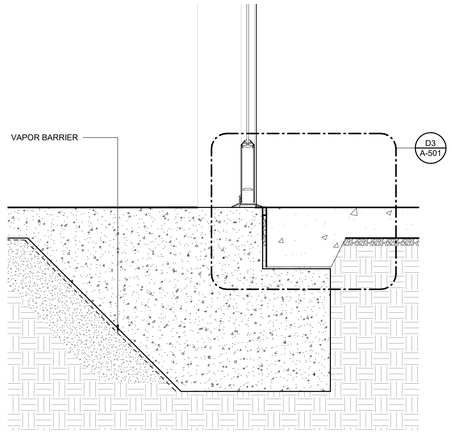
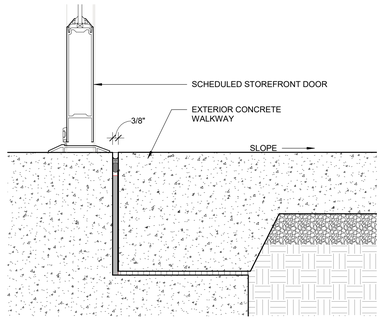
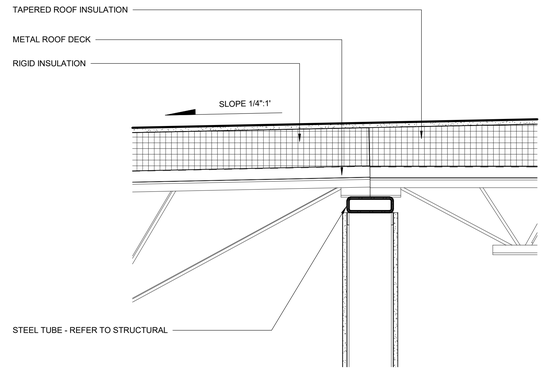


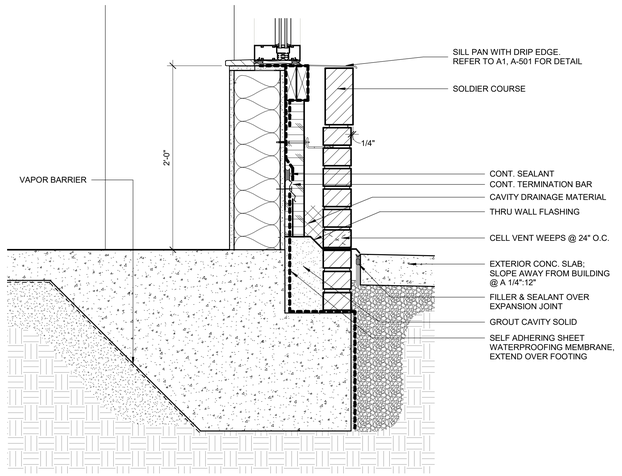
D1 WALL SECTION @ RECESSED ENTRY - TYP. - Callout 1
1 1/2" = 1'-0"



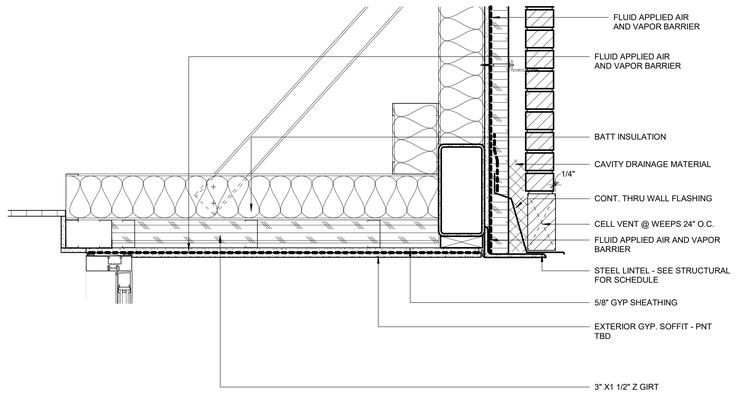
D3 Detail 8
3" = 1'-0"



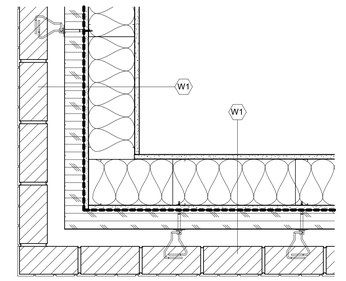
D5 ROOF DETAIL @ TAPERED INSULATION
1 1/2" = 1'-0"



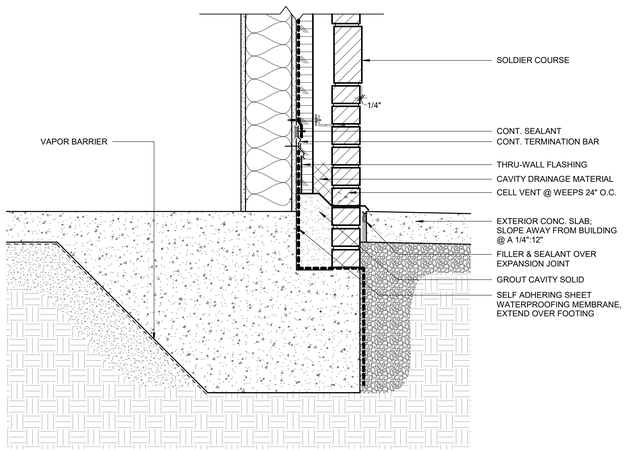
B1 WALL SECTION @ ALUM. FRAME - TYP. - Callout 1
1 1/2" = 1'-0"



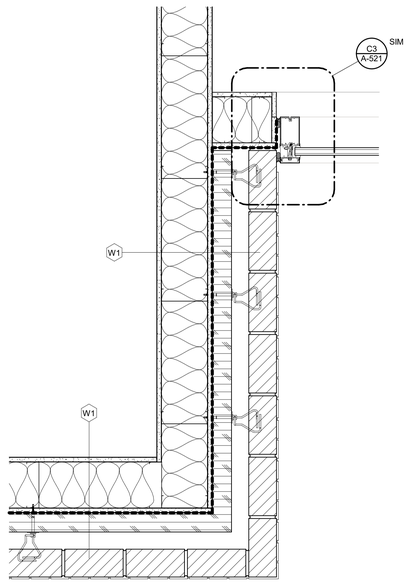
C3 TYPICAL EXTERIOR SOFFIT DETAIL - 02
1 1/2" = 1'-0"



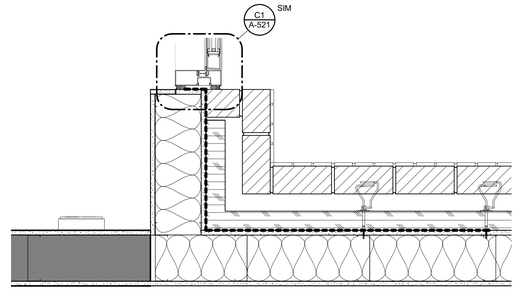
C5 TYPICAL CORNER DETAIL
1 1/2" = 1'-0"



A1 TYPICAL SLAB EDGE DETAIL
1 1/2" = 1'-0"



A3 DETAIL @ ENTRY
1 1/2" = 1'-0"



A5 DETAIL @ EAST ENTRY
1 1/2" = 1'-0"

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RALEIGH, NORTH CAROLINA

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REGISTERED
13105
NORTH CAROLINA
Raleigh, N.C.
April 22, 2020

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PROJECT: 8201-191240
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DRAWN BY: AL
CHECKED BY: MB

PLAN & SECTION DETAILS

A-501

BID DOCUMENTS

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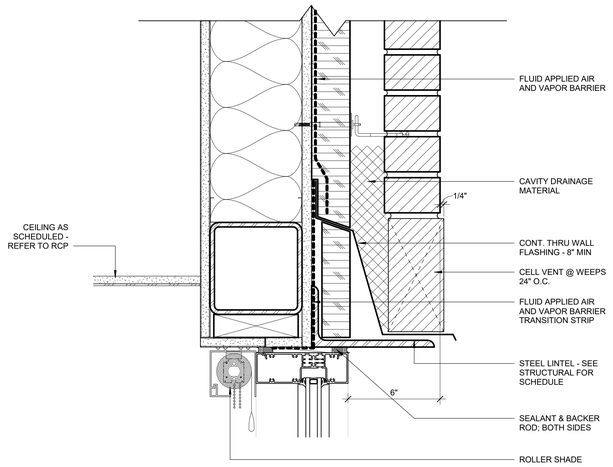
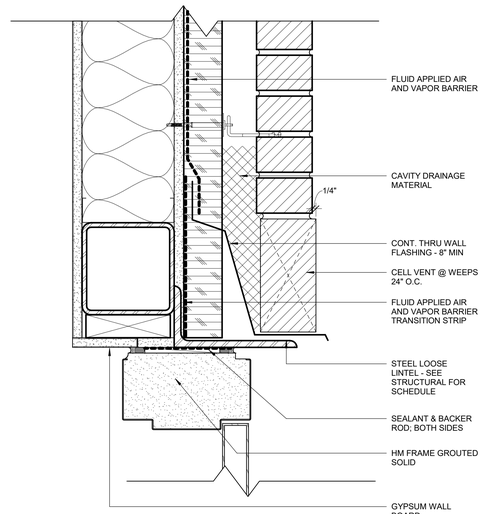
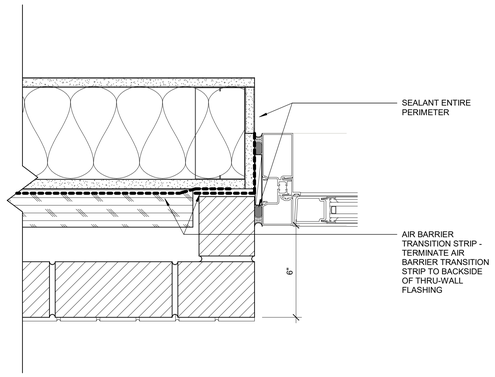


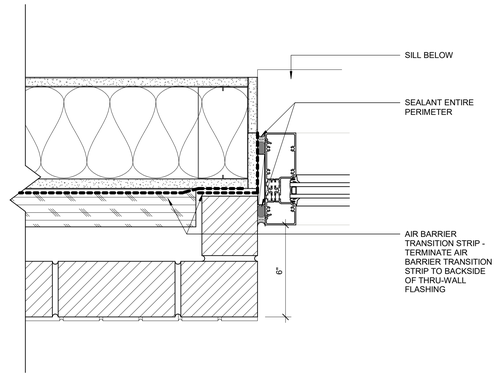
D3 ALUM. HEAD DETAIL
3" = 1'-0"



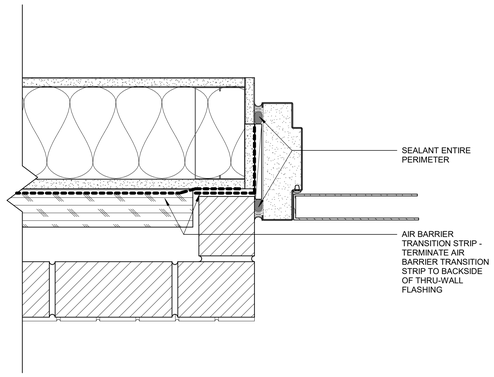
D5 HOLLOW METAL HEAD DETAIL
3" = 1'-0"



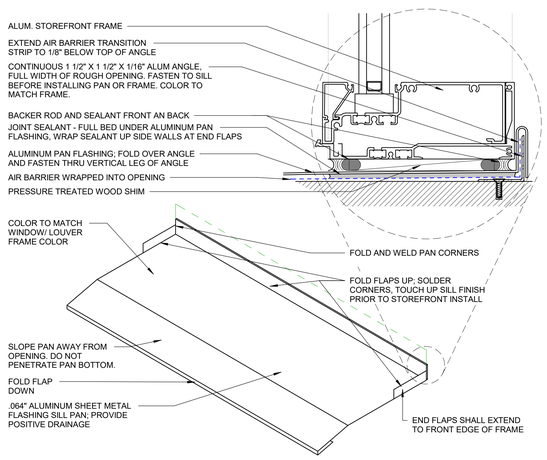
C1 ALUM. DOOR - JAMB DETAIL
3" = 1'-0"



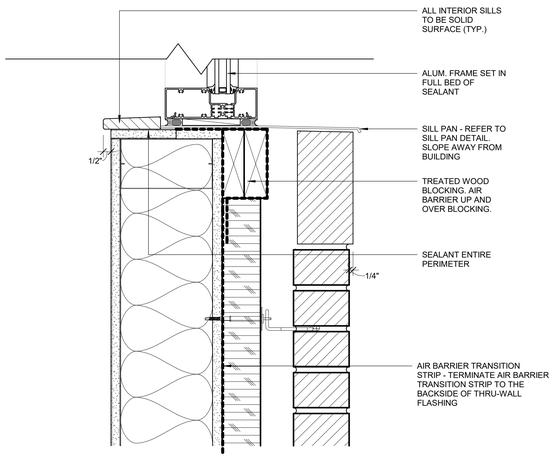
C3 ALUM. JAMB DETAIL
3" = 1'-0"



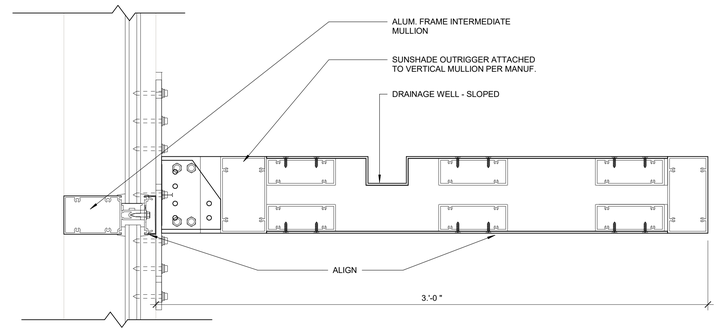
C5 HOLLOW METAL JAMB DETAIL
3" = 1'-0"



A1 TYPICAL SILL PLAN DETAIL
6" = 1'-0"



A3 ALUM. SILL DETAIL
3" = 1'-0"



A5 ALUM. FRAME W/ INTEGRAL SUNSHADE
3" = 1'-0"

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REVISIONS:

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HEAD, JAMB & SILL DETAILS

A-521

BID DOCUMENTS

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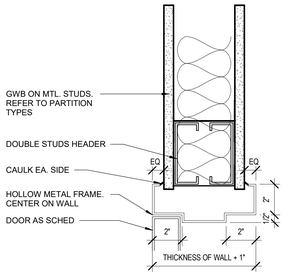
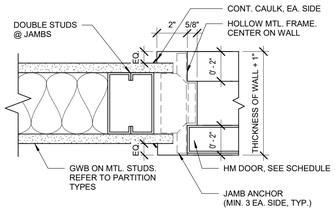
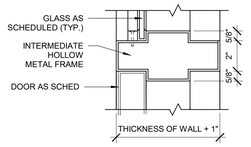


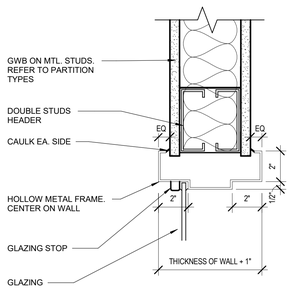
E1 HOLLOW METAL DOOR HEAD @ INT STUD WALL
3" = 1'-0"



C1 HOLLOW METAL DOOR JAMB @ INT STUD WALL
3" = 1'-0"



B1 HOLLOW METAL FRAME @ TRANSON ABOVE DOOR
3" = 1'-0"



A1 HOLLOW METAL FRAME @ TRANSON HEAD
3" = 1'-0"

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REVISIONS:

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DATE: 04.22.2020
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HEAD, JAMB & SILL DETAILS

A-522

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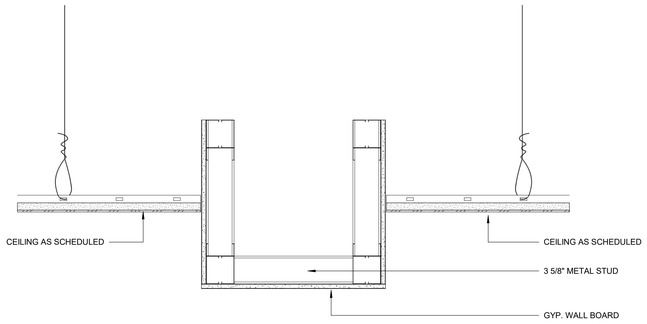
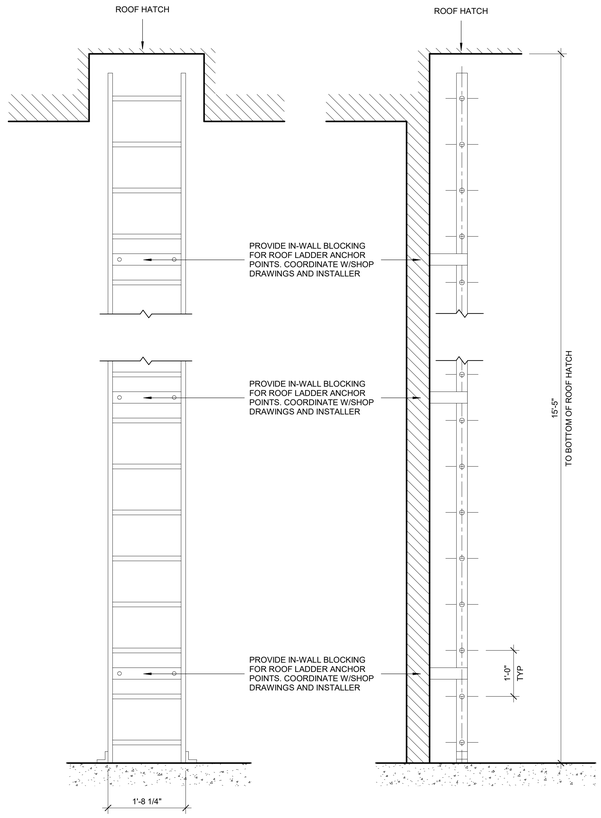
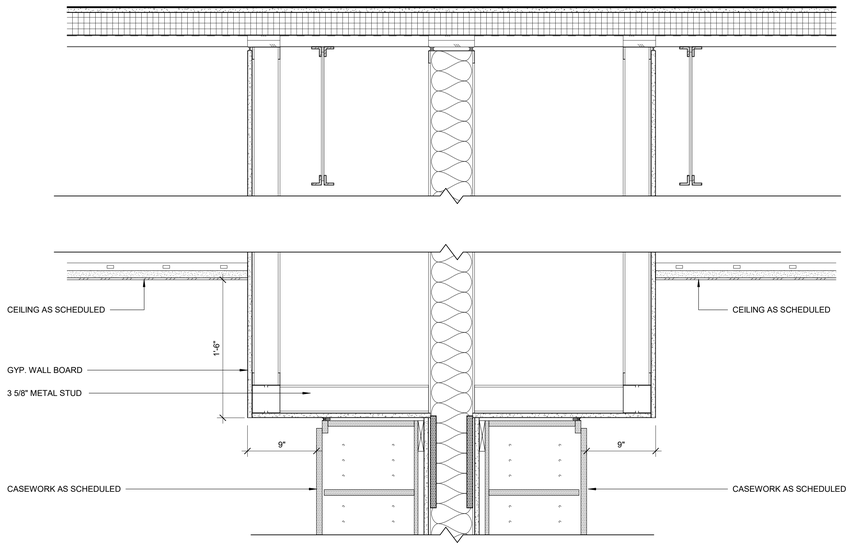


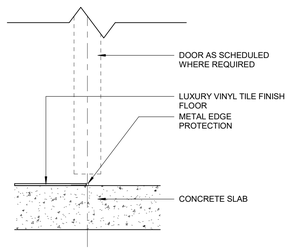
C1 GYP SOFFIT @ HALLWAY
1 1/2" = 1'-0"



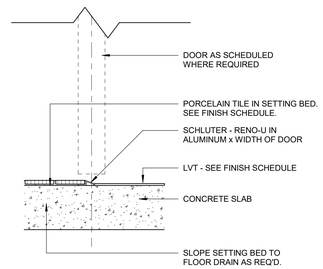
B4 FIXED WALL ROOF ACCESS LADDER
3/4" = 1'-0"



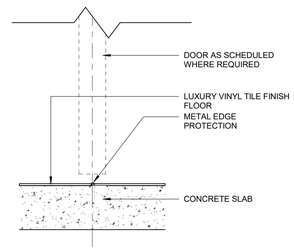
A1 GYP SOFFIT @ CLASSROOM CASEWORK - TYP.
1 1/2" = 1'-0"



A4 THRESHOLD - LVT TO CONCRETE
3" = 1'-0"



A5 THRESHOLD - LVT TO TILE
3" = 1'-0"



A6 THRESHOLD - LVT TO LVT
3" = 1'-0"

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No.	Description	Date

PROJECT: 8201-191240
DATE: 04.22.2020
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INTERIOR DETAILS

A-531

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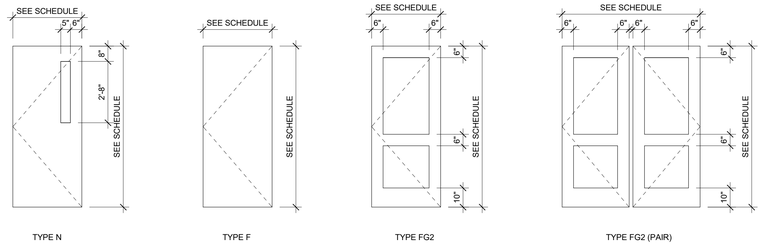
DOOR AND FRAME SCHEDULE

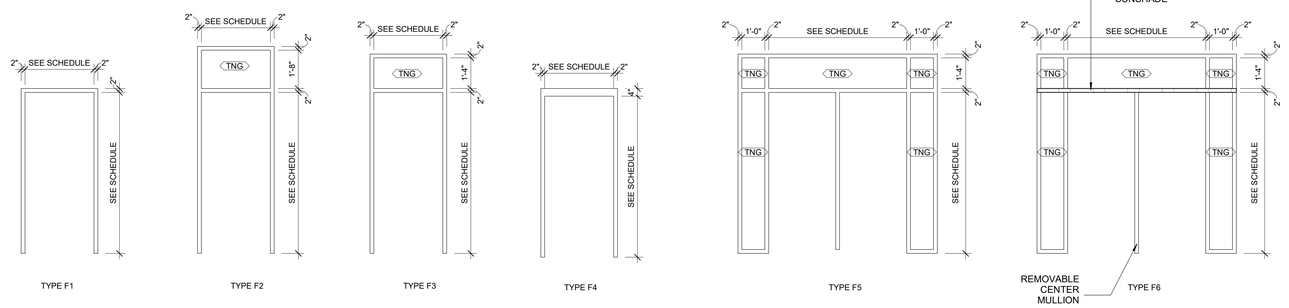
DOOR NUMBER	ROOM	HARDWARE SET	DOOR MATL	DOOR TYPE	DOOR WIDTH	DOOR HEIGHT	FRAME MATL	FRAME TYPE	SIGNAGE TYPE	REMARKS
1ST FLOOR										
101	SECOND GRADE	06	Wood	N	3' - 0"	7' - 0"	Hollow Metal	F2	D	
102	SECOND GRADE	06	Wood	N	3' - 4"	7' - 0"	Hollow Metal	F2	D	
103	CORRIDOR	10	Wood	F	3' - 0"	7' - 0"	Hollow Metal	F1		
103B	STAFF RESTROOM	08	Wood	F	3' - 0"	7' - 0"	Hollow Metal	F1	F-3	
103C	STAFF RESTROOM	08	Wood	F	3' - 0"	7' - 0"	Hollow Metal	F1	F-2	
105	FIRST GRADE	09	Wood	N	3' - 0"	7' - 0"	Hollow Metal	F2	D	
105A	FIRST GRADE	03	Alum	FG2	3' - 0"	7' - 0"	Alum	F3		
105B	FIRST GRADE	05	Wood	F	3' - 0"	7' - 0"	Hollow Metal	F1	F-1	
106	SECOND GRADE	06	Wood	N	3' - 0"	7' - 0"	Hollow Metal	F2	D	
107	JANITOR	07	Wood	F	3' - 0"	7' - 0"	Hollow Metal	F1	B	
108	STORAGE	07	Wood	F	3' - 0"	7' - 0"	Hollow Metal	F1	B	
109	ELEC.	11	Wood	F	3' - 0"	7' - 0"	Hollow Metal	F1	B	
110	MECH	02	FRP	F	3' - 0"	7' - 0"	Alum	F4	B-EX, Q-EX	
111	IT	04	Wood	F	3' - 0"	7' - 0"	Hollow Metal	F1	B	2 hr Rated, CARD READER
113	FIRST GRADE	09	Wood	N	3' - 0"	7' - 0"	Hollow Metal	F2	D	
113A	FIRST GRADE	03	Alum	FG2	3' - 0"	7' - 0"	Alum	F3		
113B	FIRST GRADE	05	Wood	F	3' - 0"	7' - 0"	Hollow Metal	F1	F-1	
114	KINDERGARTEN	09	Wood	N	3' - 0"	7' - 0"	Hollow Metal	F2	D	
114A	KINDERGARTEN	03	Alum	FG2	3' - 0"	7' - 0"	Alum	F3		
114B	KINDERGARTEN	05	Wood	F	3' - 0"	7' - 0"	Hollow Metal	F1	F-1	
115	FIRST GRADE	09	Wood	N	3' - 0"	7' - 0"	Hollow Metal	F2	D	
115A	FIRST GRADE	03	Alum	FG2	3' - 0"	7' - 0"	Alum	F3	--	
115B	FIRST GRADE	05	Wood	F	3' - 0"	7' - 0"	Hollow Metal	F1	F-1	
116	KINDERGARTEN	09	Wood	N	3' - 0"	7' - 0"	Hollow Metal	F2	D	
116A	KINDERGARTEN	03	Alum	FG2	3' - 0"	7' - 0"	Alum	F3	--	
116B	KINDERGARTEN	05	Wood	F	3' - 0"	7' - 0"	Hollow Metal	F1	F-1	
117	KINDERGARTEN	09	Wood	N	3' - 0"	7' - 0"	Hollow Metal	F2	D	
117A	KINDERGARTEN	03	Alum	FG2	3' - 0"	7' - 0"	Alum	F3	--	
117B	KINDERGARTEN	05	Wood	F	3' - 0"	7' - 0"	Hollow Metal	F1	F-1	
118A	CORRIDOR	01A	Alum	FG2 (PAIR)	6' - 0"	7' - 0"	Alum	F6	--	REMOVABLE CENTER MULLION
118B	CORRIDOR	01	Alum	FG2 (PAIR)	6' - 0"	7' - 0"	Alum	F5	--	WALL MOUNTED ADA CARD READER/OPENER
119	CORRIDOR	01	Alum	FG2 (PAIR)	6' - 0"	7' - 0"	Alum	F5	--	WALL MOUNTED ADA CARD READER/OPENER



TYPE N | TYPE F | TYPE FG2 | TYPE FG2 (PAIR)

DOOR TYPE LEGEND

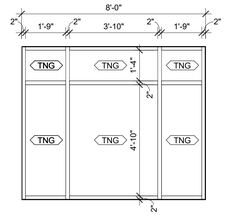
3/8" = 1'-0"



TYPE F1 | TYPE F2 | TYPE F3 | TYPE F4 | TYPE F5 | TYPE F6

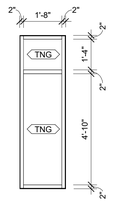
FRAME TYPE LEGEND

3/8" = 1'-0"



B3 TYPE A - EXTERIOR FRAME ELEVATION

3/8" = 1'-0"



B4 TYPE B - EXTERIOR FRAME ELEVATION

3/8" = 1'-0"

WINDOW ELEVATION NOTES

A. GLAZE INTERIOR HOLLOW METAL FRAMES TO CORRIDOR SIDE OF FRAME TO ACCOMMODATE INSTALLATION OF HORIZONTAL BLINDS AT CLASSROOM SIDE OF FRAME.
B. EXTERIOR WINDOWS AND STOREFRONT SHALL BE PROVIDED WITH LOW-E INSULATED GLAZING UNITS, UNO.
C. INTERIOR WINDOWS AND HOLLOW METAL SIDE LIGHTS SHALL BE PROVIDED WITH CLEAR GLASS, UNO.
D. CENTER HOLLOW METAL FRAMES IN CMU WALLS, UNO.
E. SILL PANS SHALL BE PROVIDED UNDER ALL EXTERIOR WINDOWS AND STOREFRONT NOT SITTING DIRECTLY ON FLOOR SLAB. WINDOWS AND STOREFRONTS SITTING DIRECTLY ON FLOOR SLABS SHALL BE SET ON MANUFACTURER'S SUBSILL, SET IN FULL BED OF SEALANT.
F. ALL WINDOWS TO HAVE MANUAL ROLLER SHADES UNLESS CALLED OUT AS MECHANICALY OPERATED, SHOWN AS "MRS" ON ELEVATIONS

WINDOW ELEVATION LEGEND

TNG	TEMPERED INSULATED GLAZING
IS	INSULATED SPANDREL GLASS
TIG	TEMPERED INTERIOR GLASS
MRS	MOTORIZED ROLLER SHADE
SIC	STOREFRONT INTEGRATED CANOPY
SIS	STOREFRONT INTEGRATED SUNSHADE

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LS3P ASSOCIATES LTD. REGISTERED ARCHITECTURAL COMPANY NORTH CAROLINA CERT. NO. 50417 RALEIGH, NORTH CAROLINA

MARY H. BREHER REGISTERED ARCHITECT 13105 April 22, 2020 NORTH CAROLINA Raleigh, N.C.

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DOOR SCHEDULE, DOOR TYPE LEGEND & FRAME TYPES

A-601

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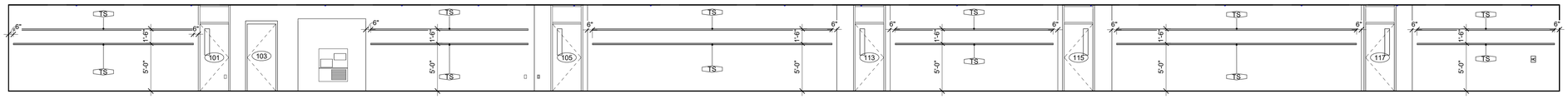
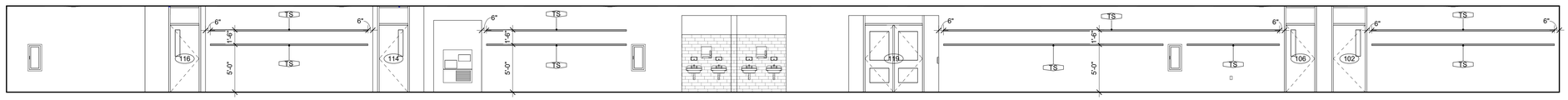


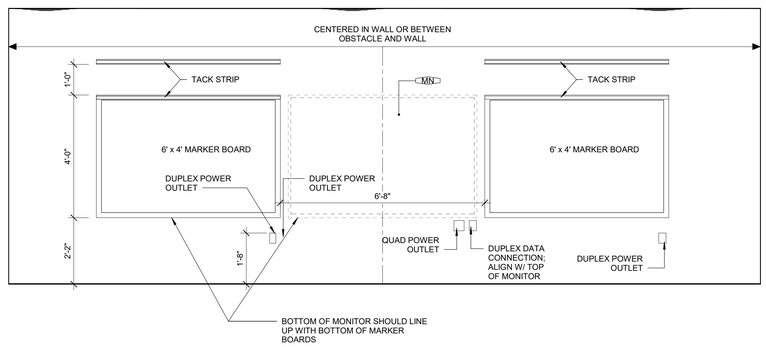
E1 CORRIDOR 118 WEST ELEVATION

3/16" = 1'-0"



D1 CORRIDOR 118 EAST ELEVATION

3/16" = 1'-0"



A1 TYPICAL TEACHING WALL ELEVATION

1/2" = 1'-0"

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INTERIOR ELEVATIONS

A-721

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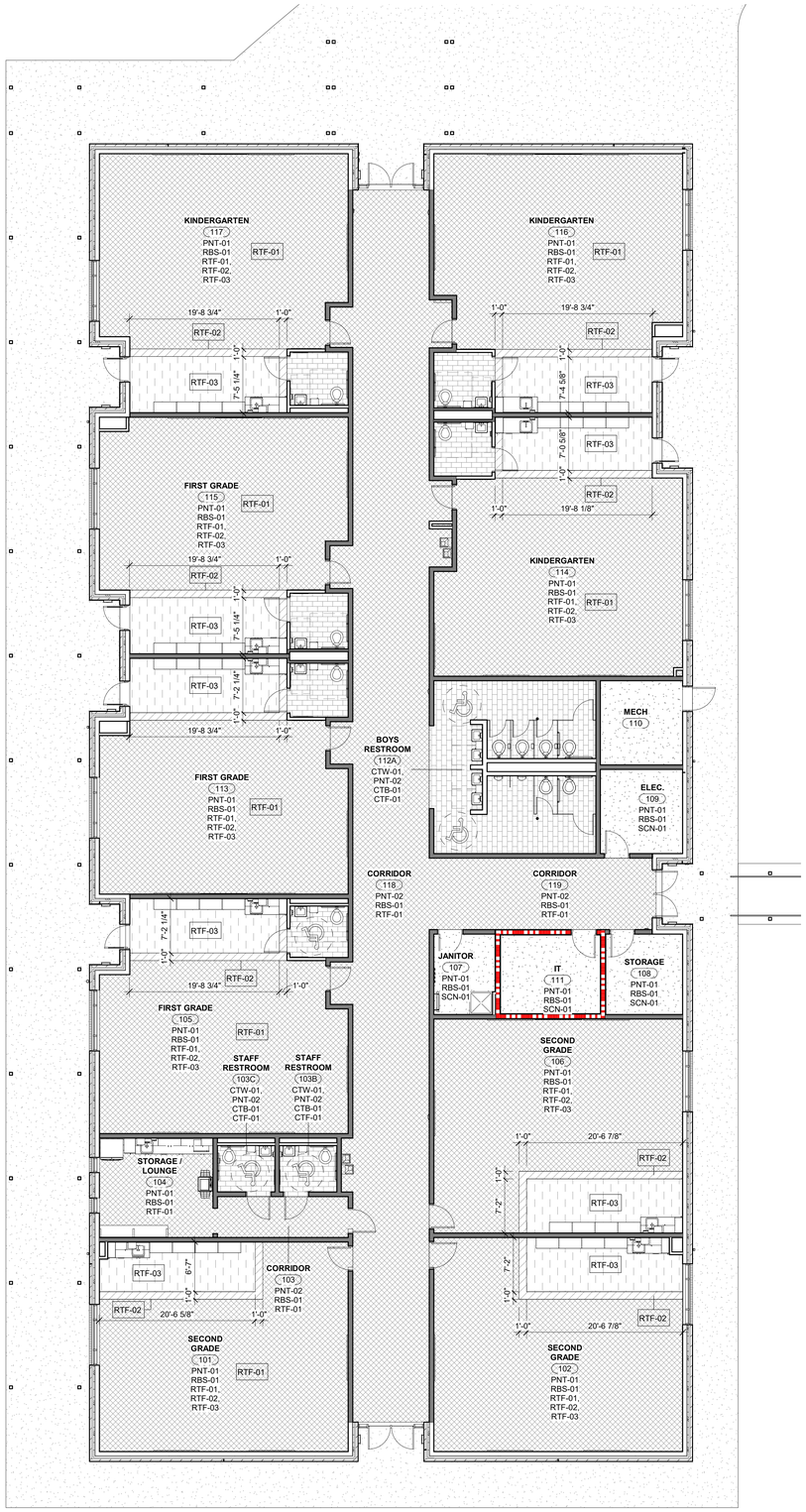

A1 FIRST FLOOR FINISH PLAN
1/8" = 1'-0"

FLOOR FINISH LEGEND

- CTF - 01 ACCENT LVT
- RTF - 01 PRIMARY LVT
- RTF - 02 ACCENT LVT
- RTF - 03 ACCENT LVT
- SCN-01 SEALED CONCRETE

ROOM FINISH PLAN SHEET NOTES

1. PRIOR TO INSTALLATION AND FABRICATION, CONTRACTOR SHALL COORDINATE WITH ARCHITECT AND INTERIOR DESIGNER TO REVIEW ALL FLOOR PATTERNS, FINISHES AND DOCUMENTATION INFORMATION
2. PRIOR TO PAINTING, PAINTING CONTRACTOR SHALL SUBMIT TO ARCHITECT/INTERIOR DESIGNER EACH PAINT COLOR FINISH ON A 8 1/2" X 11" SHEET OF CHIPBOARD FOR PRELIMINARY APPROVAL. FOR FINAL APPROVAL BY OWNER AND ARCHITECT PRIOR TO PAINTING, THE PAINTING CONTRACTOR SHALL PAINT EACH PAINT COLOR WITH THE DESIGNATED FINISH ON A 4' X 4' PIECE OF GYPSUM BOARD. SAMPLE BOARDS SHALL BE REVIEWED AND APPROVED AT THE JOB SITE WITH THE APPROPRIATE LIGHTING.
3. INSTALLERS OF EACH FINISH MATERIAL SHALL INSPECT BOTH THE SUBSTRATE AND CONDITIONS UNDER WHICH WORK IS TO BE PERFORMED. INSTALLER SHALL NOT PROCEED UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED IN AN ACCEPTABLE MANNER TO ALL PARTIES AND MEET ALL MANUFACTURER'S REQUIREMENTS
4. ALL INTERIOR FINISHES SHALL COMPLY WITH SECTION 803 OF RESTRICTIONS OF COMBUSTIBLE MATERIALS OF THE INTERNATIONAL BUILDING CODE. ALL INTERIOR FINISHES SHALL BE CLASS B OR BETTER
5. THE INTENT IS TO PROVIDE A COMPLETE FINISHED INTERIOR WHETHER OR NOT SPECIFICALLY INDICATED. ITEMS SHALL BE FINISHED AND/OR PAINTED AS DIRECTED BY DESIGNER, WHETHER OR NOT SPECIFICALLY SCHEDULED OR INDICATED ON DRAWINGS
6. TILE SUBCONTRACTOR SHALL USE LATEX ADDITIVE IN SETTING BED PER MANUFACTURER'S RECOMMENDATIONS UNLESS OTHERWISE NOTED
7. INSTALL ALL VINYL COMPOSITION TILE IN THE SAME DIRECTION UNLESS OTHERWISE NOTED
8. CARPET INSTALLER SHALL SUBMIT SEAMING SHOP DRAWING FOR ALL AREAS SPECIFIED TO RECEIVE CARPET FLOORING PRIOR TO COMMENCEMENT OF WORK
9. PAINT ALL EXPOSED AND SEMI-EXPOSED WOOD BLOCKING AND METAL SUPPORTS TO MATCH ADJACENT SURFACES. COORDINATE WITH INTERIOR DESIGNER
10. PAINTED FINISH ON METAL SURFACES SHALL BE SMOOTH, CLEAR AND FREE OF ALL BRUSH MARKS
11. ADHESIVE FOR WALL COVERING SHALL BE STRIPPABLE, MILDEW RESISTANT AND NON-STAINING PER MANUFACTURER'S REQUIREMENTS
12. ALL WALL COVERING SHALL BE WRAPPED AT LEAST 2" AROUND OUTSIDE CORNERS. MATCH ALL PATTERN AT SEAMS
13. WHERE WOOD BASE IS SPECIFIED, CAULK AT TOP OF BASE AND WALL WITH COLORED CAULK TO MATCH WOOD STAIN
14. INSTALL TRANSITION STRIP AT THRESHOLD WHERE DIFFERING FLOORING MATERIALS ABUTT, UNLESS OTHERWISE NOTED. COORDINATE COLOR/FINISH WITH DESIGNER
15. PAINT METAL WALL-MOUNTED ACCESS DOORS, GRILLES, RETURN AIR GRILLES, COVER PLATES, FAN COIL UNITS, FIRE EQUIPMENT CABINETS, AND ELECTRICAL CABINETS TO MATCH ADJACENT SURFACE UNLESS OTHERWISE NOTED.
16. ALL FLOOR FINISH CHANGES SHALL OCCUR AT THE CENTER LINE OF CLOSED DOORS.
17. FLOOR PATTERN TO CONTINUE UNDER ALL OPEN WOODWORK/ WORKSURFACES.
18. FLOORING CONTRACTOR SHALL MAKE ADJUSTMENTS TO ACCOMMODATE FOR ANY DIFFERENCES IN THE PILE HEIGHT OF THE CARPET.
19. PRIOR TO ORDERING, SUB-CONTRACTORS FOR FLOORING, PAINTING, AND MILLWORK SHALL SUBMIT TO ARCHITECT / INTERIOR DESIGNER AN 8" X 8" SAMPLE OF EACH MATERIAL SPECIFIED FOR FINAL APPROVAL.
20. IF ANY DISCREPANCIES OR OMISSIONS ARE NOTED IN THESE DRAWINGS, CONTACT INTERIOR DESIGNER OR ARCHITECT PRIOR TO ORDERING OR COMMENCING WORK.
21. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CHECK LEAD TIMES ON FINISHES IN ORDER TO AVOID DELAYING WORK.
22. ALIGN GROUT JOINTS AT FLOOR, BASE, AND WALL TILE. TILE INSTALLER TO USE RAIMONDI BREAKAWAY LEVELING SYSTEM CLIPS & WEDGES OR EQUAL. INSTALLER TO USE PROPER LEVELING SPACERS IN ORDER TO OBTAIN GROUT JOINT SIZE SPECIFIED BY ARCHITECT OR INTERIOR DESIGNER.

ROOM FINISH SCHEDULE

ROOM NUMBER	ROOM NAME	FLOORING	BASE	CEILING	WALL FINISH	REMARKS
1ST FLOOR						
101	SECOND GRADE	RTF-01, RTF-02, RTF-03	RBS-01	ACT-01	PNT-01	
102	SECOND GRADE	RTF-01, RTF-02, RTF-03	RBS-01	ACT-01	PNT-01	
103	CORRIDOR	RTF-01	RBS-01	ACT-01	PNT-02	
103B	STAFF RESTROOM	CTF-01	CTB-01	VFP-01	CTW-01, PNT-02	
103C	STAFF RESTROOM	CTF-01	CTB-01	VFP-01	CTW-01, PNT-02	
104	STORAGE / LOUNGE	RTF-01	RBS-01	ACT-01	PNT-01	
105	FIRST GRADE	RTF-01, RTF-02, RTF-03	RBS-01	ACT-01, VFP-01	PNT-01	
106	SECOND GRADE	RTF-01, RTF-02, RTF-03	RBS-01	ACT-01	PNT-01	
107	JANITOR	SCN-01	RBS-01		PNT-01	
108	STORAGE	SCN-01	RBS-01		PNT-01	
109	ELEC.	SCN-01	RBS-01	ACT-01	PNT-01	
110	MECH	SCN-01	RBS-01		PNT-01	
111	IT	SCN-01	RBS-01	ACT-01	PNT-01	
112A	BOYS RESTROOM	CTF-01	CTB-01	VFP-01	CTW-01, PNT-02	
112B	GIRLS RESTROOM	CTF-01	CTB-01	VFP-01	CTW-01, PNT-02	
113	FIRST GRADE	RTF-01, RTF-02, RTF-03	RBS-01	ACT-01, VFP-01	PNT-01	
114	KINDERGARTEN	RTF-01, RTF-02, RTF-03	RBS-01	ACT-01, VFP-01	PNT-01	
115	FIRST GRADE	RTF-01, RTF-02, RTF-03	RBS-01	ACT-01, VFP-01	PNT-01	
116	KINDERGARTEN	RTF-01, RTF-02, RTF-03	RBS-01	ACT-01, VFP-01	PNT-01	
117	KINDERGARTEN	RTF-01, RTF-02, RTF-03	RBS-01	ACT-01, VFP-01	PNT-01	
118	CORRIDOR	RTF-01	RBS-01	ACT-01	PNT-02	
119	CORRIDOR	RTF-01	RBS-01	ACT-01	PNT-02	

ROOM FINISH NOTES

1. EXAMPLE NOTE: PROVIDE TWO 4X8 MARKERBOARDS ON NORTH WALL
2. EXAMPLE NOTE: MIRRORS ON SOUTH WALL

ROOM FINISH TAG LEGEND

ROOM NAME
(2201)
PNT-1
RBS-1
CPT-1
1,2,4

- ROOM NAME
- ROOM NUMBER
- WALL MATERIAL CODE
- BASE MATERIAL CODE
- FLOOR MATERIAL CODE
- ROOM FINISH NOTES

MATERIAL CODE LEGEND

ACT	ACOUSTICAL CEILING TILE	PTB	PORCELAIN TILE BASE
AWP	ACOUSTICAL WRAPPED PANEL	PTF	PORCELAIN TILE FLOORING
CCS	COLORED CONCRETE SURFACE	PTW	PORCELAIN TILE WALL
CHD	CONCRETE LIQUID HARDENER	PWB	PAINTED WALL BASE
CKT	CORK TILE	RBS	RUBBER BASE
CON	CONCRETE	RBT	RUBBER TILE
CPT	CARPET	RTF	RESILIENT TILE FLOORING
CRT	ACOUSTICAL CURTAIN	SCN	SEALED CONCRETE
CSL	CONCRETE SEALER	SDT	STATIC DISSIPATIVE TILE
CTB	CERAMIC TILE BASE	SHV	SHEET VINYL
CTF	CERAMIC TILE FLOORING	SPF	SPORTS FLOORING
CTW	CERAMIC TILE WALL	STC	STAMPED CONCRETE
EPX	EPOXY FLOORING	STF	PERFORMANCE STAGE FLOORING
ETR	EXISTING TO REMAIN	STN	STONE COUNTER
FWC	FABRIC WALLCOVERING	TBD	TO BE DETERMINED
GTF	GROUT, FLOORING	TZB	TERRAZZO BASE
GTW	GLASS TILE WALL	TZZ	TERRAZZO FLOORING
LIN	LINOLEUM	VCT	VINYL COMPOSITION TILE
MCC	MULTI-COLORED COATING	VFP	VINYL FACE CEILING PANEL
MEL	MELAMINE	VPF	VINYL PLANK FLOORING
MPW	METAL PANEL WALL	VWC	VINYL WALLCOVERING
PLM	PLASTIC LAMINATE	WDB	WOOD BASE
PNC	PAINTED CONCRETE	WDF	WOOD FLOORING
PNT	PAINT		

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LS3P ASSOCIATES LTD. REGISTERED ARCHITECTURAL CORPORATION CERT. NO. 50417 NORTH CAROLINA RALEIGH, NORTH CAROLINA

MARY H. BREHEER REGISTERED ARCHITECT 13105 NORTH CAROLINA April 22, 2020 Raleigh, N.C.

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FIRST FLOOR FINISH PLAN & FINISH SCHEDULE

A-731

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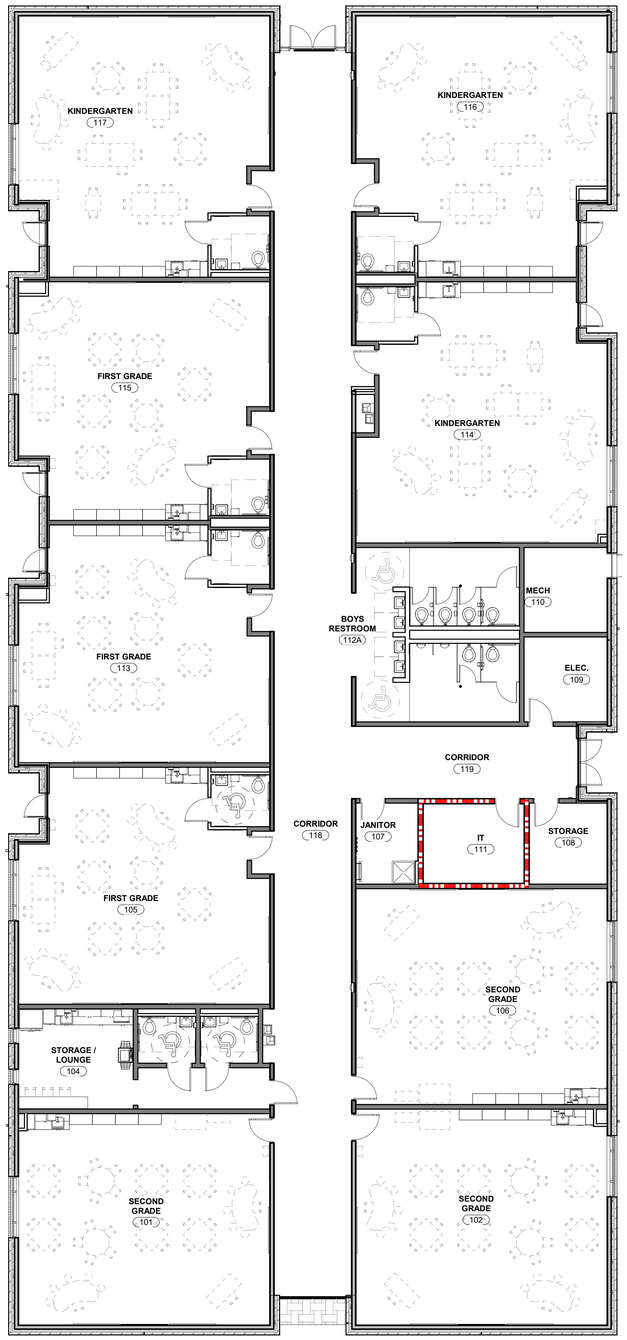

NOTE: ALL FURNITURE IS TO BE PROVIDED BY OWNER. SHOWN IN PLAN FOR REFERENCE ONLY

A1 FIRST FLOOR FURNITURE PLAN
1/8" = 1'-0"

BRUNSWICK CTY

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PROJECT: 8201-191240
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FIRST FLOOR FURNITURE PLAN

A-741

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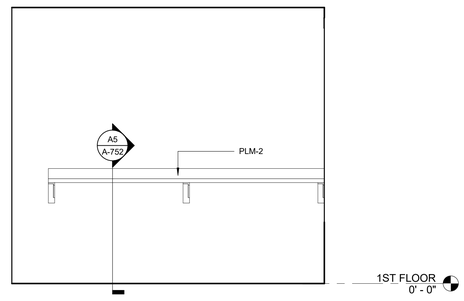
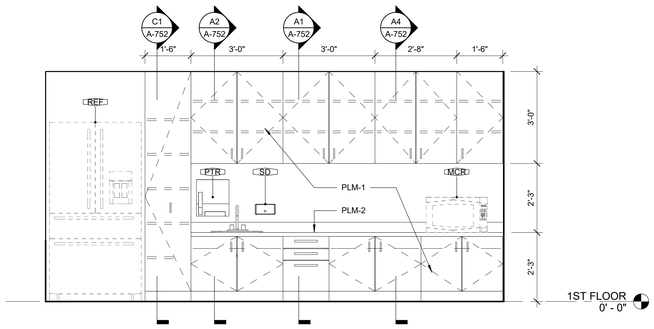
EQUIPMENT & ACCESSORIES LEGEND

	DESCRIPTION	PROVIDED BY	INSTALLED BY
REF	REFRIGERATOR & FREEZER W/ICE MAKER	OWNER	CONTRACTOR
PTR	PAPER TOWEL DISPENSER, ROLL	OWNER	CONTRACTOR
MCR	MICROWAVE	OWNER	CONTRACTOR
SD	LIQUID SOAP DISPENSER	OWNER	CONTRACTOR

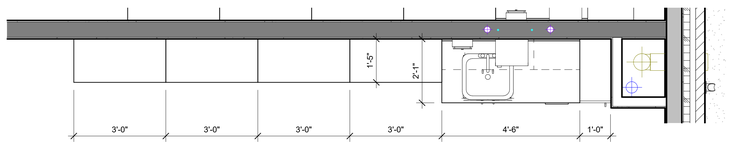
B1 TYP. CLASSROOM CASEWORK ELEVATION
1/2" = 1'-0"



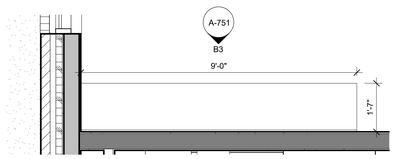
B3 STORAGE/LOUNGE COUNTER ELEVATION
1/2" = 1'-0"



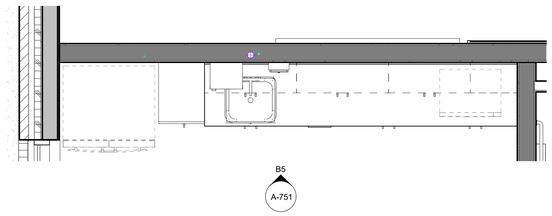
B5 STORAGE/LOUNGE CASEWORK ELEVATION
1/2" = 1'-0"



A1 TYP. CLASSROOM CASEWORK PLAN
1/2" = 1'-0"



A3 STORAGE/LOUNGE COUNTER PLAN
1/2" = 1'-0"



A5 STORAGE/LOUNGE CASEWORK PLAN
1/2" = 1'-0"

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4/22/2020 12:34:27 PM

BRUNSWICK CTY

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LS3P ASSOCIATES LTD. REGISTERED ARCHITECTURAL COMPANY CERT. NO. 50417 NORTH CAROLINA RALEIGH, NORTH CAROLINA

MARY H. BREHLER REGISTERED ARCHITECT 13105 NORTH CAROLINA Raleigh, N.C. April 22, 2020

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REVISIONS:

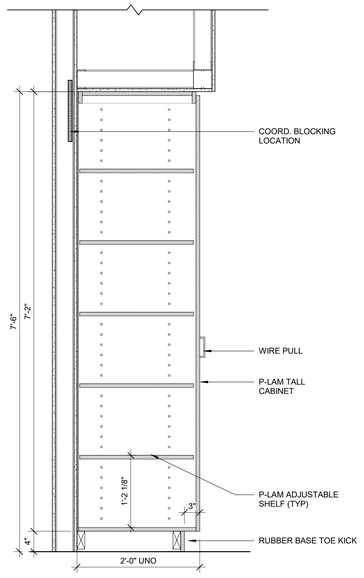
No.	Description	Date

PROJECT: 8201-191240
DATE: 04.22.2020
DRAWN BY: AL
CHECKED BY: MB

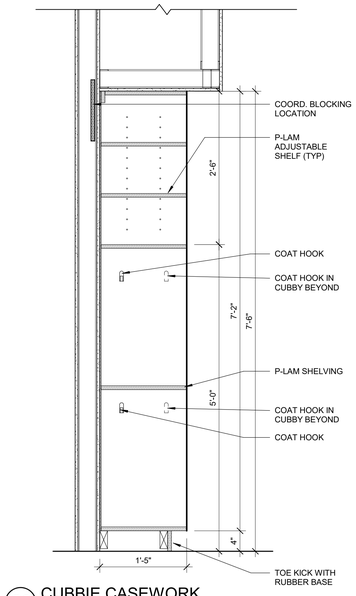
CASEWORK PLANS & ELEVATIONS

A-751

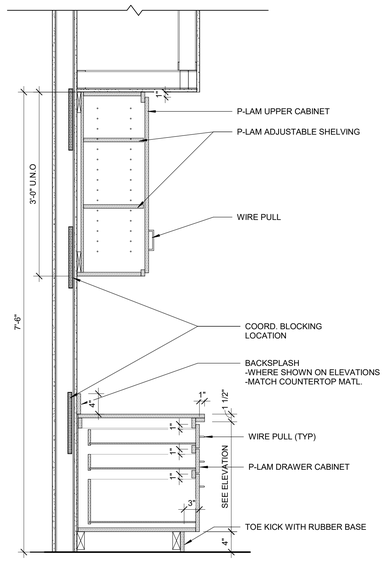
BID DOCUMENTS



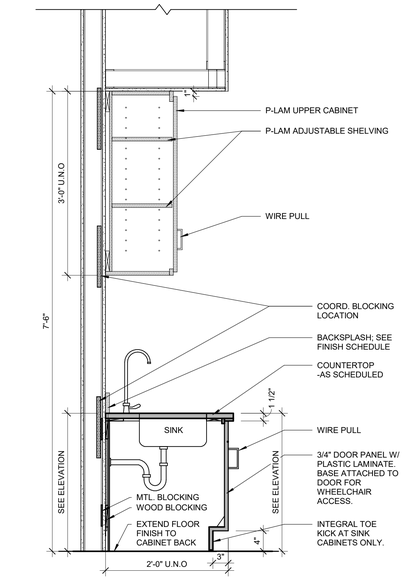
C1 TALL CABINET
1" = 1'-0"



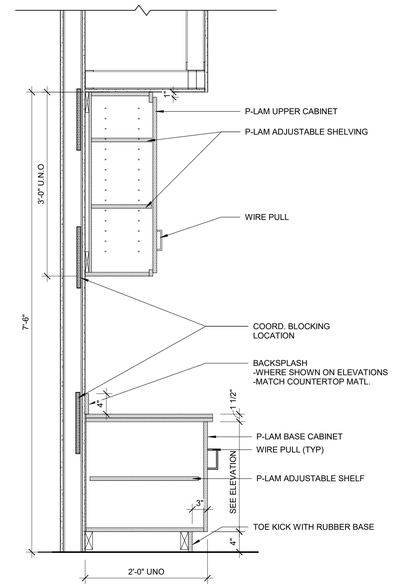
C2 CUBBIE CASEWORK
1" = 1'-0"



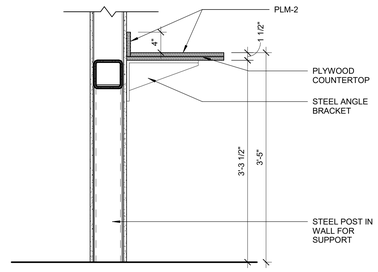
A1 DRAWER BASE & UPPER
1" = 1'-0"



A2 BASE CABINET & UPPER W/ SINK
1" = 1'-0"



A4 BASE CABINET & UPPER
1" = 1'-0"



A5 STORAGE/LOUNGE COUNTER
1" = 1'-0"

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4/22/2020 12:34:28 PM

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REVISIONS:

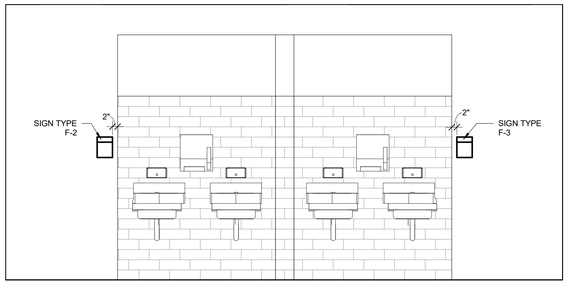
No.	Description	Date

PROJECT: 8201-191240
DATE: 04.22.2020
DRAWN BY: AL
CHECKED BY: MB

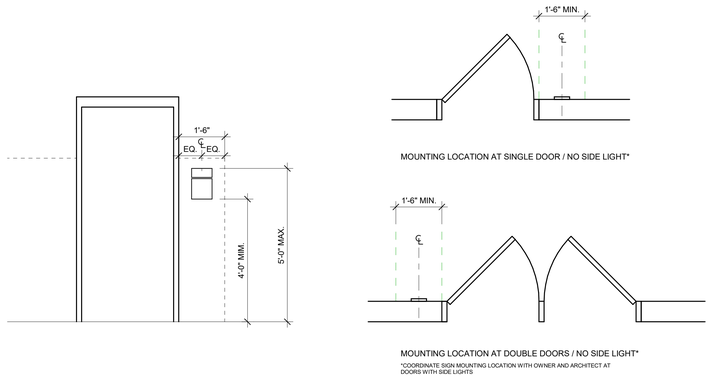
CASEWORK SECTIONS

A-752

BID DOCUMENTS



D1 GROUP TOILET SIGNAGE
1/2" = 1'-0"



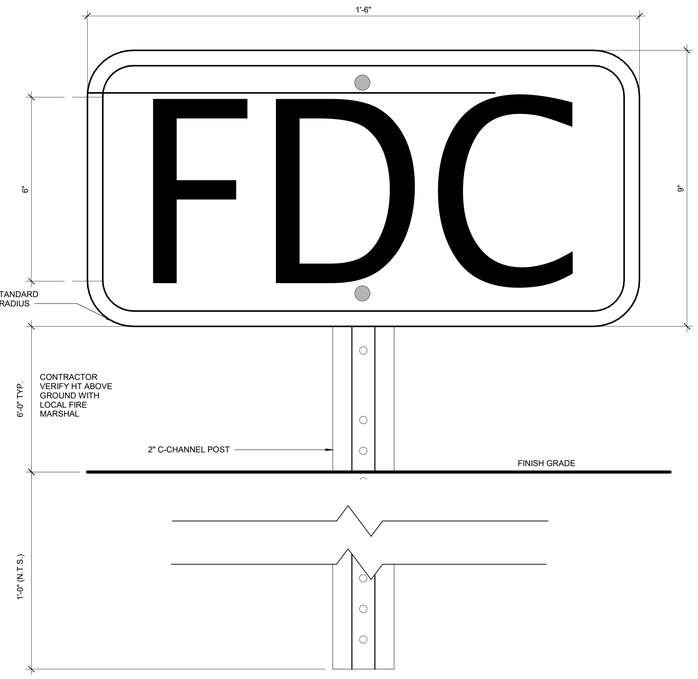
D3 TYPICAL SIGNAGE MOUNTING LOCATIONS
1/2" = 1'-0"

NOTE: BRAILLE SHOWN FOR REFERENCE ONLY. VERIFY ALL SPELLING MATCHES SIGNAGE

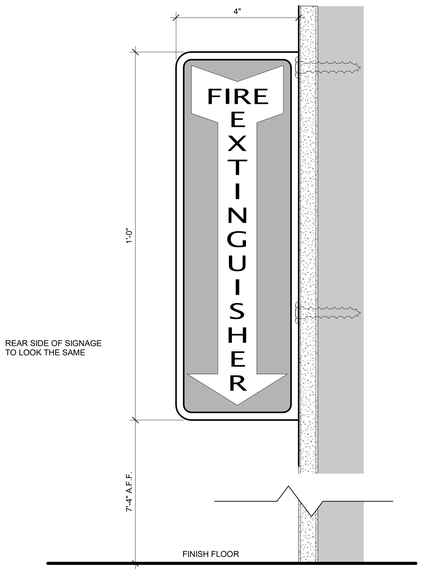


TO BE PLACED INSIDE EACH STAIR
ONE AT EACH LANDING

TYPE Q-EX

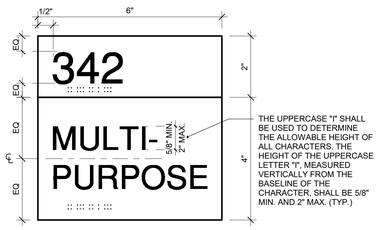


FIRE DEPARTMENT CONNECTION SIGN, SEE SITE PLAN

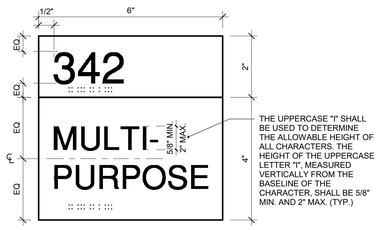


PROVIDE AT ALL FIRE EXTINGUISHER LOCATIONS

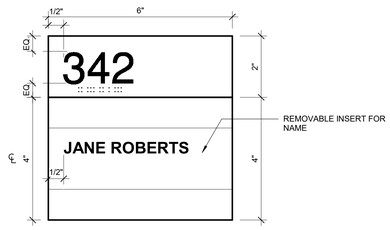
TYPE S



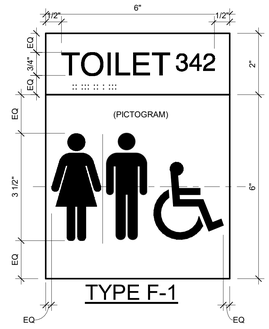
TYPE B



TYPE B-EX



TYPE D



TYPE F-1



TYPE F-2



TYPE F-3

A1 TYPICAL SIGNAGE
6" = 1'-0"

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INTERIOR SIGNAGE NOTES

1. REFER TO SIGNAGE PLAN FOR TYPICAL ROOM IDENTIFICATION SIGNAGE LOCATIONS. REFER TO DETAIL _D3_/A-801_ FOR TYPICAL MOUNTING HEIGHT.
2. "-EX" MODIFIER ON A SIGN TYPE INDICATES THAT SIGN IS TO BE EXTERIOR GRADE.

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REVISIONS:

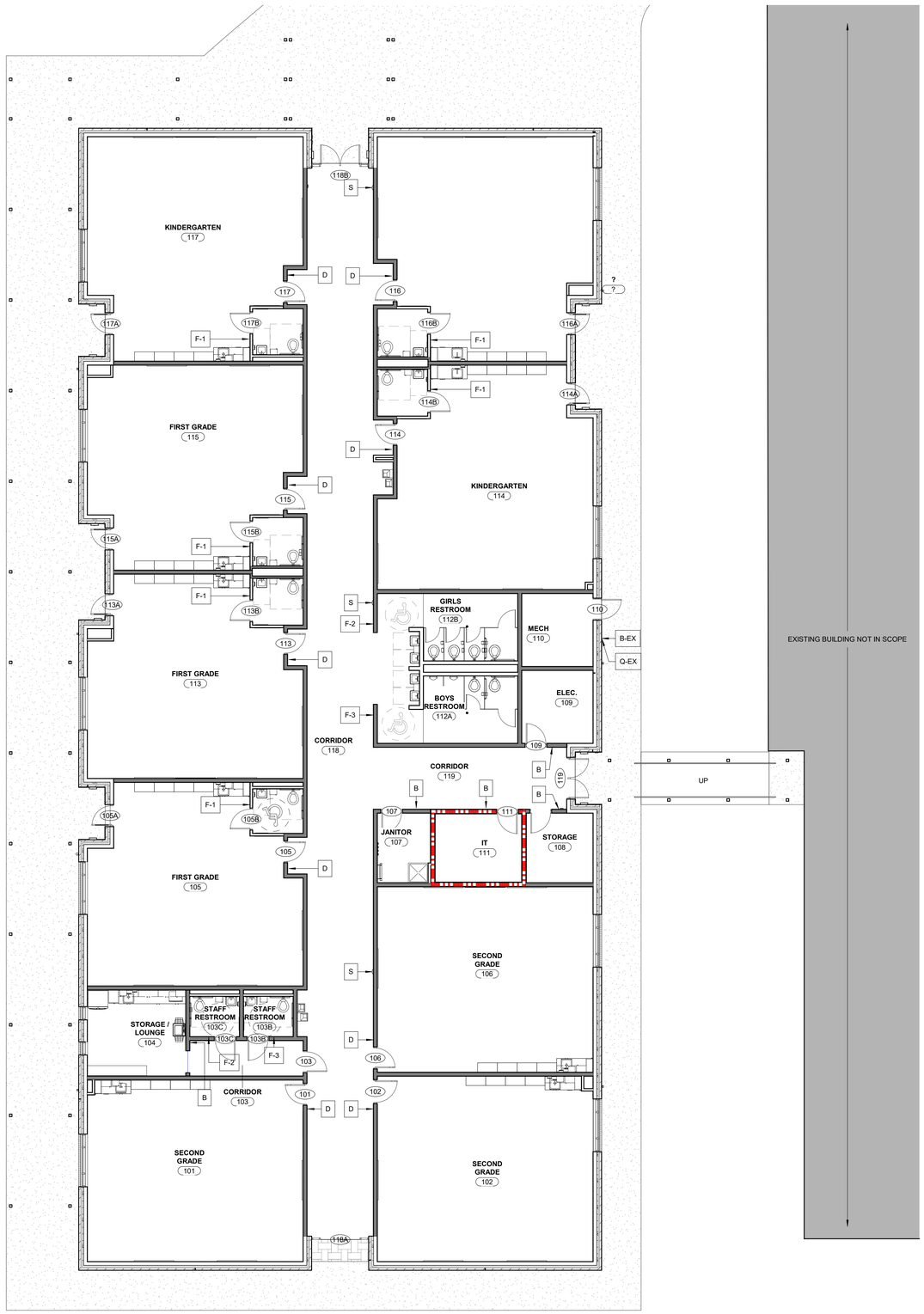
No.	Description	Date

PROJECT: 8201-191240
DATE: 04.22.2020
DRAWN BY: AL
CHECKED BY: MB

SIGNAGE

A-801

BID DOCUMENTS



A1 FIRST FLOOR PLAN - SIGNAGE PLAN

1/8" = 1'-0"

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MARY H. BRETHER REGISTERED ARCHITECT 13105 April 25, 2020 NORTH CAROLINA Raleigh, N.C.

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REVISIONS:

No.	Description	Date

PROJECT: 8201-191240
DATE: 04.22.2020
DRAWN BY: AL
CHECKED BY: MB

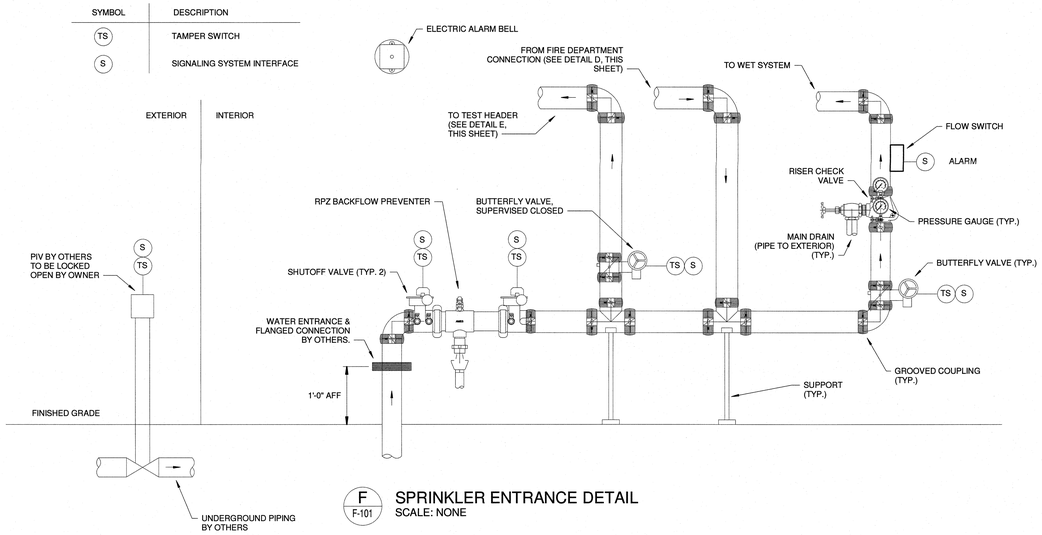
SIGNAGE PLAN

A-803

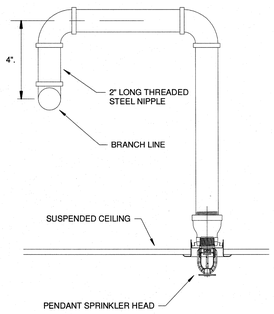
BID DOCUMENTS

LEGEND

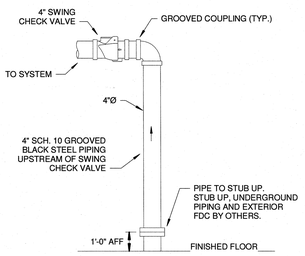
SYMBOL	DESCRIPTION
TS	TAMPER SWITCH
S	SIGNALING SYSTEM INTERFACE



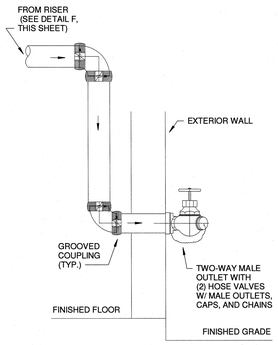
F / F-101 SPRINKLER ENTRANCE DETAIL
SCALE: NONE



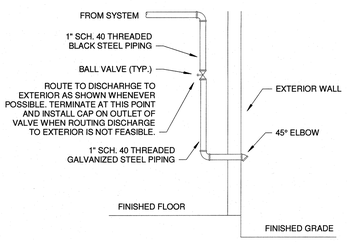
E / F-101 ARMOVER DETAIL
SCALE: NONE



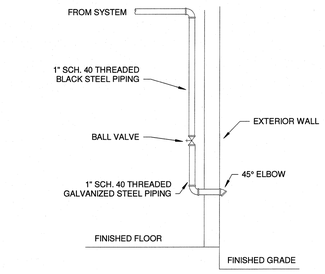
D / F-101 FIRE DEPT. CONNECTION DETAIL
SCALE: NONE



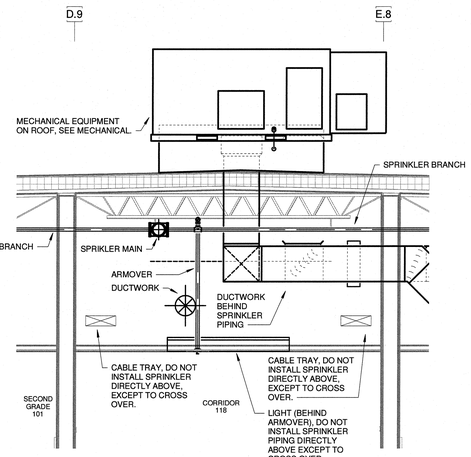
C / F-101 TEST HEADER DETAIL
SCALE: NONE



B / F-101 AUXILIARY DRAIN DETAIL
SCALE: NONE



A / F-101 INSPECTOR'S TEST CONNECTION
SCALE: NONE



2 / F-101 ABOVE CEILING CORRIDOR SECTION
SCALE: 1/2" = 1'-0"

GENERAL NOTES:

1. SPRINKLER CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH BUILDING STRUCTURE AND SYSTEMS, AS WELL AS THE WORK OF OTHER TRADES IN ORDER TO ELIMINATE CONFLICTS.

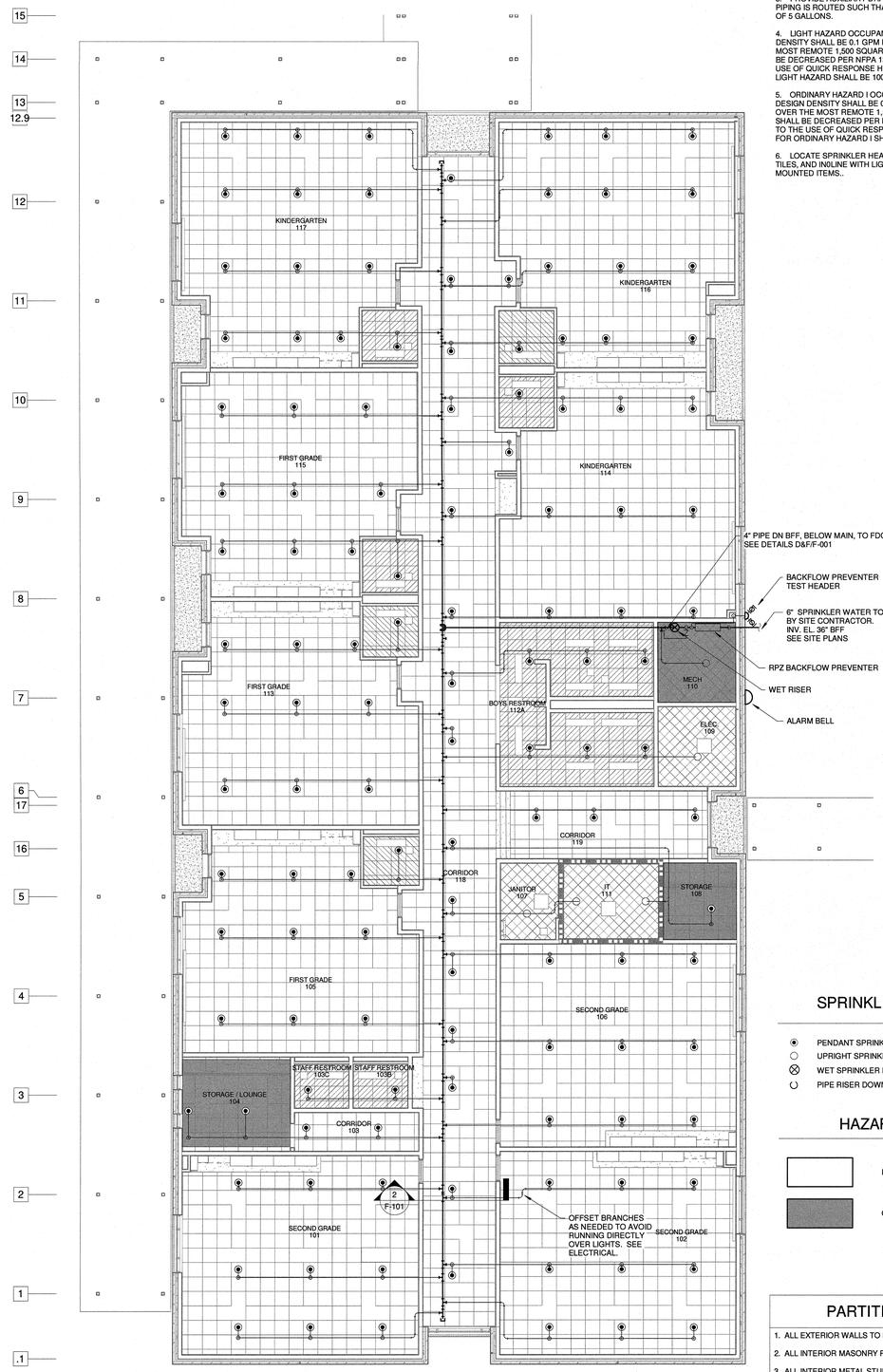
2. SPRINKLER CONTRACTOR'S DESIGN SHALL BE PER NFPA 13 AND THE NC STATE FIRE PREVENTION CODE (LATEST EDITION APPROVED BY THE NC BUILDING CODE COUNIL WITH NC AMENDMENTS).

3. PROVIDE AUXILIARY DRAINS WHEREVER WET SYSTEM PIPING IS ROUTED SUCH THAT WATER IS TRAPPED IN EXCESS OF 5 GALLONS.

4. LIGHT HAZARD OCCUPANCIES: PER NFPA 13, DESIGN DENSITY SHALL BE 0.1 GPM PER SQUARE FOOT OVER THE MOST REMOTE 1,500 SQUARE FEET. REMOTE AREA SHALL BE DECREASED PER NFPA 13 WHERE POSSIBLE DUE TO THE USE OF QUICK RESPONSE HEADS. HOSE ALLOWANCE FOR LIGHT HAZARD SHALL BE 100 GPM PER NFPA 13.

5. ORDINARY HAZARD I OCCUPANCIES: PER NFPA 13, DESIGN DENSITY SHALL BE 0.15 GPM PER SQUARE FOOT OVER THE MOST REMOTE 1,500 SQUARE FEET. REMOTE AREA SHALL BE DECREASED PER NFPA 13 WHERE POSSIBLE DUE TO THE USE OF QUICK RESPONSE HEADS. HOSE ALLOWANCE FOR ORDINARY HAZARD I SHALL BE 250 GPM PER NFPA 13.

6. LOCATE SPRINKLER HEADS IN THE CENTER OF CEILING TILES, AND INLINE WITH LIGHTS AND OTHER CEILING MOUNTED ITEMS.,



1 / F-101 FIRST FLOOR FIRE PROTECTION CEILING
SCALE: 1/8" = 1'-0"

SPRINKLER LEGEND

- PENDANT SPRINKLER HEAD
- UPRIGHT SPRINKLER HEAD
- WET SPRINKLER RISER
- PIPE RISER DOWN

HAZARD LEGEND

- LIGHT HAZARD
- ORDINARY HAZARD I

PARTITION LEGEND

1. ALL EXTERIOR WALLS TO BE U.N.O.
2. ALL INTERIOR MASONRY PARTITIONS TO BE U.N.O.
3. ALL INTERIOR METAL STUD PARTITIONS TO BE TYPE U.N.O.

- NON-RATED PARTITION TO CEILING
- NON-RATED PARTITION TO DECK
- 1 HR. RATED PARTITION TO DECK
- 2 HR. RATED PARTITION TO DECK
- 4 HR. RATED PARTITION TO DECK

NOTE: SEE SHEET A003 FOR CONSTRUCTION OF PARTITION TYPES.

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NC LICENSE# C-1073

JOB # 19052

NORTH CAROLINA PROFESSIONAL SEAL 043164 ENGINEER CASEY D. GILMAN

REVISIONS:

No.	Description	Date

PROJECT: 8201-191240
DATE: 04.22.2020
DRAWN BY: CDG
CHECKED BY: CDG

FIRE PROTECTION PLANS

F-101 OF 2

BID DOCUMENTS



FLOW HYDRANT

APPROXIMATE LOCATION OF PROPOSED REMOTE FDC, SEE CIVIL DRAWINGS

PROPOSED POST INDICATOR VALVE LOCATION, SEE CIVIL DRAWINGS

TEST HYDRANT

APPROXIMATE LOCATION OF PROPOSED SPRINKLER ENTRANCE

NOTE: SEE SITE PLANS FOR SITE PIPING LAYOUT AND SIZES

1 / F-102 FIRE PROTECTION SITE DIAGRAM
SCALE: NO SCALE

FLOW TEST INFORMATION
DATE: 8/7/2019
TIME: 10:00 AM
BY: BRUNSWICK COUNTY PUBLIC UTILITIES
PUMPS OPERATING: BPS #6 PUMP 2
STATIC PRESSURE: 39 PSI
RESIDUAL PRESSURE: 33 PSI
FLOW: 840 GPM

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OFFICE@CHEATHAMPA.COM
NC LICENSE# C-1073

JOB # 19052

NORTH CAROLINA PROFESSIONAL SEAL 043164 ENGINEER CASEY D. GILMAN

REVISIONS:

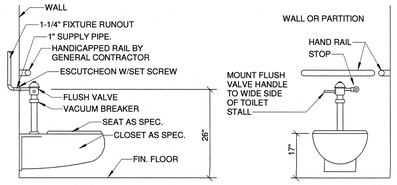
No.	Description	Date

PROJECT: 8201-191240
DATE: 04.22.2020
DRAWN BY: CDG
CHECKED BY: CDG

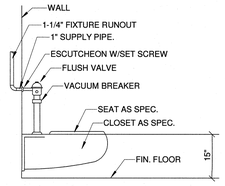
FIRE PROTECTION SITE DIAGRAM

F-102 OF 2

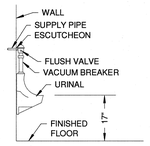
BID DOCUMENTS



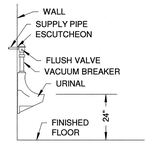
A P-001 ADULT ADA WATER CLOSET (WC-1) DETAIL
SCALE: NONE



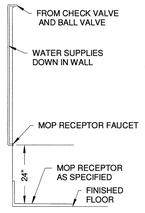
B P-001 ADULT WATER CLOSET (WC-2) DETAIL
SCALE: NONE



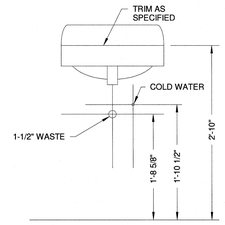
C P-001 ADULT ADA URINAL (U-1) ROUGH-IN DETAIL
SCALE: NONE



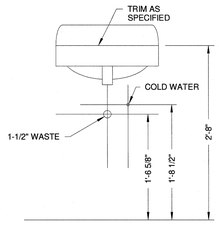
D P-001 ADULT STANDARD URINAL (U-2) ROUGH-IN DETAIL
SCALE: NONE



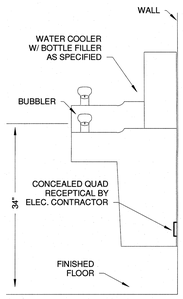
E P-001 MOP RECEPTOR (MR-1) DETAIL
SCALE: NONE



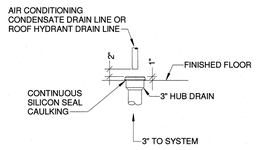
F P-001 ADULT ADA LAVATORY (L-1,L-3) ROUGH-IN
SCALE: NONE



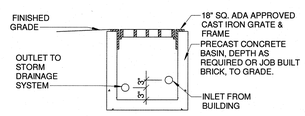
G P-001 ADULT STANDARD LAVATORY (L-2) ROUGH-IN ELEVATION
SCALE: NONE



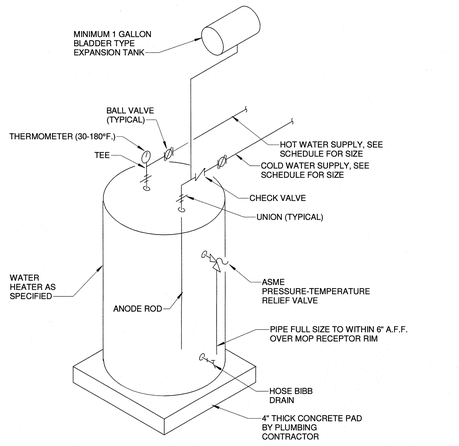
J P-001 DUAL HEIGHT EWC DETAIL (EWC-1)
SCALE: NONE



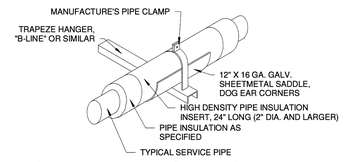
K P-001 HUB DRAIN (HD-1) DETAIL
SCALE: NONE



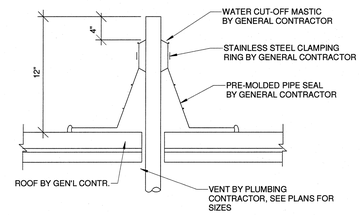
L P-001 CONDENSATE RELIEF BASIN
SCALE: NONE



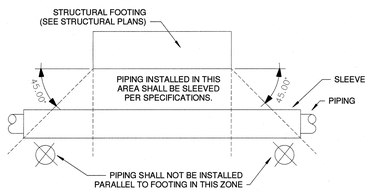
M P-001 WATER HEATER (WH-1) PIPING DETAIL
SCALE: NONE



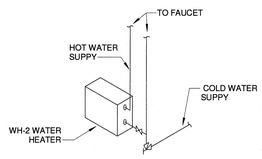
N P-001 PIPE HANGER DETAILS
SCALE: NONE



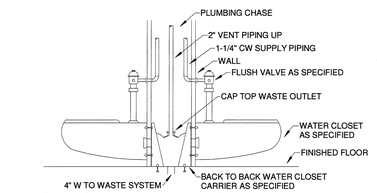
P P-001 VENT THRU ROOF DETAIL
SCALE: NONE



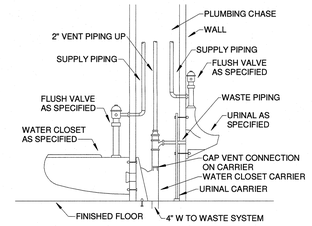
Q P-001 PIPING BELOW FOOTING DETAIL
SCALE: NONE



R P-001 INSTANTANEOUS WATER HEATER (WH-2) DETAIL
SCALE: NONE



S P-001 BACK TO BACK WATER CLOSET DETAIL
SCALE: NONE



T P-001 BACK TO BACK WATER CLOSET AND URINAL DETAIL
SCALE: NONE

PLUMBING FIXTURE SCHEDULE

SYMBOL	DESCRIPTION	ROUGH-IN SIZES			REMARKS
		WASTE	C.W.	H.W.	
WC-1	WATER CLOSET - ADULT ADA	4"	1-1/4"	-	DETAIL A/P-001
WC-2	WATER CLOSET - ADULT STANDARD	4"	1-1/4"	-	DETAIL B/P-001
U-1	URINAL - ADULT ADA	1-1/2"	3/4"	-	DETAIL C/P-001
U-2	URINAL - ADULT ADA	1-1/2"	3/4"	-	DETAIL D/P-001
L-1	LAVATORY- ADULT ADA	1-1/2"	1/2"	-	DETAIL F/P-001
L-2	LAVATORY - ADULT STANDARD	1-1/2"	1/2"	-	DETAIL G/P-001
L-3	STAFF LAVATORY	1-1/2"	1/2"	-	DETAIL F/P-001
SK-1	CLASSROOM SINK	1-1/2"	1/2"	-	
SK-2	LOUNGE SINK	1-1/2"	1/2"	1/2"	
MR-1	MOP RECEPTOR	3"	1/2"	1/2"	DETAIL E/P-001
EWC-1	ELECTRIC WATER COOLER	1-1/2"	1/2"	-	DUAL HEIGHT W/ BOTTLE FILLER, DETAIL J/P-001
HB-1	HOSE BIBB	-	1/2"	-	MOUNT 12" A.F.F.
HB-2	WALL HYDRANT	-	3/4"	-	MOUNT 24" A.F.G.
HB-3	HOSE BIBB IN BOX	-	1/2"	-	MOUNT 12" A.F.F.
HB-4	ROOF HYDRANT	1/8"	1"	-	
FD-1	FLOOR DRAIN	4"	-	-	
FD-2	FLOOR DRAIN	2"	-	-	
HD-1	HUB DRAIN	3"	-	-	DETAIL K/P-001
CB-1	ICE MAKER CONNECTION BOX	-	1/2"	-	
HT-1	HYDROCUMULATOR TANK	-	1-1/2"	-	52 GAL ASME, PRECHARGE TO 50 PSI

WATER HEATER SCHEDULE

SYMBOL	DESCRIPTION	ROUGH-IN SIZES		TEMP. SETTING	STORAGE CAPACITY	RECOVERY	FUEL	LOAD	ELEC.	DETAIL
		C.W.	H.W.							
WH-1	TANK TYPE ELECTRIC WATER HEATER	1-1/4"	1-1/4"	140°F	10 GAL.	18 GPH	ELECTRIC	4.5 kW	208V, 1Ø	M/P-001
WH-2	TANKLESS ELECTRIC WATER HEATER	3/4"	3/4"	110°F	N/A	N/A	ELECTRIC	14 kW	208V, 1Ø	R/P-001

DOMESTIC WATER BOOSTER PUMP SCHEDULE

TOTAL SYSTEM GPM	TOTAL SYSTEM PRESSURE (PSI)	BOOST REQUIRED (PSI)	MIN. SUCTION AVAILABLE (PSI)	NO. OF PUMPS	GPM EACH PUMP	MOTOR HP	MOTOR RPM	HEADER SIZE (IN.)	ELECTRICAL	MODEL	NOTES
95.5	60	46	14	2	95.5	5	3500	4"	480V, 3Ø	HYFAB eMVP-D15G	1, 2

1. PROVIDE WITH VARIABLE SPEED DRIVES.
2. PROVIDE WITH 52 GALLON ASME RATED HYDROCUMULATOR TANK .

LEGEND

W	WASTE PIPING
V	VENT PIPING
C	CONDENSATE PIPING
RDL	ROOF DRAIN LEADER
ORDL	OVERFLOW ROOF DRAIN LEADER
CW	COLD WATER PIPING
HW	HOT WATER PIPING
	BALL/BUTTERFLY VALVE
	CHECK VALVE
	VALVE IN RISE
	PIPE ELBOW TURNED DOWN
	PIPE ELBOW TURNED UP
	PIPE TEE TURNED DOWN
	PIPE TEE TURNED UP
	UNION
	STRAINER
	DOUBLE CHECK VALVE BACKFLOW PREVENTER
	REDUCED PRESSURE BACKFLOW PREVENTER
'A'	SHOCK ARRESTER, 'A' INDICATES PLUMBING DRAINAGE INSTITUTE STANDARD SIZE
	ASME PRESSURE TEMPERATURE RELIEF VALVE
VTR	VENT THRU ROOF
CO	CLEANOUT
ECO	EXTERIOR CLEANOUT
WCO	WALL CLEANOUT
FCO	FLOOR CLEANOUT
RD	ROOF DRAIN
ORD	OVERFLOW ROOF DRAIN
AFF	ABOVE FINISHED FLOOR
BFF	BELOW FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
BFG	BELOW FINISHED GRADE
INV.	INVERT ELEVATION
CNTE	CONNECT NEW TO EXISTING
NO	NORMALLY OPEN
NC	NORMALLY CLOSED

TOTAL CONNECTED LOAD

WASTE FIXTURE UNITS =	84.5 F.U.
COLD WATER DEMAND =	95.5 GPM
HOT WATER DEMAND =	8 GPM

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NC LICENSE# C-1073

JOB # 19052



REVISIONS:

No.	Description	Date

PROJECT: 8201-191240
DATE: 04.22.2020
DRAWN BY: SAL
CHECKED BY: CDG

PLUMBING LEGEND, SCHEDULES AND DETAILS

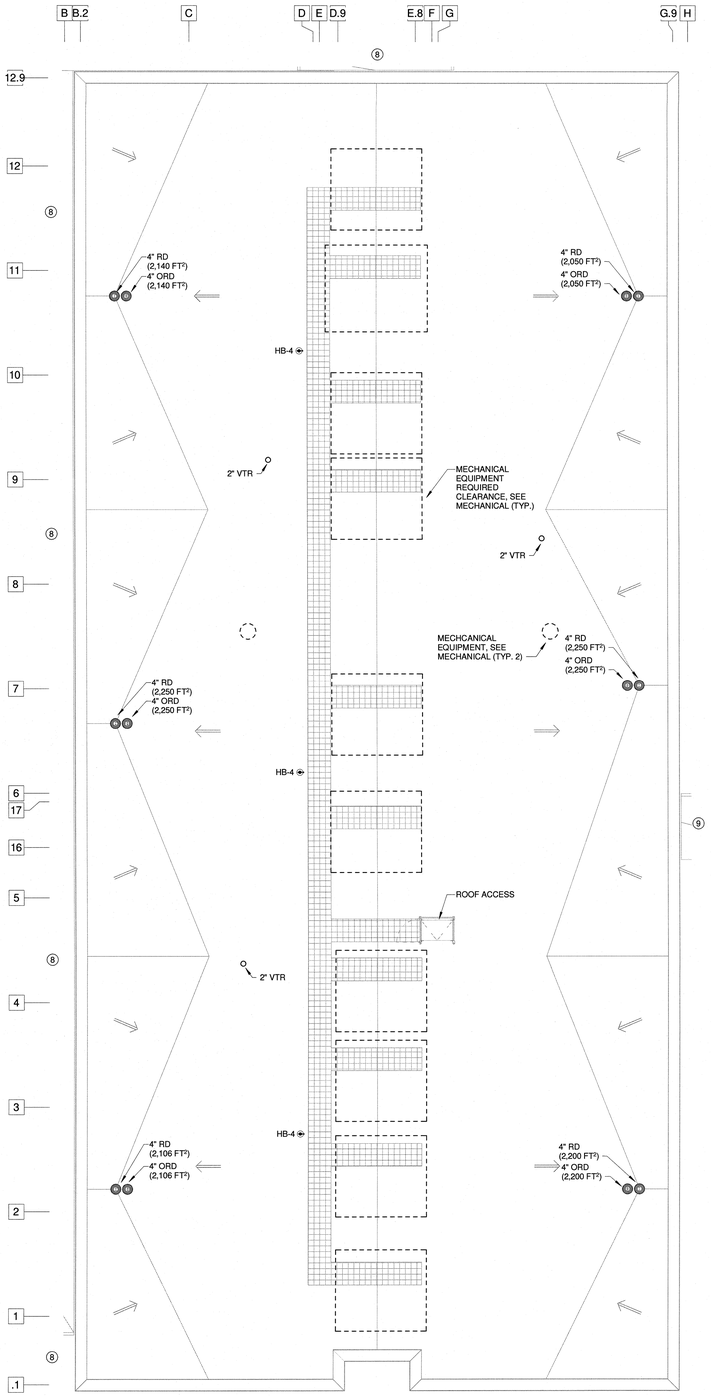
P-001

OF 4

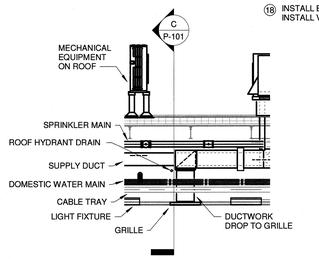
BID DOCUMENTS

KEYED NOTES: (THIS SHEET ONLY)

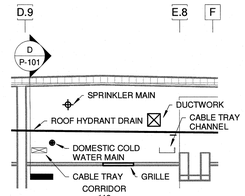
1. NOT USED.
2. 4" RDL UP TO 4" RD.
3. 4" ORDL UP TO 4" ORD.
4. 4" RDL SLOPED AT 1/4"/FT
5. 6" ORDL SLOPED AT 1/4"/FT
6. 6" ORDL SLOPED AT 1/4"/FT OVER 4" RDL SLOPED AT 1/4"/FT, SEE A/P-101
7. TERMINATE ORDL 12" AFF WITH DOWNSPOUT NOZZLE AND MANUFACTURERS BIRD SCREEN. SEE SPECIFICATIONS.
8. SEE P-102 FOR CANOPY PLANS.
9. SEE P-102 FOR EAST ENTRY CANOPY PLANS.
10. CONNECT 1-1/4" CW TO ROOF HYDRANT ON ROOF.
11. CONNECT 1/4" DWV COPPER PIPING TO ROOF HYDRANT DRAIN AND SLOPE @ 1/8"/FT.
12. INSTALL BALL VALVE AND SHOCK ARRESTOR 'A' SERVING ROOF HYDRANT IN EASILY ACCESSIBLE LOCATION.
13. NOT USED.
14. PIPE ROOF HYDRANT DRAIN PIPING OVER TO HD-1, SEE DETAIL K/P-001.
15. 1/4" (DWV COPPER PIPING) ROOF HYDRANT DRAIN IN CEILING CAVITY SLOPE @ 1/8"/FT.
16. DROP ROOF HYDRANT DRAIN DN BELOW STRUCTURE.
17. RDL DN BFG, PROVIDE WCO AT BASE.
18. INSTALL BALL VALVE IN EASILY ACCESSIBLY LOCATION. DO NOT INSTALL VALVE ABOVE CABLE TRAY.



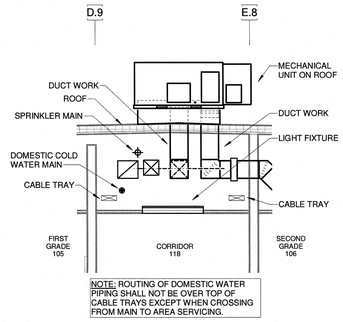
2 P-101 PLUMBING ROOF PLAN
SCALE: 1/8" = 1'-0"



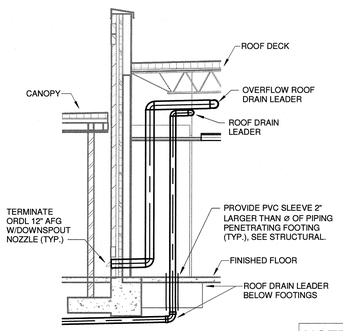
D P-101 ROOF HYDRANT DRAIN CORRIDOR SECTION 2
SCALE: 1/4" = 1'-0"



C P-101 ROOF HYDRANT DRAIN CORRIDOR SECTION 1
SCALE: 1/4" = 1'-0"

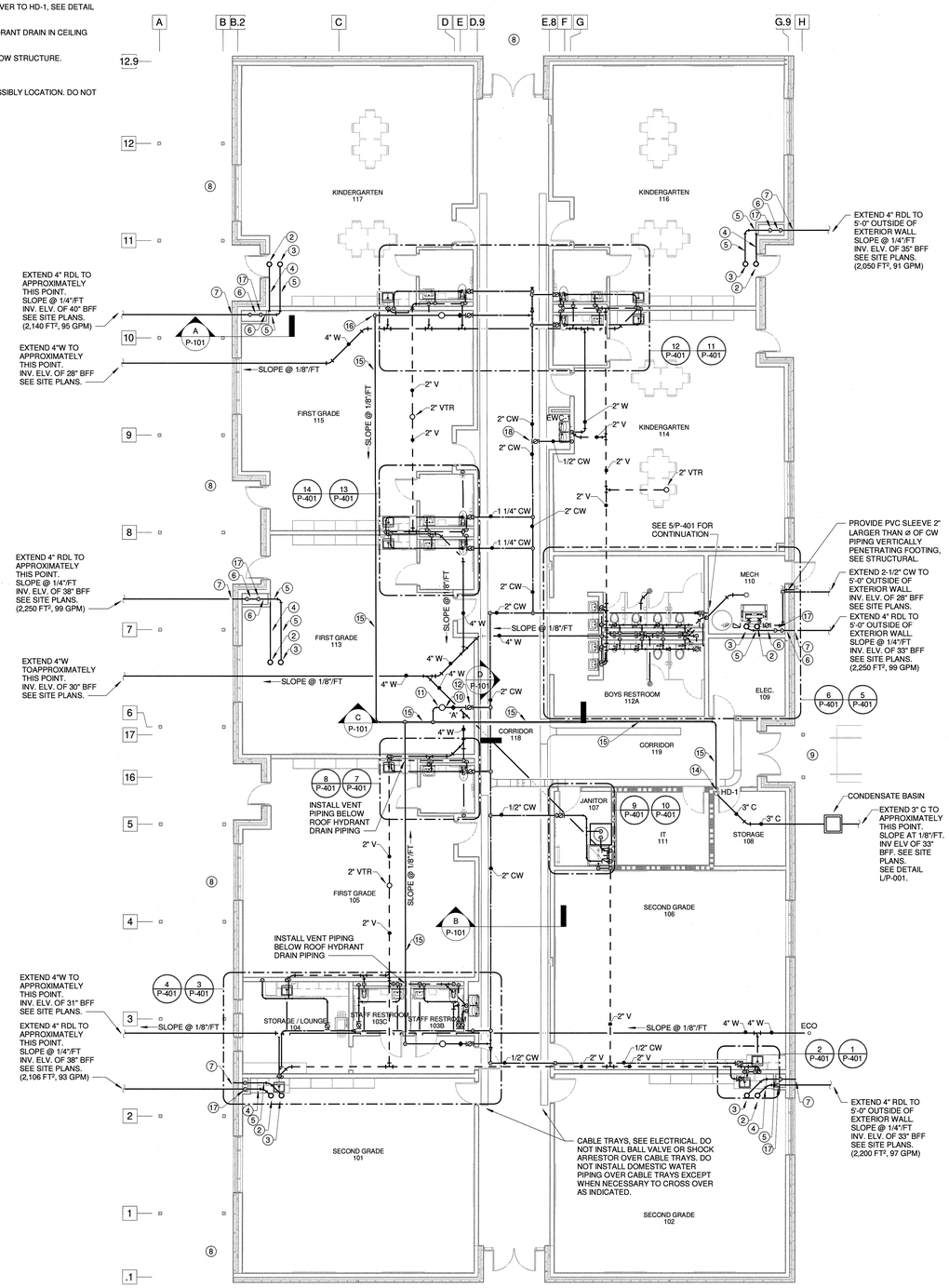


B P-101 TYPICAL CORRIDOR SECTION
SCALE: 1/4" = 1'-0"



A P-101 TYPICAL ROOF DRAIN OUTLET SECTION
SCALE: 1/4" = 1'-0"

NOTE:
SLOPE ALL WASTE PIPING 3" AND LARGER AT 1/8"/FT. SLOPE ALL 2" WASTE PIPING@ 1/4"/FT.



1 P-101 PLUMING FLOOR PLAN
SCALE: 1/8" = 1'-0"

PARTITION LEGEND

1. ALL EXTERIOR WALLS TO BE U.N.O.
2. ALL INTERIOR MASONRY PARTITIONS TO BE U.N.O.
3. ALL INTERIOR METAL STUD PARTITIONS TO BE TYPE U.N.O.
   - NON-RATED PARTITION TO CEILING
   - NON-RATED PARTITION TO DECK
   - 1 HR. RATED PARTITION TO DECK
   - 2 HR. RATED PARTITION TO DECK
   - 4 HR. RATED PARTITION TO DECK

NOTE: SEE SHEET A003 FOR CONSTRUCTION OF PARTITION TYPES.

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JOB # 19052

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 043164 CASEY D. GILMAN

REVISIONS:

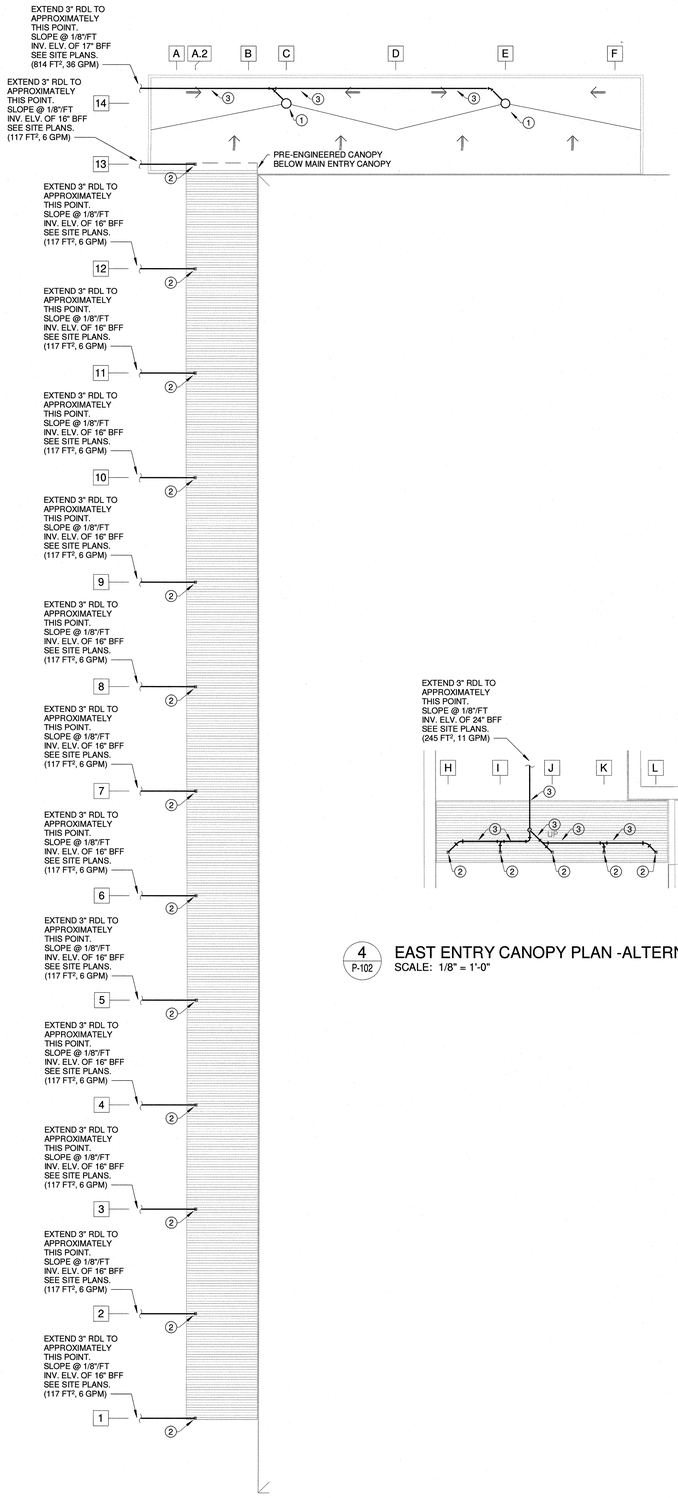
No.	Description	Date

PROJECT: 8201-191240
DATE: 04.22.2020
DRAWN BY: SAL
CHECKED BY: CDG

PLUMBING PLANS

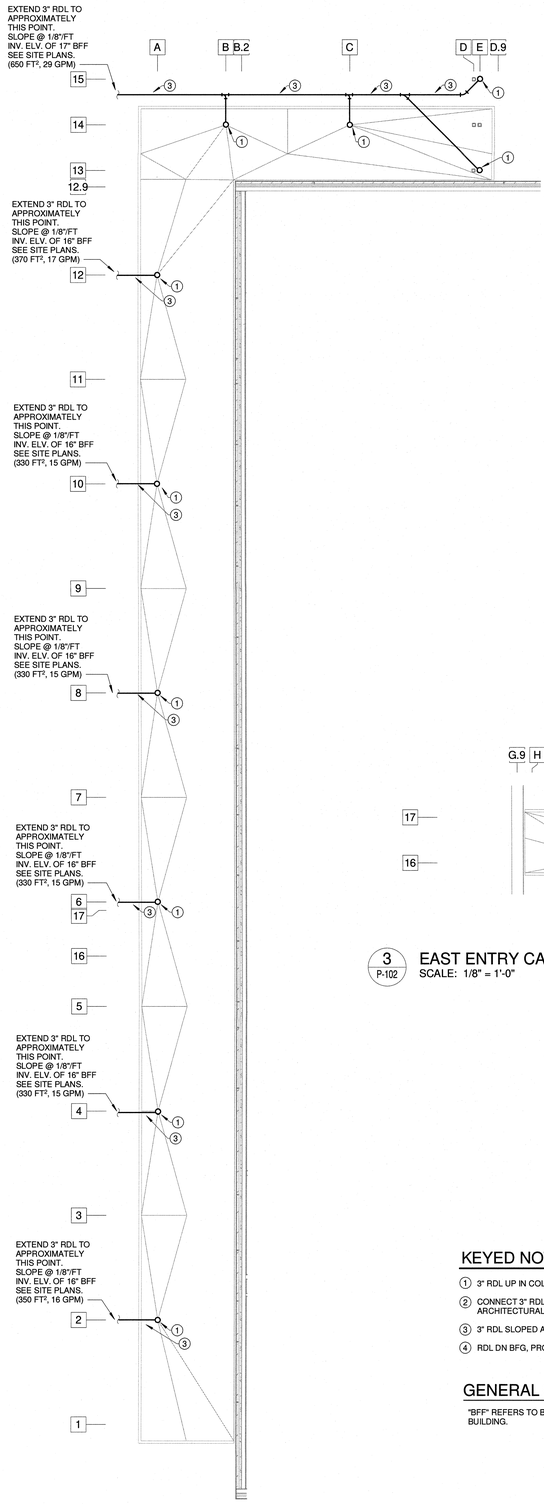
P-101
OF 4

BID DOCUMENTS

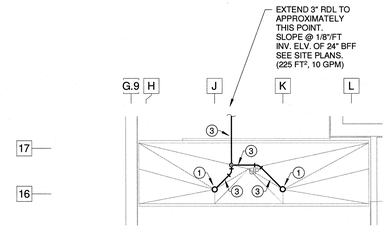


2 P-102 CANOPY PLAN - ALTERNATE
SCALE: 1/8" = 1'-0"

4 P-102 EAST ENTRY CANOPY PLAN -ALTERNATE
SCALE: 1/8" = 1'-0"



1 P-102 CANOPY PLAN - BASE BID
SCALE: 1/8" = 1'-0"



3 P-102 EAST ENTRY CANOPY PLAN - BASE BID
SCALE: 1/8" = 1'-0"

KEYED NOTES: (THIS SHEET ONLY)

1. 3" RDL UP IN COLUMN TO 3" CANOPY DRAIN.
2. CONNECT 3" RDL TO CONNECTION POINT ON METAL POST. SEE ARCHITECTURAL PLANS AND DETAILS.
3. 3" RDL SLOPED AT 1/8"/FT
4. RDL DN BFG, PROVIDE CO AT BASE.

GENERAL NOTE:

"BFF" REFERS TO BELOW FINISHED FLOOR OF NEW BUILDING.

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JOB # 19052

NORTH CAROLINA PROFESSIONAL SEAL 043164 ENGINEER CASEY D. GILMAN

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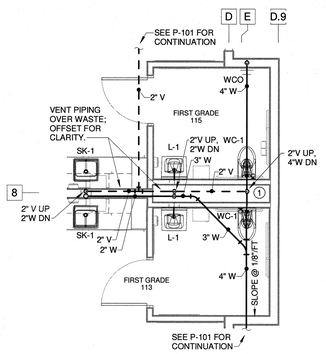
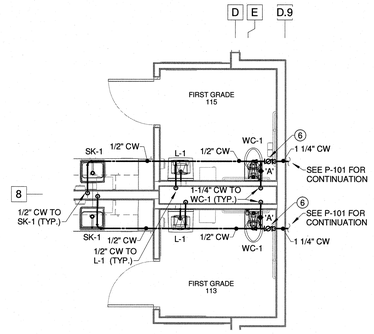
CANOPY PLANS

P-102 OF 4

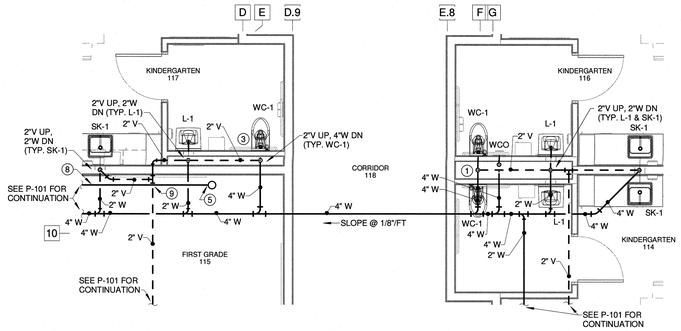
BID DOCUMENTS



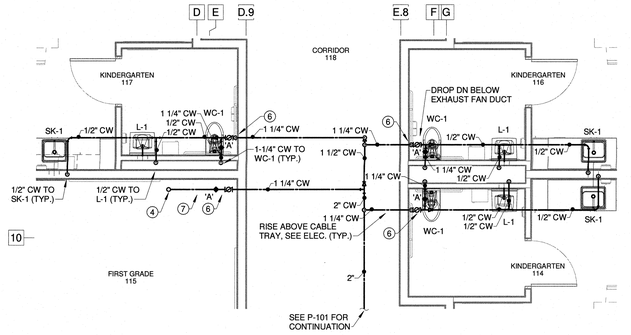
14 P-401 ENLARGED WASTE & VENT - G
SCALE: 1/4" = 1'-0"



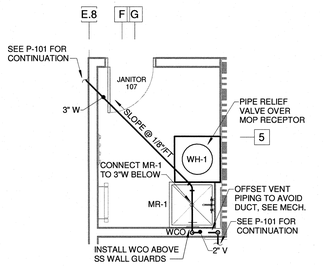
13 P-401 ENLARGED DOMESTIC WATER - G
SCALE: 1/4" = 1'-0"



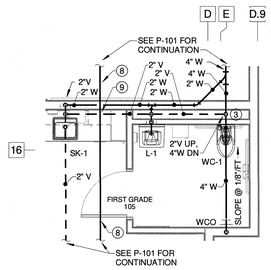
12 P-401 ENLARGED WASTE & VENT - F
SCALE: 1/4" = 1'-0"



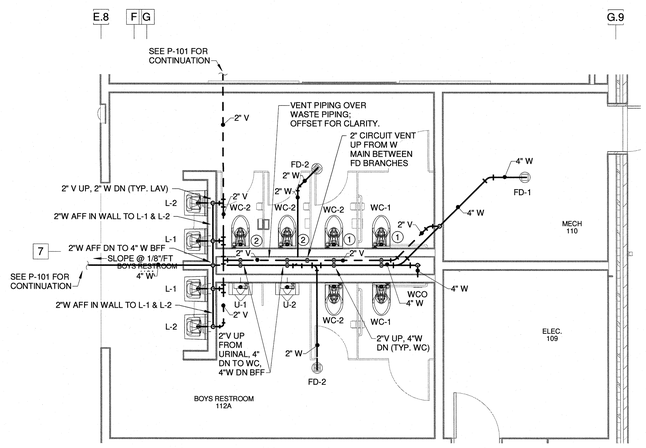
11 P-401 ENLARGED DOMESTIC WATER - F
SCALE: 1/4" = 1'-0"



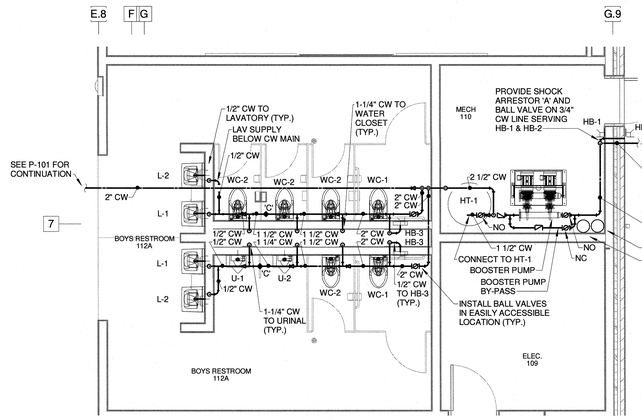
10 P-401 ENLARGED WASTE & VENT - E
SCALE: 1/4" = 1'-0"



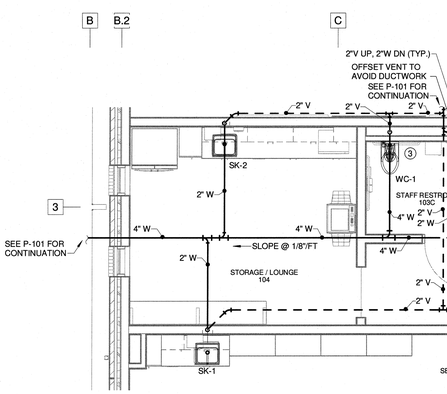
8 P-401 ENLARGED WASTE & VENT - D
SCALE: 1/4" = 1'-0"



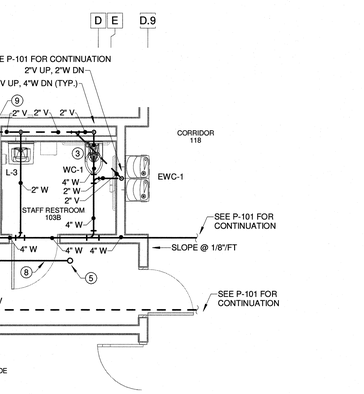
6 P-401 ENLARGED WASTE & VENT - C
SCALE: 1/4" = 1'-0"



5 P-401 ENLARGED DOMESTIC WATER -C
SCALE: 1/4" = 1'-0"

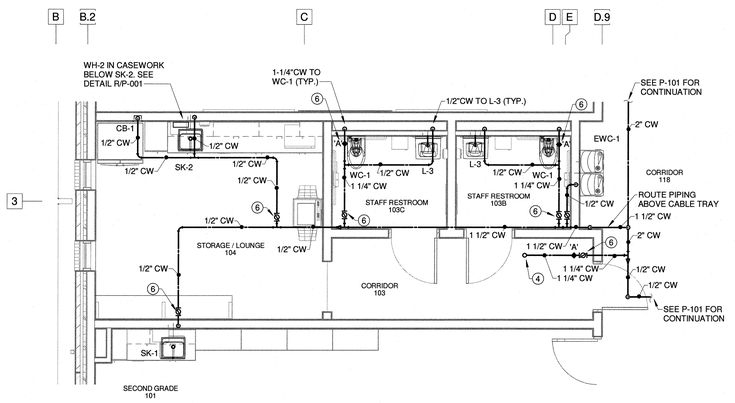


9 P-401 ENLARGED DOMESTIC WATER - E
SCALE: 1/4" = 1'-0"

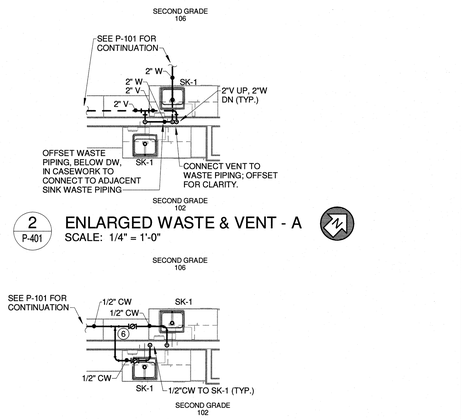


7 P-401 ENLARGED DOMESTIC WATER - D
SCALE: 1/4" = 1'-0"

4 P-401 ENLARGED WASTE & VENT - B
SCALE: 1/4" = 1'-0"



3 P-401 ENLARGED DOMESTIC WATER - B
SCALE: 1/4" = 1'-0"



2 P-401 ENLARGED WASTE & VENT - A
SCALE: 1/4" = 1'-0"

1 P-401 ENLARGED DOMESTIC WATER - A
SCALE: 1/4" = 1'-0"

NOTE:
SLOPE ALL WASTE PIPING 3" AND LARGER AT 1/8"/FT. SLOPE ALL 2" WASTE PIPING@ 1/4"/FT.

KEYED NOTES: (THIS SHEET ONLY)

1. PROVIDE NARROW WALL BACK TO BACK VERTICAL WATER CLOSET CARRIER, SEE SPECIFICATIONS. SEE DETAIL S/P-001.
2. PROVIDE NARROW WALL VERTICAL WATER CLOSET CARRIER, SEE SPECIFICATIONS. SEE DETAIL T/P-001.
3. PROVIDE NARROW WALL VERTICAL WATER CLOSET CARRIER, SEE SPECIFICATIONS.
4. CONNECT 1-1/4" CW TO ROOF HYDRANT ON ROOF.
5. CONNECT 1/4" DWV COPPER PIPING TO ROOF HYDRANT DRAIN AND SLOPE @ 1/8"/FT.
6. INSTALL BALL VALVES AND SHOCK ARRESTORS IN EASILY ACCESSIBLE LOCATION (TYP.).
7. INSTALL CW PIPING SERVING ROOF HYDRANT BELOW DUCTWORK, SEE MECHANICAL.
8. 1/4" DWV COPPER ROOF HYDRANT DRAIN IN CEILING CAVITY, SLOPE @ 1/8"/FT.
9. INSTALL VENT PIPING BELOW ROOF HYDRANT DRAIN LINE.
10. DROP ROOF HYDRANT DRAIN LINE DN BELOW STRUCTURE.

PARTITION LEGEND

1. ALL EXTERIOR WALLS TO BE U.N.O.
2. ALL INTERIOR MASONRY PARTITIONS TO BE U.N.O.
3. ALL INTERIOR METAL STUD PARTITIONS TO BE TYPE U.N.O.

- NON-RATED PARTITION TO CEILING
- NON-RATED PARTITION TO DECK
- 1 HR. RATED PARTITION TO DECK
- 2 HR. RATED PARTITION TO DECK
- 4 HR. RATED PARTITION TO DECK

NOTE: SEE SHEET A003 FOR CONSTRUCTION OF PARTITION TYPES.

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JOB # 19052

NORTH CAROLINA PROFESSIONAL SEAL 043164 ENGINEER CASEY D. GILMAN

REVISIONS:

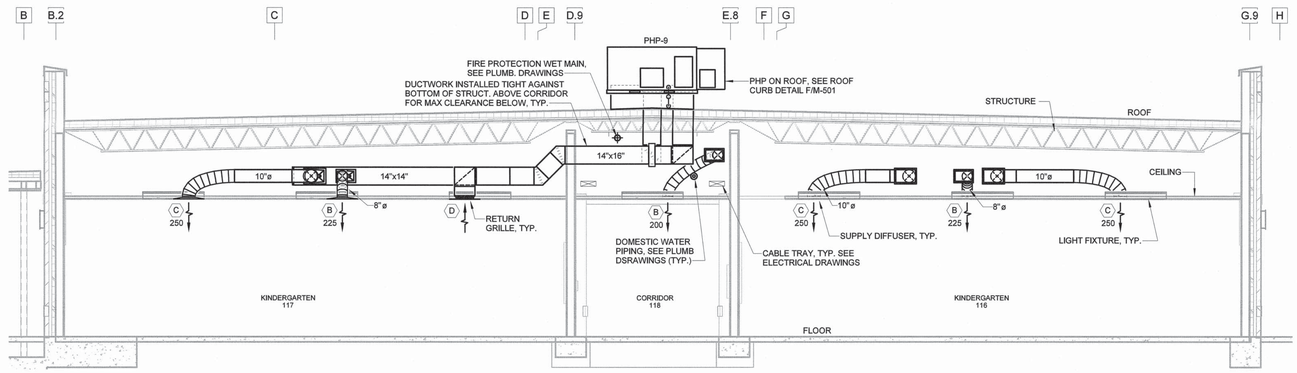
No.	Description	Date

PROJECT: 8201-191240
DATE: 04.22.2020
DRAWN BY: SAL
CHECKED BY: CDG

ENLARGED PLUMBING PLANS

P-401 OF 4

BID DOCUMENTS



2 M-001 MECHANICAL SECTION
SCALE: 1/4" = 1'-0"

LEGEND

R	REFRIGERANT PIPING
C	AIR CONDITIONING CONDENSATE PIPING
	FLEXIBLE DUCTWORK
	RECTANGULAR DUCTWORK
	SUPPLY AIR DUCTWORK TURNED DOWN
	SUPPLY AIR DUCTWORK TURNED UP
	RETURN AIR/EXHAUST AIR TURNED DOWN
	RETURN AIR/EXHAUST AIR TURNED UP
	BRANCH TAKEOFF WITH TURNING VANES, SPLITTER DAMPER AND LOCKING QUADRANT
	DUCT TEE WITH TURNING VANES, SPLITTER DAMPER AND LOCKING QUADRANT
	DUCT WITH RUNOUT (SPIN-IN TAKE OFF WITH DAMPER)
	CEILING RETURN AIR/ EXHAUST AIR REGISTER
	CEILING SUPPLY AIR DIFFUSER
A	REGISTER, GRILLE OR DIFFUSER SYMBOL
TS2	HEATING AND COOLING TEMPERATURE SENSOR WITH # INDICATING UNIT
TSC	COOLING THERMOSTAT
TSH	HEATING THERMOSTAT
HT	HUMIDITY TRANSMITTER
	DISCONNECT SWITCH
1	KEYED NOTE SYMBOL
SA	SUPPLY AIR
RA	RETURN AIR
OA	OUTSIDE AIR
EX.A.	EXHAUST AIR
NO	NORMALLY OPEN
NC	NORMALLY CLOSED
MD	MANUAL DAMPER
MOD	MOTOR OPERATED DAMPER
AFF	ABOVE FINISHED FLOOR
FIN. FL.	FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
CONC.	CONCRETE
CONT.	CONTINUATION
CONTR.	CONTRACTOR
	2 HR. RATED PARTITION TO DECK

POWER VENTILATOR SCHEDULE

SYMBOL	CFM	ESP	RPM	TIP SPEED	ELECTRICAL HP	ELECTRICAL VOLTAGE	TYPE	DRIVE	CONTROL	ROOF OPENING (1)	REMARKS
F-1	400	0.50"	1370	3900	1/8	115V-1Ø	ROOF MOUNTED CENTRIFUGAL	DIRECT	BAS	13"x13"	RESTROOMS
F-2	975	0.50"	1620	4735	1/4	115V-1Ø	ROOF MOUNTED CENTRIFUGAL	DIRECT	BAS	15"x15"	RESTROOMS
F-3	750	0.50"	1725	5055	1/4	115V-1Ø	ROOF MOUNTED CENTRIFUGAL	DIRECT	COOLING THERMOSTAT	15"x15"	ELECTRICAL 109

(1) FOR BIDDING PURPOSES ONLY
(2) WATTS
(3) VIA LIGHTING CONTROL SYSTEM'S OCCUPANCY SENSOR.

DUCTLESS SPLIT SYSTEM HEAT PUMP UNIT SCHEDULE

SYMBOL	AIR QUANTITY TOTAL CFM	AIR QUANTITY OUTSIDE CFM	EXT SP "H20 (1)	ELECTRICAL FAN FLA	ELECTRICAL VOLTAGE & PHASE	SYMBOL	ELECTRICAL MCA	ELECTRICAL MOCP	ELECTRICAL VOLTAGE & PHASE	COOLING CAPACITY BTUH (2)	HEATING CAPACITY BTUH (3)	SEER	REMARKS
DAHU-1	650	-	-	1.0	208V-1Ø	DHP-1	19	26	208V-1Ø	10,000-24,000	18,300	22	IT 111

(1) EXT. S.P. INCLUDES SUPPLY & RETURN AIR DUCTWORK. FILTERS IN UNIT ARE NOT INCLUDED IN THIS FIGURE.
(2) MINIMUM AND MAXIMUM CAPACITY WHEN MATCHED WITH INDOOR HEAT PUMP SECTION AT AHRI CONDITIONS.
(3) CAPACITY AT 17° F OUTSIDE AIR TEMPERATURE.

PACKAGED HEAT PUMP UNIT SCHEDULE

SYMBOL	AIR QUANTITY TOTAL CFM	AIR QUANTITY OUTSIDE CFM	EXT SP "H20 (1)	AUX HEAT KW	AUX HEAT STAGES	ELECTRICAL MCA	ELECTRICAL MOCP	ELECTRICAL VOLTAGE & PHASE	COOLING CAPACITY MBH (2)	HEATING CAPACITY MBH (3)	MIN SEER	REMARKS
PHP-1	1200	260	0.55	6.0	1	22	25	460V-3Ø	34.8	31.2	16.0	(4)
PHP-2	1200	260	0.60	6.0	1	22	25	460V-3Ø	34.8	31.2	16.0	(4)
PHP-3	1200	175	0.70	6.0	1	22	25	460V-3Ø	34.8	31.2	16.0	(4)
PHP-4	1200	260	0.60	6.0	1	22	25	460V-3Ø	34.8	31.2	16.0	(4)
PHP-5	1200	260	0.60	6.0	1	22	25	460V-3Ø	34.8	31.2	16.0	(4)
PHP-6	1200	260	0.55	6.0	1	22	25	460V-3Ø	34.8	31.2	16.0	(4)
PHP-7	1200	260	0.55	6.0	1	22	25	460V-3Ø	34.8	31.2	16.0	(4)
PHP-8	1200	260	0.60	6.0	1	22	25	460V-3Ø	34.8	31.2	16.0	(4)
PHP-9	1200	260	0.55	6.0	1	22	25	460V-3Ø	34.8	31.2	16.0	(4)
PHP-10	1600	350	0.60	12.0	2	32	35	460V-3Ø	47.4	42.7	16.5	(4)

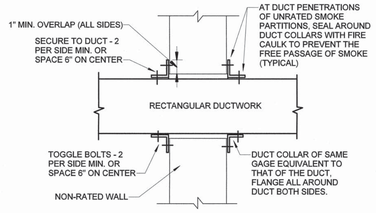
(1) EXT. S.P. INCLUDES SUPPLY & RETURN AIR DUCTWORK. MERV 8 FILTERS ARE NOT INCLUDED IN THIS FIGURE.
(2) CAPACITY AT ARI CONDITIONS.
(3) CAPACITY AT 17°F OUTSIDE AIR.
(4) WITH MODULATING HOT GAS REHEAT COIL.

REGISTER, GRILLE & DIFFUSER SCHEDULE

SYMBOL	C.F.M.	NECK SIZE	TYPE	RUNOUT SIZE	REMARKS
A	50-100	6"X6"	2'X2' LAY-IN CEILING SA DIFFUSER	6"Ø	
B	125-225	9"X9"	2'X2' LAY-IN CEILING SA DIFFUSER	8"Ø	
C	250-400	12"X12"	2'X2' LAY-IN CEILING SA DIFFUSER	10"Ø	
D	750-1600	22"X22"	2'X2' LAY-IN RA GRILLE	-	
E	50-200	10"X10"	EXHAUST REGISTER	-	
F	225-500	12"X12"	EXHAUST REGISTER	-	
G	525-975	16"X18"	EXHAUST REGISTER	-	

ELECTRICAL BASEBOARD SCHEDULE

SYMBOL	BTU/HR	ELECTRICAL WATTS	ELECTRICAL VOLTAGE & PHASE	MINIMUM MOUNTING HEIGHT	REMARKS
EBB-1	4265	1250	208V-1Ø	8-0"	MECHANICAL 110



NON-RATED WALLS

A M-001 WALL PENETRATION DETAIL
SCALE: NONE

GENERAL NOTES:

1. HVAC CONTRACTOR SHALL FIELD VERIFY ALL RELEVANT DIMENSIONS, CLEARANCES, LOCATIONS AND ELEVATIONS PRIOR TO ORDERING, FABRICATION, AND INSTALLATION OF HIS WORK. DISCREPANCIES OR INTERFERENCE'S SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER AS SOON AS POSSIBLE. THE DRAWINGS DIAGRAMMATICALLY INDICATE THE GENERAL LOCATION OF DUCTS, PIPING AND EQUIPMENT AND DO NOT SHOW ALL OFFSETS, FITTINGS, BOLTS, CONNECTIONS, ETC. REQUIRED FOR A COMPLETE SYSTEM. WHILE THE DRAWINGS ARE TO BE FOLLOWED AS CLOSELY AS POSSIBLE, IF IT IS FOUND NECESSARY TO CHANGE THE LOCATION OF ANY WORK TO ACCOMMODATE THE CONDITIONS AT THE BUILDING, SUCH CHANGES SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER, AND AS DIRECTED BY THE ENGINEER.
2. ALL SUPPLY AND RETURN CONNECTIONS TO AHU SHALL BE MADE WITH A FLEXIBLE DUCT CONNECTION.
3. PIPING, DUCTWORK, ETC., SHALL NOT BE SUPPORTED FROM ROOF STRUCTURE BRIDGING OR ROOFDECK. DUCTWORK AND PIPING SHALL BE SUPPORTED DIRECTLY FROM STRUCTURAL ELEMENTS OF THE BUILDING. EQUIPMENT SUPPORTED BY ROOF STRUCTURE SHALL HAVE SUPPORTS ATTACHED AS CLOSE AS POSSIBLE TO PANEL POINTS.
4. ALL DUCT JOINTS SHALL BE SEALED AS SPECIFIED.
5. IN AREAS WITH GYPBOARD CEILINGS, HVAC CONTRACTOR SHALL INSTALL EQUIPMENT, DUCTWORK AND PIPE HANGERS PRIOR TO GYPBOARD INSTALLATION.
6. ALL THERMOSTATS AND SWITCHES FOR MECHANICAL SYSTEMS AND TOP OF HVAC CONTROL PANELS SHALL BE MOUNTED 44" AFF MAXIMUM.
7. PROVIDE SERVICE CLEARANCES AS REQUIRED FOR ALL EQUIPMENT.
8. AIR CONDITIONING CONDENSATE LINE SIZES ARE MINIMAL SIZE. DO NOT INSTALL SMALLER THAN ACTUAL COIL DISCHARGE SIZE.

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT METHOD OF COMPLIANCE

☒ COMPLIANCE PER CHAPTER 4 NORTH CAROLINA ENERGY CONSERVATION CODE - SECTIONS C403.2 (MANDATORY), C403.3 ECONOMIZERS (PRESCRIPTIVE) AND C406 ADDITIONAL EFFICIENCY PACKAGE OPTIONS.
- ☐ C406.2 MORE EFFICIENT HVAC PERFORMANCE
- ☒ C406.3 REDUCED LIGHTING POWER DENSITY
- ☐ C406.4 ENHANCED LIGHTING CONTROLS
- ☐ C406.5 ON-SITE RENEWABLE ENERGY
- ☐ C406.6 DOAS PROVISION FOR CERTAIN HVAC
- ☐ C406.7 HIGH ENERGY SERVICE WATER HEATING

☐ COMPLIANCE PER CHAPTER 4 NORTH CAROLINA ENERGY CONSERVATION CODE - SECTIONS C403.2 (MANDATORY), C403.3 ECONOMIZERS (PRESCRIPTIVE), C403.4 HYDRONIC AND MULTIPLE ZONE (PRESCRIPTIVE) AND C406 ADDITIONAL EFFICIENCY PACKAGE OPTIONS.
- ☐ C406.2 MORE EFFICIENT HVAC PERFORMANCE
- ☐ C406.3 REDUCED LIGHTING POWER DENSITY
- ☐ C406.4 ENHANCED LIGHTING CONTROLS
- ☐ C406.5 ON-SITE RENEWABLE ENERGY
- ☐ C406.6 DOAS PROVISION FOR CERTAIN HVAC
- ☐ C406.7 HIGH ENERGY SERVICE WATER HEATING

☐ COMPLIANCE PER CHAPTER 4 NORTH CAROLINA ENERGY CONSERVATION CODE - SECTIONS C402.5, C403.2, C404, C405.2, C405.3, C405.5, C405.6 AND C407 TOTAL BUILDING PERFORMANCE. THE BUILDING ENERGY COST SHALL BE EQUAL TO OR LESS THAT 85 PERCENT OF THE STANDARD REFERENCE DESIGN BUILDING.

☐ COMPLIANCE PER ANSI/ASHRAE/IESNA 90.1-2013 .

☐ COMPLIANCE PER NORTH CAROLINA SPECIFIC COMCHECK OR ASHRAE 90.1-2013 COMCHECK.

CLIMATE ZONE 3A

EXTERIOR DESIGN CONDITIONS
winter dry bulb: 26°F
summer dry bulb: 92°F DB/76°F WB

INTERIOR DESIGN CONDITIONS
winter dry bulb: 70°F
summer dry bulb: 75°F
relative humidity: 50%

BUILDING HEATING LOAD: BLOCK LOAD = 307.1 MBH

BUILDING COOLING LOAD: BLOCK LOAD = 29.1 TONS

MECHANICAL SPACING CONDITIONING SYSTEM
Unitary: description of unit: / heating efficiency: / cooling efficiency: / heat output of unit: / cooling output of unit: } SEE SCHEDULES ON THIS SHEET
Boiler: N/A
total boiler output. If oversized, state reason.
Chiller: N/A
total chiller capacity. If oversized, state reason.

LIST EQUIPMENT EFFICIENCIES: SEE SCHEDULES ON THIS SHEET

EQUIPMENT SCHEDULES WITH MOTORS (MECHANICAL SYSTEMS)
motor horsepower: / number of phases: / minimum efficiency: / motor type: / # of poles: } SEE SCHEDULES ON THIS SHEET

DESIGNER STATEMENT

To the best of my knowledge and belief, the design of this building complies with the mechanical systems, service systems and equipment requirements of the North Carolina Energy Conservation Code.

SIGNED: _____
NAME: Kenneth Lynch, P.E.
TITLE: Professional Engineer

BRUNSWICK CTY

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NC LICENSE# C-1073

JOB # 19052

NORTH CAROLINA PROFESSIONAL SEAL 17655 ENGINEER KENNETH LYNCH

REVISIONS:

No.	Description	Date

PROJECT: 8201-191240
DATE: 04.22.2020
DRAWN BY: NAH
CHECKED BY: KL

MECHANICAL LEGEND, SCHEDULES & DETAILS

M-001
OF 4

BID DOCUMENTS

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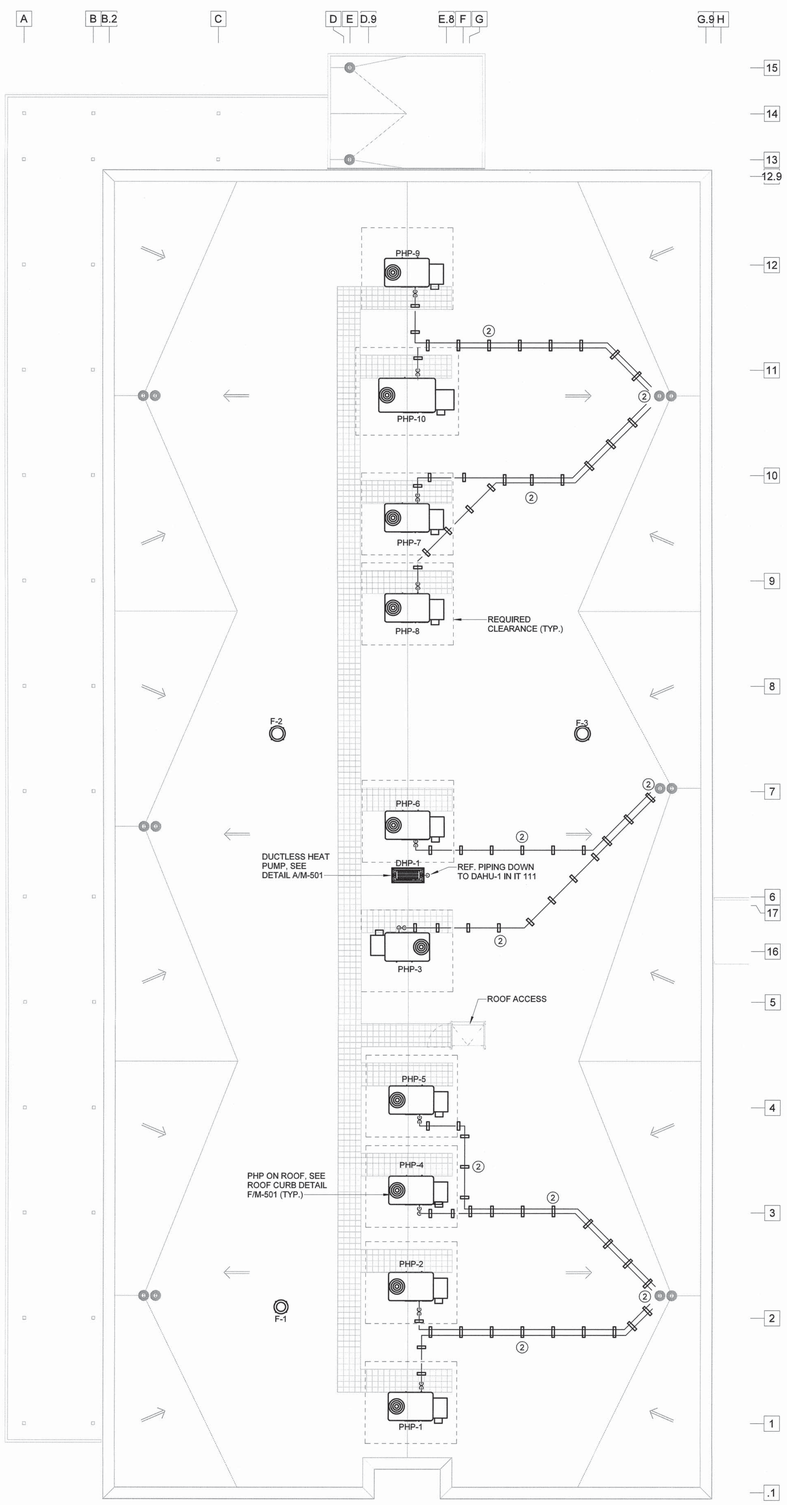
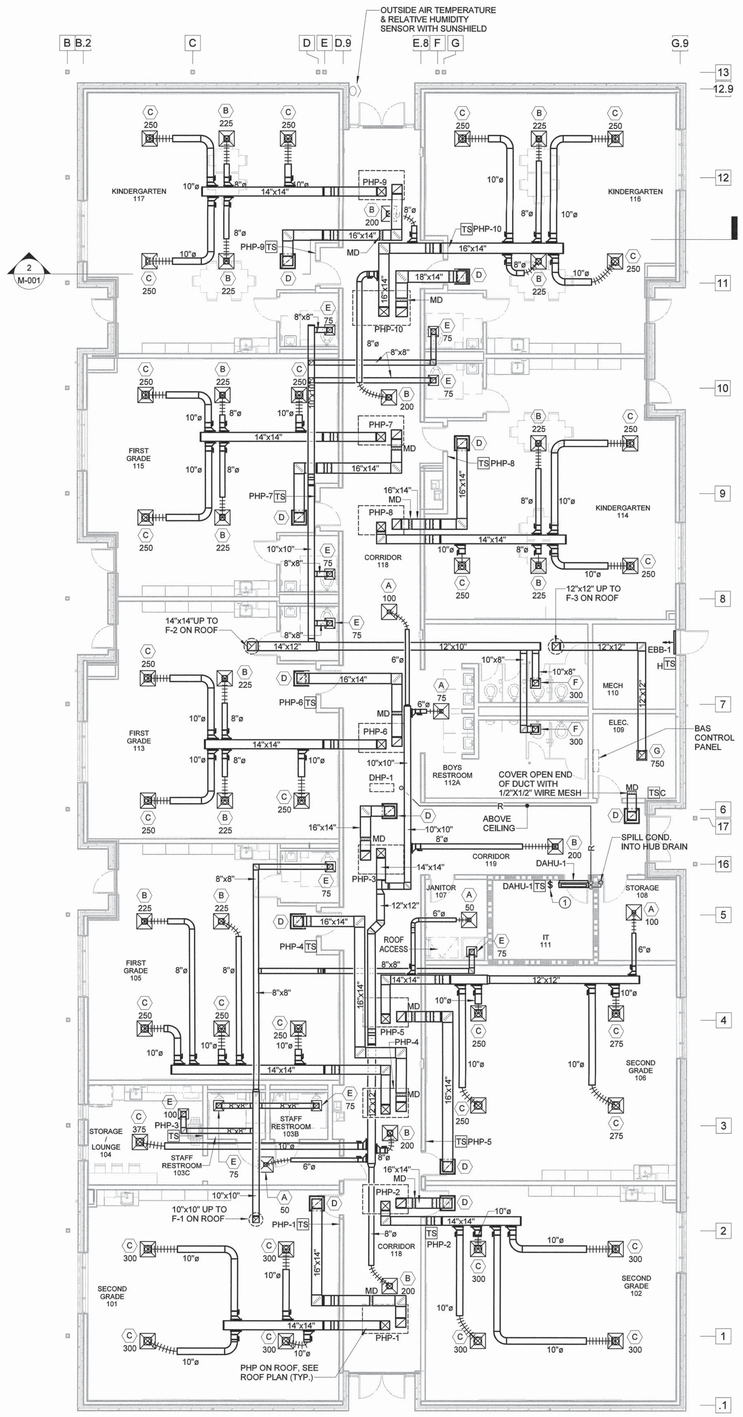


2 M-101 MECHANICAL ROOF
SCALE: 1/8" = 1'-0"



1 M-101 MECHANICAL FIRST FLOOR
SCALE: 1/8" = 1'-0"

KEYED NOTES: THIS SHEET ONLY

1. TOGGLE TYPE DISCONNECT SWITCH WITH LOCKABLE COVER.
2. PROVIDE HEAVY DUTY EDPM CONDENSATE PIPE SUPPORT TO PROVIDE SLOPE TO ROOF DRAIN LEADER. CONDENSATE SHALL TERMINATE MAX. 6" FROM ROOF DRAIN LEADER. PROVIDE ROOF WALKING PADS UNDER SUPPPORTS, SEE DETAIL G/M-501 (TYP.)

PARTITION LEGEND

1. ALL EXTERIOR WALLS TO BE U.N.O.
2. ALL INTERIOR MASONRY PARTITIONS TO BE U.N.O.
3. ALL INTERIOR METAL STUD PARTITIONS TO BE TYPE U.N.O.

- NON-RATED PARTITION TO CEILING
- NON-RATED PARTITION TO DECK
- 1 HR. RATED PARTITION TO DECK
- 2 HR. RATED PARTITION TO DECK
- 4 HR. RATED PARTITION TO DECK

NOTE: SEE SHEET A003 FOR CONSTRUCTION OF PARTITION TYPES.

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JOB # 19052

NORTH CAROLINA PROFESSIONAL SEAL 17655 ENGINEER KENNETH LYNCH 04/17/2020

REVISIONS:

No.	Description	Date

PROJECT: 8201-191240
DATE: 04.22.2020
DRAWN BY: NAH
CHECKED BY: KL

MECHANICAL PLANS

M-101

OF 4

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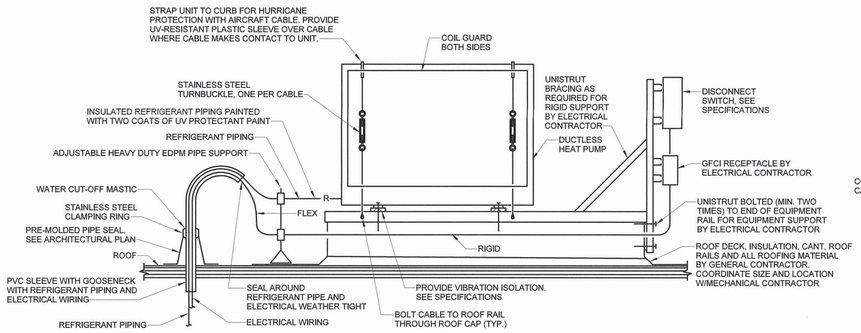
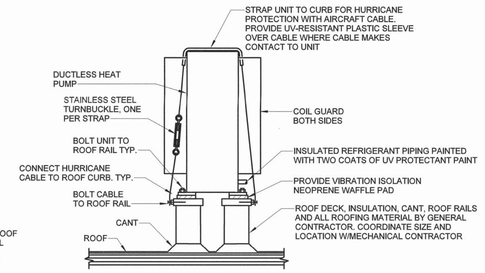
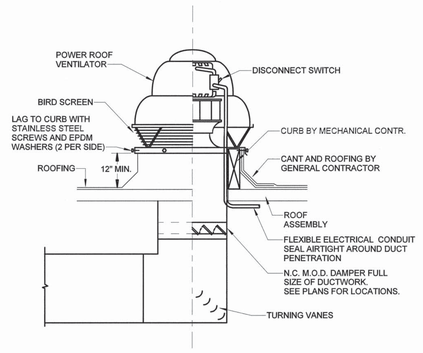
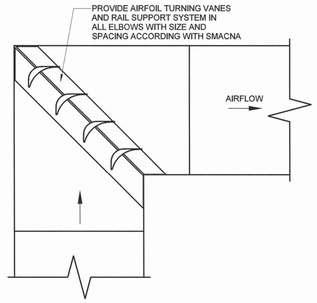


A M-501 DUCTLESS HEAT PUMP DETAIL
SCALE: NONE

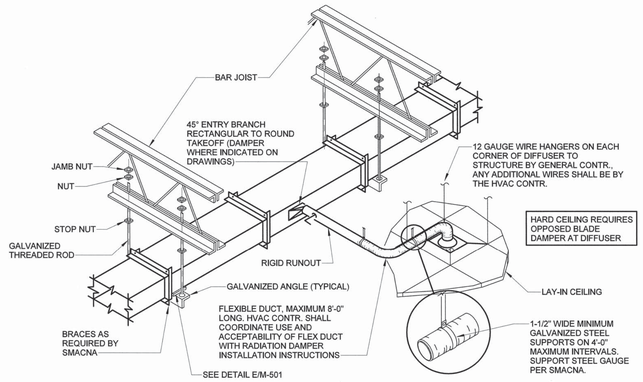




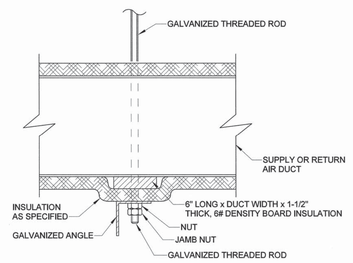
B M-501 POWER ROOF VENTILATOR DETAIL
SCALE: NONE



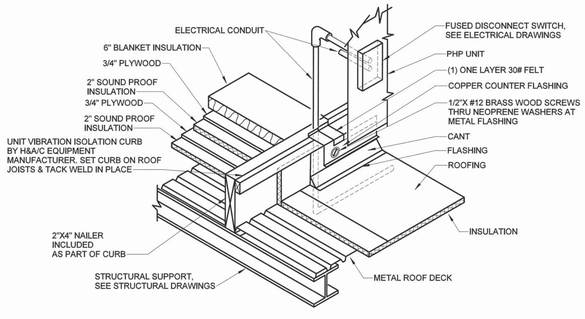
C M-501 TYPICAL DUCT ELBOW WITH TURNING VANES
SCALE: NONE



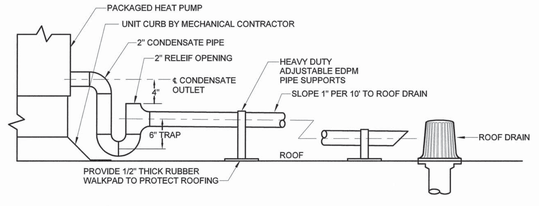
D M-501 TYPICAL SUPPLY DUCT DETAIL
SCALE: NONE



E M-501 TYPICAL DUCT HANGER DETAIL
SCALE: NONE



F M-501 TYPICAL ROOFTOP UNIT CURB AND POWER SUPPLY DETAIL
SCALE: NONE



G M-501 CONDENSATE PIPE SUPPORT DETAIL
SCALE: NONE

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JOB # 19052

NORTH CAROLINA ENGINEERING SEAL 17955 KENNETH LYNCH

REVISIONS:

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PROJECT: 8201-191240
DATE: 04.22.2020
DRAWN BY: NAH
CHECKED BY: KL

MECHANICAL DETAILS

M-501 OF 2

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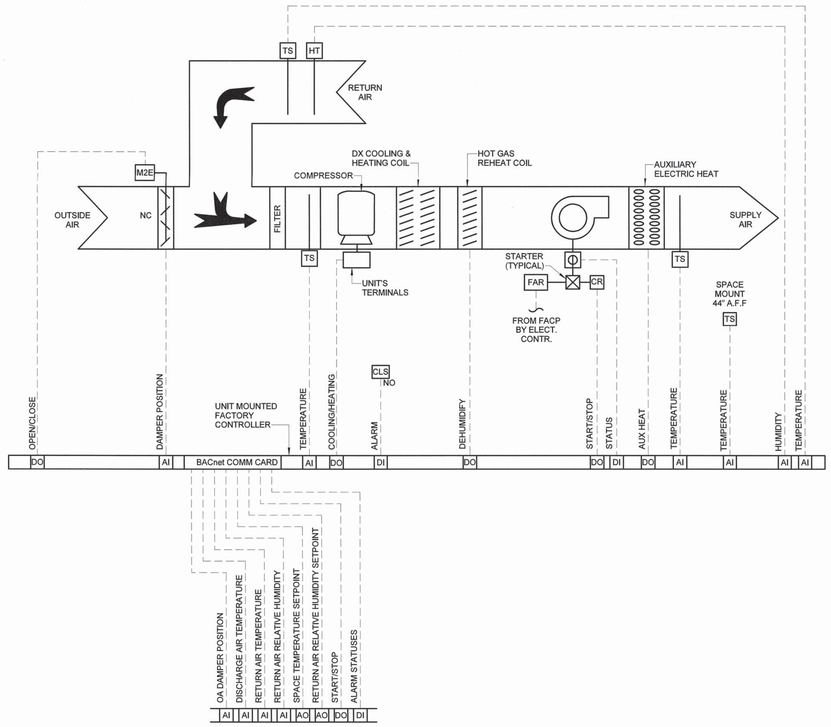


PACKAGED HEAT PUMP (ALL PHP'S)

SEQUENCE OF OPERATION

PACKAGED AIR-SOURCE HEAT PUMP, CONSTANT AIR VOLUME, HOT GAS REHEAT, NO ECONOMIZER CYCLE

DESCRIPTION: PACKAGED AIR-SOURCE, DIRECT EXPANSION (DX) HEAT PUMP UNIT CONSISTING OF CONSTANT AIR VOLUME, COOLING/HEATING, AND NO ECONOMIZER CYCLE, UNDER CONTROL OF UNITS CONTROLLER INTEGRATED INTO DDC SYSTEM.

UNIT START/STOP CONTROL: START/STOP UNIT FAN BASED ON (1) USER-DEFINED "ON/OFF" SCHEDULE, (2) OPTIMAL START TIME COMPUTATION, OR (3) OPERATOR COMMAND.

SPACE TEMPERATURE SETPOINTS SHALL BE AS FOLLOWS UNLESS MODIFIED BY USER:

"ON" PERIOD:	TEMPERATURE:	70-75°F COMFORT ZONE
	HUMIDITY:	60% RH HIGH LIMIT
"OFF" PERIOD:	MAX. TEMPERATURE:	80°F HIGH LIMIT
	MIN TEMPERATURE:	65°F LOW LIMIT
	MAX. HUMIDITY:	65% RH HIGH LIMIT

SPACE TEMPERATURE SETPOINTS *MAY* BE ADJUSTABLE BY SPACE OCCUPANTS.

EMERGENCY STOP INTERLOCKS SHALL DE-ENERGIZE UNIT(S):

ON SIGNAL FROM FIRE ALARM SYSTEM.

HIGH LEVEL ALARM FROM DRAIN PAN CONDENSATE LEVEL SENSOR.

DURING "ON" PERIODS, COMMAND UNIT FAN "ON" UNLESS STOPPED BY THE DDC SYSTEM OR BY EMERGENCY STOP INTERLOCK.

DURING "OFF" PERIODS, COMMAND UNIT FAN "OFF" UNLESS THERE IS A CALL FOR COOLING, HEATING OR DEHUMIDIFICATION INDICATED BY SPACE SENSORS.

CONSTANT AIR VOLUME UNIT CONTROL:

VENTILATION AIR CONTROL: OUTDOOR AIR DAMPER SHALL OPEN AND CLOSE BASED ON USER-DEFINED "OCCUPIED/ UNOCCUPIED SCHEDULE..

DURING "OCCUPIED" PERIODS, THE UNIT FAN IS ENERGIZED, COMMAND OUTDOOR AIR DAMPER 100% OPEN.

DURING "UNOCCUPIED" PERIODS OR ANY TIME THE UNIT FAN IS "OFF", THE MINIMUM OUTDOOR AIR DAMPER SHALL BE COMMANDED CLOSED.

"ON" PERIOD TEMPERATURE AND HIGH LIMIT HUMIDITY CONTROL: DURING "ON" PERIODS, IF THE SUPPLY FAN IS ENERGIZED, CONTROL SPACE TEMPERATURE AS FOLLOWS:

ON A RISE IN SPACE TEMPERATURE TO ABOVE THE MAXIMUM COMFORT ZONE TEMPERATURE SETPOINT, INITIATE COOLING.

ON A RISE IN ANY SPACE HUMIDITY TO ABOVE THE HIGH LIMIT HUMIDITY SETPOINT, INITIATE COOLING AND HOT GAS REHEAT TO MAINTAIN SPACE TEMPERATURE AT THE MAXIMUM COMFORT ZONE TEMPERATURE.

ON A FALL IN SPACE TEMPERATURE TO BELOW THE MINIMUM COMFORT ZONE TEMPERATURE SETPOINT, INITIATE COMPRESSOR FOR HEATING TO MAINTAIN SPACE TEMPERATURE AT THE MINIMUM COMFORT ZONE TEMPERATURE SETPOINT.

IF STAGE 1 OF HEATING IS MAINTAINED FOR 15 MINUTES OR MORE, BUT THE SPACE TEMPERATURE CONTINUES TO FALL, ENERGIZE THE AUXILIARY ELECTRIC RESISTANCE HEATER (IN STAGES, AS APPLICABLE) TO MAINTAIN SPACE TEMPERATURE AT THE MINIMUM COMFORT ZONE TEMPERATURE SETPOINT.

WHEN THE SPACE TEMPERATURE IS WITHIN THE LIMITS OF THE MINIMUM AND MAXIMUM ZONE TEMPERATURE SETPOINT AND SPACE HUMIDITY IS AT OR BELOW THE HIGH LIMIT HUMIDITY SETPOINT, UNIT FAN SHALL OPERATE AND NO COOLING OR HEATING SHALL BE INITIATED.

"OFF" PERIOD TEMPERATURE AND HUMIDITY CONTROL: DURING "OFF" PERIODS, THE UNIT SHALL BE COMMANDED "OFF" UNLESS HIGH LIMIT COOLING, LOW LIMIT HEATING OR DEHUMIDIFICATION IS DICTATED AS FOLLOWS:

ON A RISE IN SPACE TEMPERATURE TO ABOVE THE HIGH LIMIT SETPOINT TEMPERATURE, ENERGIZE THE UNIT FAN AND INITIATE COOLING "ON" UNTIL SPACE TEMPERATURE IS AT THE HIGH LIMIT TEMPERATURE SETPOINT LESS 3°F FOR THIRTY MINUTES, THEN SYSTEM IS "OFF".

ON A RISE IN ANY SPACE HUMIDITY TO ABOVE THE HIGH LIMIT HUMIDITY SETPOINT, INITIATE COOLING AND HOT GAS REHEAT TO MAINTAIN SPACE TEMPERATURE AT THE HIGH LIMIT TEMPERATURE SETPOINT UNTIL SPACE HUMIDITY IS AT THE HIGH LIMIT SETPOINT LESS 5% RH FOR THIRTY MINUTES, THEN SYSTEM IS "OFF".

ON A FALL IN SPACE TEMPERATURE TO BELOW THE LOW LIMIT SETPOINT TEMPERATURE, INITIATE HEATING "ON" UNTIL SPACE TEMPERATURE IS AT THE LOW LIMIT TEMPERATURE SETPOINT PLUS 3°F FOR THIRTY MINUTES, THEN SYSTEM IS "OFF".

IF STAGE 1 OF HEATING IS MAINTAINED FOR 15 MINUTES OR MORE, BUT THE SPACE TEMPERATURE CONTINUES TO FALL, ENERGIZE THE AUXILIARY ELECTRIC RESISTANCE HEATER (IN STAGES, AS APPLICABLE) UNTIL SPACE TEMPERATURE IS AT THE LOW LIMIT TEMPERATURE SETPOINT PLUS 3°F FOR THIRTY MINUTES, THEN SYSTEM IS "OFF".

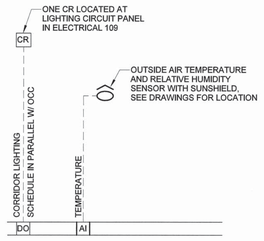
DRAIN PAN CONDENSATE LEVEL SHUTDOWN CONTROL: COMMAND UNIT FAN "OFF" AND INITIATE ALARM WHEN THE N.C. DRAIN PAN CONDENSATE LEVEL SWITCH OPENS TO INDICATE A HIGH WATER LEVEL CONDITION.

TREND LOG AND HISTORICAL DATA: LOG AND ARCHIVE THE FOLLOWING EVERY 15 MINUTES:

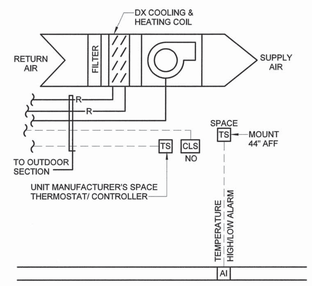
SPACE TEMPERATURE

RETURN AIR RELATIVE HUMIDITY

ALARM STATUSES



MISCELLANEOUS POINTS



DUCTLESS SPLIT SYSTEM HEAT PUMP

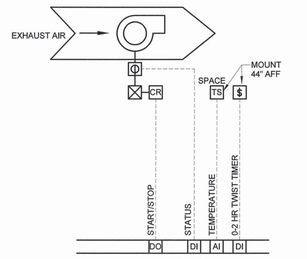
SEQUENCE OF OPERATION

SPLIT SYSTEM DUCTLESS HEAT PUMPS

DESCRIPTION: MANUFACTURER FURNISHED WALL MOUNTED HARD WIRED THERMOSTAT SHALL CONTROL UNIT.

CONDENSATE: UNIT SHALL BE DEENERGIZED ON HIGH CONDENSATE LEVELS.

DDC SYSTEM SPACE TEMPERATURE SENSOR: SHALL MONITOR SPACE TEMPERATURE AND ALARM TO BAS ON HIGH OR LOW SPACE TEMPERATURE.



POWER VENTILATOR

SEQUENCE OF OPERATION

EXHAUST FANS

A. POWER VENTILATORS CONTROLLED BY THE ENERGY MANAGEMENT SYSTEM:

1. OCCUPIED PERIOD: FANS SHALL OPERATE.
2. UNOCCUPIED PERIOD: FANS ARE OFF.
3. PREPARATORY PERIOD: FANS ARE OFF.

B. REMAINING POWER VENTILATORS SHALL BE OCCUPANCY SENSOR CONTROLLED OR CONTROLLED BY LOCAL THERMOSTATS.

C. SEE POWER VENTILATOR SCHEDULE FOR DEFINITION OF POWER VENTILATOR CONTROL.

CONTROL SYMBOL LEGEND

FS	FLOW SENSOR
TS	TEMPERATURE SENSOR
HT	HUMIDITY SENSOR
VSD	VARIABLE SPEED DRIVE
CR	CONTROL RELAY
M2E	MOTOR OPERATED TWO POSITION ELECTRIC
MPE	MOTOR OPERATED PROPORTIONAL ELECTRIC
NO	NORMALLY OPEN
NC	NORMALLY CLOSED
FAR	FIRE ALARM RELAY
CLS	CONDENSATE LEVEL SENSOR
O/V	OCCUPANCY/VACANCY SENSOR
SA	SUPPLY AIR
RA	RETURN AIR
OA	OUTSIDE AIR
	CONTROL VALVE
	CURRENT SENSOR
	STARTER

BRUNSWICK CTY

BRUNSWICK COUNTY SCHOOLS

WACCAMAW ELEMENTARY SCHOOL

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JOB # 19052

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17599 KENNETH L. NOE 4/16/2020

REVISIONS:

No.	Description	Date

PROJECT: 8201-191240
DATE: 04.22.2020
DRAWN BY: NAH
CHECKED BY: KL

MECHANICAL CONTROL DIAGRAMS

M-701

OF 4

BID DOCUMENTS

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ELECTRICAL NOTES

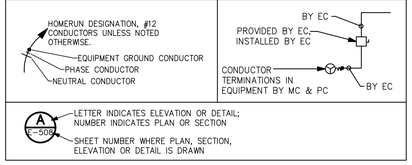
1. ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION.
2. PERMITS FOR ELECTRICAL WORK SHALL BE OBTAINED BY AND PAID BY THE ELECTRICAL CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL PAY FOR ANY ADDITIONAL FEES FOR INSPECTIONS, TESTS, AND OTHER SERVICES AS REQUIRED FOR THE COMPLETION OF THE WORK.
3. THE ELECTRICAL CONTRACTOR AND ANY OF HIS SUBCONTRACTORS SHALL VISIT THE PROJECT SITE TO WITNESS EXISTING CONDITIONS AND BECOME FAMILIAR WITH THE SCOPE OF THE WORK REQUIRED PRIOR TO SUBMITTING PROPOSALS. WORK REQUIRED BY EXISTING JOB CONDITIONS NOT INDICATED ON DRAWINGS SHALL BE INCLUDED IN THE BID.
4. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO RESULT IN THE PRODUCTION OF A COMPLETE AND FUNCTIONAL ELECTRICAL SYSTEM. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL MATERIAL, LABOR, EQUIPMENT, AND OTHER SERVICES AS NECESSARY TO COMPLETE THE WORK.
5. DISCREPANCIES IN THE DRAWINGS AND SPECIFICATIONS THAT WILL AFFECT THE WORK SHALL BE BROUGHT TO THE ATTENTION OF THE **ARCHITECT,** ENGINEER, AND/OR OWNER PRIOR TO SUBMITTING PROPOSALS.
6. UNLESS NOTED OTHERWISE, ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND INCLUDE A 3RD PARTY LABEL (I.E.: UL, CSA, ETL, ETC.) LISTING APPROVAL FOR ITS INSTALLED APPLICATION.
7. REVIEW PLANS OF OTHER TRADES FOR COORDINATION OF WORK AND FOR RELATED AND ADJOINING WORK.
8. REVIEW COMPLETE PLAN SET FOR CONSTRUCTION TYPE, FINISHES, HEADROOM, ROOF FINISHES, CEILINGS, ETC. REVIEW COMPLETE PLAN SET FOR PROJECT PHASING AND STAGING. REVIEW COMPLETE PLAN SET FOR WORK COVERED BY ALTERNATE BID ITEMS.
9. COORDINATE DEVICE AND EQUIPMENT MOUNTING HEIGHTS WITH OTHER DISCIPLINE DRAWINGS, CASEWORK DETAILS & SUBMITTALS, EQUIPMENT DETAILS & SUBMITTALS, ETC.
10. PENETRATIONS OF FIRE-RATED WALLS, FLOORS, CEILINGS, AND PARTITIONS SHALL BE FIRE STOPPED IN ACCORDANCE WITH REQUIREMENTS OF THE STATE BUILDING CODE. COORDINATE WORK TO INSURE THAT FIRE STOPPING IS COMPLETED.
11. PENETRATIONS OF SMOKE PARTITIONS SHALL BE SEALED IN ACCORDANCE WITH REQUIREMENTS OF THE STATE BUILDING CODE. COORDINATE WORK TO INSURE THAT SMOKE PARTITION SEALING IS COMPLETED.
12. PENETRATIONS OF EXTERIOR BUILDING WALLS, FLOORS, OR ROOFS SHALL BE SEALED WATERTIGHT. INTERIORS OF RACEWAY PENETRATIONS THROUGH EXTERIOR WALLS SHALL BE SEALED WITH NON-HARDENING ELECTRICAL PUTTY.
13. CUTTING AND PATCHING TO INSTALL DEVICES AND EQUIPMENT SHALL BE PERFORMED WITH FINISHES RESTORED TO THEIR ORIGINAL CONDITION. SUCH WORK SHALL BE COMPLETED TO A DEGREE THAT IS ACCEPTABLE TO THE **ARCHITECT,** ENGINEER, AND/OR OWNER.
14. COORDINATE PRECISE LOCATION OF HVAC EQUIPMENT WITH THE MECHANICAL CONTRACTOR.
15. FOR HVAC EQUIPMENT, VERIFY CIRCUIT BREAKER RATINGS, FUSE RATINGS, AND WIRE SIZES. IF RATINGS DIFFER FROM THOSE INDICATED ON THE DRAWINGS, NOTIFY THE ARCHITECT, ENGINEER, AND OWNER FOR DIRECTION. PROVIDE OVERCURRENT PROTECTION IN ACCORDANCE WITH EQUIPMENT MANUFACTURER NAMEPLATE DATA. IF THE EQUIPMENT LISTING LABEL REQUIRES FUSED PROTECTION, ENSURE THAT FUSES IN A FUSED DISCONNECT SWITCH AT THE EQUIPMENT ARE SIZED AS INDICATED ON THE EQUIPMENT LABEL.
16. VERIFY PROPER SIZING OF OVERLOAD DEVICES IN STARTERS BASED ON EQUIPMENT NAMEPLATE DATA.
17. IF HORSEPOWER OR LOAD RATINGS OF EQUIPMENT DIFFER FROM THOSE INDICATED ON THE DRAWINGS, NOTIFY THE ARCHITECT, ENGINEER, AND OWNER FOR DIRECTION.
18. PROVIDE NATIONAL ELECTRICAL CODE REQUIRED CLEARANCES FOR ALL ELECTRICAL EQUIPMENT. COORDINATE RESOLUTION OF CONFLICTS WITH OTHER TRADES.
19. RECEPTACLE, SWITCH, DATA/TELEPHONE OUTLETS SHALL BE FLUSH MOUNTED IN FINISHED SPACES UNLESS OTHERWISE NOTED.
20. WHERE INSTALLED IN PLENUM SPACES, CABLES SHALL BE PLENUM-RATED OR INSTALLED IN METAL RACEWAY.
21. PRIOR TO ORDERING LIGHT FIXTURES, CONTRACTOR SHALL VERIFY TYPE OF CEILING OR WALL BY REVIEW OF ARCHITECTURAL FINISH SCHEDULES AND PROVIDE SUITABLE TRIM AND APPURTENANCES TO MOUNT FIXTURES IN TYPE OF CEILING OR WALL INDICATED.
22. RECESSED LIGHT FIXTURES INSTALLED IN CEILINGS HAVING INSULATION INSTALLED OVER CEILING AND FIXTURES (AS INDICATED IN ARCHITECTURAL PLANS, OR FOUND AS EXISTING CONDITIONS) SHALL BE U.L. RATED FOR DIRECT CONTACT WITH INSULATION.
23. RECESSED LIGHT FIXTURES INSTALLED IN FIRE RATED CEILING SHALL BE U.L. RATED FOR USE IN FIRE RATED CEILINGS OR SHALL BE INSTALLED WITH "TENTING' IN ACCORDANCE WITH RATING REQUIREMENTS OF THE CEILING ASSEMBLY.
24. EXIT AND EMERGENCY LIGHTS SHALL BE CONNECTED TO THE NEAREST UNSWITCHED CIRCUIT THAT SERVES LIGHT FIXTURES WITHIN THE SAME SPACE.
25. NO MOUNTING HARDWARE SHALL BE ATTACHED TO ROOF DECKS. ATTACHMENTS SHALL BE MADE TO THE ROOF SUPPORTING STRUCTURE.
26. WHERE WORKING IN EXISTING BUILDINGS, FACILITIES, OR STRUCTURES; PROTECT AND MAINTAIN IN OPERATION EXISTING LIFE SAFETY SYSTEMS, PUBLIC ADDRESS SYSTEMS, ELECTRICAL SYSTEMS, ETC. IF SHUTDOWNS ARE REQUIRED, NOTIFY THE ARCHITECT, ENGINEER, AND OWNER FOR COORDINATION WELL IN ADVANCE OF ANY SYSTEM SHUTDOWN. WHERE AN OUTAGE OF EXTENDED DURATION IS NOT ACCEPTABLE TO THE OWNER, PROVIDE TEMPORARY CONNECTIONS AS REQUIRED TO MAINTAIN SERVICE.
27. WHERE WORKING IN EXISTING BUILDINGS, FACILITIES, OR STRUCTURES; WORK MAY BE REQUIRED TO BE PERFORMED WHILE REMAINING OCCUPIED BY OWNER STAFF. WORK SHALL BE COORDINATED WITH THE OWNER TO MINIMIZE DISRUPTION TO THE OWNER.
28. WHERE WORKING IN EXISTING BUILDINGS, FACILITIES, OR STRUCTURES; EXISTING ABANDONED CIRCUITS USED TO CONNECT NEW LOADS IN THE SAME AREA SHALL BE CLEARLY IDENTIFIED ON AS-BUILT MARK-UP DRAWINGS WITH REGARD TO PANEL-CIRCUIT AND CIRCUITRY ROUTING CONFIGURATION.
29. SHARED NEUTRAL CONDUCTORS SHALL NOT BE USED UNLESS SPECIFICALLY INDICATED SO ON HOMERUN CIRCUITRY DESIGNATIONS.
30. PANEL BREAKER CONFIGURATIONS SHALL BE INSTALLED AS INDICATED ON THE PANEL SCHEDULES OR AS NOTED. BREAKER POSITION REVISIONS WILL NOT BE ACCEPTED UNLESS APPROVED IN WRITING BY THE ENGINEER.
31. LOAD CIRCUITS SHALL BE INSTALLED AS INDICATED ON THE DRAWINGS. CIRCUITRY REVISIONS WILL NOT BE ACCEPTED UNLESS APPROVED IN WRITING BY THE ENGINEER.

ABBREVIATIONS

ACP	ACCESS CONTROL PANEL
ADA	AMERICAN DISABILITIES ACT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLER UNIT
AIC	AMPS INTERRUPTING CAPABILITY
BDA	BI-DIRECTIONAL ANTENNA
BKR	BREAKER
C	CONDUIT
C/B	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CLG	CEILING
CKT	CIRCUIT
COMP	COMPRESSOR
CU	COPPER
DAHU	DUCTLESS AIR HANDLING UNIT
DAL	DIGITAL AUDIO LOOP (FIRE ALARM)
DHP	DUCTLESS HEAT PUMP
DIA	DIAMETER
DWG	DRAWING
EC	ELECTRICAL CONTRACTOR
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSED
ERRCS	EMERGENCY RESPONDER RADIO COMMUNICATIONS SYSTEM
EXSTG	EXISTING
FACP	FIRE ALARM CONTROL PANEL
FACU	FIRE ALARM CONTROL UNIT
G	EQUIPMENT GROUND
GEC	GROUNDING ELECTRODE CONDUCTOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER
HP	HEAT PUMP
HP	HORSEPOWER
HPF	HIGH POWER FACTOR
IMC	INTERMEDIATE METAL CONDUIT
K	KILO (THOUSAND)
LED	LIGHT EMITTING DIODE
LTG	LIGHTING
LTS	LIGHTS
LOC	LOCAL OPERATORS CONSOLE (FIRE ALARM)
MC	MECHANICAL CONTRACTOR
MCB	MAIN CIRCUIT BREAKER
MDP	MAIN DISTRIBUTION PANEL
MFR	MANUFACTURER
MLO	MAIN LUG ONLY
N/A	NOT APPLICABLE
NAC	NOTIFICATION APPLIANCE CIRCUIT (FIRE ALARM)
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOC.
NTP	NON TWISTED PAIR
NTS	NOT TO SCALE
P	PHASE OR POLE
PA	PUBLIC ADDRESS (INTERCOM)
PC	PLUMBING CONTRACTOR
PH	PHASE
PLC	PROGRAMMABLE LOGIC CONTROLLER
PNL	PANEL
PVC	POLYVINYL CHLORIDE
REC	RECEPTACLE
RECPT	RECEPTACLE
REQ.	REQUIRED
RGC	RIGID GALVANIZED CONDUIT
RGS	RIGID GALVANIZED STEEL
S.S.	STAINLESS STEEL
SLC	SIGNALING LINE CIRCUIT (FIRE ALARM)
SSAHU	SPLIT SYSTEM AIR HANDLING UNIT
SYS	SYSTEM
S/N	SOLID NEUTRAL
TP	TWISTED PAIR
TSP	TWISTED SHIELDED PAIR
TYP	TYPICAL
UL	UNDERWRITERS LABORATORY
UNO	UNLESS NOTED OTHERWISE
UON	UNLESS OTHERWISE NOTED
V	VOLTS
VA	VOLT-AMPS
W	WATTS
W	WIRE
W/	WITH
WH	WATER HEATER
WP	WEATHERPROOF
XFMR	TRANSFORMER

MISC. ELECTRICAL SYMBOL LEGEND

- ENCLOSED CIRCUIT BREAKER, NEMA 1 (UNO), AMPERAGE AS INDICATED OR BASED ON SUPPLY CIRCUIT RATING.
- EQUIPMENT CONNECTION
- SAFETY SWITCH DISCONNECT, HEAVY-DUTY, NON-FUSED, NEMA 1 INSIDE, NEMA 3R OUTSIDE (UNO), AMPERAGE AS INDICATED OR BASED ON SUPPLY CIRCUIT BREAKER RATING.
- SAFETY SWITCH DISCONNECT, HEAVY-DUTY, FUSED AT NAMEPLATE RATING OF EQUIPMENT SERVED, NEMA 1 INSIDE, NEMA 3R OUTSIDE (UNO), AMPERAGE AS INDICATED OR BASED ON SUPPLY CIRCUIT BREAKER RATING.
- PANELBOARD, SEE PANEL SCHEDULE
- T — TRANSFORMER, DRY TYPE, RATINGS INDICATED, NEMA 1 ENCLOSURE (UNO). PROVIDE 4" CONCRETE HOUSE KEEPING PAD IF A FLOOR MOUNTED UNIT IS PROVIDED.
- GROUND ROD, 3/4" X 10' COPPER CLAD. WHERE TWO RODS ARE INDICATED, SPACE A MINIMUM OF 20' APART.



FIRE ALARM LEGEND

SYMBOL	DESCRIPTION	MOUNTING
CM PA	CONTROL / RELAY MODULE FOR SOUND SYSTEM SHUNT. PROVIDE REMOTE POWER CONTROL DEVICE WITH PLUG, CORD, & RECEPTACLE FOR SOUND SYSTEM AMPLIFIER POWER. SEE SPECIFICATIONS.	CEILING / WALL
CM S	CONTROL / RELAY MODULE FOR SPEAKER BYPASS SEE DETAIL F/E-503	CEILING / WALL
AMP	REMOTE AUDIO AMPLIFIER	WALL
ST 15	STROBE, 15 CANDELA	CEILING
CM	CONTROL / RELAY MODULE	CEILING/WALL
ERRCS	EMERGENCY RESPONDER RADIO COVERAGE SYSTEM	WALL
FCPS	FIELD CHARGING POWER SUPPLY	WALL
LOC	LOCAL OPERATOR CONSOLE	WALL
MM FS	MONITOR MODULE FOR FLOW SWITCH	
MM TS	MONITOR MODULE FOR TAMPER SWITCH	
MM SS	MONITOR MODULE WITH SURGE SUPPRESSOR FOR CONNECTION OF EXTERNAL CIRCUITRY	
MM	MONITOR MODULE FOR MONITORING A DRY CONTACT CLOSURE DEVICE	CEILING/WALL
PIV	POST INDICATOR VALVE TAMPER SWITCH	
F	PULL STATION	WALL
RA FA	FIRE ALARM REMOTE ANNUNCIATOR	WALL
RA ERRCS	ERRCS REMOTE ANNUNCIATOR	WALL
S	SMOKE DETECTOR	CEILING

FIRE ALARM NOTIFICATION LEGEND

SYMBOL	DESCRIPTION	MOUNTING
1/2-15	SPEAKER STROBE, 1/2 WATT, 15 CANDELA	CEILING MTD
1/2-30	SPEAKER STROBE, 1/2 WATT, 30 CANDELA	CEILING MTD
1/4-15	SPEAKER STROBE, 1/4 WATT, 15 CANDELA	CEILING MTD
1-15	SPEAKER STROBE, 1 WATT, 15 CANDELA	CEILING MTD
1-75	SPEAKER STROBE, 1 WATT, 75 CANDELA	CEILING MTD
2-115	SPEAKER STROBE, 2 WATT, 115 CANDELA	WALL MTD

RECEPTACLE LEGEND

SYMBOL	NEMA	VOLTS	DESCRIPTION
	5-20R	120V 1P 2W	DUPLEX, MTD 18" AFF UNO
CP	5-20R	120V 1P 2W	DUPLEX FOR CONDENSATE PUMP; COORDINATE LOCATION W/ MECH CONTRACTOR
COPY	5-20R	120V 1P 2W	DUPLEX GFCI FOR COPIER, MTD 18" AFF UNO
G	5-20R	120V 1P 2W	DUPLEX GFCI, MTD 6" ABOVE COUNTER HEIGHT UNO
W/G	5-20R	120V 1P 2W	DUPLEX GFCI, MTD 18" AFG UNO; LISTED WEATHER-RESISTANT TYPE; PROVIDE CAST ALUMINUM WEATHERPROOF IN-USE COVER WITH CAST ALUMINUM FD WEATHERPROOF BOX
G	5-20R	120V 1P 2W	DUPLEX GFCI, MTD 18" AFF UNO
HB	5-20R	120V 1P 2W	DUPLEX FOR HOT BOX HEATER; SUPPLY FROM GFEP C/B (30mA); LISTED WEATHER-RESISTANT TYPE; PROVIDE CAST ALUMINUM WEATHERPROOF IN-USE COVER WITH CAST ALUMINUM FD WEATHERPROOF BOX. COORDINATE MTG HEIGHT WITH ENCLOSURE PROVIDED.
MW	5-20R	120V 1P 2W	DUPLEX GFCI FOR MICROWAVE; MOUNT 6" ABOVE COUNTER HEIGHT.
R	5-20R	120V 1P 2W	DUPLEX FOR REFRIGERATOR; MOUNT 48" AFF UNO. SUPPLY FROM GFCI TYPE C/B.
W/G/R	5-20R	120V 1P 2W	DUPLEX GFCI, MTD 18" ABOVE ROOF LEVEL (UNO) FOR EQUIPMENT MAINTENANCE USE; LISTED WEATHER-RESISTANT TYPE; PROVIDE CAST ALUMINUM WEATHERPROOF IN-USE COVER WITH CAST ALUMINUM FD WEATHERPROOF BOX COORDINATE ROOF PENETRATION FOR CIRCUITRY WITH DETAILS A/M-501 AND F/M-501
AC		120V 1P 2W	POWER FOR DOOR OPENER/ACCESS CONTROL, PROVIDE 120V:12/24VAC TRANSFORMER; MOUNT ABOVE ACCESSIBLE CEILING UNO
DDC		120V 1P 2W	J-BOX ABOVE CLG LEVEL FOR DDC OR MECHANICAL CONTROL POWER SOURCE
ERRCS		120V 1P 2W	POWER FOR EMERGENCY RESPONDER RADIO COVERAGE SYSTEM
AMP		120V 1P 2W	POWER FOR FIRE ALARM SYSTEM AUDIO AMPLIFIER
FCPS		120V 1P 2W	POWER FOR FIRE ALARM SYSTEM FIELD CHARGING POWER SUPPLY
SEC		120V 1P 2W	POWER FOR SECURITY SYSTEM COMPONENT
	5-20R	120V 1P 2W	QUAD, MTD 18" AFF UNO
EWC	5-20R	120V 1P 2W	QUAD ELECTRIC WATER COOLER OUTLET; SUPPLY FROM GFCI TYPE C/B; COORDINATE MTG LOCATION TO CONCEAL OUTLET WHEN COOLER IS INSTALLED.
L6-20R	L6-20R	208V 2P 2W	DATA ROOM RECEPTACLE. MOUNT AT TOP OF RACK.

NOTE: ALL 120V RECEPTACLES SHALL BE TAMPER RESISTANT TYPE.

DATA & TELEPHONE OUTLET LEGEND

SYMBOL	DESCRIPTION	MOUNTING	NOTES
AP	DATA OUTLET FOR ACCESS POINT	4" SQUARE BOX MOUNTED 24" ABOVE CEILING	INSTALL (1) CAT 6A CABLE TO IT ROOM. MOUNT EQUIPMENT AT CEILING. CONTRACTOR SHALL INSTALL OWNER PROVIDED EQUIPMENT.
C	DATA / TELEPHONE OUTLET	WALL, MTD 6" ABOVE COUNTER HEIGHT UNO	5" SQUARE, 2.875" DEEP BOX, 64 CUBIC INCHES, WITH CABLE MANAGEMENT POSTS. DESIGN BASIS: STEEL CITY #82181T SERIES STUB 1"C TO 6" ABOVE CEILING INSTALL (2) CAT 6A CABLES TO IT ROOM
	DATA / TELEPHONE OUTLET	WALL, 18" AFF UNO	5" SQUARE, 2.875" DEEP BOX, 64 CUBIC INCHES, WITH CABLE MANAGEMENT POSTS. DESIGN BASIS: STEEL CITY #82181T SERIES STUB 1"C TO 6" ABOVE CEILING INSTALL (2) CAT 6A CABLES TO IT ROOM # INDICATES QUANTITY OF CABLES IF > 2
	2 POST EQUIPMENT RACK	FLOOR	PROVIDE VERTICAL & HORIZONTAL WIRE MANAGEMENT
	FLOOR MOUNTED PA EQUIPMENT RACK	FLOOR	PROVIDE VERTICAL WIRE MANAGEMENT

PA & SECURITY LEGEND

SYMBOL	DESCRIPTION	MOUNTING	NOTES
PA	PA SPEAKER	CEILING	INSTALL (1) 18/2C TSP CABLE TO PA RACK
INT	INTERCOM HANDSET	WALL, 42" AFF UNO	4" SQUARE, DEEP BOX; STUB 3/4"C TO 6" ABOVE ACCESSIBLE CEILING. INSTALL (1) CAT 6A CABLE TO PA RACK (BOGEN QUANTUM MULTICOM IP). COORDINATE EXACT LOCATION OF HANDSET AND HEIGHT WITH OWNER.
PA	PA SPEAKER	WALL	10' AFG UNO, WET LOCATION LISTED WHEN SHOWN OUTSIDE; STUB 3/4"C TO 6" ABOVE ACCESSIBLE CEILING; INSTALL (1) 18/2C TSP CABLE TO PA RACK
ACP	ACCESS CONTROL PANEL	WALL	CONTRACTOR TO VERIFY SYSTEM AND VOLTAGE COMPATIBILITY REQUIREMENTS WITH DOOR HARDWARE AND EXISTING ACCESS CONTROL SYSTEM. OWNER STANDARD: OPEN OPTIONS E2 SERIES
CR	SECURITY CAMERA	CEILING / WALL	-WALL MOUNTED, COORDINATE MOUNTING HEIGHT WITH ARCHITECT. INSTALL 4" SQUARE BOX RECESSED WITH SINGLE GANG COVER; STUB 3/4"C TO INDICATED LOCATION OR NEAREST ACCESSIBLE CEILING SPACE INSTALL (1) CAT 6A CABLE TO IT ROOM. -CEILING MOUNTED, INSTALL 4" SQUARE BOX 24" ABOVE CEILING AT LOCATION INDICATED. INSTALL (1) CAT 6A CABE TO IT ROOM.
CR	CARD READER	WALL MTD 42" AFF UNO	4" SQUARE BOX RECESSED WITH SINGLE GANG COVER; STUB 3/4"C TO 6" ABOVE ACCESSIBLE CEILING. INSTALL (1) CAT 6A CABLE TO IT ROOM.
DS	DOOR SWITCH / CONTACT	RECESSED	PROVIDE 1/2" FLEXIBLE METALLIC CONDUIT CONCEALED IN DOOR FRAME TO JUNCTION BOX MTD ABOVE CEILING. INSTALL (1) 22/2C NTP CABLE TO IT ROOM.
EH	ELECTRIC HINGE		1/2" FLEXIBLE METALLIC CONDUIT CONCEALED IN DOOR FRAME TO JUNCTION BOX MTD ABOVE CEILING. PROVIDE PATHWAY THROUGH DOOR TO ACCOMMODATE CONNECTION TO ASSOCIATED ELECTRIC STRIKE.
ES	ELECTRIC STRIKE		FOR SINGLE DOOR, PROVIDE 1/2" FLEXIBLE METALLIC CONDUIT CONCEALED IN DOOR FRAME TO JUNCTION BOX MTD ABOVE CEILING. INSTALL (1) 18/2C NTP CABLE TO IT CARD READER FOR ELECTRONIC LOCK CONTROL. SEE NOTES AT ELECTRIC HINGE FOR DOUBLE DOOR CONFIGURATION.
KP	SECURITY KEYPAD	WALL MTD 42" AFF	4" SQUARE BOX RECESSED WITH SINGLE GANG COVER; STUB 3/4"C TO 6" ABOVE ACCESSIBLE CEILING, INSTALL (1) 22/4C NTP CABLE TO IT ROOM
MD	MOTION DETECTOR, CORRIDOR COVERAGE	CEILING	INSTALL (1) 22/4C NTP CABLE TO IT ROOM.
ESEM	SECURITY SYSTEM ZONE EXPANDER ENCLOSURE	SURFACE	OWNER STANDARD: GE NETWORX NX-8; INSTALL (1) 18/4C NTP TO SECURITY PANEL IN GUIDANCE 115
PB	PUSHBUTTON ADA DOOR OPENER	WALL MTD BELOW CARD READER	4" SQUARE BOX RECESSED; STUB 3/4"C TO INDICATED LOCATION OR NEAREST ACCESSIBLE CEILING SPACE. #18NTP TO ACCESS CONTROL PANEL. NOTE: ADA PUSHBUTTON SHALL NOT ACTIVATE THE DOOR OPERATOR UNTIL A VALID CARD IS PRESENTED TO THE CARD READER.

APPENDIX B, BUILDING CODE SUMMARY ELECTRICAL SUMMARY

METHOD OF COMPLIANCE
-ENERGY CODE: ☒ PRESCRIPTIVE ☐ PERFORMANCE
-ASHRAE 90.1: ☐ PRESCRIPTIVE ☐ PERFORMANCE

LIGHTING SCHEDULE
Lamp Type Required in Fixtures
Number of Lamps in Fixtures
Ballast Types Used in Fixtures
Number of Ballasts Used in Fixtures
Total Wattage per Fixture
— SEE LIGHT FIXTURE / LUMINAIRE SCHEDULE

TOTAL WATTAGE SPECIFIED VERSUS ALLOWED
Interior Specified: **6746 Watts** Exterior Specified: **816 Watts**
Interior Allowed: **10800 Watts** Exterior Allowed: **3213 Watts**

ADDITIONAL METHOD OF COMPLIANCE:
- ☐ C406.2 More Efficient HVAC Equipment Performance
- ☒ C406.3 Reduced Lighting Power Density
- ☐ C406.4 Enhanced Digital Lighting Controls
- ☐ C406.5 On-Site Renewable Energy
- ☐ C406.6 Dedicated Outdoor Air System
- ☐ C406.7 Reduced Energy Use in Service Water Heating

DESIGNER STATEMENT
To the best of my knowledge and belief, the design of this building complies with the electrical systems and equipment requirements of the North Carolina State Building Code, Section 406 of the North Carolina Energy Conservation Code.

SIGNED: Mark A. Ciarrocca
NAME: Mark A. Ciarrocca, P.E.
TITLE: Engineer

WALL SLEEVE SCHEDULE

SYMBOL	DESCRIPTION	NOTES
	WALL SLEEVE, RATED WALLS, COMMUNICATIONS CABLING	ABOVE CEILING, FOR LOW VOLTAGE CABLES; PRE-ENGINEERED FIRE-RATED PASS-THROUGH; DESIGN BASIS: STI EZ-PATH SERIES 44

JUNCTION BOX SCHEDULE

SYMBOL	DESCRIPTION	NOTES
J	JUNCTION BOX	AS A MINIMUM, SIZE BASED ON REQUIREMENTS OF NEC

SWITCH LEGEND

SYMBOL	DESCRIPTION	NOTES
$D	DIMMER SWITCH	RATED FOR VOLTAGE WHERE APPLIED, 20A; MTD 42" AFF UNO
$01	OCCUPANCY SENSOR WALL SWITCH, SINGLE CKT, DUAL TECHNOLOGY	RATED FOR VOLTAGE WHERE APPLIED, 20A; MTD 42" AFF UNO
OS	OCCUPANCY SENSOR, LOW VOLTAGE, DUAL TECHNOLOGY; CEILING MTD	INCORPORATE POWER PACKS FOR CIRCUITRY SWITCHING, SEE WIRING DIAGRAMS
PC	PHOTOCELL, EXTERIOR; MOUNT ON NORTH FACE OF BLDG, FACING NORTH	
$	TOGGLE SWITCH, SINGLE POLE	RATED FOR VOLTAGE WHERE APPLIED, 20A; MTD 42" AFF UNO; WHERE SHOWN PAIRED, PROVIDE DUAL LEVEL SWITCHING.
$WP	CAST ALUMINUM WEATHERPROOF BOX WITH IN-USE COVER	RATED FOR VOLTAGE WHERE APPLIED, 20A; MTD 42" AFF UNO;

ELECTRICAL LOAD SUMMARY

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	8.22	10.3	(125%)	KITCHEN EQUIPMENT	1	1	(100%)
LARGEST MOTOR	14.6	3.65	(25%)	CONTINUOUS	20	25	(125%)
MOTORS	25.7	25.7	(100%)	NONCONTINUOUS	12.6	12.6	(100%)
RECEPTACLES	29.3	19.7	(50%>10)	HEATING	186	186	(100%)
				COOLING	124	0	(0%)
				TOTAL LOAD		283	
				BALANCED 3-PHASE AMPS		341	

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NC LICENSE# C-1073

JOB # 19052

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 17593 MARK A. CIARROCCA

No.	Description	Date

PROJECT: 8201-191240
DATE: 04.22.2020
DRAWN BY: MPS/KAF/FM/CB
CHECKED BY: MAC

ELECTRICAL NOTES, LEGENDS, SCHEDULES, DETAILS

E-001

BID DOCUMENTS

KEYED NOTES:

1. COORDINATE WITH BRUNSWICK COUNTY ELECTRIC FOR RELOCATION OF TWO EXISTING UTILITY TRANSFORMERS. ONE TRANSFORMER SERVES EXISTING SITE LIGHTING. SECOND TRANSFORMER CURRENTLY SERVES EXISTING BUILDING C BEING DEMOLISHED. REUSE SECOND TRANSFORMER TO SERVE NEW BUILDING C.

CROSS WALK

UTILITY

ELECTRICAL 129

LOCATION OF EXISTING FIRE ALARM PANEL (NOTIFIER NFS 2-640)

LOBBY 100

LOCATION OF EXISTING VOICE EVACUATION PANEL (NOTIFIER NFC-50/100) AND EXISTING REMOTE ANNUNCIATOR (NOTIFIER LCD2-80)

EXISTING BUILDING D

NEW BUILDING C

EXISTING SMOKE DETECTOR 1D010

EXISTING FIRE ALARM JUNCTION BOX

EXISTING SMOKE DETECTOR 1D011

EXISTING SECURITY PANEL LOCATION (GE NETWORX NX-8)

GUIDANCE 115

REMOVE EXISTING CIRCUITRY BETWEEN DEVICES AND EXTEND EXISTING SLC LOOP 1 TO NEW BUILDING C. MAINTAIN SLC CLASS A WIRING CONFIGURATION. SIGNALING LINE CIRCUIT, 3/4"C, 18/2C TP. MIN.

3/4"C, (1) DIGITAL AUDIO LOOP, 16/2C TSP. MIN (1) 485 BUS, 18/2C TP. MIN

2"C SPARE PROVIDE PULL STRING

IT 111

3"C UNDERGROUND, 24" HORIZONTAL, 12" VERTICAL SEPARATION MIN, WITH (2) 3" 3 CELL FABRIC INNERDUCTS, (DESIGN BASIS MAX CELL MXE64283) STUB CONDUIT UP TO 6" ABOVE GRADE AT INDICATED LOCATION IN IT ROOM 111. USE LONG SWEEP ELBOWS, NOT TO EXCEED 180 DEGREES OF BEND BETWEEN PULL POINTS.

DATA/TELEPHONE – (1) 6 STRAND MULTI-MODE FIBER OPTIC CABLE FROM BUILDING D, DATA ROOM 117A FIBER OPTIC PATCH PANEL, TO BUILDING C, IT 111 FIBER OPTIC PATCH PANEL.

FIRE – (1) SIGNALING LINE CIRCUIT, 18/2C TP MIN (1) DIGITAL AUDIO RISER, 16/2C TSP MIN (1) 485 DATA BUS, 18/2C TSP MIN

SECURITY – (1) 18/4C NTP FROM BUILDING D, GUIDANCE 115 SECURITY PANEL, TO BUILDING C, IT 111 SECURITY ZONE EXPANDER ENCLOSURE.

CCTV – CCTV SYSTEM WILL UTILIZE THE NEW BUILDING DATA NETWORK FOR BUILDING CONNECTIVITY BETWEEN EXISTING CCTV NETWORK SWITCH & THE NEW CCTV NETWORK SWITCH LOCATED IN IT 111.

PA – PA SYSTEM WILL UTILIZE THE NEW BUILDING DATA NETWORK FOR BUILDING CONNECTIVITY BETWEEN EXISTING PA RACK & THE NEW PA NETWORK NODE LOCATED IN IT 111.

ACCESS CONTROL – ACCESS CONTROL SYSTEM WILL UTILIZE THE NEW BUILDING DATA NETWORK FOR BUILDING CONNECTIVITY BETWEEN EXISTING ACCESS CONTROL NETWORK SWITCH & THE NEW ACCESS CONTROL NETWORK NODE LOCATED IN IT 111.

Q E-503

DATA ROOM 117A

PENETRATE THROUGH BUILDING WALL BELOW SOFFIT WITH (1) 1" AND (2) 3" LB CONNECTORS TO INSIDE DATA ROOM 117A BELOW CEILING. MOUNT (1) 1"C AND (2) 3"C WITH (2) 3" 3 CELL FABRIC INNERDUCTS IN EACH CONDUIT, DOWN BUILDING WALL FROM LB CONNECTORS TO BELOW GRADE. 24" HORIZONTAL, 12" VERTICAL SEPARATION MIN. ON (2) 3"C.

ROOM 117

EXISTING MDF LOCATION

EXISTING PA SYSTEM LOCATION (BOGEN QUANTUM MULTICOM IP)

(1) 18/4C NTP FROM BUILDING D, GUIDANCE 115 SECURITY PANEL, TO BUILDING C, IT 111 SECURITY ZONE EXPANDER ENCLOSURE.

1 E-011 ELECTRICAL SITE PLAN
SCALE: 1" = 10'

GRAPHIC SCALE: 1"=10'
0 2 5 10 20

PROJECT NORTH N

TRUE NORTH

KEY PLAN
NO SCALE

BUILDNG C
BUILDNG D
BUILDNG E
BUILDNG F
BUILDNG A
BUILDNG B
BUILDNG G

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JOB # 19052

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17593 MARK A. CIARROCCA

No.	Description	Date

PROJECT: 8201-191240
DATE: 04.22.2020
DRAWN BY: MPS/KAF/FM/CB
CHECKED BY: MAC

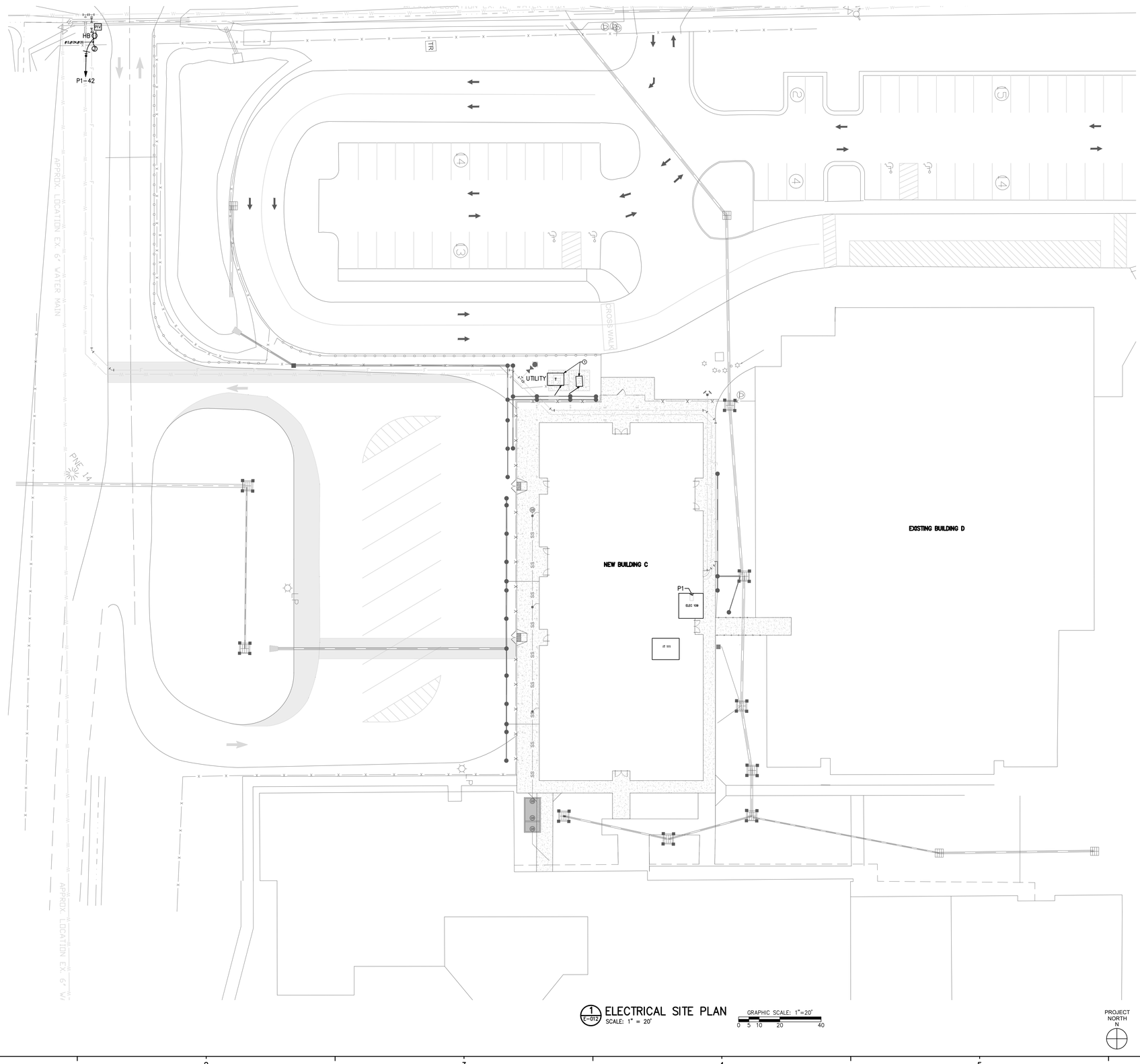
ELECTRICAL SITE PLAN

E-011

BID DOCUMENTS

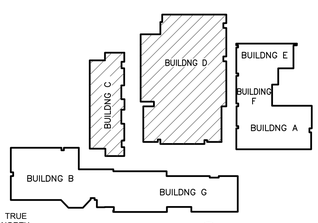
KEYED NOTES:

1. COORDINATE WITH BRUNSWICK COUNTY ELECTRIC FOR RELOCATION OF TWO EXISTING UTILITY TRANSFORMERS. ONE TRANSFORMER SERVES EXISTING SITE LIGHTING. SECOND TRANSFORMER CURRENTLY SERVES EXISTING BUILDING C BEING DEMOLISHED. REUSE SECOND TRANSFORMER TO SERVE NEW BUILDING C.



1 E-012 ELECTRICAL SITE PLAN
SCALE: 1" = 20'

GRAPHIC SCALE: 1"=20'
0 5 10 20 40



PROJECT NORTH N
TRUE NORTH N

KEY PLAN
NO SCALE

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JOB # 19052

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17593 21 APRIL 2020 MARK A. CIARROCCO

No.	Description	Date

PROJECT: 8201-191240
DATE: 04.22.2020
DRAWN BY: MPS/KAF/FM/CB
CHECKED BY: MAC

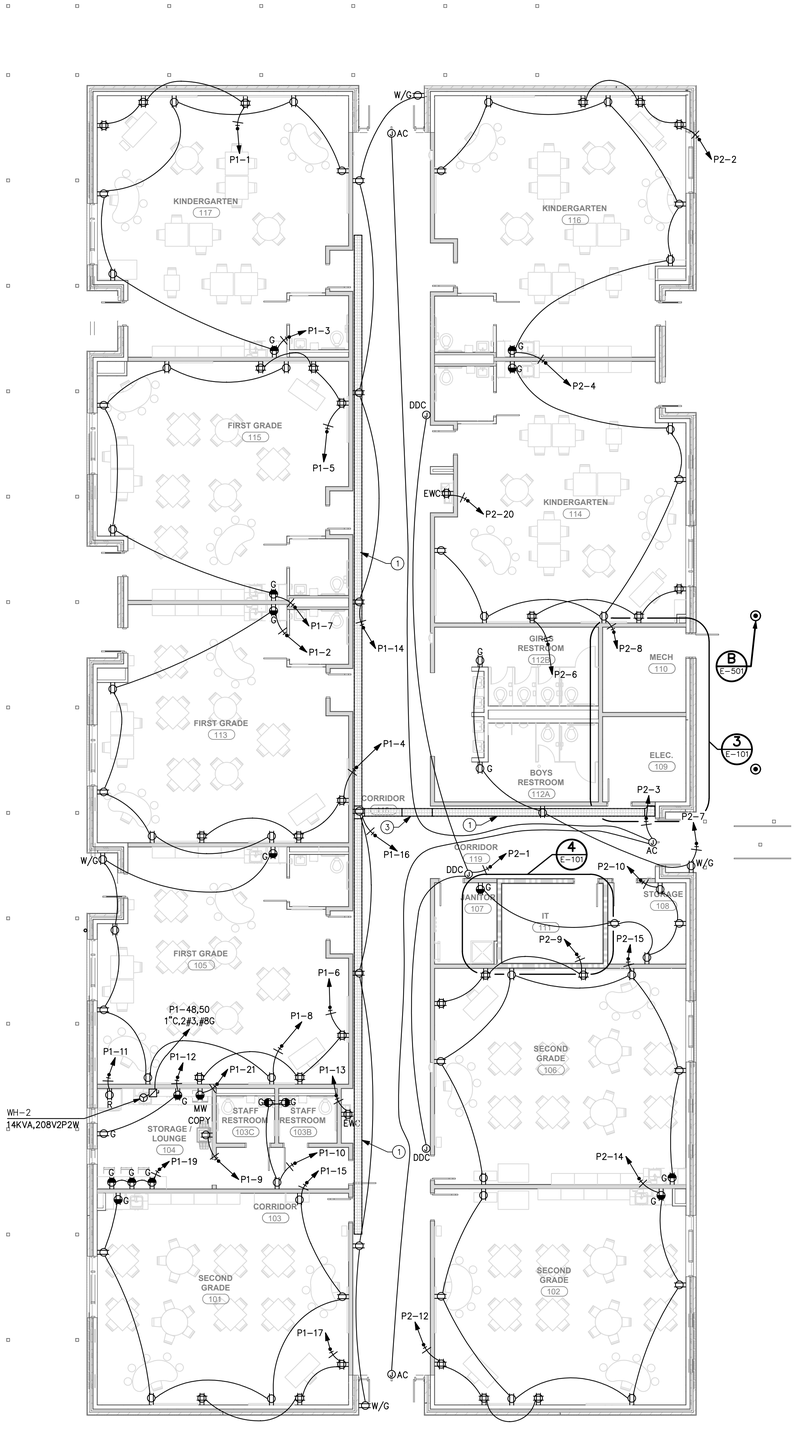
ELECTRICAL SITE PLAN

E-012

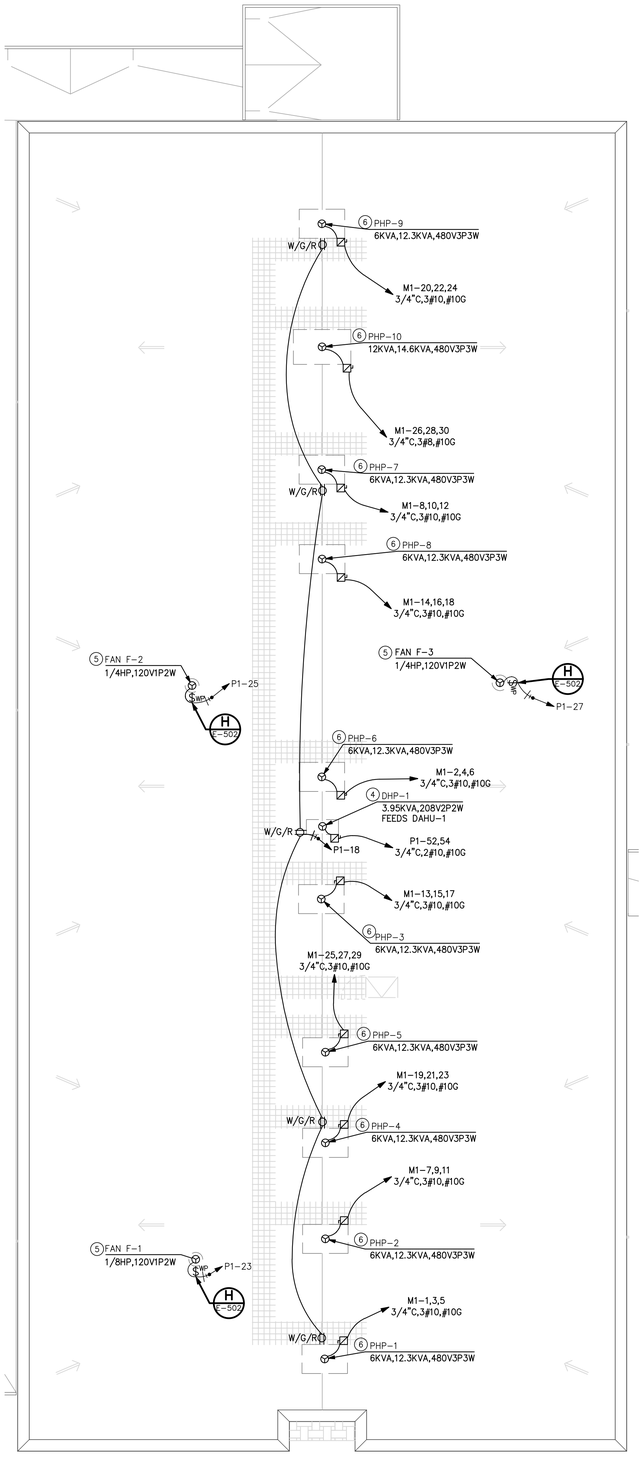
BID DOCUMENTS

KEYED NOTES:

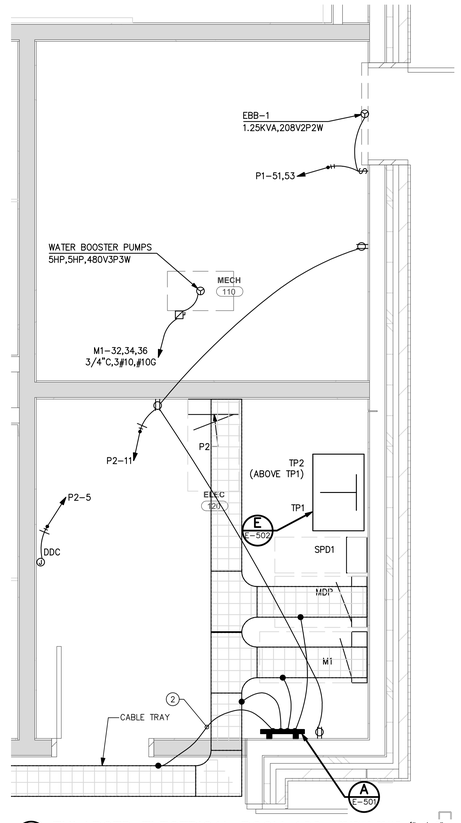
1. POWER CABLE TRAY ABOVE CEILING, WIRE MESH/BASKET TYPE, 12"W X 4"DEEP. MOUNT CABLE TRAY 10' AFF. COORDINATE INSTALLATION AND ABOVE CEILING CLEARANCES WITH MECHANICAL AND PLUMBING CONTRACTORS. SEE CROSS SECTION DETAIL A/E-503.
2. BOND EACH CABLE TRAY SECTION TO GROUND BAR WITH #6 STRANDED COPPER, GREEN INSULATED GROUND. TYPICAL.
3. TRANSITION CABLE TRAY UP TO 11' AFF TO MOUNT OVER AUXILIARY CABLE TRAY, THEN TRANSITION DOWN TO 10' AFF.
4. COORDINATE ROOF PENETRATION FOR CIRCUITRY WITH DETAIL A/M-501.
5. COORDINATE ROOF PENETRATION FOR CIRCUITRY WITH DETAIL B/M-501.
6. COORDINATE ROOF PENETRATION FOR CIRCUITRY WITH DETAIL F/M-501.



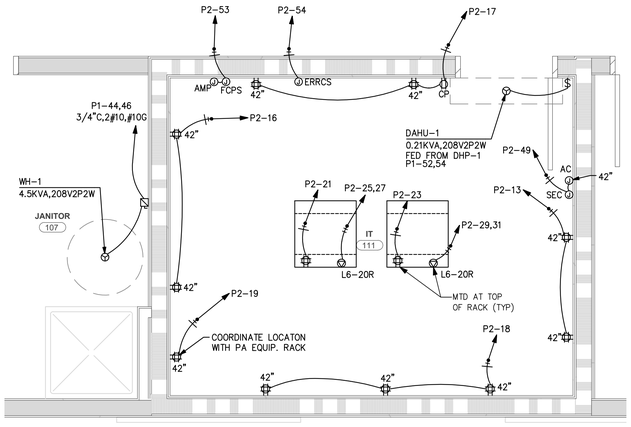
1 E-101 ELECTRICAL POWER PLAN
SCALE: 1/8" = 1'-0"
GRAPHIC SCALE: 1/8"=1'-0" (0 2 4 8 16)



2 E-101 ELECTRICAL POWER PLAN, ROOF
SCALE: 1/8" = 1'-0"



3 E-101 ENLARGED ELECTRICAL ROOM 120
SCALE: 1/2" = 1'-0"
GRAPHIC SCALE: 1/2"=1'-0" (0 1 2 4)



4 E-101 ENLARGED IT ROOM 111 & JANITOR 107
SCALE: 1/2" = 1'-0"

PARTITION LEGEND

1. ALL EXTERIOR WALLS TO BE U.N.O.
2. ALL INTERIOR MASONRY PARTITIONS TO BE U.N.O.
3. ALL INTERIOR METAL STUD PARTITIONS TO BE TYPE U.N.O.
   - NON-RATED PARTITION TO CEILING
   - NON-RATED PARTITION TO DECK
   - 1 HR. RATED PARTITION TO DECK
   - 2 HR. RATED PARTITION TO DECK
   - 4 HR. RATED PARTITION TO DECK

NOTE: SEE SHEET A002 FOR CONSTRUCTION OF PARTITION TYPES.

PROJECT NORTH N
TRUE NORTH

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JOB # 19052

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17593 MARK A. CIARAMITARO — 21 APRIL 2020

No.	Description	Date

PROJECT: 8201-191240
DATE: 04.22.2020
DRAWN BY: MPS/KAF/FM/CB
CHECKED BY: MAC

ELECTRICAL POWER PLAN

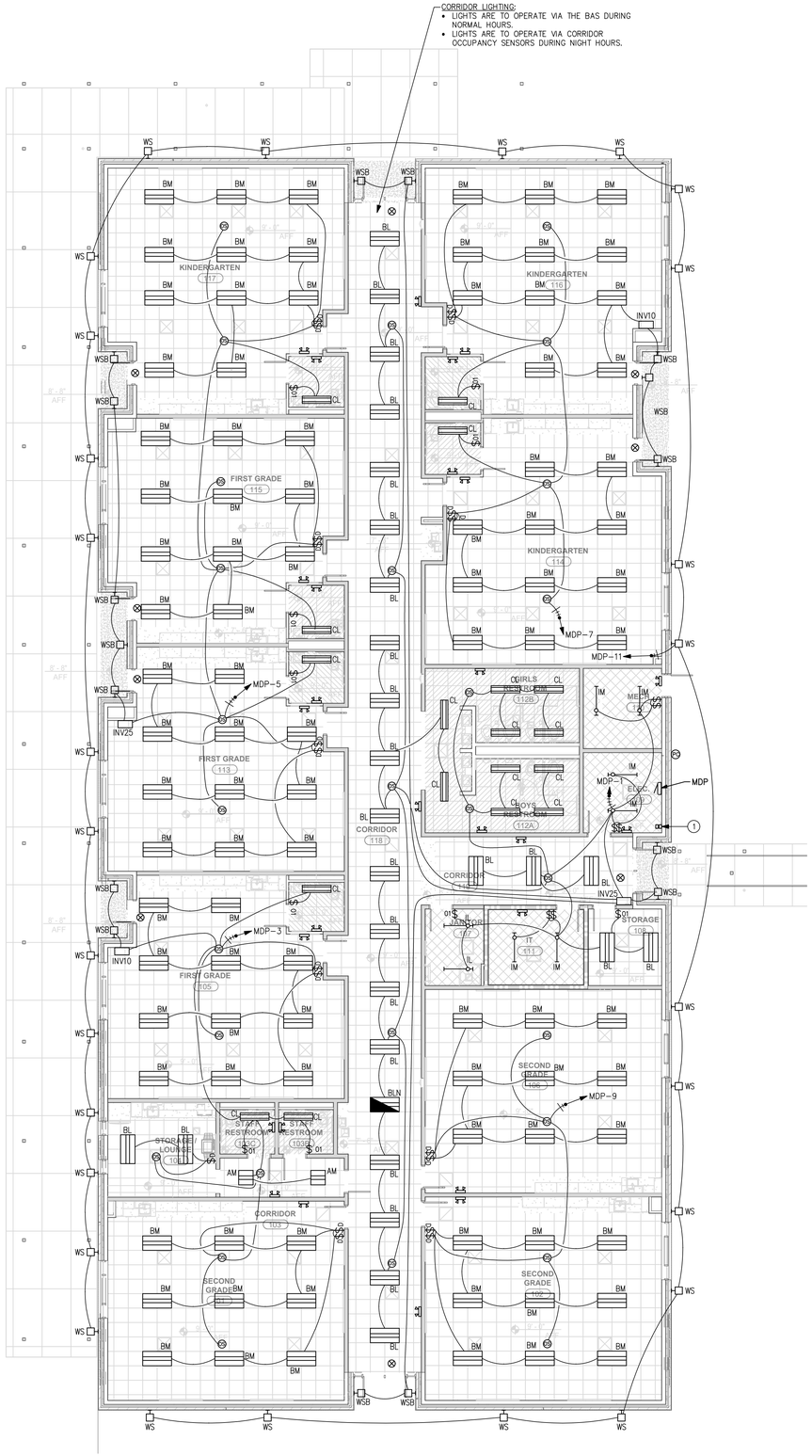
E-101

BID DOCUMENTS

KEYED NOTES:

1. INTERIOR AND EXTERIOR LIGHTING CONTACTORS

CORRIDOR LIGHTING:
- LIGHTS ARE TO OPERATE VIA THE BAS DURING NORMAL HOURS.
- LIGHTS ARE TO OPERATE VIA CORRIDOR OCCUPANCY SENSORS DURING NIGHT HOURS.



1 E-111 ELECTRICAL LIGHTING PLAN
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE: 1/8"=1'-0"
0 2 4 8 16

PROJECT NORTH N

TRUE NORTH

PARTITION LEGEND

1. ALL EXTERIOR WALLS TO BE U.N.O.
2. ALL INTERIOR MASONRY PARTITIONS TO BE U.N.O.
3. ALL INTERIOR METAL STUD PARTITIONS TO BE TYPE U.N.O.

- NON-RATED PARTITION TO CEILING
- NON-RATED PARTITION TO DECK
- 1 HR. RATED PARTITION TO DECK
- 2 HR. RATED PARTITION TO DECK
- 4 HR. RATED PARTITION TO DECK

NOTE: SEE SHEET A002 FOR CONSTRUCTION OF PARTITION TYPES.

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JOB # 19052

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17593 MARK A. CIARROCCHI 21 APR 11 2020

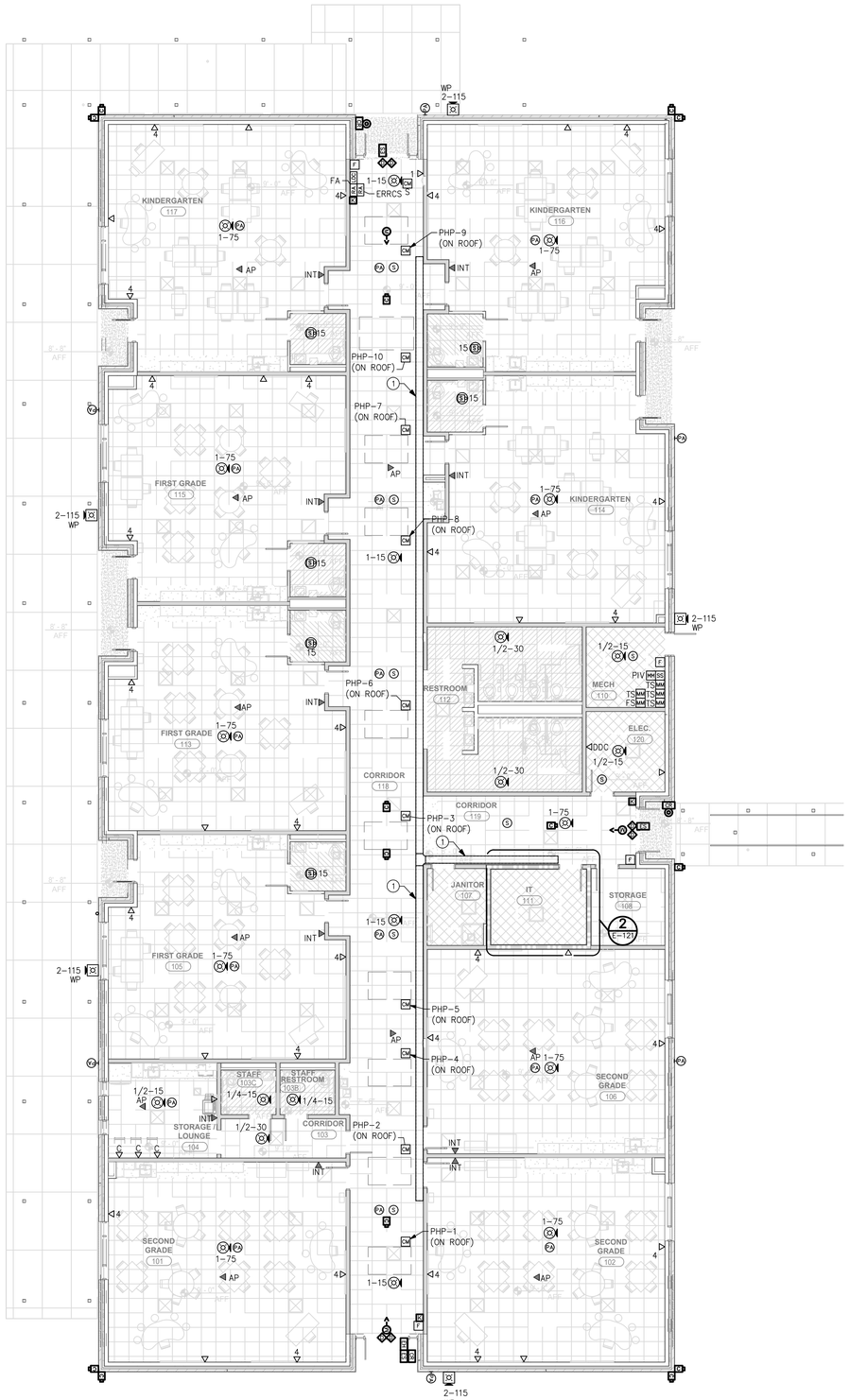
No.	Description	Date

PROJECT: 8201-191240
DATE: 04.22.2020
DRAWN BY: MPS/KAF/FM/CB
CHECKED BY: MAC

ELECTRICAL LIGHTING PLAN

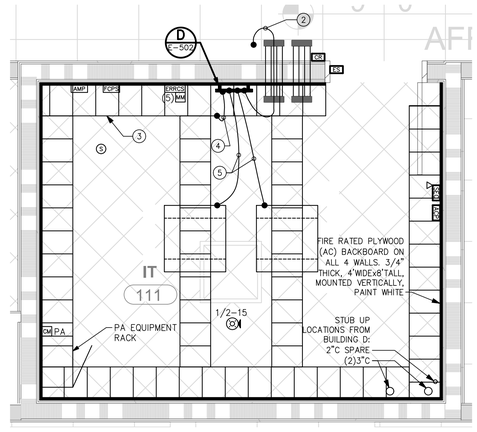
E-111

BID DOCUMENTS



1 E-121 ELECTRICAL AUXILIARY SYSTEMS PLAN
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE: 1/8"=1'-0"
0 2 4 8 16



2 E-121 ELECTRICAL ENLARGED IT ROOM
SCALE: 1/2" = 1'-0"

GRAPHIC SCALE: 1/4"=1'-0"
0 1 2 4

KEYED NOTES:

1. AUXILIARY SYSTEMS CABLE TRAY ABOVE CEILING, WIRE MESH/BASKET TYPE, 12"W X 4"DEEP. MOUNT CABLE TRAY 10' AFF. COORDINATE INSTALLATION AND ABOVE CEILING CLEARANCES WITH MECHANICAL AND PLUMBING CONTRACTORS. SEE CROSS SECTION DETAIL A/E-503.
2. BOND EACH CABLE TRAY SECTION TO GROUND BAR WITH #6 STRANDED COPPER, GREEN INSULATED GROUND.
3. LADDER RACK, INSTALL 6" ABOVE TOP OF EQUIPMENT RACK. (TYPICAL)
4. BOND EACH LADDER RACK SECTION TO GROUND BAR WITH #6 STRANDED COPPER, GREEN INSULATED GROUND. ONE IS SHOWN; BOND ALL SECTIONS.
5. BOND EACH IT RACK SECTION TO GROUND BAR WITH #6 STRANDED COPPER, GREEN INSULATED GROUND.

PROJECT NORTH N

TRUE NORTH

PARTITION LEGEND

1. ALL EXTERIOR WALLS TO BE U.N.O.
2. ALL INTERIOR MASONRY PARTITIONS TO BE U.N.O.
3. ALL INTERIOR METAL STUD PARTITIONS TO BE TYPE U.N.O.

- NON-RATED PARTITION TO CEILING
- NON-RATED PARTITION TO DECK
- 1 HR. RATED PARTITION TO DECK
- 2 HR. RATED PARTITION TO DECK
- 4 HR. RATED PARTITION TO DECK

NOTE: SEE SHEET A002 FOR CONSTRUCTION OF PARTITION TYPES.

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NC LICENSE# C-1073

JOB # 19052

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19593 MARK A. CIARROCCHI 2/18/2020

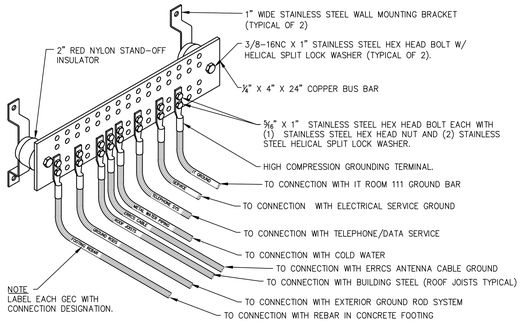
No.	Description	Date

PROJECT: 8201-191240
DATE: 04.22.2020
DRAWN BY: MPS/KAF/FM/CB
CHECKED BY: MAC

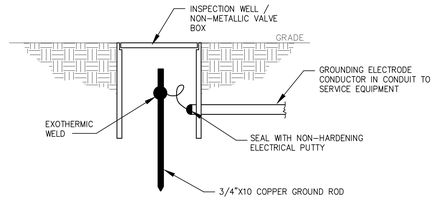
ELECTRICAL AUXILIARY SYSTEMS PLAN

E-121

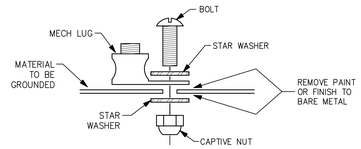
BID DOCUMENTS



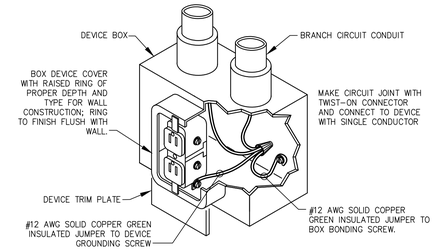
A E-501 MAIN GROUND BAR
NO SCALE



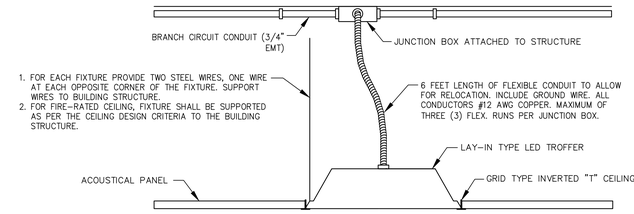
B E-501 GROUND ROD & INSPECTION WELL
NO SCALE



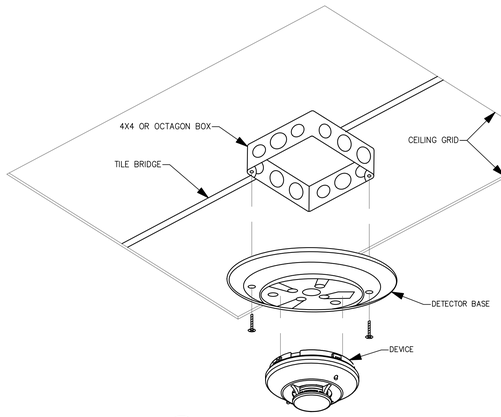
C E-501 GROUNDING LUG DETAIL
NO SCALE



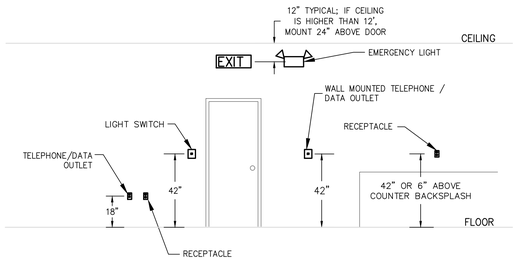
D E-501 OUTLET GROUNDING DETAIL
SCALE: N/A



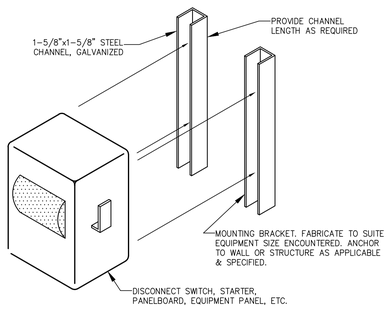
G E-501 LIGHTING FIXTURE MOUNTING DETAIL
SCALE: N/A



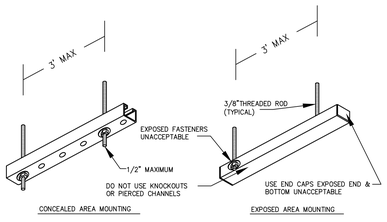
E E-501 DEVICE MOUNTING DETAIL
NO SCALE



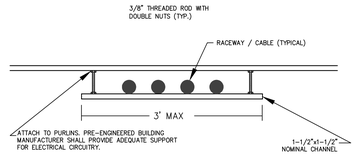
F E-501 MOUNTING HEIGHTS OF DEVICES
NO SCALE



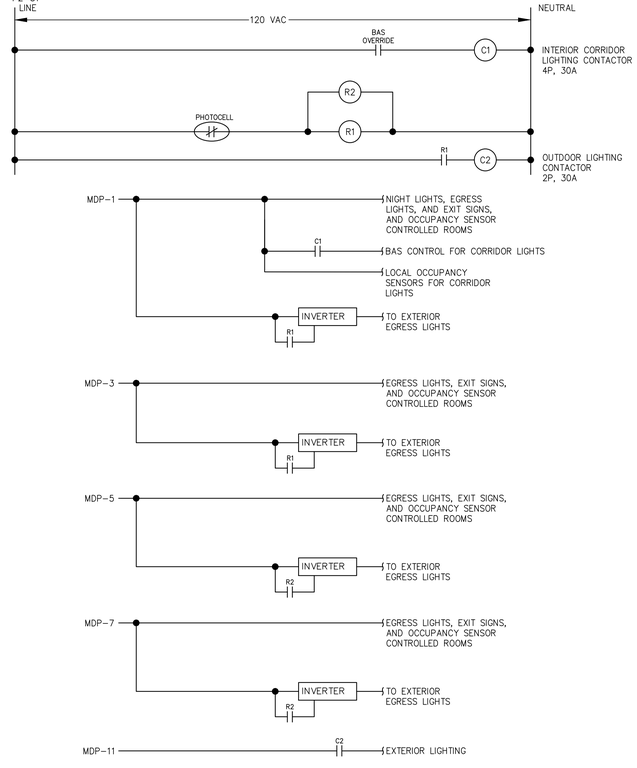
H E-501 EQUIPMENT MOUNTING DETAIL
NO SCALE



J E-501 CHANNEL MOUNTING DETAILS
NO SCALE



K E-501 CHANNEL SUPPORT DETAIL
NO SCALE



AUTO MODE CONTROL SCHEME
1. COORIDOR LIGHTS ARE TO OPERATE VIA THE BAS DURING NORMAL HOURS. LIGHTS ARE TO OPERATE VIA CORRIDOR OCCUPANCY SENSORS DURING NIGHT HOURS.
2. EXTERIOR LIGHTS TURN ON/OFF VIA PHOTOCELL.
3. EXTERIOR EGRESS LIGHTS SHALL REMAIN ENERGIZED DURING POWER OUTAGES THROUGH THE INVERTERS AFTER DARK. THE SWITCHED INPUT TO THE INVERTER FROM THE CONTACTORS PREVENTS OPERATION OF THE INVERTER DURING DAYLIGHT.

L E-501 TIMECLOCK & PHOTOCELL CONTROL SCHEMATIC
NO SCALE

BRUNSWICK CTY

WACCAMAW ELEMENTARY SCHOOL

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434 FAYETTEVILLE STREET SUITE 1700
RALEIGH, NORTH CAROLINA 27601
TEL. 919.829.2700 FAX 919.829.2730
WWW.LS3P.COM

CHEATHAM & ASSOCIATES, P.A.
CONSULTING ENGINEERS
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(910) 452-4210
FAX: (910) 452-4211
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NC LICENSE# C-1073

JOB # 19052

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17593 MARK A. CIARROCCA 7/APRIL/20

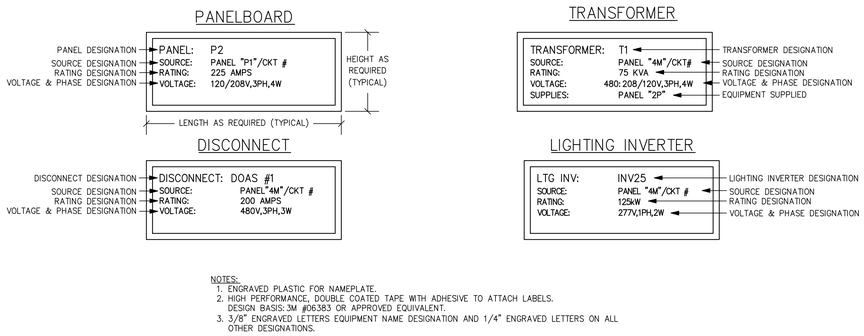
No.	Description	Date

PROJECT: 8201-191240
DATE: 04.22.2020
DRAWN BY: MPS/KAF/FM/CB
CHECKED BY: MAC

ELECTRICAL DETAILS

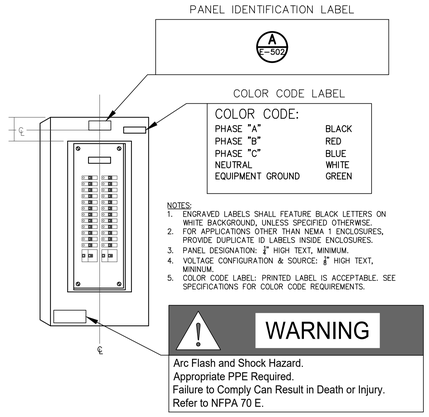
E-501

BID DOCUMENTS



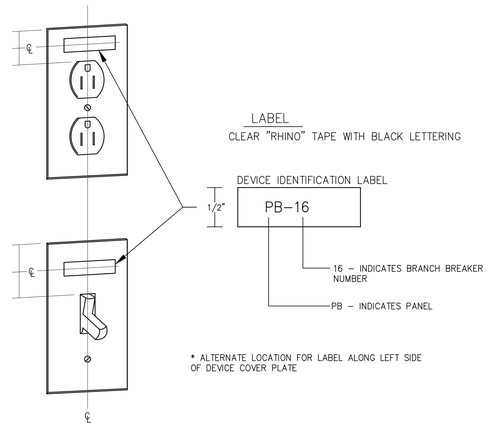
NOTES:
1. ENGRAVED PLASTIC FOR NAMEPLATE.
2. HIGH PERFORMANCE, DOUBLE COATED TAPE WITH ADHESIVE TO ATTACH LABELS. DESIGN BASIS: 3M #06383 OR APPROVED EQUIVALENT.
3. 3/8" ENGRAVED LETTERS EQUIPMENT NAME DESIGNATION AND 1/4" ENGRAVED LETTERS ON ALL OTHER DESIGNATIONS.

A E-502 TYPICAL NAMEPLATE DETAILS
NO SCALE

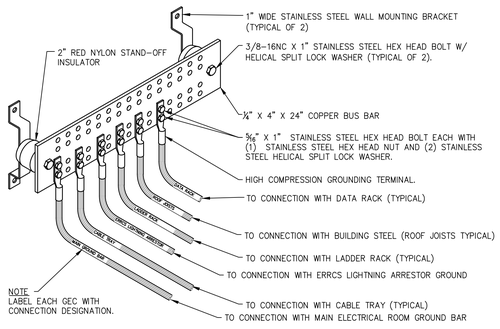


NOTES:
1. ENGRAVED LABELS SHALL FEATURE BLACK LETTERS ON WHITE BACKGROUND, UNLESS SPECIFIED OTHERWISE.
2. FOR APPLICATIONS OTHER THAN NEMA 1 ENCLOSURES, PROVIDE DUPLICATE ID LABELS INSIDE ENCLOSURES.
3. PANEL DESIGNATION: ½" HIGH TEXT, MINIMUM.
4. VOLTAGE CONFIGURATION & SOURCE: ⅜" HIGH TEXT, MINIMUM.
5. COLOR CODE LABEL: PRINTED LABEL IS ACCEPTABLE. SEE SPECIFICATIONS FOR COLOR CODE REQUIREMENTS.

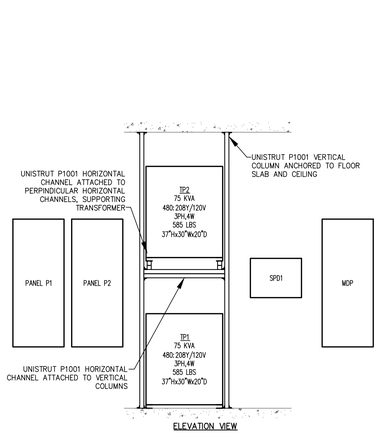
B E-502 TYPICAL PANELBOARD IDENTIFICATION
NO SCALE



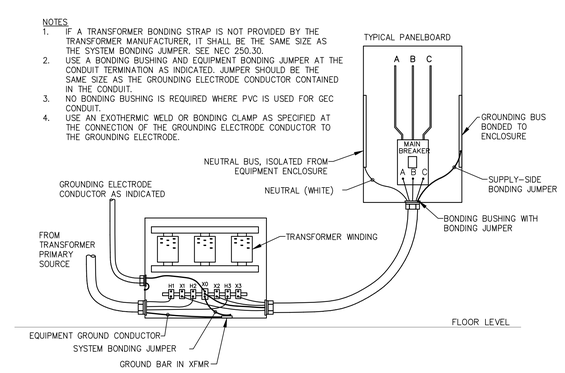
C E-502 WIRING DEVICE IDENTIFICATION LABEL



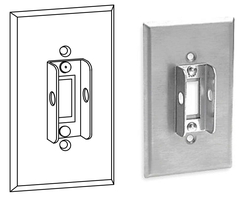
D E-502 IT ROOM 111 GROUND BAR
NO SCALE



E E-502 TRANSFORMER SUPPORT RACK DETAIL
SCALE: 1/2" = 1'-0"
GRAPHIC SCALE: ½"=1'-0"
0 1 2 4



F E-502 DRY-TYPE TRANSFORMER GROUNDING DETAIL
NO SCALE



TYPICALLY USED FOR INTERIOR 120V EQUIPMENT DISCONNECTS INCLUDING, WATER HEATERS, CIRCULATION PUMPS, DAHU'S, ETC.

G E-502 LOCKABLE TOGGLE SWITCH COVER
NO SCALE



TYPICALLY USED FOR EXTERIOR 120V EQUIPMENT DISCONNECTS INCLUDING, ROOF MOUNTED FANS, ETC.

H E-502 LOCKABLE EXTERIOR TOGGLE SWITCH COVER
NO SCALE

BRUNSWICK CTY

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NC LICENSE# C-1073

JOB # 19052

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17593 MARK A. CIARROCCA

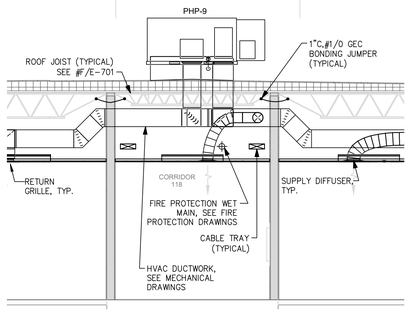
No.	Description	Date

PROJECT: 8201-191240
DATE: 04.22.2020
DRAWN BY: MPS/KAF/FM/CB
CHECKED BY: MAC

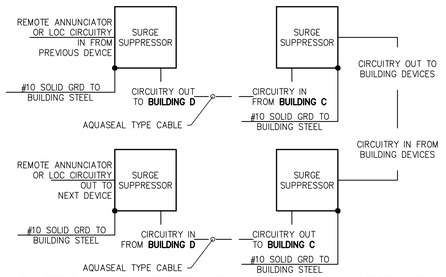
ELECTRICAL DETAILS

E-502

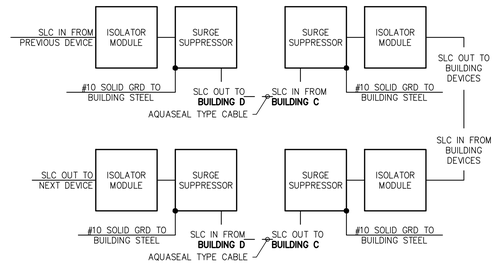
BID DOCUMENTS



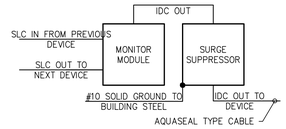
A E-503 CORRIDOR SECTION DETAIL
SCALE: 1/4" = 1'-0" GRAPHIC SCALE: 1/4"=1'-0" (0 1 2 4 8)



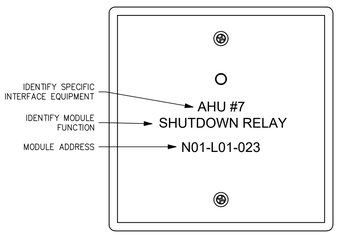
B E-503 FIRE ALARM SYSTEM REMOTE ANNUNCIATOR OR LOC CIRCUITRY SURGE SUPPRESSION DETAIL NO SCALE



C E-503 FIRE ALARM SYSTEM SIGNALING LINE CIRCUIT SURGE SUPPRESSION DETAIL NO SCALE

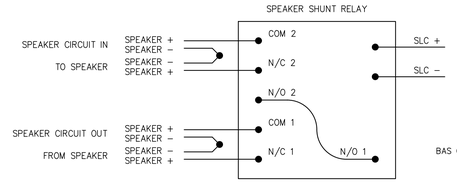


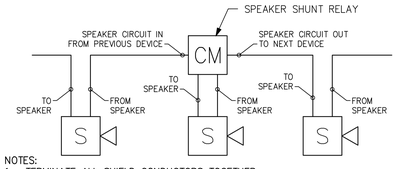
D E-503 FIRE ALARM IDC SURGE SUPPRESSION DETAIL NO SCALE



NOTES:
1. NODE DESIGNATION MAY BE OMITTED FOR SINGLE NODE APPLICATIONS
2. NAMING CONVENTION SHALL EMULATE FACP DISPLAY
3. 3/8" HIGH BLACK ON CLEAR, BOLD FONT, P-TOUCH TYPE LABELS
4. LABELS SHALL BE APPLIED STRAIGHT & LEVEL TO DEVICE ORIENTATION
5. EXCESS LABEL MATERIAL SHALL BE TRIMMED

E E-503 CONTROL/RELAY MODULE LABELING DETAIL NO SCALE



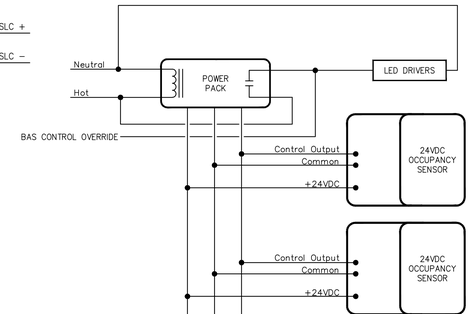


NOTES:
1. TERMINATE ALL SHIELD CONDUCTORS TOGETHER

PERFORMANCE DESCRIPTION

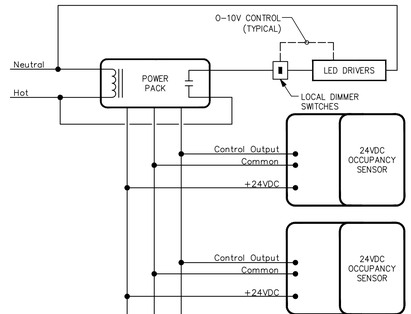
THE INTENT OF THE SPEAKER SHUNT CIRCUITRY IS TO PREVENT AUDIO FEEDBACK ON THE VOICE SYSTEM WHEN THE LOCAL OPERATORS CONSOLE (LOC) REMOTE MICROPHONE IS UTILIZED. THIS IS ACCOMPLISHED BY REMOVING (SHUNTING) SELECT SPEAKERS IN THE VICINITY OF THE LOC FROM THE CIRCUIT.

F E-503 SPEAKER SHUNT TRIP RELAY DETAIL NO SCALE



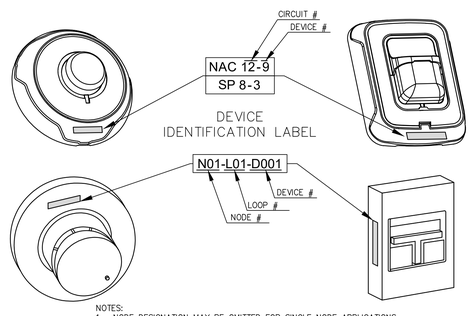
MULTIPLE OCCUPANCY SENSORS, SINGLE CIRCUIT CONTROL

G E-503 CORRIDOR OCCUPANCY SENSOR WIRING FOR LIGHTING CONTROL NO SCALE



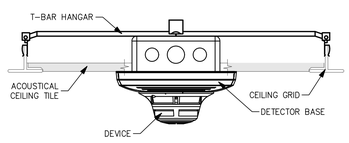
MULTIPLE OCCUPANCY SENSORS, LOW VOLTAGE

H E-503 OCCUPANCY SENSOR WIRING FOR DIMMING LIGHTING CONTROL NO SCALE

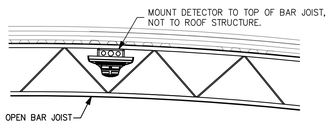


NOTES:
1. NODE DESIGNATION MAY BE OMITTED FOR SINGLE NODE APPLICATIONS.
2. ADDRESSABLE DEVICE ADDRESS NAMING CONVENTION SHALL EMULATE FACP DISPLAY.
3. NOTIFICATION DEVICE LABEL SHALL MATCH AS-BUILT DRAWING CIRCUITRY LABELS.
4. LABEL TEXT SHALL BE A SIZE WHERE EASILY READ FROM FLOOR LEVEL. (3/8" MIN)
5. BLACK ON CLEAR, BOLD FONT, P-TOUCH TYPE LABELS.
6. LABELS SHALL BE APPLIED STRAIGHT & LEVEL TO DEVICE ORIENTATION.
7. EXCESS LABEL MATERIAL SHALL BE TRIMMED.
8. MOUNT LABEL ON FLAT DEVICE BASE SURFACE.

J E-503 TYPICAL FIRE ALARM DEVICE IDENTIFICATION NO SCALE

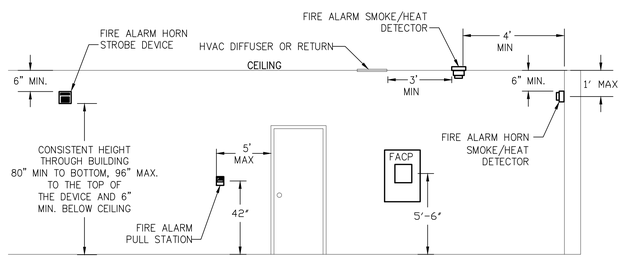


(CEILING MOUNTED)



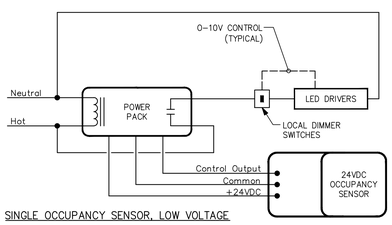
(OPEN BAR JOIST)

L E-503 DETECTOR MOUNTING DETAIL NO SCALE



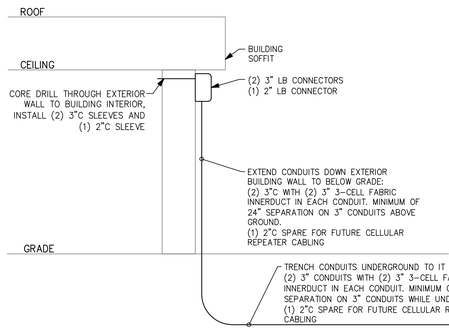
NOTES:
1. PROVIDE FLEXIBLE CONDUIT CONNECTION TO DEVICES THAT PROVIDES SUFFICIENT SLACK TO MOVE DEVICES UP TO 4' HORIZONTALLY IN ANY DIRECTION FROM WHERE DEVICES ARE INDICATED ON THE PLANS.
2. MOUNT DEVICES IN APPROVED BOXES.

K E-503 MOUNTING HEIGHTS OF DEVICES DETAIL – FIRE ALARM NO SCALE

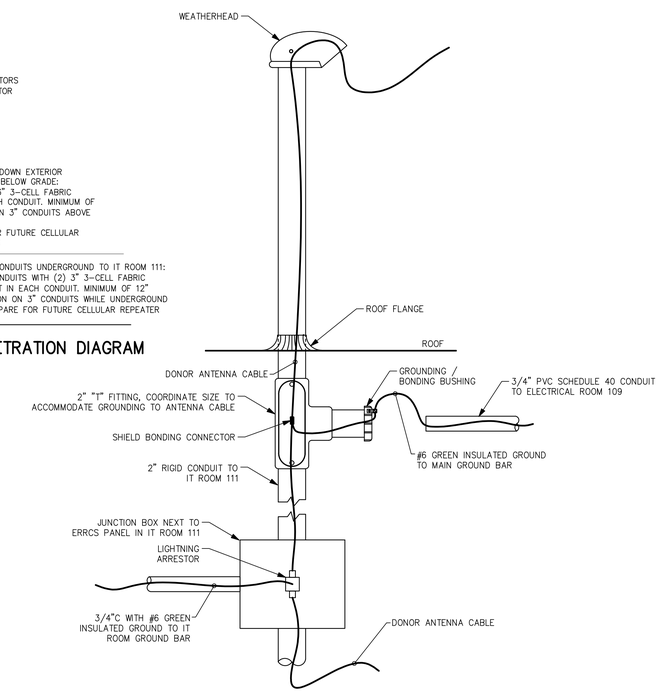


SINGLE OCCUPANCY SENSOR, LOW VOLTAGE

M E-503 OCCUPANCY SENSOR WIRING FOR DIMMING LEVEL LIGHTING CONTROL NO SCALE



N E-503 DATA ROOM 117A CONDUIT PENETRATION DIAGRAM NO SCALE



P E-503 ERRCS WEATHERHEAD DETAIL NO SCALE

BRUNSWICK CTY

WACCAMAW ELEMENTARY SCHOOL

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RALEIGH, NORTH CAROLINA 27601
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FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
NC LICENSE# C-1073

JOB # 19052

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER 17559 MICHAEL A. CIARROCCA 2/4/2020

No.	Description	Date

PROJECT: 8201-191240
DATE: 04.22.2020
DRAWN BY: MPS/KAF/FM/CB
CHECKED BY: MAC

ELECTRICAL DETAILS

E-503

BID DOCUMENTS

LUMINAIRE SCHEDULE

CALLOUT	SYMBOL	DESCRIPTION	LAMP	BALLAST	VOLTS	MOUNTING	MANUFACTURER / MODEL	NOTES	CALLOUT
AM		2x2, ARCHITECTURAL LENSED, INDIRECT	(1) 37W LED	LED DIMMABLE DRIVER	277V 1P 2W	RECESSED	COLUMBIA #LCAT SERIES DAYBRITE #2EV SERIES METALUX #22CZ SERIES	4000 NOMINAL LUMENS. 4000K COLOR TEMPERATURE.	AM
BL		2x4, ARCHITECTURAL LENSED, INDIRECT	(1) 40W LED	LED DIMMABLE DRIVER	277V 1P 2W	RECESSED	COLUMBIA #LCAT SERIES DAYBRITE #2EV SERIES METALUX #24CZ SERIES	4300 NOMINAL LUMENS. 4000K COLOR TEMPERATURE.	BL
BLN		2x4, ARCHITECTURAL LENSED, INDIRECT, NIGHT LIGHT	(1) 40W LED	LED DIMMABLE DRIVER	277V 1P 2W	RECESSED	COLUMBIA #LCAT SERIES DAYBRITE #2EV SERIES METALUX #24CZ SERIES	4300 NOMINAL LUMENS. 4000K COLOR TEMPERATURE. CONNECT TO UNSWITCHED CIRCUIT.	BLN
BM		2x4, ARCHITECTURAL LENSED, INDIRECT	(1) 47W LED	LED DIMMABLE DRIVER	277V 1P 2W	RECESSED	COLUMBIA #LCAT SERIES DAYBRITE #2EV SERIES METALUX #24CZ SERIES	5300 NOMINAL LUMENS. 4000K COLOR TEMPERATURE.	BM
CL		1x4, ARCHITECTURAL LENSED, INDIRECT	(1) 28W LED	LED DIMMABLE DRIVER	277V 1P 2W	RECESSED	COLUMBIA #LCAT SERIES DAYBRITE #1EV SERIES METALUX #14CZ SERIES	3000 NOMINAL LUMENS. 4000K COLOR TEMPERATURE.	CL
EG		EMERGENCY EGRESS CORRIDOR, BATTERY	(2) 7W MR 16 LED	BATTERY	277V 1P 2W	WALL; MTD 8'-0" AFF	EMERGILITE #COMPACT PREMIER SERIES CHLORIDE #TPU SERIES LIGHTALARMS #COMPACT GRANDE SERIES	CONNECT TO NEAREST UNSWITCHED LIGHT CIRCUIT IN SAME SPACE. DESIGN CRITERIA: 70 FT SPACING, UTILIZING 6 FT WIDE PATH, 80/50/20 REFLECTANCES, MAINTAINING 1 FC AVG AND 0.1 FC MININUM.	EG
EGL		EMERGENCY EGRESS, BATTERY	(2) 4W MR 16 LED	BATTERY	277V 1P 2W	WALL; MTD 8'-0" AFF	EMERGILITE #COMPACT PREMIER SERIES CHLORIDE #TPU SERIES LIGHTALARMS #COMPACT GRANDE SERIES	CONNECT TO NEAREST UNSWITCHED LIGHT CIRCUIT IN SAME SPACE. THESE FIXTURES ARE NOT TAGGED WITH "EGL" ON THE DRAWINGS; ONLY THE SYMBOL IS USED.	EGL
IL		4' INDUSTRIAL	(1) 30W LED	LED DRIVER	277V 1P 2W	PENDANT/SURFACE	COLUMBIA #LCL SERIES DAYBRITE #FSS SERIES METALUX #SNLED SERIES	3700 NOMINAL LUMENS. 4000K COLOR TEMPERATURE. WIRE GUARD.	IL
IM		4' INDUSTRIAL	(1) 44W LED	LED DRIVER	277V 1P 2W	PENDANT/SURFACE	COLUMBIA #LCL SERIES DAYBRITE #FSS SERIES METALUX #SNLED SERIES	5300 NOMINAL LUMENS. 4000K COLOR TEMPERATURE. WIRE GUARD.	IM
INV10		INVERTER, EGRESS LIGHTING	N/A	BATTERY	277V 1P 2W	SURFACE	EMERGI-LITE #EMIU SERIES IOTA #IS SERIES LIGHTALARMS #LMIU SERIES	INVERTER FOR BATTERY BACKUP OF EGRESS LIGHTING; 100W FOR 90 MINUTES (MINIMUM). INCLUDE SELF-DIAGNOSTIC OPTION. LOCATE ABOVE CEILING – PROVIDE "LIGHTING INVERTER ABOVE" LABEL ON CEILING GRID BELOW INSTALLED LOCATION.	INV10
INV25		INVERTER, EGRESS LIGHTING	N/A	BATTERY	277V 1P 2W	SURFACE	EMERGI-LITE #EMIU SERIES IOTA #IS SERIES LIGHTALARMS #LMIU SERIES	INVERTER FOR BATTERY BACKUP OF EGRESS LIGHTING; 250W FOR 90 MINUTES (MINIMUM). INCLUDE SELF-DIAGNOSTIC OPTION. LOCATE ABOVE CEILING – PROVIDE "LIGHTING INVERTER ABOVE" LABEL ON CEILING GRID BELOW INSTALLED LOCATION.	INV25
WS		WALL SCONCE	(1) 20W LED	LED DRIVER	277V 1P 2W	WALL; COORDINATE MTG HEIGHT WITH ARCHITECT	AAL #CY1-15 SERIES TERON LIGHTING #CTD SERIES PRE-APPROVED EQUIVALENT	1500 NOMINAL LUMENS. 50/50 UP/DOWN CONFIGURATION. DOWN DISTRIBUTION SHALL BE IES TYPE IV. 4000K COLOR TEMPERATURE. FLAT FACISA FORM. COORDINATE MOUNTING HEIGHT WITH ARCHITECT. FINISH SELECTION BY ARCHITECT.	WS
WSB		WALL SCONCE	(1) 20W LED (1) 20W LED	LED DRIVER LED DRIVER	277V 1P 2W	WALL; COORDINATE MTG HEIGHT WITH ARCHITECT	AAL #CY1-15 SERIES TERON LIGHTING #CTD SERIES PRE-APPROVED EQUIVALENT	1500 NOMINAL LUMENS. 50/50 UP/DOWN CONFIGURATION. DOWN DISTRIBUTION SHALL BE IES TYPE IV. 4000K COLOR TEMPERATURE. FLAT FACISA FORM. COORDINATE MOUNTING HEIGHT WITH ARCHITECT. FINISH SELECTION BY ARCHITECT. BACKED UP BY BATTERY INVERTER.	WSB
X	⊗	EXIT SIGN, BATTERY BACKUP	(2) 1W LED	BATTERY	277V 1P 2W	UNIVERSAL	DUAL-LITE #SE SERIES LIGHTALARMS #QLXN500R SURE-LITES #LPX SERIES	120/277V INPUT; NICAD BATTERY; CONNECT TO NEAREST UNSWITCHED LIGHT CIRCUIT IN SAME SPACE. THESE FIXTURES ARE NOT TAGGED WITH "X" ON THE DRAWINGS; ONLY THE SYMBOL IS USED.	X

MDP

ROOM: ELEC RM #120 | VOLTS: 480Y/277V 3P 4W | AIC: 14,000
MOUNTING: SURFACE | BUS AMPS: 400 | MAIN BKR: 400
FED FROM: UTILITY | NEUTRAL: 100% | LUGS: STANDARD
NOTE: ULSE LISTED AND LABELED

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C
1	20/1	EGRESS, EXIT, EXTERIOR LTG, INVERTER, LTG, LTG-NL	1.97			2	-/3	SPACE	0		
3	20/1	EGRESS, EXIT, EXTERIOR LTG, INVERTER, LTG		1.39		4	|			0	
5	20/1	EGRESS, EXIT, EXTERIOR LTG, INVERTER, LTG			2.01	6	|				0
7	20/1	EGRESS, EXIT, EXTERIOR LTG, INVERTER, LTG	1.32			8	-/3	SPACE	0		
9	20/1	EGRESS, LTG		0.912		10	|			0	
11	20/1	EXTERIOR LTG			0.616	12	|				0
13	-/3	SPACE	0			14	-/3	SPACE	0		
15	|			0		16	|			0	
17	|				0	18	|				0
19	125/3	XFMR TP1	16.5			20	-/3	SPACE	0		
21	|			14		22	|			0	
23	|				14.7	24	|				0
25	125/3	XFMR TP2	8.95			26	-/3	SPACE	0		
27	|			8.58		28	|			0	
29	|				7.69	30	|				0
31	60/3	SPD1	0			32	-/3	SPACE	0		
33	|			0		34	|			0	
35	|				0	36	|				0
37	-/3	SPACE	0			38	300/3	PANEL M1	68		
39	|			0		40	|			68	
41	|				0	42	|				68
								TOTAL CONNECTED KVA BY PHASE	96.7	92.8	92.9
								TOTAL CONNECTED AMPS BY PHASE	349	335	335

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	8.22	10.3	(125%)	KITCHEN EQUIPMENT	1	1	(100%)
LARGEST MOTOR	14.6	3.65	(25%)	CONTINUOUS	20	25	(125%)
MOTORS	25.7	25.7	(100%)	NONCONTINUOUS	12.6	12.6	(100%)
RECEPTACLES	29.3	19.7	(50%>10)	HEATING	186	186	(100%)
				COOLING	124	0	(0%)
				TOTAL LOAD		283	
				BALANCED 3-PHASE AMPS		341	

M1

ROOM: ELEC RM #120 | VOLTS: 480V 3P 3W | AIC: 14,000
MOUNTING: SURFACE | BUS AMPS: 225 | MAIN BKR: MLO
FED FROM: MDP | NEUTRAL: NONE | LUGS: STANDARD
NOTE:

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C
1	25/3	PHP-1	6.1			2	25/3	PHP-6	6.1		
3	|			6.1		4	|			6.1	
5	|				6.1	6	|				6.1
7	25/3	PHP-2	6.1			8	25/3	PHP-7	6.1		
9	|			6.1		10	|			6.1	
11	|				6.1	12	|				6.1
13	25/3	PHP-3	6.1			14	25/3	PHP-8	6.1		
15	|			6.1		16	|			6.1	
17	|				6.1	18	|				6.1
19	25/3	PHP-4	6.1			20	25/3	PHP-9	6.1		
21	|			6.1		22	|			6.1	
23	|				6.1	24	|				6.1
25	25/3	PHP-5	6.1			26	35/3	PHP-10	8.87		
27	|			6.1		28	|			8.87	
29	|				6.1	30	|				8.87
31	-/3	SPACE	0			32	30/3	WATER BOOSTER PUMPS	4.21		
33	|			0		34	|			4.21	
35	|				0	36	|				4.21
37	-/3	SPACE	0			38	-/3	SPACE	0		
39	|			0		40	|			0	
41	|				0	42	|				0
43	-/3	SPACE	0			44	-/3	SPACE	0		
45	|			0		46	|			0	
47	|				0	48	|				0
49	-/3	SPACE	0			50	-/3	SPACE	0		
51	|			0		52	|			0	
53	|				0	54	|				0
								TOTAL CONNECTED KVA BY PHASE	68	68	68
								TOTAL CONNECTED AMPS BY PHASE	245	245	245

	CONN KVA	CALC KVA			CALC KVA
LARGEST MOTOR	14.6	3.65	(25%)	TOTAL LOAD	208
MOTORS	24.9	24.9	(100%)	BALANCED 3-PHASE AMPS	250
HEATING	179	179	(100%)		
COOLING	119	0	(0%)		

P1

ROOM: ELEC RM #120 | VOLTS: 208Y/120V 3P 4W | AIC: 10,000
MOUNTING: SURFACE | BUS AMPS: 225 | MAIN BKR: 225
FED FROM: TP1 | NEUTRAL: 100% | LUGS: STANDARD
NOTE:

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C
1	20/1	REC	1.08			2	20/1	REC	0.9		
3	20/1	REC		1.08		4	20/1	REC		1.08	
5	20/1	REC			1.08	6	20/1	REC			1.08
7	20/1	REC	0.9			8	20/1	REC, REC-EXT GFCI	1.08		
9	20/1	REC-COPIER		1		10	20/1	REC		0.54	
11	20/1	(*) REC-REFRIGERATOR			1	12	20/1	REC, REC-GFCI			0.36
13	20/1	(*) REC-EWC	0.6			14	20/1	REC, REC-EXT GFCI	0.72		
15	20/1	REC		1.08		16	20/1	REC, REC-EXT GFCI		0.72	
17	20/1	REC			1.08	18	20/1	REC-ROOF			0.9
19	20/1	REC	0.54			20	20/1	SPARE	0		
21	20/1	REC-MICROWAVE		1		22	20/1	SPARE		0	
23	15/1	FAN F-1			0.468	24	20/1	SPARE			0
25	15/1	FAN F-2	0.696			26	20/1	SPARE	0		
27	15/1	FAN F-3		0.696		28	20/1	SPARE		0	
29	20/1	SPARE			0	30	20/1	SPARE			0
31	20/1	SPARE	0			32	20/1	SPARE	0		
33	20/1	SPARE		0		34	20/1	SPARE		0	
35	20/1	SPARE			0	36	20/1	SPARE			0
37	20/1	SPARE	0			38	20/1	SPARE	0		
39	20/1	SPARE		0		40	20/1	SPARE		0	
41	20/1	SPARE			0	42	20/1	(**) REC-HOT BOX			1.5
43	20/1	SPARE	0			44	30/2	WH-1	2.25		
45	20/1	SPARE		0		46	|			2.25	
47	20/1	SPARE			0	48	90/2	WH-2			7
49	20/1	SPARE	0			50	|		7		
51	15/2	EBB-1		0.625		52	25/2	DAHU-1, DHP-1		2.08	
53	|				0.625	54	|				2.08
								TOTAL CONNECTED KVA BY PHASE	15.8	12.2	17.2
								TOTAL CONNECTED AMPS BY PHASE	133	101	145

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LARGEST MOTOR	3.95	0.988	(25%)	CONTINUOUS	20	25	(125%)
MOTORS	0.696	0.696	(100%)	NONCONTINUOUS	2.6	2.6	(100%)
RECEPTACLES	14.2	12.1	(50%>10)	HEATING	6.57	6.57	(100%)
KITCHEN EQUIPMENT	1	1	(100%)	COOLING	5.32	0	(0%)
				TOTAL LOAD		49	
				BALANCED 3-PHASE AMPS		136	

(*) PROVIDE GFCI TYPE C/B
(**) PROVIDE GFEP (30mA) TYPE C/B

P2

ROOM: ELEC RM #120 | VOLTS: 208Y/120V 3P 4W | AIC: 10,000
MOUNTING: SURFACE | BUS AMPS: 225 | MAIN BKR: 225
FED FROM: TP2 | NEUTRAL: 100% | LUGS: STANDARD
NOTE:

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C
1	20/1	DDC J-BOX	0.45			2	20/1	REC	1.08		
3	20/1	ACCESS CONTROL		0.6		4	20/1	REC		1.08	
5	20/1	DDC J-BOX			0.15	6	20/1	REC			1.08
7	20/1	REC, REC-EXT GFCI, REC-GFCI	0.72			8	20/1	REC	1.08		
9	20/1	REC		1.08		10	20/1	REC		0.9	
11	20/1	REC			0.54	12	20/1	REC			1.08
13	20/1	REC	0.72			14	20/1	REC	1.08		
15	20/1	REC		1.08		16	20/1	REC		0.72	
17	20/1	REC, REC-COND. PUMP			0.82	18	20/1	REC			0.72
19	20/1	REC	0.72			20	20/1	(*) REC-EWC	0.6		
21	20/1	REC		0.36		22	20/1	SPARE		0	
23	20/1	REC			0.36	24	20/1	SPARE			0
25	20/2	REC-DATA	1.5			26	20/1	SPARE	0		
27	|			1.5		28	20/1	SPARE		0	
29	20/2	REC-DATA			1.5	30	20/1	SPARE			0
31	|		1.5			32	20/1	SPARE	0		
33	20/1	SPARE		0		34	20/1	SPARE		0	
35	20/1	SPARE			0	36	20/1	SPARE			0
37	20/1	SPARE	0			38	20/1	SPARE	0		
39	20/1	SPARE		0		40	20/1	SPARE		0	
41	20/1	SPARE			0	42	20/1	SPARE			0
43	20/1	SPARE	0			44	20/1	SPARE	0		
45	20/1	SPARE		0		46	20/1	SPARE		0	
47	20/1	SPARE			0	48	20/1	SPARE			0
49	20/1	ACCESS CONTROL, SECURITY SYSTEM	0.4			50	20/1	SPARE	0		
51	20/1	LTG CONTROL		0		52	20/1	SPARE		0	
53	20/1	(#) FA-FCPS, FA-AUDIO AMP			1.2	54	20/1	(#) EMERGENCY RESPONDER RADIO			1
								TOTAL CONNECTED KVA BY PHASE	9.85	7.32	8.45
								TOTAL CONNECTED AMPS BY PHASE	82.1	61.4	70.8

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LARGEST MOTOR	0.1	0.025	(25%)	RECEPTACLES	15.1	12.6	(50%>10)
MOTORS	0.1	0.1	(100%)	NONCONTINUOUS	10.4	10.4	(100%)
				TOTAL LOAD		23.1	
				BALANCED 3-PHASE AMPS		64.1	

(#) PROVIDE BREAKER LOCK
(*) PROVIDE GFCI TYPE C/B

BRUNSWICK CTY

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JOB # 19052

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17593 MARK A. CIARROCCA 4/2020

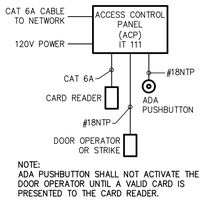
No.	Description	Date

PROJECT: 8201-191240
DATE: 04.22.2020
DRAWN BY: MPS/KAF/FM/CB
CHECKED BY: MAC

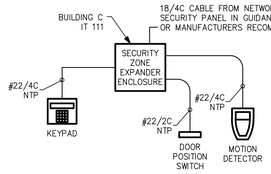
ELECTRICAL LUMINAIRE SCHEDULE & PANEL SCHEDULES

E-601

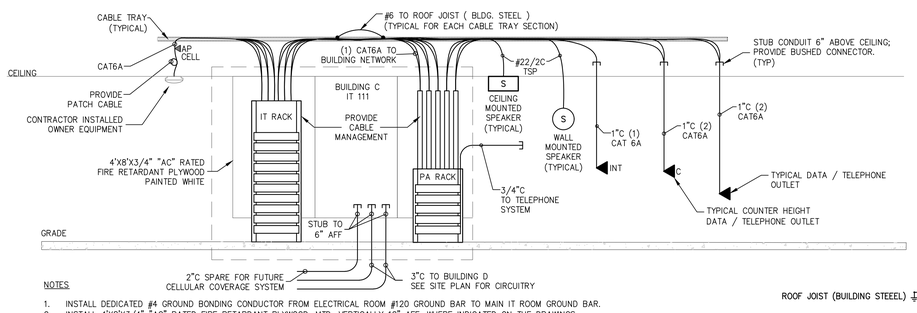
BID DOCUMENTS



C E-701 ACCESS CONTROL RISER DIAGRAM
NO SCALE



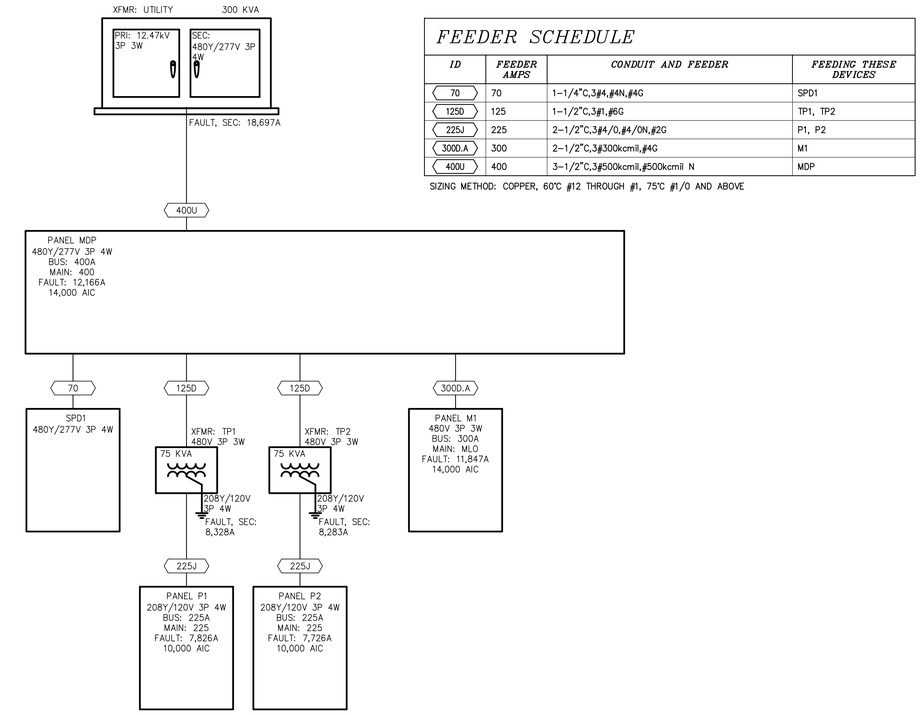
D E-701 SECURITY RISER DIAGRAM
NO SCALE



NOTES

1. INSTALL DEDICATED #4 GROUND BONDING CONDUCTOR FROM ELECTRICAL ROOM #120 GROUND BAR TO MAIN IT ROOM GROUND BAR.
2. INSTALL 4'X8'X3/4" "AC" RATED FIRE RETARDANT PLYWOOD, MTD. VERTICALLY 12" AFF, WHERE INDICATED ON THE DRAWINGS.

E E-701 DATA/TELEPHONE & PA SYSTEMS RISER DIAGRAM
NO SCALE

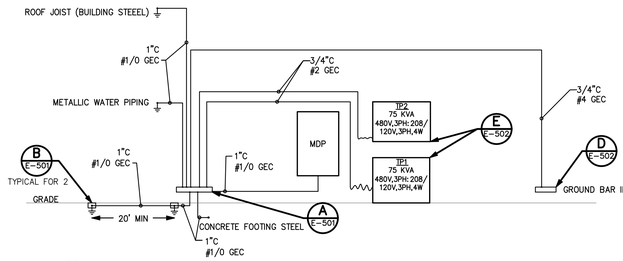


A E-701 ELECTRICAL POWER RISER DIAGRAM
NO SCALE

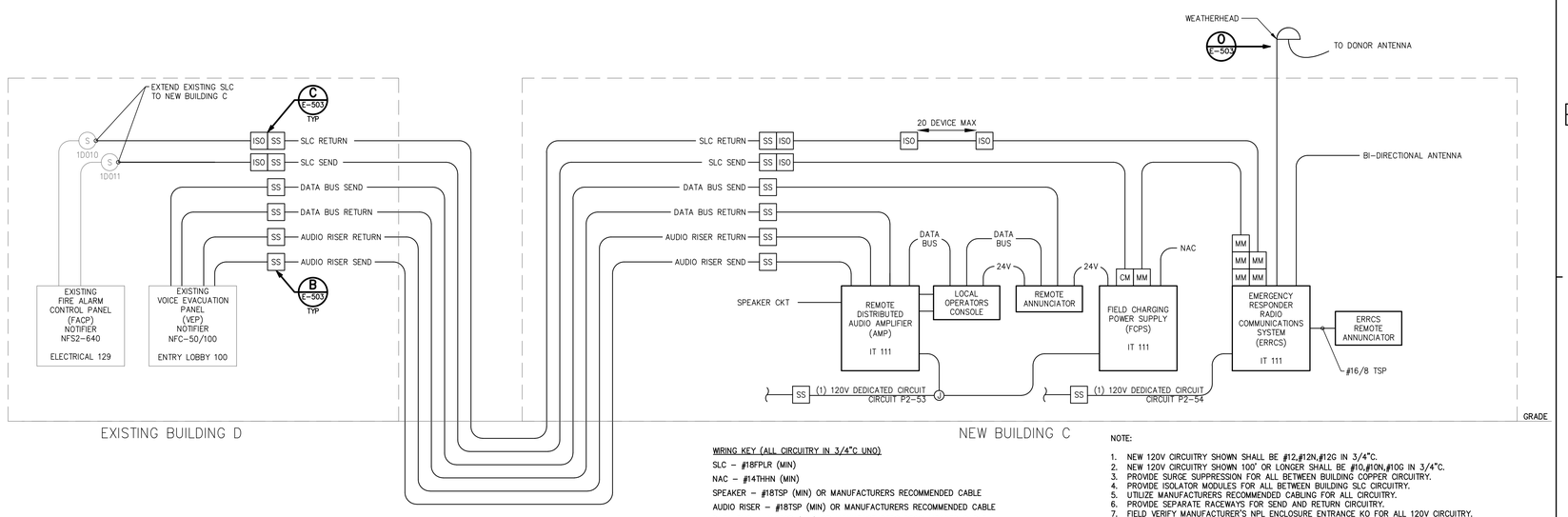
FEEDER SCHEDULE

ID	FEEDER AMPS	CONDUIT AND FEEDER	FEEDING THESE DEVICES
70	70	1-1/4"C,3#4,#4N,#4G	SPD1
125D	125	1-1/2"C,3#1,#6G	TP1, TP2
225J	225	2-1/2"C,3#4/0,#4/0N,#2G	P1, P2
300D.A	300	2-1/2"C,3#300kcmil,#4G	M1
400U	400	3-1/2"C,3#500kcmil,#500kcmil N	MDP

SIZING METHOD: COPPER, 60°C #12 THROUGH #1, 75°C #1/0 AND ABOVE



F E-701 ELECTRICAL GROUNDING SYSTEM RISER DIAGRAM
SCALE: N/A



B E-701 FIRE ALARM SYSTEM RISER DIAGRAM
NO SCALE

WIRING KEY (ALL CIRCUITRY IN 3/4"C UNO)

SLC – #18FPLR (MIN)
NAC – #14THHN (MIN)
SPEAKER – #18TSP (MIN) OR MANUFACTURERS RECOMMENDED CABLE
AUDIO RISER – #18TSP (MIN) OR MANUFACTURERS RECOMMENDED CABLE
DATA BUS – #18TSP (MIN) OR MANUFACTURERS RECOMMENDED CABLE.
POWER – #12,#12N,#12G (MIN)
DONOR ANTENNA – MANUFACTURERS COAX CABLE
BI-DIRECTIONAL ANTENNA – MANUFACTURER'S RECOMMENDED CABLE
ERRCS REMOTE ANNUNCIATOR – #16/8 OR MANUFACTURERS RECOMMENDED CABLE

NOTE:

1. NEW 120V CIRCUITRY SHOWN SHALL BE #12,#12N,#12G IN 3/4"C.
2. NEW 120V CIRCUITRY SHOWN 100' OR LONGER SHALL BE #10,#10N,#10G IN 3/4"C.
3. PROVIDE SURGE SUPPRESSION FOR ALL BETWEEN BUILDING COPPER CIRCUITRY.
4. PROVIDE ISOLATOR MODULES FOR ALL BETWEEN BUILDING SLC CIRCUITRY.
5. UTILIZE MANUFACTURERS RECOMMENDED CABLING FOR ALL CIRCUITRY.
6. PROVIDE SEPARATE RACEWAYS FOR SEND AND RETURN CIRCUITRY.
7. FIELD VERIFY MANUFACTURER'S NPL ENCLOSURE ENTRANCE KO FOR ALL 120V CIRCUITRY.

BRUNSWICK CTY

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NC LICENSE# C-1073

JOB # 19052

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 17522 MICHAEL A. CIARROCCA

No.	Description	Date

PROJECT: 8201-191240
DATE: 04.22.2020
DRAWN BY: MPS/KAF/FM/CB
CHECKED BY: MAC

ELECTRICAL RISER DIAGRAMS

E-701

BID DOCUMENTS