	DRAWING INDEX
SHEET	TITLE
COVER	APPENDIX B AND DRAWING INDEX
A0.0	GENERAL NOTES, SCHEDULES, AND UL DETAILS
A0.1	ADA DETAILS
A1.0	KEY PLAN, FLOOR PLAN, REFLECTED CEILING PLAN
A2.0	ENLARGED TOILET PLAN, LIFE SAFETY PLAN, DETAILS, AND CABINETS
P1	PLUMBING NOTES AND SCHEDULES
P2	WASTE PLAN
P3	SUPPLY PLAN
P4	WASTE AND SUPPLY RISERS
M1	MECHANICAL NOTES AND SCHEDULES
M2	MECHANICAL PLAN
М3	MECHANICAL DETAILS
E1	ELECTRICAL NOTES AND SCHEDULES
E2	POWER PLAN
E3	LIGHTING PLAN
E4	ELECTRICAL RISERS AND SCHEDULES
E5	ELECTRICAL DETAILS

NOTICE TO CONTRACT All construction must comply with currer and is subject to field inspection and ver	nt NC Building Codes	60
Reviewed for Code Compliance	1 40)(''
	2 allow	Harnett
07/01/2024	O. c	C O U N T Y

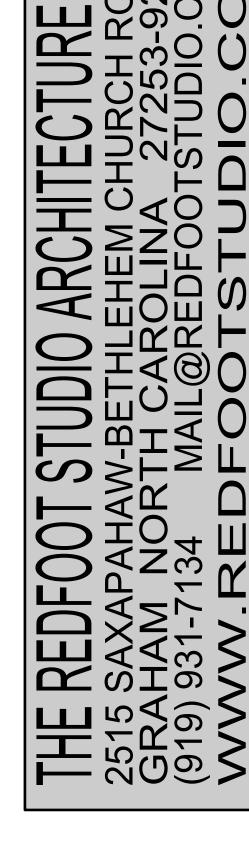
All receptacles at 48" AFF and below shall be Tamper resistant

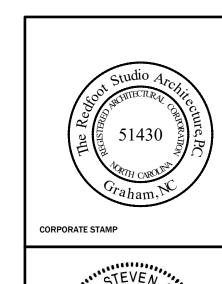
			201	8 APPEN	DIX B	- BUILDING C	CODE	SU	MMA	RY l	FOR A	ALL CO	OMN	MERCIAL PROJECTS
NAME OF PROJECT:	BLUE SPRIG	/ 04 07			00000	FIRE PROTECTION REQUIREME	NTS							PLUMBING REQUIREMENTS
BUILDING ADDRESS: PROPOSED USE: T				ZIP CODE:	28326	BUILDING ELEMENT	FIRE SEPARATION	DEOF	RATING	DETAIL#	DESIGN# FOR RATED		SHEET # OR RATED	WATER CLOSET URINALS LAVATORIES SHOWERS & TUBS DRINKING FOUNTAINS
OWNER OR AUTHORIZ		T DICKINSON PH	HONE: (919) 868-1427	EMAIL: BRYANT@HMDDE	EVELOPMENT.COM STATE		DISTANCE	REQ'D	(W/ NA *	AND SHEET#	ASSEMBLY	PENETRATION	JOINTS	USE URINALS STATES FOUNTAINS MALE FEMALE MALE FEMALE REGULAR ACCES
CODE ENFORCEMENT			_		STATE	STRUCTURAL FRAME, INCLUDING	(FEET)		REDUCTION)					SPACE EXISTING 0 0 0 0 0 0 0 NEW 1 1 0 1 1 0 1 1
CONTACT:						COLUMNS, GIRDERS, TRUSSES	NA	0	0	NA	NA	NA	NA	REQUIRED 1 1 0 1 1 0 1 1
DESIGNER	COMPAN			TELEPHONE#	EMAIL	BEARING WALLS EXTERIOR								
ARCHITECTURAL CIVIL	REDFOOT ST	NA	NA	` ´NA	@REDFOOTSTUDIO.COM NA	NORTH EAST	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	SPECIAL APPROVALS: (LOCAL JURISDICTION, DEPARTMENT OF INSURANCE, OSC, DPI, DHHS, ETC., DESCRIBE BELOW) NA
ELECTRICAL FIRE ALARM	KILIAN ENGINE NA	NA	NA	` NA	N@KILIANENGINEERING.COM NA	WEST	NA	NA	NA	NA	NA	NA	NA	
PLUMBING MECHANICAL	KILIAN ENGINE KILIAN ENGINE	ERING JACOB HAI	MILTON 48012	(252) 438-8778 JHAMILTO	N@KILIANENGINEERING.COM N@KILIANENGINEERING.COM	SOUTH INTERIOR	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	
SPRINKLER-STANDPIPE STRUCTURAL	NA	NA NA	NA NA	NA NA NA	NA NA	NON-BEARING WALLS AND PARTITIONS								ENERGY REQUIREMENTS
ETAINING WALLS > 5' HIG THER	GH NA NA	NA NA		NA NA	na NA	EXTERIOR WALLS								THE FOLLOWING DATA SHALL BE CONSIDERED MINIMUM AND ANY SPECIAL ATTRIBUTE REQUIRED TO MEET THE ENERGY CODE SHALL
2018 NC BUILDING CO		EW BUILDING [ST TIME INTERIOR COM	ADDITION	RENOVATION		NORTH EAST	30' + 30' +	0	NA NA	NA NA	NA NA	NA NA	NA NA	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 BUDGET FOR THE STANDARD REFERENCE DESIGN VERSUS
	□ SI	HELL/CORE - CONTACT T	HE LOCAL INSPECTION	JURISDICTION FOR POSSI	BLE ADDITIONAL	WEST	30' +	0	NA	NA	NA	NA	NA	ANNUAL ENERGY COST FOR THE PROPOSED DESIGN.
	_	ROCEDURES AND REQUING ASED CONSTRUCTION -		T THE LOCAL INSPECTION	JURISDICTION FOR	SOUTH INTERIOR WALLS AND PARTITIONS	30' + NA	0	NA 0	NA NA	NA NA	NA NA	NA NA	EXISTING BUILDING ENVELOPE COMPLIES WITH CODE: NO X YES (THE REMAINDER OF THIS SECTION IS NOT APPLICABLE)
	<u>P(</u>	OSSIBLE ADDITIONAL PR	OCEDURES AND REQUIR	<u>REMENTS</u>		FLOOR CONSTRUCTION, INCLUDING SUPPORTING BEAMS AND JOISTS	NA NA	٥	0	NA	NA	NA NA	NA	EXEMPT BUILDING: X NO YES (PROVIDE CODE OR STATUTORY REFERENCE): NA
2018 NC EXISTING BUI	JILDING CODE : [PRESCRIPTIVE	REPAIR LEVEL	_		FLOOR CEILING ASSEMBLY	NA NA	NA	NA NA	NA NA	NA NA	NA NA	NA NA	CLIMATE ZONE: 3A X 4A 5A METHOD OF COMPLIANCE:
	ι [LEVEL I HISTORIC PROF		CHANGE		COLUMNS SUPPORTING FLOORS	NA	0	NA	NA	NA	NA	NA	METHOD OF COMPLIANCE. ENERGY CODE PERFORMANCE X PRESCRIPTIVE
CONSTRUCTED (date): RENOVATED (date):	′ ——	CURRENT OCCUPA PROPOSED OCCUP		NA B		ROOF CONSTRUCTION, INCLUDING SUPPORTING BEAMS AND JOISTS	NA	0	0	NA	NA	NA	NA	ASHRAE 90.1 PERFORMANCE PRESCRIPTIVE
, ,	NA					ROOF CEILING ASSEMBLY COLUMNS SUPPORTING ROOF	NA NA	0	0	NA NA	NA NA	NA NA	NA NA	(IF 'OTHER' SPECIFY SOURCE HERE)
RISK CATEGORY (TAB	BLE 1604.5):					SHAFT ENCLOSURES - EXIT	NA	NA	NA NA	NA	NA	NA	NA	THERMAL ENVELOPE (PRESCRIPTIVE METHOD ONLY)
BUILDING DATA:			· (Δ) " [_	<u>L.</u> 'V		SHAFT ENCLOSURES - STAIR CORRIDOR SEPARATION	NA NA	NA 0	NA 0	NA NA	NA NA	NA NA	NA NA	ROOF/CEILING ASSEMBLY (each assembly): DESCIPTION OF ASSEMBLY: NA
CONSTRUCTION TYPE		□ II-A □				OCCUPANCY / FIRE BARRIER SEPARATION	NA	2	2 - EXISTING	1/A0.0	UL U419	WL 1001	NA	U-VALUE OF TOTAL ASSEMBLY:
SPRINKLERS: X	☐ I-B	X II-B	III-B	☐ V-B	NEDA 400	PARTY/FIRE WALL SEPARATION SMOKE BARRIER SEPARATION	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	R-VALUE OF INSULATION: SKYLIGHTS IN EACH ASSEMBLY:
		ARTIAL YES ES CLASS		NFPA I3R	☐ NFPA 13D ☐ DRY	SMOKE PARTITION	NA	NA	NA	NA	NA	NA	NA	U-VALUE OF SKYLIGHT:TOTAL SQ FT OF SKYLIGHTS IN EACH ASSEMBLY:
FIRE DISTRICT:	X NO	YES (Primary) FLOO	OD HAZARD AREA:	X NO .	/ES	TENANT / DWELLING UNIT / SLEEPING UNIT SEPARATION	NA	1	1	1/A0.0	UL U419	WL 1001	NA	
SPECIAL INSPECTIONS	s KEQUIRED: X	NO YES	S (contact the local insper procedures and requi	ection jurisdiction for additi- rements.)	onai	INCIDENTAL USE SEPARATION MEDICAL GAS CLOSET	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	EXTERIOR WALLS (each assembly): DESCIPTION OF ASSEMBLY: NA
GROSS BUILDING A						* INDICATES SECTION NUMBER PER			1 191	1 147	1 191	1	. 1/1	U-VALUE OF TOTAL ASSEMBLY:
FLOOR 3RD FLOOR	EXISTING NA	· /	NEW (SQ FT) NA	SI	JB-TOTAL NA	PERCENTAGE OF WALL OPENIN						1		OPENINGS (WINDOWS OR DOORS WITH GLAZING)
2ND FLOOR MEZZANINE	NA NA	1	NA NA		NA NA	FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINE	DEGRI PROTEC	EE OF O	PENINGS ABLE 705.8)	ALLOWAE		ACTUAL SHOWN (%)	ON PLANS	U-VALUE OF ASSEMBLY:SOLAR HEAT GAIN COEFFICIENT:
1ST FLOOR	17,1	78	4,309 (AREA OF WOF	RK) 17,	178 (4,309)	NA - EXISTING BUILDING			,	\'		()		PROJECTION FACTOR: DOOR R-VALUES:
BASEMENT TOTAL	NA 17,1		NA 4,309 (AREA OF WOF	RK) 17,	NA 178 (4,309)									WALLS BELOW GRADE (each assembly):
ALLOWABLE AREA						LIFE SAFETY SYSTEM REQUIRE	MENTS							DESCIPTION OF ASSEMBLY: NA
OCCUPANCY: ASSEMBLY	☐ A-1 ☐ <i>A</i>	∧-2		5		EMERGENCY LIGHTING: EXIT SIGNS:	□ NO □	X YES						U-VALUE OF TOTAL ASSEMBLY: R-VALUE OF INSULATION:
BUSINESS X EDUCATIONAL	$\overline{\mathbf{X}}$					FIRE ALARM:	X NO	YES						FLOORS OVER UNCONDITIONED SPACE (each assembly):
FACTORY/INDUS	JSTRIAL 🥅 F-1	MODERATE	F-2 LOW	MBUST ☐ H-4 HEA	ודט 🗖 טַבּטַסַאַ			☐ YES ☐ YES	☐ PARTIA	\L		_		DESCIPTION OF ASSEMBLY: NA
INSTITUTIONAL	- 🔲 l-1	CONDITION 1	2	11-4 11EA	LIII 🔲 II-SIIFM	LIFE SAFETY PLAN REQUIREME								U-VALUE OF TOTAL ASSEMBLY:
		CONDITION 1 1 1 1 1		□ 4 □ 5		LIFE SAFETY PLAN SHEET #:								FLOORS SLAB ON GRADE
	□ I-4	ookbillon				X FIRE AND SMOKE RATED ASSUMED AND REAL PRO				CITE DI ANI)				DESCIPTION OF ASSEMBLY: NA U-VALUE OF TOTAL ASSEMBLY:
MERCANTILE RESIDENTIAL	_	R-2 R-3	□ R-4			EXTERIOR WALL OPENIN	IGS WITH RESPE	CT TO D	ISTANCE TO ASS	UMED PROF	PERTY LINES (7			R-VALUE OF INSULATION:
STORAGE	S-1 MODERAT	E S-2 LOW	HIGH PIL			X OCCUPANCY USE FOR E X OCCUPANT LOADS FOR		RELATE	S TO OCCUPANT	LOAD CALC	ULATION (TABL	.E 1004.1.2)		HORIZONTAL/VERTICAL REQUIREMENT: SLAB HEATED:
	PARKING GAF		ENCLOSE	D REPAIR GA	RAGE	X EXIT ACCESS TRAVEL DI X COMMON PATH OF TRAV		TABLES	1006 2 1 & 1006 3	2 (1))				
ACCESSORY OCCUPAI	_					DEAD END LENGTHS (10)	20.4)		1000.2.1 & 1000.0	- ('))				MECHANICAL SUMMARY SEE MECHANICAL DRAWING
INCIDENTAL USES (TAI SPECIAL USES (CHAPT		CTIONE). NA				X CLEAR EXIT WIDTHS FOR MAXIMUM CALCULATED O	CCUPANT LOAD CA	APACITY		CAN ACCOM	MODATE BASED	ON EGRESS WIDTH (005.3)	MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT
SPECIAL PROVISIONS:	S: (CHAPTER 5 - LIST C	CODE SECTIONS):	NA			X ACTUAL OCCUPANT LOA A SEPARATE SCHEMATIO	C PLAN INDICATIN	NG WHEI		LOOR/CEILII	NG AND/OR RO	OF STRUCTURE IS	PROVIDED	THERMAL ZONE WINTER DRY BULB SUMMER DRY BULB
MIXED OCCUPANCY:	_				4	FOR PURPOSES OF OCC			010.1.10)					INTERIOR DESIGN CONDITIONS
NON-SE	EPARATED USE (508.:			OR THE BUILDING SHALL E DNS FOR EACH OF THE AP		LOCATION OF DOORS W	ITH DELAYED EGI	RESS LC	OCKS AND THE A	MOUNT OF D	DELAY (1010.1.9	1.7)		WINTER DRY BULB SUMMER DRY BULB
		OCCUPANCIES TO T	HE ENTIRE BUILDING. T	HE MOST RESTRICTIVE TY PPLY TO THE ENTIRE BUIL	PE OF	LOCATION OF DOORS EC	CY ESCAPE WIND	DOWS (1	030)					RELATIVE HUMIDITY
SEPARA		SEE BELOW FOR AREA C	ALCULATIONS FOR EAC	H STORY, THE AREA OF TH	HE OCCUPANCY	THE SQUARE FOOTAGE THE SQUARE FOOTAGE				CUPANCY C	LASSIFICATION	N I-2 (407.5)		BUILDING HEATING LOADBUILDING COOLING LOAD
				OF THE ACTUAL FLOOR AF FOR EACH USE SHALL NOT		NOTE ANY CODE EXCEP						` '		MECHANICAL SPACING CONDITIONING SYSTEM
	TUAL AREA OF OCCU		ACTUAL AREA OF OCC			ACCESSIBLE DWELLING UNITS	(SECTION 1107)	")	N/	1 - NC	DWEL	LING UN	IITS	UNITARY DESCRIPTION OF UNIT
ALLOV	WABLE AREA OF OCC	JUPANCY A AL	LLOWABLE AREA OF O	CCUPANCYB - '		TOTAL ACCESSIBLE ACCESSIE UNITS UNITS UNITS	I UNIT:	S I	TYPE 'A' UNITS	TYPE'	B' TYI	PE 'B' T	OTAL IBLE UNITS	HEATING EFFICIENCY COOLING EFFICIENCY
		+ -		+	≤ 1.00	REQUIRED REQUIRE		RED	PROVIDED	REQUIF	RED PRO	OVIDED PRO	VIDED	SIZE CATEGORY OF UNIT
STORY NO.	DESCRIPTION	(A)	(B)	(C)	(E)			I		<u> </u>				SIZE CATEGORY. IF OVERSIZED, STATE REASON
	AND USE	BLDG. ÁREA PER STORY	TABLE 506.2 ⁴ AREA	AREA FOR FRONTAGE	ALLOWABLE AREA PER	ACCESSIBLE PARKING	NA -	EXI	STING E	BUILD	ING AN	ND PARK	ING	CHILLER SIZE CATEGORY. IF OVERSIZED, STATE REASON
		(ACTUAL)		INCREASE ^{1,5}	STORY OR UNLIMITED ^{2,3}	LOT OR TOTAL # OF PARKIN					SPACES PROVI	DED	TOTAL#	LIST EQUIPMENT EFFICIENCIES
1	В	17,178	69,000	NOT USED	69,000	PARKING REQUIRED	PROVIDED		LAR WITH 5' ESS AISLE		AN SPACES WI	ın ı	CESSIBLE ROVIDED	
						USE 1		,100		IUZ AUUEŠ	DAIOLE & A	OOEOO AIOLE		ELECTRICAL SUMMARY SEE ELECTRICAL DRAWING
			<u> </u>	<u> </u>	<u> </u>	USE 2 USE 3								ELECTRICAL SYSTEM AND EQUIPMENT METHOD OF COMPLIANCE: ENERGY CODE PRESCRIPTIVE PERFORMANCE
1 FRONTAGE AREA INC	ICREASES FROM SEC	TION 506.2 ARE COMPI C WAY OR OPEN SPAC	UTED THUS:	NIMUM WIDTH =	(E)	TOTAL TOTAL								ASHRAE 90.1 PRESCRIPTIVE PERFORMANCE
B. TOTAL BUILDING C. RATIO (F/P) =	G PERIMETER =	(P)	'L HAVING ZU FEET MIT	411AIOIAI ANDIU =	(Г)	0.750.05					VIOTI		INIC	LIGHTING SCHEDULE (each fixture type)
D W = `MIŃIMUN	M WIDTH OF PURILIC (NAY = I _f = 100 [F/P -0.25] >	(W) < W/30 =	(%)		STRUCTURAL DESIGN DESIGN LOADS				vA - E	:XISTIN	NG BUILD	ING	LAMP TYPE REQUIRED IN FIXTURE NUMBER OF LAMPS IN FIXTURE DALLACT TYPE LICED IN FIXTURE
² UNLIMITED AREA AP	PPLICABLE UNDER CO	ONDITIONS OF SECTION	N 507	MAXIMUM 3 STORIES) (50	6 2)	IMPORTANCE FACTORS:	SNOW (Is)							BALLAST TYPE USED IN FIXTURE NUMBER OF BALLASTS IN FIXTURE TOTAL WATTAGE BED EIVTURE
⁴ THE MAXIMUM AREA	A OF OPEN PARKING	GARAGES MUST COMP		MAXIMUM 3 STORIES) (50 MAXIMUM AREA OF AIR	•	INFLOADS	SEISMIC (le)							TOTAL WATTAGE PER FIXTURE TOTAL INTERIOR WATTAGE SPECIFIED VS. ALLOWED (whole building or space by space) TOTAL EXTERIOR WATTAGE SPECIFIED VS. ALLOWED
CONTROL TOWERS I FRONTAGE INCREASE		412.3.1. ISPRINKLERED AREA \	/ALUE IN TABLE 506.2.			LIVE LOADS:	ROOF MEZZANINE			psf psf				ADDITIONAL EFFICIENCY PACKAGE OPTIONS
ALLOWABLE HEIGH	ΗΤ					_	FLOOR			psf				(WHEN USING THE 2018 NCECC; NOT REQUIRED FOR ASHRAE 90.1)
		ALLOWABLE		N ON PLANS	CODE REFERENCE	GROUND SNOW LOAD:				psf				C406.2 MORE EFFICIENT MECHANICAL EQUIPMENT C406.3 REDUCED LIGHTING POWER DENSITY
UILDING HEIGHT IN FEE UILDING HEIGHT IN STO	, ,	NA - EXISTING TO F				WIND LOAD:	BASIC WIND SF		/	mph (ASCE-7)			C406.4 ENHANCED DIGITAL LIGHTING CONTROLS C406.5 ON-SITE RENEWABLE ENERGY
- / /				I		SEISMIC DESIGN CATEGORY	EXPOSURE CA		-					C406.6 DEDICATED OUTDOOR AIR SYSTEM
						PROVIDE THE FOLLOWING SEISMIC			⊔ '	u ^u				C406.7 REDUCED ENERGY USE IN SERVICE WATER HEATING
						RISK CATEGORY (Table 1604	.5)			_	□ IV			
						SPECTRAL RESPONSE ACCE	ELERATION S _S	_ ;	%g	s ₁		%g □	F	
						SITE CLASSIFICATION (ASCE	_				_	E HISTORICAL DATA		
						BASIC STRUCTURAL SYSTEM	M (CHECK ONE)		_			J 20111		
						☐ BEARING WALL ☐ BUILDING FRAM	_		PECIAL MOMENT ITERMEDIATE R/0		AL STFFI			
						MOMENT FRAME	_			- 51. OI EU <i>ll</i>	0 : LLL			
						ANALYSIS PROCEDURE			-			DYNAMIC		
						ARCHITECTURAL, MECHANIC LATERAL DESIGN CONTROL: EARTI			_	=> ∐	INU			
														_

SOIL BEARING CAPACITY:

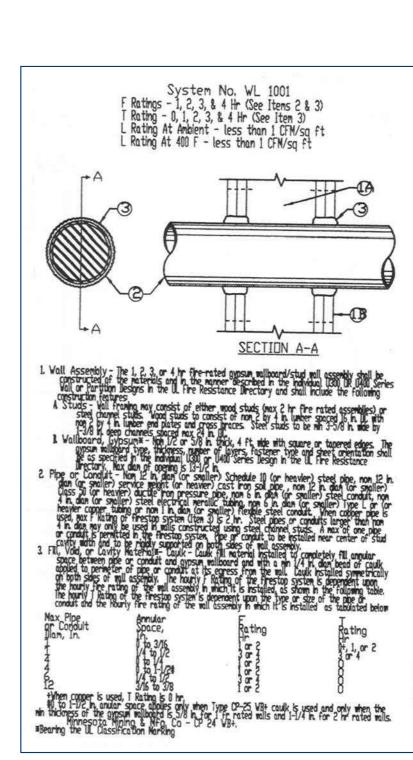
FIELD TEST (PROVIDE COPY OF TEST REPORT)
PRESUMPTIVE BEARING CAPACITY
PILE SIZE, TYPE, AND CAPACITY



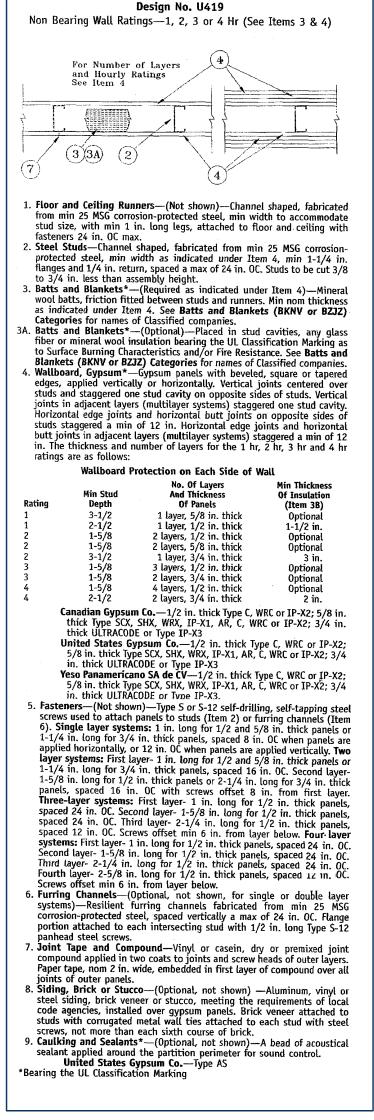


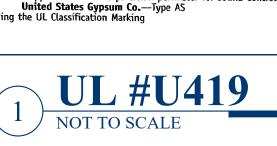












					WA	LLS				
ROOM NO	ROOM NAME	FLOOR	BASE	N	S	Е	W	CEILING	CEILING HEIGHT	REMARKS
100	RECEPTION	LVP	RB	GWB	GWB	GWB	GWB	ACT	10'-0"	
101	OPERATIONS MANAGER	LVP	RB	GWB	GWB	GWB	GWB	ACT	10'-0"	
102	FAMILY GUIDANCE	LVP	RB	GWB	GWB	GWB	GWB	ACT	10'-0"	
103	OBSERVATION ROOM	LVP	RB	GWB	GWB	GWB	GWB	ACT	10'-0"	
104	WORK SPACE	LVP	RB	GWB	GWB	GWB	GWB	ACT	10'-0"	
105	SENSORY PLAYROOM	SG	RB	GWB	GWB	GWB	GWB	ACT	10'-0"	
106	MEDIUM THERAPY	LVP	RB	GWB	GWB	GWB	GWB	ACT	10'-0"	
107	THERAPY LARGE	LVP	RB	GWB	GWB	GWB	GWB	ACT	10'-0"	
108	MULTI-PURPOSE ROOM	LVP	RB	GWB	GWB	GWB	GWB	ACT	10'-0"	
109	UNI-SEX TOILET	PFT	RB	GWB	GWB	GWB	GWB	ACT	9'-0"	
110	LEADERSHIP WORKSPACE	LVP	RB	GWB	GWB	GWB	GWB	ACT	10'-0"	
111	MEDIUM THERAPY	LVP	RB	GWB	GWB	GWB	GWB	ACT	10'-0"	
112	BREAK ROOM	LVP	RB	GWB	GWB	GWB	GWB	ACT	10'-0"	
113	STORAGE	LVP	RB	GWB	GWB	GWB	GWB	ACT	9'-0"	
114	HALL	LVP	RB	GWB	GWB	GWB	GWB	ACT	10'-0"	
115	UNI-SEX TOILET	PFT	RB	GWB	GWB	GWB	GWB	ACT	9'-0"	
116	UNI-SEX TOILET	PFT	RB	GWB	GWB	GWB	GWB	ACT	9'-0"	
117	MECHANICAL AND I.T.	LVP	RB	GWB	GWB	GWB	GWB	ACT	10'-0"	
118	THERAPY LARGE	LVP	RB	GWB	GWB	GWB	GWB	ACT	10'-0"	
119	MEDIUM THERAPY	LVP	RB	GWB	GWB	GWB	GWB	ACT	10'-0"	
120	MEDIUM THERAPY	LVP	RB	GWB	GWB	GWB	GWB	ACT	10'-0"	

A. COORDINATE AND VERIFY FINISHES AND COLORS WITH OWNER/SMITHGROUP.

B. WALL PAINT: ONE COAT OF PRIMER TINTED TO WALL COLOR, TWO COATS OF PAINT. SATIN OR EQUIVALENT FINISH. COLOR TO BE SELECTED BY OWNER/SMITHGROUP.

C. ALL TRIM AND DOOR FRAMES TO HAVE A SEMI-GLOSS FINISH

GENERAL FINISH SCHEDULE NOTES

D. ALL NEW GYPSUM WALLBOARD TO BE 5/8". PROVIDE 5/8" GREENBOARD AT ALL WET LOCATIONS.

SYNTHETIC GRASS PORCELAIN FLOOR TILE RUBBER BASE

GWB NEW OR EXISTING GYPSUM WALLBOARD, PAINTED

2' X 2' ACOUSTIC CEILING TILE SYSTEM, DUNE 1774 TEGULAR, 15/16" GRID

ALLOWANCES (INCLUDES LABOR AND MATERIAL)

NOT USED

REMARKS

NOT USED

			DOOR	R AND FR	AME SC	HEDULE		
		DO	OOR					
		SIZE			FRAME	HARI	OWARE	
DOOR NO.	WD	HGT	THK	MATL	MATL	SET	KEYSIDE RM NO	REMARKS
100A	3'-0"	7'-0"	1 3/4"	WOOD	HM	P.L., D.S.		1
101A	3'-0"	7'-0"	1 3/4"	WOOD	HM	C.L., D.S.,C.H.		1
102A	3'-0"	7'-0"	1 3/4"	WOOD	HM	P.L., D.S.,C.H.		1
103A	3'-0"	7'-0"	1 3/4"	WOOD	HM	P.L., D.S.,C.H.		1
106A	3'-0"	7'-0"	1 3/4"	WOOD	HM	P.L., D.S.,C.H.		1
107A	3'-0"	7'-0"	1 3/4"	WOOD	HM	P.L., D.S.,C.H.		1
108A	3'-0"	7'-0"	1 3/4"	WOOD	HM	P.L.,D.B., D.S.,C.H.		1
109A	3'-0"	7'-0"	1 3/4"	WOOD	HM	PR.L., D.S.,C.H.		
110A	3'-0"	7'-0"	1 3/4"	WOOD	HM	C.L., D.S.,C.H.		1
111A	3'-0"	7'-0"	1 3/4"	WOOD	HM	P.L., D.S.,C.H.		1
112A	3'-0"	7'-0"	1 3/4"	WOOD	HM	P.L., D.S.,C.H.		1
113A	3'-0"	7'-0"	1 3/4"	WOOD	HM	C.L., D.S.,C.H.		
115A	3'-0"	7'-0"	1 3/4"	WOOD	HM	PR.L., D.S.,C.H.		
116A	3'-0"	7'-0"	1 3/4"	WOOD	HM	PR.L., D.S.,C.H.		
117A	3'-0"	7'-0"	1 3/4"	WOOD	НМ	C.L., D.S.,C.H.		
118A	3'-0"	7'-0"	1 3/4"	WOOD	НМ	P.L., D.S.,C.H.		1
119A	3'-0"	7'-0"	1 3/4"	WOOD	НМ	P.L., D.S.,C.H.		1
120A	3'-0"	7'-0"	1 3/4"	WOOD	НМ	P.L., D.S.,C.H.		1

GENERAL DOOR SCHEDULE NOTES

A. DOORS WITH NO NUMBER ARE EXISTING TO REMAIN.

NEW DOORS TO MATCH EXISTING BUILDING STANDARD, VERIFY W/ OWNER/SMITHGROUP. PROVIDE NEW COMMERCIAL GRADE ACCESSIBLE DOOR HARDWARE. VERIFY COLOR AND STYLE W/ OWNER/SMITHGROUP.

RE-KEY THE PROPERTY AT THE END OF THE PROJECT WITH 4 COPIES OF EACH KEY MADE AND GIVE TO BLUESPRIG AT HANDOVER; THERE SHOULD BE 2

SETS - ONE FOR INTERIOR DOORS AND ONE FOR EXTERIOR DOORS. DOOR STOPS WILL BE SUPPLIED FOR ALL DOORS TO MATCH HARDWARE.

HARDWARE LEGEND

P.L. PR.L. C.L. M.L.	PASSAGE LATCHSET PRIVACY LOCKSET CYLINDER LOCKSET MORTISE LOCKSET	CR.L. D.B. ALT W.S.	CLASSROOM LOCKSET DEADBOLT ALUMINUM THRESHOLD WOOD THRESHOLD	O.C. D.H. W.S. D.S.	OVERHEAD CLOSER 1 1/2 HINGES WEATHER STRIPPING DOOR STOP	С.Н.	COAT HOOK

REMARKS

PROVIDE VISION LITE KIT: AIR LOUVERS VSL SLIMLINE VISION KITE OR APPROVED EQUAL. TYPICAL FAC VISION KIT: 7" X 35" VISION KIT WITH GREY FRAME, 1/4" CLEAR TEMPERED CLASS FOR NON-RATED DOORS.

GENERAL NOTES

. GENERAL NOTES APPLY TO ALL SHEETS.

- . THE DRAWINGS AND SPECIFICATIONS SHALL BE THOROUGHLY REVIEWED PRIOR TO ORDERING, PURCHASING AND INSTALLING MATERIALS AND SYSTEMS. ALL DISCREPANCIES, INTERFERENCES, AND OMISSIONS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT.
- . ANY DEVIATIONS FROM THE CONTRACT DOCUMENTS DURING CONSTRUCTION SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT. 4. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE CODE, ALL LOCAL AND OTHER APPLICABLE CODES. 5. CONTRACTOR TO VISIT SITE PRIOR TO SUBMITTAL OF BID. CONTRACTOR TO ESTABLISH SCOPE OF WORK FROM CONSTRUCTION DOCUMENTS AND ACTUAL SITE VISIT.
- ANY OMMISSIONS, DISCREPANCIES OR CLARIFICATIONS TO BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT.
- . CONTRACTOR TO ITEMIZE ALL COSTS AND SCOPE OF WORK RELATED TO ANY CHANGE ORDER. THIS INFORMATION MUST BE PRESENTED TO THE OWNER AND ARCHITECT FOR APPROVAL PRIOR TO ANY WORK BEING EXECUTED.
- NOTED DIMENSIONS TAKE PRECEDENCE OVER OVER SCALED DIMENSIONS, DO NOT SCALE DIMENSIONS.
- 8. DIMENSIONS ARE TO FACE OF NEW OR EXISTING GYPSUM WALLBOARD. 9. ALL COLORS AND MATERIALS SHALL BE APPROVED BY OWNER OR OWNER'S REPRESENTATIVE PRIOR TO ORDERING MATERIALS.
- 10. PROVIDE BLOCKING AS REQUIRED FOR FOR INSTALLATION AND SUPPORT OF GRAB BARS, TOILET ACCESSORIES, CABINETS, TELEVISIONS, EQUIPMENT, ETC.. BLOCKING NOT ENCASED IN GYPSUM WALLBOARD TO BE FIRE-TREATED. 11. COORDINATE INSTALLATION OF ALL EQUIPMENT AND APPLIANCES, INCLUDING BOTH CONTRACTOR AND OWNER SUPPLIED ITEMS, WITH MANUFACTURER'S
- 2. AT INTERIOR PARTITIONS WHERE THERE IS EXPOSED ROOF STRUCTURE THE PARTITIONS TO EXTEND FULL HEIGHT TO BOTTOM OF ROOF DECK.
- 13. AT INTERIOR PARTITIONS WHERE THERE IS A DROP CEILING ASSEMBLY ON BOTH SIDES OF THE WALL, THE TOP OF PARTITIONS TO STOP 1" TO 6" ABOVE CEILING WITH LATERAL BRACING, SECURED TO TOP OF WALL AND ROOF STRUCTURE ABOVE.
- 14. ALL GYPSUM WALLBOARD TO BE FINISHED TO LEVEL 4 PER GYPSUM ASSOCIATION GUIDELINES AS DETAILED IN GA 214-10. 15. EXISTING BUILDING ASSEMBLIES, COMPONENTS, AND SYSTEMS TO REMAIN UNLESS OTHERWISE REQUIRED BY NEW WORK OR NOTED IN THE DOCUMENTS.

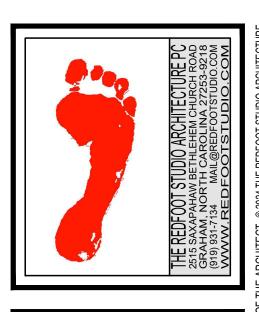






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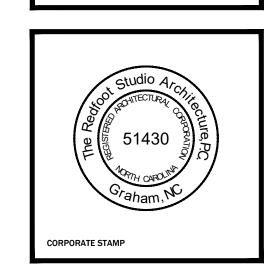
GENERAL NOTES, **SCHEDULES** AND UL DETAILS

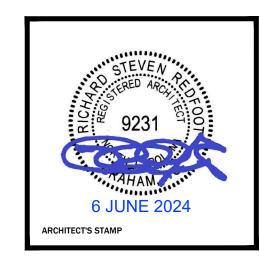


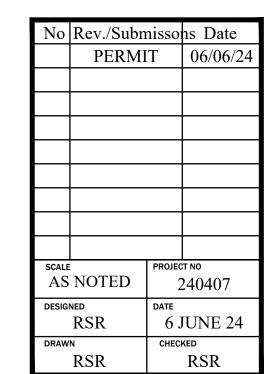


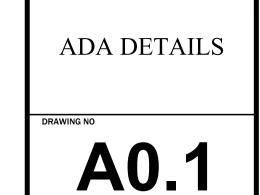
W. WALL MOUNTED W.C.

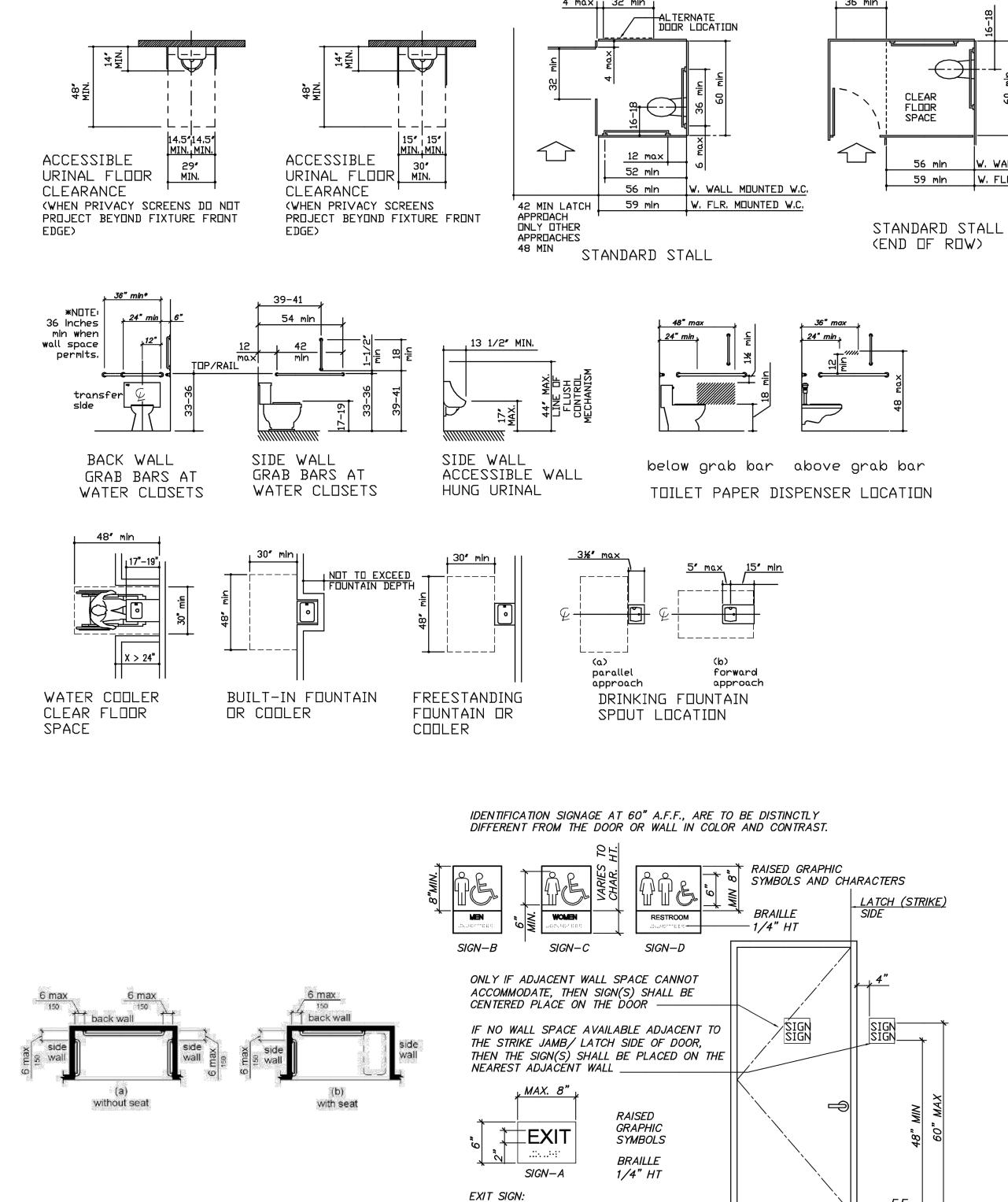
W. FLR. MOUNTED W.C.





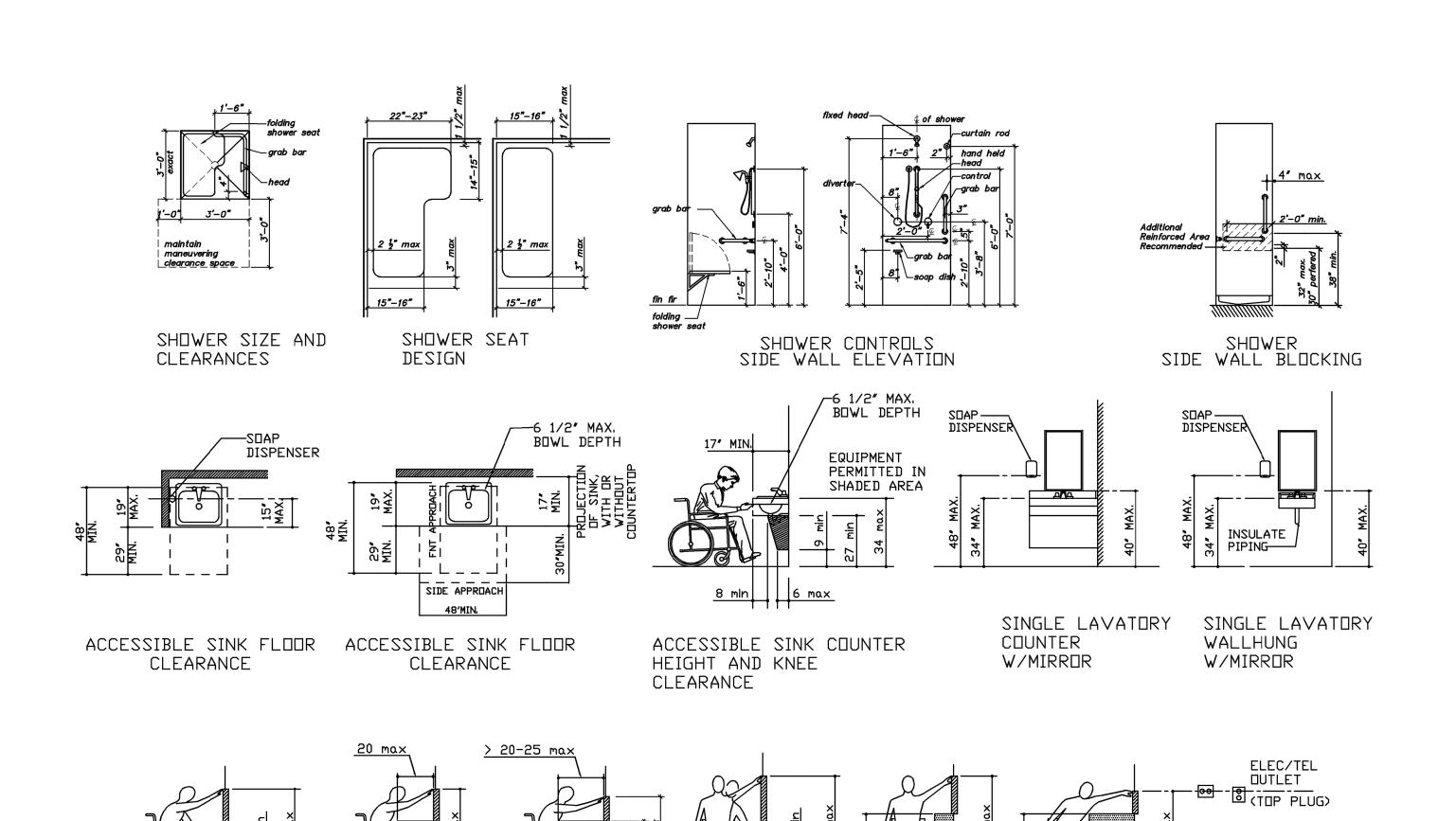


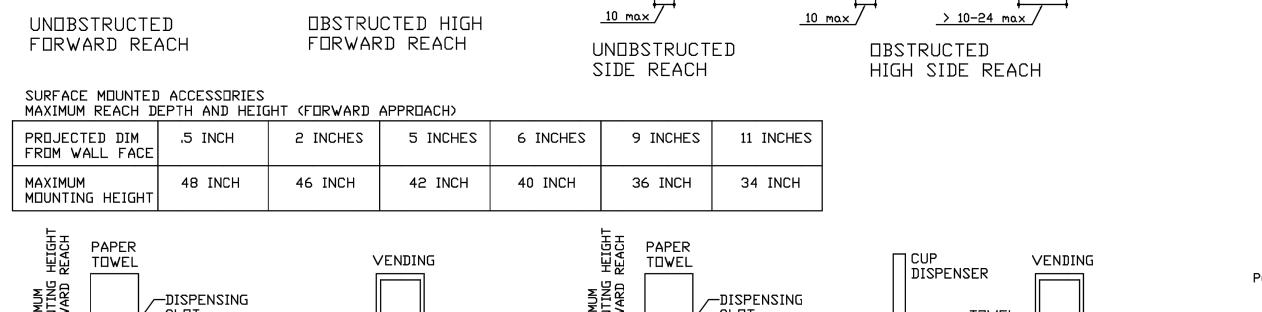


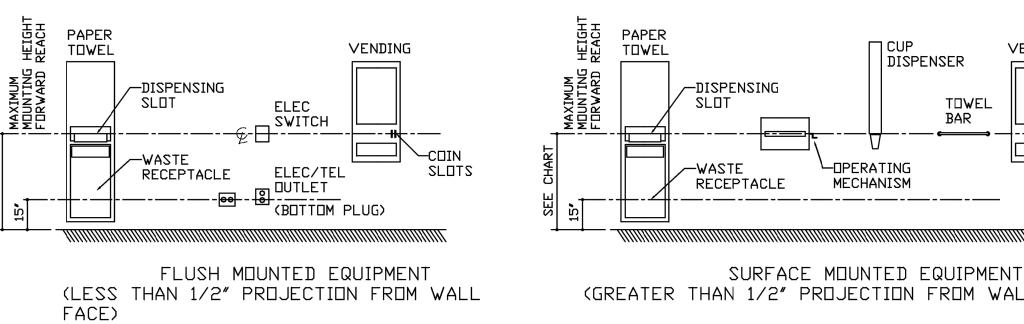


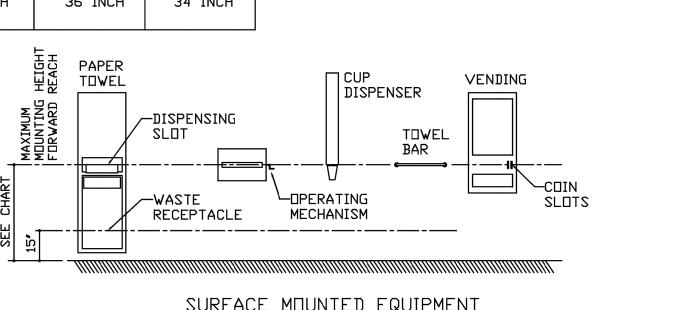
REQUIRED AT DOOR(S): NOTED (EXIT HC)

SURFACE MOUNTED

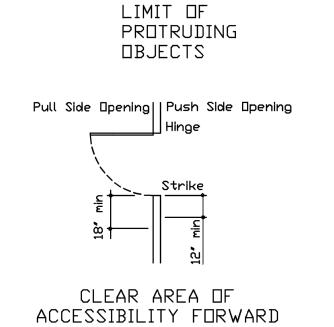




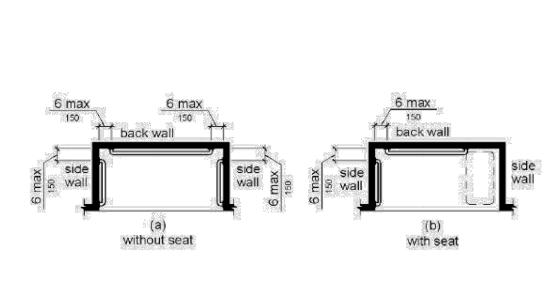




(GREATER THAN 1/2" PROJECTION FROM WALL FACE)



APPROACH TO ACCESS WAY



CONSTRUCTION NOTES:

EXISTING INSULATED EXTERIOR WALL TO REMAIN, PROVIDE GYPSUM WALLBOARD

ON INTERIOR SIDE TO DECK ABOVE, TYPICAL

(C2A) EXISTING 1-HOUR FIRE-RATED DEMISING WALL TO REMAIN, ANY WORK TO WALL PER UL U419, SEE 1/A0.0, TYPICAL

(C2B) EXISTING 2-HOUR FIRE-RATED DEMISING WALL TO REMAIN, ANY WORK TO WALL PER UL U419, SEE 1/A0.0, TYPICAL

EXISTING STOREFRONT WINDOW OR ENTRY ASSEMBLY TO REMAIN, CASE OPENING W/ GYPSUM WALLBOARD; REMOVE EXISTING BLINDS. ALL EXTERIOR WINDOWS SHALL HAVE REFLECTIVE TINT APPLIED. THE FOLLOWING ARE THE (2) APPROVED TINT PRODUCTS FOR THESE WINDOWS:

A. JOHNSON WINDOW FILM NIGHTSHADE 05 AND B. LLUMAR DUAL REFLECTIVE SERIES DR15

 \langle C4 angle EXISTING HOLLOW METAL DOOR AND FRAME ASSEMBLY TO BE CLOSED OFF WITH NON-OPERABLE HARDWARE

EXISTING STEEL COLUMN(S) TO REMAIN, ENCASE THE COLUMN W/ FRAMING AND GYPSUM WALLBOARD, KEEP ENCLOSURE AS CLOSE TO COLUMN AS FEASIBILE

(C6) EXISTING DOOR ASSEMBLY TO REMAIN

27 > PROVIDE NEW INTERIOR 3-5/8" METAL STUD WALL, SEE 1/A3.0, TYPICAL WHERE SHOWN THUS

 \langle C8 \rangle PROVIDE NEW INTERIOR 6" METAL STUD WALL, SIMILAR TO 1/A3.0

PROVIDE NEW OBSERVATION WINDOW: TEMPERED GLASS, ONE-WAY VISIBILITY FROM THE PARENT CONSULT ROOM INTO THE OBSERVATION ROOM, WITH NO VISIBILITY FROM THE OBSERVATION ROOM INTO THE PARENT CONSULT

ROOM; WINDOW TO BE 3'-0" W X 3'-0" H, WITH SILL OF WINDOW AT 3'-6" AFF, THE APPROVED TINT PRODUCT FOR THE WINDOW IS LLUMAR REFLECTIVE SERIES RN07

PROVIDE NEW FRAMELESS MEDICAL SLIDING TEMPERED GLASS WINDOW; WINDOW TO BE 6'-6" W X 4'-0" H, WITH SILL OF WINDOW AT 2' 40" AFE MAY WITH SILL OF WINDOW AT 2'-10" AFF MAX.

(C11) PROVIDE JANITOR MOP SINK, SEE PLUMBING DRAWINGS

C12 COORDINATE LAVATORY TYPE WITH OWNER

C13 ACCESSIBLE HIGH-LOW DRINKING FOUNTAINS, SEE PLUMBING AND ELECTRICAL DRAWINGS

(C14) INSTALL OWNER SUPPLIED ACCESS CONTROL SYSTEM TO EXISTING DOOR

(C15) REFRIGERATOR, SUPPLIED BY OWNER AND INSTALLED BY CONTRACTOR

(C16) DISHWASHER, SUPPLIED BY OWNER AND INSTALLED BY CONTRACTOR

(C17) ALIGN FINISHED FACE OF NEW WALLS

 $^{'}$ C18 $^{'}$ ALIGN FINISHED FACE OF NEW WALL WITH FINISHED EDGE OF EXISTING WALL

(C19) MAINTAIN 18" CLEAR ON PULL SIDE OF DOOR

 $\langle c_{20} \rangle$ LINE OF BULKHEADS OR CEILING FEATURE, ABOVE, SEE REFLECTED CEILING PLAN, TYPICAL U.O.N.

 \langle C21 \rangle EXTEND WALL TO EXISTING STOREFRONT MULLION, SEE 2/A3.0

 $\langle c_{22} \rangle$ STAFF LOUNGE CABINETS, COUNTERTOP AT 34" AFF, SIDE APPROACH ACCESSIBLE SINK WITH ACCESSIBLE

FIXTURE, SEE 3/A3.0

(C23) MULTI-PURPOSE SAFE ROOM CABINETS, SEE 4/A3.0

1. COORDINATE SELECTION OF ALL FINISHES AND COLORS WITH OWNER.

2. DIMENSIONS ARE TO FACE OF FRAMING EXCEPT AT DEMISING WALLS DIMENSIONS ARE TO FACE OF GYPSUM WALLBOARD. 3. 5/8" GYPSUM WALLBOARD, TYPICAL EXCEPT 5/8" GREENBOARD AT WET LOCATIONS.

5. PROVIDE TRANSITION STRIPS BETWEEN DIFFERENT FLOORING MATERIALS. 6. COORDINATE DESIGN OF ALL CABINETRY AND CASEWORK W/ OWNER. PROVIDE CABINETRY SHOP DRAWINGS FOR OWNER REVIEW.

7. ALL 3-5/8" STUD WALLS TO BE INSULATED WITH R-11 BATT INSULATION. ALL 6" METAL STUD WALLS TO BE INSULTED WITH R-19 BATT INSULATION.

8. PROVIDE TYPE 2A 10BC FIRE EXTINGUISHER AS REQUIRED FOR MAX. 75' TRAVEL DISTANCE TO EXTINGUISHER FROM ANYWHERE IN OFFICE. VERIFY FINAL LOCATION AND NUMBER OF FIRE EXTINGUISHERS WITH FIRE MARSHAL 9. PROVIDE BLOCKING AS REQUIRED FOR ALL CABINETRY, EQUIPMENT, AND CASEWORK. PROVIDE CONTINUOUS BLOCKING FROM FLOOR TO CEILING

AT ALL ADJUSTABLE SHELVING LOCATIONS. 10.INSTALL A DELAYED EGRESS BAR ON ALL DOORS WITH CLIENT ACCESS TO THE EXTERIOR. CONTRACTOR SHALL VERIFY WITH THE AUTHORITY

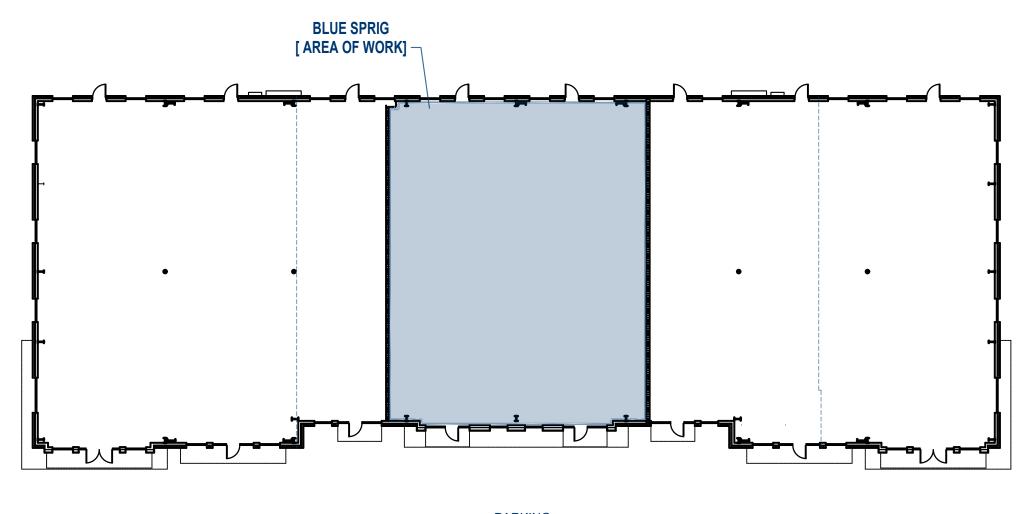
HAVING JURISDICTION FOR ALLOWABLE MODIFICATIONS TO DOORS.

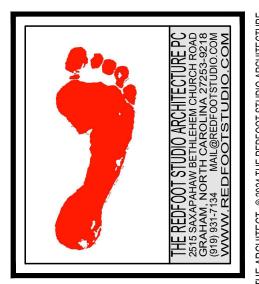
11.PROVIDE VISION KIT ON ALL DOORS, EXCEPT UNI-SEX TOILET ROOMS, STORAGE ROOMS, AND THE MECHANICAL / I.T. ROOM.

12. AT RECEPTION PROVIDE BUZZER DOOR ACCESS CONTROL FOR EXTERIOR DOOR. 13. THE SPACE CURRENTLY HAS A RIBBON SLAB AROUND THE PERIMETER AND NO OTHER EXISTING CONCRETE SLAB. WHERE NEW CONCRETE SLAB

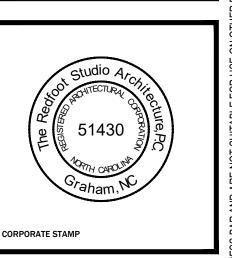
IS POURED PROVIDE #5 REBAR DOWELS @24" O.C. EMBEDDED 6" MIN. INTO EXISTING SLAB AND PROJECTING 6" MIN. FROM EXISTING SLAB.

CONCRETE TO BE 3000 PSI MINIMUM, MATCH THICKNESS OF EXISTING SLAB. PROVIDE WWF MESH AND/OR MESH FIBER REINFORCING.



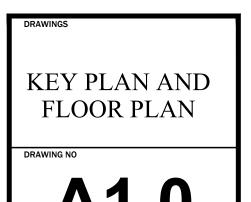


SPRIG

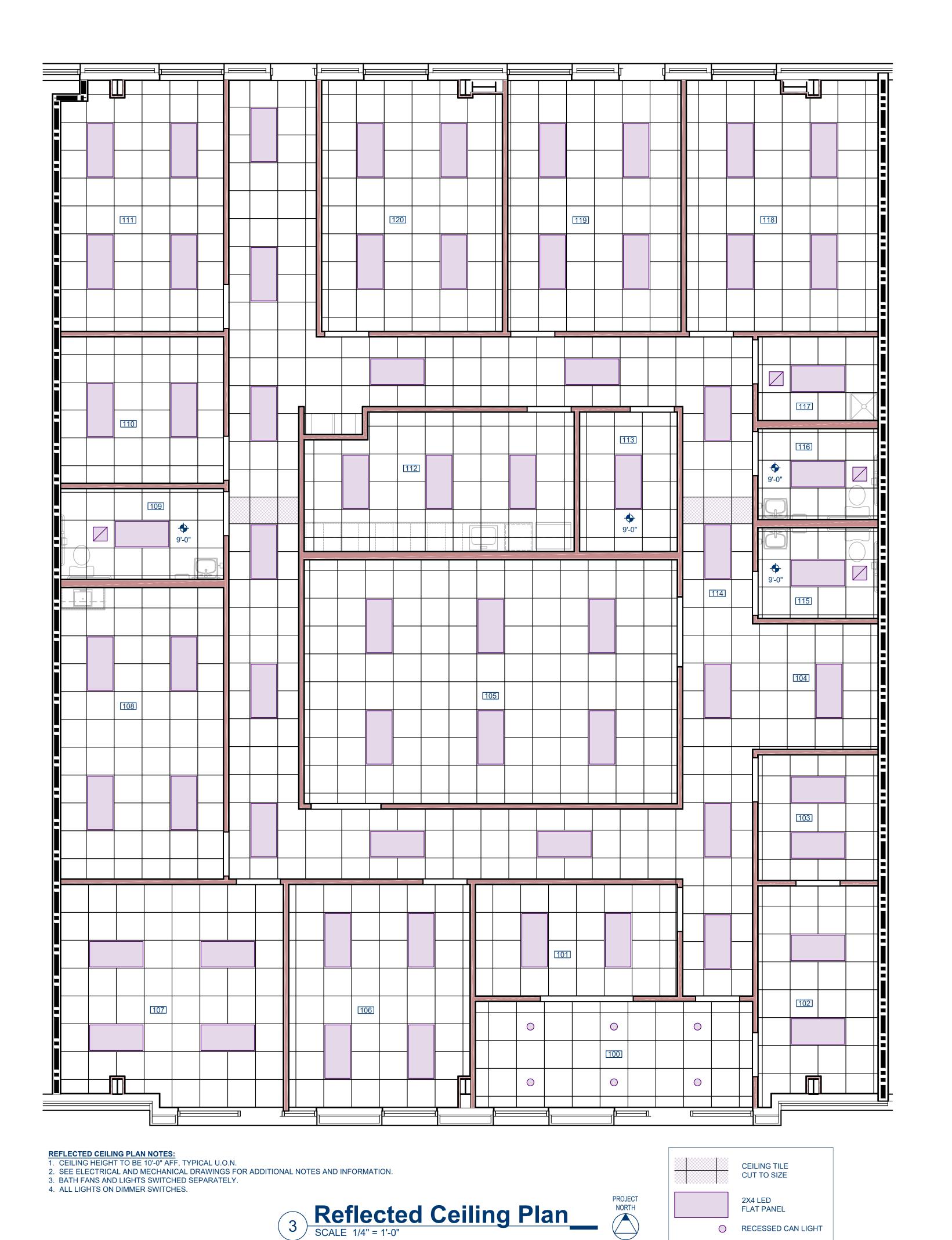




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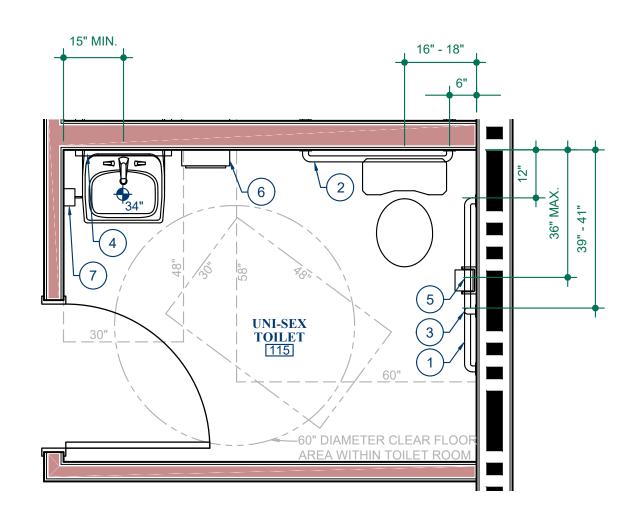




Toilet Accessory Schedule 42" GRAB BAR, CENTERLINE OF GRAB BAR AT 34" A.F.F. 36" GRAB BAR, CENTERLINE OF GRAB BAR AT 34" A.F.F. 18" VERTICAL GRAB BAR, BOTTOM OF GRAB BAR AT 39"-41" A.F.F. 18" x 36" STAINLESS STEEL MIRROR, BOTTOM EDGE OF MIRROR 40" AFF, MAX. TOILET PAPER DISPENSER, 19" AFF MIN. TO CENTERLINE OF TOILET PAPER ROLL PAPER TOWEL DISPENSER, 48" AFF MAX. TO TOWEL DISPENSER SLOT OR **OPERATING MECHANISM** SOAP DISPENSER, 48" AFF MAX. TO DISPENSER SCHEDULE NOTES:
1. ALL FIXTURES AND TOILET ACCESSORIES TO MEET ADA REQUIREMENTS AND BE INSTALLED PER ADA

GUIDELINES.

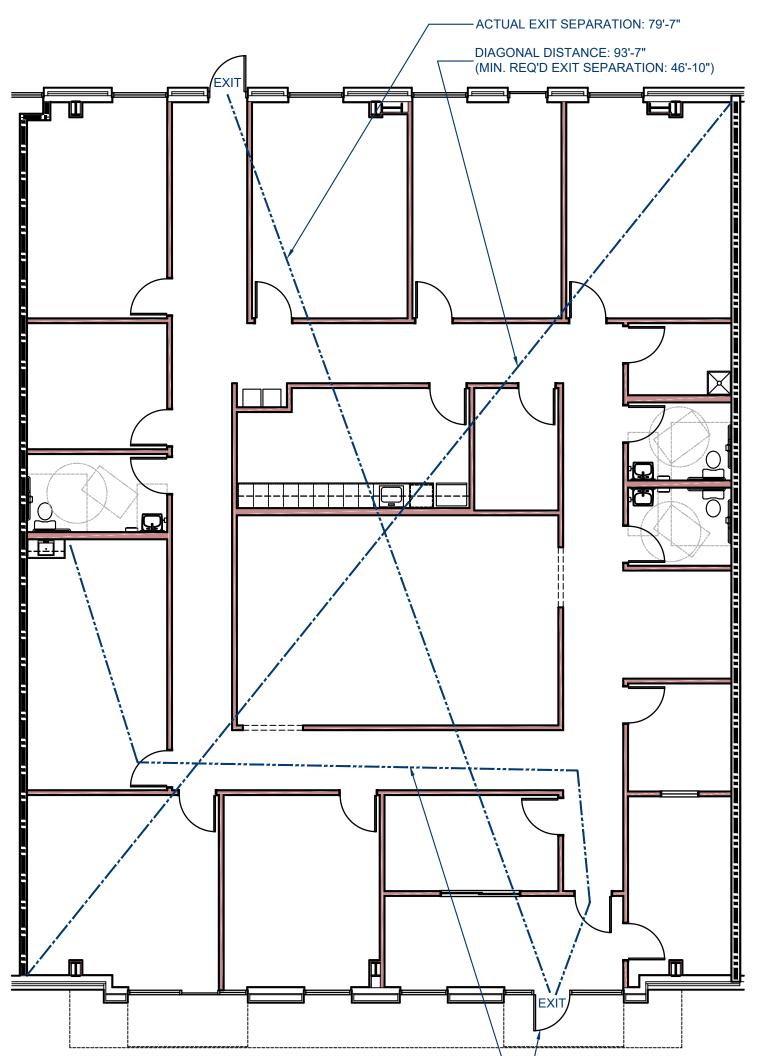
2. PROVIDE BLOCKING IN WALLS AS REQUIRED TO INSTALL ALL TOILET ACCESSORIES.



TOILET PLAN NOTES:

1. PROVIDE ALL BLOCKING REQUIRED FOR GRAB BARS AND OTHER ACCESSORIES. 2. UNI-SEX TOILET 115 IS SHOWN, ALL OTHER TOILET ROOMS ARE SIMILAR.





OCCUPANT LOADS: SENSORY PLAYROOM

1 PERSON / 15 NET SF (ASSEMBLY UNCONCENTRATED, TABLES AND CHAIRS) 17 PEOPLE

—TYPICAL EGRESS DOOR CLEAR WIDTH: 35" MAX. CALCULATED OCCUPANT LOAD DOOR CAN ACCOMMODATE: 175 PEOPLE ACTUAL OCCUPANT LOAD FOR DOOR: 88 PEOPLE

—MAX. TRAVEL DISTANCE: 74'-7"

SENSORY PLAYROOM

1 PERSON / 35 NET SF (EXERCISE ROOM WITHOUT EQUIPMENT)

14 PEOPLE BUSINESS

3,445 SF

1 PERSON / 100 GROSS SF 35 PEOPLE

WAITING

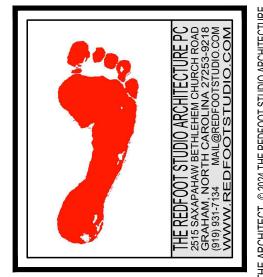
RECESSED CAN LIGHT

EXHAUST FAN

1 PERSON / 7 NET SF (ASSEMBLY, CONCENTRATED, CHAIRS ONLY) 22 PEOPLE

GROSS SF/PERSON = 88 PEOPLE





SPRIG

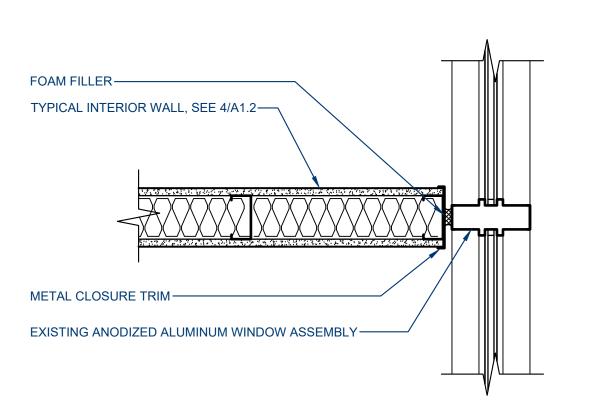


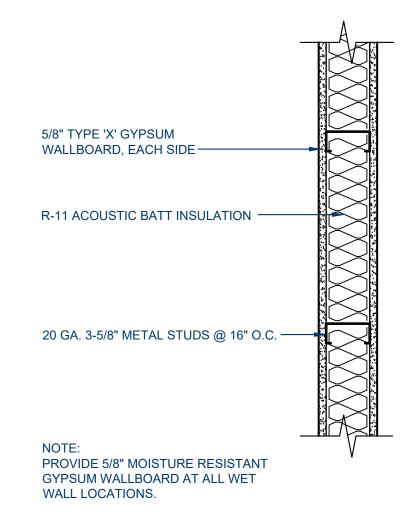


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CEILING, TOILET, AND LIFE SAFETY PLANS

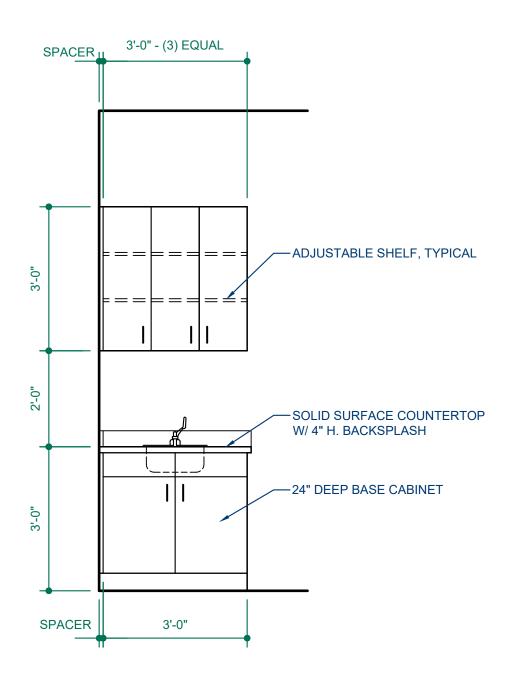
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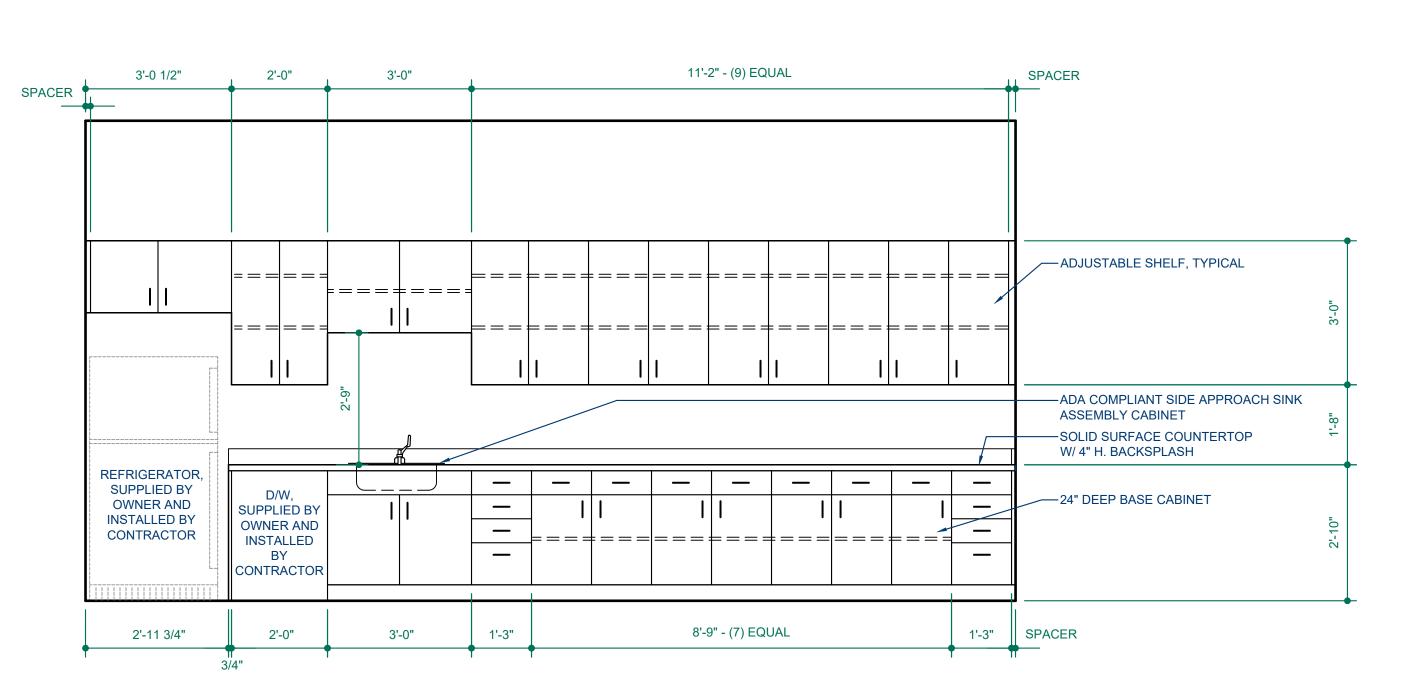




2 Mullion / Wall Connection SCALE 1 1/2"= 1'-0"







4 Multi-Purpose Safe Room SCALE 1/2" = 1'-0"

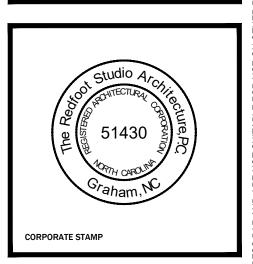


CABINET NOTE

- 1. PROVIDE SHOP DRAWINGS FOR OWNER REVIEW OF ALL CABINETS AND CASEWORK.
- 2. PLASTIC LAMINATE FINISH FOR CABINET EXTERIOR FROM MANUFACTURER'S STANDARD COLORS. WHITE MELAMINE FINISH AT INTERIOR OF ALL CABINETS.
- ALL COUNTERTOPS PLASTIC LAMINATE. PROVIDE ALTERNATE FOR LEVEL 2 SOLID SURFACE OR LEVEL 2 GRANITE FOR RECEPTION TRANSACTION COUNTER.
- 4. ALL CABINET HARDWARE TO BE COMMERCIAL GRADE HARDWARE TO BE SELECTED BY OWNER.

THE REDFOOT STUDIO ARCHITECTURE PC 2515 SAXAPAHAW BETHLEHEM CHURCH ROAD GRAHAM, NORTH CAROLINA 27253-9218 (919) 931-7134 MAIL@REDFOOTSTUDIO.COM

BLUE SPRIG 2293 NC HIGHWAY 24-87 AMERON, NORTH CAROLINA





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DETAILS & CABINETS

A3.0

			PLUMBING FIXTURE SCHEDULE			
SYMBOL	FIXTURE	MANUFACTURER	FITTING	HW	CW	WASTE
P1	TWO PIECE TANK TYPE ADA WATER CLOSET	TOTO CST744EL OR EQUAL BY AMERICAN STANDARD OR KOHLER	TWO-PIECE VITREDUS CHINA TOILET WITH HIGH-PROFILE TANK, ELONGATED FRONT BOWL AND CHROME TRIP LEVER. 1.28 GPF. PROVIDE SC534 OPEN FRONT SEAT LESS COVER. ASME 112.19.2 COMPLIANCE. TOP OF SEAT SHALL BE 17-19 INCHES AFF FOR ADA. LEVER MOUNTED ON WIDE SIDE FOR ADA	-	1/2*	3'
P2A	WALL MOUNT LAVATORY	NAMEEKS PINTO CERASTYLE 080000-U	FAUCET: MOEN EDGESTONE 46103	1/2"	1/2"	2'
P2B	SINK SINGLE BOWL	ELKAY LRADQ2521551 DR EQUAL BY FRANKE, JUST DR MOEN	TOP MOUNTED 18 GA STAINLESS STEEL. MAX BOWL DEPTH 6 INCHES FOR WHEEL CHAIR ACCESSIBLITY-USE ELKAY FAUCET SET LKHA1041 OR EQUAL BY MOEN, DELTA OR KOHLER.	1/2"	1/2*	2'
P2C	SINK LARGE SINGLE BOWL	ELKAY LRADQ3122551 DR EQUAL BY FRANKE, JUST DR MOEN	TOP MOUNTED 18 GA STAINLESS STEEL. MAX BOWL DEPTH 6 INCHES FOR WHEEL CHAIR ACCESSIBLITY-USE ELKAY FAUCET SET LKHA1041 OR EQUAL BY MOEN, DELTA OR KOHLER.	1/2"	1/2"	2'
P3	MOP SINK	FIAT MSB2424 OR EQUAL BY FLORESTONE OR STERN WILLIAMS	DUTSIDE DIMENSIONS OF 24X24X10. 10 INCHHIGH WALLS WITH NOT LESS THAN 1 INCH WIDE. STAINLESS STEEL DRAIN BODY DESIGNED TO PROVIDE FOR A CAULK CONNECTION OR QDC-3 JOINT TO A 3 INCH DRAIN PIPE. INCLUDE A COMBINATION DOME STRAINER AND LINT BASKET OF STAINLESS STEEL. PROVIDE 830-AA CHROME PLATED SERVICE FAUCET WITH VACUUM BREAKER, INTEGRAL STOPS, ADJUSTABLE WALL BRACE, PAIL HOOK AND 3/4 INCH HOSE THREAD ON SPOUT.	1/2*	1/2*	3*
P4	DRINKING FOUNTAIN	ELKAY EZH2O LZSTL8WSSP	ADA COMPLIANT FOR ADULT AND CHILD, 8.0 GPH OF 50°F WATER @ 90°F AMBIENT, PROVIDE ACCESSORY APRON FOR ADA COMPLIANCE AS NECESSARY - WITH BOTTLE REFILLING STATION.	-	3/8"	2'
P5	REFRIGERATOR VALVE BOX	DATEY OR APPROVED EQUAL	HIGH IMPACT POLYSTYRENE BOX WITH 1/4 TURN BRASS BALL VALVE. COMPLIANT WITH NSF 61, SECTION 9.	-	1/2"	-
DCV	1' DOUBLE CHECK VALVE	WATTS 007M1QT OR EQUAL BY CONBRACO OR WILKINS	ASSEMBLY SHALL CONSIST OF TWO POSITIVE SEATING CHECK MODULES WITH CAPTURED SPRINGS AND RUBBER SEAT DISCS. THE CHECK MODULE SEATS AND SEAT DISCS SHALL BE REPLACEABLE. SERVICE OF ALL INTERNAL COMPONENTS SHALL BE THROUGH A SINGLE ACCESS COVER SECURED WITH STAINLESS STEEL BOLTS. THE ASSEMBLY SHALL ALSO INCLUDE TWO RESILIENT SEATED ISOLATION VALVES; FOUR TOP MOUNTED, RESILIENT SEATED TEST COCKS. ASSEMBLY SHALL MEET THE REQUIREMENTS OF ASSE 1015 AND AWWA C510	-	1"	-
XT	EXPANSION TANK	AMTROL ST-5 OR EQUAL BY WATTS OR BELL & GOSSETT	INSTALL ON COLD WATER LINE BETWEEN WATER HEATER AND RPZ	-	3/4"	-
TMV	THERMOSTATIC MIXING VALVE	WATTS LFMMV OR EQUAL BY LAWLER OR LEDNARD VALVE	ASSE STANDARD 1069 OR 1070 APPROVED WITH 1/2 INCH FEMALE NPT INLET AND OUTLET CONNECTIONS, BRASS BODY, AND INTEGRAL MOUNTING HOLES. TAMPER RESISTANT THERMOPLASTIC ENCLOSURE. SINGLE REPLACEABLE CARTRIDGE DESIGN.	1/2*	1/2*	-
RP-1	HOT WATER RE-CIRCULATION PUMP	GRUNDFOS MODEL UP15-10B7 ATLC,	2 GPM AT 2.5 FT. HEAD WITH LINE CORD, TIMER AND AQUASTAT AND CHECK VALVE.	3/4"	3/4"	-
FCD	FLOOR CLEANOUT	ZURN, WATTS, JR SMITH	EPDXY COATED CAST IRON FLOOR CLEANOUT WITH ROUND ADJUSTABLE GASKETED NICKEL BRONZE TOP, REMOVABLE GAS TIGHT GASKETED BRASS CLEANOUT PLUG, AND NO HUB INLET.	-	-	4"
WCD	WALL CLEANDUT	ZURN, WATTS, DR JR SMITH	CAST IRON CLEANOUT FERRULE WITH THREADED BRASS COUNTERSUNK CLEANOUT PLUG, STAINLESS STEEL ACCESS COVER, AND VANDAL PROOF STAINLESS STEEL SCREW	-	-	4'

FIXTURE TYPE	2. 00 0. 25	RE UNITS HW TOTAL 0.00 7.50 0.00	15. (10. (
WATER CLOSET (FLUSH TANK) PUBLIC 3 4.00 12.00 5.00 0.00 LAVATORY PUBLIC 5 1.00 5.00 1.50 1.50 DRINKING FOUNTAIN PUBLIC 1 0.50 0.50 0.25 0.00	5. 00 2. 00 0. 25	0. 00 7. 50	10. (
LAVATORY PUBLIC 5 1.00 5.00 1.50 1.50 DRINKING FOUNTAIN PUBLIC 1 0.50 0.50 0.25 0.00	2. 00 0. 25	7. 50	15. C
DRINKING FOUNTAIN PUBLIC 1 0.50 0.50 0.25 0.00	0. 25		
		0.00	
MDP SINK PUBLIC 1 2.00 2.00 2.25 2.25	3 00		0. 2
	J 3, 00	2. 25	3, 0
DEMAND FIXTURE GPM QTY TOTAL GPM	TOTAL DFU		
KITCHEN DISHWASHER 2 1 2,00	TOTAL WFSUs	9. 8	28. :
	GPM	14. 60	22. 0
OTHER .	FIXTURES' GPM	0, 00	0. 0
	TOTAL GPM	14. 60	22. C

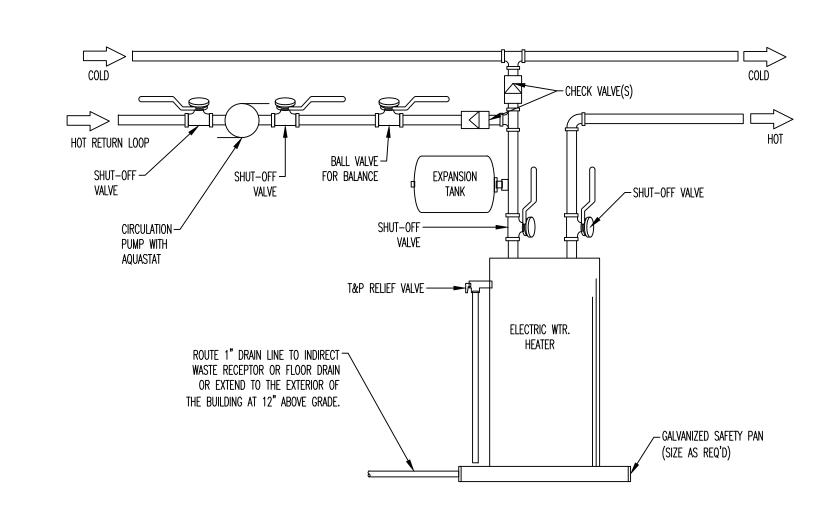
LINETYPE LEGEND
140 D HOT WATER RECIRCULATING ·
140 D HOT WATER RETURN
COLD WATER SUPPLY —— — — — — — — — — — — — — — — — — —
HOT WATER SUPPLY · ·
GREASE LADEN LINE · · ·
Sanitary sewer line ————————————————————————————————————
VENT LINE — — — — — — — — — — — — —

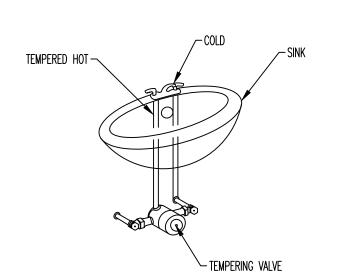
TANK VOL | INPUT | RECOVERY SET POINT POWER CONNECTIONS MARK | MFG | MODEL GALS WH-1 RHEEM PRDE20 120 19. 9

ELECTRIC WATER HEATER SCHEDULE

- PROVIDE GALVANIZED STEEL SAFETY PAN 2. UL 174 LISTED
- PROVIDE ASME LISTED TEMPERATURE AND PRESSURE RELIEF VALVE
- MEET OR EXCEED ENERGY FACTOR REQUIREMENTS OF ASHRAE 90.1-2007
- 5. OR EQUAL BY RHEEM, BRADFORD WHITE, OR STATE

PLUMBING SCHEDULES | 1





GENERAL PLUMBING NOTES:

- 1. THE FOLLOWING ABBREVIATIONS SHALL APPLY TO NOTES AND PLANS: PC - PLUMBING CONTRACTOR, EC - ELECTRICAL CONTRACTOR, MC - MECHANICAL CONTRACTOR, GC - GENERAL CONTRACTOR,
- FASC FIRE ALARM SYSTEM CONTRACTOR. 2. "PROVIDE" MEANS TO FURNISH AND INSTALL. THE PLUMBING CONTRACTOR SHALL ALSO INSTALL MATERIALS FURNISHED BY OTHERS AND THE GENERAL CONTRACTOR.
- 3. THE PC SHALL BE RESPONSIBLE FOR A COMPLETE AND OPERATIONAL SYSTEM AS DESCRIBED BY THESE PLANS AND SPECIFICATIONS. 4. ALL MATERIALS AND EQUIPMENT SHALL BE DELIVERED TO THE SITE AND UNLOADED AT AN APPROVED LOCATION. PC SHALL PROTECT ALL MATERIALS AND EQUIPMENT FROM BREAKAGE, THEFT, AND THE
- AND TURNED OVER TO THE OWNER. 5. ALL MATERIALS USED SHALL BE NEW AND FREE OF DEFECTS. ANY MATERIALS FOUND TO BE DEFECTIVE SHALL BE REPLACED AT NO EXPENSE TO THE OWNER. ALL MATERIALS AND EQUIPMENT SHALL BEAR APPROVAL FROM UL OR AN APPROVED THIRD PARTY AGENCY. WHERE A MANUFACTURER AND MODEL NUMBER IS GIVEN, IT IS TO ESTABLISH A STANDARD OF QUALITY AND NOT TO LIMIT PRODUCTS TO A PARTICULAR MANUFACTURER. PRODUCTS DETERMINED TO BE EQUAL BY

ELEMENTS. ALL MATERIALS AND EQUIPMENT SHALL REMAIN THE

PROPERTY OF THE PC UNTIL THE PROJECT HAS BEEN COMPLETED

- THE ENGINEER WILL BE ACCEPTED. 6. THE PLUMBING SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE 2018 NORTH CAROLINA PLUMBING CODE AND ANY APPLICABLE LOCAL CODES. WHERE A CONFLICT EXISTS BETWEEN THE ABOVE REQUIREMENTS. THE CONTRACTOR SHALL OBTAIN CLARIFICATION FROM THE ENGINEER OR IN THE EVENT ANY PART OF THESE PLANS
- CONFLICTS WITH THE ABOVE REQUIREMENTS. 7. THE PC SHALL OBTAIN AND PAY FOR ALL PERMITS. FEES. AND INSPECTIONS NECESSARY FOR THE COMPLETION OF THE WORK UNDER
- THIS CONTRACT. 8. DO NOT SCALE THESE DRAWINGS-REFER TO ARCHITECTURAL SHEETS
- FOR DIMFNSIONS. 9. THESE PLANS ARE DIAGRAMMATIC. THE PC SHALL ADJUST THE LOCATIONS OF EQUIPMENT, FIXTURES, PIPING, ETC, TO ACCOMMODATE PLANNED AND ENCOUNTERED INTERFERENCES. THE DRAWINGS DO NOT SHOW ALL BENDS, OFFSETS, AND FITTINGS THAT MAY BE REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM. THE PC SHALL MAKE ALLOWANCES FOR SUCH DEVIATIONS AND CONTINGENCIES IN BID TO IMPLEMENT THEM WITHOUT ADDITIONAL COST TO THE OWNER. THE PC METHODS: EXISTING CONDITIONS. CONTRACTOR SHALL CONTACT THE ENGINEER TO RESOLVE ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THESE PLANS. TO AVOID POTENTIAL CONFLICTS, COORDINATE WITH OTHER TRADES PRIOR TO THE START OF CONSTRUCTION. ALL UNDERGROUND UTILITIES SHALL BE LOCATED PRIOR TO ANY DIGGING.
- 10. TRENCHING, COMPACTION, AND BACKFILL SHALL BE BY PC AND SHALL CONCEALED IN FINISHED AREAS. ANY OPEN ENDS SHALL BE BE IN ACCORDANCE WITH SECTION 306 OF THE NC PLUMBING CODE. UNDERGROUND LINES SHALL BE LOCATED SUCH THAT THEY DO NOT ENDANGER FOOTINGS OR FOUNDATION WALLS.
- 11. THE PC SHALL PROVIDE FIRESTOPPING AT ALL PENETRATIONS OF RATED FLOOR/CEILING ASSEMBLIES AND RATED WALL ASSEMBLIES TO PRESERVE OR RESTORE THE FIRE RESISTANCE RATING. SEAL ALL PENETRATIONS USING A UL LISTED SYSTEM FOUND IN THE UL DIRECTORY SPECIFIC TO THE UL LISTING OF THE ASSEMBLY BEING PENETRATED. SEE ARCHITECTURAL PLANS FOR UL RATED ASSEMBLIES SPECIFIC TO THE PROJECT.
- 12. SYSTEM TESTING SHALL BE PERFORMED BY PLUMBING CONTRACTOR IN ACCORDANCE WITH NORTH CAROLINA PLUMBING CODE, SECTIONS 312.2, 312.3, AND 312.5.
- 13. PC SHALL DISINFECT THE ENTIRE DOMESTIC WATER PIPING SYSTEM IN ACCORDANCE WITH THE AMERICAN WATER WORKS ASSOCIATION'S SPECIFICATIONS AND LOCAL HEALTH DEPARTMENT REGULATIONS.
- 14. AT THE COMPLETION OF WORK AND PRIOR TO ACCEPTANCE BY OWNER, THE PC SHALL CLEAN ALL EXPOSED FIXTURES, MATERIALS, AND EQUIPMENT UNDER THIS CONTRACT.
- 15. PC SHALL COORDINATE WITH THE GENERAL CONTRACTOR TO ENSURE ALL APPLICABLE CONSTRUCTION WASTE IS RECYCLED DURING THE CONSTRUCTION PHASE OF THE PROJECT.

- 1. ALL OVERHEAD DOMESTIC WATER PIPING SHALL BE TYPE L COPPER WITH 95/5 LEAD FREE SOLDER, AND ALL BELOW GRADE WATER PIPING SHALL BE TYPE K COPPER WITH NO JOINTS. ALL PIPING SHALL HAVE MANUFACTURER'S NAME AND THE APPLICABLE STANDARD TO WHICH IT WAS MANUFACTURED CLEARLY MARKED ON EACH LENGTH. PIPING SHALL COMPLY WITH ASTM B-88. USE BRAZED JOINTS ON ALL COPPER PIPING 1-1/2 INCH AND LARGER. ALL PIPE AND PIPE FITTINGS, INCLUDING VALVES AND FAUCETS, USED IN THE WATER DISTRIBUTION SYSTEM SHALL HAVE A MAXIMUM LEAD CONTENT OF .25-PERCENT AND SHALL CONFORM TO NSF 61. HOT WATER DISTRIBUTION PIPE AND TUBING SHALL HAVE A MINIMUM PRESSURE RATING OF 100 PSI AT 180°F. COLD WATER DISTRIBUTION PIPE AND TUBING SHALL HAVE A MINIMUM PRESSURE RATING OF 160 PSI AT 73.4°F. DO NOT INSTALL PEX OR CPVC PIPING IN RETURN AIR
- 2. BALL VALVES SHALL HAVE BRASS BODY, FULL PORT, CHROME PLATED BALL, WITH TEFLON SEATS, 150 PSI WSP, AND COMPLY WITH MSS SP-110. GATE VALVES SHALL HAVE BRONZE BODY, CLASS 150, AND COMPLY WITH MSS SP-80, TYPE 2 STANDARD. VALVE BODY SHALL BE ASTM B 62, BRONZE WITH INTEGRAL SEAT AND UNION RING BONNET. ENDS SHALL BE THREADED OR SOLDER WITH COPPER-SILICON BRONZE STEM AND SOLID-WEDGE BRONZE DISC. INSTALL VALVES IN LOCATIONS THAT PERMIT EASY ACCESS WITHOUT DAMAGE TO BUILDING OR FINISHED MATERIALS; PROVIDE ACCESS DOORS IF REQUIRED. VALVES SHALL BE BY NIBCO, WATTS, OR STOCKHAM.
- 3. COLD WATER LINES SHALL BE INSULATED WITH 1/2 INCH THICK FIBROUS GLASS INSULATION WITH A FLAME DENSITY RATING LESS THAN 25 AND A SMOKE DENSITY RATING LESS THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84. HOT WATER LINES UP TO 2 INCHES DIAMETER SHALL HAVE 1 INCH THICK INSULATION CONFORMING TO THE SAME STANDARD. PIPING LARGER THAN 2 INCHES SHALL RECEIVE 1-1/2 INCH THICK INSULATION. CLOSED CELL RUBBER INSULATION MEETING THE SMOKE AND FLAME RATINGS ABOVE MAY BE SUBSTITUTED FOR FIBROUS GLASS TYPE IF SO DESIRED. INSULATION INSTALLED ON PIPING OPERATING BELOW AMBIENT TEMPERATURES MUST HAVE A CONTINUOUS VAPOR RETARDER. ALL JOINTS, SEAMS AND FITTINGS MUST BE SEALED. ON SYSTEMS OPERATING ABOVE AMBIENT, THE BUTT JOINTS SHOULD NOT BE SEALED. ON COLD SURFACES WHERE A VAPOR SEAL MUST BE MAINTAINED, INSULATION SHALL BE APPLIED WITH A CONTINUOUS, UNBROKEN MOISTURE AND VAPOR RETARDER. ALL HANGERS, SUPPORTS, ANCHORS, OR OTHER PROJECTIONS SECURED TO COLD SURFACES SHALL BE INSULATED AND VAPOR SEALED TO PREVENT CONDENSATION. ALL PIPE INSULATION SHALL BE CONTINUOUS THROUGH WALLS, CEILING OR FLOOR OPENINGS, OR SLEEVES EXCEPT WHERE FIRESTOP OR FIRESAFING MATERIALS ARE REQUIRED. INSULATION SHALL HAVE A FACTORY APPLIED ALL-SERVICE JACKET WITH SELF-SEALING LAP. WHITE-KRAFT PAPER BONDED TO ALUMINUM FOIL AND REINFORCED WITH GLASS FIBERS; CONFORMING TO ASTM C 1136 TYPE 1; VAPOR RETARDER; WITH A SELF-SEALING ADHESIVE. VERIFY THAT PIPING HAS BEEN TESTED, SURFACES ARE
- APPLYING INSULATION MATERIALS. INSULATION SHALL BE BY KNAUF, ARMACELL, JOHNS-MANVILLE, OR OWENS-CORNING. 4. ALL INSULATION CONTAINING FIBROUS MATERIALS EXPOSED TO AIRFLOW SHALL BE RATED FOR THAT EXPOSURE OR SHALL BE ENCAPSULATED. INSULATING PROPERTIES FOR ALL MATERIALS SHALL MEET OR EXCEED INDUSTRY STANDARDS. POLYSTYRENE PRODUCTS SHALL MEET ASTM C578 91. ALL INSULATION SHALL BE LOW-EMITTING WITH NOT GREATER THAN 0.05 PPM FORMALDEHYDE EMISSIONS. THE MAXIMUM FLAME SPREAD AND SMOKE DEVELOPED INDEX FOR INSULATION SHALL MEET THE REQUIREMENTS OF THE LOCAL CODES AND ORDINANCES

CLEAN AND DRY, AND ALL FOREIGN MATERIALS ARE REMOVED BEFORE

ADOPTED BY THE JURISDICTION IN WHICH THE BUILDING IS LOCATED.

5. FAUCETS AND FIXTURE FITTINGS SHALL CONFORM TO ASME A112.18.1.

FAUCETS AND FIXTURE FITTINGS THAT SUPPLY DRINKING WATER FOR HUMAN CONSUMPTION SHALL CONFORM TO THE REQUIREMENTS OF NSF 61, SECTION 9. FIXTURE FITTINGS, FAUCETS, AND DIVERTERS SHALL BE INSTALLED AND ADJUSTED SO THAT THE FLOW OF HOT WATER FROM THE FITTINGS CORRESPONDS TO THE LEFT HAND SIDE

OF THE FIXTURE FITTING.

- 6. BACKFLOW PREVENTION SHALL BE IN ACCORDANCE WITH SECTION 608.13 OF THE NC PLUMBING CODE AND THE LOCAL AUTHORITY HAVING JURISDICTION. REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTERS SHALL CONFORM TO ASSE 1013 OR AWWA C511. THE RELIEF OPENING SHALL DISCHARGE BY AIR GAP. AIR GAPS SHALL COMPLY WITH ASME A112.1.1 AND AIR GAP FITTINGS WITH ASME A112.1.3. DOUBLE CHECK VALVE ASSEMBLIES SHALL CONFORM TO ASSE 1015 OR AWWA C510. ACCESS TO BACKFLOW PREVENTERS SHALL BE PROVIDED AS SPECIFIED BY THE INSTALLATION INSTRUCTIONS
- OF THE APPROVED MANUFACTURER. '. FOR BELOW GRADE SANITARY WASTE PIPING, PC SHALL USE SERVICE WEIGHT CAST IRON PIPE WITH COMPRESSION JOINTS (ASTM A 74). USE MINIMUM 2 INCH SIZE UNDERGROUND. SOLID WALL SCHEDULE 40 PVC (ASTM D 2665) WITH SCHEDULE 40 SOCKET TYPE PIPE FITTINGS (ASTM D 3311) MAY ALSO BE USED. DO NOT USE PVC PIPE FOR APPLICATIONS WHERE THE WASTE WATER TEMPERATURE EQUALS OR EXCEEDS 140°F OR IF THE BUILDING HEIGHT EXCEEDS 75 FEET.
- 8. FOR ABOVE GRADE SANITARY WASTE AND VENT PIPING, USE SERVICE WEIGHT CAST IRON NO-HUB TYPE WITH COUPLINGS (CISPI 301). SOLID WALL SCHEDULE 40 PVC (ASTM D 2665) WITH SCHEDULE 40 SOCKET TYPE FITTINGS (ASTM D 3311) MAY BE USED IF PERMITTED BY LOCAL CODE, EXCEPT IN BUILDINGS EXCEEDING 75 FEET IN HEIGHT. DO NOT INSTALL PVC IN RETURN AIR PLENUMS. ALL VENT AND BRANCH VENT PIPES SHALL BE SO GRADED AND CONNECTED AS TO DRAIN BACK TO THE DRAINAGE PIPE BY GRAVITY. BRANCH VENTS EXCEEDING 40 FEET IN DEVELOPED LENGTH SHALL BE INCREASED BY ONE NOMINAL SIZE
- D. PC SHALL PROVIDE ALL WATER HEATERS (WATTAGE/INPUT AND CAPACITY AS NOTED IN SCHEDULE). ALL WATER HEATERS SHALL BE THIRD PARTY CERTIFIED: PROVIDE PANS FOR WATER HEATERS IN ACCORDANCE WITH 504.7 OF THE NC PLUMBING CODE. ELECTRICAL CONNECTIONS SHALL BE BY ELECTRICAL CONTRACTOR, PC SHALL COORDINATE WITH EC ON ELECTRICAL CHARACTERISTICS OF THE EQUIPMENT PROVIDED.

FOR THE ENTIRE DEVELOPED LENGTH OF THE PIPE.

SHALL VISIT THE SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH 1. EXTEND DOMESTIC WATER PIPE AS INDICATED ON THE PLANS AND INSTALL DOMESTIC WATER DISTRIBUTION PIPING TO ALL FIXTURES AND EQUIPMENT REQUIRING THE SAME. WATER SERVICE PIPE AND THE BUILDING SEWER SHALL BE SEPARATED BY 5 FEET OF UNDISTURBED OR COMPACTED EARTH IN ACCORDANCE WITH 603.2. PROVIDE ALL FITTINGS, VALVES, AND OTHER ACCESSORIES AS NECESSARY FOR A COMPLETE INSTALLATION. ALL DOMESTIC WATER PIPING SHALL BE

- PROTECTED UNTIL FINAL CONNECTIONS ARE MADE. . ABOVE GRADE DOMESTIC WATER PIPING SHALL BE SLOPED AT A MINIMUM OF 1/32 INCH PER FOOT AND ARRANGED TO DRAIN AT LOW POINTS. INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS, OR CONNECTED EQUIPMENT. ROUTE PIPING IN AN ORDERLY MANNER-PARALLEL OR PERPENDICULAR TO WALLS WHEN POSSIBLE-AND MAINTAIN GRADIENT. EACH SUPPLY BRANCH LINE SERVING MORE THAN ONE FIXTURE SHALL HAVE A SHUTOFF VALVE INSTALLED TO ISOLATE ALL FIXTURES AND PIECES OF EQUIPMENT SUPPLIED BY THE BRANCH LINE. THE SHUTOFF VALVE
- SHALL BE LABELED AND LOCATED AS CLOSE TO THE CONNECTION TO THE SUPPLY MAIN AND RISER AS POSSIBLE. PROVIDE A FULL-OPEN VALVE ON THE BASE OF EVERY WATER RISER PIPE AND ON THE TOP OF EVERY WATER DOWN-FEED PIPE. PROVIDE VALVE HANDLE
 - EXTENSIONS AS NECESSARY FOR INSULATION. 3. IT SHALL BE THE RESPONSIBILITY OF THE PC TO SUSPEND AND SUPPORT ALL PIPING SYSTEMS FOLLOWING RECOGNIZED ENGINEERING PRACTICES AND USING STANDARD, COMMERCIALLY ACCEPTED PIPE HANGERS AND SUSPENSION EQUIPMENT. ALL FIXTURES, DEVICES, AND EQUIPMENT SHALL BE SECURELY MOUNTED TO THE BUILDING STRUCTURE AND SHALL NOT RELY ON CEILING OR WALL SURFACES FOR SUPPORT. THE SUPPORT ATTACHMENT SHALL SUPPORT THE WEIGHT OF THE FIXTURE OR EQUIPMENT PLUS THE WEIGHT OF THE SUPPORT ATTACHMENT ITSELF. SUPPORT FROM THE TOP CHORD OF THE ROOF JOISTS, GIRDERS, AND BEAMS. THE BOTTOM CHORD IS NOT TO BE USED FOR EQUIPMENT AND PIPING SUPPORT. HANGERS SHALL NOT BE ATTACHED TO CORRUGATED STEEL DECKING. USE STEEL HANGERS FOR STEEL AND PLASTIC PIPE AND COPPER OR COPPER-PLATED HANGERS FOR COPPER PIPE. PROVIDE PROTECTION FOR COPPER PIPING IN CONTACT WITH DISSIMILAR METALS. WHERE COPPER PIPING IS SUPPORTED ON HANGERS WITH OTHER PIPING,
 - CONTACT WITH OTHER METALS. IN GENERAL, HANGERS SHALL BE CLEVIS TYPE, STANDARD WEIGHT, FOR PIPING, HANGER SPACING SHALL BE IN ACCORDANCE WITH TABLE 308.5 OF THE NC PLUMBING CODE. HANGERS AND ACCESSORIES SHALL BE GRINNEL, MASON, OR B-LINE. SLEEVE ALL PIPES PASSING THROUGH PARTITIONS, WALLS, AND FLOORS. SLEEVES IN FLOORS AND INTERIOR WALLS OF POURED IN PLACE CONCRETE, BRICK, TILE, OR MASONRY SHALL BE SCHEDULE 40 STEEL PIPE, MACHINE CUT. SLEEVES IN GYPSUM BOARD WALLS SHALL BE 22 GAUGE, ROLLED GALVANIZED SHEET METAL. TACK WELD ON THE LONGITUDINAL SEAM. PROVIDE SLEEVES WHERE PIPES PASS THROUGH SLEEVES IN NEW WALLS BUILT UP AROUND EXISTING PIPES. TACK

PROVIDE A PERMANENT ELECTROLYTIC ISOLATION MATERIAL TO PREVENT

- FLOORS AND WALLS ABOVE AND BELOW CEILINGS. PROVIDE SPLIT PIPE WELD SPLIT SLEEVES TOGETHER. SLEEVES IN WALLS SHALL BE INSTALLED FLUSH WITH THE WALL. SLEEVES IN FLOORS SHALL EXTEND 3/4 INCH ABOVE THE FLOOR-EXCEPT THEY SHALL BE FLUSH FOR 2 HOUR RATED FLOORS-AND SHALL BE FLUSH WITH THE STRUCTURE BELOW. EACH SLEEVE SHALL HAVE AN INSIDE DIAMETER 1 INCH LARGER THAN THE OUTSIDE DIAMETER OF THE COVERING OF EACH COVERED PIPE TO ALLOW CONTINUOUS INSULATION—BUT NOT LESS THAN TWO PIPE SIZES LARGER THAN EACH UNCOVERED. ANNULAR SPACES BETWEEN SLEEVES AND PIPES SHALL BE FILLED OR CAULKED
- . THE TOP OF WATER PIPES INSTALLED BELOW GRADE OUTSIDE THE BUILDING SHALL BE BELOW THE FROST LINE OR A MINIMUM OF 12 INCHES BELOW FINISHED GRADE WHICHEVER IS GREATER. WATER PIPING INSTALLED IN A WALL EXPOSED TO THE EXTERIOR SHALL BE LOCATED ON THE HEATED SIDE OF THE WALL INSULATION. WATER PIPING INSTALLED IN AN UNCONDITIONED UTILITY ROOM OR UNCONDITIONED ATTIC SHALL BE INSULATED TO A MINIMUM OF R6.5 DETERMINED IN ACCORDANCE WITH ASTM C 177.

IN AN APPROVED MANNER.

- 6. HOT WATER PROVIDED TO PUBLIC HAND-WASHING FACILITIES/LAVATORIES SHALL BE TEMPERED WATER DELIVERED THROUGH AN APPROVED WATER-TEMPERATURE LIMITING DEVICE THAT CONFORMS TO ASSE 1070 OR CSA B125.3.
- INSULATE ALL EXPOSED WASTE AND SUPPLY PIPING UNDER LAVATORIES, SINKS, AND ELECTRIC WATER COOLERS WITH THE HANDI-LAV GUARD INSULATION KIT BY TRUEBRO OR EQUAL.
- 8. POTABLE WATER OUTLETS SHALL BE PROTECTED FROM BACKFLOW IN ACCORDANCE WITH 608.15. PRESSURE TYPE VACUUM BREAKERS SHALL CONFORM TO ASSE 1020 AND SPILPROOF VACUUM BREAKERS SHALL COMPLY WITH ASSE 1056. HOSE-CONNECTION VACUUM BREAKERS SHALL CONFORM TO ASSE 1011, ASSE 1019, ASSE 1035, OR ASSE 1052. CONNECTIONS TO BEVERAGE DISPENSERS, COFFEE MACHINES, AND NON-CARBONATED BEVERAGE DISPENSERS SHALL BE PROTECTED BY A BACKFLOW PREVENTER IN ACCORDANCE WITH ASSE 1022. THE PC SHALL INSTALL WATER HAMMER ARRESTORS ON BRANCH LINES WITH QUICK CLOSING VALVES PER MANUFACTURER'S INSTALLATION
- 10. THE PC SHALL PROVIDE CHECK VALVES AT ALL FIXTURES WITH THREADED OUTLETS AS REQUIRED BY CODE. TRAP PRIMERS SHALL BE PROVIDED AS SHOWN ON THE PLANS OR AS REQUIRED. 11. ADJUST STOPS AND VALVES FOR INTENDED FLOW RATE TO FIXTURES WITHOUT SPLASHING, NOISE, OR OVERFLOW.

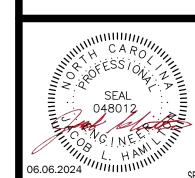
12. BEFORE COMMENCING WORK, CHECK INVERT ELEVATIONS REQUIRED

INSTRUCTIONS. WATER HAMMER ARRESTORS SHALL CONFORM TO ASSE

- FOR SEWER CONNECTIONS, CONFIRM INVERTS, AND VERIFY THESE CAN BE PROPERLY CONNECTED TO WITH SLOPE FOR DRAINAGE AND COVER TO AVOID FREEZING. ONCE INVERTS AND FALL HAVE BEEN ESTABLISHED, EXTEND SANITARY SEWER PIPING AS INDICATED AND INSTALL ALL DRAINS, STACKS, VENTS, FLOOR DRAINS, AND CLEANOUTS
- NECESSARY FOR A COMPLETE INSTALLATION. 13. ALL SANITARY SEWER PIPING IS BELOW GRADE OR WITHIN WALLS UNLESS OTHERWISE NOTED. ALL SANITARY VENT PIPING IS ABOVE THE CEILING OR WITHIN WALLS UNLESS OTHERWISE NOTED. SOIL AND WASTE PIPING SHALL BE INSTALLED TO PROVIDE PROTECTION AGAINST
- FREEZING PER 305.6.1. WASTE AND SOIL LINES LEAVING THE BUILDING MUST HAVE A MINIMUM COVER OF 3 INCHES. 14. SOIL AND WASTE LINES 2-1/2 INCHES AND SMALLER SHALL BE SLOPED AT 1/4 INCH PER FOOT MINIMUM. SOIL AND WASTE LINES 3 INCHES TO 6 INCHES IN DIAMETER SHALL BE SLOPED AT 1/8 INCH
- PFR FOOT MINIMUM. 15. FOR WATER CLOSET WASTE CONNECTIONS. A 4 INCH BY 3 INCH CLOSET BEND SHALL BE ACCEPTABLE. WHERE A 3 INCH BEND IS UTILIZED ON WATER CLOSETS, A 4 INCH BY 3 INCH FLANGE SHALL B INSTALLED TO RECEIVE THE FIXTURE HORN.
- 16. FOR PLASTIC PIPE SIZES GREATER THAN 6 INCHES, AND OTHER PIPE SIZES GREATER THAN 4 INCHES, RESTRAINTS SHALL BE PROVIDED FOR DRAIN PIPES AT ALL CHANGES IN DIRECTION AND AT ALL CHANGES IN DIAMETER GREATER THAN TWO PIPE SIZES. BRACES, BLOCKS, RODDING BACKFILL AND OTHER SUITABLE METHODS AS SPECIFIED BY THE COUPLING MANUFACTURER SHALL BE UTILIZED. 17. BASES OF STACKS SHALL BE SUPPORTED BY THE BUILDING
- STRUCTURE, VIRGIN OR COMPACTED EARTH, OR OTHER SUITABLE MATERIAL TO SUPPORT THE WEIGHT OF THE PIPING. 18. HORIZONTAL DRAIN PIPES SHALL HAVE CLEANOUTS IN ACCORDANCE WITH 708.10. EXTEND CLEANOUTS TO FINISHED FLOOR OR WALL SURFACE. LUBRICATE THREADED CLEANOUT PLUGS WITH A MIXTURE OF GRAPHITE AND LINSEED OIL. ENSURE CLEARANCE AT ALL CLEANOUTS FOR RODDING OF DRAINAGE SYSTEM. INSTALL FLOOR CLEANOUTS AT AN ELEVATION TO ACCOMMODATE FINISHED FLOOR. EVERY CLEANOUT SHALL BE INSTALLED TO ALLOW CLEANING IN THE DIRECTION OF FLOW
- ON 6 INCH AND SMALLER PIPES SHALL BE PROVIDED WITH A CLEARANCE OF NOT LESS THAN 18 INCHES FOR RODDING. 19. DRAINAGE PIPING FOR FUTURE FIXTURES SHALL TERMINATE WITH AN APPROVED CAP OR PLUG. 20. AIR ADMITTANCE VALVES SHALL BE INSTALLED AFTER THE DWV TESTING REQUIRED BY SECTIONS 312.2 AND 312.3. PROVIDE ACCESS TO ALL AIR ADMITTANCE VALVES PER CODE. INSTALLATION OF ALL AIR ADMITTANCE VALVES SHALL CONFORM TO SECTION 917 OF THE NC

OF THE DRAINAGE PIPE OR AT RIGHT ANGLES THERETO. CLEANOUTS

- PLUMBING CODE. AIR ADMITTANCE VALVES SHALL CONFORM TO ASSE 1050 OR 1051. 21. INDIRECT WASTE PIPING THAT EXCEEDS 2 FEET IN DEVELOPED LENGTH MEASURED HORIZONTALLY, OR 4 FEET IN TOTAL DEVELOPED LENGTH, SHALL BE TRAPPED. THE AIR GAP BETWEEN THE INDIRECT WASTE PIPE AND THE FLOOD LEVEL RIM OF THE WASTE RECEPTOR SHALL BE A MINIMUM OF TWICE THE EFFECTIVE OPENING OF THE INDIRECT WASTE
- 22. THE PC SHALL PROVIDE UNIONS FOR DISASSEMBLY AND SERVICE OF ALL FIXTURES AND OTHER RELEVANT PLUMBING EQUIPMENT. UNIONS SHALL BE GROUND-JOINT WITH BRASS SEAT. PROVIDE INSULATING UNIONS AT EACH JUNCTION OF DISSIMILAR MATERIALS.
- 23. THE PC SHALL ACCURATELY ROUGH—IN ALL FIXTURES ACCORDING TO MANUFACTURER'S INSTALLATION DIMENSIONS AND INSTRUCTIONS. OFFSET ADAPTERS AND FLEXIBLE CONNECTORS ARE NOT ACCEPTABLE. FLUSH HANDLES SHALL BE MOUNTED ON THE WIDE SIDE OF TOILET AREAS FOR ADA COMPLIANCE. INSTALL EACH FIXTURE WITH TRAP EASILY REMOVABLE FOR SERVICING AND CLEANING. SEAL FIXTURES TO WALL AND FLOOR SURFACES WITH SEALANT, SOLIDLY ATTACH WATER CLOSETS TO FLOOR WITH LAG SCREWS. SEAL ALL SELF-RIMMING LAVATORIES AND SINKS (VITREOUS CHINA AND STAINLESS STEEL) WITH A COMMERCIAL GRADE PLUMBER'S PUTTY OR ACRYLIC LATEX CAULK APPLIED TO THE UNDERSIDE OF THE FIXTURE RIM IN A GENEROUS AMOUNT SO THAT WHEN FIXTURE IS SET, SEALANT SHALL OOZE OUT. 24. ALL VENT THRU THE ROOF (VTR) PENETRATIONS SHALL BE
- COORDINATED WITH THE GENERAL CONTRACTOR. PC SHALL PROVIDE FLASHING MATERIAL REQUIRED FOR VTRS. JOINTS AT THE ROOF AND AROUND VENT PIPES, SHALL BE MADE WATER TIGHT BY THE USE OF LEAD, COPPER, GALVANIZED STEEL, ALUMINUM, OR OTHER APPROVED Flashings or flashing material. Maintain minimum 10 feet from all outside air intakes.

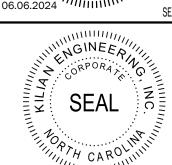


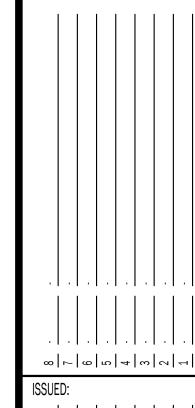
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SCHEDULES

SHEET NO.

PLUMBING NOTES | 4 | PROJECT NO: 240359

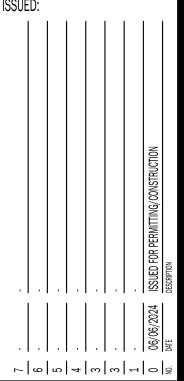
HOT WATER CIRCUL. LOOP ELECTRIC WH DETAIL - NO SCALE | 2 |

THERMOSTATIC MIXING VALVE DETAIL - NO SCALE | 3 |



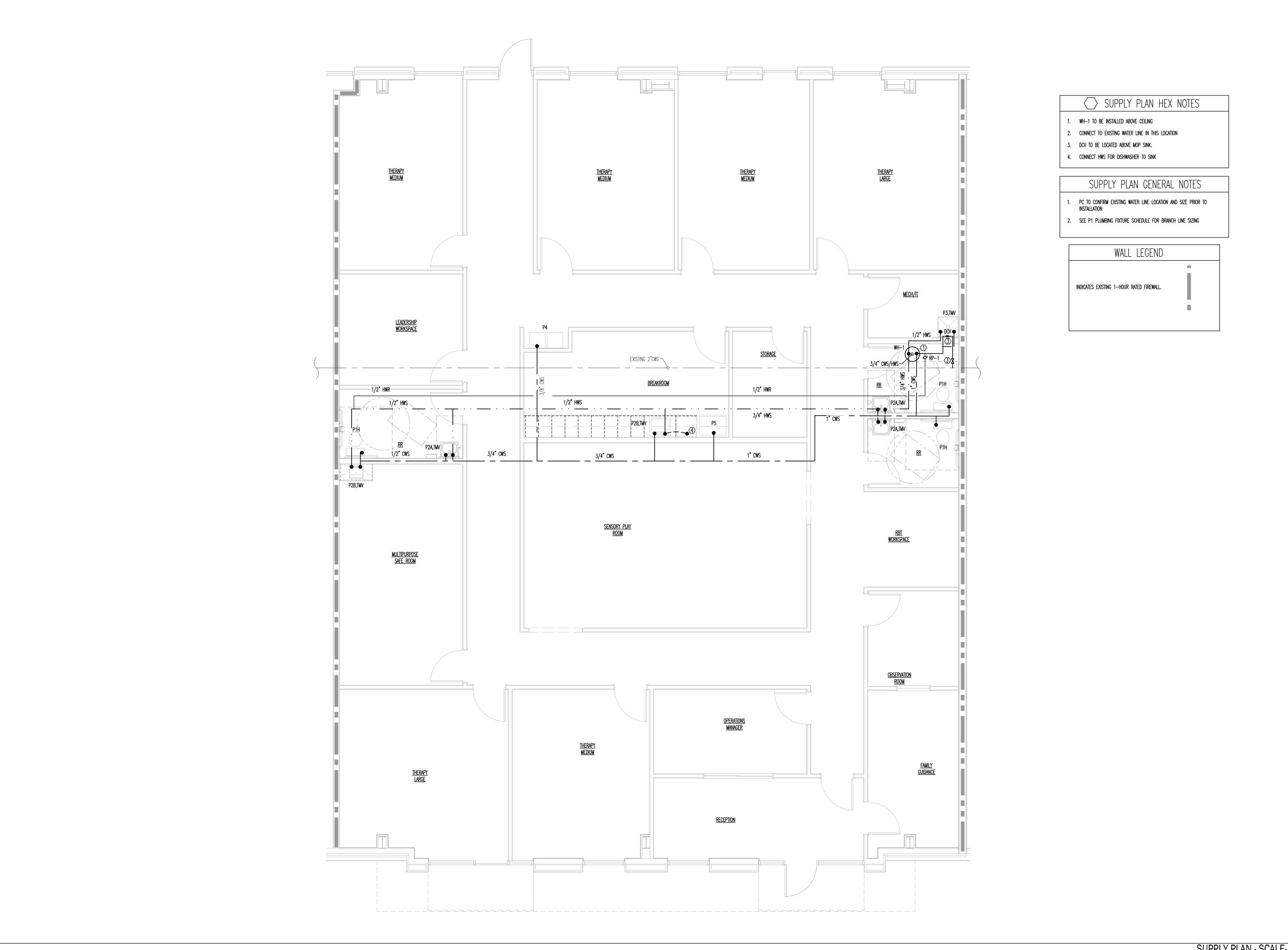
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BLUE SPRIG



DRAWN BY: CAT CHECKED BY: JLH WASTE PLAN

WASTE PLAN - SCALE- 1/4" = 1'-0" | 1 PROJECT NO: 240359

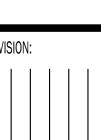


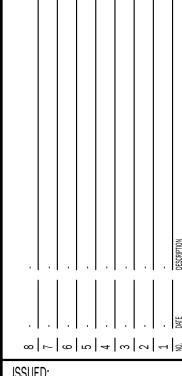
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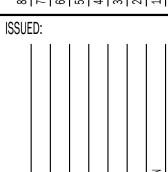


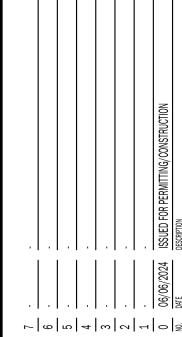


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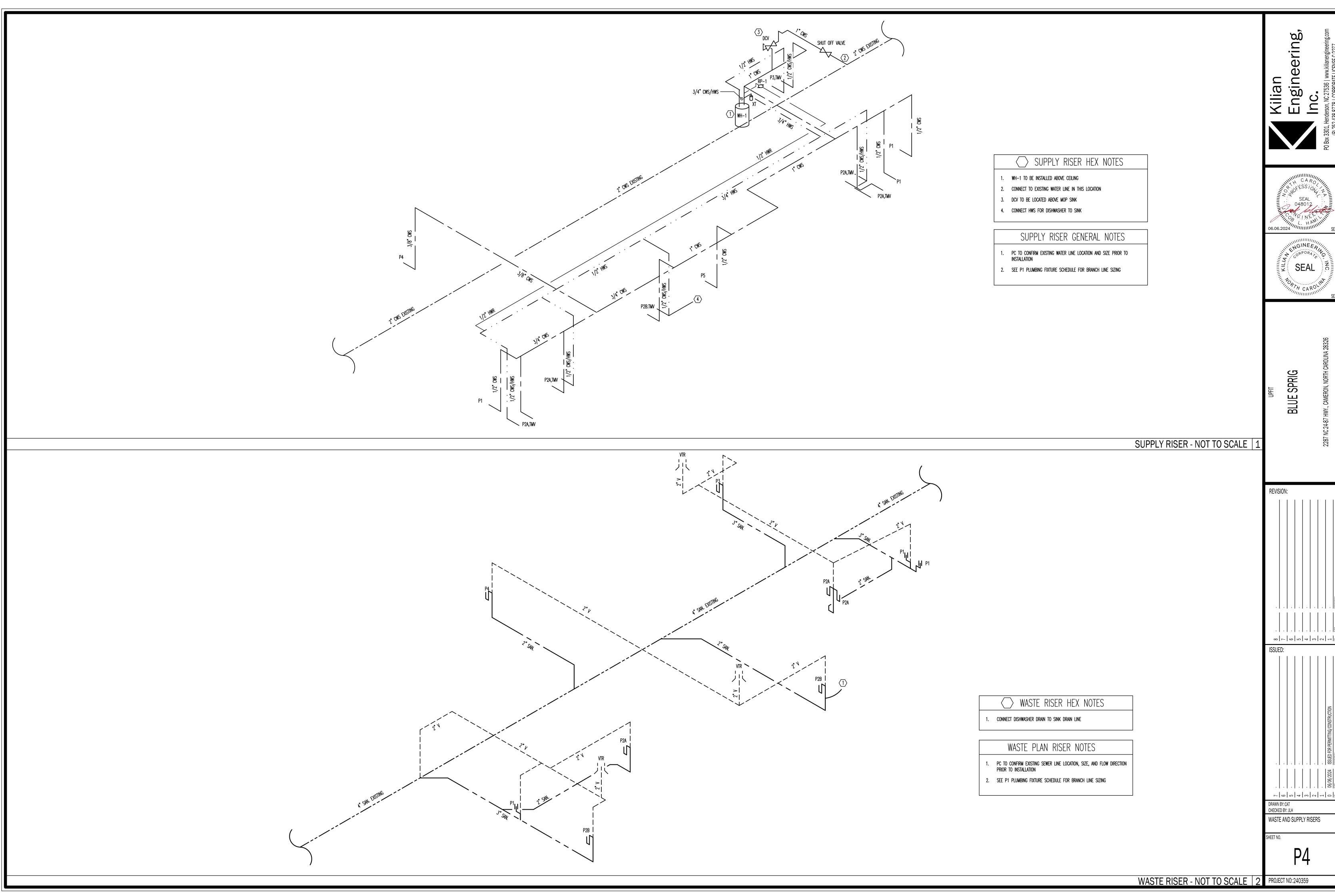






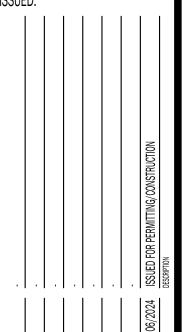
SUPPLY PLAN

SUPPLY PLAN - SCALE- 1/4" = 1'-0" 1 PROJECT NO: 240359









				SPLIT S	YSTEM HEAT PU	MP SCHEDULE							
		NDMINAL	REF	LINES	MOTI	JRS	EFFICIEN	CIES	ELECTI	RICAL		VETCUT	
MARK	MFG / MDDEL #	CAPACITY	GAS	1.10	COMPRESSOR	COND. FAN	SEER	HSPF	V/PH	MCA	мпср	WEIGHT	REMARKS
		TONS	UAS	LIQ	ND.	N□.	EER	порт	V/FN	MCA	MDCP	LBS	
HP-1, 2	CARRIER / 25HPB660A003	5	7/8 *	3/8"	1	1	16/12. 5	8. 5	208/1	33. 9	50	316	1, 6, 7, 8, 9, 10

						SPLIT S	YSTEM AIR	HANDLER SCHEDU	_E								1
		NDMINAL	AIR	FLOW	FAN MO	TORS	ŀ	HEATING CAPACITY	1	COOLI	NG CAPA	CITY	ELE	CTRICAL		VETCUT	
MARK	MFG / MODEL #	CAPACITY	SUPPLY	MIN. DA	SUPPLY	ESP	DUTPUT	AUX ELEC I	HEAT	EAT WB/DB	TOTAL	SENSIBLE	V/PH	MCA	MOCP	WEIGHT	REMARKS
		TONS	CFM	CFM	ND.	in wg	MBH	kW	STAGES	• F	MBH	MBH	V/FN	MCA	MUCF	LBS	
AHU-1,2	CARRIER / FV4CNF006L00	5	1975	SEE TABLE	1	. 25	36. 7	2. 88	1	67/80	60	45	208/1	45	60	145	2, 3, 4, 5, 7, 8, 9, 10

REGISTER & GRILLE SCHEDULE

DESCRIPTION

NOTES

1,2

1

MECHANICAL SYSTEM, SERVICE SYSTEMS, AND EQUIPMENT

PRESCRIPTIVE

Zone 4a

23. 1°F

91. 7°F

75. 6° F

70° F

60,026 BTU/H

81.388 BTU/H

17,263 BTU/H

AIR COOLED DX

(2) 5T HP SS

SEE SCHEDULES

SEE SCHEDULES

N/A

N/A

METHOD OF COMPLIANCE

EXTERIOR DESIGN CONDITIONS

INTERIOR DESIGN CONDITIONS

HEATING DESIGN DRY BULB

COOLING DESIGN DRY BULB

COOLING DESIGN WET BULB

HEATING DESIGN DRY BULB

COOLING DESIGN DRY BULB

COOLING RELATIVE HUMIDITY

MECHANICAL SPACING CONDITIONING SYSTEM:

DESCRIPTION OF UNIT(S)

TOTAL CHILLER CAPACITY

EQUIPMENT SCHEDULES WITH MOTORS (MECHANICAL SYSTEMS):

TO THE BEST OF MY KNOWLEDGE, THE MECHANICAL DESIGN FOR THIS BUILDING

COMPLIES WITH MECHANICAL AND EQUIPMENT REQUIREMENTS OF THE 2018 NORTH

CAROLINA STATE BUILDING CODE AND 2018 NORTH CAROLINA ENERGY CONSERVATION

TOTAL BOILER OUTPUT

THERMAL ZONE

<u>HEATING LOAD:</u>

SENSIBLE COOLING LOAD:

LATENT COOLING LOAD:

BOILER

CHILLER

EQUIPMENT EFFICIENCIES:

DESIGNER STATEMENT:

| MDDEL # | SIZE | MDUNTING

OR EQUAL BY PRICE, METAL-AIRE, CARNES, TITUS OR NAILOR.

2. PROVIDE WITH FOIL LINED, MOLDED INSULATION BLANKET.

A | HART & COOLEY | HVS | 24X24 | LAY-IN | 4-WAY DIFFUSER, BRIGHT WHITE

R | HART & COOLEY | 94AT | 24X24 | LAY-IN | STEEL, LAY IN, RETURN GRILLE

MFG

- PROVIDE PAD FOR UNIT TO SIT ON
- PROVIDE HEAT STRIP DUTDOOR TEMPERATURE LOCKOUT TO PREVENT SUPPLEMENTAL HEAT OPERATION IN RESPONSE TO THE THERMOSTAT BEING CHANGED TO A WARMER SETTING. SET NO LOWER THAN 35°F AND NO HIGHER THAN 40°F
- REPLACE ALL FILTERS AT PROJECT'S COMPLETION
- PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT WITH NIGHT-TIME SET BACK
- CONSULT MANUFACTURER ON LINE SET LENGTHS EXCEEDING 60FT PROVIDE HARD START KIT
- HEATER RATED AT 208V
- OR EQUAL BY TRANE, LENNOX, OR YORK ANY EQUIPMENT SUBSTITUTIONS MUST EQUAL OR EXCEED EFFICIENCIES LISTED (RATINGS PER ARI)
- 10. MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES

		EXHAUS	T FAN SCHEDUL	E				
MARK	MFG / MODEL #	TYPE	ESP (in WG)	CFM	VOLT/PH	FLA	SONES	NOTES
EF-1-3	GREENHECK SP-B110	CEILING	0. 40	70	120/1	1. 14	2. 0	1-3
EF-4	GREENHECK SP-B110	CEILING	0. 40	96	120/1	1. 14	2. 0	1-3

203 cfm

203 cfm

10%

- 1. PROVIDE WITH PITCHED ROOF CURB & CAP FOR FLAT OR SLOPED ROOF, OR HODDED WALL WITH
- BACKDRAFT DAMPER CAP AS APPLICABLE. PROVIDE WITH SQUARE TO ROUND DUCT ADAPTER AS NECESSARY
- 3. OR EQUAL BY LOREN COOK OR PENNBARRY OR TWIN CITY

	LOUVER SCHEDU	ILE		
MARK	MFG / MODEL #	TYPE	SIZE	NOTES
LV-1	GREENHECK EAD-635	INTAKE	18X14	1
LV-2	GREENEHCK ECD-601	EXHAUST	18X16	1

PROVIDE WITH BIRD/INSECT SCREEN.

Uncorrected Intake

Outdoor Air Intake

Percent of Unit Air

	Vent	ilation Calculation (For U	nit AHU-1)					
Room Name(s)	Zone Type	Area (sq.ft.)	Rp	Ra	Default Occupancy	Pz	Ez	Airflow to Zone (cfm
RECEPTION	Main Entry/Lobby	151	5	0.06	10	1.51	0.8	200
FAMILY GUIDANCE	Office Space	128	5	0.06	5	0.64	0.8	150
OPERATIONS MANAGER	Office Space	116	5	0.06	5	0.58	0.8	125
THERAPY MEDIUM - FRONT	Office Space	206	5	0.06	5	1.03	0.8	250
THERAPY LARGE - FRONT	Office Space	247	5	0.06	5	1.24	0.8	300
OBSERVATION ROOM	Office Space	77	5	0.06	5	0.39	0.8	100
MULTIPURPOSE SAFE ROOM	Office Space	244	5	0.06	5	1.22	0.8	275
RBT WORKSPACE	Office Space	81	5	0.06	5	0.41	0.8	100
SENSORY PLAY ROOM	Office Space	469	5	0.06	5	2.35	0.8	500
	N/A		0	0	0	0.00	0.8	
	N/A		0	0	0	0.00	0.8	
	N/A		0	0	0	0.00	0.8	
	N/A		0	0	0	0.00	0.8	
	N/A		0	0	0	0.00	0.8	
	N/A		0	0	0	0.00	0.8	
	N/A		0	0	0	0.00	0.8	
		Maximum Zp:	0.103813					
? School? No		Ev:	1					
		Actual System Population:	20					

		Ve	ntilation Calculation (For Ur	it AHU-2)					
Room Name(s)		Zone Type	Area (sq.ft.)	Rp	Ra	Default Occupancy	Pz	Ez	Airflow to Zone (cfm)
RRs		N/A	188	0	0	0	0.00	0.8	150
BREAKROOM		Office Space	185	5	0.06	5	0.93	0.8	225
LEADERSHIP WORKSP	ACE	Office Space	123	5	0.06	5	0.62	0.8	150
THERAPY MEDIUM (REAF	R LEFT)	Office Space	206	5	0.06	5	1.03	0.8	250
THERAPY MEDIUM (REAR	CENTER)	Office Space	230	5	0.06	5	1.15	0.8	300
THERAPY MEDIUM (REAR	RIGHT)	Office Space	224	5	0.06	5	1.12	0.8	300
THERAPY LARGE		Office Space	244	5	0.06	5	1.22	0.8	325
REAR CORRIDORS		Corridors	420	0	0.06	0	0.00	0.8	300
			Maximum Zp:	0.105					
K-12 School? No			Ev:	1					
			Actual System Population:	20					
Uncorrected Intake	198 cfm								
Outdoor Air Intake	198 cfm								
Percent of Unit Air	10%								

GENERAL MECHANICAL NOTES:

- 1. THE FOLLOWING ABBREVIATIONS SHALL APPLY TO NOTES AND PLANS: PC - PLUMBING CONTRACTOR, EC - ELECTRICAL CONTRACTOR, MC - MECHANICAL CONTRACTOR, GC - GENERAL CONTRACTOR, FASC - FIRE ALARM SYSTEM CONTRACTOR.
- 2. "PROVIDE" MEANS TO FURNISH AND INSTALL. MC SHALL ALSO INSTALL MATERIALS FURNISHED BY OTHERS AND GENERAL CONTRACTOR AS SHOWN ON THE PLANS 12. THE MC SHALL PROVIDE ALL REFRIGERATION PIPING. ALL PIPE AND FITTINGS
- OR NECESSARY FOR A COMPLETE INSTALLATION. 3. THE MC SHALL BE RESPONSIBLE FOR A COMPLETE AND OPERATING SYSTEM AS
- DESCRIBED BY THESE PLANS AND SPECIFICATIONS. 4. ALL MATERIALS AND EQUIPMENT SHALL BE DELIVERED TO THE SITE AND UNLOADED BY THE CONTRACTOR AT AN APPROVED LOCATION. THE MC SHALL PROTECT ALL MATERIALS AND EQUIPMENT FROM BREAKAGE, THEFT, AND THE ELEMENTS. ALL MATERIALS AND EQUIPMENT SHALL REMAIN THE PROPERTY OF THE MC UNTIL THE PROJECT HAS BEEN COMPLETED AND TURNED OVER TO THE
- 5. THE MC SHALL INSTALL ALL MATERIALS AND FOUIPMENT IN ACCORDANCE WITH THE 2018 NORTH CAROLINA MECHANICAL AND BUILDING CODES AND ANY APPLICABLE LOCAL CODES. WHERE A CONFLICT EXISTS BETWEEN THE ABOVE REQUIREMENTS, THE MC SHALL OBTAIN CLARIFICATION FROM THE ENGINEER OR IN THE EVENT ANY PART OF THESE PLANS CONFLICTS WITH THE ABOVE
- 6. THE MC SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS NECESSARY FOR THE COMPLETION OF THE WORK UNDER THIS CONTRACT.
- 7. DO NOT SCALE THESE DRAWINGS-REFER TO ARCHITECTURAL SHEETS FOR 8. THE MC SHALL VISIT THE SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH EXISTING CONDITIONS. THE MC SHALL CONTACT THE ENGINEER TO RESOLVE ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THESE PLANS. THE MC SHALL COORDINATE WITH OTHER TRADES PRIOR TO THE START OF
- CONSTRUCTION. 9. ALL MECHANICAL MATERIALS SHALL BE NEW AND FREE OF DEFECT AND LISTED 1. INSULATE DUCTWORK WITH FIBERGLASS DUCT WRAP; INSTALLED R-VALUE SHALL AND LABELED BY UL OR AN APPROVED THIRD PARTY AGENCY. ANY MATERIALS FOUND TO BE DEFECTIVE SHALL BE REPLACED BY THE MC WITHOUT ADDITIONAL COST TO THE OWNER. WHERE A MANUFACTURER AND MODEL NUMBER IS GIVEN, THE CITED EXAMPLE IS INTENDED TO ESTABLISH A STANDARD OF QUALITY AND NOT TO LIMIT PRODUCTS TO A PARTICULAR MANUFACTURER. SUCH EXAMPLES ARE USED TO CONVEY A GENERAL STYLE, TYPE, CHARACTER, AND QUALITY OF THE PRODUCT DESIRED; PRODUCTS DETERMINED TO BE EQUAL BY THE ENGINEER
- WILL BE ACCEPTED. 10. THESE PLANS ARE DIAGRAMMATIC. THE MC SHALL ADJUST THE LOCATIONS OF EQUIPMENT, DUCTS, REGISTERS, GRILLES, ETC, TO ACCOMMODATE PLANNED AND ENCOUNTERED INTERFERENCES. THE DRAWINGS DO NOT SHOW ALL BENDS, OFFSETS, AND FITTINGS THAT MAY BE REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM. THE MC SHALL MAKE ALLOWANCES FOR SUCH DEVIATIONS AND CONTINGENCIES IN BID TO IMPLEMENT THEM WITHOUT ADDITIONAL COST TO
- 11. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POWER CONNECTIONS TO THE MECHANICAL EQUIPMENT. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONTROL WIRING.
- 12. IT IS THE MC'S RESPONSIBILITY TO VERIFY THAT ITEMS FURNISHED FOR THIS 2. VERIFY THAT DUCTS HAVE BEEN TESTED BEFORE APPLYING INSULATION CONTRACT WILL FIT IN THE SPACE AVAILABLE. THE MC SHALL MAKE FIELD MEASUREMENTS AS NECESSARY TO DETERMINE SPACE REQUIREMENTS. IF THE MC MUST ALTER EQUIPMENT DUE TO SPACE CONSIDERATIONS, THE MC SHALL PROVIDE SIZES AND SHAPES THAT FIT THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS.
- 13. MC SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR REGARDING THE ELECTRICAL REQUIREMENTS OF ALL EQUIPMENT BEING PROVIDED. 14. MAINTAIN CLEARANCES FOR ALL EQUIPMENT ACCORDING TO MANUFACTURER'S
- MINIMUM OF 10 FEET FROM ROOF EDGE. 15. MC SHALL FURNISH A BOUND SET OF OPERATING AND MAINTENANCE INSTRUCTIONS FOR ALL EQUIPMENT TO THE OWNER UPON COMPLETION OF THE 5. CONSTRUCT T's, BENDS, AND ELBOWS WITH RADII OF NOT LESS THAN 1-1/2 PROJECT. MC SHALL PROVIDE ALL DOCUMENTATION TO THE OWNER AS NECESSARY TO SUBMIT FOR FACTORY WARRANTIES.
- 16. CONTRACTOR SHALL PROTECT ALL HVAC EQUIPMENT FROM CONSTRUCTION AND 6. SHEET ROCK DUST DURING CONSTRUCTION. ALL FILTERS SHALL BE REPLACED WITH NEW AT THE COMPLETION OF THE PROJECT.
- 17. ALL EQUIPMENT INSTALLED ON ROOF MUST BE WITHIN THE ROOF SCREEN. 18. IF A ROOF PENETRATION IS REQUIRED AND THE ROOF IS UNDER WARRANTY, USE
- THE AUTHORIZED ROOFER. PROVIDE DOCUMENTATION. 19. ALL PIPING. WIRING. CONDUIT, INSULATION, EQUIPMENT, SUPPORTS, ETC. SHALL BE SUITABLE FOR INSTALLATION IN A RETURN PLENUM AS NECESSARY.
- COORDINATE WITH OTHER TRADES ON LOCATIONS OF ALL PLENUMS. 20. MC SHALL COORDINATE WITH THE GENERAL CONTRACTOR TO ENSURE ALL APPLICABLE CONSTRUCTION WASTE IS RECYCLED DURING THE CONSTRUCTION PHASE OF THE PROJECT.

- THE MC SHALL PROVIDE ALL DX UNITARY HEATING AND COOLING EQUIPMENT AS SCHEDULED ON THE DRAWINGS. AIR-COOLED SPLIT SYSTEM HEAT PUMPS AND AIR-CONDITIONERS SHALL BE BY TRANE, CARRIER, OR YORK. THE MC SHALL PROVIDE FACTORY AND FIELD INSTALLED ACCESSORIES AS SCHEDULED OR AS 9. NECESSARY FOR A COMPLETE AND OPERATIONAL HVAC SYSTEM.
- 2. THE MC SHALL PROVIDE ALL EXHAUST AND SUPPLY FANS AS SCHEDULED. FANS SHALL BE BY GREENHECK, LOREN COOK, TWIN CITY, OR PENNBARRY DUCTWORK IS SHOWN WITH FREE AREA DIMENSIONS. ALL DUCTWORK SHALL BE 10. PROVIDE BALANCING DAMPERS AT POINTS ON SUPPLY WHERE BRANCHES ARE FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA LOW PRESSURE DUCT STANDARD, 2 INCH S.P.
- . EXTERNAL DUCT INSULATION AND FACTORY—INSULATED FLEXIBLE DUCT SHALL BE LEGIBLY PRINTED OR IDENTIFIED AT INTERVALS NOT GREATER THAN 36 INCHES WITH THE NAME OF THE MANUFACTURER, THE THERMAL RESISTANCE R-VALUE AT THE SPECIFIED INSTALLED THICKNESS AND THE FLAME SPREAD AND SMOKE-DEVELOPED INDEXES OF THE COMPOSITE MATERIALS. ALL DUCT INSULATION PRODUCT R-VALUES SHALL BE BASED ON INSULATION ONLY, EXCLUDING AIR FILMS, VAPOR RETARDERS OR OTHER DUCT COMPONENTS, AND SHALL BE BASED ON TESTED C-VALUES AT 75°F MEAN TEMPERATURE AT THE INSTALLED THICKNESS, IN ACCORDANCE WITH RECOGNIZED INDUSTRY PROCEDURES. THE INSTALLED THICKNESS OF DUCT INSULATION USED TO DETERMINE ITS R-VALUES SHALL BE DETERMINED AS FOLLOWS:
- 4.1. FOR DUCT BOARD, DUCT LINER AND FACTORY—MADE RIGID DUCTS NOT NORMALLY SUBJECTED TO COMPRESSION, THE NOMINAL INSULATION THICKNESS SHALL BE USED.
- 4.2. FOR DUCT WRAP, THE INSTALLED THICKNESS SHALL BE ASSUMED TO BE 75 PERCENT (25-PERCENT COMPRESSION) OF NOMINAL THICKNESS. 4.3. FOR FACTORY-MADE FLEXIBLE AIR DUCTS, THE INSTALLED THICKNESS SHALL BE DETERMINED BY DIVIDING THE DIFFERENCE BETWEEN THE
- ACTUAL OUTSIDE DIAMETER AND NOMINAL INSIDE DIAMETER BY TWO. 5. ALL INSULATION CONTAINING FIBROUS MATERIALS EXPOSED TO AIRFLOW SHALL BE RATED FOR THAT EXPOSURE OR SHALL BE ENCAPSULATED. INSULATING PROPERTIES FOR ALL MATERIALS SHALL MEET OR EXCEED INDUSTRY STANDARDS. POLYSTYRENE PRODUCTS SHALL MEET ASTM C578. ALL INSULATION SHALL HAVE FORMALDEHYDE EMISSIONS NOT GREATER THAN 0.05 PPM. THE MAXIMUM FLAME SPREAD AND SMOKE DEVELOPED INDEX FOR INSULATION SHALL MEET THE REQUIREMENTS OF THE LOCAL CODES AND ORDINANCES ADOPTED BY THE
- JURISDICTION IN WHICH THE BUILDING IS LOCATED. 6. MASTIC USED TO SEAL DUCTWORK SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 181A-95 OR UL 181B-98. MAINTAIN AMBIENT TEMPERATURES AND CONDITIONS REQUIRED BY MANUFACTURER OF ADHESIVES, MASTICS, AND INSULATION CEMENTS. DO NOT INSTALL DUCT SEALANT WHEN TEMPERATURES ARE LESS THAT THOSE RECOMMENDED BY THE SEALANT
- ALL ADHESIVES AND SEALANTS SHALL HAVE VOC CONTENT BELOW 20 GRAMS PER LITER AND WHICH MEET THE REQUIREMENTS OF THE MANUFACTURER OF THE PRODUCTS BEING ADHERED OR INVOLVED. ADHESIVES AND SEALANTS SHALL CONTAIN NO HEAVY METALS OR FORMALDEHYDE.
- FACTORY-MADE AIR DUCTS AND CONNECTORS SHALL COMPLY WITH UL 181-96. . FLEXIBLE DUCT SHALL BE UL LISTED CLASS 0 OR CLASS 1, INSULATED, AND COMPLY WITH UL 181. FLEXIBLE DUCT SHALL BE FACTORY FORMED, COMPOSED OF SPIRAL WOUND CORROSION RESISTANT WIRE BONDED TO AN INNER FABRIC LINER. DUCT SHALL BE FACTORY INSULATED WITH A FOIL VAPOR BARRIER JACKET. CONNECT TO RIGID DUCT WITH SPIN-IN FITTING AND DAMPER. FLEXIBLE DUCTS AND AIR CONNECTORS SHALL NOT PASS THROUGH ANY FIRE RESISTANCE RATED ASSEMBLY.

- 10. THE MC SHALL PROVIDE ALL DIFFUSERS GRILLES, LOUVERS, AND OTHER AIR DISTRIBUTION OUTLETS AND INLETS. LOUVERS, GRILLES, AND DIFFUSERS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. FOR LAY-IN CEILINGS, INSTALL SUPPORT FROM THE STRUCTURE FOR EACH DIFFUSER OR DAMPER. AIR DISTRIBUTION OUTLETS AND INLETS SHALL BE BY HART & COOLEY, PRICE, METAL-AIRE, NAILOR, OR CARNES.
- 11. AIR FILTERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 605 OF THE 2018 NC MECHANICAL CODE. SHALL BE TYPE ACR HARD COPPER TUBING WITH SWEAT FITTINGS. REFRIGERATION LINES SHALL BE RUN NEATLY. WHERE A GROUP OF LINES ARE RUN, TRAPEZE HANGERS MAY BE USED. DO NOT USE CHAIN OR WIRE HANGERS. WRAP TUBING WITH RUBBER TAPE AT EACH CLAMP OR HANGER. FOR COVERED PIPES, HANGERS SHALL FIT AROUND THE OUTSIDE OF THE COVERING WITH 12 GAUGE GALVANIZED STEEL SHIELDS OF A LENGTH EQUAL TO THE OUTSIDE DIAMETER OF THE INSULATION AND COVERING 3/4 OF THE CIRCUMFERENCE OF THE INSULATION. SAGS SHALL NOT BE PERMISSIBLE. HORIZONTAL LINES SHALL PITCH DOWN NOT LESS THAN 1 INCH IN 40 FEET. INSULATE WITH 1 INCH CLOSED CELL ARMAFLEX TYPE INSULATION WITH A FLAME DENSITY RATING LESS THAN 25 AND A SMOKE DENSITY RATING LESS THAN 50. ALL JOINTS AND SPLICES IN INSULATION SHALL BE TAPED AND AIR TIGHT. SOLDER REFRIGERATION LINES USING 15 PERCENT SILVER SOLDER AND EVACUATE LINES TO 300 MICRONS. PROVIDE MOISTURE INDICATING SIGHT GLASS AND FILTER DRYER IN LIQUID LINE. PROVIDE OIL TRAPS AND DOUBLE RISERS IN REFRIGERANT SUCTION AND HOT GAS LINES WHERE REQUIRED TO PREVENT OIL SLUGGING AT THE COMPRESSOR AND INSURE PROPER LUBRICATION. MC SHALL BE RESPONSIBLE FOR SEALING LINE SET PENETRATIONS OF ANY RATED ASSEMBLIES IN ACCORDANCE WITH A SYSTEM LISTED IN THE UL

DIRECTORY FOR THE SPECIFIC ASSEMBLY BEING PENETRATED. SEE

ARCHITECTURAL PLANS FOR A LIST OF ALL UL FIRE RATED ASSEMBLIES.

- BE A MINIMUM R-6. COVERINGS AND LININGS, INCLUDING ADHESIVES WHEN USED, SHALL HAVE A FLAME SPREAD INDEX NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84. ALL NEW DUCTWORK SHALL RECEIVE INSULATION ON THE OUTSIDE. INSTALL DUCT WRAP INSULATION WITH FACING OUTSIDE SO THAT TAPE FLAP OVERLAPS INSULATION AND FACING OF ADJACENT PIECE OF DUCT WRAP. INSULATION SHALL BE TIGHTLY BUTTED. FOR RECTANGULAR DUCTS, INSTALL SO INSULATION IS NOT EXCESSIVELY COMPRESSED AT DUCT CORNERS. STAPLE SEAMS APPROXIMATELY 6 INCHES ON CENTER WITH OUTWARD CLINCHING STAPLES. SEAL SEAMS WITH PRESSURE SENSITIVE TAPE MATCHING THE FACING. FOR RECTANGULAR DUCTS 24 INCHES IN WIDTH OR GREATER, SECURE DUCT WRAP TO THE BOTTOM OF THE DUCT WITH MECHANICAL FASTENERS SPACED 18 INCHES ON CENTER TO PREVENT SAGGING OF INSULATION. ADJACENT SECTIONS OF DUCT WRAP SHALL BE TIGHTLY BUTTED WITH THE 2 INCH TAPE FLAP OVERLAPPING. ALL TEARS, PUNCTURES, ETC. OF THE DUCT WRAP INSULATION SHALL BE SEALED WITH TAPE OR MASTIC TO PROVIDE A VAPOR TIGHT SYSTEM. INSULATION SHALL BE BY KNAUF INSULATION, OWENS CORNING CORP, OR CERTAINTEED CORPORATION.
- MATERIALS. VERIFY THAT DUCT SURFACES ARE CLEAN, DRY AND FREE OF FOREIGN MATERIAL PRIOR TO INSULATING. DUCT COVERINGS SHALL NOT PENETRATE A WALL OR FLOOR REQUIRED TO HAVE A FIRE-RESISTANCE RATING OR REQUIRED TO BE FIRE BLOCKED. WHERE DUCTS ARE CONNECTED TO EXTERIOR WALL LOUVERS AND DUCT OUTLET
- IS SMALLER THAN LOUVER FRAME, PROVIDE BLANK-OUT PANELS SEALING LOUVER AREA AROUND DUCT. USE SAME MATERIAL AS DUCT, PAINTED BLACK ON EXTERIOR SIDE: SEAL TO LOUVER FRAME AND DUCT. RECOMMENDATIONS FOR SERVICEABILITY. ALL ROOFTOP EQUIPMENT MUST BE A 4. PROVIDE DUCT ACCESS DOORS FOR INSPECTION AND CLEANING BEFORE AND AFTER FILTERS, COILS, FANS, AUTOMATIC DAMPERS, AT FIRE DAMPERS, COMBINATION FIRE AND SMOKE DAMPERS.
 - TIMES THE WIDTH OF THE DUCT ON CENTERLINE. WHERE NOT POSSIBLE AND WHERE RECTANGULAR ELBOWS MUST BE USED, PROVIDE TURNING VANES. INCREASE DUCT SIZES GRADUALLY, NOT EXCEEDING 15 DEGREES DIVERGENCE;
 - MAXIMUM OF 30 DEGREES DIVERGENCE UPSTREAM OF EQUIPMENT AND 45 DEGREES CONVERGENCE DOWNSTREAM. 7. IT SHALL BE THE RESPONSIBILITY OF THE MC TO SUSPEND AND SUPPORT ALL EQUIPMENT, DUCTWORK, DIFFUSERS, AND OTHER MATERIALS FOLLOWING RECOGNIZED ENGINEERING PRACTICES AND USING STANDARD, COMMERCIALLY ACCEPTED HANGERS AND SUSPENSION EQUIPMENT. ALL HVAC EQUIPMENT SHALL BE SECURELY MOUNTED TO THE BUILDING STRUCTURE AND SHALL NOT RELY ON CEILING OR WALL SURFACES FOR SUPPORT. THE SUPPORT ATTACHMENT SHALL
 - GIRDERS, AND BEAMS. THE BOTTOM CHORD IS NOT TO BE USED FOR EQUIPMENT OR PIPING SUPPORT. HANGERS SHALL NOT BE ATTACHED TO CORRUGATED STEEL 8. DUCTS SHALL BE SUPPORTED IN ACCORDANCE WITH SMACNA AT INTERVALS NOT EXCEEDING 10 FEET. DUCTS 36 INCHES OR LARGER SHALL HAVE TRAPEZE TYPE HANGERS SUSPENDED WITH THREADED ROD. SUPPORT DUCTS FROM BAR JOISTS,

SUPPORT THE WEIGHT OF THE EQUIPMENT PLUS THE WEIGHT OF THE SUPPORT ATTACHMENT ITSELF. SUPPORT FROM THE TOP CHORD OF THE ROOF JOISTS,

- GIRDERS, OR BEAMS. CHECK LOCATIONS OF AIR OUTLETS AND INLETS AND MAKE NECESSARY ADJUSTMENTS IN POSITION TO CONFORM WITH ARCHITECTURAL FEATURES, SYMMETRY, AND LIGHTING ARRANGEMENT. COORDINATE WITH SPRINKLER CONTRACTOR IF APPLICABLE.
- TAKEN FROM LARGER DUCTS AS REQUIRED FOR AIR BALANCING. INSTALL MINIMUM 2 DUCT WIDTHS FROM DUCT TAKE-OFF. PROVIDE BALANCING DAMPERS ON DUCT TAKE-OFFS TO DIFFUSERS, AND REGISTERS, REGARDLESS OF WHETHER DAMPERS ARE SPECIFIED AS PART OF THE DIFFUSER OR REGISTER ASSEMBLY. ADJUST AIR HANDLING AND DISTRIBUTION SYSTEMS TO PROVIDE DESIGN SUPPLY, RETURN, AND EXHAUST AIR QUANTITIES AT SITE ALTITUDE. 11. MC SHALL INSTALL FIRE DAMPERS AT EACH PENETRATION OF A RATED WALL AS INDICATED ON THE DRAWINGS OR AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION. FIRE DAMPERS SHALL BE UL LABELED (UL 555), CURTAIN TYPE, WITH INTEGRAL FACTORY SLEEVE AND BLADES LOCATED OUTSIDE THE AIR STREAM. INSTALLATION OF ALL FIRE DAMPERS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND SECTION 607 OF THE 2018 NC MECHANICAL CODE. PROVIDE ACCESS PANELS FOR TESTING AND SERVICE AS NECESSARY. MC SHALL PROVIDE RADIATION DAMPERS AND THERMAL BLANKETS FOR ALL PENETRATIONS OF RATED CEILING ASSEMBLIES. RADIATION DAMPERS SHALL BE UL LABELED (UL 555C) AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFIC INSTALLATION INSTRUCTIONS. FIRE DAMPERS, COMBINATION FIRE/SMOKE DAMPERS, AND CEILING RADIATION DAMPERS SHALL BE BY RUSKIN, NAILOR, OR LLOYD INDUSTRIES.
- 12. MC SHALL INSTALL PROGRAMMABLE THERMOSTATS AS SHOWN ON THE PLANS. THERMOSTAT SHALL BE MOUNTED AT 48 INCHES AFF. THERMOSTATS SHALL MEET THE REQUIREMENTS OF SECTION C403.2.4 OF THE 2018 NORTH CAROLINA ENERGY CONSERVATION CODE.
- FRESH AIR INTAKES SHALL BE INSTALLED ON ALL UNITS AS SHOWN ON DRAWINGS. MAINTAIN 10 FEET OF DISTANCE BETWEEN FRESH AIR INTAKES AND ALL EXHAUST TERMINATIONS AND PLUMBING VENT THRU ROOFS. 14. MC SHALL INSTALL ALL EXHAUST FANS AND VENT TO THE BUILDING'S EXTERIOR. EC SHALL SWITCH FANS WITH LIGHTS OR ON SEPARATE SWITCH AS SHOWN. 15. P-TRAPS MUST BE INSTALLED ON ALL UNITS. MC SHALL INSTALL AUXILIARY DRAIN PANS UNDER OVERHEAD AIR HANDLERS AND AN AUTOMATIC CUT-OFF FLOAT SWITCH FOR EACH. P-TRAPS AND CONDENSATE LINES SHALL BE 1 INCH.
- PLENUMS; OTHERWISE, THEY SHALL BE TYPE M COPPER. 16. INSTALL BACKDRAFT DAMPERS ON FRESH AIR AND EXHAUST DUCTS WHERE THEY PENETRATE THE THERMAL ENVELOPE PER NORTH CAROLINA ENERGY CONSERVATION CODE C402.5.5

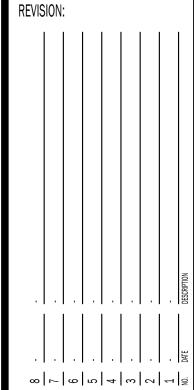
P-TRAPS AND CONDENSATE LINES MAY BE PVC WHERE NOT LOCATED IN

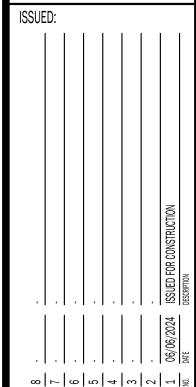
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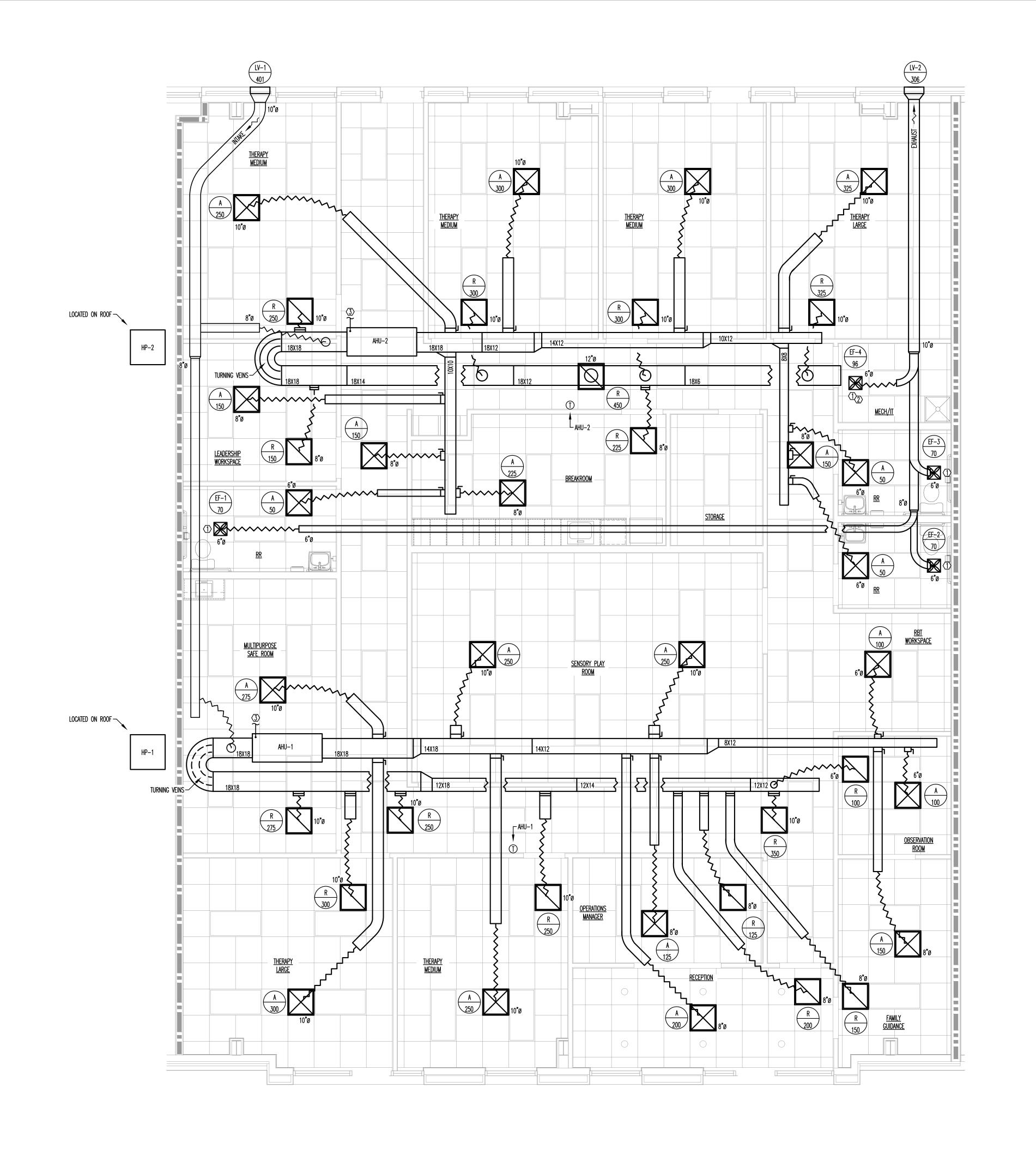




GENERAL MECHANICAL NOTES &

CHECKED BY: JLH

SCHEDULES



HEX PLAN NOTES

EXHAUST FAN WITH WALL PENETRATING DUCTWORK. MINIMIZE DUCT TO EXTERIOR. PROVIDE BACKDRAFT DAMPER IF MIXING DUCT RUN WITH OTHER EXHAUST FANS. PROVIDE HOODED WALL CAP WITH INSECT SCREEN AT EXTERIOR AS SHOWN.

EXHAUST FAN TO BE THERMOSTATICALLY CONTROLLED. COORDINATE WITH EC.

ROUTE 1" CONDENSATE LINE TO DAYLIGHT AT REAR OF BUILDING.

THERMOSTAT LOCATION MOUNT AT 48" A.F.F.

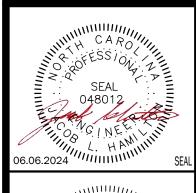
WALL LEGEND

INDICATES EXISTING 1-HOUR RATED FIREWALL.

(ISTING 1-HOUR RATED FIREWALL

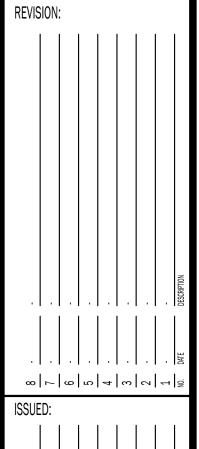
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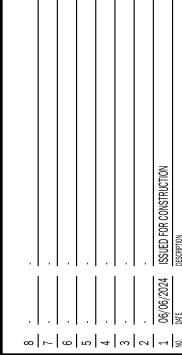
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PD Box 3301, Henderson, NC 27536 | www.kilianengineering.com (P) 252.438.8778 | CORPORATE LICENSE C-2277





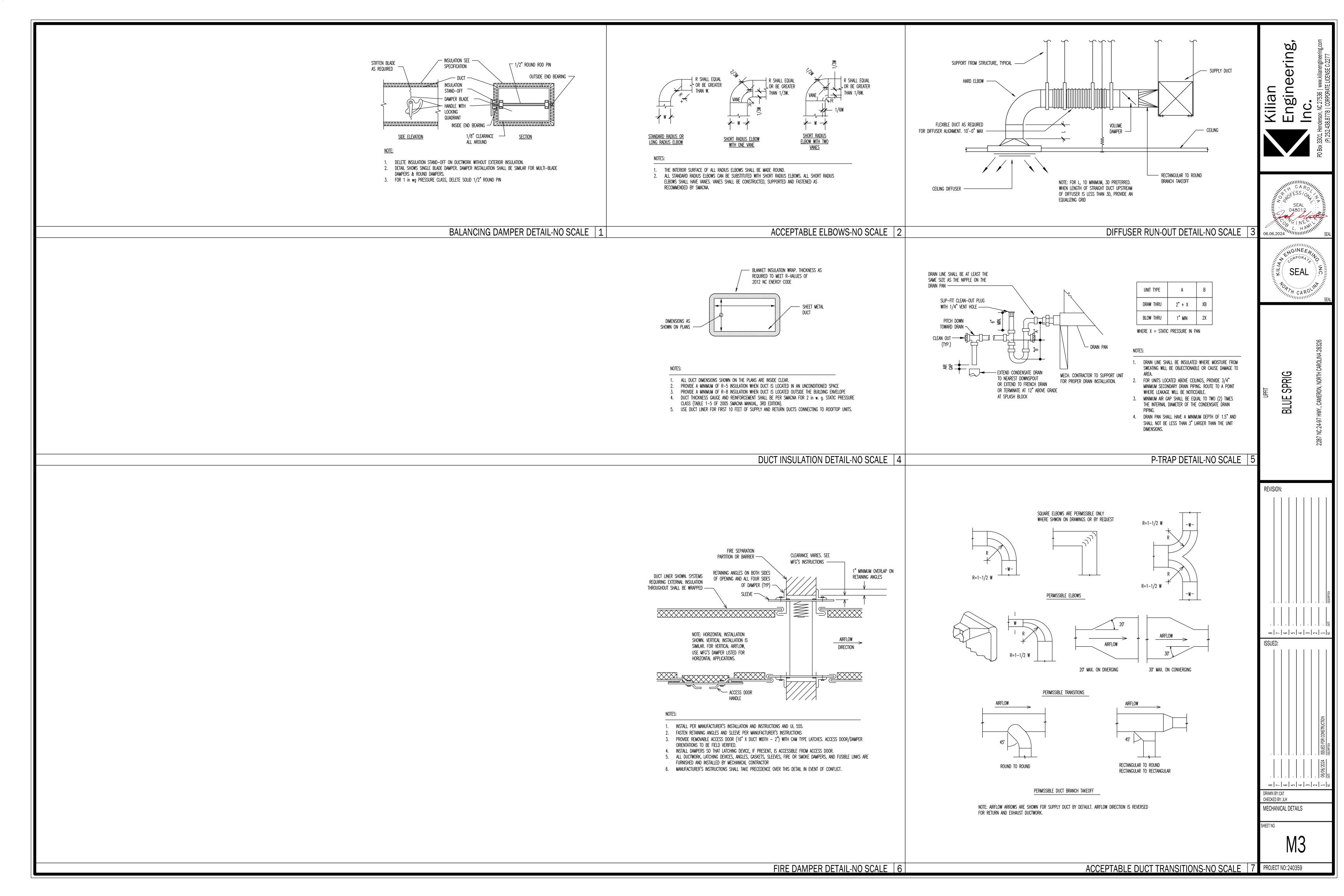
BLUE SPRIG
2287 NC 24-97 HWY., CAMERON, NORTH CAROLINA 283





DRAWN BY: CAT
CHECKED BY: JLH
MECHANICAL PLAN

M2



					LIGH	T FIXTURE :	SCHEDULE					
MARK	DESCRIPTION	LENS	LUMENS	ССТ	TYPE	BALLAST	VOLTAGE	INPUT WATTAGE	MOUNTING	REMARKS	MFG	MODEL
Α	2X4 LED PANEL	PARABOLIC	4000	3500K	LED	DRIVER	120	36	LAY-IN	2	LITHONIA	CPANL 2X4 ALD6 SWW7 M2
В	6" LED CAN	-	4000	3500K	LED	DRIVER	120	44. 3	LAY-IN/RECESSED	2	LITHONIA	LDN6
EM	DUAL HEAD EMERGENCY FIXTURE	ACRYLIC	-	N/A	LED	_	120	2	VARIES	1-2	LITHONIA	ELM6L
EX	DIRECTIONAL EXIT SIGN	ACRYLIC	-	N/A	LED	-	120	2	VARIES	1-2	LITHONIA	LQM
ЕХН	EXIT W/ BATTERY BACKUP RED ILLUMINATED	-	-	-	LED	-	120/277	1. 2	VARIES	1-2	LITHONIA	LHQM

FIXTURE SHALL HAVE BATTERY BACKUP FOR 90 MINUTE ILLUMINATION. 2. OR EQUAL BY COOPER, PHILIPS OR DAY-BRITE LIGHTING

OCCUPANCY SENSORS SEQUENCE OF OPERATION WITH LOW-VOLTAGE MOMENTARY SWITCH

- OCCUPANCY SENSOR DETECTS MOTION AND TURNS THE LIGHTS ON. SENSOR HOLDS LIGHTS ON AS LONG AS MOTION IS DETECTED. IF AFTER THE SET TIME DELAY, NO MOTION IS DETECTED, LIGHTS TURN OFF. CONSULT OWNER FOR DESIRED TIME DELAY SETTING.
- 2. THE LOAD CAN BE TURNED ON USING THE MANUAL SWITCH AND IT STAYS ON ACCORDING TO THE OCCUPANCY LOGIC SETTING. THE TIME DELAY OPERATES AS PROGRAMMED. WHEN THE LOAD TURNS OFF DUE TO LACK OF OCCUPANCY DETECTION, IT CAN BE TURNED ON AGAIN BY OCCUPANCY DETECTION OR THE
- 3. ACTIVATING THE MANUAL SWITCH WHILE THE LOAD IS ON TURNS THE LOAD OFF.
- 3.1. WHEN THE LOAD IS TURNED OFF MANUALLY. AS LONG AS THE SENSOR CONTINUES TO DETECT OCCUPANCY THE LOAD STAYS OFF. FIVE MINUTES AFTER THE LAST OCCUPANCY DETECTION, THE LIGHTS STAY OFF AND THE
- SENSOR REVERTS TO THE AUTOMATIC-ON MODE. WHEN THE LOAD IS TURNED OFF MANUALLY, PRESSING THE SWITCH AGAIN TURNS THE LOAD ON AND THE SENSOR REVERTS TO THE AUTOMATIC-ON MODE.
- 3.3. ONCE RETURNING TO AUTOMATIC—ON MODE, EITHER THE SWITCH OR OCCUPANCY DETECTION CAN TURN THE LOAD ON.
- 4. LOW-VOLTAGE INPUT SIGNAL FROM TIME CLOCK HOLDS LIGHTS ON DURING RETAIL HOURS REGARDLESS OF OCCUPANCY DETECTION.

OCCUPANCY SENSORS SEQUENCE OF OPERATIONS WITH LINE-VOLTAGE SWITCH

- . LINE VOLTAGE SWITCH MUST BE TURNED ON OR IN ON POSITION.
- OCCUPANCY SENSOR DETECTS MOTION AND TURNS THE LIGHTS ON. SENSOR HOLDS LIGHTS ON AS LONG AS MOTION IS DETECTED. IF AFTER THE SET TIME DELAY, NO MOTION IS DETECTED, LIGHTS TURN OFF. CONSULT OWNER FOR DESIRED TIME DELAY SETTING.
- 3. THE LOAD CAN BE TURNED OFF USING THE MANUAL LINE VOLTAGE SWITCH AND IT STAYS OFF UNTIL THE SWITCH IS TURNED TO ON POSITION AND THE OCCUPANCY SENSOR DETECTS OCCUPANCY.

NOTES FOR EMERGENCY FIXTURES

- FOR INTERIOR FIXTURES WITH EMERGENCY BATTERIES, WIRE THE BATTERY CHARGER ON THE SAME CIRCUIT AS THE FIXTURE BALLAST AHEAD OF ALL SWITCHES, SENSORS, ETC.
- FOR EXTERIOR FIXTURES WITH EMERGENCY BATTERIES, WIRE THE BATTERY CHARGER ON THE SAME CIRCUIT AS THE NORMAL EXTERIOR LIGHTS OR AS SHOWN ON PLANS AHEAD OF ALL CONTACTORS, PHOTOCELLS, ETC.
- IN BOTH CASES, EMERGENCY POWER SHOULD INITIATE ONLY IN THE EVENT OF THE LOSS OF NORMAL POWER. ALL BATTERIES SHALL BE RATED TO POWER EMERGENCY ILLUMINATION FOR 90 MINUTES MINIMUM.

		LIGHTING DEVICE LEGEND
SYMBOL	DESCRIPTION	REMARKS
\$	SINGLE POLE WALL SWITCH	HEAVY DUTY, AC ONLY, COMMERCIAL GRADE GENERAL USE SNAP SWITCH COMPLYING WITH NEMA WD 6 AND WD 1. IVORY PLASTIC BODY WITH TOGGLE HANDLE. 120-277V, 20A. MEET FEDERAL SPECIFICATION W-S-896.
\$ _D	DIMMER SWITCH	COMMERCIAL GRADE, 120V, 1500W
\$ _M	WALL MOUNTED OCCUPANCY SENSOR	WATTSTOPPER DW-100 LINE VOLTAGE OCCUPANCY SENSOR. ULTRA SONIC AND INFRARED.
\$ _{LV}	LOW VOLTAGE SWITCH	WATTSOPPER LVS-1 LOW VOLTAGE MOMENTARY CONTROL SWITCH.
\$3	3 WAY SWITCH	WATTSOPPER LVS-1 LOW VOLTAGE MOMENTARY CONTROL SWITCH.
\$\$	2-SINGLE POLE SWITCHES	INDICATES BI-LEVEL SWITCHING. INNER LAMPS SWITCHED INDEPENDENTLY OF DUTER LAMPS.
(0)	CEILING OCCUPANCY SENSOR	WATTSTOPPER, DT-300 LOW VOLTAGE OCCUPANCY SENSOR. 360° ULTRA SONIC AND INFRARED.
US	CEILING OCCUPANCY SENSOR	WATTSTOPPER, WT-2255 LOW VOLTAGE OCCUPANCY SENSOR. ULTRA SONIC, 90 LINEAR FT COVERAGE.
(39)	SWITCHING PHOTOSENSOR	WATTSTOPPER, LS-102, CONSULT OWNER FOR FOOT-CANDLE SET POINT.
P	POWER PACK	WATTSTOPPER, BZ-150 LOW VOLTAGE POWER PACK FOR CEILING PACK SENSORS.
(JUNCTION BOX	GALVANIZED METAL BOX CONSTRUCTED IN ACCORDANCE WITH 314, 40 OF THE NEC.
X	EXHAUST FAN	VENT FAN, 120V, CFM AS NOTED MC TO PROVIDE AND VENT, EC TO WIRE.

		POWER DEVICE LEGEND
SYMBOL	DESCRIPTION	REMARKS
>	data and telephone Jack	PHONE/DATA OUTLET. EC TO INSTALL 3/4" WITH PULL-STRING FROM OUTLET BOX TO ABOVE CEILING FOR FUTURE USE. JACKS AND COMMUNICATION CAGELING BY OTHERS
\Rightarrow	DUPLEX RECEPTACLE	NEMA 5-20R, HEAVY DUTY, COMMERCIAL GRADE, 125V, 20A COMPLYING WITH NEMA WD 6 AND WD 1. GFCI OR AFCI IF NOTED. 'WP' DENOTES WEATHERPROOF COVER. 'CH' DENOTES COUNTER HEIGHT. LISTED TAMPERPROOF IF NOTED. MEET FEDERAL SPECIFICATION W-C-596
#	QUAD RECEPTACLE	QUAD RECEPTACLE OF SAME CHARACTERISTICS AS DUPLEX TYPE ABOVE.
—	DEDICATED RECEPTACLE	NEMA 5-20R, HEAVY DUTY, COMMERCIAL GRADE, 125V, 20A COMPLYING WITH NEMA WD 6 AND WD 1 UNLESS OTHERWISE NOTED ON PLANS. VERIFY PLUG TYPE PRIOR TO PURCHASE & INSTALLATION GFCI OR AFCI IF NOTED. 'WP' DENOTES WEATHERPROOF COVER. 'CH' DENOTES COUNTER HEIGHT. LISTED TAMPERPROOF IF NOTED. MEET FEDERAL SPECIFICATION W-C-596. MAY BE EITHER SIMPLEX, DUPLEX, OR QUAD.
Ф	DUPLEX FLOOR RECEPTACLE	DUPLEX RECEPTACLE OF SAME CHARACTERISTICS AS ABOVE WITH BRASS COVER. MOUNT IN FLOOR. ALL FLOOR BOXES MUST BE LISTED FOR FLOOR APPLICATION.
#	QUAD FLOOR RECEPTACLE	QUAD RECEPTACLE OF SAME CHARACTERISTICS AS ABOVE WITH BRASS COVER. MOUNT IN FLOOR. ALL FLOOR BOXES MUST BE LISTED FOR FLOOR APPLICATION.
	FUSIBLE DISCONNECT SWITCH	HEAVY DUTY TYPE. TYPE 1 ENCLOSURE IN INTERIOR APPLICATIONS, TYPE 3R ENCLOSURE IN EXTERIOR APPLICATIONS, FUSE ACCORDING TO NAMEPLATE DATA.
	DISCONNECT SWITCH	HEAVY DUTY TYPE. TYPE 1 ENCLOSURE IN INTERIOR APPLICATIONS, TYPE 3R ENCLOSURE IN EXTERIOR APPLICATIONS.
3	JUNCTION BOX	GALVANIZED METAL BOX CONSTRUCTED IN ACCORDANCE WITH 314, 40 OF THE NEC.

EI E(CTRICAL SYSTEM AND EQU	IGNER'S STATEMENT	DI TANCE						
	TIVE _X_ PERFORMANI								
LIGHTING SCHEDULE	ı								
LAMP TYPE REQUIRE	D IN FIXTURE:		SEE LIGHTING LEGEND						
NUMBER OF LAMPS P	ER FIXTURE:		SEE LIGHTING LEGEND						
BALLAST TYPE USED	IN FIXTURE:		SEE LIGHTING LEGEND						
NUMBER OF BALLAST	S IN FIXTURE:		SEE LIGHTING LEGEND						
TOTAL WATTAGE PER	FIXTURE:	SEE LIGHTING LE							
TOTAL INTERIOR WA	TTAGE SPECIFIED VS	WATTS SPECIFIED	WATTS ALLOWED						
ALLOWED:		2606. 0	3521. 90						
DCCUPANCY	AREA (sf)	ALLOWANCE (W/sf)	WATTAGE ALLOWED						
OFFICE	4295	0. 82	3521. 90						
TOTAL	4295		3521. 90						
EQUIPMENT SCHEDULES WITH MOTORS (NOT USED FOR MECHANICAL SYSTEMS) MOTOR HORSEPOWER: N/A NUMBER OF PHASES: N/A MINIMUM EFFICIENCY: N/A MOTOR TYPE: N/A NUMBER OF POLES: N/A									

FOR THE ADDITIONAL PRESCRIPTIVE REQUIREMENT REQUIRED BY C406 OF 2018 NORTH CAROLINA ENERGY CONSERVATION CODE, WE ARE CHOOSING C406.3 — REDUCED LIGHTING POWER DENSITY. 2606 W SPECIFIED <= 3170 W (3522 W ALLOWED X 90%)

BUILDING COMPLIES WITH THE 2018 NORTH CAROLINA ENERGY CONSERVATION CODE.

GENERAL ELECTRICAL NOTES:

- 1. THE FOLLOWING ABBREVIATIONS SHALL APPLY TO NOTES AND PLANS: PC - PLUMBING CONTRACTOR, EC - ELECTRICAL CONTRACTOR, MC - MECHANICAL CONTRACTOR, GC - GENERAL CONTRACTOR,
- FASC FIRE ALARM SYSTEM CONTRACTOR. "PROVIDE" MEANS TO FURNISH AND INSTALL. THE ELECTRICAL CONTRACTOR SHALL ALSO INSTALL MATERIALS AND EQUIPMENT FURNISHED BY OTHERS AND THE GENERAL CONTRACTOR AS REQUIRED.
- EC SHALL PROVIDE LABOR, MATERIALS, EQUIPMENT, AND SERVICES NECESSARY AND REASONABLY INCIDENTAL TO INSURE A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS. MINOR ITEMS, ACCESSORIES, AND DEVICES REASONABLY INFERABLE AS NECESSARY FOR THE COMPLETION AND PROPER OPERATION OF ANY ELECTRICAL SYSTEM SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
- WORKMANSHIP SHALL BE IN ACCORDANCE WITH NECA 1 "STANDARD PRACTICE FOR GOOD WORKMANSHIP IN ELECTRICAL CONTRACTING."
- 5. ALL MATERIALS AND EQUIPMENT SHALL BE DELIVERED TO THE SITE AND UNLOADED BY THE ELECTRICAL CONTRACTOR AT AN APPROVED LOCATION. THE ELECTRICAL CONTRACTOR SHALL PROTECT ALL MATERIALS AND EQUIPMENT FROM BREAKAGE, THEFT, AND THE ELEMENTS. ALL MATERIALS AND EQUIPMENT SHALL REMAIN THE PROPERTY OF THE ELECTRICAL CONTRACTOR UNTIL THE PROJECT HAS BEEN COMPLETED AND TURNED OVER TO THE OWNER.
- 6. THE ELECTRICAL CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES. AND INSPECTIONS NECESSARY FOR THE COMPLETION OF THE WORK

8. TRADE NAMES AND MANUFACTURERS ARE SPECIFIED TO ESTABLISH A

- UNDER THIS CONTRACT. 7. DO NOT SCALE THESE DRAWINGS-REFER TO ARCHITECTURAL SHEETS FOR
- QUALITY STANDARD. SUBSTITUTIONS SHALL BE PERMITTED IF APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. ALL LISTED MODEL NUMBERS SHALL BE VERIFIED WITH THE MANUFACTURER FOR PROPER APPLICATION OF FQUIPMENT. THE ELECTRICAL CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO
- BECOME FAMILIAR WITH EXISTING CONDITIONS. THE ELECTRICAL CONTRACTOR SHALL CONTACT THE ENGINEER TO RESOLVE ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THESE PLANS. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OTHER TRADES PRIOR TO THE START OF
- CONSTRUCTION. GROUNDING AND BONDING SHALL BE PER NEC ARTICLE 250. THE RACEWAY SYSTEM SHALL NOT BE RELIED UPON FOR GROUNDING CONTINUITY. A GREEN EQUIPMENT GROUNDING CONDUCTOR. SIZED PER NEC TABLE 250-122, SHALL BE RUN IN ALL POWER RACEWAYS. FOR NON-ISOLATED GROUND CIRCUITS PROVIDE ONE EQUIPMENT GROUNDING CONDUCTOR PER CONDUIT RUN. FOR ISOLATED GROUND CIRCUITS, PROVIDE ONE NEUTRAL AND ONE ISOLATED GROUND WIRE FOR EACH CIRCUIT; IN ADDITION, PROVIDE ONE EQUIPMENT GROUNDING CONDUCTOR PER CONDUIT RUN. MAIN BONDING JUMPERS AND SYSTEM BONDING JUMPERS SHALL BE INSTALLED IN ACCORDANCE WITH 250.28 OF THE NEC. FOR BUILDINGS OR STRUCTURES SUPPLIED BY FEEDERS OR BRANCH CIRCUITS, GROUNDING AND BONDING SHALL BE IN ACCORDANCE WITH 250.32. SEPARATELY DERIVED AC SYSTEMS SHALL BE GROUNDED IN ACCORDANCE WITH 250.30. RESISTANCE TO GROUND SHALL NOT EXCEED 25 OHMS; ADDITIONAL GROUNDING ELECTRODES SHALL BE INSTALLED PER 250.56 AS NECESSARY.
- 11. ALL MATERIALS AND EQUIPMENT SHALL COMPLY WITH THE UNDERWRITERS' LABORATORIES, INC. STANDARDS OR HAVE UL APPROVAL, OR BEAR UL RE-EXAMINATION LISTING WHERE SUCH APPROVAL HAS BEEN ESTABLISHED FOR THE TYPE OF DEVICE IN QUESTION.
- 12. CONDUCTORS, FUSES, CIRCUIT BREAKERS, AND DISCONNECT SWITCHES SHOWN ON THESE PLANS HAVE BEEN SIZED FOR THE SPECIFIED EQUIPMENT. BEFORE ORDERING ELECTRICAL EQUIPMENT, THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OTHER CONTRACTORS ON THE SITE AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES SHOULD CONDUCTOR,
- CIRCUIT BREAKER, OR FUSE SIZES REQUIRE CHANGE. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR TO ENSURE THE FOLLOWING MATERIALS ARE RECYCLED DURING THE CONSTRUCTION PHASE OF THE PROJECT: LIGHT FIXTURES INCLUDING PROPER DISPOSAL OF BALLASTS, FLUORESCENT LIGHT BULBS, AND TRANSFORMERS, WIRING AND ELECTRICAL EQUIPMENT, AND INSULATION. WASTE MATERIALS CONTAINING LEAD, ASBESTOS, PCBs (FLUORESCENT LAMP BALLASTS), OR OTHER HARMFUL SUBSTANCES SHALL BE HANDLED AND DISPOSED OF IN ACCORDANCE WITH FEDERAL AND STATE LAWS AND REQUIREMENTS CONCERNING HAZARDOUS WASTE.
- 14. ALL WORK SHALL CONFORM TO 2020 NATIONAL ELECTRIC CODE, 2018 STATE BUILDING CODE, AND ALL APPLICABLE LOCAL CODES.

- 1. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY DISCONNECTS. SWITCHES. RECEPTACLES. TERMINALS. ETC. UNDER THE ELECTRICAL BID AND SHALL INCLUDE ALL NECESSARY CIRCUITS AND CONNECTIONS TO THE EQUIPMENT PROVIDED BY ALL SUPPLIERS, UNLESS NOTED OTHERWISE BY OTHER DISCIPLINES.
- ELECTRICAL CONTRACTOR SHALL PROVIDE ALL SERVICE ENTRANCE EQUIPMENT, SUB PANELS, AND OTHER ELECTRICAL DISTRIBUTION EQUIPMENT AS NECESSARY FOR A COMPLETE INSTALLATION. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH UTILITY REGARDING SERVICE AND METERING DETAILS. PRIOR TO ORDERING EQUIPMENT, THE ELECTRICAL CONTRACTOR SHALL OBTAIN THE AVAILABLE FAULT CURRENT OR TRANSFORMER SIZE AND IMPEDANCE FROM THE UTILITY AND CONTACT THE ENGINEER IF THE VALUE EXCEEDS THE EQUIPMENT SPECIFIED. PANEL BOARDS AND SWITCH BOARDS SHALL BE SQUARE D, CUTLER-HAMMER, SIEMENS, OR GE. BUSES SHALL BE COPPER UNLESS OTHERWISE APPROVED BY THE ENGINEER. RECESSED PANEL BOARDS SHALL BE INSTALLED FLUSH WITH THE WALL FINISH. METER BASES SHALL COMPLY WITH THE UTILITY'S SPECIFICATIONS AND SHALL BE MOUNTED AT A HEIGHT APPROVED BY THE UTILITY. ALL EQUIPMENT IDENTIFIED FOR SERVICE ENTRANCE USE SHALL BE SO LABELED AND UL LISTED FOR SUCH USE. ELECTRICAL CONTRACTOR SHALL INSTALL ALL
- SHALL PERMANENTLY LABEL EQUIPMENT PER NEC 110.24. ENCLOSED SAFETY SWITCHES SHALL BE HEAVY DUTY TYPE BY SQUARE D, EATON, OR GE. ENCLOSED SWITCHES SHALL HAVE A HANDLE LOCKABLE IN THE OFF POSITION AND SHALL HAVE A HANDLE INTERLOCKED TO PREVENT OPENING THE FRONT COVER WHILE IN THE ON POSITION. ENCLOSED SWITCHES OF THE FUSIBLE TYPE SHALL BE FUSED IN ACCORDANCE WITH NAMEPLATE DATA WITH DUAL ELEMENT TYPE FUSES BY BUSSMAN,

ELECTRICAL EQUIPMENT WITH CLEARANCES PER NEC 110.26. ELECTRICIAN

- LITTELFUSE, OR MERSEN. OCCUPANCY SENSORS SHALL BE BY WATTSTOPPER, LUTRON, LEVITON,
- SENSOR SWITCH, HUBBELL, OR APPROVED EQUAL. CIRCUIT BREAKERS SHALL BE MOLDED-CASE, THERMAL MAGNETIC TYPE WITH QUICK-MAKE, QUICK-BREAK MECHANISM, COMMON TRIP ON MULTI-POLE BREAKERS, AND UL LISTED FOR BOTH COPPER AND ALUMINUM CONDUCTORS. CIRCUIT BREAKERS IN PANELS SHALL BE SERIES RATED WITH THE MAIN BREAKER, FULLY RATED FOR THE SYSTEM, OR SERIES RATED WITH THE BREAKER FEEDING THE PANEL FROM THE FACTORY.
- ALL WIRE, CONNECTORS, TERMINALS, AND LUGS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR. WHERE CONDUCTORS ARE RUN IN PARALLEL, LUGS SHALL BE LISTED FOR PARALLEL CONDUCTORS. PUSH WIRE CONNECTORS ARE NOT ALLOWED FOR BUILDING WIRE. PUSH CONNECTORS ARE ONLY ALLOWED, WHEN APPROVED, AS PART OF MANUFACTURED LISTED PRODUCTS. ALL WIRE SHALL BE INSTALLED IN CONDUIT UNLESS SPECIFICALLY NOTED OTHERWISE.
- THE INSULATION TYPE FOR INTERIOR WIRING SHALL BE DUAL RATED THHN/THWN OR XHHW; ALL WIRING INSTALLED BELOW GRADE OR IN MOIST OR WET LOCATIONS SHALL HAVE TYPE THWN OR XHHW INSULATION. INSULATION VOLTAGE RATING SHALL BE 600 VOLTS AND A MINIMUM TEMPERATURE RATING OF 75°C. CONDUCTORS SHALL BE SOLID OR STRANDED COPPER FOR #10 AWG AND #12 AWG, AND STRANDED COPPER FOR #8 AWG AND LARGER SIZES. ALL WIRING AND CABLE SHALL BE UL LISTED. ALL TERMINATIONS AND DEVICES SHALL BE RATED FOR USE WITH 75°C CONDUCTORS. FINAL CONNECTIONS TO ALL MOTORS AND EQUIPMENT SUBJECT TO VIBRATION OR MOVEMENT SHALL BE MADE WITH STRANDED COPPER CONDUCTORS. CONDUCTORS SHALL BE BY CERRO WIRE, INC,
- INDUSTRIAL WIRE & CABLE, INC, OR SOUTHWIRE COMPANY. JOINTS IN SOLID CONDUCTORS SHALL BE SPLICED USING IDEAL "WIRE NUTS", 3M "SCOTCH LOCK", OR T&B "PIGGY" CONNECTORS IN JUNCTION BOXES, OUTLET BOXES, AND LIGHTING FIXTURES. JOINTS IN STRANDED

CONDUCTORS SHALL BE SPLICED BY APPROVED MECHANICAL CONNECTORS AND GUM RUBBER TAPE OR FRICTION TAPE. SOLDERLESS MECHANICAL CONNECTORS FOR SPLICES AND TAPS, PROVIDED WITH UL APPROVED INSULATING COVERS, MAY BE USED INSTEAD OF MECHANICAL CONNECTORS PLUS TAPE. IN ALL CASES, CONDUCTORS SHALL BE CONTINUOUS FROM OUTLET TO OUTLET AND NO SPLICING SHALL BE MADE EXCEPT WITHIN OUTLET OR JUNCTION BOXES, TROUGHS, OR GUTTERS. WHERE CONCENTRIC, ECCENTRIC, OR OVERSIZED KNOCKOUTS ARE ENCOUNTERED, A GROUNDING

- TYPE INSULATED BUSHING SHALL BE PROVIDED. 9. ALL LUMINAIRES SHALL BE LISTED. LUMINAIRES IN WET OR DAMP LOCATIONS SHALL BE MARKED AS SUITABLE FOR THE RESPECTIVE USE. EMERGENCY LIGHTING SHALL BE INSTALLED AS SHOWN. FINAL LOCATIONS OF ALL EXIT AND EMERGENCY LIGHTS SHALL BE VERIFIED WITH THE BUILDING INSPECTOR PRIOR TO INSTALLATION, ALL FLUORESCENT FIXTURES SHALL HAVE ELECTRONIC BALLASTS MEETING ANSI C82.11 FOR ELECTRONIC BALLAST PERFORMANCE, ALL BALLASTS SHALL BE UL LISTED AND MEET FEDERAL AND STATE EFFICIENCY REQUIREMENTS.
- 10. ALL CONDUIT, FITTINGS, COUPLINGS, AND SUPPORTS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR. CONDUIT FITTINGS AND COUPLINGS SHALL BE BY APPLETON, RACO, OR O-Z/GEDNEY. COUPLINGS SHALL BE THREADED. SET-SCREW. OR COMPRESSION TYPE. INDENTER OR CRIMP TYPE ARE NOT PERMITTED. CONDUIT FITTINGS AT ALL ELECTRICAL BOXES INCLUDING PULL, JUNCTION, AND OUTLET BOXES, SHALL HAVE INSULATED THROATS TO PREVENT INSULATION SCORING. DIE CAST FITTINGS ARE NOT
- EMT SHALL BE MANUFACTURED IN ACCORDANCE WITH AMERICAN NATIONAL STANDARDS INSTITUTE—AMERICAN NATIONAL STANDARD FOR STEEL ELECTRICAL METALLIC TUBING (EMT), ANSI C80.3 AND UL 797. RIGID METAL CONDUIT SHALL BE MANUFACTURED IN ACCORDANCE WITH ANSI-AMERICAN NATIONAL STANDARD FOR ELECTRICAL RIGID STEEL CONDUIT (ERSC), ANSI C80.1 AND UL 6. INTERMEDIATE METAL CONDUIT SHALL BE MANUFACTURED IN ACCORDANCE WITH ANSI-AMERICAN NATIONAL STANDARD FOR INTERMEDIATE METAL CONDUIT ANSI C80.6 AND UL 1242.
- 12. METAL CONDUIT SHALL BE BY ALLIED TUBING & CONDUIT, BECK MANUFACTURING, INC, OR WHEATLAND TUBE COMPANY. FLEXIBLE METAL CONDUIT. LIQUID-TIGHT FLEXIBLE METAL CONDUIT, AND NONMETALLIC CONDUIT SHALL BE BY AFC CABLE SYSTEMS, INC, ELECTRI-FLEX COMPANY, OR INTERNATIONAL METAL HOSE.

1. EC SHALL REVIEW THE MECHANICAL PLANS TO ESTABLISH POINTS OF CONNECTION AND THE EXTENT OF THE ELECTRICAL WORK TO BE PROVIDED

- IN THE CONTRACT. 2. ALL CIRCUIT BREAKERS FEEDING HVAC EQUIPMENT SHALL BE HACR BREAKERS. ALL BRANCH CIRCUIT CONDUCTORS SHALL BE MINIMUM #12 AWG IN 3/4 in CONDUIT. EACH MULTI-WIRE BRANCH CIRCUIT SHALL BE PROVIDED WITH A MEANS TO SIMULTANEOUSLY DISCONNECT ALL UNGROUNDED CONDUCTORS AT THE SOURCE PER NEC 210.4(B). GROUP ALL CONDUCTORS OF EACH MULTI-WIRE BRANCH CIRCUIT PER 210.4(D) WITH WIRE TIES OR SIMILAR MEANS. DO NOT EXCEED THREE HOMERUNS PER CONDUIT. DO NOT INSTALL ISOLATED GROUND AND NON-ISOLATED GROUND CIRCUITS IN THE SAME CONDUIT. INSTALL CONDUCTORS OF DIFFERENT VOLTAGES IN SEPARATE CONDUITS. COLOR CODE CONDUCTORS PER NEC. FEEDERS SHALL BE IDENTIFIED IN
- ACCORDANCE WITH NEC 215.12. USE BLACK, RED, AND BLUE FOR PHASES A, B, AND C RESPECTIVELY ON 208Y/120 VOLT THREE-PHASE Y SYSTEMS AND WHITE FOR THE NEUTRAL, ISOLATED GROUND WIRES SHALL BE GREEN WITH YELLOW BANDS OR STRIPES. THIS IDENTIFICATION SHALL BE MADE AT EACH POINT WHERE A CONNECTION IS MADE. COLORS SHALL BE FACTORY APPLIED FOR CONDUCTORS #6 AWG AND SMALLER. ALL EQUIPMENT GROUNDING CONDUCTORS SHALL BE GREEN IN COLOR AND MINIMUM #12 AWG. THE EC SHALL PROVIDE PLENUM RATED CABLE FOR ANY ELECTRICAL. TELEPHONE, COMMUNICATION, OR OTHER CABLE THAT ENTERS CEILING return plenums.
- ALL LIGHT FIXTURES SHALL BE SUPPORTED INDEPENDENTLY OF THE SUSPENDED CEILING. COORDINATE LIGHTING LAYOUT WITH CEILING GRID, MECHANICAL EQUIPMENT, DUCTWORK AND SPRINKLER HEADS AS NECESSARY. SEE REFLECTED CEILING PLAN FOR DETAILS. FLUORESCENT FIXTURES UTILIZING DOUBLE-ENDED LAMPS MUST HAVE A DISCONNECTING MEANS COMPLYING WITH NEC 410.130(G).
- MOUNT LIGHT SWITCHES AT 48 in AFF. MULTIPLE SWITCHES AT SAME LOCATION SHALL BE UNDER ONE WALL PLATE. VERIFY WALL PLATE COLOR AND MATERIAL WITH THE ARCHITECT/OWNER, INSTALL SWITCHES WITH of POSITION DOWN. ALL SWITCHES SHALL BE HEAVY DUTY, IVORY PLASTIC WITH TOGGLE HANDLE, RATED 120-277V AC, AND COMPLYING WITH NEMA WD 6 AND WD 1. SWITCHES SHALL BE BY COOPER WIRING DEVICES, LEVITON MANUFACTURING, PASS & SEYMOUR, OR HUBBELL. PROVIDE BOX DEVICE PARTITION/DIVIDERS FOR MULTI-GANG BOXES FOR COMPLIANCE WITH NEC
- 6. ELECTRICAL CONTRACTOR SHALL PROVIDE FIRE-STOPPING AT ALL ELECTRICAL PENETRATIONS OF RATED FLOORS AND WALLS TO PRESERVE OR RESTORE THE FIRE-RESISTANCE RATING. SEAL PENETRATIONS USING A UL LISTED SYSTEM FOUND IN THE UL DIRECTORY SPECIFIC TO THE UL LISTING OF THE ASSEMBLY BEING PENETRATED. SEE ARCHITECTURAL PLANS FOR UL RATED ASSEMBLIES SPECIFIC TO THIS PROJECT.
- 7. ELECTRICAL CONTRACTOR SHALL PROVIDE GFCI RECEPTACLES IN KITCHENS, RESTROOMS, OUTDOORS, AND IN SHOP AREAS AS REQUIRED BY NEC. REFRIGERATORS AND WATER COOLERS MUST HAVE A DEDICATED GFCI BREAKER. EACH OUTDOOR HVAC UNIT MUST HAVE A GFCI RECEPTACLE WITHIN 25 FEET FOR SERVICING. GFCI RECEPTACLES SHALL CONFORM TO UL 943 CLASS A AND UL 498 STANDARDS. RECEPTACLES SHALL BE BY COOPER WIRING DEVICES. LEVITON MANUFACTURING. PASS & SEYMOUR. OR HUBBELL. ALL RECEPTACLES SHALL BE 125V RATED, HEAVY DUTY, AND COMPLY WITH NEMA WD 6 AND WD 1.
- 8. LOCATIONS AND HEIGHTS OF ALL WALL-MOUNTED DEVICES SHALL BE COORDINATED WITH THE ARCHITECT PRIOR TO INSTALLATION.
- CONCEAL ALL CONDUIT EXCEPT IN MECHANICAL ROOMS OR UNFINISHED AREAS AS NOTED. USE EMT CONDUIT FOR ALL BRANCH CIRCUITS AND FEEDERS INSIDE THE BUILDING. TYPE MC CABLE AND TYPE AC CABLE MAY BE INSTALLED WITHIN WALLS IF ALL NEUTRAL WIRES, ISOLATED GROUND WIRES, AND EQUIPMENT GROUND WIRES AS LISTED ABOVE ARE CONTAINED IN THE CABLE. FLEXIBLE CONNECTIONS TO MOTORS AND OTHER EQUIPMENT SHALL BE MADE USING WEATHERPROOF FLEXIBLE CONDUIT. FOR LAY-IN LIGHT FIXTURES, USE MAXIMUM OF SIX (6) FEET OF FLEXIBLE MC CABLE (OR THE FLEXIBLE CONDUIT PROVIDED BY THE FIXTURE MANUFACTURER). SCHEDULE 40 PVC CONDUIT MAY BE USED FOR THE SECONDARY UNDERGROUND SERVICE, UNDERGROUND TELEPHONE SERVICE, AND BRANCH AND FEEDER CIRCUITS UNDER SLAB OR EXTERIOR TO THE BUILDING. EXPOSED EXTERIOR CONDUIT SHALL BE SCHEDULE 80 PVC. ALL UNDERGROUND RACEWAYS SHALL BE IDENTIFIED WITH UNDERGROUND LINE MARKING TAPE 6-8 in BELOW GRADE DIRECTLY ABOVE THE RACEWAY. PROVIDE PULL WIRE IN EMPTY CONDUITS. UPSIZE CONDUIT FROM MINIMUM SIZE AS NECESSARY FOR LONGER PULLS. UNDERGROUND RACEWAYS THAT STUB INTO THE BOTTOM OF SWITCHBOARDS, OUTDOOR TRANSFORMERS, GENERATORS, ETC., SHALL RISE AT LEAST 2 in ABOVE THE FINISHED SLAB TO PREVENT WATER FROM DRAINING INTO THE RACEWAYS. RACEWAYS THAT PENETRATE EXTERIOR WALLS OR INTERIOR PARTITIONS SEPARATING SPACES THAT WILL BE AT SIGNIFICANTLY DIFFERENT TEMPERATURES SHALL BE SEALED IN ACCORDANCE WITH 300.5(G), 300.7(A), AND 300.50(E) OF THE NEC. ROUTE CONDUIT IN AND UNDER SLAB FROM POINT-TO-POINT. ROUTE EXPOSED CONDUIT AND CONDUIT INSTALLED ABOVE ACCESSIBLE CEILINGS PARALLEL AND PERPENDICULAR TO WALLS. COMPLETELY AND THOROUGHLY SWAB ALL RACEWAYS BEFORE INSTALLING WIRE. PULL ALL CONDUCTORS INTO EACH RACEWAY AT ONE TIME. USE A SUITABLE WIRE PULLING LUBRICANT FOR BUILDING WIRE #4 AWG AND LARGER.
- 10. CABLES, RACEWAYS, OR BOXES, INSTALLED IN EXPOSED OR CONCEALED LOCATIONS UNDER METAL-CORRUGATED SHEET ROOF DECKING, SHALL BE INSTALLED AND SUPPORTED SO THERE IS NOT LESS THAN 1-1/2 in MEASURED FROM THE LOWEST SURFACE OF THE ROOF DECKING TO THE TOP OF THE CABLE, RACEWAY, OR BOX. A CABLE, RACEWAY, OR BOX SHALL NOT BE INSTALLED IN CONCEALED LOCATIONS IN METAL-CORRUGATED, SHEET DECKING-TYPE ROOF. SEE NEC 300.4(E).

11. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL OUTLET, JUNCTION, PULL

BOXES, FITTINGS, AND SUPPORTS, ALL OUTLET AND JUNCTION BOXES

SHALL BE GALVANIZED STEEL TYPE BY APPLETON, STEEL CITY, OR RACO.

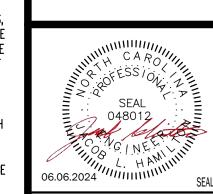
EXTERIOR BOXES SHALL BE TYPE FS. VAPORTITE BOXES SHALL BE TYPE

GS. WHERE SURFACE MOUNTED BOXES ARE USED, THOSE BOXES AND

THEIR FACEPLATES SHALL HAVE ROUNDED CORNERS. BOXES INSTALLED IN FLOORS SHALL BE RATED FOR THE APPLICATION. MOUNT JUNCTION AND OUTLET BOXES FLUSH WITH FINISH SURFACES UNLESS OTHERWISE NOTED. WHERE MOUNTING HEIGHTS ARE GIVEN, THEY SHALL BE MEASURED FROM THE FINISHED FLOOR TO THE CENTER OF THE BOX. ALL BOXES SHALL BE SIZED PER NEC ARTICLE 314. ALL OUTLET AND JUNCTION BOXES SHALL HAVE A COVER PLATE, PROVIDED BY THE ELECTRICAL CONTRACTOR. OUTLET BOXES IN RATED WALLS SHALL BE INSTALLED IN ACCORDANCE WITH NORTH CAROLINA BUILDING CODE 712.3.2 (MAXIMUM BOX SIZE IS 16 SQUARE in AND MAXIMUM OF SIX (6) BOXES PER 100 SQUARE FEET). INSTALL OUTLE BOXES IN RATED WALLS SUCH THAT OPENINGS OCCUR IN ONE SIDE ONLY WITHIN ANY GIVEN STUD SPACE. ALL CLEARANCES BETWEEN THE OUTLET BOX AND THE GYPSUM BOARD SHALL BE FILLED WITH JOINT COMPOUND OR OTHER APPROVED FIRE STOP MATERIAL. FLUSH MOUNTED JUNCTION BOXES IN ADJACENT ROOMS SHALL NOT BE MOUNTED BACK-TO-BACK. SURFACE MOUNTED FIXTURES SHALL BE FED THROUGH FLUSH MOUNTED

- 12. ALL CONDUIT, BOXES, AND ELECTRICAL EQUIPMENT SHALL BE FIRMLY AND SECURELY FASTENED TO OR SUPPORTED FROM THE BUILDING STRUCTURAL MEMBERS OR EMBEDDED IN CONCRETE OR MASONRY. ELECTRICAL SUPPORTS SHALL NOT BE ATTACHED TO DUCTWORK, PIPING, OR THEIR SUPPORTS. HANGERS SHALL BE CATALOG ITEMS COMPATIBLE WITH AND SUITABLE FOR THE INTENDED USE. FOR METAL ROOF DECK INSTALLATIONS. 1 in EMT CONDUIT MAXIMUM AND 4 in JUNCTION BOXES MAXIMUM MAY BE SUPPORTED BY DECKING. THE SUSPENDED CEILING SYSTEM SHALL NOT BE USED FOR THE SUPPORT OF ELECTRICAL RACEWAY SYSTEMS OR SUPPORT OF COMMUNICATIONS OR DATA SYSTEMS WIRING. CONTRACTOR SHALL COMPLY WITH 1613 OF THE NORTH CAROLINA GENERAL CONSTRUCTION BUILDING CODE.
- 13. WHERE CONDUCTORS ARE RUN IN PARALLEL, THE EC SHALL COMPLY WITH NEC 310.4.
- 14. ISOLATED-GROUND TYPE RECEPTACLES SHALL BE INSTALLED IN ACCORDANCE WITH 250.146(D). ISOLATED GROUND RECEPTACLES SHALL BE ORANGE IN COLOR.
- 15. PROVIDE AN UNDERGROUND PVC CONDUIT SYSTEM FOR TELEPHONE SERVICE WITH PULL WIRES. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH TELEPHONE UTILITY REGARDING ADDITIONAL FACILITIES REQUIRED FOR THE SERVICE INSTALLATION.
- 16. INSTALL ONE (1) 3/4 in FIRE RETARDANT TREATED PLYWOOD BACKBOARD WHERE INDICATED ON THE DRAWINGS FOR THE USE BY THE TELEPHONE SYSTEM. PROVIDE A 120 VOLT RECEPTACLE ADJACENT TO THE TELEPHONE BOARD. GROUND ALL TELEPHONE AND COMMUNICATIONS CIRCUITS PER NEC
- 17. ALL TELEPHONE AND COMMUNICATIONS OUTLETS AND RACEWAYS ARE ROUGH-INS ONLY. EACH TELEPHONE AND COMMUNICATIONS OUTLET SHALL BE A 4 in SQUARE BY 2-1/8 in DEEP BOX WITH 3/4 in KNOCK-OUTS AND A 3/4 in CONDUIT STUBBED FROM THE OUTLET BOX TO ABOVE THE CEILING. PROVIDE A NON-METALLIC INSULATING BUSHING ON ALL CONDUITS STUBBED ABOVE THE CEILING. PROVIDE A BLANK COVER PLATE ON ALL OUTLET BOXES.
- 18. ELECTRICAL CONTRACTOR SHALL INSTALL DISCONNECT SWITCHES IN SIGHT OF ALL HARDWIRED EQUIPMENT AND APPLIANCES OR PROVIDE BREAKERS CAPABLE OF BEING LOCKED IN THE OPEN POSITION PER NEC 422.31. FOR MOTOR DRIVEN APPLIANCES, PROVIDE A DISCONNECTING MEANS PER NEC 422.31 AND 430 PART IX. WHERE AN INDIVIDUAL DISCONNECT SWITCH, CIRCUIT BREAKER, STARTER, ETC, IS SHOWN ON THE PLANS ADJACENT TO ITS LOAD AND NOT LOCATED ON A WALL, PROVIDE NECESSARY MATERIALS AND LABOR TO SUPPORT THE DEVICE.
- . ELECTRICAL CONTRACTOR SHALL FIELD IDENTIFY ALL SWITCH BOARD, PANEL BOARDS, CONTROL PANELS, METER SOCKETS, ETC., TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRICAL ARC FLASH HAZARDS PER 110.16 OF 20. ELECTRICAL CONTRACTOR SHALL PROVIDE NAMEPLATES FOR IDENTIFICATION OF ALL EQUIPMENT, SWITCHES, PANELS, ETC. THE NAMEPLATES SHALL BE
- LAMINATED PHENOLIC PLASTIC, BLACK FRONT, AND BACK WITH WHITE CORE WHITE ENGRAVED LETTERS (1/4 in MINIMUM) ETCHED INTO THE WHITE CORE. ELECTRICAL CONTRACTOR SHALL PROVIDE A TYPE WRITTEN DIRECTORY CARD THAT ACCURATELY IDENTIFIES CIRCUITS INSIDE EACH PANEL. HANDWRITTEN LABELS ARE NOT ACCEPTABLE.
- TAMPER-RESISTANT RECEPTACLES SHALL BE INSTALLED THROUGHOUT ACCORDING TO NEC 406.12.

4X4 OCTAGONAL OR SQUARE BOXES.



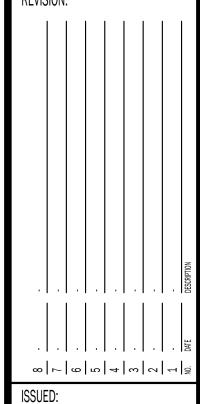
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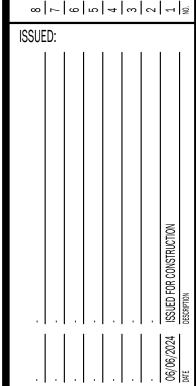
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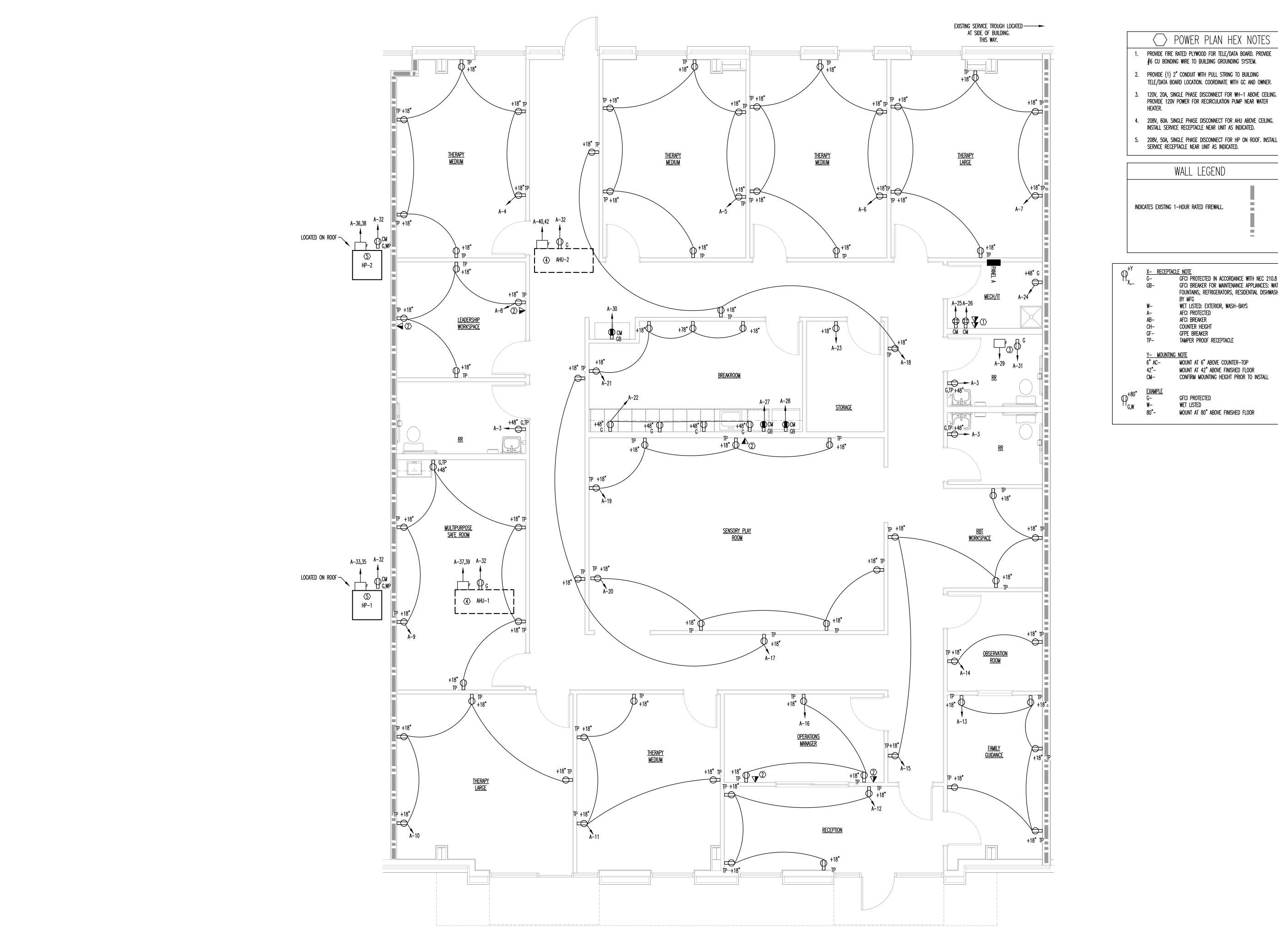
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- PROVIDE FIRE RATED PLYWOOD FOR TELE/DATA BOARD. PROVIDE
- PROVIDE (1) 2" CONDUIT WITH PULL STRING TO BUILDING
- 120V, 20A, SINGLE PHASE DISCONNECT FOR WH-1 ABOVE CEILING. PROVIDE 120V POWER FOR RECIRCULATION PUMP NEAR WATER
- 208V, 50A, SINGLE PHASE DISCONNECT FOR HP ON ROOF. INSTALL

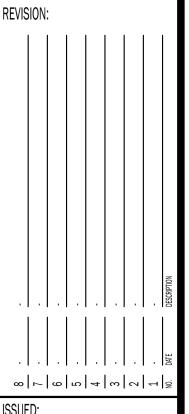
GFCI PROTECTED IN ACCORDANCE WITH NEC 210.8
GFCI BREAKER FOR MAINTENANCE APPLIANCES: WATER
FOUNTAINS, REFRIGERATORS, RESIDENTIAL DISHWASHERS, OR

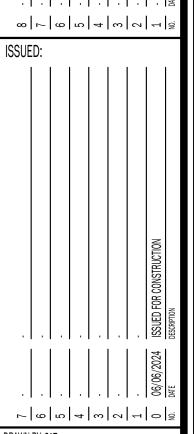
Kilian Engine



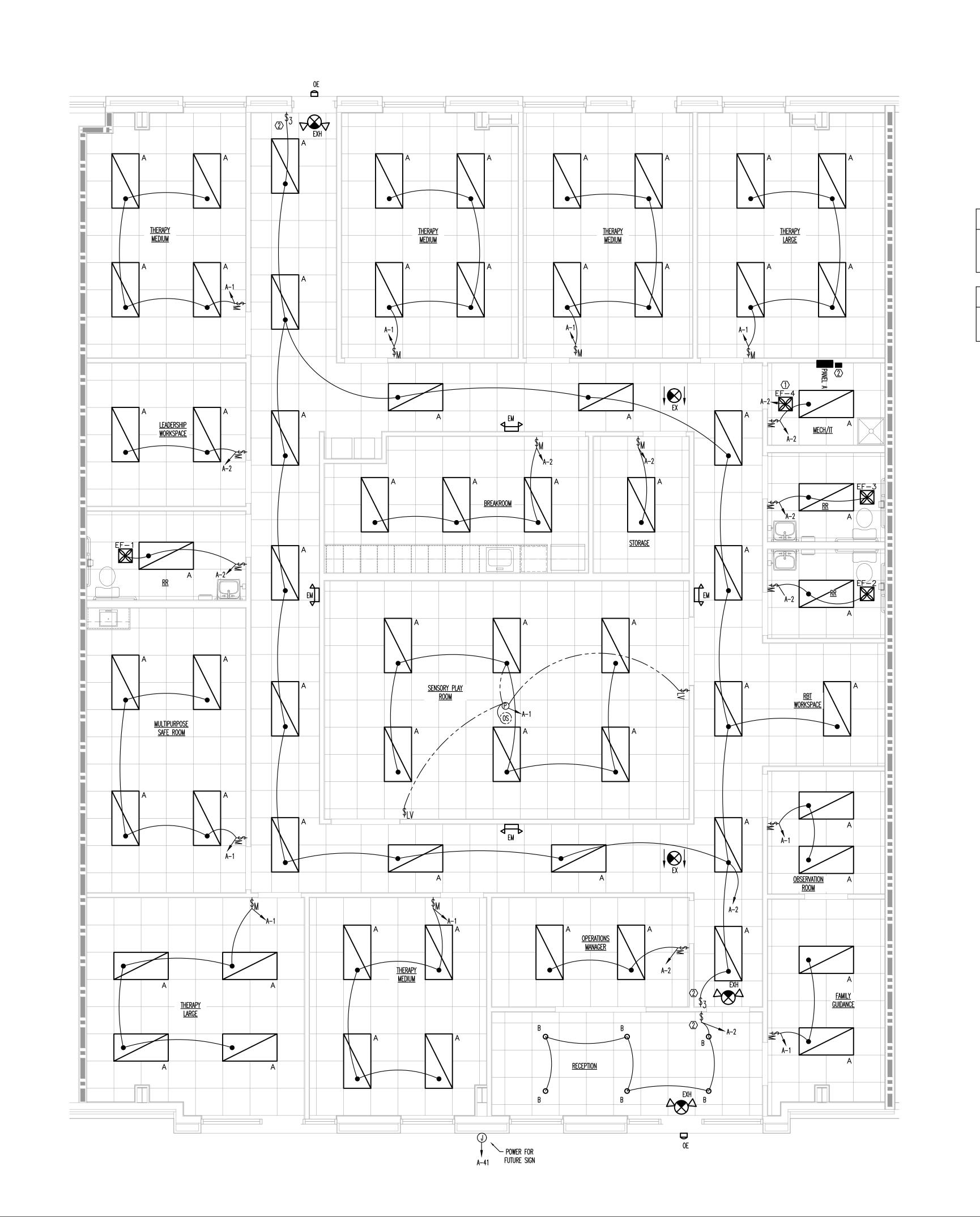


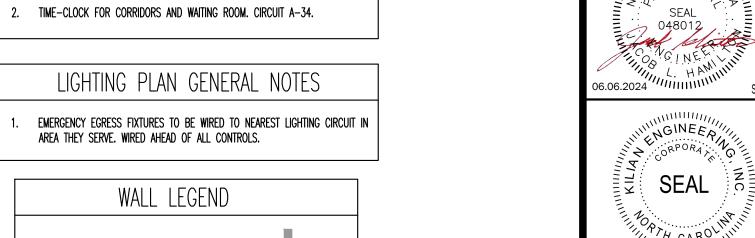
BLUE SPRIG





DRAWN BY: CAT CHECKED BY: JLH POWER PLAN





LIGHTING PLAN HEX NOTES

. THERMOSTATIC EXHAUST FAN FOR IT ROOM. COORDINATE WITH MC.

INDICATES EXISTING 1—HOUR RATED FIREWALL.

BLUE SPRIG
3.24-87 HWY., CAMERON, NORTH CAROLINA 28326

Kilian Engineering, Inc.

REVISION:

								DESCRIPTION
							. .	DATE DESC
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SSUED:								

DRAWN BY: CAT
CHECKED BY: JLH

LIGHTING PLAN

EET NO. **E3**

PROJECT NO. 240350

				PANEL A	١				
CKT LDAD		BKR	LOAD	PH LOAD	BKR	LDAD			
CICT	בטחט	DINK	kVA	- ' ' '	kVA	DIKK	בנוחט	CK.	
1	THERAPY ROOM LIGHTS	20/1	1. 36	A	1. 73	20/1	INTERIOR LIGHTING	2	
3	BATHROOM RECEPTS	20/1	0, 54	В	1. 08	20/1	THERAPY ROOM 1 RECEPTS	4	
5	THERAPY ROOM 2 RECEPTS	20/1	1. 08	С	1. 08	20/1	THERAPY ROOM 3 RECEPTS	6	
7	THERAPY ROOM 4 RECEPTS	20/1	1. 08	A	0. 72	20/1	LEADERSHIP OFFICE RECEPTS	8	
9	SAFE ROOM RECEPTS	20/1	1. 08	В	0. 72	20/1	THERAPY ROOM 5 RECEPTS	10	
11	THERAPY ROOM 6 RECEPTS	20/1	1. 08	С	0. 72	20/1	RECEPTION RECEPTS	12	
13	FAMILY GUIDANCE RECEPTS	20/1	0. 90	A	0. 36	20/1	OBSERVATION RECEPTS	14	
15	HALLWAY RECEPTS 1	20/1	0. 90	В	0. 54	20/1	EMPLOYEE RECEPTION RECEPTS	16	
17	HALLWAY RECEPTS 2	20/1	0. 54	С	0. 54	20/1	HALLWAY RECEPTS 3	18	
19	SENSORY PLAYROOM RECEPTS 1	20/1	0, 72	Α	0. 72	20/1	SENSORY PLAYROOM RECEPTS 2	20	
21	BREAKROOM RECEPTS 6		0, 72	В	0. 72	20/1	BREAKROOM COUNTER RECEPTS	22	
23	STORAGE RECEPT	20/1	0. 18	С	0. 18	20/1	MECH/IT RECEP	24	
25	SERVER QUAD 1	20/1	0. 36	Α	0. 36	20/1	SERVER QUAD 2	26	
27	BREAKROOM DISHWASHER	20/1	1. 50	В	0. 90	20/1	BREAKROOM FRIDGE	28	
29	WH-1	20/1	1. 70	С	0. 75	20/1	DRINKING FOUNTAIN	30	
31	RP-1	20/1	0. 18	Α	0. 72	20/1	SERVICE RECEPTACLES	32	
33	UD 4		3, 53	В	0. 18	20/1	TIME-CLOCK	34	
35	HP-1	50/2	3. 53	С	3, 53	50/2	HP-2	36	
37	AHU-1	60/2	4. 68	Α	3, 53	JU/ E	nr-c	38	
39	HIIO I	0072	4. 68	В	4. 68	60/2	AHU-2	40	
41	SIGN	20/1	1. 20	С	4. 68	00/2	HIIO L		
kVA					AMPS				
17. 4					145				
21. 8					181				
			20. 8	С	173				
VOLTAGE/PHASE				208Y/1	20V, 3P, 4	₩			
	BUS RATING					200A			

NEC ELECTRIC DEMAND SUMMARY 208Y/12OV, 3P, 4W							
EQUIPMENT	DEMAND FACTOR	kVA			LOAD kVA	NEC	NDTES/CALCULATIONS
		Α	В	С	ן בטמט אים	REFERENCE	NUTES/CALCOLATIONS
LIGHTING	125%	1. 86	1. 86	1. 86	5, 58	220. 12	4295 SF X 1.3 VA/SF
RECEPTACLES < 10 kVA	100%	6. 12	8, 70	6. 15	20. 97	220. 44	
RECEPTACLES > 10 kVA	50%	0, 00	0, 00	0, 00	0. 00	220. 44	
HVAC	100%	8. 21	12. 89	11. 74	32. 84		BASED ON MCA
WATER HEATER	125%	2. 13	0, 00	0, 00	2. 13	422. 13	STORAGE TANK <120 GAL @ 125%
SIGN	100%	0. 00	0, 00	1. 20	1. 20	220. 14(F)	
DEMAND kVA	PER PHASE	18. 32	23. 45	20, 95			
DEMAND AMPS	PER PHASE	153	195	175			

THE CALCULATED LIGHTING LOAD EXCEEDS THE CONNECTED LIGHTING LOAD.

INDICATES GFCI BREAKER

BREAKER FEEDER SCHEDULE							
AMPS	WIRE SIZE	GROUND SIZE	CONDUIT SIZE				
20A	#12	#12	1/2"				
30A	#10	#10	3/4"				
50A	#8	#10	1'				
60A	#6	#10	1 1/4"				
200A	3/0	#6	2 1/2"				

MAIN CIRCUIT BREAKER RATING

SERVICE ENTRANCE RATED

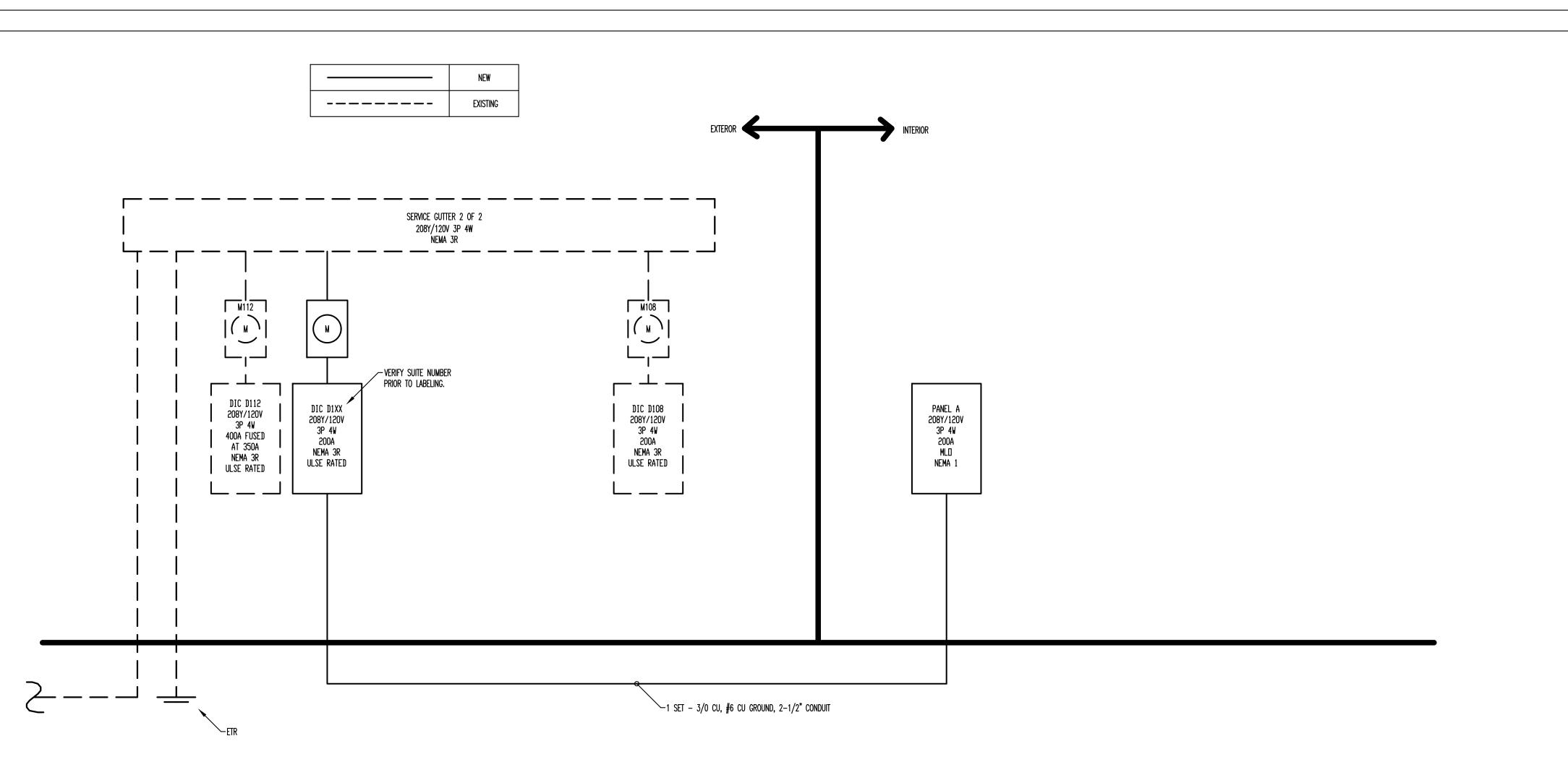
AIC RATING

ENCLOSURE

MOUNTING

RECESSED

1 CONDUCTOR PER POLE PLUS NEUTRAL PER SET. E.C. TO VERIFY NECESSITY OF NEUTRAL FOR EACH CIRCUIT. NEUTRAL MAY BE DELETED IF NOT REQUIRED FOR INDIVIDUAL PIECES.



Kilian
Engineering,
Inc.
PO Box 3301, Henderson, NC 27536 | www.kilianengineering.com (P) 252.438.8778 | CORPORATE LICENSE C-2277





BLUE SPRIG

REVISION:

DRAWN BY: CAT
CHECKED BY: JLH

ELECTRICAL RISERS & SCHEDULE

ELECTRICAL RISERS & SC SHEET NO.

L4

ELECTRICAL RISER - NOT TO SCALE | 2 PROJECT NO: 240359

PANEL SCHEDULE

