	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 AND SUPPLY PLANS
P3	WASTE AND SUPPLY RISERS
M1	MECHANICAL PLAN
E1	ELECTRICAL NOTES AND SCHEDULES
E2	POWER AND LIGHTING PLANS
E3	PANEL SCHEDULE AND ELECTRICAL RISER

	- BUILDING C	CODE	SUMMA	RY I	FOR A	ALL C	COMN	MERCIAL PROJECTS
NAME OF PROJECT: THERASPACE BUILDING ADDRESS: 2297 NC HIGHWAY 24-87 ZIP CODE: 28326	FIRE PROTECTION REQUIREME		DATING	T		1 "		PLUMBING REQUIREMENTS
PROPOSED USE: PHYSICAL THERAPY OFFICE OWNER OR AUTHORIZED AGENT: BRYANT DICKINSON PHONE: (919) 868-1427 EMAIL: BRYANT@HMDDEVELOPMENT.COM	BUILDING ELEMENT	FIRE SEPARATION	RATING REQ'D PROVIDED (W/ NA *	DETAIL # AND SHEET #	DESIGN# FOR RATED		SHEET # FOR RATED	
OWNED BY: CITY/COUNTY X PRIVATE STATE CODE ENFORCEMENT JURISDICTION: X CITY CAMERON COUNTY STATE		DISTANCE (FEET)	REDUCTION)	SHEET#	ASSEMBLY	PENETRATION	JOINTS	MALE FEMALE MALE FEMALE REGULAR ACC SPACE EXISTING 0 0 0 0 0 0 0
CONTACT:	STRUCTURAL FRAME, INCLUDING COLUMNS, GIRDERS, TRUSSES	NA	0 0	NA	NA	NA	NA	NEW 1 1 0 1 1 0 1 REQUIRED 1 1 0 1 1 0 1
DESIGNER COMPANY NAME LICENSE# TELEPHONE# EMAIL	BEARING WALLS EXTERIOR							- I KEQOINED 1 1 0 1 1 0 1 1 1 0 1 1
ARCHITECTURAL REDFOOT STUDIO RICHARD REDFOOT 9231 (919) 931-7134 RICHARD@REDFOOTSTUDIO.COM NA NA NA NA NA	NORTH	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 KILIAN ENGINEERING JACOB HAMILTON 48012 (252) 438-8778 JHAMILTON@KILIANENGINEERING.COM FIRE ALARM NA NA NA NA NA	EAST WEST	NA NA	NA NA NA	NA NA	NA NA	NA NA	NA NA	NA NA
PLUMBING KILIAN ENGINEERING JACOB HAMILTON 48012 (252) 438-8778 JHAMILTON@KILIANENGINEERING.COM MECHANICAL KILIAN ENGINEERING JACOB HAMILTON 48012 (252) 438-8778 JHAMILTON@KILIANENGINEERING.COM	SOUTH INTERIOR	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	
SPRINKLER-STANDPIPE NA NA NA NA STRUCTURAL NA NA NA NA RETAINING WALLS > 5' HIGH NA NA NA NA	NON-BEARING WALLS AND PARTITIONS							ENERGY REQUIREMENTS
OTHER NA NA NA NA	EXTERIOR WALLS			<u> </u>				THE FOLLOWING DATA SHALL BE CONSIDERED MINIMUM AND ANY SPECIAL ATTRIBUTE REQUIRED TO MEET THE ENERGY CODE SHALL
2018 NC BUILDING CODE : NEW BUILDING ADDITION RENOVATION X 1ST TIME INTERIOR COMPLETION	NORTH EAST	30' + 30' +	0 NA 0 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
SHELL/CORE - CONTACT THE LOCAL INSPECTION JURISDICTION FOR POSSIBLE ADDITIONAL PROCEDURES AND REQUIREMENTS	WEST SOUTH	30' + 30' +	0 NA 0 NA	NA NA	NA NA	NA NA	NA NA	ANNUAL ENERGY COST FOR THE PROPOSED DESIGN. EXISTING BUILDING ENVELOPE COMPLIES WITH CODE: NO X YES (THE REMAINDER OF THIS SECTION
PHASED CONSTRUCTION - SHELL/CORE- CONTACT THE LOCAL INSPECTION JURISDICTION FOR POSSIBLE ADDITIONAL PROCEDURES AND REQUIREMENTS	INTERIOR WALLS AND PARTITIONS	NA	0 0	NA	NA	NA NA	NA	IS NOT APPLICABLE) EXEMPT BUILDING: X NO YES (PROVIDE CODE OR STATUTORY REFERENCE): NA
2018 NC EXISTING BUILDING CODE : PRESCRIPTIVE REPAIR CHAPTER 14	FLOOR CONSTRUCTION, INCLUDING SUPPORTING BEAMS AND JOISTS	NA	0 0	NA	NA	NA	NA	CLIMATE ZONE: 3A X 4A 5A
LEVEL I LEVEL II LEVEL III	FLOOR CEILING ASSEMBLY COLUMNS SUPPORTING FLOORS	NA NA	NA NA NA O NA	NA NA	NA NA	NA NA	NA NA	METHOD OF COMPLIANCE:
CONSTRUCTED (date): 2022 CURRENT OCCUPANCY(S) (Ch. 3): NA	ROOF CONSTRUCTION, INCLUDING	NA	0 0	NA	NA	NA	NA	ENERGY CODE PERFORMANCE X PRESCRIPTIVE ASHRAE 90.1 PERFORMANCE PRESCRIPTIVE
RENOVATED (date): NA PROPOSED OCCUPANCY(S) (Ch. 3): B	SUPPORTING BEAMS AND JOISTS ROOF CEILING ASSEMBLY	NA	0 0	NA	NA	NA NA	NA	(IF 'OTHER' SPECIFY SOURCE HERE)
RISK CATEGORY (TABLE 1604.5): CURRENT: I I II II II IV	COLUMNS SUPPORTING ROOF SHAFT ENCLOSURES - EXIT	NA NA	0 0 NA NA	NA NA	NA NA	NA NA	NA NA	THERMAL ENVELOPE (PRESCRIPTIVE METHOD ONLY)
PROPOSED: I X II III IV	SHAFT ENCLOSURES - STAIR	NA	NA NA	NA	NA	NA	NA	ROOF/CEILING ASSEMBLY (each assembly): DESCIPTION OF ASSEMBLY: NA
BUILDING DATA: CONSTRUCTION TYPE: I-A III-A IV V-A	CORRIDOR SEPARATION OCCUPANCY / FIRE BARRIER SEPARATION	NA NA	0 0 2 2 - EXISTING	NA 1/A0.0	NA UL U419	NA WL 1001	NA NA	U-VALUE OF TOTAL ASSEMBLY:
☐ I-B 💢 II-B ☐ III-B ☐ V-B	PARTY/FIRE WALL SEPARATION SMOKE BARRIER SEPARATION	NA NA	NA NA NA	NA NA	NA NA	NA NA	NA NA	R-VALUE OF INSULATION: SKYLIGHTS IN EACH ASSEMBLY:
SPRINKLERS: X NO PARTIAL YES NFPA 13 NFPA 13R NFPA 13D STANDPIPES: X NO YES CLASS I I II II WET 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) FLOOD HAZARD AREA: X NO YES	TENANT / DWELLING UNIT / SLEEPING UNIT SEPARATION	NA	1 1	1/A0.0	UL U419	WL 1001	NA	EXTERIOR WALLS (each assembly):
SPECIAL INSPECTIONS REQUIRED: X NO YES (contact the local inspection jurisdiction for additional procedures and requirements.)	INCIDENTAL USE SEPARATION MEDICAL GAS CLOSET	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	DESCIPTION OF ASSEMBLY: NA
GROSS BUILDING AREA:	* INDICATES SECTION NUMBER PER	MITTING REDUC		Į.		·		U-VALUE OF TOTAL ASSEMBLY:
FLOOR EXISTING (SQ FT) NEW (SQ FT) SUB-TOTAL 3RD FLOOR NA NA NA	PERCENTAGE OF WALL OPENIN					T		OPENINGS (WINDOWS OR DOORS WITH GLAZING) U-VALUE OF ASSEMBLY:
2ND FLOORNANANAMEZZANINENANANA	FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINE	DEGF PROTE	REE OF OPENINGS ECTION (TABLE 705.8)	ALLOWAE (%		ACTUAL SHON		SOLAR HEAT GAIN COEFFICIENT:
1ST FLOOR 17,178 2,896 (AREA OF WORK) 17,178 (2,896) BASEMENT NA NA NA	NA - EXISTING BUILDING							PROJECTION FACTOR: DOOR R-VALUES:
TOTAL 17,178 2,896 (AREA OF WORK) 17,178 (2,896)								WALLS BELOW GRADE (each assembly): DESCIPTION OF ASSEMBLY: NA
ALLOWABLE AREA OCCUPANCY:	LIFE SAFETY SYSTEM REQUIRE EMERGENCY LIGHTING:		X YES					U-VALUE OF TOTAL ASSEMBLY:
ASSEMBLY A-1 A-2 A-3 A-4 A-5 BUSINESS X	EXIT SIGNS:	□ NO [X YES					R-VALUE OF INSULATION:
EDUCATIONAL F-1 MODERATE F-2 LOW	SMOKE DETECTION SYSTEMS:	X NO	YES PARTI	IAL		<u> </u>		FLOORS OVER UNCONDITIONED SPACE (each assembly): DESCIPTION OF ASSEMBLY: NA
HAZARDOUS	CARBON MONOXIDE DETECTION:	X NO [YES					U-VALUE OF TOTAL ASSEMBLY: R-VALUE OF INSULATION:
☐ I-2 CONDITION ☐ 1 ☐ 2	LIFE SAFETY PLAN REQUIREME LIFE SAFETY PLAN SHEET #:							FLOORS SLAB ON GRADE
☐ I-3 CONDITION ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ I-4	X FIRE AND SMOKE RATED) WALL LOCATIO						DESCIPTION OF ASSEMBLY: NA
MERCANTILE	ASSUMED AND REAL PR EXTERIOR WALL OPENIN					705.8)		U-VALUE OF TOTAL ASSEMBLY:
RESIDENTIAL R-1 R-2 R-3 R-4 STORAGE S-1 MODERATE S-2 LOW HIGH PILED	X OCCUPANCY USE FOR E X OCCUPANT LOADS FOR		FRELATES TO OCCUPANT	T LOAD CALC	ULATION (TABI	LE 1004.1.2)		HORIZONTAL/VERTICAL REQUIREMENT: SLAB HEATED:
PARKING GARAGE OPEN ENCLOSED REPAIR GARAGE	X EXIT ACCESS TRAVEL DI X COMMON PATH OF TRAV	STANCE (1017)		2 2 (1)\				GIBTIEN.
UTILITY AND MISCELLANEOUS ACCESSORY OCCUPANCY CLASSIFICATIONS: NA	DEAD END LENGTHS (10	20.4)		3.2 (1))				MECHANICAL SUMMARY SEE MECHANICAL DRAWING
INCIDENTAL USES (TABLE 509): NA SPECIAL USES (CHAPTER 4 - LIST CODE SECTIONS): NA	X CLEAR EXIT WIDTHS FOI X MAXIMUM CALCULATED O	CCUPANT LOAD C	CAPACITY EACH EXIT DOOR	CAN ACCOM	MODATE BASED	ON EGRESS WIDT	H (1005.3)	MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT
SPECIAL PROVISIONS: (CHAPTER 5 - LIST CODE SECTIONS): NA	X ACTUAL OCCUPANT LOA A SEPARATE SCHEMATIO	C PLAN INDICATI	ING WHERE FIRE RATED	FLOOR/CEILII	NG AND/OR RC	OOF STRUCTURE	IS PROVIDED	THERMAL ZONE WINTER DRY BULB SUMMER DRY BULB
MIXED OCCUPANCY: X NO YES SEPARATION: NA HR. EXCEPTION NA	FOR PURPOSES OF OCC LOCATION OF DOORS W							INTERIOR DESIGN CONDITIONS
NON-SEPARATED USE (508.3) - THE REQUIRED TYPE OF CONSTRUCTION FOR THE BUILDING SHALL BE DETERMINED BY APPLYING THE HEIGHT AND AREA LIMITATIONS FOR EACH OF THE APPLICABLE OCCUPANISES TO THE ENTIRE BUILDING THE MOST DESTRUCTIVE TYPE OF	LOCATION OF DOORS W			AMOUNT OF D	DELAY (1010.1.9	9.7)		WINTER DRY BULB SUMMER DRY BULB
OCCUPANCIES TO THE ENTIRE BUILDING. THE MOST RESTRICTIVE TYPE OF CONSTRUCTION, SO DETERMINED, SHALL APPLY TO THE ENTIRE BUILDING.	LOCATION OF EMERGEN THE SQUARE FOOTAGE		` '					RELATIVE HUMIDITY BUILDING HEATING LOAD
SEPARATED USE (508.4) - SEE BELOW FOR AREA CALCULATIONS FOR EACH STORY, THE AREA OF THE OCCUPANCY SHALL BE SUCH THAT THE SUM OF THE RATIOS OF THE ACTUAL FLOOR AREA OF EACH		OF EACH SMOKE	E COMPARTMENT FOR O			, ,	OVE	BUILDING COOLING LOAD
USE DIVIDED BY THE ALLOWABLE FLOOR AREA FOR EACH USE SHALL NOT EXCEED 1.								MECHANICAL SPACING CONDITIONING SYSTEM UNITARY
$\frac{\textit{ACTUAL AREA OF OCCUPANCY A}}{\textit{ALLOWABLE AREA OF OCCUPANCY B}} + \frac{\textit{ACTUAL AREA OF OCCUPANCY B}}{\textit{ALLOWABLE AREA OF OCCUPANCY B}} \leq 1$	ACCESSIBLE DWELLING UNITS TOTAL ACCESSIBLE ACCESSIB		· I N	A - NC		LLING U /PE 'B'	TOTAL	DESCRIPTION OF UNIT HEATING EFFICIENCY
—————————————————————————————————————	UNITS UNITS UNITS REQUIRED REQUIRE	UNI	TS I UNITS	UNIT: REQUIF	s I U	JNITS ACCE	ESSIBLE UNITS PROVIDED	COOLING EFFICIENCY SIZE CATEGORY OF UNIT
STORY NO. DESCRIPTION (A) (B) (C) (E)								BOILER SIZE CATEGORY. IF OVERSIZED, STATE REASON
STORY NO. DESCRIPTION (A) (B) (C) (E) AND USE BLDG. AREA TABLE 506.2 AREA FOR ALLOWABLE PER STORY AREA FRONTAGE AREA PER	ACCESSIBLE PARKING	NA -	EXISTING	RUII D	ING AN	ND PAR	KING	CHILLER SIZE CATEGORY. IF OVERSIZED, STATE REASON
(ACTUAL) AREA FRONTAGE AREA FER INCREASE 1.5 STORY OR UNLIMITED 2.3	LOT OR TOTAL # OF PARKI				SPACES PROVI		TOTAL#	LIST EQUIPMENT EFFICIENCIES
1 B 17,178 69,000 NOT USED 69,000	PARKING REQUIRED	PROVIDED	REGULAR WITH 5' ACCESS AISLE		AN SPACES WI		ACCESSIBLE PROVIDED	
	USE 1		ACCESS AIGLE	132" ACCESS	S AISLE 8' A	ACCESS AISLE		ELECTRICAL SUMMARY SEE ELECTRICAL DRAWING
	- USE 2 - USE 3							ELECTRICAL SYSTEM AND EQUIPMENT METHOD OF COMPLIANCE: ENERGY CODE PRESCRIPTIVE PERFORMANCE
TRONTAGE AREA INCREASES FROM SECTION 506.2 ARE COMPUTED THUS: A. PERIMETER WHICH FRONTS A PUBLIC WAY OR OPEN SPACE HAVING 20 FEET MINIMUM WIDTH = (F)	TOTAL							ASHRAE 90.1 PRESCRIPTIVE PERFORMANCE
B. TOTAL BUILDING PERIMETER = (P) C. RATIO (F/P) = (F/P)	STRUCTURAL DESIGN			NΔ ₋ F	VICTIN	NG BUIL	DING	LIGHTING SCHEDULE (each fixture type) LAMP TYPE REQUIRED IN FIXTURE
D. W = MINIMUM WIDTH OF PUBLIC WAY = (W) E. PERCENT OF FRONTAGE INCREASE I = 100 [F/P-0.25] x W/30 = (%)	DESIGN LOADS			IN/~\ - L	-/10111	NO DOIL	טווע	NUMBER OF LAMPS IN FIXTURE BALLAST TYPE USED IN FIXTURE
² UNLIMITED AREA APPLICABLE UNDER CONDITIONS OF SECTION 507 ³ MAXIMUM BUILDING AREA = TOTAL NUMBER OF STORIES IN THE BUILDING x D (MAXIMUM 3 STORIES) (506.2)	IMPORTANCE FACTORS:	SNOW (Is) SEISMIC (Ie)						NUMBER OF BALLASTS IN FIXTURE TOTAL WATTAGE PER FIXTURE
⁴ THE MAXIMUM AREA OF OPEN PARKING GARAGES MUST COMPLY WITH 406.5.4. THE MAXIMUM AREA OF AIR TRAFFIC CONTROL TOWERS MUST COMPLY WITH 412.3.1.	LIVE LOADS:	ROOF		psf				TOTAL INTERIOR WATTAGE SPECIFIED VS. ALLOWED (whole building or space by space) TOTAL EXTERIOR WATTAGE SPECIFIED VS. ALLOWED
⁵ FRONTAGE INCREASE BASED ON THE UNSPRINKLERED AREA VALUE IN TABLE 506.2.	_	MEZZANINE_ FLOOR		psf				ADDITIONAL EFFICIENCY PACKAGE OPTIONS (WHEN USING THE 2018 NCECC; NOT REQUIRED FOR ASHRAE 90.1)
ALLOWABLE HEIGHT ALLOWABLE SHOWN ON PLANS CODE REFERENCE	GROUND SNOW LOAD:	FLOOK		psi				C406.2 MORE EFFICIENT MECHANICAL EQUIPMENT
BUILDING HEIGHT IN FEET (TABLE 504.3) NA - EXISTING TO REMAIN	WIND LOAD:	BASIC WIND S	SPEED	r mph (.	ASCE-7)			C406.3 REDUCED LIGHTING POWER DENSITY C406.4 ENHANCED DIGITAL LIGHTING CONTROLS
BUILDING HEIGHT IN STORIES (TABLE 504.4) NA - EXISTING TO REMAIN	1	EXPOSURE CA	ATEGORY		•			C406.5 ON-SITE RENEWABLE ENERGY C406.6 DEDICATED OUTDOOR AIR SYSTEM
	_	_] B	D D				C406.7 REDUCED ENERGY USE IN SERVICE WATER HEATING
	PROVIDE THE FOLLOWING SEISMIC RISK CATEGORY (Table 1604	_			□ IV	I		
	SPECTRAL RESPONSE ACCE	ELERATION S	s %g	s ₁		%g	☐ F	
	SITE CLASSIFICATION (ASCE DATA SOURI	· —	A D B		·	E HISTORICAL DA	ATA	
	BASIC STRUCTURAL SYSTEM	M (CHECK ONE)	_		ب			
	BEARING WALL BUILDING FRAM	_	DUAL W/ SPECIAL MOMEN' DUAL W/ INTERMEDIATE R		AL STEEL			
	MOMENT FRAME		NVERTED PENDULUM			DVALALIO		
	ANALYSIS PROCEDURE ARCHITECTURAL, MECHANIO	_	_		_	TNAMIC		
	ī		_	_				•

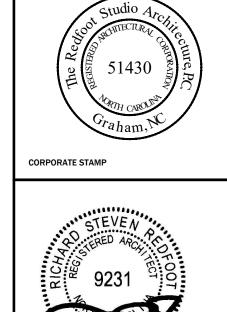
LATERAL DESIGN CONTROL: EARTHQUAKE WIND SOIL BEARING CAPACITY:

FIELD TEST (PROVIDE COPY OF TEST REPORT)

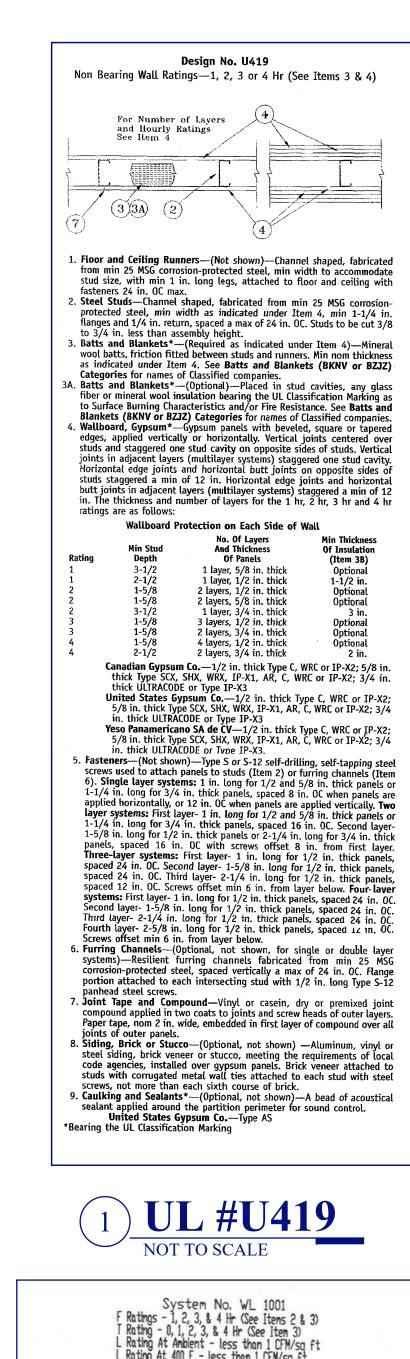
PRESUMPTIVE BEARING CAPACITY PILE SIZE, TYPE, AND CAPACITY

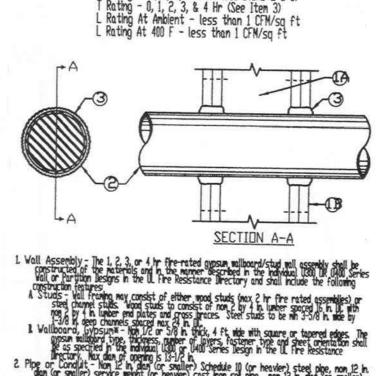














DOOR AND FRAME SCHEDULE

		DO	OOR					
		SIZE			FRAME	HARD	WARE	
DOOR NO.	WD	HGT	THK	MATL	MATL	SET	KEYSIDE RM NO	REMARK
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	PR.L., D.S., C.H.		
102A	3'-0"	7'-0"	1 3/4"	WOOD	HM	P.L., D.S., C.H.		
104A	3'-0"	7'-0"	1 3/4"	WOOD	HM	P.L., D.S., C.H.		
105A	3'-0"	7'-0"	1 3/4"	WOOD	HM	P.L., D.S., C.H.		2
106A	3'-0"	7'-0"	1 3/4"	WOOD	HM	PR.L., D.S., C.H.		
107A	3'-0"	7'-0"	1 3/4"	WOOD	HM	MFR'S STANDARD		3
108A	3'-0"	7'-0"	1 3/4"	WOOD	HM	P.L., D.S., C.H.		

GENERAL DOOR SCHEDULE NOTES

- A. ALL DOORS ARE FACTORY FINISHED, SOLID CORE, PLAIN SLICED WHITE BIRCH.
- B. PROVIDE DOUBLE JACK STUDS AT ALL DOOR JAMBS DOORS WITH NO NUMBER ARE EXISTING TO REMAIN.
- DOOR HARDWARE TO BE COMMERCIAL GRADE AND ADA COMPLIANT. HANDLES, PULLS, LATCHES, LOCKS AND OTHER OPERABLE PARTS ON DOORS AND GATES SHALL HAVE A SHAPE THAT IS EASY TO GRASP WITH ONE HAND AND DOES NOT REQUIRE TIGHT GRASPING, PINCHING OR

TWISTING OF THE WRIST TO OPERATE.

HARDWARE LEGEND

P.L. PR.L.	PASSAGE LATCHSET PRIVACY LOCKSET CYLINDER LOCKSET	CR.L. D.B.	CLASSROOM LOCKSET DEADBOLT ALLIMINIUM THRESHOLD	O.C. D.H. W S	OVERHEAD CLOSER 1 1/2 HINGES WEATHER STRIPPING	C.H. D.S.	COAT HOOK DOOR SWEEP
C.L. M.L.	CYLINDER LOCKSET MORTISE LOCKSET	ALT W.S.	ALUMINUM THRESHOLD WOOD THRESHOLD	W.S. D.S.	WEATHER STRIPPING DOOR STOP	D .5.	DOOKSWEE

REMARKS

- PROVIDE VIEW LITE IN DOOR. VERIFY SIZE W/ OWNER.
- PROVIDE SOUND KIT AND DOOR SWEEP ON DOOR. BARN DOOR AND FRAME ASSEMBLY. IN FULLY OPEN POSITION, OPERATING HARDWARE SHALL BE EXPOSED AND USABLE FOR BOTH SIDES AND WIDTH OF DOOR OPENING SHALL BE A MINIMUM OF 32" CLEAR.

	ROOM FINISH SCHEDULE									
					WALLS					
ROOM NO	ROOM NAME	FLOOR	BASE	N	S	Е	W	CEILING	REMARKS	
100	WAITING	LVP	RUBBER	GWB	GWB	GWB	GWB	ACT		
101	UNI-SEX TOILET	LVP	RUBBER	GWB	GWB	GWB	GWB	ACT		
102	RECEPTION	LVP	RUBBER	GWB	GWB	GWB	GWB	ACT		
103	GYM	CPT TILE	RUBBER	GWB	GWB	GWB	GWB	ACT		
104	TREATMENT	CPT TILE	RUBBER	GWB	GWB	GWB	GWB	ACT		
105	SENSORY & TREATMENT	CPT TILE	RUBBER	GWB	GWB	GWB	GWB	ACT		
106	UNI-SEX TOILET	LVP	RUBBER	GWB	GWB	GWB	GWB	ACT		
107	LAUNDRY	LVP	RUBBER	GWB	GWB	GWB	GWB	ACT		
						i		i		

GENERAL FINISH SCHEDULE NOTES

BREAK ROOM

- COORDINATE AND VERIFY FINISHES AND COLORS WITH OWNER.
- WALL PAINT TO BE BENJAMIN MOORE OR APPROVED EQUAL. ONE COAT OF PRIMER TINTED TO WALL COLOR, TWO COATS OF PAINT. SATIN FINISH. PAINT AND PRIMER TO BE LOW VOC. WALLS TO BE FREE OF DUST PRIOR TO PAINTING. OWNER TO INSPECT WALLS PRIOR TO PAINTING AND BETWEEN COATS. COLOR TO BE SELECTED BY OWNER.
- ALL NEW GYPSUM WALLBOARD TO BE 5/8". PROVIDE 5/8" GREENBOARD AT ALL WET LOCATIONS. H. PROVIDE HONEY COMB SHADES AT ALL WINDOWS. GRABER, HUNTER DOUGLAS OR APPROVED EQUAL.

FINISHES

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LVP	LUXURY VINYL PLANK	TO BE SELETED FROM MANUFACTURER'S STANDARD COLORS
CPT TILE	CARPET TILE	TO BE SELETED FROM MANUFACTURER'S STANDARD COLORS
CITILL	CARTELLILE	TO BE SELETED FROM MANOFACTURER'S STANDARD COLORS
RUBBER	RUBBER COVE BASE	4" RUBBER COVE BASE, MANUFACTURER'S STANDARD COLORS
GWB	GYPSUM WALLBOARD	NEW OR EXISTING GYPSUM WALLBOARD, PAINTED

ACOUSTIC CEILING TILE SUSPENDED 2'X2' ACOUSTIC CEILING TILE SYSTEM, ARMSTRONG 1774 'DUNE' W/ TEGULAR EDGE, 15/16" STANDARD GRID

LVP RUBBER GWB GWB GWB ACT

ALLOWANCES (INCLUDES LABOR AND MATERIAL)

NONE

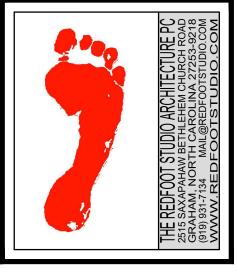
ACT

REMARKS

NONE

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
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE CODE, ALL LOCAL AND OTHER APPLICABLE CODES. CONTRACTOR TO VISIT SITE PRIOR TO SUBMITTAL OF BID. CONTRACTOR TO ESTABLISH SCOPE OF WORK FROM CONSTRUCTION DOCUMENTS AND
- ACTUAL SITE VISIT. ANY OMISSIONS, 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.
- DIMENSIONS ARE TO FACE OF METAL STUDS OR EXISTING GYPSUM WALLBOARD.
- COORDINATE ALL FINISHES AND MATERIALS WITH OWNER. ALL COLORS AND MATERIALS SHALL BE APPROVED BY OWNER PRIOR TO ORDERING
- D. PROVIDE BLOCKING AS REQUIRED FOR FOR INSTALLATION AND SUPPORT OF FIXTURES, GRAB BARS, TOILET ACCESSORIES, CABINETS, TELEVISIONS, EQUIPMENT, ETC.. BLOCKING FOR ADJUSTABLE SHELVING TO BE CONTINUOUS FROM FLOOR TO 8'-0" AFF.
- . COORDINATE INSTALLATION OF ALL EQUIPMENT AND APPLIANCES, INCLUDING BOTH CONTRACTOR AND OWNER SUPPLIED ITEMS, WITH MANUFACTURER'S REQUIREMENTS AND SPECIFICATIONS.
- 2. TOP OF PARTITIONS STOP 1" TO 6" ABOVE CEILING. PROVIDE LATERAL BRACING, SECURED TO TOP OF WALL AND ROOF STRUCTURE ABOVE, U.O.N. 13. ALL GYPSUM WALLBOARD TO BE FINISHED TO LEVEL 4 PER GYPSUM ASSOCIATION GUIDELINES AS DETAILED IN GA 214-10. 14. EXISTING BUILDING ASSEMBLIES, COMPONENTS, AND SYSTEMS TO REMAIN UNLESS OTHERWISE REQUIRED BY NEW WORK OR NOTED IN THE
- DOCUMENTS. CONTRACTOR TO USE LANDLORD'S ROOFING CONTRACTOR FOR ALL ROOF WORK.
- 16. ANY WOOD BLOCKING, FRAMING, OR SHEATHING NOT ENCASED WITHIN GYPSUM WALLBOARD OF WALL TO BE FIRE-TREATED.
- 17. PROVIDE INFRASTRUCTURE AS REQUIRED FOR OFFICE AUDIO SYSTEM. COORDINATE W/ OWNER.
- 18. PROVIDE INFRASTRUCTURE AS REQUIRED FOR OFFICE SECURITY SYSTEM. COORDINATE W/ OWNER. 19. ALL CABINETS PROVIDED BY GENERAL CONTRACTOR. PROVIDE SHOP DRAWINGS FOR OWNER REVIEW AND APPROVAL.
- 20. ALL SINKS AND FAUCETS TO BE SELECTED BY OWNER. 21. ALL DOOR HARDWARE TO BE SELECTED BY OWNER.



1-87 OLIN SPACE HIGHWAY 24-NORTH CARC

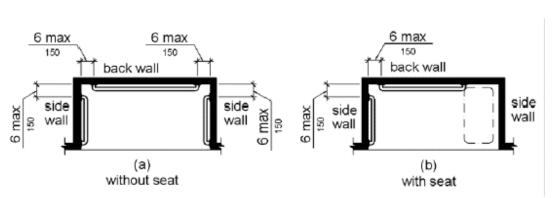




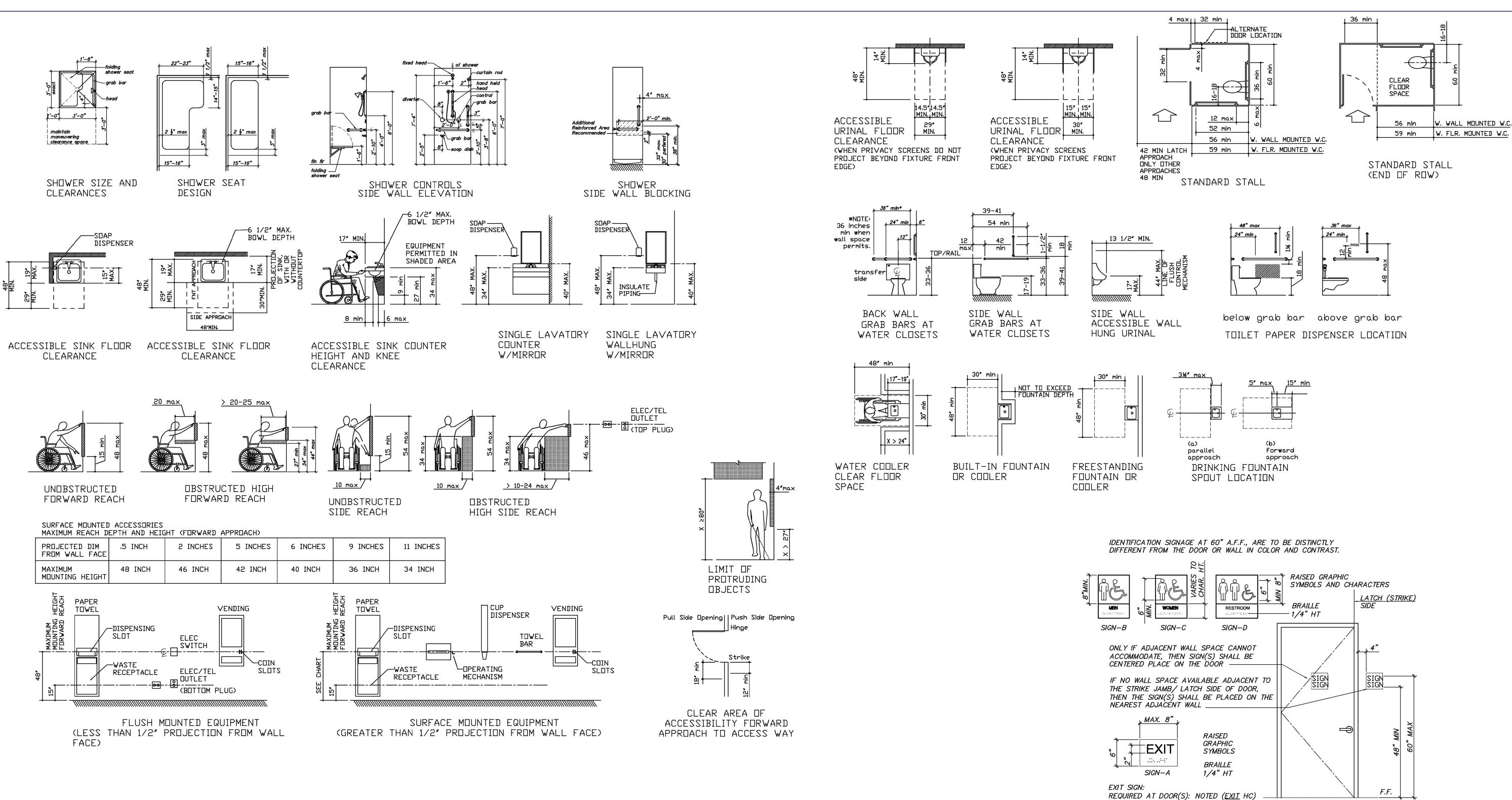
ARCHITECT'S STAMP

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GENERAL NOTES, SCHEDULES, AND **UL DETAILS**

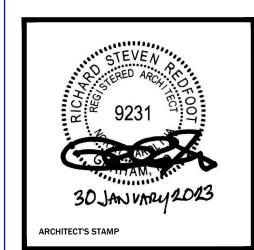






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2297 NC HIGHWAY 24-87
CAMERON, NORTH CAROLINA

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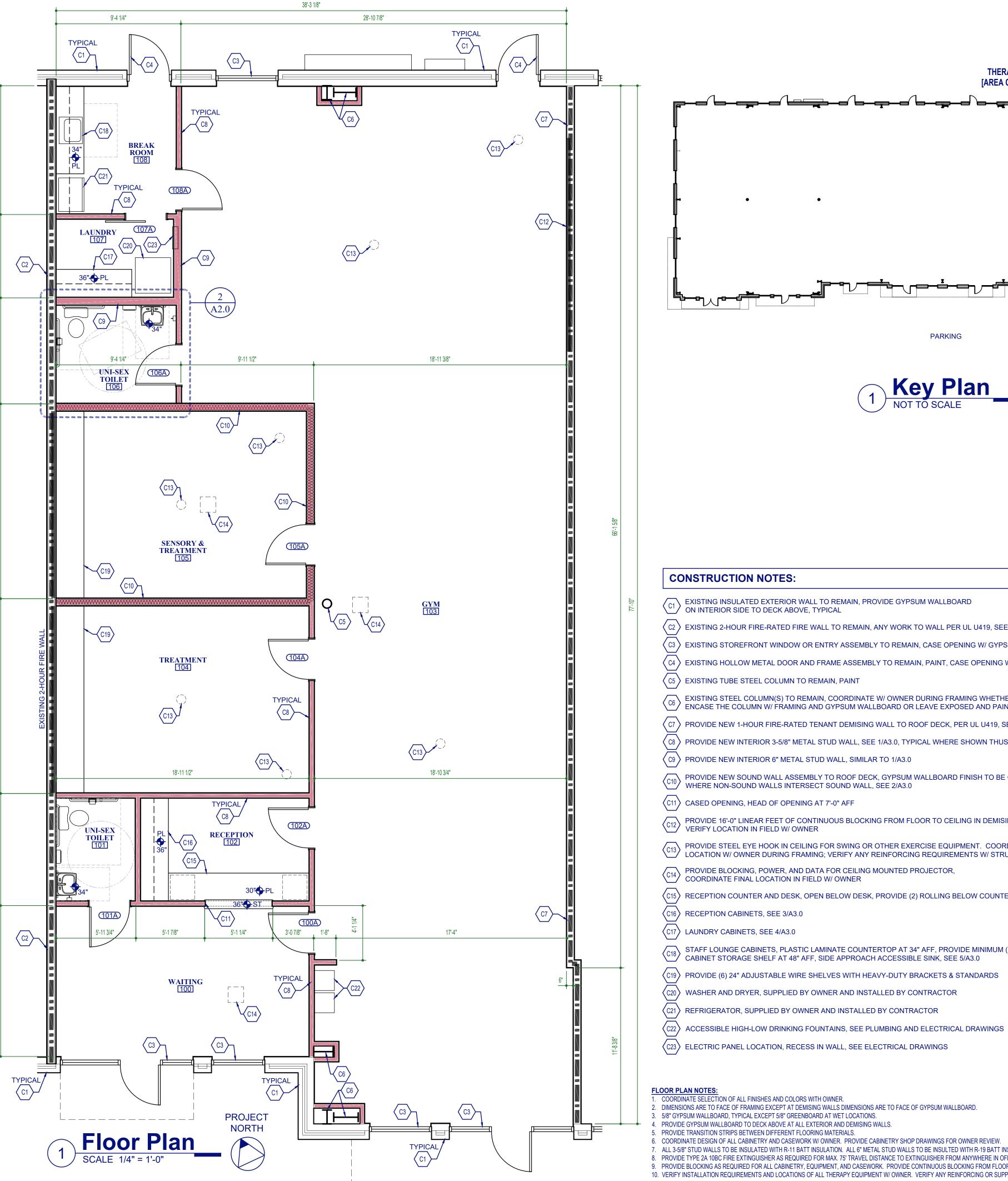


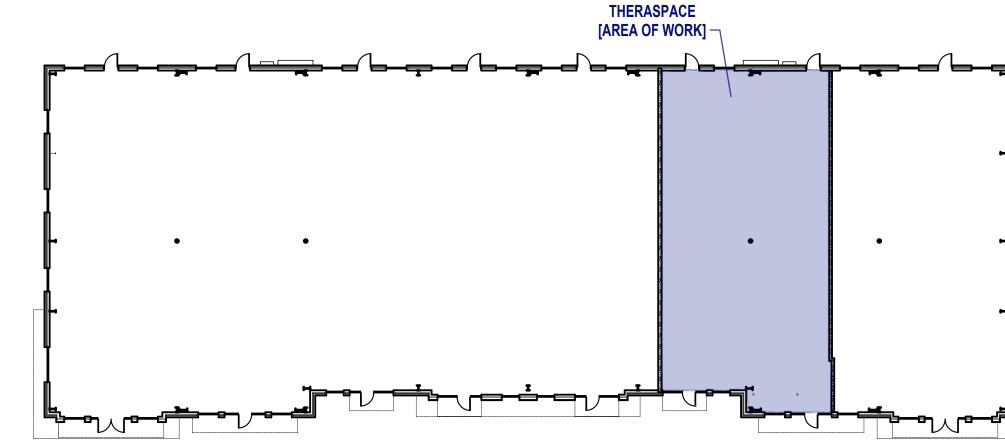
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ACCESSIBILITY
DETAILS

SURFACE MOUNTED

A0.1



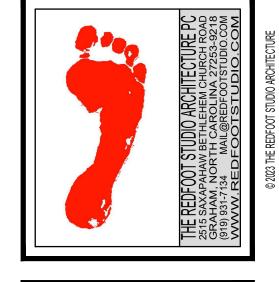




CONSTRUCTION NOTES:

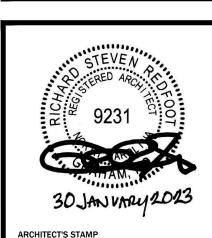
- C1 EXISTING INSULATED EXTERIOR WALL TO REMAIN, PROVIDE GYPSUM WALLBOARD ON INTERIOR SIDE TO DECK ABOVE, TYPICAL
- C2 EXISTING 2-HOUR FIRE-RATED FIRE WALL TO REMAIN, ANY WORK TO WALL PER UL U419, SEE 1/A0.0, TYPICAL
- (C3) EXISTING STOREFRONT WINDOW OR ENTRY ASSEMBLY TO REMAIN, CASE OPENING W/ GYPSUM WALLBOARD
- (C4) EXISTING HOLLOW METAL DOOR AND FRAME ASSEMBLY TO REMAIN, PAINT, CASE OPENING W/ GYPSUM WALLBOARD
- (C5) EXISTING TUBE STEEL COLUMN TO REMAIN, PAINT
- EXISTING STEEL COLUMN(S) TO REMAIN, COORDINATE W/ OWNER DURING FRAMING WHETHER THEY WANT TO ENCASE THE COLUMN W/ FRAMING AND GYPSUM WALLBOARD OR LEAVE EXPOSED AND PAINT
- (C7) PROVIDE NEW 1-HOUR FIRE-RATED TENANT DEMISING WALL TO ROOF DECK, PER UL U419, SEE 1/A0.0, TYPICAL
- (C8) PROVIDE NEW INTERIOR 3-5/8" METAL STUD WALL, SEE 1/A3.0, TYPICAL WHERE SHOWN THUS
- ⟨ C9 ⟩ PROVIDE NEW INTERIOR 6" METAL STUD WALL, SIMILAR TO 1/A3.0
- PROVIDE NEW SOUND WALL ASSEMBLY TO ROOF DECK, GYPSUM WALLBOARD FINISH TO BE CONTINUOUS WHERE NON-SOUND WALLS INTERSECT SOUND WALL, SEE 2/A3.0
- (C11) CASED OPENING, HEAD OF OPENING AT 7'-0" AFF
- PROVIDE 16'-0" LINEAR FEET OF CONTINUOUS BLOCKING FROM FLOOR TO CEILING IN DEMISING WALL, VERIFY LOCATION IN FIELD W/ OWNER
- PROVIDE STEEL EYE HOOK IN CEILING FOR SWING OR OTHER EXERCISE EQUIPMENT. COORDINATE FINAL LOCATION W/ OWNER DURING FRAMING; VERIFY ANY REINFORCING REQUIREMENTS W/ STRUCTURAL ENGINEER.
- PROVIDE BLOCKING, POWER, AND DATA FOR CEILING MOUNTED PROJECTOR, COORDINATE FINAL LOCATION IN FIELD W/ OWNER
- (C15) RECEPTION COUNTER AND DESK, OPEN BELOW DESK, PROVIDE (2) ROLLING BELOW COUNTER LOCKABLE FILE CABINETS
- ⟨C16⟩ RECEPTION CABINETS, SEE 3/A3.0
- (C17) LAUNDRY CABINETS, SEE 4/A3.0
- STAFF LOUNGE CABINETS, PLASTIC LAMINATE COUNTERTOP AT 34" AFF, PROVIDE MINIMUM (1) UPPER CABINET STORAGE SHELF AT 48" AFF, SIDE APPROACH ACCESSIBLE SINK, SEE 5/A3.0
- C19 PROVIDE (6) 24" ADJUSTABLE WIRE SHELVES WITH HEAVY-DUTY BRACKETS & STANDARDS
- (C20) WASHER AND DRYER, SUPPLIED BY OWNER AND INSTALLED BY CONTRACTOR
- (C21) REFRIGERATOR, SUPPLIED BY OWNER AND INSTALLED BY CONTRACTOR
- C23 ELECTRIC PANEL LOCATION, RECESS IN WALL, SEE ELECTRICAL DRAWINGS

- I. 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.
- 4. PROVIDE GYPSUM WALLBOARD TO DECK ABOVE AT ALL EXTERIOR AND DEMISING WALLS.
- 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. VERIFY INSTALLATION REQUIREMENTS AND LOCATIONS OF ALL THERAPY EQUIPMENT W/ OWNER. VERIFY ANY REINFORCING OR SUPPORT REQUIREMENTS W/ STRUCTURAL ENGINEER.



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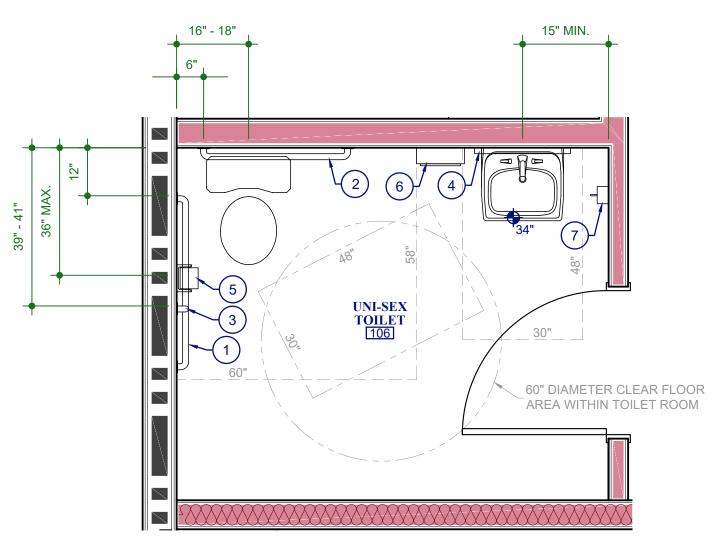
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KEY PLAN AND FLOOR PLAN



ADA REQUIREMENTS AND BE INSTALLED PER ADA GUIDELINES.

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

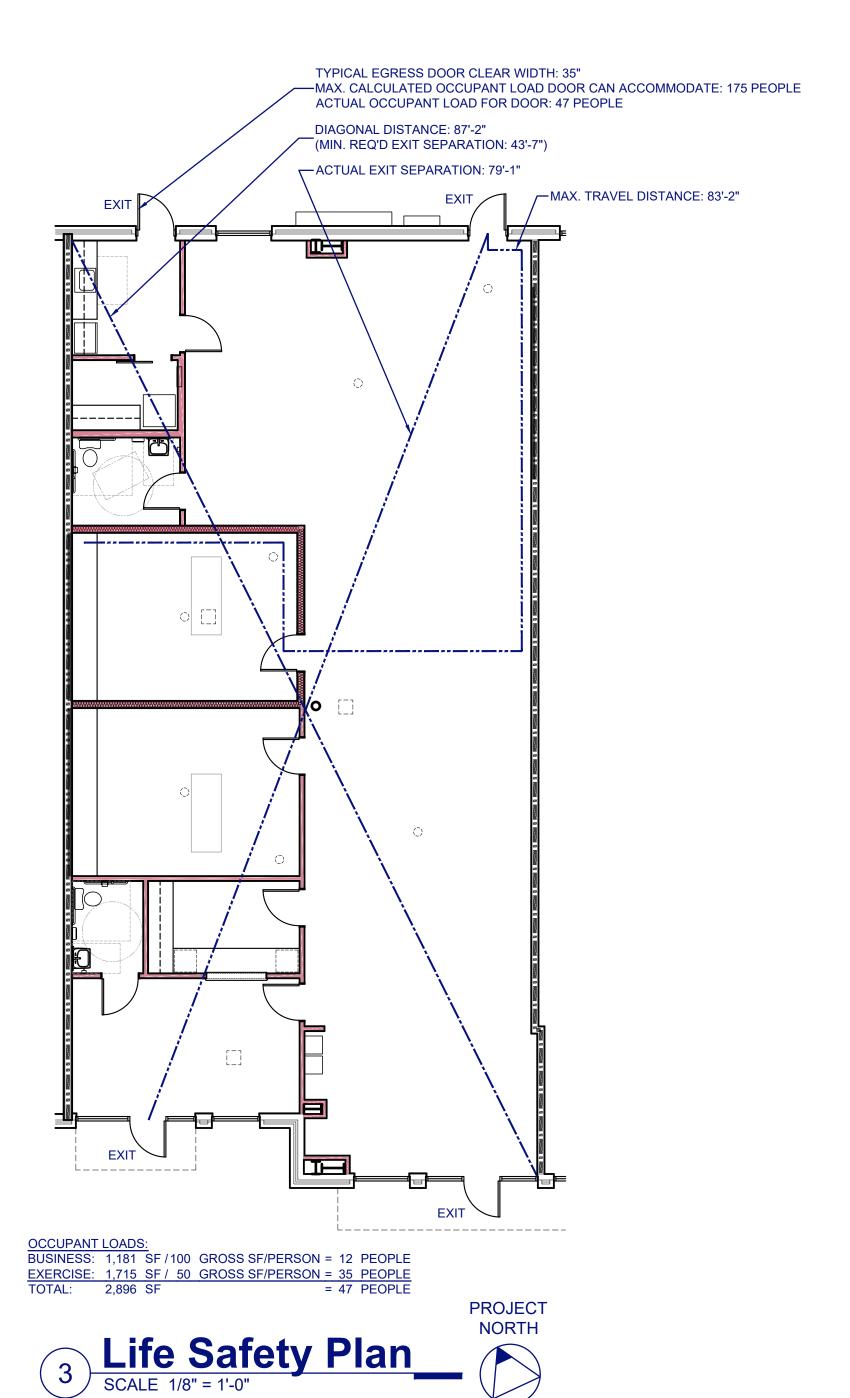


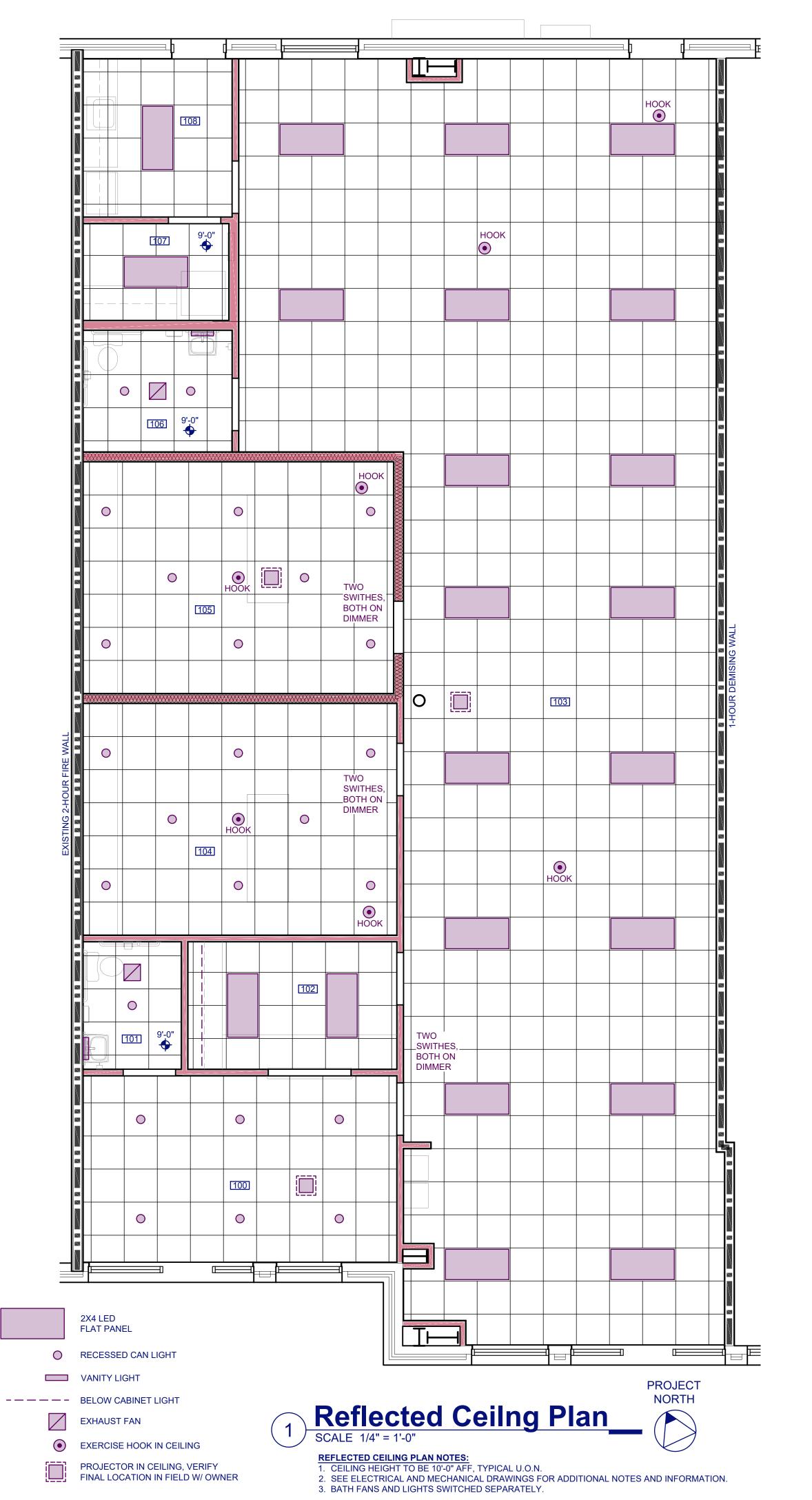
TOILET PLAN NOTES:

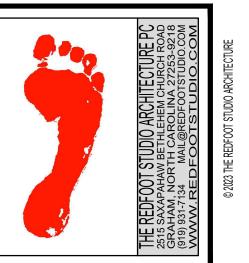
1. PROVIDE ALL BLOCKING REQUIRED FOR GRAB BARS AND OTHER ACCESSORIES. 2. UNI-SEX TOILET 106 IS SHOWN, ALL OTHER TOILET ROOMS ARE SIMILAR.

2 Enlarged Toilet Plan SCALE 1/2" = 1'-0"

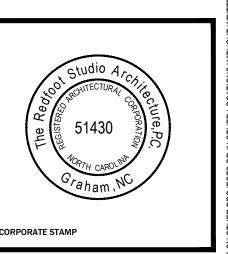


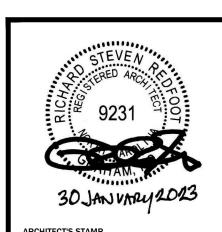






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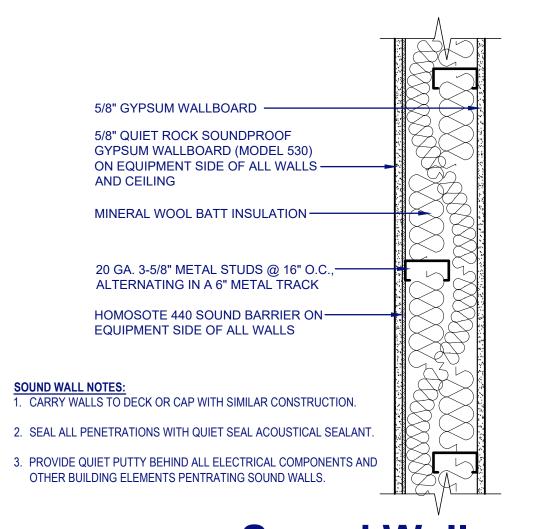




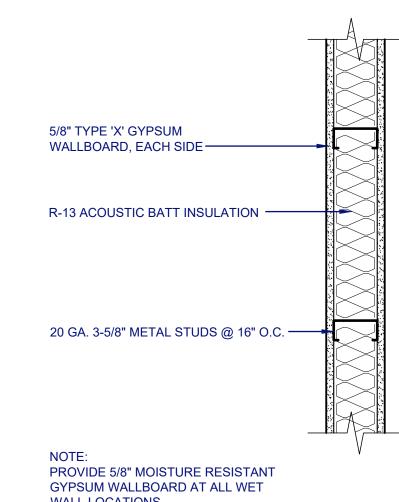
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CEILING, TOILET, & LIFE SAFETY FLOOR PLANS

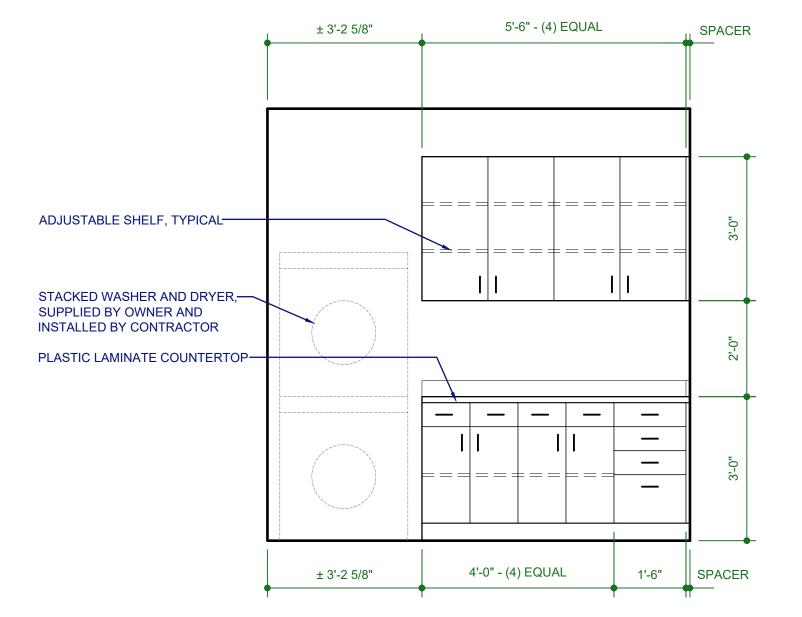
A2.0

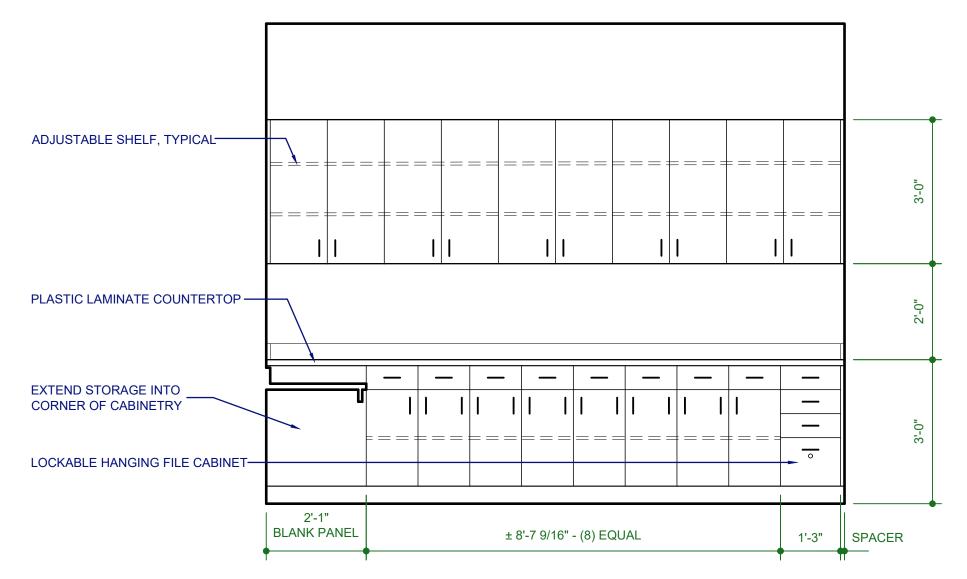


Sound Wall_ SCALE 1 1/2"= 1'-0"



WALL LOCATIONS.



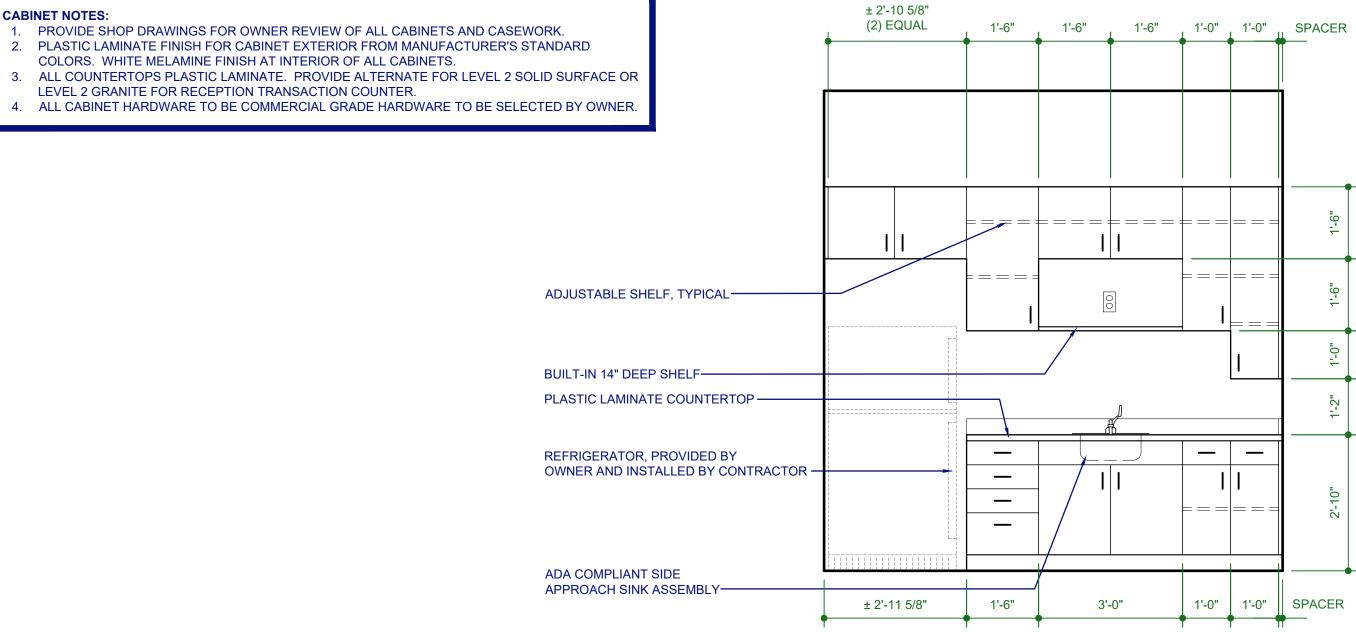


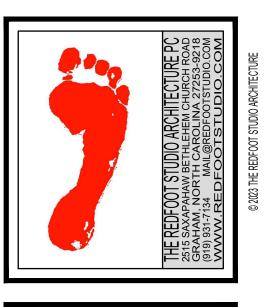
COLORS. WHITE MELAMINE FINISH AT INTERIOR OF ALL CABINETS.

LEVEL 2 GRANITE FOR RECEPTION TRANSACTION COUNTER.

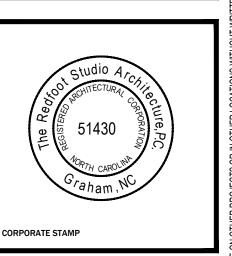
CABINET NOTES:

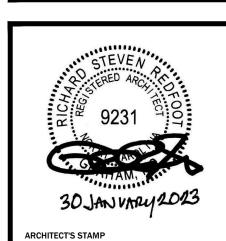
Reception Work SCALE 1/2" = 1'-0"





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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	ı	1/2"	3*
P2	WALL MOUNT LAVATORY	TOTO LT307. 4 DR EQUAL BY AMERICAN STANDARD DR KOHLER	VITREDUS CHINA LAVATORY WITH BACKSPLASH COMPLYING WITH ASME 112. 19. 2. TOP OF RIM SHALL BE 34 INCHES AFF FOR ADA. PROVIDE WITH LAV-GUARD PROTECTORS FOR SUPPLY AND DRAIN LINES. PROVIDE JR SMITH 0700 (CONCEALED ARMS) WITH 19' ARMS 0800 (WALL SUPPORT PLATE). USE MOEN 8430 FAUCET.	1/2*	1/2"	2"
P3	SINK SINGLE BOWL	JUST MFG SL-ADA-2125-A-GR OR EQUAL BY FRANKE, ELKAY OR MOEN	TOP MOUNTED 18 GA STAINLESS STEEL. MAX BOWL DEPTH 6 INCHES FOR WHEEL CHAIR ACCESSIBLITY-USE JUST MFG FAUCET SET JPO-1550 OR EQUAL BY MOEN, DELTA OR KOHLER.	1/2*	1/2"	2"
P4	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"	-
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"	-
P6	EXPANSION TANK	AMTROL ST-5 OR EQUAL BY WATTS OR BELL & GOSSETT	INSTALL ON COLD WATER LINE BETWEEN WATER HEATER AND RPZ	_	3/4"	_
P7	SINGLE LAV TANKLESS ELEC WATER HEATER	STIEBEL ELTRON MINI-E 3-1 OR APPROVED EQUAL	SINGLE POINT TANKLESS THERMOSTATIC ELECTRIC WATER HEATER. 3 kW AT 120V. 40°F TEMPERATURE RISE AT 0.5 GPM. DESIGNED TO MEET 105-110°F DUTLET TEMPERATURE AT 0.5 GPM. INSTALL LOW FLOW AERATORS SUPPLIED WITH UNIT. UL LISTED.	3/8"	3/8"	-
P8	WASHING MACHINE SHUTDFF BOX	WATTS SERIES 2M2 DWB OR APPROVED EQUAL	SINGLE-HANDLE WASH MACHINE SHUTDFF VALVE. THE BALL-TYPE VALVE SHALL SIMULTANEOUSLY CONTROL THE FLOW OF BOTH HOT AND COLD WATER TO THE APPLIANCE AND BE FITTED IN A DECORATIVE RECESSED WALL BOX. THE DECORATIVE WALL BOX SHALL HAVE A PROVISION FOR 1-1/2 INCH AND 2 INCH DRAIN PIPING AND A DECORATIVE COVER. RATED FOR 150 PSI AND 180°F MAXIMUM.	1/2*	1/2"	-
P9	DRINKING FOUNTAIN	DASIS PG8ACSL DR EQUAL BY ELKAY DR STERN WILLIAMS	ADA COMPLIANT FOR ADULT AND CHILD. 8.0 GPH OF 50°F WATER AT 90°F AMBIENT. PROVIDE ACCESSORY APRON FOR ADA COMPLIANCE AS NECESSARY	-	3/8"	2'
P10	1' DOUBLE CHECK VALVE	WATTS 007M1QT DR EQUAL BY CONBRACO DR 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'	-
FCD	FLOOR CLEANOUT	ZURN, WATTS, JR SMITH	EPDXY CDATED CAST IRON FLOOR CLEANOUT WITH ROUND ADJUSTABLE GASKETED NICKEL BRONZE TOP, REMOVABLE GAS TIGHT GASKETED BRASS CLEANOUT PLUG, AND NO HUB INLET.	-	-	4*
AAV	AIR ADMITTANCE VALVE	STUDOR REDIVENT OR APPROVED EQUAL	ANSI/ASSE 1051 LISTED. NSF STANDARD 14. PROVIDE PVC OR ABS CONNECTOR AS NECESSARY. CONNECT VALVE TO PIPING PER MANUFACTURER. INSTALL IN THE VERTICAL, UPRIGHT POSITION AFTER ROUGH-IN AND PRESSURE TESTING OF THE SYSTEM. PROVIDE WALL BOX IF NOT ABOVE CEILING OR OTHERWISE CONCEALED.	-	-	2"

			PLUMBING LINE	S SIZING TAE	BLE				
FIXTURE TYPE	DCCUPANCY	QTY	DRAINAGE FIX	CTURE UNITS	RE UNITS				
			EACH	TOTAL	CW	HW	CW & HW	HW TOTAL	TOTAL
WATER CLOSET (FLUSH TANK)	PUBLIC	5	4. 00	8. 00	5. 00	0, 00	5. 00	0. 00	10. 00
LAVATORY	PUBLIC	3	1. 00	3. 00	1. 50	1. 50	2. 00	4. 50	6. 00
WASHING MACHINE	PRIVATE	1	2. 00	2. 00	1. 00	1. 00	1. 40	1. 00	1. 40
EMERGENCY FLOOR DRAIN	PUBLIC	1	0, 00	0. 00	0. 00	0. 00	0. 00	0. 00	0. 00
REFRIGERATOR	0. 5	1	0, 50				TOTAL WFSUs	5, 5	17. 4
DEMAND FIXTURE	GPM	QTY	TOTAL GPM				TOTAL DFU	13.	0
HOSE BIBBS	5	1	5. 00				GPM	8. 00	14. 92
						OTHER F	IXTURES' GPM	5. 00	5, 50
							TOTAL GPM	13. 00	20. 42
MINIMUM BUILDING DRAIN SIZE	4"			CDN	inect to ex	(ISTING TA	IPS		
MINIMUM WATER LINE SIZE	1"								

DO NOT TAP WATER LINE AHEAD OF DOUBLE CHECK VALVE.

LINETYPE LEGEND
140 D HOT WATER RECIRCULATING
HOT WATER SUPPLY
VENT LINE

	ELECTRIC WATER HEATER SCHEDULE											
MADIZ	МЕС	МПЛСІ	TANK VOL	INPUT	RECOVERY	SET POINT	POV	IER	CONNEC	CTIONS	прттпис	
MARK	MFG	MODEL	GALS	kW	GPH @ 60° ∆T	• F	VOLTAGE	PHASE	HOT	COLD	OPTIONS	
WH	RHEEM	EGSP20	20	4. 5	30	110	208	1	3/4	3/4	1-5	

- . PROVIDE GALVANIZED STEEL SAFETY PAN
- 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 A.O. SMITH, BRADFORD WHITE, OR STATE

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. . "PROVIDE" MEANS TO FURNISH AND INSTALL. THE PLUMBING CONTRACTOR SHALL ALSO INSTALL MATERIALS FURNISHED BY OTHERS AND THE GENERAL CONTRACTOR.
- 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
- ELEMENTS. ALL MATERIALS AND EQUIPMENT SHALL REMAIN THE PROPERTY OF THE PC UNTIL THE PROJECT HAS BEEN COMPLETED AND TURNED OVER TO THE OWNER.
- 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 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.
- THE PC SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS NECESSARY FOR THE COMPLETION OF THE WORK UNDER
- 8. DO NOT SCALE THESE DRAWINGS-REFER TO ARCHITECTURAL SHEETS FOR DIMENSIONS.
- 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 SHALL VISIT THE SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH 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 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
- 12. SYSTEM TESTING SHALL BE PERFORMED BY PLUMBING CONTRACTOR IN ACCORDANCE WITH NORTH CAROLINA PLUMBING CODE, SECTIONS 312.2, 312.3, AND 312.5.
- 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

- 1. ALL OVERHEAD DOMESTIC WATER PIPING SHALL BE TYPE L COPPER 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
- 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
- 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 ADOPTED BY THE JURISDICTION IN WHICH THE BUILDING IS LOCATED.

- 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
- 7. 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 FOR THE ENTIRE DEVELOPED LENGTH OF THE PIPE.
- 9. 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

- SHALL BE PROTECTED UNTIL FINAL CONNECTIONS ARE MADE. WITHOUT STRESSING PIPE, JOINTS, OR CONNECTED EQUIPMENT. ROUTE PIPING IN AN ORDERLY MANNER-PARALLEL OR PERPENDICULAR TO
- SPECIFIC TO THE PROJECT.
- 13. PC SHALL DISINFECT THE ENTIRE DOMESTIC WATER PIPING SYSTEM IN 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.

- 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
- 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

- CLEAN AND DRY, AND ALL FOREIGN MATERIALS ARE REMOVED BEFORE APPLYING INSULATION MATERIALS. INSULATION SHALL BE BY KNAUF,
- ARMACELL, JOHNS-MANVILLE, OR OWENS-CORNING. 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 OF THE APPROVED MANUFACTURER.

EQUIPMENT PROVIDED.

1. 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 CONCEALED IN FINISHED AREAS. ANY OPEN ENDS 2. 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

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, PROVIDE A PERMANENT ELECTROLYTIC ISOLATION MATERIAL TO PREVENT 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. 4. 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 FLOORS AND WALLS ABOVE AND BELOW CEILINGS. PROVIDE SPLIT PIPE SLEEVES IN NEW WALLS BUILT UP AROUND EXISTING PIPES. TACK 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
 - SPACES BETWEEN SLEEVES AND PIPES SHALL BE FILLED OR CAULKED IN AN APPROVED MANNER. 5. 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.

6. HOT WATER PROVIDED TO PUBLIC HAND-WASHING

THAN TWO PIPE SIZES LARGER THAN EACH UNCOVERED. ANNULAR

- FACILITIES/LAVATORIES SHALL BE TEMPERED WATER DELIVERED THROUGH AN APPROVED WATER-TEMPERATURE LIMITING DEVICE THAT CONFORMS TO ASSE 1070 OR CSA B125.3. 7. 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. 9. THE PC SHALL INSTALL WATER HAMMER ARRESTORS ON BRANCH LINES WITH QUICK CLOSING VALVES PER MANUFACTURER'S INSTALLATION
- INSTRUCTIONS. WATER HAMMER ARRESTORS SHALL CONFORM TO ASSE 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 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, 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
- PER 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 BE
- 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 OF THE DRAINAGE PIPE OR AT RIGHT ANGLES THERETO. CLEANOUTS 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 918 OF THE NC
- PLUMBING CODE. AIR ADMITTANCE VALVES SHALL CONFORM TO ASSE 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.
- 25. INSTALL FULL OPEN VALVES PER NC PLUMBING CODE 606.1, ON THE MAIN WATER LINE INTO THE BUILDING. INSTALL CUT OFF VALVES PER



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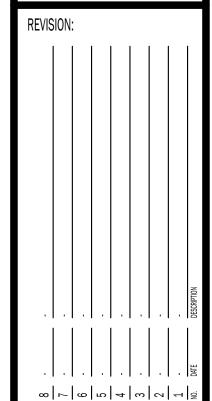
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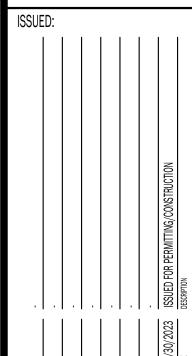
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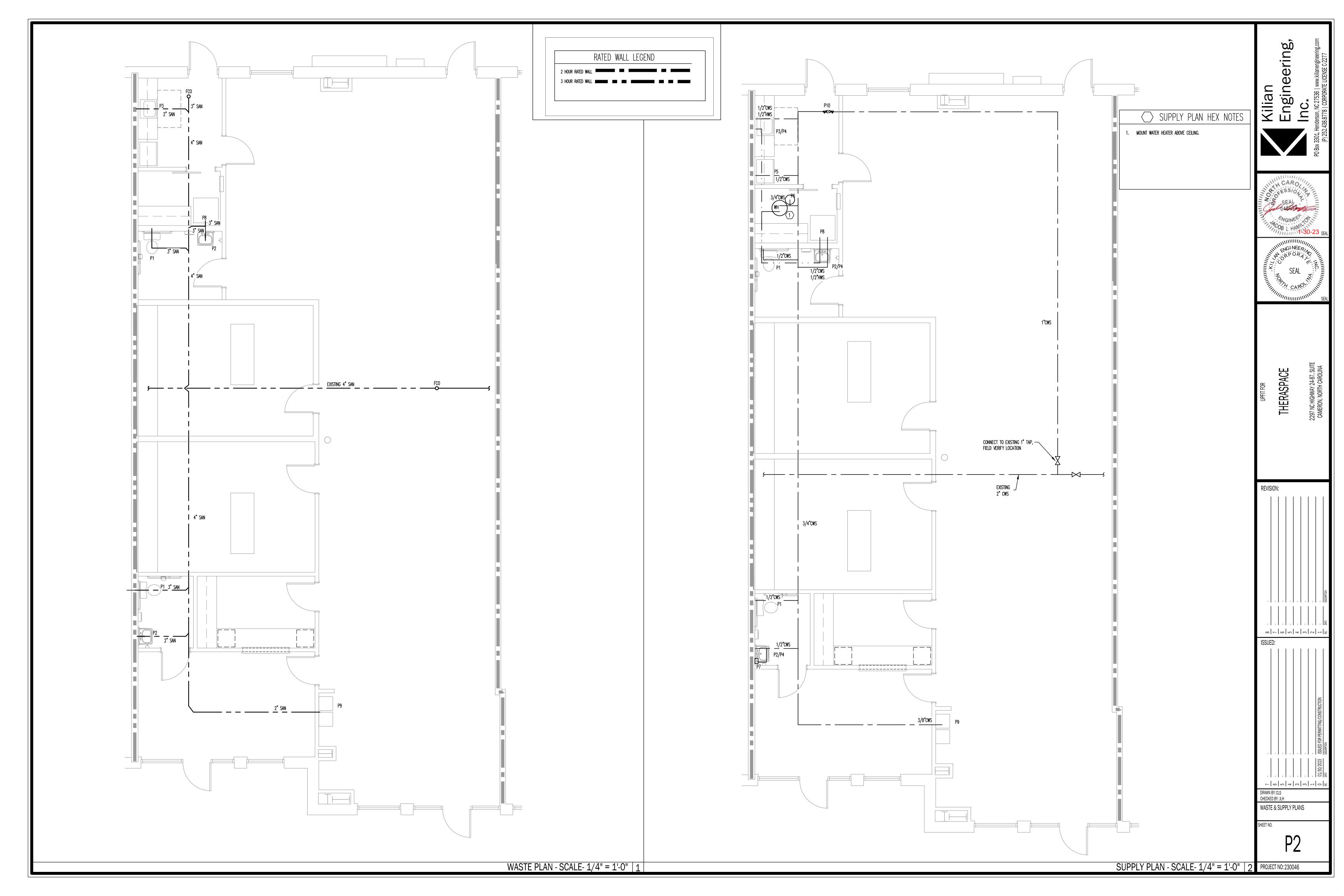


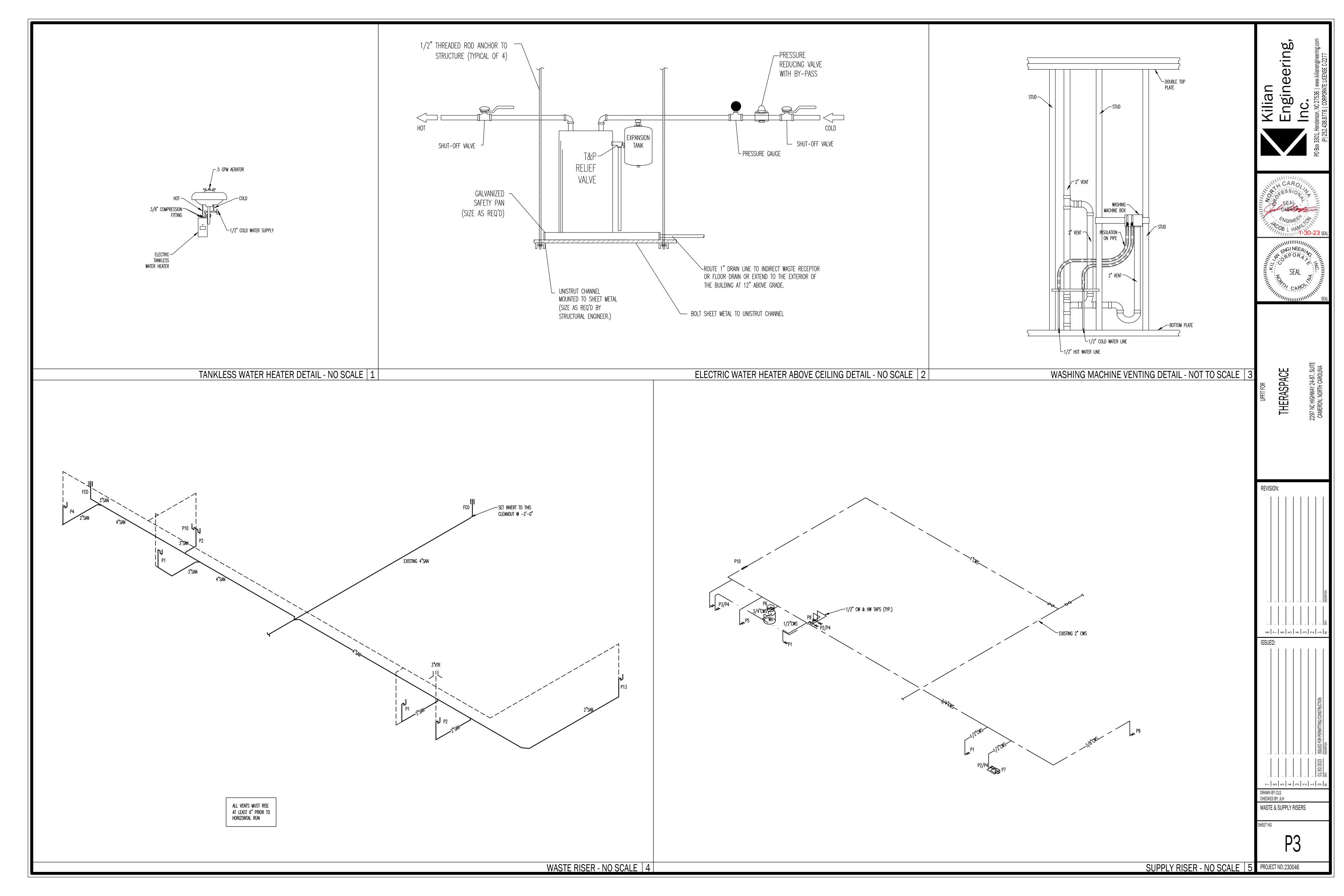




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SHEET NO.





GENERAL MECHANICAL NOTES:

- 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 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 THE MC SHALL INSTALL ALL MATERIALS AND EQUIPMENT 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 METHODS: EXISTING CONDITIONS. THE MC SHALL CONTACT THE ENGINEER TO RESOLVE ANY 1. INSULATE DUCTWORK WITH FIBERGLASS DUCT WRAP; INSTALLED R-VALUE SHALL

DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THESE PLANS. THE MC SHALL

- COORDINATE WITH OTHER TRADES PRIOR TO THE START OF CONSTRUCTION. ALL MECHANICAL MATERIALS SHALL BE NEW AND FREE OF DEFECT AND LISTED 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 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 RECOMMENDATIONS FOR SERVICEABILITY. ALL ROOFTOP EQUIPMENT MUST BE A
- 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 PROJECT. MC SHALL PROVIDE ALL DOCUMENTATION TO THE OWNER AS NECESSARY TO SUBMIT FOR FACTORY WARRANTIES.
- CONTRACTOR SHALL PROTECT ALL HVAC EQUIPMENT FROM CONSTRUCTION AND 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. AIR-COOLED THE MC SHALL PROVIDE FACTORY AND FIELD INSTALLED ACCESSORIES AS SCHEDULED 10. PROVIDE BALANCING DAMPERS AT POINTS ON SUPPLY WHERE BRANCHES ARE OR AS NECESSARY FOR A COMPLETE AND OPERATIONAL HVAC SYSTEM.
- 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 FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA LOW PRESSURE DUCT
- 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
- 4.2. FOR DUCT WRAP, THE INSTALLED THICKNESS SHALL BE ASSUMED TO BE 75 PERCENT (25-PERCENT COMPRESSION) OF NOMINAL THICKNESS. FOR FACTORY-MADE FLEXIBLE AIR DUCTS, THE INSTALLED THICKNESS

THICKNESS SHALL BE USED.

- 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.
- 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
- 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.
- 2018 NC MECHANICAL CODE. 12. THE MC SHALL PROVIDE ALL REFRIGERATION PIPING. ALL PIPE AND FITTINGS 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. VERIFY THAT DUCTS HAVE BEEN TESTED BEFORE APPLYING INSULATION 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

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. PROVIDE DUCT ACCESS DOORS FOR INSPECTION AND CLEANING BEFORE AND AFTER FILTERS, COILS, FANS, AUTOMATIC DAMPERS, AT FIRE DAMPERS, COMBINATION FIRE AND SMOKE DAMPERS.
- CONSTRUCT T's, BENDS, AND ELBOWS WITH RADII OF NOT LESS THAN 1-1/2 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.
- 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 SUPPORT THE WEIGHT OF THE 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 OR PIPING SUPPORT. HANGERS SHALL NOT BE ATTACHED TO CORRUGATED STEEL
- 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, 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. 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. MC SHALL INSTALL A SMOKE DETECTOR—UL LISTED FOR DUCT INSTALLATION (UL 268A) IN EACH UNIT'S RETURN UPSTREAM OF ANY FILTERS, OUTSIDE AIR CONNECTIONS, OR DECONTAMINATION EQUIPMENT. DUCT SMOKE DETECTORS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 72. DUCT SMOKE DETECTOR SUPERVISION SHALL COMPLY WITH 606.4.1 OF THE 2018 NC MECHANICAL CODE. IF THE BUILDING IS (TO BE) EQUIPPED WITH A FIRE ALARM SYSTEM, THE FIRE ALARM SYSTEM CONTRACTOR SHALL FURNISH AND WIRE ALL DUCT SMOKE DETECTORS. IF THE BUILDING IS NOT PROVIDED WITH A FIRE ALARM SYSTEM, THE MC SHALL FURNISH AND WIRE THE DUCT SMOKE DETECTORS AND A/V DEVICE. IT SHALL BE THE RESPONSIBILITY OF THE MC TO INSTALL ALL SMOKE DUCT DETECTORS PER NFPA AND MFG'S INSTALLATION INSTRUCTIONS REGARDLESS OF
- WHO FURNISHES THE DEVICES. 13. 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. 14. 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. 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. 16. 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. P-TRAPS AND CONDENSATE LINES MAY BE PVC WHERE NOT LOCATED IN PLENUMS; OTHERWISE, THEY SHALL BE TYPE M COPPER. INSTALL BACKDRAFT DAMPERS ON FRESH AIR AND EXHAUST DUCTS WHERE THEY

PENETRATE THE THERMAL ENVELOPE PER NORTH CAROLINA ENERGY CONSERVATION

CODE C402.5.5

11. AIR FILTERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 605 OF THE

RATED WALL LEGEND 2 HOUR RATED WALL 3 HOUR RATED WALL

MECHANICAL PLAN HEX NOTES ROUTE CONDENSATE TO EXTERIOR OF BUILDING. TERMINATE IN LOCATION THAT

WILL NOT PRODUCE SLIPPING HAZARD.

	SPLIT SYSTEM HEAT PUMP SCHEDULE													
		NDMINAL	MINAL REF LINES		MOTO	MOTORS		EFFICIENCIES		ELECTRICAL			VETCUT	
MARK	MFG / MODEL #	CAPACITY	GAS	LIQ	COMPRESSOR	COND. FAN	SEER	CIP	HSPF	V/PH	MCA	MOCP	WEIGHT	REMARKS
		TONS	UAS	LIW	ND.	ND.	EER	17 °	пост	V/PH	MLA	MUCP	LBS	
HP-1,2	YORK / YH2E48TB21S	4	7/8 ″	3/8"	1	1	14. 3/10. 5	2. 4?	7. 5	208/1	26. 1	45	215	1, 5, 6, 8-10

	SPLIT SYSTEM AIR HANDLER SCHEDULE																
		NDMINAL	AIR	FLOW	FAN MO	TORS	H	EATING CAPACITY	1	COOLI	NG CAPA	CITY	ELE	CTRICAL		WEIGHT	
MARK	MFG / MODEL #	CAPACITY	SUPPLY	MIN. DA	SUPPLY	ESP	DUTPUT	AUX ELEC I	I EAT	EAT WB/DB	TOTAL	SENSIBLE	V/PH	MCA	MOCP	METALL	REMARKS
		TONS	CFM	CFM	N□.	in wg	MBH	kW	STAGES	• F	MBH	MBH	V/ГП	MCH	MUCE	LBS	
AHU-1,2	YDRK / JHETC48GBCS2N1	4	1600	325	1	0. 5	15. 0	4, 4	1?	65. 7/79. 1	46. 7	34. 8	208/1	30. 7	30	129	2-5, 7-10

- PROVIDE CONCRETE PAD FOR UNIT TO SIT ON
- PROVIDE HEAT STRIP OUTDOOR TEMPERATURE LOCKDUT 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
- 8. OR EQUAL BY CARRIER, LENNOX, DAIKIN OR TRANE
- 9. ANY EQUIPMENT SUBSTITUTIONS MUST EQUAL OR EXCEED EFFICIENCIES LISTED (RATINGS PER ARI) 10. MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES

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

	EXHAUST FAN SCHEDULE							
MARK	MFG / MODEL #	TYPE	ESP (in WG)	CFM	VOLT/PH	FLA	SONES	NOTES
EF-1,2	GREENHECK SP-B110	CEILING	0, 40	96	120/1	1. 14	2. 0	1-3

- 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

			REGISTE	R & GRILLE	SCHEDULE	
MARK	MFG	MODEL #	SIZE	MOUNTING	DESCRIPTION	NOTES
Α	HART & COOLEY	SAH	24X24	LAY-IN	4-WAY DIFFUSER, BRIGHT WHITE	1,2
R	HART & COOLEY	RH45T	24X24	LAY-IN	ALUMINUM, LAY IN RETURN GRILLE	1

OR EQUAL BY PRICE, METAL-AIRE, CARNES, TITUS OR NAILOR. PROVIDE WITH FOIL LINED, MOLDED INSULATION BLANKET.

EXTERIOR DESIGN CONDITIONS	
HEATING DESIGN DRY BULB	22. 9° F
COOLING DESIGN DRY BULB	91. 3°F
COOLING DESIGN WET BULB	74. 7° F
THEOLOG BEALCH ACHINITION	
INTERIOR DESIGN CONDITIONS	
HEATING DESIGN DRY BULB	70 ° F
COOLING DESIGN DRY BULB	75 ° F
COOLING RELATIVE HUMIDITY	50%
HEATING LOAD:	28,770 BTU/H
	,
SENSIBLE COOLING LOAD:	36,975 BTU/H
LATENT COOLING LOAD:	9, 700 BTU/H
CITICAL COREING COND.	7,700 110/11
MECHANICAL SPACING CONDITIONING SYSTEM:	
UNITARY	AIR COOLED DX
DESCRIPTION OF UNIT(S)	SEE SCHEDULES
BOILER	N/A
TOTAL BOILER DUTPUT	N/A
TOTAL BOILER OUTPUT CHILLER	n/a N/A
CHILLER	N/A

PRESCRIPTIVE

SEE SCHEDULES

ZONE 3A

MECHANICAL SYSTEM, SERVICE SYSTEMS, AND EQUIPMENT

METHOD OF COMPLIANCE

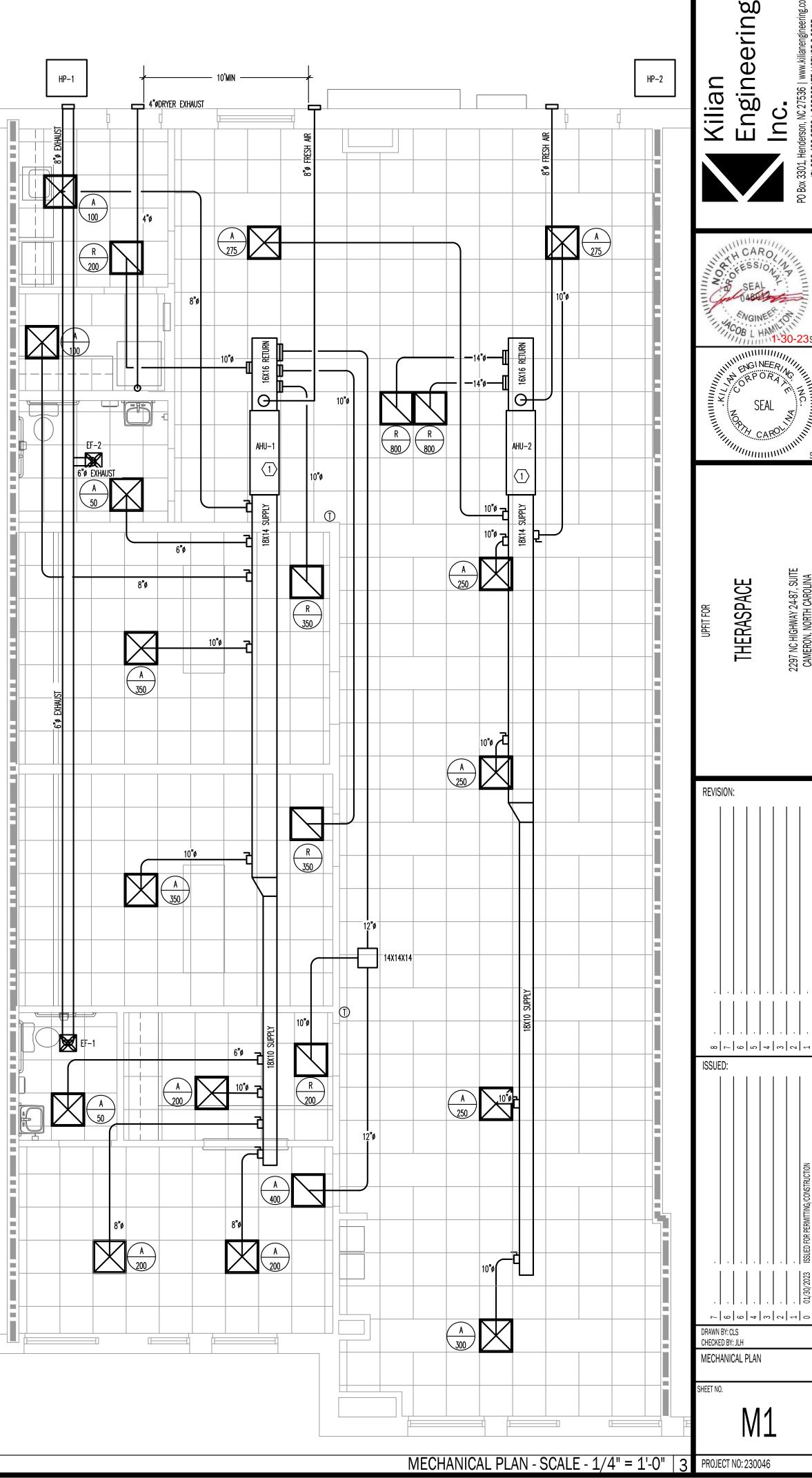
THERMAL ZONE

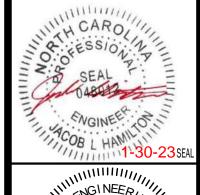
DESIGNER STATEMENT:

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

EQUIPMENT SCHEDULES WITH MOTORS (MECHANICAL SYSTEMS):

		Ventil	ation Calculation (Theras	pace Center))				
Room N	lame(s)	Zone Type	Area (sq.ft.)	Rp	Ra	Default Occupancy	Pz	Ez	Airflow to Zone (cfm)
Office	Areas	Office Space	2477	5	0.06	5	12.39	0.8	2900
Rece	ption	Reception	213	5	0.06	30	6.39	0.8	250
Stor	rage	Storage	98	0	0.12	0	0.00	0.8	0
Rest	room	N/A	112	0	0	0	0.00	0.8	50
		N/A	0	0	0	0	0.00	0.8	0
			Maximum Zp:	0.22365					
K-12 School?	No		Ev:	0.9					
			Actual System Population:	15					
Uncorrected Intake	248	3 cfm							
Outdoor Air Intake	276	cfm							
Percent of Unit Air	9%								







MECHANICAL NOTES 1

MECHANICAL SCHEDULES & DESIGNER STATEMENT | 2 |

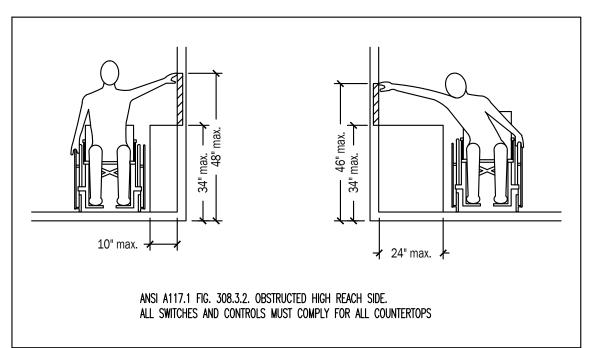
	LED LIGHT FIXTURE SCHEDULE											
MARK	DESCRIPTION	I DUVED /I ENS	LAMPS	LAMPS		INPUT	MDUNTING	REMARKS	MFG	MODEL		
MAKK	DESCRIPTION	LOUVER/LENS	TYPE	CCT	VOLTAGE	WATTAGE	MUUNTING	KEMAKKS	Mru	MUDEL		
Α	2X4 LED FLAT PANEL - HIGH LUMEN	ACRYLIC	LED	4000K	120	52. 7	RECESSED	2, 3	LITHONIA	CPANL-2X4-AL06-SWV7-M2		
В	2X4 LED FLAT PANEL - MEDIUM LUMEN	ACRYLIC	LED	4000K	120	43. 3	RECESSED	2, 4	LITHONIA	CPANL-2X4-AL06-SWV7-M2		
С	LED DOWNLIGHT	-	LED	4000K	120	17. 5	RECESSED	2	LITHONIA	LDN6-40/15-L06-AR-LSS-MVDLT-EZ10		
С	LED DOWNLIGHT	-	LED	4000K	120	8. 9	RECESSED	2	LITHONIA	LDN6-40/07-L06-AR-LSS-MVDLT-EZ10		
ΟE	EXTERIOR OVAL LED EMERGENCY LIGHT	-	LED	N/A	120	2. 8	SURFACE	2	LITHONIA	AFD-DB-MVDLT-N-SD		
EX	LED EXIT SIGN W/ BATTERY BACKUP	-	LED	N/A	120	0. 71	SURFACE	1,2	LITHONIA	LQM-S-W-3-R-120/277-EL-N-SD		
EXH	LED EXIT/COMBO W/ BATTERY BACKUP	-	LED	N/A	120	4. 3	SURFACE	1,2	LITHONIA	LHQM-LED-R-SD		
EM	DUAL HEAD EMERGENCY FIXTURE	-	LED	N/A	120	1. 09	SURFACE	1,2	LITHONIA	ELM2L-M12		

- FIXTURE SHALL HAVE BATTERY BACKUP FOR 90 MINUTE ILLUMINATION.
- OR EQUAL BY COOPER, PHILIPS OR DAY-BRITE LIGHTING
- FIXTURE IS SELECTABLE. SET COLOR TEMPERATURE TO 4000K AND NOMINAL LUMENS TO 6000LM. 4. FIXTURE IS SELECTABLE. SET COLOR TEMPERATURE TO 4000K AND NOMINAL LUMENS TO 5000LM.

	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.								
\$ _{MD}	OCCUPANCY SENSOR/DIMMER SWITCH	LUTRON MS-Z101								
\$ _M	WALL MOUNTED OCCUPANCY SENSOR	LUTRON MS-OPS6M2-DV-VH								
\$ _P	LOW VOLTAGE SWITCH	LUTRON PJ-2B-GXX-YY								
O S	CEILING OCCUPANCY SENSOR	LURTON LRF2-DCR2B-P-WH								
RMJ	POWER PACK	LUTRON RMJS-16R-DV-B								
J	JUNCTION BOX	GALVANIZED METAL BOX CONSTRUCTED IN ACCORDANCE WITH 314.40 OF THE NEC.								
\bowtie	EXHAUST FAN	VENT FAN, 120V, CFM AS NOTED MC TO PROVIDE AND VENT, EC TO WIRE.								

- GENERAL LIGHTING SENSOR NOTES: INSTALL PICO SWITCHES IN LOCATIONS SHOWN.
- ALL SWITCHES AND SENSORS TO BE WHITE
- RMJ'S WITH A NUMBER ASSOCIATE WITH THE WALL OR CEILING MOUNT DEVICE
- WITH THE SAME NUMBER (IE RMJ1 ASSOCIATES WITH WW1, WC1, WH1 ETC.) 4. EC TO ORDER ALL WALL PLATES AND ACCESSORIES FOR COMPLETE INSTALLATION.

		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. GFC OR AFCI IF NOTED. 'WP' DENOTES WEATHERPROOF COVER. 'CH' DENOTES COUNTER HEIGHT. LISTED TAMPERPROOF IF NOTED. MEET FEDERAL SPECIFICATION W-C-596
\bigoplus	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. 'VP' 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.
	JUNCTION BOX	GALVANIZED METAL BOX CONSTRUCTED IN ACCORDANCE WITH 314, 40 OF THE NEC.



	<u>CTRICAL SYSTEM AND EQU</u> TIVE _X_ PERFORMAN				
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 LEGEND			
TOTAL INTERIOR WA	TTAGE SPECIFIED VS	WATTS SPECIFIED	WATTS ALLOWED		
ALLOWED:		1541. 8	2610. 00		
DCCUPANCY	AREA (sf)	ALLOWANCE (W/sf)	WATTAGE ALLOWED		
HEALTH CARE	2900	0, 90	2610. 00		
TOTAL	2900		2610. 00		
MOTOR HORSEPOWER: NUMBER OF PHASES: MINIMUM EFFICIENC MOTOR TYPE: N/A NUMBER OF POLES:	N/A Y: 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. 1541.8 W SPECIFIED <= 234.9 W (2610.00 W ALLOWED X 90%)

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,

"PROVIDE" MEANS TO FURNISH AND INSTALL. THE ELECTRICAL CONTRACTOR SHALL ALSO INSTALL MATERIALS AND EQUIPMENT FURNISHED BY OTHERS

FASC - FIRE ALARM SYSTEM CONTRACTOR, AHJ - AUTHORITY HAVING

- 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
- WORKMANSHIP SHALL BE IN ACCORDANCE WITH NECA 1 "STANDARD
- PRACTICE FOR GOOD WORKMANSHIP IN ELECTRICAL CONTRACTING." 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. THE ELECTRICAL CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS NECESSARY FOR THE COMPLETION OF THE WORK UNDER THIS CONTRACT.
- DO NOT SCALE THESE DRAWINGS-REFER TO ARCHITECTURAL SHEETS FOR DIMENSIONS
- TRADE NAMES AND MANUFACTURERS ARE SPECIFIED TO ESTABLISH A 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
- 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. 10. 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. 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. 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
- ELECTRICAL EQUIPMENT WITH CLEARANCES PER NEC 110.26. ELECTRICIAN 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,
- 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. 6. 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, ENCORE WIRE CORPORATION, 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
- 11. 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. 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.

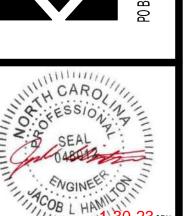
1. EC SHALL REVIEW THE MECHANICAL PLANS TO ESTABLISH POINTS OF CONNECTION AND THE EXTENT OF THE ELECTRICAL WORK TO BE PROVIDED

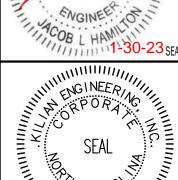
- IN THE CONTRACT. 2. ALL CIRCUIT BREAKERS FEEDING HVAC EQUIPMENT SHALL BE HACR BREAKERS. ALL BRANCH CIRCUIT CONDUCTORS SHALL BE MINIMUM #12 AWG IN 3/4 in CONDUIT. EACH MULTI-WIRE BRANCH CIRCUIT SHALL BE PROVIDED WITH A MEANS TO SIMULTANEOUSLY DISCONNECT ALL UNGROUNDED CONDUCTORS AT THE SOURCE PER NEC 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. 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.
- 4. 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).
- 5. 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 off 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.
- 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.
- 9. 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 714.3.2 (MAXIMUM BOX SIZE IS 16 SQUARE in AND MAXIMUM OF SIX (6) BOXES PER 100 SQUARE FEET). INSTALL OUTLET 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

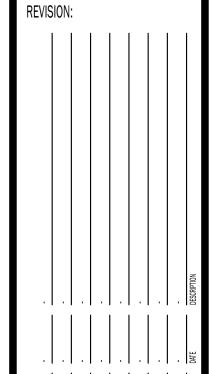
- 4X4 OCTAGONAL OR SQUARE BOXES. 12. ALL CONDUIT, BOXES, AND ELECTRICAL EQUIPMENT SHALL BE FIRMLY AND SECURELY FASTENED TO OR SUPPORTED FROM THE BUILDING STRUCTURAL MEMBERS OR EMBEDDED IN CONCRETE OR MASONRY. ELECTRICAL SUPPORTS SHALL NOT BE ATTACHED TO DUCTWORK, PIPING, OR THEIR SUPPORTS. HANGERS SHALL 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. PROVIDE AND INSTALL LISTED TAMPER PROOF RECEPTACLES IN WAITING
- AREAS, THERAPY AREAS, AND OFFICES. 15. IN PATIENT CARE AREAS, EQUIPMENT GROUNDING SHALL COMPLY WITH NEC 517.13 (THIS INCLUDES LIGHTS AND SWITCHES). THE METAL RACEWAY SYSTEM, METALLIC CABLE ARMOR, OR SHEATH ASSEMBLY SHALL ITSELF
- QUALIFY AS AN EQUIPMENT GROUNDING CONDUCTOR PER NEC 250.118. 16. 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. 17. 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
- 18. 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.
- 19. 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.
- 20. 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
- 21. 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.

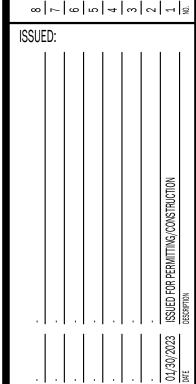
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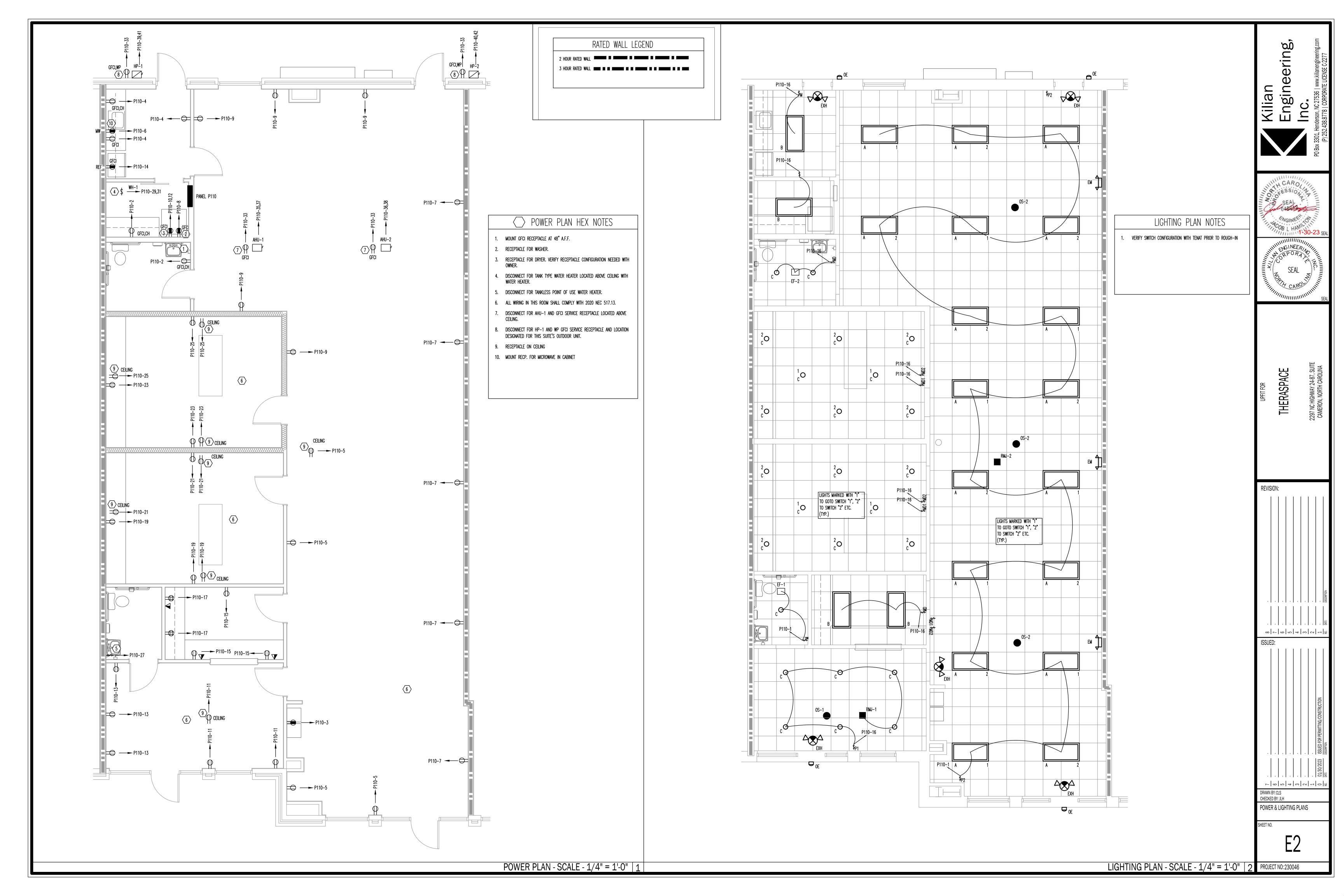




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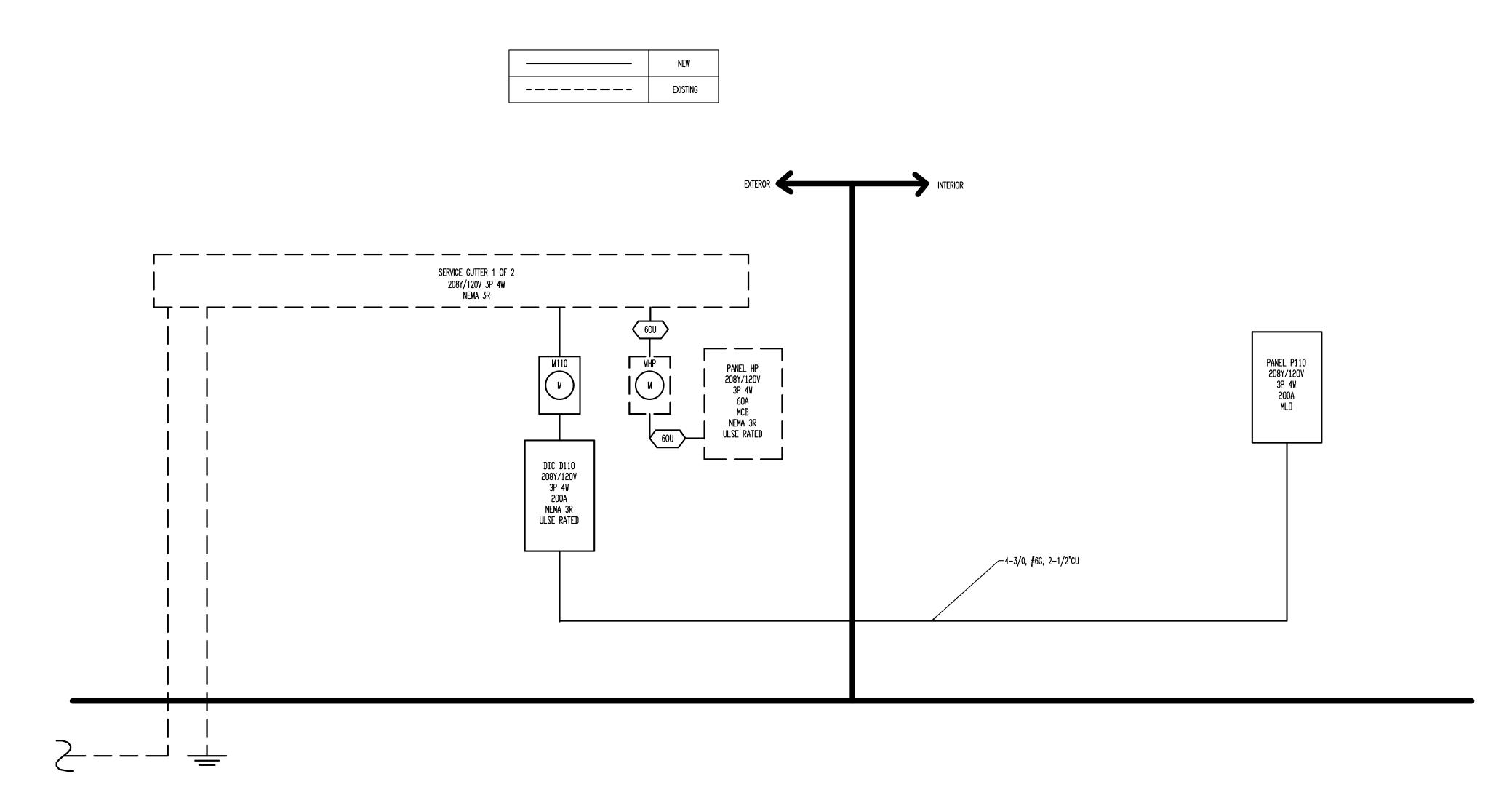
ELECTRICAL SCHEDULES | 1



					10				
CKT	LOAD	BKR	LOAD	l PH ├─	LOAD	BKR	LOAD	CKT	
	LUAV		kVA		kVA	J DKK	LUAV	LKI	
1	110 OPEN SPACE LIGHTS	20/1	0. 95	A	0. 36	20/1	REC-RESTROOM, STORAGE	2	
3	WATER COOLER	20/1	0. 18	В	0, 54	20/1	REC-BREAKROOM	4	
5	5 REC-MAIN AREA 2		0. 72	С	0.00	20/1	MV-BREAKROOM	6	
7	REC-MAIN AREA	20/1	0. 90	A	1. 20	20/1	WASHER	8	
9	REC-MAIN AREA	20/1	0. 90	В	3. 12	30/2	DRYER	10	
11	REC-RECPTION AREA	20/1	0, 54	С	3. 12	30/2	שאובא	12	
13	REC-RECPTION AREA	20/1	0, 54	Α	1. 00	20/1	REFRIGERATOR	14	
15	REC-RECPTION OFFICE	20/1	0, 54	В	0. 59	20/1	110 LIGHTS	16	
17	REC-RECPTION OFFICE (QUADS)	20/1	0. 72	С	0.00	20/1	SPARE	18	
19	REC-DFF ICE	20/1	0, 54	Α	0.00	20/1	SPARE	20	
21	REC-DFF ICE	20/1	0. 54	В	0.00	20/1	SPARE	22	
23	REC-DFF I CE	20/1	0, 54	С	0.00	-	SPACE	24	
25	REC-DFF I CE	20/1	0. 54	Α	0.00	-	SPACE	26	
27	WATER HEATER-TANKLESS	25/1	3, 00	В	0.00	-	SPACE	28	
29	WATER HEATER TANK TYPE	25/2	2. 81	С	0.00	-	SPACE	30	
31	WATER HEATER-TANK TYPE		2. 81	Α	0.00	-	SPACE	32	
33	REC-HVAC SERVICE	20/1	0. 72	В	0.00	-	SPACE	34	
35	AUU 1	30/2	3. 19	С	3. 19	30/2	AUU 2	36	
37	AHU-1	30/2	3. 19	Α	3. 19	30/2	AHU-2	38	
39	HP-1	50/2	2. 71	В	2. 71	- 50/2	HP-2	40	
41	Hr-1	30/2	2. 71	С	2. 71		nr-c	42	
			kVA	PH	AMPS			•	
15. 2				A	127				
15. 6				В	130				
			20. 3	С	169				
		VOLTAGE	E/PHASE		208Y/1	20V, 3P, 4	ŧ W		
BUS RATING				200A					
MAIN CIRCUIT BREAKER RATING					MLO				
AIC RATING					22K	22K			
SERVICE ENTRANCE RATED					ND				
ENCLOSURE					NEMA 1	NEMA 1			
MDUNTING						RECESSED			

		NEC ELE	CTRIC DEMAND	SUMMARY 20	8Y/12OV, 3P, 4	W	
EQUIPMENT	DEMAND kVA				L DAD LAVA	NEC	NOTES/CALCULATIONS
	FACTOR	Α	В	С	LOAD KVA	REFERENCE	NETES/ CALCOLATIONS
LIGHTING	125%	1. 55	1. 55	1. 55	4. 64	220. 12	2900 SF X 1.6 VA/SF
RECEPTACLES < 10 kVA	100%	3, 90	3. 4	2. 5	9. 80	220. 44	
RECEPTACLES > 10 kVA	50%	0, 00	0. 00	0. 00	0. 00	220. 44	
HVAC	100%	6, 40	5, 40	11. 80	23. 60		BASED ON MCA
WATER HEATER	125%	2. 81	3. 00	2. 81	8. 62	422. 13	STORAGE TANK <120 GAL @ 125%
EQUIPMENT	100%	2. 20	3, 1	3, 10	8, 40		BASED ON MCA
DEMAND kV	PER PHASE	16. 86	16, 45	21. 76			
DEMAND AMP	S PER PHASE	140	137	181			

THE CALCULATED LIGHTING LOAD EXCEEDS THE CONNECTED LIGHTING LOAD.





DRAWN BY: CLS CHECKED BY: JLH

PANEL SCHEDULE & ELECTRICAL RISER