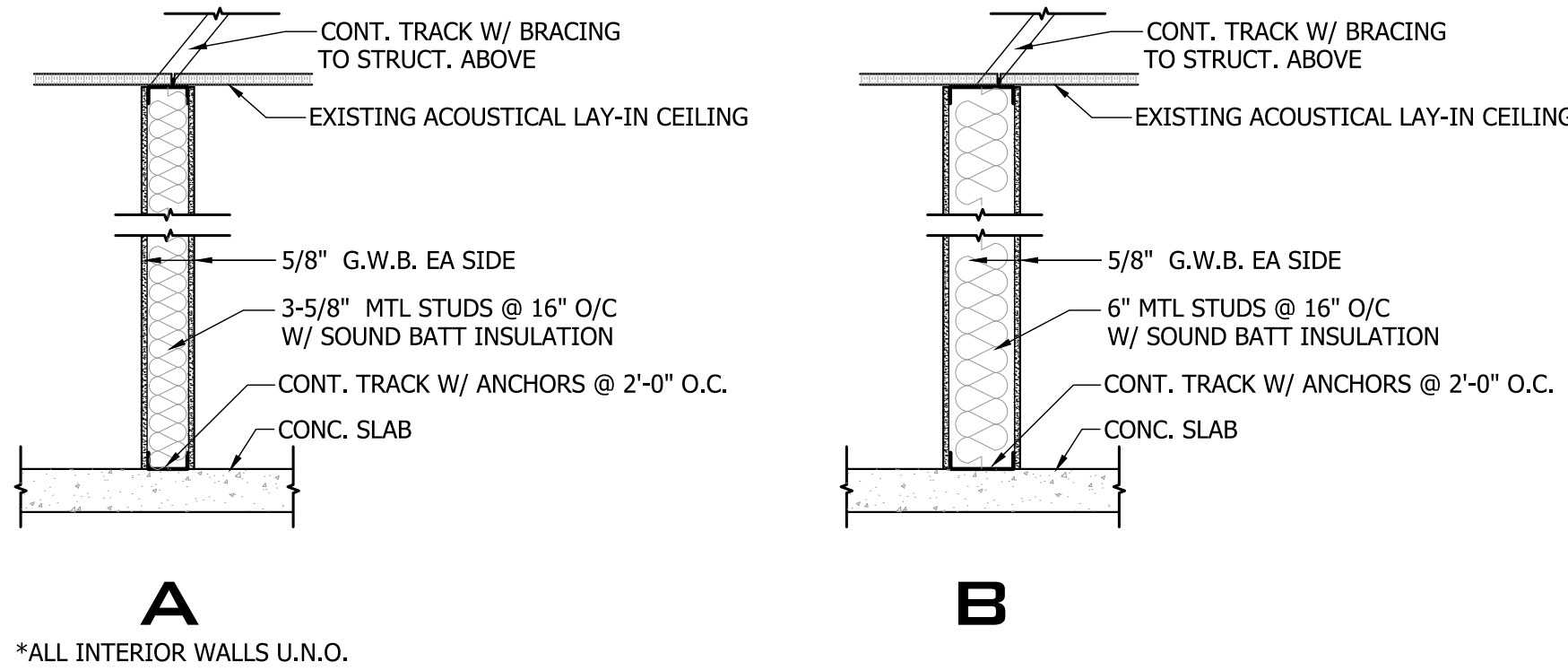
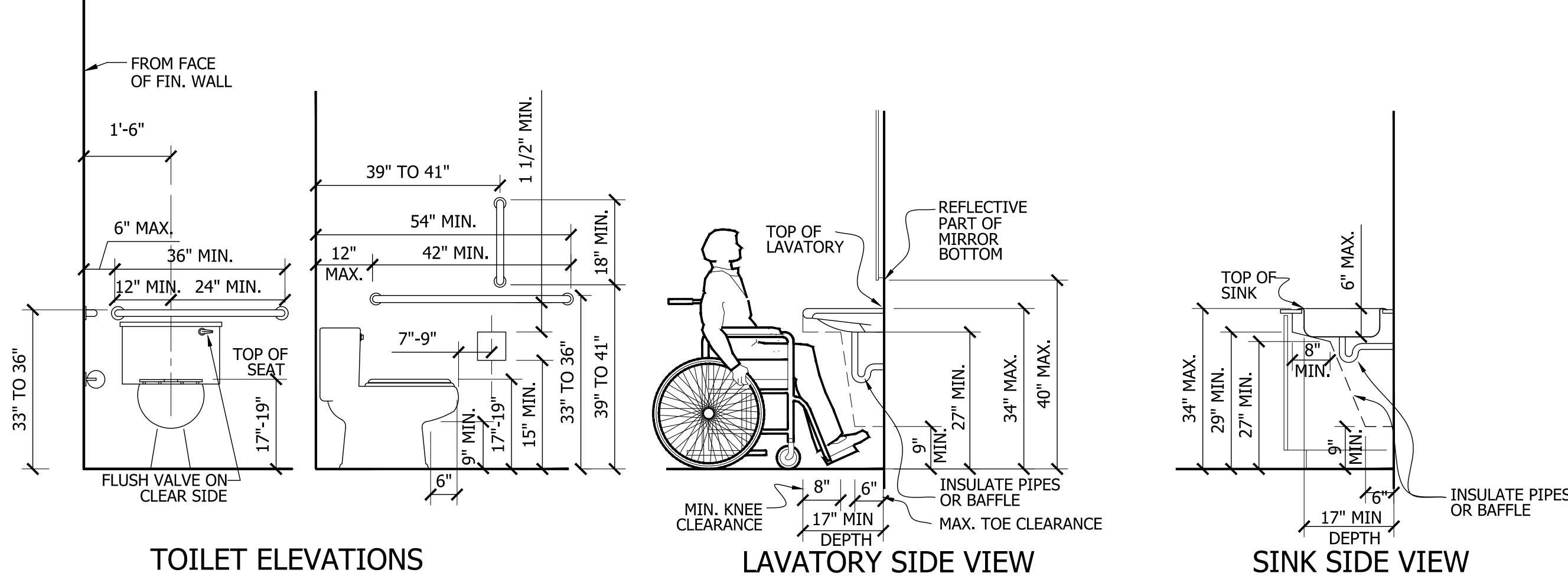


YMCA OF HARNETT COUNTY

107 CARLETTA CAGLE DRIVE CAMERON, NC



*ALL INTERIOR WALLS U.N.O.

GENERAL NOTES

- DO NOT SCALE DRAWINGS. USE WRITTEN DIMENSIONS ONLY. SUBMIT TO ARCHITECT ANY DISCREPANCIES FOR CLARIFICATION.
- ALL WORK SHALL BE IN COMPLIANCE WITH THE NORTH CAROLINA BUILDING CODES, RECOGNIZED INDUSTRY STANDARDS, ALL MANUFACTURER'S RECOMMENDATIONS AND ALL OTHER APPLICABLE CODES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR BUILDING THIS PROJECT IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS UNLESS HE RECEIVES A WRITTEN NOTIFICATION FROM THE OWNER OR ARCHITECT TO THE CONTRARY.
- THE LOCATION OF THE EXISTING UTILITIES AND STRUCTURES SHOWN HEREON ARE APPROXIMATE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE AND LOCATION OF SUCH UTILITIES SHOWN HEREON OR NOT, PRIOR TO ANY EXCAVATION. ANY DAMAGES SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR.
- THESE DRAWINGS AND SPECIFICATIONS, AS INSTRUMENTS OF SERVICE, ARE AND SHALL REMAIN THE PROPERTY OF GOODRICH ARCHITECTURE, P.A. THE OWNER SHALL BE PERMITTED TO RETAIN COPIES OF DRAWINGS AND SPECIFICATIONS FOR INFORMATION AND REFERENCE IN CONSTRUCTION WITH OWNER'S USE ON THIS PROJECT. THESE DRAWINGS AND SPECIFICATIONS SHALL NOT BE USED BY ANYONE ON ANY OTHER PROJECT WITHOUT WRITTEN AGREEMENT FROM GOODRICH ARCHITECTURE PLUS APPROPRIATE COMPENSATION.
- THIS IS A LIMITED SET OF CONSTRUCTION DOCUMENTS. THE INFORMATION HEREIN ARE FOR GENERAL INTERIOR LAYOUT AND BASIC EXTERIOR AESTHETICS. IT IS THE CONTRACTOR'S RESPONSIBILITY AND LIABILITY TO PROVIDE A STRUCTURALLY SOUND STRUCTURE, AND FLASHED PROPERLY FOR A WATER DETERRENCE.
- CONTRACTOR MUST FOLLOW AND MEET NC ENERGY CONSERVATION CODE REQUIREMENTS.
- STRUCTURAL, ELECTRICAL, MECHANICAL AND PLUMBING ARE THE RESPONSIBILITY OF THE CONTRACTOR.

2018 APPENDIX B BUILDING CODE SUMMARY

Name of Project: YMCA of Harnett County
 Address: 107 Carletta Cagle Drive, Cameron Zip Code: 28326
 Proposed Use: Activity Center
 Owner/Authorized Agent: Rick Houpp Phone: 910.426.9622 Email: rickh.ymcanc@gmail.com
 Owned by: City/County Private State
 Code Enforcement Jurisdiction: City County Harnett State

LEAD DESIGN PROFESSIONAL: H. Blair Goodrich
DESIGNER FIRM NAME LIC. # TELE. # EMAIL
 Architectural Goodrich Architecture PA H. Blair Goodrich NC 7434 910.343.1065 ga@goodricharchitecture.com
 Civil
 Structural McDowell Consul. Eng. Steve H. Everhart Jr. NC 23933 910.270.3747 mcdowelleng@bellsouth.net
 Plumbing McDowell Consul. Eng. Steve H. Everhart Jr. NC 23933 910.270.3747 mcdowelleng@bellsouth.net
 Mechanical McDowell Consul. Eng. Gregory L. McDowell NC 018518 910.270.3747 mcdowelleng@bellsouth.net
 Electrical
 Fire Alarm
 Sprinkler-Standpipe
 Retaining Walls (>5' High)
 Other

2018 NC BUILDING CODE: New Building Shell/Core 1st Time Interior Completions
 Addition Phased Construction - Shell Core

2018 NC EXISTING BUILDING CODE: Prescriptive Alteration Level I Historic Property (check all that apply)
 Repair Alteration Level II Change of Use
 Chapter 14 Alteration Level III

CONSTRUCTED: (date) 2000 **CURRENT OCCUPANCY(S)** (Ch. 3) M
RENOVATED: (date) _____ **PROPOSED OCCUPANCY(S)** (Ch. 3) A-3
OCCUPANCY CATEGORY (Table 1604.5) **CURRENT:** II **PROPOSED:** III

BUILDING DATA

CONSTRUCTION TYPE: I-A II-A III-A IV V-A
 I-B II-B III-B V-B

SPRINKLERS: No Partial Yes NFPA 13 NFPA 13R NFPA 13D

STANDPIPES: No Yes Class: I II III Wet Dry

FIRE DISTRICT: No Yes **FLOOD HAZARD AREA:** No Yes

SPECIAL INSPECTIONS REQUIRED: No Yes

GROSS BUILDING AREA:

FLOOR	EXISTING (SF)	NEW (SF)	SUB-TOTAL (SF)
4th Floor			
3rd Floor			
2nd Floor			
Mezzanine			
1st Floor	29,960	0	29,960
Basement			
TOTAL	29,960	0	29,960

ALLOWABLE AREA

PRIMARY OCCUPANCY:

Assembly: A-1 A-2 A-3 A-4 A-5
 Business
 Educational
 Factory: F-1 Moderate F-2 Low
 Hazardous: H-1 Detonate H-2 Deflagrate H-3 Combust H-4 Health H-5 HPM
 Institutional: I-1 I-2 I-3 I-4
 I-1 Use Condition: 1 2
 I-2 Use Condition: 1 2
 I-3 Use Condition: 1 2 3 4 5
 Mercantile
 Residential: R-1 R-2 R-3 R-4
 Storage: S-1 Moderate S-2 Low High-piled
 Parking Garage Open Enclosed Repair Garage
 Utility and Miscellaneous

ACCESSORY OCCUPANCY CLASSIFICATION(S): _____

INCIDENTAL USES (Table 509): This separation is not exempt as a Non-Separated Use (see exceptions).
 Furnace room where any piece of equipment is over 400,000 Btu per hour input
 Rooms with boilers where the largest piece of equipment is over 15 psi and 10 horsepower
 Refrigerant machine room Hydrogen cutoff rooms, not classified as Group H
 Incinerator rooms
 Paint shops, not classified as Group H, located in occupancies other than Group F
 In Group E occupancies, laboratories and vocational shops, not classified as Group H.
 In Group I-2 occupancies, laboratories not classified as Group H.
 In ambulatory care facilities, laboratories not classified as Group H.
 Laundry rooms over 100 square feet
 In Group I-2, laundry rooms over 100 square feet
 In Group I-2, laundries equal to or less than 100 square feet
 In Group I-2, commercial kitchens
 In Group I-2, rooms or spaces that contain fuel-fired heating equipment
 Group I-3 cells and Group I-2 patient rooms equipped with padded surfaces
 In Group I-2, physical plant maintenance shops
 In ambulatory care facilities or Group I-2 occupancies, waste and linen collection rooms with containers that have an aggregate volume of 10 cubic feet or greater
 In other than ambulatory care facilities or Group I-2 occupancies, waste and linen collection rooms over 100 square feet
 In ambulatory care facilities or Group I-2 occupancies, storage rooms greater than 100 sf
 Stationary storage battery systems having a liquid electrolyte capacity of more than 50 gallons, for flooded lead-acid, nickel cadmium or VRLA, or more than 1,000 pounds for lithium-ion and Lithium metal polymer used for facility standby power, emergency power or uninterrupted power supplies
 Fuel storage rooms in public schools and boiler rooms in public schools
 Storage rooms underneath grandstands or bleacher seats containing combustible or flammable materials

PERCENTAGE OF WALL OPENING CALCULATIONS

FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES	DEGREE OF OPENINGS PROTECTION (Table 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)
Existing	N/A	N/A	N/A

LIFE SAFETY SYSTEM:

Emergency Lighting: No Yes
 Exit Signs: No Yes
 Fire Alarm: No Yes
 Smoke Detection System: No Yes
 Panic Hardware: No Yes

LIFE SAFETY PLAN REQUIREMENTS:

Life Safety Plan Sheet #: A2.1

Fire and/or smoke rated wall locations (Chapter 7)
 Assumed and real property line locations (if not on the site plan)
 Exterior wall opening area with respect to distance to assumed property lines (705.8)
 Occupancy Uses for each area as it relates to occupant load calculation (Table 1004.1.2)
 Occupant loads for each area
 Exit access travel distances (1017)
 Common path of travel distances (1006.2.1 & 1006.3.2(1))
 Clear end lengths (1020.4)
 Clear exit widths for each exit door
 Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.3)
 Actual occupant load for each exit door
 A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation
 Location of doors with panic hardware (1010.1.10)
 Location of doors with delayed egress locks and the amount of delay (1010.1.9.7)
 Location of doors with electromagnetic egress locks (1010.1.9.9)
 Location of doors equipped with hold-open devices
 Location of emergency escape windows (1030)
 The square footage of each fire area (202)
 The square footage of each smoke compartment for Occupancy Classification I-2 (407.5)
 Note any code exceptions or table notes that may have been utilized regarding the items above

SPECIAL USES (Chapter 4 - List Code Sections): _____

SPECIAL PROVISIONS (Chapter 5 - List Code Sections): _____

MIXED OCCUPANCY: No Yes Separation: _____ Hr Exception: _____
 Non-Separated Use (508.3)
 Separated Use (508.4) - See below for area calculations

Actual Area of Occupancy A + Actual Area of Occupancy B
 Allowable Area of Occupancy A + Allowable Area of Occupancy B ≤ 1

_____ + _____ + = _____ ≤ 1.00

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2 AREA	(C) AREA FOR FRONTAGE INCREASE ^{1,5}	(D) ALLOWABLE AREA PER STORY OR UNLIMITED ^{2,3}
1	A-3	29,960	38,000	.	.

- Frontage area increases from Section 506.2 are computed thus:
 a. Perimeter which fronts a public way or open space having 20 feet minimum width = _____ (F)
 b. Total Building Perimeter = _____ (P)
 c. Ratio (F/P) = _____ (F/P)
 d. W = Minimum width of public way = _____ (W)
 e. Percent of frontage increase $I_1 = 100 [F/P - 0.25] \times W/30 =$ _____ (%)
 2. Unlimited area applicable under conditions of Section 507.
 3. Maximum Building Area = total number of stories in the building x D (maximum 3 stories) (506.2).
 4. The maximum area of open parking garages must comply with 406.5.4. The maximum area of air traffic control towers must comply with 412.3.1.
 5. Frontage increase is based on the unsprinklered area value in Table 506.2.

ALLOWABLE HEIGHT

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE
Building Height in Feet (Table 504.3)	75	23	
Building Height in Stories (Table 504.4)	3	1	

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

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING		DETAIL AND SHEET #	DESIGN # FOR RATED ASSEMBLY	DESIGN # FOR RATED PENETRATION	DESIGN # FOR RATED JOINTS
		REQ'D	PROVIDED (W/ REDUCTOR)				
Structural Frame, including columns, girders, trusses		0	0				
Bearing walls							
Exterior							
North		0	0				
East		0	0				
West		0	0				
South		0	0				
Interior							
Nonbearing Walls and Partitions							
Exterior Walls							
North		0	0				
East		0	0				
West		0	0				
South		0	0				
Interior Walls and Partitions		0	0				
Floor Construction including supporting beams and joists		0	0				
Floor Ceiling Assembly		0	0				
Columns Supporting Floors		0	0				
Roof Construction including supporting beams and joists		0	0				
Roof Ceiling Assembly		0	0				
Columns Supporting Roofs		0	0				
Shafts Enclosure- Exit		N/A	N/A				
Shafts Enclosure- Other		N/A	N/A				
Corridor Separation		N/A	N/A				
Occupancy/ Fire Barrier Separation		N/A	N/A				
Party/Fire Wall Separation		N/A	N/A				
Smoke Barrier Separation		N/A	N/A				
Smoke Partition		N/A	N/A				
Tenant/ Swelling Unit Separation		N/A	N/A				
Incidental Use Separation		N/A	N/A				

* Indicate section number permitting reduction

PERCENTAGE OF WALL OPENING CALCULATIONS

FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES	DEGREE OF OPENINGS PROTECTION (Table 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)
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LIFE SAFETY SYSTEM:

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 Location of emergency escape windows (1030)
 The square footage of each fire area (202)
 The square footage of each smoke compartment for Occupancy Classification I-2 (407.5)
 Note any code exceptions or table notes that may have been utilized regarding the items above

PLUMBING FIXTURE REQUIREMENTS

USE	WATERCLOSETS		URINALS	LAVATORIES		SHOWERS TUBS	DRINKING FOUNTAINS	
	MALE	FEMALE		MALE	FEMALE		REGULAR	ACCESSIBLE
SPACE	EXISTING	1	2	1	1	1		
	NEW	6	6	1	5	4	1	8
	REQUIRED	5	8		3	3		2

ACCESSIBLE PARKING

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES REQUIRED	PROVIDED	# OF ACCESSIBLE SPACES PROVIDED			TOTAL # ACCESSIBLE PROVIDED
			REGULAR WITH 5' ACCESS AISLE	132' ACCESS AISLE	8' ACCESS AISLE	
SEE CIVIL						

SPECIAL APPROVALS

SPECIAL APPROVAL: (Local Jurisdiction, Dept. of Insurance, OSC, DPI, DHHC, ICC, etc., describe below)

STRUCTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL INFORMATION, IF REQUIRED, IS ON RESPECTIVE DRAWINGS

GOODRICH ARCHITECTURE, P.A.

3142 WRIGHTSVILLE AVENUE
WILMINGTON NC 28403

OFFICE: 910.343.1065
FAX: 910.343.1067
EMAIL: GA@GOODRICHARCHITECTURE.COM

PROJECT # 18123

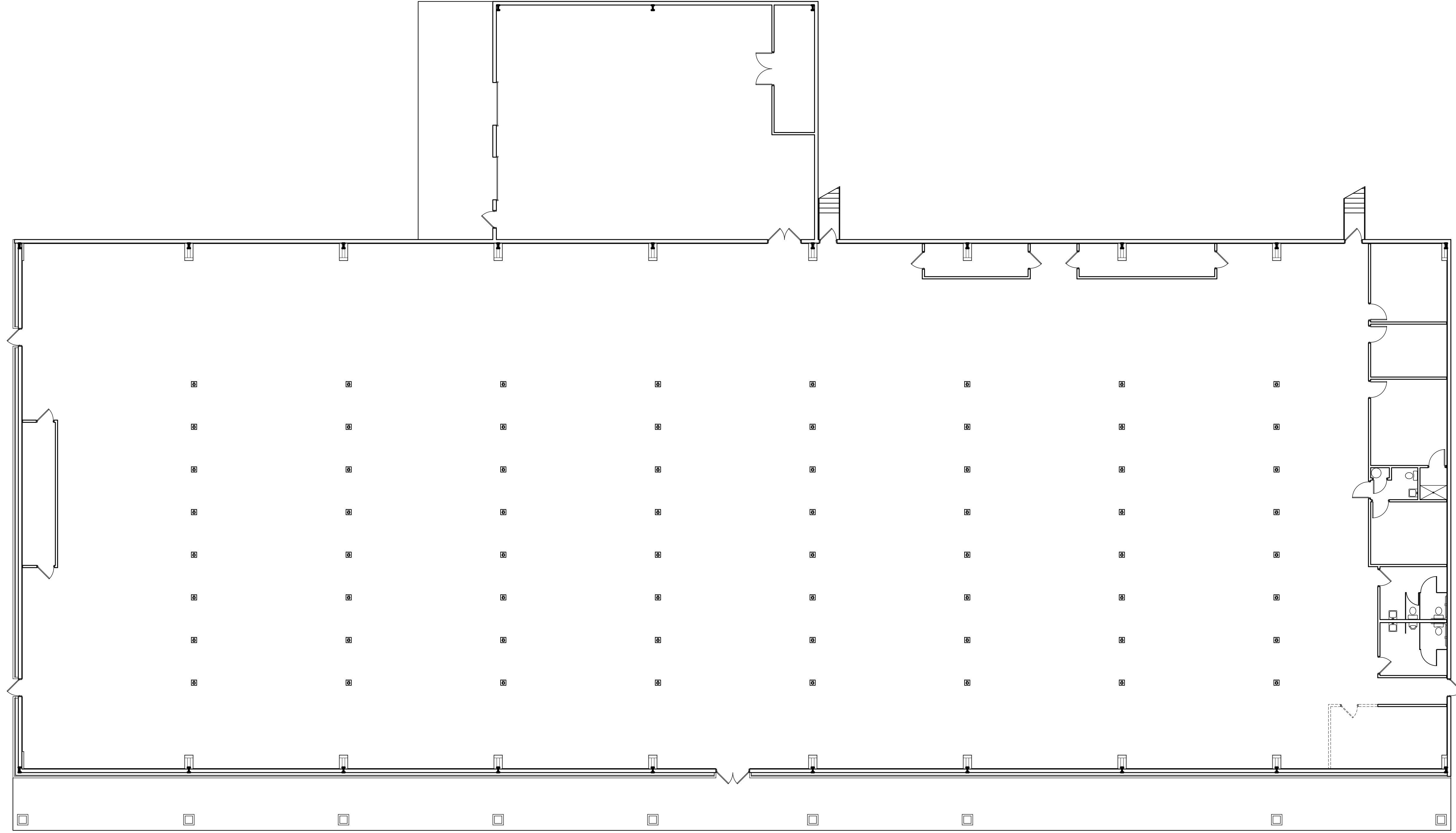
YMCA OF HARNETT COUNTY

107 CARLETTA CAGLE DRIVE
CAMERON, NORTH CAROLINA

COVER / APPENDIX B

DATE: 10 JUNE 2019

REVISION: A1.1



A DEMOLITION PLAN
SCALE: 3/32" = 1'-0"

DATE:
10 JUNE 2019

REVISION:
A2.0



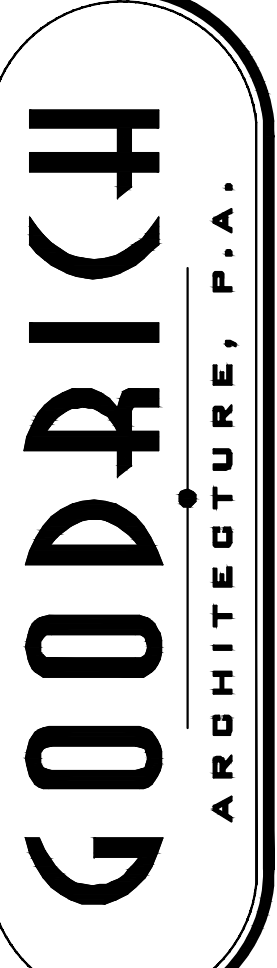
YMCA OF HARNETT COUNTY
107 CARLETTA CAGLE DRIVE
CAMERON, NORTH CAROLINA

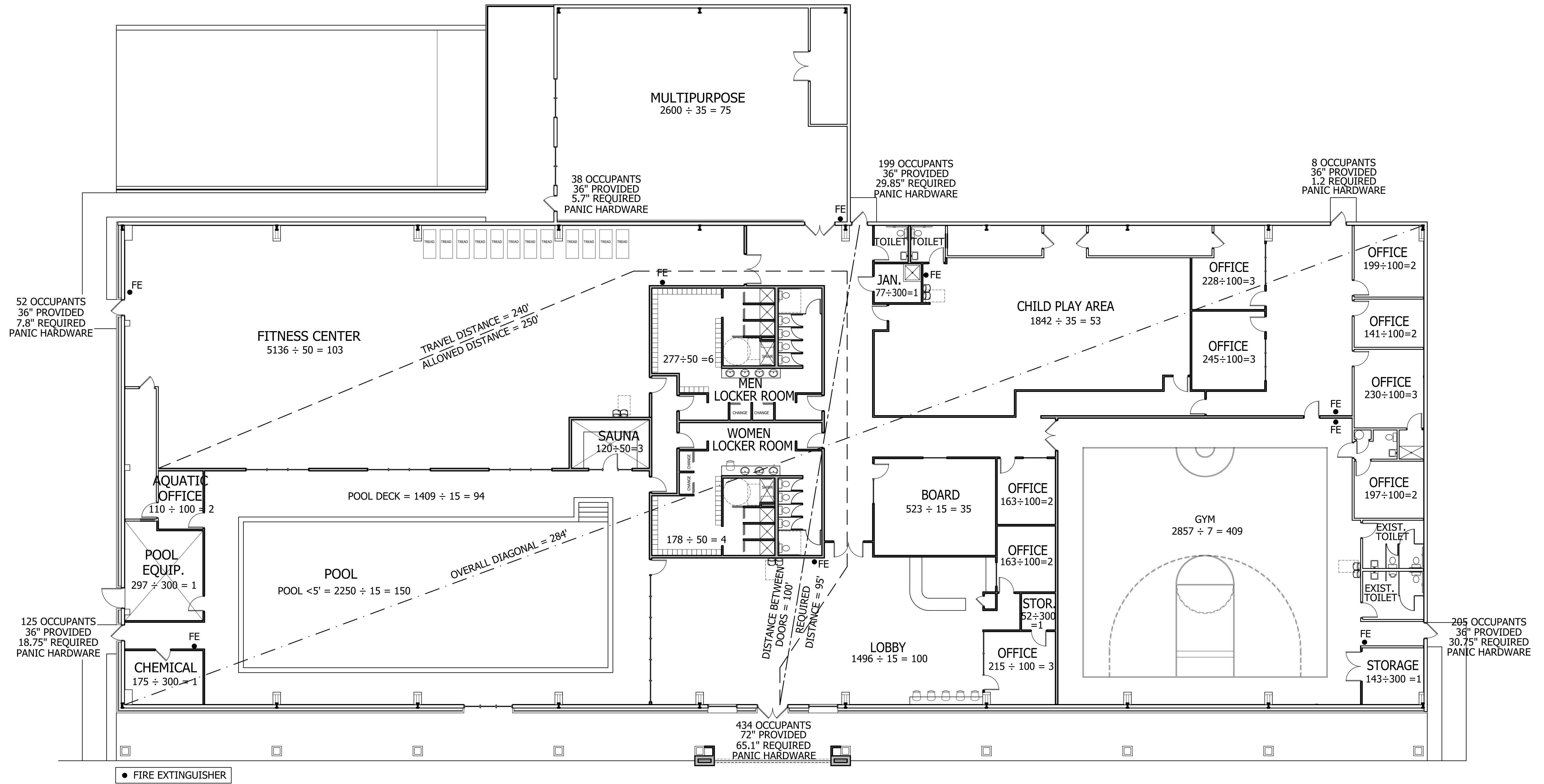
DEMOLITION PLAN

PROJECT # 18123

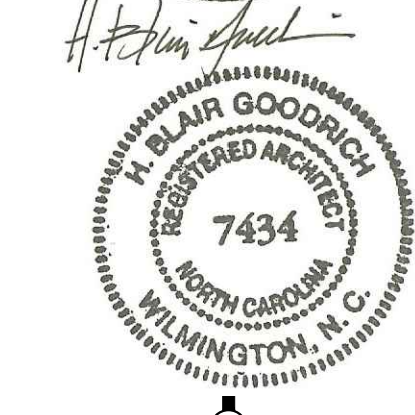
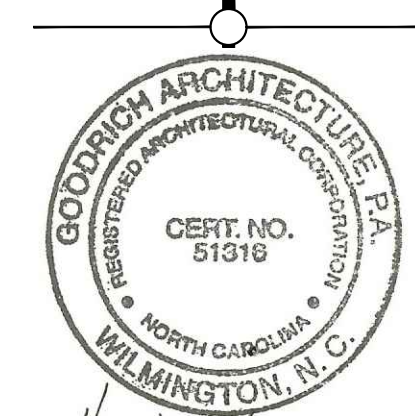
3142 WRIGHTSVILLE AVENUE
WILMINGTON NC 28403

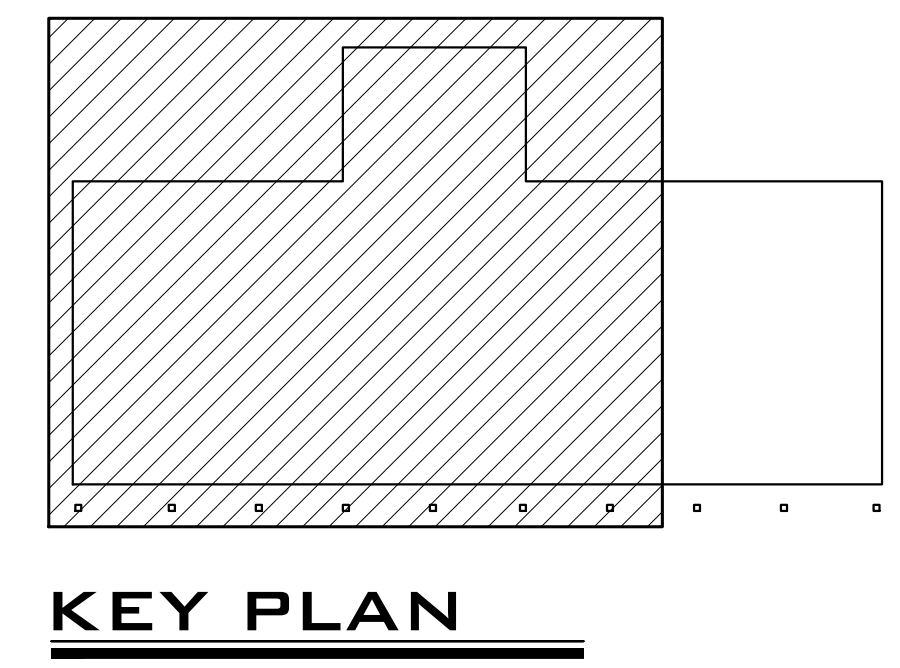
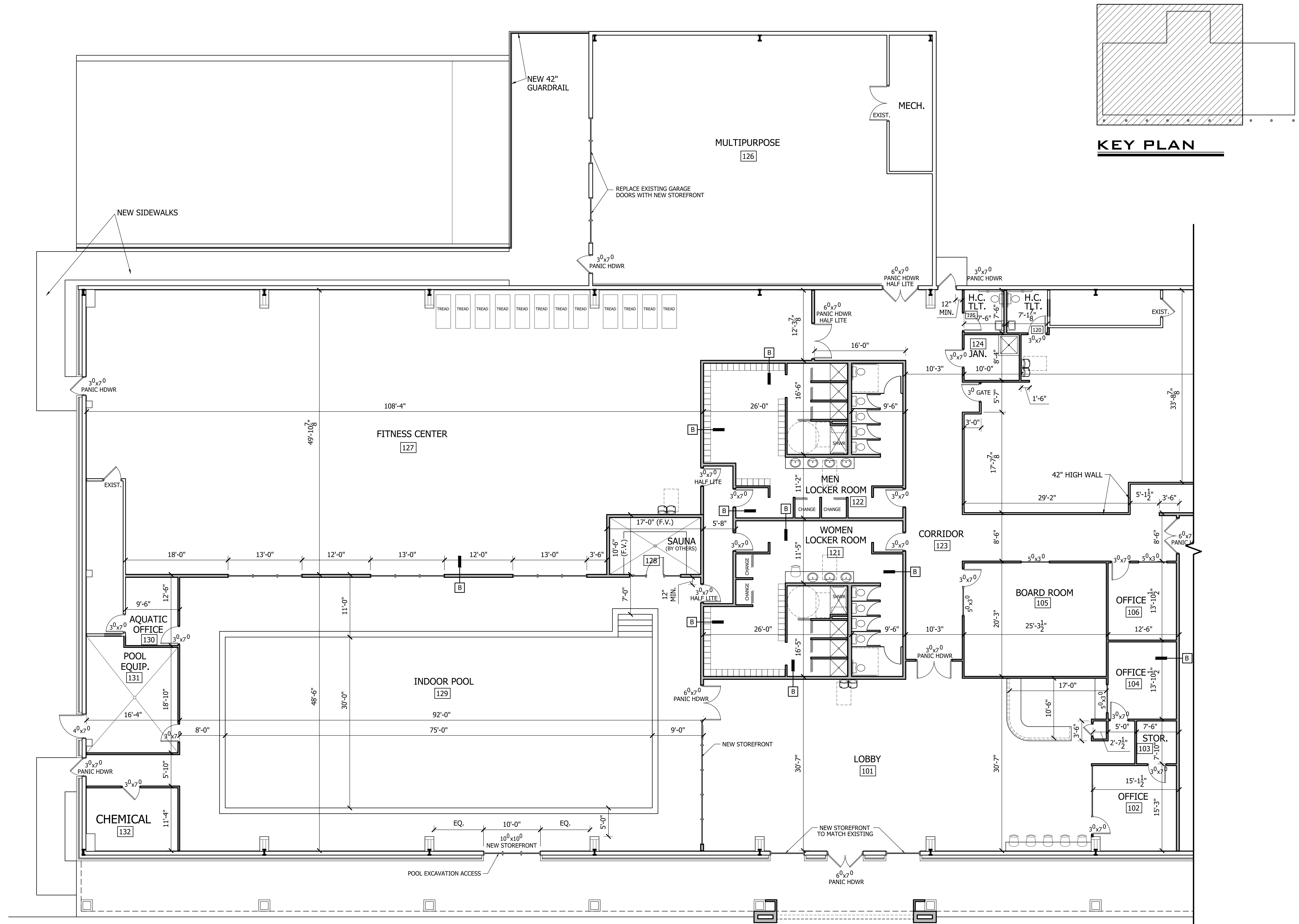
OFFICE: 910.343.1065
FAX: 910.343.1067
EMAIL: SA@GOODRICHARCHITECTURE.COM



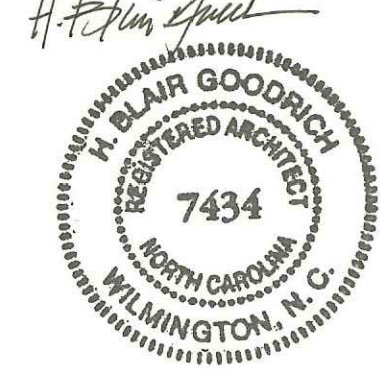


A LIFE SAFETY PLAN
SCALE: 3/32" = 1'-0"

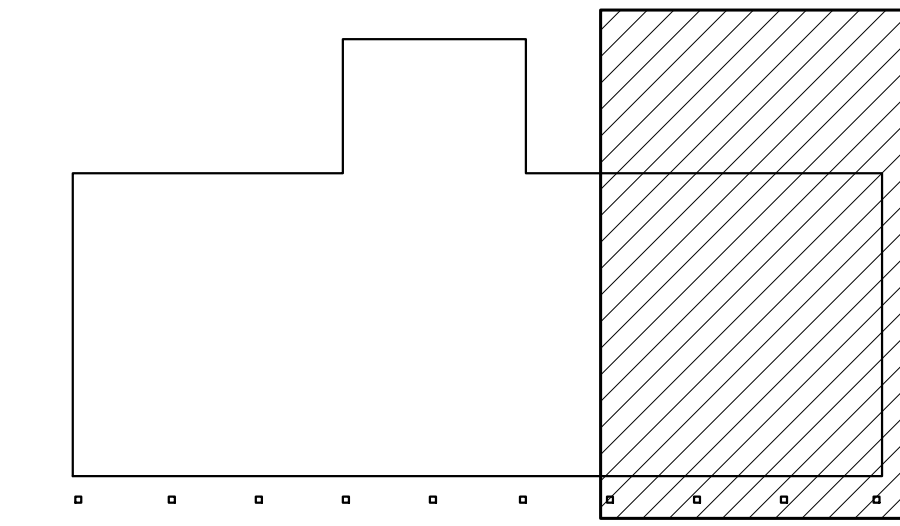




A FLOOR PLAN - LEFT
SCALE: 3/32" = 1'-0"



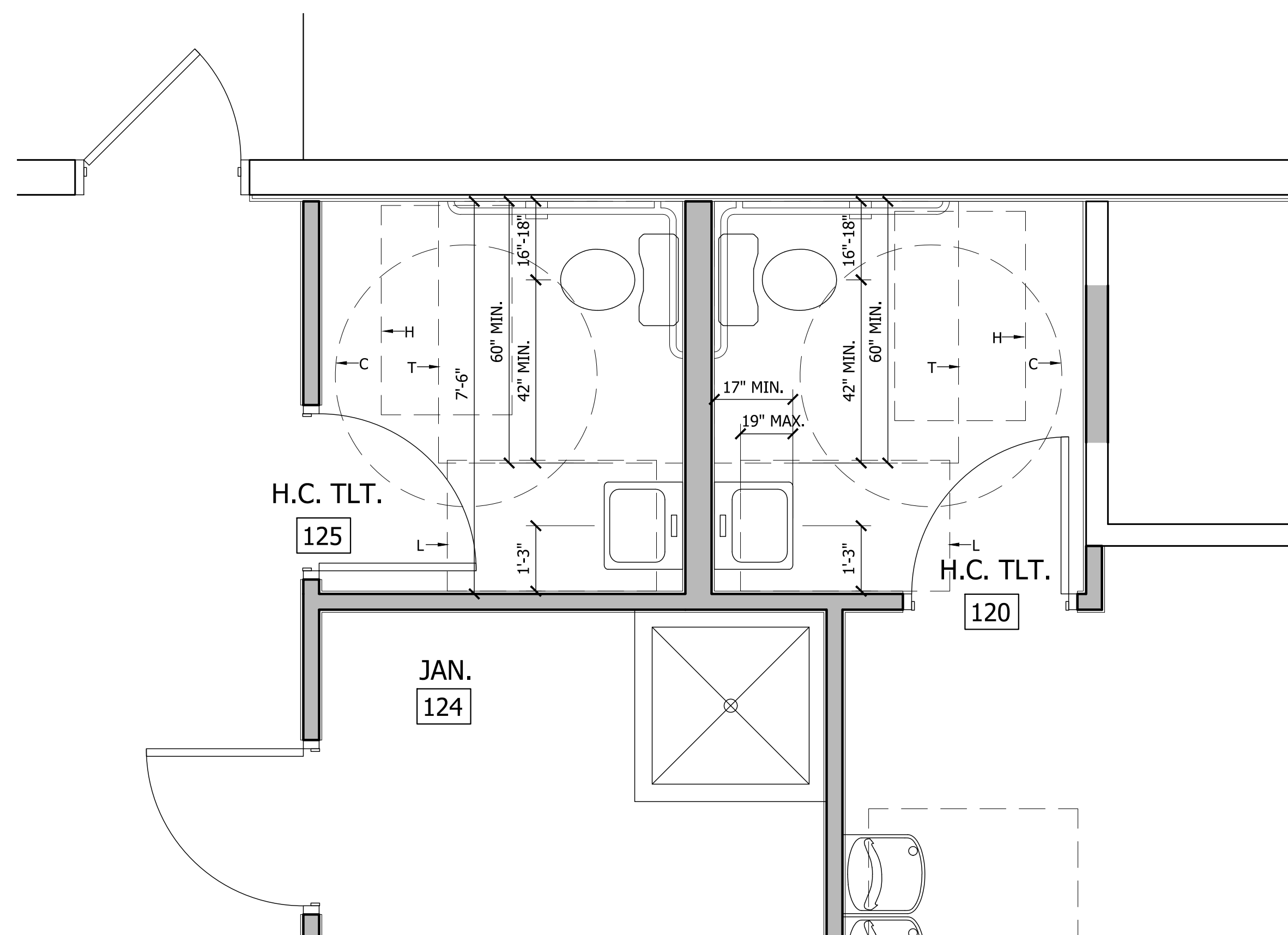
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REVISION:



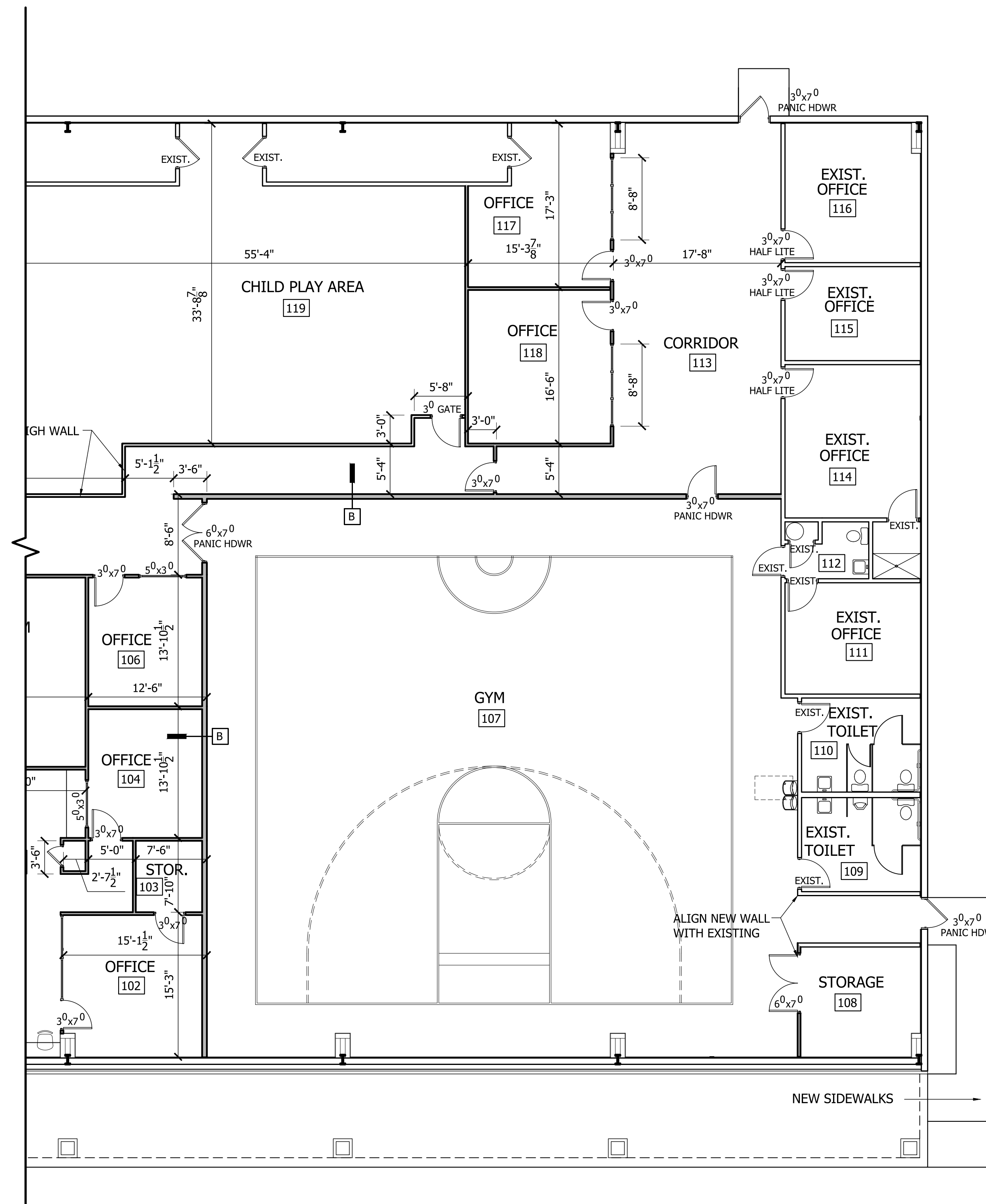
KEY PLAN

INTERIOR FINISHES

ROOM #	ROOM NAME	FLOOR	WALL	CEILING	CEILING HGT.	REMARKS
101	LOBBY	LVP (WOOD)	GWB - PAINTED	ACT	11' EXIST.	
102	OFFICE	LVP (WOOD)	GWB - PAINTED	ACT	11' EXIST.	
103	STORAGE	SEALED CONCRETE	GWB - PAINTED	ACT	11' EXIST.	
104	OFFICE	LVP (WOOD)	GWB - PAINTED	ACT	11' EXIST.	
105	BOARD ROOM	LVP (WOOD)	GWB - PAINTED	ACT	11' EXIST.	
106	OFFICE	LVP (WOOD)	GWB - PAINTED	ACT	11' EXIST.	
107	GYM	SEALED CONCRETE	GWB - PAINTED	EXPOSED		
108	STORAGE	SEALED CONCRETE	GWB - PAINTED	ACT	9' EXIST.	
109	EXISTING MEN'S	SEALED CONCRETE	GWB - PAINTED	ACT	9' EXIST.	
110	EXISTING WOMEN'S	SEALED CONCRETE	GWB - PAINTED	ACT	9' EXIST.	
111	EXISTING OFFICE	SEALED CONCRETE	GWB - PAINTED	ACT	9' EXIST.	
112	EXISTING UNISEX TOILET	SEALED CONCRETE	GWB - PAINTED	ACT	9' EXIST.	
113	CORRIDOR	SEALED CONCRETE	GWB - PAINTED	ACT	11' EXIST.	
114	EXISTING OFFICE	SEALED CONCRETE	GWB - PAINTED	ACT	9' EXIST.	
115	EXISTING OFFICE	SEALED CONCRETE	GWB - PAINTED	ACT	9' EXIST.	
116	EXISTING OFFICE	SEALED CONCRETE	GWB - PAINTED	ACT	9' EXIST.	
117	OFFICE	SEALED CONCRETE	GWB - PAINTED	ACT	11' EXIST.	
118	OFFICE	SEALED CONCRETE	GWB - PAINTED	ACT	11' EXIST.	
119	CHILD PLAY AREA	SEALED CONCRETE	GWB - PAINTED	ACT	11' EXIST.	
120	H.C. TOILET	SEALED CONCRETE	GWB - PAINTED	ACT	11' EXIST.	GRANITE COUNTER, 60" WALL TILE W/ ACCENTS
121	WOMEN LOCKER	LVP (WOOD)	GWB - PAINTED	ACT	11' EXIST.	GRANITE COUNTER, 60" WALL TILE W/ ACCENTS
122	MEN LOCKER	LVP (WOOD)	GWB - PAINTED	ACT	11' EXIST.	GRANITE COUNTER, 60" WALL TILE W/ ACCENTS
123	CORRIDOR	LVP (WOOD)	GWB - PAINTED	ACT	11' EXIST.	
124	JANITOR	SEALED CONCRETE	GWB - PAINTED	ACT	11' EXIST.	
125	H.C. TOILET	SEALED CONCRETE	GWB - PAINTED	ACT	11' EXIST.	GRANITE COUNTER, 60" WALL TILE W/ ACCENTS
126	MULTIPURPOSE	LVP (WOOD)	GWB - PAINTED	ACT	11' NEW	
127	FITNESS CENTER	SEALED CONCRETE	GWB - PAINTED	ACT	11' EXIST.	RUBBER FLOOR BY YMCA BY OTHERS
128	SAUNA					
129	INDOOR POOL					
130	AQUATIC OFFICE	SEALED CONCRETE	GWB - PAINTED	ACT	11' EXIST.	
131	POOL EQUIPMENT	SEALED CONCRETE	GWB - PAINTED	EXPOSED		
132	CHEMICAL	SEALED CONCRETE	GWB - PAINTED	EXPOSED		



A ENLARGED TOILET PLAN
SCALE: 1/2" = 1'-0"



A FLOOR PLAN - RIGHT
SCALE: 3/32" = 1'-0"

GOODRICH
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PROJECT # :8123

YMCA OF HARNETT COUNTY
107 CARLETTA CAGLE DRIVE
CAMERON, NORTH CAROLINA

FLOOR PLAN

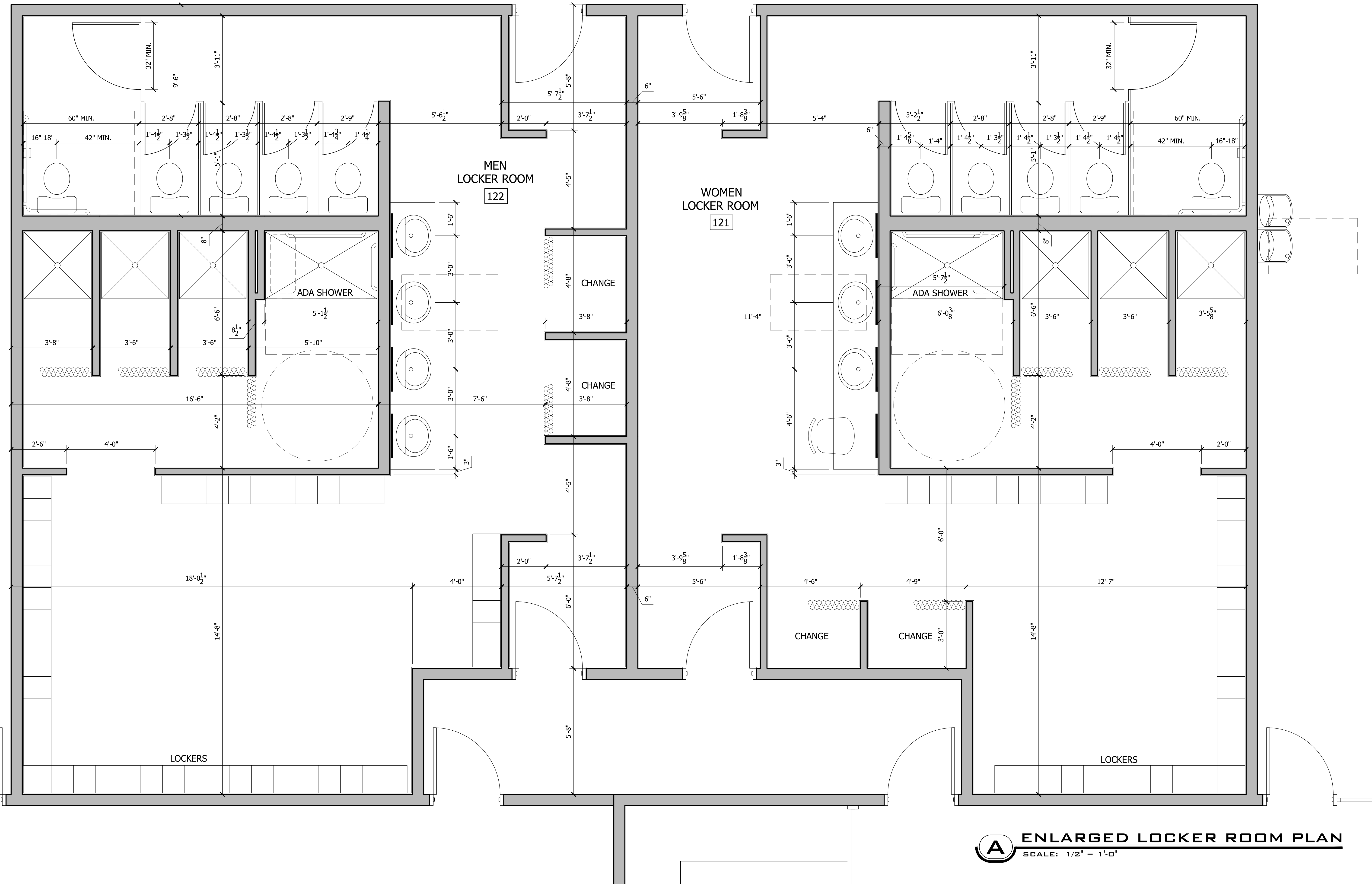
GOODRICH ARCHITECTURE, P.A.
REGISTERED ARCHITECTURAL FIRM
NORTH CAROLINA
WILMINGTON, N.C.
CERT. NO. 51319

H. BLAIR GOODRICH
REGISTERED ARCHITECT
7434
NORTH CAROLINA
WILMINGTON, N.C.

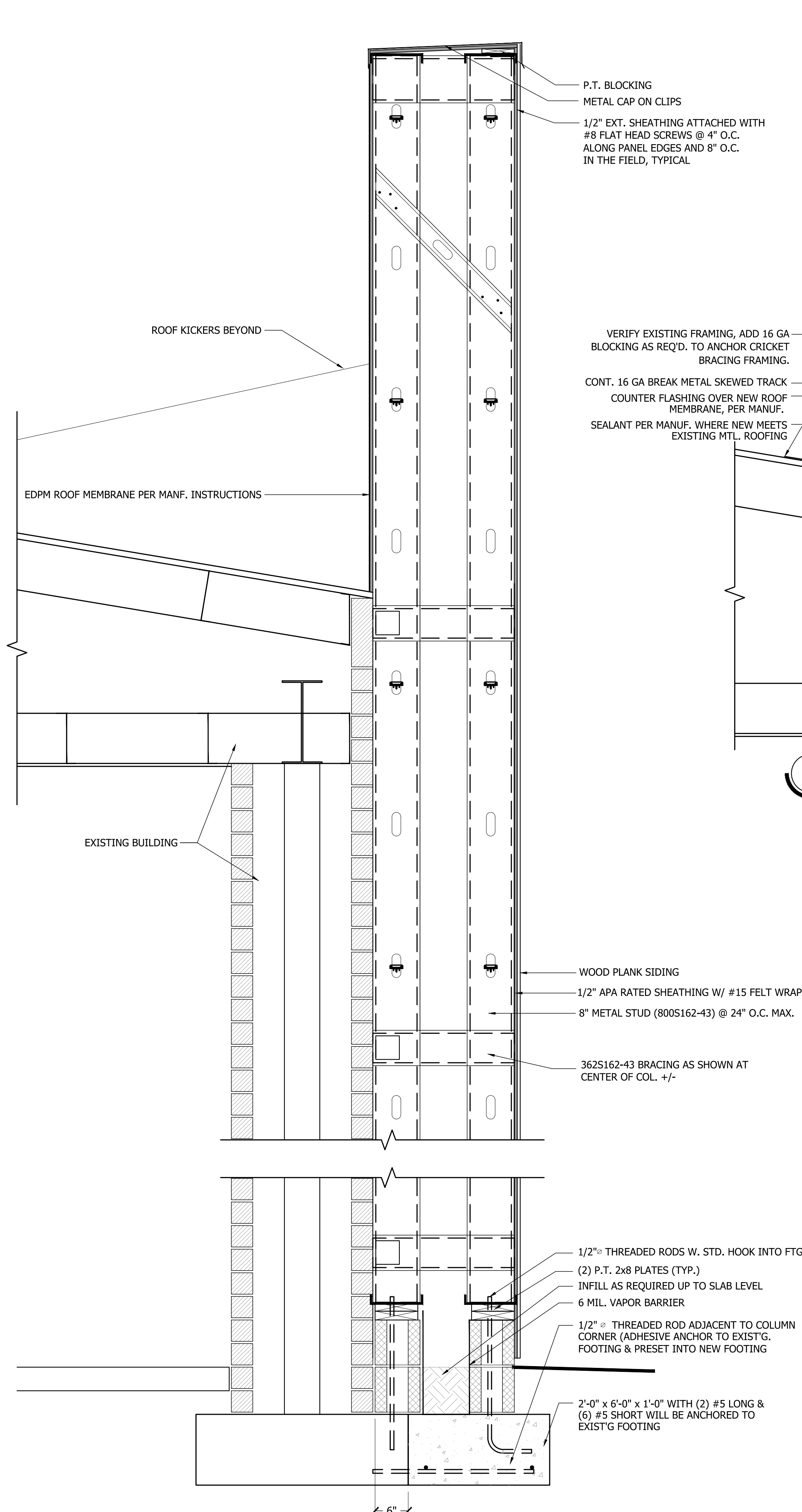
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REVISION:

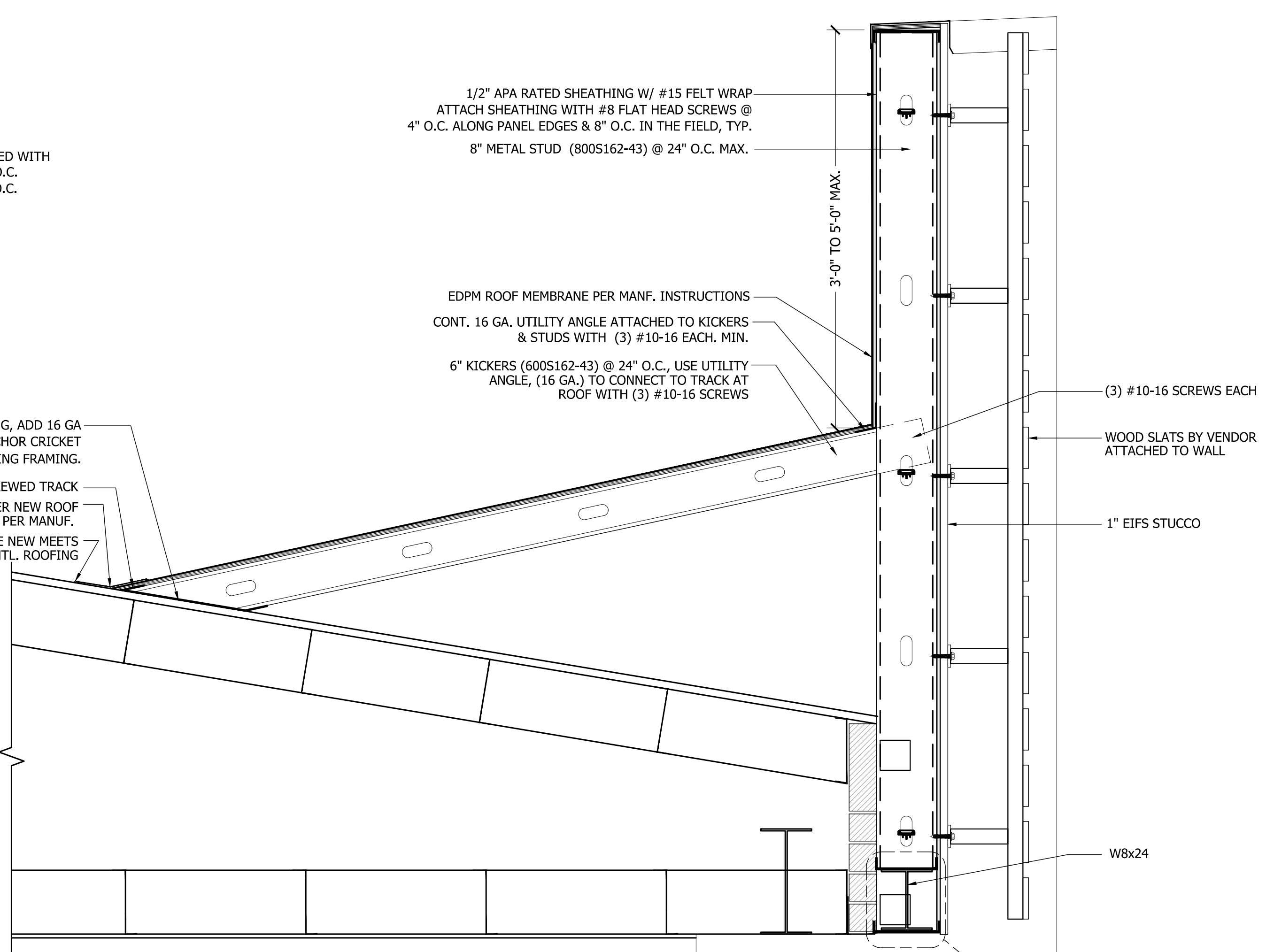
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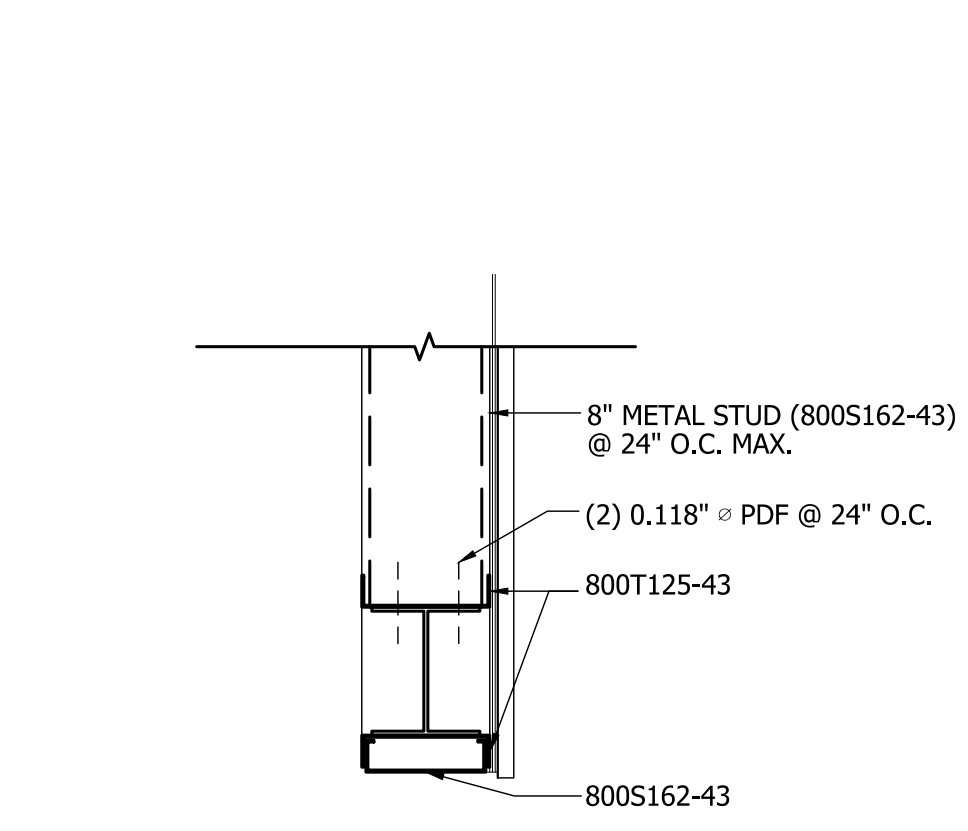
A ENLARGED LOCKER ROOM PLAN
SCALE: 1/2" = 1'-0"



1 ENTRY SECTION THRU COLUMN
SCALE: 1" = 1'-0"



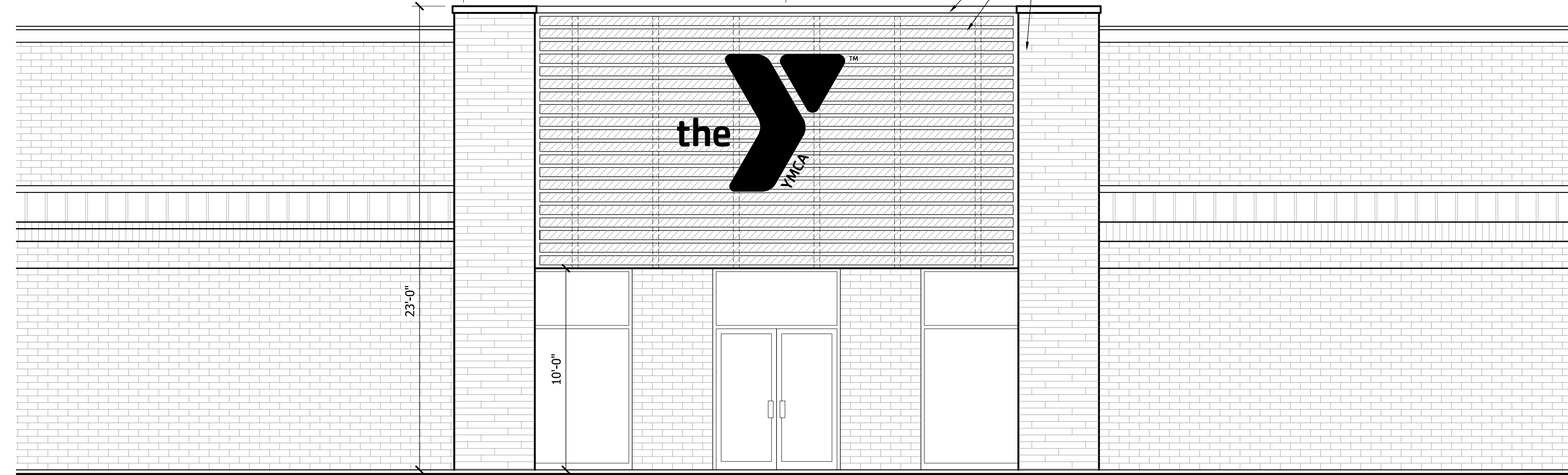
2 ENTRY SECTION THRU PARAPET
SCALE: 1" = 1'-0"



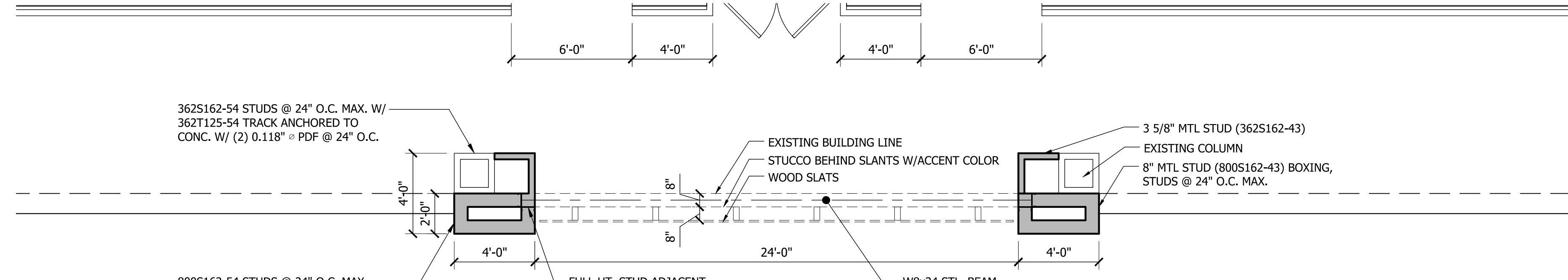
3 DETAIL AT BEAM
SCALE: 1" = 1'-0"

STRUCTURAL INFORMATION

ADDRESS: 107 CARLETTA CAGLE DRIVE
 COORDINATES: 35.262165, -79.043992
 WIND SPEED: 118 MPH (120 MPH) ASCE 7-10
 RISK CATEGORY: II
 SEISMIC ASCE 7-10
 $S_s = 0.205$ $S_{MS} = 0.328$ $S_{DS} = 0.219$
 $S_1 = 0.093$ $S_{M1} = 0.093$ $S_{D1} = 0.149$
 SEISMIC DESIGN CATEGORY = C $F_a = 1.6$ $F_v = 2.4$
 GROUND SNOW LOAD: 10 PSF ASCE 7-10
 FLOOD: ZONE X



B ENTRY ELEVATION
SCALE: 1/4" = 1'-0"

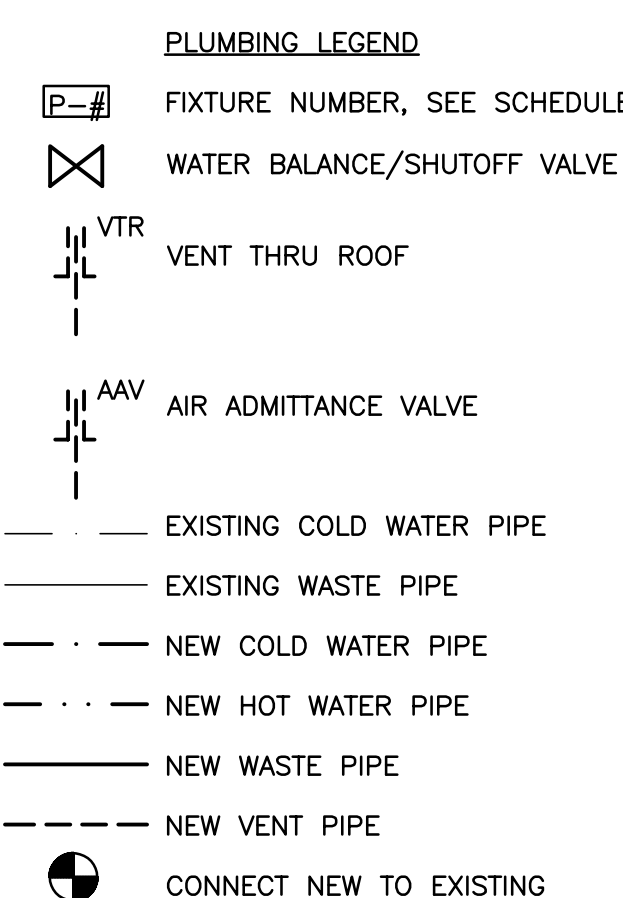


A ENTRY FLOOR PLAN
SCALE: 1/4" = 1'-0"

PLUMBING FIXTURE SCHEDULE

P-#	FIXTURES	SPECIFICATIONS	PIPING REQUIRED		
			WASTE	CW	HW
P-1	WATER CLOSET/ADA FLOOR MOUNTED FLUSH VALVE - 3.0 GPF	KOHLER "HIGHCLIFF" K-4368 WHITE VITREOUS CHINA FLOOR MOUNTED WATER CLOSET WITH SIPHON-JET FLUSHING ACTION, 16 1/2" RIM HEIGHT, 3.0 GPF. 12" COUPLER, 12" CAPS. BEHNSCHURCH DURAGUARD 2100 NSSC ANTI-MICROBIAL HEAVY DUTY WHITE ELONGATED OPEN FRONT SEAT WITH COVER. VALVE: SLOAN "REGAL" MODEL NO.111-YBYC-ADA CHROME FLUSH VALVE WITH SWEAT SOLDER ADAPTER & CAST WALL FLANGE WITH SET SCREW, ADA COMPLIANT HANDLE.	4"	1 1/2"	--
P-2	LAVATORY - WALL MTD. AUTOMATIC FAUCET ADA	AMERICAN STANDARD "LUCERNE" Q355-Q12 WALL-MTD. WHITE VITREOUS CHINA 20"x18" LAVATORY WITH 4" FAUCET CENTERS. FAUCET: AMERICAN STANDARD "SELETRONIC" ELECTRONIC LAVATORY FAUCET MODEL 6057.205/6056.205, VANDAL RESISTANT 0.5 GPM AERATOR, 3/8" O.D. COPPER INLETS, PROVIDE POWER SUPPLY AND THERMOSTATIC MIXING VALVE. SUPPLIES: MCGUIRE NO. 165 3/8"x12" FLEX ANGLE SUPPLY WITH STOP STRAINER; MCGUIRE NO. 155-A GRID STRAINER WITH 1 1/4" TAILPIECE. TRAP AND SUPPLY INSULATION: MCGUIRE PREWRAPED PROWRAP INSULATION KIT MODEL NO.2150	1-1/2"	1/2"	1/2"
P-3	LAVATORY - CABINET MTD. AUTOMATIC FAUCET ADA	AMERICAN STANDARD "AQUALYN" Q476-Q28 CABINET MTD. WHITE VITREOUS CHINA 20"x17" SELF RIMMING LAVATORY WITH 4" FAUCET CENTERS. FAUCET: AMERICAN STANDARD "SELETRONIC" ELECTRONIC LAVATORY FAUCET MODEL 6057.205/6056.205, VANDAL RESISTANT 0.5 GPM AERATOR, 3/8" O.D. COPPER INLETS, PROVIDE POWER SUPPLY AND THERMOSTATIC MIXING VALVE. TRAP AND SUPPLIES: MCGUIRE NO. 155WC OFFSET WHEELCHAIR LAVATORY GRID STRAINER WITH 1 1/4" OUTLET. MCGUIRE NO. 8902 17 GA 1 1/4"x1 1/2" P-TRAP & NIPPLE. MCGUIRE NO 2165 1/2" IPS X 3/8" FLEX ANGLE SUPPLY WITH STOP.	1-1/2"	1/2"	1/2"
P-4	MOP BASIN 36"x36"x12"	FIAT MODEL TSB-3002, 36"x36"x12" TERRAZZO SERVICE BASIN WITH STAINLESS STEEL CAPS ON ALL CURBS, 12" HIGH WITH 6" DROP FRONT, SELF CAULKING BRASS DRAIN WITH STAINLESS STEEL STRAINER. FAUCET: FIAT MODEL 830-AA CHROME PLATED WITH VACUUM BREAKER, INTEGRAL STOPS, ADJUSTABLE WALL BRACE, PHIL. HOOK & 3/4" HOSE THREAD ON SPOUT, HOSE AND HOSE BRACKET MODEL 832-AA 30" LONG FLEXIBLE HEAVY DUTY 3/8" RUBBER HOSE WITH 3/8" BRASS COUPLING, 18 GAUGE 302 STAINLESS STEEL BRACKET WITH RUBBER GRIP.	3"	1/2"	1/2"
P-5	ELECTRIC WATER COOLER HANDICAP/ADA DUAL HEIGHT	ELKAY MODEL LVCHDTL8SC BARRIER-FREE DUAL-HEIGHT UNIT WITH FRONT AND SIDE PUSH BARS, SIMULATED RECESSED MODEL WITH LEAD FREE WATERWAYS, 8 GPH OF 50°F WATER AT 90AMF. HEAVY GAUGE UNIT WITH STAINLESS STEEL FINISH. TRAP AND SUPPLIES: MCGUIRE NO. 8872 1 1/4" P-TRAP AND NIPPLE, MCGUIRE NO. 165 ANGLE SUPPLY WITH STOP.	1-1/4"	1/2"	--
P-6	SHOWER STALL HANDICAP/ADA	SHOWER SELECTION/CONSTRUCTION BY CONTRACTOR. VALVE: SYMMONS PRESSURE BALANCE VALVE MODEL C-96-300-B30-V-X WITH VOLUME CONTROL FEATURES CERAMIC DISC VALVE CARTRIDGE WITH AN ADJUSTABLE HOT LIMIT SAFETY STOP. LOW LEAD FORGED BRASS BODY. ALL METAL LEVER HANDLE AND WALL ESCUTHEON. SCREW DRIVER STOPS. WITH WALL SUPPLY, IN-LINE VACUUM BREAKER, 60" LONG SHOWER HOSE, ADJUSTABLE PERSONAL SHOWER W/ GLIDE RAIL, AND BACK TO BACK WHEN APPLICABLE. ALL POLISHED CHROME FINISH. TEMPERATURE COLOR INDEX ON ESCUTHEON.	3"	1/2"	1/2"
P-7	SHOWER STALL HANDICAP/ADA 36"x36"	AQUABATH MODEL #C4136-BF-2" THRESHOLD, ACRYLIC FORMED SHOWER STALL. THRESHOLD OF UNIT SHALL BE INSTALLED LEVEL WITH FLOOR. UNIT SHALL HAVE TWO 1 1/2" STAINLESS STEEL GRAB BARS, 1" STAINLESS STEEL CURTAIN ROD, TEXTURED BOTTOM WITH SELF CAULKING BRASS SHOWER DRAIN, AND CANTILEVERED MOLDED SEAT. UNIT SHALL COMPLY WITH LATEST ADA REQUIREMENTS. VALVE: SYMMONS PRESSURE BALANCE VALVE MODEL C-96-300-B30-V-X WITH VOLUME CONTROL FEATURES CERAMIC DISC VALVE CARTRIDGE WITH AN ADJUSTABLE HOT LIMIT SAFETY STOP. LOW LEAD FORGED BRASS BODY. ALL METAL LEVER HANDLE AND WALL ESCUTHEON. SCREW DRIVER STOPS. WITH WALL SUPPLY, IN-LINE VACUUM BREAKER, 60" LONG SHOWER HOSE, ADJUSTABLE PERSONAL SHOWER W/ GLIDE RAIL, AND BACK TO BACK WHEN APPLICABLE. ALL POLISHED CHROME FINISH. TEMPERATURE COLOR INDEX ON ESCUTHEON.	3"	1/2"	1/2"

FIXTURE SELECTIONS BASIS OF DESIGN ONLY. FINAL SELECTION COORDINATED BETWEEN OWNER, CONTRACTOR & ARCHITECT.



GENERAL PLUMBING SPECIFICATIONS
 GENERAL: THE ENTIRE PLUMBING SYSTEM SHALL BE IN ACCORDANCE WITH THE NORTH CAROLINA BUILDING PLUMBING CODE. SUBMIT THREE (3) COPIES OF PLUMBING INSPECTION CERTIFICATES TO OWNER. PLUMBING CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS REQUIRED BY GOVERNING AUTHORITIES FOR WORK DONE UNDER THIS CONTRACT. PROVIDE AND INSTALL ALL SUPPORTS, BRACKETS, MATERIALS AND LABOR AS REQUIRED FOR A COMPLETE AND ACCEPTABLE PLUMBING SYSTEM. PLUMBING CONTRACTOR SHALL CLEAN ALL PLUMBING FIXTURES AFTER ALL CONSTRUCTION IS COMPLETE.

SOIL, WASTE AND VENT PIPING: WASTE PIPING AND VENT PIPING SHALL BE P.V.C. - D.W.C. SCHEDULE 40 PIPE. HOWEVER, COEXTRUDED PVC "FOAM CORE", ASTM F891, WILL NOT BE ALLOWED.

ALL PENETRATIONS THROUGH NON-COMBUSTIBLE CONSTRUCTION SHALL BE PACKED WITH NON-COMBUSTIBLE FIRE STOPPING MATERIAL.

GRADE WASTE AND VENT PIPING 1/4 INCH PER FOOT WHERE POSSIBLE BUT NOT LESS THAN 1/8 INCH PER FOOT, UNLESS SPECIFICALLY DIRECTED. MAINTAIN INVERTS WHERE INDICATED.

WATER HEATER. ALL FITTINGS SHALL BE SWEAT TYPE WROUGHT COPPER WITH WALL THICKNESS EQUAL TO PIPE WALL THICKNESS. ALL JOINTS SHALL BE MADE WITH 95-5 SOLDER OR SILVABRITE 100. NO SOLDER W/LEAD SHALL BE PERMITTED.

ALL ROUGHING-IN PIPING SHALL BE RUN CONCEALED. ALL EXPOSED WATER LINES, STOPS, TRAP AND WASTE PIPE AT THE FIXTURES SHALL BE CHROME PLATED BRASS, WHICH FOR THE MOST PART WILL BE FURNISHED WITH THE FIXTURES. CHROME PLATED ESCUTHEON RINGS SHALL BE USED AT EACH POINT OF ENTRANCE OF CHROME PIPING INTO WALLS, FLOORS, OR CEILINGS. EXPOSED WORK SHALL BE UNIFORM IN HEIGHT AND LOCATION FOR EACH TYPE FIXTURE.

WATER PIPING UNDER GROUND OUTSIDE OF BUILDING SHALL BE AT LEAST 24 INCHES BELOW THE FINISHED GRADE SURFACE.

THERMAL INSULATION: ALL HOT AND COLD WATER PIPING INSIDE BUILDING AND IN CRAWL SPACE, ALL HOT WATER PIPING BELOW GRADE, AND COLD WATER PIPING BELOW GRADE WITHIN 3'-0" OF OUTSIDE SHALL BE INSULATED WITH 1" THICK "ARMAFLEX" OR IMCOA WITH SEALED JOINTS OR PREMOLDED FIBERGLASS WITH VAPOR BARRIER JACKET. IN LIEU OF INSULATING WATER PIPING IN HEATED WALLS PIPING MAY BE ENCASED IN BATT INSULATION WITHIN THE WALL OR FLOOR/CEILING.

WATER HEATERS: WATER HEATERS SHALL BE UL LISTED AND COMPLETE WITH ALL STANDARD FEATURES, FIVE (5) YEAR TANK WARRANTY, GLASS-LINED TANK, FOAM INSULATION ON THE TANK, ANODE ROD, AUTOMATIC TEMPERATURE CONTROL, AND AUTOMATIC HIGH-LIMIT SAFETY CUTOFF.

EACH WATER HEATER SHALL BE PROVIDED WITH AN ASME APPROVED PRESSURE AND TEMPERATURE RELIEF VALVE. UNITS NOT INSTALLED WITH VACUUM BREAKER ON COLD WATER SUPPLY LINE SHALL BE INSTALLED ON SAME FLOOR AS UNIT AND NO FURTHER THAN 3 FEET ON THE COLD WATER SUPPLY.

EACH WATER HEATER AND ITS INSTALLATION SHALL COMPLY WITH THE LATEST ISSUE AND ALL ADDENDA THERETO OF THE STATE BOILER INSPECTION LAWS AND REGULATIONS. ALL WIRING AND CONTROLS ASSOCIATED WITH THE HEATERS SHALL BE U.L. APPROVED AND IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE.

EACH HEATER TANK SHALL BE FITTED WITH APPROVED "DIP" TUBE AND LABELED TO SHOW APPROVAL FOR INSTALLATION.

DISCHARGE RELIEF VALVE FROM EACH WATER HEATER SHALL BE PIPED FULL SIZE TO WITHIN SIX (6) INCHES OF THE FLOOR OVER A FLOOR DRAIN, DRIP PAN OR OTHER SAFE LOCATION. DISCHARGE PIPE SHALL BE SUPPORTED AND ANCHORED SO THAT IT WILL NOT PUT UNDUE STRAIN ON THE RELIEF VALVE BODY OR MOUNTING COUPLING.

SUBMITTAL: THE CONTRACTOR SHALL WITHIN (15) DAYS OF RECEIPT OF PROPERLY SIGNED CONTRACT SUBMIT TO THE ARCHITECT/ENGINEER FOR APPROVAL (5) COPIES OF A LIST OF SUPPLIES AND MANUFACTURER'S MATERIAL AND EQUIPMENT TO BE USED ON THIS PROJECT.

SUBSTITUTION OF MATERIALS AND/OR EQUIPMENT FOR THAT SPECIFIED WILL NOT BE ACCEPTED WITHOUT PRIOR WRITTEN APPROVAL BY THE ARCHITECT/ENGINEER PRIOR TO RECEIPT OF BIDS.

GUARANTEE: THE PLUMBING CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FOR A PERIOD OF NOT LESS THAN ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE BY OWNER STATING THE DAY THE GUARANTEE BEGINS AND ENDS.

NOTE: PLANS SHOULD NOT BE SCALED FOR DIMENSIONS. COORDINATE ALL ROUGH IN DIMENSIONS WITH EQUIPMENT TO BE INSTALLED AND DIMENSIONED DRAWINGS INCLUDING KITCHEN EQUIPMENT PLANS IF AVAILABLE. CONTACT ENGINEER BEFORE CONSTRUCTION WITH ANY CONFLICTS.

PLUMBING GENERAL NOTES:
 BASIS OF DESIGN: UNLESS OTHERWISE NOTED THE PURPOSE OF THESE DRAWINGS IS TO PROVIDE DIRECTION AND BASIS OF DESIGN TO A COMPETENT CONTRACTOR FAMILIAR WITH THE TYPE OF SYSTEMS BEING INSTALLED SUFFICIENT TO INDICATE OWNERS REQUESTS AND CODE REQUIREMENTS. IT IS THE CONTRACTORS RESPONSIBILITY, WHEN OTHERWISE UNDIRECTED, TO FOLLOW STANDARD INDUSTRY PRACTICES AND BASIC CODE COMPLIANCE INCLUDING, BUT NOT LIMITED TO, PROVIDING MATCHING REQUIRED ACCESSORIES TO THE SYSTEMS INDICATED, COORDINATING EXACT ROUTINGS AND LOCATIONS WITH OTHER TRADES AND THE OWNER, SELECTING CODE APPROVED MATERIALS, AND MAKING MINOR OFFSETS/ADJUSTMENTS BASED ON FIELD COORDINATION AND OWNER'S FIELD REQUESTS. CHANGE OF MANUFACTURER TO EQUIVALENT SYSTEMS, WITH OWNER'S APPROVAL, IS ACCEPTABLE. CONTACT ENGINEER WITH ANY CONFLICTS NOT COVERED BY THE ABOVE INSTRUCTIONS.

1. PROVIDE ALL MATERIALS AND LABOR NECESSARY FOR COMPLETE AND PROPERLY FUNCTIONING PLUMBING SYSTEMS. WARRANTY ALL WORK AND ALL MATERIALS, EQUIPMENT AND DEVICES FOR A PERIOD OF ONE YEAR AFTER OWNER'S ACCEPTANCE.

2. WORK SHALL CONFORM TO OR MEET THE REQUIREMENTS OF THE MOST CURRENT EDITION OF:
 A. NORTH CAROLINA PLUMBING CODE
 B. ASPE
 C. UL
 D. ANSI
 E. ALL FEDERAL, STATE AND LOCAL CODES AND ORDINANCES

3. DRAWINGS ARE DIAGRAMMATIC IN NATURE AND ARE NOT INTENDED TO BE SCALED FOR DIMENSIONS, UNLESS DIMENSIONED.

4. ALL MATERIALS, EQUIPMENT AND DEVICES SHALL, AS A MINIMUM, MEET THE REQUIREMENTS OF UL WHERE UL STANDARDS ARE ESTABLISHED FOR THOSE ITEMS. ALL ITEMS SHALL BE CLASSIFIED BY UL AS SUITABLE FOR THE PURPOSE USED.

5. ALL ITEMS SHALL BE NEW, UNLESS NOTED OTHERWISE.

6. ALL MATERIALS AND EQUIPMENT SHALL BE CURRENT PRODUCTS BY MANUFACTURERS REGULARLY ENGAGED IN THE PRODUCTION OF SUCH PRODUCTS.

7. COORDINATE LOCATION OF PLUMBING WORK WITH OTHER TRADES TO AVOID CONFLICTS AND INTERFERENCES.

8. INSTALL ALL EQUIPMENT AND MATERIAL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN PRINTED INSTRUCTIONS AND RECOMMENDATIONS.

9. COORDINATE WITH AND OBTAIN PERMITS AND INSPECTIONS FROM AUTHORITY HAVING JURISDICTION AND INCLUDE ALL FEES IN BID.

10. PROVIDE OWNER WITH CERTIFICATES OF FINAL INSPECTION AND ACCEPTANCE FROM AUTHORITY HAVING JURISDICTION.

11. ALL EQUIPMENT AND PIPE ABOVE CEILING SHALL BE SUPPORTED FROM BUILDING STRUCTURE ABOVE, UNO.

12. WHERE PIPES PENETRATE FIRE RATED BARRIERS (WALLS, FLOORS AND CEILINGS) SEAL OPENING AROUND PIPES AND DUCTWORK WITH U.L. LISTED FIRE STOPPING MATERIAL TO MAINTAIN THE FIRE RATING OF THE BARRIER. PER NC BUILDING CODE VOLUME 1, PENETRATIONS OF NONRATED WALLS, PARTITIONS AND FLOORS OF NONCOMBUSTIBLE CONSTRUCTION SHALL BE FIRE-STOPPED WITH NONCOMBUSTIBLE MATERIAL.

13. PROVIDE EXPANSION-DEFLECTION JOINTS WHERE PIPE CROSSES BUILDING EXPANSION OR SEISMIC JOINTS.

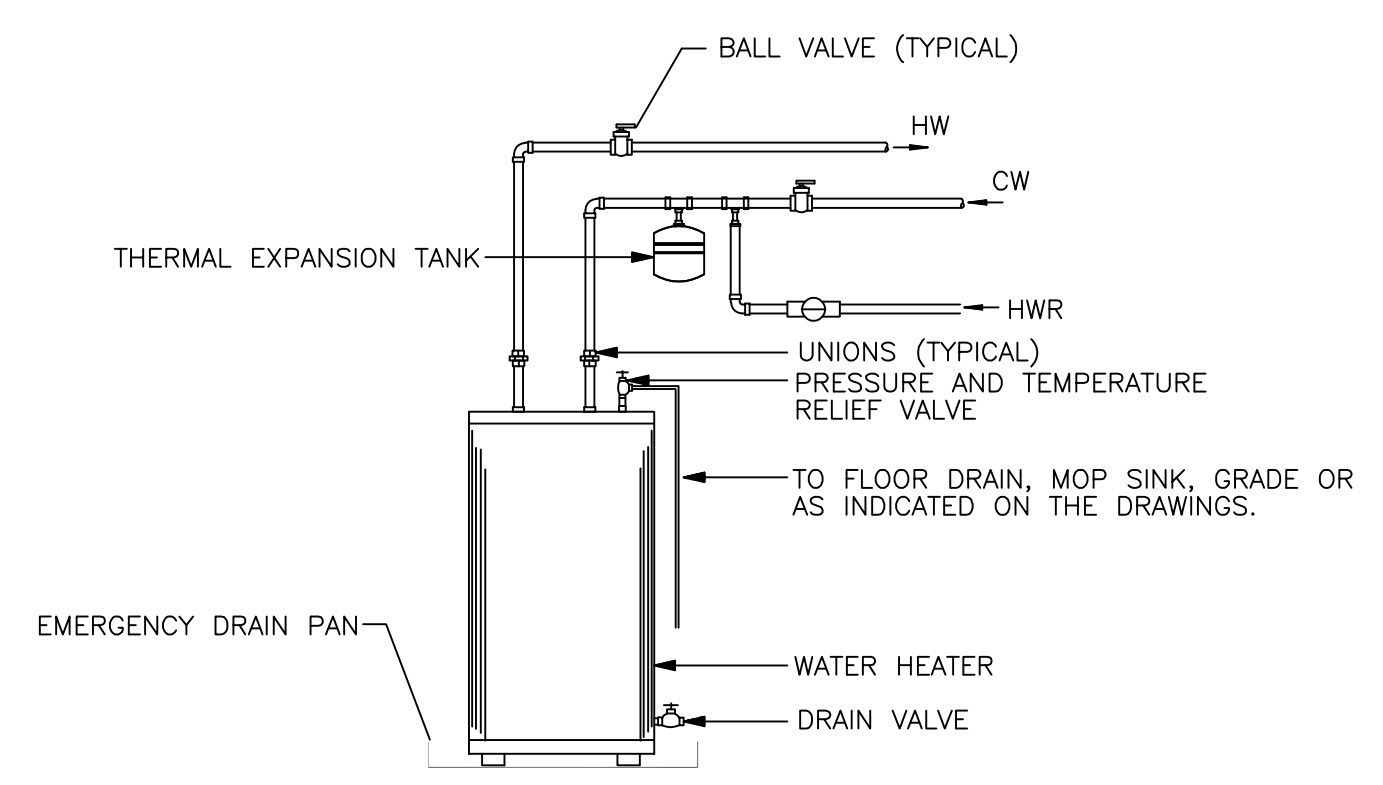
14. PRIOR TO BIDDING, THE CONTRACTOR AND HIS SUBCONTRACTORS SHALL VISIT THE JOBSITE AND SHALL FAMILIARIZE THEMSELVES WITH ALL CONDITIONS UNDER WHICH WORK IS TO BE PERFORMED AND SHALL INCLUDE IN HIS BID ALL LABOR, MATERIAL AND OPERATIONS REQUIRED FOR A COMPLETE JOB. (NOTIFY OWNER AND ENGINEER OF ANY DISCREPANCIES PRIOR TO BID.)

15. CLEANOUTS, LINE SIZE, UNO.

16. FLOOR DRAINS, LINE SIZE, UNO.

17. FLOOR DRAINS WITH SUBSCRIPT CO TO HAVE INTEGRAL CLEANOUT AND SHALL BE SIMILAR TO REGULAR FLOOR DRAIN SPECIFIED, UNO.

18. FLOOR DRAINS AND FLOOR SINKS SHALL BE PROVIDED WITH TRAP PRIMERS OR ALTERNATE METHODS AS APPROVED BY AUTHORITY HAVING JURISDICTION.



WATER HEATER (GWH): STATE M/N SDV100 199, 100 GALLON SEALED COMBUSTION GAS WATER HEATER 120 VOLT, SINGLE PHASE, PROVIDE AND INSTALL 3" PVC/CPVC INSTAKE AND EXHAUST PIPING TO OUTSIDE PER MANUFACTURER'S RECOMMENDATIONS. 5 YEAR WARRANTY. FURNISH WITH A.S.M.E. APPROVED RELIEF VALVE, WATERGUARD EXPANSION TANK M/N ETC-2X, AND DRAIN PAN. CONNECTION SIZES: C=1 1/2", H=1 1/2".

A GAS WATER HEATER
 SCALE: NONE

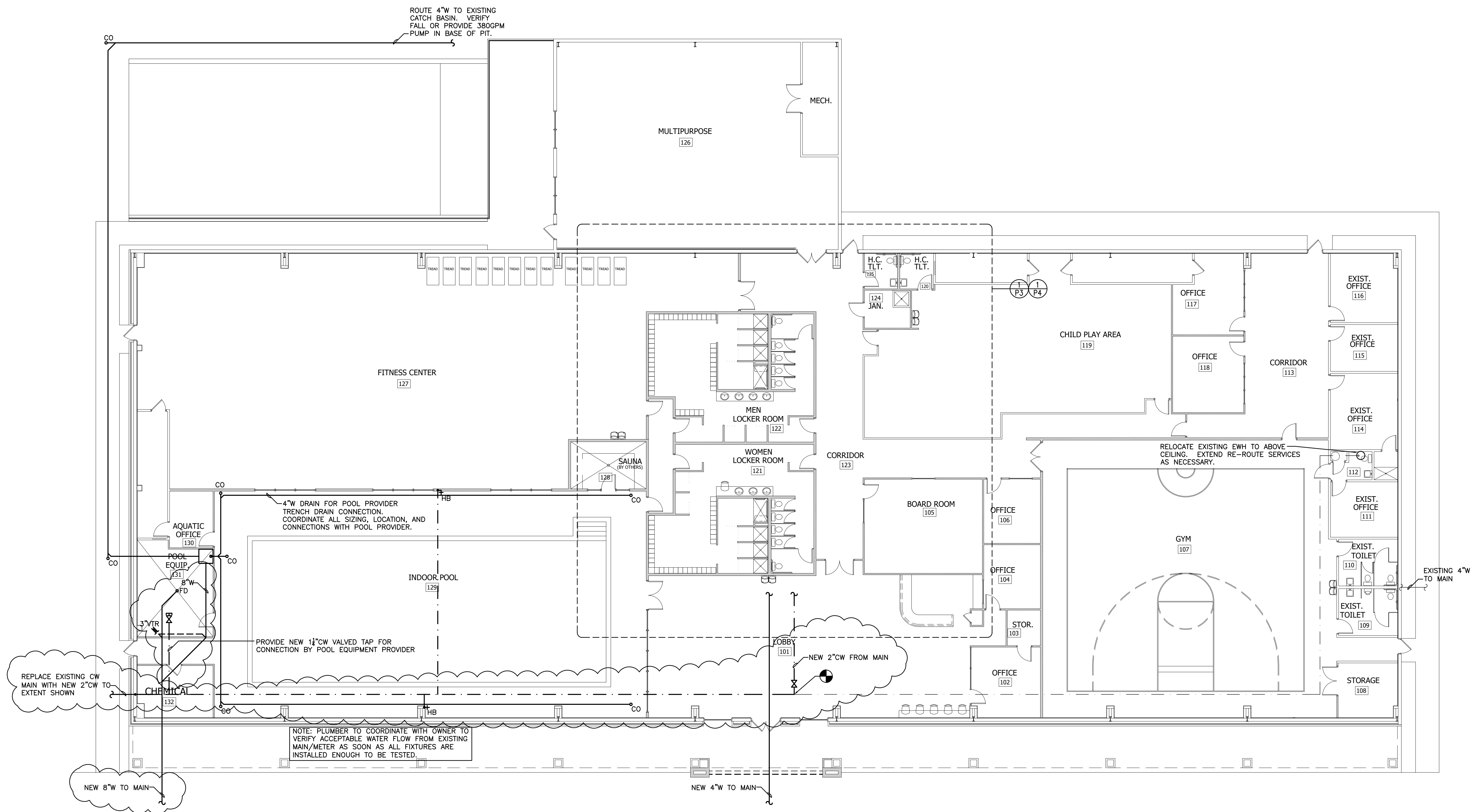
PROJECT NO. 10800
McDowell Consulting Engineers
 P.O. BOX 367 HAMPSTEAD, NC 28443
 TEL.(910) 270-3747 FAX.(910) 270-3779
 NC LICENSE NO. C-2546

GOODRICH
 ARCHITECTURE, P.A.
 31.42 WRIGHTSVILLE AVENUE
 WILMINGTON NC 28403
 OFFICE: 910.343.1065
 FAX: 910.343.1067
 EMAIL: BGOODRICH@ADL.COM

YMCA OF HARNETT COUNTY
 107 CARLETTA DAGLE DRIVE
 CAMERON, NORTH CAROLINA
 PROJECT # 18123
PLUMBING SCHEDULES, NOTES & DETAILS

DATE: 29 MARCH, 2019
 REVISION: 7 JUNE, 2019

P1



ROUTE 4"W TO EXISTING CATCH BASIN. VERIFY FALL OR PROVIDE 380GPM PUMP IN BASE OF PIT.

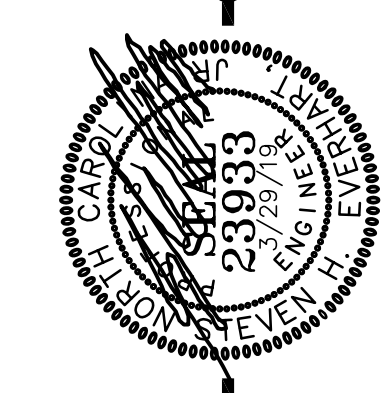
4"W DRAIN FOR POOL PROVIDER TRENCH DRAIN CONNECTION. COORDINATE ALL SIZING, LOCATION, AND CONNECTIONS WITH POOL PROVIDER.

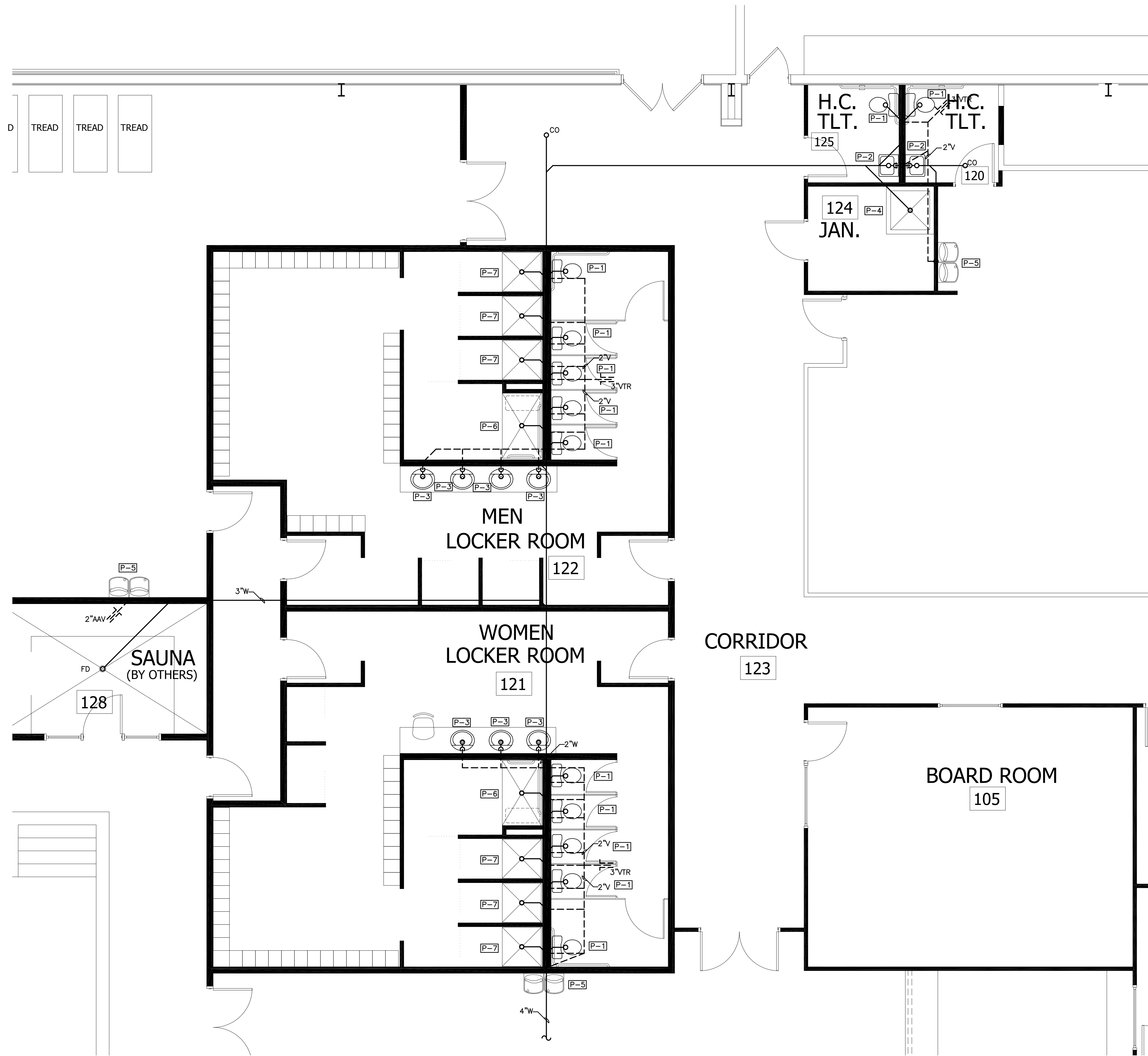
PROVIDE NEW 1 1/2" CW VALVED TAP FOR CONNECTION BY POOL EQUIPMENT PROVIDER

NOTE: PLUMBER TO COORDINATE WITH OWNER TO VERIFY ACCEPTABLE WATER FLOW FROM EXISTING MAIN/METER AS SOON AS ALL FIXTURES ARE INSTALLED ENOUGH TO BE TESTED.

RELOCATE EXISTING EWH TO ABOVE CEILING. EXTEND RE-ROUTE SERVICES AS NECESSARY.

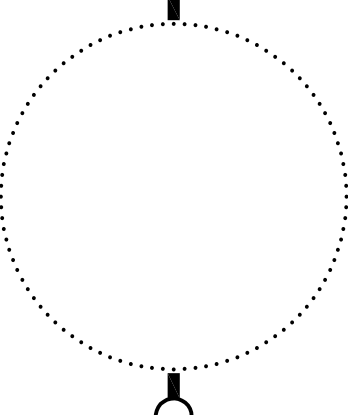
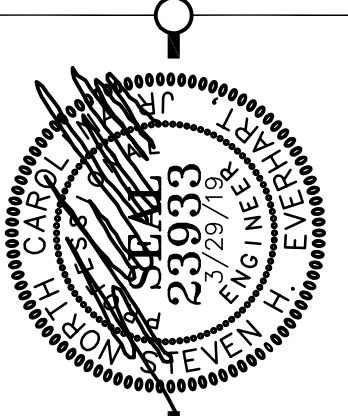
1 OVERALL PLAN - PLUMBING
P2 SCALE: 3/32" = 1'-0"



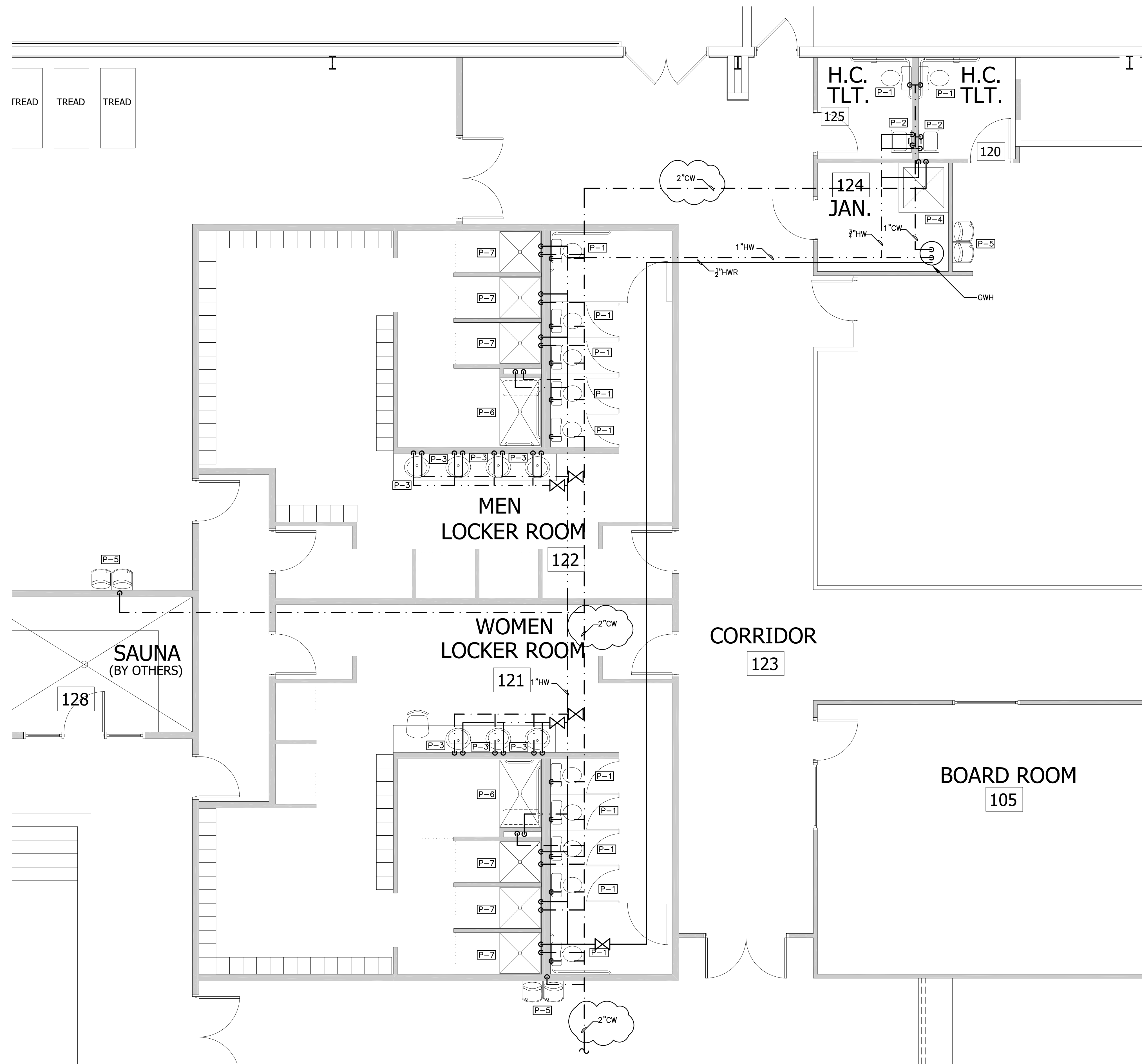


1 PARITAL PLAN - PLUMBING - WASTE
 P3 SCALE: 1/4" = 1'-0"

PROJECT NO. 10800
 McDowell Consulting Engineers
 P.O. BOX 367 HAMPSTEAD, NC 28443
 TEL: (910) 270-3747 FAX: (910) 270-3779
 NC LICENSE NO. C-2546



DATE:
 29 MARCH, 2019
 REVISION:



1 PARITAL PLAN - PLUMBING - WATER
 P4 SCALE: 1/4" = 1'-0"

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GOODRICH
 ARCHITECTURE, P.A.

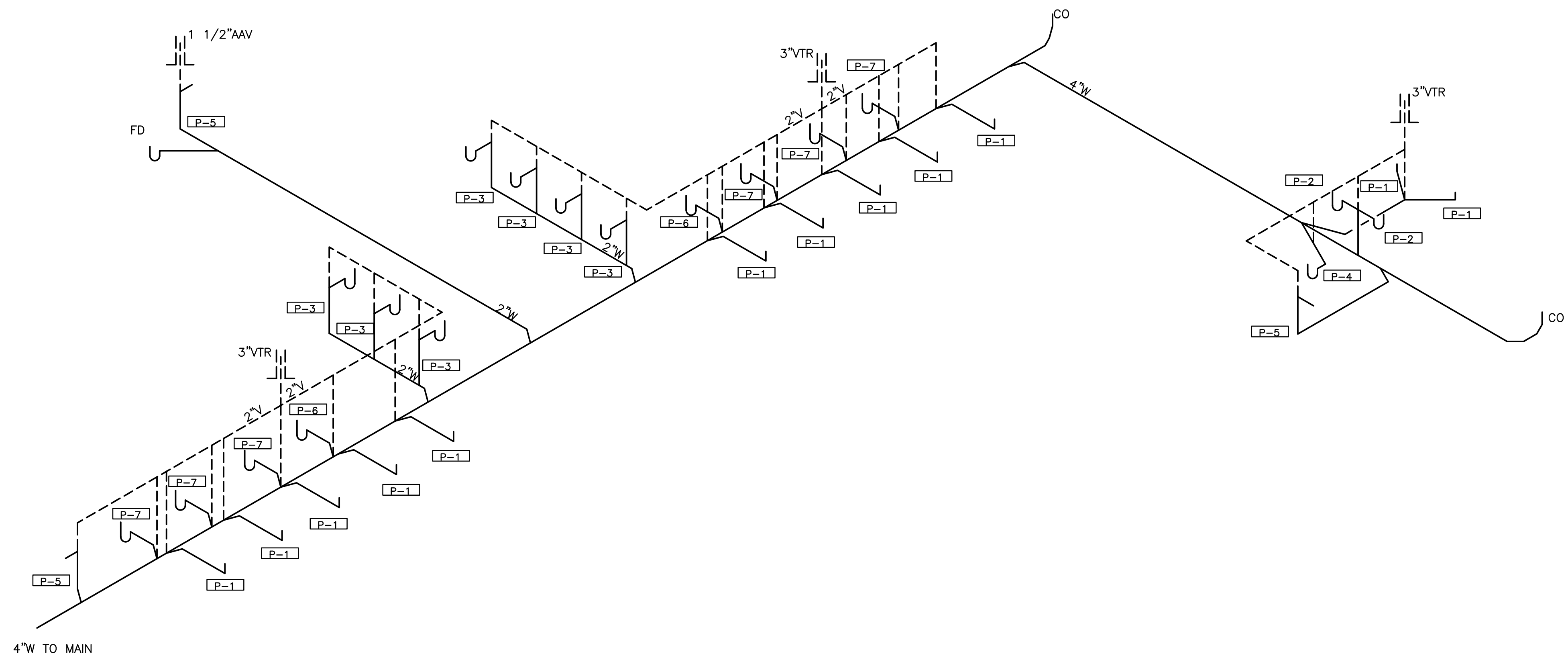
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YMCA OF HARNETT COUNTY
 107 CARLETTA DAGLE DRIVE
 CAMERON, NORTH CAROLINA
 PROJECT # 18123

PARTIAL PLAN - PLUMBING WASTE

DATE: 29 MARCH, 2019

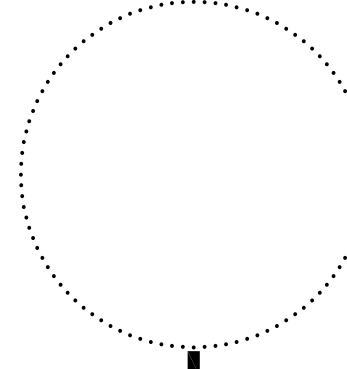
REVISION: 7 JUNE, 2019



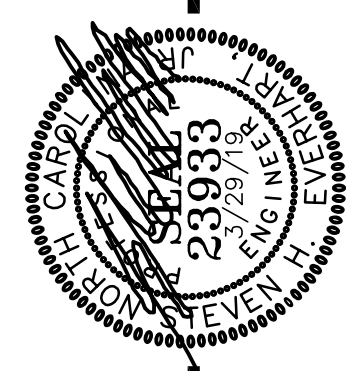
WASTE RISER
SCALE: NONE

PROJECT NO. 10800
McDowell Consulting Engineers
 P.O. BOX 367 HAMPSTEAD, NC 28443
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DATE:
29 MARCH, 2019



REVISION:

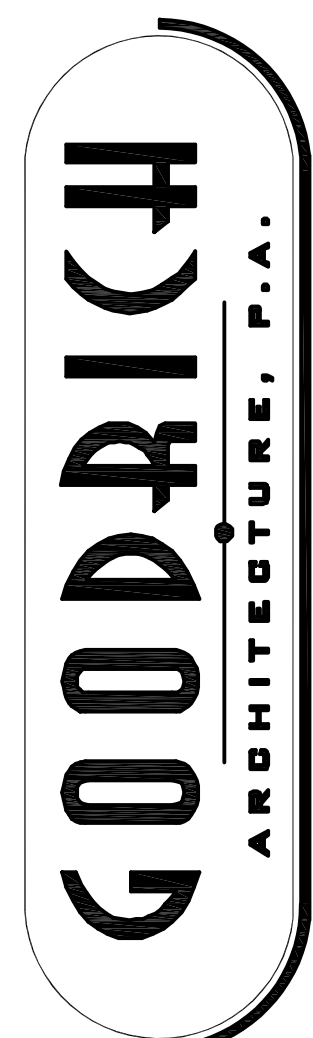


YMCA OF HARNETT COUNTY
 107 GARLETTA CABLE DRIVE
 CAMERON, NORTH CAROLINA

PLUMBING WASTE RISER

PROJECT # 18123

3142 WRIGHTSVILLE AVENUE
 WILMINGTON NC 28403



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P5

EXHAUST FAN SCHEDULE

TAG	CFM	RPM	S.P. IN. W.G.	WATTS/HP	SONES	ELECTRIC	CONTROL	MANUFACTURER MODEL NUMBER	DESCRIPTION & ACCESSORIES
EF-1	75	700	.25	50 WATTS	3.0	120-1-60	WIRED WITH LIGHT	GREENHECK SP-B90	1, 2, 3
EF-2	450	1070	.25	224 WATTS	5.5	120-1-60	WIRED WITH LIGHT	GREENHECK SP-A510	1, 2, 3
EF-3	300	1350	.25	135 WATTS	6.0	120-1-60	WIRED WITH LIGHT	GREENHECK SP-A390	1, 2, 3

- (1) CABINET CEILING FAN, DIRECT DRIVE, CENTRIFUGAL, SPRING LOADED ALUMINUM BACKDRAFT DAMPER.
 (2) ALUMINUM, WHITE ENAMEL CEILING GRILLE.
 (3) ALUMINUM HOODED WALL CAP WITH BUILT-IN BIRDSCREEN AND DAMPER.

AIR DISTRIBUTION DEVICE SCHEDULE

TAG	SERVICE	NECK SIZE	OVERALL SIZE	MODEL NUMBER	DESCRIPTION & ACCESSORIES
A	SUPPLY	10"	24 X 24	ASCD	1, 2, 3, 7, 8
B	SUPPLY	8"	12 X 12	ASCD	1, 2, 4, 7, 8
C	RETURN	14"	24 X 24	80	1, 2, 3, 5
D	RETURN	-	38 X 32	630	1, 2, 3, 5

- (1) PRICE AIR DISTRIBUTION; OR APPROVED EQUAL.
 (2) ALUMINUM CONSTRUCTION, STANDARD WHITE FINISH.
 (3) T-BAR LAY-IN PANEL.
 (4) SURFACE MOUNT BORDER.
 (5) CFM SHOWN IN GRILLE TAG IS MAXIMUM POSSIBLE WITH EXHAUST AND OUTSIDE AIR AT 0.
 (6) DOUBLE DEFLECTION GRILLE.
 (7) SQUARE FACE, ROUND NECK DIFFUSER.
 (8) BUTTERFLY STYLE VOLUME CONTROL DAMPER.

NOTE: FLEXIBLE DUCTWORK SHALL MATCH DIFFUSER NECK SIZE UNLESS OTHERWISE NOTED. FLEX SIZES NOTED OTHERWISE SHALL UTILIZE NECK ADAPTER.

PACKAGE GAS UNIT SCHEDULE

UNIT NUMBER	PU-1	PU-2
MANUFACTURER	SERESCO	TRANE
MODEL NUMBER	NP-018-NR-X-P4	YZH180F4RLD
UNIT WEIGHT (LBS)	992	2686
FAN	TOTAL AIR CFM	6500
	OUTSIDE AIR CFM	1610
	FAN H.P.	15.0
	EXT. S.P. (IN. H2O)	1.0
POWER SUPPLY	480/3/60	480/3/60
COOLING CAPACITY	TOTAL CAPACITY COOLING (BTUH)	228,800
	SENSIBLE CAPACITY COOLING (BTUH)	116,400
	ENTERING AIR TEMP.	80/67
HEATING CAPACITY	ENTERING AIR TEMP.	70
	GAS INPUT BTU/H	300,000
	GAS OUTPUT BTU/H	240,000
	EFFICIENCY	80%
POWER SUPPLY	480/3/60	480/3/60
COMPRESSOR AMPS	16.7/17.9	207.1, 1010
OUTDOOR FAN AMPS	2 @ 4.2	2 @ 2.5 (1PH)
MINIMUM AMPACITY	66	37
MAX. OVERCURRENT PROTECTION	80	45
ACCESSORIES	(1) (3)	(1) (2)

- (1) PROVIDE WALL MOUNTED, ELECTRONIC, PROGRAMMABLE THERMOSTAT WITH AUTO CHANGEOVER.
 (2) PROVIDE RETURN DUCT CO2 SENSOR TO OPEN MINIMUM OUTSIDE AIR.
 (3) AS SELECTED BY YMCA CORPORATE PREFERRED PROVIDER.

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT METHOD OF COMPLIANCE

Prescriptive Energy Cost Budget

Thermal Zone 3A

Exterior design conditions
 winter dry bulb 26° F
 summer dry bulb 92° F DB/76° F WB

Interior design conditions
 winter dry bulb 70° F
 summer dry bulb 75° F
 relative humidity 50%

Building heating load 185 MBTU/H ADDITIONAL
 Building cooling load 28 TONS ADDITIONAL

Mechanical Spacing Conditioning System

Unitary
 description of unit _____
 heating efficiency 3.2 COP AVG.
 cooling efficiency 13.0 SEER AVG.
 heat output of unit SEE SCHEDULES
 cooling output of unit SEE SCHEDULES

boiler
 total boiler output. If oversized, state reason.
N/A

chiller
 total chiller capacity. If oversized, state reason.
N/A

List equipment efficiencies N/A

Equipment schedules with motors (mechanical systems)
 motor horsepower SEE SCHEDULES
 number of phases SEE SCHEDULES
 minimum efficiency SEE SCHEDULES
 motor type ODP
 # of poles 4

Additional prescriptive compliance method : N/A, Addition/Renovation

DESIGNER STATEMENT:
 To the best of my knowledge and belief, the design of this building complies with the mechanical systems, service systems and equipment of the 2018 North Carolina State Energy Code.

SIGNED: _____
 NAME: STEVEN H. LEVERHART JR., P.E.
 TITLE: PROFESSIONAL ENGINEER

GENERAL MECHANICAL SPECIFICATIONS

ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE LATEST EDITION OF THE NC MECHANICAL CODE.

BASIS OF DESIGN: UNLESS OTHERWISE NOTED THE PURPOSE OF THESE DRAWINGS IS TO PROVIDE DIRECTION AND BASIS OF DESIGN TO A COMPETENT CONTRACTOR FAMILIAR WITH THE TYPE OF SYSTEMS BEING INSTALLED SUFFICIENT TO INDICATE OWNERS REQUESTS AND CODE REQUIREMENTS. IT IS THE CONTRACTORS RESPONSIBILITY, WHEN OTHERWISE UNDIRECTED, TO FOLLOW STANDARD INDUSTRY PRACTICES AND BASIC CODE COMPLIANCE INCLUDING, BUT NOT LIMITED TO, PROVIDING MATCHING REQUIRED ACCESSORIES TO THE SYSTEMS INDICATED, COORDINATING EXACT ROUTINGS AND LOCATIONS WITH OTHER TRADES AND THE OWNER, SELECTING CODE APPROVED MATERIALS, AND MAKING MINOR OFFSETS/ADJUSTMENTS BASED ON FIELD COORDINATION AND OWNER'S FIELD REQUESTS. CHANGE OF MANUFACTURER TO EQUIVALENT SYSTEMS, WITH OWNER'S APPROVAL, IS ACCEPTABLE. CONTACT ENGINEER WITH ANY CONFLICTS NOT COVERED BY THE ABOVE INSTRUCTIONS.

SHEET METAL WORK: THIS CONTRACTOR SHALL FURNISH ALL DUCTWORK AND ASSOCIATED SHEET METAL WORK AS CALLED FOR ON THE DRAWINGS AND REQUIRED FOR A COMPLETE DUCTED AIR DISTRIBUTION SYSTEM.

DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH BEST PRACTICES OF SHEET METAL WORK AND SMACNA STANDARDS.

ALL DUCTWORK SHALL BE GALVANIZED SHEET IRON THROUGHOUT EXCEPT WHERE OTHERWISE SHOWN AND FABRICATED IN ACCORDANCE WITH THE FOLLOWING TABLE (ALL DUCT SIZES ON CONTRACT DRAWINGS ARE SHEET METAL FABRICATION SIZES):

MAXIMUM DIMENSION OF DUCT	GAUGE U.S. STD.	TRANSVERSE JOINT	BRACING
UP TO 12"	26	DRIVE SLIPS 7"-10" CENTERS	NONE
13" TO 30"	24	DRIVE SLIPS 7"-10" CENTERS	1"x1"x1/8" ANGLES 4 FEET FROM JOINT

DUCTS 25 INCHES OR SMALLER IN MAXIMUM DIMENSION SHALL BE SUPPORTED WITH 1 INCH FLAT BAND HANGERS; DUCTS 25 INCHES AND LARGER SHALL BE SUPPORTED BY 3/4 INCH X 1-1/2 INCH ANGLE IRON AND ROUND ROD. SUPPORTS SHALL BE NOT MORE THAN 8 FEET ON CENTERS, PROPERLY FASTENED AND PLACED TO BUILDING STRUCTURES AND SHALL EXTEND AND BE RIVETED TO THE BOTTOM OF DUCTS.

UNLESS OTHERWISE SPECIFIED, FURNISH AND INSTALL ALL NECESSARY LINTELS, PROPERLY SIZED, SHEET METAL SLEEVES AND ESCUTCHEON COLLARS WHERE DUCTWORK RISES THROUGH FLOORS OR PASSES THROUGH WALLS OR CEILING.

FURNISH AND INSTALL FLEXIBLE COLLARS IN THE DUCTWORK CONNECTIONS TO AIR HANDLING FANS TO PREVENT NOISE TRANSMISSION BETWEEN SECTIONS.

ALL CHANGES IN DUCT DIRECTION SHALL BE LONG RADIUS ELBOWS OR SHALL BE FITTED WITH TURNING VANES. IT IS ACCEPTABLE TO CHANGE RECTANGULAR DUCTWORK TO THE EQUIVALENT SIZE IN ROUND PROVIDED THE CONTRACTOR COORDINATES ALL CLEARANCE ISSUES.

DUCT INSULATION:

ALL CONCEALED DUCTWORK SHALL BE INSULATED ON THE OUTSIDE WITH TWO INCH (2") THICK, 3/4 POUND DENSITY FIBERGLASS BLANKET INSULATION HAVING AN ALUMINUM FOIL-SCRIM VAPOR BARRIER JACKET.

EDGES OF INSULATION SHALL BE CUT STRAIGHT AND TRUE AND SHALL BE TIGHTLY BUTTED. THE VAPOR BARRIER JACKET SHALL OVERLAP THE BLANKET JOINT A MINIMUM OF THREE INCHES (3"). THE JACKET LAP SHALL BE FASTENED WITH MOISTURE RESISTANT ADHESIVE AND ALSO OUTWARD CLINCHING STAPLES SPACED TEN INCHES (10") C/C. THE VAPOR BARRIER EDGE AND STAPLES SHALL THEN BE COVERED WITH A THREE INCH (3") WIDE TAPE OF THE SAME MATERIAL AS THE JACKET AND SHALL BE FASTENED WITH MOISTURE RESISTANT ADHESIVE.

ALL CUTS, TEARS AND PENETRATIONS IN THE VAPOR BARRIER JACKET SHALL BE SEALED WITH JOINT TAPE. ALL EDGES OF INSULATING BLANKET SHALL BE SEALED FROM THE JACKET TO DUCT SURFACE WITH TAPE.

INSULATING BLANKET ON THE BOTTOM OF SURFACES IN EXCESS OF 24 INCHES WIDE SHALL BE SECURED AGAINST THE DUCT WITH ADHESIVE OVER THE ENTIRE AREA, MECHANICAL CLIPS ON 24 INCH CENTER OR BY WIRE TIES AROUND THE DUCT SPACED 24 INCHES C/C.

CONTRACTOR MAY USE FLEXIBLE DUCTWORK (MAXIMUM LENGTHS 15'-0") FOR FINAL CONNECTIONS TO DIFFUSERS/GRILLES. FLEXIBLE DUCTWORK SHALL BE CERTAFLEX 25 AS MANUFACTURED BY THE CERTAINTEEED CORPORATION.

REGISTERS AND GRILLES: ALL REGISTERS AND GRILLES SHALL BE OF SIZE, STYLE AND CAPACITY CALLED FOR ON PLANS AND IN THE GRILLE SCHEDULE. PROVIDE RUBBER OR EXPANDED FOAM GASKETS COMPLETELY AROUND ALL REGISTER AND GRILLE FRAMES TO PREVENT AIR LEAKAGE BETWEEN GRILLE FRAME AND DUCT OR BETWEEN GRILLE FRAME AND SURROUNDING FINISHED SURFACE. ACCEPTABLE MFGS: PRICE, CARNES, METALAIR, KRUGER. REGISTERS AND GRILLES SHALL BE BALANCED TO CFM SHOWN AND RECORD MADE OF ACTUAL FLOW AND BALANCE METHOD.

EQUIPMENT: MECHANICAL AND ELECTRICAL CONTRACTORS SHALL COORDINATE PRIOR TO ORDERING EQUIPMENT TO VERIFY CONSISTANT VOLTAGES. PRIOR TO EQUIPMENT BEING ENERGIZED, VOLTAGE TO EQUIPMENT CIRCUITS SHALL BE VERIFIED AS INSTALLED TO MATCH EQUIPMENT NAMEPLATE.

OPERATING INSTRUCTIONS, CERTIFICATES AND WARRANTIES: THE ORIGINAL OF ALL INSPECTION CERTIFICATES SHALL BE DELIVERED TO THE OWNER AND ONE (1) COPY EACH TO THE ENGINEER PRIOR TO REQUEST FOR FINAL PAYMENT.

THREE (3) COPIES OF OPERATING AND MAINTENANCE INSTRUCTIONS AND MANUFACTURER'S WARRANTIES FOR ALL EQUIPMENT PROVIDED UNDER THIS CONTRACT SHALL BE PROVIDED TO THE OWNER PRIOR TO SUBMITTING REQUEST FOR FINAL PAYMENT.

PRIOR TO FINAL PAYMENT TO THE CONTRACT, THE CONTRACTOR SHALL BE RESPONSIBLE TO TRAIN THE AUTHORIZED PERSONNEL ON HOW TO SERVICE, START-UP AND SHUT-DOWN THE VARIOUS SECTIONS OF THE SYSTEM. UPON COMPLETION OF THIS PHASE OF THE CONTRACT, THE CONTRACTOR SHALL SECURE A LETTER OF ACCEPTANCE FROM THE OWNER THAT HE IS SATISFIED WITH THE CONDITIONS STIPULATED HEREIN. UPON ACCEPTANCE OF THIS LETTER AND AT THE DISCRETION OF THE ENGINEER, THE FINAL PAYMENT WILL BE MADE.

THE CONTRACTOR SHALL PROVIDE A WRITTEN GUARANTEE OF ALL MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM DATE OF SYSTEM ACCEPTANCE.

THE WORK UNDER THIS CONTRACT WILL BE ACCEPTED ONLY AS AN ENTIRE SYSTEM UPON SATISFACTORY COMPLETION OF THE REQUIRED TESTS. NO PARTIAL ACCEPTANCE OF ANY PART OR PORTION OF APPARATUS WILL BE MADE.

INSTALL AND CONNECT ALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND DO ALL WORK IN A NEAT AND WORKMANLIKE MANNER AND IN ACCORDANCE WITH ACCEPTED GOOD PRACTICE AS JUDGED BY THE ENGINEER.

ALL EQUIPMENT AND PIPING SHALL BE SO INSTALLED THAT NO OBJECTIONABLE NOISES FROM EQUIPMENT, PIPING OR AIR DISTRIBUTION ARE AUDIBLE IN THE FINISHED AREAS.

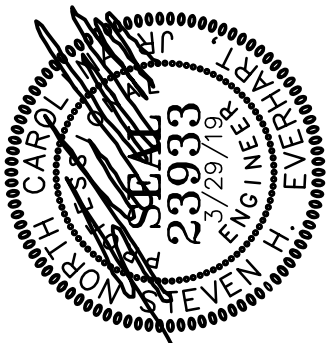
GUARANTEE: THIS CONTRACTOR SHALL GUARANTEE ALL MATERIALS, EQUIPMENT AND WORKMANSHIP FOR ONE (1) YEAR FOLLOWING FINAL INSPECTION AND ACCEPTANCE OF THE BUILDING BY THE ENGINEER AND OWNER. THIS APPLIES TO ALL MATERIALS AND EQUIPMENT INSTALLED UNDER THIS CONTRACT, REGARDLESS OF SOURCE.

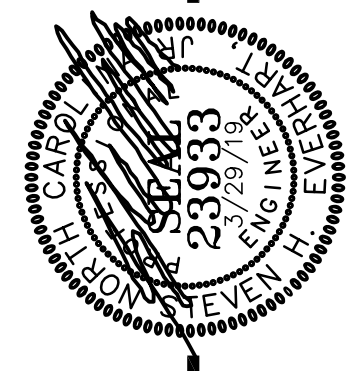
THE ONE (1) YEAR GUARANTEE PERIOD WILL START ON THE DAY OF FINAL INSPECTION AND ACCEPTANCE BY THE OWNER. THE CONTRACTOR SHALL PROVIDE THE ENGINEER A LETTER WITH TWO (2) COPIES STATING THE BEGINNING AND ENDING DATES OF THE GUARANTEE BASED ON THE AFOREMENTIONED STARTING DATES.

EXTENDED GUARANTEE: PROVIDE AN ADDITIONAL FOUR (4) YEAR GUARANTEE ON ALL COMPRESSORS BEYOND THE ABOVE MENTIONED ONE (1) YEAR GUARANTEE PERIOD.

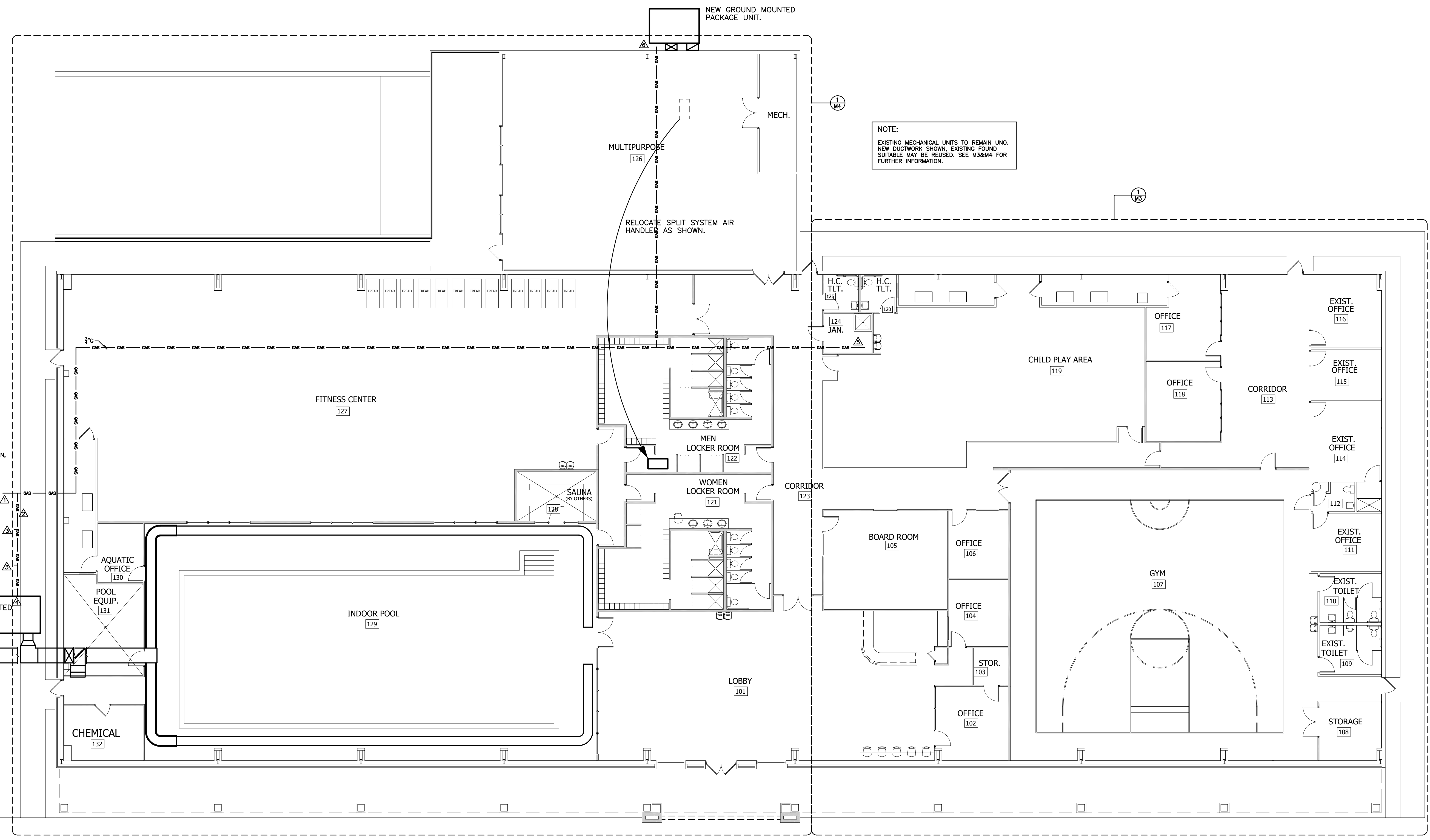
AIR BALANCE: ALL SYSTEMS SHALL BE BALANCED BY THE CONTRACTOR PER THE REQUIREMENTS OF SECTION 503.2.9 OF THE NORTH CAROLINA STATE BUILDING CODE: ENERGY CONSERVATION CODE.

ENERGY CODE COMPLIANCE: HVAC EQUIPMENT SELECTED MEETS PERFORMANCE REQUIREMENTS OF THE NORTH CAROLINA STATE BUILDING CODE: ENERGY CONSERVATION CODE SECTION 506.2.1 ANY SUBSTITUTIONS MUST MEET THIS STANDARD AS WELL. UPON FINAL INSPECTION THE CONTRACTOR SHALL PROVIDE TO OWNER MANUALS AND EVIDENCE OF AIR BALANCE. CONTRACTOR SHALL SCHEDULE DESIGN PROFESSIONAL AND ASSIST TO COMPLETE SYSTEM INSTALLATION STATEMENT IN ACCORDANCE WITH THE NORTH CAROLINA STATE BUILDING CODE: ENERGY CONSERVATION CODE SECTION 503.2.9.



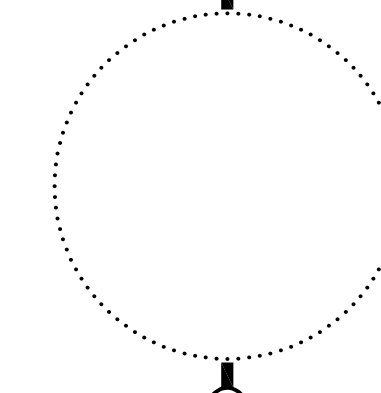
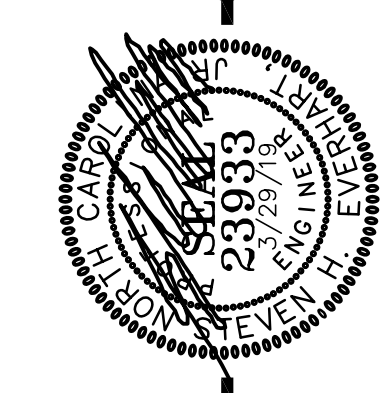


NOTE:
EXISTING MECHANICAL UNITS TO REMAIN UNO.
NEW DUCTWORK SHOWN, EXISTING FOUND
SUITABLE MAY BE REUSED, SEE M3&M4 FOR
FURTHER INFORMATION.

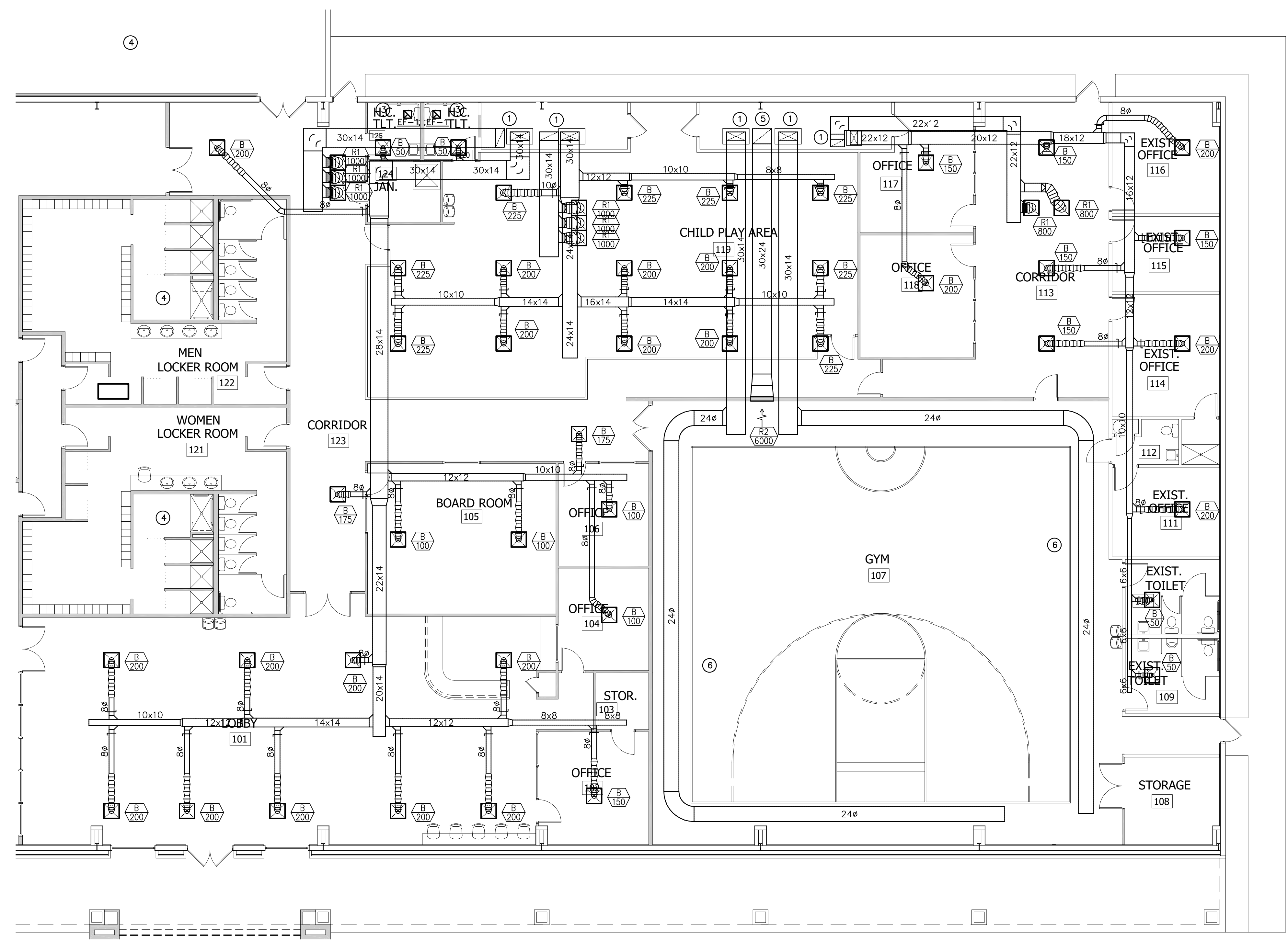


- GAS NOTES:**
- MAX RUN 250'(HIGH)40'(LOW)
 - MAX LOAD 1748 MBTU
 - PIPE SIZED PER TABLE 402.4(25)&(26)
 - 1" G FROM TANK BY GAS COMPANY
 - PRESSURE REGULATOR IN THIS LOCATION, 1/2" G DOWNSTREAM
 - 1" G TO 400 MBTU/H POOL HEATER
 - 1" G TO 300 MBTU/H PACKAGED UNIT
 - 3/4" G TO 199 MBTU/H WATER HEATER, PROVIDE PRESSURE REDUCER.
 - 3/4" G TO 250 MBTU/H PACKAGED UNIT, PROVIDE PRESSURE REDUCER.

1 OVERALL PLAN - MECHANICAL
M2 SCALE: 3/32"=1'-0"

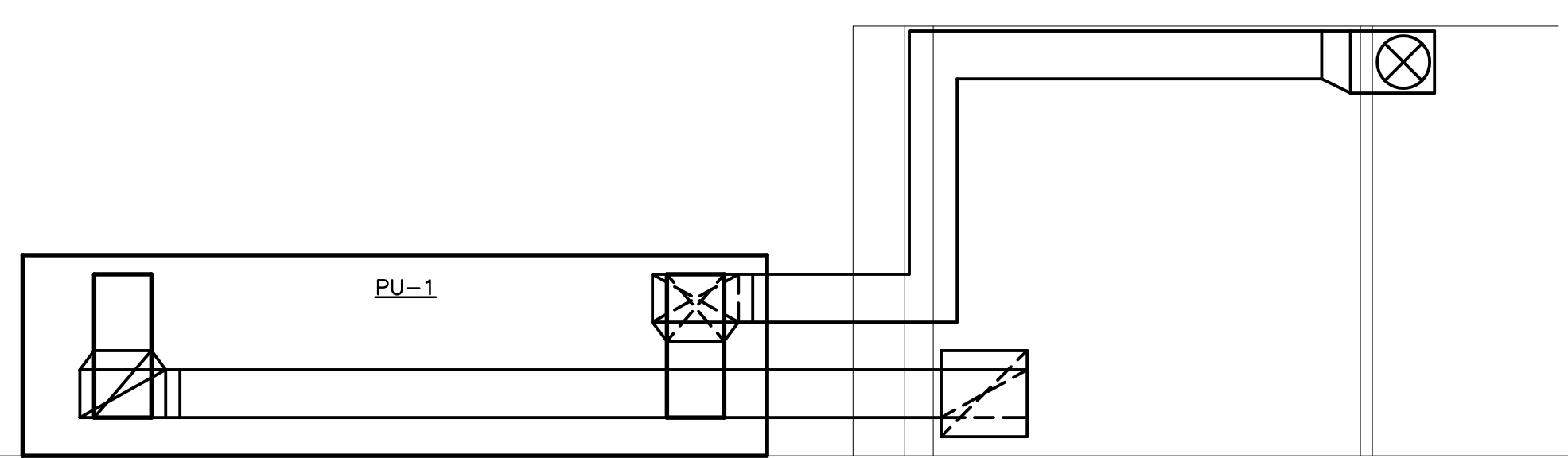


NOTE:
EXISTING MECHANICAL UNITS TO REMAIN UNO.
NEW DUCTWORK SHOWN, EXISTING FOUND
SUITABLE MAY BE REUSED.



- GENERAL NOTES:
- ① EXISTING SPLIT SYSTEM TO REMAIN. ROUTE NEW DUCTWORK AS SHOWN.
 - ② EXISTING EXHAUST TO REMAIN.
 - ③ ROUTE 6" EXHAUST TO WALL OR ROOF CAP FOR NEW EXHAUST FAN.
 - ④ SEE M4 FOR DETAILS OF THIS AREA.
 - ⑤ ROUTE RETURN TO BOTH UNITS SERVING GYM
 - ⑥ GYM ROUND DUCT TO BE FABRIC EQUAL TO DUCTSOX SEDONA--XM. COORDINATE WITH OWNER AND MANUFACTURER FOR EXACT SIZING, COLOR, AND PERFORMANCE PATTERN. PROVIDE MULTIPoint HANGING SYSTEM.

1 PARITAL PLAN - MECHANICAL
M3 SCALE: 1/8" = 1'-0"

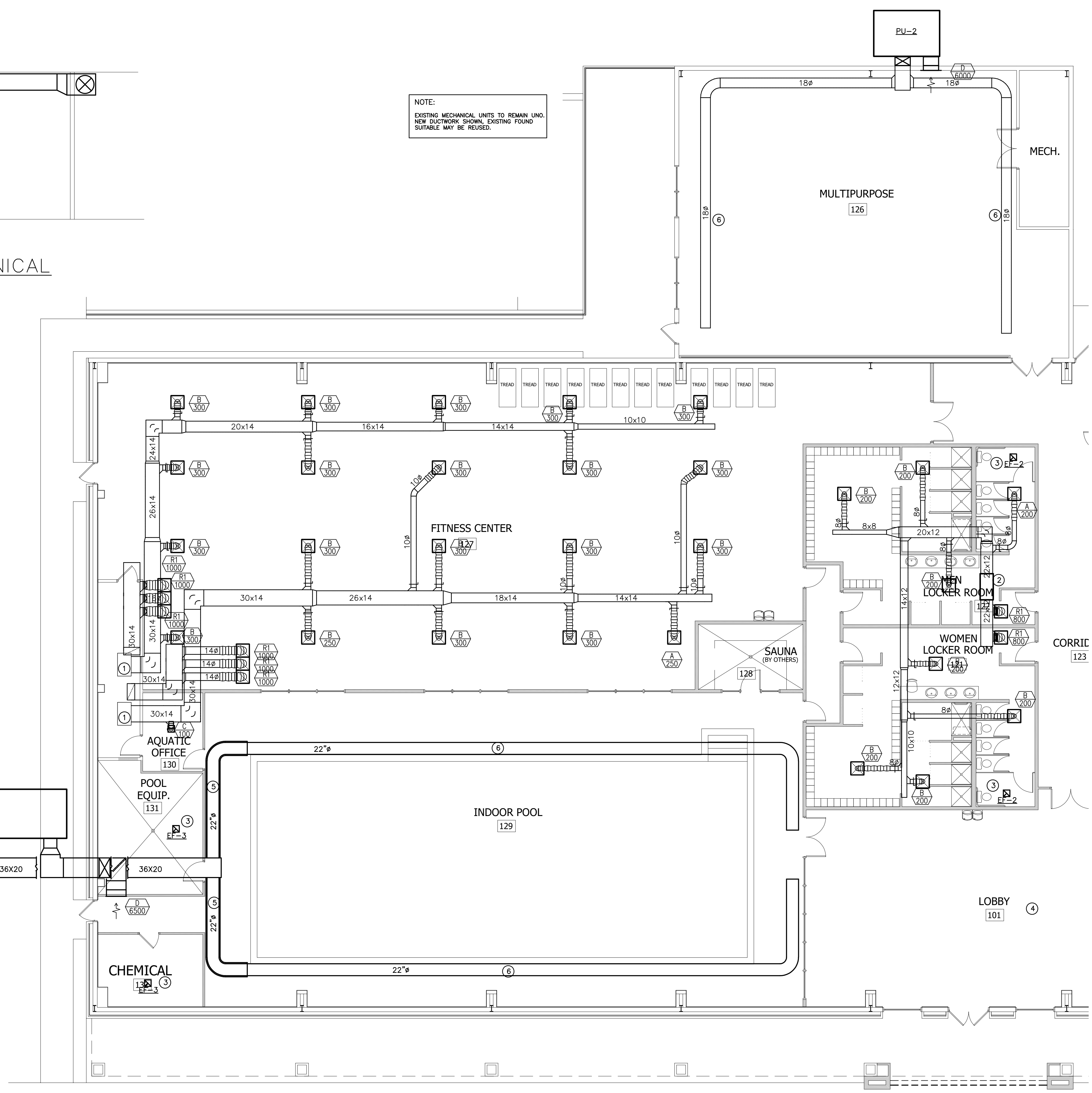
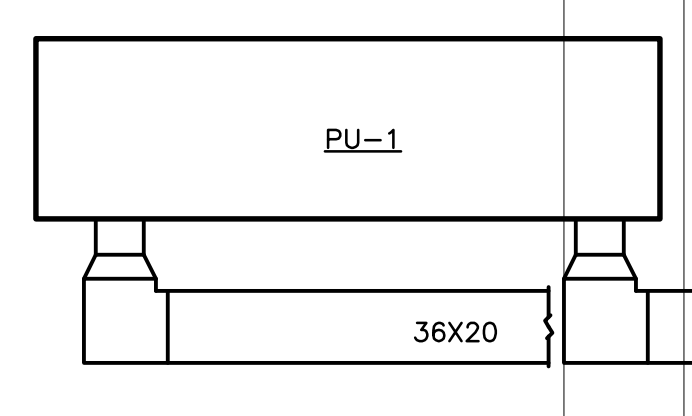


1
M4 PARITAL PLAN - MECHANICAL
SCALE:NTS

NOTE:
EXISTING MECHANICAL UNITS TO REMAIN UNO.
NEW DUCTWORK SHOWN, EXISTING FOUND
SUITABLE MAY BE REUSED.

GENERAL NOTES:

- 1 EXISTING SPLIT SYSTEM TO REMAIN. ROUTE NEW DUCTWORK AS SHOWN.
- 2 SPLIT SYSTEM AIR HANDLER TO BE RELOCATED TO THIS LOCATION. SEE M2 FOR ORIGINAL LOCATION. EXTEND ALL SERVICES AS REQUIRED.
- 3 ROUTE 10" EXHAUST TO WALL OR ROOF CAP FOR NEW EXHAUST FAN.
- 4 SEE M3 FOR DETAILS OF THIS AREA.
- 5 END WALL SECTION OF DUCTWORK TO BE DOUBLE WALL SPIRAL.
- 6 EXPOSED ROUND DUCT, UNLESS NOTED OTHERWISE, TO BE FABRIC EQUAL TO DUCTSOX SEDONA-XM. COORDINATE WITH OWNER AND MANUFACTURER FOR EXACT SIZING, COLOR, AND PERFORATION PATTERN. PROVIDE MULTIPOINT HANGING SYSTEM.



1
M4 PARITAL PLAN - MECHANICAL
SCALE:1/8"=1'-0"

PROJECT NO. 10800
McDowell Consulting Engineers
P.O. BOX 367 HAMPSTEAD, NC 28443
TEL.(910) 270-3747 FAX(910) 270-3779
NC LICENSE NO. C-2546

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OFFICE: 910.343.1065
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PROJECT # 18123

YMCA OF HARNETT COUNTY
107 CARLETTA DABLE DRIVE
CAMERON, NORTH CAROLINA

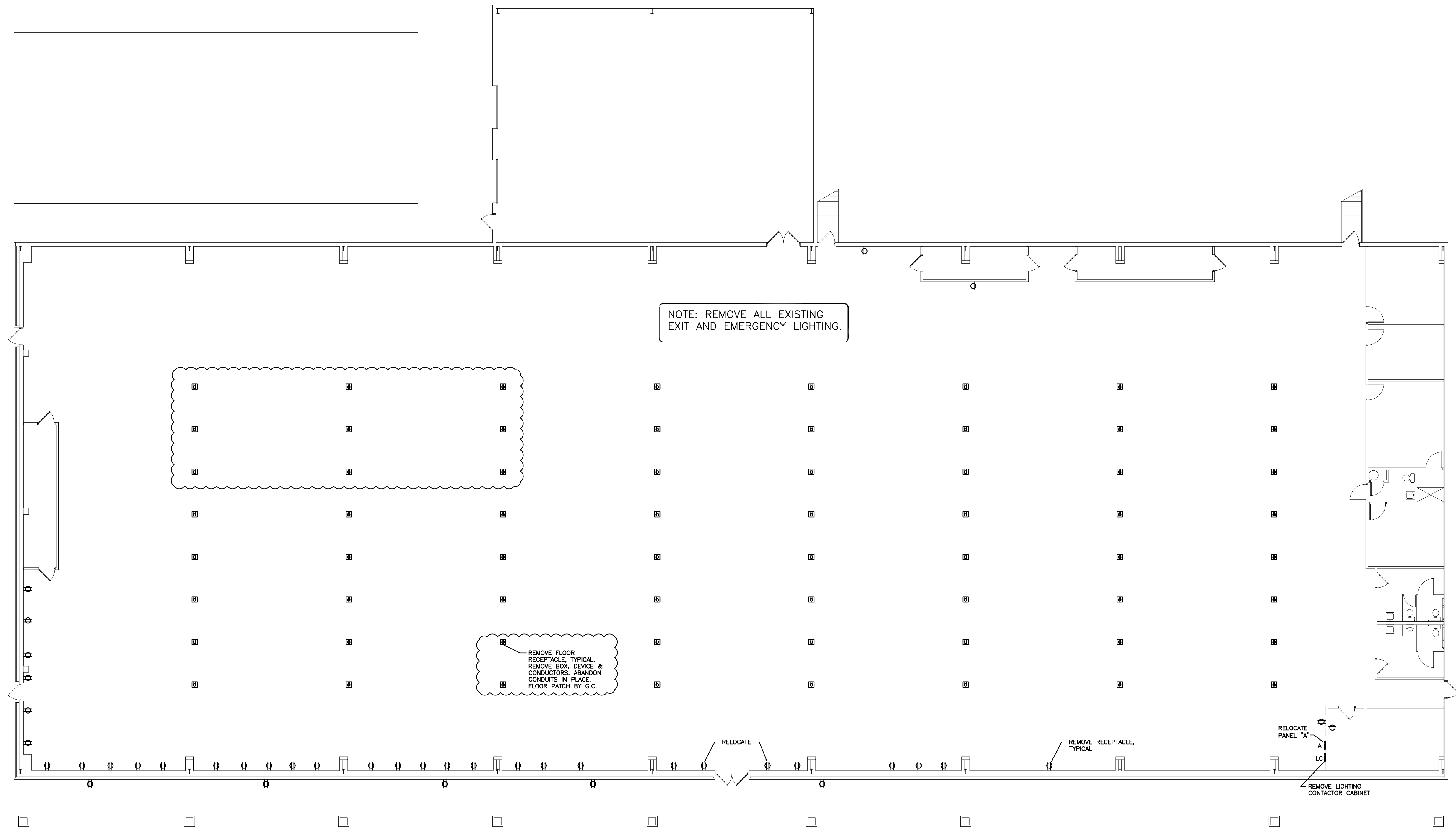
PARTIAL PLAN - MECHANICAL

29 MARCH, 2019

DATE:
29 MARCH, 2019

M4

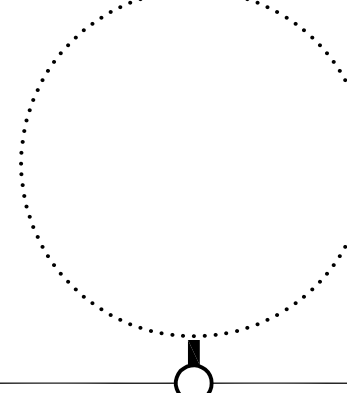
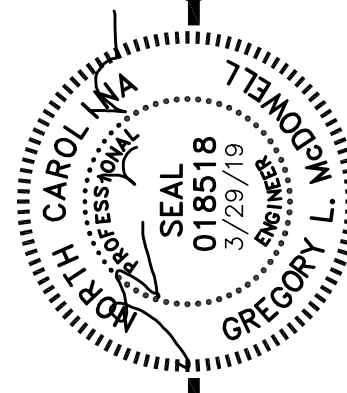
REVISION:
M4



DEMOLITION PLAN - ELECTRICAL
SCALE: 3/32"=1'-0"

NOTE: COORDINATE
DEMOLITION WORK
W/G.C.

PROJECT NO. 10800
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NC LICENSE NO. C-2546



DATE: 29 MARCH, 2019
REVISION: 7 JUNE, 2019

DETAILED ELECTRICAL SPECIFICATIONS

SCOPE: FURNISH ALL MATERIALS, LABOR, TOOLS, EQUIPMENT AND SUPERVISION NECESSARY TO INSTALL COMPLETE ELECTRICAL POWER AND LIGHTING SYSTEM IN THE BUILDING AS FURTHER DESCRIBED ON THE ELECTRICAL CONTRACT DRAWINGS.

SUPPLY ALL MATERIALS, FITTINGS AND HARDWARE NECESSARY FOR COMPLETE OPERATING SYSTEMS WITHIN THE OBVIOUS INTENT OF THE DRAWINGS. NO ATTEMPT HAS BEEN MADE TO DETAIL OR LIST EACH AND EVERY ITEM OF MATERIAL. THE ELECTRICAL CONTRACTOR IS CAUTIONED TO READ THE ENTIRE PROJECT DRAWINGS AND SPECIFICATIONS TO ASSURE HIMSELF OF A THOROUGH KNOWLEDGE OF BUILDING CONSTRUCTION, STRUCTURAL RESTRICTIONS TO ELECTRICAL CONTRACT WORK AND TO ASSURE THAT NO REFERENCE ANYWHERE IN THE PROJECT DRAWINGS AND SPECIFICATIONS TO WORK BY THE ELECTRICAL CONTRACTOR IS OVERLOOKED.

CODES, PERMITS AND INSPECTIONS: THE LATEST EDITION OF THE STATE BUILDING CODE WHICH INCLUDES THE 2017 EDITION OF THE NATIONAL ELECTRICAL CODE IS HEREBY MADE A PART OF THIS SPECIFICATION. CODE REQUIREMENTS SHALL TAKE PRECEDENCE OVER THESE SPECIFICATIONS WHERE THE CODE REQUIREMENTS EXCEED THAT OF THE SPECIFICATIONS. HOWEVER, THE SPECIFICATIONS SHALL BE FOLLOWED WHERE THEY EXCEED CODE REQUIREMENTS. THE ELECTRICAL CONTRACTOR SHALL, AT NO ADDITIONAL COST TO THE OWNER, OBTAIN THE SERVICES OF THE LOCAL ELECTRICAL INSPECTOR TO MAKE ALL REQUIRED DURING CONSTRUCTION AND COMPLETED ELECTRICAL SYSTEM INSPECTIONS.

MATERIALS AND WORKMANSHIP: ALL MATERIAL BUILT INTO THIS PROJECT SHALL BE NEW OF EQUIVALENT OR BETTER QUALITY THAN THAT SPECIFIED. SPECIFIC NAMES AND CATALOG NUMBERS USED HEREIN ARE TO ESTABLISH THE ITEM FUNCTION, ARRANGEMENT AND QUALITY REQUIRED AND ARE NOT INTENDED TO RESTRICT COMPETITION. ALL MATERIALS SHALL BE UL LISTED AND LABELED FOR THE PARTICULAR APPLICATION AS USED ON THIS PROJECT.

CONDUCTORS: ALL CONDUCTORS SHALL BE COPPER (#10 AWG AND SMALLER SHALL BE SOLID, AND #8 AWG AND LARGER STRANDED) WITH THHN/THWN INSULATION, INSTALLED IN CONDUIT OR APPROVED CABLE ASSEMBLY. NM CABLE SHALL NOT BE USED. CONDUCTORS SHALL BE #12 AWG MINIMUM EXCEPT WITHIN LIGHT FIXTURES, LOW VOLTAGE CONTROLS OR COMMUNICATION/FIRE ALARM EQUIPMENT. CONDUCTOR COLOR CODE SHALL CONFORM TO THE NEC. CONDUCTORS SHALL BE CONTINUOUS FROM TERMINAL TO TERMINAL OR PULL BOX TO PULL BOX. JOINTS SHALL BE MADE WITH IDEAL "WIRENUTS."

RACEWAYS: RACEWAYS SHALL BE ELECTRICAL METALLIC TUBING (EMT) WITH THREADED STEEL HEXAGONAL COMPRESSION FITTINGS - NEITHER INDENTOR TYPE OR DIE METAL FITTING WILL BE ACCEPTED. CONDUIT UNDER THE FLOOR SLAB AND UNDER GROUND OUTSIDE THE BUILDING MAY BE PVC. FITTINGS IN EMT SHALL BE WEATHER TIGHT (THOMAS AND BETTS SERIES #5123 WITH NYLON INSULATED THROATS), BENDS SHALL BE FACTORY FABRICATED OR MADE "COLD" WITH BENDING TOOL, FREE OF KINKS OR RESTRICTIONS. NO SINGLE BEND SHALL BE IN EXCESS OF 90 DEGREES. THERE SHALL BE NO MORE THAN THE EQUIVALENT OF THREE (3) 90 DEGREE BENDS IN A GIVEN RACEWAY FROM PULL BOX TO PULL BOX. RIGID RACEWAY THREADS SHALL BE CUT STRAIGHT AND TRUE - PIPE ENDS SHALL BE REAMED AND SMOOTHED INSIDE AND OUT.

SUPPORT 1-1/2 INCH AND LARGER CONDUIT 10 FEET O/C OR LESS, AND 1 INCH AND SMALLER 6 FEET O/C MAXIMUM. RACEWAYS SHALL BE SUPPORTED DIRECTLY FROM BUILDING STRUCTURE WITH BOLTS, SCREWS, STRAPS, HANGER RODS AND BRACKETS. ALL METALLIC HARDWARE SHALL BE GALVANIZED OR CADMIUM PLATED. NAILS, WIRE AND/OR PERFORATED STRAPS WILL NOT BE ACCEPTED.

USE THREADED LOCKNUTS OUTSIDE AND THREADED LOCKNUT AND BUSHING INSIDE ALL RACEWAY CONNECTIONS TO BOXES, DEVICES, PANELS AND GUTTERS. USE NON-METALLIC BUSHINGS ON ALL 1-1/4 INCH AND LARGER CONDUIT. EXPOSED CONDUIT SHALL BE RUN STRAIGHT AND TRUE PARALLEL AND PERPENDICULAR TO PRIMARY BUILDING LINES.

BOXES AND DEVICES: ALL BOXES, PANELS AND EQUIPMENT SHALL BE SUPPORTED DIRECTLY FROM THE BUILDING STRUCTURE AND SHALL NOT DEPEND ON THE FEEDER RACEWAYS FOR SUPPORT. ALL ITEMS SHALL BE CAREFULLY ALIGNED SO THAT COVERS WILL FINISH FLUSH AND STRAIGHT. ALL UNUSED KNOCKOUTS SHALL BE CLOSED WITH BLANKING DEVICES. BOXES IN CONCRETE OR MASONRY SHALL BE 3-1/2 INCH DEEP (MINIMUM) SQUARE 16 GAUGE GALVANIZED STEEL - STEEL CITY SERIES GW. BOXES INSTALLED IN WOOD PARTITIONS SHALL BE STEEL CITY 3-1/2 INCH DEEP GANGABLE SQUARE CORNER TYPE. RECEPTACLES SHALL BE HUBBELL 5362 OR EQUAL. SWITCHES SHALL BE HUBBELL 1120 SERIES OR EQUAL. DEVICE FINISHES & COVER PLATES SHALL MATCH EXISTING.

PULL BOXES SHALL BE 14 GAUGE GALVANIZED STEEL WITH BLANK COVER SIZED AS REQUIRED BY NATIONAL ELECTRICAL CODE. LOCATE DEVICES AND EQUIPMENT ABOVE FINISHED FLOOR AS FOLLOWS UNLESS OTHERWISE SPECIFICALLY NOTED ON PLANS:

- WALL SWITCHES - 4'-0" OR TO NEAREST MASONRY COURSE JOINT.
- RECEPTACLES - 1'-6" OR TO NEAREST MASONRY COURSE JOINT.
- LIGHT FIXTURES - AS NOTED ON FIXTURE SCHEDULE.

GROUNDING: THE ELECTRICAL SYSTEM AND ALL ELECTRICAL EQUIPMENT SHALL BE GROUNDED IN ACCORDANCE WITH ARTICLE 250 OF THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE. EQUIPMENT GROUND WIRE SHALL BE USED WITH ALL FEEDERS AND BRANCH CIRCUITS.

LIGHTING FIXTURES: LIGHTING FIXTURES AND LAMPS SHALL BE PROVIDED AND INSTALLED AS PER SCHEDULE. ALL FIXTURES SHALL BE CLEANED ON COMPLETION OF INSTALLATION.

TESTS: THE CONTRACTOR SHALL MEGGER ALL BUSWAYS, CABLES AND CONTROL CONNECTIONS TO PROVE INSULATION RESISTANCE IS OF ACCEPTABLE VALUE.

PANELBOARDS: PROVIDE PANELBOARDS RATED AND SIZED AS INDICATED IN THE SCHEDULE AND SHOWN ON THE PLANS EQUAL TO SQUARE D COMPANY MODEL NEH & NQOD.

ACCEPTABLE MANUFACTURERS: SQUARE D, GENERAL ELECTRIC, SIEMENS, CUTLER-HAMMER

SAFETY SWITCHES: SWITCHES SHALL BE EQUAL TO SQUARE D TYPE GD WITH RATINGS AND FUSING PROVISIONS AS INDICATED.

IDENTIFICATION AND NAMEPLATES: PROVIDE ENGRAVED, LAMINATED BAKELITE (WHITE LETTERS ON BLACK SURFACE) NAMEPLATES SCREWED TO EACH PIECE OF ELECTRICAL DISTRIBUTION EQUIPMENT AS FOLLOWS:

A. PANELBOARDS, SWITCHBOARDS - DESIGNATION L1, P1, ETC., VOLTAGE, PHASE NUMBER OF WIRES, ETC.; WORDING EXAMPLE: PANEL L1-208V-3 PHASE, 4 WIRE.

B. MOTOR STARTERS, DISCONNECT SWITCHES - UNLESS MOUNTED DIRECTLY ON OR ADJACENT TO IDENTIFY EQUIPMENT; WORDING EXAMPLE: EXHAUST FAN 1, MAKE-UP AIR UNIT.

PROVIDE TYPED DIRECTORIES FOR PANELBOARD BRANCH CIRCUIT IDENTIFICATION. IDENTIFY EACH CIRCUIT BREAKER AS TO THE EXACT ROOM NUMBERS OR AREA SERVED AND THE TYPE OF CIRCUIT, I.E. "ROOMS 101-104 LIGHTS" OR "CAFETERIA EXHAUST FAN".

EQUIPMENT CONNECTIONS: THIS CONTRACTOR SHALL BRING ALL REQUIRED ELECTRICAL SERVICE TO ALL EQUIPMENT ITEMS FURNISHED UNDER OTHER SECTIONS OF THESE SPECIFICATIONS OR BY THE OWNER, MAKE FINAL CONNECTIONS, AND LEAVE EQUIPMENT READY FOR OPERATION. THIS CONTRACTOR SHALL COORDINATE WITH ANY AFFECTED TRADE TO ASSURE CORRECT OPERATION OF THE EQUIPMENT ITEM.

CONTROL AND INTERLOCK WIRING: EXCEPT AS OTHERWISE INDICATED ON THE DRAWINGS, ALL CONTROL AND INTERLOCK WIRING SHALL BE PERFORMED BY THE RESPECTIVE CONTRACTORS.

THE ELECTRICAL SUBCONTRACTOR SHALL INSTALL ALL STARTERS, PILOT SWITCHES, CONTROL DEVICES AND MISCELLANEOUS ITEMS OF ELECTRICAL EQUIPMENT FURNISHED UNDER OTHER SECTIONS OF THESE SPECIFICATIONS THAT ARE NOT INTEGRALLY MOUNTED WITH THEIR ASSOCIATED EQUIPMENT.

DRY-TYPE DISTRIBUTION TRANSFORMERS: TRANSFORMERS SHALL BE DRY-TYPE WITH NATURAL DRAFT VENTILATION. UNITS SHALL BE RATED FOR 480 VOLTS, 3 PHASE, 3 WIRE PRIMARY, AND 120/208 VOLTS, 3 PHASE, 4 WIRE SECONDARY, UNLESS OTHERWISE INDICATED. UNITS SHALL BE DESIGNED FOR 60 HERTZ OPERATION, WITH KVA CAPACITIES AS SHOWN ON DRAWINGS. TRANSFORMERS SHALL CONFORM WITH APPLICABLE NEMA AND ANSI STANDARDS, AND SHALL BE UL LISTED.

TRANSFORMERS SHALL HAVE CLASS H INSULATION, HIGH GRADE SILICONE STEEL CORES, AND SHALL BE RATED FOR A MAXIMUM TEMPERATURE RISE OF 115 DEGREES C. UNITS RATED 30 KVA AND LARGER SHALL HAVE FOUR 2-1/2% TAPS BELOW NORMAL AND TWO 2 1/2% TAPS ABOVE NORMAL. UNITS RATED LESS THAN 30 KVA SHALL HAVE TWO 5% TAPS BELOW NORMAL.

SOUND LEVELS GENERATED BY TRANSFORMERS SHALL NOT EXCEED THE FOLLOWING VALUES: 9 KVA AND LESS -40 DB, 10 TO 45 KVA -42 DB, 50 TO 150 KVA -45 DB.

SERVICE: THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING SERVICE WITH THE UTILITY COMPANY. EC SHALL WORK DIRECTLY WITH THE UTILITY AND SHALL COMPLETE AND SUBMIT ALL LOAD DATA SHEETS REQUIRED FOR SERVICE APPLICATION.

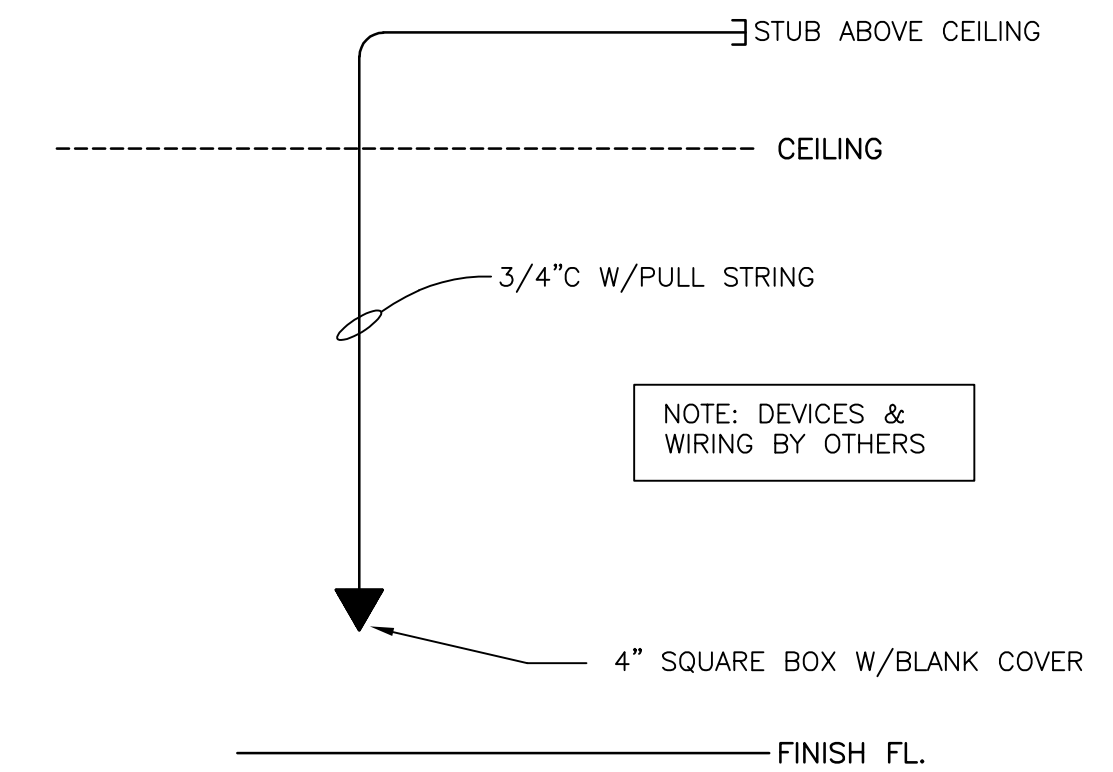
SUBMITTALS: SHOP DRAWING SUBMITTALS WILL BE REQUIRED FOR THIS PROJECT. SUBMIT ELECTRONICALLY ALL LIGHT FIXTURES AND MAJOR SPECIFIED EQUIPMENT TO THE ENGINEER FOR APPROVAL.

IT IS UNDERSTOOD THAT PROOF OF EQUALITY IS THE RESPONSIBILITY OF THE CONTRACTOR AND/OR SUPPLIER AND THAT IT IS NOT THE RESPONSIBILITY OF THE ENGINEER TO PROVE THE INEQUALITY OF THE PROPOSED SUBSTITUTIONS. FURTHERMORE THE DECISION OF THE ENGINEER IS FINAL.

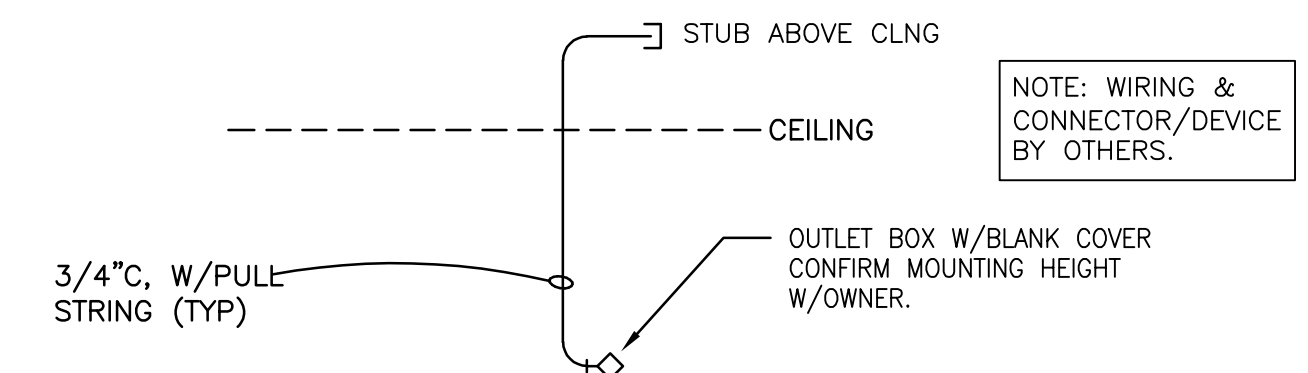
SHOULD ANY SUBSTITUTE ITEMS BE SUBMITTED AND DISAPPROVED, THEN THOSE ITEMS MUST BE FURNISHED EXACTLY AS DESCRIBED HEREIN.

THE ENGINEER'S REVIEW OF SHOP DRAWINGS AND/OR SUBMITTAL DATA SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR DEVIATIONS FROM THE CONTRACT DRAWINGS OR SPECIFICATIONS.

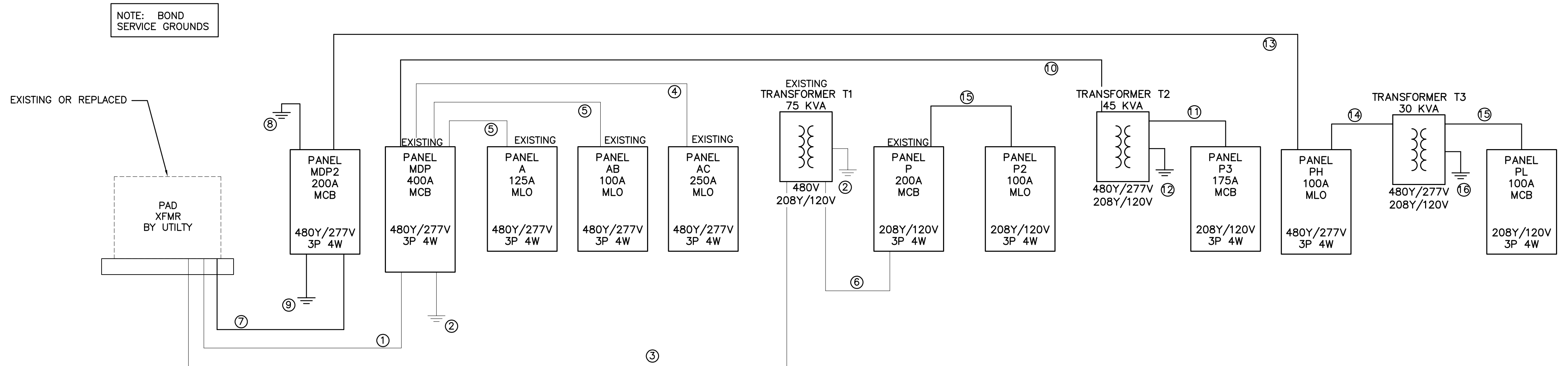
CABLE TRAY: PROVIDE BASKET TYPE TRAY WITH TRAPEZE SUPPORTS 18" W 4" DEEP FOR DATA, TELEPHONE, AND CATV WIRING. TRAY SHALL SUPPORT A WORKING LOAD OF 50 LBS PER LINEAR FOOT. SUBMIT MANUFACTURER'S LITERATURE FOR APPROVAL. PROVIDE J-HOOKS TO SUPPORT CABLING ABOVE CEILING FROM OUTLETS TO TRAY. TRAY SYSTEM SHALL BE INSTALLED SO THAT THERE IS AT LEAST SIX INCHES CLEAR SPACE ABOVE THE TRAY AND FOUR INCHES CLEAR SPACE BELOW.



TYPICAL DATA/COMM OUTLET
NTS



TYPICAL VIDEO OUTLET
NTS



- ① EXISTING 400A SERVICE
- ② EXISTING GROUND
- ③ EXISTING 125A FEEDER
- ④ EXISTING 200A FEEDER
- ⑤ EXISTING 100A FEEDER
- ⑥ EXISTING 200A SEPARATELY DERIVED SERVICE
- ⑦ 4 #3/0, 2°C
- ⑧ #4 GND PER NEC 250
- ⑨ #6 SUPPLEMENTAL GND
- ⑩ 3 #4, #8 GND, 1-1/2°C
- ⑪ 4 #2/0, #4 GND, 2°C
- ⑫ #4 GND TO BUILDING STEEL
- ⑬ 4 #1, #8 GND, 1-1/2°C
- ⑭ 3 #8, #10 GND, 1°C
- ⑮ 4 #2, #8 GND, 1-1/2°C
- ⑯ #8 GND TO BUILDING STEEL

NOTE: EC SHALL LABEL THE AVAILABLE FAULT CURRENT AT POINT OF DELIVERY PER NEC 110.24A. OBTAIN FROM SERVING UTILITY PRIOR TO ORDERING GEAR. DESIGN ASSUMES AVAILABLE FAULT CURRENT IS LESS THAN 25,000 AMPS.

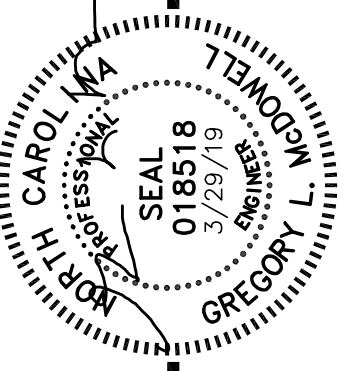
POWER RISER
NTS

PROJECT NO. 10800
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P.O. BOX 367 HAMPSTEAD, NC 28443
TEL:(910) 270-3747 FAX:(910) 270-3779
NC LICENSE NO. C-2546

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ARCHITECTURE, P.A.

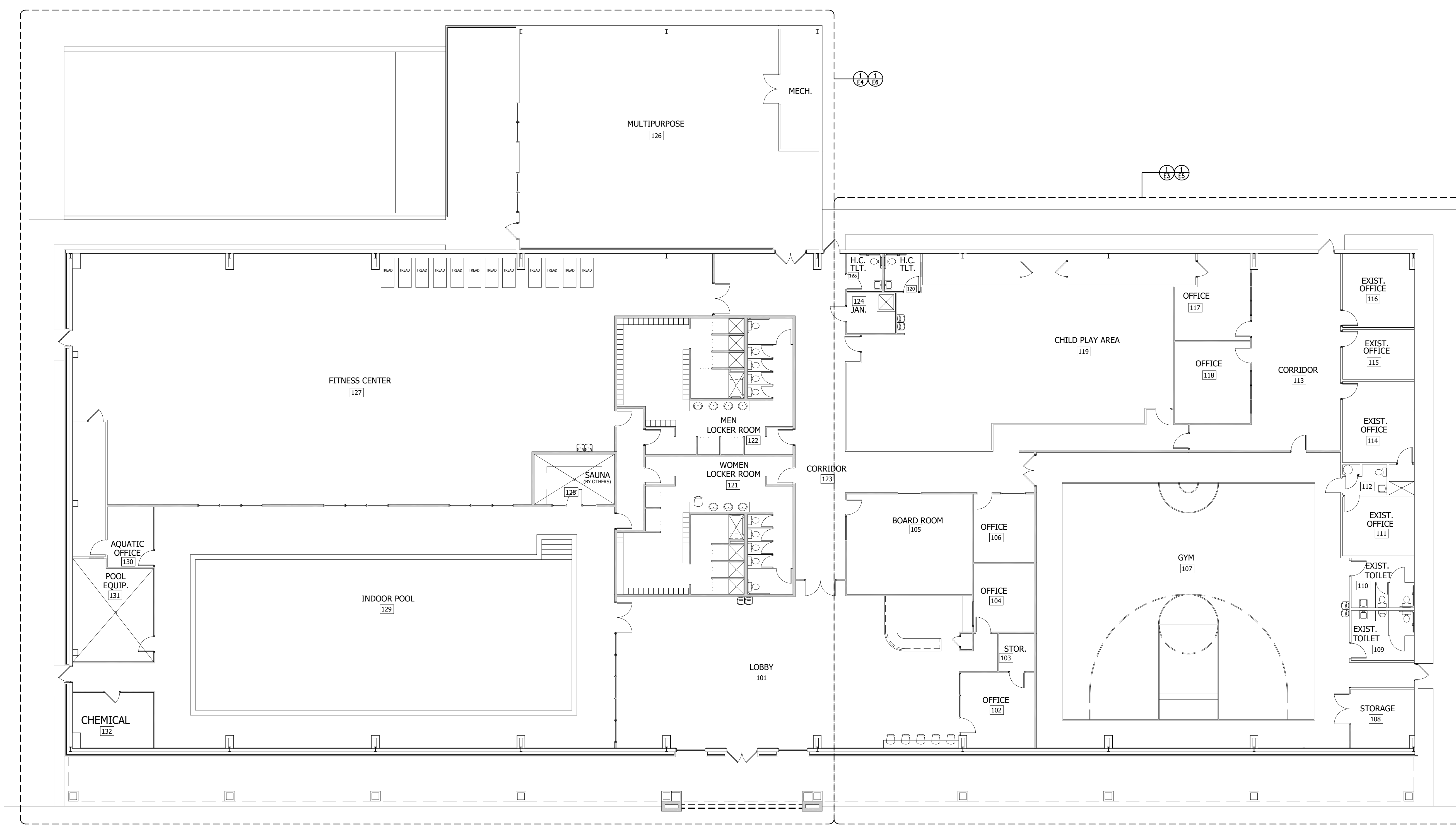
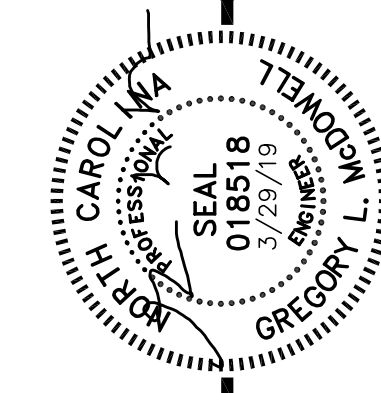
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YMCA OF HARNETT COUNTY
107 CARLETTA CAGLE DRIVE
CAMERON, NORTH CAROLINA
PROJECT # 181123
ELECTRICAL SCHEDULES,
NOTES & DETAILS



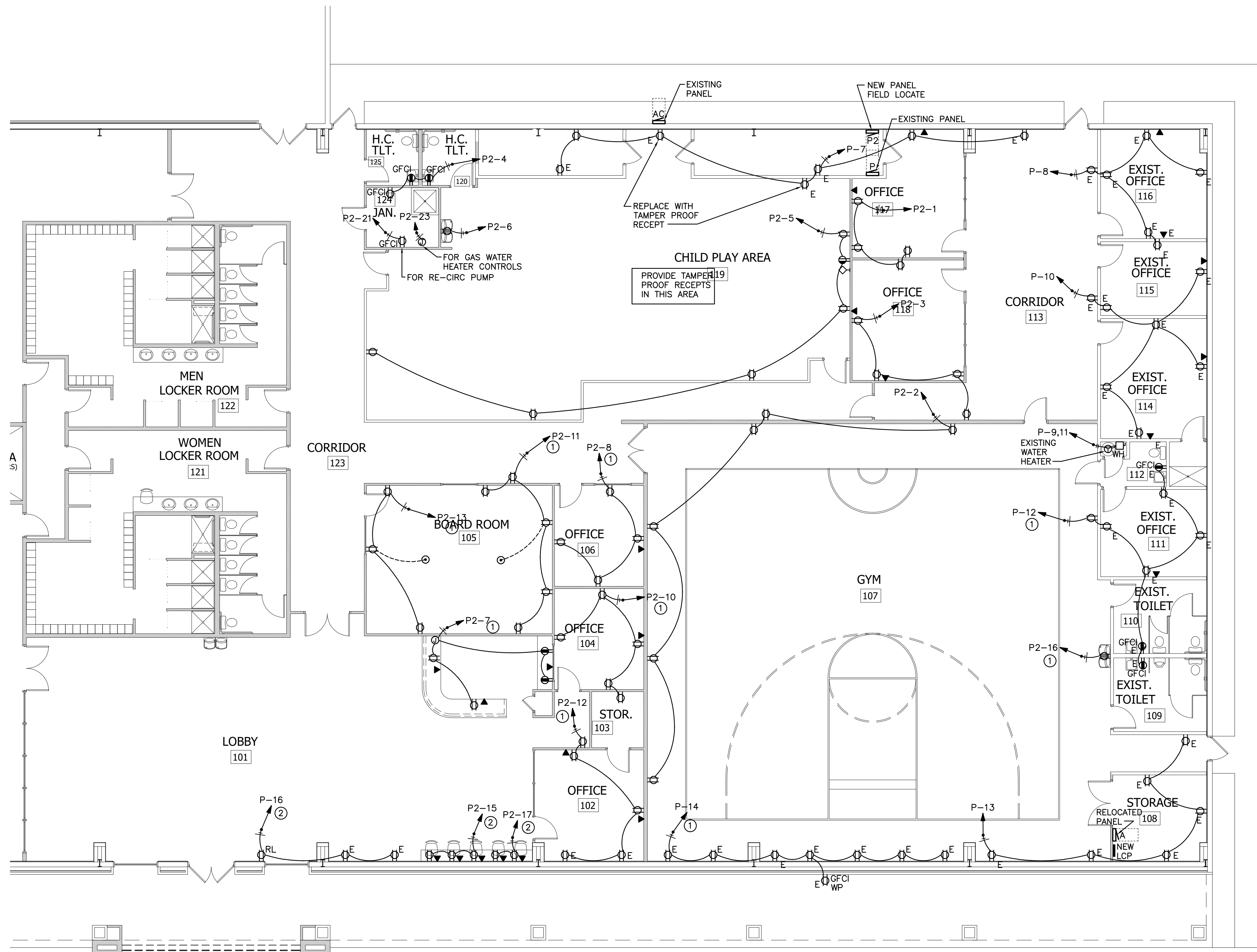
DATE: 29 MARCH, 2019
REVISION:

E1



1 OVERALL PLAN - ELECTRICAL
E2 SCALE: 3/32" = 1'-0"

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ELECTRICAL LEGEND	
SYMBOL	DESCRIPTION
—	CONDUIT
- - - -	CONDUIT UNDERFLOOR OR UNDERGROUND
→	ARROW INDICATES HOMERUN, TICKMARKS: NEUTRAL, PHASE, GND.
⊠	POWER PANEL
□	DATA/COMM OUTLET
⊙	JUNCTION BOX
⊠	DISCONNECT SWITCH; FUSED; NONFUSED
FPN	FUSE PER NAMEPLATE
⊞	MOTOR TOGGLE SWITCH
⊙	MOTOR
⊞	EXISTING OR BY OTHERS
⊞	DUPLEX RECEPT, ABOVE COUNTER
⊞ WP, ⊞ GFI	WEATHERPROOF, GROUND FAULT
⊞ E, ⊞ RL	EXISTING RECEPT, RELOCATED RECEPT
⊞	QUAD-PLEX RECEPTACLE
⊞	FLUSH FLOOR OUTLET W/DUPLEX RECEPT AND HEAVY DUTY BRASS COVER
⊞	DUPLEX RECEPT VIDEO OUTLET HEIGHT
⊞	VIDEO OUTLET

- REFERENCE NOTES:
- ① HOMERUN #10 AWG
 - ② HOMERUN #8 AWG

1 PARTIAL PLAN - POWER
E3 SCALE: 1/8" = 1'-0"

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PROJECT # 18123

YMCA OF HARNETT COUNTY
107 CARLETTA CAGLE DRIVE
CAMERON, NORTH CAROLINA

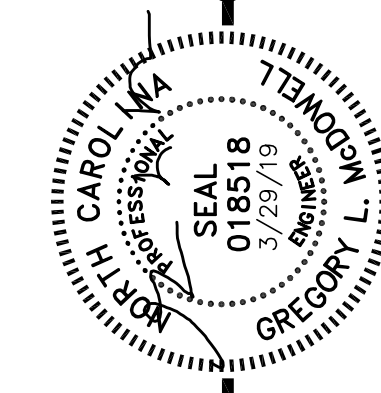
PARTIAL PLAN - POWER

DATE: 29 MARCH, 2019

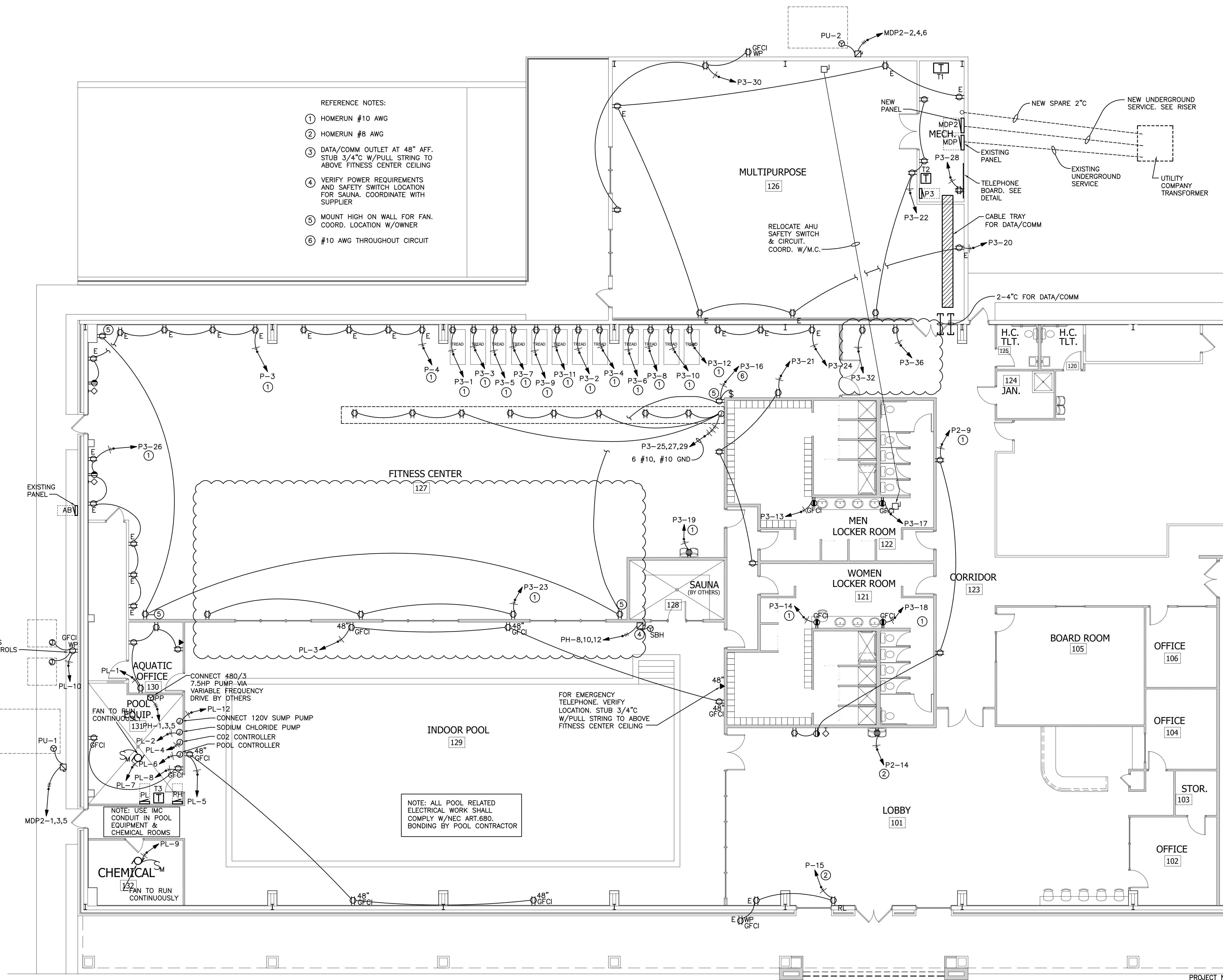
REVISION:

E3

PROJECT NO. 10800
McDowell Consulting Engineers
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NC LICENSE NO. C-2546



DATE: 29 MARCH, 2019
REVISION: 7 JUNE, 2019



- REFERENCE NOTES:
- ① HOMERUN #10 AWG
 - ② HOMERUN #8 AWG
 - ③ DATA/COMM OUTLET AT 48" AFF. STUB 3/4" W/PULL STRING TO ABOVE FITNESS CENTER CEILING
 - ④ VERIFY POWER REQUIREMENTS AND SAFETY SWITCH LOCATION FOR SAUNA. COORDINATE WITH SUPPLIER
 - ⑤ MOUNT HIGH ON WALL FOR FAN. COORD. LOCATION W/OWNER
 - ⑥ #10 AWG THROUGHOUT CIRCUIT

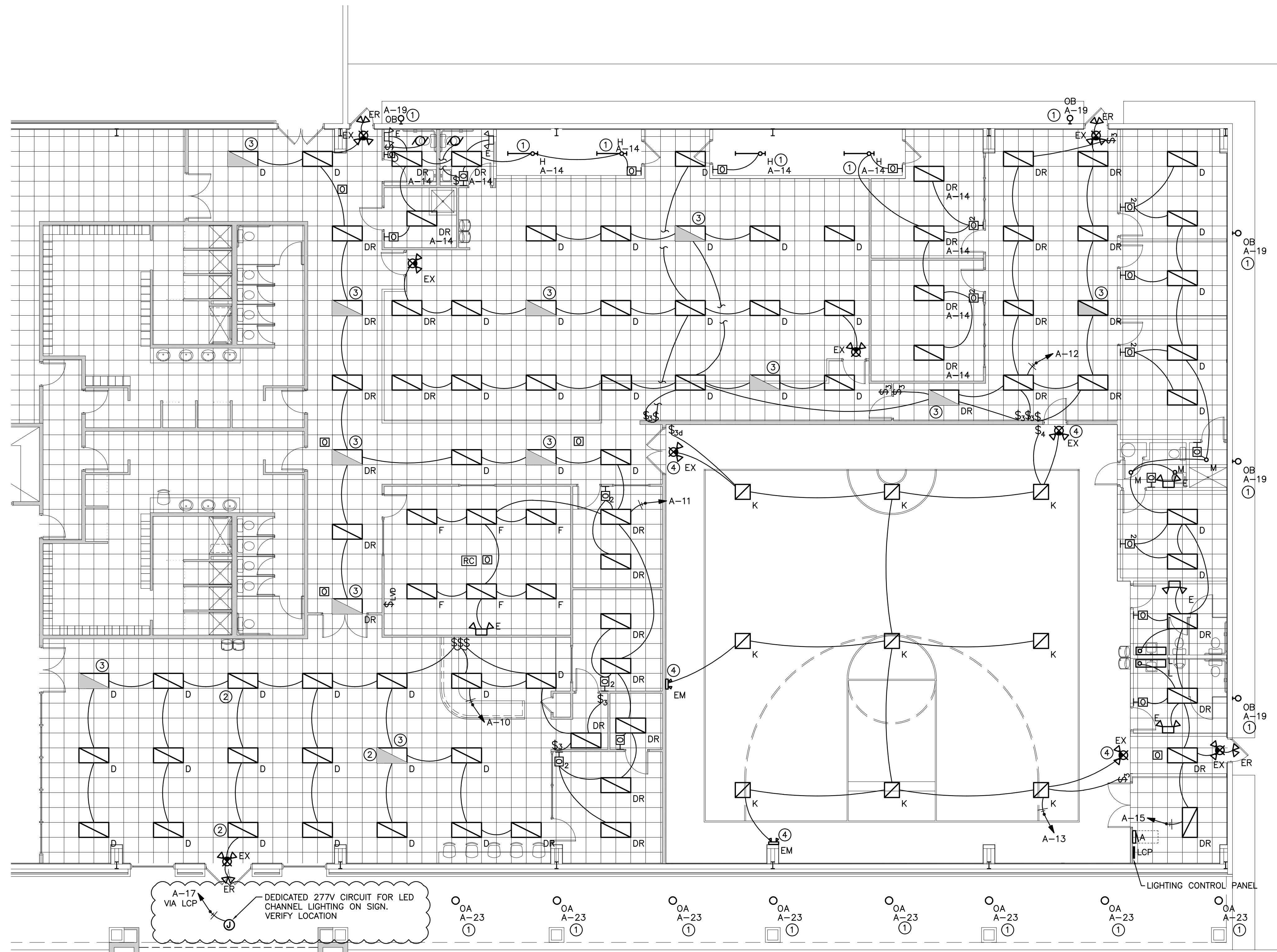
- CONNECT 480/3 7.5HP PUMP VIA VARIABLE FREQUENCY DRIVE BY OTHERS
- PL-12 CONNECT 120V SUMP PUMP
 - PL-13 SODIUM CHLORIDE PUMP
 - PL-14 CO2 CONTROLLER
 - PL-15 POOL CONTROLLER

NOTE: ALL POOL RELATED ELECTRICAL WORK SHALL COMPLY W/NEC ART.680. BONDING BY POOL CONTRACTOR

FOR EMERGENCY TELEPHONE. VERIFY LOCATION. STUB 3/4" W/PULL STRING TO ABOVE FITNESS CENTER CEILING

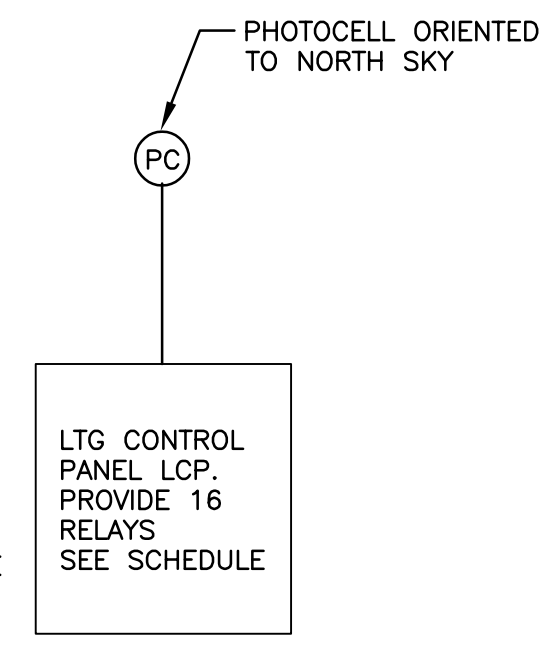
① PARTIAL PLAN - POWER
E4 SCALE: 1/8" = 1'-0"

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1 PARTIAL PLAN - LIGHTING
E5 SCALE: 1/8" = 1'-0"

- NOTES:
1. LIGHTING CONTROL PANEL SHALL AUTOMATICALLY SHUT OFF LTG VIA TIMERS W/MANUAL OVER RIDE.
 2. SYSTEMS SHALL COMPLY WITH THE REQUIREMENTS OF THE 2018 NC ENERGY CONSERVATION CODE
 3. PROGRAM SYSTEM FOR OWNER'S SCHEDULE. PROVIDE TRAINING & O&M MANUALS.



REFERENCE NOTES:

- 1 EXISTING CIRCUIT
- 2 UNSWITCHED NIGHT LIGHT
- 3 EQUIP THIS FIXTURE W/90 MIN 2-LAMP EMERGENCY BALLAST
- 4 PROVIDE WIREGUARD

NOTE: CONNECT EXIT & EMERGENCY LIGHTING TO LOCAL LIGHTING CIRCUITS AHEAD OF CONTROLS

LCP LIGHTING CONTROL SCHEDULE		
CIRCUIT	LOAD	CONTROL
A-1,3,10,13,16	INTERIOR LTG	LOCAL 277V SWITCHING, TIMER OFF (SWEEP), MANUAL OVERRIDE
A-19,21,23	WALL PACKS, CANOPY	PHOTOCELL ON, TIMER OFF, MANUAL OVERRIDE
A-20,22,24	PARKING LOT LTG	TIMER ON, TIMER OFF, MANUAL OVERRIDE
A-26	MONUMENT SIGN	TIMER ON, TIMER OFF, MANUAL OVERRIDE
A-17	BUILDING SIGN	TIMER ON, TIMER OFF, MANUAL OVERRIDE

NOTE: PROVIDE INTELLIGENT LIGHTING CONTROLS OR EQUAL LIGHTING CONTROLS. SUBMIT PRODUCT INFO & SYSTEM CONNECTIONS DIAGRAM FOR APPROVAL. CONTROLS SHALL MEET THE 2012 ENERGY CONSERVATION CODE. PROVIDE A TURNKEY SYSTEM. PROVIDE FACTORY PROGRAMMING AND OWNER TRAINING.

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

METHOD OF COMPLIANCE:

Energy Code: Prescriptive Performance

Lighting schedule

lamp type required in fixture	See Fixture Schedule
number of lamps in fixture	See Fixture Schedule
ballast type used in the fixture	See Fixture Schedule
number of ballasts in fixture	See Fixture Schedule
total wattage per fixture	See Fixture Schedule

total interior wattage specified vs allowed 23,699/24,341
total exterior wattage specified vs allowed EXISTING

Additional Efficiency Package Options

- C406.2 More Efficient HVAC Equipment Performance
- C406.3 Reduced Lighting Power Density
- C406.4 Enhanced Digital Lighting Controls
- C406.5 On-Site Renewable Energy
- C406.6 Dedicated Outdoor Air System
- C406.7 Reduced Energy Use in Service Water Heating
- N/A EXISTING/RENOVATION

DESIGNER STATEMENT:
To the best of my knowledge and belief, the design of this building complies with the requirements of Section C405 of the 2018 North Carolina State Energy Code.

SIGNED: Gregory McDowell
NAME: Gregory McDowell
TITLE: Professional Engineer

LIGHTING CONTROLS LEGEND	
SYMBOL	DESCRIPTION
HO	OSSMT-GD WALL BOX OCCUPANCY SENSOR
HO _D	OSSD10-LOW DIMMING OCCUPANCY SENSOR
HO ₂	2 CKT WALL BOX OCC SENSOR ONW-D-1001-DMV-W
OC	OCS10-MOW OCCUPANCY SENSOR
RC	ROOM CONTROLLER
S	SINGLE POLE SWITCH
S ₃	3-WAY SWITCH
S ₄	4-WAY SWITCH
S ₀	DIMMER SWITCH
S ₀₃	3-WAY DIMMER SWITCH
S _{LV}	LOW VOLTAGE SWITCH
S _{LVD}	LOW VOLTAGE DIMMER SWITCH
S _F	FAN SPEED CONTROLLER FOR MULTIPLE FANS

NOTE: PROVIDE SWITCHPACKS AS REQUIRED

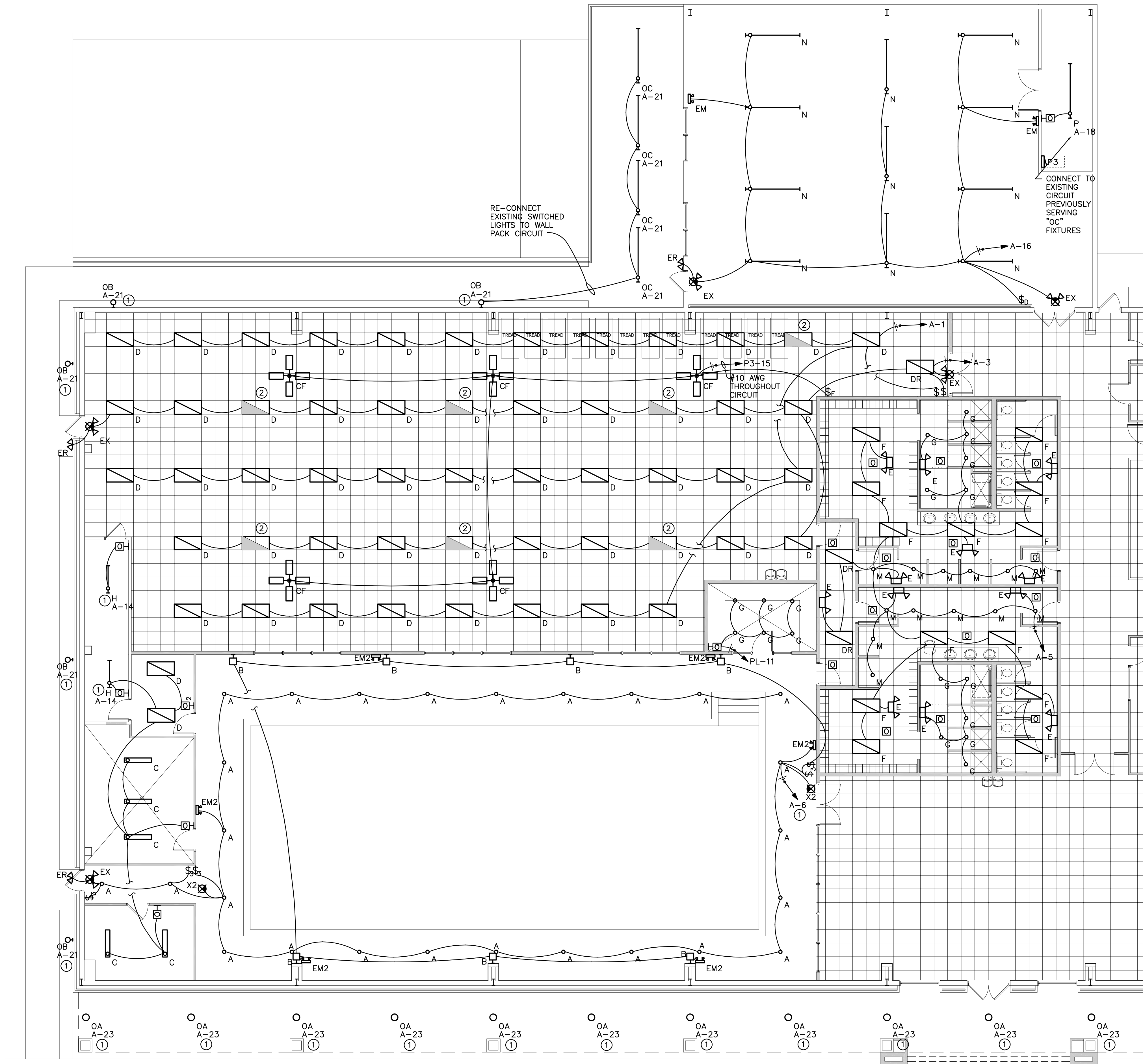
GOODRICH
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 31.42 WRIGHTSVILLE AVENUE
 WILMINGTON NC 28403
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 FAX: 910.343.1067
 EMAIL: BGOODRICH@ADL.COM

YMCA OF HARNETT COUNTY
 107 CARLETTA DAGLE DRIVE
 CAMERON, NORTH CAROLINA
 PROJECT # 18123
PARTIAL PLAN - LIGHTING

DATE: 29 MARCH, 2019
 REVISION: 7 JUNE, 2019

E5

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1 PARTIAL PLAN - LIGHTING
 E6 SCALE: 1/8" = 1'-0"

- REFERENCE NOTES:
- ① EXISTING CIRCUIT
 - ② EQUIP THIS FIXTURE W/90 MINUTE 2-LAMP EMERGENCY BALLAST

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YMCA OF HARNETT COUNTY
 107 CARLETTA DAGLE DRIVE
 CAMERON, NORTH CAROLINA

PROJECT # 18123

PARTIAL PLAN - LIGHTING

DATE:
29 MARCH, 2019

REVISION:
①

A

MOUNTING FLUSH
FED FROM MDP
NOTE: EXISTING PANEL. ALL BREAKERS ARE EXISTING.

VOLTS 480Y/277V 3P 4W
BUS AMPS 125
NEUTRAL 100%

AIC 14,000
MAIN MLO
LUGS STANDARD

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA			CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA		
			A	B	C				A	B	C
1	20/1	LIGHTING - FITNESS CENTER *	3.75			2	20/1	SPARE	0		
3	20/1	LIGHTING - FITNESS CENTER *		2.66		4	20/1	SPARE		0	
5	20/1	LIGHTING - LOCKER ROOMS			1.32	6	20/1	LIGHTING - POOL			1.71
7	20/1	SPARE	0			8	20/1	SPARE	0		
9	20/1	SPARE		0		10	20/1	LIGHTING - RECEPTION *		2.54	
11	20/1	LIGHTING - OFFICES, BOARD RM			2.51	12	20/1	LIGHTING - CHILD PLAY *			3.51
13	20/1	LIGHTING - GYM *	1.6			14	20/1	LIGHTING - HVAC CLOSETS, TLTS	1.67		
15	20/1	LIGHTING - OFFICE AREA		1.48		16	20/1	LIGHTING - MULTIPURPOSE *		0.682	
17	20/1	SIGN			1.2	18	20/1	LIGHTING - ELECTRICAL RM			0.062
19	20/1	EXISTING WALL PACKS *	1.39			20	20/1	EXISTING PARKING LOT LTG *	4.1		
21	20/1	EXISTING WALL PACKS *		1.83		22	20/1	EXISTING PARKING LOT LTG *		3.6	
23	20/1	EXISTING CANOPY LIGHTING *			1.79	24	20/1	EXISTING PARKING LOT LTG *			1.8
25	20/1	SPARE	0			26	20/1	EXISTING STREET SIGN *	1.2		
27	-/1	SPACE		0		28	-/1	SPACE		0	
29	-/1	SPACE		0	0	30	-/1	SPACE		0	0
31	-/1	SPACE		0		32	-/1	SPACE		0	
33	-/1	SPACE		0		34	-/1	SPACE		0	0
35	-/1	SPACE		0		36	-/1	SPACE		0	0
37	-/1	SPACE		0		38	-/1	SPACE		0	
39	-/1	SPACE		0		40	-/1	SPACE		0	0
41	-/1	SPACE		0		42	-/1	SPACE		0	0

TOTAL CONNECTED KVA BY PHASE: 13.7, 12.8, 13.9

CONN KVA		CALC KVA		CONN KVA		CALC KVA	
LIGHTING	40.4	50.5	(125%)	CONTINUOUS	0	0	(125%)
LARGEST MOTOR	0	0	(N/A)	HEATING	0	0	(N/A)
OTHER MOTORS	0	0	(100%)	COOLING	0	0	(N/A)
RECEPTACLES	0	0	(50%>10)	NONCONTINUOUS	0	0	(100%)
KITCHEN EQUIP	0	0	(N/A)	DIVERSE	0	0	(N/A)
				METERED DEMAND	0	0	(125%)
				TOTAL KVA	40.4	50.5	
				BALANCED 3-PHASE AMPS	60.7		

* VIA LIGHTING CONTROL PANEL

MDP

MOUNTING SURFACE
FED FROM UTILITY
NOTE: EXISTING PANEL

VOLTS 480Y/277V 3P 4W
BUS AMPS 400
NEUTRAL 100%

AIC 25,000
MAIN 400A BREAKER
LUGS STANDARD

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA			CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA		
			A	B	C				A	B	C
1	200/3	PANEL AC	38.3	38.3		2	-/1	SPACE	0	0	
3	-/1	SPACE				4	-/1	SPACE			0
5	-/1	SPACE				6	-/1	SPACE			0
7	100/3	PANEL A	13.7	12.8	38.3	8	70/3	PANEL P3 VIA XFMR T2 *	9.24		8.96
9	-/1	SPACE			13.9	10	-/1	SPACE			8.88
11	-/1	SPACE		0		12	-/1	SPACE			
13	-/1	SPACE		0		14	125/3	PANEL P VIA XFMR T1	11.3		13.3
15	-/1	SPACE		0		16	-/1	SPACE			13.4
17	-/1	SPACE		0		18	-/1	SPACE			
19	-/1	SPACE		0		20	100/3	PANEL AB	14.2		14.2
21	-/1	SPACE		0		22	-/1	SPACE			14.2
23	-/1	SPACE		0		24	-/1	SPACE			14.2
25	-/1	SPACE		0		26	-/1	SPACE		0	
27	-/1	SPACE		0		28	-/1	SPACE		0	0
29	-/1	SPACE		0		30	-/1	SPACE		0	0
31	-/1	SPACE		0		32	-/1	SPACE		0	0
33	-/1	SPACE		0		34	-/1	SPACE		0	0
35	-/1	SPACE		0		36	-/1	SPACE		0	0
37	-/1	SPACE		0		38	-/1	SPACE		0	0
39	-/1	SPACE		0		40	-/1	SPACE		0	0
41	-/1	SPACE		0		42	-/1	SPACE		0	0

TOTAL CONNECTED KVA BY PHASE: 86.8, 87.6, 88.7

CONN KVA		CALC KVA		CONN KVA		CALC KVA	
LIGHTING	42.9	53.6	(125%)	CONTINUOUS	4.5	5.63	(125%)
LARGEST MOTOR	14.1	3.53	(25%)	HEATING	164	164	(100%)
OTHER MOTORS	0	0	(100%)	COOLING	124	0	(0%)
RECEPTACLES	50	30	(50%>10)	NONCONTINUOUS	1	1	(100%)
KITCHEN EQUIP	0.4	0.4	(100%)	DIVERSE	0	0	(N/A)
				METERED DEMAND	0	0	(125%)
				TOTAL KVA	263	259	
				BALANCED 3-PHASE AMPS	311		

* PROVIDE NEW BREAKER

AB

MOUNTING SURFACE
FED FROM MDP
NOTE

VOLTS 480Y/277V 3P 4W
BUS AMPS 100
NEUTRAL 100%

AIC 14,000
MAIN MLO
LUGS STANDARD

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA			CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA		
			A	B	C				A	B	C
1	30/3	EXISTING HP	4.71	4.71		2	30/3	EXISTING HP	4.71	4.71	
3	-/1	SPACE			4.71	4	-/1	SPACE			4.71
5	-/1	SPACE				6	-/1	SPACE			
7	20/3	EXISTING AHU	4.08	4.08		8	20/3	EXISTING AHU	0.747	0.747	
9	-/1	SPACE				10	-/1	SPACE			0.747
11	-/1	SPACE	0		4.08	12	-/1	SPACE	0		0.747
13	-/1	SPACE		0		14	-/1	SPACE		0	
15	-/1	SPACE		0		16	-/1	SPACE		0	
17	-/1	SPACE		0		18	-/1	SPACE		0	

TOTAL CONNECTED KVA BY PHASE: 14.2, 14.2, 14.2

CONN KVA		CALC KVA		CONN KVA		CALC KVA	
LIGHTING	0	0	(125%)	CONTINUOUS	0	0	(125%)
LARGEST MOTOR	14.1	3.53	(25%)	HEATING	42.7	42.7	(100%)
OTHER MOTORS	0	0	(100%)	COOLING	32.7	0	(0%)
RECEPTACLES	0	0	(50%>10)	NONCONTINUOUS	0	0	(100%)
KITCHEN EQUIP	0	0	(N/A)	DIVERSE	0	0	(N/A)
				METERED DEMAND	0	0	(125%)
				TOTAL KVA	42.7	46.3	
				BALANCED 3-PHASE AMPS	55.7		

MDP2

MOUNTING SURFACE
FED FROM UTILITY
NOTE: SE LABEL

VOLTS 480Y/277V 3P 4W
BUS AMPS 200
NEUTRAL 100%

AIC 25,000
MAIN 200A BREAKER
LUGS STANDARD

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA			CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA		
			A	B	C				A	B	C
1	80/3	PU-1	17.4	17.4		2	45/3	PU-2	8.95	8.95	
3	-/1	SPACE			17.4	4	-/1	SPACE			8.95
5	-/1	SPACE				6	-/1	SPACE			
7	100/3	PANEL PH	15.1			8	45/3	SPARE	0	0	0
9	-/1	SPACE			15	10	-/1	SPACE			0
11	-/1	SPACE		0		12	-/1	SPACE		0	0
13	-/1	SPACE		0		14	-/1	SPACE		0	0
15	-/1	SPACE		0		16	-/1	SPACE		0	0
17	-/1	SPACE		0		18	-/1	SPACE		0	0
19	-/1	SPACE		0		20	-/1	SPACE		0	0
21	-/1	SPACE		0		22	-/1	SPACE		0	0
23	-/1	SPACE		0		24	-/1	SPACE		0	0

TOTAL CONNECTED KVA BY PHASE: 41.5, 41.3, 41.5

CONN KVA		CALC KVA		CONN KVA		CALC KVA	
LIGHTING	0.202	0.253	(125%)	CONTINUOUS	0	0	(125%)
LARGEST MOTOR	17.5	4.36	(25%)	HEATING	30.2	0	(0%)
OTHER MOTORS	9.15	9.15	(100%)	COOLING	79	79	(100%)
RECEPTACLES	2.56	2.56	(50%>10)	NONCONTINUOUS	33.4	33.4	(100%)
KITCHEN EQUIP	0	0	(N/A)	DIVERSE	0	0	(N/A)
				METERED DEMAND	0	0	(125%)
				TOTAL KVA	124	129	
				BALANCED 3-PHASE AMPS	155		

AC

MOUNTING SURFACE
FED FROM MDP
NOTE

VOLTS 480Y/277V 3P 4W
BUS AMPS 250
NEUTRAL 100%

AIC 14,000
MAIN MLO
LUGS STANDARD

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA			CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA		
			A	B	C				A	B	C
1	30/3	EXISTING HP	4.71	4.71		2	30/3	EXISTING HP	4.71	4.71	
3	-/1	SPACE			4.71	4	-/1	SPACE			4.71
5	-/1	SPACE				6	-/1	SPACE			
7	20/3	EXISTING AHU	4.08	4.08		8	20/3	EXISTING AHU	0.747	0.747	
9	-/1	SPACE			4.08	10	-/1	SPACE			0.747
11	-/1	SPACE	0		4.08	12	-/1	SPACE	0		0.747
13	30/3	EXISTING HP	4.71	4.71		14	30/3	EXISTING HP	4.71	4.71	
15	-/1	SPACE			4.71	16	-/1	SPACE			4.71
17	-/1	SPACE		0		18	-/1	SPACE		0	4.71
19	20/3	EXISTING AHU	4.08	4.08		20	20/3	EXISTING AHU	4.08	4.08	
21	-/1	SPACE			4.08	22	-/1	SPACE			4.08
23	-/1	SPACE		0		24	-/1	SPACE		0	4.08
25	30/3	EXISTING HP	4.71	4.71		26	30/3	EXISTING HEAT PUMP	1.8	1.8	
27	-/1	SPACE			4.71	28	-/1	SPACE			1.8
29	-/1	SPACE		0		30	-/1	SPACE		0	1.8
31	-/1	SPACE		0		32	-/1	SPACE		0	0
33	-/1	SPACE		0		34	-/1	SPACE		0	0
35	-/1	SPACE		0	0	36	-/1	SPACE		0	0
37	-/1	SPACE		0		38	-/1	SPACE		0	0
39	-/1	SPACE		0		40	-/1	SPACE		0	0
41	-/1	SPACE		0		42	-/1	SPACE		0	0

TOTAL CONNECTED KVA BY PHASE: 38.3, 38.3, 38.3

CONN KVA		CALC KVA		CONN KVA		CALC KVA	
LIGHTING	0	0	(125%)	CONTINUOUS	0	0	(125%)
LARGEST MOTOR							

PH											
MOUNTING SURFACE			VOLTS 480Y/277V 3P 4W			AIC 14,000			MAIN MLO		
FED FROM MDP2			BUS AMPS 100			LUGS STANDARD			LUGS STANDARD		
NOTE			NEUTRAL 100%								
CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA			CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA		
			A	B	C				A	B	C
1	20/3	POOL PUMP	3.05			2	45/3	PANEL PL VIA XFMR T3	2.09	1.95	2.1
3						4					
5						6					
7	20/3	SPARE	0		3.05	8	50/3	SAUNA BOILER HEATER	10	10	10
9						10					
11						12					
13	-/1	SPACE	0			14	15/3	SPARE	0		
15	-/1	SPACE	0			16					
17	-/1	SPACE	0			18					
19	-/1	SPACE	0			20	-/1	SPACE	0		
21	-/1	SPACE	0			22	-/1	SPACE	0		
23	-/1	SPACE	0			24	-/1	SPACE	0		
			TOTAL CONNECTED KVA BY PHASE						15.1	15	15.2
CONN KVA		CALC KVA	CONN KVA		CALC KVA	CONN KVA		CALC KVA	CONN KVA		CALC KVA
LIGHTING	0.202	0.253	(125%)			CONTINUOUS	0	0	(125%)		
LARGEST MOTOR	9.15	11.4	(125%)			HEATING	0	0	(N/A)		
OTHER MOTORS	0	0	(100%)			COOLING	0	0	(N/A)		
RECEPTACLES	2.56	2.56	(50%>10)			NONCONTINUOUS	33.4	33.4	(100%)		
KITCHEN EQUIP	0	0	(N/A)			DIVERSE	0	0	(N/A)		
TOTAL KVA		45.3				METERED DEMAND	0	0	(125%)		
BALANCED 3-PHASE AMPS		47.6				METERED DEMAND	0	0	(125%)		
						TOTAL KVA	45.3	47.6			
						BALANCED 3-PHASE AMPS	57.3				

P2											
MOUNTING SURFACE			VOLTS 208Y/120V 3P 4W			AIC 10,000			MAIN MLO		
FED FROM P			BUS AMPS 100			LUGS STANDARD			LUGS STANDARD		
NOTE			NEUTRAL 100%								
CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA			CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA		
			A	B	C				A	B	C
1	20/1	RECEPTS - OFFICE	0	0.72		2	20/1	RECEPTS - GYM	1.08	0.54	0.6
3	20/1	RECEPTS - OFFICE				4	20/1	RECEPTS - JAN, TLTS			
5	20/1	RECEPTS - CHILD PLAY AREA			1.08	6	20/1	EWG *			
7	20/1	RECEPTS - RECEPTION DESK	0.72			8	20/1	RECEPTS - OFFICE	0.72	0.9	0.9
9	20/1	RECEPTS - RECEPTION, HALL		0.72		10	20/1	RECEPTS - OFFICE			
11	20/1	RECEPTS - BOARD ROOM			1.08	12	20/1	RECEPTS - OFFICE			
13	20/1	RECEPTS - BOARD ROOM	0.72			14	20/1	EWG *	0.6	0.6	
15	20/1	RECEPTS - RECEPTION COMPUTERS			0.54	16	20/1	EWG *			
17	20/1	RECEPTS - RECEPTION COMPUTERS			0.36	18	20/1	SPARE			
19	20/1	SPARE	0			20	20/1	SPARE	0		
21	20/1	RE-CIRC PUMP		0.18		22	20/1	SPARE		0	
23	20/1	GAS WATER HEATER CONTROLS			0.4	24	20/1	SPARE			
25	20/1	SPARE	0			26	20/1	SPARE	0		
27	20/1	SPARE	0			28	20/1	SPARE	0		
29	20/1	SPARE	0		0	30	20/1	SPARE	0		
31	-/1	SPACE	0			32	-/1	SPACE	0		
33	-/1	SPACE	0			34	-/1	SPACE	0		
35	-/1	SPACE	0			36	-/1	SPACE	0		
37	-/1	SPACE	0			38	-/1	SPACE	0		
39	-/1	SPACE	0			40	-/1	SPACE	0		
41	-/1	SPACE	0			42	-/1	SPACE	0		
			TOTAL CONNECTED KVA BY PHASE						3.84	4.2	4.42
CONN KVA		CALC KVA	CONN KVA		CALC KVA	CONN KVA		CALC KVA	CONN KVA		CALC KVA
LIGHTING	0	0	(125%)			CONTINUOUS	0	0	(125%)		
LARGEST MOTOR	0	0	(N/A)			HEATING	0	0	(N/A)		
OTHER MOTORS	0	0	(100%)			COOLING	0	0	(N/A)		
RECEPTACLES	12.1	11	(50%>10)			NONCONTINUOUS	0	0	(100%)		
KITCHEN EQUIP	0.4	0.4	(100%)			DIVERSE	0	0	(N/A)		
TOTAL KVA		12.5				METERED DEMAND	0	0	(125%)		
BALANCED 3-PHASE AMPS		11.4				TOTAL KVA	12.5	11.4			
						BALANCED 3-PHASE AMPS	31.7				

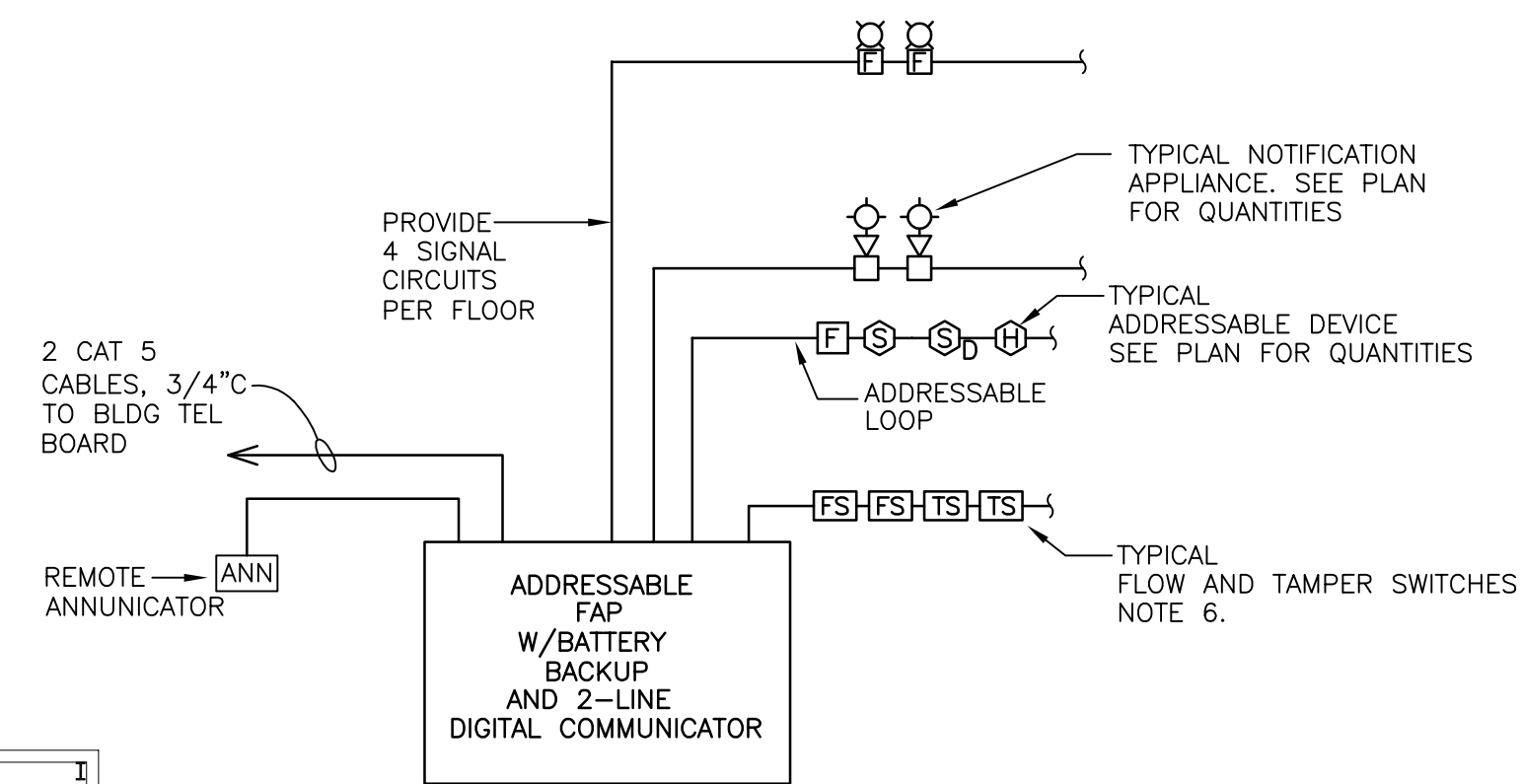
P3											
MOUNTING SURFACE			VOLTS 208Y/120V 3P 4W			AIC 10,000			MAIN 175A BREAKER		
FED FROM T2			BUS AMPS 175			LUGS STANDARD			LUGS STANDARD		
NOTE			NEUTRAL 100%								
CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA			CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA		
			A	B	C				A	B	C
1	20/1	TREADMILL	1.2	1.2		2	20/1	TREADMILL	1.2	1.2	1.2
3	20/1	TREADMILL				4	20/1	TREADMILL			
5	20/1	TREADMILL			1.2	6	20/1	TREADMILL			
7	20/1	TREADMILL	1.2			8	20/1	TREADMILL	1.2	1.2	1.2
9	20/1	TREADMILL		1.2		10	20/1	TREADMILL			
11	20/1	TREADMILL			1.2	12	20/1	TREADMILL			
13	20/1	RECEPT - MES LOCKER RM	0.18			14	20/1	RECEPT - WOMES LOCKER RM	0.18	0.8	0.18
15	20/1	CEILING FANS		1.2		16	20/1	FANS - FITNESS CENTER			
17	20/1	RECEPT - MES LOCKER RM			0.18	18	20/1	RECEPT - WOMES LOCKER RM			
19	20/1	EWG - FITNESS *	0.6			20	20/1	EXISTING RECEPTS - MULTIPURPOSE RM	0.9		
21	20/1	RECEPTS - FITNESS		0.54		22	20/1	RECEPTS - MULTIPURPOSE RM		0.72	
23	20/1	RECEPTS - FITNESS			0.54	24	20/1	EXISTING RECEPTS - FITNESS			0.9
25	20/1	RECEPTS - FITNESS	0.2			26	20/1	RECEPTS - FITNESS	1.18		
27	20/1	RECEPTS - FITNESS		0.54		28	20/1	QUAD - TEL BD		0.36	
29	20/1	RECEPTS - FITNESS			0.54	30	20/1	RECEPTS - MULTIPURPOSE			0.54
31	20/1	SPARE	0			32	20/1	VENDING *	1.2		
33	20/1	SPARE	0			34	20/1	SPARE		0	
35	20/1	SPARE	0			36	20/1	VENDING *			1.2
37	-/1	SPACE	0			38	-/1	SPACE		0	
39	-/1	SPACE	0			40	-/1	SPACE		0	
41	-/1	SPACE	0			42	-/1	SPACE		0	
			TOTAL CONNECTED KVA BY PHASE						9.24	8.96	8.88
CONN KVA		CALC KVA	CONN KVA		CALC KVA	CONN KVA		CALC KVA	CONN KVA		CALC KVA
LIGHTING	1.2	1.5	(125%)			CONTINUOUS	0	0	(125%)		
LARGEST MOTOR	0	0	(N/A)			HEATING	0	0	(N/A)		
OTHER MOTORS	0	0	(100%)			COOLING	0	0	(N/A)		
RECEPTACLES	25.9	17.9	(50%>10)			NONCONTINUOUS	0	0	(100%)		
KITCHEN EQUIP	0	0	(N/A)			DIVERSE	0	0	(N/A)		
TOTAL KVA		27.1				METERED DEMAND	0	0	(125%)		
BALANCED 3-PHASE AMPS		54				TOTAL KVA	27.1	19.4			
						BALANCED 3-PHASE AMPS	54				

PL											
MOUNTING SURFACE			VOLTS 208Y/120V 3P 4W			AIC 10,000			MAIN 100A BREAKER		
FED FROM T3			BUS AMPS 100			LUGS STANDARD			LUGS STANDARD		
NOTE			NEUTRAL 100%								
CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA			CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA		
			A	B	C				A	B	C
1	20/1	RECEPTS - AQUATIC OFFICE	0.72	0.54		2	20/1	SODIUM CHLORIDE PUMP *	0.96	0.96	0.96
3	20/1	RECEPTS - POOL AREA				4	20/1	CO2 CONTROLLER *			
5	20/1	RECEPTS - POOL AREA			0.54	6	20/1	POOL CONTROLLER *			
7	20/1	EXHAUST FAN	0.05			8	20/1	RECEPTS - POOL EQUIP RM	0.36		
9	20/1	EXHAUST FAN		0.05		10	20/1	GAS HEATER CONTROLS		0.4	
11	20/1	SAUNA LIGHTS			0.102	12	20/1	SUMP PUMP *			0.5
13	20/1	SPARE	0			14	20/1	SPARE	0		
15	20/1	SPARE	0			16	20/1	SPARE	0		
17	20/1	SPARE	0			18	20/1	SPARE	0		
19	20/1	SPARE	0			20	20/1	SPARE	0		
21	-/1	SPACE	0			22	-/1	SPACE	0		
23	-/1	SPACE	0			24	-/1	SPACE	0		
25	-/1	SPACE	0			26	-/1	SPACE	0		
27	-/1	SPACE	0			28	-/1	SPACE	0		
29	-/1	SPACE	0			30	-/1	SPACE	0		
			TOTAL CONNECTED KVA BY PHASE						2.09	1.95	2.1
CONN KVA		CALC KVA	CONN KVA		CALC KVA	CONN KVA		CALC KVA	CONN KVA		CALC KVA
LIGHTING	0.202	0.253	(125%)			CONTINUOUS	0	0	(125%)		
LARGEST MOTOR	0	0	(N/A)			HEATING	0	0	(N/A)		
OTHER MOTORS	0	0	(100%)			COOLING	0	0	(N/A)		
RECEPTACLES	2.56	2.56	(50%>10)			NONCONTINUOUS	3.38	3.38	(100%)		
KITCHEN EQUIP	0	0	(N/A)			DIVERSE	0	0	(N/A)		
TOTAL KVA		6.14				METERED DEMAND	0	0	(125%)		
BALANCED 3-PHASE AMPS		17.2				TOTAL KVA	6.14	6.19			
						BALANCED 3-PHASE AMPS	17.2				

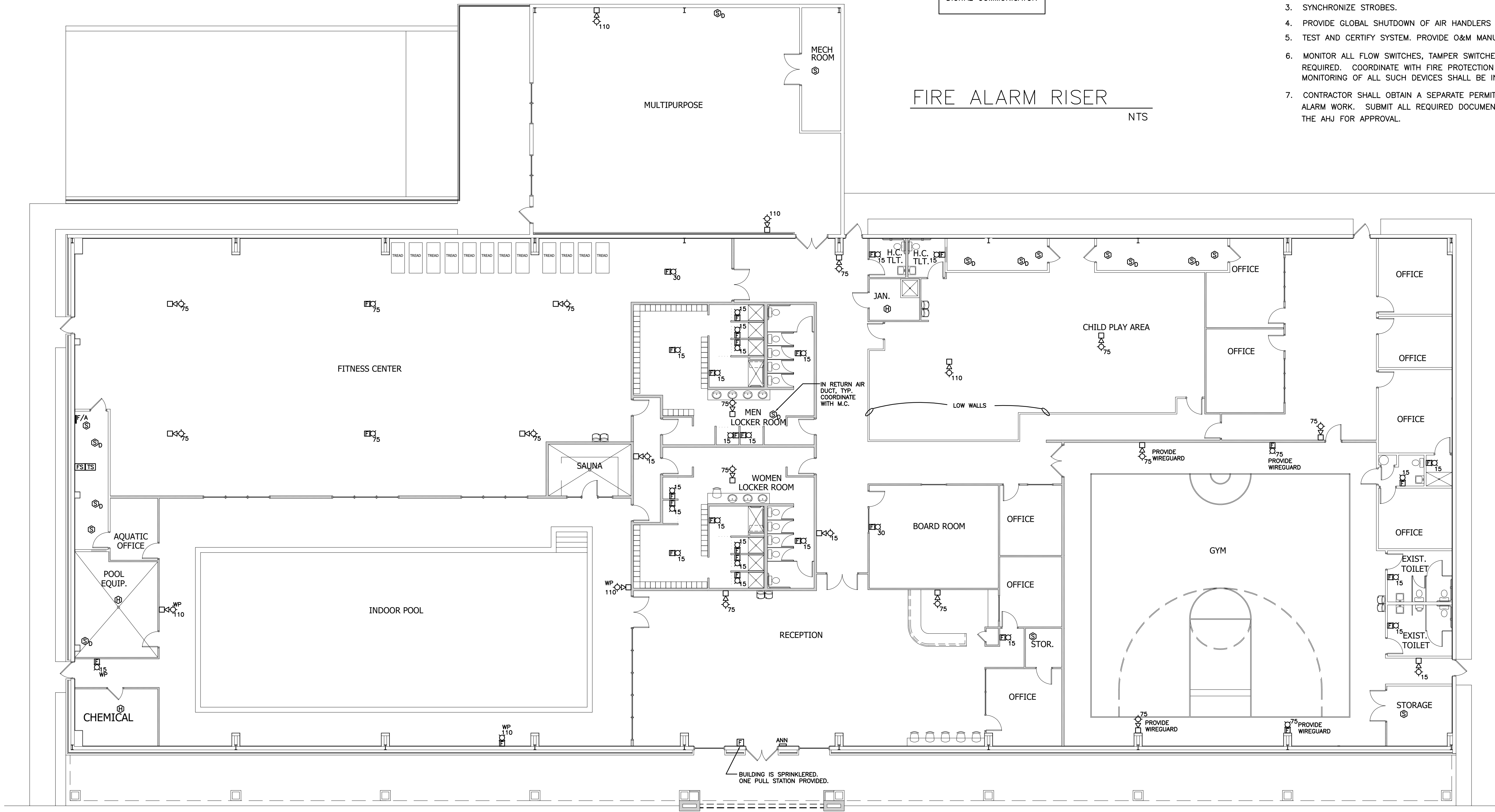
GENERAL LUMINAIRE SCHEDULE

CALLOUT	LAMP	DESCRIPTION	MOUNTING	MODEL	TOTAL VA	VOLTS	NOTE 1
A	LED	LED DOWNLIGHT	PENDANT	CREATIVE SYSTEMS LIGHTING LPS-40-WT-C-1	35	277	FIELD VERIFY SUSPENSION HEIGHT
B	LED	NATATORIUM FLOOD	SURFACE 8'-6" AFF	ORGARECH 150014L10040D1UYKXX2	110	277	FINISH SELECTED
C	LED	VAPOR	SURFACE	DAY-BRITE DWAE51LH8404UNVDIM	46	277	
CF		6" CEILING FAN	CE				

FIRE ALARM LEGEND	
SYMBOL	DESCRIPTION
[P]	PULL STATION
[H/S]	F.A. HORN/STROBE, CANDELA INDICATED
[F/S]	F.A. STROBE, CANDELA INDICATED
[S]	SMOKE DETECTOR
[S _D]	DUCT MOUNTED SMOKE DETECTOR
[H]	HEAT DETECTOR
[F/A]	FIRE ALARM PANEL
[ANN]	REMOTE ANNUNCIATOR
[FS]	FLOW SWITCH
[TS]	TAMPER SWITCH



- NOTES:**
1. ALL FIRE ALARM WORK SHALL COMPLY W/ NFPA 72 AND ALL REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION.
 2. CABLES SHALL BE AS RECOMMENDED BY SYSTEM MANUFACTURER.
 3. SYNCHRONIZE STROBES.
 4. PROVIDE GLOBAL SHUTDOWN OF AIR HANDLERS ON ALARM.
 5. TEST AND CERTIFY SYSTEM. PROVIDE O&M MANUALS.
 6. MONITOR ALL FLOW SWITCHES, TAMPER SWITCHES AND VALVES AS REQUIRED. COORDINATE WITH FIRE PROTECTION SYSTEM INSTALLER. MONITORING OF ALL SUCH DEVICES SHALL BE INCLUDED IN THIS CONTRACT.
 7. CONTRACTOR SHALL OBTAIN A SEPARATE PERMIT FOR FIRE ALARM WORK. SUBMIT ALL REQUIRED DOCUMENTATION TO THE AHJ FOR APPROVAL.



1 OVERALL PLAN - FIRE ALARM
FA1 SCALE: 3/32"=1'-0"

PROJECT NO. 10800
McDowell Consulting Engineers
P.O. BOX 367 HAMPSTEAD, NC 28443
TEL: (910) 270-3747 FAX: (910) 270-3779
NC LICENSE NO. C-2546

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 31.42 WRIGHTSVILLE AVENUE
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YMCA OF HARNETT COUNTY
 107 CARLETTA DABLE DRIVE
 CAMERON, NORTH CAROLINA
 PROJECT # 18123
 OVERALL PLAN - FIRE ALARM

DATE: 29 MARCH, 2019
 REVISION:

FA1