DUCT SYMBOLS

DOUBLE LINE SYMBOL	DESCRIPTION	SINGLE LINE SYMBOL
20x16	DUCT– FIRST NUMBER IS VISIBLE DIMENSION.	20x16
	MITERED ELBOW W/TURNING VANES	
R	RADIUS ELBOW W/VANE(S) (1.5=R/D STANDARD)	
	DUCT SECTION, POSITIVE PRESSURE	
	DUCT SECTION, NEGATIVE PRESSURE	
	DUCT & AIRFLOW UP(LEFT) POSITIVE PRESSURE DUCT & AIRFLOW DN(RIGHT) POSITIVE PRESSURE	
	DUCT & AIRFLOW UP(LEFT) NEGATIVE PRESSURE DUCT & AIRFLOW DN(RIGHT) NEGATIVE PRESSURE	
	DUCT & AIRFLOW UP(LEFT) NEG./POS. PRESSURE DUCT & AIRFLOW DN(RIGHT) NEG./POS. PRESSURE	
R	CHANGE OF ELEVATION=RISE (R), DROP (D)	R
20x16	DUCT W/INTERNAL LINING CLEAR INSIDE DIMENSIONS SHOWN	
AD	ACCESS DOOR=SIDE (L), BOTTOM (M), TOP (R)	AD
	FLEXIBLE CONNECTOR	
	FLEXIBLE DUCT	
FD	FD– FIRE DAMPER, SD–SMOKE DAMPER, FSD– FIRE/SMOKE DAMPER.	FSD
(TYPE)	MANUAL VOLUME DAMPER–SPECIFIC TYPE, NO LABEL–BUTTERFLY, OBD–OPPOSED BLADED DAMPER, PBD–PARALLEL BLADE DAMPER	(TYPE)
M	MOTORIZED DAMPER OR ZONE CONTROL DAMPER	M
	BRANCH TAP–W/45 DEG. ENTRY	
	BRANCH TAP–CONICAL SPIN–IN	
	BRANCH TAP–STRAIGHT SPIN–IN	
20x10 10x10	TRANSITION	20x10 10x10
	EXISTING DUCTWORK TO BE DEMOLISHED	
	EXISTING DUCTWORK TO REMAIN	
RTU–# FCU–# XXX–#	HVAC – EQUIP AS NOTED	
	AIR DEVICE, SUPPLY– CEILING. CLEAR	
A X°ø X CFM	AIR DEVICE TAG SPIN–IN DIMENSION AIRFLOW (CFM)	
	AIR DEVICE, RETURN– CEILING.	
	AIR DEVICE, EXHAUST– CEILING.	
	AIR DEVICE, SUPPLY– SIDEWALL.	
	AIR DEVICE, RETURN/EXHAUST– SIDEWALL.	

ABBREVIATIONS

A	
ABV	ABOVE
AC	ALTERNATING CURRENT / ABOVE CEILING
ACMPR	AIR COMPRESSOR
ACU	AIR CONDITIONING UNIT
AFF	ABOVE FINISHED FLOOR
AFMS	AIR FLOW MEASURING STATION
AHU	AIR HANDLING UNIT
AMB	AMBIENT
AMP	AMPERE
ANSI	"AMERICAN NATIONAL STANDARDS INSTITUTE"
APPROX.	APPROXIMATE
ARI	AMERICAN REFRIGERATION INSTITUTE
ASHRAE	"AMERICAN SOCIETY OF HEATING, REFRIGERATION, and AIR CONDITIONING ENGINEERS"
ASME	"AMERICAN SOCIETY OF MECHANICAL ENGINEERS"
ASPE	"AMERICAN SOCIETY OF PLUMBING ENGINEERS"
ASTM	"AMERICAN SOCIETY FOR TESTING AND MATERIALS"
AVG	AVERAGE
AWWA	"AMERICAN WATER WORKS ASSOCIATION"
B	
B	BOILER
BARO	BAROMETRIC
BAROPR	BAROMETRIC PRESSURE
BF	BELOW FLOOR
BFC	BELOW FINISHED CEILING
BG	BELOW GRADE
BHP	BRAKE HORSEPOWER
BOD	BOTTOM OF DUCT
BOM	BILL OF MATERIAL
BOP	BOTTOM OF PIPE
BTU	BRITISH THERMAL UNIT
C	
CCL	COOLING COIL
CCW	COUNTERCLOCKWISE
CD	CONDENSATE DRAIN
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CH	CHILLER
CHP	CHILLER WATER PUMP
CHR	CHILLED WATER RETURN
CHS	CHILLED WATER SUPPLY
CLR	CLOSED CIRCUIT COOLER
CMPR	COMPRESSOR
CR	CONDENSATE RETURN
CRU	COMPUTER ROOM UNIT
CT	COOLING TOWER
CU	CONDENSING UNIT
CU.FT.	CUBIC FEET
CU.IN.	CUBIC INCH
CV	CONSTANT VOLUME
CO2	CARBON DIOXIDE SENSOR
CWP	CONDENSER WATER PUMP
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
D	
dB	DECIBEL
D	DRAIN
DBT	DRY BULB TEMPERATURE
DC	DIRECT CURRENT
DDC	DIRECT DIGITAL CONTROL
DEG	DEGREE
DENS	DENSITY
DIA	DIAMETER
DIFF	DIFFERENCE or DELTA
DN	DOWN
DP	DEEP
DPT	DEW POINT TEMPERATURE
E	
E/A	EXHAUST AIR
EA	EACH
EAT	ENTERING AIR TEMPERATURE
EDH	ELECTRIC DUCT HEATER
EF	EXHAUST FAN
EFF	EFFICIENCY
ENTH.	ENTHALPY
EOD	EMERGENCY OVERFLOW DRAIN
ET	EXPANSION TANK
EVP	EVAPORATIVE COOLER
EWT	ENTERING WATER TEMPERATURE
EXP	EXPANSION
F	
F	FAHRENHEIT
FCU	FAN COIL UNIT
FLR.	FLOOR
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FPTU	FAN POWERED TERMINAL UNIT
FRN	FURNACE
FT	FEET
FT.W.G.	FEET of WATER GAGE
FVEL	FACE VELOCITY
G	
GAL.	GALLONS
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GR	GRAINS
H	
HCL	HEATING COIL
HD	HOOD
HGT	HEIGHT
HP	HORSEPOWER
HPS	HIGH PRESSURE STEAM
HR	HOUR
HUM	HUMIDIFIER
HWP	HOT WATER PUMP
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HZ	HERTZ
I	
ID	INSIDE DIAMETER
IH	INTAKE HOOD
IN.	INCH
IN.W.G.	INCHES of WATER GAGE
IRH	INFRARED HEATER
J	

ABBREVIATIONS

K	
KHE	KITCHEN HOOD EXHAUST
kW	KILOWATTS
kWH	KILOWATT HOUR
L	
L–#	LOUVER DESIGNATION
LAT	LEAVING AIR TEMPERATURE
LBS.	POUNDS
LIQ	LIQUID
LPS	LOW PRESSURE STEAM
LWT	LEAVING WATER TEMPERATURE
M	
MA	MAKEUP AIR
MAX.	MAXIMUM
MBH	THOUSAND BTU/HR.
MCA	MINIMUM CIRCUIT AMPACITY
MCF	THOUSAND CUBIC FEET
MIN.	MINIMUM or MINUTES
MOCP	MAXIMUM OVERCURRENT PROTECTION
MPS	MEDIUM PRESSURE STEAM
MSS	"MANUFACTURERS STANDARDIZATION SOCIETY of the Valves and Fittings Industry, Inc."
N	
N/A	NOT APPLICABLE
NC	NOISE CRITERIA
N.C.	NORMALLY CLOSED
NEBB	NATIONAL ENVIRONMENTAL BALANCING BUREAU
N.I.C.	NOT IN CONTRACT
N.O.	NORMALLY OPEN
N.T.S.	NOT TO SCALE
O	
O/A	OUTSIDE AIR
OD	OUTSIDE DIAMETER
OSHA	OCCUPATIONAL SAFETY and HEALTH ADMINISTRATION
OZ	OUNCE
P	
PD	PRESSURE DIFFERENCE
PH	PHASE
PPM	PART PER MILLION
PRI	PRIMARY
PRESS.	PRESSURE
PSI	POUNDS PER SQUARE INCH
PSIA	"PSI, ABSOLUTE"
PSIG	"PSI, GAGE"
Q	
R	
R	THERMAL RESISTANCE
R–22	REFRIGERANT–22
R/A	RETURN AIR
RCVR	RECEIVER
RD	ROOF DRAIN
RE: 1/M–xx	"REFER TO DETAIL NO.1, SHEET M–xx"
RECIRC.	RECIRCULATE
RF	RETURN FAN
RH	RELIEF HOOD
RL	REFRIGERANT LIQUID
RPM	REVOLUTIONS PER MINUTE
RPS	REVOLUTIONS PER SECOND
RS	REFRIGERANT SUCTION
RTU	ROOFTOP UNIT
RV	RELIEF VENT
S	
s	SECOND
SA	SOUND ATTENUATOR
S/A	SUPPLY AIR
SAT	SATURATION
SD	SMOKE DETECTOR
SF	SUPPLY FAN
SG	SPECIFIC GRAVITY
SMACNA	"SHEET METAL and AIR CONDITIONING" "CONTRACTORS' NATIONAL ASSOCIATION"
SP	STATIC PRESSURE
SPEC.	SPECIFICATION
SQ.FT.	SQUARE FEET
SUCT.	SUCTION
T	
TD	TEMPERATURE DIFFERENCE
TEMP	TEMPERATURE
TONS	TONS OF REFRIGERATION
TSTAT	THERMOSTAT
TU	TERMINAL UNIT
U	
U	HEAT TRANSFER COEFFICIENT
U/C	UNDER COUNTER
UG	UNDERGROUND
UH	UNIT HEATER
U.N.O.	UNLESS NOTED OTHERWISE
UV	UNIT VENTILATOR
V	
V	VOLTS
VA	VOLT AMPERE
VAC	VACUUM
VAR	VARIABLE
VAV	VARIABLE AIR VOLUME
VEL.	VELOCITY
VENT.	VENTILATION
VERT.	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VOL.	VOLUME
VP	VELOCITY PRESSURE
VTR	VENT THRU ROOF
W	
W/	WITH
W/O	WITHOUT
W	WATTS
WB	WET BULB
WBT	WET BULB TEMPERATURE
WT	WEIGHT
X	
Y	
YCO	YARD CLEANOUT
YD	YARD
YR	YEAR
Z	
ZN	ZONE

GENERAL MECHANICAL NOTES AND SPECIFICATIONS:

GENERAL

1. COORDINATE WORK AMONG ALL DISCIPLINES. IT IS NOT THE INTENT OF THESE DOCUMENTS TO DICTATE WHO MUST DO THE WORK. ALL WORK SHOWN IS THE RESPONSIBILITY OF THE (PRIME) CONTRACTOR.
2. FIELD VERIFY ALL CONDITIONS AND MEASURE DIMENSIONS WITHIN THE BUILDING PRIOR TO ORDERING EQUIPMENT AND/OR PROCEEDING WITH INSTALLATION.
3. ALL EQUIPMENT SHALL BE FACTORY TESTED, AND CONTRACTOR SHALL VERIFY THEIR CONDITION PRIOR TO INSTALLATION. CONTRACTOR IS RESPONSIBLE FOR EQUIPMENT DAMAGED DURING MOVING AND INSTALLATION.
4. EQUIPMENT FOUND DEFECTIVE PRIOR TO FINAL ACCEPTANCE SHALL BE REPLACED AT NO COST TO OWNER.
5. SUBMISSION OF BID PROPOSAL IS CONSIDERED AN ACKNOWLEDGEMENT THAT CONTRACTOR VISITED SITE, AND VERIFIED ALL EXISTING CONDITIONS, AND INCLUDED ANY MODIFICATIONS TO EXISTING AND NEW WORK REQUIRED FOR INSTALLATION OF A COMPLETE AND OPERATIONAL MECHANICAL SYSTEM.
6. COORDINATE WITH OWNER AND ENGINEER FOR ANY DISRUPTION IN UTILITY SERVICES, PARTICULARLY THOSE THAT MIGHT AFFECT OTHER BUILDINGS.
7. CONTRACTOR SHALL NOT PROCEED WITH ANY WORK INVOLVING A CHANGE IN PROJECT SCOPE OR COST WITHOUT FIRST HAVING OBTAINED ENGINEER'S APPROVAL IN WRITING. UNLESS ENGINEER HAS AGREED TO SUCH CHANGE PRIOR TO IT BEING DONE, AND HAS AGREED THAT AN INCREASE IN COST ASSOCIATED WITH SUCH CHANGE IS WARRANTED; CONTRACTOR WILL NOT BE REIMBURSED FOR SUCH CHANGE.
8. TESTING, ADJUSTING AND BALANCING (TAB) CONTRACTOR SHALL BE RETAINED BY THE PRIME CONTRACTOR TAB SHALL NOT BE A PART OF THE MECHANICAL CONTRACT.

CODES AND ORDINANCES

1. PERFORM ALL WORK PER LATEST VERSION OF INTERNATIONAL MECHANICAL CODE, AND APPLICABLE LOCAL CODES AND ORDINANCES, UNLESS DRAWINGS OR SPECIFICATIONS HAVE MORE STRINGENT REQUIREMENTS.
2. CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS AND FEES ASSOCIATED WITH PROJECT, INCLUDING FEES FOR INSPECTIONS, APPLICATIONS, AND PROVISION OF NEW SERVICES.
3. NOTIFY ENGINEER OF ANY ASPECTS OF DESIGN WHICH ARE THOUGHT TO BE IN NONCOMPLIANCE WITH APPLICABLE CODES.

COORDINATION

1. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR DETAILS OF CONSTRUCTION, INCLUDING BEAMS, FLOOR AND WALL PENETRATIONS, CHASES, AND REFLECTED CEILING PLANS. VERIFY OPENING SIZES WITH EQUIPMENT FURNISHED.
2. COORDINATE ALL WORK WITH OTHER TRADES; COORDINATE SCHEDULE OF WORK WITH ALL SUB–CONTRACTORS TO ACHIEVE SMOOTH FLOW OF CONSTRUCTION.
3. CONTRACTOR SHALL REVIEW COMPLETE DOCUMENTS PRIOR TO SUBMITTAL OF PROPOSAL TO GAIN COMPLETE UNDERSTANDING OF PROJECT SCOPE, WORK BY OTHERS, AND MECHANICAL WORK ASSOCIATED WITH OTHER DISCIPLINES.
4. ENGINEER/ ARCHITECT MUST BE GIVEN AT LEAST A TEN (10) WORKING DAY NOTICE TO PERFORM ALL TYPES OF INSPECTIONS. COORDINATE WORK SCHEDULE WITH ARCHITECT AND ENGINEER TO PLAN ACCORDINGLY FOR APPROPRIATE INSPECTIONS.
5. COORDINATE LIGHT LOCATIONS WITH ELECTRICAL CONTRACTOR PRIOR TO INSTALLATION OF AIR DEVICES. LIGHT LOCATIONS TAKE PRECEDENCE OVER AIR DEVICES.

ECONOMIZER

1. FOR SYSTEMS THAT REQUIRE ECONOMIZER, MECHANICAL CONTRACTOR SHALL PROVIDE A CONTROLLER EQUAL TO HONEYWELL JADE ECONOMIZER MODULE W7220. REFER TO ECONOMIZER DETAIL FOR ADDITIONAL INFORMATION.

RETURN AIR SYSTEMS

1. MECHANICAL DESIGN ASSUMES A MINIMUM 1" DOOR UNDERCUTS FOR ALL DOORS AND WALL PARTITIONS WITHIN CONDITIONED SPACES.
2. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE PROJECT ENGINEER IF ANY DOOR OR PARTITION IS NOT PROVIDED WITH A MINIMUM 1" UNDERCUT OR IF ANY OF THE SPECIFIED SYSTEM RETURN PATHS ARE COMPROMISED DURING CONSTRUCTION IN ANY WAY.
3. AT A MINIMUM, THE CONTRACTOR SHALL PROVIDE A FIBERGLASS DUCTED TRANSFER BOOT/GRILL ABOVE CEILING FOR ANY DOOR OR PARTITION THAT IS NOT PROVIDED WITH A MINIMUM 1" UNDERCUT.
4. RETURN BOOT SHALL TERMINATE IN NEW RETURN AIR DEVICES. RETURN AIR DEVICES SHALL BE WHITE ALUMINUM PERFORATED LAY–IN TYPE WITH ALL NECESSARY MOUNTING HARDWARE TO MATCH OTHER RETURN DEVICES ON SITE. PROVIDE FRAMED AIR DEVICE IF IN HARD CEILING.

METAL AND FLEXIBLE DUCTS

1. DRAWINGS ARE DIAGRAMMATIC IN NATURE. FOR CLARITY SAKE, MOST DUCT OFFSETS/RISES/DROPS ARE NOT SHOWN. RECTANGULAR AND ROUND DUCTWORK SHALL BE GALVANIZED STEEL. SIZES SHOWN ARE INSIDE CLEAR DIMENSION.
2. PRIOR TO CONSTRUCTION, CONTRACTOR IS REQUIRED TO COORDINATE HEIGHTS OF DUCTWORK LAYOUT WITH EXISTING STRUCTURE, OTHER TRADES, AND PROPOSED CEILING HEIGHT TO CONFIRM ADEQUATE VERTICAL SPACE FOR STACKING.
3. CONSTRUCT AND LEAKAGE TEST ALL DUCTWORK BASED ON SMACNA REQUIREMENTS. COORDINATE PRESSURE CLASSES WITH EQUIPMENT SCHEDULES.
4. ALL GALVANIZED SHEET METAL DUCT WORK SHALL COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS––METAL AND FLEXIBLE".
5. USE 2" GLASS FIBER–REINFORCED FABRIC JOINT AND SEAM TAPE. USE WATER BASED JOINT AND SEAM SEALER. USE FIRE RESISTANT SEALER FOR FILLING OPENINGS AROUND DUCT PENETRATIONS THROUGH WALLS. ACCEPTABLE PRODUCTS ARE DOW CORNING, FIRE STOP FOAM AND FIRE STOP SEALER OR EQUAL.
6. USE SHEET METAL SCREWS OR BLIND RIVETS COMPATIBLE WITH DUCT MATERIALS WHEN SECURING ALL DUCTWORK TO STRUCTURE.
7. FLEXIBLE DUCT MAY BE USED TO CONNECT TO SUPPLY DIFFUSERS. MAXIMUM LENGTH OF FLEXIBLE DUCT LIMITED TO 6 FEET. PROVIDE FLEXMASTER TYPE 8M UL 181 CLASS 1 AIR DUCT OR EQUAL. FLEXIBLE DUCT SHALL HAVE MIN. R–8 INSULATING VALUE.
8. FLEXIBLE DUCT CLAMP SHALL BE OF STAINLESS STEEL BANDS WITH CADMIUM PLATED HEX SCREW TO TIGHTEN BAND WITH WORM GEAR ACTION.
9. PROVIDE TURNING VANES IN ALL SPLITS, TEES AND SWEPT 90 DEGREE ANGLE DUCT FITTINGS. MANUFACTURED TURNING VANES TO BE 1–1/2" WIDE, DOUBLE VANE, CURVED BLADES OF GALVANIZED SHEET STEEL SET ½" O.C. ACCEPTABLE MANUFACTURER'S ARE DUCTMATE INDUSTRIES, METALAIRE, WARD INDUSTRIES OR EQUAL.
10. WHERE RECTANGULAR TEE FITTINGS ARE SHOWN, PROVIDE FITTING WITH ADJUSTABLE DIVIDER SHEET AND TURNING VANES.
11. WHERE RECTANGULAR MAIN AND BRANCH CONNECTIONS ARE SHOWN, PROVIDE EXTRACTOR VANES.
12. PROVIDE MANUAL VOLUME CONTROL DAMPERS WHERE SHOWN ON DRAWINGS. DAMPERS TO HAVE NEOPRENE BLADE SEALS AND GALVANIZED STEEL FRAMES, TIE BARS, DAMPER AND BRACKETS. ACCEPTABLE MANUFACTURER'S ARE RUSKIN CO., NAILOR INDUSTRIES, FLEXMASTER OR EQUAL.
13. ABOVE INACCESSIBLE CEILINGS AND WHERE DUCT CONFIGURATION DOES NOT ALLOW FOR INSTALLATION OF DAMPER IN DUCTWORK OR DIFFUSER, PROVIDE REMOTE MANUAL DAMPER BY YOUNG REGULATOR, (BOWDEN CABLE CONTROL SYSTEM). CONTRACTOR MAY PROVIDE OPPOSED BLADE DAMPER THAT IS INTEGRAL TO GRD WITH ENGINEER'S APPROVAL.

INSULATION

1. DUCT WRAP INSULATION SHALL BE MINERAL FIBER INSULATION. ALL SERVICE JACKETING MANUFACTURED FROM KRAFT PAPER, REINFORCING SCRIM, ALUMINUM FOIL AND VINYL FILM. ACCEPTABLE MANUFACTURER'S ARE CERTAINTEED, KNAUF OR OWENS–CORNING. INSTALL DUCT WRAP INSULATION PER MANUFACTURER'S INSTRUCTIONS.
2. INTERIOR DUCTWORK TO BE INSULATED WITH DUCT WRAP INSULATION. ALL SUPPLY DUCTS TO HAVE 3" MIN. THICKNESS (R–8) INSULATION AND ALL RETURN AND OUTSIDE AIR DUCTS TO HAVE 2" MIN. INSULATION.

TESTING, ADJUSTING AND BALANCING (TAB)

1. TAB TO BE PERFORMED BY AN INDEPENDENT ENTITY, CERTIFIED BY AABC OR NEBB, AND PROVIDED BY GENERAL CONTRACTOR.
2. PERFORM TESTING AND BALANCING PROCEDURES PER AABC'S "NATIONAL STANDARDS FOR TOTAL SYSTEM BALANCE" OR NEBB'S "PROCEDURAL STANDARDS FOR TESTING, ADJUSTING, AND BALANCING OF ENVIRONMENTAL SYSTEMS".

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STATE OF TEXAS
RENE R. OLIVAREZ
102302
REGISTERED
PROFESSIONAL ENGINEER

12-14-20

PROJECT NAME: DE ESCANDON ELEMENTARY GYM - HVAC REPLACEMENT

PROJECT LOCATION: 1100 E. TRENTON RD, EDINBURG, TX 78542

NO.	DATE	DESCRIPTION

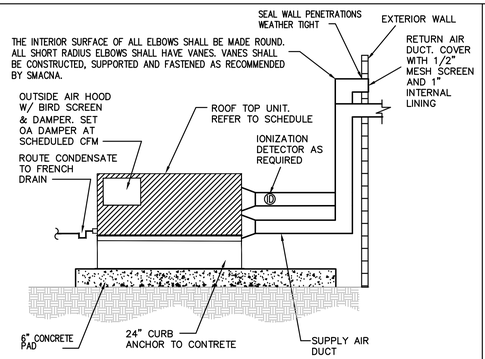
PROJECT NO.:

DRAWN BY: L.J.H.

CHECKED BY: R.O.

SHEET TITLE: MECHANICAL SYMBOLS & ABBREVIATIONS

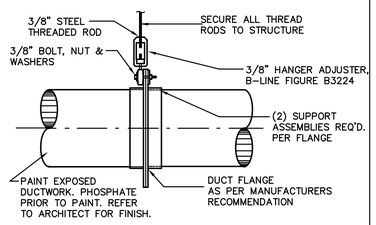
SHEET M0.0



NOTE:
CLEARANCE AROUND UNIT FOR AIR FLOW AND SERVICE PER MANUFACTURER INSTALLATION INSTRUCTION.

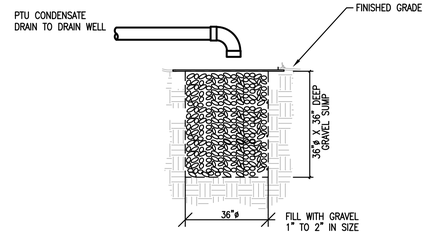
1 PACKAGE DX AHU (HOR. DISCHG.) ON GRADE

NTS



2 OVAL OR ROUND DUCT HANGER.

NTS



3 CONDENSATE DRY WELL DETAIL

NTS

MECHANICAL EQUIPMENT (ELECTRIC HEAT) SCHEDULE

TAG	FLOW RATE		TATIC PRESSUR	ELECTRICAL DATA			DX COOLING				ELECTRIC HEATING			BASIS OF DESIGN					NOTES
	SUPPLY	OA	EXTERNAL	MCA	MOCP	VOLTAGE	SENSIBLE	TOTAL	ENT. AIR TEMP	LEA. AIR TEMP	COIL								
	CFM	CFM	IN WG	AMPS	AMPS		MBH	MBH	DB/WB	DB/WB	STAGES	KW	VOLTAGE	MANUFACTURER	MODEL OR SERIES	HP	SEER/EER	WEIGHT (LBS)	
PTU- 1	3000	440	0.5	32.5	35	460/3Ø	65	85	80/65	58/56	1	18	460/3Ø	TRANE	THC092F	2	12.6 EER / 14.5 IEER	928	ALL
PTU- 2	3000	440	0.5	32.5	35	460/3Ø	65	85	80/65	58/56	1	18	460/3Ø	TRANE	THC092F	2	12.6 EER / 14.5 IEER	928	ALL
PTU- 3	3000	440	0.5	32.5	35	460/3Ø	65	85	80/65	58/56	1	18	460/3Ø	TRANE	THC092F	2	12.6 EER / 14.5 IEER	928	ALL
PTU- 4	3000	440	0.5	32.5	35	460/3Ø	65	85	80/65	58/56	1	18	460/3Ø	TRANE	THC092F	2	12.6 EER / 14.5 IEER	928	ALL

NOTE:
1. UNIT TO BE PROVIDED WITH ELECTRIC HEAT, FAN, DX COOLING COIL AND FILTER SECTION.
2. PROVIDE NEW CONCRETE PAD, CHAIN-LINK FENCE AND HAIL GUARD.
3. PROVIDE SMOKE DUCT DETECTOR AT RETURN.
4. PROVIDE W/ TWO STAGE COMPRESSOR AND FAN.
5. PROVIDE MARINE COATING, E-COAT OR APPROVED EQUIVALENT.
6. PROVIDE W MOTORIZED OA DAMPER AND BAROMETRIC RELIEF HOOD.
7. PROVIDE W/ HINGED FILTER ACCESS DOOR & MERV 8 FILTERS, TWO SETS.
8. TRANE, LENNOX, CARRIER APPROVED AS MANUFACTURERS.
9. PROVIDE W/ 24" STEEL PLATFORM UPON WHICH TO MOUNT PACKAGED UNIT.
10. CLEARANCES SHOWN ON PLANS ARE FOR SCHEDULED MAKE/MODEL. IF A SUBSTITUTION IS MADE, CONTRACTOR TO BE RESPONSIBLE FOR PROVIDING CLEARANCES AS PER SELECTED MANUFACTURER.
11. PROVIDE W DEMAND CONTROL VENTILATION, PROVIDE W CO2 SENSOR IN SPACE.
12. PROVIDE W/ WEB ENABLED THERMOSTAT CAPABLE OF USE BY DISTRICT.
13. PROVIDE W/ FACTORY DISCONNECT & GFI DUPLEX 120V RECEPTACLE, FACTORY PWRD.

MECHANICAL AIR TERMINAL DEVICES SCHEDULE

TAG	SIZE	DESCRIPTION	CONSTRUCTION	BASIS OF DESIGN		NOTES
			FINISH	MANUFACTURER	MODEL OR SERIES	
A	40X12	DRUM LOUVER LONG THROW	ALUMINUM	TITUS	DL	ALL
B	48X24	HEAVY DUTY RETURN GRILLE	ALUMINUM	TITUS	33RS	ALL

NOTES:
1. PROVIDE STANDARD WHITE FINISH FOR ALL AIR DEVICES UNLESS NOTED OTHERWISE ON PLAN.
2. PAINT ALL SURFACES VISIBLE THROUGH FACE OF RETURN AIR GRILLES FLAT BLACK. THIS SHALL INCLUDE PIPING, CONDUIT, DUCTWORK, AND STRUCTURAL MEMBERS.
3. PROVIDE FRAME FOR MOUNTING AIR DEVICE IN LAY-IN GRID CEILING UNLESS REFLECTED CEILING PLAN INDICATES HARD CEILING. IN AREAS WITH HARD CEILINGS, PROVIDE FRAMES FOR SURFACE MOUNTING.
4. UNLESS OTHERWISE NOTED, BRANCH DUCTS SERVING AIR DEVICES SHALL BE SAME SIZE AS NECK OF AIR DEVICE.
5. AIR DEVICE SHALL BE OF GALVANIZED FINISH WHEN INSTALLED ON EXPOSED DUCTWORK.
6. COORDINATE SLOT DIFFUSER FRAME/BORDER TYPE AND END BORDER CONFIGURATION WITH CEILING TYPE.
7. COORDINATE RETURN GRILLE CONFIGURATION AND SIZE WITH CEILING TYPE.

FOR ROUND NECK DIFFUSERS:
6" DIA: 0-120 CFM
8" DIA: 125-220 CFM
10" DIA: 225-380 CFM
12" DIA: 385-600 CFM

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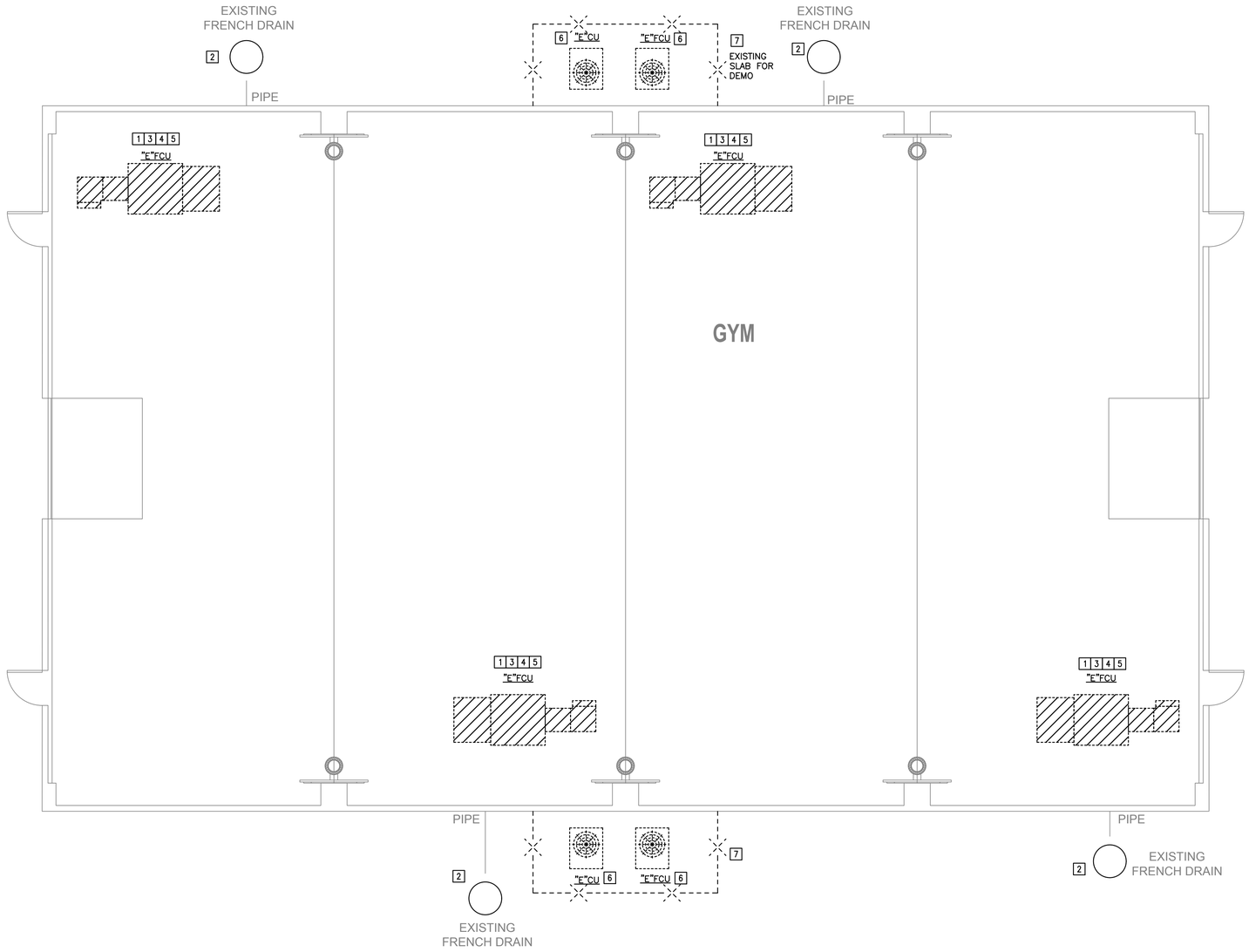
DRAWN BY: L.J.H.
CHECKED BY: R.O.

SHEET TITLE: MECHANICAL DETAILS & SCHEDULES

SHEET M0.1



GENERAL MECHANICAL
DEMOLITION NOTES

A. COORDINATE DEMOLITION WORK WITH ELECTRICAL AND OTHER DISCIPLINES AS REQUIRED.

B. EQUIPMENT LOCATIONS ARE SHOWN APPROXIMATELY. VERIFY ALL DIMENSIONS AND LOCATIONS AT JOB SITE.

C. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOBSITE CONDITIONS DURING THE BIDDING PERIOD, SO THEY WILL HAVE DISCOVERED THE FULL SCOPE OF WORK INVOLVED WITH THE MODIFICATION OF THIS EXISTING SPACE. THE SCOPE OF THE WORK SHALL INCLUDE ALL MATERIALS FOR A COMPLETE INSTALLATION INCLUDING DEVICES, EQUIPMENT, OR APPARATUS WHICH MUST BE REROUTED, RELOCATED, OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE PROVIDED TO ACCOMMODATE THE INDICATED REMODELING. NOT ALL EXISTING CONDITIONS ARE NECESSARILY INDICATED ON THE DRAWINGS.

D. WHEN AN EQUIPMENT IS IDENTIFIED TO BE REMOVED, THE OWNER HAS FIRST RIGHT OF REFUSAL BEFORE DISPOSING OF THAT EQUIPMENT. PROVIDE DISTRICT ONE WEEK NOTICE PRIOR TO DEMOLITION.

E. PROVIDE ALL NECESSARY CLEAR PATH TO MOVE DEMOLISHED EQUIPMENT OUT OF THE FACILITY AS WELL TO BRING NEW EQUIPMENT INTO THE BUILDING. MODIFY EXISTING PIPING, DUCTWORK CONDUITS, AS REQUIRED TO COMPLETE THE DEMOLITION.

F. THE "EXISTING" MECHANICAL SYSTEMS INDICATED ON THIS SHEET ARE BASED ON THE INFORMATION AVAILABLE AND MAY BE INCOMPLETE AND INACCURATE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ACTUAL CONDITIONS AND MAKE SUITABLE ADJUSTMENTS AS NECESSARY, TO ACCOMMODATE NEW WORK, AT NO EXTRA COST TO THE OWNER. CONDITIONS DIFFERENT TO THOSE INDICATED SHALL BE INCORPORATED INTO THE CONSTRUCTION DOCUMENTS. NOTE THAT ANY UNCOVERED SYSTEMS MUST BE CAREFULLY IDENTIFIED PRIOR TO MODIFICATIONS.

G. CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL TRADES AND INCLUDE ANY MODIFICATIONS NEEDED TO ACCOMMODATE THEIR WORK.

KEYED NOTES: MECHANICAL

1 EXISTING AHU TO BE REMOVED. VERIFY EXACT LOCATION ON SITE.

2 EXISTING FRENCH DRAIN TO REMAIN. CONTRACTOR TO TEST ALL DRAINS AND PROVIDE TO OWNER ANY DEFICIENCIES IN WRITING AND WAIT FOR DIRECTION.

3 LOCATION OF EXISTING THERMOSTAT CONTROL TO BE REMOVED.

4 UNIT TO BE REMOVED. CAP ALL DUCTWORK OPENINGS THAT MAY REMAIN FROM ANY MODIFICATION.

5 REMOVE EXISTING AIR DEVICE AND ASSOCIATED DUCTWORK. REFER TO M2.0 FOR NEW SCOPE OF WORK.

6 UNIT TO BE REMOVED.

7 EXISTING SLAB AND CHAIN-LINK FENCE TO BE REMOVED AND DISPOSED OFFSITE.

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STATE OF TEXAS
RENE R. OLIVAREZ
102302
REGISTERED
PROFESSIONAL ENGINEER

12-14-20

PROJECT NAME: DE ESCANDON ELEMENTARY GYM - HVAC REPLACEMENT

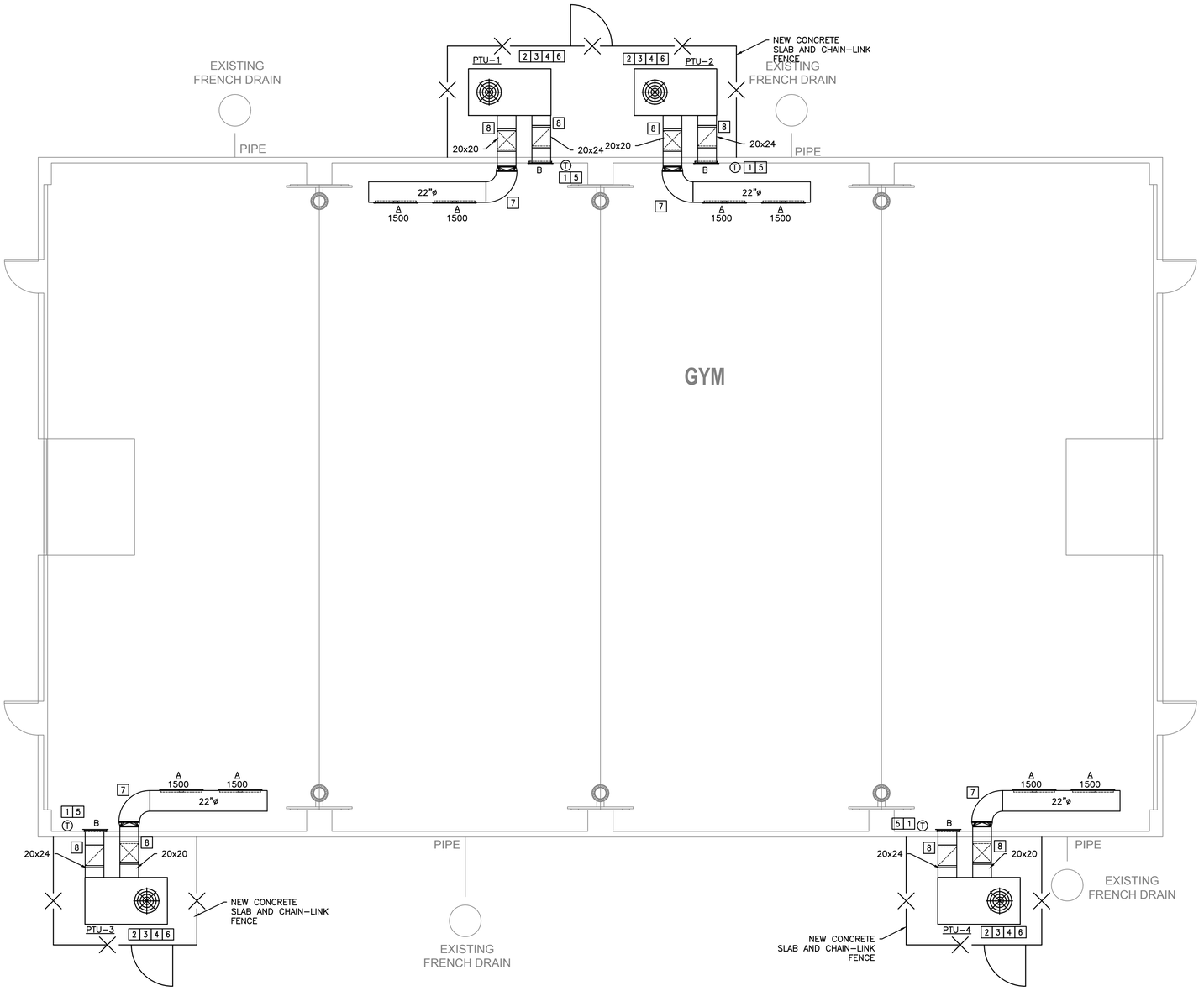
PROJECT LOCATION: 1100 E. TRENTON RD, EDINBURG, TX 78542

NO.	DESCRIPTION	DATE

PROJECT NO.:
DRAWN BY: L.J.H.
CHECKED BY: R.O.

SHEET TITLE: MECHANICAL DEMOLITION PLAN

SHEET
MD1.0



MECHANICAL GENERAL NOTES

1. CONTRACTOR SHALL BALANCE EACH DEVICE WITH THE CFM SHOWN ON PLAN.
2. NEW PIPING AND DUCTWORK SHOWN ON PLAN ARE SCHEMATIC ONLY. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES FOR PIPING AND DUCTWORK ROUTING. OFFSET AND RUN PIPING, DUCTWORK INSIDE THE STRUCTURE IF REQUIRED. PROVIDE ANY EXTRA PIPING, DUCTWORK, FITTINGS, INSULATIONS AND OTHER ACCESSORIES IN ORDER TO COMPLETE THE INSTALLATION.
3. COORDINATE LOCATIONS AND SIZES OF ROOF OPENINGS WITH OWNER AND STRUCTURE ENGINEERS.
4. EQUIPMENT SIZES, DIMENSIONS AND REQUIRED CONNECTIONS SHALL BE VERIFIED WITH THE ACTUAL EQUIPMENT SELECTED VENDOR DRAWINGS BEFORE FABRICATION OF DUCTWORK, PIPING, ETC...
5. DUCT SIZES SHOWN ON PLANS ARE CLEAR INSIDE AIR STREAM DIMENSIONS.
6. CONTRACTOR SHALL COORDINATE ALL ELECTRICAL REQUIREMENTS FOR ALL HVAC BASED ON ACTUAL EQUIPMENT SELECTED PRIOR TO INSTALLATION.
7. CONTRACTOR SHALL COORDINATE EQUIPMENT WEIGHTS AND SUPPORTS BASED ON ACTUAL EQUIPMENT SELECTED.
8. ALL EXPOSED DUCTWORK SHALL BE ROUND, DOUBLE-WALL, INSULATED METAL, PRIMED FOR PAINTING. ALL CONCEALED DUCTWORK SHALL BE INSULATED METAL RECTANGULAR UNLESS OTHERWISE ALLOWED IN WRITING BY THE ENGINEER OF RECORD.
9. COORDINATE WITH ALL TRADES FOR MATERIALS IN RATED AND PLENUM SPACES.
10. ALL EXHAUST FANS SCHEDULED TO BE AUTOMATICALLY CONTROLLED BY MECHANICAL AIR HANDLERS SHALL BE CONNECTED BY MEANS OF AN AUXILIARY RELAY. PROVIDE AUXILIARY RELAY AS NEEDED.
11. PROVIDE TUBE TYPE DUCT SMOKE DETECTORS FOR ALL SMOKE FIRE DAMPERS. PROVIDE TUBE TYPE DUCT SMOKE DETECTORS IN RETURN OF EACH AIR HANDLING UNIT OVER 2000 CFM AND IN THE SUPPLY AND RETURN OF EACH AIR HANDLING UNIT OVER 10,000 CFM. ALL DUCT SMOKE DETECTORS SHALL HAVE THE FOLLOWING CHARACTERISTICS; MOUNTED IN THE DIRECTION OF AIR FLOW, ADDRESSABLE WITH SELF SENSITIVITY, RATED FOR THE AIR SPEED, AND HAVE REMOTE INDICATOR LIGHT TEST STATIONS. FIRE ALARM CONTRACTOR SHALL PROVIDE INTERFACE OF DUCT SMOKE DETECTORS AND FIRE ALARM PANEL. PROVIDE 24V POWER FROM FIRE ALARM PANEL.

KEYED NOTES: MECHANICAL

1. LOCATION OF DIGITAL THERMOSTAT CONTROL. PROVIDE LOCKABLE COVER. PLACE AT SAME LOCATION OF EXISTING.
2. CONTRACTOR TO RUN CONDENSATE DRAIN TO NEAREST FRENCH DRAIN. PROVIDE AND INSTALL FULL SIZE COPPER CONDENSATE DRAIN LINE WITH P-TRAP. DRAIN LINE SHALL BE INSULATED WITH ALUMINUM JACKET.
3. COORDINATE FINAL LOCATION OF PTU'S WITH ARCHITECT AND OWNER.
4. PROVIDE 30" WORKING CLEARANCE BETWEEN UNIT AND FENCE.
5. PROVIDE T-STAT WITH 7 DAY PROGRAMMABLE EQUAL TO HONEYWELL VISION-PRO 8000. TH8320R1003.
6. PLACE UNIT ON NEW 6" CONCRETE PAD. RE:1/M0.1.
7. EXPOSED DUCT TO BE OF SINGLE WALL CONSTRUCTION WITH INTERNAL LINER. REFER TO SPECS 23 07 13 SECTION 3.04.
8. OUTDOOR DUCT SHALL BE THERMADUCT RECTANGULAR STANDARD WHITE. REFER TO SPECS 23 07 13 SECTION 3.04.

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SHEET TITLE: MECHANICAL PLAN

SHEET
M2.0

ELECTRICAL SYMBOLS

MOTORS AND CONTROLS

- (2) — SINGLE OR THREE PHASE MOTOR NUMBER INDICATES HORSE POWER
- ELECTRIC DUCT HEATER
- DISCONNECT (SAFETY) SWITCH "200/3/150" DENOTES AMPERES/POLE/FUSE, "NF" DENOTES NON-FUSED "N3R" DENOTES NEMA 3R
- [B] — ENCLOSED CIRCUIT BREAKER- "200/3/150" DENOTES AMPERES/POLE/TRIP.
- MOTOR STARTER FURNISHED BY DIVISION 15 AND INSTALLED BY DIVISION 16.
- COMBINATION DISCONNECT (SAFETY) SWITCH AND MOTOR STARTER, "30/3/15/#0" DENOTES AMPERES/POLES/FUSE/ STARTER SIZE, "NF" DENOTES NON-FUSED. FURNISHED BY DIVISION 15 AND INSTALLED BY DIVISION 16.
- VFD — VARIABLE FREQUENCY DRIVE PROVIDED BY DIVISION 15 AND INSTALLED BY DIVISION 16.
- EPO — EMERGENCY POWER OFF BUTTON.

RECEPTACLES AND OUTLETS

ALL RECEPTACLES SHALL BE MOUNTED 16" ABOVE FINISHED FLOOR TO CENTER OF DEVICE UNLESS NOTED OTHERWISE.

- SIMPLEX WALL RECEPTACLE, NEMA 5-20R, 20A, 125V.
- DUPLEX WALL RECEPTACLE, NEMA 5-20R, 20A, 125V.
  "EM" DENOTES EMERGENCY CIRCUIT. PROVIDE RED RECEPTACLE AND FACEPLATE.
  "GFI" DENOTES GROUND FAULT INTERRUPTER,
  "WP" DENOTES WEATHERPROOF,
  "IG" DENOTES ISOLATED GROUND,
  "TP" DENOTES SAFETY TYPE, (TAMPER PROOF)
  "DR" DENOTES DROPPED RECEPTACLE,
  "AC" DENOTES ABOVE COUNTER MOUNTING, SEE ARCHITECTURAL PLANS FOR EXACT MOUNTING HEIGHT.
- DUPLEX WALL RECEPTACLE ON EMERGENCY CIRCUIT, RED COLOR.
- DUPLEX WALL RECEPTACLE ON A CIRCUIT DEDICATED TO DATA PROCESSING, GRAY COLOR. PROVIDE ISOLATED GROUND TYPE RECEPTACLES WHERE NOTED.
- SPLIT WIRED RECEPTACLE. TOP RECEPTACLE SHALL BE SWITCHED ACCORDING TO PLANS, AND BOTTOM SHALL REMAIN UNSWITCHED.
- FOURPLEX (DOUBLE DUPLEX) WALL RECEPTACLE. NEMA 5-20R, 20A, 125V.
- FOURPLEX WALL RECEPTACLE ON EMERGENCY CIRCUIT, RED COLOR.
- SPECIAL RECEPTACLE, NEMA CONFIGURATION AS NOTED.
- FLUSH ELECTRICAL FLOOR OUTLET, "P" DENOTES POKE-THRU. "D" INDICATES DUPLEX RECEPTACLE, "R" INDICATES RED RECEPTACLE ON EMERGENCY POWER
- MULTI-OUTLET SURFACE RACEWAY. SEE ARCHITECTURAL DRAWINGS FOR EXACT MOUNTING HEIGHTS.
- J — JUNCTION BOX (SQUARE)
- JUNCTION BOX
- DUPLEX RECEPTACLE WITH HOMERUN
- DUPLEX RECEPTACLE (PEDESTAL MOUNTED)
- TWO-GANG FLOOR OUTLET
- THREE-GANG FLOOR OUTLET
- PP — POWER POLE
- DIRECT CONNECTION TO EQUIPMENT
- P — PULL BOX (OVER 4" SQUARE)
- L — TENANT LIGHTING JUNCTION BOX
- P — TENANT POWER JUNCTION BOX
- C (2) — CLOCK RECEPTACLE TO BE MOUNTED 12" BELOW FINISHED CEILING. (2) DENOTES DOUBLE SIDED CLOCK. (1) SINGLE SIDED. NO NUMBER MEANS CLOCK TO MOUNTED WITH BACK SURFACE MOUNTED ON WALL

LIGHTING

LETTER(S) DENOTE TYPE- SEE LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.

- 2' X 4' FLUORESCENT LIGHTING FIXTURE.
- 2' X 2' FLUORESCENT LIGHTING FIXTURE.
- 1' X 4' FLUORESCENT LIGHTING FIXTURE.
- 1' X 2' FLUORESCENT LIGHTING FIXTURE.
- 1' X 1' FLUORESCENT LIGHTING FIXTURE.
- FLUORESCENT STRIP LIGHTING FIXTURES.
- STAGGERED STRIP LIGHTING FIXTURE.
- INCANDESCENT, FLUORESCENT OR HID DOWNLIGHT FIXTURE.
- WALL MOUNTED INCANDESCENT, FLUORESCENT OR HID FIXTURE.
- TRACK LIGHTING FIXTURE. MOUNTED AS SHOWN ON LIGHTING FIXTURE SCHEDULE.
- CEILING MOUNTED EXIT SIGN; ARROWS AS INDICATED. SHADED AREA DENOTES FACE.
- WALL MOUNTED EXIT SIGN; ARROWS AS INDICATED. SHADED AREA DENOTES FACE.
- EMERGENCY WALL MOUNTED LIGHTING FIXTURE, BATTERY OPERATED UNLESS NOTED OTHERWISE.
- HID SECURITY WALL PACK

RACEWAYS AND WIRING

- CAP AND STAKE
- CONDUIT CONCEALED IN WALL OR CEILING
- CONDUIT UNDERSLAB OR UNDERGROUND
- EM — EMERGENCY CONDUIT
- EXPOSED CONDUIT
- DB — UNDERGROUND CONDUIT, "DB" DENOTES DUCTBANK ENCASED IN CONCRETE
- OHE — OVERHEAD ELECTRIC PRIMARY UTILITY POWER LINE
- CONDUIT TURNED UP
- CONDUIT TURNED DOWN
- HASH MARKS INDICATE NUMBER OF CONDUCTORS. LEFT TO RIGHT: PHASE/NEUTRAL/SWITCH LEG/GROUND/ISOLATED GROUND. NO HASH MARKS INDICATES 2# 12, PLUS GROUND, UNLESS NOTED OTHERWISE.
- 1LA-2,4 — HOMERUN TO PANEL WITH CIRCUIT NUMBER(S) AS INDICATED.
- PARTIAL CIRCUIT HOMERUN TO PANEL.
- (ON)1LA-6 / T — COMMUNICATIONS CONDUIT OR CABLE:
  "C" DENOTES MASTER CLOCK,
  "CA" DENOTES MASTER CLOCK,
  "CR" DENOTES CASH REGISTER
  "D" DENOTES DATA,
  "FA" DENOTES FIRE ALARM,
  "I" DENOTES INTERCOM,
  "OHE" DENOTES OVERHEAD ELECTRICAL LINE.
  "PA" DENOTES PAGING,
  "S" DENOTES SECURITY,
  "T" DENOTES TELEPHONE,
  "V" DENOTES VIDEO,
- TELECOMMUNICATIONS CABLE TRAY TO BE CONCEALED ABOVE ACCESSABLE CEILING.

ELECTRICAL EQUIPMENT

- DISTRIBUTION PANEL
- SWITCHBOARD, MAIN DISTRIBUTION PANEL OR MOTOR CONTROL CENTER
- PANELBOARD (FLUSH/SURFACE MOUNT)
- FLOOR MOUNTED DRY-TYPE TRANSFORMER

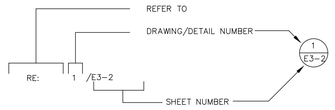
COMMUNICATIONS

ALL RECEPTACLES SHALL BE MOUNTED 16" ABOVE FINISHED FLOOR TO CENTER OF DEVICE UNLESS NOTED OTHERWISE.

THE FOLLOWNG NOTATIONS REFER TO ALL COMMUNICATIONS OUTLETS:
"FAX" DENOTES OUTLET DEDICATED FOR A FAX,
"W" DENOTES WALL PHONE SHALL BE MOUNTED AT 42" A.F.F.
"PAY" DENOTES PAY PHONE SHALL BE MOUNTED 42" A.F.F.

- TELEPHONE WALL OUTLET.
- DATA WALL OUTLET.
- VOICE/DATA OUTLET
- FLUSH TELEPHONE FLOOR OUTLET, "P" DENOTES POKE-THRU
- FLUSH DATA FLOOR OUTLET, "P" DENOTES POKE-THRU
- FLUSH VOICE/DATA FLOOR OUTLET, "P" DENOTES POKE-THRU
- DS — SCHOOL INTERCOMMUNICATION SYSTEM DESKSET.
- HS — SCHOOL INTERCOMMUNICATION SYSTEM HANDSET.
- TV — TELEVISION OUTLET
  1 GANG JUNCTION BOX WITH ONE FEMALE COAX BARREL CONNECTOR MOUNTED IN SINGLE GANG S.S. COVER PLATE.
- MP(W) — MICROPHONE FLOOR OUTLET, "W" INDICATES WALL MOUNTED
- S(VC) — CEILING MOUNTED SPEAKER. "VC" INDICATES VOLUME CONTROL ON SPEAKER.
- S — WALL MOUNTED SPEAKER.

DRAWING/DETAIL REFERENCE KEY



GENERAL NOTES

A. NOT ALL SYMBOLS SHOWN ON THIS SYMBOL LIST ARE USED IN THE CONTRACT DOCUMENTS.

MISCELLANEOUS

- F — SHADED SYMBOLS INDICATE EXISTING DEVICES TO REMAIN, UNLESS OTHERWISE NOTED.
- INDICATES WALL-MOUNTED WHEN ATTACHED TO ANY SYMBOL
- (1) — DRAWING NOTE REFERENCE
- (1) — STARTER/DISCONNECT SCHEDULE REFERENCE
- (1) — FEEDER SCHEDULE REFERENCE
- LC — LIGHTING CONTACTOR
- TS — TIME SWITCH
- PC — PHOTOCELL
- PUSH BUTTON
- TC — TIMECLOCK
- R — RELAY

FIRE ALARM

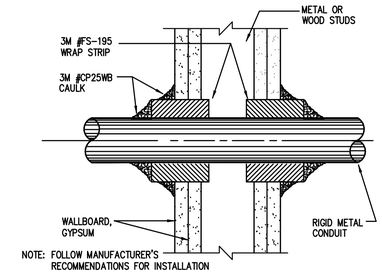
- W — WATER FLOW SWITCH
- SP — SUPERVISORY SWITCH
- S D — SMOKE DETECTOR – "D" INDICATES DUCT TYPE
- H — HEAT DETECTOR
- BT — BEAM DETECTOR TRANSMITTER, HIGH IN CEILING WALL DIRECT LINE OF SIGHT.
- BR — BEAM DETECTOR RECEIVER, HIGH IN CEILING WALL DIRECT LINE OF SIGHT.
- S — SPEAKER/VISUAL +80" A.F.F. – 15/75cd UNLESS NOTED OTHERWISE.
- D — MAGNETIC DOOR HOLDER
- R — AUXILIARY CONTROL RELAY
- F — FIRE ALARM PULL STATION +42" AFF
- F — FIREMAN'S TELEPHONE JACK +42" AFF
- F — AUDIO VISUAL FIRE ALARM HORN +80" AFF
- H — AUDIO FIRE ALARM HORN +80" AFF
- V — VISUAL FIRE ALARM (STROBE) +80" AFF
- FACP — FIRE ALARM CONTROL PANEL
- ANN — REMOTE FIRE ALARM ANNUNCIATOR PANEL
- VEP — FIRE ALARM VOICE EVACUATION PANEL
- S — FIRE ALARM SPEAKER / WALL MOUNTED
- M — MINI AUDIO FIRE ALARM HORN +80" AFF
- MS — MINI AUDIO/VISUAL FIRE ALARM HORN +80" AFF
- FH — FIRE FIGHTER HANDSET
- RPS — REMOTE POWER SUPPLY FOR AUDIO/VISUAL FIRE ALARM DEVICES.
- FSD — FIRE SMOKE DAMPER
- V — VISUAL FIRE ALARM STROBE, CEILING MOUNTED
- F — AUDIO VISUAL FIRE ALARM HORN-CEILING MOUNTED
- S — FIRE ALARM SPEAKER / VISUAL – CEILING MOUNTED

SWITCHES

ALL SWITCHES SHALL BE MOUNTED AT 42" ABOVE FINISHED FLOOR TO CENTER OF DEVICE UNLESS NOTED OTHERWISE.

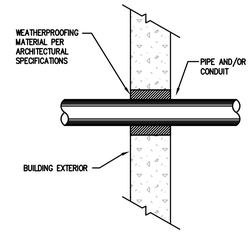
- $ — SWITCH, SPST, 20A, 120/277V.
- $2 — SWITCH, 20A, 120/277V:
  "2" DENOTES DPST,
  "3" DENOTES THREE-WAY,
  "4" DENOTES FOUR-WAY,
  "K" DENOTES KEY SWITCH,
  "P" DENOTES PILOT LIGHT,
  "ST" DENOTES SPRING WOUND TIMER.
  "R" DENOTES RED
  "F" FAN SPEED CONTROLLER
  "OC" OCCUPANCY SENSOR
  "L" DENOTES LOCKING SWITCH
- $MC — SWITCH, SPDT, CENTER OFF, MOMENTARY CONTACT.
- $D — DIMMER CONTROL SWITCH, 600 WATT UNLESS OTHERWISE NOTED.
- $3X — THREE-WAY KEY SWITCH, 20A, 120/277V.
- $SC — WALL MOUNTED SWITCH TO CONTROL MOTORIZED PROJECTION SCREENS.
- $M — MOTOR RATED SWITCH WITH THERMAL OVERLOADS
- $T — MOTOR RATED TOGGLE SWITCH
- OC — CEILING MOUNTED OCCUPANCY SENSOR

DETAILS



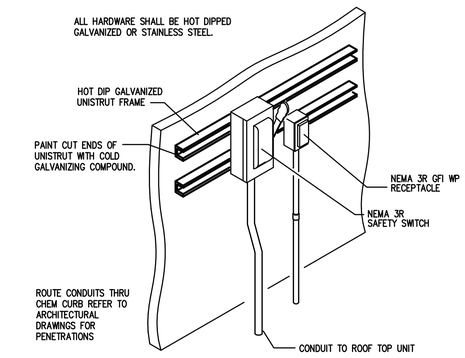
1 AND 2 HR. GYPSUM/WALLBOARD PENETRATION DETAIL

1 NTS



PIPE AND/OR CONDUIT PENETRATION

2 NTS



EXTERIOR WALL DISCONNECT DETAIL

3 NTS

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NO.	DATE	DESCRIPTION

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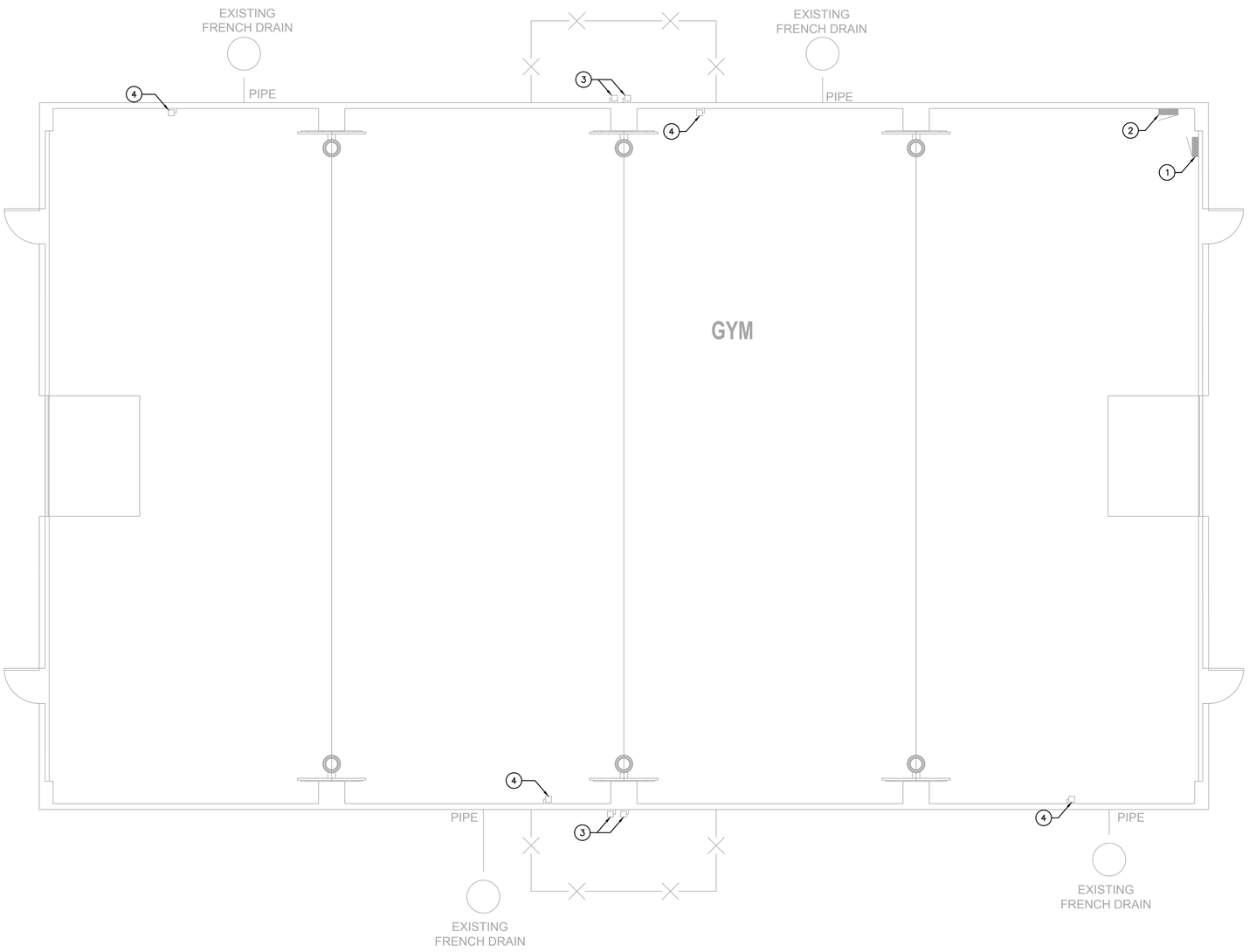
CHECKED BY: R.O.

SHEET TITLE: ELECTRICAL SYMBOLS AND DETAILS

SHEET E0.0



1 DEMOLITION PLAN
3/16" = 1'-0"

GENERAL DEMOLITION NOTES:

A. DEMOLISH AND REMOVE EXISTING CONSTRUCTION ONLY TO THE EXTENT REQUIRED BY NEW CONSTRUCTION AND AS INDICATED.

B. REMOVED AND SALVAGED ITEMS: CLEAN SALVAGED ITEMS, PACK OR CRATE ITEMS AFTER CLEANING. IDENTIFY CONTENTS OF CONTAINERS. STORE ITEMS IN A SECURE AREA UNTIL DELIVERY TO OWNER. TRANSPORT ITEMS TO OWNER'S STORAGE AREA DESIGNATED BY OWNER. PROTECT ITEMS FROM DAMAGE DURING TRANSPORT AND STORAGE.

C. EXISTING ITEMS TO REMAIN: PROTECT CONSTRUCTION INDICATED TO REMAIN AGAINST DAMAGE AND SOILING DURING SELECTIVE DEMOLITION. WHEN PERMITTED BY ARCHITECT, ITEMS MAY BE REMOVED TO A SUITABLE, PROTECTED STORAGE LOCATION DURING SELECTIVE DEMOLITION AND REINSTALLED IN THEIR ORIGINAL LOCATIONS AFTER SELECTIVE DEMOLITION OPERATIONS ARE COMPLETE.

D. COORDINATE ALL DEMO ACTIVITIES WITH OWNER AND ARCHITECT AND PROVIDE 10 DAYS NOTICE FOR ANY POWER OUTAGES.

E. PROVIDE ALL APPURTENANCES REQUIRED TO REROUTE, RELOCATED, REMOVE OR REINSTALL ALL ITEMS DESCRIBED IN THESE NOTES.

F. REMOVE ALL OUTLETS AND WIRING ASSOCIATED WITH ALL EQUIPMENT BEING REMOVED, INCLUDING MECHANICAL AND PLUMBING EQUIPMENT.

G. CONTRACTOR SHALL MAKE SAFE ALL AREAS OF THE EXISTING STRUCTURE WHICH ARE TO BE DEMOLISHED BY DISCONNECTING FEEDERS AND SERVICES TO DEMO'D AREAS.

(#) ELECTRICAL DEMO KEYED NOTES:

(1) EXISTING HIGH VOLTAGE PANEL TO REMAIN.

(2) EXISTING LOW VOLTAGE PANEL / TRANSFORMER TO REMAIN.

(3) EXISTING DISCONNECTS/WIREWAY TO BE DEMOLISHED. EXISTING 1" CONDUIT AND #8 WIRE TO BE REUSED. REFER TO POWER PLAN FOR NEW SCOPE OF WORK.

(4) DEMO EXISTING DISCONNECT AND ANY CONTROLS ASSOCIATED WITH MECHANICAL UNIT TO BE DEMOLISHED. EXISTING CONDUIT AND WIRE TO BE PARTIALLY REUSED. REFER TO POWER PLAN FOR NEW SCOPE OF WORK.

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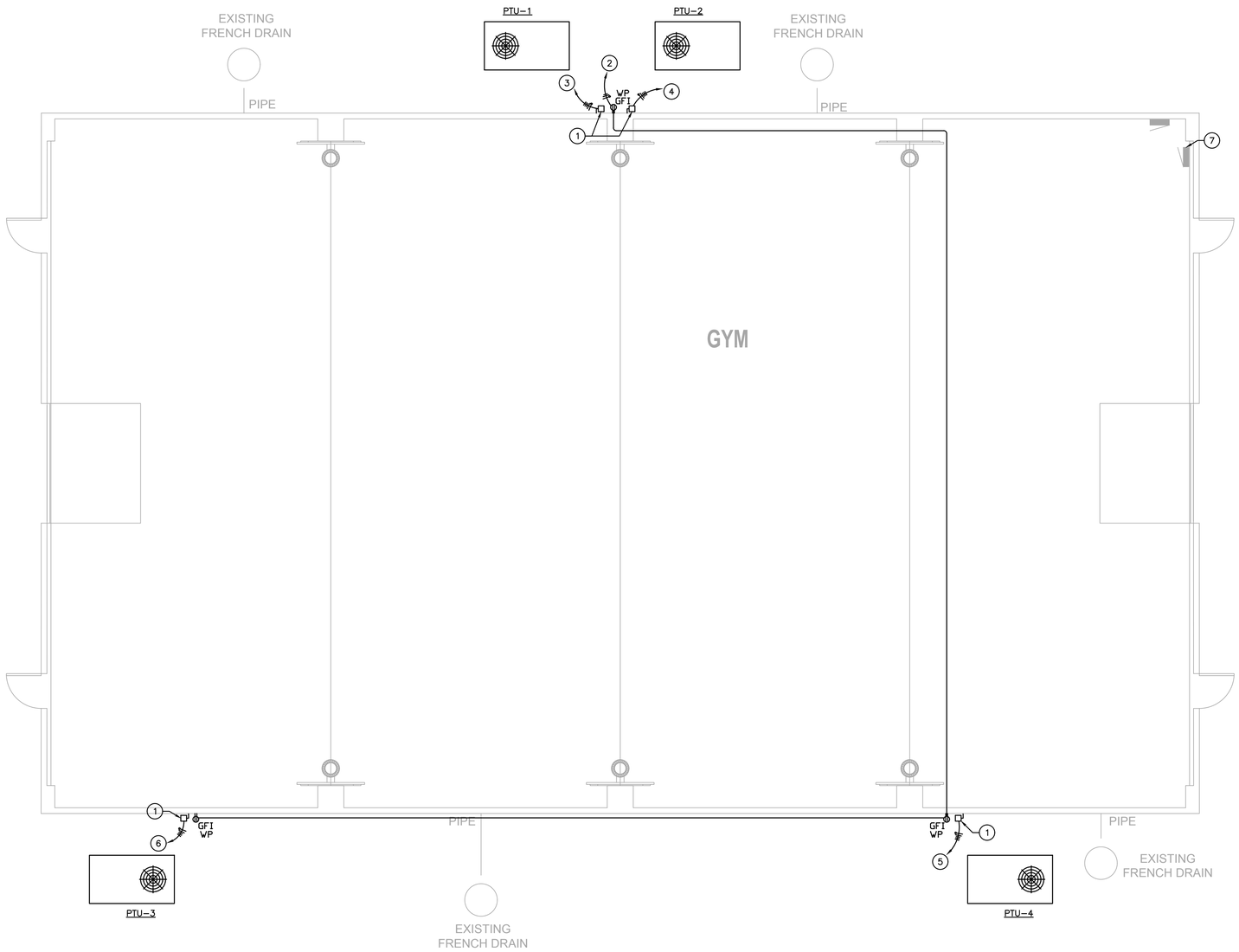
SHEET TITLE: ELECTRICAL DEMOLITION PLAN

SHEET
ED1.0



1 POWER PLAN
3/16" = 1'-0"

GENERAL MECHANICAL CONNECTION NOTES:

A. ALL EQUIPMENT SHALL HAVE A LOCAL DISCONNECTING MEANS, EITHER CORDED PLUG AND RECEPTACLE OR SWITCHED DISCONNECT. VERIFY FROM EQUIPMENT SUBMITTED OR RELOCATED IF DIRECT CONNECT OR RECEPTACLE. IF DIRECT CONNECT, PROVIDE SWITCH AS PER NEC OTHERWISE, PROVIDE RECEPTACLE, CORD PLUG AS REQUIRED BY EQUIPMENT SUBMITTAL.

B. PROVIDE DISCONNECTS (FUSED AND NON-FUSED) FULL RATING OF EQUIPMENT PROTECTED. COORDINATE SIZES WITH EQUIPMENT SUBMITTED.

C. FIRESTOP ALL CONDUIT PENETRATIONS IN RATED WALLS. SEE ARCHITECTURAL FOR WALL RATINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO SHEET ROCK AND REPAIR.

D. PROVIDE NEMA 3R DISCONNECTS FOR ALL EXTERIOR LOCATIONS AND NEMA 1 DISCONNECTS FOR ALL INTERIOR, DRY LOCATIONS.

E. ALL EQUIPMENT CONNECTION POINTS ARE DIAGRAMATIC IN NATURE. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH EQUIPMENT INSTALLER FOR EXACT POINT OF CONNECTION. EXTEND FEEDERS IN CONDUIT AS REQUIRED.

(#) ELECTRICAL KEYED NOTES:

(1) PROVIDE NEW 480V/60A/3P/NF/N3R DISCONNECT.

(2) CONNECT TO EXISTING LOW VOLTAGE PANEL. PROVIDE NEW 20A/1P C.B. IN AVAILABLE SPACE.

(3) CONNECT TO EXISTING HIGH VOLTAGE PANEL. PROVIDE NEW 35A/3P C.B. TO REPLACE EXISTING SPARE 40A/3P C.B. IN PLACE. REUSE ABANDONED CONDUIT/WIRE AND EXTEND CONNECTION TO THIS LOCATION.

(4) CONNECT TO EXISTING HIGH VOLTAGE PANEL. PROVIDE NEW 35A/3P C.B. TO REPLACE EXISTING SPARE 50A/3P C.B. IN PLACE. REUSE ABANDONED CONDUIT/WIRE.

(5) CONNECT TO EXISTING HIGH VOLTAGE PANEL. PROVIDE NEW 35A/3P C.B. TO REPLACE EXISTING SPARE 40A/3P C.B. IN PLACE. REUSE ABANDONED CONDUIT/WIRE AND EXTEND CONNECTION TO THIS LOCATION.

(6) CONNECT TO EXISTING HIGH VOLTAGE PANEL. PROVIDE NEW 35A/3P C.B. TO REPLACE EXISTING SPARE 50A/3P C.B. IN PLACE. REUSE ABANDONED CONDUIT/WIRE AND EXTEND CONNECTION TO THIS LOCATION.

(7) EXISTING HIGH VOLTAGE PANEL TO REMAIN. REPLACE EXISTING 125A/3P MAIN CIRCUIT BREAKER WITH NEW 150A/3P M.C.B. CONTRACTOR TO VERIFY EXISTING FEEDER TO EXISTING HIGH VOLTAGE PANEL CONSISTS OF (4)#1/0 & (1)#6 GND IN 2" CONDUIT.

ELECTRICAL LOAD ANALYSIS - ESCANDON GYM
480˚/ 277˚, 3˚-PHASE, 4 -WIRE

DESCRIPTION	LOAD	DIV.	NEC	KVA
LIGHTING:				
INTERIOR =	3,520	VA X 125%	210.20(a)	4.4
EXTERIOR =	100	VA X 125%	210.20(a)	0.1
POWER:				
RECEPTACLES =	1,080	VA	220.44	1.1
MISCELLANEOUS =	1,800	VA		1.8
HVAC:				
HEATING =	86,424	VA	220.60	86.4
			TOTAL =	93.8
			TOTAL AMPS:	112.9
			SERVICE SIZE:	150.0
			SPARE AMPACITY:	37.1

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STATE OF TEXAS
RENE R. OLIVAREZ
102302
REGISTERED
PROFESSIONAL ENGINEER

12-14-20

PROJECT NAME: DE ESCANDON ELEMENTARY GYM - HVAC REPLACEMENT

PROJECT LOCATION: 1100 E. TRENTON RD, EDINBURG, TX 78542

NO.	DESCRIPTION	DATE

PROJECT NO.:
DRAWN BY: L.J.H.
CHECKED BY: R.O.

SHEET TITLE: POWER PLAN

SHEET
E2.0