

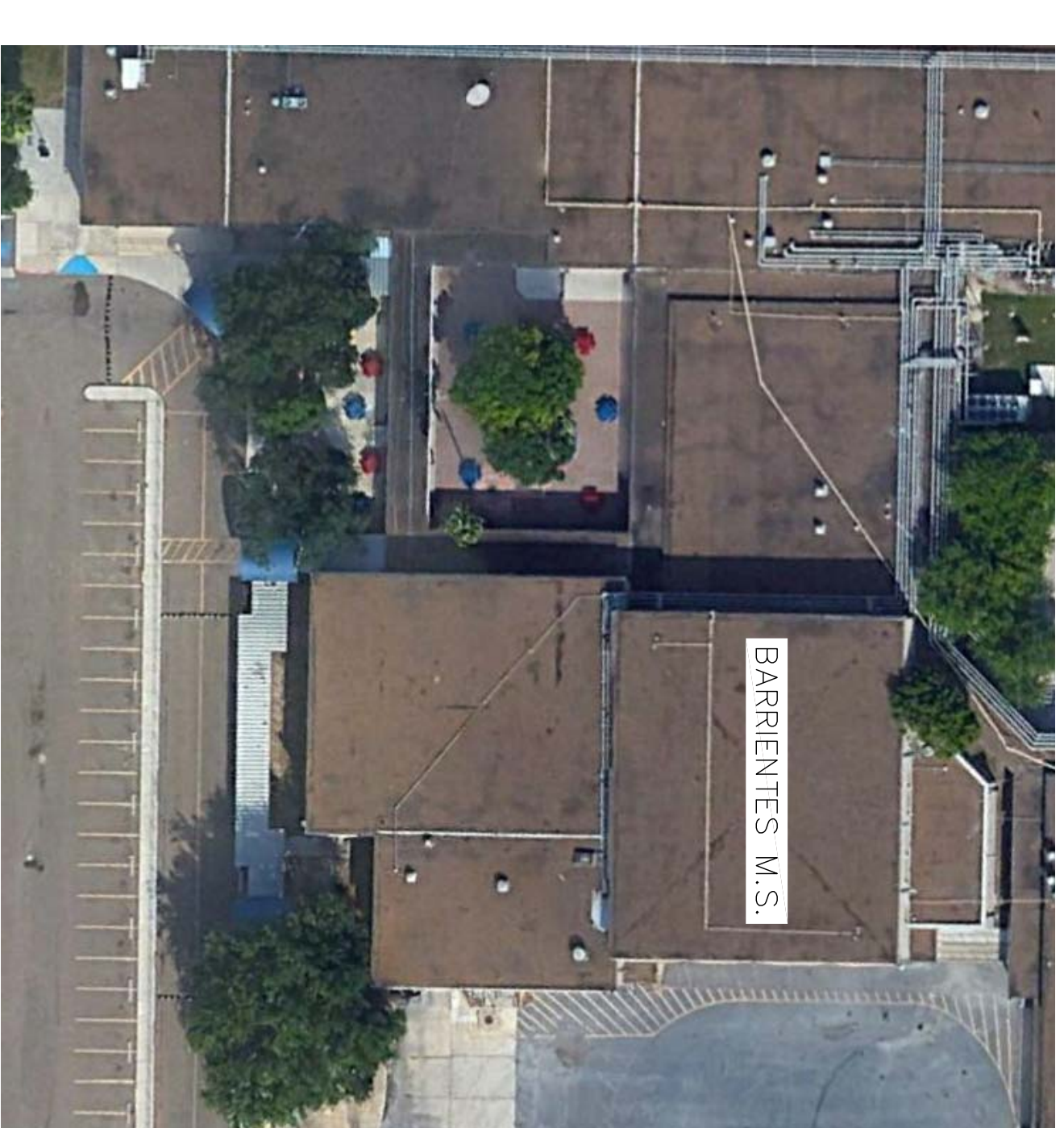
EDINBURG CISD BARRIENTES MIDDLE SCHOOL GYM A/C IMPROVEMENTS

EDINBURG, TEXAS

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1100 E. EBONY LANE, EDINBURG, TX. 78539
VICINITY MAP
NORTH

SCHEDULE OF DRAWINGS

COVER SHEETS

C01 - COVER SHEET

DEMOLITION

DM1 - DEMO MECHANICAL FLOOR PLAN
DET - DEMO ELECTRICAL POWER PLAN

MECHANICAL

M1 - MECHANICAL FLOOR PLAN
M2 - MECHANICAL SCHEDULES
M3 - MECHANICAL DETAILS

ELECTRICAL

E1 - ELECTRICAL POWER FLOOR PLAN
E2 - ABBREVIATIONS SHEET

STRUCTURAL

S1.0 - STRUCTURAL NOTES
S2.0 - REINFORCING PLAN
SD1.0 - REINFORCING DETAILS

JOB NO. 20003
DATE 02/19/2020
REVISIONS
DRAWN BY
ADDENDUM

EDINBURG CISD BARRIENTES MS
GYM A/C IMPROVEMENTS

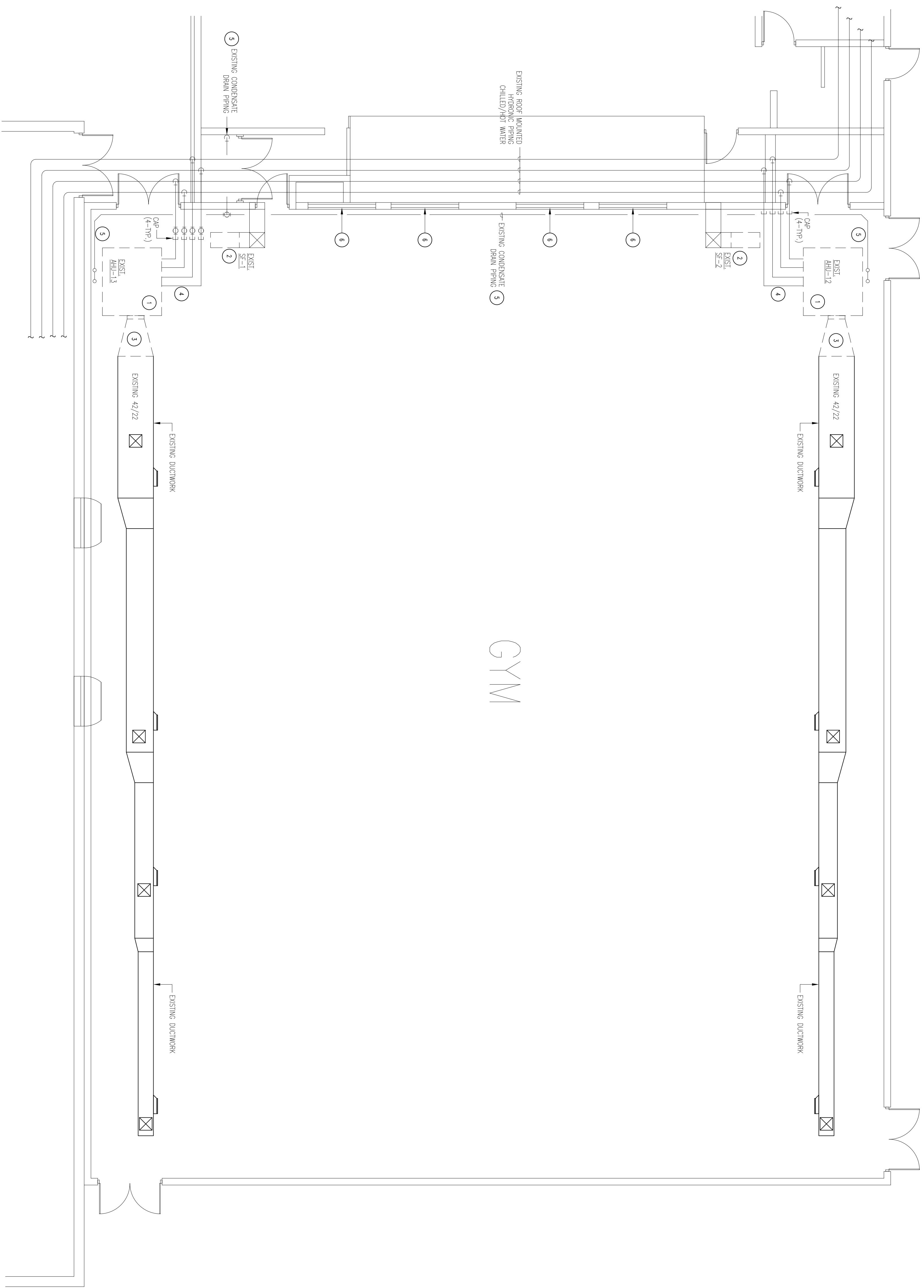
EDINBURG, TEXAS

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SHEET

C01



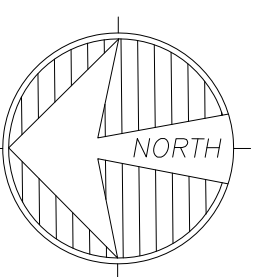
GYM

GENERAL DEMOLITION NOTES:

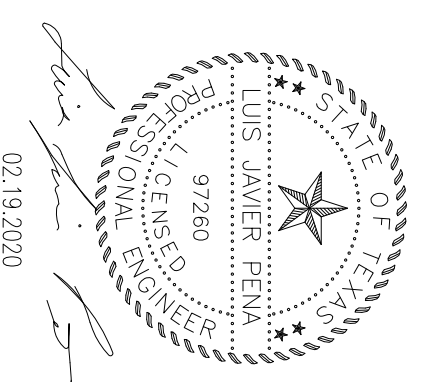
- A. INFORMATION ON THE PLAN HAS BEEN OBTAINED FROM EXISTING DRAWINGS TO WHICH THE CONTRACTOR SHALL REFER. ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND CONSTRUCTION DOCUMENTS SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER AND/OR ARCHITECT.
- B. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COMPLETE THE NECESSARY DEMOLITION. CONTRACTOR SHALL PATCH AND REPAIR ALL BUILDING DAMAGE CREATED BY DEMOLITION WORK. PATCHING SHALL BE COMPLETED WITH THE SAME MATERIALS AS THE SURROUNDING AREAS, OR WITH ARCHITECT APPROVED PATCHING MATERIALS.
- C. ALL OPENINGS CUT IN MASONRY AND PLASTER WALLS OR CONCRETE FLOORS SHALL BE CORE-DILLED OR SAWED WHEN POSSIBLE. CONTRACTOR SHALL CHECK BUILDING CONSTRUCTION WITH STRUCTURAL ENGINEER BEFORE MAKING PENETRATIONS TO AVOID CUTTING THROUGH STRUCTURAL BEAMS AND MEMBERS. CONTRACTOR SHALL INFORM THE ENGINEER IF REWORKING IS NECESSARY. CONTRACTOR SHALL PATCH AND REPAIR ALL DAMAGE TO EXISTING SPECIFICATIONS. PATCH AND SEAL OPENINGS AS REQUIRED BY ARCHITECT. INSTALL DECORATIVE TRIM (EQUIPMENT FRAMES, FRAMING, OR ESCUTCHEONS) AROUND OPENINGS IN FINISHED AREAS. COORDINATE ALL CUTTING AND PATCHING WITH THE OTHER TRADES.
- D. CONTRACTOR SHALL REMOVE AND RELOCATE ANY AND ALL EXISTING EQUIPMENT/MATERIALS TO OWNER SPECIFIED LOCATIONS. OWNER SHALL HAVE FULL RIGHT OF OWNERSHIP UNLESS SPECIFIED OTHERWISE. IF THE OWNER WANTS THIS OPTION, ANY EQUIPMENT, MATERIAL, ETC. SHALL BECOME THE PROPERTY AND RESPONSIBILITY OF THE CONTRACTOR.
- E. EXISTING MECHANICAL EQUIPMENT CHARGED WITH REFRIGERANT AND SCHEDULED FOR REMOVAL OR DEMOLITION SHALL BE DISPOSED OF IN A LEGAL MANNER.

DEMOLITION KEY NOTES:

- 1 REMOVE EXISTING SUSPENDED AIR HANDLING UNIT, ASSOCIATED CONTROLS, CONDENSATE DRAIN LINE, HYDRONIC PIPING, AND SUPPORTS.
- 2 REMOVE EXISTING SUPPLY FAN AND ASSOCIATED DUCTWORK, CAP-OFF DUCT AT WALL AND PAINT TO MATCH ADJACENT INTERIOR DUCTS.
- 3 REMOVE EXISTING TRANSITION SECTION OF DUCTWORK AND PREPARE EXISTING DUCTS FOR CONNECTION ONTO NEW DISTRIBUTION DUCTS. REFER TO MECHANICAL PLAN.
- 4 REMOVE EXISTING HYDRONIC HOT WATER AND CHILLED WATER PIPING SERVING AIR HANDLING UNIT. CAP-OFF WHERE SHOWN ON PLAN.
- 5 REMOVE EXISTING CONDENSATE DRAIN PIPING SERVING EXISTING AIR HANDLING UNITS. VERTICAL RISER SERVICE LOCATED IN MECHANICAL ROOM SHALL REMAIN FOR RECONNECTION ONTO NEW ROOFTOP UNITS. REFER TO MECHANICAL PLAN.
- 6 REMOVE EXISTING WINDOW TO ALLOW FOR INSTALLATION OF NEW DUCTWORK AND NEW WALL ASSEMBLY. REFER TO MECHANICAL PLAN.



A DEMO MECHANICAL FLOOR PLAN
SCALE: 3/16" = 1'-0"



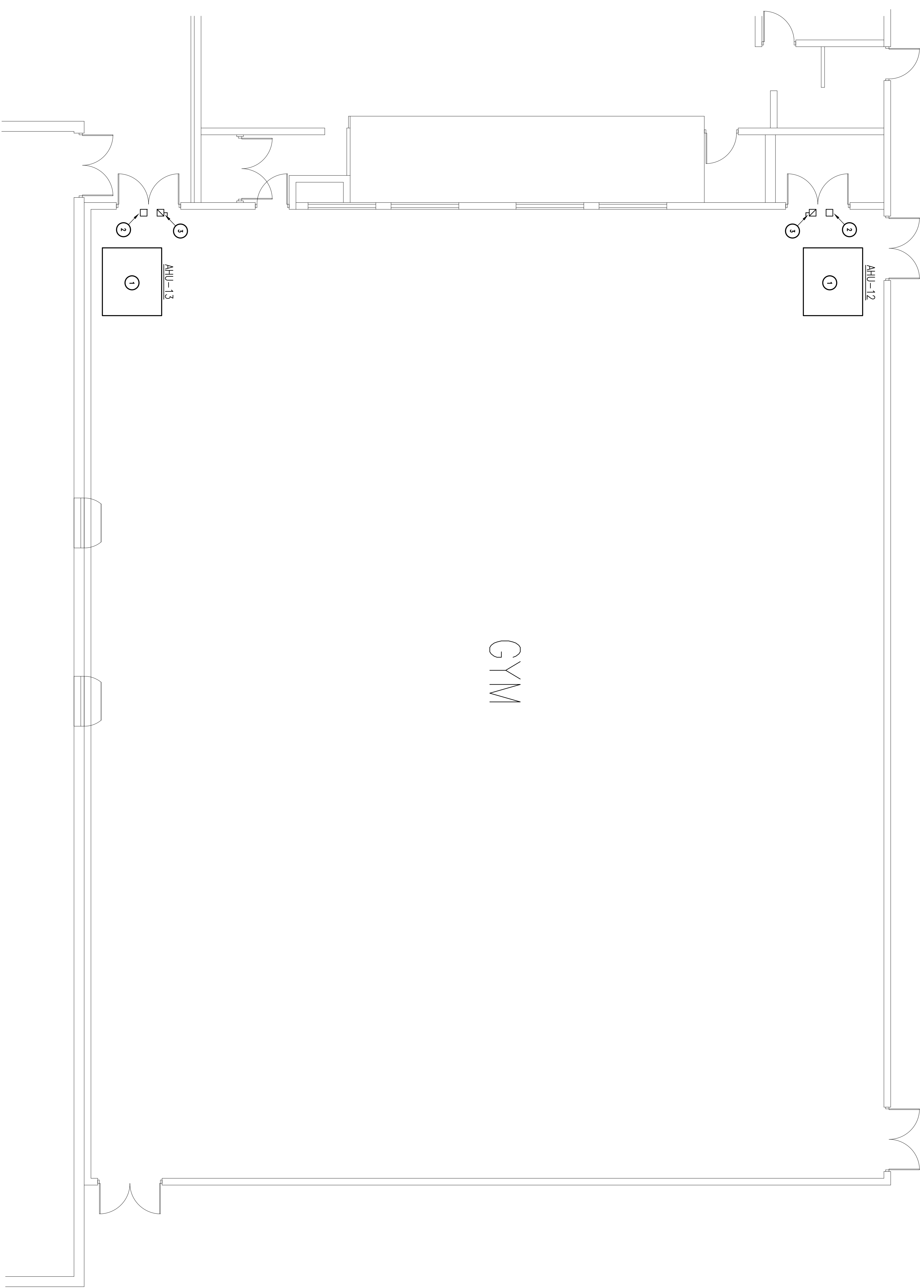
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| DRAWN BY | J.P./T.T. |
| APPENDUM | |

EDINBURG CISD BARRIENTES MS
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SHEET
DM1



GYM

GENERAL DEMOLITION NOTES:

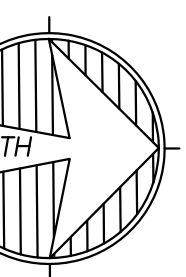
- A. INFORMATION ON THIS PLAN HAS BEEN OBTAINED FROM EXISTING DRAWINGS AND SITE SURVEY. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND DEMOLITION WORK AS DESCRIBED AND DISCREPANCIES BETWEEN EXISTING DRAWINGS AND CONSTRUCTION DOCUMENTS SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER AND/OR ARCHITECT.
- B. THE CONTRACTOR IS FULLY RESPONSIBLE FOR PERFORMING THE DEMOLITION WORK. THE CONTRACTOR SHALL VERIFY ALL DEMOLITION WORK IS COMPLETED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND PLANS ARE NOT IN COMPLIANCE WITH THE APPLICABLE CODES. HE SHALL INFORM THE ARCHITECT PRIOR TO CONSTRUCTION START FOR DIRECTION. FAILURE TO DO SO SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO MEET CODE REQUIREMENTS AND REMARK SHALL BE AT CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES. APPLICABLE CODES AND STANDARDS ON DEMOLITION WORK SHALL INCLUDE HOSE PUBLISHED BY OSHA AND EPA. AN ASBESTOS SURVEY SHALL BE KEPT ON SITE AT ALL TIMES PER TEXAS DEPARTMENT OF HEALTH REQUIREMENTS.
- C. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COMPLETE THE NECESSARY DEMOLITION. CONTRACTOR SHALL PATCH AND REPAIR ALL BUILDING DAMAGE CREATED BY DEMOLITION WORK. PATCHING SHALL BE COMPLETED WITH THE SAME MATERIALS AS THE SURROUNDING AREAS, OR WITH ARCHITECT APPROVED PATCHING MATERIALS.
- D. ALL OPENINGS CUT IN MASONRY AND PLASTER WALLS OR CONCRETE FLOORS SHALL BE REPAIRED TO ORIGINAL CONDITION. CONTRACTOR SHALL CHECK BUILDING CONSTRUCTION WITH STRUCTURAL ENGINEERS BEFORE MAKING PENETRATIONS TO AVOID CUTTING THROUGH STRUCTURAL BEAMS AND REINFORCING. CONTRACTOR SHALL INFORM THE ENGINEER IF REINFORCING IS CUT OR DAMAGED WHILE MAKING OPENINGS AS REQUIRED BY DRAWINGS AND SPECIFICATIONS.
- E. CONTRACTOR SHALL REMOVE AND RETURN ANY AND ALL EXISTING EQUIPMENT/MATERIALS TO OWNER. OWNER SHALL HAVE FULL RIGHT OF ACCESS TO ALL EXISTING EQUIPMENT/MATERIALS. IF THE OWNER WIVES THIS EQUIPMENT/MATERIAL, IT SHALL BECOME THE PROPERTY OF THE CONTRACTOR.
- F. SCHEDULE FOR ALL POWER OUTAGES SHALL BE APPROVED PRIOR TO DEMOLITION.
- G. ON ANY WORK SHOWN ON M.E.P. DRAWINGS WHICH REQUIRES DEMOLITION OF BUILDING STRUCTURES AND FINISHES, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COMPLETE THE NECESSARY DEMOLITION. CONTRACTOR SHALL PATCH AND REPAIR ALL BUILDING DAMAGE CREATED BY DEMOLITION WORK. PATCHING SHALL BE COMPLETED WITH THE SAME MATERIALS AS THE SURROUNDING AREAS, OR WITH ARCHITECT-APPROVED PATCHING MATERIALS.
- H. CONTRACTOR AND OWNER SHALL BE FULLY RESPONSIBLE TO IDENTIFY ANY AND ALL ASBESTOS PRESENT IN THE BUILDING PRIOR TO DEMOLITION AS REQUIRED BY LAW.
- I. COORDINATION AMONG OTHER CONSTRUCTION DISPLINES PRIOR TO DEMOLITION IS MANDATORY.
- J. CONDITIONS IN EXISTING WALLS MAY REMAIN. REMOVE CONDUITORS AND CUT OFF AT CLOSEST ACCESSIBLE POINT ABOVE CEILING.

DEMOLITION KEY NOTES:

- ① EXISTING MECHANICAL EQUIPMENT AND ASSOCIATED ELECTRICAL TO BE REMOVED UP TO DISCONNECT.
- ② EXISTING MFD AND ASSOCIATED ELECTRICAL TO BE REMOVED.
- ③ EXISTING DISCONNECT AND WIRING BACK TO PANEL TO REMAIN.

FIELD VERIFY ALL CONDITIONS

DESIGN DRAWINGS SCHEMATIC. THIS CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING OR BEFORE COMMENCEMENT OF WORK TO VERIFY ALL CONDITIONS AND MATERIALS NECESSARY FOR FIELD MODIFICATIONS DUE TO EXISTING CONDITIONS. THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COSTS TO MEET THE DESIGN INTENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES. APPLICABLE CODES AND STANDARDS ON DEMOLITION WORK SHALL INCLUDE HOSE PUBLISHED BY OSHA AND EPA. AN ASBESTOS SURVEY SHALL BE KEPT ON SITE AT ALL TIMES PER TEXAS DEPARTMENT OF HEALTH REQUIREMENTS.



A DEMO - ELECTRICAL POWER FLOOR PLAN
SCALE: 3/16" = 1'-0"

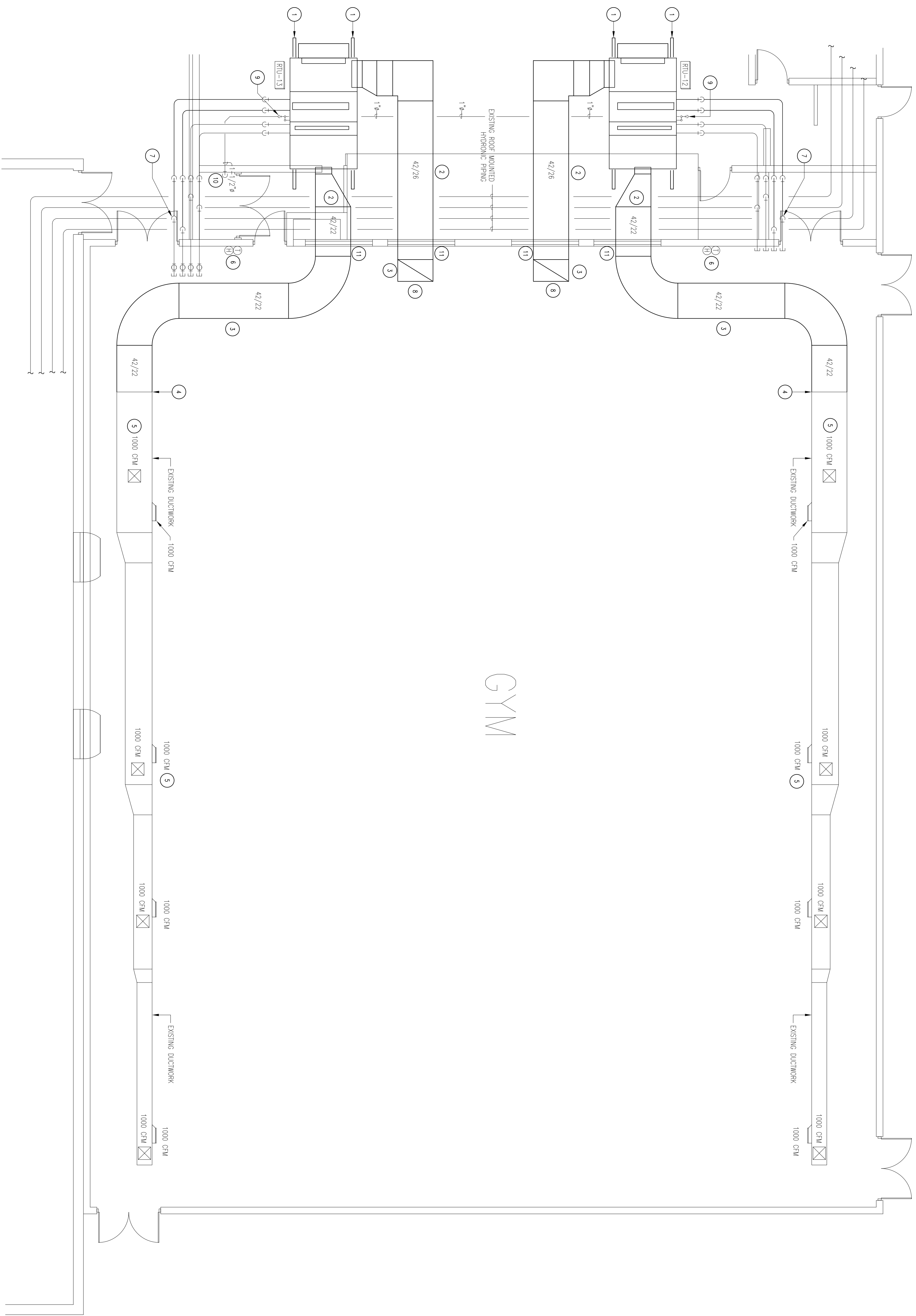


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| ADDENDUM | |

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GYM A/C IMPROVEMENTS
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SHEET
DE1



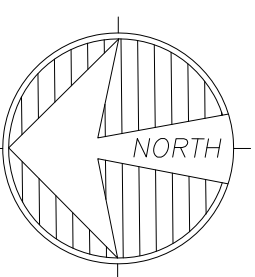
GYM

GENERAL NOTES:

- A. REFER TO SCHEDULE SHEET FOR ADDITIONAL GENERAL MECHANICAL NOTES.
- B. CONTRACTOR SHALL PROVIDE ALL NECESSARY TRANSITIONS FROM MECHANICAL EQUIPMENT TO DUCTS. VERIFY EQUIPMENT OUTLET/AIRLET SIZE WITH SCHEDULE.
- C. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES TO MAINTAIN ACCESS CLEARANCES FOR ALL MECHANICAL EQUIPMENT.
- D. ALL EXPOSED (VISIBLE) DUCT SHALL BE SHEETMETAL SINGLE WALL INTERNALLY LINED PIPE AND SURFACED FOR PAINTING. COLOR SELECTION BY ARCHITECT. (NO EXPOSED FLEX DUCT SHALL BE ALLOWED).
- E. CONTRACTOR SHALL PROVIDE STRUCTURAL SUPPORTS FOR ALL MECHANICAL EQUIPMENT.
- F. CONTRACTOR SHALL COORDINATE ALL ROOF PENETRATIONS AND ROOFING WORK WITH ROOFING CONTRACTOR AS REQUIRED TO MAINTAIN ROOF WARRANTY.
- G. HOT WATER/CHILLED WATER LINES, LOCATED ON EXTERIOR SHALL BE PROVIDED WITH ALUMINUM JACKET OVER INSULATION AND DURELID.
- H. NEW HOT WATER/CHILLED WATER PIPING SHALL BE FLUSHED (CLEANED WITH DETERGENT) AND TREATED WITH CORROSION INHIBITOR PRIOR TO CONNECTION OF HEAT-EXCHANGERS. PROVIDE TEMPORARY PVC CONNECTIONS BETWEEN SUPPLY/RETURN BRANCHES TO ALLOW FLUSHING OF SYSTEM WITHOUT FLOODING OF HEAT-EXCHANGERS.

KEY NOTES:

- 1. NEW ROOFTOP UNIT SHALL BE MOUNTED ON ROOF EQUIPMENT RAILS EQUAL TO FASTENERS MODEL "TOBERG". RAIL SHALL BE 6-INCH WIDE, 10-INCH HEIGHT, AND 15-FEET IN LENGTH. R/U SHALL BE FASTENED TO RAIL.
- 2. EXTERIOR DUCTS SHALL BE SHEETMETAL WITH 2-INCH EXTERNAL FIBROUS GLASS DUCT (LOCTEC BRAND) AND POLYURETHANE FOAM INSULATION. PROVIDE AND INSTALL JACKET FOR VERTICAL AND TOP SIPS OF DUCT AND ALUMINUM LITE FOR THE BOTTOM SIPS. INSTALL PER MANUFACTURER RECOMMENDATIONS.
- 3. EXPOSED DUCT SHALL BE SHEETMETAL SINGLE WALL INTERNALLY LINED PIPE AND SURFACED FOR PAINTING. DUCT SHALL BE PAINTED TO MATCH EXISTING DUCT COLOR.
- 4. POINT OF CONNECT OF NEW DUCTWORK ON/O EXISTING.
- 5. EXISTING AIR DEVICES SHALL BE BALANCED TO THE AIR VOLUMES SHOWN (TYP).
- 6. SPACE TEMPERATURE AND HUMIDITY SENSOR SHALL BE LOCATED 10-FEET ABOVE FINISHED FLOOR. FINISH WITH METAL TAMPER-PROOF ENCLOSURE (LOCK & KEY).
- 7. CONNECT TO EXISTING VERTICAL STEMMENT OF HYDRONIC PIPING (4 TO 1", 2" SERVICE FOR HOT WATER AND 1" SERVICE FOR CHILLED WATER).
- 8. PROVIDE 90-DEGREE WITH DUCT OPENING FROM ROOF. REMAINING DUCT OPENING WITH BROSSACKEN.
- 9. PROVIDE AND INSTALL 1" COPPER CONDENSATE DRAIN LINE WITH P-TRAP (REFER TO DETAIL). DRAIN LINE SHALL BE INSULATED. DRAIN LINE BELOW ROOF LINE AND PROVIDE PIPE HANGER SUPPORTS AT 5-FEET O.C. DRAIN LINE LOCATED ABOVE ROOF SHALL BE FURNISHED WITH ALUMINUM JACKET.
- 10. CONNECT 1-1/2" CONDENSATE DRAIN LINE TO EXISTING CONDENSATE LINE PREVIOUSLY SERVING AIR HANDLING UNITS.
- 11. ROUTE DUCT THROUGH EXISTING WINDOW OPENING. CONSTRUCT NEW WINDOW OPENING WITH 2" MINIMUM CLEARANCE FROM EXISTING WINDOW FRAME (O/J) AND WALL ASSEMBLY DETAIL. PROVIDE WEATHER TIGHT ASSEMBLY.



A MECHANICAL FLOOR PLAN
SCALE: 3/16" = 1'-0"



02.19.2020

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EDINBURG CISD BARRIENTES MS
GYM A/C IMPROVEMENTS
EDINBURG, TEXAS

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SHEET
M1

| MECHANICAL SYMBOLS | | | |
|--------------------|---|--------|--|
| SYMBOL | DESCRIPTION | SYMBOL | DESCRIPTION |
| ① | TEMPERATURE SENSOR | ☒ | EXHAUST AIR DUCT |
| ☒ | SUPPLY AIR DEVICE (SEE SCHEDULE) | ☒ | RETURN AIR DUCT |
| ☒ | RETURN/TRANSFER AIR DEVICE (SEE SCHEDULE) | ☒ | SUPPLY AIR DUCT |
| ☒ | EXHAUST FAN (SEE SCHEDULE) | W/X | DUCT INTERNAL DIMENSIONS (WIDTH/DEPTH) |
| ☒ | RECTANGULAR DUCT TRANSITION | ☒ | ROUND BRANCH DUCT WITH MANUAL BALANCING DAMPER |
| ☒ | ROUND FLEX DUCT | ☒ | ROOF TOP UNIT (SEE SCHEDULE) |
| ⊙ | AVERAGE TEMPERATURE SENSOR | ☒ | THERMOSTAT |

GENERAL MECHANICAL NOTES

- THESE DRAWINGS ARE PREPARATIVE ONLY AND SHALL NOT BE SCALED. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL CONSTRUCTION EFFORTS. PROVIDE ALL NECESSARY OFFSETS AND FITTINGS AS REQUIRED BY FIELD CONDITIONS.
- CONTRACTOR SHALL HANG AND INSTALL ALL DUCTWORK TIGHT WITH THE BUILDING STRUCTURE TO ACCOMMODATE CEILING. CONTRACTOR SHALL COORDINATE INSTALLATION WORK WITH ALL OTHER TRADES. ALL DUCTWORK SHALL BE MODIFIED AS REQUIRED TO FIT AROUND BUILDING STRUCTURES.
- CONTRACTOR SHALL BALANCE ALL AIR DISTRIBUTION SYSTEMS TO ACHIEVE THE AIR VOLUME REQUIREMENTS AS INDICATED. BALANCING SHALL INCLUDE ADJUSTMENT OF ALL MANUAL VOLUME DAMPERS AND INDIVIDUAL DIFFUSER DAMPERS.
- CONTRACTOR SHALL MOUNT ALL THERMOSTATS 48-INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED. COORDINATE THE FINAL LOCATION OF EACH THERMOSTAT WITH ROOM FINISHES. PROVIDE ALL CONTROL VOLUME WIRING FOR THERMOSTAT INSTALLATION.
- CONTRACTOR SHALL COORDINATE THE FINAL LOCATIONS OF ALL CEILING AIR DEVICES WITH LIGHTING INSTALLATIONS AND ARCHITECTURAL CEILING PLANS. AIR DEVICES SHALL BE RELOCATED IF REQUIRED TO AVOID OBSTRUCTION WITH DUCTWORK AND LIGHT FIXTURES.
- PROVIDE SMOKE DETECTORS AND SHUTDOWN CONTROLS ON AIR HANDLING UNITS. SMOKE DETECTORS SHALL BE PROVIDED, INSTALLED, AND WREID FOR SHUTDOWN BY DIVISION 16.

GENERAL ABBREVIATIONS

| ABBREVIATION | DESCRIPTION | ABBREVIATION | DESCRIPTION |
|--------------|----------------------------|--------------|----------------------|
| AFF | ABOVE FINISHED FLOOR | KW | KILOWATTS |
| AHU | AIR HANDLING UNIT | L | LOADER |
| ACCU | AIR COOLED CONDENSING UNIT | MAX | MAXIMUM |
| DB | DRY BULB | MIN | MINIMUM |
| EDH | ELECTRIC DUCT HEATER | NIS | NOT TO SCALE |
| EF | EXHAUST FAN | OPD | OPPOSED BLADE DAMPER |
| FCU | FAN COIL UNIT | S.P. | STATIC PRESSURE |
| FCU | FAN COOLED CONDENSING UNIT | WB | WET BULB |

RTU SCHEDULE

| AIR HANDLING UNIT DESIGNATION | RTU-12 | RTU-13 |
|-------------------------------------|--|--|
| FAN SECTION | | |
| SUPPLY CFM | 8,000 | 8,000 |
| OUTSIDE AIR CFM (MAX) | 1,100 / 1,100 | 1,100 / 1,100 |
| EXTERNAL S.P. (W/G) | 0.6 | 0.6 |
| MOTOR HP | 7.5 | 7.5 |
| MOTOR EFF. | 7.17 | 7.17 |
| DRIVE TYPE | BELT | BELT |
| FAN TYPE | DMD AIRFOIL | DMD AIRFOIL |
| COOLING COIL SECTION | | |
| COIL TYPE | CHILLED WATER | CHILLED WATER |
| TOTAL CAPACITY (MBH) | 312.9 | 312.9 |
| SENSIBLE CAPACITY (MBH) | 219.2 | 219.2 |
| EXTENDING AIR (QB/MBT) | 80/67 | 80/67 |
| LEAVING AIR (QB/MBT) | 55/54 | 55/54 |
| RODS (IN)/FINS PER INCH (MAX) | 5/9 | 5/9 |
| GALLONS PER MINUTE | 60 | 60 |
| WATER PRESSURE DROP (MAX) | 15 | 15 |
| EVAP/WAT (°F) | 44/54 | 44/54 |
| HEATING COIL SECTION | | |
| COIL TYPE | HOT WATER | HOT WATER |
| TOTAL CAPACITY (MBH) | 137.9 | 137.9 |
| EXTENDING AIR (QB/°F) | 75/90 | 75/90 |
| RODS (IN)/FINS PER INCH (MAX) | 1/9 | 1/9 |
| GALLONS PER MINUTE | 22.4 | 22.4 |
| WATER PRESSURE DROP (MAX) | 5 | 5 |
| EVAP/WAT (°F) | 160/147 | 160/147 |
| FILTER SECTION | | |
| FILTER TYPE | 2"-30% STATIC PRESSURE DROP (CLEAN) | 2"-30% STATIC PRESSURE DROP (CLEAN) |
| STATIC PRESSURE DROP (FOR FAN SIZE) | 0.18 | 0.18 |
| OVERALL UNIT | 0.59 | 0.59 |
| VOLTAZ/PHASE | 480/3ø | 480/3ø |
| MAX FACE VELOCITY (FPM) | 500 | 500 |
| MANUFACTURER | DAKWIN | DAKWIN |
| MODEL | 04H07SANC | 04H07SANC |
| UNIT WEIGHT (LBS) | 2,800 | 2,800 |
| REMARKS | 1,2,3,4,5 | 1,2,3,4,5 |

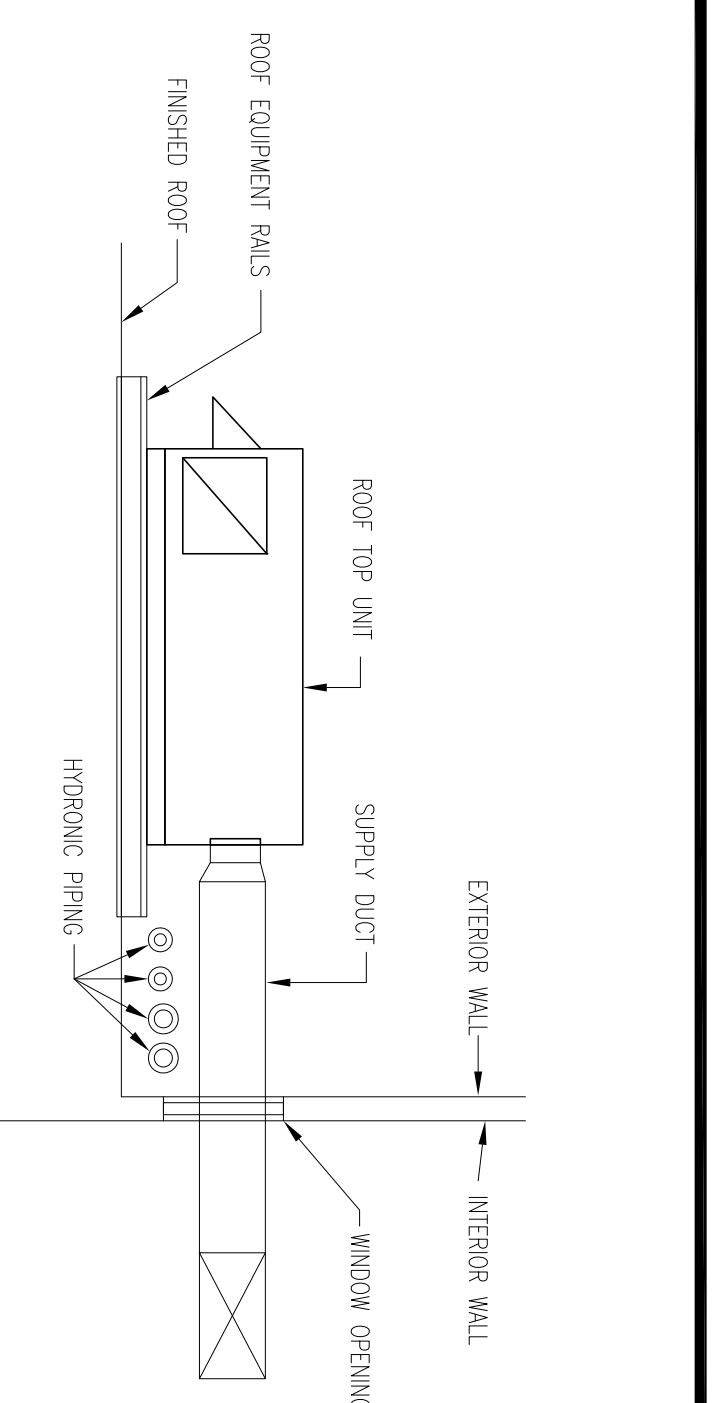
- REMARKS:
- UNIT WEIGHTS WITH MOTORISED DAMPER. CONTRACTOR SHALL PROVIDE ACTUATORS.
 - VFD SHALL BE PROVIDED BY MECHANICAL CONTRACTOR AND WREID BY ELECTRICAL CONTRACTOR (SEE VFD SCHEDULE).
 - REFER TO AHU CONFIGURATION DETAIL FOR UNIT COMPONENTS.
 - PROVIDE STAINLESS STEEL COIL CASING AND DRAIN PAN.
 - 2-WAY CONTROL VALVE APPLICATION FOR BOTH HOT WATER AND CHILLED WATER COILS.

VARIABLE FREQUENCY DRIVE SCHEDULE

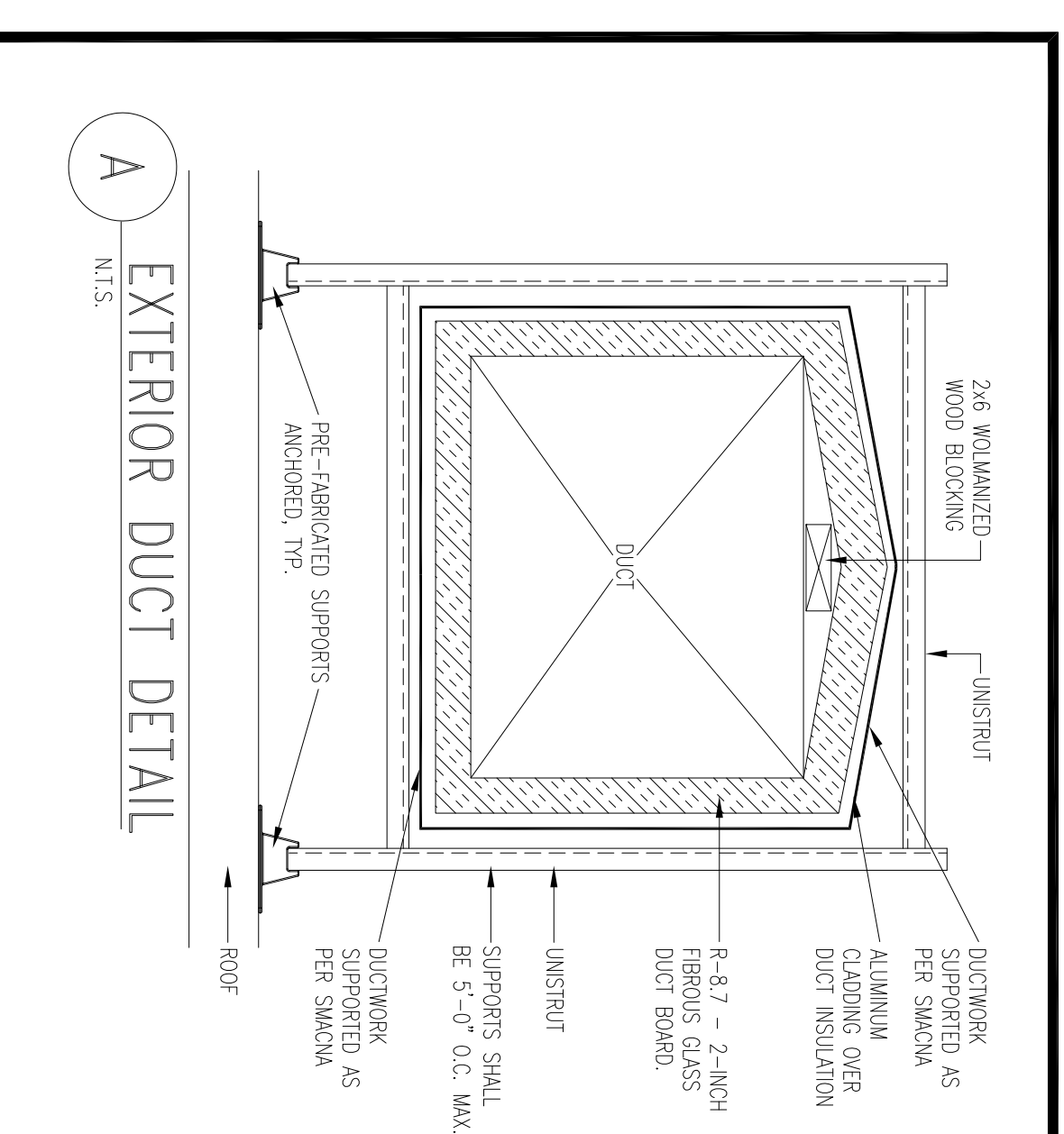
| DESIGNATION | EQUIPMENT TYPE | VFD LOCATION | HP | VOLTAGE | ENCLOSURE | MANUFACTURER | MODEL |
|-------------|----------------|--------------|---------|---------|-----------|--------------|---------------|
| VFD-12 | RTU-12 | FAN | OUTDOOR | 7.5 | 480/3ø | NEMA-3R | YASKAWA Z1000 |
| VFD-13 | RTU-13 | FAN | OUTDOOR | 7.5 | 480/3ø | NEMA-3R | YASKAWA Z1000 |

NOTES:

- EACH VFD SHALL BE PROVIDED WITH DISCONNECT.



B ROOF ELEVATION DETAIL
N.T.S.



A EXTERIOR DUCT DETAIL
N.T.S.



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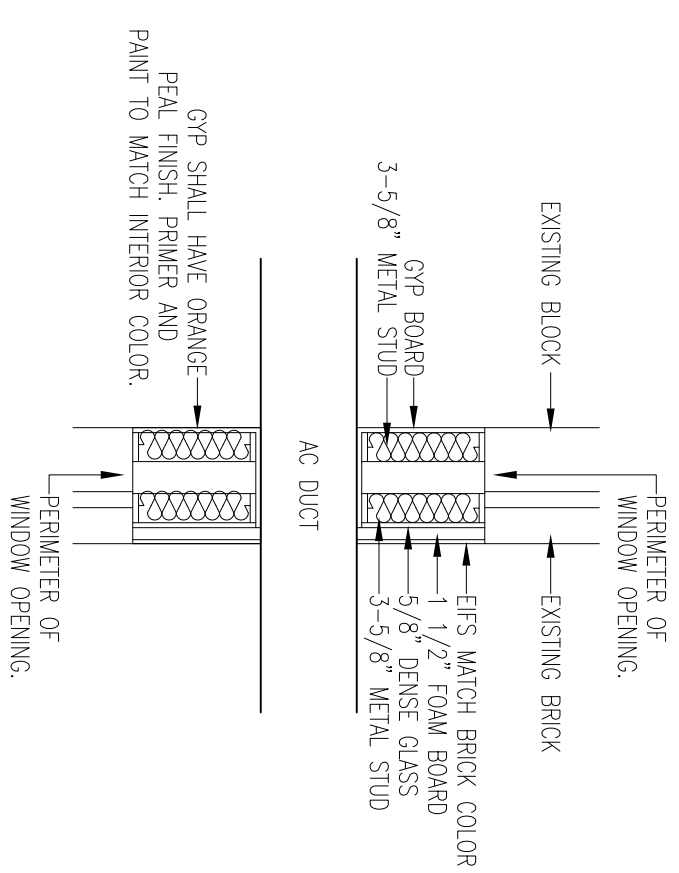
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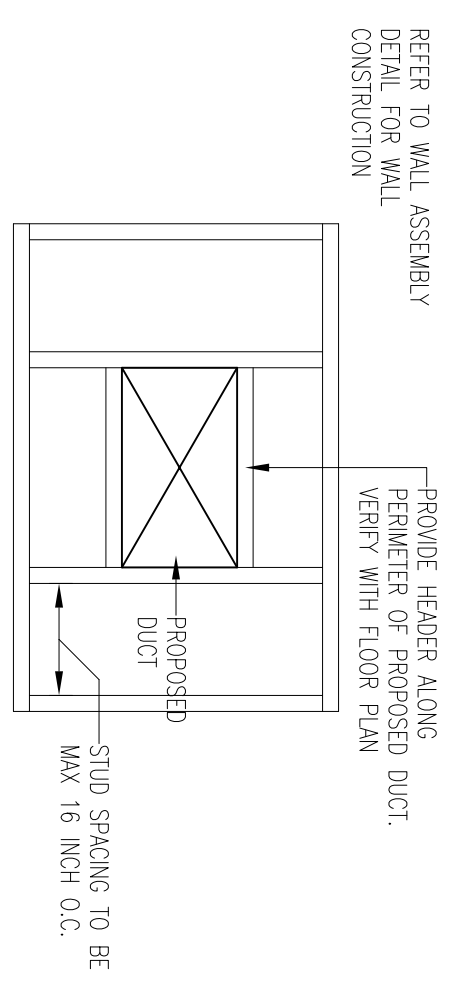
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SHEET

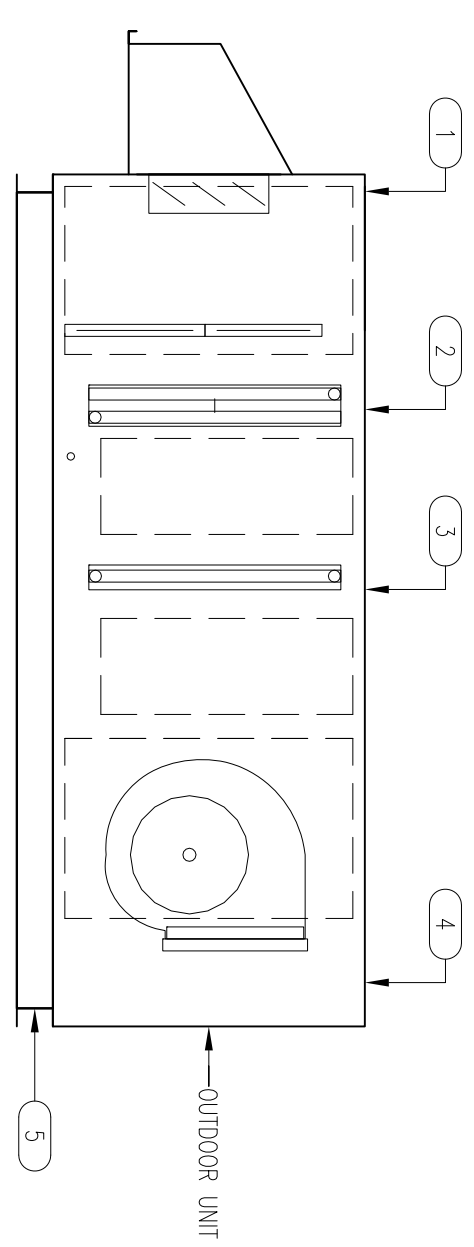
M2



A EXISTING WINDOW WALL ASSEMBLY
SCALE: N.T.S.

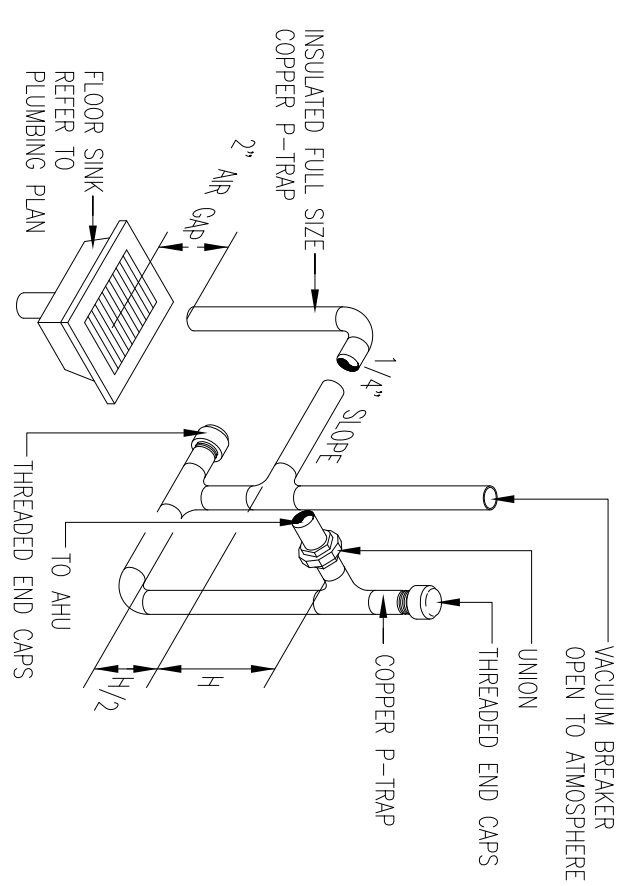


B EXISTING WINDOW OPENING FRAME OUT DETAIL
SCALE: N.T.S.

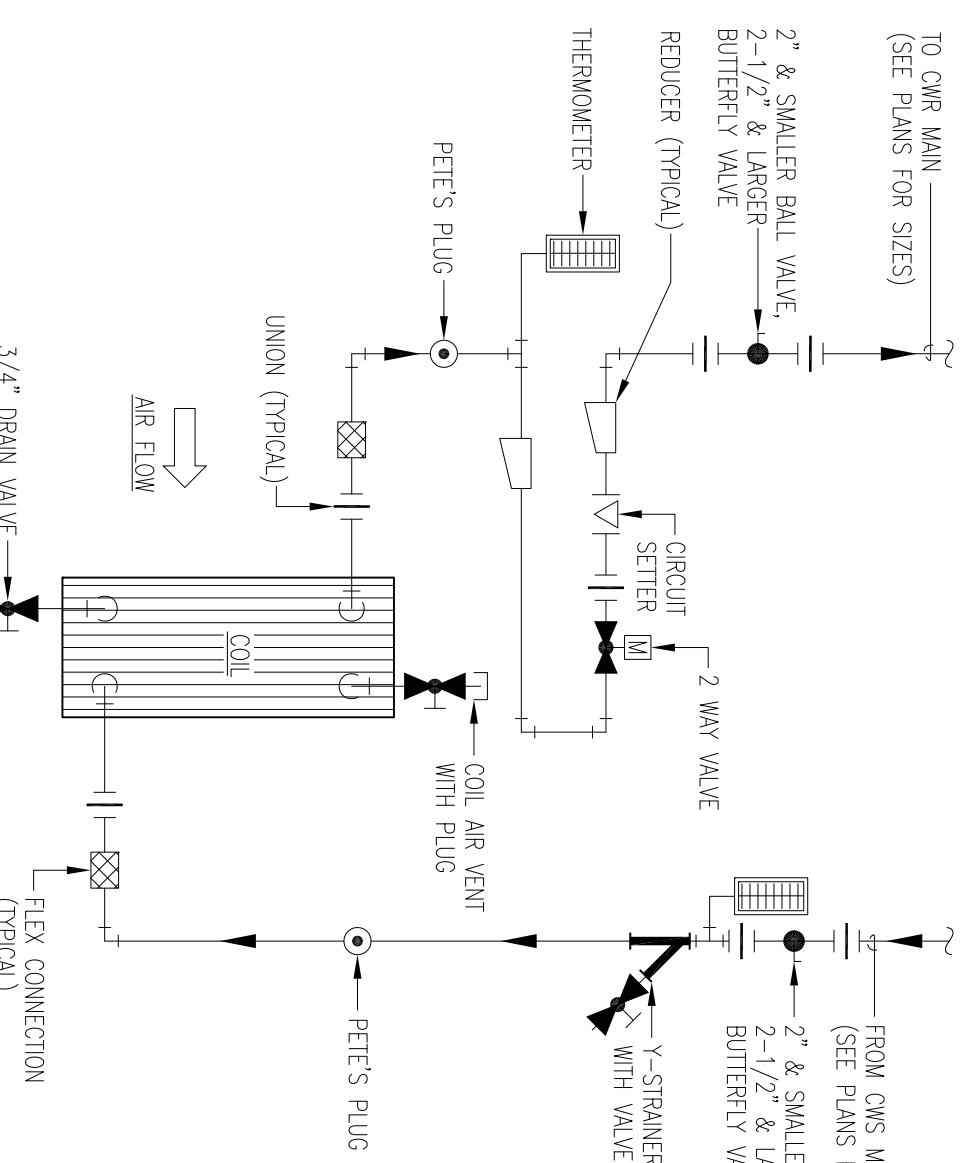


- KEY NOTES:**
- 1) FILTER MIXING BOX SECTION WITH R/A & O/A DAMPERS (SIDE RETURN), O/A HOOD.
 - 2) CHILLED WATER COIL SECTION WITH ACCESS DOOR.
 - 3) HYDRONIC HEATER SECTION WITH ACCESS DOOR.
 - 4) HORIZONTAL FRONT/AST FAN SECTION WITH ACCESS DOOR.
 - 5) BASE RAIL

C AHU CONFIGURATION DETAIL
SCALE: N.T.S. TYPICAL OF RU-12, 13

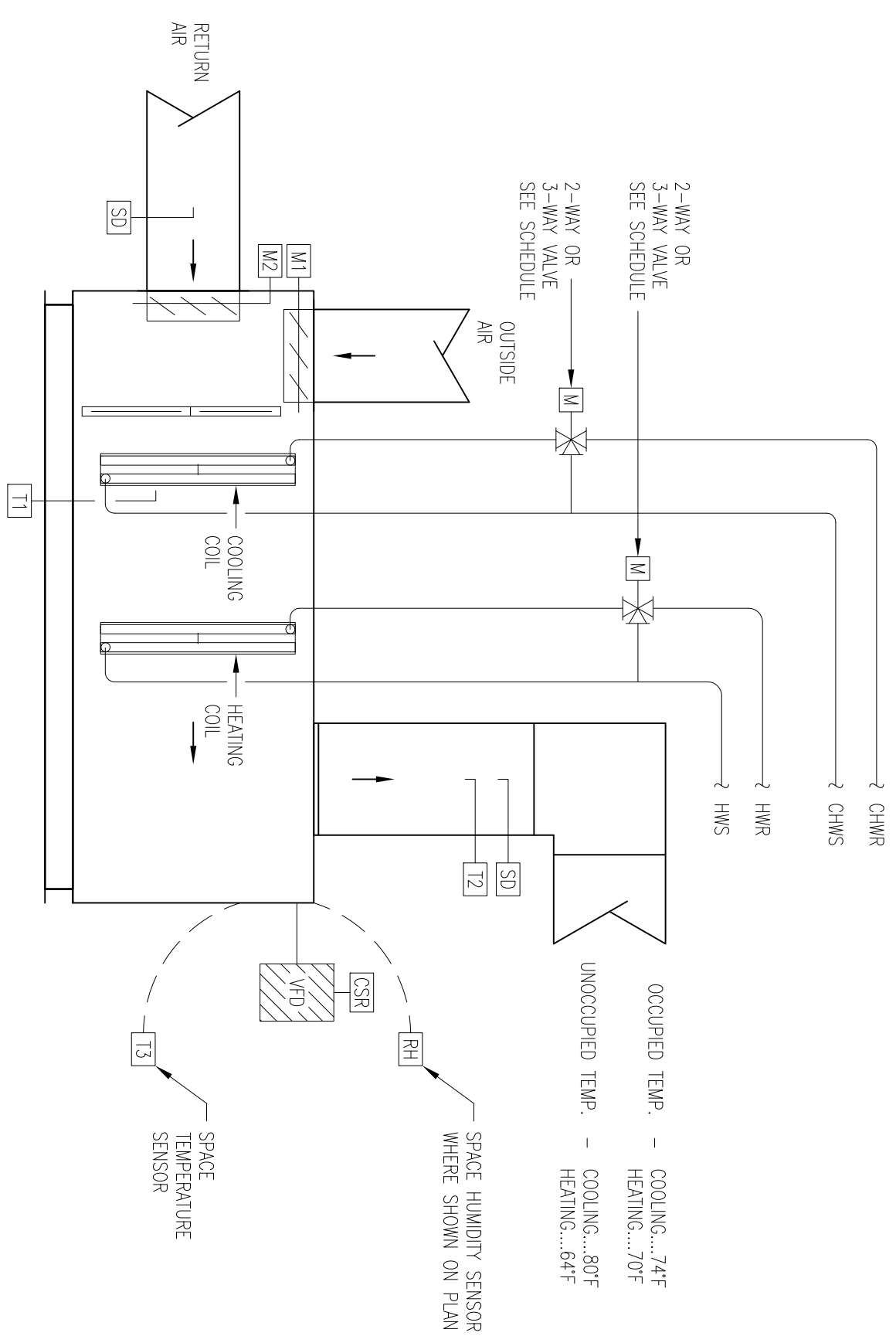


D AHU CONDENSATE P-TRAP DETAIL
SCALE: N.T.S.



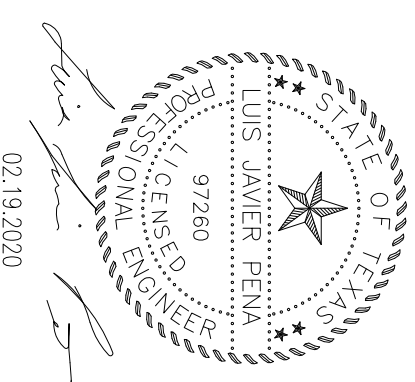
E HYDRONIC WATER COIL DETAIL
SCALE: N.T.S.

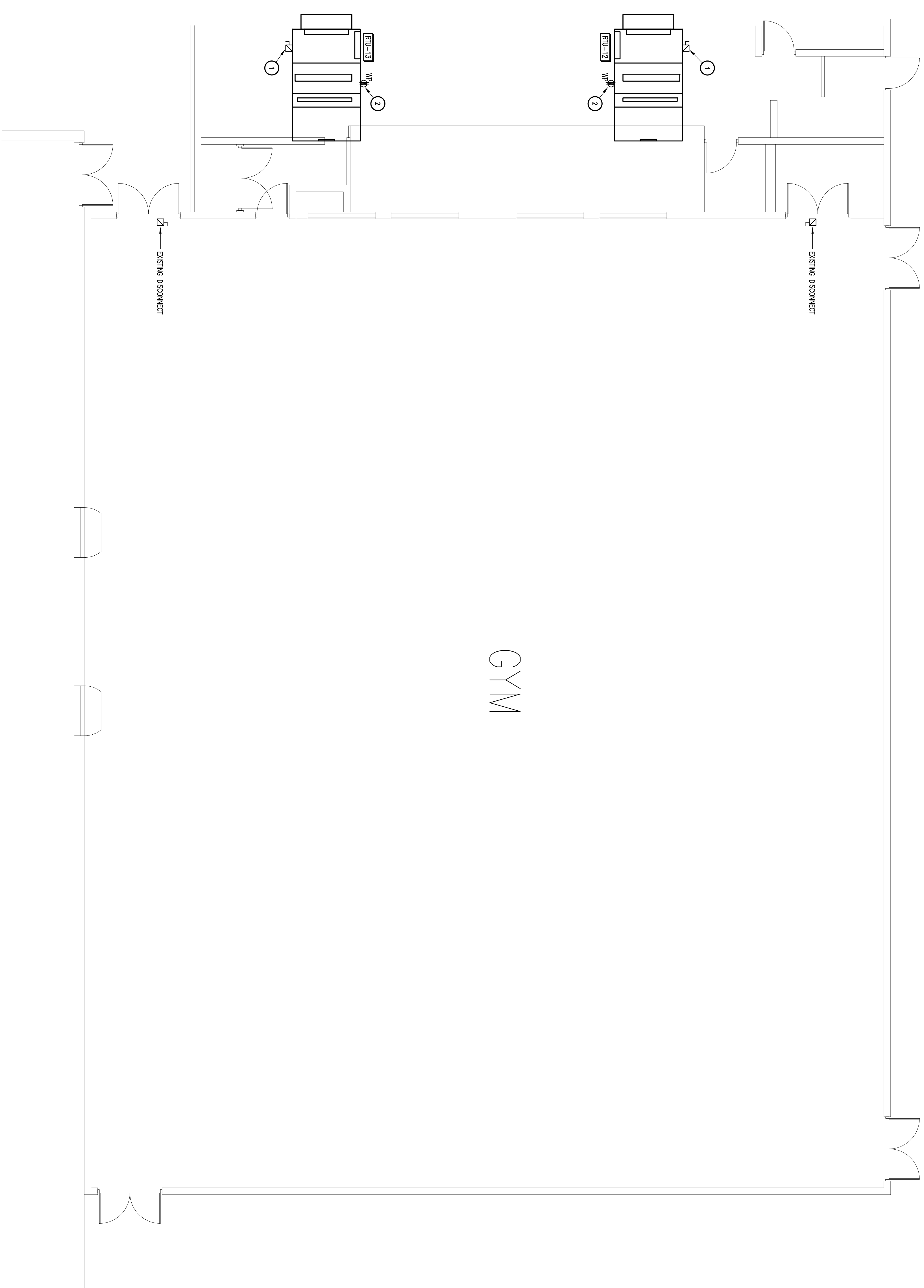
| CONTROL DRAWING SYMBOL LEGEND | | | |
|-------------------------------|-----------------------------|--------|--------------------------|
| SYMBOL | DESCRIPTION | SYMBOL | DESCRIPTION |
| [FANS] | AIRFLOW MONITORING STATION | [M] | MOTORIZED 3-WAY VALVE |
| [CO2] | CARBON DIOXIDE SENSOR | [RH] | RELATIVE HUMIDITY SENSOR |
| [CSR] | CURRENT SENSING RELAY | [SD] | SMOKE DETECTOR |
| [PSPS] | DUCT STATIC PRESSURE SENSOR | [TI] | TEMPERATURE SENSOR |
| [M] | MOTORIZED ACTUATOR | [FSD] | VARIABLE FREQUENCY DRIVE |
| [M] | MOTORIZED 2-WAY VALVE | [<] | AIRFLOW DIRECTION |



F AIR HANDLING UNIT CONTROL DIAGRAM
SCALE: N.T.S. TYPICAL OF: RU-12, 13

- START/STOP CONTROL** - THE EMS (ENERGY MANAGEMENT SYSTEM) SHALL INITIATE START/STOP CONTROL OF THE SYSTEM BY PROGRAMMED SCHEDULE, TIME OVERRIDE, OR OPERATOR OVERRIDE.
- FAN CONTROL** - THE EMS SHALL MONITOR THE FAN STATUS VIA A CURRENT SENSING RELAY. ONCE THE EMS RECEIVES THE ON STATUS FOR THE SUPPLY FAN, THE SPACE TEMPERATURE SENSOR SHALL SIGNAL THE VFD TO INCREASE OR DECREASE FAN SPEED AS REQUIRED TO MAINTAIN SPACE TEMPERATURE SET POINT. VFD SHALL STARTUP AT 40% DESIGN AIR FLOW (MINIMUM FAN SPEED SETPOINT).
- TEMPERATURE CONTROL** - THE COOLING COIL TEMPERATURE SENSOR "T1" SHALL MODULATE THE COOLING COIL VALVE TO MAINTAIN 54°F LEAVING AIR TEMPERATURE. WHEN HEATING IS REQUIRED AS DETERMINED BY SPACE TEMPERATURE SENSOR "T3" VFD SHALL RESET TO 50% AND HYDRONIC HEATING VALVE SHALL MODULATE AS REQUIRED TO MAINTAIN SPACE TEMPERATURE.
- HUMIDITY CONTROL** - HUMIDITY CONTROL SHALL COMMENCE UPON DETECTION OF 60% SPACE RELATIVE HUMIDITY. THE HUMIDITY CONTROL SEQUENCE SHALL RESET THE FAN SPEED TO MINIMUM SETPOINT, AND OPEN THE COOLING COIL VALVE FULL OPEN. UNDER THESE CONDITIONS, THE VFD SHALL INCREASE/DECREASE AS REQUIRED TO MAINTAIN SPACE TEMPERATURE WHILE DEHUMIDIFYING SPACE. HUMIDITY CONTROL SHALL CONTINUE UNTIL RETURN AIR RELATIVE HUMIDITY IS 50%.
- UNOCCUPIED CONTROL** - DURING UNOCCUPIED PERIOD, OUTSIDE AIR DAMPER SHALL BE IN CLOSED POSITION AND RETURN AIR DAMPER SHALL BE FULLY OPEN.
- SHUTDOWN CONTROL** - AHU MOTOR SHALL BE SHUT-OFF UPON DETECTION OF SMOKE BY ANY DUCT MOUNTED SMOKE DETECTOR. DETECTION OF AIR BELOW 35°F BY FREEZE STAT SHALL SIGNAL OUTSIDE AIR DAMPER TO CLOSE AND AHU MOTOR TO SHUT-OFF. FLOAT SWITCH SHALL SIGNAL UNIT TO SHUT OFF.





GYM

GENERAL NOTES: ()

- (A) INFORMATION ON THIS PLAN HAS BEEN OBTAINED FROM EXISTING SITE SURVEY. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO COMMENCING WORK. ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND CONSTRUCTION DOCUMENTS SHALL BE REPORTED TO THE ENGINEER.
- (B) ELECTRICAL CONTRACTOR SHALL VERIFY POINT OF CONNECTION TO UTILITIES PRIOR TO BID TO AVOID CONFLICT. ANY DISCREPANCIES FOUND BY THE CONTRACTOR SHALL BE REPORTED TO THE ENGINEER/ARCHITECT IMMEDIATELY AND PRIOR TO ANY INSTALLATION. FAILURE TO COMPLY SHALL MAKE ALL CORRECTIONS AND/OR MODIFICATIONS THE FULL RESPONSIBILITY OF THE CONTRACTOR.
- (C) ELECTRICAL CONTRACTOR SHALL COORDINATE WITH MECHANICAL CONTRACTOR. ANY RELOCATION OF EXISTING CONDUITS WHICH WILL BE REQUIRED TO ACCOMMODATE NEW DUCT DISTRIBUTION.
- (D) FURNISH AND INSTALL DUCT SMOKE DETECTOR AT SUPPLY & RETURN DUCT.
- (E) ALL NEW FIRE ALARM DEVICES SHALL BE MIND EXISTING FIRE ALARM SYSTEM.

KEY NOTES:

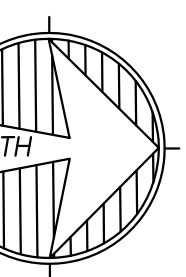
- ① NEW VFD FURNISHED BY MECHANICAL CONTRACTOR AND INSTALLED BY ELECTRICAL CONTRACTOR. ROUTE #12, #12S, 1/2"C TO EXISTING DISCONNECT.
- ② FURNISH AND INSTALL WEATHERPROOF RECEPTACLE ROUTE TO NEAREST RECEPTACLE CIRCUIT. FIELD VERIFY.

FIELD VERIFY ALL CONDITIONS

DESIGN DRAWINGS SPECIFIC. THIS CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING OR AWARD OF CONTRACT TO INSPECT EXISTING FIELD CONDITIONS. THIS VISIT SHALL BE CONDUCTED BY THE CONTRACTOR AND THE ENGINEER. FIELD MODIFICATIONS DUE TO EXISTING CONDITIONS.

THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COSTS TO MEET THE DESIGN INTENT. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND SHALL BE IMPLEMENTED AT CONTRACTOR'S COST.

BIDDING CONTRACTORS SHALL HAVE A WORKING KNOWLEDGE OF LOCAL CODES AND ORDINANCES AND SHALL INCLUDE IN THEIR BIDS THE COSTS FOR ALL WORK INSTALLED IN STRICT ACCORDANCE WITH GOVERNING CODES. THE PLANS SHALL BE CONSIDERED AS THE FINAL DESIGN. ANY APPARENT DISCREPANCIES BETWEEN ARCHITECT/ENGINEER OR OWNER OF WORK AND APPARENT DISCREPANCIES BETWEEN GOVERNING CODES AND DESIGN INTENT.



A
SCALE: 3/16" = 1'-0"
ELECTRICAL POWER FLOOR PLAN



| | |
|-----------|------------|
| JOB NO. | 20003 |
| DATE | 02/19/2020 |
| REVISIONS | |
| DRAWN BY | AD/M.G. |
| ADDENDUM | |

EDINBURG CISD BARRIENTES MS
GYM A/C IMPROVEMENTS

EDINBURG, TEXAS

MEP SOLUTIONS
ENGINEERING
MECHANICAL, ELECTRICAL, PLUMBING ENGINEERS
600 E. BEAUMONT AVE. SUITE 2 McALLEN, TX 78501 (956) 664-2727
TEXAS BOARD OF PROFESSIONAL ENGINEERS REGISTRATION # F-9748

SHEET
E1

ELECTRICAL LEGEND

ALL SYMBOLS SHOWN MAY NOT APPEAR IN ALL DRAWINGS.
SYMBOLS ARE SHOWN SCHEMATIC AND MAY NOT BE TO SCALE.

| SYMBOL | DESCRIPTION | MOUNT. HT. (INO) | SYMBOL | DESCRIPTION | MOUNT. HT. (INO) |
|--------|--|---------------------------|--------|---|------------------|
| | 2x4' LED LIGHT FIXTURE | SEE FX. SCH. (SEE NOTE 1) | | FIRE ALARM SPRINKLER FLOW SWITCH | - |
| | 2x4' LED LIGHT FIXTURE ON EMERGENCY CIRCUIT | SEE FX. SCH. | | FIRE ALARM SPRINKLER TAMPER SWITCH | - |
| | 2x2' LED LIGHT FIXTURE | SEE FX. SCH. | | FIRE ALARM SPRINKLER TAMPER SWITCH | - |
| | 2x2' LED LIGHT FIXTURE ON EMERGENCY CIRCUIT | SEE FX. SCH. | | FIRE ALARM SPRINKLER PRESSURE SWITCH | - |
| | LED STRIP LIGHT | SEE FX. SCH. | | HEAT DETECTOR CEILING OR WALL MOUNTED | 80" AFF |
| | 1 1/4' LED LIGHT FIXTURE | SEE FX. SCH. | | DUCT SMOKE DETECTOR | - |
| | TRACK LIGHT | SEE FX. SCH. | | SMOKE DOOR HOLDER | - |
| | LED FIXTURE CIG. OR WALL MTD. | SEE FX. SCH. | | FIRE ALARM CONTROL PANEL | - |
| | CIG. OR WALL MTD. LED FIXTURE ON EMERGENCY Ckt. | SEE FX. SCH. | | P.A. SPEAKER, CEILING OR WALL MOUNTED | 9" BRG |
| | CIG. OR WALL MTD. LED FIXTURE ON EMERGENCY Ckt. SINGLE OR DOUBLE END. FIRE/EMERGENCY ALARMS AS INDICATED | SEE FX. SCH. | | MICROPHONE OUTLET | - |
| | WALL SWITCH SPST, 20A/120/277V | 9" BRG | | DISCONNECT SWITCH - 30/-/3 INDICATES 30A, 3-POLE, NONFUSED; 30/20/3 INDICATES 30A, 3-POLE, 20A FUSE, CIRCUIT BREAKER DISCONNECT SWITCH - THERMAL MAGNETIC CB IN NEMA 1 ENCL. AMP/POLES AS INDICATED | AS REQD. |
| | DOUBLE POLE TOGGLE SWITCH, 20A/120/277V | 48" AFF | | DISCONNECT SWITCH - 30/20/3 INDICATES 30A, 3-POLE, 20A FUSE | AS REQD. |
| | 3-WAY WALL SWITCH, 20A/120/277V | 48" AFF | | MOTOR STARTER FURR UNO; NUMBER INDICATES NEMA SIZE | AS REQD. |
| | 4-WAY WALL SWITCH, 20A/120/277V | 48" AFF | | COMBINATION MOTOR CONTROLLER/DISCONNECT SWITCH | AS REQD. |
| | WALL DIMMER SWITCH | 48" AFF | | MOTOR | - |
| | KEY OPERATED WALL SWITCH | 48" AFF | | PANELBOARD | - |
| | WALL SWITCH WITH PILOT LIGHT | 48" AFF | | CIRCUIT BREAKER RUN TO PANELBOARD (2 #12, 1 #12A, 1/2C, 20A/1P CB UNO) | - |
| | SINGLE RECEPTACLE - 20A/125V/2P/3W/6 NEMA 5-20R | 15" AFF | | MULTI-POLE DEVICE CIRCUIT NUMBERS | - |
| | DUPEX RECEPTACLE - 20A/125V/2P/3W/6 NEMA 5-20R | 15" AFF | | MOTION DETECTOR, CEILING OR WALL MOUNTED | - |
| | DUPEX RECEPTACLE - 20A/125V/2P/3W/6 NEMA 5-20R | 15" AFF | | DOOR HOLDER - REFER TO ARCHITECTURAL DOOR SCHEDULE FOR DOOR ROUGH-IN REQUIREMENTS. | - |
| | DUPEX RECEPTACLE ON EMERGENCY CIRCUIT | 15" AFF | | CHIME/STROKE | 80" AFF |
| | FLOOR MOUNTED DUPEX RECEPTACLE - FLUSH MOUNTED UNO | - | | BELL/RING | 48" AFF |
| | SPECIAL PURPOSE RECEPTACLE (NEMA NO. AS INDICATED) | 15" AFF | | GLASS BREAK MOTION SENSOR | - |
| | JUNCTION BOX - SIZE & MOUNTING AS REQUIRED | AS REQD. | | DOOR CONTACTS | - |
| | MULTIOUTLET ASSEMBLY - LENGTH AND OUTLET SPACING AS NOTED | AS NOTED | | KEYPAD | 48" AFF |
| | TELEPHONE/DATA OUTLET - WALL MOUNTED - STUB 1" C. ABOVE CEILING FROM OUTLET BOX | 15" AFF | | CAMERA | - |
| | FLOOR MOUNTED DATA/TELEPHONE OUTLET - FLUSH MOUNTED UNO | - | | CARD READER REFER TO DESCRIPTION IN DOOR HARDWARE SPECIFICATION SECTION FOR ELECTRICAL ABBREVIATIONS | 48" AFF |
| | TELEVISION OUTLET, CIG. OR WALL MOUNTED - STUB 3/4" C. ABOVE CEILING FROM OUTLET BOX | 15" AFF | | | |
| | PUSHBUTTON | 48" AFF | | | |
| | CLOCK HANGER OUTLET 15A/125V/2P/3W/6 RECEPTACLE | 96" AFF | | | |
| | WIRELESS ACCESS POINT | - | | | |
| | FIRE ALARM PULL STATION | 48" AFF | | | |
| | FIRE ALARM AUDIBLE SIGNAL | 80" AFF | | | |
| | FIRE ALARM AUDIBLE SIGNAL | 80" AFF | | | |
| | FIRE ALARM VISUAL SIGNAL | 80" AFF | | | |
| | FIRE ALARM VISUAL SIGNAL | 80" AFF | | | |
| | SPEAKER VOICE EVAC SYSTEM | 80" AFF | | | |
| | FIRE ALARM AUDIBLE SIGNAL-LOW FREQUENCY | 80" AFF | | | |
| | FIRE ALARM AUDIBLE SIGNAL-LOW FREQUENCY | 80" AFF | | | |
| | VOICE EVAC SYSTEM | - | | | |

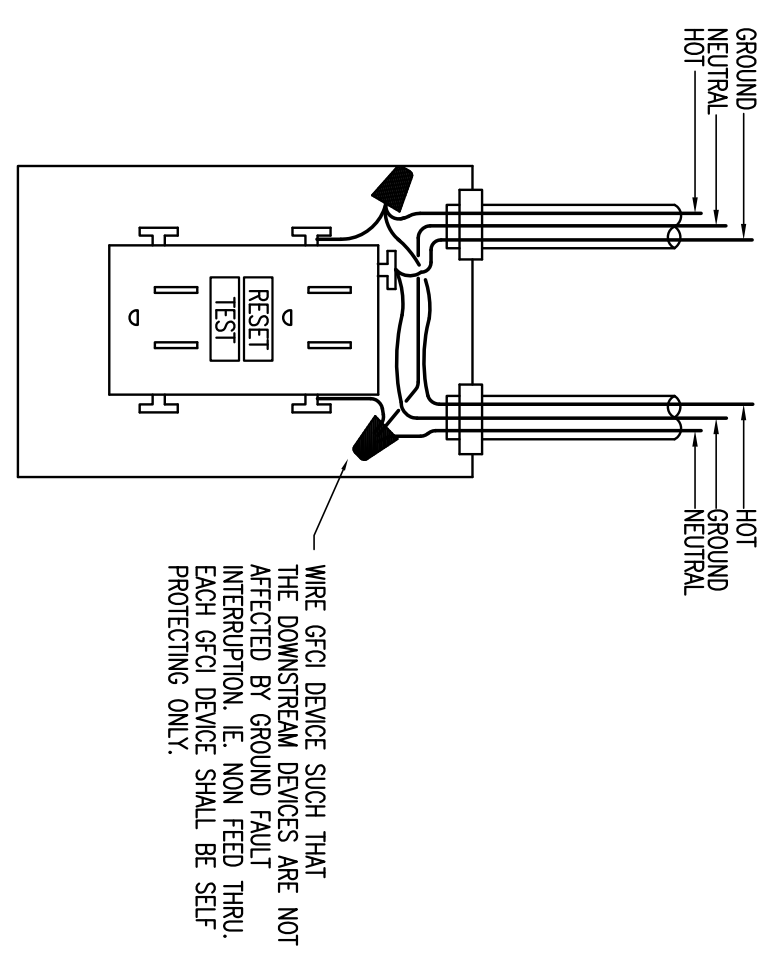
| | | | |
|-----------|--------------------------|-----------|-----------------------------|
| AFF | ABOVE FINISHED FLOOR | NI | NIGHT LIGHT |
| BFC | BELOW FINISHED CEILING | NO (N.O.) | NORMALLY OPEN RECEPTACLE(S) |
| C | CONDUIT | RPT(S) | RECEPTACLE(S) |
| CB | CIRCUIT BREAKER | PNL | PANEL |
| EC | EMPTY CONDUIT | SO (S.O.) | SPACE ONLY |
| EX | EXISTING | SP | SPARE |
| F | FUSE | ST (S.T.) | SHUNT TRIP |
| G | GROUND (EQUIPMENT) | SW | SWITCH |
| GH | GROUND FAULT INTERRUPTER | UF | UNDERLOOR |
| IC | INTERTRIPPING CAPACITY | UNQ(UNO.) | UNDERGROUND |
| ILD | ISOLATED GROUND | WG | WIRE GUARD |
| MC (N.C.) | NORMALLY CLOSED | WP | WEATHERPROOF |
| MF | NONFUSED | XTHR | TRANSFORMER |
| NIC | NOT IN CONTRACT | | |

A ELECTRICAL LEGEND

SCALE: N.T.S.

B GFCI RECEPTACLE - WIRING DIAGRAM

SCALE: N.T.S.



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| JOB NO. | 20003 |
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| DRAWN BY | AD/M.G. |
| ADDENDUM | |

EDINBURG CISD BARRIENTES MS
GYM A/C IMPROVEMENTS

EDINBURG, TEXAS

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TEXAS BOARD OF PROFESSIONAL ENGINEERS REGISTRATION # F-9748



Abraham L. Dominguez
02.19.2020

GENERAL NOTES

GENERAL

- THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS FULLY COMPLETED. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE AND TO INSURE THE SAFETY OF THE BUILDING AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, SHEETING, TEMPORARY BRACING, GUYS OR TIE DOWNS WHICH MIGHT BE NECESSARY. SUCH MATERIAL SHALL REMAIN THE CONTRACTOR'S PROPERTY AFTER THE COMPLETION OF THE PROJECT.
- IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION.
- EQUIPMENT FRAMING LOADS, OPENINGS AND STRUCTURE IN ANY WAY RELATED TO HVAC, PLUMBING, OR ELECTRICAL REQUIREMENTS ARE SHOWN FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL OBTAIN APPROVAL OF THE INVOLVED TRADES BEFORE PROCEEDING WITH SUCH PORTION OF THE WORK. EXCESS COST RELATED TO VARIATION IN THESE REQUIREMENTS TO BE BORNE BY THE APPROPRIATE CONTRACTOR.
- SHOULD ANY OF THE DETAILED INSTRUCTIONS SHOWN ON THE PLANS CONFLICT WITH THESE STRUCTURAL NOTES, THE SPECIFICATIONS, OR WITH EACH OTHER, THE STRICTEST PROVISION SHALL GOVERN.
- REFER TO THE ARCHITECTURAL, MECHANICAL ELECTRICAL AND PLUMBING FOR SLEEVES, CURBS, INSERTS, ETC. NOT SHOWN ON STRUCTURAL DRAWINGS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES AND SHALL CHECK ALL DIMENSIONS. ANY DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE ARCHITECT AND BE RESOLVED BEFORE PROCEEDING WITH ANY WORK.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL EXCAVATION PROCEDURES INCLUDING LAGGING, SHORING AND PROTECTION OF ADJACENT PROPERTY, STRUCTURES, STREETS AND UTILITIES IN ACCORDANCE WITH ALL NATIONAL, STATE, AND LOCAL SAFETY ORDINANCES.
- THE STRUCTURAL INTEGRITY OF ANY BUILDING RELIES ON THE FULL INTERACTION OF ALL ITS COMPONENT PARTS, WITH NO PROVISIONS MADE FOR CONDITIONS AND/OR SEQUENCES OF CONSTRUCTION AND THE STRUCTURAL DESIGN IS BASED ON THIS PREMISE. THEREFORE THE CONTRACTOR SHALL PROVIDE ADEQUATE BRACING OF SUPERSTRUCTURED DURING CONSTRUCTION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR RIGID BRACING OF ALL WALLS, FORMWORK, SHORING AND FALSE WORK DURING CONSTRUCTION.
- CONTRACTOR SHALL VERIFY ALL DROPS, OFFSETS, BLOCKOUTS, FINISHES, AND DIMENSIONS, WITH ARCHITECTURAL PLANS PRIOR TO PROJECT LAYOUT.
- THE USE OF REPRODUCTION OF THESE CONTRACT DRAWINGS BY ANY CONTRACTOR, ERECTOR, FABRICATOR OR MATERIAL SUPPLIER IN LIEU OF PREPARATION OF SHOP DRAWINGS SIGNIFIES HIS ACCEPTANCE OF ALL INFORMATION SHOWN HEREON AS CORRECT, AND OBLIGATES HIMSELF TO ANY JOB EXPENSE, REAL OR IMPLIED, DUE TO ANY ERRORS THAT MAY OCCUR.
- CONTRACTOR IS RESPONSIBLE FOR ALL METHODS AND PROCEDURES DURING CONSTRUCTION. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO MAINTAIN INTEGRITY OF STRUCTURE DURING CONSTRUCTION.
- ALL MATERIAL AND WORKMANSHIP SHALL COMPLY WITH THE DRAWINGS, SPECIFICATIONS AND REFERENCE CODE.
- STRUCTURAL MEMBERS HAVE BEEN LOCATED AND DESIGNED TO ACCOMMODATE THE MECHANICAL EQUIPMENT AND OPENINGS SPECIFIED BY THE MECHANICAL CONSULTANT. ANY SUBSTITUTIONS RESULTING IN REVISIONS TO THE STRUCTURE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE STRUCTURAL ENGINEER.
- THE GENERAL CONTRACTOR AND SUBCONTRACTORS SHALL DETERMINE THE SCOPE OF THE STRUCTURAL WORK FROM THE CONTRACT DOCUMENTS TAKEN AS A WHOLE INCLUDING ARCHITECTURAL AND MECHANICAL DRAWINGS. THE STRUCTURAL SHALL NOT BE CONSIDERED SEPARATELY FOR THE PURPOSES OF BIDDING THE STRUCTURAL WORK. CONTRACTOR SHALL REVIEW THE ENTIRE DRAWING PACKAGE IN ORDER TO DETERMINE THE SCOPE OF STRUCTURAL WORK INCLUDING NECESSARY COORDINATION SHOWN IN OTHER CONSULTANT DRAWINGS.
- NOTED SCALES ARE FOR INFORMATIONAL PURPOSES ONLY. CONTRACTOR SHALL NOT SCALE THE DRAWINGS FOR THE PURPOSE OF DETERMINING DIMENSIONAL INFORMATION.
- ANY ALTERNATES ACCEPTED BY THE OWNER, GENERAL CONTRACTOR OR SUBCONTRACTOR SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO COORDINATE.
- PRINCIPAL OPENINGS ARE INDICATED ON THE STRUCTURAL DRAWINGS. OTHER OPENINGS (SLEEVES, BLOCKOUTS, ETC.) ARE SHOWN IN THE ARCHITECTURAL AND MECHANICAL DRAWINGS. CONTRACTOR SHALL SUBMIT TO ARCHITECT AND ENGINEER A PLAN WITH ALL PROPOSED OPENINGS COORDINATED WITH ALL THE TRADES. ADDITIONAL REINFORCEMENT AND/OR STRUCTURAL MEMBERS MAY BE REQUIRED UPON REVIEW.

COORDINATION

- ONLY LARGER SLEEVE OPENINGS AND FRAMED OPENINGS IN STRUCTURAL FRAMING COMPONENT MEMBERS ARE INDICATED ON THE STRUCTURAL DRAWINGS. HOWEVER, ALL SLEEVES, INSERTS AND OPENINGS, INCLUDING FRAMES AND/OR SLEEVES SHALL BE PROVIDED FOR PASSAGE, PROVISION AND/OR INCORPORATION OF THE WORK OF THE CONTRACT, INCLUDING BUT NOT LIMITED TO ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING WORK. THIS WORK SHALL INCLUDE THE COORDINATION OF SIZES, ALIGNMENT, DIMENSIONS, POSITION, LOCATIONS, ELEVATIONS AND GRADES AS REQUIRED TO SERVE THE INTENDED PURPOSE. OPENINGS NOT INDICATED ON THE STRUCTURAL DRAWINGS, BUT REQUIRED AS NOTED ABOVE, SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.
- REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR FLOOR ELEVATIONS, SLOPES, DRAINS AND LOCATION OF DEPRESSED AND ELEVATED FLOOR AREAS.
- COMPABILITY OF THE STRUCTURE AND PROVISIONS FOR BUILDING EQUIPMENT SUPPORTED ON OR FROM STRUCTURAL COMPONENTS SHALL BE VERIFIED AS TO SIZE, DIMENSIONS, CLEARANCES, ACCESSIBILITY, WEIGHTS AND REACTION WITH THE EQUIPMENT FOR WHICH THE STRUCTURE HAS BEEN DESIGNED PRIOR TO SUBMISSION OF SHOP DRAWINGS AND DATA FOR EACH PIECE OF EQUIPMENT AND FOR STRUCTURAL COMPONENTS. DIFFERENCES SHALL BE NOTED ON THE SUBMITTALS.
- SHOP DRAWINGS SHALL BE PREPARED FOR ALL STRUCTURAL ITEMS AND SUBMITTED FOR REVIEW BY THE ENGINEER. CONTRACT DRAWINGS SHALL NOT BE REPRODUCED AND USED AS SHOP DRAWINGS. ALL ITEMS DEVIATING FROM THE CONTRACT DRAWINGS OR FROM PREVIOUSLY SUBMITTED SHOP DRAWINGS SHALL BE CLOUDED.
- THE DETAILS DESIGNATED AS "TYPICAL DETAILS" APPLY GENERALLY TO THE DRAWINGS IN ALL AREAS WHERE CONDITIONS ARE SIMILAR TO THOSE DESCRIBED IN THE DETAILS.
- THE DESIGN AND PROVISION OF ALL TEMPORARY SUPPORTS SUCH AS GUYS, BRACES, FALSEWORK, SUPPORTS AND ANCHORS FOR SAFETY LINES, CRIBBING, OR ANY OTHER TEMPORARY ELEMENTS REQUIRED FOR THE EXECUTION OF THE CONTRACT ARE NOT INCLUDED IN THESE DRAWINGS AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. TEMPORARY SUPPORTS SHALL NOT RESULT IN THE OVERSTRESS OR DAMAGE OF THE ELEMENTS TO BE BRACED NOR ANY ELEMENTS USED AS BRACE SUPPORTS.

CODES

- BUILDING CODE: 2012 INTERNATIONAL BUILDING CODE WITH CITY OF EDINBURG, TEXAS AMENDMENTS.
- STRUCTURAL CONCRETE: BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE, AMERICAN CONCRETE INSTITUTE, ACI 318.
- STRUCTURAL STEEL: MANUAL OF STEEL CONSTRUCTION, ALLOWABLE STRESS DESIGN, AMERICAN INSTITUTE OF STEEL CONSTRUCTION, NINTH EDITION.
- ASCE 7-05

DESIGN CRITERIA

- FRAMING DESIGN IS IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE 2012.

WELDING

- REFERENCES:
AWS D1.1-86 - "STRUCTURAL WELDING CODE - STEEL"
AWS D1.3-81 - "STRUCTURAL WELDING CODE - SHEET STEEL"
- ALL WELDING BY AWS QUALIFIED OPERATORS.

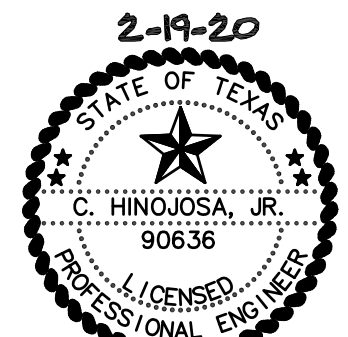
STRUCTURAL STEEL CONNECTIONS

- WELDING SHALL CONFORM TO ANS/AWS D1.1, LATEST EDITION.
- BOLTS SHALL CONFORM TO ASTM A325. BOLTS SHALL BE DESIGNED USING VALUES FOR BEARING TYPE BOLTS WITH THREAD ALLOWED IN THE SHEAR PLANE.
- ANCHOR BOLTS SHALL BE: ASTM F1554 GR. 36
- STRUCTURAL STEEL CONNECTION NOT SPECIFICALLY DETAILED ON THE DRAWINGS SHALL BE DESIGNED AND DETAILED BY THE CONTRACTOR UNDER THE DIRECT SUPERVISION OF A REGISTERED ENGINEER LICENSED IN THE STATE OF TEXAS. SEALED CALCULATIONS FOR ALL CONNECTIONS DESIGNED BY THE CONTRACTOR SHALL BE SUBMITTED FOR THE ARCHITECT'S FILES.
- BEAM CONNECTIONS SHALL BE DESIGNED AND DETAILED AS FOLLOWS, UNLESS NOTED OTHERWISE ON THE DRAWINGS:
 - CONNECTION SHALL BE AISC TYPE 2 SIMPLE FRAMING CONNECTIONS. SHEAR TAB CONNECTIONS SHALL NOT BE USED.
 - IN GENERAL, SHOP CONNECTIONS SHALL BE BOLTED OR WELDED AND FIELD CONNECTIONS SHALL BE BOLTED.
 - WHERE INDICATED, CONNECTIONS SHALL BE DESIGNED FOR THE SCHEDULED SHEAR FORCE, THE SHEAR FORCE INDICATED ON THE DRAWINGS AS "V_s", AND THE HORIZONTAL FORCE INDICATED AS "H_s".
 - IF NOT INDICATED ON THE DRAWINGS, CONNECTIONS SHALL BE DESIGNED FOR 55 PERCENT OF THE TOTAL LOAD CAPACITY FOR THE BEAM SPAN SHOWN IN THE BEAM TABLES IN SECTION 2 OF THE AISC MANUAL, NINTH EDITION.
 - THE MINIMUM NUMBER OF ROWS OF BOLTS SHALL BE 1/6 OF THE BEAM DEPTH WITH ANY FRACTION BE ROUNDED TO THE NEXT HIGHER NUMBER.
 - BOLTS SHALL BE "SNUG TIGHT", U.N.O.
 - SHORT SLOTTED HOLES SHALL BE PERMITTED PROVIDED WASHERS ARE INSTALLED IN ACCORDANCE WITH AISC REQUIREMENTS. WASHERS SHALL BE HARDENED WHERE A325 BOLTS ARE UTILIZED.
- WIND BRACE CONNECTION SHALL BE DESIGNED AND DETAILED AS FOLLOWS, UNLESS NOTED OTHERWISE ON THE DRAWINGS:
 - CONNECTIONS SHALL BE WELDED.
 - CONNECTIONS SHALL BE DESIGNED AND DETAILED FOR THE FORCES SHOWN ON THE DRAWINGS.
 - IF FORCES ARE NOT INDICATED ON THE DRAWINGS, CONNECTIONS SHALL BE DESIGNED TO DEVELOP THE FULL TENSILE CAPACITY OF THE MEMBERS.
- FOR CONNECTIONS NOT SPECIFICALLY ADDRESSED BY THESE NOTES OR THE DRAWINGS, PROVIDE FILLET WELDS AT ALL CONTACT SURFACES SUFFICIENT TO DEVELOP THE TENSILE STRENGTH OF THE SMALLER MEMBER AT THE JOINT.
- MOMENT CONNECTIONS INDICATED ON DRAWINGS SHALL BE WELDED TO DEVELOP THE FULL CAPACITY OF THE MEMBER.
- ROOF EDGE ANGLES SHALL BE CONTINUOUS AND SHALL BE SPLICED ONLY AT SUPPORTS. SPLICES SHALL BE BUTT WELDED TO DEVELOP FULL CAPACITY OF THE MEMBER.
- FILLET WELDS WITH NO SIZE SPECIFIED SHALL BE 3/16" OR MINIMUM SIZE REQUIRED BY AISC, WHICHEVER IS LARGER.

STRUCTURAL STEEL

- MATERIALS:
 - STRUCTURAL STEEL: W SECTIONS - ASTM - A572 Fy= 50 KSI
HSS SECTIONS - ASTM - A500 GRADE B
ALL OTHER SECTIONS - ASTM - A36
HIGH STRENGTH BOLTS: ASTM A325 OR A490
ANCHOR BOLTS: ASTM A307 OR A36
ELECTRODES: SERIES E70
STRUCTURAL PIPES: ASTM A53 OR A501, Fy = 35 KSI
EXPANSION BOLTS: HILTI "KWK BOLTS" OR APPROVED EQUAL.
- SPECIFICATIONS: WELDING PERSONNEL AND PROCEDURES ARE TO BE QUALIFIED PER AWS D1.1, UNLESS SPECIFICALLY SHOWN OTHERWISE, DESIGN, FABRICATION AND ERECTION TO BE GOVERNED BY:
 - ASCE SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS (JUNE 1, 1989).
 - ASCE CODE OF STANDARD PRACTICE (SEPTEMBER 1, 1986).
 - STRUCTURAL WELDING CODE, AWS D1.1-88 OF THE AMERICAN WELDING SOCIETY.
 - SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS (NOVEMBER 13, 1985).
- CONNECTIONS:
 - CONNECTIONS TO BE DESIGNED BY THE FABRICATOR TO DEVELOP FULL STRENGTH OF MEMBER.
FOLLOW INSTRUCTIONS ON DRAWINGS FOR GENERAL ARRANGEMENT OR PARTICULAR DETAILS. FIELD CONNECTIONS TO BE BOLTED. SHOP CONNECTIONS TO BE WELDED OR BOLTED.
 - FULL PENETRATION AND PARTIAL PENETRATION FIELD WELDS IN MATERIAL OVER 5/16 INCH THICK SHALL BE SUBJECT TO NON-DESTRUCTIVE TESTING (OTHER THAN VISUAL INSPECTION) BY AN INDEPENDENT LABORATORY.
 - ALL BOLTS IN BRACED FRAMES AND BOLTS IN SHEAR CONNECTIONS USED IN CONJUNCTION WITH FULL PENETRATION FLANGE WELDS SHALL BE SLIP CRITICAL (FRICTION) TYPE.
- PAINT:
 - DO NOT PAINT ANY STEEL WHICH WILL BE CONCEALED FROM VIEW. PAINT ALL VISIBLE STEEL GRAY.
 - GALVANIZING: ALL SHELF ANGLES, LUTELS IN EXTERIOR WALLS, AND ALL EXTERIOR STEEL EXPOSED TO THE ELEMENTS SHALL BE GALVANIZED.
- MISCELLANEOUS:
 - PROVIDE HOLES FOR OTHERS, IF OPENING IS NOT SHOWN ON THE STRUCTURAL DRAWINGS, OBTAIN PRIOR APPROVAL.
 - STEEL SUPPORTING OR CONNECTED TO HVAC AND OTHER EQUIPMENT AND ROOF OPENINGS AS SHOWN ON THE DRAWINGS IS SHOWN FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL RECONCILE EXACT SIZE AND LOCATION BEFORE PROCEEDING WITH HIS WORK.
 - GROUT UNDER BEARING PLATES, BASE PLATES, AND SETTING PLATES TO BE NON-SHRINKING TYPE.
 - STEEL BELOW GRADE TO BE PROTECTED BY A MINIMUM OF 3 INCHES OF CONCRETE.
 - PROVIDE 1/4 INCH THICK SETTING PLATES FOR ALL BEAMS BEARING ON MASONRY WHICH DO NOT REQUIRE A BEARING PLATE.
 - PROVIDE SHOP WELDED ANCHORS FOR ATTACHMENTS OF MASONRY, SPACING TO BE 16 INCHES ON COLUMNS AND BEAMS.
 - PROVIDE HEAVY WASHER AT ALL ANCHOR BOLTS.
 - FINISH ENDS OF ALL COLUMNS, STIFFENERS AND ALL OTHER MEMBERS IN DIRECT BEARING.
 - PROVIDE BOLT HOLES FOR JOISTS BOLTED TO BEAMS AND ATTACHMENT FOR JOINING EXTENDED JOIST BOTTOM CHORDS.
 - MINIMUM BEAM BEARING ON MASONRY = 8 INCHES UNLESS NOTED OTHERWISE.
 - EMBEDMENT LENGTH OF EXPANSION BOLTS INTO SOLID MASONRY OR CONCRETE SHALL BE AS FOLLOWS:
1/2 INCH DIAMETER BOLTS --- 3 1/2 INCHES EMBEDMENT
3/4 INCH DIAMETER BOLTS --- 5 INCHES EMBEDMENT
 - PROVIDE 8,000 LBS. OF RED IRON ALLOWANCE. ALLOWANCE SHALL INCLUDE THE COST OF LABOR.
 - PROVIDE ADEQUATE AND APPROPRIATE STRUCTURAL STEEL FRAMING APPROVED BY THE ENGINEER, FOR THE SUPPORT AND MOUNTING OF MECHANICAL EQUIPMENT ESTING ON, OR SUSPENDED FROM, STEEL JOISTS, MAXIMUM WEIGHT TO BE HUNG OFF JOISTS BETWEEN "PANEL POINTS" (THE JUNCTURES OF CHORDS AND DIAGONAL WEB MEMBERS) IS 50 LBS. LOADS IN EXCESS OF 50 LBS. REQUIRED JOISTS TO BE MODIFIED OR STRENGTHENED TO CARRY SUCH LOADS.
 - STEEL STAIRS TO BE DESIGNED AND DETAILED FOR LL=100 PSF BY STEEL FABRICATOR UNDER DIRECT SUPERVISION OF A REGISTERED PROFESSIONAL ENGINEER. SHOP DRAWINGS TO BE SIGNED AND SEALED BY THE SPECIALTY ENGINEER.
- QUALITY ASSURANCE:
 - INSTALLER QUALIFICATIONS: A QUALIFIED INSTALLER SPECIALIZING IN PERFORMING THE WORK OF THIS SECTION WITH A MINIMUM 5 YEARS DOCUMENTED EXPERIENCE.
 - FABRICATOR QUALIFICATIONS: A QUALIFIED FABRICATOR, SPECIALIZING IN PERFORMING THE WORK OF THIS SECTION WITH A MINIMUM OF 10 YEARS DOCUMENTED EXPERIENCE THAT PARTICIPATES IN THE AISC QUALITY CERTIFICATION PROGRAM AND IS DESIGNATED AN AISC-CERTIFIED PLANT, CATEGORY STD.
 - WELDING: QUALITY PROCEDURES AND PERSONNEL ACCORDING TO AWS D1.1, "STRUCTURAL WELDING CODE-STEEL."
- STRUCTURAL FRAMING CONNECTIONS SHALL BE SEATED COLUMN CAPS, CLIP ANGLES WEB PLATES AS SHOWN ON DETAILS. USE A325 HIGH STRENGTH BOLTS OR WELDS SUFFICIENT TO DEVELOP REACTION CAPACITY SHOWN IN AISC MANUAL (9TH EDITION) AS THE ALLOWABLE UNIFORM LOAD/SPAN DIVIDED BY TWO AS SHOWN IN THE (9TH EDITION) OR THE MAXIMUM TOTAL UNIFORM LOAD/SPAN DIVIDED BY TWO AS SHOWN IN TABLES 3-6 THROUGH 3-9 OF THE 13TH EDITION (ASD).

| No. | Revision/Issue | Date |
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TPEE FIRM No. F-8719
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(956) 687-5560 (956) 687-5561 FAX

Project Name and Address or Nearest Intersection

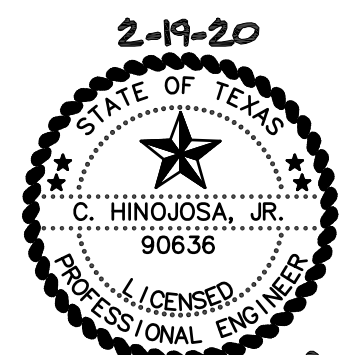
Barrientes Middle School
Gym Hvac improvements

1100 E. Ebony Ln.
Edinburg, Texas 78539

Owner:

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|-------------------|-------|
| Sheet Title | Sheet |
| GENERAL NOTES | S1.0 |
| Date | |
| February 19, 2020 | |
| Scale | |
| As Noted | |

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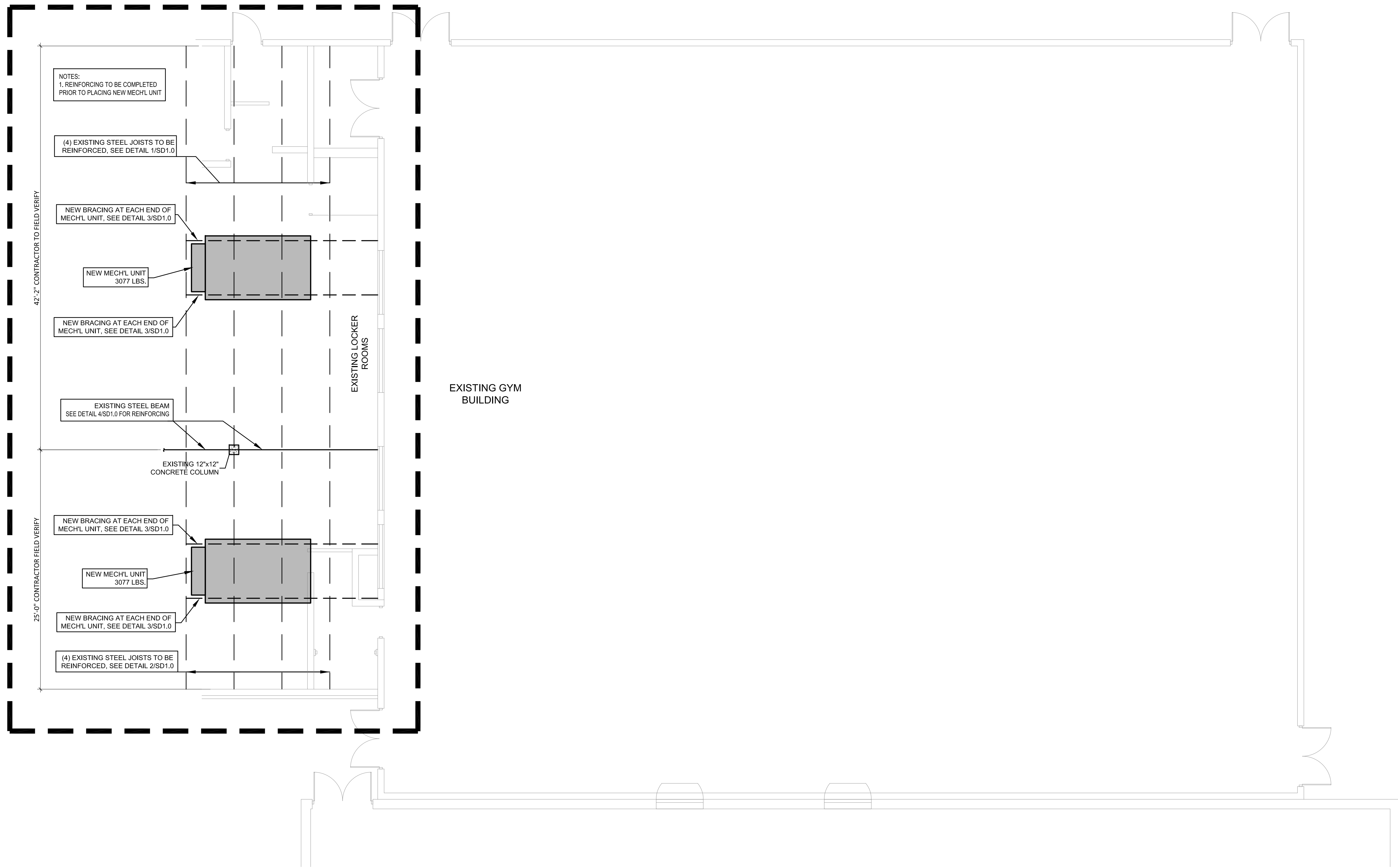
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 Gym Hvac improvements
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 Edinburg, Texas 78539

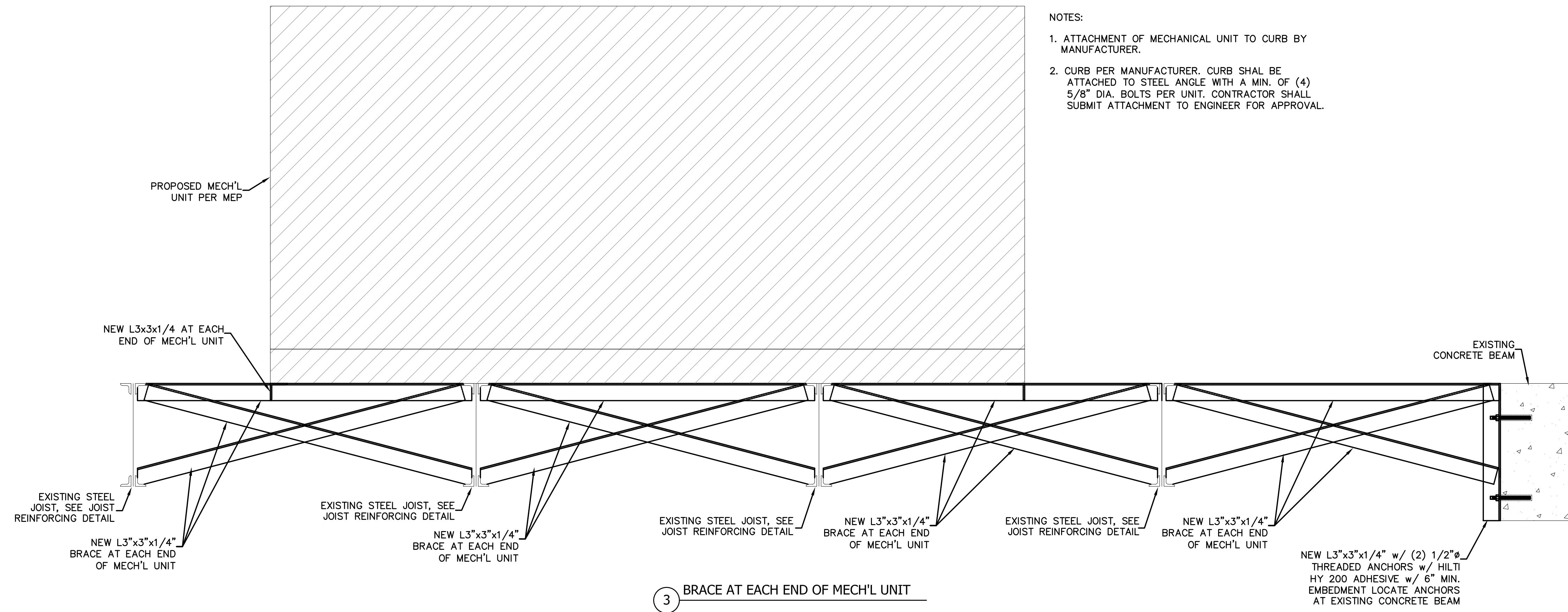
Owner:

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| Sheet Title | Sheet |
| REINFORCING PLAN | S2.0 |
| Date | |
| February 19, 2020 | |
| Scale | |
| As Noted | |

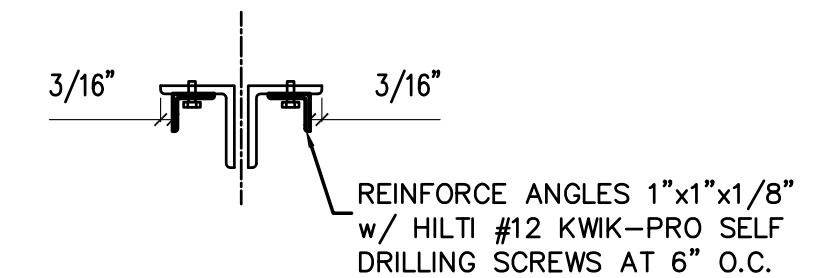


REINFORCING PLAN
 SCALE 3/16" = 1'-0"

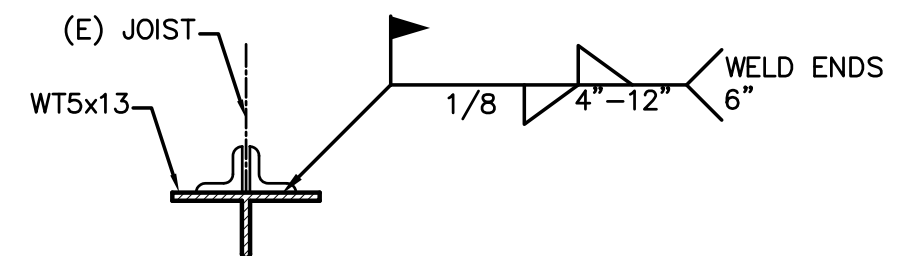
NOTES:
 1. ATTACHMENT OF MECHANICAL UNIT TO CURB BY MANUFACTURER.
 2. CURB PER MANUFACTURER. CURB SHALL BE ATTACHED TO STEEL ANGLE WITH A MIN. OF (4) 5/8" DIA. BOLTS PER UNIT. CONTRACTOR SHALL SUBMIT ATTACHMENT TO ENGINEER FOR APPROVAL.



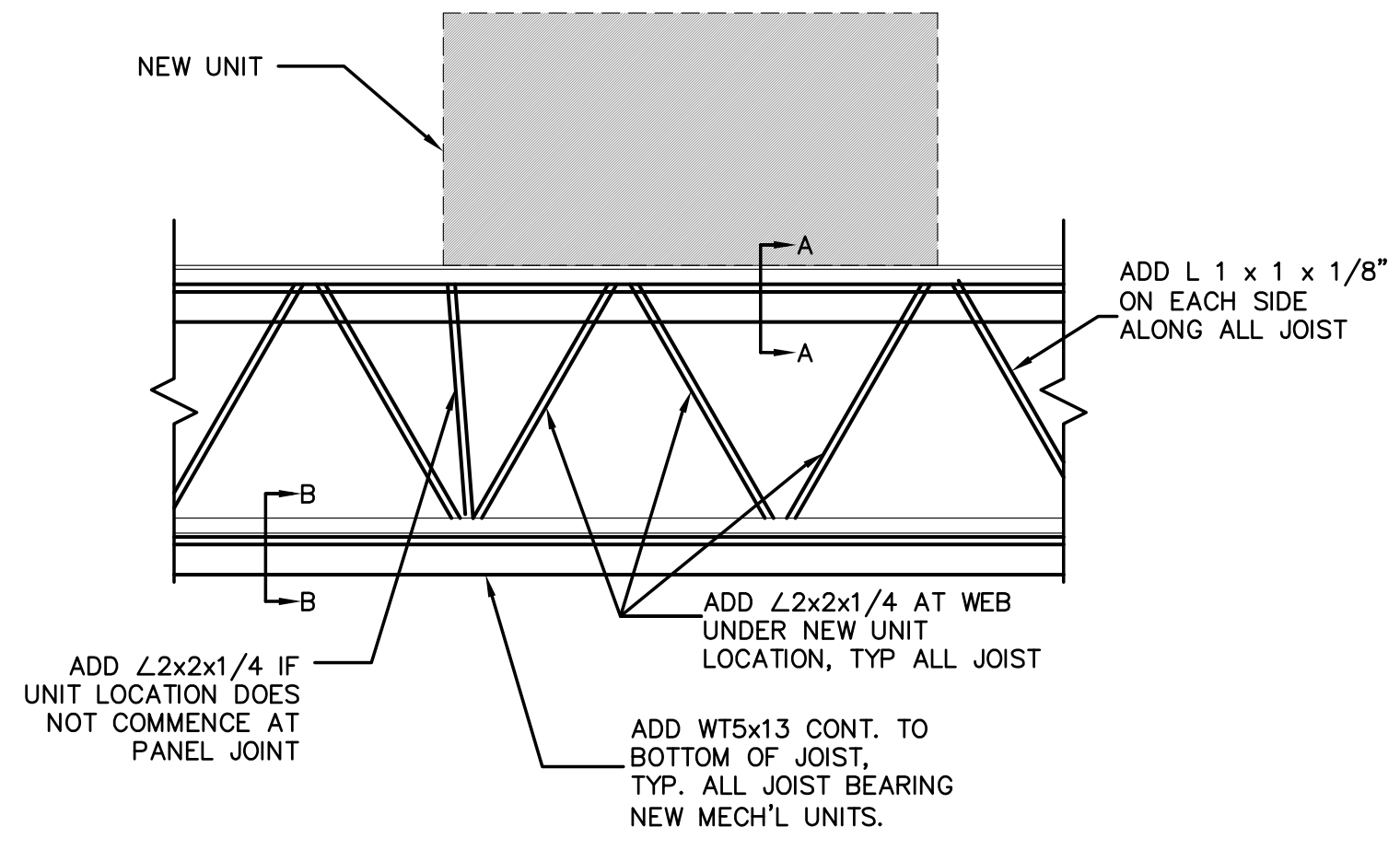
3 BRACE AT EACH END OF MECH'L UNIT



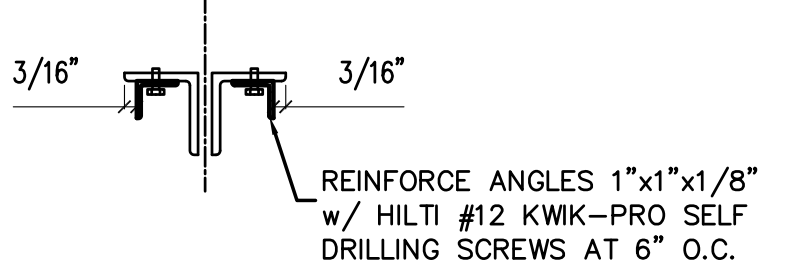
SECTION A-A



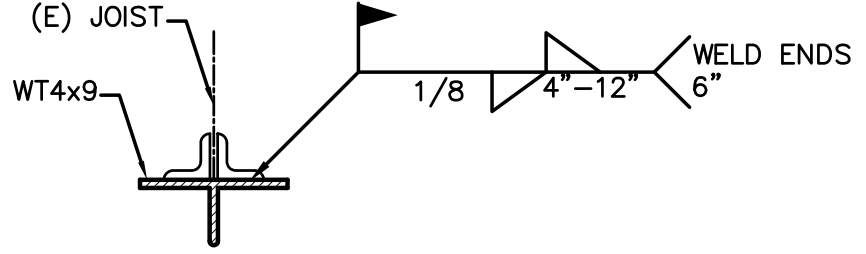
SECTION B-B



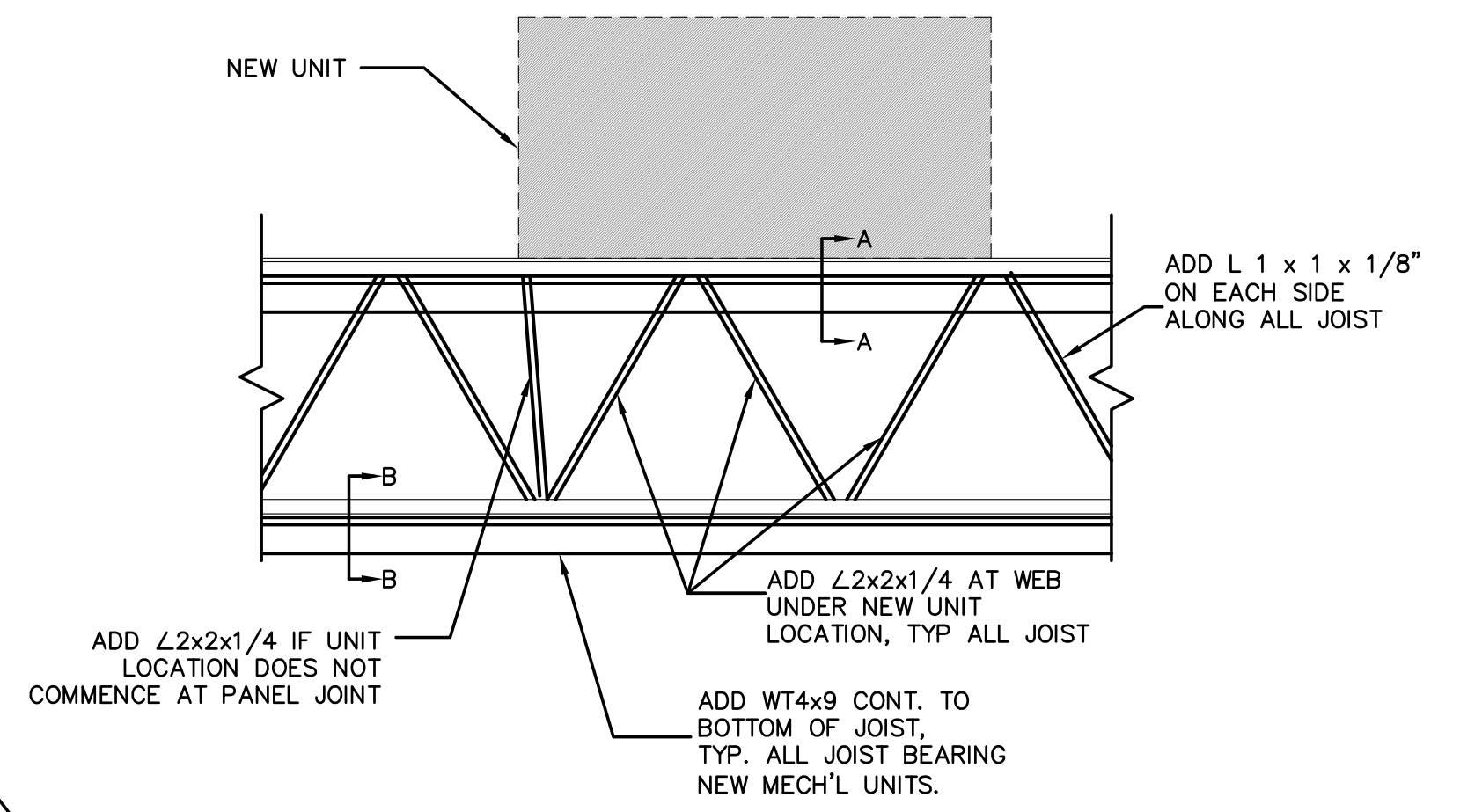
1 JOIST REINFORCING DETAIL



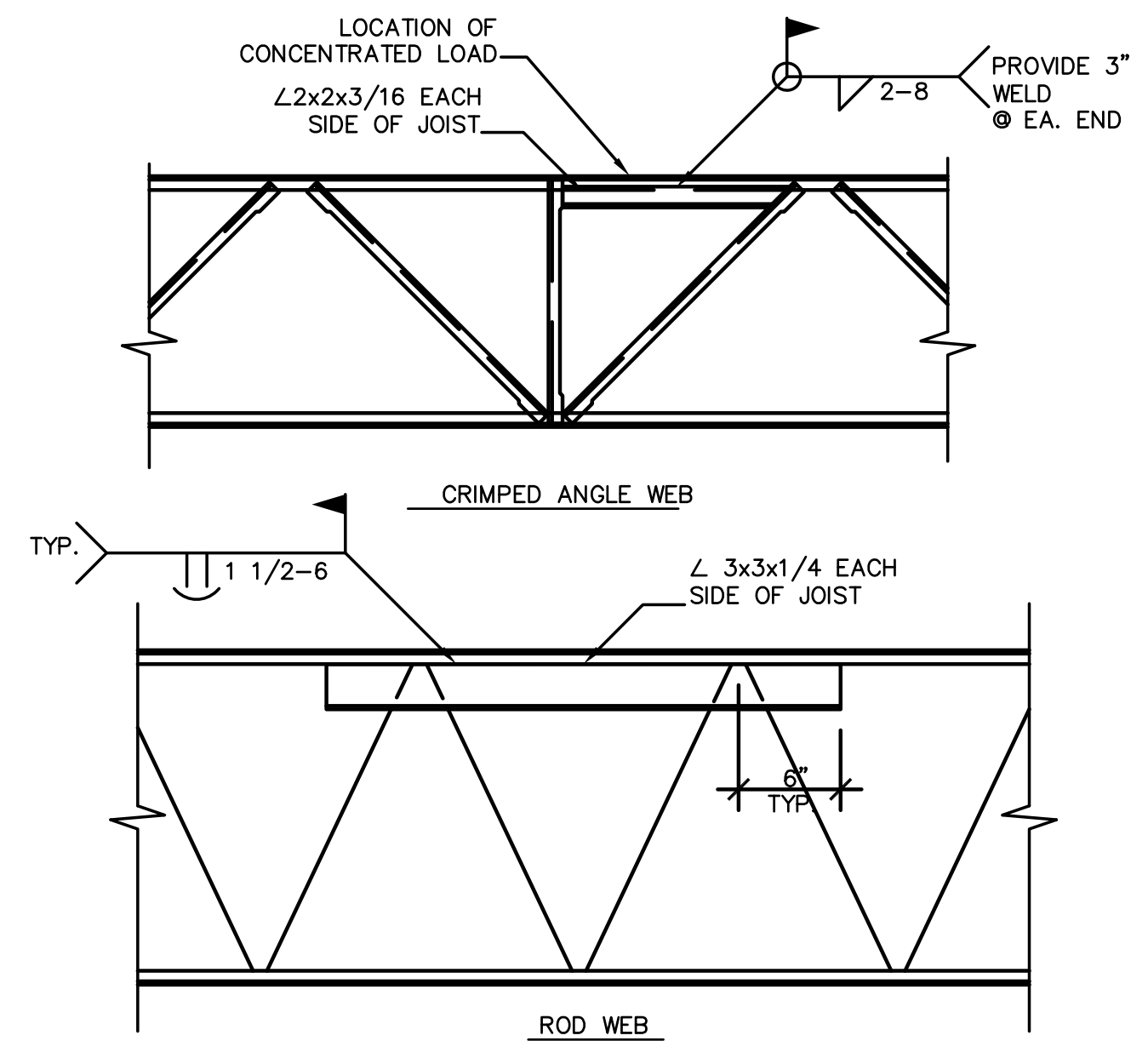
SECTION A-A



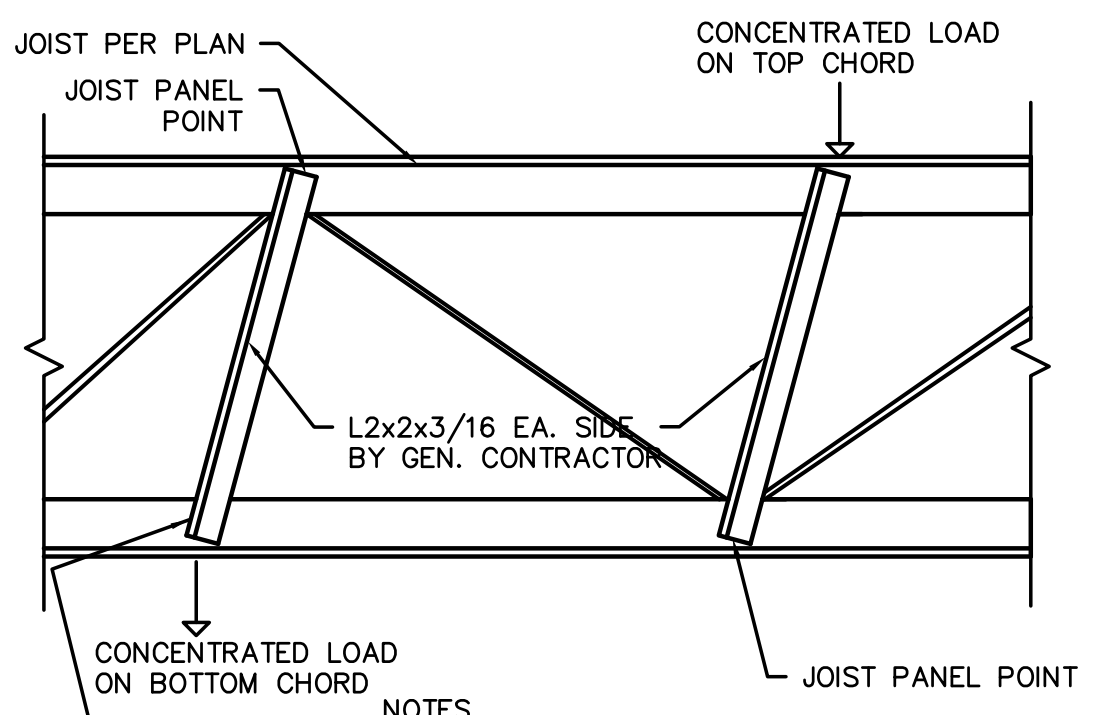
SECTION B-B



2 JOIST REINFORCING DETAIL

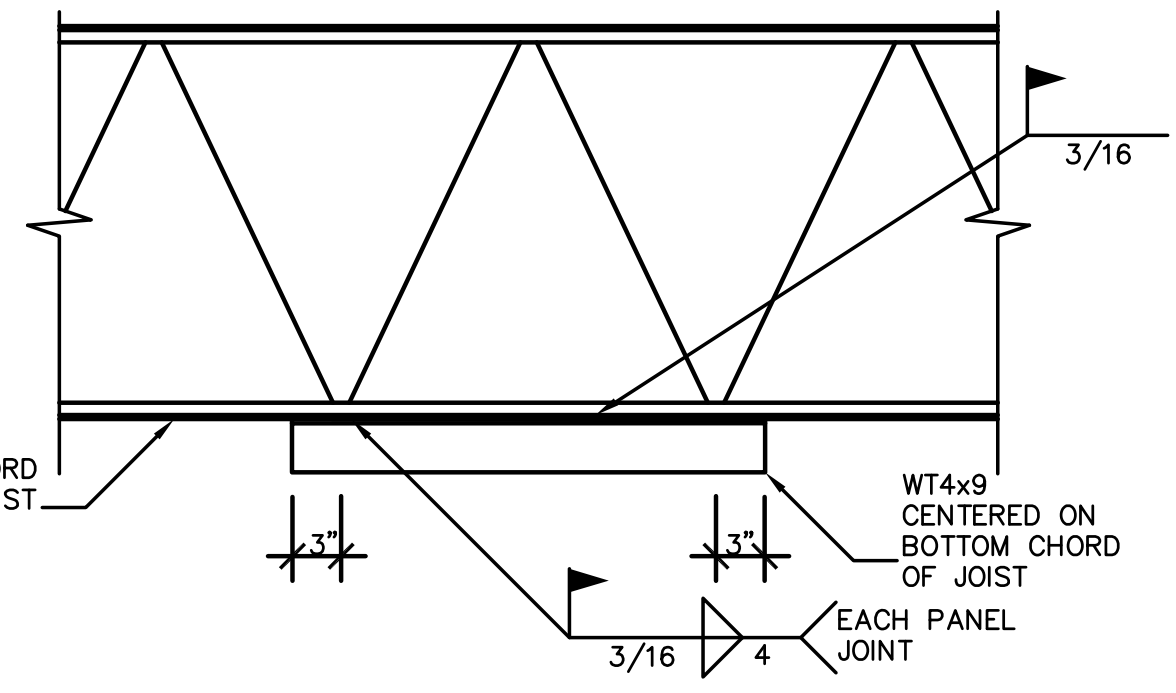


8 TYPICAL TOP CHORD REINFORCEMENT FOR KCS OR K-SERIES JOISTS



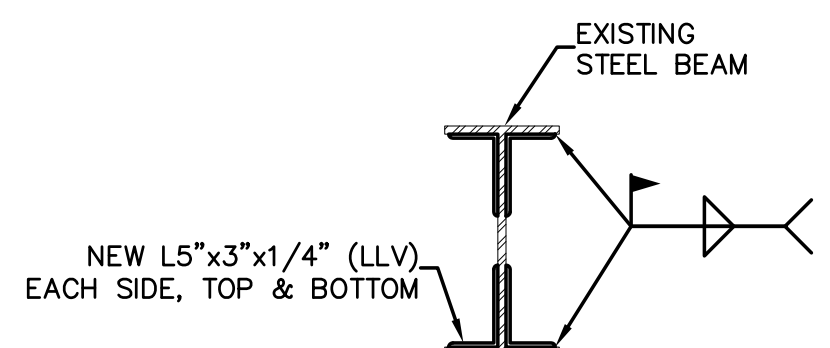
6 JOIST BRACING

NOTES:
 THIS DETAIL IS APPLIED FOR ALL CONCENTRATED LOADS THAT ARE ATTACHED TO JOIST(S) BUT NOT SHOWN ON THE STRUCTURAL DRAWINGS. EXAMPLES OF THESE LOADS ARE:
 1) HANGING LOAD, PARTITION THAT EXCEEDS 150 lb.
 2) HANGING PLUMBING, MECH'L STEEL PIPE WITH DIA. > 8"
 3) HANGING BASKETBALL GOALS
 4) MECHANICAL UNITS.

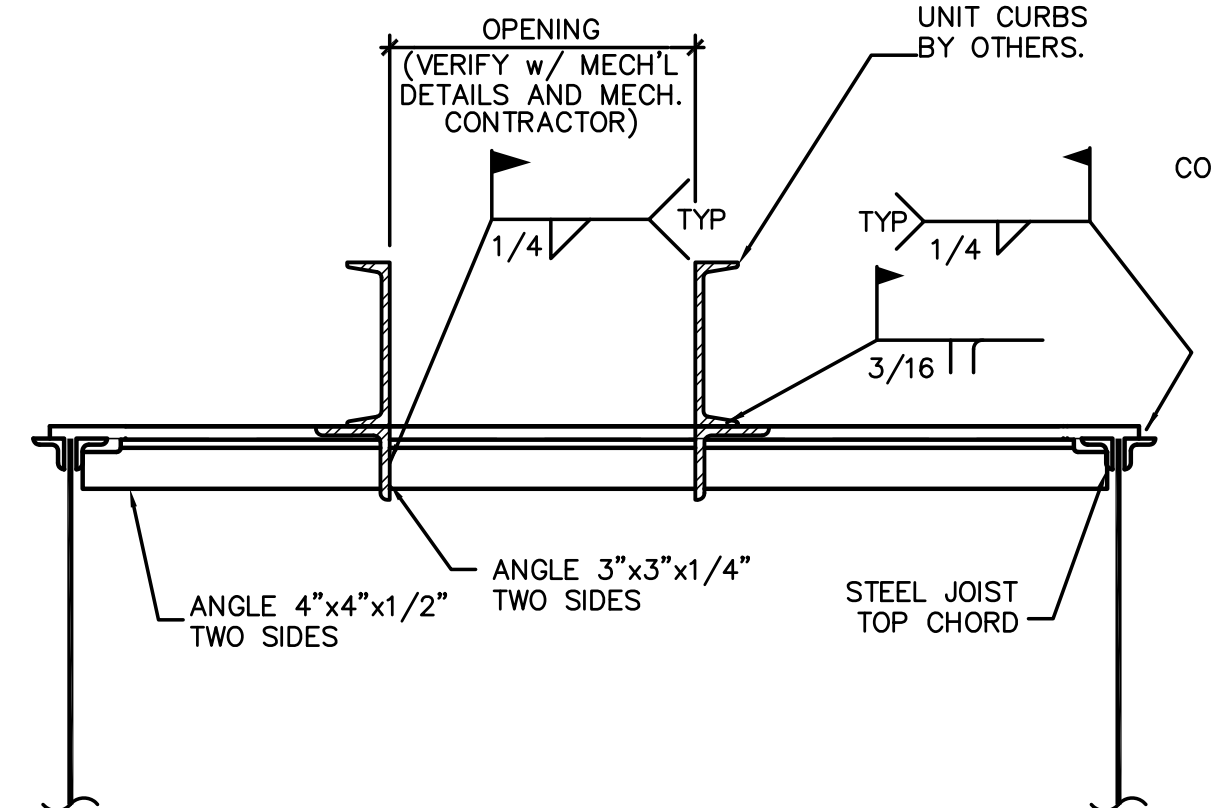


7 TYPICAL JOIST BOTTOM CHORD REINFORCEMENT

NOTE:
 THIS DETAIL APPLIES WHEREVER A CONCENTRATED LOAD GREATER THAN 50 POUNDS OCCURS BETWEEN PANEL POINTS OF BOTTOM CHORD JOIST.

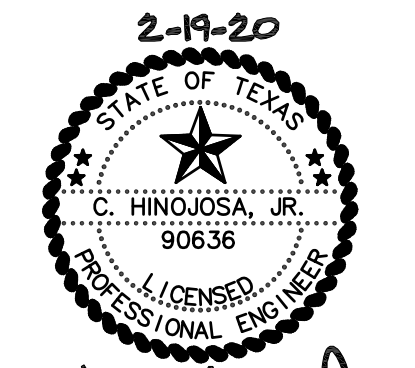


4 (E) STEEL BEAM REINFORCING DETAIL



5 ROOF OPENING DETAIL

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| Sheet Title REINFORCING DETAILS | Sheet SD1.0 |
| Date February 19, 2020 | |
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