IVGID - INCLINE VILLAGE RECREATION CENTER

HVAC SYSTEM REPLACEMENT

Incline Village, Washoe County, Nevada
IVGID Project Number N123450100
PWP #WA-2025-197

INCLINE VILLAGE
PARKS & RECREATION

VICINITY MAP

AREA MAP

BASE BID SCOPE ITEMS OF THE PROJECT ARE AS FOLLOWS:
1. MECHANICAL ROOM 132
   A. REMOVE AHU-1, AHU-2, AHU-3, AHU-3A, AHU-3B, RF-2, EF-1, EF-6, RF-3, EF-8, EF-5.
   B. REPLACE WITH AHU-1, AHU-2, AHU-3, EF-1, EF-2, EF-3, EF-5, EF-6, EF-8
   C. UH-Cs SHALL REMAIN.
   D. REMOVE AND REPLACE ALL DUCTWORK, PORTIONS OF HYDRONIC PIPING, AND ASSOCIATED ACCESSORIES. RECONNECT EXISTING CONDENSING UNIT TO AHU-2.
2. BOILER ROOM 131
   A. REMOVE AND REPLACE HWP-1 AND HWP-2. MODIFY EXISITNG PIPING AS NECESSARY.

ADD ALTERNATE 1 SCOPE ITEMS OF THE PROJECT ARE AS FOLLOWS:
1. REMOVE AND REPLACE A PORTION OF HYDRONIC PIPING IN ADJACENT CORRIDOR TO GYMNASIUM.
2. BLANK OFF OUTSIDE AIR GRILLE WITHIN GYMNASIUM
3. MECHANICAL ROOM 203
   A. REMOVE AHU-4, AHU-5, RF-5, EF-7.
   B. REPLACE WITH AHU-4, HC-1 THRU HC-5, AHU-5, EF-5, EF-7.
   C. UH-C SHALL REMAIN.
   D. REMOVE AND REPLACE ALL HYDRONIC HOT WATER PIPING, ALL DUCTWORK, AND ASSOCIATED ACCESSORIES. RECONNECT EXISTING CONDENSING UNITS TO AHU-4 AND AHU-5.

ADD ALTERNATE 2 SCOPE ITEMS OF THE PROJECT ARE AS FOLLOWS:
1. REMOVE (E)CU-1, (E)CU-2, (E)CU-3, AND ASSOCIATED REFRIGERANT PIPING.
2. REPLACE WITH (N)CU-1, (N)CU-2, (N)CU-3, AND PROVIDE NEW REFRIGERANT PIPING.
3. INSTALL CC-2, CC-4, AND CC-5 IN PLACE OF AHU-2, AHU-4, AHU-5 LISTED CCs

THE PROJECT SHALL BE PHASED AS FOLLOWS:
(PHASING DEPENDS ON ALTERNATES ACCEPTED)

PHASE 1:
BASE BID - MECHANICAL ROOM 132
BASE BID - BOILER ROOM 131
ADD ALTERNATE 2 - CU-1 AND CC-2 SCOPE

PHASE 2A:
ADD ALTERNATE 1- PIPE REPLACEMENT ADJACENT TO GYMNASIUM

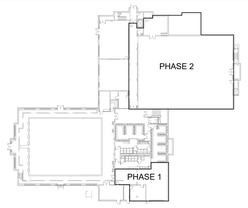
PHASE 2B:
ADD ALTERNATE 1 - OUTSIDE AIR GRILLE WITHIN GYMNASIUM
ADD ALTERNATE 1 - MECHANICAL ROOM 203
ADD ALTERNATE 2 - CU-2 AND CC-4, CU-3 AND CC-5 SCOPE

PHASE 1 SHALL BE COMPLETED IN THE SUMMER OF 2025.
PHASE 2A AND 2B SHALL NOT BE STARTED UNTIL PHASE 1 IS COMPLETELY OPERATIONAL.
PHASE 2A AND 2B SHALL BE COMPLETED DURING 2025-2026 WINTER OR IN SPRING OF 2026.
TEMPORARY HEAT SHALL BE PROVIDED.

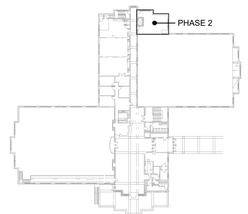
DUE TO THE FUNCTION OF THE FACILITY, THE BUILDING WILL REMAIN OPEN DURING CONSTRUCTION. CONTRACTOR TO COORDINATE WITH IVGID STAFF TO ESTABLISH EQUIPMENT STORAGE/STAGING AREAS. IT IS ULTIMATELY THE BURDEN OF THE CONTRACTOR TO COORDINATE ALL CONSTRUCTION ACTIVITIES WITH THE FACILITY. ANY SERVICE OR UTILITY SHUTDOWNS SHALL BE KEPT TO A MINIMUM AND SHALL BE COORDINATED WITH THE FACILITY AT LEAST 7 DAYS IN ADVANCE. TEMPORARY HEAT SHALL BE PROVIDED IN ALL AREAS AFFECTED BY CONSTRUCTION. CONTRACTOR IS RESPONSIBLE TO MAINTAIN ABOVE 60°F IN OCCUPIED AREAS TO MAINTAIN COMFORT AND ABOVE 35°F IN UNOCCUPIED AREAS TO PREVENT FREEZING OR DAMAGE TO EQUIPMENT, PIPING, ETC.

FACILITY OPERATING HOURS:
- SUN 7AM - 5PM
- MON 6AM - 8PM
- TUES 6AM - 8PM
- WED 6AM - 8PM
- THUR 6AM - 8PM
- FRI 6AM - 8PM
- SAT 7AM - 7PM

DUE TO THE PIPE REPLACEMENT ADJACENT TO THE GYMNASIUM BEING WITHIN OCCUPIED AREAS, THIS WORK SHALL BE PERFORMED DURING UNOCCUPIED HOURS: 8:30PM - 4:30AM.



LEVEL 1



LEVEL 2

OWNER

Incline Village General Improvement District
Pulbic Works Department
1220 Sweetwater Road
Incline Village, NV 89451
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Project Consultants

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MECHANICAL ENGINEERS

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DRAWING INDEX

BASIS OF DESIGN

CODES:

2018 INTERNATIONAL BUILDING CODE

2018 UNIFORM MECHANICAL CODE

2018 UNIFORM PLUMBING CODE

2017 NATIONAL ELECTRICAL CODE

2018 INTERNATIONAL FIRE CODE

2018 INTERNATIONAL ENERGY CONSERVATION CODE

NEVADA STATE FIRE MARSHAL

NEVADA OCCUPATIONAL SAFETY AND HEALTH

NATIONAL FIRE PROTECTION ASSOCIATION

UNDERWRITERS LABORATORIES

ALL OTHER APPLICABLE STATE AND LOCAL CODES, RULES, AND REGULATIONS

No.	Description	Date

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JOB: 2024-030

Mechanical Seal

02/14/2025

Consultant Seal

Agency Approval

Project Title
IVGID INCLINE REC CENTER HVAC SYSTEM REPLACEMENT
980 INCLINE WAY, INCLINE VILLAGE, NV 89451

Drawing Title
TITLE SHEET, VICINITY MAP, AREA MAP & SHEET INDEX

Designed: CK	Project No.: 2024-030
Drawn: CK	Scale: AS NOTED
Checked: AH	Drawing No.: T001
Date: 2/14/25	

PLEASE RECYCLE

BID SET

STRUCTURAL DESIGN CRITERIA

CODE:
2018 INTERNATIONAL BUILDING CODE (IBC)
STRUCTURAL RISK CATEGORY III (ASSEMBLY)

LIVE LOADS:
FLOOR LIVE LOAD, Lr: 100 PSF

SEISMIC LOADS:
Ss: 1.224
S1: 0.625
SITE CLASS: D
SDs: 1.454
Ip: 1.00
SEISMIC DESIGN CATEGORY: D

GENERAL

A. THESE GENERAL NOTES APPLY TO ALL WORK SHOWN IN THE STRUCTURAL DRAWINGS. THE GENERAL CONTRACTOR AND ALL INVOLVED PARTIES SHALL BE DIRECTLY RESPONSIBLE FOR READING AND COMPLYING WITH ALL INFORMATION PROVIDED IN THE STRUCTURAL DRAWINGS AND SPECIFICATIONS.

B. THE CONTRACTOR SHALL COMPLY WITH ALL GENERAL NOTES AND TYPICAL DETAILS SHOWN IN THE DRAWINGS, WHETHER OR NOT SPECIFIC FLAGGING OR REFERENCE HAS BEEN MADE TO THE APPLICABLE GENERAL NOTE OR TYPICAL DETAIL. PROJECT SPECIFIC NOTES AND DETAILS SHOWN ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.

C. ALL WORK SHALL COMPLY WITH THE MINIMUM STANDARDS OF THE CURRENT ADOPTED BUILDING CODE, THE LATEST EDITION OF ASTM OR OTHER INDUSTRY STANDARDS REFERENCED, AND ALL APPLICABLE LOCAL, STATE AND FEDERAL REQUIREMENTS AND REGULATIONS. FOR ITEMS, METHODS, AND/OR MATERIALS NOT SHOWN, ALL WORK SHALL CONFORM TO THE MINIMUM STANDARDS OF THE REGULATING AGENCIES THAT HAVE AUTHORITY OVER SUCH PORTIONS OF WORK.

D. THE STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE, WORKERS, AND OTHER PERSONS DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, PREPARATION AND EXECUTION OF A SAFETY PROGRAM AND DESIGN AND INSTALLATION OF BRACING, SHORING, FORMS AND SCAFFOLDING. THE CONTRACTOR SHALL RETAIN HIS OWN ENGINEER WHERE REQUIRED FOR MEANS AND METHODS AS WELL AS ANY OTHER DELEGATED DESIGN ITEMS.

E. THE CONTRACTOR SHALL BE DIRECTLY RESPONSIBLE FOR VERIFYING ALL DIMENSIONS, ELEVATIONS, GRADES AND CONDITIONS WITH ARCHITECTURAL AND OTHER DRAWINGS (I.E. CIVIL, MECHANICAL, PLUMBING, ELECTRICAL, ETC.) PRIOR TO CONSTRUCTION. THE ARCHITECT AND ENGINEER (A/E) SHALL BE NOTIFIED OF ANY DISCREPANCIES, OMISSIONS OR INCONSISTENCIES SO REVISIONS OR CLARIFICATIONS CAN BE MADE WHERE NECESSARY.

F. IN THE EVENT EXISTING CONDITIONS ARE FOUND TO BE DIFFERENT FROM THOSE SHOWN IN THE DRAWINGS, THE A/E SHALL BE NOTIFIED SO REVISIONS OR CLARIFICATIONS CAN BE MADE WHERE NECESSARY.

G. NO CHANGES OR DEVIATIONS FROM THE PLANS AND SPECIFICATIONS WILL BE ALLOWED WITHOUT WRITTEN AUTHORIZATION FROM THE A/E. ANY DESIRED CHANGES OR DEVIATIONS SHALL BE PRESENTED TO THE A/E FOR REVIEW WITH NO GUARANTEE THAT THE SUBSTITUTION WILL BE ALLOWED.

H. DO NOT SCALE THE DRAWINGS. DRAWINGS ARE DIAGRAMMATIC AND MAY NOT SCALE ACCURATELY.

I. THE CONTRACTOR SHALL BE DIRECTLY RESPONSIBLE FOR COORDINATING THE FOLLOWING TYPES OF ITEMS WHICH ARE TYPICALLY SHOWN ON MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS: SIZES AND LOCATIONS OF MECHANICAL EQUIPMENT, DUCTWORK RUNS, CONDUIT OR CABLE TRAY RUNS, PIPE RUNS, AND ALL ASSOCIATED SLEEVES, PENETRATIONS, OPENINGS, HANGERS, INSERTS, ETC.

QUALITY ASSURANCE (STATEMENT OF SPECIAL INSPECTIONS)

A. QUALITY ASSURANCE WILL BE ACCOMPLISHED THROUGH THE USE OF SPECIAL INSPECTION & MATERIALS TESTING IN ACCORDANCE WITH THE BUILDING CODE.

B. WHERE REQUIRED BY THE BUILDING AUTHORITY HAVING JURISDICTION (AHJ), THE CONTRACTOR SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE AHJ AND OWNER IN ACCORDANCE WITH THE BUILDING CODE.

C. SPECIAL INSPECTION AND ASSOCIATED MATERIALS TESTING SHALL BE PERFORMED FOR THE PROCESSES AND MATERIALS REQUIRED FOR CONSTRUCTION. THE TYPE AND FREQUENCY OF INSPECTIONS AND TESTS AS WELL AS THE FREQUENCY AND DISTRIBUTION OF RELATED REPORTS SHALL BE AS INDICATED IN THE CONTRACT DOCUMENTS AND AS REQUIRED BY ALL APPLICABLE CODES AND STANDARDS.

D. THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS AND SHALL FURNISH REPORTS TO THE A/E, OWNER AND AHJ. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. THEN, IF UNCORRECTED, TO THE A/E, OWNER AND AHJ. AT THE CONCLUSION OF WORK THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL REPORT TO THE A/E, OWNER AND AHJ INDICATING THE WORK REQUIRING SPECIAL INSPECTION WAS INSPECTED AND IS IN CONFORMANCE WITH THE CONTRACT DOCUMENTS AND THAT ALL DISCREPANCIES NOTED IN THE INSPECTION REPORTS HAVE BEEN CORRECTED.

E. SPECIAL INSPECTIONS IN ACCORDANCE WITH CURRENT ACCEPTED BUILDING CODE SHALL BE REQUIRED FOR THE FOLLOWING ITEMS:

1. SPECIAL CASES: POST INSTALLED ANCHORS IN ACCORDANCE WITH EVALUATION REPORTS AND MANUFACTURER RECOMMENDATIONS. PERIODIC SPECIAL INSPECTION.

F. THE SPECIAL INSPECTIONS LISTED ABOVE ARE NOT INTENDED TO BE ALL INCLUSIVE AND ONLY REPRESENT SPECIAL INSPECTIONS FOR THE WORK SHOWN ON STRUCTURAL DRAWINGS. ADDITIONAL SPECIAL INSPECTIONS OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING SYSTEMS MAY BE REQUIRED. REFER TO THE APPROPRIATE DESIGN DISCIPLINES FOR ADDITIONAL INFORMATION.

PERFORMANCE SPECIFICATION (DEFERRED SUBMITTAL) ITEMS

A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RETAINING HIS OWN ENGINEER WHERE NECESSARY AND PROVIDING FOR COMPLETE DESIGN AND CONSTRUCTION OF THE FOLLOWING ITEMS:

1. SUPPORT, BRACING AND ANCHORAGE OF MECHANICAL, ELECTRICAL, SPRINKLER, OR OTHER DISTRIBUTION / PIPING SYSTEMS.

B. THE ITEMS LISTED ABOVE ARE NOT INTENDED TO BE ALL INCLUSIVE AND ONLY REPRESENT STRUCTURAL PORTIONS OF THE WORK. ADDITIONAL PERFORMANCE SPECIFICATION ITEMS MAY BE REQUIRED. REFER TO THE DESIGN DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL ITEMS AND REQUIREMENTS.

C. WHERE CALLED OUT, SIZES OF SUCH ITEMS IN THESE DRAWINGS ARE MINIMUMS TO BE VERIFIED BY THE FINAL DESIGN PROVIDED BY THE CONTRACTOR, HIS SUBCONTRACTOR OR HIS CONSULTANT.

D. WHERE SEPARATE PERFORMANCE SPECIFICATION ITEMS INTERACT, THE DESIGN OF EACH ITEM SHALL INCLUDE THE INTERACTION EFFECTS AND SHALL BE COORDINATED WITH ONE ANOTHER.

E. PERFORMANCE SPECIFICATION SYSTEMS, COMPONENTS AND THEIR ATTACHMENTS SHALL BE DESIGNED TO ACCOMMODATE SEISMIC DRIFT OF THE MAIN STRUCTURAL FRAME WHICH MAY BE ASSUMED TO EQUAL 1.5% OF THE STORY HEIGHT.

F. PERFORMANCE SPECIFICATION ITEMS SHALL BE STAMPED BY A PROFESSIONAL ENGINEER (LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED) AND SUBMITTED TO THE A/E FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.

CAST-IN-PLACE CONCRETE

A. ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF THE ACI MANUAL OF CONCRETE PRACTICE. CONCRETE MIX DESIGNS SHALL BE IN ACCORDANCE WITH ASTM C-94 AS FOLLOWS:

1. INTERIOR CONCRETE PADS: F'c = 4000 PSI AT 28-DAYS, 3/4" NORMAL WEIGHT AGGREGATE, 0.45 MAXIMUM W/C RATIO, ENTRAPPED AIR ONLY. SLABS ON GRADE SHALL CONTAIN 1.5 LB/CY OF FIBERMESH STEALTH POLYPROPYLENE FIBERS, SOLOMON ULTRAFIBER 500 CELLULOSE FIBERS, OR APPROVED EQUAL.

B. CONCRETE DESIGN ON THIS PROJECT IS BASED ON F'c = 2500 PSI SO SPECIAL INSPECTION IS NOT REQUIRED.

C. ALL CONCRETE MIXES SHALL UTILIZE ASTM C150 TYPE II LOW ALKALI CEMENT. ASTM C618 CLASS F FLY ASH OR APPROVED NATURAL POZZOLAN MAY BE UTILIZED FOR UP TO 25% CEMENT REPLACEMENT AT THE CONTRACTORS OPTION.

D. NORMAL WEIGHT AGGREGATE SHALL CONFORM TO ASTM C33 AND LIGHTWEIGHT AGGREGATE SHALL CONFORM TO ASTM C330. ALL AGGREGATE SHALL BE FROM APPROVED SOURCES AND FREE OF DELETERIOUS MATERIALS.

E. CONCRETE SLUMP SHALL NOT EXCEED 5" WHEN TESTED IN ACCORDANCE WITH ASTM C143 FOR HORIZONTAL MEMBERS SUCH AS FOOTINGS, SLABS, AND BEAMS OR 4" FOR VERTICAL MEMBERS SUCH AS WALLS AND COLUMNS. CONCRETE SHALL BE PLACED AT THE MINIMUM PRACTICAL SLUMP, NOT EXCEEDING THE SPECIFIED MAXIMUM SLUMP. IF ADDITIONAL WORKABILITY AND SLUMP IS DESIRED, IT MAY BE OBTAINED WITH APPROVED ADMIXTURES THAT DO NOT INCREASE WATER CONTENT, SHRINKAGE, OR ADVERSELY AFFECT THE CONCRETE.

F. ALL NON-SHRINK GROUT AND DRYPACK SHALL BE A PREMIXED, NON-METALLIC, SHRINKAGE COMPENSATING, NON-STAINING FORMULA WITH A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI AT 3 DAYS AND 7000 PSI AT 28 DAYS. GROUT SHALL BE MIXED AND PLACED PER ALL MANUFACTURER REQUIREMENTS IN A FLOWABLE OR PACKABLE STATE AS REQUIRED BY THE CONDITIONS OF INSTALLATION. USE MASTER BUILDERS "CONSTRUCTION GROUT" OR APPROVED EQUAL.

G. REINFORCING SHALL BE DEFORMED BARS CONFORMING TO ASTM A615 GRADE 60. ALL BARS TO BE WELDED OR FIELD BENT SHALL BE ASTM A706. ALL WELDING SHALL CONFORM TO AWS D1.4 AND ALL WELDING SHALL BE PERFORMED BY APPROPRIATELY CERTIFIED WELDERS. SUPPORTS AND ACCESSORIES FOR REINFORCING SHALL BE FURNISHED AS REQUIRED. REINFORCING CHAIRS PLACED AGAINST EXPOSED SURFACES SHALL BE GALVANIZED, STAINLESS, OR PLASTIC.

H. WELDED WIRE REINFORCING WITH PLAIN WIRES (DESIGNATED W) AND/OR DEFORMED WIRES (DESIGNATED D) SHALL CONFORM TO ASTM A1064. WELDED WIRE REINFORCING SHALL HAVE WIRE SIZE AND SPACING AS INDICATED ON PLANS AND DETAILS. LAP SHEETS IN ACCORDANCE WITH ACI AND CRSI RECOMMENDATIONS, 1-1/2 MESHES MINIMUM.

I. ALL REINFORCING SHALL BE DETAILED, FABRICATED AND PLACED IN CONFORMANCE WITH ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND THE CRSI MANUAL OF STANDARD PRACTICE. ALL REINFORCING BAR BENDS SHALL BE MADE COLD. REINFORCING, DOWELS, BOLTS, ANCHORS, SLEEVES, ETC. SHALL BE ACCURATELY POSITIONED AND SECURED IN PLACE WITH CHAIRS, TIES, BOLSTERS OR DOBIES PRIOR TO PLACEMENT OF CONCRETE. NO "WET-SETTING" IS ALLOWED.

J. COVERAGE FOR REINFORCING SHALL BE THE CLEAR DISTANCE FROM FACE OF CONCRETE TO THE FACE OF NEAREST BARS AS FOLLOWS, UNLESS NOTED OTHERWISE:
1. CAST AGAINST AND IN PERMANENT CONTACT WITH GROUND (EXCEPT SLABS): 3"
2. EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
   A. 2" FOR #6 AND LARGER BARS
   B. 1-1/2" FOR #5 AND SMALLER BARS
3. NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
   A. SLABS, JOISTS AND WALLS: 1-1/2" FOR #14 AND #18 BARS
   B. SLABS, JOISTS AND WALLS: 3/4" FOR #11 AND SMALLER BARS
   C. BEAMS, COLUMNS, PEDESTALS AND TENSION TIES: 1-1/2"
4. SLABS-ON-GRADE: 1-1/2" CLR FROM TOP

K. REINFORCING SPLICES SHALL BE MADE ONLY WHERE INDICATED ON THE DRAWINGS UNLESS PRIOR APPROVAL IS OBTAINED FROM THE A/E. REINFORCING BARS SHALL BE SPLICED A MINIMUM OF 48 DIAMETERS OR AS NOTED. IN NO CASE SHALL SPLICES BE LESS THAN 24".

L. CONSOLIDATE CONCRETE PLACED IN FORMS BY MECHANICAL VIBRATING EQUIPMENT, SUPPLEMENTED BY HAND-SPADING, RODDING OR TAMPING. USE EQUIPMENT AND PROCEDURES FOR CONSOLIDATION OF CONCRETE IN ACCORDANCE WITH THE RECOMMENDED PRACTICES OF ACI 309 TO SUIT THE TYPE CONCRETE AND PROJECT CONDITIONS. CONCRETE SHALL NOT BE DROPPED THROUGH REINFORCING STEEL (AS IN WALLS) SO AS TO CAUSE SEGREGATION. IN SUCH CASES HOPPERS AND CHUTES OR TRUNKS OF VARIABLE LENGTHS SHALL BE USED TO LIMIT FREE UNCONFINED FALL OF CONCRETE TO 6 FEET.

M. ADDITIVES CONTAINING CALCIUM CHLORIDE SHALL NOT BE USED.

N. DESIGN CONCRETE FORMS AS RECOMMENDED IN ACI 347. CONSTRUCT FORMS OF ADEQUATE STRENGTH AND STIFFNESS TO OBTAIN REQUIRED FINISHED CONCRETE SURFACE AND LINE TOLERANCES SPECIFIED IN ACI 117. FORMS SHALL BE TIGHT ENOUGH TO PREVENT LEAKAGE OF MORTAR FINES.

O. USE NEW OR PROPERLY CLEANED LIKE-NEW FORM MATERIALS. REMOVE ALL DIRT, CHIPS, SAWDUST, RUBBISH, WATER OR ICE FROM FORMS PRIOR TO PLACEMENT OF CONCRETE.

P. CLEAN AND ROUGHEN CONSTRUCTION JOINTS AND LIGHTLY MOISTEN FORMS AND SUBGRADE PRIOR TO PLACING CONCRETE. INSTALL W.R. MEADOWS "SEALTIGHT DUOSAND" CHEMICAL RELEASE AGENT OR APPROVED EQUAL PRIOR TO PLACEMENT OF CONCRETE. PLACE CONCRETE USING METHODS WHICH AVOID SEGREGATION. MECHANICALLY VIBRATE ALL CONCRETE, INCLUDING SLABS, TO CONSOLIDATE IT IN FORMS. COMPLY WITH THE REQUIREMENTS FOR CURING PRIOR TO STRIPPING OF FORMS.

Q. CONCRETE FINISHES:
1. INTERIOR FLATWORK: SCREED TO AN EVEN, LEVEL PLANE, FLOAT AND STEEL TROWEL TO A SMOOTH, DENSE, HARD FINISH.
2. EXTERIOR FLATWORK: AS ABOVE EXCEPT FOLLOWED WITH A MEDIUM BROOM FINISH PERPENDICULAR TO TRAFFIC.
3. FORMED SURFACES EXPOSED TO VIEW: IMMEDIATELY AFTER FORMS ARE REMOVED, REMOVE SURFACE PROJECTIONS AND SACK AND PATCH ALL SURFACE DEFECTS.
4. FORMED SURFACES NOT EXPOSED TO VIEW: STRIP FORMS AND PATCH LARGE HOLES OR DEFECTS.
5. COORDINATE AND VERIFY ALL CONCRETE FINISHES WITH THE ARCHITECT.

R. ALL EXPOSED CONCRETE EDGES SHALL BE CHAMFERED 3/4" OR TOOLED TO A 1/2" RADIUS.

S. FINISH AND MEASURE SLAB SURFACES SO GAP AT ANY POINT BETWEEN CONCRETE SURFACE AND AN UNLEVELED, FREESTANDING, 10'-FOOT LONG STRAIGHTEDGE RESTING ON TWO HIGH SPOTS AND PLACED ANYWHERE ON THE SURFACE DOES NOT EXCEED 1/8".

T. CONCRETE CURING AND PROTECTION REQUIREMENTS:
1. FRESHLY DEPOSITED CONCRETE SHALL BE CURED AND PROTECTED FROM PREMATURE DRYING AND EXCESSIVE HOT OR COLD TEMPERATURES FOR A MINIMUM OF 5 DAYS IN ACCORDANCE WITH ACI 305 IN HOT WEATHER AND ACI 306 IN COLD WEATHER.
2. INTERIOR SLABS TO BE COVERED: APPLY 1 COAT OF ASTM C309 CURING COMPOUND AS SOON AS POSSIBLE AFTER FINISHING. CURING COMPOUND SHALL BE CERTIFIED TO BE COMPATIBLE WITH FLOORING COVERINGS OR THE CURING COMPOUND SHALL BE REMOVED FROM SLABS PRIOR TO APPLICATION OF FLOOR COVERINGS.
3. INTERIOR SLABS TO BE EXPOSED WITH CURE AND SEAL FINISH: APPLY AN INITIAL CURING COAT OF HIGH SOLIDS (20% MINIMUM) ASTM C1315 CURING AND SEALING COMPOUND AS SOON AS POSSIBLE AFTER FINISHING. APPLY A SECOND SEALING COAT PER MANUFACTURER RECOMMENDATIONS.
4. EXTERIOR CONCRETE: APPLY 1 COAT OF HIGH SOLIDS (20% MINIMUM) ASTM C309 CURING COMPOUND AS SOON AS POSSIBLE AFTER FINISHING.
5. REAPPLY CURING COMPOUNDS TO SAWCUT JOINTS IMMEDIATELY AFTER CUTTING IF CURING COMPOUND IS APPLIED PRIOR TO CUTTING. ALL SAW CUTTING SHALL BE TIMED TO AVOID TEARING OR DAMAGE BY THE SAW BLADE.

U. DEFECTIVE WORK:
1. ANY CONCRETE NOT FORMED AS SHOWN OR NOT MEETING THE INTENDED LINES, ELEVATIONS, FINISHES, TOLERANCES, ETC. SHALL BE DEEMED DEFECTIVE.
2. SLAB CRACKS, EDGE CURLING AND SURFACES NOT MEETING FINISH, FLATNESS OR LEVELNESS REQUIREMENTS SHALL BE DEEMED DEFECTIVE.
3. DEFECTIVE WORK SHALL BE REMOVED AND REPLACED WITH CONFORMING WORK, OR AT THE OPTION OF THE A/E, REPAIRED TO THE SATISFACTION OF THE A/E.

V. CONSTRUCTION JOINTS WILL NOT BE PERMITTED, EXCEPT WHERE SHOWN ON THE DRAWINGS, WITHOUT WRITTEN CONSENT OF THE A/E.

W. ALL CONDUITS AND UTILITIES AT SLABS ON GRADE SHALL BE PLACED IN THE BASE MATERIALS AND NOT IN THE SLAB.

X. LEAVE CONCRETE SURFACES BROOM CLEAN AND REMOVE ALL DEBRIS FROM CONCRETE WORK FROM THE SITE.

MASONRY

A. ALL MASONRY WORK SHALL CONFORM TO THE REQUIREMENTS OF TMS 402 BUILDING CODE REQUIREMENTS AND TMS 602 SPECIFICATION FOR MASONRY STRUCTURES. MINIMUM DESIGN STRENGTH f'm = 2000 PSI.

B. CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90 WITH A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI AT 28 DAYS AND SHALL BE MADE WITH LIGHTWEIGHT AGGREGATE. BRICK MASONRY UNITS SHALL CONFORM TO ASTM C652. FACE BRICK VENEER SHALL CONFORM TO ASTM C216. MASONRY AND BRICK UNITS SHALL BE OF THE SIZE, SHAPE, COLOR, TEXTURE AND LAYOUT AS DIRECTED AND APPROVED BY THE ARCHITECT. USE OPEN END UNITS WHEREVER POSSIBLE. USE BOND BEAM UNITS AT HORIZONTAL REINFORCING.

C. MORTAR SHALL CONFORM TO ASTM C270, TYPE M WITH A MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS. MORTAR COLOR SHALL BE AS DIRECTED AND APPROVED BY THE ARCHITECT.

D. GROUT SHALL CONFORM TO ASTM C476 WITH A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS. GROUT SHALL BE COARSE GROUT IN WALLS 8" AND LARGER AND FINE GROUT IN 6" WALLS OR WHERE CONDITIONS WARRANT.

E. REINFORCING SHALL BE DEFORMED BARS CONFORMING TO ASTM A615, GRADE 60. ALL REINFORCING TO BE WELDED SHALL CONFORM TO ASTM A706. ALL REINFORCING BARS SHALL BE ACCURATELY DETAILED, POSITIONED AND HELD SECURELY IN PLACE PRIOR TO GROUTING, AT TOP AND BOTTOM AND INTERVALS BETWEEN NOT-TO-EXCEED 192 DIAMETERS.

F. BARS SHALL BE LAPPED A MINIMUM OF 48 DIAMETERS. LAP SHALL BE A MINIMUM OF 12 BAR DIAMETERS WHERE BARS ARE LOCATED 3" OR LESS FROM FACES OF MASONRY AND WHERE MULTIPLE BARS ARE LAPPED WITHIN A SINGLE CELL. BARS SHALL MAINTAIN 1/2" MINIMUM CLEARANCE TO FACE SHELLS FOR GROUTING.

G. REINFORCING SHALL TAKE PRECEDENCE OVER THE LOCATION OF CONDUITS IN ALL CASES AND ADEQUATE ROOM SHALL BE MAINTAINED IN ALL CASES TO ALLOW GROUT TO FLOW COMPLETELY AROUND REINFORCING AND CONDUIT. THE FOLLOWING REQUIREMENTS SHALL APPLY TO CONDUITS PLACED IN MASONRY:
1. PLACE CONDUIT IN NON-REINFORCED CELLS OR BOND BEAMS WHEREVER POSSIBLE.
2. NO CONDUIT SHALL BE PLACED WITHIN 3" OF ANY JAMB, WALL END, HEAD, SILL OR TOPS OF WALLS CELLS OR BOND BEAMS WITHIN 2" OF JAMBS, WALL ENDS, HEADS, SILLS AND TOPS OF WALLS SHALL BE RESERVED FOR REINFORCEMENT ONLY.
3. NO CONDUIT SHALL BE PLACED IN CELLS OR BOND BEAMS CONTAINING MORE THAN ONE REINFORCING BAR.
4. NO MORE THAN ONE 3/4" MAXIMUM DIAMETER CONDUIT SHALL BE PLACED IN A CELL OR BOND BEAM REINFORCED WITH A SINGLE BAR.
5. NO MORE THAN TWO 3/4" MAXIMUM DIAMETER CONDUITS SHALL BE PLACED IN A NON-REINFORCED CELL OR BOND BEAM.
6. LAYOUT CONDUIT AND PROVIDE ALL NECESSARY PROVISIONS, SUCH AS ADDITIONAL ROWS OF BOND BEAM UNITS, TO MAINTAIN THE REQUIREMENTS NOTED ABOVE.

H. BEFORE MASONRY IS PLACED ON CONCRETE, THOROUGHLY CLEAN CONCRETE OF ALL LAITANCE AND LOOSE MATERIAL AND ROUGHEN SURFACE.

I. LAY BLOCK IN RUNNING BOND IN 3/8" FULL SHOVED HEAD AND BED JOINTS AND TOOL ALL JOINTS AS CONCAVE WHERE RESISTANT JOINTS UNLESS DIRECTED OTHERWISE BY THE ARCHITECT. CONTRACTOR TO COORDINATE WITH ARCHITECTURAL DRAWINGS FOR ALL MASONRY TYPES, DIMENSIONS AND LAYUP PATTERNS PRIOR TO CONSTRUCTION. LAY UNITS TO PRESERVE THE UNOBSTRUCTED VERTICAL CONTINUITY OF CELLS.

J. ALL CELLS SHALL BE GROUTED SOLID IN 8'-0" MAXIMUM LIFTS. SPLICES OF REINFORCEMENT SHALL BE LOCATED SUCH THAT THE FULL SPLICE LENGTH IS WITHIN A LIFT AND IS OBSERVABLE AND VERIFIABLE PRIOR TO POURING GROUT. CUT CLEANOUT OPENINGS SHALL BE PROVIDED AT THE BOTTOM OF EACH LIFT FOR CLEANING AND INSPECTION. AT THE CONTRACTOR'S OPTION, LIFTS MAY BE REDUCED TO 5'-0" MAXIMUM WITH CLEANOUTS OMITTED. ALL GROUT SHALL BE VIBRATED AND REVIBRATED USING INTERNAL MECHANICAL VIBRATORS. KEY ALL GROUT POURS BY HOLDING TOP OF GROUT APPROXIMATELY 2" BELOW TOP OF BLOCK.

K. PROTECT MASONRY WORK AS REQUIRED BY ACI 530.1 FOR COLD WEATHER, HOT WEATHER AND MOISTURE.

PENETRATIONS & POST-INSTALLED ANCHORS

A. OPENINGS, POCKETS, HOLES, CANS, ETC. SHALL NOT BE PLACED IN ANY SLAB, BEAM, COLUMN, WALL, OR OTHER STRUCTURAL MEMBER UNLESS SPECIFICALLY SHOWN ON THE DRAWINGS OR WRITTEN PERMISSION IS OBTAINED FROM THE A/E.

B. DO NOT OVERCUT AT CORNERS WHEN CUTTING A NEW OPENING IN EXISTING CONCRETE OR MASONRY; CORE DRILL, CHIP AND GRIND AS REQUIRED AT CORNERS. A LAYOUT OF ALL PROPOSED OPENINGS SHALL BE REVIEWED BY THE A/E PRIOR TO ANY PENETRATION ACTION.

C. UTILIZE CURRENT TECHNOLOGY DETECTION EQUIPMENT TO LOCATE OBSTACLES (REBAR, CONDUITS, ETC.) WITHIN CONCRETE (FLOORS, WALLS, ROOFS, ETC.) AT EVERY LOCATION WHERE CONCRETE IS TO BE PENETRATED (DRILLING, SAWING, CORING, ETC.). WHEN OBSTACLES ARE IDENTIFIED PROVIDE RESULTS TO THE A/E AT LEAST 48 HOURS PRIOR TO THE PENETRATION ACTION SO APPROPRIATE DIRECTION MAY BE PROVIDED. ANY OBSTACLES DAMAGED WITHOUT PRIOR APPROVAL OF THE A/E SHALL BE REPAIRED IN A MANNER ACCEPTABLE TO THE A/E AT THE CONTRACTOR'S EXPENSE.

D. EXPANSION ANCHORS SHALL BE AS SPECIFIED. USE SIMPSON "STRONG-BOLT 2"; HILTI "KWIK BOLT 3"; HILTI "KB-TZ2"; OR APPROVED EQUAL. PERIODIC SPECIAL INSPECTION REQUIRED.

E. EPOXY/ADHESIVE ANCHORS SHALL BE AS SPECIFIED. USE SIMPSON "SET-XP"; SIMPSON "AT-XP"; HILTI "HIT-RE 500-SD"; HILTI "HIT-HY 150 MAX"; OR APPROVED EQUAL. PERIODIC SPECIAL INSPECTION REQUIRED.

F. HEAVY DUTY SCREW ANCHORS SHALL BE AS SPECIFIED. USE SIMPSON "TITEN HD"; HILTI "KWIK HUS-EZ"; OR APPROVED EQUAL. PERIODIC SPECIAL INSPECTION REQUIRED. HEAVY DUTY SCREW ANCHORS SHALL NOT BE USED IN CONDITIONS SUBJECT TO PERMANENT EXTERIOR EXPOSURE UNLESS THEY ARE STAINLESS STEEL.

G. ALL POWDER ACTUATED FASTENERS (SHOT PINS) SHALL BE HILTI OR APPROVED EQUAL. REFER TO TYPICAL DETAILS FOR ADDITIONAL INFORMATION.

H. ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH ALL CURRENT EVALUATION REPORT AND MANUFACTURER RECOMMENDATIONS AND SPECIAL INSPECTION SHALL BE PROVIDED WHERE REQUIRED.

I. WHERE POST-INSTALLED ANCHORS ARE TO BE USED, IT SHALL BE THE CONTRACTOR'S DIRECT RESPONSIBILITY TO COORDINATE THE LOCATIONS OF REINFORCING STEEL OR OTHER SIMILARLY EMBEDDED ITEMS TO WORK WITH POST-INSTALLED ANCHORS AND TO AVOID CONFLICTS WHEN DRILLING HOLES, ETC.

DEMOLITION NOTES

A. SAFETY NOTE:
1. THE CONTRACTOR SHALL BE DIRECTLY RESPONSIBLE FOR COMPLIANCE WITH ALL LOCAL, STATE AND NATIONAL CONSTRUCTION SAFETY STANDARDS AND REQUIREMENTS.
2. THE A/E AND OWNER SHALL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO COMPLY WITH ANY SUCH REQUIREMENTS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF ALL FORMWORK, BRACING AND SHORING REQUIRED.

B. SHORE OR BRACE THE STRUCTURE (BEAMS, COLUMNS, WALLS, ETC.) AS REQUIRED TO MAINTAIN STABILITY OF THE EXISTING STRUCTURE PRIOR TO DEMOLITION. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DESIGN AND PROVIDE ADEQUATE SHORING AND BRACING FOR ALL LOADS IMPOSED DURING AND AFTER DEMOLITION AND THROUGH COMPLETION OF THE NEW CONSTRUCTION.

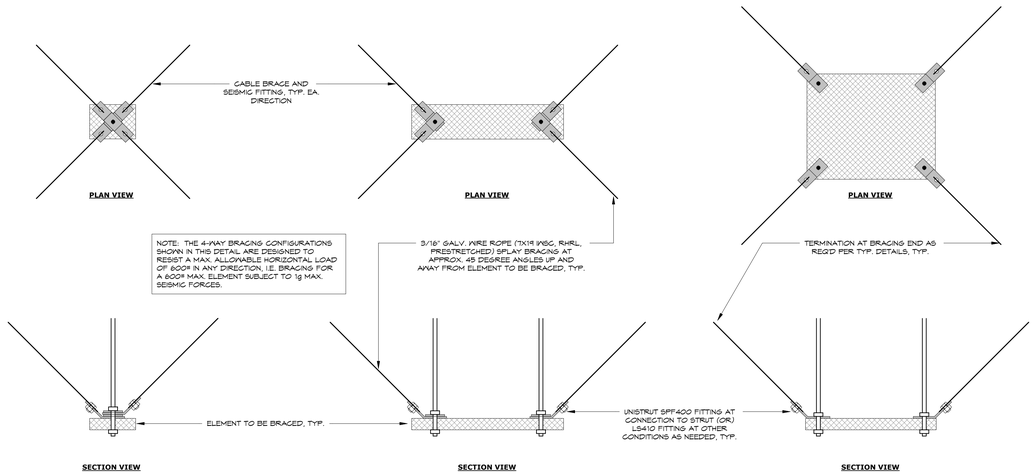
C. ALL DIMENSIONS GIVEN TO EXISTING STRUCTURE ARE APPROXIMATE AND SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR. WHERE ACTUAL CONDITIONS DEVIATE FROM DETAILS SHOWN ON THE DRAWINGS, NOTIFY THE A/E FOR INSTRUCTIONS BEFORE PROCEEDING WITH THE WORK.

D. ANY CONFLICTING ITEMS SHALL BE BROUGHT TO THE ATTENTION OF THE A/E PRIOR TO FURTHER DEMOLITION.

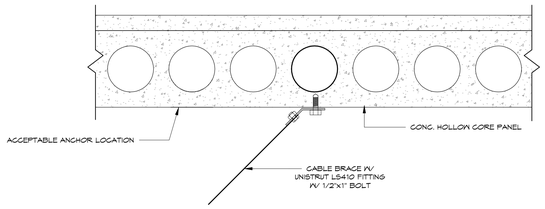
E. DEMOLITION AND REMOVAL OF EXISTING CONSTRUCTION SHALL BE MADE IN SUCH A MANNER AS TO AVOID DAMAGE TO ADJACENT CONSTRUCTION.

STANDARD ABBREVIATIONS

AB	ANCHOR BOLT	JG	STEEL JOIST GIRDER
A/E	ARCHITECT / ENGINEER	JT	JOINT
APP	ABOVE FIN FLR	K	KIPS STND. KIPS
AGG	AGGREGATE	KSI	KIPS PER SQUARE INCH
ALT	ALTERNATE	KSF	KIPS PER SQUARE FOOT
ALUM	ALUMINUM	L	ANGLE
APPROX	APPROXIMATELY	LBS	POUNDS
ARCH	ARCHITECT	LLV	LONG LEG VERTICAL
BFF	BELOW FIN FLR	LLH	LONG LEG HORIZONTAL
BLDG	BUILDING	LT WT	LIGHT WEIGHT
BLKG	BLOCKING	MAX	MAXIMUM
BM	BEAM	MB	MACHINE BOLT
BN	BOUNDARY NAIL	MFR	MANUFACTURER
BO	BOTTOM OF	MISC	MISCELLANEOUS
BOT	BOTTOM	MIN	MINIMUM
B/S	BOTH SIDES	MTL	METAL
C/F	CAST IN PLACE	(N)	NEW
CJ	CONTROL JOINT	NA	NOT APPLICABLE
CJP	COMPLETE JOINT PENETRATION	NS	NEAR SIDE
		NSA	NELSON STUD ANCHOR
CL	CENTERLINE	NTS	NOT TO SCALE
CLG	CEILING	OC	ON CENTER
CLR	CLEAR	OD	OUTSIDE DIAMETER
CMU	CONC MASONRY UNIT	OH	OPPOSITE HAND
COL	COLUMN	OWJ	OPEN WEB STEEL JOIST
CONC	CONCRETE	PERP	PERPENDICULAR
CONN	CONNECTION	PL	PLATE
CONST	CONSTRUCTION	PLF	POUNDS PER FOOT
CONT	CONTINUOUS	PLY	PLYWOOD
CTSK	COUNTERSUNK	PSI	POUNDS PER SQUARE INCH
CY	CUBIC YARDS	PSF	POUNDS PER SQUARE FOOT
DBL	DOUBLE	PT	PRESSURE TREATED,
DF	DOUGLAS FIR		POST TENSIONED
DIA	DIAMETER	REINF	REINFORCING
DJ	DOWELED JOINT	REQD	REQUIRED
DWG	DRAWING	SCH	SCHEDULE
EA	EACH	SHTG	SHEATHING
EF (E/F)	EACH FACE	SIM	SIMILAR
ELEV	ELEVATION	SOG	SLAB ON GRADE
ELEC	ELECTRICAL	SS	STAINLESS STEEL
EN	EDGE NAIL	STAGG	STAGGERED
EOR	ENGINEER OF RECORD	STD	STANDARD
ES	EACH SIDE	STIFF	STIFFENER
EW (E/W)	EACH WAY	STL	STEEL
(E)	EXISTING	STRUC	STRUCTURAL
EXT	EXTERIOR	SYM	SYMMETRICAL
FF	FINISHED FLOOR	T	TRIMMER
FIN	FINISH	TN	TOENAIL
FLR	FLOOR	TO	TOP OF
FN	FACE NAIL	TYP	TYPICAL
FO	FACE OF	T&G	TONGUE & GROOVE
FS	FAR SIDE

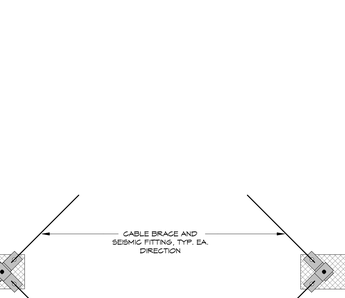


10 Typ. Cable Bracing
1 1/2" = 1'-0"

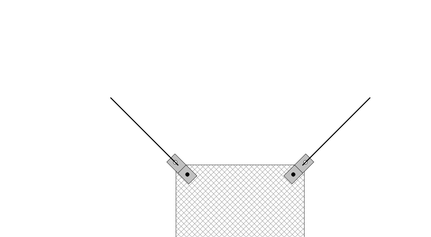


9 Typ. Cable Brace End - Conc. / Masonry
1 1/2" = 1'-0"

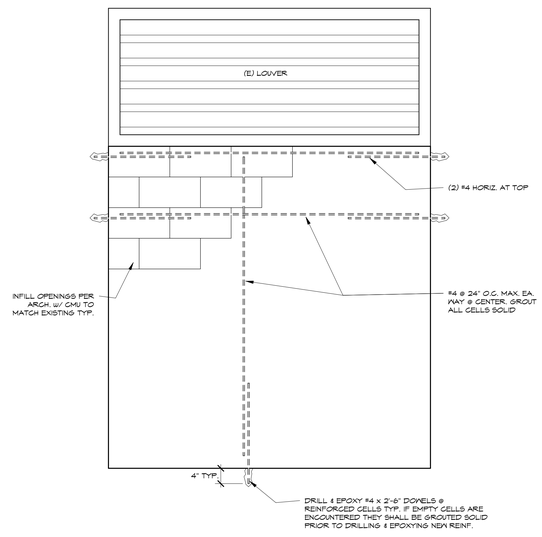
8 Typ. RTU Suspended from Hollow Core Slab
3/4" = 1'-0"



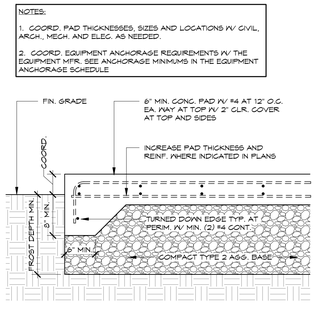
7 Typ. Equipment Pad on Elevated Slab Removal / Replacement
1" = 1'-0"



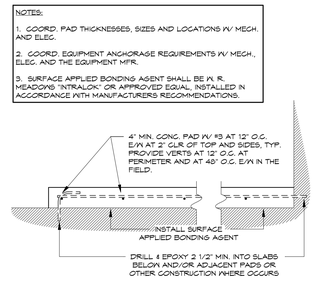
6 Typ. Slab or Pad Removal / Replacement
1" = 1'-0"



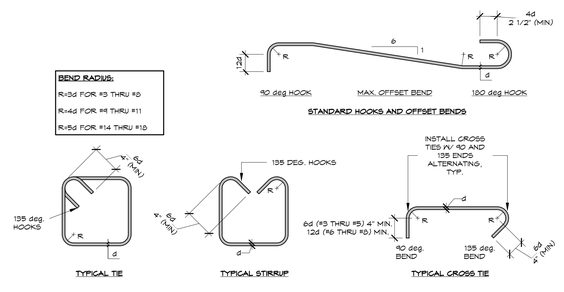
5 Typ. CMU Infill Under Louver
3/4" = 1'-0"



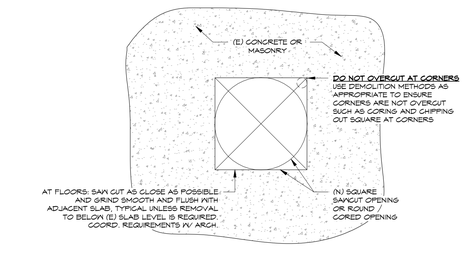
4 Typ. Exterior Equipment Pad
1" = 1'-0"



3 Typ. Housekeeping Pad
1" = 1'-0"



2 Typ. Rebar Hooks and Bends
3/4" = 1'-0"



1 Typ. Sawcut Opening
1/2" = 1'-0"

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JOB: 2024-030

No. | Description | Date

Mechanical Seal

Consultant Seal

PROFESSIONAL ENGINEER – STATE OF NEVADA
CHRISTOPHER M. ROPER
STRUCTURAL
No. 15032
EXP: 12/31/2025
2/06/2025

Agency Approval

Project Title
IVGID INCLINE REC CENTER HVAC SYSTEM REPLACEMENT

980 INCLINE WAY, INCLINE VILLAGE, NV 89451

Drawing Title
STRUCTURAL TYPICAL DETAILS

CFBR STRUCTURAL GROUP, LLC
5425 LOUIE LANE #2C, RENO, NV 89511 P: 775.525.1113

Designed	Project No.
CMR	2024-030
Drawn	Scale
RGP	AS NOTED
Checked	Drawing No.
CMR	S002
Date	
2/14/2025	

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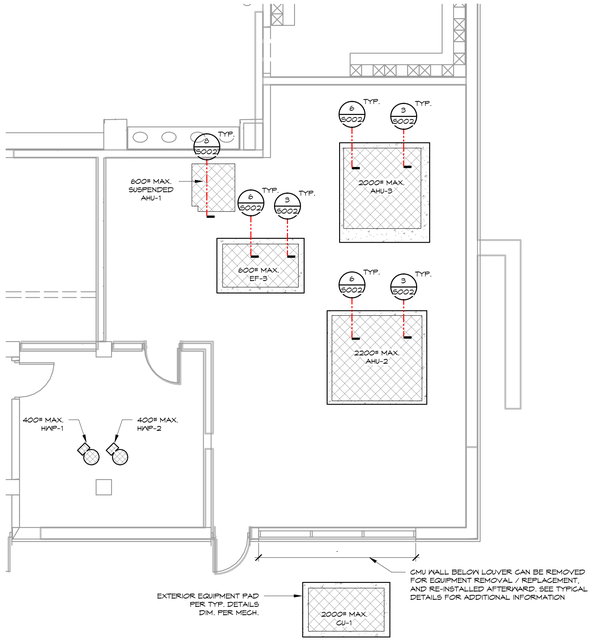
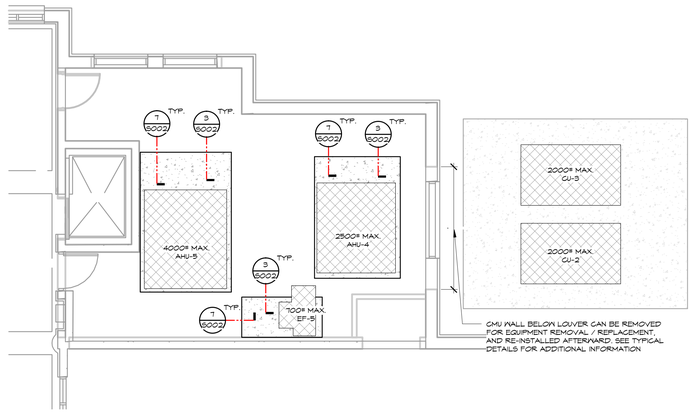


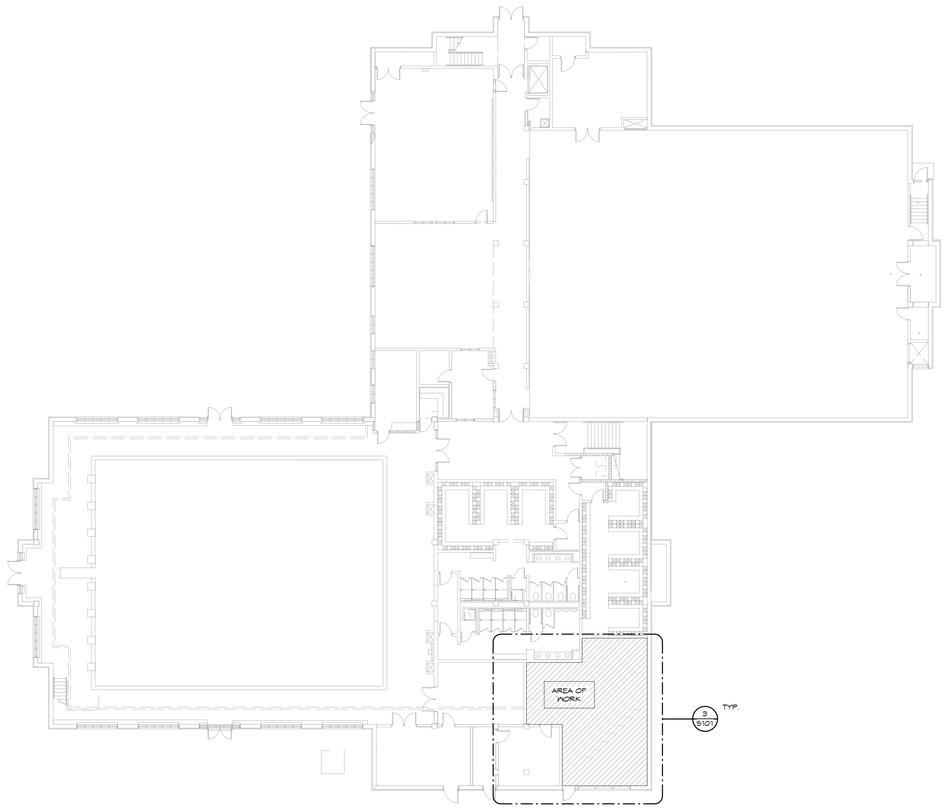
3 AREA OF WORK - FIRST FLOOR
3/16" = 1'-0"



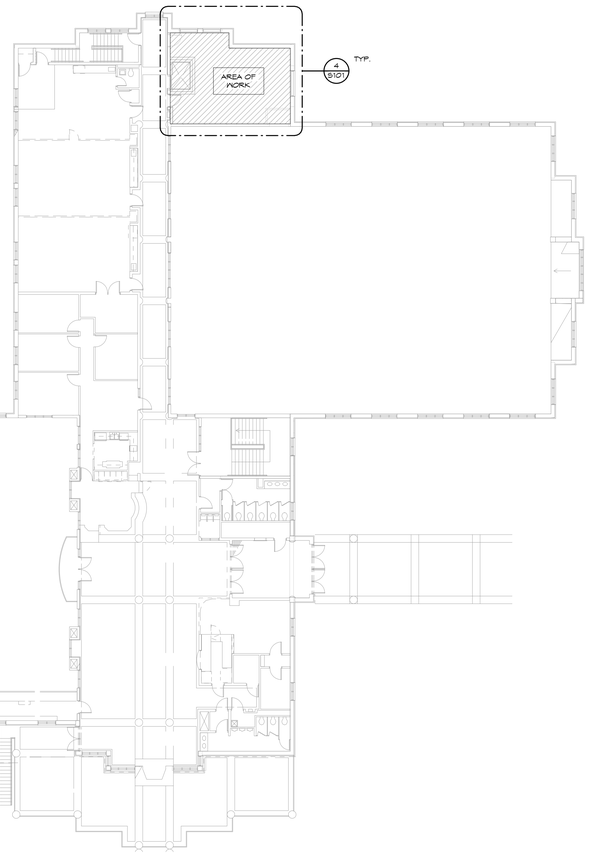
4 AREA OF WORK - SECOND FLOOR
3/16" = 1'-0"

EQUIPMENT ANCHORAGE SCHEDULE	
EQUIPMENT MARK	ANCHORAGE
AHU-1	SEE DETAIL 8/S002
AHU-2	3/8"x 3-1/2" HILTI KB-TZ2 EA. CORNER
AHU-3	3/8"x 3-1/2" HILTI KB-TZ2 EA. CORNER
EF-3	3/8"x 3-1/2" HILTI KB-TZ2 EA. CORNER
HWP-1, HWP-2	1/2"x 3-1/2" HILTI KB-TZ2 EA. CORNER
ALTERNATE 1	
AHU-4	3/8"x 3-1/2" HILTI KB-TZ2 EA. CORNER
AHU-5	3/8"x 3-1/2" HILTI KB-TZ2 EA. CORNER
EF-5	3/8"x 3-1/2" HILTI KB-TZ2 EA. CORNER
ALTERNATE 2	
CU-1	3/8"x 3-1/2" HILTI KB-TZ2 EA. CORNER
CU-2	3/8"x 3-1/2" HILTI KB-TZ2 EA. CORNER
CU-3	3/8"x 3-1/2" HILTI KB-TZ2 EA. CORNER

NOTES:
1. SEE MECH. DRAWINGS FOR ADDITIONAL INFORMATION ON EQUIPMENT SCHEDULED ABOVE (I.E. LAYOUTS, LOCATIONS, ETC.)
2. ANCHORAGE REQUIREMENTS SHOWN ABOVE ARE MINIMUMS AND SUBJECT TO NCREASED REQUIREMENTS AS INDICATED BELOW.
3. COORDINATE EQUIPMENT ANCHOR SIZES AND LAYOUTS WITH THE MANUFACTURER'S FINAL APPROVED EQUIPMENT CUTSHEETS. ANCHOR **ALL** EQUIPMENT USING HOLES PROVIDED BY THE MANUFACTURER, WHETHER EQUIPMENT IS SCHEDULED ABOVE OR NOT. FILL ALL HOLES PROVIDED BY THE MANUFACTURER WITH ANCHORS THAT ARE APPROPRIATELY SIZED FOR THE HOLES PROVIDED, I.E. ANCHORS TO BE AT LEAST 1/16" SMALLER THAN THE HOLE BUT NOT MORE THAN 1/8" SMALLER THAN THE HOLE. WHERE ANCHORAGE REQUIREMENTS SHOWN ABOVE CONFLICT WITH THE HOLES PROVIDED BY THE MANUFACTURER (I.E. HOLES ARE TOO SMALL OR THERE ARE FEWER HOLES THAN ANCHORS) CONTACT THE EOR FOR ADDITIONAL DIRECTION.
4. SEE STRUCTURAL GENERAL NOTES FOR ADDITIONAL NOTES AND INFORMATION ON POST-INSTALLED ANCHORS.
5. SEE MECH. FOR LOCATIONS WHERE HOUSEKEEPING PADS ARE REQUIRED BELOW EQUIPMENT. COORDINATE HOUSEKEEPING PAD DIMENSIONS W/ MECH. AND EQUIPMENT FOOTPRINTS. REFER TO TYPICAL DETAILS FOR ADDITIONAL INFORMATION.



N 1 OVERALL PLAN - FIRST FLOOR
1/16" = 1'-0"



N 2 OVERALL PLAN - SECOND FLOOR
1/16" = 1'-0"

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IVGID INCLINE REC CENTER HVAC SYSTEM REPLACEMENT

980 INCLINE WAY, INCLINE VILLAGE, NV 89451

Drawing Title
STRUCTURAL FLOOR PLAN

Designed: CMR	Project No.: 2024-030
Drawn: RGP	Scale: AS NOTED
Checked: CMR	Drawing No.: S101
Date: 2/14/2025	

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EXHAUST FAN SCHEDULE

SYMBOL	LOCATION / SERVICE	MANUFACTURER AND MODEL NO.	DRIVE TYPE	CFM	ESP (IN WC)	FAN RPM	SONES	MOTOR HP	VOLTAGE/ PHASE	FLA	OPERATING WEIGHT (LBS)	ACCESSORIES
EF 1	MECH ROOM 132 / TOILET EXH	GREENHECK SQ-160-VG	DIRECT	2300	0.50	1053	9.8	3/4	120 / 1	8.80	125	3
EF 2	MECH ROOM 132 / AHU-2	GREENHECK SQ-22-VG	DIRECT	6900	0.50	932	15.4	5	208 / 3	12.60	250	3
EF 3	MECH ROOM 132 / AHU-3	GREENHECK USF-27-VG	DIRECT	12600	2.00	1632	45.0	10	460 / 3	MCA 17.7	590	2
EF 4	MECH ROOM 203 / AHU4	GREENHECK SQ-16-M2	DIRECT	4475	0.50	1750	22.0	1-1/2	460 / 3	11.00	200	3
EF 5	MECH ROOM 203 / AHU5	GREENHECK USF-27-A2	DIRECT	12000	0.50	1058	26.0	7-1/2	460 / 3	MCA 13.75	650	1
EF 6	MECH ROOM 132 / TOILET EXH	GREENHECK SQ-130-VG	DIRECT	1600	0.75	1579	12.6	3/4	120 / 1	8.80	75	3
EF 7	MECH ROOM 205 / GENERAL EXH	GREENHECK SQ-120-VG	DIRECT	1100	1.00	1725	11.9	1/2	120 / 1	5.40	100	3
EF 8	MECH ROOM 132 / GENERAL EXH	GREENHECK SQ-130-VG	DIRECT	1600	0.50	1448	10.6	3/4	120 / 1	8.80	75	3

ACCESSORIES:
1. CORROSION RESISTANT FASTENERS
   NEMA-3R CONTROL BOX W/ DISCONNECT, MOUNTED AND WIRED
   CONTROLLER WITH HAND/OFF/AUTO AND 24V XFMR
   PERMATECTOR COATING, FAN AND ACCESSORIES
   BACKWARD INCLINED WHEEL
   UL/cUL-705 LISTED
   GRAVITY BACKDRAFT DAMPER
   PREMANUFACTURED SEISMIC SUPPORT WITH ISOLATION
2. CORROSION RESISTANT FASTENERS
   NEMA-3R CONTROL BOX W/ DISCONNECT, MOUNTED AND WIRED
   CONTROLLER WITH HAND/OFF/AUTO AND 24V XFMR
   PERMATECTOR COATING, FAN AND ACCESSORIES
   CURB CAP INLET BOX W/ ACCESS DOOR, PERMATECTOR COATING, AND DUCT SUPPORT
   BACKWARD INCLINED WHEEL
   UL/cUL-705 LISTED
   VFD (SEE VFD SCHEDULE)
   GRAVITY BACKDRAFT DAMPER
3. BACKWARD INCLINED ALUMINUM WHEEL
   CORROSION RESISTANT FASTENERS
   VARI-GREEN EC MOTOR
   0-10V INPUT FOR CONTROL
   CONTROL DIAL FOR BALANCING
   JUNCTION BOX MOUTNED AND WIRED
   UL/cUL-705 LISTED
   NEMA-1 TOGGLE SWITCH
   FACTORY DISCONNECT
   GRAVITY BACKDRAFT DAMPER

NOTES:
1. DATA HEREIN HAS BEEN ADJUSTED FOR 6,530 FT ELEVATION.
2. UNITS SHALL HAVE FLEXIBLE DUCT CONNECTIONS AND SPRING VIBRATION ISOLATORS WITH DEFLECTION AS RECOMMENDED BY THE MANUFACTURER.
3. ALL MOTORS 1 HP AND LARGER SHALL BE PREMIUM EFFICIENCY AND INVERTER RATED.

ADD ALTERNATE 1:
- INSTALL EF-4, EF-5, AND EF-7 PER PLAN

MECHANICAL GENERAL NOTES

1. ALL WORK AND MATERIALS SHALL CONFORM TO THE LATEST ADOPTED EDITION OF THE IBC, UMC, UPC, NEC, NFPA, NEVADA STATE FIRE MARSHAL REGULATIONS, LOCAL AND STATE ORDINANCES, AND INDUSTRY STANDARDS.
2. THE INFORMATION REGARDING EXISTING CONDITIONS SHOWN ON THE DRAWINGS IS BELIEVED TO BE CORRECT, BUT IS NOT GUARANTEED. THE CONTRACTOR SHALL RELY ON SITE VISITS AND NECESSARY INVESTIGATION TO ENSURE THAT HIS BID IS CORRECT AND COMPLETE AS REQUIRED TO PROVIDE THE SCOPE OF WORK DESCRIBED ON THE DRAWINGS. EXTRA COST WILL NOT BE ALLOWED TO THE CONTRACTOR FOR FAILURE TO PERFORM THIS TASK.
3. SUBMIT FOR REVIEW AND APPROVAL ELECTRONIC COPIES OF SUBMITTALS FOR ALL EQUIPMENT, DUCTWORK, AIR DISTRIBUTION, PLUMBING FIXTURES, INSULATION, VALVES, AND PIPING MATERIALS.
4. AS-BUILT DRAWINGS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL UPON COMPLETION OF THE WORK, AND PRIOR TO FINAL PAYMENT. AS-BUILT DRAWINGS SHALL BE MAINTAINED ON SITE AS THE WORK PROGRESSES AND SHALL BE AVAILABLE FOR REVIEW BY THE OWNER AND/OR ARCHITECT/ENGINEER AT ALL TIMES.
5. ALL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS.
6. THE WORK AND MATERIALS SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER.
7. COORDINATE THE EXACT LOCATION OF EQUIPMENT AND OF PENETRATIONS THROUGH THE ROOF, FLOORS, AND WALLS WITH STRUCTURAL DRAWINGS PRIOR TO ANY ROUGH-IN.
8. SEISMIC BRACING FOR MECHANICAL SYSTEMS (EQUIPMENT, DUCTWORK, PIPING, AND CONDUIT) SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THE 2018 INTERNATIONAL BUILDING CODE (IBC) INCLUDING ALL APPLICABLE PROVISIONS OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE) MINIMUM DESIGN LOADS FOR BUILDINGS (ASCE STANDARD 7-16 SECTION 13.1.3).
9. PIPING SHALL BE INSTALLED SUCH THAT IT DOES NOT OBSTRUCT ACCESS OR REMOVAL OF MECHANICAL EQUIPMENT.
10. PIPING AND/OR DUCTWORK SHALL NOT BE ROUTED IN THE DEDICATED ELECTRICAL SPACE AT OR ABOVE ELECTRICAL SWITCHBOARDS, DISTRIBUTION BOARDS, MOTOR CONTROL CENTERS, ETC. (AS PROHIBITED BY 2017 NATIONAL ELECTRICAL CODE SECTION 110.26F). THIS ISSUE IS PARTICULARLY APPLICABLE IN CHILLER ROOMS, BOILER ROOMS, ELECTRICAL ROOMS, AND DATA/SERVER ROOMS.
11. DASHED OUTLINES DENOTE THE REQUIRED SERVICE CLEARANCE SPACE (SEE DUCTWORK PLANS). NO PIPING, DUCTWORK, CONDUIT, AND/OR CEILING HANGERS SHALL BE INSTALLED IN THE DESIGNATED SERVICE/ACCESS CLEARANCE AREA.
12. SEE STRUCTURAL DRAWINGS FOR HOLE CORING REQUIREMENTS.
13. COORDINATE ROUTING OF DUCTWORK WITH PIPING, PLUMBING, FIRE SPRINKLER, AND ELECTRICAL TRADES PRIOR TO BEGINNING WORK.
14. ALL EQUIPMENT, PIPING, DUCTWORK, ETC. SHALL BE SUPPORTED AS REQUIRED TO PROVIDE A VIBRATION-FREE INSTALLATION.
15. TESTING AND BALANCING SHALL BE CONDUCTED BY AN AABC CERTIFIED TEST AND BALANCE CONTRACTOR. TEST AND BALANCE ALL AIR AND WATER SYSTEMS TO ACHIEVE THE LISTED VOLUMES. SET ALL VOLUME DAMPERS AND TEST/BALANCE SYSTEMS SUCH THAT THE VOLUME INDICATED ON THE DRAWINGS IS BEING DELIVERED. PROVIDE A WRITTEN REPORT SHOWING 'KA' FACTORS, FPM, AND CFM FOR EACH DIFFUSER, REGISTER, AND GRILLE, AND THE TOTAL AIR VOLUME FOR EACH TESTED SYSTEM. THE FINALIZED REPORT SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER FOR REVIEW AND APPROVAL UPON COMPLETION OF THE TESTING AND BALANCING AND BEFORE SCHEDULING THE FINAL OBSERVATION.
16. COORDINATE THE EXACT SIZE AND LOCATION OF DUCTWORK WITH ALL OTHER TRADES.
17. VERIFY FINAL THERMOSTAT LOCATIONS WITH BUILT-IN CABINETS, DOOR SWINGS, ETC.
18. THERMOSTATS MOUNTED ON EXTERIOR WALLS SHALL HAVE AN INSULATED BASE.

APPLICABLE CODES AND REGULATIONS

2018 INTERNATIONAL BUILDING CODE
2018 UNIFORM MECHANICAL CODE
2018 UNIFORM PLUMBING CODE
2017 NATIONAL ELECTRICAL CODE
2018 INTERNATIONAL FIRE CODE
2018 INTERNATIONAL ENERGY CONSERVATION CODE
NEVADA STATE FIRE MARSHAL
NEVADA OCCUPATIONAL SAFETY AND HEALTH
NATIONAL FIRE PROTECTION ASSOCIATION
UNDERWRITERS LABORATORIES
ALL OTHER APPLICABLE STATE AND LOCAL CODES, RULES, AND REGULATIONS

MECHANICAL LEGEND

HR	HEATING HOT WATER RETURN PIPE
HS	HEATING HOT WATER SUPPLY PIPE
RSL	REFRIGERANT SUCTION LINE
HS	REFRIGERANT LIQUID LINE
D	CONDENSATE DRAIN PIPE
	EXISTING ITEM TO BE REMOVED
GV	GATE VALVE
BLV	BALL VALVE
BFV	BUTTERFLY VALVE
BV	BALANCE VALVE
CKV	CHECK VALVE
	GAS VALVE WITH HANDLE
	PRESSURE REDUCING VALVE
T&P	T&P TEST PORT
	THERMOMETER, PRESSURE GAUGE
	RETURN/EXHAUST AIR
	SUPPLY/OUTSIDE AIR
	OUTSIDE AIR DUCT SECTION
	RETURN OR EXHAUST AIR DUCT SECTION
	SUPPLY AIR DUCT SECTION
(E) (N)	DUCT POD/ POC
12x10	DUCT (FIRST FIGURE SIDE SHOWN SECOND FIGURE SIDE NOT SHOWN)
	TURNING VANES
MVD	MANUAL VOLUME DAMPER
SLOPE	SLOPE DOWN IN DIRECTION OF ARROW
BSP	BUILDING PRESSURE SENSOR
CO_2	CARBON DIOXIDE SENSOR
Ø	DIAMETER
AC	AIR CONDITIONING
AD / AP	ACCESS DOOR, ACCESS PANEL
AFF	ABOVE FINISHED FLOOR
CFM / f	CUBIC FEET PER MINUTE
(E) / (N)	EXISTING / NEW
EAD, OAD, RAD	EXHAUST AIR, OUTSIDE AIR & RETURN AIR DAMPER
EF	EXHAUST FAN
°F	DEGREES FAHRENHEIT
FA, TB	FROM ABOVE, TO BELOW
FB, TA	FROM BELOW, TO ABOVE
GA	GAUGE
AAV, MAV	AUTOMATIC AIR VENT, MANUAL AIR VENT
MAX, MIN	MAXIMUM, MINIMUM
PD	PITCH DOWN IN DIRECTION OF ARROW
POC	POINT OF CONNECTION
POD	POINT OF DISCONNECT
PRV	PRESSURE REDUCING VALVE
RA, EA	RETURN AIR, EXHAUST AIR
SA, OA	SUPPLY AIR, OUTSIDE AIR
TCV	TEMPERATURE CONTROL VALVE
TCP	TEMPERATURE CONTROL PANEL
TYP, REF	TYPICAL, REFERANCE
REF	REFERANCE
XFMR	TRANSFORMER

DRAWING SHEET INDEX

AIR SEPARATOR

SYMBOL	SYSTEM SERVED	MANUFACTURER AND MODEL NO.	ASME PRESSURE RATING (PSI)	CONNECTION SIZE (IN)	ACTUAL GPM	RATED GPM	PRESSURE DROP (FT)	DIMENSIONS (IN)	OPERATING WEIGHT (LBS)
AS 2	HEAT RECOVERY WATER	TACO MODEL 4902AD-125	125	1	15	51	0.25	FLANGE-FLANGE: 20 OVERALL HEIGHT: 16.5	100

NOTES:
1. PROVIDE REPLACEABLE BLADDER AND BOTTOM CONNECTION.

EXPANSION TANK SCHEDULE

SYMBOL	SYSTEM SERVED	MANUFACTURER AND MODEL NO.	ACCEPTANCE VOLUME (GALS)	SYSTEM TEMPERATURES (°F)		TANK FILL PRESSURE (PSI)	ASME PRESSURE RATING (PSI)	OPERATING WEIGHT (LBS)
				MIN	MAX			
ET 3	HEAT RECOVERY WATER	ELBI HTS-45	12	40	110	15	150	52

NOTES:
1. PROVIDE REPLACEABLE BLADDER AND BOTTOM CONNECTION.
2. UNIT SELECTED FOR 40% PROPYLENE GLYCOL.

PUMP SCHEDULE

SYMBOL	SYSTEM SERVED	MANUFACTURER AND MODEL NO.	TYPE	GPM	TDH (FT)	HP	VOLTAGE/ PHASE	OPERATING WEIGHT (LBS)	ACCESSORIES / NOTES
HRP 1	AHU-3 HEAT RECOVERY SYSTEM	TACO 1915	INLINE	15	30	1/2	115 / 1	100	ACCESSORIES 1 NOTES 1, 2, 3
HRP 2	AHU-3 HEAT RECOVERY SYSTEM	TACO 1915	INLINE	15	30	1/2	115 / 1	100	ACCESSORIES 1 NOTES 1, 2, 3
HWP 1	HEATING HOT WATER SECONDARY	TACO SKV3006D	INLINE	205	95	10	460 / 3	400	ACCESSORIES 1 NOTES 1, 2, 3
HWP 2	HEATING HOT WATER SECONDARY	TACO SKV3006D	INLINE	205	95	10	460 / 3	400	ACCESSORIES 1 NOTES 1, 2, 3

ACCESSORIES:
1. FURNISH WITH VFDS (SEE VFD SCHEDULE)

NOTES:
1. ALL MOTORS 1 HP AND HIGHER SHALL BE PREMIUM EFFICIENCY AND INVERTER RATED.
2. UNITS SELECTED FOR 40% PROPYLENE GLYCOL.
3. ALL MOTORS SHALL HAVE SHAFT GROUNDING.

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No.	Description	Date

JOB: 2024-030

Mechanical Seal

02/14/2025

Consultant Seal

Agency Approval

Project Title

IVGID INCLINE REC CENTER HVAC SYSTEM REPLACEMENT

980 INCLINE WAY, INCLINE VILLAGE, NV 89451

Drawing Title

MECHANICAL LEGEND, SCHEDULES & NOTES

Designed: CK	Project No.: 2024-030
Drawn: CK	Scale: AS NOTED
Checked: AH	Drawing No.: **M001**
Date: 2/14/25	

PLEASE RECYCLE

BID SET

HOT WATER HEATING COIL SCHEDULE

SYMBOL	AREA SERVED	MANUFACTURER AND MODEL NO.	WIDTH x HEIGHT (IN)	CFM	MBH	EAT (°F)	LAT (°F)	EWT (°F)	LWT (°F)	GPM	WPD (FT)	APD (IN WC)	ROWS / FPI	OPERATING WEIGHT (LBS)
HC 1	EXERCISE / FITNESS 112, POOL OFFICE 114, ROOM 116	NORTEK	24 x 24	1950	52.9	55	86	200	143.2	2.0	2.8	0.07	1 / 10	150
HC 2	AEROBICS / DANCE 101	NORTEK	24 x 30	2205	60.3	55	86	200	135.2	2.0	3.3	0.06	1 / 10	150
HC 3	CHILD CARE 204	NORTEK	12 x 15	600	15.8	55	85	200	166.0	1.0	0.3	0.07	1 / 10	75
HC 4	CRAFTS 206, 207	NORTEK	18 x 18	1000	29.2	55	88	200	158.2	1.5	1.1	0.06	1 / 10	100
HC 5	OFFICE 210, 212, 213, 215, 214, 217	NORTEK	21 x 21	1200	25.8	55	89	200	148.8	1.5	1.4	0.05	1 / 10	125
									TOTAL	8.0				

NOTES:

1. DATA HEREIN HAS BEEN ADJUSTED FOR 6530 FT ELEVATION.
2. UNITS SELECTED WITH 40% PROPYLENE GLYCOL.

ADD ALTERNATE 1:
- INSTALL SCHEDULED HEATING COILS PER PLAN

DUCT DETECTOR SCHEDULE

SYMBOL	LOCATION 1	LOCATION 2	SUBTOTAL
AHU-1	SUPPLY AIR	RETURN AIR	2
AHU-2	SUPPLY AIR	RETURN AIR	2
AHU-3	SUPPLY AIR	RETURN AIR	2
AHU-4	SUPPLY AIR	RETURN AIR	2
AHU-5	SUPPLY AIR	RETURN AIR	2
TOTAL DUCT SMOKE DETECTORS:			10

NOTE:
SEE 23 31 10 HVAC DUCTWORK ACCESSORIES FOR MORE INFORMATION

GLYCOL FEEDER

GF 2	GLYCOL FEEDER AXIOM MODEL DMF300 HYDRONIC SYSTEM FEEDER, 17 GALLON, 120V/1PH, 50 WATTS

AIR HANDLING UNIT SCHEDULE

SYMBOL	AREA SERVED	MANUFACTURER AND MODEL NO.	SUPPLY FAN					MIN OA (CFM)	HEATING COIL								COOLING COIL							ELECTRICAL			FILTERS	UNIT DIM. (W x L x H) (IN.)	OPERATING WEIGHT (LBS)
			CFM	ESP/TSP (IN WC)	HP	RPM	FAN TYPE		MBH	(QTY) W x H (IN)	ROWS / FPI	GPM	EWT (°F)	LWT (°F)	WPD (FT)	EAT (°F)	LAT (°F)	APD (IN WC)	TOTAL (MBH)	SENSIBLE (MBH)	(QTY) W x H (IN)	ROWS / FPI	EAT (°F)	LAT (°F)	APD (IN WC)	VOLTAGE/ PHASE	UNIT FLA	UNIT MOCP	MERV 8A FILTER (QTY) SIZE (IN)		
AHU 1	LOCKER ROOMS	DAIKIN BCHD0301	2,200	1.00 / 1.57	2	1,422	DIRECT DRIVE	2,200	173	-	1 / 12	12	200	170	17.72	0	90.9	-	-	-	-	-	-	-	-	460 / 3	2.8	15	-	49 x 38 x 26	600
AHU 2	LOUNGE / LOBBY	DAIKIN CAH017GDGC	7,750	2.00 / 2.48	7.5	1,726	DIRECT DRIVE	1,600	255	(1) 36 x 64	2 / 6	18	200	170	1	47	85.1	0.10	87.3	87	(1) 36 x 67	2 / 7	80/61	67.0	0.07	460 / 3	9.8	25	(3) 24 x 24 (3) 12 x 24	80 x 92 x 46	2,200
AHU 3	NATATORIUM	DAIKIN CAH026GHGM	12,000	2.00 / 2.35	10	1,719	DIRECT DRIVE	12,000	534	(2) 24 x 68	1 / 12	39	200	170	19.4	38	89.4	0.11	-	-	-	-	-	-	-	460 / 3	12.5	30	(6) 24 x 24 (3) 12 x 24	84 x 78 X 60	2,000
AHU 4	OFFICE / ACTIVITIES	DAIKIN CAH017GDGC	7,650	2.00/3.27	7.5	1,844	DIRECT DRIVE	1,600	161	(1) 36 x 64	1 / 6	12	200	171	1.9	45	69.2	0.09	217	186	(1) 36 x 67	6 / 8	80/61	52.0	0.84	460 / 3	9.8	25	(3) 24 x 24 (3) 12 x 24	80 x 116 x 46	2,500
AHU 5	GYMNASIUM	DAIKIN CAH025GDGC	12,000	2.00 / 3.36	10	1,570	DIRECT DRIVE	3,400	441	(2) 24 x 70	2 / 6	31	200	170	1.7	43	85.5	0.20	273	251	(1) 48 x 73	4 / 8	80/61	55.8	0.59	460 / 3	14.3	35	(6) 24 x 24 (2) 12 x 24	86 x 102 x 60	3,500
											TOTAL	113																		

ACCESSORIES:
1. FACTORY DISCONNECT(S) - SEE NOTES
2. FURNISH (3) TOTAL SETS OF FILTERS: CONSTRUCTION, BALANCING, AND SPARE SET TO OWNER AT PROJECT COMPLETION
3. FACTORY INSTALLED AIR VENTS AT TOP OF EACH COIL
4. SHAFT GROUNDING AT ALL MOTORS
5. 6" MOUNTING RAIL (AHU-2, 3, 4, 5). SEE STRUCTURAL SHEETS FOR ANCHORING.
6. FILTER SECTION (AHU-2, 3, 4, 5)
7. ACCESS DOORS FOR FILTERS AND SA FAN SECTIONS (AHU-2, 3, 4, 5)

NOTES:
1. FIELD VERIFY ALL COIL CONNECTION CONFIGURATIONS
2. DATA HEREIN HAS BEEN ADJUSTED FOR 6530 FT ELEVATION.
3. PREMIUM EFFICIENCY AND INVERTER RATED MOTORS.
4. VFD'S TO BE SUPPLIED BY THE TEMPERATURE CONTROL CONTRACTOR AND FIELD INSTALLED. SEE VFD SCHEDULE FOR MORE INFORMATION.
5. PROVIDE LABELS ON ALL UNIT ACCESS DOORS IDENTIFYING COMPONENTS WITHIN.
6. ELECTRICAL CONTRACTOR SHALL CONNECT 460V POWER TO EACH AHU CONTROL PANEL AND CONNECT FACTORY INSTALLED MOTOR WIRING TO VFD OUTPUT CONNECTIONS
7. UNITS SELECTED FOR 40% PROPYLENE GLYCOL ON HEATING COILS

ADD ALTERNATE 1:
- REPLACE (E)AHU-4 AND (E)AHU-5 WITH AHU-4 AND AHU-5.

ADD ALTERNATE 2:
- AHU-2, AHU-4, AND AHU-5 TO HAVE ALTERNATE COOLING COILS. SEE AIR HANDLING UNIT COOLING COIL SCHEDULE.
- LISTED UNIT WEIGHTS APPLY TO BASE BID AND ALTERNATE 2.

HEAT RECOVERY COIL SCHEDULE

SYMBOL	AREA SERVED	MANUFACTURER AND MODEL NO.	WIDTH x HEIGHT (IN)	CFM	MBH	EAT (°F)	LAT (°F)	EWT (°F)	LWT (°F)	GPM	WPD (FT)	APD (IN WC)	ROWS / FPI	OPERATING WEIGHT (LBS)
HRC 6	AHU-3 HEAT RECOVERY - OUTSIDE AIR	NORTEK	36 x 42	5000	171.0	0	35	60	35.1	15.0	4.8	0.67	8 / 10	500
HRC 7	AHU-3 HEAT RECOVERY - EXHAUST AIR	NORTEK	36 x 42	5000	163.0	85	53	35	58.3	15.0	5.9	0.76	10 / 10	500

NOTES:

1. DATA HEREIN HAS BEEN ADJUSTED FOR 6350 FT ELEVATION.
2. UNITS SELECTED WITH 40% PROPYLENE GLYCOL

(E) CONDENSING UNIT SCHEDULE

(E) UNIT SYMBOL	MANUFACTURER AND MODEL NO.	EER	IEER	CIRCUITS	COOLING			ELECTRICAL			OPERATING WEIGHT (LBS)
					NOMINAL CAPACITY (MBH)	DESIGN OUTDOOR TEMP (°F)	STAGES	VOLTAGE/ PHASE	MCA	MOCP	
(E) CU 1	CARRIER 38AUZA08	12.9	-	1	90	100	1	460 / 3	17	25	400
(E) CU 2	CARRIER 38AUZA14	11	14.2	1	150	100	3	460 / 3	24.9	30	1000
(E) CU 3	CARRIER 38AUZA25	10.6	13.5	1	240	100	3	460 / 3	40.8	50	-

AIR HANDLING UNIT COOLING COIL SCHEDULE

SYMBOL	UNIT SERVED	MANUFACTURER AND MODEL NO.	CFM	TOTAL (MBH)	SENSIBLE (MBH)	(QTY) W x H (IN)	ROWS / FPI	EAT (°F)	LAT (°F)	APD (IN WC)	OPERATING WEIGHT (LBS)
CC 2	AHU-2	EMERGENT COILS DX58S04Q09	7,750	222.6	222.6	(1) 36 x 67	4 / 6	80/61	53.7	0.33	300
CC 4	AHU-4	EMERGENT COILS DX58S04Q09	7,650	220.6	221	(1) 36 x 67	4 / 6	80/61	53.6	0.33	300
CC 5	AHU-5	EMERGENT COILS DX58S04S06	12,000	294.7	295	(1) 48 x 73	4 / 6	80/61	57.5	0.25	410

ACCESSORIES:
1. R454B MODULE FOR A2L REFRIGERANT LEAK DETECTION TO BE SUPPLIED BY CONTROLS CONTRACTOR. REFRIGERANT LEAK MODULE SHALL BE UL 60335-2-40-ANNEX LL LISTED.

NOTES:
1. UNITS SELECTED FOR REFRIGERANT R454B
2. ALUMINUM FIN MATERIAL
3. COOLING COILS TO BE FIELD INSTALLED.
4. CONTRACTOR TO CONFIRM COOLING COIL SIZES INTEGRATE WITH AIR HANDLER COOLING COIL COMPARTMENT BEFORE ORDERING.

ADD ALTERNATE 2:
- COOLING COILS TO BE USED IN PLACE OF LISTED COOLING COILS IN AIR HANDLER SCHEDULE.

CONDENSING UNIT SCHEDULE

UNIT SYMBOL	MANUFACTURER AND MODEL NO.	EER	IEER	CIRCUITS	FAN MOTORS	COOLING				ELECTRICAL			REFRIGERANT LINE SIZES (QTY)LIQU / (QTY)SUCT (IN)	OPERATING WEIGHT (LBS)
						NOMINAL CAPACITY (MBH)	DESIGN OUTDOOR TEMP (°F)	ROWS / FPI	STAGES	VOLTAGE/ PHASE	MCA	MOCP		
CU 1	TRANE TTA180K4DAA	11.2	14.2	2	2	180	85	1 / 23	2	460 / 3	33.0	40	(1)1/2 / (1)1 3/8	750
CU 2	TRANE TTA180K4DAA	11.2	14.2	2	2	180	85	1 / 23	2	460 / 3	33.0	40	(1)1/2 / (1)1 3/8	750
CU 3	TRANE TTA240K4DAA	10.2	13.2	2	2	240	85	1 / 23	2	460 / 3	45.0	60	(1)1/2 / (1)1 3/8	800

ACCESSORIES:
1. ELECTRICAL CONTRACTOR PROVIDED DISCONNECT.
2. HOT GAS BYPASS
3. 24V TERMINAL STRIP
4. VANDAL GUARDS
5. COMPRESSOR SOUND BLANKETS (SHIPPED LOOSE.

NOTES:
1. ALL MOTORS 1 HP AND HIGHER SHALL BE PREMIUM EFFICIENCY AND INVERTER RATED.
2. UNITS SELECTED FOR 6350 FT ELEVATION.
3. UNITS SELECTED FOR R454B REFRIGERANT.
4. SEE STRUCTURAL SHEETS FOR ANCHORING REQUIREMENTS
5. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS AND SPECIFICATIONS.

ADD ALTERNATE 2:
- REPLACE (E)CU-1, (E)CU-2, AND (E)CU-3 WITH NEW CU-1, CU-2, AND CU-3.

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JOB#: 2024-030

No. | Description | Date

Mechanical Seal

Consultant Seal

Agency Approval

Project Title

IVGID INCLINE REC CENTER HVAC SYSTEM REPLACEMENT

980 INCLINE WAY, INCLINE VILLAGE, NV 89451

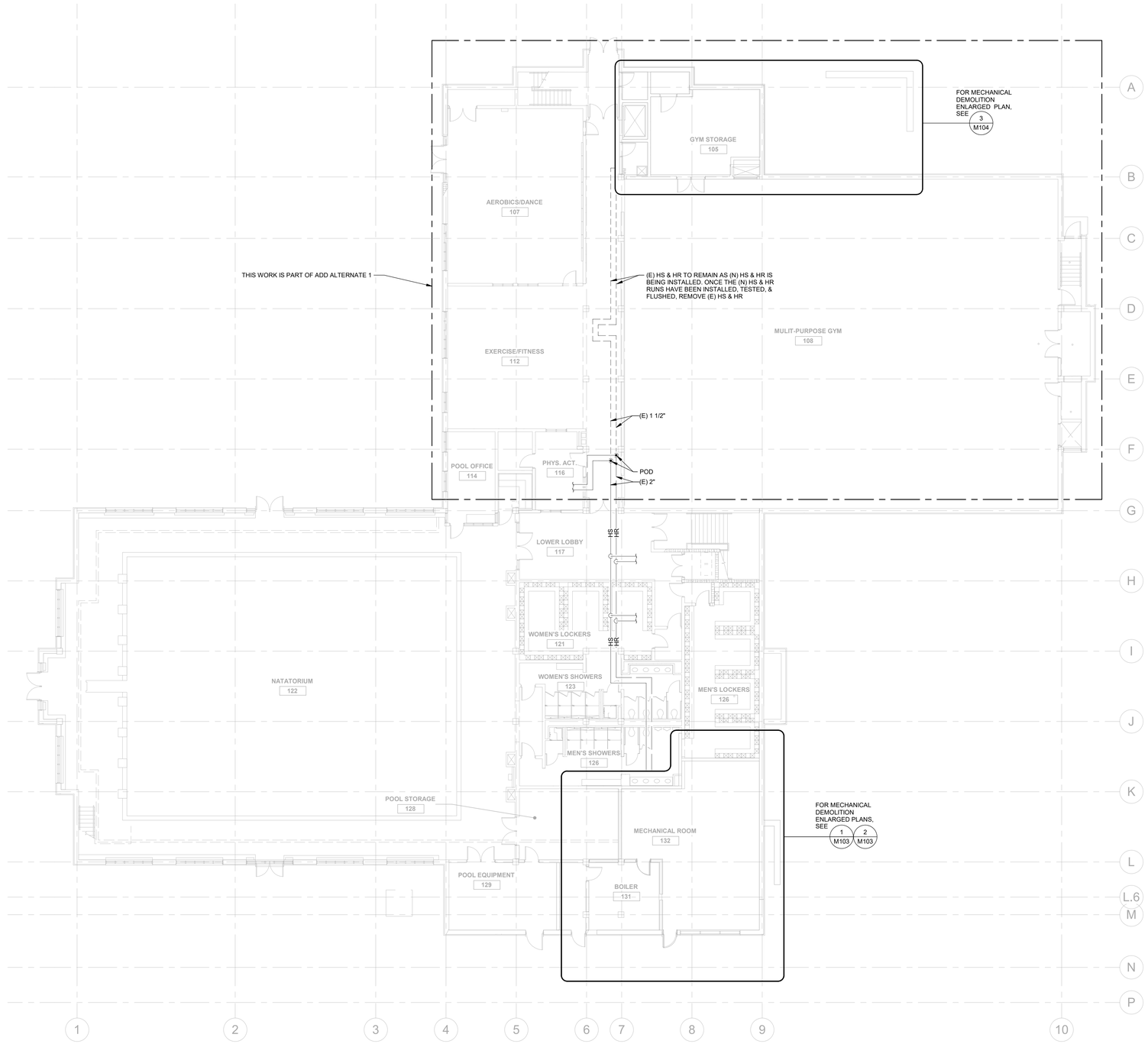
Drawing Title

MECHANICAL SCHEDULES

Designed: CK	Project No.: 2024-030
Drawn: CK	Scale: AS NOTED
Checked: AH	Drawing No.: M002
Date: 2/14/25	

BID SET

PLEASE RECYCLE



MECHANICAL DEMOLITION FLOOR PLAN - LEVEL 1

1 M101

SCALE: 3/32" = 1'-0"

N

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No.	Description	Date

JOB: 2024-030

Mechanical Seal

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Project Title

IVGID INCLINE REC CENTER HVAC SYSTEM REPLACEMENT

980 INCLINE WAY, INCLINE VILLAGE, NV 89451

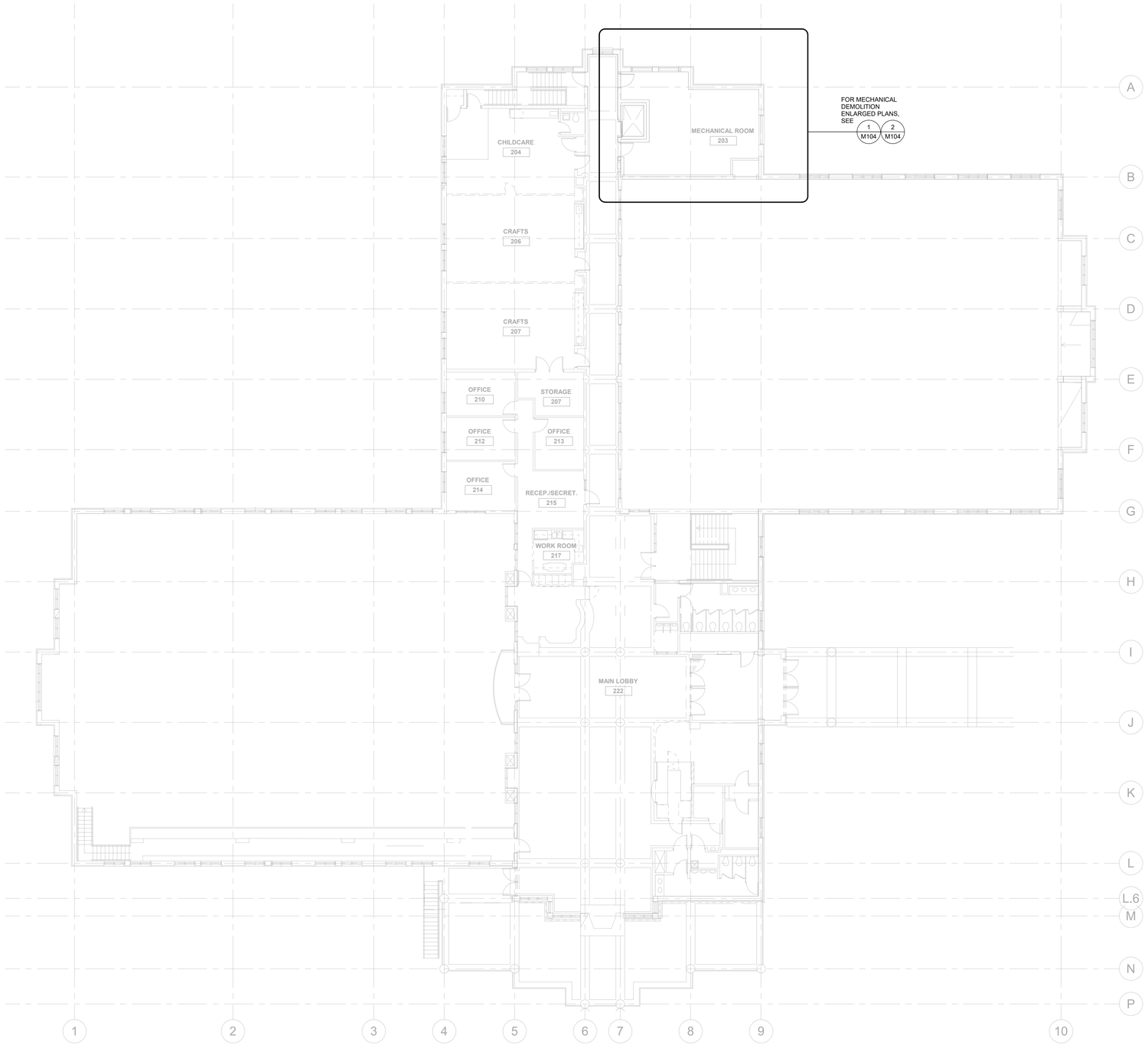
Drawing Title

MECHANICAL DEMOLITION FLOOR PLAN - LEVEL 1

Designed: CK	Project No.: 2024-030
Drawn: CK	Scale: AS NOTED
Checked: AH	Drawing No.: **M101**
Date: 2/14/25	

PLEASE RECYCLE

BID SET



MECHANICAL DEMOLITION FLOOR PLAN - LEVEL 2

1 / M102

SCALE: 3/32" = 1'-0"

N

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No.	Description	Date

JOB: 2024-030

Mechanical Seal

ALLISON D. HALL — 06-30-25 — FIRE PROTECTION — NEVADA — NO. 21194 — PROFESSIONAL ENGINEER — STATE OF

02/14/2025

Consultant Seal

Agency Approval

Project Title

IVGID INCLINE REC CENTER HVAC SYSTEM REPLACEMENT

980 INCLINE WAY, INCLINE VILLAGE, NV 89451

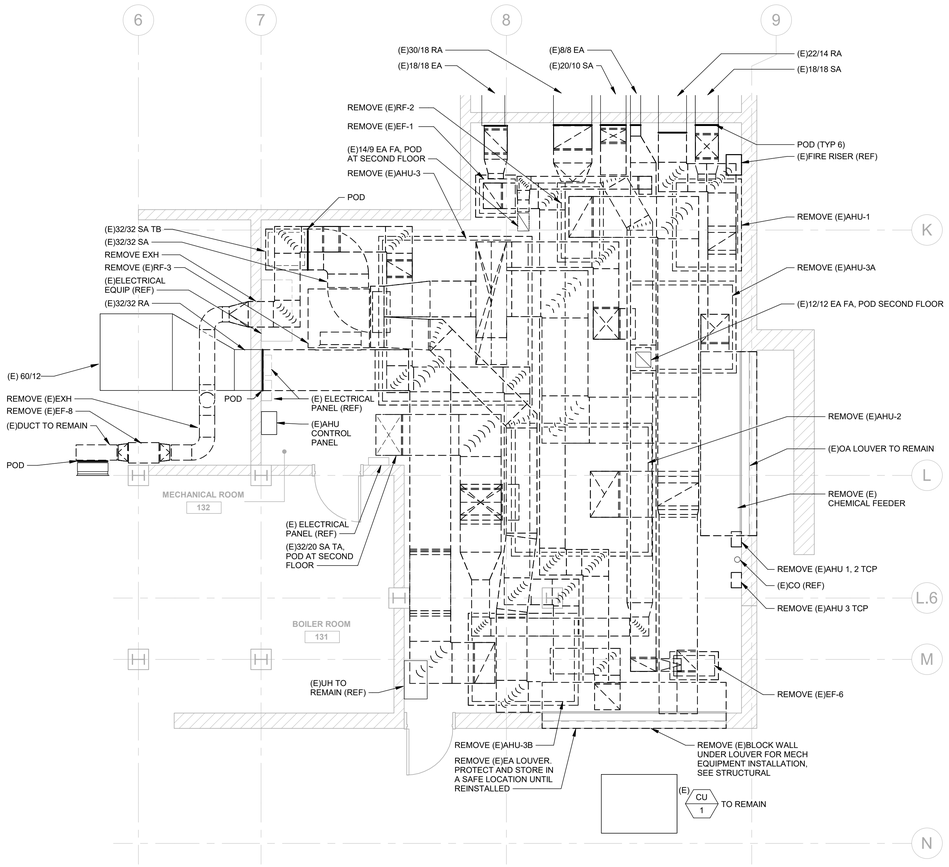
Drawing Title

MECHANICAL DEMOLITION FLOOR PLAN - LEVEL 2

Designed: CK	Project No.: 2024-030
Drawn: CK	Scale: AS NOTED
Checked: AH	Drawing No.: **M102**
Date: 2/14/25	

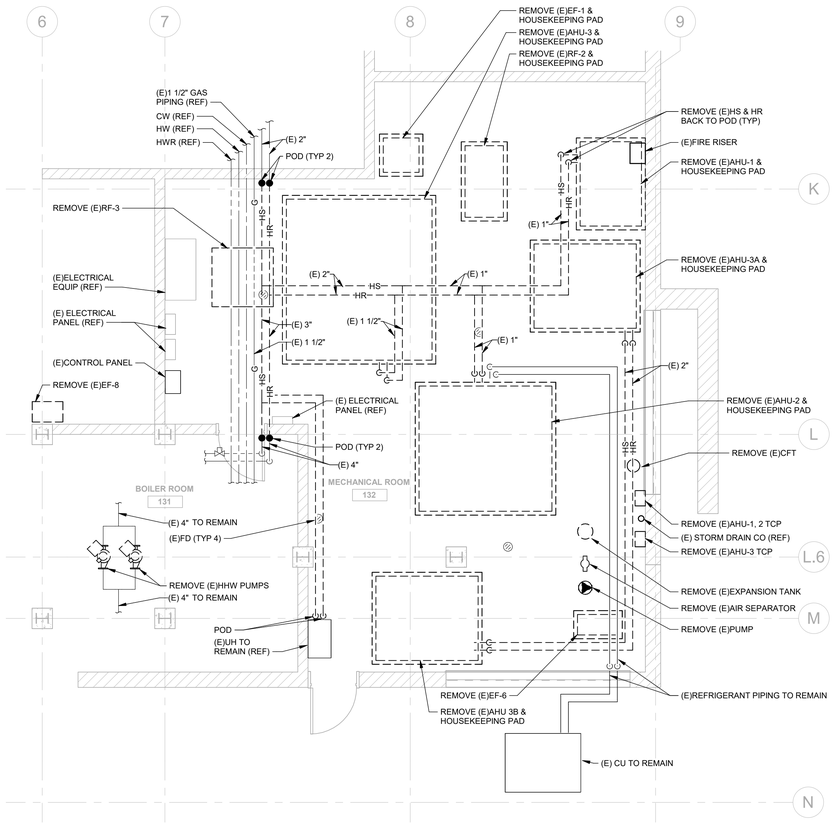
PLEASE RECYCLE

BID SET



BASE BID - MECHANICAL DEMOLITION ENLARGED PLAN - ROOM 132 (1 / M103)

SCALE: 1/4" = 1'-0"



BASE BID - MECHANICAL PIPING DEMOLITION ENLARGED PLAN - ROOM 132 (2 / M103)

SCALE: 1/4" = 1'-0"

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No.	Description	Date

JOB: 2024-030

Mechanical Seal

ALISON T. HALL, 21194, STATE OF NEVADA, PROFESSIONAL ENGINEER, MECHANICAL
06-30-25
02/14/2025

Consultant Seal

Agency Approval

Project Title

IVGID INCLINE REC CENTER HVAC SYSTEM REPLACEMENT

980 INCLINE WAY, INCLINE VILLAGE, NV 89451

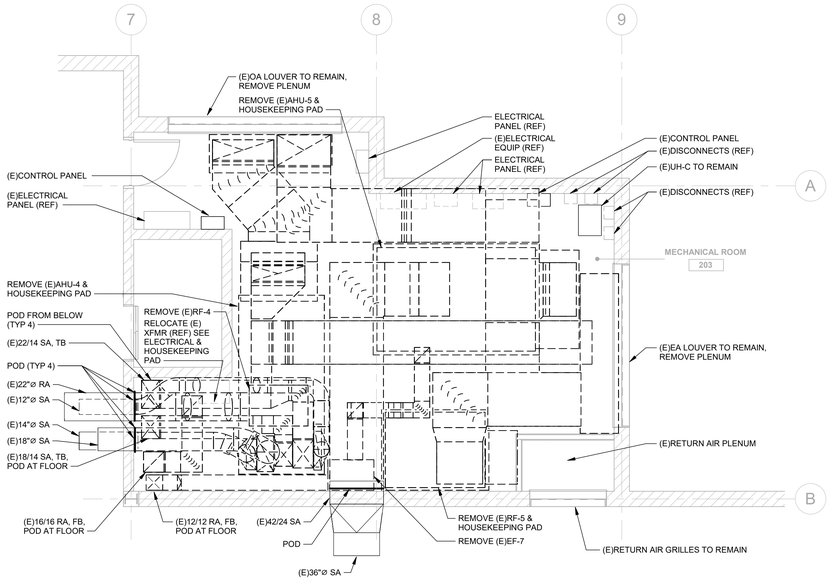
Drawing Title

MECHANICAL DEMOLITION ENLARGED PLANS

Designed: CK	Project No.: 2024-030
Drawn: CK	Scale: AS NOTED
Checked: AH	Drawing No.: **M103**
Date: 2/14/25	

PLEASE RECYCLE

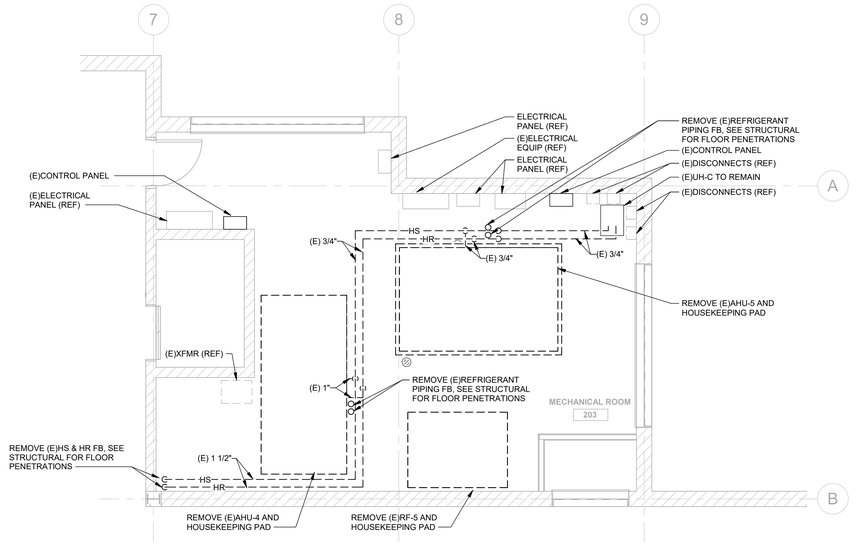
BID SET



ADD ALTERNATE 1 - MECHANICAL DEMOLITION ENLARGED PLAN - ROOM 203

SCALE: 1/4" = 1'-0"

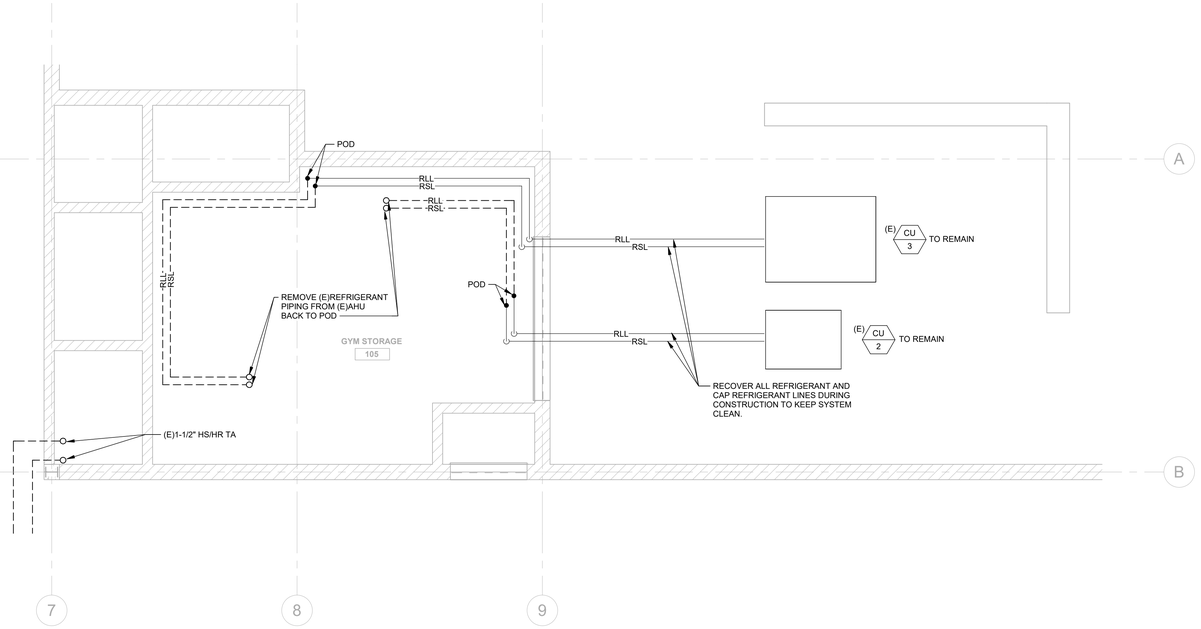
1 / M104



ADD ALTERNATE 1 - MECHANICAL PIPING DEMOLITION ENLARGED PLAN - ROOM 203

SCALE: 1/4" = 1'-0"

2 / M104



ADD ALTERNATE 1 - MECHANICAL DEMOLITION ENLARGED PLAN - GYM STORAGE 105

SCALE: 1/4" = 1'-0"

3 / M104

AINSWORTH ASSOCIATES
MECHANICAL ENGINEERS
1420 ISKOLOMB AVENUE, SUITE 201
INCLINE VILLAGE, NEVADA 89451
TEL: 775-329-9100
www.aa-mec.com

JOB: 2024-030

No.	Description	Date

Mechanical Seal

02/14/2025

Consultant Seal

Agency Approval

Project Title

IVGID INCLINE REC CENTER HVAC SYSTEM REPLACEMENT

980 INCLINE WAY, INCLINE VILLAGE, NV 89451

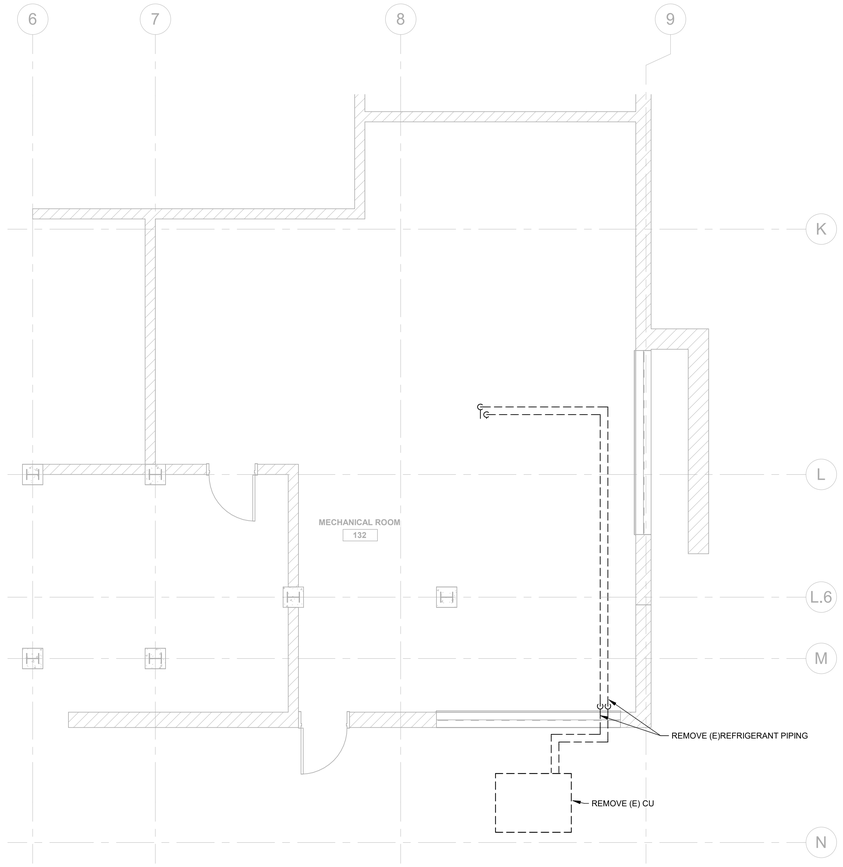
Drawing Title

MECHANICAL DEMOLITION ENLARGED PLANS

Designed: CK	Project No.: 2024-030
Drawn: CK	Scale: AS NOTED
Checked: AH	Drawing No.: **M104**
Date: 2/14/25	

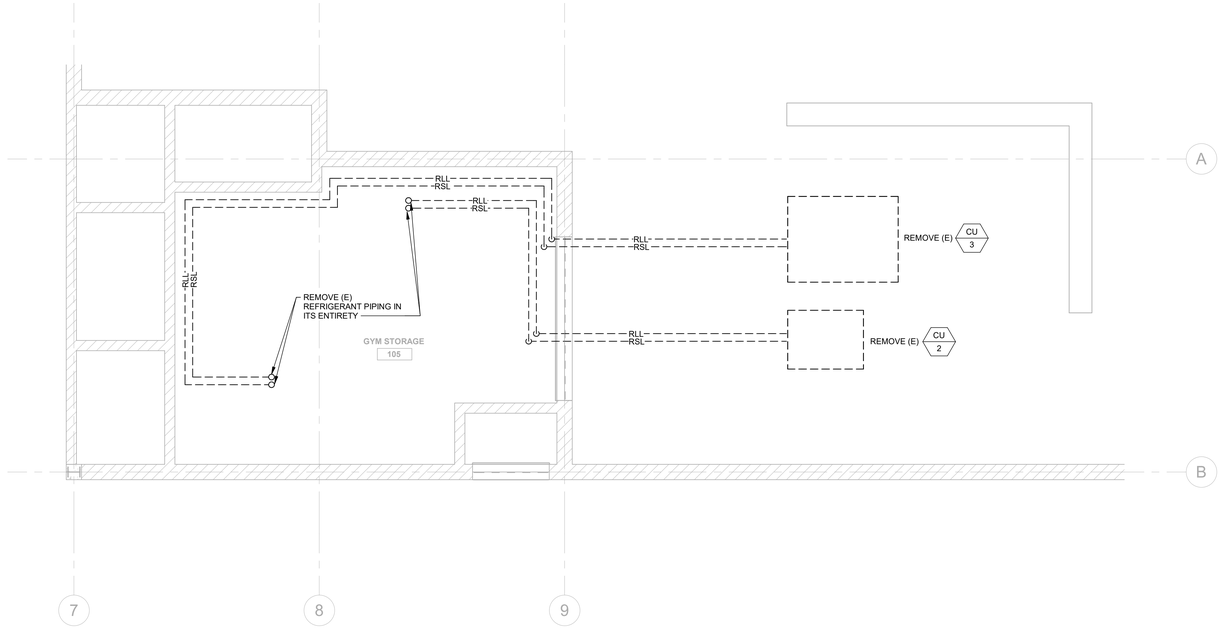
PLEASE RECYCLE

BID SET



ADD ALTERNATE 2 - MECHANICAL DEMOLITION ENLARGED PLAN - ROOM 132 (1 / M105)

SCALE: 1/4" = 1'-0"



ADD ALTERNATE 2 - MECHANICAL DEMOLITION ENLARGED PLAN - GYM STORAGE 105 (2 / M105)

SCALE: 1/4" = 1'-0"

AINSWORTH ASSOCIATES
MECHANICAL ENGINEERS
1420 ORO CAMB AVENUE, SUITE 201
RENO, NEVADA 89509
TEL: 775-329-9100
www.aa-mc.com

No.	Description	Date

JOB: 2024-030

Mechanical Seal

Consultant Seal

Agency Approval

Project Title

IVGID INCLINE REC CENTER HVAC SYSTEM REPLACEMENT

980 INCLINE WAY, INCLINE VILLAGE, NV 89451

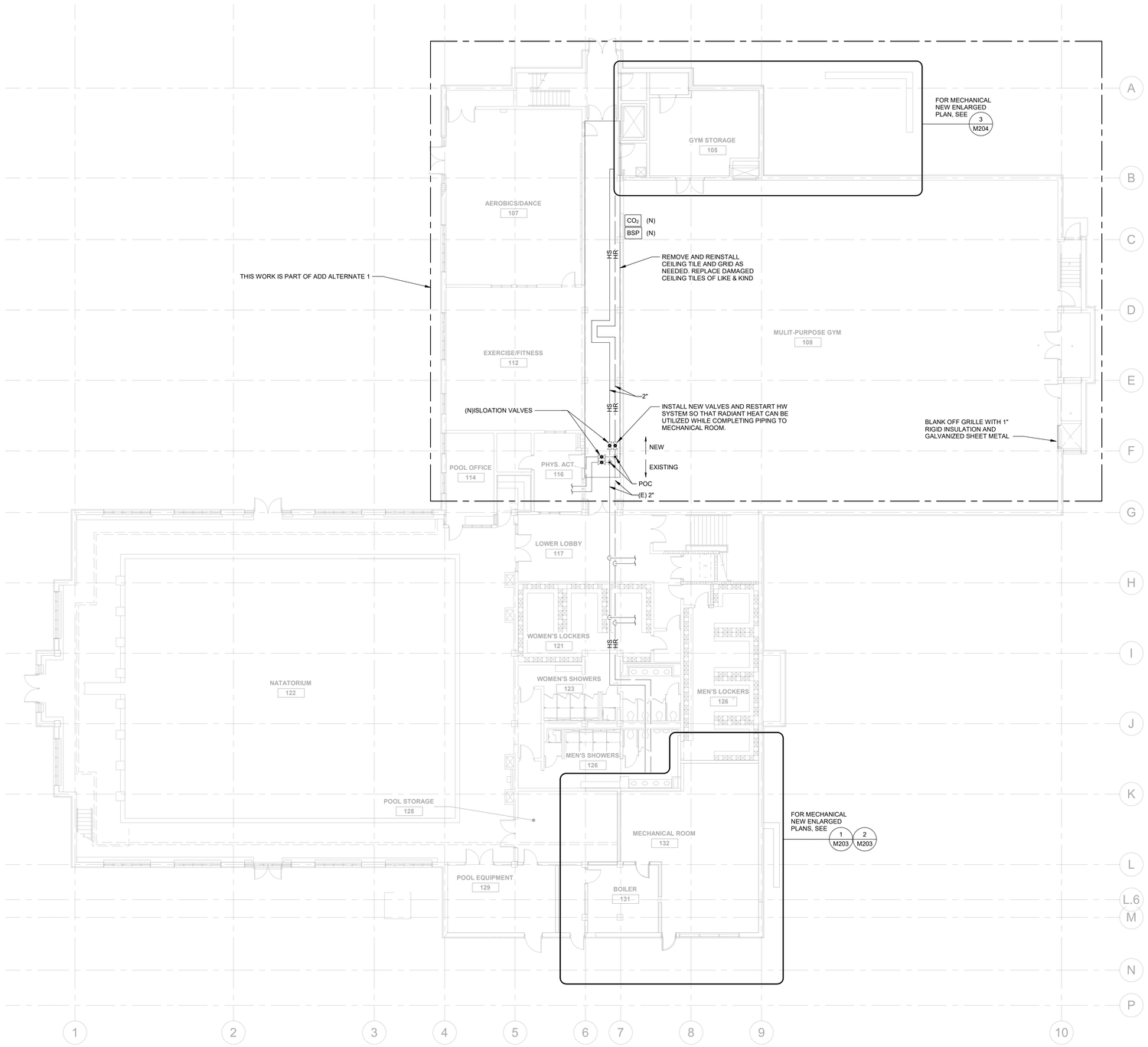
Drawing Title

MECHANICAL DEMOLITION ENLARGED PLANS

Designed: Designer	Project No.: 2024-030
Drawn: Author	Scale: AS NOTED
Checked: Checker	Drawing No.: **M105**
Date: 2/14/25	

PLEASE RECYCLE

BID SET



MECHANICAL NEW FLOOR PLAN - LEVEL 1

SCALE: 3/32" = 1'-0"

1 M201

N

AINSWORTH ASSOCIATES
MECHANICAL ENGINEERS
1420 HOLCOMB AVENUE, SUITE 201
RENO, NEVADA 89502
TEL: 775-329-9100
www.aa-mc.com

No.	Description	Date

JOB: 2024-030

Mechanical Seal

REGISTERED PROFESSIONAL ENGINEER - STATE OF NEVADA
ALISON D. HALL
EXP. 06-30-25
FIRE PROTECTION
NO. 21114
02/14/2025

Consultant Seal

Agency Approval

Project Title

IVGID INCLINE REC CENTER HVAC SYSTEM REPLACEMENT

980 INCLINE WAY, INCLINE VILLAGE, NV 89451

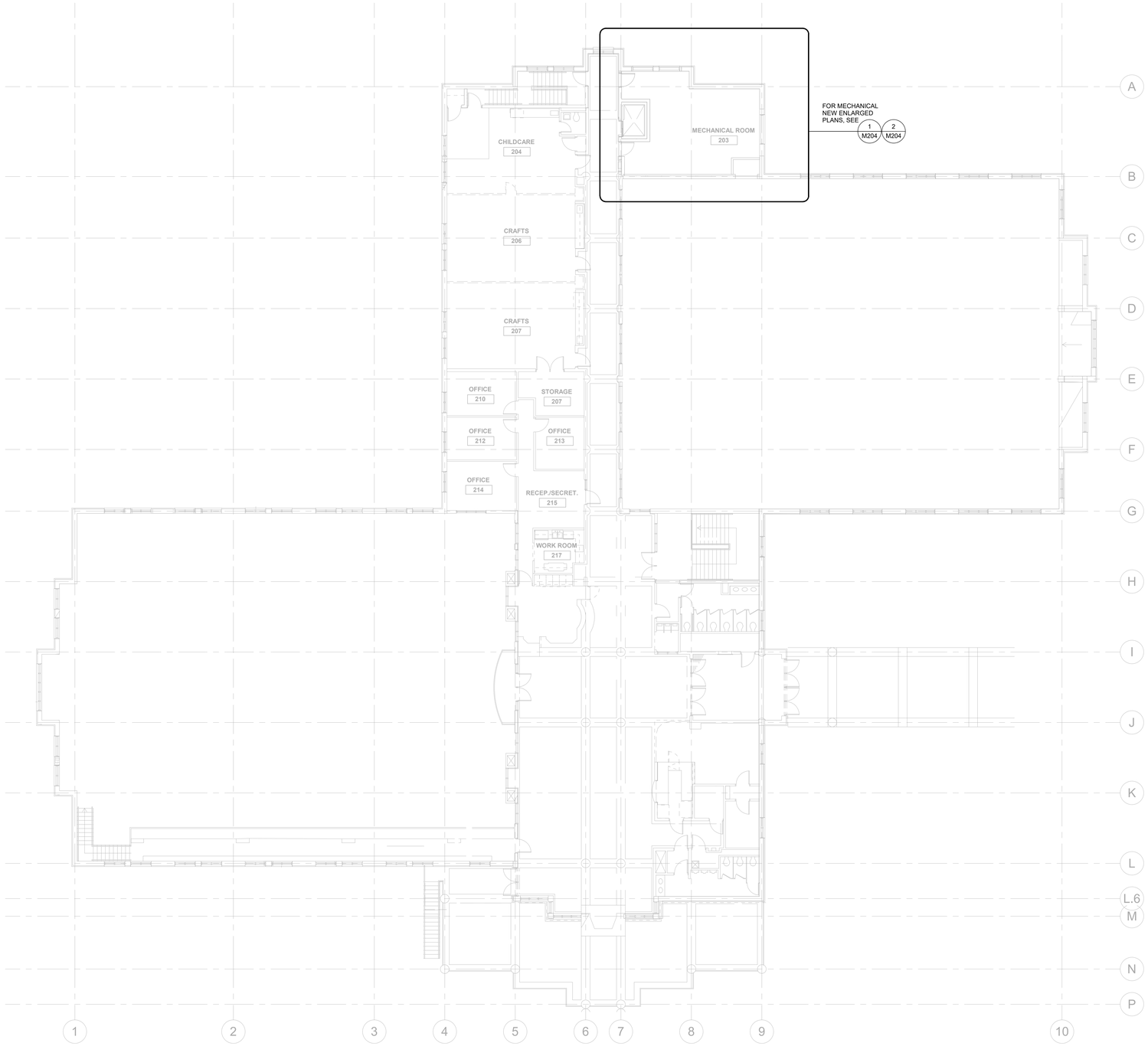
Drawing Title

MECHANICAL NEW FLOOR PLAN - LEVEL 1

Designed: CK	Project No.: 2024-030
Drawn: CK	Scale: AS NOTED
Checked: AH	Drawing No.: **M201**
Date: 2/14/25	

PLEASE RECYCLE

BID SET



MECHANICAL NEW FLOOR PLAN - LEVEL 2

1 M202

SCALE: 3/32" = 1'-0"

N

No.	Description	Date

AINSWORTH ASSOCIATES
MECHANICAL ENGINEERS
1420 ISKLCOMB AVENUE, SUITE 201
RENO, NEVADA 89502
TEL: 775-329-9100
www.aa-mc.com

JOB: 2024-030

Mechanical Seal

02/14/2025

Consultant Seal

Agency Approval

Project Title

IVGID INCLINE REC CENTER HVAC SYSTEM REPLACEMENT

980 INCLINE WAY, INCLINE VILLAGE, NV 89451

Drawing Title

MECHANICAL NEW FLOOR PLAN - LEVEL 2

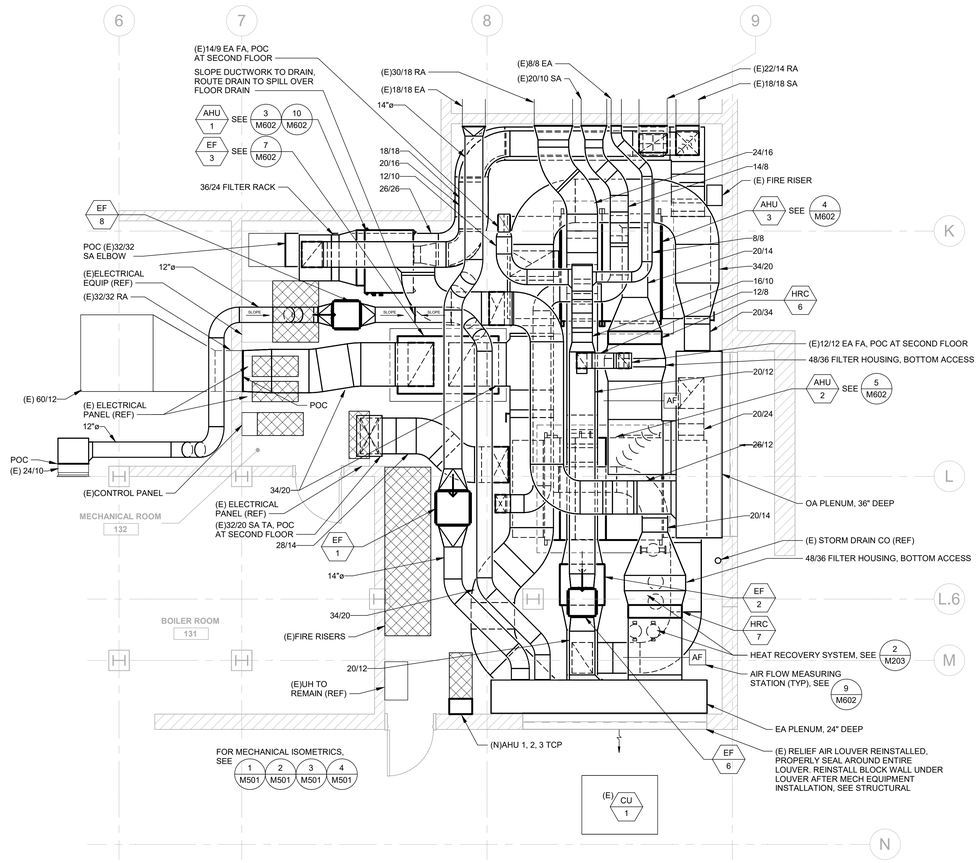
Designed: CK	Project No.: 2024-030
Drawn: CK	Scale: AS NOTED
Checked: AH	Drawing No.: **M202**
Date: 2/14/25	

PLEASE RECYCLE

BID SET

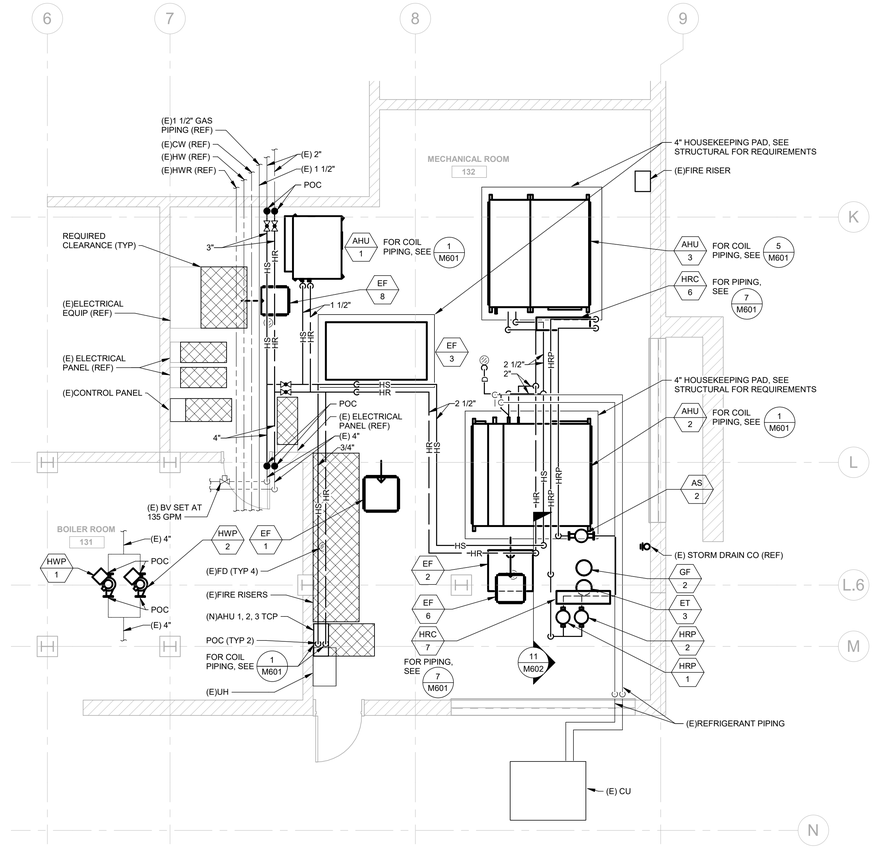
DETAIL REFERENCES

13 / M602	ACCEPTABLE BRANCH DUCTS AND FITTINGS
6 / M601	DRAW-THRU COOLING COIL CONDENSATE TRAP
2 / M602	INLINE EXHAUST/RELIEF FAN



BASE BID - MECHANICAL NEW ENLARGED PLAN - ROOM 132 (1 / M203) N

SCALE: 1/4" = 1'-0"



BASE BID - MECHANICAL PIPING NEW ENLARGED PLAN - ROOM 132 (2 / M203) N

SCALE: 1/4" = 1'-0"

AINSWORTH ASSOCIATES MECHANICAL ENGINEERS
1420 HOLCOMB AVENUE, SUITE 201
RENO, NV 89502
TEL: 775-329-9100
www.aa-mc.com

No.	Description	Date

JOB: 2024-030

Mechanical Seal

Consultant Seal

Agency Approval

Project Title

IVGID INCLINE REC CENTER HVAC SYSTEM REPLACEMENT

980 INCLINE WAY, INCLINE VILLAGE, NV 89451

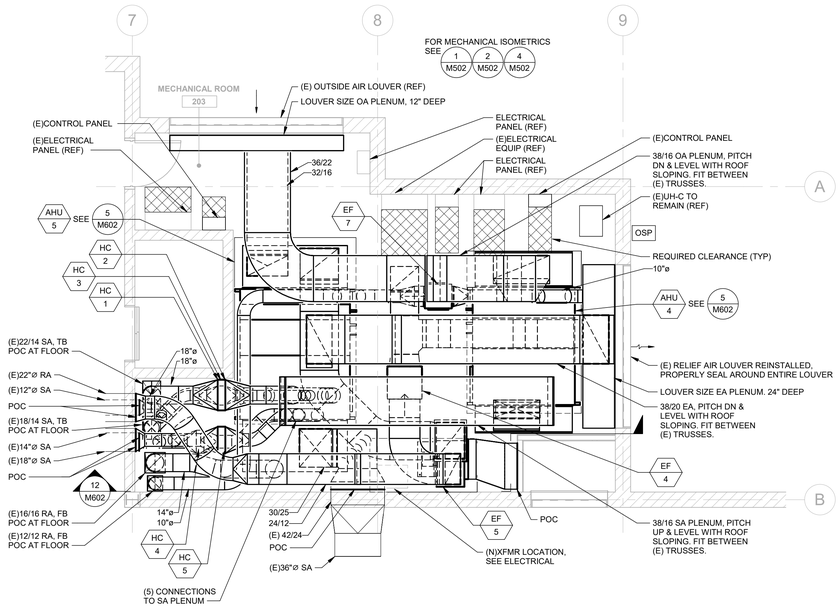
Drawing Title

MECHANICAL NEW ENLARGED PLANS

Designed: CK	Project No.: 2024-030
Drawn: CK	Scale: AS NOTED
Checked: AH	Drawing No.: M203
Date: 2/14/25	

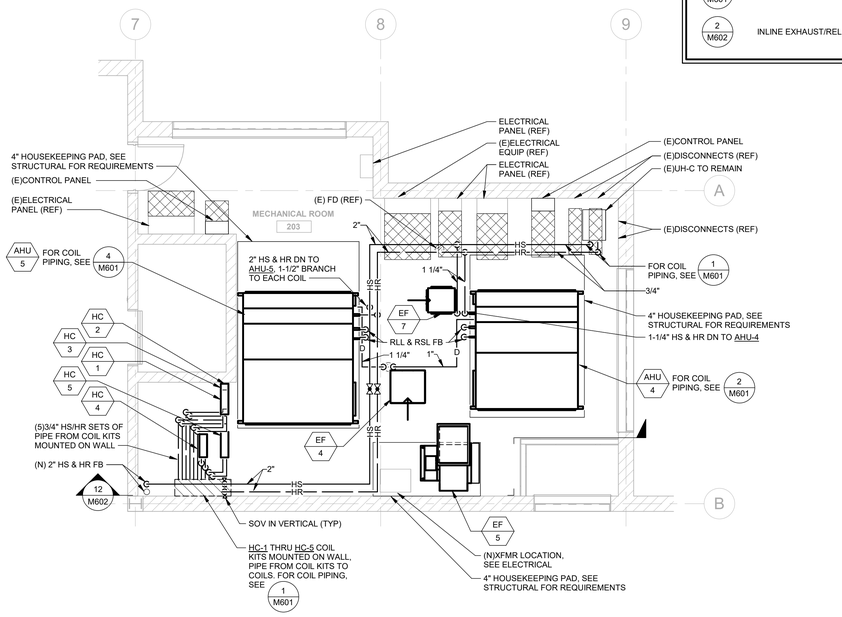
PLEASE RECYCLE

BID SET



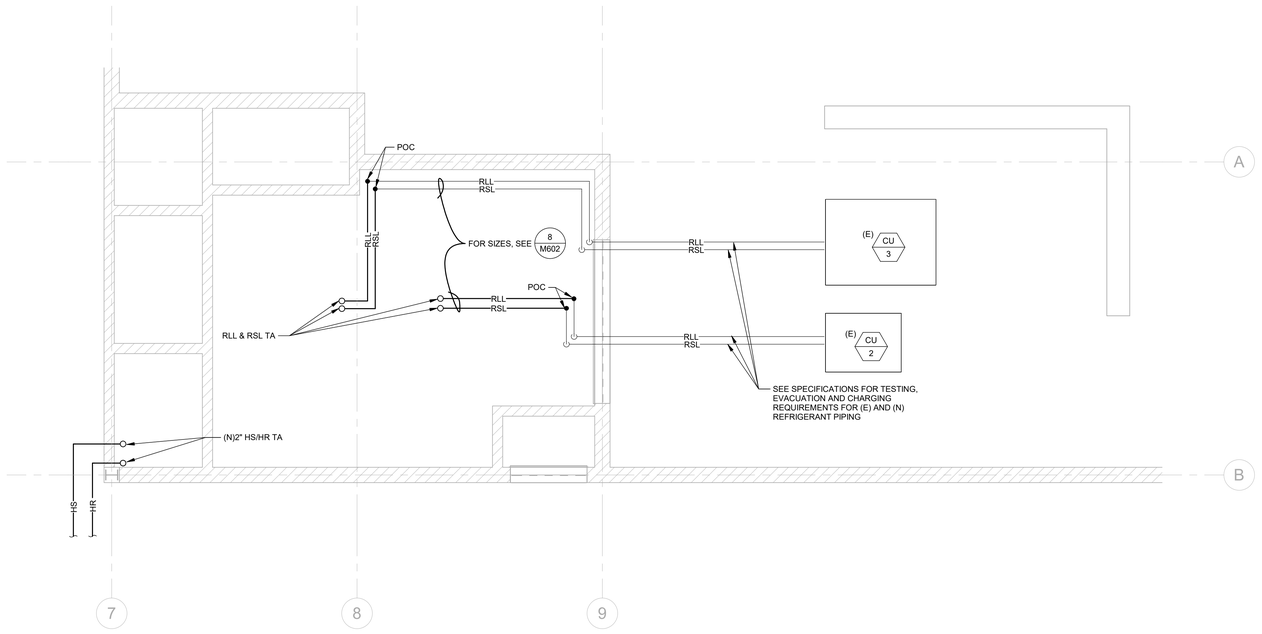
ADD ALTERNATE 1 - MECHANICAL NEW ENLARGED PLAN - ROOM 203

SCALE: 1/4" = 1'-0" (1 / M204)



ADD ALTERNATE 1 - MECHANICAL PIPING NEW ENLARGED PLAN - ROOM 203

SCALE: 1/4" = 1'-0" (2 / M204)



ADD ALTERNATE 1 - MECHANICAL NEW ENLARGED PLAN - GYM STORAGE 105

SCALE: 1/4" = 1'-0" (3 / M204)

DETAIL REFERENCES

13 / M602	ACCEPTABLE BRANCH DUCTS AND FITTINGS
6 / M601	DRAW-THRU COOLING COIL CONDENSATE TRAP
2 / M602	INLINE EXHAUST/RELIEF FAN

AINSWORTH ASSOCIATES MECHANICAL ENGINEERS
1420 HOLCOMB AVENUE, SUITE 201
RENO, NV 89502
TEL: 775-329-9100
www.aa-mc.com

No. | Description | Date

JOB: 2024-030

Mechanical Seal

ALLISON D HALL, STATE OF NEVADA, PROFESSIONAL ENGINEER, 06-30-25, FIRE PROTECTION, NO. 21114

02/14/2025

Consultant Seal

Agency Approval

Project Title

IVGID INCLINE REC CENTER HVAC SYSTEM REPLACEMENT

980 INCLINE WAY, INCLINE VILLAGE, NV 89451

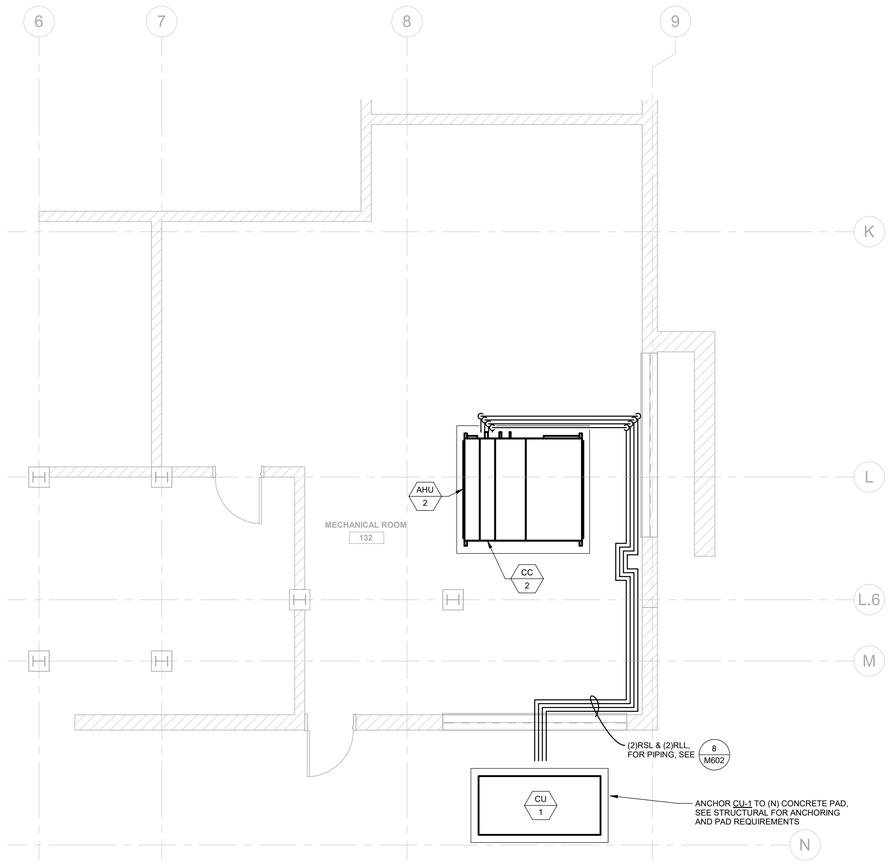
Drawing Title

MECHANICAL NEW ENLARGED PLANS

Designed: CK	Project No.: 2024-030
Drawn: CK	Scale: AS NOTED
Checked: AH	Drawing No.: M204
Date: 2/14/25	

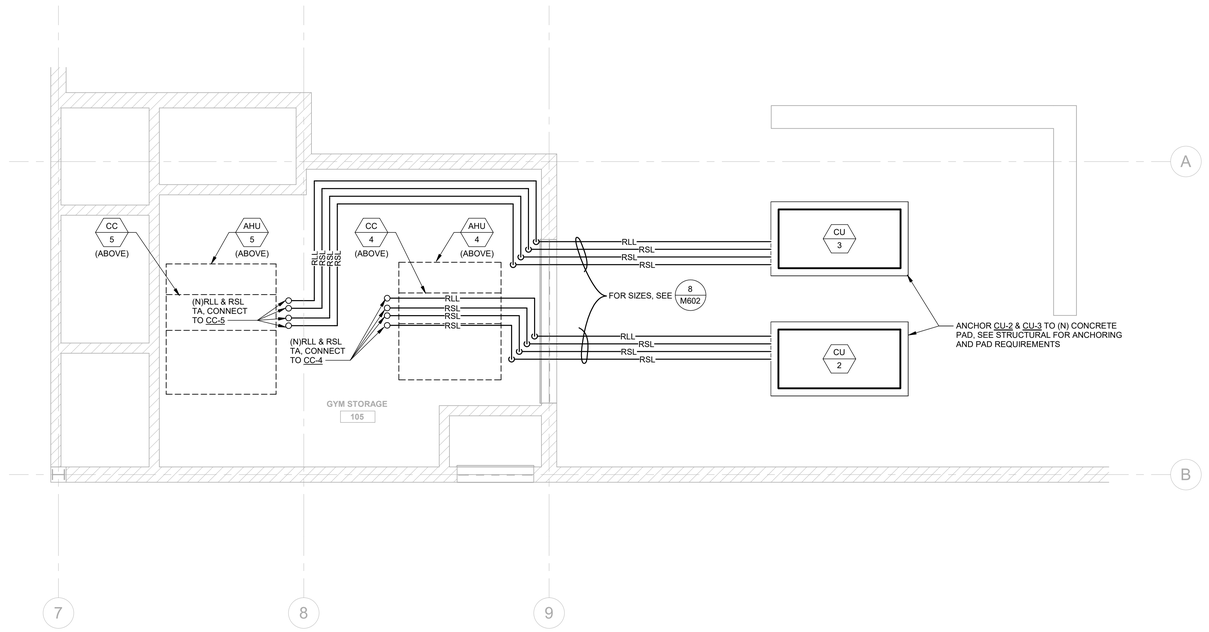
PLEASE RECYCLE

BID SET



ADD ALTERNATE 2 - MECHANICAL NEW ENLARGED PLAN - ROOM 132 (1 / M205) (N)

SCALE: 1/4" = 1'-0"



ADD ALTERNATE 2 - MECHANICAL NEW ENLARGED PLAN - GYM STORAGE 105 (2 / M205) (N)

SCALE: 1/4" = 1'-0"

AINSWORTH ASSOCIATES
MECHANICAL ENGINEERS
1420 HOLCOMB AVENUE, SUITE 201
RENO, NV 89502
TEL: 775-329-9100
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No.	Description	Date

JOB: 2024-030

Mechanical Seal

ALISON D. HALL
06-30-25
FIRE PROTECTION
STATE OF NEVADA
No. 21194
PROFESSIONAL ENGINEER
02/14/2025

Consultant Seal

Agency Approval

Project Title

IVGID INCLINE REC CENTER HVAC SYSTEM REPLACEMENT

980 INCLINE WAY, INCLINE VILLAGE, NV 89451

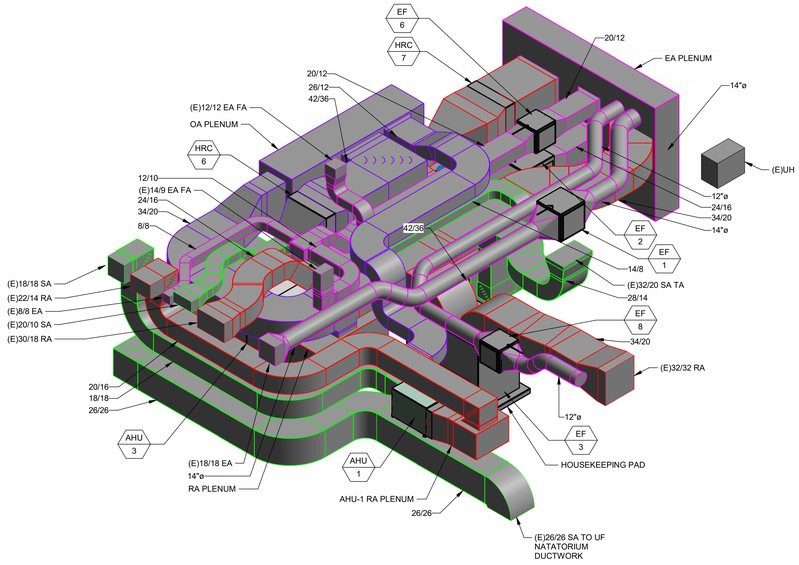
Drawing Title

MECHANICAL NEW ENLARGED PLANS

Designed: CK	Project No.: 2024-030
Drawn: CK	Scale: AS NOTED
Checked: AH	Drawing No.: M205
Date: 2/14/25	

PLEASE RECYCLE

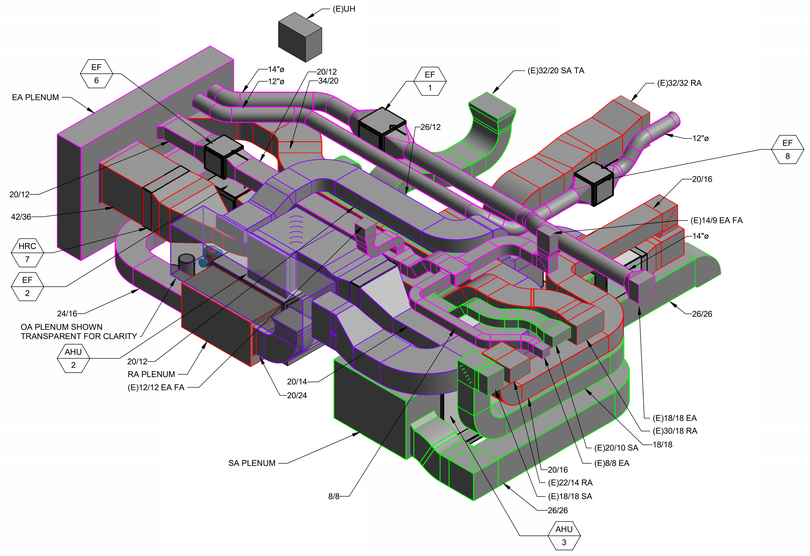
BID SET



MECHANICAL DUCTWORK ISOMETRIC 1 - ROOM 132

1 / M501

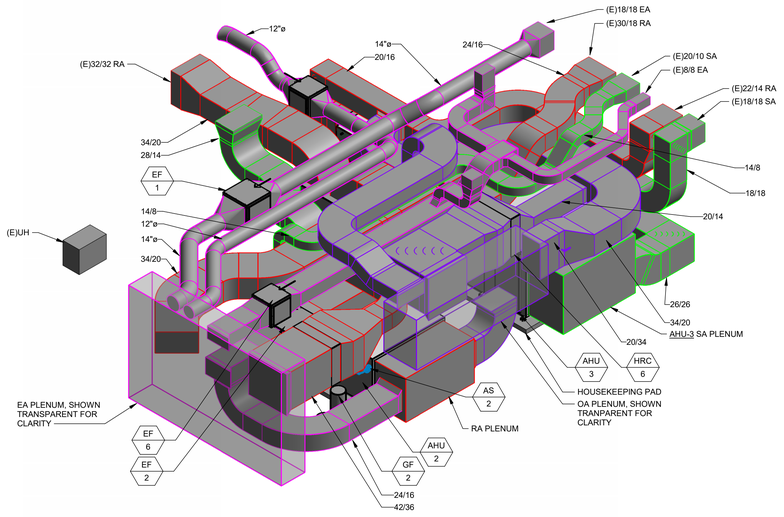
SCALE:



MECHANICAL DUCTWORK ISOMETRIC 2 - ROOM 132

2 / M501

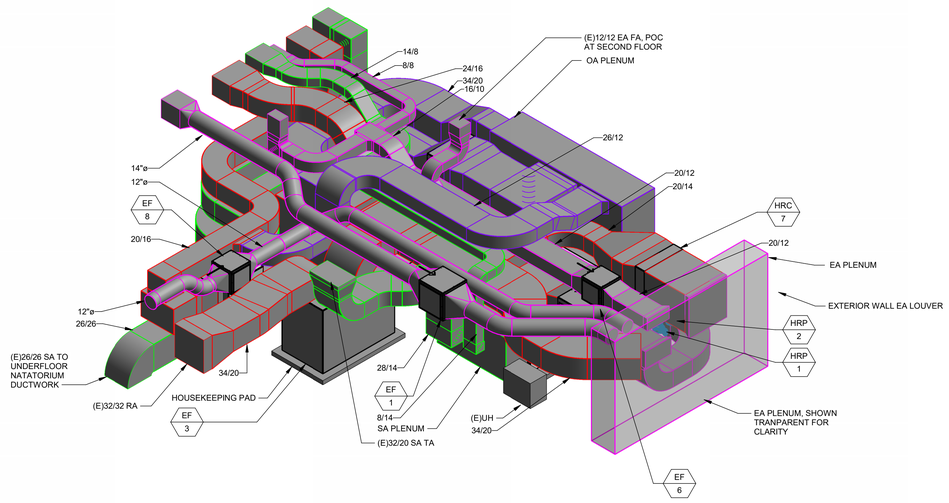
SCALE:



MECHANICAL DUCTWORK ISOMETRIC 3 - ROOM 132

3 / M501

SCALE:



MECHANICAL DUCTWORK ISOMETRIC 4 - ROOM 132

4 / M501

SCALE:

AINSWORTH ASSOCIATES
MECHANICAL ENGINEERS
1420 HOLCOMB AVENUE, SUITE 201
RENO, NV 89502
TEL: 775-329-9100
www.aa-mc.com

No.	Description	Date

JOB: 2024-030

Mechanical Seal

Consultant Seal

Agency Approval

Project Title

IVGID INCLINE REC CENTER HVAC SYSTEM REPLACEMENT

980 INCLINE WAY, INCLINE VILLAGE, NV 89451

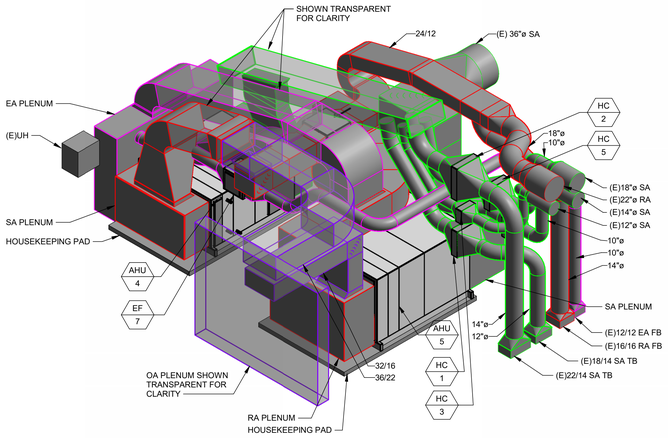
Drawing Title

MECHANICAL ISOMETRICS

Designed: CK	Project No.: 2024-030
Drawn: CK	Scale: AS NOTED
Checked: AH	Drawing No.: **M501**
Date: 2/14/25	

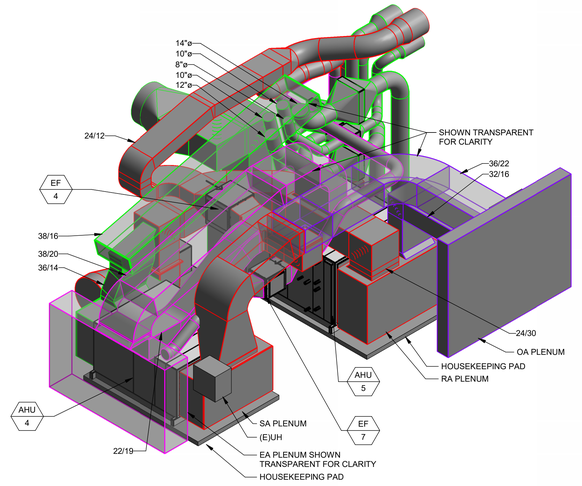
BID SET

PLEASE RECYCLE



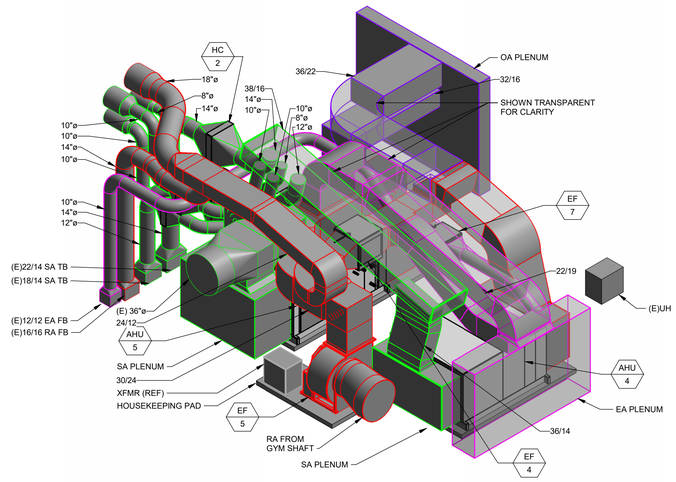
MECHANICAL DUCTWORK ISOMETRIC 1 - ROOM 203 (1 / M502)

SCALE:



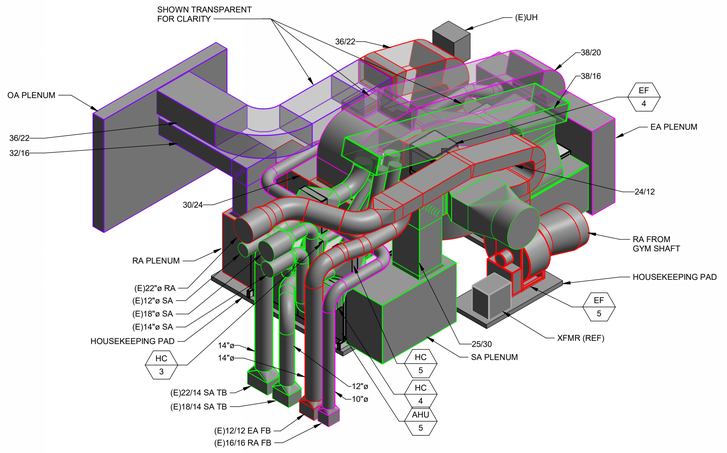
MECHANICAL DUCTWORK ISOMETRIC 2 - ROOM 203 (2 / M502)

SCALE: NONE



MECHANICAL DUCTWORK ISOMETRIC 3 - ROOM 203 (3 / M502)

SCALE: NONE



MECHANICAL DUCTWORK ISOMETRIC 4 - ROOM 203 (4 / M502)

SCALE: NONE

AINSWORTH ASSOCIATES
MECHANICAL ENGINEERS
1420 HOLCOMB AVENUE, SUITE 201
RENO, NV 89502
TEL: 775-329-9100
www.aa-me.com

No.	Description	Date

JOB: 2024-030

Mechanical Seal

Consultant Seal

Agency Approval

Project Title

IVGID INCLINE REC CENTER HVAC SYSTEM REPLACEMENT

980 INCLINE WAY, INCLINE VILLAGE, NV 89451

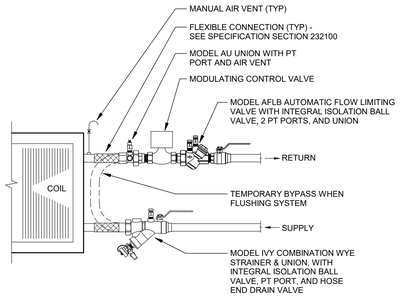
Drawing Title

MECHANICAL ISOMETRICS

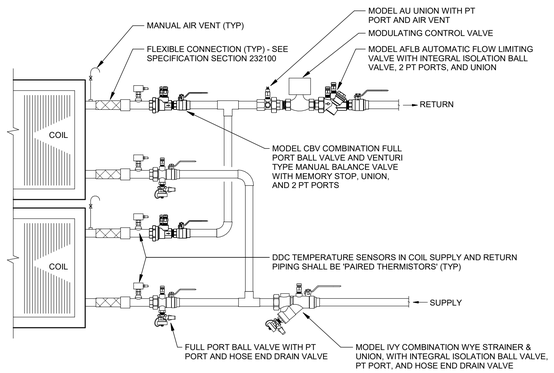
Designed: CK	Project No.: 2024-030
Drawn: CK	Scale: AS NOTED
Checked: AH	Drawing No.: M502
Date: 2/14/25	

PLEASE RECYCLE

BID SET



ONE COIL



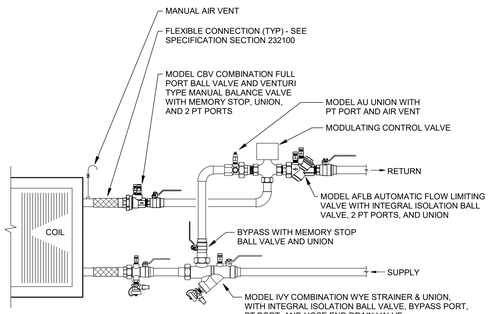
TWO COILS

NOTES:
1. ALL MODEL NUMBERS ARE PRO HYDRONIC SPECIALTIES.
2. SEE SPECIFICATION SECTION 230510 (VALVES FOR HVAC SYSTEMS).
3. SEE EQUIPMENT SELECTIONS FOR NUMBER OF COILS.

COIL PIPING FOR PIPE SIZES 2" AND SMALLER (2-WAY)

1 / M601

SCALE: NONE

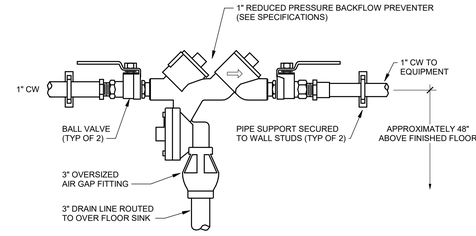


NOTES:
1. ALL MODEL NUMBERS ARE PRO HYDRONIC SPECIALTIES.
2. SEE SPECIFICATION SECTION 230510 (VALVES FOR HVAC SYSTEMS).

COIL PIPING FOR PIPE SIZES 2" AND SMALLER (3-WAY)

2 / M601

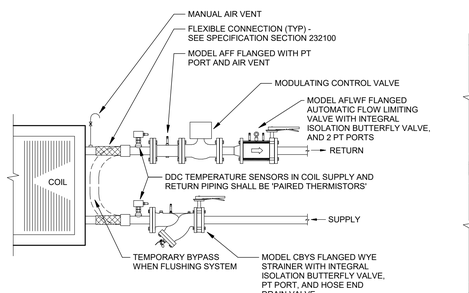
SCALE: NONE



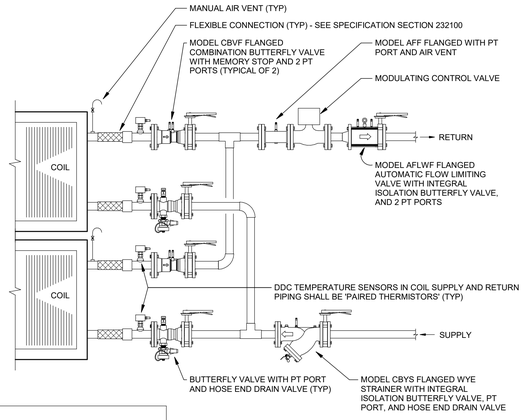
RPBFP (MAKE-UP WATER)

3 / M601

SCALE: NONE



ONE COIL



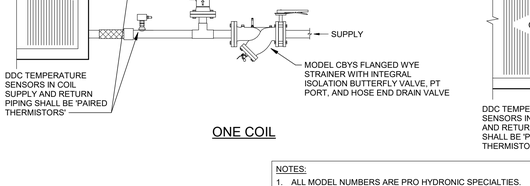
TWO COILS

NOTES:
1. ALL MODEL NUMBERS ARE PRO HYDRONIC SPECIALTIES.
2. SEE SPECIFICATION SECTION 230510 (VALVES FOR HVAC SYSTEMS).
3. SEE EQUIPMENT SELECTIONS FOR NUMBER OF COILS.
4. THE MODEL AFLWF FLOW LIMITING VALVE IS APPROPRIATE FOR FLOWS OF 50 GPM AND ABOVE AND IS AVAILABLE IN 5 GPM INCREMENTS.
5. BRANCH PIPING AND ACCESSORIES TO SEPARATE COILS SHALL BE ONE SIZE SMALLER THAN THE MAIN SUPPLY/RETURN.

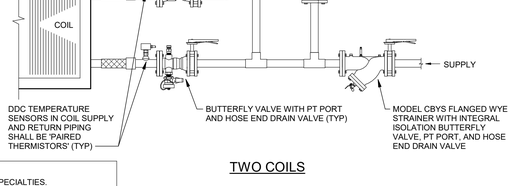
COIL PIPING FOR PIPE SIZES 2-1/2" AND LARGER (2-WAY)

4 / M601

SCALE: NONE



ONE COIL



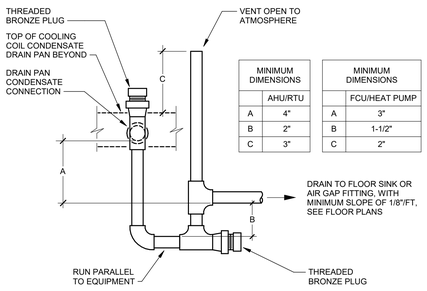
TWO COILS

NOTES:
1. ALL MODEL NUMBERS ARE PRO HYDRONIC SPECIALTIES.
2. SEE SPECIFICATION SECTION 230510 (VALVES FOR HVAC SYSTEMS).
3. SEE EQUIPMENT SELECTIONS FOR NUMBER OF COILS.
4. THE MODEL AFLWF FLOW LIMITING VALVE IS APPROPRIATE FOR FLOWS OF 50 GPM AND ABOVE AND IS AVAILABLE IN 5 GPM INCREMENTS.
5. BRANCH PIPING AND ACCESSORIES TO SEPARATE COILS SHALL BE ONE SIZE SMALLER THAN THE MAIN SUPPLY/RETURN.

COIL PIPING FOR PIPE SIZES 2-1/2" AND LARGER (3-WAY)

5 / M601

SCALE: NONE



MINIMUM DIMENSIONS	AHU/RTU
A	4"
B	2"
C	3"

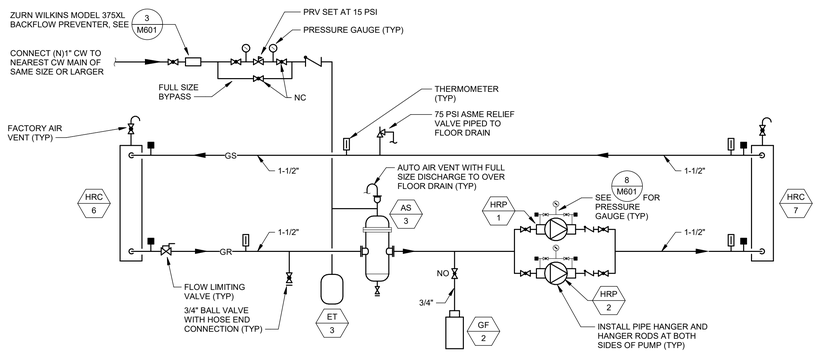
MINIMUM DIMENSIONS	FCU/HEAT PUMP
A	3"
B	1-1/2"
C	2"

NOTES:
1. ALL PIPING TO BE THE SAME SIZE AS THE EQUIPMENT CONDENSATE DRAIN CONNECTION.
2. FOR FAN COIL UNITS AND/OR HEAT PUMPS THAT HAVE AN OVERFLOW DRAIN CONNECTION, PIPE THE OVERFLOW DRAIN TO AN APPROVED LOCATION OR AS SHOWN ON THE DRAWINGS.

DRAW-THRU COOLING COIL CONDENSATE TRAP

6 / M601

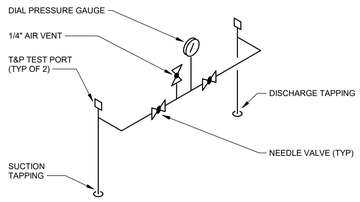
SCALE: NONE



HEAT RECOVERY COIL PIPING DIAGRAM

7 / M601

SCALE: NONE



PUMP PRESSURE GAUGE

8 / M601

SCALE: NONE

AINSWORTH ASSOCIATES MECHANICAL ENGINEERS
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No.	Description	Date

JOB: 2024-030

Mechanical Seal

02/14/2025

Consultant Seal

Agency Approval

Project Title

IVGID INCLINE REC CENTER HVAC SYSTEM REPLACEMENT

980 INCLINE WAY, INCLINE VILLAGE, NV 89451

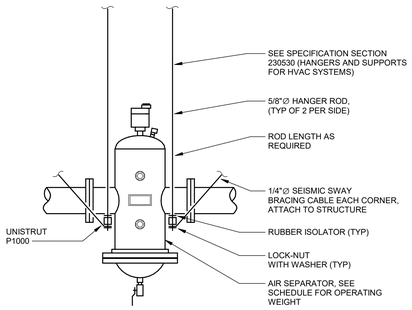
Drawing Title

MECHANICAL DETAILS

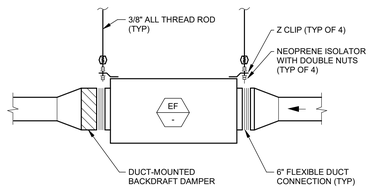
Designed: CK	Project No.: 2024-030
Drawn: CK	Scale: AS NOTED
Checked: AH	Drawing No.: M601
Date: 2/14/25	

BID SET

PLEASE RECYCLE

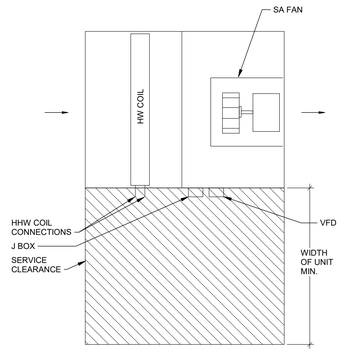


AIR SEPARATOR SUPPORT (1 / M602)
SCALE: NONE

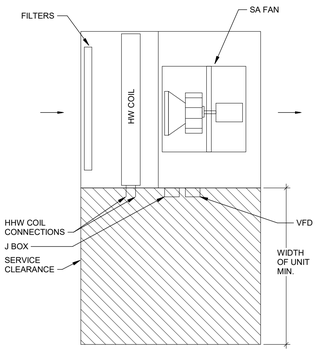


NOTE:
SEE SPECIFICATION SECTION 230530 (HANGERS AND SUPPORTS FOR HVAC SYSTEMS)

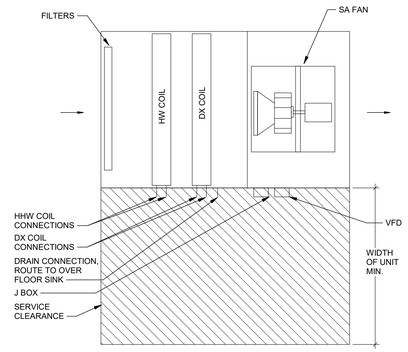
INLINE EXHAUST/RELIEF FAN (2 / M602)
SCALE: NONE



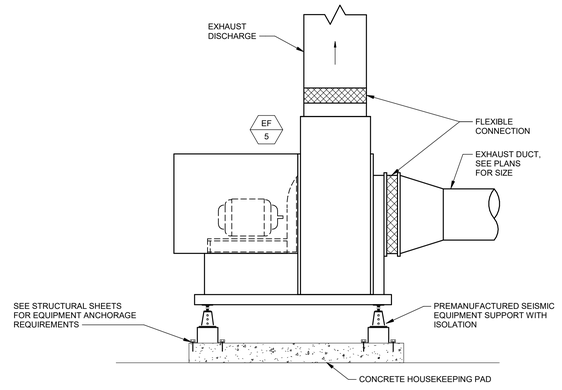
AHU-1 (3 / M602)
SCALE: NONE



AHU-3 (4 / M602)
SCALE: NONE

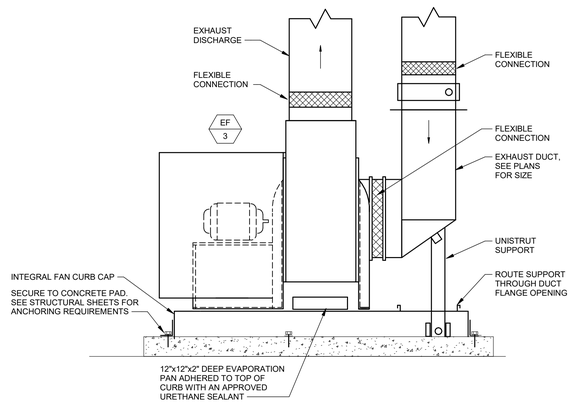


AHU-2, 4, 5 (5 / M602)
SCALE: NONE

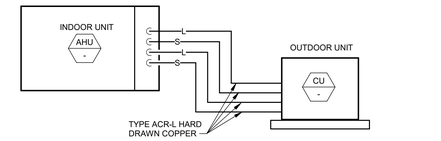


EF 5 - EXHAUST FAN MOUNTING (6 / M602)
SCALE: NONE

NOTE:
IF FAN MANUFACTURER WILL NOT SHIP INLET BOX SEPARATELY, CONTRACTOR WILL BE REQUIRED TO REMOVE INLET BOX AND ROTATE 180 DEGREES FOR THIS APPLICATION. ADD VERTICAL UNISTRUT SUPPORT FOR INLET BOX AS SHOWN.

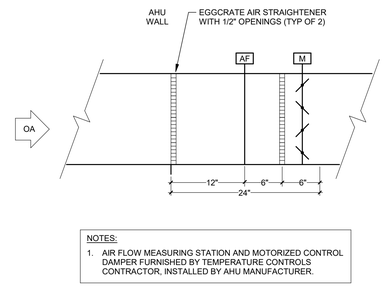


EF 3 - EXHAUST FAN MOUNTING (7 / M602)
SCALE: NONE



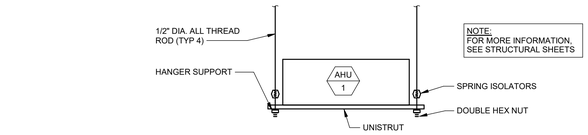
BASE BID				ALTERNATE 2			
REFRIGERANT LINE SIZES				REFRIGERANT LINE SIZES			
SYMBOL	LIQUID O.D.	SUCTION O.D.	# CIRCUITS	SYMBOL	LIQUID O.D.	SUCTION O.D.	# CIRCUITS
AHU 2 (E) CU 1	7/8"	1 5/8"	(1)	AHU 2 CU 1	1/2"	1 3/8"	(2)
AHU 4 (E) CU 2	1-3/8"	1-5/8"	(1)	AHU 4 CU 2	1/2"	1-3/8"	(2)
AHU 5 (E) CU 3	1-3/8"	2 1/8"	(1)	AHU 5 CU 3	1/2"	1 3/8"	(2)

REFRIGERANT PIPING (8 / M602)
SCALE: NONE



NOTES:
1. AIR FLOW MEASURING STATION AND MOTORIZED CONTROL DAMPER FURNISHED BY TEMPERATURE CONTROLS CONTRACTOR, INSTALLED BY AHU MANUFACTURER.

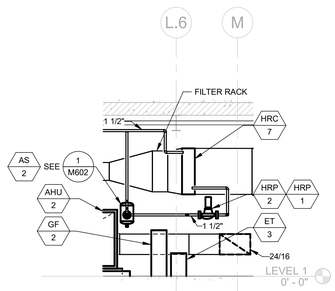
MINIMUM OA MEASURING STATION (9 / M602)
SCALE: NONE



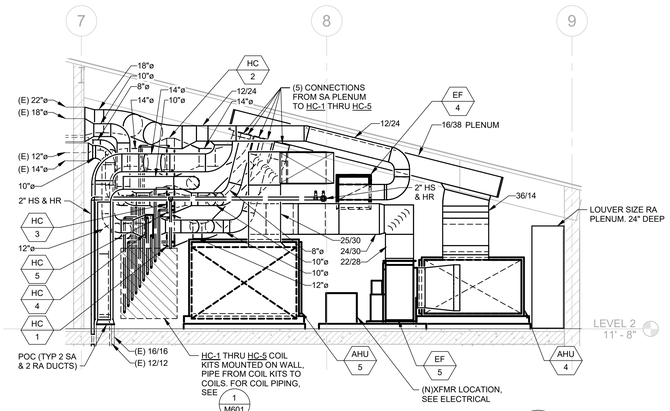
NOTE:
FOR MORE INFORMATION, SEE STRUCTURAL SHEETS

NOTES:
1. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

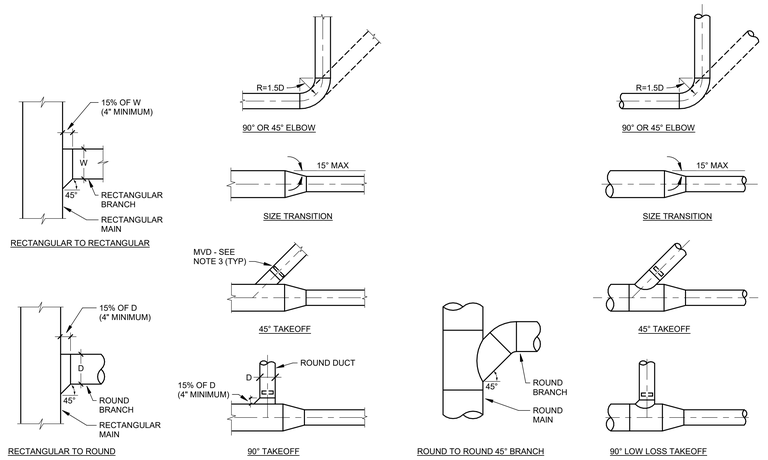
AHU-1 SUPPORT (10 / M602)
SCALE: NONE



MECHANICAL ELEVATION - ROOM 132 - HEAT RECOVERY SYSETM (11 / M602)
SCALE: 1/4" = 1'-0"



MECHANICAL ELEVATION - ROOM 203 - A (12 / M602)
SCALE: 1/4" = 1'-0"



RECTANGULAR DUCT | **ROUND DUCT**

NOTES:
1. BRANCH DUCTS AND FITTINGS SHALL CONFORM TO THE ASSOCIATED REQUIREMENTS CONTAINED IN THE SMACNA HVAC SYSTEMS DUCT DESIGN MANUAL.
2. FOR ADDITIONAL REQUIREMENTS SEE SPECIFICATION SECTION 233100 (HVAC DUCTWORK).
3. PROVIDE MANUAL VOLUME DAMPER IN BRANCH DUCT WHEN BRANCH DUCT IS SERVING INDIVIDUAL INLETS AND/OR OUTLETS.

ACCEPTABLE BRANCH DUCTS AND FITTINGS (13 / M602)
SCALE: NONE

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No.	Description	Date

JOB: 2024-030

Mechanical Seal

Consultant Seal

Agency Approval

Project Title
IVGID INCLINE REC CENTER HVAC SYSTEM REPLACEMENT

980 INCLINE WAY, INCLINE VILLAGE, NV 89451

Drawing Title
MECHANICAL DETAILS

Designed: CK	Project No.: 2024-030
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Date: 2/14/25	

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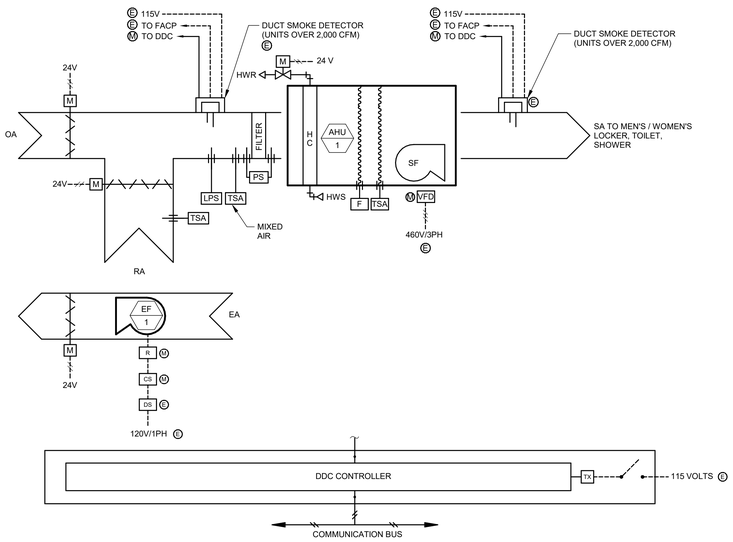
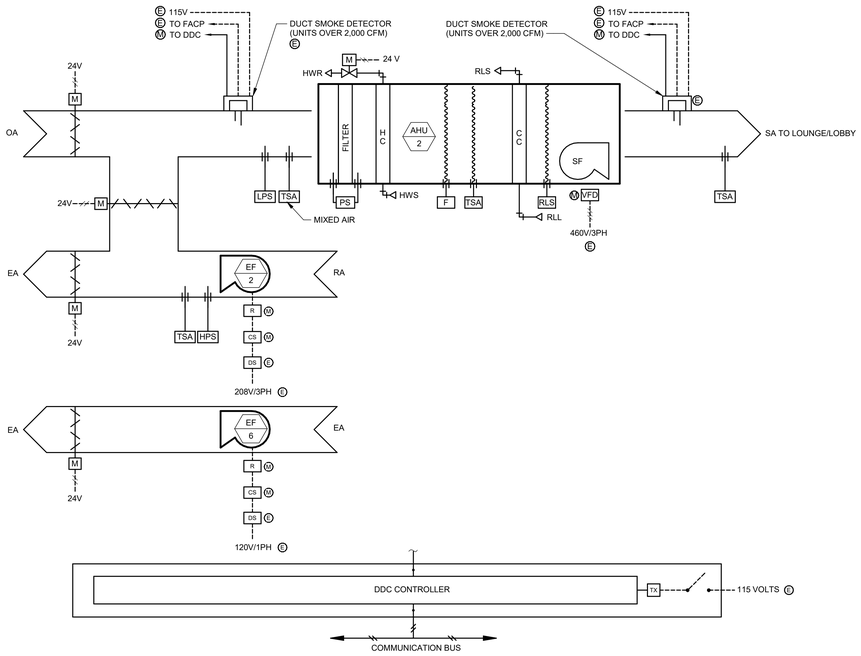
BID SET



AHU-1 CONTROLS

SCALE: NONE

1 / TC001



AHU-2 CONTROLS

SCALE: NONE

2 / TC001

VARIABLE FREQUENCY DRIVE SCHEDULE

EQUIPMENT	LOCATION	MOTOR (QTY) HP	MOTORS PER VFD	VFD QUANTITY	VFD HP	VOLTAGE/ PHASE	VFD PROVIDED BY
AHU-1	MECHANICAL ROOM 132	(1) 2	1	1	2	460V / 3PH	TEMPERATURE CONTROLS CONTRACTOR
AHU-2	MECHANICAL ROOM 132	(1) 7.5	1	1	7.5	460V / 3PH	TEMPERATURE CONTROLS CONTRACTOR
AHU-3	MECHANICAL ROOM 132	(1) 10	1	1	10	460V / 3PH	TEMPERATURE CONTROLS CONTRACTOR
AHU-4	MECHANICAL ROOM 203	(1) 7.5	1	1	7.5	460V / 3PH	TEMPERATURE CONTROLS CONTRACTOR
AHU-5	MECHANICAL ROOM 203	(1) 15	1	1	15	460V / 3PH	TEMPERATURE CONTROLS CONTRACTOR
HWP-1	BOILER ROOM 131	(1) 10	1	1	10	460V / 3PH	PUMP MANUFACTURER, FACTORY INSTALLED
HWP-2	MECHANICAL ROOM 203	(1) 10	1	1	10	460V / 3PH	PUMP MANUFACTURER, FACTORY INSTALLED
EF-3	MECHANICAL ROOM 132	(1) 10	1	1	10	460V / 3PH	TEMPERATURE CONTROLS CONTRACTOR

NOTE:

1. FURNISH ALL VFD'S WITH INTEGRAL LOCKING DISCONNECT SWITCH AND BACNET INTERFACE CARD.
2. SEE SPECIFICATION SECTION 23 09 00 FOR ADDITIONAL INFORMATION.
3. COORDINATE ALL VFD SIZES, QUANTITIES, AND CHARACTERISTICS WITH THE ASSOCIATED EQUIPMENT PRIOR TO ORDERING.

TEMPERATURE CONTROLS LEGEND

AVA	AUDIBLE/VISIBLE ALARM
AVS	AVERAGING SENSOR
AF	AIR FLOW MEASURING STATION
BI	BACNET INTERFACE
BAS	BUILDING AUTOMATION SYSTEM
BSP	BUILDING PRESSURE SENSOR
C	CONTACTOR
CO	CARBON MONOXIDE SENSOR
CO_2	CARBON DIOXIDE SENSOR
CH_4	METHANE SENSOR
CWS	CONDENSER OR COOLING WATER SUPPLY
CWR	CONDENSER OR COOLING WATER RETURN
CHS	CHILLED WATER SUPPLY
CHR	CHILLED WATER RETURN
CS	CURRENT SENSOR
DB	DRY BULB
DDC	DIRECT DIGITAL CONTROLS
DP	DIFFERENTIAL PRESSURE SENSOR
DS	DISCONNECT
EA	EXHAUST AIR
EGV	EMERGENCY GAS VALVE
ESS	EMERGENCY SHUTDOWN SWITCH
FC	FAIL CLOSED ACTUATOR
FO	FAIL OPEN ACTUATOR
FM	FLOW METER
FS	FREEZE SENSOR
HHL	HUMIDITY HIGH LIMIT
HPS	HIGH PRESSURE SWITCH
HS	HEATING WATER SUPPLY
HR	HEATING WATER RETURN
LPS	LOW PRESSURE SWITCH
LWCO	LOW WATER CUT-OFF
M	MODULATING CONTROL VALVE OR DAMPER ACTUATOR
2P	2-POSITION CONTROL VALVE OR DAMPER ACTUATOR
MS	MOTOR STARTER
OA	OUTSIDE AIR
PS	PRESSURE SENSOR
PSA	PRESSURE SENSOR - AIR
R	RELAY
RA	RETURN AIR
RH	HUMIDITY SENSOR
RHR	HUMIDITY SENSOR - ROOM
RLS	REFRIGERANT LEAK SENSOR
SA	SUPPLY AIR
SW	SWITCH
SH	SUMP HEATER
T	TEMPERATURE
TCP	TEMPERATURE CONTROL PANEL
TW	TEMPERED WATER
TSR	TEMPERATURE SENSOR - ROOM
TS	PENCIL TYPE TEMPERATURE SENSOR - AIR
TSA	AVERAGING TYPE TEMPERATURE SENSOR - AIR
TSW	TEMPERATURE SENSOR - WATER
TX	TRANSFORMER
UNO	UNLESS NOTED OTHERWISE
VFD	VARIABLE FREQUENCY DRIVE
WB	WET BULB
(M)	FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR
(E)	FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR
-----	POWER WIRING AND CONDUIT BY ELECTRICAL CONTRACTOR
———	CONTROL WIRING AND CONDUIT BY TEMPERATURE CONTROL CONTRACTOR

AINSWORTH ASSOCIATES MECHANICAL ENGINEERS
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JOB: 2024-030

Mechanical Seal

Consultant Seal

Agency Approval

Project Title

IVGID INCLINE REC CENTER HVAC SYSTEM REPLACEMENT

980 INCLINE WAY, INCLINE VILLAGE, NV 89451

Drawing Title

TEMPERATURE CONTROLS

Designed: CK	Project No.: 2024-030
Drawn: CK	Scale: AS NOTED
Checked: AH	Drawing No.: **TC001**
Date: 2/14/25	

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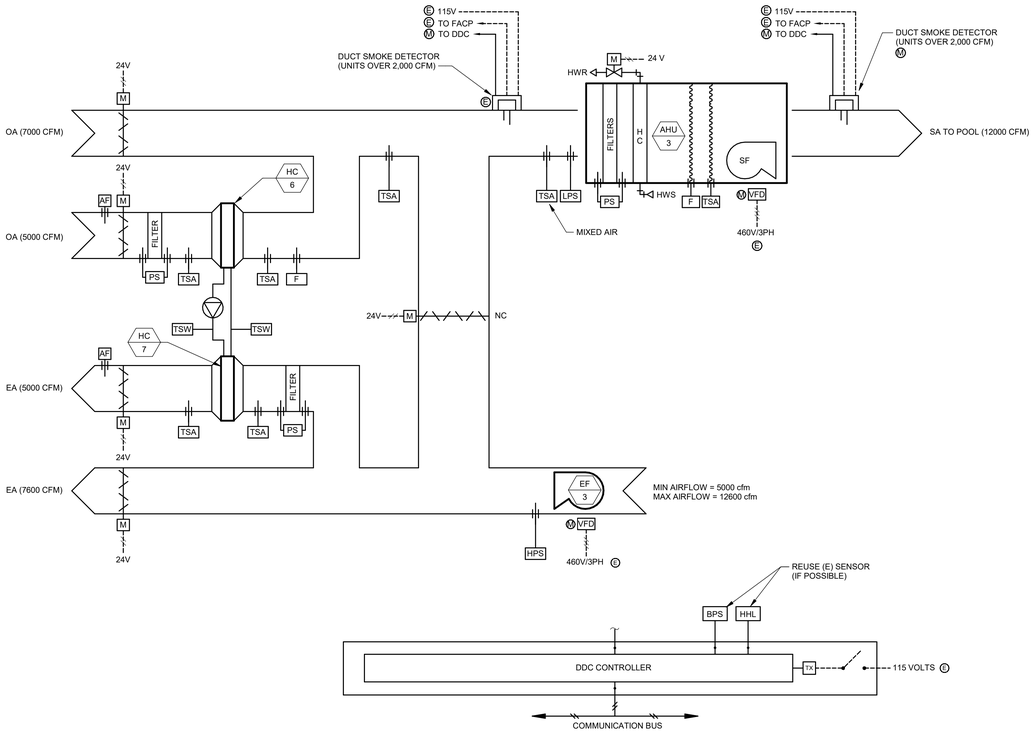
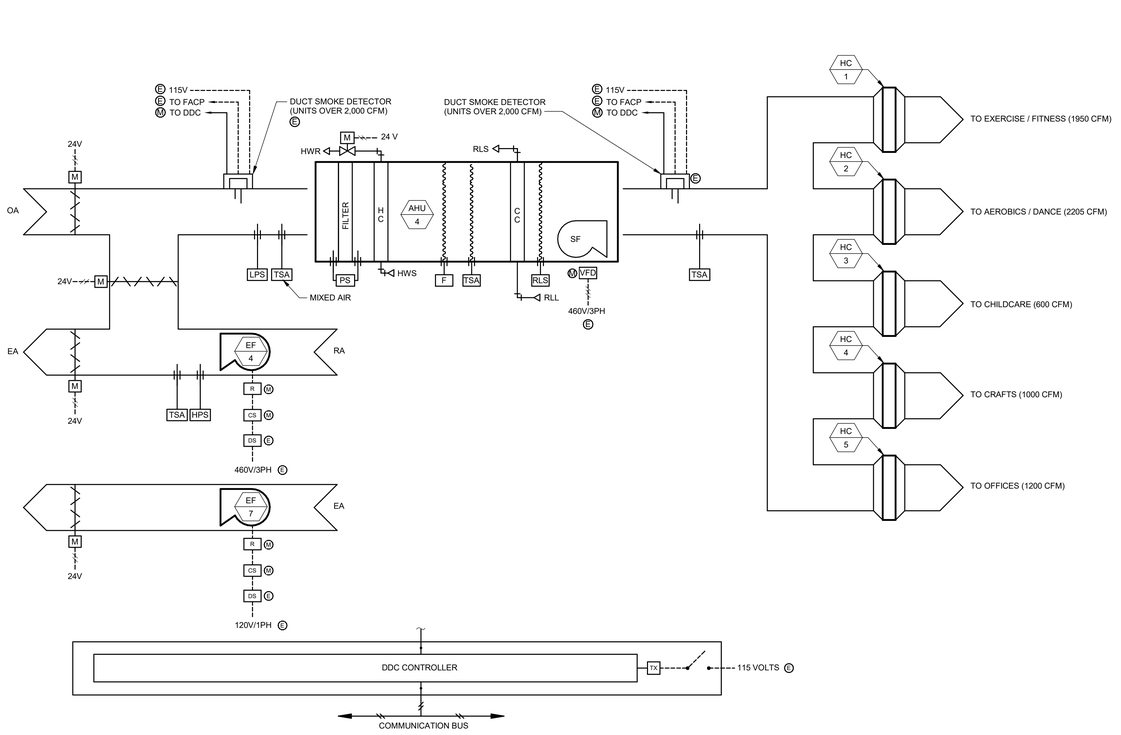


AHU-3 CONTROLS

SCALE: NONE

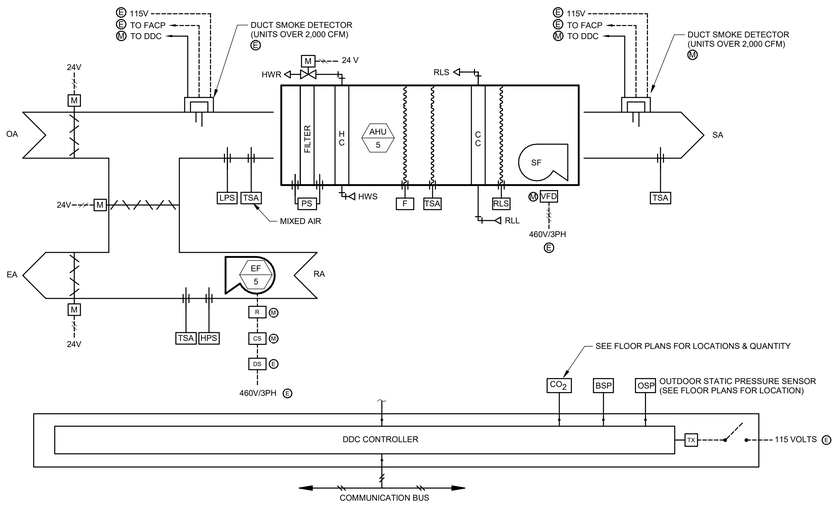
1 / TC002



AHU-4 CONTROLS

SCALE: NONE

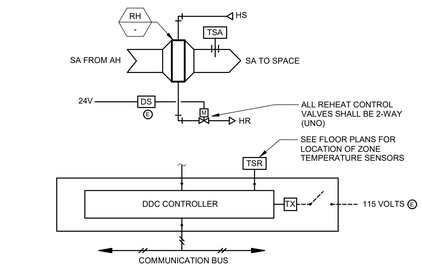
2 / TC002



AHU-5 CONTROLS

SCALE: NONE

3 / TC002



REHEAT COIL CONTROL DIAGRAM

SCALE: NONE

4 / TC002

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TEMPERATURE CONTROLS

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PLEASE RECYCLE

BID SET

FIRE PROTECTION GENERAL NOTES

1. THIS DRAWING IS INFORMATIONAL ONLY AND IS INTENDED TO AID IN THE PREPARATION OF CONTRACTOR BIDS.
2. HATCHED REGION REPRESENTS AREA TO BE FIRE PROTECTED.
3. EXISTING FIRE SPRINKLER SYSTEM SHALL BE UTILIZED AND MODIFIED FOR NEW CONDITIONS. DESIGN OF THE FIRE SPRINKLER SYSTEM SHALL BE IN ACCORDANCE WITH NFPA 13, LOCAL AND STATE AUTHORITIES BY A NEVADA LICENSED FIRE PROTECTION PROFESSIONAL. WORK INCLUDES INSTALLATION OF NEW PIPING AND HEADS AS REQUIRED TO ACCOMMODATE NEW FLOOR PLAN, DUCTWORK, PIPING AND CONDUITS. SEE SPECIFICATIONS AND DRAWINGS FOR PROJECT REQUIREMENTS. ANY DEMOLISHED ITEMS INCLUDING PIPING, VALVES, SUPPORTS, ETC MAY NOT BE REUSED.
4. EXACT LOCATIONS OF NEW HEADS SHALL BE REVIEWED AND APPROVED BY THE MECHANICAL ENGINEER.
5. THE EXISTING SPRINKLER SYSTEM OUTSIDE OF THE PROJECT BOUNDARY SHALL EXPERIENCE A SINGLE COORDINATED SERVICE INTERRUPTION AS REQUIRED TO MODIFY THE SYSTEM WITHIN THE PROJECT BOUNDARY.
6. ALL SPRINKLER HEADS WITHIN THE PROJECT BOUNDARY SHALL MATCH THE OTHER FLOOR'S HEAD TYPES.
7. THE FIRE SPRINKLER CONTRACTOR/DESIGNER SHALL OBTAIN WATER SUPPLY INFORMATION FROM NORTH LAKE TAHOE FIRE PROTECTION DISTRICT AND/OR THE INCLINE VILLAGE GENERAL IMPROVEMENT DISTRICT.
8. CONTRACTOR SHALL PROVIDE PIPING COMPONENTS TO ALLOW FOR PIPE MOVEMENT AT SEISMIC JOINTS. REVIEW STRUCTURAL DRAWINGS FOR EXPANSION JOINT INFORMATION.
9. SEE CENTRAL UTILITY PLANT AND REGIONAL MATERIALS MANAGEMENT BUILDING DRAWING SHEETS FOR AVAILABLE FIRE PROTECTION SYSTEMS.
10. DO NOT ROUTE ANY PIPING DIRECTLY ABOVE ELECTRICAL EQUIPMENT OR PANELS.
11. ALL NEW PIPING IS TO BE STEEL WITH SCREWED FITTINGS FOR PIPING 2" AND SMALLER AND WELDED, GROOVED OR MECHANICAL T OUTLETS FOR PIPING 2.5" AND LARGER. PLAIN END PIPING CONNECTIONS WILL NOT BE ACCEPTABLE. PLASTIC PIPING WILL NOT BE ACCEPTABLE. ALL PIPING TO BE CONCEALED ABOVE CEILINGS. UNLESS OTHERWISE NOTED PIPING IS TO BE INSTALLED TO DRAIN IN STRICT ACCORDANCE WITH NFPA 13. PIPING SHALL RUN STRAIGHT AND TRUE WITH BUILDING FEATURES.
12. SYSTEM SHALL BE HYDRAULICALLY DESIGNED. CONTRACTOR SHALL OBTAIN WATER SUPPLY INFORMATION AND DETERMINE SPRINKLER HEAD SPACING AND DESIGN DENSITIES FOR HYDRAULIC CALCULATIONS.
13. CONTRACTOR SHALL HOLD A VALID NEVADA CONTRACTORS LICENSE FOR THE TYPE OF WORK BEING PERFORMED.
14. ALL PIPING SHALL BE SUSPENDED AND BRACED IN STRICT ACCORDANCE WITH NFPA 13 AND FACTORY MUTUAL.
15. THIS IS A PERFORMANCE SPECIFICATION AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL PERMITS, FEES, DESIGN, MATERIAL, FABRICATION, STORAGE, INSTALLATION, TESTING AND CLEANUP FOR A COMPLETE AND OPERABLE SYSTEM. SYSTEM SHALL MEET THE REQUIREMENTS NFPA 13, 24, NEC, LOCAL AND STATE BUILDING OFFICIALS, AND HEALTH DEPARTMENT. SCOPE OF WORK INCLUDES A COMPLETE AND OPERABLE WET FIRE SPRINKLER AND STANDPIPE SYSTEM THROUGHOUT.
    A. ALARM DEVICES WITH WIRING CONNECTIONS FOR ELECTRICAL/ALARM CONTRACTOR.
    B. SUBMIT COMPLETE SET OF DRAWINGS, CALCULATIONS AND CATALOG CUTS OF MATERIALS TO THE AUTHORITY HAVING JURISDICTION FOR APPROVAL. OBTAIN APPROVAL PRIOR TO INSTALLATION. DRAWINGS AND CALCULATIONS SHALL BE SIGNED BY A NICET CERTIFIED LEVEL III FIRE SYSTEMS TECHNICIAN.

HATCHED REGIONS REPRESENT AREAS OF SPACE RECONFIGURATION. THE EXISTING AUTOMATIC FIRE SPRINKLER SYSTEM SHALL BE REMODELED TO SUIT THE NEW CONDITIONS IN ACCORDANCE WITH NFPA 13, LOCAL AND STATE AUTHORITIES.

FIRE PROTECTION FLOOR PLAN - LEVEL 1 (1 / FP001)
SCALE: 1/16" = 1'-0"

ADD ALTERNATE 1 - FIRE PROTECTION FLOOR PLAN - LEVEL 2 (2 / FP001)
SCALE: 1/16" = 1'-0"

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No.	Description	Date

JOB: 2024-030

Mechanical Seal

ALLISON D. HALL, 06-30-25, FIRE PROTECTION, STATE OF NEVADA, No. 21194

02/14/2025

Consultant Seal

Agency Approval

Project Title

IVGID INCLINE REC CENTER HVAC SYSTEM REPLACEMENT

980 INCLINE WAY, INCLINE VILLAGE, NV 89451

Drawing Title

FIRE PROTECTION NOTES AND PLANS

Designed: CK	Project No.: 2024-030
Drawn: CK	Scale: AS NOTED
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Date: 2/14/25	

PLEASE RECYCLE

BID SET

SPECIFICATIONS

ITEM	DESCRIPTION
26.1	STANDARDS AND CODES: ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE 2017 EDITION OF THE NATIONAL ELECTRICAL CODE (NEC), NATIONAL FIRE CODE (NFPA 70 E), OSHA, ALL APPLICABLE STATE AND LOCAL CODES AND ORDINANCES. THIS DOES NOT RELIEVE THE CONTRACTOR FROM FURNISHING AND INSTALLING WORK SHOWN OR SPECIFIED WHICH MAY EXCEED THE REQUIREMENTS OF SUCH ORDINANCES, LAWS, REGULATIONS AND CODES.
26.2	COMPLETE INSTALLATION: PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, ACCESSORIES, ETC., NECESSARY TO ACCOMPLISH A COMPLETE ELECTRICAL SYSTEM IN ACCORDANCE WITH THE PLANS TOGETHER WITH THE SPECIFICATIONS.
26.3	PERMITS: OBTAIN AND PAY FOR ALL BUILDING AND WORKING PERMITS AND INSPECTION FEES REQUIRED FOR THIS PROJECT.
26.4	DRAWINGS: DATA PRESENTED ON THESE DRAWINGS SHALL BE FIELD VERIFIED SINCE ALL DIMENSIONS, LOCATIONS, AND LEVELS ARE GOVERNED BY ACTUAL FIELD CONDITIONS. REVIEW ALL ARCHITECTURAL, STRUCTURAL, CIVIL, MECHANICAL AND SPECIALTY SYSTEMS DRAWINGS AND ADJUST ALL WORK TO MEET THE REQUIREMENTS ON CONDITIONS SHOWN THEREON, DO NOT SCALE ELECTRICAL PLANS FOR FIXTURE, DEVICE OR APPLIANCE LOCATIONS. USE CONFIGURED DIMENSIONS IF GIVEN OR CHECK ARCHITECTURAL OR MECHANICAL DRAWINGS.
26.5	COPYRIGHT: THESE PLANS, SPECIFICATIONS AND ALL RELATED ADDENDA AND DOCUMENTS CONSTITUTE COPYRIGHT MATERIALS OF JP ENGINEERING. ALL RIGHTS CONFERRED BY THE COPYRIGHT AND SIMILAR LAWS ARE RESERVED TO JP ENGINEERING. THESE MATERIALS SHALL REMAIN THE SOLE PROPERTY OF JP ENGINEERING AND MAY NOT BE REPRODUCED, DISTRIBUTED TO OTHERS OR USED FOR ANY PURPOSE WHATSOEVER WITHOUT THE PRIOR WRITTEN CONSENT OF JP ENGINEERING.
26.6	LOCATIONS: INDICATED LOCATIONS OF ALL OUTLETS AND EQUIPMENT ARE SUBJECT TO CHANGE. SHIFT/RELOCATE/RECONFIGURE ANY OUTLET, EQUIPMENT OR CONNECTION POINT UP TO 10' AS DIRECTED BY ENGINEER, AT NO ADDED COST.
26.7	RECORD DRAWINGS: CONTRACTOR SHALL PROVIDE, PRIOR TO FINAL ACCEPTANCE AND OBSERVATION, ONE SET OF REVISED RECORD ELECTRICAL CONSTRUCTION DOCUMENTS ON REPRODUCIBLE MEDIUM INDICATING THE FOLLOWING ADDITIONAL INFORMATION: EXACT ROUTING OF ALL CONDUITS LARGER THAN 1" EXACT LOCATION OF ALL SERVICE GROUNDING/BONDING CONNECTIONS CONTRACTORS NAME, ADDRESS AND TELEPHONE NUMBER RECORD NOTATIONS SHALL BE CLEARLY DRAWN AT A DRAFTING APPEARANCE EQUAL TO THE ORIGINAL DRAWINGS. CONTRACTOR SHALL ALSO PROVIDE ALL OPERATING AND MAINTENANCE MANUALS PRIOR TO FINAL PAYMENT.
26.8	EXAMINATION OF SITE AND EXISTING CONDITIONS: BEFORE SUBMITTING A PROPOSAL, CONTRACTOR SHALL EXAMINE THE SITE AND FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS AND LIMITATIONS. NO EXTRAS WILL BE ALLOWED BECAUSE OF THE CONTRACTOR'S MISUNDERSTANDING OF THE AMOUNT OF WORK INVOLVED OR HIS LACK OF KNOWLEDGE OF ANY SITE CONDITIONS WHICH MAY AFFECT HIS WORK. ANY APPARENT VARIANCE OF THE DRAWINGS OR SPECIFICATIONS FROM THE EXISTING CONDITIONS AT THE SITE SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER BEFORE SUBMITTING A PROPOSAL.
26.9	TESTING: PRIOR TO PLACING IN SERVICE, ALL ELECTRICAL SYSTEMS SHALL BE TESTED FOR OPENS, GROUNDS, AND PHASE ROTATION. THE MAIN SERVICE GROUND AND ALL LOCAL TRANSFORMER MADE GROUNDS SHALL BE MEGGER-TESTED. PROVIDE GFI TESTING FOR SERVICE SWITCHBOARD.
26.10	GROUNDING: GROUND ALL EQUIPMENT AND SYSTEM NEUTRAL IN ACCORDANCE WITH ARTICLE 250 OF THE NEC. EQUIPMENT GROUNDS HAVE NOT BEEN SHOWN ON DRAWINGS - WHERE GROUND WIRES HAVE BEEN SHOWN THEY INDICATE AN INSULATED GROUND.
26.11	EQUIPMENT STANDARDS: ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND OF THE HIGHEST QUALITY AVAILABLE ("SPECIFICATION GRADE"). SERVICE EQUIPMENT SHALL BE FACTORY-ASSEMBLED COMMERCIAL-GRADE, CONFIGURED PER SERVING UTILITY STANDARDS. WIRING DEVICES SHALL BE SPECIFICATION GRADE WITH NYLON PLATES, WHITE UNLESS OTHERWISE NOTED, RAISED STEEL BOX COVERS MAY BE USED IN UTILITY AREAS.
26.12	TAMPER-PROOF: ALL EQUIPMENT AND CIRCUITING ACCESSIBLE BY THE PUBLIC SHALL BE TAMPER-PROOF AND VANDAL RESISTANT. OPENABLE DEVICES AND EQUIPMENT SHALL BE PADLOCKABLE.
26.13	DISTRIBUTION EQUIPMENT: DISTRIBUTION EQUIPMENT SHALL BE DEAD-FRONT, PANELBOARD OR SWITCHBOARD TYPE AS INDICATED, UL-LABELED AND ENCLOSED IN A NEMA HOUSING APPROPRIATE TO ITS LOCATION AND APPLICATION WITH HINGED WIREWAY COVERS. BUSSING, DEVICE FINGERS AND LUGS SHALL BE COPPER UNLESS INDICATED ON DRAWINGS. AIC RATINGS SHOWN ON PLANS ARE MINIMUM RATINGS, CIRCUIT BREAKERS SHALL BE IN EXCESS OF THE AVAILABLE FAULT CURRENT. SERIES-RATING OF UPSTREAM AND DOWNSTREAM CIRCUIT BREAKERS TO ACHIEVE REQUIRED FAULT CURRENT RATINGS IS PROHIBITED UNLESS APPROVED BY ENGINEER IN WRITING.
26.14	PANELBOARDS: PANELS SHALL HAVE FLUSH MONO-FLAT TRIM, LOCKING DOOR-IN-DOOR HINGED COVERS AND BOLT-ON CIRCUIT BREAKERS. FLUSH-MOUNTED PANELS SHALL HAVE EMPTY CONDUITS STUBBED TO ACCESSIBLE ATTIC SPACE: ONE 1" CONDUIT FOR EACH FOUR SPARE/SPACE CIRCUITS. PROVIDE ONE TYPED AND ONE SPARE PANEL SCHEDULE FOR OWNER'S USE. SCHEDULES SHALL BE TWO COLUMN TYPE WITH ODD CIRCUIT NUMBERS ON THE LEFT AND EVEN NUMBERS ON THE RIGHT.
26.15	CODE COMPLIANCE: A. WORKING CLEARANCE: • THE CONTRACTOR SHALL VERIFY THAT ALL ELECTRICAL EQUIPMENT MEETS THE CLEARANCE REQUIREMENTS OF NEC 110.26. DRAWINGS REPRESENT CLEARANCES ARE MET AS DESIGNED, ANY DEVIATION SHALL ALSO MEET THIS REQUIREMENT.
26.16	WIRING DEVICES: GENERAL USE SWITCHES AND RECEPTACLES SHALL BE LISTED AND LABELED IN ACCORDANCE WITH NFPA 70, BY A QUALIFIED ELECTRICAL TESTING LABORATORY RECOGNIZED BY AUTHORITIES HAVING JURISDICTION, AND MARKED FOR INTENDED LOCATION AND APPLICATION. ALL DEVICES SHALL BE SPECIFICATION GRADE. SWITCHES SHALL BE TOGGLE TYPE, SINGLE POLE, SINGLE THROW, 20-AMP, 120/277-VOLT, GENERAL DUTY SWITCHES. RECEPTACLES SHALL, DUPLEX TYPE, FULL CONTROLLED, SIDE-WIRED, NEMA 5-15R CONFIGURATION. EACH DEVICE SHALL BE SUPPLIED WITH A COVERPLATE. COVERPLATES FOR THIS PROJECT SHALL BE INDUSTRIAL PLATES FOR INSTALLATION ON SURFACE MOUNTED JUNCTION BOXES AND STAINLESS STEEL FOR DEVICES RECESSED IN THE CONCRETE WALLS. WHERE DEVICES ARE LOCATED IN GYPSUM WALLS, PROVIDE A HIGH IMPACT, THERMOPLASTIC (NYLON) SMOOTH FINISH COVERPLATE TO MATCH THE DEVICE. DEVICES FOR THIS PROJECT SHALL BE IVORY IN COLOR.
26.17	GROUND FAULT RECEPTACLES: GROUND FAULT CIRCUIT INTERRUPTION RECEPTACLES SHALL BE LISTED AND LABELED IN ACCORDANCE WITH NFPA 70, BY A QUALIFIED ELECTRICAL TESTING LABORATORY RECOGNIZED BY AUTHORITIES HAVING JURISDICTION, AND MARKED FOR INTENDED LOCATION AND APPLICATION. RECEPTACLES SHALL BE WEATHER RESISTANT, TAMPER RESISTANT AND STRAIGHT BLADE TYPE RECEPTACLES. CONFIGURATION SHALL BE NEMA 5-16R. DEVICE SHALL BE PROVIDED WITH A TEST AND RESET FEATURE ON THE FACE OF THE RECEPTACLE. COVERPLATES FOR THIS PROJECT SHALL BE INDUSTRIAL PLATES FOR INSTALLATION ON SURFACE MOUNTED JUNCTION BOXES AND STAINLESS STEEL FOR DEVICES RECESSED IN THE CONCRETE WALLS. WHERE DEVICES ARE LOCATED IN GYPSUM WALLS, PROVIDE A HIGH IMPACT, THERMOPLASTIC (NYLON) SMOOTH FINISH COVERPLATE TO MATCH THE DEVICE. DEVICES FOR THIS PROJECT SHALL BE IVORY IN COLOR.
26.18	DISCONNECT SWITCHES: HEAVY DUTY FUSIBLE AND NON-FUSIBLE DISCONNECT SWITCHES SHALL BE PROVIDED. EQUIPMENT SHALL BE LISTED AND LABELED IN ACCORDANCE WITH NFPA 70, BY A QUALIFIED ELECTRICAL TESTING LABORATORY RECOGNIZED BY AUTHORITIES HAVING JURISDICTION, AND MARKED FOR INTENDED LOCATION AND APPLICATION. DISCONNECT SWITCHES SHALL BE SINGLE THROW AND SHALL BE PROVIDED WITH A LOCKABLE HANDLE AND INTERLOCK WITH THE COVER TO ONLY ALLOW OPERATION OF COVER WHEN HANDLE IS IN THE OPEN POSITION.
26.19	LIGHTING CONTROL: MOTION DETECTION OCCUPANCY AND VACANCY SENSORS SHALL BE LISTED AND LABELED IN ACCORDANCE WITH NFPA 70, BY A QUALIFIED ELECTRICAL TESTING LABORATORY RECOGNIZED BY AUTHORITIES HAVING JURISDICTION, AND MARKED FOR INTENDED LOCATION AND APPLICATION. DEVICES SHALL BE SOLID STATE INDOOR SENSORS AND SHALL BE DUAL TECHNOLOGY (PASSIVE INFRARED AND ULTRASONIC) LINE VOLTAGE DEVICES. DEVICES SHALL BE HARDWIRED, WIRELESS DEVICES ARE NOT ACCEPTABLE. OCCUPANCY SENSORS SHALL TURN LIGHTS ON WHEN COVERAGE AREA IS OCCUPIED AND TURN LIGHTS OFF WHEN UNOCCUPIED. VACANCY SENSORS SHALL HAVE LIGHTS TURNED ON MANUALLY, AND THE SENSOR SHALL TURN LIGHTS OFF WHEN ROOM IS UNOCCUPIED. TIME DELAYS SHALL BE SET TO 15-MINUTES, HOWEVER, THE TIME DELAY SHALL BE ADJUSTABLE FROM ONE TO THIRTY MINUTES.
26.20	CIRCUITING: ALL WIRING SHALL BE IN CONDUIT, MINIMUM 3/4"C, CONCEALED EXCEPT WHERE NOTED. EMT WITH STEEL SET SCREW INSULATED-THROAT FITTINGS MAY BE USED IN DRY, PROTECTED INTERIOR LOCATIONS. PVC SCHEDULE 40 SHALL BE USED BELOW GRADE AT MINIMUM -24". WRAPPED RIGID ELBOWS AND RISERS SHALL BE USED FOR ALL THROUGH-GRADE TRANSITIONS AND STUB-UPS. RGS OR IMC CONDUIT WITH THREADED FITTINGS SHALL BE USED IN ALL LOCATIONS WHERE EXPOSED TO THE ELEMENTS OR SUBJECT TO PHYSICAL DAMAGE. TYPE MC CABLE MAY NOT BE USED. ENT IS NOT ALLOWED. CONNECT RECESSED AND SUSPENDED LIGHTING FIXTURES, MOTORIZED AND VIBRATING EQUIPMENT WITH STEEL FLEX. ALL CONDUIT SHALL HAVE PULL CORD IF OTHERWISE EMPTY.
26.21	WIRING: WIRE SHALL BE COPPER UNLESS OTHERWISE INDICATED. MINIMUM WIRE SIZE SHALL BE #12 AWG. INSULATION SHALL BE THW, THWN OR THHN.
26.22	FUSES: FUSES SHALL BE SIZED PER ACTUAL NAMEPLATE OF EQUIPMENT SERVED. FUSES SHALL BE DUAL-ELEMENT, CURRENT-LIMITING, AND SHALL BE INTERCHANGEABLE BETWEEN FRAME SIZES WITH STANDARD FACTORY FUSE REDUCERS. FUSES SHALL BE AS FOLLOWS UNLESS OTHERWISE INDICATED: CIRCUITS 601 TO 6000 AMPERES SHALL BE PROTECTED BY CURRENT LIMITING BUSSMANN LOW-PEAK TIME-DELAY FUSES KRP-C - UL CLASS L CIRCUITS 0 TO 600 AMPERES SHALL BE PROTECTED BY CURRENT LIMITING BUSSMANN LOW-PEAK DUAL-ELEMENT FUSES LPN-RK (250 VOLTS) OR LPS-RK (600 VOLTS) - UL CLASS RK1 ALL INDIVIDUAL MOTOR CIRCUITS RATED 480 AMPERES OR LESS SHALL BE PROTECTED BY BUSSMANN LOW-PEAK DUAL-ELEMENT FUSES LPN-RK (250 VOLTS) OR LPS-RK (600 VOLTS)-UL CLASS RK1 OR L CIRCUIT BREAKER PANELS SHALL BE PROTECTED BY BUSSMANN LOW-PEAK DUAL-ELEMENT FUSES LPN-RK (250 VOLTS), LPS-RK (600 VOLTS) OR BUSSMANN LOW-PEAK KRP-C TIME-DELAY FUSES - UL CLASS RK1 OR L ALL DUAL-ELEMENT FUSES SHALL HAVE SEPARATE OVERLOAD AND SHORT-CIRCUIT ELEMENTS. PROVIDE SPARE FUSE CABINET AFTER THE COMPLETION OF THE PROJECT WITH ONE SET OF SPARE FUSES FOR EVERY SIZE USED.
26.23	TEMPORARY CONSTRUCTION POWER: PROVIDE TEMPORARY ELECTRICAL POWER AND LIGHTING FOR ALL TRADES THAT REQUIRE SERVICE DURING THE COURSE OF THIS PROJECT. PROVIDE TEMPORARY SERVICE AND DISTRIBUTION AS REQUIRED. COMPLY WITH THE NEC AND OSHA REQUIREMENTS. (ENERGY COSTS BY OTHERS).
26.24	SUBMITTALS: BEFORE ORDERING ANY EQUIPMENT, CONTRACTOR SHALL SUBMIT ELECTRONIC PDF COPIES OF FACTORY SHOP DRAWINGS FOR ALL LIGHTING FIXTURES, SWITCHGEAR, PANELS, MOTOR CONTROLLERS, WIRING DEVICES, ETC. PROPOSED FOR THIS PROJECT.
26.25	SUBSTITUTIONS: PROPOSED SUBSTITUTIONS SHALL BE EQUAL OR SUPERIOR TO SPECIFIED ITEMS IN ALL RESPECTS. DETERMINATION OF EQUALITY RESTS SOLELY WITH ENGINEER. SUBSTITUTIONS MUST BE SUBMITTED A MINIMUM OF 10 WORKING DAYS PRIOR TO BID FOR CONSIDERATION. PROPOSED SUBSTITUTIONS PROVIDED LATER WILL NOT BE REVIEWED OR ALLOWED. BID SUBSTITUTED MATERIAL WILL ONLY BE ALLOWED IF ACCEPTED IN WRITING BY ENGINEER.
26.26	IDENTIFICATION: PROVIDE ENGRAVED NAMEPLATES FOR ALL SWITCHBOARDS, PANELS, TRANSFORMERS, DISCONNECTS, MOTOR STARTERS, CONTACTORS, TIME SWITCHES AND CABINETS. NAMEPLATES SHALL INCLUDE THE FOLLOWING INFORMATION AS APPLICABLE: DESIGNATION (i.e. PANEL A) FUNCTION (i.e. AIR HANDLER AH-1) VOLTAGE, PHASE, WIRE (i.e. 480 VOLT, 3ø, 4W.) FEEDER SIZE (i.e. 4-#4/0 THWN CU IN 2" C.) SOURCE (i.e. SWITCHBOARD MSB) NAMEPLATES SHALL BE WHITE LETTERS ON BLACK FOR NORMAL EQUIPMENT AND WHITE LETTERS ON RED FOR EMERGENCY EQUIPMENT. RECEPTACLES AND SWITCH PLATES SHALL BE LABELED WITH THE CIRCUIT NUMBER AND PANEL IDENTIFICATION FOR THE BRANCH CIRCUIT FEEDING DEVICE. IDENTIFICATION SHALL BE BLACK LETTERS ON WHITE DYMO LABEL.
26.27	GUARANTEE: THE COMPLETE ELECTRICAL SYSTEM, AND ALL PORTIONS THEREOF, SHALL BE GUARANTEED TO BE FREE FROM DEFECTS IN WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE. PROMPTLY REMEDY SUCH DEFECTS AND ANY SUBSEQUENT DAMAGE CAUSED BY THE DEFECTS OR REPAIR THEREOF AT NO EXPENSE TO THE OWNER. LAMPS ARE EXEMPT FROM THIS GUARANTEE, BUT SHALL BE NEW AT TIME OF FINAL ACCEPTANCE.
26.28	COORDINATION: THE MECHANICAL DRAWINGS CONTAIN DETAIL DESCRIPTIONS, CIRCUITING AND CONNECTION REQUIREMENTS WHICH ARE PART OF DIVISION 26 RESPONSIBILITIES. ELECTRICAL CONTRACTOR SHOULD NOT SUBMIT BIDS ON THIS PROJECT BEFORE REVIEWING ALL PROJECT DRAWINGS, SPECIFICATIONS AND ADDENDA.
28.1	FIRE ALARM: EXISTING FIRE ALARM SYSTEM SHALL REMAIN AND SHALL BE MODIFIED TO MEET THE NEEDS OF THE NEW CONDITIONS. THE CONTRACTOR SHALL PROVIDE A COMPLETE DESIGN BUILD SYSTEM WHICH SHALL BE IN COMPLIANCE WITH THE AHJ (NORTH LAKE TAHOE FIRE PROTECTION DISTRICT). THE SYSTEM MODIFICATIONS SHALL BE IN COMPLIANCE WITH ADA REQUIREMENTS. PROVIDE CALCULATIONS FOR MODIFICATIONS AS THEY EFFECT VOLTAGE DROP AND BATTERIES. MODIFICATIONS TO THE CONTROL PANEL SHALL INCLUDE; PROGRAMMING TO ACCEPT THE NEW CONDITIONS, INTEGRAL STANDBY BATTERIES, COORDINATION WITH THE MONITORING AGENCY TO VERIFY CHANGES ARE BEING CORRECTLY RECEIVED. PLANS DO NOT INDICATE ALL DEVICES, CONNECTIONS OR CIRCUITING REQUIRED FOR A COMPLETE SYSTEM. SUBMIT PROPOSED DESIGN TO THE STATE FIRE MARSHAL AND RECEIVE APPROVAL PRIOR TO ROUGH-IN. THE EXISTING FIRE ALARM PANEL LOCATED IN THIS FACILITY IS AN EDWARDS EST3 FIRE ALARM SYSTEM. ALL NEW DEVICES SHALL BE SYSTEM COMPATIBLE.

MASTER SYMBOL LIST

SIGNAL OUTLETS

▼	TELEPHONE: 4S BOX WITH SINGLE GANG MUD RING UON, +18" AFF UON
⧗	TELEPHONE: 4S BOX WITH SINGLE GANG MUD RING UON, WALL MOUNT +54" AFF UON
▽	DATA: 4S BOX WITH SINGLE GANG MUD RING UON, +18" AFF UON
▼V	VOICE/DATA: 4S BOX WITH SINGLE GANG MUD RING UON, +18" AFF UON
TV	TELEVISION: 4S BOX WITH SINGLE GANG MUD RING UON, +18" AFF UON
C	CAMERA: 4S BOX WITH SINGLE GANG MUD RING UON, CEILING MOUNTED UON
M	MICROPHONE: 4S BOX WITH SINGLE GANG MUD RING UON, +18" AFF UON
V	VOLUME CONTROL: 4S BOX WITH SINGLE GANG MUD RING UON, +48" TO TOP UON
S	SPEAKER: 8" COAXIAL WITH BACK BOX AND GRILLE, CEILING MOUNTED UON
	3/4"C (UON) STUB INTO ACCESSIBLE CEILING SPACE

SWITCHES

S	SINGLE POLE: 20A, 120/277V, +48" TO TOP UON
S_2	TWO POLE: 20A, 120/277V, +48" TO TOP UON
S_3	THREE WAY: 20A, 120/277V, +48" TO TOP UON
S_4	FOUR WAY: 20A, 120/277V, +48" TO TOP UON
S_X	X INDICATES EMERGENCY CIRCUIT
S_P	P INDICATES PILOT LIGHT (LIGHTED WHEN ON)
S_L	L INDICATES PILOT LOCATOR (LIGHTED WHEN OFF)
S_K	K INDICATES KEY OPERATED SWITCH
S_M	MANUAL MOTOR STARTER: 20A, 120/277V, POLES AND HEATERS AS REQUIRED
S_{MC}	MOMENTARY CONTACT: 20A, 120/277V, SPDT CENTER NORMALLY OFF UON, +48" TO TOP UON
D	DIMMER: 600 WATT UON, ELECTRONIC SLIDER, WITH ON/OFF TOGGLE, +48" TO TOP UON (PLANS SHALL INDICATE TYPE: FLUOR, INCAND OR LOW-VOLTAGE)
	MOTION/OCCUPANCY SENSOR SWITCH WITH OFF-AUTO SELECTOR - WALL MOUNTED AT +48" TO TOP UON
= 360 = 180 = 90	ULTRASONIC MOTION/OCCUPANCY SENSOR SWITCH CEILING MOUNTED ARROWS INDICATE DIRECTION AND COVERAGE PROVIDE WITH POWER PACK PER MANUFACTURERS REQUIREMENTS
PE	PHOTO ELECTRIC SWITCH: 1600VA UON

METHODS

S_X	SHADING INDICATES: FIXTURE, OUTLET, EQUIPMENT, ETC. ON EMERGENCY 'X' OR NIGHT LIGHT 'NL' CIRCUIT
SS	DEVICE MOUNTED IN MULTIPLE UNDER COMMON COVER MAXIMUM HEIGHT ON WALL SHALL BE +48" TO TOP UON
	DEVICES MOUNTED IN OR ABOVE COUNTER/BACKSPLASH: MAXIMUM HEIGHT ON WALLS SHALL BE +48" TO TOP UON
▼	FLUSH FLOOR MOUNTED WIRING DEVICES
▼J	FLUSH FLOOR MOUNTED WIRING DEVICES IN SINGLE MULTI-COMPARTMENT BOX
	RECEPTACLE MOUNTED IN CEILING OR CASEWORK
	FINE DASHING INDICATES EXISTING EQUIPMENT AND DEVICES TO BE REMOVED

DESIGNATIONS

f1	LIGHT FIXTURE: F1 = TYPE (SEE FIXTURE SCHEDULE)
2	SHEET NOTE
1	REVISION DELTA: NUMBER REPRESENTS REVISION
AC 1	MECHANICAL AND PLUMBING EQUIPMENT
A 5	MISCELLANEOUS: THESE AND OTHER SYMBOLS AS INDICATED IN TABLES AND SCHEDULES ON THE PLANS.

RECEPTACLES

	DUPLEX: 20A, 125V, NEMA 5-20, +18" AFF
	DOUBLE DUPLEX: 20A, 125V, NEMA 5-20, +18" AFF
	HALF SWITCHED DUPLEX: 20A, 125V, NEMA 5-20, +18" AFF (TOP HALF SWITCHED)
	DUPLEX GFCI: 20A, 125V, GFCI, NEMA 5-20 GFR, +18" AFF
	DUPLEX I.G: 20A, 125V, ISO. GND., NEMA 5-20 IG +18" AFF (WHITE WITH ORANGE TRIANGLE, UON)
	DOUBLE DUPLEX I.G: 20A, 125V, ISO. GND., NEMA 5-20 IG +18" AFF (WHITE WITH ORANGE TRIANGLE, UON)
	SPECIAL RECEPTACLE - AS INDICATED ON PLANS, +18" AFF

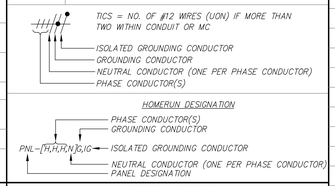
NOTE: DIAMOND SYMBOLS INDICATES DEDICATED CIRCUIT.

EQUIPMENT

	SWITCHBOARD
	PANELBOARD: SURFACE MOUNTED
	PANELBOARD: FLUSH MOUNTED
T	TRANSFORMER
	RELAY (120V COIL , STEP DN XFMR IF REQUIRED, UON)
	CONTACTOR (120V COIL, STEP DN XFMR IF REQUIRED, UON)
J	COMBINATION MAGNETIC STARTER/FUSED DISCONNECT
NJ	NON-FUSIBLE DISCONNECT SWITCH
FJ	FUSIBLE DISCONNECT SWITCH
	PULLBOX: SIZE AS REQUIRED BY NEC
	JUNCTION BOX: SIZE AS REQUIRED BY NEC
	SURFACE RACEWAY WITH OR WITHOUT DEVICES
TP	TELEPOWER POLE

CIRCUITING

	CONDUIT IN WALL OR ABOVE CEILING
	CONDUIT IN FLOOR OR BELOW GRADE
	METAL CLAD CABLE (MC)
—OH—	OVERHEAD SERVICE
— P —	PRIMARY
— S —	SECONDARY
— T —	TELEPHONE
—TV—	TELEVISION
	LOW VOLTAGE AND/OR CONTROL CIRCUITNG
—** —	EMERGENCY CIRCUIT
	STUB OUT: MARK AND CAP (SITE)
	CIRCUITING UP OR DOWN



MISCELLANEOUS

T	THERMOSTAT: AT +48" TO TOP UON (OR PER MECH PLANS)
f	EXHAUST FAN: FRACTIONAL HORSEPOWER
1	MOTOR: NUMBER = HORSEPOWER
SIGN	SIGNAGE CONNECTION
	SHUNT TRIP STATION: +7'-6" AFF, 12" RED TRIANGLE, UON
	CONTROL STATION: AT +48" TO TOP UON
a b	DUAL LEVEL LIGHTING CONTROL SWITCH 'a' = CENTER (1) LAMP SWITCH 'b' = OUTER (2) LAMPS

NOTE:
THIS IS A MASTER SYMBOL LIST, ALL SYMBOLS SHOWN MAY NOT BE USED WITHIN THIS SET OF PLANS

ABBREVIATIONS

℄	CENTERLINE
AFF	ABOVE FINISHED FLOOR
AIC	AMPERES INTERRUPTING CAPACITY
AFC	ABOVE FINISH CEILING
BMS	BUILDING MANAGEMENT SYSTEM
C	CONDUIT
CB	CIRCUIT BREAKER
CLG	CEILING
CIR	CIRCUIT
DPDT	DOUBLE POLE DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
(E)	EXISTING TO REMAIN
ELEV	ELEVATOR
EMT	ELECTRICAL METALLIC TUBING
EPO	EMERGENCY POWER OFF SYSTEM
FBO	FURNISHED BY OTHERS
FPEN	FUSE PER EQUIPMENT NAMEPLATE
FLUOR	FLUORESCENT
FU	FUSE: DUAL-ELEMENT, TIME DELAY
GFI/GFCI	GROUND FAULT INTERRUPTER
GND	GROUND
HOA	HAND-OFF-AUTOMATIC
HID	HIGH INTENSITY DISCHARGE
IG	ISOLATED GROUND
INCAND	INCANDESCENT
K	kcmil (300K = 300 kcmil)
LTG	LIGHTING
LV	LOW VOLTAGE
MCP	MOTOR CIRCUIT PROTECTOR
MC	MULTI-CONDUCTOR CABLE
(N)	NEW
NC	NORMALLY CLOSED
NEUT	NEUTRAL
NL	NIGHT LIGHT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
PNL	PANEL
PVC	POLYVINYL CHLORIDE CONDUIT
(R)	EXISTING TO BE RELOCATED
RAC	RIGID ALUMINUM CONDUIT
RSC	RIGID STEEL CONDUIT
SLD	SINGLE LINE DIAGRAM
SO	SEAL OFF
SPDT	SINGLE POLE DOUBLE THROW
SPEN	SIZE PER EQUIPMENT NAMEPLATE
SPST	SINGLE POLE SINGLE THROW
TEL	TELECOM
TYP	TYPICAL
UNSW	UNSWITCHED
UON	UNLESS OTHERWISE NOTED
WP	WEATHERPROOF (NEMA 3R)
WT	WATERTIGHT
(X)	EXISTING TO BE REMOVED
XFMR	TRANSFORMER
XP	EXPLOSION PROOF

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No.	Description	Date

Mechanical Seal

Consultant

PROFESSIONAL ENGINEER — STATE OF NEVADA — JAMES P. SOLARO — Exp. 6/30/26 — No. 9859
2025.02.10 13:25:08-08'00'
2/10/2025

Agency Approval

Project Title
IVGID INCLINE REC CENTER HVAC SYSTEM REPLACEMENT
980 INCLINE WAY, INCLINE VILLAGE, NV 89451

Drawing Title
SYMBOL LIST AND SPECIFICATIONS

JP #24125
JP ENGINEERING
10597 Double R Blvd, Ste. 1
Reno, Nevada 89521
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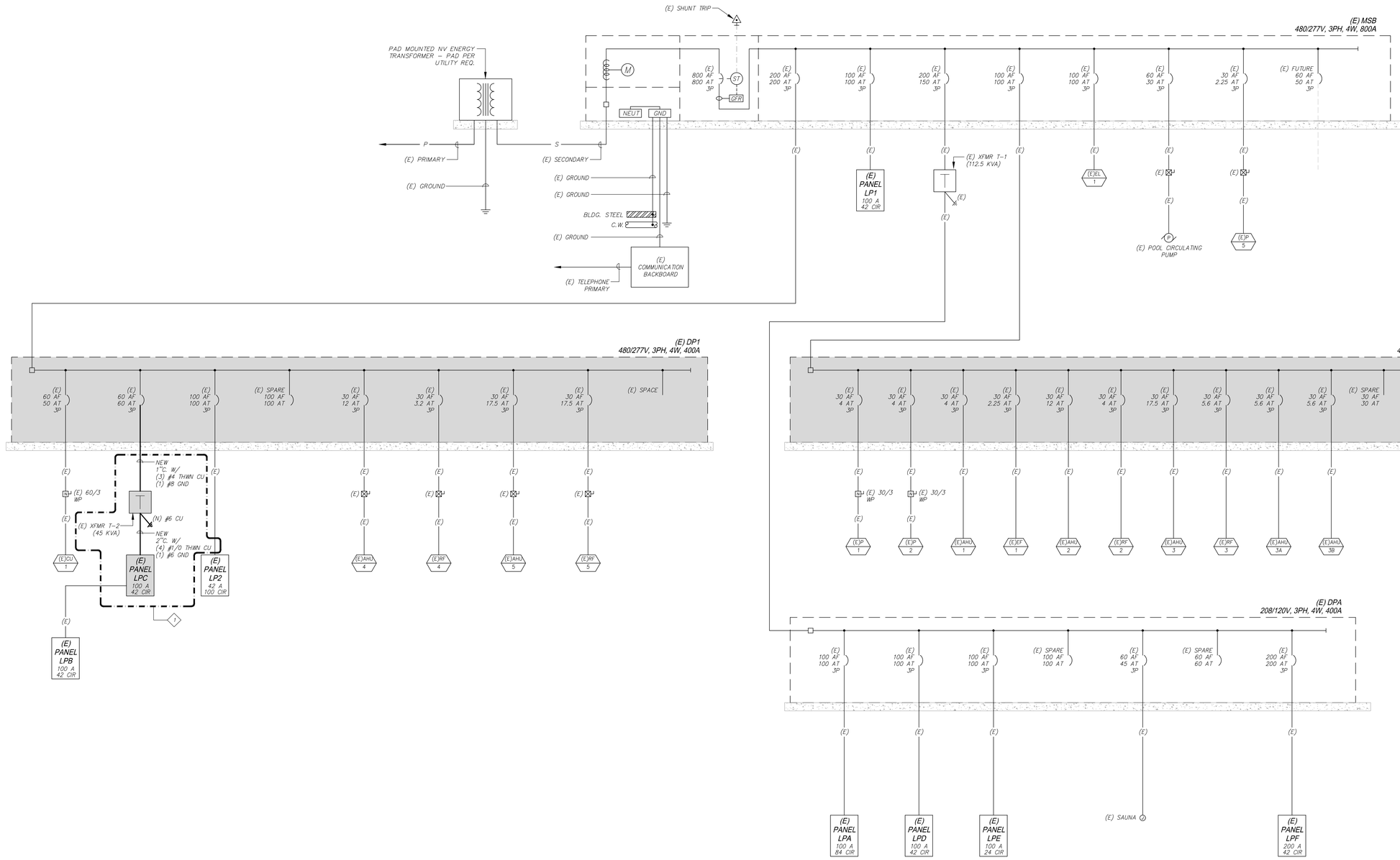
F: 775.852.2352

Designed JPS	Agency No.
Drawn CDC	Scale AS NOTED
Checked JPS	Drawing No. E0.1
Date 2/14/2025	

PLEASE RECYCLE

BID SET



A	EXISTING SINGLE LINE DIAGRAM
E0.2	SCALE: NO SCALE

LEGEND

SHADED EQUIPMENT IS INVOLVED IN THE RENOVATION AREA.

THIS INFORMATION SHALL BE UTILIZED FOR USE IN THE REQUIRED SHUTDOWN DOCUMENTATION. WHERE SHUTDOWNS ARE REQUIRED, THE CONTRACTOR SHALL PROVIDE NOTICE OF SHUTDOWN IN WRITING TO FACILITIES SERVICES A MINIMUM OF TWO (2) WEEKS PRIOR TO THE DATE OF SHUTDOWN. IN ADDITION, FACILITIES SERVICES PERSONNEL SHALL BE PRESENT DURING THE SHUTDOWN.

SHEET NOTES

1. EXISTING TRANSFORMER T2 SHALL BE RELOCATED TO ALLOW FOR NEW MECHANICAL EQUIPMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RELOCATION WITH NEW FEEDERS FROM THE DISTRIBUTION PANEL AND TO THE EXISTING LOW VOLTAGE PANEL.

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No.	Description	Date

JOB: 2024100

Mechanical Seal

Consultant Seal

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA
JAMES P. SOLARO
Exp. 6/30/26
2/10/2025

Agency Approval

Project Title
IVGID INCLINE REC CENTER
HVAC SYSTEM
REPLACEMENT
980 INCLINE WAY, INCLINE VILLAGE, NV 89451

Drawing Title
SINGLE LINE
DIAGRAM

Designed	Agency No.
JPS	
Drawn	Scale
CDC	AS NOTED
Checked	Drawing No.
JPS	E0.2
Date	
2/14/2025	

BID SET

PLEASE RECYCLE

E=Equipment, K=Kitchen, L=Lighting, LW=Warehouse Lighting, H=Heat, M=Motor, M1=Motor(Largest), R=Recepts

LOCATION: **1ST FLOOR MECH ROOM**

DF	DESCRIPTION	LOAD	BKR	CIR	A	B	C	CIR	BKR	LOAD	DESCRIPTION	DF
E	**(N) HRP/1**	**1250**	**20/1**	1	2450			2	**20/1**	**1200**	**(N) HRP/2**	**E**
E	**(N) EF/1**	**1700**	**30/1**	3		1700		4	20/1		(E) WOMENS SUIT DRYER	
E	**(N) EF/6**	**1700**	**30/1**	5			1700	6	20/1		(E) MENS SUIT DRYER	
E	(E) FINTUBE CONTROLS		20/1	7	0			8	20/1		(E) SHUNT TRIP	
E	(E) IRRIGATION CONTROL		20/1	9		0		10	20/1		(E) LIGHTING CONT RELAY	
E	**(N) EF/8**	**1700**	**30/1**	11			1700	12	20/1		(E) CP1, CP2, GLYCOL PUMP	
E	(E) ALERTON TCP (AHU1&2)		20/1	13	0			14	20/1		(E) ALERTON TCP (AHU3)	
R	(E) PHONE BOARD		20/1	15		0		16	20/1		SPACE	
E	(E) ALERTON TCP (BOILER)		20/1	17			0	18			SPACE	
E			20	19	0			20	20			
E	(E) WASHER		-	21		0		22	-		(E) DRYER	
E			3	23			0	24	3			
E	(E) CHLORINE PUMP		20	25	2000			26	**30**	**2000**		**E**
E			2	27		2000		28	**-**	**2000**	**(N) EF/2**	**E**
R	(E) EMERG SWITCH PIT		20/1	29			2000	30	**3**	**2000**		**E**
	SPACE			31	0			32			SPACE	
	SPACE			33		0		34			SPACE	
	SPACE			35			0	36			SPACE	
	SPACE			37	0			38			SPACE	
	SPACE			39		0		40			SPACE	
	SPACE			41			0	42			SPACE	
					4450	3700	5400					

AMPS:	100	**NEUTRAL BUS:**	100%	**CON. KVA:**	13.6
VOLTAGE:	208	**GROUND BUS:**	STANDARD	**CON. AMPS:**	37.6
PHASE / WIRE	3-PH , 4W	**AIC RATING:**	EXISTING	**NET KVA:**	13.6
MAIN:		**NEMA RATING:**	1	**NET AMPS:**	37.6
LUGS:	MLO	**PANEL**		**Notes:**	
MOUNTING:	SURFACE	**(E) LPA2**		EXISTING SIEMENS PANELBOARD	
BUS:	COPPER			**BOLD INDICATES MODIFIED EQUIPMENT AND LOAD**	
DOOR:	STANDARD				

E=Equipment, K=Kitchen, L=Lighting, LW=Warehouse Lighting, H=Heat, M=Motor, M1=Motor(Largest), R=Recepts

LOCATION: **2ND FLOOR MECH ROOM**

DF	DESCRIPTION	LOAD	BKR	CIR	A	B	C	CIR	BKR	LOAD	DESCRIPTION	DF
E	(E) BACKBOARDS S LT		20/1	1	0			2	20/1		(E) BACKBOARDS N LT	E
E	(E) BACKBOARDS S CT		20/1	3		0		4	20/1		(E) BACKBOARDS N CT	E
E	(E) BACKBOARDS S RT		20/1	5			0	6	20/1		(E) BACKBOARDS N RT	E
E	(E) GYM CURTAIN		20/1	7	0			8	20/1		(E) RECEPT AER SOUND	R
R	(E) RECEPT		20/1	9		0		10	20/1		(E) RECEPT	R
R	(E) RECEPT		20/1	11			0	12	20/1		(E) RECEPT	R
R	(E) JENNIFER GFR, KATI		20/1	13	0			14	20/1		(E) RECEPT	R
E	(E) STARTERS		20/1	15		0		16	20/1		(E) RECEPT	R
E	(E) DISCONNECT COILS		20/1	17			0	18	20/1		(E) RECEPT	R
L	(E) LIGHTING GYM		20/1	19	0			20	20/1		(E) RECEPT	R
L	(E) LIGHTING GYM		20/1	21		0		22	20/1		(E) BATTERY INVERTER #1	E
L	(E) LIGHTING GYM		20/1	23			0	24	20/1		(E) GYM SCOREBOARD	E
L	(E) LIGHTING GYM		20/1	25	0			26	20/1		(E) EF-7 & UNIT HEATER	E
R	(E) CHILD CARE REFER		20/1	27		0		28	20/1		(E) REFRIGERATOR RM 207	R
E	**(N) EF/7**	**1200**	**20/1**	29			1200	30	20/1		(E) CHILD CARE MICRO	R
	SPARE		20/1	31	0			32	20/1		(E) MAINT ROOM RECEPT	R
E	(E) ALERTON BCM		20/1	33		0		34	20/1		(E) ALERTON TCP (AHU5)	E
	SPARE		20/1	35			0	36	20/1		(E) ALERTON TCP (AHU4)	E
	SPARE		20/1	37	0			38	50			E
	SPARE		20/1	39		0		40	-		(E) SANDER	E
	SPARE		20/1	41			0	42	3			E
					0	0	1200					

AMPS:	100	**NEUTRAL BUS:**	100%	**CON. KVA:**	1.2
VOLTAGE:	208	**GROUND BUS:**	STANDARD	**CON. AMPS:**	3.3
PHASE / WIRE	3-PH , 4W	**AIC RATING:**	EXISTING	**NET KVA:**	1.2
MAIN:	100A, 3P	**NEMA RATING:**	1	**NET AMPS:**	3.3
LUGS:	MCB	**PANEL**		**Notes:**	
MOUNTING:	SURFACE	**(E) LPC**		EXISTING SIEMENS PANELBOARD	
BUS:	COPPER			**BOLD INDICATES MODIFIED EQUIPMENT AND LOAD**	
DOOR:	STANDARD				

C=EQUIPMENT, K=KITCHEN, L=LIGHTING, H=HEAT, M=MOTOR, M1=MOTOR (LARGEST), R=RECEPTS

LOCATION: **2ND FLOOR MECHANICAL**

DF	DESCRIPTION	LOAD	BKR	CIR	A	B	C	CIR	BKR	LOAD	DESCRIPTION	DF
E		15000	60		25282				**40**	**10282**		**M**
E	(E) TRANSFORMER T2	15000	-	1		25282		2	**-**	**10282**	**(N) CU/2 ***ALTERNATE 1**	**M**
E		15000	3				25282		**3**	**10282**		**M**
E		22000	100		34733				**60**	**12733**		**M**
E	(E) PANEL LP2	22000	-	3		34733		4	**-**	**12733**	**(N) CU/3 ***ALTERNATE 1**	**M**
E		22000	3				34733		**3**	**12733**		**M**
M		**2713**	**25**		6671				**35**	**3958**		**M**
M	**(N) AHU/4**	**2713**	**-**	5		6671		6	**-**	**3958**	**(N) AHU/5**	**M**
M		**2713**	**3**				6671		**3**	**3958**		**M**
M		**900**	**20**		1734				**20**	**834**		**M**
M	**(N) EF/5**	**900**	**-**	7		1734		8	**-**	**834**	**(N) EF/4**	**M**
M		**900**	**3**				1734		**3**	**834**		**M**
					0							
				9		0		10				
							0					
					68420	68420	68420					

AMPS:	400	**NEUTRAL BUS:**	100%	**CON. KVA:**	205.3
VOLTAGE:	480	**GROUND BUS:**	STANDARD	**CON. AMPS:**	246.9
PHASE / WIRE	3-PH , 4W	**AIC RATING:**	EXISTING	**NET KVA:**	205.3
MAIN:		**NEMA RATING:**	1	**NET AMPS:**	246.9
LUGS:	MLO	**DISTRIBUTION PANEL**		**Notes:**	
MOUNTING:	SURFACE	**(E) DP1**		EXISTING SIEMENS FUSED DISCONNECT	
BUS:	COPPER			DISTRIBUTION BOARD	
DOOR:	STANDARD			**BOLD INDICATES MODIFIED EQUIPMENT AND LO**	

C=EQUIPMENT, K=KITCHEN, L=LIGHTING, H=HEAT, M=MOTOR, M1=MOTOR (LARGEST), R=RECEPTS

LOCATION:

DF	DESCRIPTION	LOAD	BKR	CIR	A	B	C	CIR	BKR	LOAD	DESCRIPTION	DF
E		**3733**	**30**		3733				30			M
E	**(E) HWP #1**	**3733**	**-**	1		3733		2	-		(N) SPARE	M
E		**3733**	**3**				3733		3			M
E		**3733**	**30**		7193				**30**	**3460**		**M**
E	**(E) HWP #2**	**3733**	**-**	3		7193		4	**-**	**3460**	**(N) AHU/3**	**M**
E		**3733**	**3**				7193		**3**	**3460**		**M**
M		**775**	**15**		775				30			M
M	**(N) AHU/1**	**775**	**-**	5		775		6	-		(N) SPARE	M
M		**775**	**3**				775		3			M
M		**2934**	**20**		2934				30			M
M	**(N) EF/3**	**2934**	**-**	7		2934		8	-		(N) SPARE	M
M		**2934**	**3**				2934		3			M
M		**2713**	**25**		2713				30			M
M	**(N) AHU/2**	**2713**	**-**	9		2713		10	-		(N) SPARE	M
M		**2713**	**3**				2713		3			M
					10282				**40**	**10282**		**M**
				11		10282		12	**-**	**10282**	**(N) CU/1**	**M**
							10282		**3**	**10282**		**M**
					27630	27630	27630					

AMPS:	600	**NEUTRAL BUS:**	100%	**CON. KVA:**	82.9
VOLTAGE:	480	**GROUND BUS:**	STANDARD	**CON. AMPS:**	99.7
PHASE / WIRE	3-PH , 4W	**AIC RATING:**	EXISTING	**NET KVA:**	82.9
MAIN:		**NEMA RATING:**	1	**NET AMPS:**	99.7
LUGS:	MLO	**DISTRIBUTION PANEL**		**Notes:**	
MOUNTING:	SURFACE	**(E) MCC1**		EXISTING SIEMENS MOTOR CONTROL CENTER	
BUS:	COPPER			**BOLD INDICATES MODIFIED EQUIPMENT AND LO**	
DOOR:	STANDARD				

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JOB: 2024100

Mechanical Seal

Consultant Seal

PROFESSIONAL ENGINEER — STATE OF NEVADA — JAMES P. SOLARO — No. 15181 — REGISTERED

2/10/2025

Agency Approval

Project Title
IVGID INCLINE REC CENTER
HVAC SYSTEM
REPLACEMENT
980 INCLINE WAY, INCLINE VILLAGE, NV 89451

Drawing Title
PANEL SCHEDULES

JP #24125
JP ENGINEERING
10597 Double R Blvd, Ste. 1
Reno, Nevada 89521
P: 775.852.2337
F: 775.852.2352

Designed: JPS	Agency No.
Drawn: CDC	Scale: AS NOTED
Checked: JPS	Drawing No. E0.3
Date: 2/14/2025	

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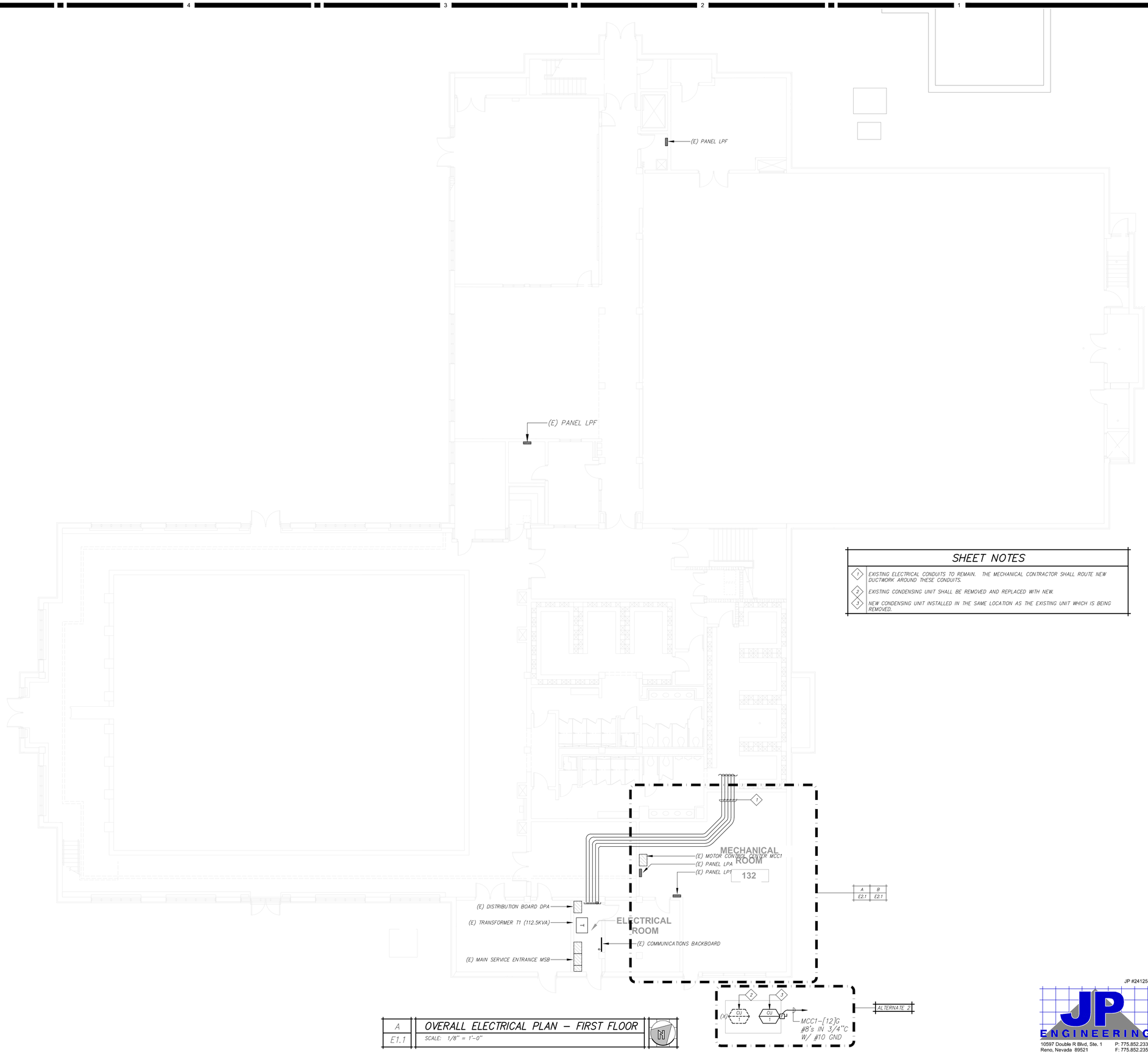

SHEET NOTES

1. EXISTING ELECTRICAL CONDUITS TO REMAIN. THE MECHANICAL CONTRACTOR SHALL ROUTE NEW DUCTWORK AROUND THESE CONDUITS.
2. EXISTING CONDENSING UNIT SHALL BE REMOVED AND REPLACED WITH NEW.
3. NEW CONDENSING UNIT INSTALLED IN THE SAME LOCATION AS THE EXISTING UNIT WHICH IS BEING REMOVED.

A / E1.1 — OVERALL ELECTRICAL PLAN – FIRST FLOOR

SCALE: 1/8" = 1'-0"

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JOB: 2024100

No.	Description	Date

Mechanical Seal

Consultant Seal

2/10/2025

Agency Approval

Project Title
IVGID INCLINE REC CENTER HVAC SYSTEM REPLACEMENT
980 INCLINE WAY, INCLINE VILLAGE, NV 89451

Drawing Title
OVERALL ELECTRICAL PLAN

JP #24125

JP ENGINEERING
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Checked: JPS	Drawing No. E1.1
Date: 2/14/2025	

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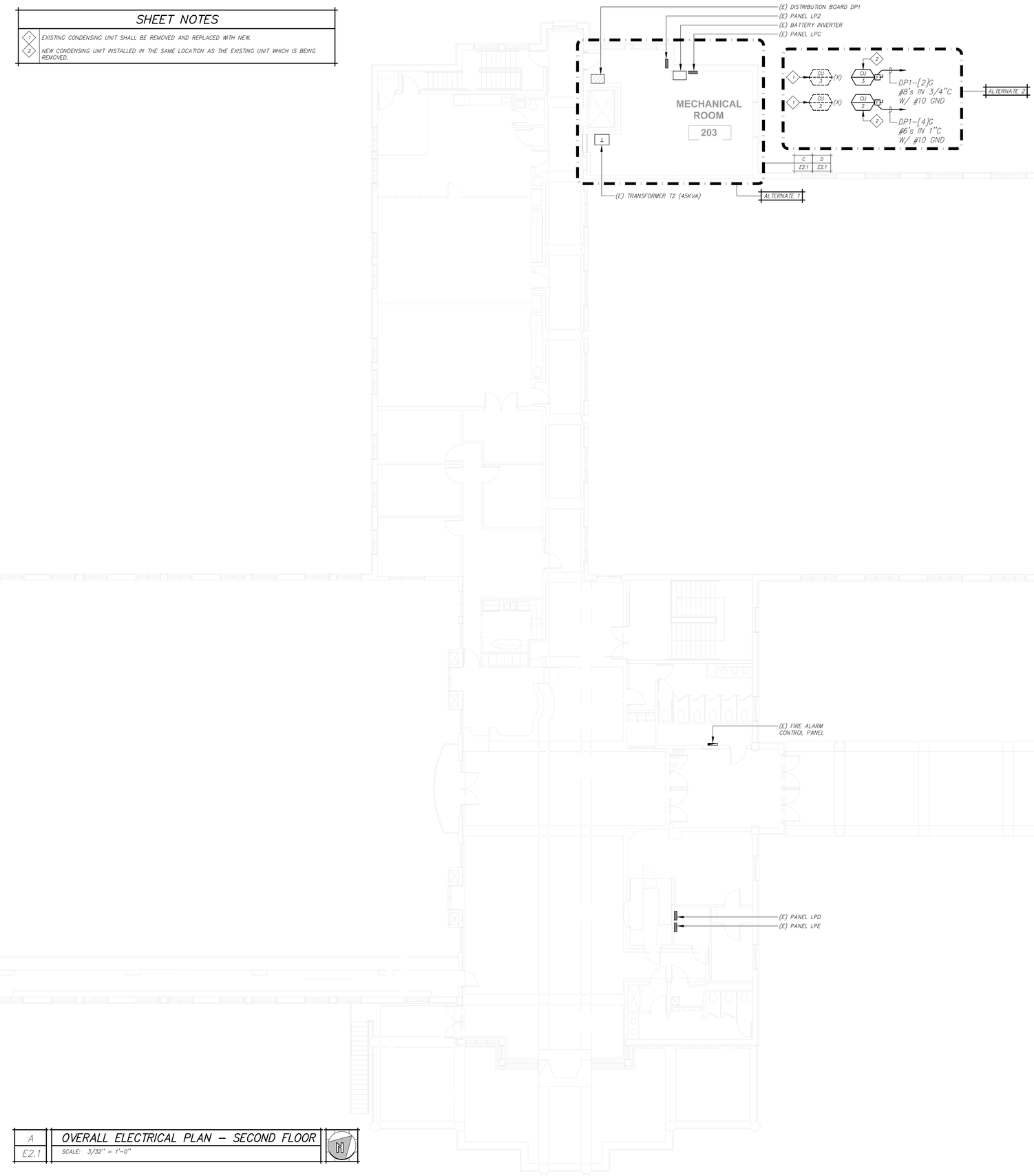
SHEET NOTES

1. EXISTING CONDENSING UNIT SHALL BE REMOVED AND REPLACED WITH NEW.
2. NEW CONDENSING UNIT INSTALLED IN THE SAME LOCATION AS THE EXISTING UNIT WHICH IS BEING REMOVED.



A E2.1 OVERALL ELECTRICAL PLAN – SECOND FLOOR
SCALE: 3/32" = 1'-0"

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No. | Description | Date

Mechanical Seal

Consultant Seal

JAMES P. SOLARO — Exp. 6/30/26 — STATE OF NEVADA — REGISTERED PROFESSIONAL ENGINEER

2/10/2025

Agency Approval

Project Title
IVGID INCLINE REC CENTER HVAC SYSTEM REPLACEMENT
980 INCLINE WAY, INCLINE VILLAGE, NV 89451

Drawing Title
OVERALL ELECTRICAL PLAN SECOND FLOOR

JP #24125

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Drawn: CDC	Scale: AS NOTED
Checked: JPS	Drawing No. E1.2
Date: 2/14/2025	

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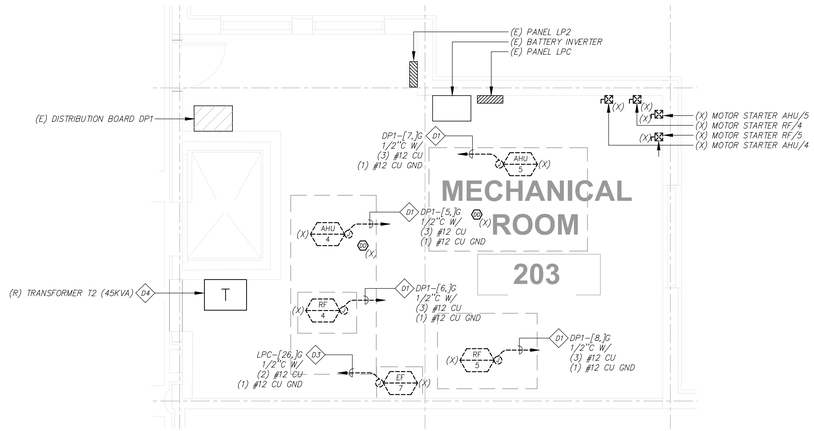
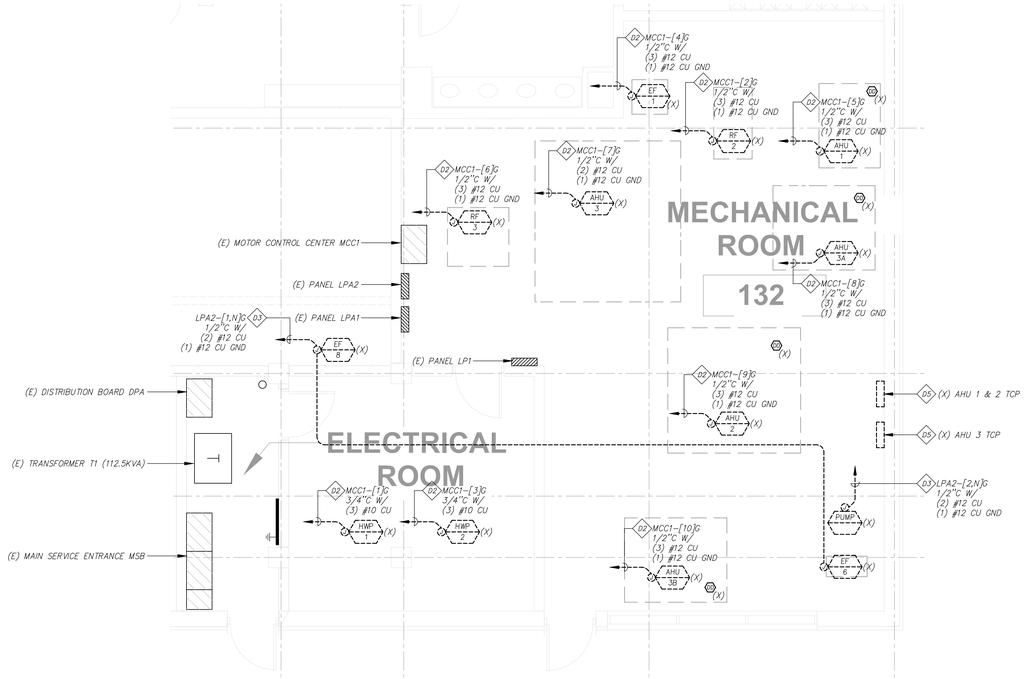
DEMOLITION SHEET NOTES

D1	REMOVE EXISTING CONDUCTORS BACK TO LOCATION OF THE EXISTING MOTOR STARTER.
D2	REMOVE EXISTING CONDUCTORS BACK TO THE MOTOR CONTROL CENTER.
D3	REMOVE EXISTING CONDUCTORS BACK TO NOTED PANEL.
D4	EXISTING TRANSFORMER T2 SHALL BE RELOCATED TO ALLOW FOR NEW DUCTWORK.
D5	EXISTING TEMPERATURE CONTROL PANEL CIRCUITS SHALL BE MADE AVAILABLE FOR THE NEW TEMPERATURE CONTROL PANEL. REFER TO THE NEW CONDITIONS FOR LOCATION OF NEW PANELS FOR EXTENSION OF THE EXISTING CIRCUIT.



C	ALTERNATE 1
E2.1	ELECTRICAL DEMOLITION – SECOND FLOOR MECHANICAL ROOM
	SCALE: 1/4" = 1'-0"



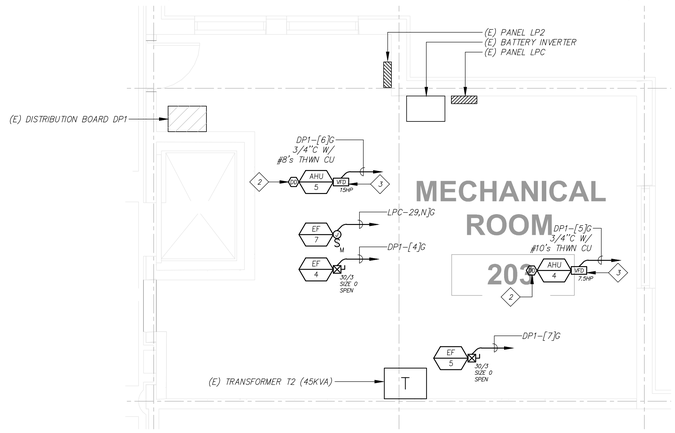
A	ELECTRICAL DEMOLITION – FIRST FLOOR MECHANICAL ROOM
E2.1	SCALE: 1/4" = 1'-0"

GENERAL NOTES

1. ALL AIR HANDLING UNITS SHALL BE PROVIDED WITH FACTORY DISCONNECTS. THE ELECTRICAL CONTRACTOR SHALL BE REQUIRED TO PROVIDE POWER TO AND CONNECT TO FEEDER TO THE FACTORY INSTALLED DISCONNECT.
2. ALL AIR HANDLING UNITS RATED AT 2000-CFM AND LARGER SHALL BE PROVIDED WITH SYSTEM COMPATIBLE DUCT DETECTORS AND CONNECTED TO THE EXISTING FIRE ALARM SYSTEM BY THE ELECTRICAL CONTRACTOR.
3. THE ELECTRICAL CONTRACTOR SHALL PROVIDE FOR THE RELOCATION OF UP TO TEN (10) LIGHT FIXTURES DUE TO MODIFICATIONS TO THE DUCTWORK. THESE RELOCATIONS WILL BE COMPLETED IN THE FIELD DURING CONSTRUCTION WHILE COORDINATING WITH THE MECHANICAL CONTRACTOR.

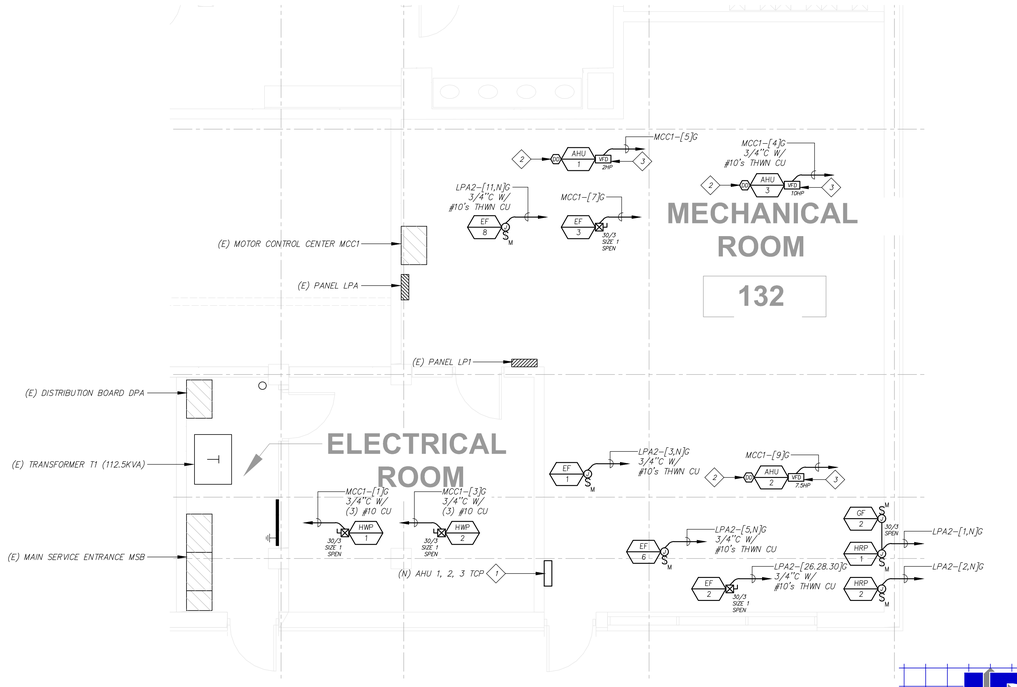
SHEET NOTES

1	UTILIZE THE EXISTING CIRCUIT MADE AVAILABLE THROUGH DEMOLITION OF THE EXISTING TEMPERATURE CONTROL PANELS FOR THE NEW TEMPERATURE CONTROL PANEL. INTERCEPT AND EXTEND AS REQUIRED.
2	THE CONTRACTOR SHALL PROVIDE NEW DUCT DETECTORS (QTY OF 2) WITH CONNECTIONS TO THE FIRE ALARM SYSTEM. THESE DUCT DETECTORS SHALL BE CONNECTED TO THE EXISTING FIRE ALARM SYSTEM FOR BOTH POWER AND DATA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROGRAMMING OF THESE DEVICES INTO THE EXISTING SYSTEM. COORDINATE INSTALLATION WITH THE MECHANICAL CONTRACTOR.
3	VFD SHALL BE PROVIDED AND INSTALLED BY THE TEMPERATURE CONTROLS CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONNECTION OF THE SINGLE POINT OF CONTACT POWER.



D	ALTERNATE 1
E2.1	ELECTRICAL PLAN – SECOND FLOOR MECHANICAL ROOM
	SCALE: 1/4" = 1'-0"

ALTERNATE 1



B	ELECTRICAL PLAN – FIRST FLOOR MECHANICAL ROOM
E2.1	SCALE: 1/4" = 1'-0"

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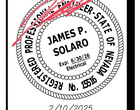
No.	Description	Date

JOB: 2024100

Mechanical Seal

Consultant Seal



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Project Title
IVGID INCLINE REC CENTER HVAC SYSTEM REPLACEMENT
980 INCLINE WAY, INCLINE VILLAGE, NV 89451

Drawing Title
ENLARGED ELECTRICAL PLAN

Designed: JPS	Agency No.
Drawn: CDC	Scale: AS NOTED
Checked: JPS	Drawing No. E2.1
Date: 2/14/2025	

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