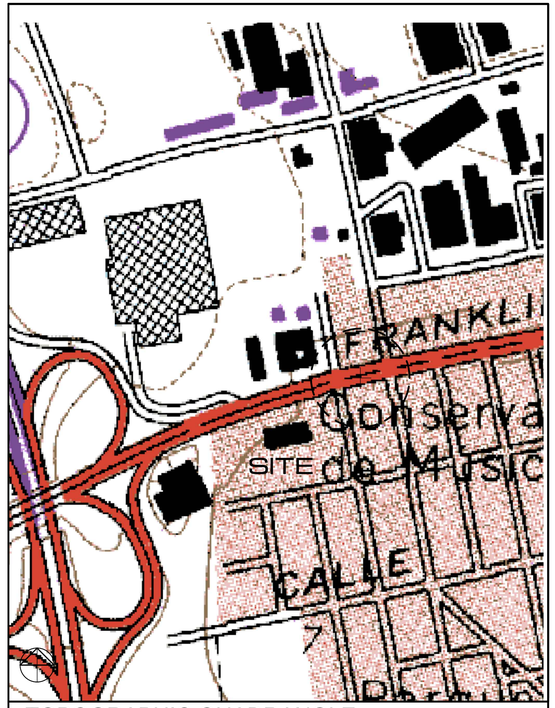
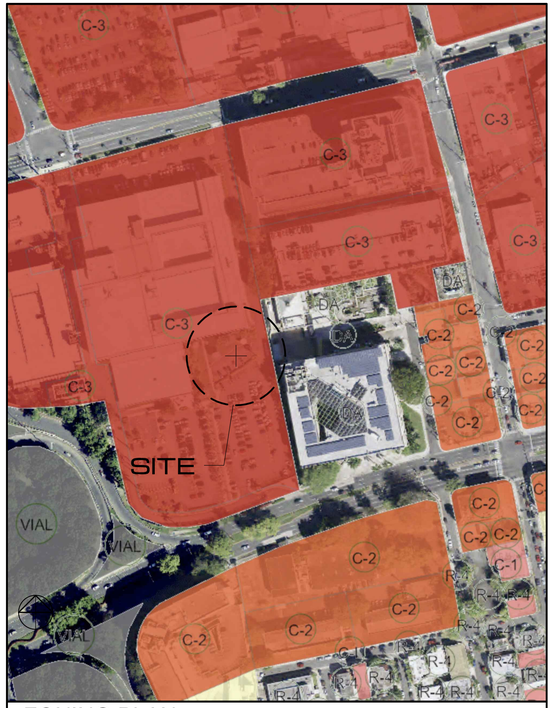
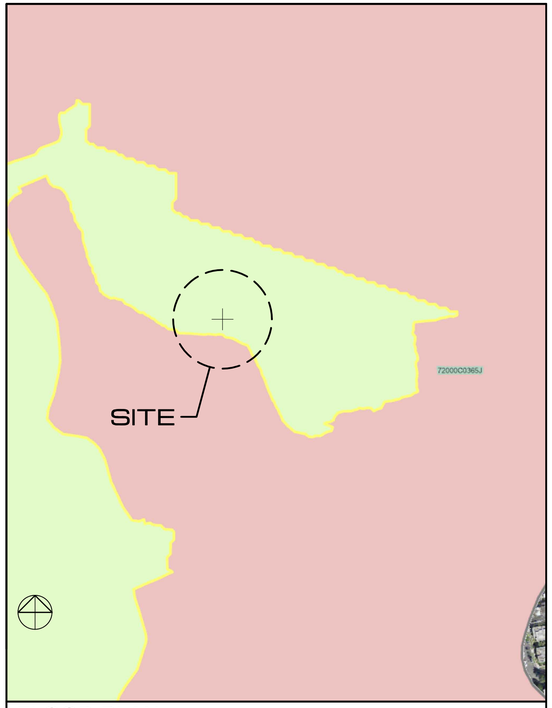


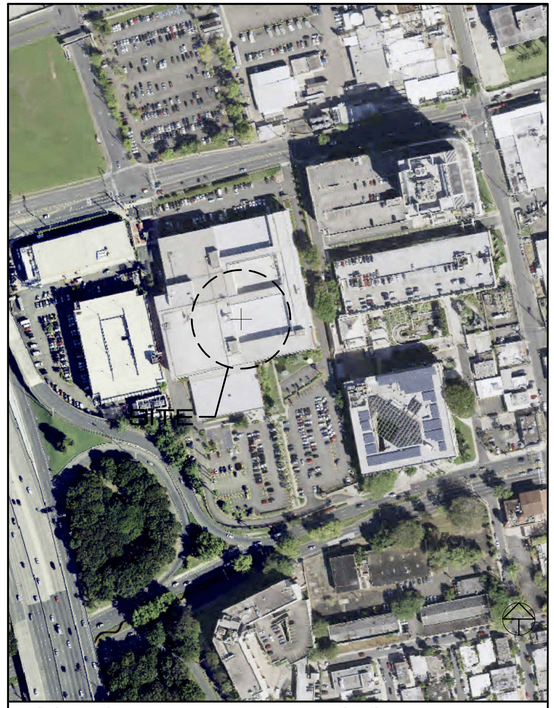
TOPOGRAPHIC QUADRANGLE



ZONING PLAN



FLOOD PLAN



LOCATION PLAN - AERIAL PHOTO

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GOBIERNO DE PUERTO RICO
HON. JENNIFFER GONZÁLEZ COLÓN, GOBERNOR

BID SET
NOT ISSUED FOR CONSTRUCTION
DECEMBER 2025

OWNER:
PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)
MR. ROBERTO LEFRANC FORTUÑO, DEPUTY EXECUTIVE DIRECTOR

CONSTRUCTION PLANS FOR:
PHASE I & II: IMPROVEMENTS TO HVAC SYSTEM
IMPROVEMENTS TO MAIN MECHANICAL ROOM & NEW CHILLERS (BASEMENT), NEW COOLING TOWERS AND NEW BACKUP AIR-COOLED CHILLER (ROOFTOP) AT PRIDCO HEADQUATERS, SAN JUAN, PUERTO RICO

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E. MORELL– RIVERA
Architects & Consultants, PSC.

CLIENT
PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT
PHASE I & II: IMPROVEMENTS TO MAIN HVAC SYSTEM (CHILLERS, COOLING TOWERS & AIR-COOLED CHILLER) AT PRIDCO HEADQUARTERS, SAN JUAN, PR

CONSULTANT SEAL

YO, EDGAR MORELL RIVERA, 16176, CERTIFICO QUE SOY EL PROFESIONAL QUE DISEÑÓ ESTOS PLANOS Y LAS ESPECIFICACIONES COMPLEMENTARIAS. TAMBIÉN, CERTIFICO QUE ENTIENDO QUE DICHOS PLANOS Y ESPECIFICACIONES CUMPLEN CON LAS DISPOSICIONES APLICABLES DEL REGLAMENTO CONJUNTO Y LAS DISPOSICIONES APLICABLES DE LOS REGLAMENTOS Y CÓDIGOS DE CONSTRUCCIÓN VIGENTES DE LAS AGENCIAS, JUNTAS REGLAMENTADORAS O CORPORACIONES PÚBLICAS CON JURIDICCIÓN. CERTIFICO, ADEMÁS, QUE EN LA PREPARACIÓN DE ESTOS PLANOS Y ESPECIFICACIONES SE HA CUMPLIDO CABALMENTE CON LO DISPUESTO EN LA LEY NUM. 14 DE 8 DE ENERO DE 2004, SEGÚN ENMENDADA, CONOCIDA COMO LA "LEY PARA LA INVERSIÓN POR LA INDUSTRIA PUERTORRIQUEÑA" Y CON LA LEY NUM. 96 DE 6 DE JULIO DE 1978, SEGÚN ENMENDADA. RECONOZCO QUE CUALQUIER DECLARACIÓN FALSA O FALSIFICACIÓN DE LOS HECHOS QUE SE HAYA PRODUCIDO POR DESCONOCIMIENTO O POR NEGLIGENCIA YA SEA POR MÍ, MIS AGENTES O EMPLEADOS, O POR OTRAS PERSONAS CON MÍ CONOCIMIENTO, ME HACEN RESPONSABLES DE CUALQUIER ACCIÓN JUDICIAL Y DISCIPLINARIA POR LA OGPE.

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SHEET TITLE
COVER SHEET & INDEX

DATE	2024–11–4
DRAWN BY	DBDH
REVISED BY	CRRF
DWG FILE NAME	AS–BUILT
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.
01/67
T-01
DRAWING NO.

GENERAL DEMOLITION NOTES

1. THE INFORMATION INDICATED ON THE DRAWINGS REGARDING THE EXISTING CONDITIONS AND THE REQUIRED DEMOLITION, IS INCLUDED AS A GENERAL GUIDE OF THE SCOPE OF WORK REQUIRED. THIS INFORMATION IS NOT AN EXHAUSTIVE RESEARCH OF THE EXISTING CONDITIONS NOR OF THE DEMOLITION WORKS. THE GENERAL CONTRACTOR SHALL MAKE USE OF THESE DRAWINGS AND INFORMATION AS A WORKING TOOL TO SCHEDULE THE REQUIRED DEMOLITION WORKS.

2. THE INFORMATION AND NOTES SHOWN IN THE DRAWINGS OR THE INVOLUNTARY OMISSION OF OTHER INFORMATION DOES NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY OF VISITING AND INSPECTING THE SITE AND MAKING HIMSELF INFORMED OF ALL THE CIRCUMSTANCES EXISTING AT THE SITE TO INCLUDE ALL NECESSARY COSTS ON HIS BID TO COVER ALL THE REQUIRED DEMOLITION TO COMPLETE THE CONSTRUCTION WORKS, AS SHOWN IN THE CONTRACT DOCUMENTS.

3. THE CONTRACTOR SHALL HAVE DESIGNATED AREA AT STAGING AREA FOR DIVERTING OF CONSTRUCTION AND DEMOLITION (C&D) DEBRIS. THIS AREA TO BE USED AS TEMPORARY STORAGE FOR THE DAILY WEEKLY TRANSPORTATION OF CONCRETE AND STEEL DEBRIS FROM THE DEMOLITION OF THE EXISTING STRUCTURES.

4. GENERAL CONTRACTOR SHALL DIVERT FROM DISPOSAL ALL RECYCLE MATERIALS GENERATED DURING THE DEMOLITION PROCESS. CRUSHED CONCRETE AND ASPHALT SHALL BE CRUSH AND REUSE IN MANY WAYS, IDENTIFIED A RECYCLER AND DOCUMENT THE REUSE IN OTHER PROJECTS OF THIS MATERIALS AS SUB BASE FOR ROADS OR DRY AGGREGATE FOR BRAND NEW CONCRETE. LARGER PIECES OF CRUSHED CONCRETE CAN BE USED FOR EROSION CONTROL ON OTHER COASTAL SITES.

DEMOLITIONS NOTES:

1. THE CONTRACTOR SHALL VERIFY WITH OWNER PRIOR TO ANY DEMOLITION WORK, ANY AREAS OUTSIDE THE CONTRACT LIMITS WHICH MAY REQUIRE HIS WORK.

2. THE CONTRACTOR MUST OBTAIN OWNER'S APPROVAL PRIOR TO SHUTTING OFF ANY BUILDING SERVICES.

3. THE CONTRACTOR SHALL KEEP THE AREA OF WORK AS CONFINED AS POSSIBLE AND ERECT ANY TEMPORARY BARRIERS REQUIRED FOR PROTECTION OF THE PUBLIC AND EMPLOYEES.

4. THE CONTRACTOR SHALL VISIT AND INSPECT THE ENTIRE AREA OF WORK, FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS AFFECTING THE WORK AND ASCERTAIN THE EXTENT OF REMOVALS AND RECOMMENDATIONS IF ANY.

5. ALL ALTERATIONS AND REMOVALS REQUIRED BY EXISTING CONDITIONS DISCOVERED BY THE CONTRACTOR IN THE FIELD AND NOT INDICATED ON THE DRAWINGS, SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE BEFORE PROCEEDING WITH HIS WORK.

6. ANY REMAINING MISCELLANEOUS ELEMENTS IN THE AREA OF WORK DEFINED WHICH ARE NOT DIRECTLY COVERED BY NOTES OR DRAWINGS, ARE TO BE REMOVED TO PROVIDE FOR A CLEAN LEVEL SURFACE.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND LEGAL DISPOSAL OF DEBRIS FROM PROJECT SITE.

8. DEMOLITION AND REMOVAL SHALL BE CONDUCTED IN A SAFE, NEAT, CLEAN WORKMANLIKE MANNER STORM SEWER SYSTEM WILL NOT BE USED. (REMOVAL ON DAILY BASIS LEAVING AREAS CLEAN). PROTECT AREAS NOT DESIGNATED TO BE DEMOLISHED.

9. DEMOLITION AND REMOVAL OPERATIONS SHALL BE CARRIED OUT IN ACCORDANCE WITH ALL APPLICABLE LAWS AND CODES AND IN A MANNER TO AVOID DAMAGE TO PERSONS AND/OR DAMAGE TO ANY PROPERTY.

10. OPEN BURNING OR EXPLOSIVES WILL NOT BE PERMITTED.

11. UPON COMPLETION OF DEMOLITION, THE ENTIRE AREA SHALL BE CLEANED OF ALL DEBRIS AND PREPARED FOR NEW CONSTRUCTION.

12. GENERAL CONTRACTOR SHALL LOCATE, IDENTIFY, STUB-OFF AND DISCONNECT UTILITY SERVICES AT SOURCE THAT ARE NOT INDICATED TO REMAIN.

13. ALL ITEMS OF SALVAGEABLE VALUE, AS DETERMINED BY THE OWNER SHALL BE CAREFULLY REMOVED, CLEANED AND STORED IN AN AREA DESIGNATED BY THE OWNER.

14. CONTRACTOR SHALL COORDINATE WITH AN AUTHORIZED REPRESENTATIVE OF OWNER TO DETERMINE WHAT EXISTING MATERIALS THEY WANT TO SPARE FROM THE DEMOLITION AND BE RECYCLED/SALVAGE SUCH AS:
    ELECTRICAL LIGHTING POLES AND LAMPS, MECHANICAL PUMPS EQUIPMENT, WINDOWS AND DOORS, PLUMBING EQUIPMENT, FURNITURE, AIR CONDITIONING EQUIPMENT, EXPOSED METAL ROOF, ETC. ALL RECYCLED/SALVAGE MATERIAL SHALL BE DELIVERED TO THE LOCATION DETERMINED BY OWNER.

15. CONTRACTOR SHALL BE RESPONSIBLE FOR THE TRANSPORTATION TO A PREVIOUSLY DESIGNATED SITE OF ALL EQUIPMENT AND MATERIALS THAT THE OWNER WISHES TO PRESERVE.

16. THE GENERAL CONTRACTOR SHALL CONFIRM WITH ARCHITECT BEFORE REMOVAL OF UTILITY SERVICES INFRASTRUCTURE EQUIPMENT AND/OR ACCESSORIES.

17. THE GENERAL CONTRACTOR SHALL REMOVE AND TIE OFF OR PLUG UTILITY SERVICES AT THEIR SOURCE.

19. ALL ITEMS OF SALVAGEABLE VALUE, AS DETERMINED BY THE OWNER, SHALL BE CAREFULLY REMOVED, CLEANED, STORED AND TURNED OVER TO THE OWNER, G.C. TO OBTAIN A RECEIPT. THESE ITEMS SHALL BE STORED FOR THE BUILDING IN AN AREA DESIGNATED BY THE OWNER.

20. EXISTING CONDITIONS NOT SHOWN ON THIS PLAN SHALL BE REVIEWED WITH ARCHITECT PRIOR TO REMOVAL.

21. G.C. TO COORDINATE DEMOLITION & CONSTRUCTION WITH OWNER & PROVIDE A CONSTRUCTION PHASING SCHEDULE.

22. THE GENERAL CONTRACTOR WILL BE RESPONSIBLE FOR FILLING OUT FORMS, SUBMIT PROCEDURES AND METHODS FOR PERMITTING AND PAY FEES FOR ALL PERMITS REQUIRED BY THE STATE AGENCY ENVIRONMENTAL QUALITY BOARD (J.C.A.), OGPe AND SAN JUAN MUNICIPAL GOVERNMENT PRIOR TO BEGIN ANY DEMOLITION WORKS.

REQUIREMENTS FOR CONSTRUCTION:

1. THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS IN THE PROJECT AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES BEFORE CONSTRUCTION STARTS.

2. IN CASE OF ANY DOUBT, OMISSION, ERROR OR DISCREPANCIES IN ANY DRAWING, THE GENERAL CONTRACTOR SHALL NOTIFY THE ARCHITECT PRIOR TO ANY DECISION IS MADE.

3. IN CASE OF ANY DISCREPANCY BETWEEN DRAWINGS AND TECHNICAL SPECIFICATIONS, DRAWINGS SHALL TAKE PRECEDENCE OVER SPECIFICATIONS

4. THE GENERAL CONTRACTOR SHALL TAKE ALL STEPS AND ARRANGEMENTS NECESSARY WITH ALL GOVERNMENT AGENCIES INVOLVED IN THE PROJECT TO OBTAIN THE OCCUPANCY PERMIT.

5. THE GENERAL CONTRACTOR SHALL MAKE PROVISIONS UPON THE AUCTION SALE AWARD TO ORDER FROM SUPPLIERS ALL ITEMS SPECIFIED HEREIN WHICH ARE NOT IN STOCK IN PUERTO RICO IN ORDER TO AVOID DELAYS OR CHANGES IN THE SPECIFIED PRODUCTS.

6. THE GENERAL CONTRACTOR SHALL SUBMIT IN WRITING (ORIGINAL TO ARCHITECTS AND DUPLICATE TO THE OWNER) ANY CHANGE TO AN SPECIFIED ITEM AND SHALL WAIT FOR ARCHITECT'S WRITTEN APPROVAL TO CONSIDERATE THE CHANGE AS ACCEPTED OR REJECTED. G.C TO SUBMIT FORM "CONTRACTORS REQUEST FOR SUBSTITUTIONS" DULY COMPLIMENTED AS REQUIREMENT FOR ARCHITECT'S REVIEW OF SUBMITTAL.

7. THE GENERAL CONTRACTOR SHALL SUBMIT TO THE ARCHITECT & THE OWNER PHYSICAL SAMPLES OF SPECIFIED MATERIALS, MANUFACTURERS LITERATURE OF SPECIFIED EQUIPMENT, AS WELL AS SHOP DRAWINGS, WHEN SO REQUESTED IN THE PLANS OR THE SPECIFICATIONS.

8. CONTRACTOR SHALL BE RESPONSIBLE FOR COSTS OF ANY SOILS COMPACTION TESTING, CYLINDER COMPRESSION TESTS, TEST PILES, CONCRETE CHLORINE ION PENETRATION TEST AND TENSILE STEEL TESTS AS REQUESTED BY OWNER OR ARCHITECT.

9. WORK SHALL BE COMPLETED BY CONTRACTOR AND ACCEPTED BY OWNER AND ARCHITECT ON THE DATE STIPULATED BY CONTRACT. EXTENSION ON TIME SHALL NOT BE ALLOWED, EXCEPT FOR CIRCUMSTANCES OF HIS CONTROL. SEE ITEM NO. 11 BELOW.

10. THE FORM "CERTIFICADO DE TIEMPO PERDIDO" WILL BE REQUIRED IN THE EVENT OF TIME LOST BY CONTRACTOR DUE TO CIRCUMSTANCES OUT OF HIS CONTROL. HE MUST FILL THIS FORM AND PRESENT IT TO THE ARCHITECT EACH TIME A LOSS OF TIME OCCURS.

11. THE GENERAL CONTRACTOR SHALL BE THE ONLY RESPONSIBLE FOR THE DESIGN, CONSTRUCTION AND THE LOCATION OF TEMPORARY PARTITIONS OR FENCES TO BE USED DURING DEMOLITION OR DURING THE CONSTRUCTION PROCESS, PARTITIONS/FENCES SHALL COMPLY WITH OSHA, AND SHALL PROTECT THE HEALTH, LIFE AND/OR PROPERTY OF ANY LABORER OF THE GENERAL CONTRACTOR, IT'S SUB-CONTRACTORS, USERS OR PASSER-BY OF THE PROJECT.

12. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO THE OWNER FOR THE ACTS AND OMISSIONS OF ALL OF HIS EMPLOYEES AND ALL SUBCONTRACTORS, THEIR AGENTS AND EMPLOYEES AND ALL OTHER PERSONS PERFORMING ANY OF THE WORK UNDER A CONTRACT WITH THE GENERAL CONTRACTOR.

13. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE PROJECT.

14. THE GENERAL CONTRACTOR SHALL DESIGNATE A RESPONSIBLE MEMBER OF HIS/HER ORGANIZATION AT THE PROJECT, WHOSE DUTY SHALL BE THE PREVENTION OF ACCIDENTS.

15. THE GENERAL CONTRACTOR ALONE SHALL BE RESPONSIBLE FOR THE SAFETY, EFFICIENCY AND ADEQUACY OF HIS PLANT, APPLIANCES, AND METHODS, AND FOR ANY DAMAGE WHICH MAY RESULT FROM THEIR FAILURE OR THEIR IMPROPER CONSTRUCTION, MAINTENANCE, OR OPERATION.

16. THE RESIDENT INSPECTOR SHALL ALSO SUPERVISE ALL SAFETY PRECAUTIONS AND PROGRAMS INITIATED BY THE GENERAL CONTRACTOR.

17. THE ARCHITECT WILL NOT BE RESPONSIBLE FOR THE ACTS OR OMISSIONS OF THE GENERAL CONTRACTOR, ANY SUBCONTRACTORS, OR ANY OF THEIR AGENTS OR EMPLOYEES, OR OTHER PERSONS PERFORMING ANY KIND OF WORK.

18. THE CONTRACTOR AND ITS INSURERS SHALL "SAVE AND HOLD HARMLESS" THE OWNER AND ARCHITECT FROM AND AGAINST ANY CLAIMS, DEMANDS AND/OR SUITS, WHETHER JUDICIAL OR EXTRA-JUDICIAL FOR ANY CAUSE WHATSOEVER, ARISING OUT OF OR RELATED TO THE EXECUTION OF THIS CONTRACT, AND THE CONTRACTOR AND ITS INSURER SHALL DEFEND THE OWNER AND ARCHITECT FROM SUCH CLAIMS, DEMANDS AND OR SUITS AND SHALL BEAR ALL THE EXPENSES FOR SUCH DEFENSE. THE CONTRACTOR AGREES TO PAY OR TAKE CARE OF ANY DEBTS, LAWSUITS, OR CLAIMS THAT MAY ARISE FROM THE CONTRACT. THE CONTRACTOR SHALL DELIVER COPY OF DOCUMENTATION AT KICK-OFF CONSTRUCTION MEETING.

19. GENERAL CONTRACTOR DURING CONSTRUCTION OPERATIONS SHOULD MAINTAIN A SECURE PERIMETER AT STAGING AREA, MAIN ELECTRICAL AND MECHANICAL ROOMS.

20. GOVERNMENT IMPACT FEES: AS PREPA, PRASA AND DTOP SHALL BE PAID BY THE GENERAL CONTRACTOR. GENERAL CONTRACTOR SHALL PAY MUNICIPAL CONSTRUCTION TAXES ("ARBITRIOS"), MUNICIPAL OPERATION TAXES ("PATENTES") AND WORKMEN COMPENSATION ("FONDO")

22. ALL FEDERAL PERMITS AND STATE PERMITS ARE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR (FILLING OUT FORMS, SUBMIT PROCEDURES AND METHODS FOR PERMITTING AND PAY FEES). ENVIRONMENTAL QUALITY BOARD (J.C.A.): PLAN CEST, DS-3, EMISSIONS CONTROL PERMITS AND DEPARTMENT OF ENVIRONMENTAL RESOURCES (DRNA): "MOVIMIENTO DE CORTEZA TERRESTRE".

23. THE CONTRACTOR SHALL INCLUDE IN THE COST OF THE PROJECT THE INSTALLATION AND MAINTENANCE OF TWO (2) PORT-A-LETS, ONE (1) HAND CLEANING STATIONS AND ANY OTHER SANITARY REQUIREMENT FOR HIS CONSTRUCTION OPERATION.

24. THE CONTRACTOR SHALL INCLUDE IN THE COST OF THE PROJECT THE INSTALLATION AND MAINTENANCE OF TWO (2) SEPARATES TRAILER OFFICES: ONE FOR GENERAL CONTRACTOR'S USE AND OTHER FOR OWNER'S RESIDENT INSPECTOR AND PROJECT MANAGER USE (ARCHITECT/ENGINEER) DURING THE ENTIRE CONSTRUCTION PERIOD (ONE PRIVATE OFFICE AND EIGHT (8) PERSONS CONFERENCE AREA FOR WEEKLY MEETINGS). EACH TRAILER OFFICE SHALL BE PROVIDED WITH A/C, ELECTRIC POWER, POTABLE WATER AND SANITARY SERVICE. GENERAL CONTRACTOR SHALL FILL AND PAID ALL RELATED PERMITS FOR THE TEMPORARY PROVISION OF THIS SERVICES. REFER TO SPECIFICATIONS, SECTION M – 110 FIELD OFFICE AND SHEDS.

25. CONTRACTOR SHALL MAKE PROVISIONS SO THAT OPERATIONS WITHIN THE EXISTING BUILDING AND OR SITE ARE NOT INTERRUPTED IN ANY WAY DURING CONSTRUCTION. WORK MUST BE COORDINATED BETWEEN CONTRACTOR AND OWNER.

26. UNLESS OTHERWISE SPECIFIED ALL INTERIOR WALL SURFACES TO BE FINISH WITH EPOXY PAINT OR AS INDICATED ON SPECIFICATION BOOK AND ON DRAWINGS.

27. UNLESS OTHERWISE SPECIFIED ALL INTERIOR CEILING SURFACES TO BE FINISH WITH EPOXY PAINT OR AS INDICATED ON SPECIFICATION BOOK AND ON DRAWINGS.

28. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR "LEVANTE DEL PERMISO DE CONSTRUCCION" FILLING OUT FORMS, SUBMIT PROCEDURES AND METHODS FOR PERMITTING AND PAY FEES.

29. THE CONTRACTOR SHALL PAID ALL GOVERNMENT IMPACT FEES SUCH AS PREPA, PRASA. ETC.

30. ALL ENVIRONMENTAL TESTING SHALL BE FULL RESPONSIBILITY AND PAID BY THE GENERAL CONTRACTOR..

31. THE CONTRACTOR SHALL INCLUDE IN THE COST OF THE PROJECT THE INSTALLATION AND MAINTENANCE OF TWO (2) SEPARATES OFFICES FOR USE OF CONTRACTOR AND PRIDCO SUPERVISION AND ARCHITECT/ENGINEER DURING THE ENTIRE CONSTRUCTION PERIOD.

32. WHEREVER "PRIDCO" IS INDICATED REFER'S TO THE OWNER "PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY".

33. THE GENERAL CONTRACTOR WILL BE RESPONSIBLE FOR FILLING OUT FORMS, SUBMIT PROCEDURES AND METHODS FOR PERMITTING AND PAY FEES FOR ALL PERMITS REQUIRED BY THE STATE AGENCY ENVIRONMENTAL QUALITY BOARD (J.C.A.) - PERMIT FOR ACTIVITIES THAT GENERATES OF NON-HAZARDOUS SOLID WASTE PERMIT (DS3).

34. THE CONTRACTOR SHALL SUBMIT PAYMENT TO THE PERMIT MANAGEMENT OFFICE (OGPe) STAMPS OF THE "COLEGIO DE INGENIEROS Y AGREIMENSORES" (CIAPR) IN THE AMOUNT OF $1.00 FOR EACH $1,000.00 FOR THE DIFFERENCE BETWEEN THE AMOUNT OF THE ESTIMATE CONSTRUCTION COST IN THE CONSTRUCTION PERMIT AND THE ACTUAL CONSTRUCTION COST OF THE PROJECT (BID PRICE + CHANGE ORDERS) AT THE MOMENT OF SUBMITTING THE OCCUPANCY PERMIT (PERMISO DE USO). CHANGE ORDERS WILL BE SUBJECT TO THE PAYMENT OF CIAPR STAMPS BY THE CONTRACTOR FOR $1.00 FOR EACH $1,000.00 OF THE COST OF THE CHANGE ORDER.

35. THE CONTRACTOR SHALL SUBMIT EVIDENCE OF THE PAYMENT OF CONSTRUCTION MUNICIPAL TAXES (PATENTES / ARBITRIOS MUNICIAPALES DE CONSTRUCCION) AND STATE WORKMEN COMPENSATION INSURANCE (POLIZA FONDO DEL SEGURO DEL ESTADO) TO THE PROJECT MANAGER/OWNER, ARCHITECT AND RESIDENT INSPECTOR, DURING THE FIRST SEVEN (7) DAYS AFTER THE OWNER'S ORDER TO PROCEED.

36. GENERAL CONTRACTOR SHALL HIRE AN "INSPECTOR AUTORIZADO" FOR THE FILLING OF THE FIRE PREVENTION CERTIFICATE AND THE HEALTH CERTIFICATE TO EXPEDITE THE PROCESS OF OBTAIN THE OCCUPANCY PERMIT

37. GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO FILLING OUT FORMS, SUBMIT PROCEDURES AND METHODS FOR PERMITTING AND PAY FEES FOR ALL PERMITS, EVEN IF THE CONSTRUCTION INDUSTRY COMMON PRACTICE OR CONSTRUCTI ON DOCUMENTS SAYS IS OWNER/PERMITTE RESPONSIBILITY.

    THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR FILLING OUT FORMS AND PAY FEES FOR ISSUE OF THE BUILDING OCCUPANCY PERMIT ("PERMISO DE USO") PRIOR TO SUBSTANTIAL COMPLETION OF THE PROJECT.

    THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR FILLING OUT FORMS AND PAY FEES TO PUERTO RICO AQUEDUCT AND SEWER AUTHORITY (PRASA) FOR CONNECTION (TAPPING, METERS, INSPECTIONS, ECT.) TO THE MUNICIPAL WATER SYSTEM.

    THE GENERAL CONTRACTOR SHALL SUBMIT COMPLETE RECORDS DRAWINGS OF FINAL CONSTRUCTION. THESE DRAWINGS SHALL BE SIGNED AND SEALED BY A PUERTO RICO REGISTERED PROFESSIONAL ENGINEER OR PROFESSIONAL ARCHITECT REGISTERED IN PUERTO RICO. INCLUDE PRE AND POST CONSTRUCTION PHOTOGRAPHS OF PROJECT SITE.

    GENERAL CONTRACTOR SHALL REMOVE AND DISPOSE TO IN UPLAND LANDFILL SITE APPROVED BY THE STATE AGENCY ENVIRONMENTAL QUALITY BOARD (EQB) ANY MATERIAL REMOVED FROM PROJECT SITE. THE EQB, AS PART THE CONSOLIDATED PERMIT (FORM PGC-001), REQUIRES A SIGNED CONTRACT / AGREEMENT BETWEEN THE GENERAL CONTRACTOR (WASTER GENERATOR) AND THE WASTE COMPANY (WASTE RECEPTOR) THAT WILL ACCEPT TO RECEIVE THE NON-HAZARDOUS SOLID WASTE IN THEIR LANDFILL (THIS LANDFILL MUST BE PREVIOUSLY APPROVED BY THE EQB).

    GENERAL CONTRACTOR SHALL SUBMIT A COMPLETE "SUBMITTAL" DOCUMENT FOR EVALUATION (COVER GENERAL CONTRACTOR LETTER WITH SPACE FOR ARCHITECT/ENGINNERS SEAL, NUMBERED DOCUMENT.

    GENERAL CONTRACTOR SHALL SUBMIT CONTRACTS WITH MAIN LAND LANDFILLS FOR THE MANAGEMENT (STORAGE, TRANSPORTATION, RECYCLING AND FINAL DISPOSITIONS) OF THE CONSTRUCTION DEBRIS.

    G.C. SHALL COORDINATE WITH OWNER TO PROVIDE LIMITED PEDESTRIAN AND VEHICULAR ACCESS TO PROJECT TO STATE AND FEDERAL AGENCIES, BUT NOT LIMITED TO:

    A. "PR AQUEDUCT AND SEWER AUTHORITY - PRASA" AND POWER COMPANY - AEE
    B. "DEPARTMENT OF NATURAL AND ENVIRONMENTAL RESOURCES OF PUERTO RICO"
    C. "OFICINA DE GERENCIA DE PERMISOS - OGPE"
    D. "INSTITUTO DE CULTURA PUERTORRIQUEÑA (ICPR)"
    E. PUERTO RICO STATE HISTORIC PRESERVATION OFFICE (PRSHPO)

REQUIREMENTS FOR CONSTRUCTION:

1. GENERAL CONTRACTOR WILL BE RESPONSIBLE FOR FILLING OUT FORMS, SUBMIT PROCEDURES AND METHODS FOR PERMITTING AND PAY FEES FOR ALL PERMITS REQUIRED BY FEDERAL AND STATE AGENCIES:

ENVIRONMENTAL PROTECTION AGENCY (EPA)

- NOTICE OF INTENT (NOI)
- NOTICE OF TERMINATION (NOT)
- SOIL EROSION AND SEDIMENT CONTROL PLAN (FILLING, DEVELOPMENT AND IMPLEMENT)

ENVIRONMENTAL QUALITY BOARD (EQB)

- CONSOLIDATED PERMIT - DS3/CES PLAN/SOLID WASTE (FORM PGC-001)

OFICINA DE GERENCIA Y PERMISOS (OGPE)

- "LEVANTE" OF CONSTRUCTION PERMIT
- OCCUPANCY PERMIT (PROVISIONAL AND FINAL)
- CERTIFICADO DE PREVENCIÓN DE INCENDIOS
- PUCE-CERTIFICADO DE SALUD AMBIENTAL
- PROJECT SIGN FABRICATION, INSTALLATION AND PHOTOGRAPHIC DOCUMENTATION
- PAYMENT OF CONSTRUCTION MUNICIPAL TAXES
- PAYMENT OF FONDO DEL SEGURO DEL ESTADO (FSE)
- PAYMENT OF ADDITIONAL CAIPR / CAAPPR STAMPS (CHANGE IN SCOPE AND OTHER CHANGE ORDERS)

"PUERTO RICO AQUEDUCT AND SEWER AUTHORITY - PRASA"

- FILLING OUT FORMS, SUBMIT PROCEDURES AND METHODS FOR PERMITTING AND PAY FEES FOR ALL PERMITS.

PUERTO RICO ELECTRIC POWER AUTHORITY - AEE

- FILLING OUT FORMS, SUBMIT PROCEDURES AND METHODS FOR PERMITTING AND PAY FEES FOR ALL PERMITS.

GUARDRAILS NOTES:

1. Guardrails and Handrails shall be the product of a company normally engaged in the manufacture of pipe railing. Railing shall be shop assembled in lengths not to exceed 24 feet for field erection.

2. The handrail shall be made of pipes joined together with component fittings. Samples of all components, bases, toe plate and pipe shall be submitted for approval at the request of the engineer. Components that are pop–riveted or glued at the joints will not be acceptable. All components must be mechanically fastened with stainless steel hardware.

3. Railings shall be 1 1/2" Schedule 40 aluminum pipe alloy 6061–T6, ASTM–B–429 or ASTM–B–221. Posts shall be 1 1/2" Schedule 80 aluminum pipe of the same alloy. Post spacing shall be a maximum of 6'–0".

4. Guardrails and Handrails shall be designed to withstand a 200 lb concentrated load applied in any direction and at any point on the top rail. Guardrails and Handrails shall also be designed to withstand a uniform load of 50 lb/ft applied horizontally to the top rail. Uniform loads are not to be applied simultaneously with the concentrated loads.

5. Pickets and intermediate railings shall be provided such that a 4–inch diameter sphere cannot pass through any opening up to a height of 34 inches. From a height of 34 inches to 42 inches above the adjacent walking surface, a sphere 8 inches in diameter shall not pass. The triangular openings formed by the riser, tread and bottom rail at the open side of a stairway shall be of a size such that a sphere of 6 inches in diameter cannot pass through the opening.

6. Pickets and intermediate railings shall be designed to withstand a horizontally applied normal load of 50 lb on an area not to exceed one square foot including openings and space between rails.

7. The manufacturer shall submit calculations for approval at the request of the Engineer. Testing of base castings or base extrusions by an independent lab or manufacturer's lab (if manufacturer's lab meets the requirements of the Aluminum Association) will be an acceptable substitute for calculations. Calculations will be required for approval of all other design aspects.

8. Posts shall not interrupt the continuation of the top rail at any point along the railing, including corners and end terminations (OSHA 1910.23). The top surface of the top railing shall be smooth and shall not be interrupted by projected fittings.

9. The mid–rail at a corner return shall be able to withstand a 200 lb load without loosening. The manufacturer is to determine this dimension for their system and provide physical laboratory tests to confirm compliance.

10. Concrete anchors shall be stainless steel type 303 or 304 wedge anchors and shall be furnished by the handrail manufacturer. The anchor design shall include the appropriate reduction factors for spacing and edge distances in accordance with the manufacturer's published data.

11. Toe plate shall conform to OSHA standards. Toe plate shall be a minimum of 4" high and shall be be an extrusion that attaches to the posts with clamps that will allow for expansion and contraction between posts. Toe plates shall be set 1/4" above the walking surface. Toe plates shall be provided on handrails as required by OSHA and/or as shown on drawings. Toe plates shall be shipped loose in stock lengths for field installation.

12. Openings in the railing shall be guarded by a self–closing gate (OSHA 1910.23). Safety chains shall not be used unless specifically shown on the drawings.

13. Finish shall be Aluminum Association M10–C22–A41 (215–R1). The pipe shall be plastic–wrapped. The plastic wrap is to be removed after erection.

14. Aluminum surfaces in contact with concrete, grout or dissimilar metals will be protected

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E. MORELL– RIVERA
Architects & Consultants, PSC.

PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT
PHASE I & II: IMPROVEMENTS TO MAIN HVAC SYSTEM (CHILLERS, COOLING TOWERS & AIR-COOLED CHILLER) AT PRIDCO HEADQUARTERS, SAN JUAN, PR

YO, EDGAR MORELL RIVERA, 16176, CERTIFICO QUE SOY EL PROFESIONAL QUE DISEÑÓ ESTOS PLANOS Y LAS ESPECIFICACIONES COMPLEMENTARIAS. TAMBIÉN, CERTIFICO QUE ENTIENDO QUE DICHOS PLANOS Y ESPECIFICACIONES CUMPLEN CON LAS DISPOSICIONES APLICABLES DEL REGLAMENTO CONJUNTO Y LAS DISPOSICIONES APLICABLES DE LOS REGLAMENTOS Y CÓDIGOS DE CONSTRUCCIÓN VIGENTES DE LAS AGENCIAS, JUNTAS REGLAMENTADORAS O CORPORACIONES PÚBLICAS CON JURIDICCIÓN. CERTIFICO, ADEMÁS, QUE EN LA PREPARACIÓN DE ESTOS PLANOS Y ESPECIFICACIONES SE HA CUMPLIDO CABALMENTE CON LO DISPUESTO EN LA LEY NUM. 14 DE 8 DE ENERO DE 2004, SEGÚN ENMENDADA, CONOCIDA COMO LA "LEY PARA LA INVERSIÓN POR LA INDUSTRIA PUERTORRIQUEÑA" Y CON LA LEY NUM. 96 DE 6 DE JULIO DE 1978, SEGÚN ENMENDADA. RECONOZCO QUE CUALQUIER DECLARACIÓN FALSA O FALSIFICACIÓN DE LOS HECHOS QUE SE HAYA PRODUCIDO POR DESCONOCIMIENTO O POR NEGLIGENCIA YA SEA POR MÍ, MIS AGENTES O EMPLEADOS, O POR OTRAS PERSONAS CON MÍ CONOCIMIENTO, ME HACEN RESPONSABLES DE CUALQUIER ACCIÓN JUDICIAL Y DISCIPLINARIA POR LA OGPE.

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GENERAL DEMOLITION NOTES

DATE	2024–11–4
DRAWN BY	DBDH
REVISED BY	CRRF
DWG FILE NAME	AS–BUILT
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.
02/67
LN-01
DRAWING NO.

EXISTING WATERPROOFING SYSTEM:

1. CONTRACTOR SHALL INSPECT ALL AREAS OF THE EXISTING WATERPROOFING SYSTEM ADJACENT TO OR IMPACTED BY DEMOLITION AND/OR CONSTRUCTION ACTIVITIES.

2. CLEAN THE ROOF MEMBRANE SURFACE WITH AN APPROVED CLEANER AND A SCOTCH BRITE PAD , REMOVE DIRT, DEBRIS, GREASE, OR BIOLOGICAL GROWTH THAT COULD COMPROMISE THE WATERPROOFING LAYER. POWER CLEAN ROOF AS NEEDED, AREAS WITH WALKWAYS PADS SHALL BE PRIMED AND FULLY CURED PRIOR INSTALLATION FOLLOWING MANUFACTURES RECOMMENDATIONS.

3. ANY DAMAGE TO THE EXISTING WATERPROOFING SYSTEM CAUSED BY DEMOLITION, CONSTRUCTION, OR RELATED ACTIVITIES MUST BE PROMPTLY REPAIRED TO MATCH THE ORIGINAL CONDITION AND PERFORMANCE STANDARDS.

4. REPAIRS MUST BE PERFORMED USING MATERIALS AND METHODS COMPATIBLE WITH THE EXISTING WATERPROOFING SYSTEM, AS APPROVED BY THE MANUFACTURER OR WATERPROOFING CONSULTANT.

5. ALL REPAIR WORK SHALL BE COORDINATED WITH THE ARCHITECT/ENGINEER FOR APPROVAL PRIOR TO EXECUTION. REPAIRS TO IMPACTED AREAS SHALL BE PART OF ORIGINAL CONTRACTOR PROPOSAL AND CREATE A CHANGE ORDER OF TIME OR CONTRACT AMOUNT.

6. CONTRACTOR SHALL CONDUCT WATER TESTING OR OTHER APPROVED METHODS TO CONFIRM THE INTEGRITY OF REPAIRED AREAS UPON COMPLETION.

7. ANY DELAYS OR ADDITIONAL COSTS RESULTING FROM DAMAGES TO THE WATERPROOFING SYSTEM SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

8. PROTECT EXISTING WATERPROOFING SYSTEMS DURING ALL PHASES OF CONSTRUCTION TO MINIMIZE DAMAGE. COORDINATE WITH THE OWNER OR DESIGNATED REPRESENTATIVE FOR ANY REQUIRED ACCESS OR TEMPORARY MODIFICATIONS.

EXISTING FLOOR DRAIN SYSTEM (MECHANICAL BASEMENT):

FLOOR DRAIN IMPROVEMENTS AT MECHANICAL ROOM:
1. CONTRACTOR SHALL INSPECT ALL EXISTING FLOOR DRAINS WITHIN THE MECHANICAL ROOM TO ASSESS THEIR CONDITION, FUNCTIONALITY, AND COMPLIANCE WITH PROJECT REQUIREMENTS.

2. ANY EXISTING FLOOR DRAINS FOUND TO BE DAMAGED, IMPROPERLY SLOPED, CLOGGED, OR NON-FUNCTIONAL SHALL BE REPAIRED OR REPLACED TO ENSURE PROPER DRAINAGE AND PERFORMANCE.

3. IMPROVEMENTS TO EXISTING FLOOR DRAINS SHALL INCLUDE:
A. REPLACING ALL FLOOR DRAINS ASSEMBLY (BODY, DRAIN GRATES, STRAINERS, OR COVERS) IF DAMAGED OR CORRODED. ALL NEW FLOOR DRAINS SHALL BE CORROSION RESISTANT, HEAVY DUTY RATED, AND FABRICATED BY JR SMITH MFG CO.
B. CLEARING AND FLUSHING DRAINPIPES TO REMOVE BLOCKAGES AND ENSURE UNRESTRICTED FLOW.
C. SEALING AROUND DRAINS TO PREVENT WATER SEEPAGE INTO ADJACENT AREAS.
D. REGRADING OR MODIFYING FLOOR SLOPES AS NECESSARY TO DIRECT WATER EFFICIENTLY TO THE DRAINS.

4. ALL NEW OR REPLACEMENT COMPONENTS SHALL BE COMPATIBLE WITH THE EXISTING SYSTEM AND MEET APPLICABLE CODES AND SPECIFICATIONS.

5. COORDINATE WITH ARCHITECT FOR DETAILED SCOPE AND ANY REQUIRED ADJUSTMENTS TO TIE INTO THE EXISTING DRAINAGE SYSTEM.

6. CONDUCT FLOW TESTS UPON COMPLETION OF WORK TO CONFIRM FUNCTIONALITY AND COMPLIANCE WITH PROJECT REQUIREMENTS.

7. ENSURE ALL WORK COMPLIES WITH LOCAL PLUMBING CODES AND MANUFACTURER INSTALLATION GUIDELINES. ANY MODIFICATIONS TO THE FLOOR DRAINS MUST NOT COMPROMISE THE ADJACENT MECHANICAL EQUIPMENT. NOTIFY THE ARCHITECT OF ANY UNFORESEEN CONDITIONS BEFORE PROCEEDING WITH WORK.

PIPE MARKING COLOR CODES FOR HVAC SYSTEM

ALL NEW PIPES OF HVAC SYSTEM SHALL BE IDENTIFIED FOLLOWING ANSI/ASME A13.1 PIPE MARKING STANDARD GUIDELINES.THIS STANDARD USES A COLOR-CODING SYSTEM TO COMMUNICATE THE CONTENTS OF THE PIPES AND THEIR ASSOCIATED HAZARDS.

PIPE MARKING COLOR CODES FOR HVAC SYSTEMS:

COLOR CODE	PIPE CONTENTS
- YELLOW/BLACK	FLAMMABLE OR COMBUSTIBLE FLUIDS
- GREEN/WHITE	POTABLE, COOLING, BOILER FEED WATER
- BLUE/WHITE	COMPRESSED AIR
- RED/WHITE	FIRE QUENCHING FLUIDS
- GRAY/WHITE	OTHER SUBSTANCES (E.G., STEAM, CONDENSATE)

COMMON HVAC PIPE APPLICATIONS

- CHILLED WATER (SUPPLY/RETURN):	GREEN/WHITE
- HOT WATER (SUPPLY/RETURN):	GREEN/WHITE
- STEAM:	GRAY/WHITE
- CONDENSATE RETURN:	GRAY/WHITE
- REFRIGERANT LINES:	GREEN/WHITE OR ORANGE/BLACK DEPENDING ON TOXICITY
- COMPRESSED AIR:	BLUE/WHITE

LABEL PLACEMENT REQUIREMENTS

LABELS SHOULD BE PLACED:	
1. AT REGULAR INTERVALS:	ALONG THE LENGTH OF THE PIPE.
2. AT KEY POINTS:	NEAR VALVES, JUNCTIONS, AND CHANGES IN DIRECTION.
3. ENTRY/EXIT POINTS:	AT WALLS OR FLOOR PENETRATIONS.

ADDITIONAL LABEL DETAILS
•TEXT SIZE: DEPENDS ON THE PIPE'S OUTER DIAMETER:
• ≤0.75 INCHES: 0.5-INCH TEXT • 0.75–2 INCHES: 0.75-INCH TEXT • 2–6 INCHES: 1.25-INCH TEXT
• 6 INCHES: 2.5-INCH TEXT • ARROWS: INDICATE THE DIRECTION OF FLOW.

THIS STANDARD ENSURES SAFETY AND CLARITY IN IDENTIFYING HVAC PIPING SYSTEMS AND HELPS MAINTENANCE PERSONNEL, INSPECTORS, AND OPERATORS NAVIGATE FACILITIES EFFICIENTLY.

MECHANICAL AND ELECTRICAL CONSTRUCTION:

1. PROVIDE COMPLETE PRODUCT DATA (SIZE, WEIGHT, OPERATING CHARACTERISTICS, WIRING DIAGRAMS, ETC) FOR ALL EQUIPMENT AND DEVICES SPECIFIED ON THE DRAWINGS.

2. ALL HVAC SYSTEMS MUST BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND NATIONAL CODE REQUIREMENTS, PUERTO RICO MECHANICAL CODE 2018, PUERTO RICO PLUMBING CODE 2018, NATIONAL ELECTRICAL CODE 2017 AND PUERTO RICO EXISITNG BUILDING CODE 2018.

3. PROVIDE OFFSETS IN NEW PIPING SYSTEMS AS REQUIRED TO FACILITATE INSTALLATION OF NEW MECHANICAL / ELECTRICAL WORK AT NO ADDITIONAL COST TO THE CONTRACT.

4. ALL NON-GALVANIZED SUPPORTS AND HANGERS FOR PIPING AND EQUIPMENT MUST BE CLEANED OF DEBRIS AND RUST, PROPERLY PREPPED, PRIMED AND EPOXY PAINTED.

5. IN ADDITION TO THE SPECIFICATION REQUIREMENTS AND PRIOR TO ORDERING EQUIPMENT AND INSTALLATION OF NEW MECHANICAL / ELECTRICAL WORK, SUBMIT A COMPOSITE SHOP DRAWING (1/4" MIN. SCALE PLAN AND SECTIONS) SHOWING PIPING AND EQUIPMENT LAYOUT WITH CODE REQUIRED CLEARANCES. THIS SHOP DRAWING MUST ALSO INDICATE MAINTENANCE /S ERVICE SPACE FOR ALL EQUIPMENT.

6. CONCRETE PADS FOR MECHANICAL EQUIPMENT MUST BE SIZED, LOCATED AND PROVIDED BY DIVISION 23 HEATING, VENTILATING AND AIR CONDITIONING, REFER TO MECH DWGS. PROVIDE 4" HIGH X UNIT LENGTH PLUS 4" X UNIT WIDTH PLUS 4" CONCRETE PADS FOR ALL HVAC EQUIPMENT MOUNTED ON GRADE OR FLOOR SLAB.

7. VERIFY ALL EQUIPMENT WITH MANUFACTURER'S CERTIFIED DRAWINGS. FIELD VERIFY AND COORDINATE ALL DIMENSIONS BEFORE FABRICATION.

8. UNLESS OTHERWISE INDICATED ALL DRAIN LINES FROM EACH PIECE OF EQUIPMENT MUST BE PIPED FULL SIZE OF DRAIN OUTLET, WITH P-TRAP TO FLOOR DRAIN OR JANITOR SINK.

9. ALL EQUIPMENT, PIPING, ETC., MUST BE SUPPORTED AS DETAILED AND SPECIFIED. ADDITIONAL SUPPORTS MUST BE PROVIDED AS REQUIRED TO PROPERLY SUPPORT ALL HVAC SYSTEM COMPONENTS.

10. VFD'S IF REQUIRED ARE INDICATED ON THE HVAC EQUIPMENT SCHEDULES AND ARE PROVIDED BY DIVISION 23 HEATING, VENTILATING AND AIR CONDITIONING. UNLESS OTHER WISE NOTED, FIELD LOCATE EACH **VFD** IN THE SAME ROOM THAT THE EQUIPMENT IT SERVES IS LOCATED. VFD'S MUST BE LOCATED SO THEY CAN EASILY BE ACCESSED, HAVE PROPER MAINTENANCE SPACE AND COMPLY WITH THE NATIONAL ELECTRICAL CODE (NEC) REQUIREMENTS. GROUND VFD'S IN ACCORDANCE WITH NEC. VFD'S MUST NOT BE MOUNTED ON HVAC EQUIPMENT, UNLESS NOTED OTHERWISE OR FACTORY MOUNTED.

11. ALL HEATING, VENTILATION AND AIR CONDITIONING SYSTEMS SHOWN ON THE CONTRACT DRAWINGS MUST BE NEW.

12. SUBMIT COMPLETE SHOP DRAWINGS AND PRODUCT DATA FOR ALL EQUIPMENT AND DEVICES SPECIFIED ON THE HVAC DRAWINGS.

13. THIS PROJECT REQUIRES COORDINATION WITH PRIDCO'S BUILDING FACILITY MANAGER. REFER TO SPECIFICATION SECTIONS 01040, 13000 AND 230050 FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

14. DISCREPANCIES AND CONFLICTS BETWEEN MECHANICAL SYSTEMS AND OTHER DISCIPLINE (ARCHITECTURAL, STRUCTURAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION) DRAWINGS MUST BEBROUGHT TO THE ATTENTION OF THE A/E PRIOR TO CONSTRUCTION OF SUBJECT SYSTEMS. FAILURE TO NOTIFY **ARCHITECT** OF THE SUBJECT PROBLEMS MUST CONSTITUTE ACCEPTANCE OF ALL CONDITIONS AND ANY CORRECTIVE WORK REQUIRED, AS DIRECTED BY **ARCHITECT**. THE SUBJECT CORRECTIVE WORK MUST BE PER FORMED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

15. ALL FURNISHED EQUIPMENT MUST FIT THE ALLOCATED SPACE. PROVIDE ALL MODIFICATIONS TO THE OPENINGS, IN ROOF OR SLAB, STEEL SUPPORTS, ELECTRICAL REQUIREMENTS AND ANY OTHER BUILDING COMPONENTS REQUIRED TO FACILITATE THE DEMOLITION AND INSTALLATION OF SUBJECT EQUIPMENT.

16. PRIOR TO FINAL INSPECTION OF EQUIPMENT BY **ARCHITECT**, EACH PIECE OF MECHANICAL EQUIPMENT MUST BE CLEANED AND ALL FOREIGN MATERIALS REMOVED. ALL PENETRATIONS THRU UNIT CASINGS MUST BE PROPERLY SEALED AND ALL CONTROL DEVICES MUST BE OPERATIONAL AND CALIBRATED.

17. ALL FINISHES DAMAGED DURING THE INSTALLATION OF NEW HVAC SYSTEM MUST BE REPAIRED TO MATCH EXISTING ADJACENT FINISHES.

18. COORDINATE LOCATION OF HVAC EQUIPMENT AND SYSTEM ROUTINGS SO THAT HVAC EQUIPMENT AND PIPING ARE NOT LOCATED ABOVE ELECTRICAL EQUIPMENT, PANEL OR ELEVATOR EQUIPMENT.

19. FOR ALLTHREE-PHASE MOTORS POWERING MECHANICAL EQUIPMENT IN CONSTANT SPEED APPLICATIONS:PROVIDE FULL VOLTAGE, COMBINATION MAGNETICTYPE,THREE-PHASEPOWER, MOTOR STARTER/CONTROLLERS WITH UNDER VOLTAGE RELEASE, MOTOR CIRCUIT PROTECTOR TYPE DISCONNECT WITH SHORT-CIRCUIT PROTECTION, HANDS-OFF-AUTOMATIC SWITCH AND GREEN PILOT LIGHT IN CONTROL PANEL COVER. PROVIDE THE APPROPRIATE NUMBER OF NORMAL OPEN (N.O.) AND NORMALLY CLOSED (N.C.) CONTACTS REQUIRED TO OPERATE AND CONTROL THE EQUIPMENT IN ACCORDANCE WITH THE SEQUENCES OF OPERATION AS SPECIFIED. REFER TO ELECTRICAL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

20. FOR ALL SINGLE-PHASE MOTORS POWERING MECHANICAL EQUIPMENT: PROVIDE ELECTRICAL DISCONNECT AND THE APPROPRIATE NUMBER OF NORMALLY OPEN (N.O.) AND NORMALLY CLOSED (N.C.) CONTACTS REQUIRED TO OPERATE AND CONTROL THE EQUIPMENT IN ACCORDANCE WITH THE SEQUENCES OF OPERATION AS SPECIFIED. REFER TO ELECTRICAL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

REMOVAL OF ELECTRICAL AND HVAC EQUIPMENT:

1. ELECTRICAL: REMOVE ALL ELECTRICAL EQUIPMENT, PANELS, CONDUITS, WIRING, FIXTURES, OUTLETS, SWITCHES, JUNCTION BOXES, AND ASSOCIATED SUPPORTS BACK TO THEIR POINT OF ORIGIN OR AS INDICATED ON PLANS. CAP AND TERMINATE WIRING SAFELY AS PER CODE REQUIREMENTS.
2. HVAC: REMOVE ALL HVAC EQUIPMENT INSIDE PROJECT LIMIT, INCLUDING DUCTWORK, AIR HANDLING UNITS, DIFFUSERS, GRILLES, REGISTERS, EXHAUST FANS, CONDENSERS, PIPING, AND RELATED SUPPORTS OR HANGERS UNLESS INDICATED AS EXISTING TO REMAIN AT DEMOLITION DWGS. SEAL ANY WALL, CEILING, OR FLOOR PENETRATIONS LEFT AFTER REMOVAL.
3. ENSURE PROPER DISCONNECTION AND ISOLATION OF ALL UTILITIES BEFORE COMMENCING WORK.
4. DISPOSE OF ALL MATERIALS IN COMPLIANCE WITH LOCAL REGULATIONS AND PROJECT SPECIFICATIONS.
5. VERIFY AND COORDINATE WITH ARCHITECT, THE INSPECTOR AND / OR PRIDCO BUILDING ENGINEER FOR ANY UNFORESEEN CONDITIONS OR MODIFICATIONS DURING DEMOLITION.

STEEL FABRICATIONS ALTERNATIVE QUOTE

STRUCTURAL STEEL: G90 HOT DIPPED GALVANIZE VS REGULAR STEEL	
BASE QUOTE:	HVAC EQUIPMENT SUPPORTS STRUCTURAL STEEL ELEMENTS: 1. STEEL ELEMENTS SHALL BE FABRICATED WITH **G90 HOT DIPPED GALVANIZED.** ASTM A123 STANDARD SPECIFICATION FOR ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS. A. COLUMNS, W-BEAMS AND I-BEAMS B. CHANNELS C. PLATES D. RODS E. ANGLES F. TUBES 2. FINISHED WITH A ZINC, EPOXY AND POLYURETHANE PAINT. REFER TO A-4.
ALTERNATIVE QUOTE: DEDUCTIVE	STRUCTURAL STEEL ELEMENTS: 1. STEEL ELEMENTS SHALL BE FABRICATED WITH STRUCTURAL STEEL. REFER TO STRUCTURAL SPECIFICATIONS. A. COLUMNS, W-BEAMS AND I-BEAMS B. CHANNELS C. PLATES D. RODS E. ANGLES F. TUBES 2. FINISHED WITH A ZINC, EPOXY AND POLYURETHANE PAINT. REFER TO A-4.

REPLACEMENT VS REUSE OF HVAC EQUIPMENT BASE SUPPORTS (PLATES, TUBES AND RODS) AT ROOF	
ASSESSMENT WORKS:	SCOPE OF WORKS (EXISTING NINE (9) SUPPORTS VISUAL INSPECTION): 1. PARTIAL REMOVAL AND DISPOSITION OF WATERPROOFING SYSTEM (WPS) AT BASE SUPPORTS APROX. W:18" X L:18" X D:6" FOR STRUCTURAL ENGINEER OF RECORD VISUAL INSPECTION OF EXISTING STEEL SUPPORTS FOR POSSIBLE REUSE. TWO (2) SUPPORTS WPS COMPLETE REMOVAL UP TO CONCRETE ROOF SUBSTRATE, REFER TO FLOOR PLAN. THE REMAIN SEVEN (7) SUPPORTS, REMOVE ONLY THE WATERPROOFING (URETHANE + SILICON) ON TUBE COMPLETE EXPOSE SURFACE OVER ROOF WATERPROOFING LEVEL.
BASE QUOTE:	SCOPE OF WORKS (NEW EIGHT (8) STEEL SUPPORTS): 1. ASSESSMENT WORKS. 2. PARTIAL REMOVAL AND DISPOSITION OF WATERPROOFING SYSTEM (WPS) AT BASE SUPPORTS APROX. W:18" X L:18" X D:6" OF THE REMAINING SEVEN (7) BASE SUPPORTS. 3. REMOVAL AND DISPOSITION OF NINE (9) STEEL SUPPORTS: 6"X6"X¼" PIPES, 8"X8"X½" AND 12"X12"X½" PLATES AND CUT OF ¾" BOLTS. 4. FABRICATION AND INSTALLATION OF NEW EIGHT (8) STEEL SUPPORTS; PIPES, PLATES AND CUT OF BOLTS. REFER TO STRUCTURAL DWGS. 5. FINISH STEEL SUPPORTS WITH ZINC-EPOXY PAINT. REFER TO A-4.0. 6. INSTALLATION OF NEW WATERPROOFING SYSTEM AT NINE (9) BASE SUPPORTS APROX. W:18" X L:18" X D:6"
ALTERNATIVE QUOTE: DEDUCTIVE	SCOPE OF WORKS (REUSE EIGHT (8) OF NINE (9) EXISTING STEEL SUPPORTS): 1. ASSESSMENT WORKS. 2. REUSE OF EXISTING (8) STEEL SUPPORTS: 6"X6"X¼" PIPES, 8"X8"X½" AND 12"X12"X½" PLATES AND CUT OF ¾" BOLTS. 3. REMOVAL AND DISPOSITION OF ONE (1) STEEL SUPPORT: 6"X6"X¼" PIPES, 8"X8"X½" AND 12"X12"X½" PLATES AND CUT OF ¾" BOLTS 4. CLEANING AND FINISH EXISTING STEEL SUPPORTS WITH ZINC-EPOXY PAINT. REFER TO A-4.0. 5. TWO (2) SUPPORTS: INSTALLATION OF NEW WATERPROOFING SYSTEM AT BASE SUPPORTS APROX. W:18" X L:18" X D:6" 6. SEVEN (7) SUPPORTS: WATERPROOF TUBE PERIMETER AND ANY AREA DAMAGE DURING THE REMOVAL TUBE SURFACE WATERPROOFING.

LEGEND:

PROPERTY LINE
PROJECT LIMIT
CHAIN LINK FENCE
ORNAMENTAL IRON FENCE
EXISTING TO BE DEMOLISHED OR REMOVED
EXISTING TO REMAIN
REINFORCED CONCRETE WALL, COLUMN OR SLAB
CONCRETE BLOCK WALL
LOW WALL OR PARAPET
GYPSUM BOARD WALL
PARTITION WITH INSULATION OR ISOLATION BLANKET

A / A-2 A-2 — SECTION IDENTIFICATION; SHEET WHERE IS DRAWN; SHEET WHERE FIRST SHOWN — GENERAL SECTION
2 / A-2 A-2 — SECTION IDENTIFICATION; SHEET WHERE IS DRAWN; SHEET WHERE FIRST SHOWN — WALL SECTION
3 / A-2 A-2 — DETAIL IDENTIFICATION; SHEET WHERE IS DRAWN; SHEET WHERE FIRST SHOWN — DETAIL
1 / 2 4 / 3 — ELEVATION IDENTIFICATION; INDICATES DIRECTION — INTERIOR ELEVATION
4 / 4 IV — DOOR IDENTIFICATION; HARDWARE; DOOR TYPE — DOOR IDENTIFICATION
101 — FINISH IDENTIFICATION
A — WINDOW IDENTIFICATION
FD — FLOOR DRAIN
RD — ROOF DRAIN
FIRE EXTINGUISHER
EXIT SIGN
COLUMN CENTER LINE
COLUMN CENTER LINE
9800 — EXISTING GRADE ELEVATION
9800 — FINISHED GRADE ELEVATION
CHANGE OF FLOOR FINISH
F.F.E. — FINISHED FLOOR LEVEL
R.L. — RAIN LEADER
N.I.C. — NOT INCLUDED IN CONTRACT
A.F.F. — ABOVE FINISHED FLOOR
SHT. — SHEET
CLG. — CEILING
E.I.F.S. — EXTERIOR INSULATION FINISH SYSTEM

NOTE: FOR SITE, STRUCTURAL, MECHANICAL AND ELECTRICAL LEGENDS REFER TO THOSE PARTICULAR DRAWINGS.

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PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT
PHASE I & II: IMPROVEMENTS TO MAIN HVAC SYSTEM (CHILLERS, COOLING TOWERS & AIR-COOLED CHILLER) AT PRIDCO HEADQUARTERS, SAN JUAN, PR

YO, EDGAR MORELL RIVERA, 16176, CERTIFICO QUE SOY EL PROFESIONAL QUE DISEÑÓ ESTOS PLANOS Y LAS ESPECIFICACIONES COMPLEMENTARIAS. TAMBIÉN, CERTIFICO QUE ENTIENDO QUE DICHOS PLANOS Y ESPECIFICACIONES CUMPLEN CON LAS DISPOSICIONES APLICABLES DEL REGLAMENTO CONJUNTO Y LAS DISPOSICIONES APLICABLES DE LOS REGLAMENTOS Y CÓDIGOS DE CONSTRUCCIÓN VIGENTES DE LAS AGENCIAS, JUNTAS REGLAMENTADORAS O CORPORACIONES PÚBLICAS CON JURIDICCIÓN. CERTIFICO, ADEMÁS, QUE EN LA PREPARACIÓN DE ESTOS PLANOS Y ESPECIFICACIONES SE HA CUMPLIDO CABALMENTE CON LO DISPUESTO EN LA LEY NUM. 14 DE 8 DE ENERO DE 2004, SEGÚN ENMENDADA, CONOCIDA COMO LA "LEY PARA LA INVERSIÓN POR LA INDUSTRIA PUERTORRIQUEÑA" Y CON LA LEY NUM. 96 DE 6 DE JULIO DE 1978, SEGÚN ENMENDADA. RECONOZCO QUE CUALQUIER DECLARACIÓN FALSA O FALSIFICACIÓN DE LOS HECHOS QUE SE HAYA PRODUCIDO POR DESCONOCIMIENTO O POR NEGLIGENCIA YA SEA POR MÍ, MIS AGENTES O EMPLEADOS, O POR OTRAS PERSONAS CON MI CONOCIMIENTO, ME HACEN RESPONSABLES DE CUALQUIER ACCIÓN JUDICIAL Y DISCIPLINARIA POR LA OGPE.

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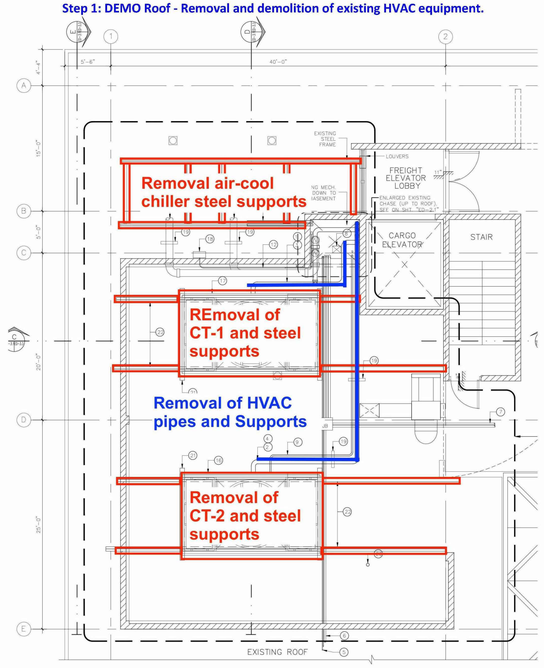
GENERAL DEMOLITION NOTES

DATE	2024-11-4
DRAWN BY	DBDH
REVISED BY	CRRF
DWG FILE NAME	AS-BUILT
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

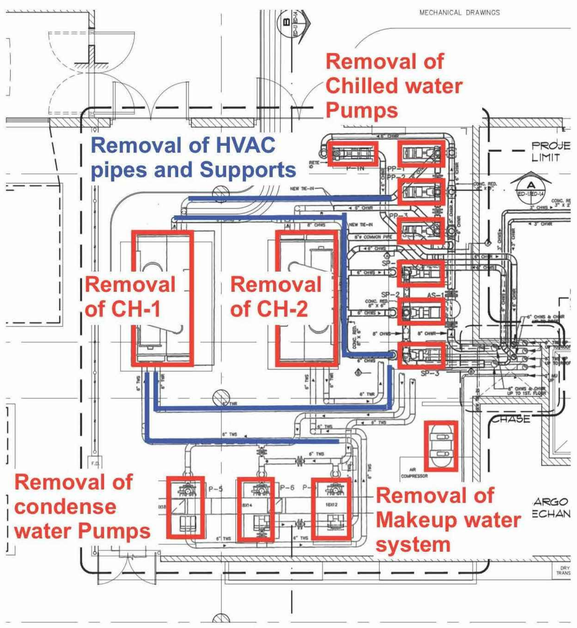
SHEET NO.
03/67 LN-02
DRAWING NO.

PHASE I: IMPROVEMENTS TO HVAC SYSTEM

Step 1: DEMO Roof - Removal and demolition of existing HVAC equipment.

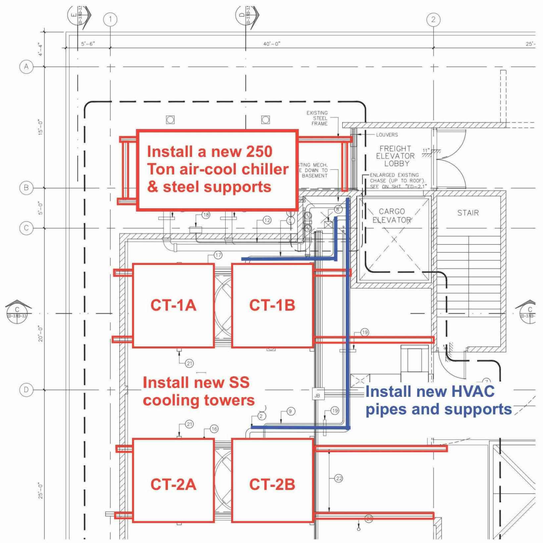


Step 2: DEMO Basement - Removal and demolition of existing HVAC equipment.



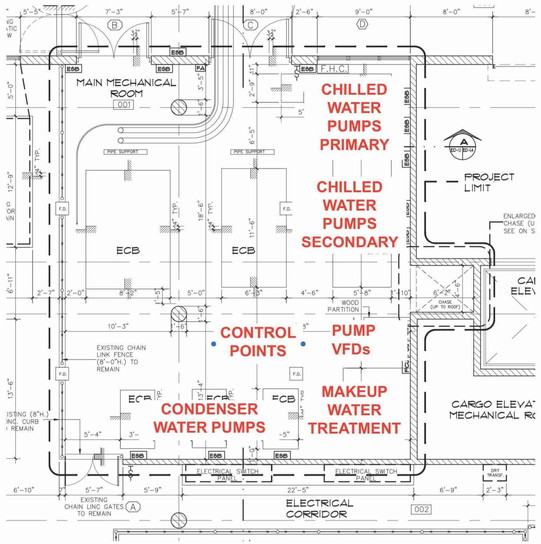
- **Demolition or reconfiguration of storage areas at Main electrical room.**

Step 3: CONST ROOF – Install 300T Backup chiller air-cooled and two (two cell) cooling towers.



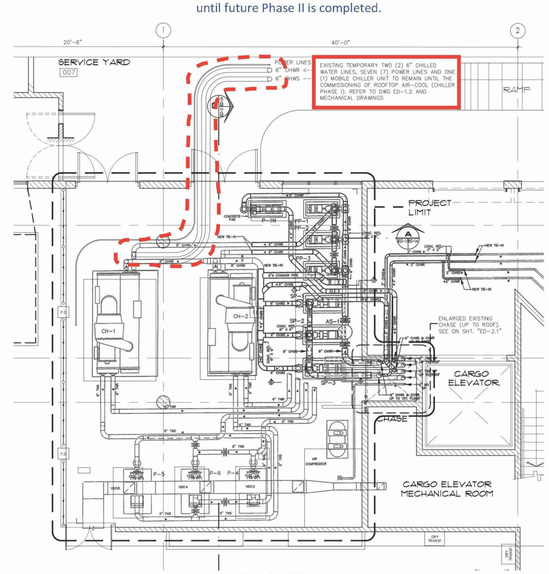
- New steel platforms with marine grade corrosion resistant coatings.
- Weather protection of mechanical chase.

Step 4: CONST Basement



- **95% Electrical improvements shall be implemented at Phase I**

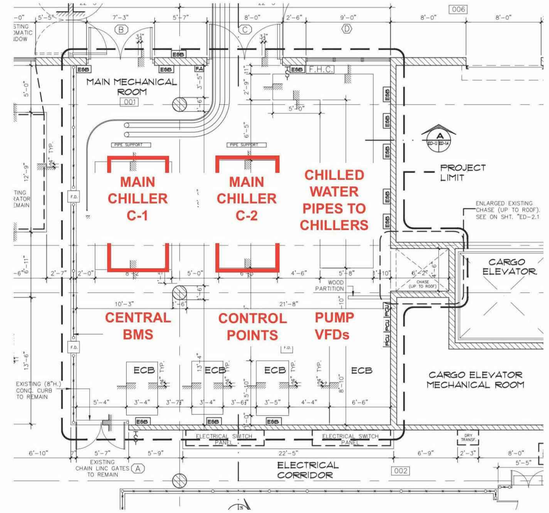
Step 5: Decommissioning of temporary air cool chiller (rented) at service yard. 100% of HVAC system shall be running on a new 250 Tons air-cool chiller backup system until future Phase II is completed.



END OF PHASE I

PHASE II: IMPROVEMENTS TO HVAC SYSTEM

Step 1: Commissioning a permanent HVAC system running on two (2) new water-cooled Chillers of 250 Tons, with a 300 Tons backup system (Phase I).



- New sump with drainage at chase.
- New concrete, epoxy or polyurethane mortal 1% slopes to floor drains.
- Epoxy walls and ceiling paint.
- New full louver Doors, Paint existing louver.

END OF PHASE II

SCOPE OF WORK

PHASE I: IMPROVEMENTS TO HVAC SYSTEM IMPROVEMENTS TO MAIN MECHANICAL ROOM (BASEMENT), NEW COOLING TOWERS AND NEW BACKUP AIR-COOLED CHILLER (ROOFTOP) AT FOMENTO HEADQUARTERS BLDG

GOALS AFTER COMPLETION OF PHASE I:

A. COMPLETE DEMOLITION WORKS OF HVAC MECHANICAL EQUIPMENTS AT BASEMENT, CHASE AND ROOF: INCLUDING BUT NOT LIMITED TO CHILLERS, PUMPS, HVAC COLD WATER PIPES, PIPES SUPPORTS, AND RELATED ELECTRICAL EQUIPMENT AND CONDUITS.
B. COMPLETE REMODELING OF HVAC MECHANICAL AT BASEMENT LEVEL. INCLUDING SLOPPING OF FLOORS, FLOOR DRAINS, EPOXY FLOOR AND WALLS FINISHES. REFER TO ARCHITECTURAL DWGS.
C. NEW DOORS AND GATES TO DEVELOP A SECURE PERIMETER TO PRIDCO BUILDING CRITICAL INFRASTRUCTURE (HVAC SYSTEM AND ELECTRICAL SYSTEM). BURGLAR ALARMS, CCTV SYSTEM OR SECURITY / EVACUATION PLAN NOT PART OF THIS CONTRACT.
D. WEATHER PROTECTION OF MECHANICAL CHASE AT ROOF LEVEL. REFER TO ARCHITECTURAL DWGS.
E. HVAC EQUIPMENT STEEL BASES FOR A NEW 250 TONS AIR-COOL CHILLER AND FOR TWO (2) DOUBLE UNITS WATER COOLING TOWERS.
F. REPARATIONS TO BUILT-TOP WATERPROOF SYSTEM AFTER REMOVAL OF EXISTING HVAC EQUIPMENT STEEL BASES AND SUPPORTS.
G. COMPLETE 95% OF ELECTRICAL IMPROVEMENTS.
H. COMPLETE INSTALLATION AND COMMISSIONING OF THE FOLLOWING HVAC EQUIPMENT:
   1. 250T BACKUP CHILLER, AIR COOLED
   2. SS COOLING TOWERS (MARLEY)- 2 UNITS
   3. CHILLED WATER PUMPS, PRIMARY
   4. CHILLED WATER PUMPS, SECONDARY
   5. CONDENSER WATER PUMPS
   6. CONTROL POINTS
   7. PUMP VFDS
   8. MAKEUP WATER TREATMENT
   9. CENTRAL BMS
I. INSTALLATION OF TWO (2) DOUBLE UNITS COOLING TOWERS AND ALL CHILLED WATER PIPE WORK.
J. 100% OF HVAC SYSTEM SHALL BE RUNNING ON A NEW 250 TONS AIR-COOL CHILLER (BACKUP SYSTEM) UNTIL FUTURE COMPLETION OF PHASE II.
K. DECOMMISSIONING AND REMOVAL OF TEMPORARY AIR COOL CHILLER (RENTED) AT SERVICE YARD.

PHASE II: IMPROVEMENTS TO HVAC SYSTEM IMPROVEMENTS TO MAIN MECHANICAL ROOM (BASEMENT), MAIN CHILLERS (HELICAL/SCREW), CONTROL POINTS, BMS AND PUMPS AT FOMENTO HEADQUARTERS BUILDING, RÍO PIEDRAS, PR.

GOALS AFTER COMPLETION OF PHASE II:

A. INSTALLATION OF TWO (2) MAIN CHILLERS (HELICAL/SCREW Φ250T).
B. INSTALLATION AND COMMISSIONING OF THE FOLLOWING HVAC EQUIPMENT:
   1. MAIN CHILLERS (HELICAL/SCREW Φ250T)
   2. CONTROL POINTS PUMP
   3. CENTRAL BMS
C. COMPLETE ELECTRICAL IMPROVEMENTS.
D. COMMISSIONING A PERMANENT HVAC SYSTEM RUNNING ON TWO (2) NEW WATER-COOLED CHILLERS OF 250 TONS, WITH A 300 TONS BACKUP SYSTEM.
E. COMPLETE REMODELING OF HVAC MECHANICAL AT BASEMENT LEVEL. INCLUDING SLOPPING OF FLOORS, FLOOR DRAINS, EPOXY FLOOR AND WALLS FINISHES. REFER TO ARCHITECTURAL DWGS.

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CLIENT
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PHASE I & II: IMPROVEMENTS TO MAIN HVAC SYSTEM (CHILLERS, COOLING TOWERS & AIR-COOLED CHILLER) AT PRIDCO HEADQUARTERS, SAN JUAN, PR

CONSULTANT SEAL

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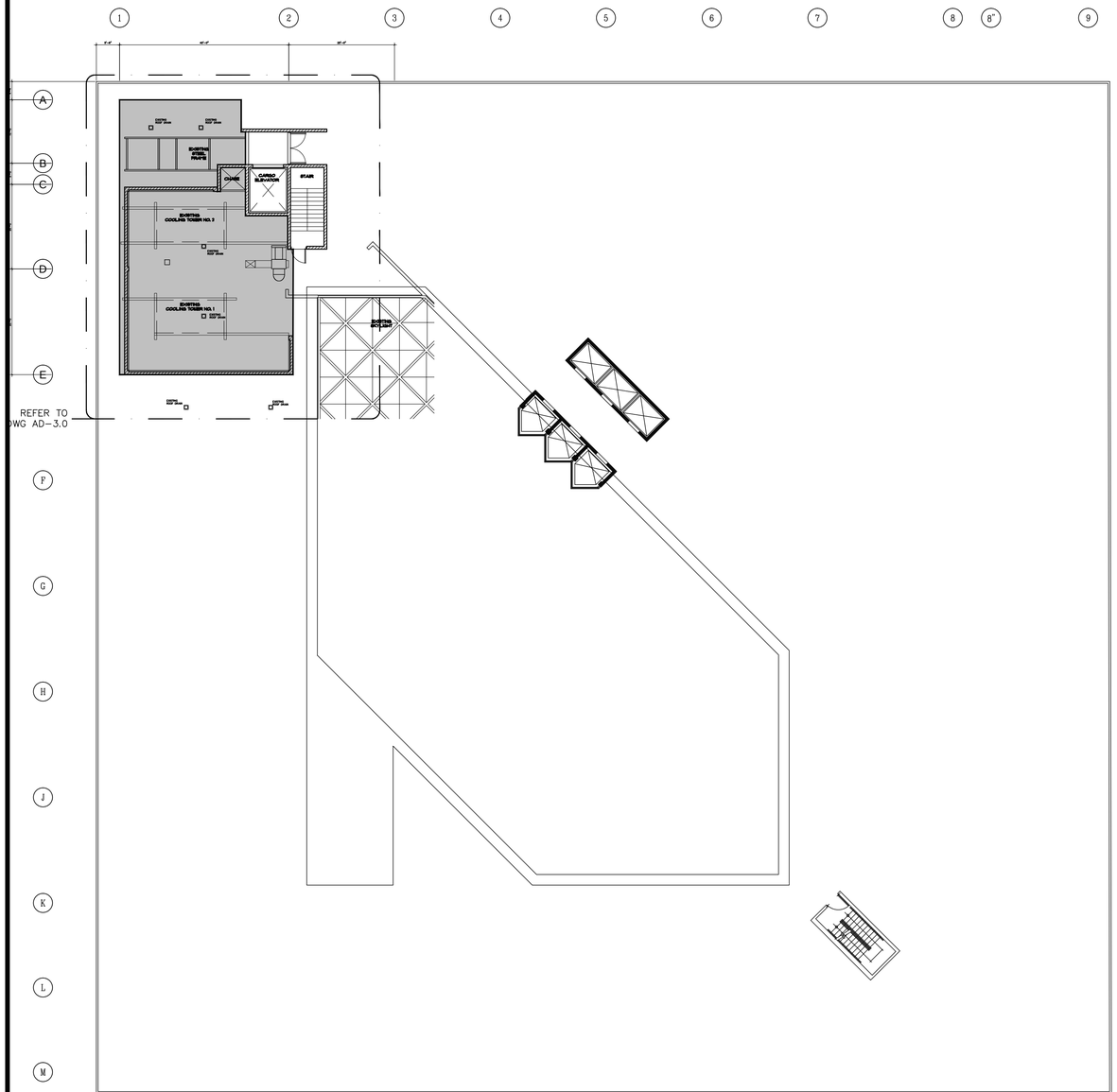
SHEET TITLE
PHASE CONSTRUCTION BASEMENT, CHASE AND ROOF LEVEL

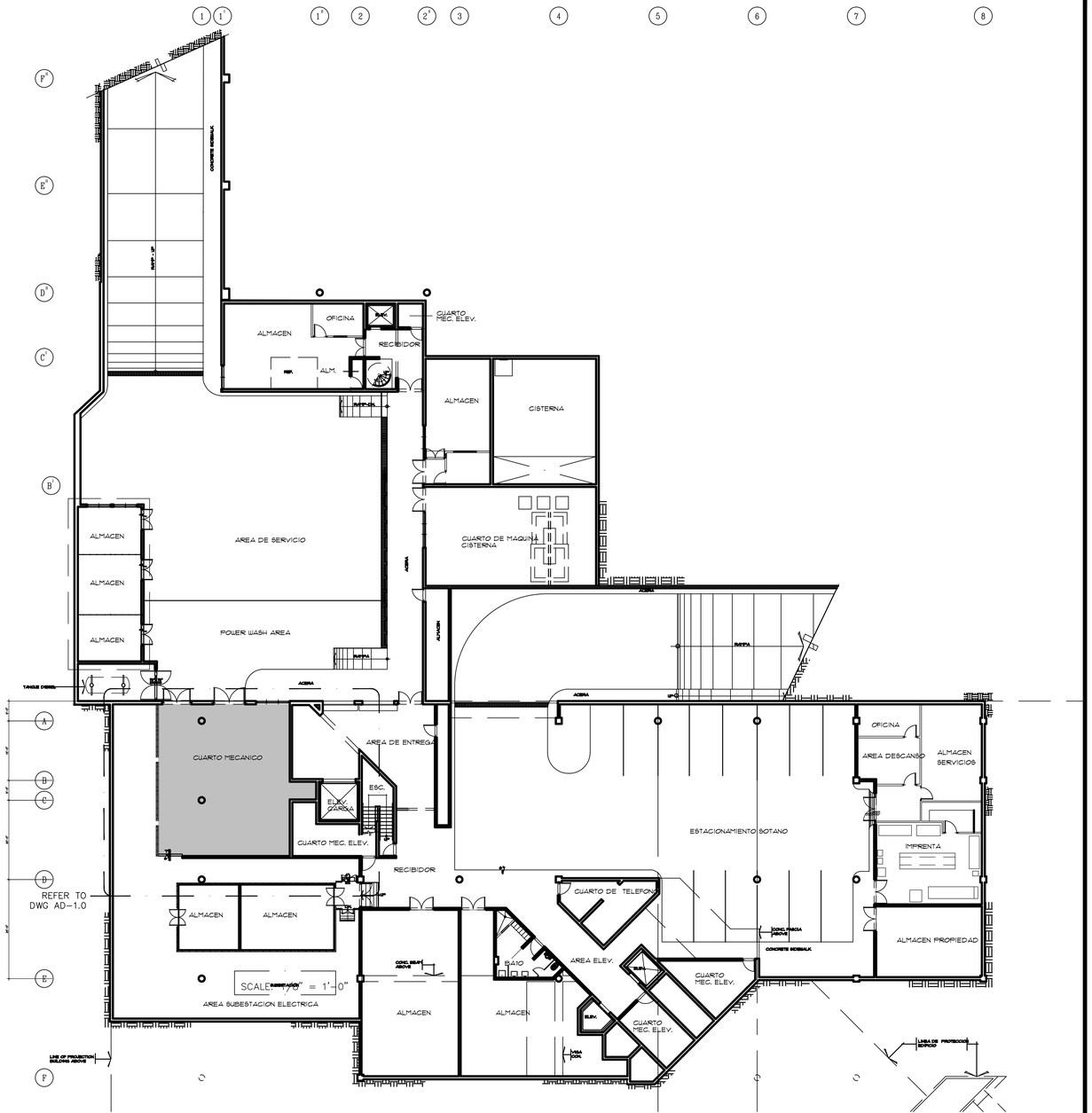
DATE	2024-11-4
DRAWN BY	DBDH
REVISED BY	CRRF
DWG FILE NAME	AS-BUILT
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.
04/67 KEY-01
DRAWING NO.



KEY PLAN: ROOF LEVEL

SCALE: 1/16" = 1'-0"



KEY PLAN: BASEMENT LEVEL

SCALE: 1/16" = 1'-0"

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SHEET TITLE

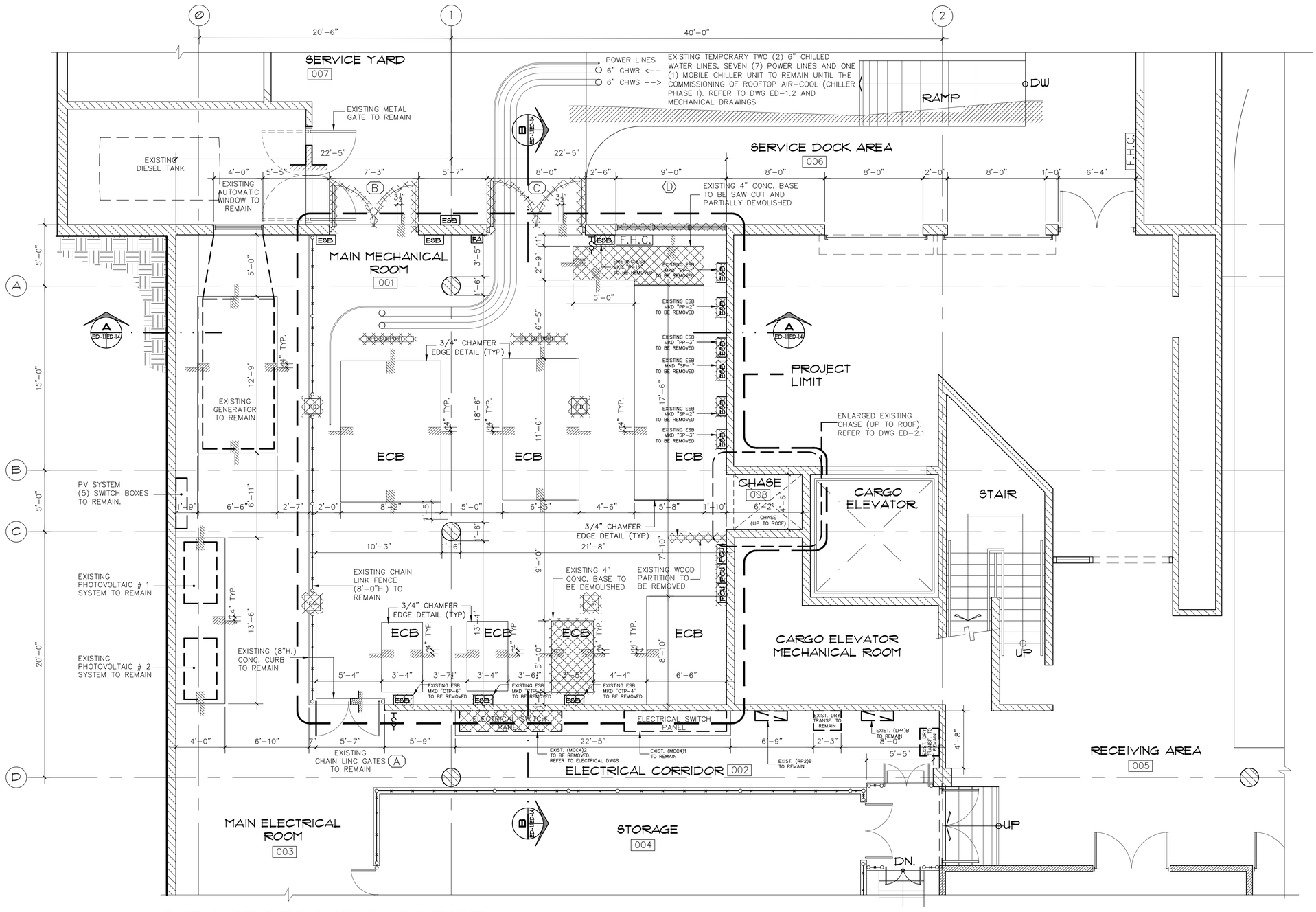
EXISTING & DEMOLITION: BASEMENT & ROOF LEVEL "KEY MASTER PLAN"

DATE	2024–11–4
DRAWN BY	DBDH
REVISED BY	CRRF
DWG FILE NAME	AS–BUILT
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.

05/67 KEY-02

DRAWING NO.



EXISTING & DEMOLITION FLOOR PLAN (3'-0" FROM FFL)
MAIN MECHANICAL ROOM (BASEMENT LEVEL)

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

DEMOLITION LEGEND:

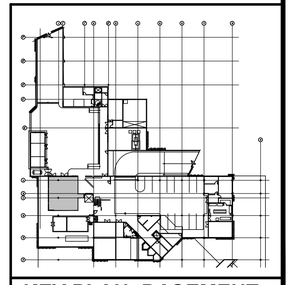
- EXISTING CONC. WALL TO REMAIN
- EXISTING DOOR & FRAME TO BE REMOVED
- F.H.C. — EXISTING FIRE HOSE CABINET LOCATION TO REMAIN
- FD — EXISTING FLOOR DRAIN TO BE RETROFIT
- (A) — EXISTING CHAIN LINK GATES TO REMAIN
- (B) — EXISTING METAL DOOR WITH FULL LOUVERS (6'-9" W. x 7'-9" H.) TO BE REMOVED
- (C) — EXISTING METAL DOOR WITH FULL LOUVERS (7'-7" W. x 7'-9" H.) TO BE REMOVED
- (D) — EXISTING FULL LOUVERS PANEL TO BE REMOVED (9'-0" W. x 7'-4" H.)
- EXISTING ELECTRICAL SWITCH (MECHANICAL ROOM)
- ESB — ELECTRICAL SWITCH BOX TO BE REMOVED
- PCU — PUMP CONTROLLER UNIT TO BE REMOVED
- ECB — 4" HVAC EQUIPMENT CONCRETE BASE TO REMAIN
- FA — EXISTING FIRE ALARM
- TO BE REMOVED OR TO BE DEMOLISHED
- PIPE SUPPORT — EXISTING HVAC SUPPORT TO BE REMOVED

NOTE 1: REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR PHASE DEMOLITION OF HVAC EQUIPMENT, COLD WATER PIPES, PIPES SUPPORTS, ELECTRICAL EQUIPMENT AND CONDUITS.

NOTE 2: REFER DWG LN-1 FOR GENERAL DEMOLITION NOTES

NOTE 3: REMOVAL OF HVAC EQUIPMENT INCLUDES COLD WATER PIPES, PIPES SUPPORTS, AND RELATED ELECTRICAL EQUIPMENT AND CONDUITS.

NOTE 4: COORDINATE WITH OWNER BUILDING ELECTRICIAN FOR PARTIAL REMOVAL OF PHOTOVOLTAIC SYSTEM ELECTRICAL (INCLUDING BUT NOT LIMITED TO JOINTING BOXES, CONDUITS AND SUPPORTS AT BASEMENT) AT BASEMENT, CHASE AND ROOF. ELEMENTS WITH SALVAGE VALUE SHALL BE STORED AND DELIVERED TO OWNER.



KEY PLAN: BASEMENT

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SHEET TITLE

EXISTING & DEMOLITION FLOOR PLAN
MAIN MECHANICAL ROOM (BASEMENT LEVEL)

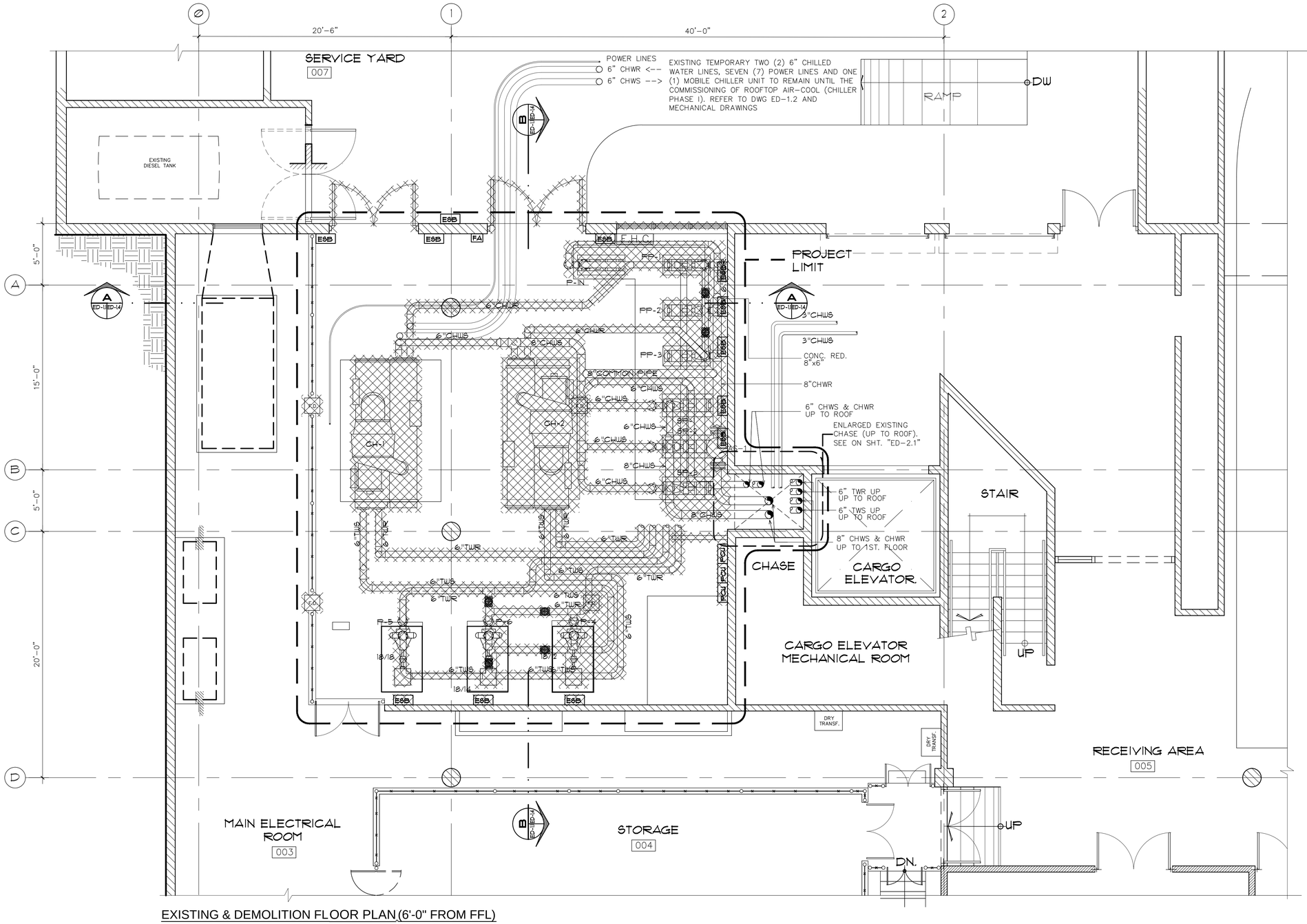
DATE	2024–11–4
DRAWN BY	DBDH
REVISED BY	CRRF
DWG FILE NAME	AS–BUILT
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.

06/67

ED-1.1

DRAWING NO.



EXISTING & DEMOLITION FLOOR PLAN (6'-0" FROM FFL)
MAIN MECHANICAL ROOM (BASEMENT LEVEL)
SCALE: 1/4" = 1'-0"

DEMOLITION LEGEND:

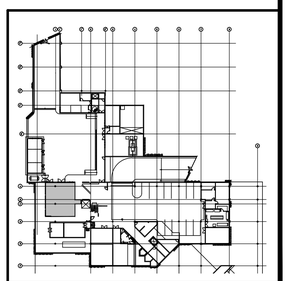
- EXISTING CONC. WALL TO REMAIN
- EXISTING DOOR & FRAME TO BE REMOVED
- F.H.C. — EXISTING FIRE HOSE CABINET LOCATION TO REMAIN
- FD — EXISTING FLOOR DRAIN TO BE RETROFIT
- (A) — EXISTING CHAIN LINK GATES TO REMAIN
- (B) — EXISTING METAL DOOR WITH FULL LOUVERS (6'-9" W. x 7'-9" H.) TO BE REMOVED
- (C) — EXISTING METAL DOOR WITH FULL LOUVERS (7'-7" W. x 7'-9" H.) TO BE REMOVED
- (D) — EXISTING FULL LOUVERS PANEL TO BE REMOVED (9'-0" W. x 7'-4" H.)
- EXISTING ELECTRICAL SWITCH (MECHANICAL ROOM)
- ESB — ELECTRICAL SWITCH BOX TO BE REMOVED
- PCU — PUMP CONTROLLER UNIT TO BE REMOVED
- ECB — 4" HVAC EQUIPMENT CONCRETE BASE TO REMAIN
- FA — EXISTING FIRE ALARM
- TO BE REMOVED OR TO BE DEMOLISHED
- PIPE SUPPORT — EXISTING HVAC SUPPORT TO BE REMOVED

NOTE 1: REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR PHASE DEMOLITION OF HVAC EQUIPMENT, COLD WATER PIPES, PIPES SUPPORTS, ELECTRICAL EQUIPMENT AND CONDUITS.

NOTE 2: REFER DWG LN-1 FOR GENERAL DEMOLITION NOTES

NOTE 3: REMOVAL OF HVAC EQUIPMENT INCLUDES COLD WATER PIPES, PIPES SUPPORTS, AND RELATED ELECTRICAL EQUIPMENT AND CONDUITS.

NOTE 4: COORDINATE WITH OWNER BUILDING ELECTRICIAN FOR PARTIAL REMOVAL OF PHOTOVOLTAIC SYSTEM ELECTRICAL (INCLUDING BUT NOT LIMITED TO JOINTING BOXES, CONDUITS AND SUPPORTS AT BASEMENT) AT BASEMENT, CHASE AND ROOF. ELEMENTS WITH SALVAGE VALUE SHALL BE STORED AND DELIVERED TO OWNER.



KEY PLAN: BASEMENT

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CLIENT
PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT
PHASE I & II: IMPROVEMENTS TO MAIN HVAC SYSTEM (CHILLERS, COOLING TOWERS & AIR-COOLED CHILLER) AT PRIDCO HEADQUARTERS, SAN JUAN, PR

CONSULTANT SEAL

YO, EDGAR MORELL RIVERA, 16176, CERTIFICO QUE SOY EL PROFESIONAL QUE DISEÑÓ ESTOS PLANOS Y LAS ESPECIFICACIONES COMPLEMENTARIAS. TAMBIÉN, CERTIFICO QUE ENTIENDO QUE DICHOS PLANOS Y ESPECIFICACIONES CUMPLEN CON LAS DISPOSICIONES APLICABLES DEL REGLAMENTO CONJUNTO Y LAS DISPOSICIONES APLICABLES DE LOS REGLAMENTOS Y CÓDIGOS DE CONSTRUCCIÓN VIGENTES DE LAS AGENCIAS, JUNTAS REGLAMENTADORAS O CORPORACIONES PÚBLICAS CON JURIDICCIÓN. CERTIFICO, ADEMÁS, QUE EN LA PREPARACIÓN DE ESTOS PLANOS Y ESPECIFICACIONES SE HA CUMPLIDO CABALMENTE CON LO DISPUESTO EN LA LEY NUM. 14 DE 8 DE ENERO DE 2004, SEGÚN ENMENDADA, CONOCIDA COMO LA "LEY PARA LA INVERSIÓN POR LA INDUSTRIA PUERTORRIQUEÑA" Y CON LA LEY NUM. 96 DE 6 DE JULIO DE 1978, SEGÚN ENMENDADA. RECONOZCO QUE CUALQUIER DECLARACIÓN FALSA O FALSIFICACIÓN DE LOS HECHOS QUE SE HAYA PRODUCIDO POR DESCONOCIMIENTO O POR NEGLIGENCIA YA SEA POR MÍ, MIS AGENTES O EMPLEADOS, O POR OTRAS PERSONAS CON MÍ CONOCIMIENTO, ME HACEN RESPONSABLES DE CUALQUIER ACCIÓN JUDICIAL Y DISCIPLINARIA POR LA OGPE.

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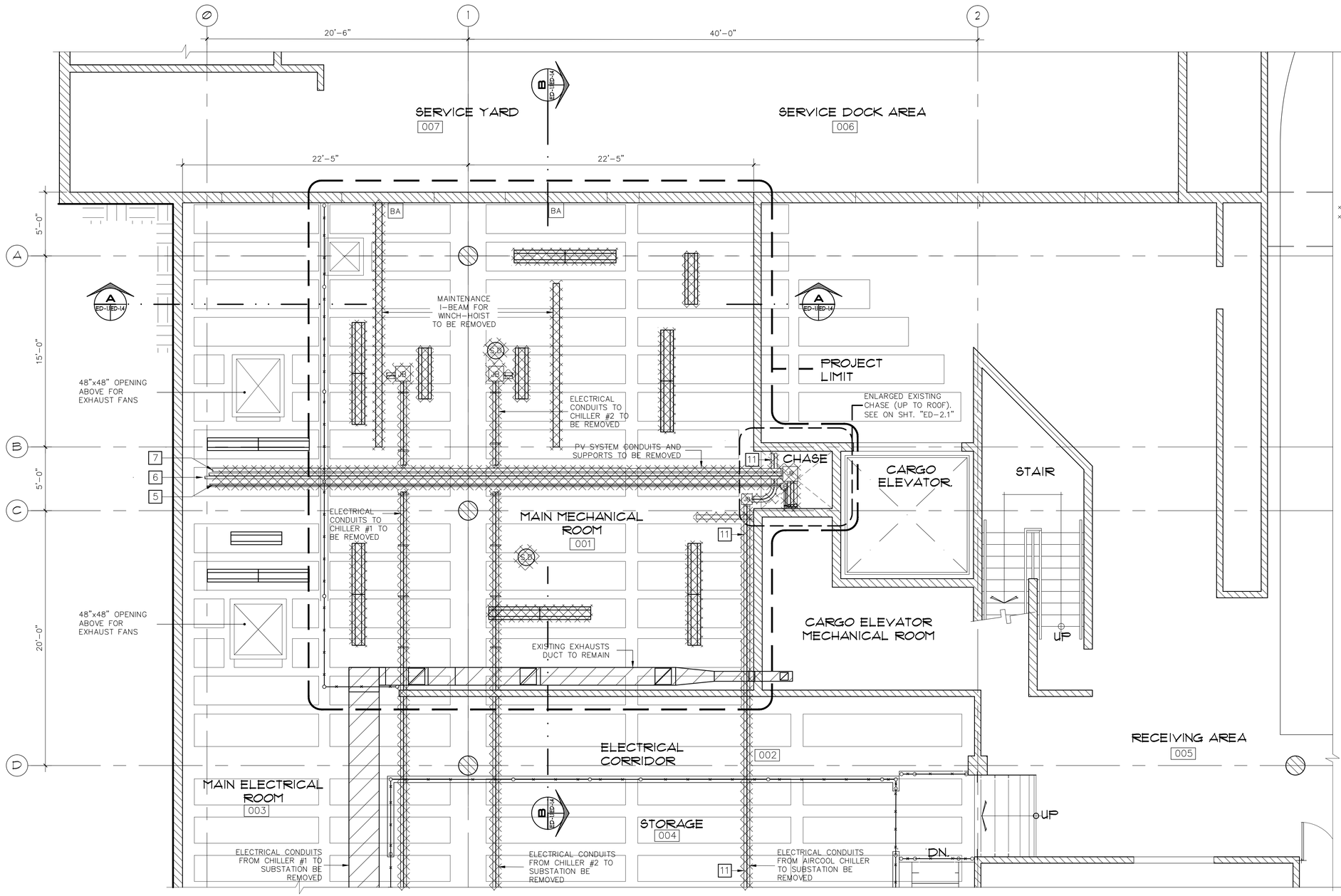
SHEET TITLE
EXISTING & DEMOLITION FLOOR PLAN
MAIN MECHANICAL ROOM BASEMENT LEVEL
(6'-0" FROM FFL)

DATE	2024–11–04
DRAWN BY	DBDH
REVISED BY	CRRF
DWG FILE NAME	AS–BUILT
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.
07/67
ED-1.2
DRAWING NO.



EXISTING & DEMOLITION CEILING PLAN (8'-0" FROM FFL)
MAIN MECHANICAL ROOM (BASEMENT LEVEL)
SCALE: 1/4" = 1'-0"

DEMOLITION LEGEND:

- EXISTING CONC. WALL TO REMAIN
- S.D. — SMOKE DETECTOR TO BE REMOVED
- FLUORESCENT LIGHT 4'-0" TO BE REMOVED
- FLUORESCENT LIGHT 8'-0" TO BE REMOVED
- J.B. — EXISTING ELECTRICAL JUNCTION BOX
- 7 — PV SYSTEM: 2-$\frac{3}{4}$"ø EMT CONDUITS UP TO ROOF (TO BE REMOVED)
- 6 — PV SYSTEM: 2-$2\frac{1}{2}$"ø EMT CONDUITS UP TO ROOF (TO BE REMOVED)
- 5 — PV SYSTEM: 1-3"ø EMT CONDUITS UP TO ROOF (TO BE REMOVED)
- BA — EXISTING BURGLAR ALARM SYSTEM JB AND CONDUITS (NIC)
- DENOTES ITEMS TO BE REMOVED OR DEMOLISHED

NOTES:

NOTE 1: REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR PHASE DEMOLITION OF HVAC EQUIPMENT, COLD WATER PIPES, PIPES SUPPORTS, ELECTRICAL EQUIPMENT AND CONDUITS.

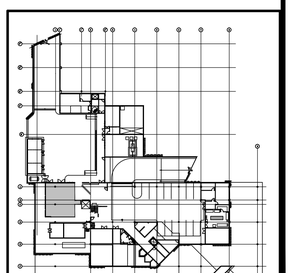
NOTE 2: REFER DWG LN-1 FOR GENERAL DEMOLITION NOTES

NOTE 3: REMOVAL OF HVAC EQUIPMENT INCLUDES COLD WATER PIPES, PIPES SUPPORTS, AND RELATED ELECTRICAL EQUIPMENT AND CONDUITS.

NOTE 4: COORDINATE WITH OWNER BUILDING ELECTRICIAN FOR PARTIAL REMOVAL OF PHOTOVOLTAIC SYSTEM ELECTRICAL (INCLUDING BUT NOT LIMITED TO JOINTING BOXES, CONDUITS AND SUPPORTS AT BASEMENT) AT BASEMENT, CHASE AND ROOF. ELEMENTS WITH SALVAGE VALUE SHALL BE STORED AND DELIVERED TO OWNER.

KEY FOR ELECTRICAL & HVAC EQUIPMENT

5. PV SYSTEM: 2 – $\frac{3}{4}$" EMT CONDUITS UP TO ROOF TO BE REMOVED.
6. PV SYSTEM: 2 – 3" EMT CONDUITS UP TO ROOF TO BE REMOVED.
7. PV SYSTEM: 1 – 2" EMT CONDUITS UP TO ROOF TO BE REMOVED.
11. AIRCOOL SYSTEM: 2 – 2" EMT CONDUITS UP TO ROOF TO BE REMOVED.



KEY PLAN: BASEMENT

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CLIENT
PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT
PHASE I & II: IMPROVEMENTS TO MAIN HVAC SYSTEM (CHILLERS, COOLING TOWERS & AIR-COOLED CHILLER) AT PRIDCO HEADQUARTERS, SAN JUAN, PR

CONSULTANT SEAL

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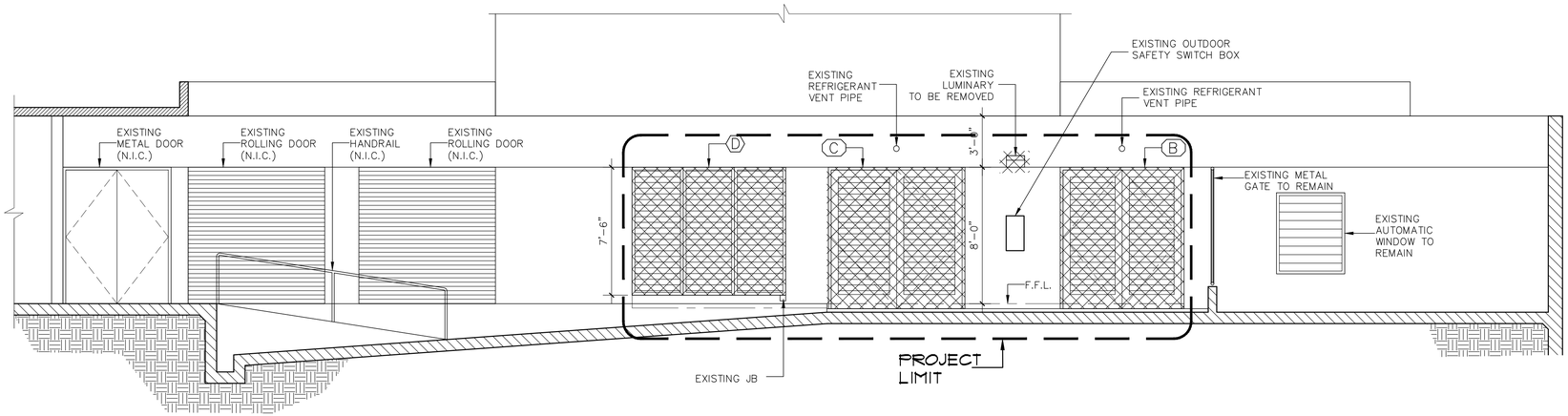
SHEET TITLE
EXISTING & DEMOLITION CEILING PLAN
MAIN MECHANICAL ROOM BASEMENT LEVEL
BASEMENT AREA

DATE	2024-11-4
DRAWN BY	DBDH
REVISED BY	CRRF
DWG FILE NAME	AS-BUILT
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.
08/67 ED-1.3
DRAWING NO.

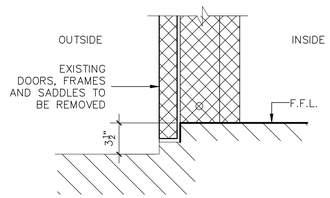
DEMOLITION LEGEND:

- DENOTES ITEMS TO BE REMOVED OR DEMOLISHED
- (B) EXISTING METAL DOOR WITH FULL LOUVERS (6'-9" W. x 7'-9" H.) TO BE REMOVED.
- (C) EXISTING METAL DOOR WITH FULL LOUVERS (7'-7" W. x 7'-9" H.) TO BE REMOVED.
- (D) EXISTING FULL LOUVERS PANEL TO BE REMOVED. (9'-0" W. x 7'-4" H.)



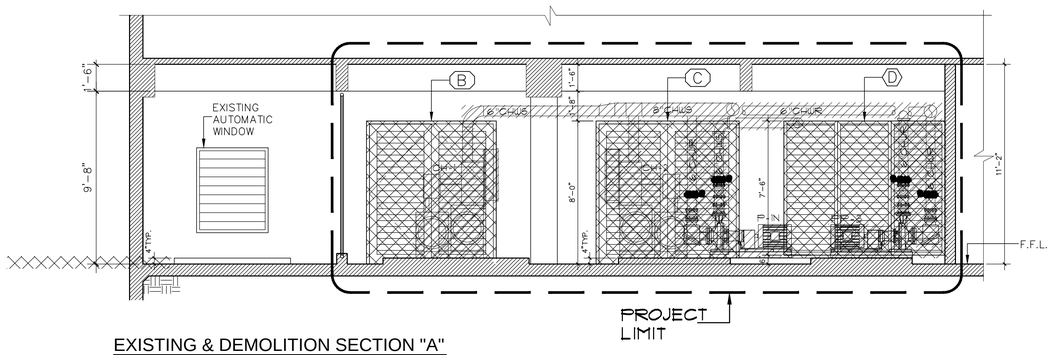
EXISTING & DEMOLITION EXTERIOR ELEVATION (NORTH)
MAIN MECHANICAL ROOM (BASEMENT LEVEL)

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



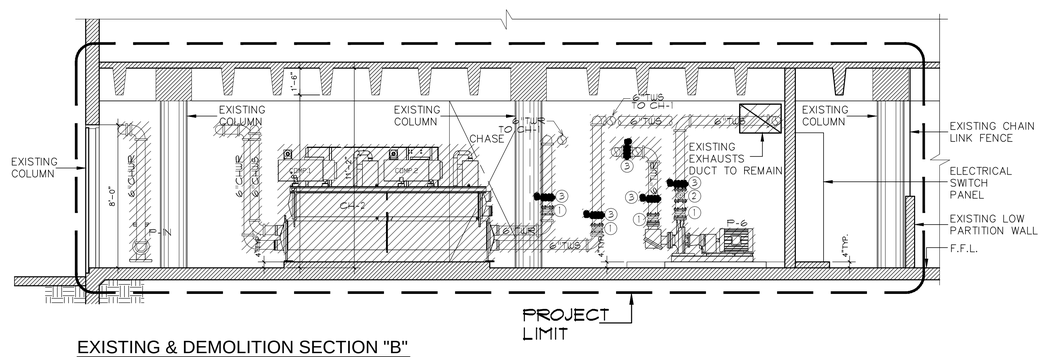
EXISTING & DEMOLITION DOOR DETAIL

NOT SCALE



EXISTING & DEMOLITION SECTION "A"
MAIN MECHANICAL ROOM (BASEMENT LEVEL)

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



EXISTING & DEMOLITION SECTION "B"
MAIN MECHANICAL ROOM (BASEMENT LEVEL)

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

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CLIENT

PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT

PHASE I & II: IMPROVEMENTS TO MAIN HVAC SYSTEM (CHILLERS, COOLING TOWERS & AIR-COOLED CHILLER) AT PRIDCO HEADQUARTERS, SAN JUAN, PR

CONSULTANT SEAL

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SHEET TITLE

EXISTING & DEMOLITION
ELEVATIONS & SECTIONS
MAIN MECHANICAL ROOM (BASEMENT LEVEL)

DATE	2024–11–4
DRAWN BY	DBDH
REVISED BY	CRRF
DWG FILE NAME	AS–BUILT
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.

09/67 ED-1.4

DRAWING NO.

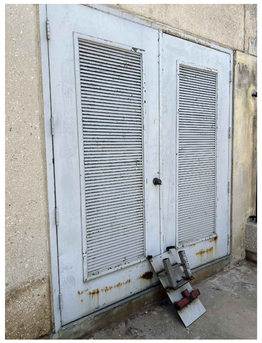

PHOTO NO. "1"



PHOTO NO. "2"



PHOTO NO. "3"



PHOTO NO. "4"



PHOTO NO. "5"



PHOTO NO. "6"

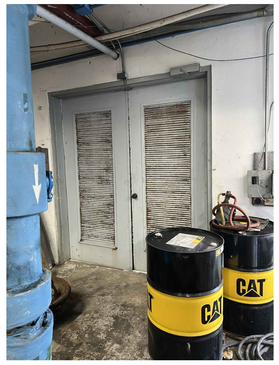

PHOTO NO. "7"

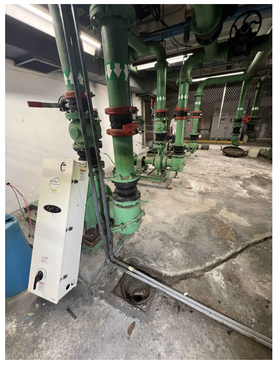

PHOTO NO. "8"



PHOTO NO. "9"

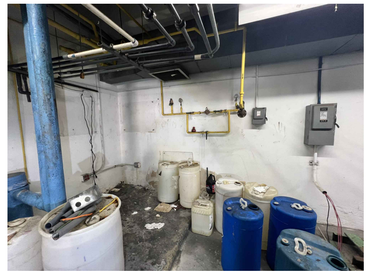

PHOTO NO. "10"



PHOTO NO. "11"



PHOTO NO. "12"



PHOTO NO. "13"



PHOTO NO. "14"



PHOTO NO. "15"

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CLIENT

PRIDCO HEADQUARTERS
PROJECT: S-1340-0-82-00

PROJECT

PHASE I & II: IMPROVEMENTS TO MAIN HVAC SYSTEM (CHILLERS, COOLING TOWERS & AIR-COOLED CHILLER) AT PRIDCO HEADQUARTERS, SAN JUAN, PR

CONSULTANT SEAL

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YO, EDGAR MORELL RIVERA, 16176, CERTIFICO QUE SOY EL PROFESIONAL QUE DISEÑÓ ESTOS PLANOS Y LAS ESPECIFICACIONES COMPLEMENTARIAS. TAMBIÉN, CERTIFICO QUE ENTIENDO QUE DICHOS PLANOS Y ESPECIFICACIONES CUMPLEN CON LAS DISPOSICIONES APLICABLES DEL REGLAMENTO CONJUNTO Y LAS DISPOSICIONES APLICABLES DE LOS REGLAMENTOS Y CÓDIGOS DE CONSTRUCCIÓN VIGENTES DE LAS AGENCIAS, JUNTAS REGLAMENTADORAS O CORPORACIONES PÚBLICAS CON JURIDICCIÓN. CERTIFICO, ADEMÁS, QUE EN LA PREPARACIÓN DE ESTOS PLANOS Y ESPECIFICACIONES SE HA CUMPLIDO CABALMENTE CON LO DISPUESTO EN LA LEY NUM. 14 DE 8 DE ENERO DE 2004, SEGÚN ENMENDADA, CONOCIDA COMO LA "LEY PARA LA INVERSIÓN POR LA INDUSTRIA PUERTORRIQUEÑA" Y CON LA LEY NUM. 96 DE 6 DE JULIO DE 1978, SEGÚN ENMENDADA. RECONOZCO QUE CUALQUIER DECLARACIÓN FALSA O FALSIFICACIÓN DE LOS HECHOS QUE SE HAYA PRODUCIDO POR DESCONOCIMIENTO O POR NEGLIGENCIA YA SEA POR MÍ, MIS AGENTES O EMPLEADOS, O POR OTRAS PERSONAS CON MÍ CONOCIMIENTO, ME HACEN RESPONSABLES DE CUALQUIER ACCIÓN JUDICIAL Y DISCIPLINARIA POR LA OGPE.

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SHEET TITLE

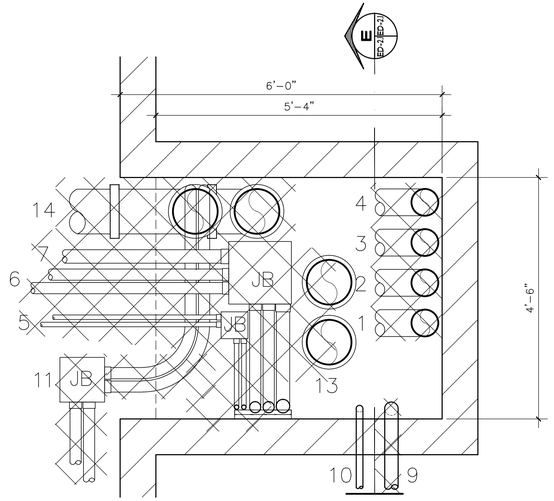
EXISTING & DEMOLITION
PHOTOGRAPHIC DOCUMENTATION
MAIN MECHANICAL ROOM (BASEMENT LEVEL)

DATE	2024–11–4
DRAWN BY	DBDH
REVISED BY	CRRF
DWG FILE NAME	AS–BUILT
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.

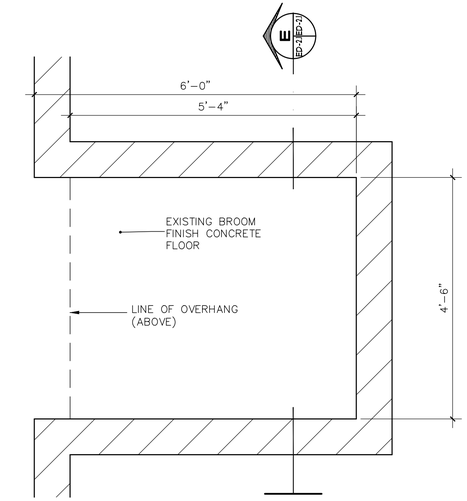
10/67 ED-1.5

DRAWING NO.



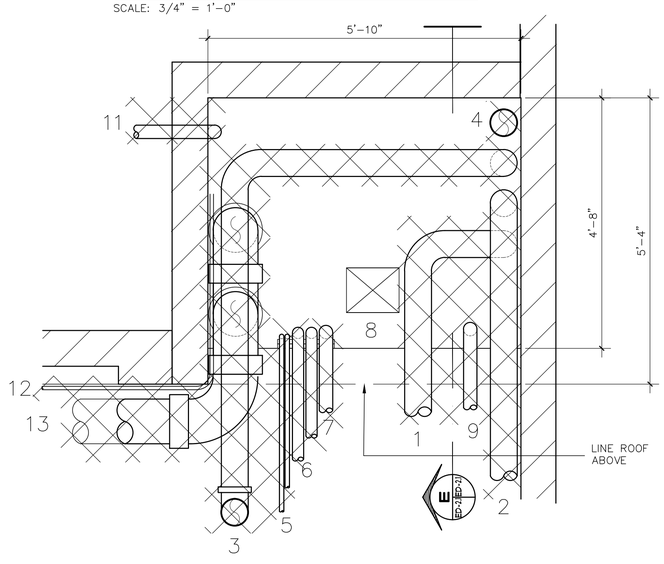
EXISTING & DEMOLITION FLOOR PLAN (6'-0" FROM FFL)
MECHANICAL CHASE (BASEMENT LEVEL)

SCALE: 3/4" = 1'-0"



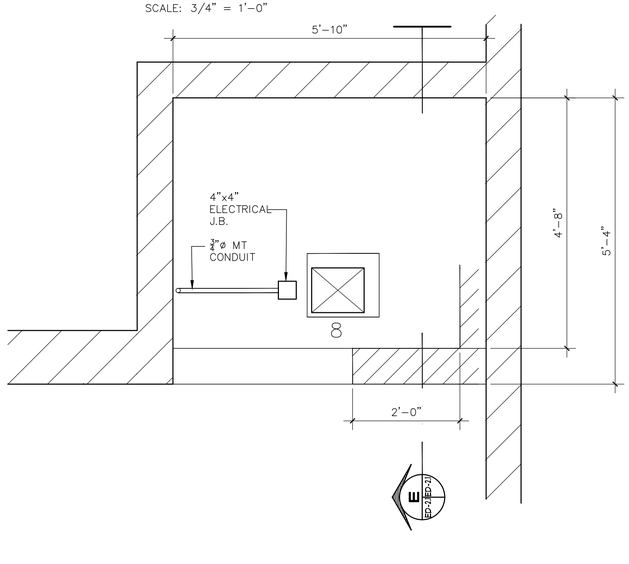
EXISTING & DEMOLITION FLOOR PLAN
MECHANICAL CHASE (BASEMENT LEVEL)

SCALE: 3/4" = 1'-0"



EXISTING & DEMOLITION FLOOR PLAN (6'-0" FROM FFL)
MECHANICAL CHASE (ROOF LEVEL)

SCALE: 3/4" = 1'-0"

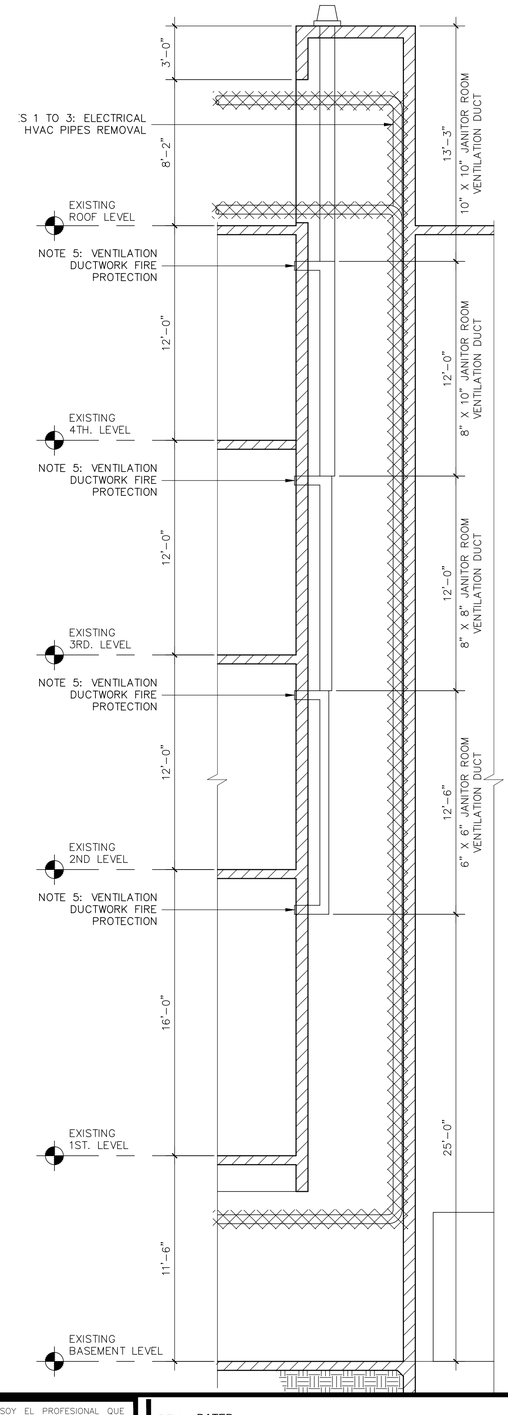


EXISTING & DEMOLITION CEILING PLAN (8'-0" FROM FFL)
MECHANICAL CHASE (ROOF LEVEL)

SCALE: 3/4" = 1'-0"

KEY FOR ELECTRICAL & HVAC EQUIPMENT

1. 6" PIPE TWS UP TO ROOF TO BE REMOVED.
2. 6" PIPE TWS UP TO ROOF TO BE REMOVED.
3. 6" PIPE WR UP TO ROOF TO BE REMOVED.
4. 6" PIPE WR UP TO ROOF TO BE REMOVED.
5. PV SYSTEM: 2 – ¾" EMT CONDUITS UP TO ROOF TO BE REMOVED.
6. PV SYSTEM: 2 – 2½" EMT CONDUITS UP TO ROOF TO BE REMOVED.
7. PV SYSTEM: 1 – 3" EMT CONDUITS UP TO ROOF TO BE REMOVED.
8. 10" X 10" JANITOR ROOM VENTILATION DUCT TO REMAIN (SEE NOTE NO 5).
9. 2" MAKEUP WATER TO COOLING TOWER TO BE REMOVED.
10. 1" WATER RISER UP TO JANITOR ROOMS TO REMAIN.
11. AIRCOOL SYSTEM: 2 – 2" EMT CONDUITS UP TO ROOF TO BE REMOVED.
12. ¾" EMT CONDUITS UP TO ROOF TO BE REMOVED.
13. AIRCOOL SYSTEM: 2 – 8" PIPES UP TO ROOF TO BE REMOVED.
14. WATERCOOL SYSTEM: 2 – 8" CHWS/CHWR UP TO ROOF TO BE REMOVED.



DEMOLITION LEGEND:

DENOTES ITEMS TO BE REMOVED OR DEMOLISHED

EXISTING CONC. WALL TO REMAIN

NOTES:

NOTE 1: REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR PHASE DEMOLITION OF HVAC EQUIPMENT, COLD WATER PIPES, PIPES SUPPORTS, ELECTRICAL EQUIPMENT AND CONDUITS.

NOTE 2: REFER DWG LN–1 FOR GENERAL DEMOLITION NOTES

NOTE 3: REMOVAL OF HVAC EQUIPMENT INCLUDES COLD WATER PIPES, PIPES SUPPORTS, AND RELATED ELECTRICAL EQUIPMENT AND CONDUITS.

NOTE 4: COORDINATE WITH OWNER BUILDING ELECTRICIAN FOR PARTIAL REMOVAL OF PHOTOVOLTAIC SYSTEM ELECTRICAL (INCLUDING BUT NOT LIMITED TO JOINTING BOXES, CONDUITS AND SUPPORTS AT BASEMENT) AT BASEMENT, CHASE AND ROOF. ELEMENTS WITH SALVAGE VALUE SHALL BE STORED AND DELIVERED TO OWNER.

NOTE 5: VENTILATION DUCTWORK FIRE PROTECTION IMPROVEMENTS: EXISTING VENTILATION DUCTS AND GRILL SHALL BE REMOVED FROM JANITOR ROOM AND EACH SHAFT OPENING PROTECTED WITH A FIRE DAMPER, AFTER DUCT AND GRILL REINSTALLATION, RESEAL PERIMETER WITH SUITABLE FIRE–STOP SEALANT. RE–BALANCE EXISTING REGISTER TO 100 CFM. REFER TO MECHANICAL DRAWINGS FOR FIRE DAMPERS SPECIFICATIONS.

NOTE 6: EXISTING ROOF HAVE A SILICONE COATING WATERPROOFING SYSTEM, SILICONE MAKE SURFACES VERY SLIPPERY. WE HIGHLY RECOMMEND FOLLOW OSHA SAFETY BEST PRACTICES DURING DEMOLITION AND CONSTRUCTION WORKS AT ROOF.



EXISTING & DEMOLITION SECTION
MECHANICAL CHASE
(BASEMENT TO ROOF LEVEL)

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

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Architects & Consultants, PSC.

CLIENT

PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT

PHASE I & II: IMPROVEMENTS TO MAIN HVAC SYSTEM (CHILLERS, COOLING TOWERS & AIR-COOLED CHILLER) AT PRIDCO HEADQUARTERS, SAN JUAN, PR

CONSULTANT SEAL

YO, EDGAR MORELL RIVERA, 16176, CERTIFICO QUE SOY EL PROFESIONAL QUE DISEÑÓ ESTOS PLANOS Y LAS ESPECIFICACIONES COMPLEMENTARIAS. TAMBIÉN, CERTIFICO QUE ENTIENDO QUE DICHOS PLANOS Y ESPECIFICACIONES CUMPLEN CON LAS DISPOSICIONES APLICABLES DEL REGLAMENTO CONJUNTO Y LAS DISPOSICIONES APLICABLES DE LOS REGLAMENTOS Y CÓDIGOS DE CONSTRUCCIÓN VIGENTES DE LAS AGENCIAS, JUNTAS REGLAMENTADORAS O CORPORACIONES PÚBLICAS CON JURIDICCIÓN. CERTIFICO, ADEMÁS, QUE EN LA PREPARACIÓN DE ESTOS PLANOS Y ESPECIFICACIONES SE HA CUMPLIDO CABALMENTE CON LO DISPUESTO EN LA LEY NUM. 14 DE 8 DE ENERO DE 2004, SEGÚN ENMENDADA, CONOCIDA COMO LA "LEY PARA LA INVERSIÓN POR LA INDUSTRIA PUERTORRIQUEÑA" Y CON LA LEY NUM. 96 DE 6 DE JULIO DE 1978, SEGÚN ENMENDADA. RECONOZCO QUE CUALQUIER DECLARACIÓN FALSA O FALSIFICACIÓN DE LOS HECHOS QUE SE HAYA PRODUCIDO POR DESCONOCIMIENTO O POR NEGLIGENCIA YA SEA POR MÍ, MIS AGENTES O EMPLEADOS, O POR OTRAS PERSONAS CON MÍ CONOCIMIENTO, ME HACEN RESPONSABLES DE CUALQUIER ACCIÓN JUDICIAL Y DISCIPLINARIA POR LA OGPE.

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SHEET TITLE

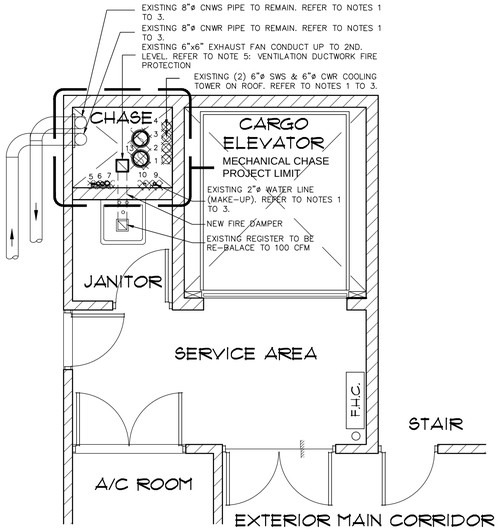
EXISTING & DEMOLITION
FLOOR PLANS AND SECTIONS
MECHANICAL CHASE

DATE	2024–11–4
DRAWN BY	DBDH
REVISED BY	CRRF
DWG FILE NAME	AS–BUILT
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

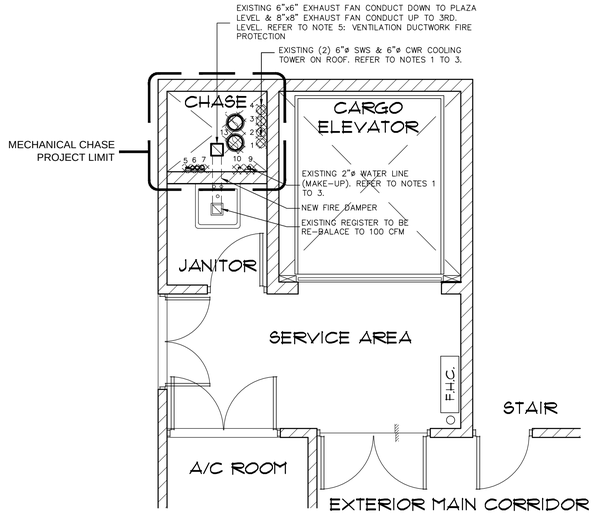
SHEET NO.

11/67 ED-2.1

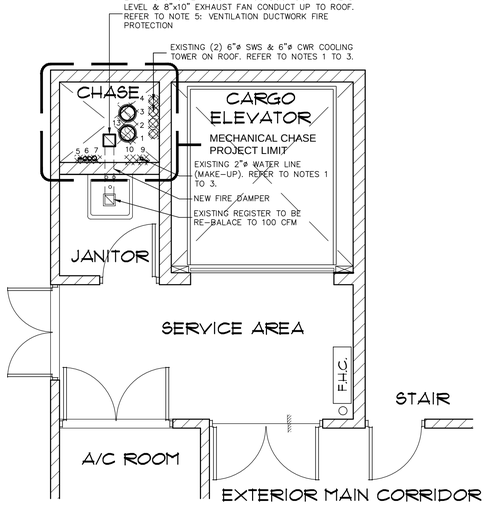
DRAWING NO.



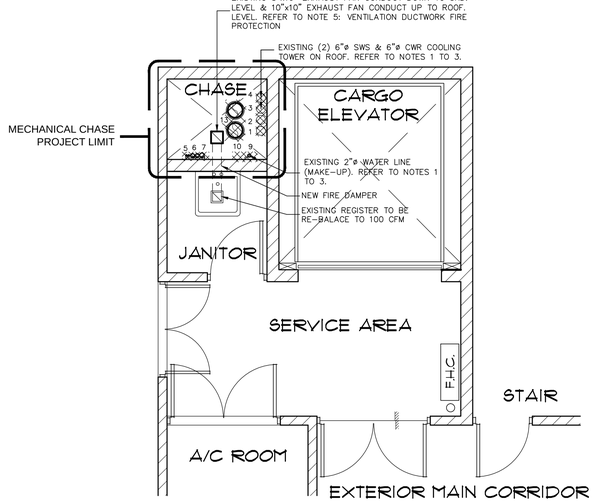
EXISTING & DEMOLITION PARTIAL 1ST. (PLAZA) FLOOR PLAN
MECHANICAL CHASE (ROOF LEVEL)
SCALE: 1/4" = 1'-0"



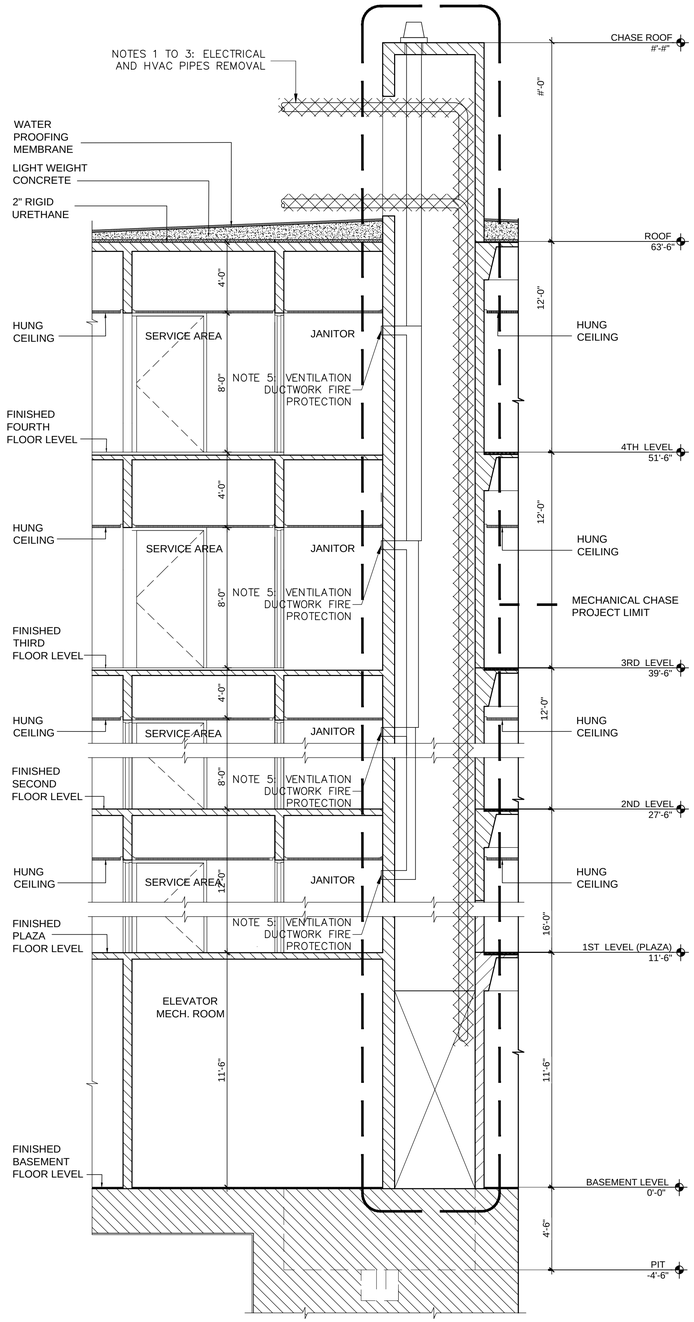
EXISTING & DEMOLITION PARTIAL 2ND. FLOOR PLAN
MECHANICAL CHASE (ROOF LEVEL)
SCALE: 1/4" = 1'-0"



EXISTING & DEMOLITION PARTIAL 3RD. FLOOR PLAN
MECHANICAL CHASE (ROOF LEVEL)
SCALE: 1/4" = 1'-0"



EXISTING & DEMOLITION PARTIAL 4TH. FLOOR PLAN
MECHANICAL CHASE (ROOF LEVEL)
SCALE: 1/4" = 1'-0"



DEMOLITION LEGEND:

DENOTES ITEMS TO BE REMOVED OR DEMOLISHED

EXISTING CONC. WALL TO REMAIN

NOTE 1: REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR PHASE DEMOLITION OF HVAC EQUIPMENT, COLD WATER PIPES, PIPES SUPPORTS, ELECTRICAL EQUIPMENT AND CONDUITS.

NOTE 2: REFER DWG KEY 1, LN-1 & LN-2 FOR GENERAL CONSTRUCTION NOTES

NOTE 3: REMOVAL OF HVAC EQUIPMENT INCLUDES COLD WATER PIPES, PIPES SUPPORTS, AND RELATED ELECTRICAL EQUIPMENT AND CONDUITS.

NOTE 4: COORDINATE WITH OWNER BUILDING ELECTRICIAN FOR PARTIAL REMOVAL OF PHOTOVOLTAIC SYSTEM ELECTRICAL (INCLUDING BUT NOT LIMITED TO JOINTING BOXES, CONDUITS AND SUPPORTS AT BASEMENT) AT BASEMENT, CHASE AND ROOF. ELEMENTS WITH SALVAGE VALUE SHALL BE STORED AND DELIVERED TO OWNER.

NOTE 5: VENTILATION DUCTWORK FIRE PROTECTION IMPROVEMENTS: EXISTING VENTILATION DUCTS AND GRILL SHALL BE REMOVED FROM JANITOR ROOM AND EACH SHAFT OPENING PROTECTED WITH A FIRE DAMPER, AFTER DUCT AND GRILL REINSTALLATION, RESEAL PERIMETER WITH SUITABLE FIRE-STOP SEALANT. RE-BALANCE EXISTING REGISTER TO 100 CFM. REFER TO MECHANICAL DRAWINGS FOR FIRE DAMPERS SPECIFICATIONS.

NOTE 6: CHILLED WATER LINES PIPES AND SUPPORTS SERVING AIR HANDLE UNITS (AHU) TO REMAIN, CONNECT TO NEW HVAC SYSTEMS AS DIRECTED ON MECHANICAL DWGS.

KEY FOR ELECTRICAL & HVAC EQUIPMENT

1. 6" PIPE TWS UP TO ROOF TO BE REMOVED.
2. 6" PIPE TWS UP TO ROOF TO BE REMOVED.
3. 6" PIPE WR UP TO ROOF TO BE REMOVED.
4. 6" PIPE WR UP TO ROOF TO BE REMOVED.
5. PV SYSTEM: 2 – 3" EMT CONDUITS UP TO ROOF TO BE REMOVED.
6. PV SYSTEM: 2 – 2½" EMT CONDUITS UP TO ROOF TO BE REMOVED.
7. PV SYSTEM: 1 – 3" EMT CONDUITS UP TO ROOF TO BE REMOVED.
8. 10" X 10" JANITOR ROOM VENTILATION DUCT TO REMAIN (SEE NOTE NO 5).
9. 2" MAKEUP WATER TO COOLING TOWER TO BE REMOVED.
10. 1" WATER RISER UP TO JANITOR ROOMS TO REMAIN.
11. 2 – 2" EMT CONDUITS UP TO ROOF TO BE REMOVED.
12. ¾" EMT CONDUITS UP TO ROOF TO BE REMOVED.
13. AIRCOOL SYSTEM: 2 – 8" PIPES UP TO ROOF TO BE REMOVED.
14. WATERCOOL SYSTEM: 2 – 8" CHWS/CHWR UP TO ROOF TO BE REMOVED.

F
ED-2.2 ED-2.2

EXISTING & DEMOLITION SECTION
MECHANICAL CHASE
(BASEMENT TO ROOF LEVEL)
SCALE: 1/4" = 1'-0"

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CLIENT
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PROJECT
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CONSULTANT SEAL

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SHEET TITLE
EXISTING & DEMOLITION
FLOOR PLANS AND SECTIONS
MECHANICAL CHASE

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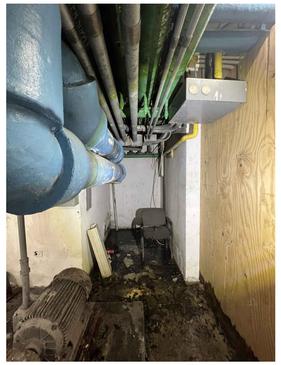
REVISED BY	CRRF
DWG FILE NAME	AS-BUILT
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.
12/67 ED-2.2
DRAWING NO.



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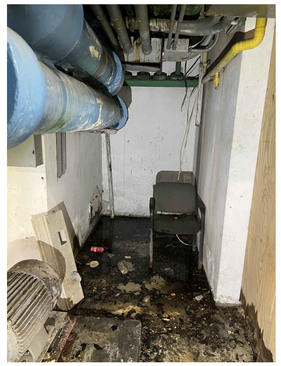

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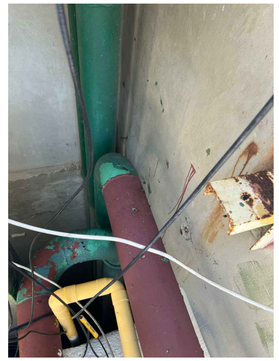
PHOTO NO. "3"



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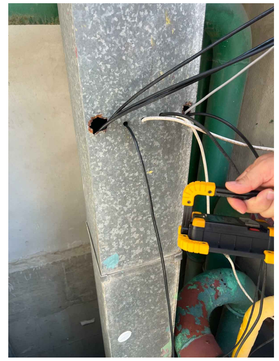

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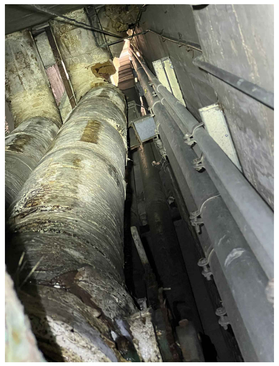

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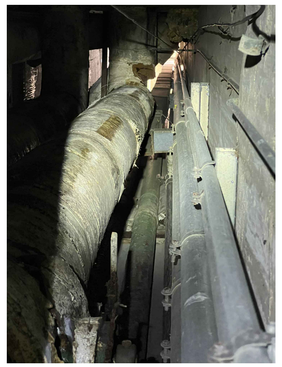

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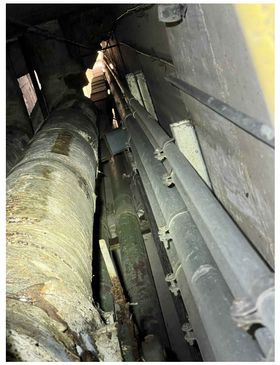

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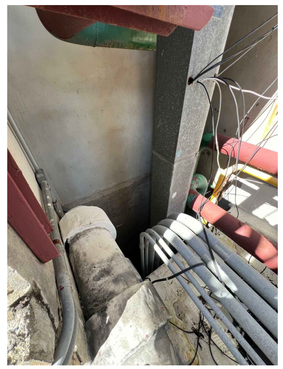

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PHOTO NO. "10"

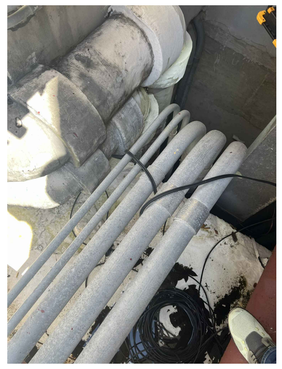

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PHOTO NO. "12"

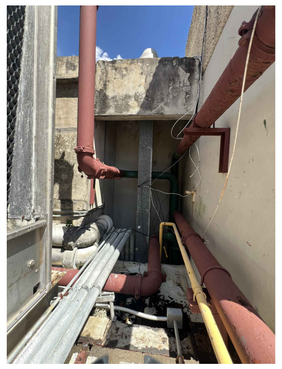

PHOTO NO. "13"

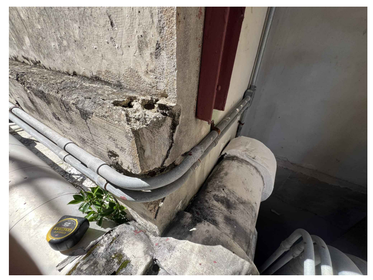

PHOTO NO. "14"



PHOTO NO. "15"

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SHEET TITLE

EXISTING & DEMOLITION PHOTOGRAPHIC DOCUMENTATION MECHANICAL CHASE

DATE	2024–11–4
DRAWN BY	DBDH
REVISED BY	CRRF
DWG FILE NAME	AS–BUILT
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.

13/67

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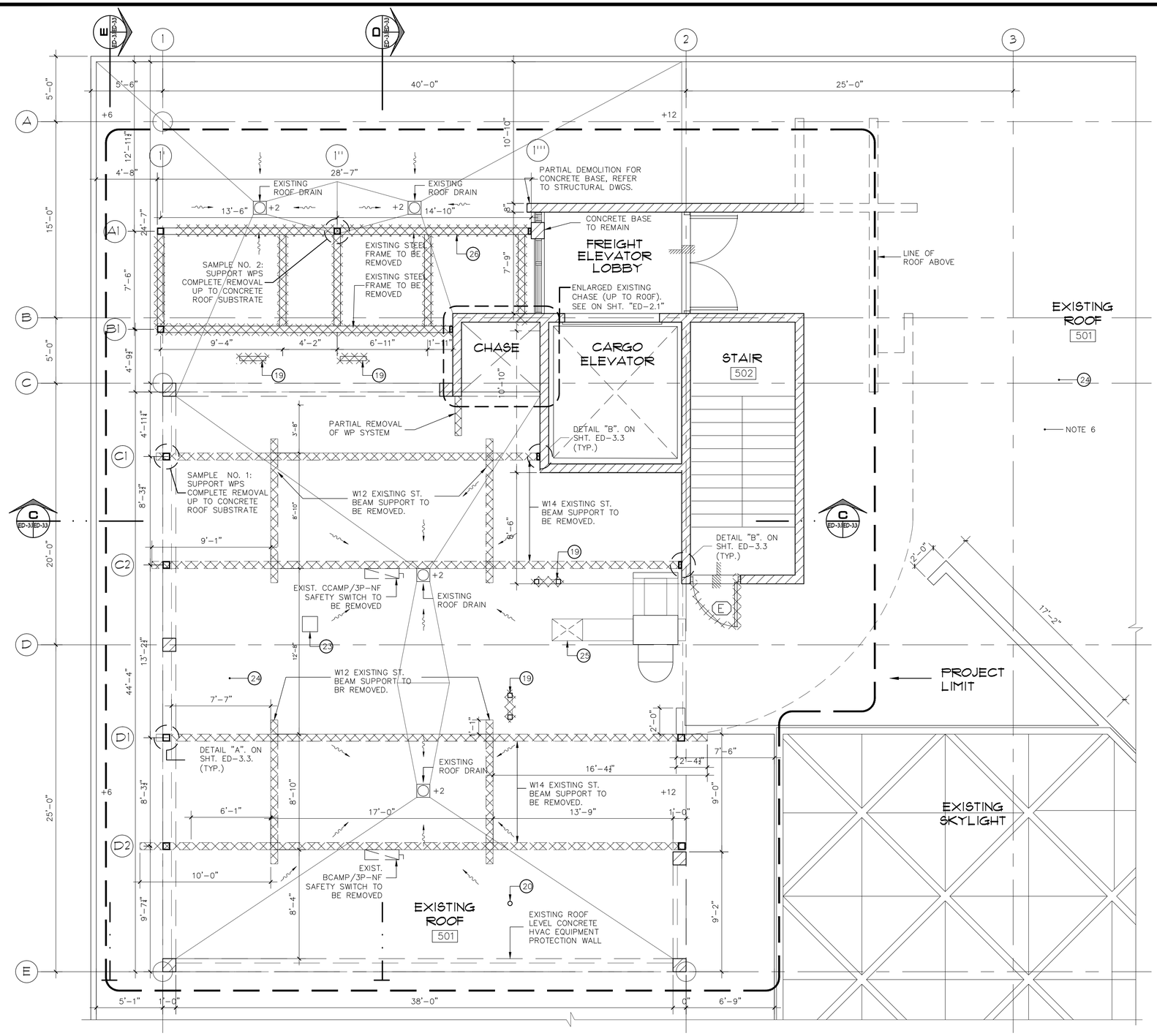
DRAWING NO.



DEMOLITION LEGEND:

- EXISTING CONC. WALL TO REMAIN
- EXISTING DOOR & FRAME TO BE REMOVED
- (RD) EXISTING ROOF DRAIN LOCATION
- (E) EXISTING METAL DOOR AND FRAME (3'–10" W. x 7'–9" H.) TO BE REMOVED
- DENOTES ITEMS TO BE REMOVED OR DEMOLISHED

NOTES:

NOTE 1: REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR PHASE DEMOLITION OF HVAC EQUIPMENT, COLD WATER PIPES, PIPES SUPPORTS, ELECTRICAL EQUIPMENT AND CONDUITS.

NOTE 2: REFER DWG LN–1 FOR GENERAL DEMOLITION NOTES

NOTE 3: REMOVAL OF HVAC EQUIPMENT INCLUDES COLD WATER PIPES, PIPES SUPPORTS, AND RELATED ELECTRICAL EQUIPMENT AND CONDUITS.

NOTE 4: COORDINATE WITH OWNER BUILDING ELECTRICIAN FOR PARTIAL REMOVAL OF PHOTOVOLTAIC SYSTEM ELECTRICAL (INCLUDING BUT NOT LIMITED TO JOINTING BOXES, CONDUITS AND SUPPORTS AT BASEMENT) AT BASEMENT, CHASE AND ROOF. ELEMENTS WITH SALVAGE VALUE SHALL BE STORED AND DELIVERED TO OWNER.

NOTE 5: VENTILATION DUCTWORK FIRE PROTECTION IMPROVEMENTS: EXISTING VENTILATION DUCTS AND GRILL SHALL BE REMOVED FROM JANITOR ROOM AND EACH SHAFT OPENING PROTECTED WITH A FIRE DAMPER, AFTER DUCT AND GRILL REINSTALLATION, RESEAL PERIMETER WITH SUITABLE FIRE–STOP SEALANT. RE–BALANCE EXISTING REGISTER TO 100 CFM. REFER TO MECHANICAL DRAWINGS FOR FIRE DAMPERS SPECIFICATIONS.

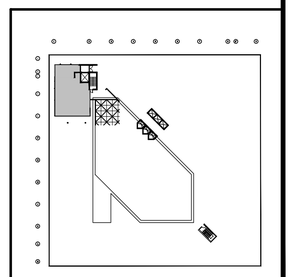
NOTE 6: EXISTING ROOF HAVE A SILICONE COATING OVER URETHANE WATERPROOFING SYSTEM. SILICONE MAKE SURFACES VERY SLIPPERY. WE HIGHLY RECOMMEND FOLLOW OSHA SAFETY BEST PRACTICES DURING DEMOLITION AND CONSTRUCTION WORKS.

KEY FOR ELECTRICAL & HVAC EQUIPMENT

1. 6" PIPE TWS UP TO ROOF TO BE REMOVED.
2. 6" PIPE TWS UP TO ROOF TO BE REMOVED.
3. 6" PIPE WR UP TO ROOF TO BE REMOVED.
4. 6" PIPE WR UP TO ROOF TO BE REMOVED.
5. PV SYSTEM: 2 – ¾" EMT CONDUITS UP TO ROOF TO BE REMOVED.
6. PV SYSTEM: 2 – 3" EMT CONDUITS UP TO ROOF TO BE REMOVED.
7. PV SYSTEM: 1 – 2" EMT CONDUITS UP TO ROOF TO BE REMOVED.
8. 10" X 10" JANITOR ROOM VENTILATION DUCT TO REMAIN.
9. 2" MAKEUP WATER TO COOLING TOWER TO BE REMOVED.
10. 1" WATER RISER UP TO JANITOR ROOMS TO REMAIN.
11. 2 – 2" EMT CONDUITS UP TO ROOF TO BE REMOVED.
12. ¾" EMT CONDUITS UP TO ROOF TO BE REMOVED.
13. AIRCOOL SYSTEM: 2 – 8" PIPES UP TO ROOF TO BE REMOVED.
14. WATERCOOL SYSTEM: 2 – 8" CHWS/CHWR UP TO ROOF TO BE REMOVED.
15. WP–GFIC POWER OUTLET 120V TO BE REMOVED.
16. COOLING TOWER NO 2 TO BE REMOVED.
17. COOLING TOWER NO 1 TO BE REMOVED.
18. WP ELECTRICAL SWITCH BOX TO BE REMOVED.
19. 4X4 STEEL TUBE PIPING SUPPORT TO BE REMOVED.
20. PVC VENT PIPE TO REMAIN.
21. W12 EXISTING ST. BEAM SUPPORT TO BE REMOVED.
22. W14 EXISTING ST. BEAM SUPPORT TO BE REMOVED.
23. EXHAUST FAN VENT TO REMAIN.
24. WATERPROOFING MEMBRANE, LIGHT WEIGHT CONCRETE & 2" URETHANE PANEL TO REMAIN. REFER TO DWG LN–2
25. SUPPLY FAN TO REMAIN.
26. AIRCOOL SYSTEM:EXISTING STEEL FRAME TO BE REMOVED

EXISTING & DEMOLITION ROOF PLAN (3'-0" FROM E.R.L.) MAIN MECHANICAL ROOF AREA

SCALE: 1/4" = 1'–0"



KEY PLAN: ROOF

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SHEET TITLE

EXISTING & DEMOLITION ROOF PLAN (3'-0" FROM F.R.L.) MECHANICAL ROOF AREA

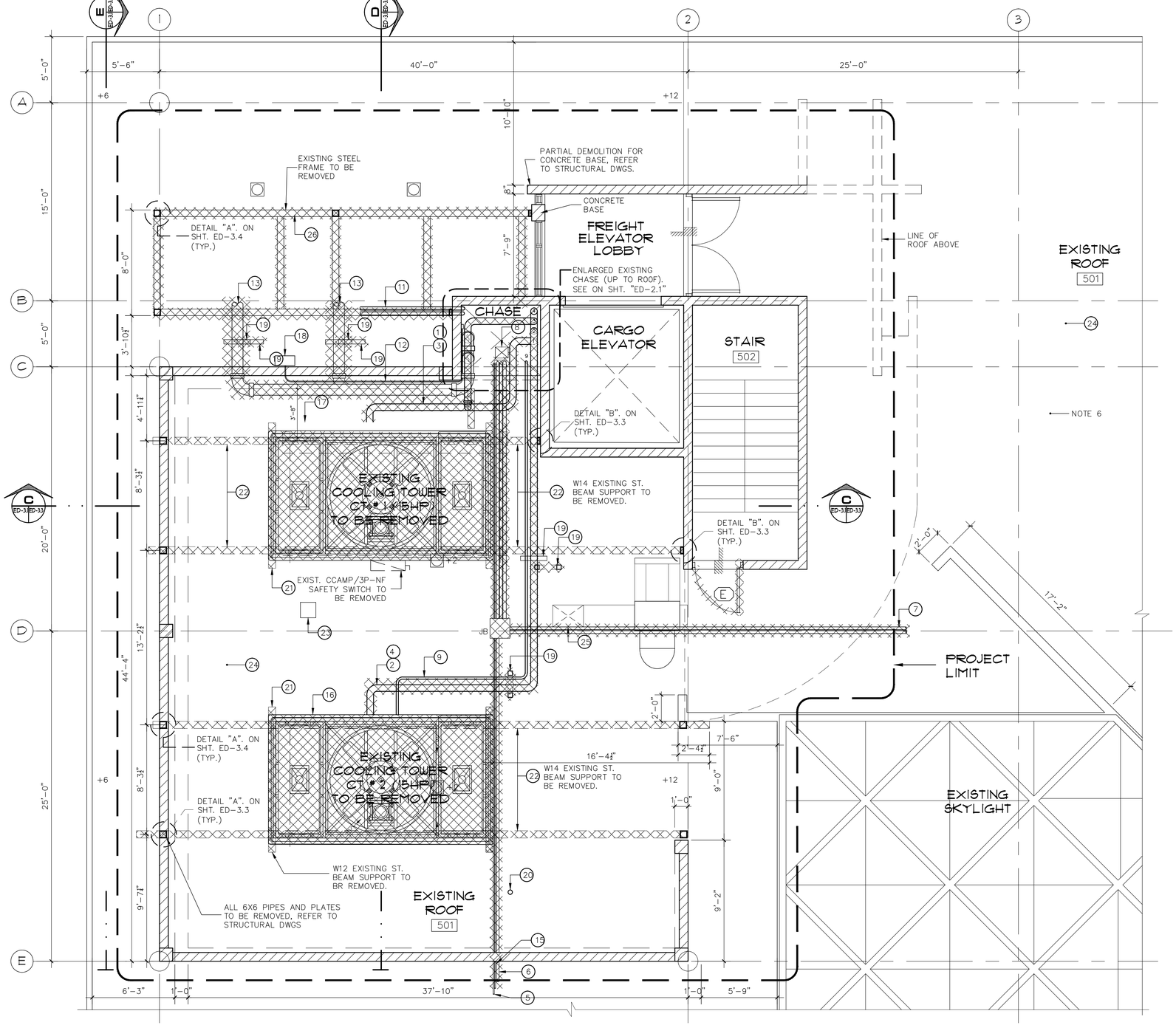
DATE	2024–11–4
DRAWN BY	DBDH
REVISED BY	CRRF
DWG FILE NAME	AS–BUILT
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.

14/67

ED-3.1

DRAWING NO.



DEMOLITION LEGEND:

DENOTES ITEMS TO BE REMOVED OR DEMOLISHED

EXISTING CONC. WALL TO REMAIN

NOTES:

NOTE 1: REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR PHASE DEMOLITION OF HVAC EQUIPMENT, COLD WATER PIPES, PIPES SUPPORTS, ELECTRICAL EQUIPMENT AND CONDUITS.

NOTE 2: REFER DWG LN-1 FOR GENERAL DEMOLITION NOTES

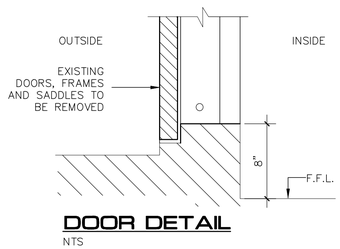
NOTE 3: REMOVAL OF HVAC EQUIPMENT INCLUDES COLD WATER PIPES, PIPES SUPPORTS, AND RELATED ELECTRICAL EQUIPMENT AND CONDUITS.

NOTE 4: COORDINATE WITH OWNER BUILDING ELECTRICIAN FOR PARTIAL REMOVAL OF PHOTOVOLTAIC SYSTEM ELECTRICAL JOINTING BOXES, CONDUITS AND SUPPORTS AT BASEMENT, CHASE AND ROOF. ELEMENTS WITH SALVAGE VALUE SHALL BE STORED AND DELIVERED TO OWNER.

NOTE 5: VENTILATION DUCTWORK FIRE PROTECTION IMPROVEMENTS: EXISTING VENTILATION DUCTS AND GRILL SHALL BE REMOVED FROM JANITOR ROOM AND EACH SHAFT OPENING PROTECTED WITH A FIRE DAMPER, AFTER DUCT AND GRILL REINSTALLATION, RESEAL PERIMETER WITH SUITABLE FIRE-STOP SEALANT. RE-BALANCE EXISTING REGISTER TO 100 CFM. REFER TO MECHANICAL DRAWINGS FOR FIRE DAMPERS SPECIFICATIONS.

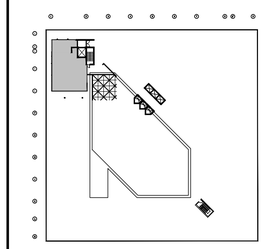
KEY FOR ELECTRICAL & HVAC EQUIPMENT

1. 6" PIPE TWS UP TO ROOF TO BE REMOVED.
2. 6" PIPE TWS UP TO ROOF TO BE REMOVED.
3. 6" PIPE WR UP TO ROOF TO BE REMOVED.
4. 6" PIPE WR UP TO ROOF TO BE REMOVED.
5. PV SYSTEM: 2 – ¾" EMT CONDUITS UP TO ROOF TO BE REMOVED.
6. PV SYSTEM: 2 – 3" EMT CONDUITS UP TO ROOF TO BE REMOVED.
7. PV SYSTEM: 1 – 2" EMT CONDUITS UP TO ROOF TO BE REMOVED.
8. 10" X 10" JANITOR ROOM VENTILATION DUCT TO REMAIN.
9. 2" MAKEUP WATER TO COOLING TOWER TO BE REMOVED.
10. 1" WATER RISER UP TO JANITOR ROOMS TO REMAIN.
11. AIRCOOL SYSTEM: 2 – 2" EMT CONDUITS UP TO ROOF TO BE REMOVED.
12. ¾" EMT CONDUITS UP TO ROOF TO BE REMOVED.
13. AIRCOOL SYSTEM: 2 – 8" PIPES UP TO ROOF TO BE REMOVED.
14. WATERCOOL SYSTEM: 2 – 8" CHWS/CHWR UP TO ROOF TO BE REMOVED.
15. WP-GFIC POWER OUTLET 120V TO BE REMOVED.
16. COOLING TOWER NO 2 TO BE REMOVED.
17. COOLING TOWER NO 1 TO BE REMOVED.
18. WP ELECTRICAL SWITCH BOX TO BE REMOVED.
19. 4X4 STEEL TUBE PIPING SUPPORT TO BE REMOVED.
20. PVC VENT PIPE TO REMAIN.
21. W12 EXISTING ST. BEAM SUPPORT TO BE REMOVED.
22. W14 EXISTING ST. BEAM SUPPORT TO BE REMOVED.
23. EXHAUST FAN VENT TO REMAIN.
24. WATERPROOFING MEMBRANE, LIGHT WEIGHT CONCRETE & 2" URETHANE PANEL TO REMAIN. REFER TO DWG LN-2
25. SUPPLY FAN TO REMAIN.
26. AIRCOOL SYSTEM: EXISTING STEEL FRAME TO BE REMOVED



DOOR DETAIL
NTS

EXISTING & DEMOLITION ROOF PLAN
MAIN MECHANICAL PIPING & CONDUIT LAYOUT
SCALE: 1/4" = 1'-0"



KEY PLAN: ROOF

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Architects & Consultants, PSC.

CLIENT
PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT
PHASE I & II: IMPROVEMENTS TO MAIN HVAC SYSTEM (CHILLERS, COOLING TOWERS & AIR-COOLED CHILLER) AT PRIDCO HEADQUARTERS, SAN JUAN, PR

CONSULTANT SEAL

YO, EDGAR MORELL RIVERA, 16176, CERTIFICO QUE SOY EL PROFESIONAL QUE DISEÑÓ ESTOS PLANOS Y LAS ESPECIFICACIONES COMPLEMENTARIAS. TAMBIÉN, CERTIFICO QUE ENTIENDO QUE DICHOS PLANOS Y ESPECIFICACIONES CUMPLEN CON LAS DISPOSICIONES APLICABLES DEL REGLAMENTO CONJUNTO Y LAS DISPOSICIONES APLICABLES DE LOS REGLAMENTOS Y CÓDIGOS DE CONSTRUCCIÓN VIGENTES DE LAS AGENCIAS, JUNTAS REGLAMENTADORAS O CORPORACIONES PÚBLICAS CON JURIDICCIÓN. CERTIFICO, ADEMÁS, QUE EN LA PREPARACIÓN DE ESTOS PLANOS Y ESPECIFICACIONES SE HA CUMPLIDO CABALMENTE CON LO DISPUESTO EN LA LEY NUM. 14 DE 8 DE ENERO DE 2004, SEGÚN ENMENDADA, CONOCIDA COMO LA "LEY PARA LA INVERSIÓN POR LA INDUSTRIA PUERTORRIQUEÑA" Y CON LA LEY NUM. 96 DE 6 DE JULIO DE 1978, SEGÚN ENMENDADA. RECONOZCO QUE CUALQUIER DECLARACIÓN FALSA O FALSIFICACIÓN DE LOS HECHOS QUE SE HAYA PRODUCIDO POR DESCONOCIMIENTO O POR NEGLIGENCIA YA SEA POR MÍ, MIS AGENTES O EMPLEADOS, O POR OTRAS PERSONAS CON MÍ CONOCIMIENTO, ME HACEN RESPONSABLES DE CUALQUIER ACCIÓN JUDICIAL Y DISCIPLINARIA POR LA OGPE.

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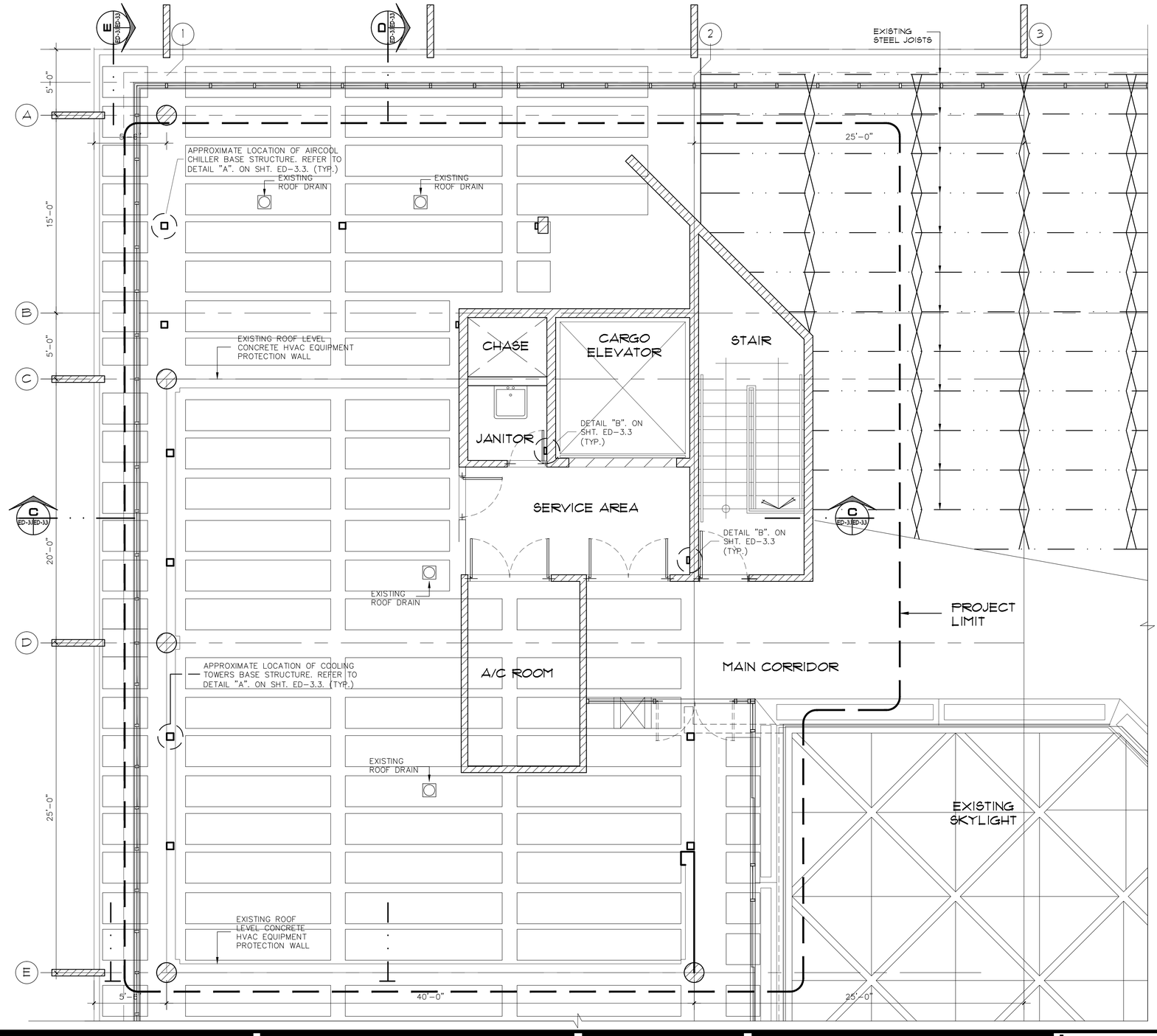
SHEET TITLE
EXISTING & DEMOLITION ROOF PLAN
MECHANICA PIPES & CONDUIT LAYOUT
(ROOF LEVEL)

DATE	2024-11-4
DRAWN BY	DBDH
REVISED BY	CRRF
DWG FILE NAME	AS-BUILT
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.
15/67
ED-3.2
DRAWING NO.



DEMOLITION LEGEND:

DENOTES ITEMS TO BE REMOVED OR DEMOLISHED

EXISTING CONC. WALL TO REMAIN

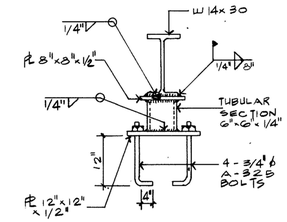
NOTE 1: REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR PHASE DEMOLITION OF HVAC EQUIPMENT, COLD WATER PIPES, PIPES SUPPORTS, ELECTRICAL EQUIPMENT AND CONDUITS.

NOTE 2: REFER DWG LN-1 FOR GENERAL DEMOLITION NOTES

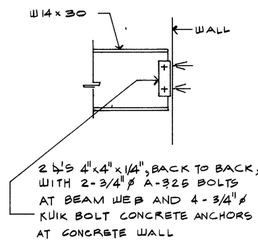
NOTE 3: REMOVAL OF HVAC EQUIPMENT INCLUDES COLD WATER PIPES, PIPES SUPPORTS, AND RELATED ELECTRICAL EQUIPMENT AND CONDUITS.

NOTE 4: COORDINATE WITH OWNER BUILDING ELECTRICIAN FOR PARTIAL REMOVAL OF PHOTOVOLTAIC SYSTEM ELECTRICAL JOINTING BOXES, CONDUITS AND SUPPORTS AT BASEMENT, CHASE AND ROOF. ELEMENTS WITH SALVAGE VALUE SHALL BE STORED AND DELIVERED TO OWNER.

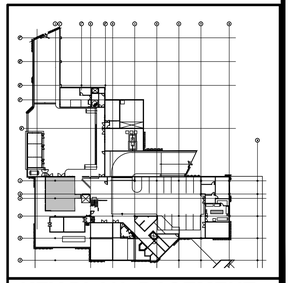
NOTE 5: VENTILATION DUCTWORK FIRE PROTECTION: EXISTING VENTILATION DUCTS SHALL BE REMOVED AND EACH SHAFT OPENING PROTECTED WITH TWO (2) 1.5-HOUR FIRE DAMPERS ARRANGED IN SERIES, EACH WITH FUSIBLE LINKS RATED TO MELT AT 125°. . AFTER DUCT REINSTALLATION RESEAL PERIMETER WITH SUITABLE FIRE=STOP SEALANT. REFER TO MECHANICAL DRAWINGS FOR FIRE DAMPERS SPECIFICATIONS.



DETAIL A



DETAIL B



KEY PLAN: BASEMENT

EXISTING & DEMOLITION CEILING PLAN
MAIN MECHANICAL AREA (ROOF LEVEL)
SCALE: 1/4" = 1'-0"

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CLIENT
PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT
PHASE I & II: IMPROVEMENTS TO MAIN HVAC SYSTEM (CHILLERS, COOLING TOWERS & AIR-COOLED CHILLER) AT PRIDCO HEADQUARTERS, SAN JUAN, PR

CONSULTANT SEAL

YO, EDGAR MORELL RIVERA, 16176, CERTIFICO QUE SOY EL PROFESIONAL QUE DISEÑÓ ESTOS PLANOS Y LAS ESPECIFICACIONES COMPLEMENTARIAS. TAMBIÉN, CERTIFICO QUE ENTIENDO QUE DICHOS PLANOS Y ESPECIFICACIONES CUMPLEN CON LAS DISPOSICIONES APLICABLES DEL REGLAMENTO CONJUNTO Y LAS DISPOSICIONES APLICABLES DE LOS REGLAMENTOS Y CÓDIGOS DE CONSTRUCCIÓN VIGENTES DE LAS AGENCIAS, JUNTAS REGLAMENTADORAS O CORPORACIONES PÚBLICAS CON JURIDICCIÓN. CERTIFICO, ADEMÁS, QUE EN LA PREPARACIÓN DE ESTOS PLANOS Y ESPECIFICACIONES SE HA CUMPLIDO CABALMENTE CON LO DISPUESTO EN LA LEY NUM. 14 DE 8 DE ENERO DE 2004, SEGÚN ENMENDADA, CONOCIDA COMO LA "LEY PARA LA INVERSIÓN POR LA INDUSTRIA PUERTORRIQUEÑA" Y CON LA LEY NUM. 96 DE 6 DE JULIO DE 1978, SEGÚN ENMENDADA. RECONOZCO QUE CUALQUIER DECLARACIÓN FALSA O FALSIFICACIÓN DE LOS HECHOS QUE SE HAYA PRODUCIDO POR DESCONOCIMIENTO O POR NEGLIGENCIA YA SEA POR MÍ, MIS AGENTES O EMPLEADOS, O POR OTRAS PERSONAS CON MÍ CONOCIMIENTO, ME HACEN RESPONSABLES DE CUALQUIER ACCIÓN JUDICIAL Y DISCIPLINARIA POR LA OGPE.

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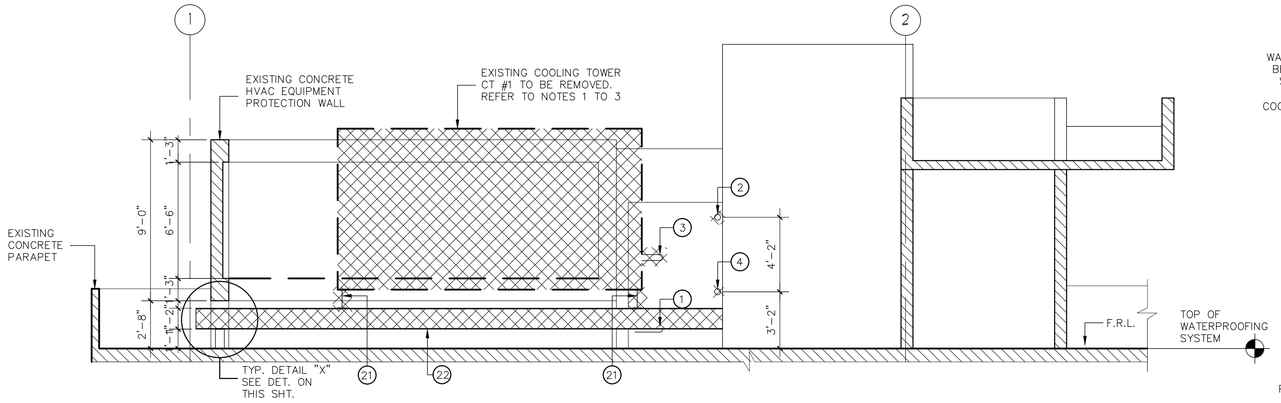
SHEET TITLE
EXISTING & DEMOLITION CEILING PLAN
MAIN MECHANICAL ROOF AREA
ROOF LEVEL

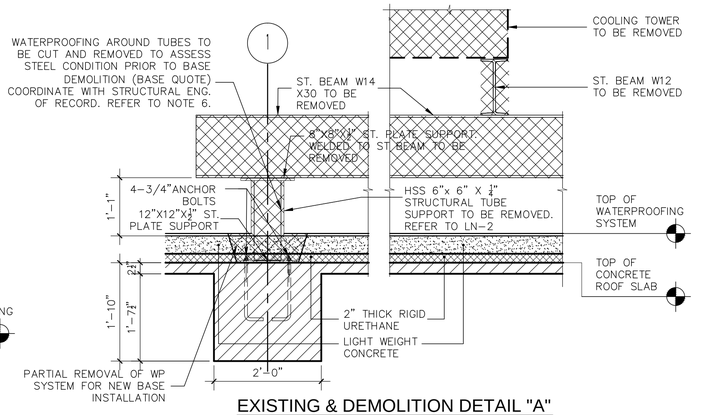
DATE	2024-11-4
DRAWN BY	DBDH
REVISED BY	CRRF
DWG FILE NAME	AS-BUILT
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.
16/67 ED-3.3
DRAWING NO.



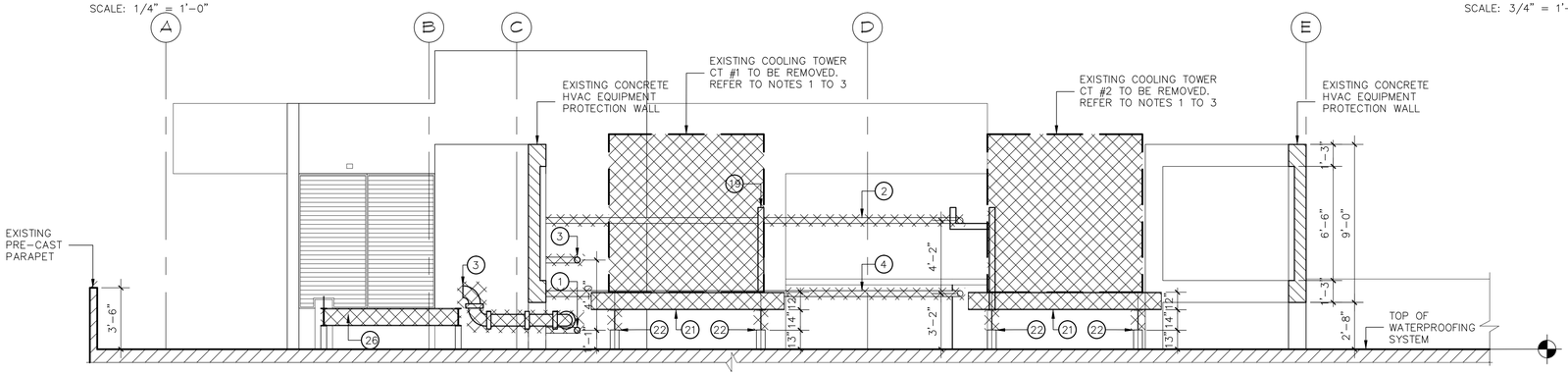
EXISTING & DEMOLITION SECTION "C" MAIN MECHANICAL AREA (ROOF LEVEL)

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



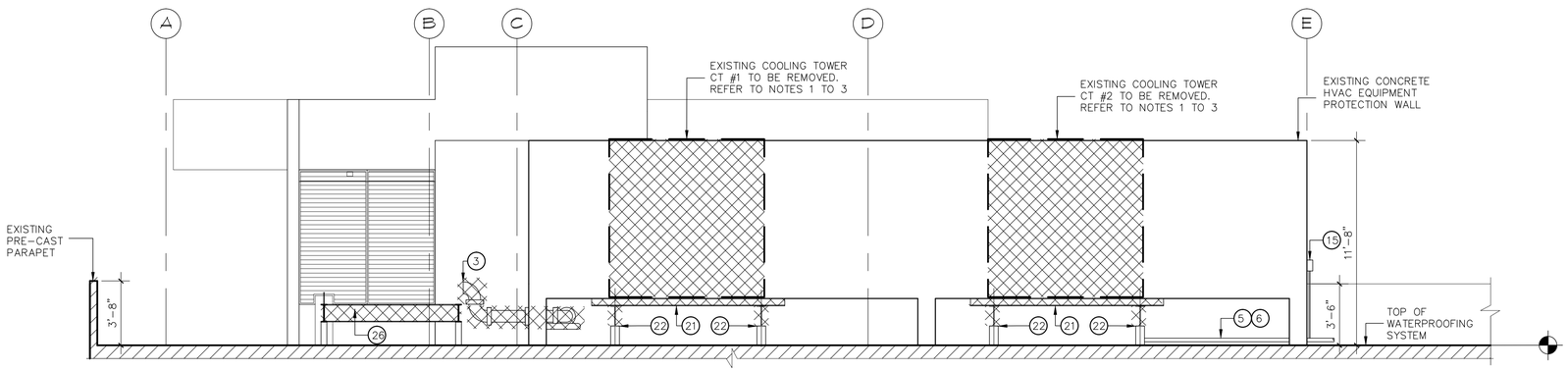
EXISTING & DEMOLITION DETAIL "A" MAIN MECHANICAL AREA (ROOF LEVEL)

SCALE: 3/4" = 1'-0"



EXISTING & DEMOLITION SECTION "D" MAIN MECHANICAL AREA (ROOF LEVEL)

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



EXISTING & DEMOLITION SECTION "E" MAIN MECHANICAL AREA (ROOF LEVEL)

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

DEMOLITION LEGEND:

DENOTES ITEMS TO BE REMOVED OR DEMOLISHED

EXISTING CONC. WALL TO REMAIN

NOTES:

NOTE 1: REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR PHASE DEMOLITION OF HVAC EQUIPMENT, COLD WATER PIPES, PIPES SUPPORTS, ELECTRICAL EQUIPMENT AND CONDUITS.

NOTE 2: REFER DWG LN-1 FOR GENERAL DEMOLITION NOTES

NOTE 3: REMOVAL OF HVAC EQUIPMENT INCLUDES COLD WATER PIPES, PIPES SUPPORTS, AND RELATED ELECTRICAL EQUIPMENT AND CONDUITS.

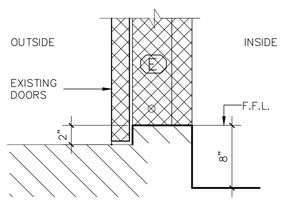
NOTE 4: COORDINATE WITH OWNER BUILDING ELECTRICIAN FOR PARTIAL REMOVAL OF PHOTOVOLTAIC SYSTEM ELECTRICAL (INCLUDING BUT NOT LIMITED TO JOINTING BOXES, CONDUITS AND SUPPORTS AT BASEMENT) AT BASEMENT, CHASE AND ROOF. ELEMENTS WITH SALVAGE VALUE SHALL BE STORED AND DELIVERED TO OWNER.

NOTE 5: VENTILATION DUCTWORK FIRE PROTECTION IMPROVEMENTS: EXISTING VENTILATION DUCTS AND GRILL SHALL BE REMOVED FROM JANITOR ROOM AND EACH SHAFT OPENING PROTECTED WITH A FIRE DAMPER, AFTER DUCT AND GRILL REINSTALLATION, RESEAL PERIMETER WITH SUITABLE FIRE-STOP SEALANT. RE-BALANCE EXISTING REGISTER TO 100 CFM. REFER TO MECHANICAL DRAWINGS FOR FIRE DAMPERS SPECIFICATIONS.

NOTE 6: BEFORE DEMOLITION, PARTIALLY REMOVED EXISTING WATER PROOFING SYSTEM COVERING PIPES, STRUCTURAL ENGINEER OF RECORD SHALL VISUALLY INSPECTED CURRENT CONDITION OF EXISTING COOLING TOWERS / AIRCOOL CHILLER STRUCTURAL TUBES SUPPORTS FOR POSSIBLE REUSE (REFER TO BASE QUOTE AND ALTERNATE QUOTE).

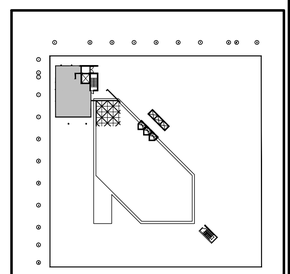
KEY FOR ELECTRICAL & HVAC EQUIPMENT

1. 6" PIPE TWS UP TO ROOF TO BE REMOVED.
2. 6" PIPE TWS UP TO ROOF TO BE REMOVED.
3. 6" PIPE WR UP TO ROOF TO BE REMOVED.
4. 6" PIPE WR UP TO ROOF TO BE REMOVED.
5. PV SYSTEM: 2 – ¾" EMT CONDUITS UP TO ROOF TO BE REMOVED.
6. PV SYSTEM: 2 – 3" EMT CONDUITS UP TO ROOF TO BE REMOVED.
7. PV SYSTEM: 1 – 2" EMT CONDUITS UP TO ROOF TO BE REMOVED.
8. **10" X 10" JANITOR ROOM VENTILATION DUCT TO REMAIN.**
9. 2" MAKEUP WATER TO COOLING TOWER TO BE REMOVED.
10. **1" WATER RISER UP TO JANITOR ROOMS TO REMAIN.**
11. 2 – 2" EMT CONDUITS UP TO ROOF TO BE REMOVED.
12. ¾" EMT CONDUITS UP TO ROOF TO BE REMOVED.
13. AIRCOOL SYSTEM: 2 – 8" PIPES UP TO ROOF TO BE REMOVED.
14. WATERCOOL SYSTEM: 2 – 8" CHWS/CHWR UP TO ROOF TO BE REMOVED.
15. WP-GFIC POWER OUTLET 120V TO BE REMOVED.
16. COOLING TOWER NO 2 TO BE REMOVED.
17. COOLING TOWER NO 1 TO BE REMOVED.
18. WP ELECTRICAL SWITCH BOX TO BE REMOVED.
19. 4X4 STEEL TUBE PIPING SUPPORT TO BE REMOVED.
20. PVC VENT PIPE TO REMAIN.
21. W12 EXISTING ST. BEAM SUPPORT TO BE REMOVED.
22. W14 EXISTING ST. BEAM SUPPORT TO BE REMOVED.
23. **EXHAUST FAN VENT TO REMAIN.**
24. **WATERPROOFING MEMBRANE, LIGHT WEIGHT CONCRETE & 2" URETHANE PANEL TO REMAIN. REFER TO DWG LN-2**
25. **SUPPLY FAN TO REMAIN.**
26. AIRCOOL SYSTEM: EXISTING STEEL FRAME TO BE REMOVED



DOORS MKD E DETAIL

NTS



KEY PLAN: ROOF

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E. MORELL– RIVERA Architects & Consultants, PSC

CLIENT

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PROJECT

PHASE I & II: IMPROVEMENTS TO MAIN HVAC SYSTEM (CHILLERS, COOLING TOWERS & AIR-COOLED CHILLER) AT PRIDCO HEADQUARTERS, SAN JUAN, PR

CONSULTANT SEAL

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SHEET TITLE

EXISTING & DEMOLITION MECHANICAL ROOF SECTIONS ROOF LEVEL

DATE	2024-11-4
DRAWN BY	DBDH
REVISED BY	CRRF
DWG FILE NAME	AS-BUILT
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.

17/67 ED-3.4

DRAWING NO.

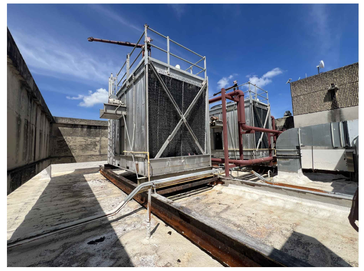

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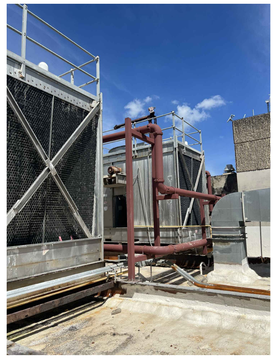
PHOTO NO. "2"



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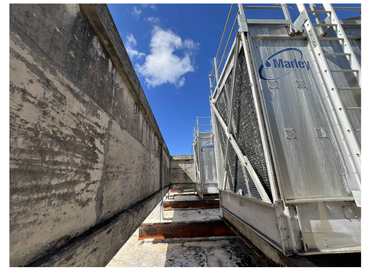


PHOTO NO. "4"



PHOTO NO. "5"



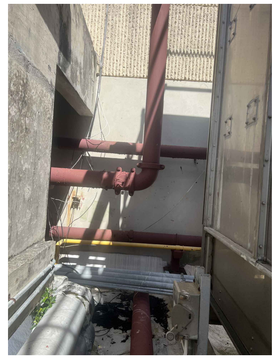
PHOTO NO. "6"



PHOTO NO. "7"



PHOTO NO. "8"



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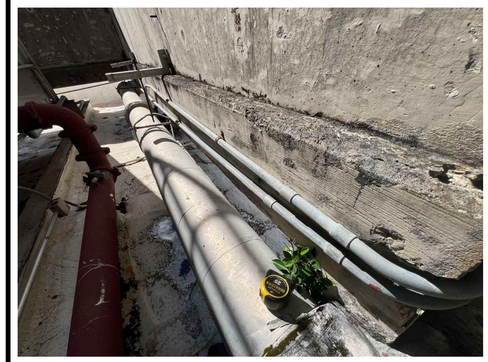

PHOTO NO. "10"



PHOTO NO. "11"

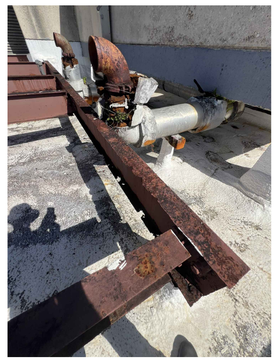

PHOTO NO. "12"

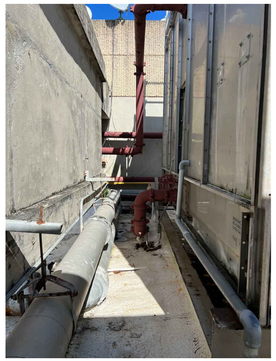

PHOTO NO. "13"

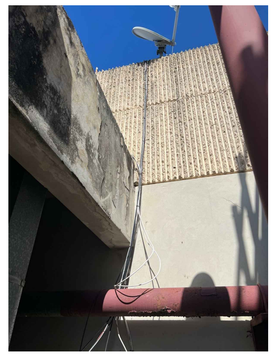

PHOTO NO. "14"



PHOTO NO. "15"

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CLIENT

PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT

PHASE I & II: IMPROVEMENTS TO MAIN HVAC SYSTEM (CHILLERS, COOLING TOWERS & AIR-COOLED CHILLER) AT PRIDCO HEADQUARTERS, SAN JUAN, PR

CONSULTANT SEAL

YO, EDGAR MORELL RIVERA, 16176, CERTIFICO QUE SOY EL PROFESIONAL QUE DISEÑÓ ESTOS PLANOS Y LAS ESPECIFICACIONES COMPLEMENTARIAS. TAMBIÉN, CERTIFICO QUE ENTIENDO QUE DICHOS PLANOS Y ESPECIFICACIONES CUMPLEN CON LAS DISPOSICIONES APLICABLES DEL REGLAMENTO CONJUNTO Y LAS DISPOSICIONES APLICABLES DE LOS REGLAMENTOS Y CÓDIGOS DE CONSTRUCCIÓN VIGENTES DE LAS AGENCIAS, JUNTAS REGLAMENTADORAS O CORPORACIONES PÚBLICAS CON JURIDICCIÓN. CERTIFICO, ADEMÁS, QUE EN LA PREPARACIÓN DE ESTOS PLANOS Y ESPECIFICACIONES SE HA CUMPLIDO CABALMENTE CON LO DISPUESTO EN LA LEY NUM. 14 DE 8 DE ENERO DE 2004, SEGÚN ENMENDADA, CONOCIDA COMO LA "LEY PARA LA INVERSIÓN POR LA INDUSTRIA PUERTORRIQUEÑA" Y CON LA LEY NUM. 96 DE 6 DE JULIO DE 1978, SEGÚN ENMENDADA. RECONOZCO QUE CUALQUIER DECLARACIÓN FALSA O FALSIFICACIÓN DE LOS HECHOS QUE SE HAYA PRODUCIDO POR DESCONOCIMIENTO O POR NEGLIGENCIA YA SEA POR MÍ, MIS AGENTES O EMPLEADOS, O POR OTRAS PERSONAS CON MÍ CONOCIMIENTO, ME HACEN RESPONSABLES DE CUALQUIER ACCIÓN JUDICIAL Y DISCIPLINARIA POR LA OGPE.

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SHEET TITLE

EXISTING & DEMOLITION
PHOTOGRAPHIC DOCUMENTATON
MECHANICAL ROOF AREA

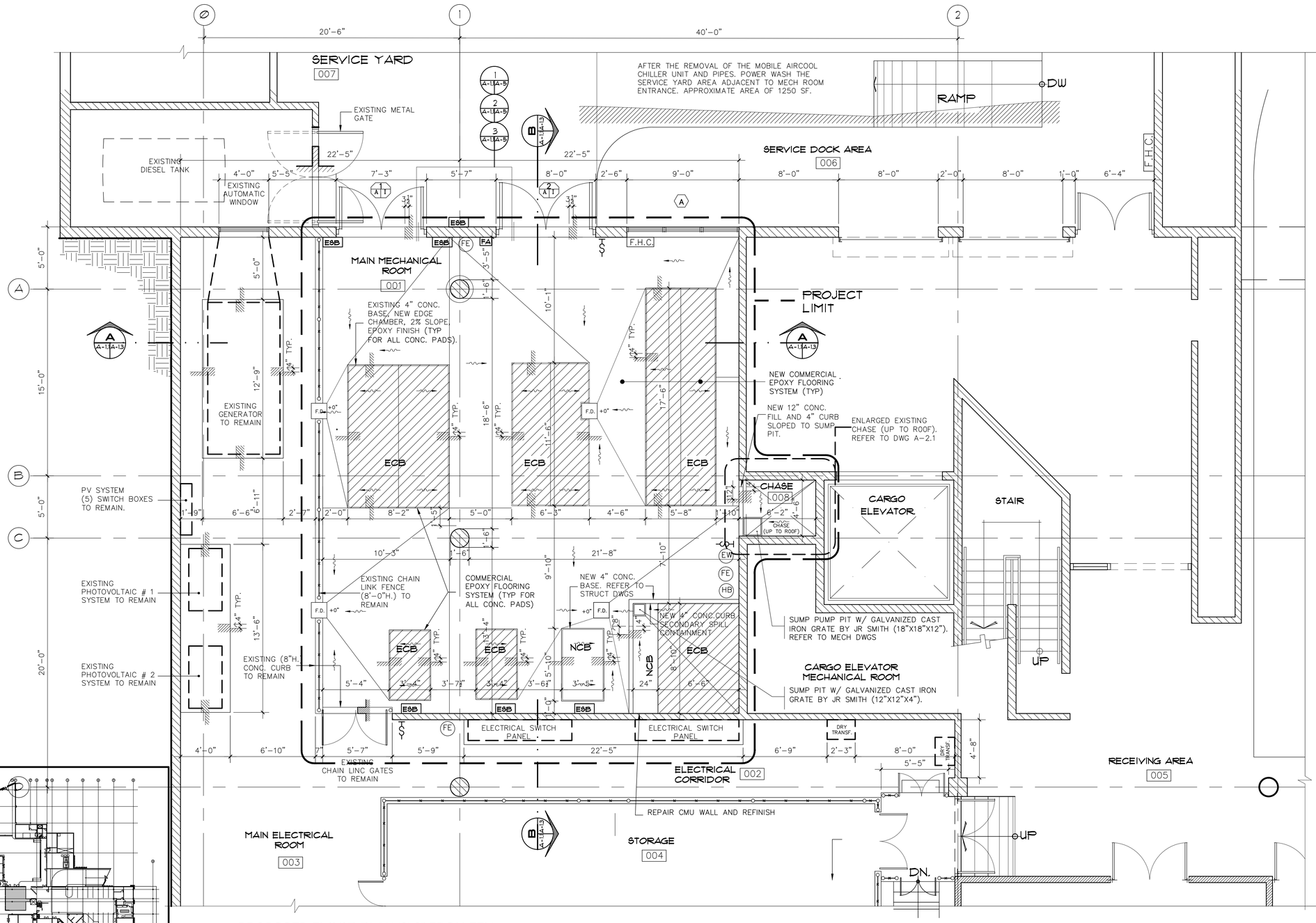
DATE	2024–11–4
DRAWN BY	DBDH
REVISED BY	CRRF
DWG FILE NAME	AS–BUILT
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.

18/67

ED-3.5

DRAWING NO.

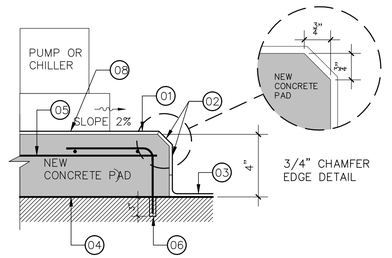


PROPOSED FLOOR PLAN (3'-0" FROM FFL)
MAIN MECHANICAL ROOM (BASEMENT LEVEL)
SCALE: 1/4" = 1'-0"

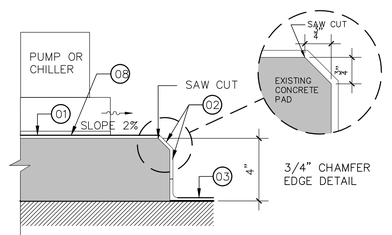
KEY PLAN: BASEMENT

FLOOR PLAN KEY:

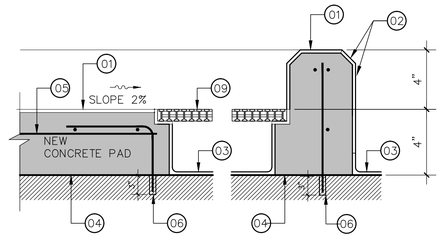
- NEW METAL DOOR WITH FULL LOUVERS HIGH SOUND ATTENUATING LOUVER, 25% FREE AREA PROVIDE INSECT SCREEN. (6'-9" W. x 7'-9" H.)
- NEW METAL DOOR WITH FULL LOUVERS HIGH SOUND ATTENUATING LOUVER, 25% FREE AREA PROVIDE INSECT SCREEN. (7'-7" W. x 7'-9" H.)
- (A) NEW FULL LOUVERS PANEL (9'-0" W. x 7'-4" H.) HIGH SOUND ATTENUATING LOUVER, 25% FREE AREA MODEL BY AIROLITE, PROVIDE INSECT SCREEN.
- (FE) WALL HANG TYPE A.B.C. 5 LBS. FIRE EXTINGUISHER
- (EW) EYE AND FACE WASH STATION
- (DP) PUMP OR CHILLER CONDENSATION DRIP PAN PIPED TO FLOOR DRAIN
- (F.D.) NEW 12" X 12" HEAVY DUTY FLOOR DRAIN BY JR SMITH
- (HB) WALL 3/4" SERVICE HOSE BIBB



NEW 4" CONCRETE BASE FOR PUMP OR CHILLER DETAIL



EXISTING 4" CONCRETE BASE FOR PUMP OR CHILLER DETAIL



NEW 4" CONCRETE SECONDARY CONTAIMENT AREA

NOTES:
1.COMMERCIAL EPOXY FLOORING SYSTEM: COLOR LIGHT GRAY
2.COMMERCIAL EPOXY FLOORING SYSTEM: COLOR SAFETY YELLOW
3.COMMERCIAL EPOXY FLOORING SYSTEM: COLOR DARK GRAY
4.CONCRETE BONDING AGENT.
5.REBARS #4@10" E.W, FOR THE CURB BORDER 2#5.
6.DRILL $\frac{5}{8}$"ø x 3"DEEP (EMB.). FILL WITH EPOXY (TYP.)
7.PAD SURFACE SHALL DRAIN TO FLOOR (1/4" @ 12" SLOPE)
8.EPOXY CHOCK GROUT FOR MOUNTING EQUIPMENT (SIKAFLOW®-668)
9.SUMP PIT W/GALVANIZED CAST IRON GRATE BY JR SMITH (12"X12"X4").PROVIDE $\frac{1}{4}$" GALV STEEL ANGLE W $\frac{3}{8}$"x4"HEADED CONCRETE STUD ANCHORS EMBEDDED FOR GRATE INSTALLATION.

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CLIENT
PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT
PHASE I & II: IMPROVEMENTS TO MAIN HVAC SYSTEM (CHILLERS, COOLING TOWERS & AIR-COOLED CHILLER) AT PRIDCO HEADQUARTERS, SAN JUAN, PR

CONSULTANT SEAL

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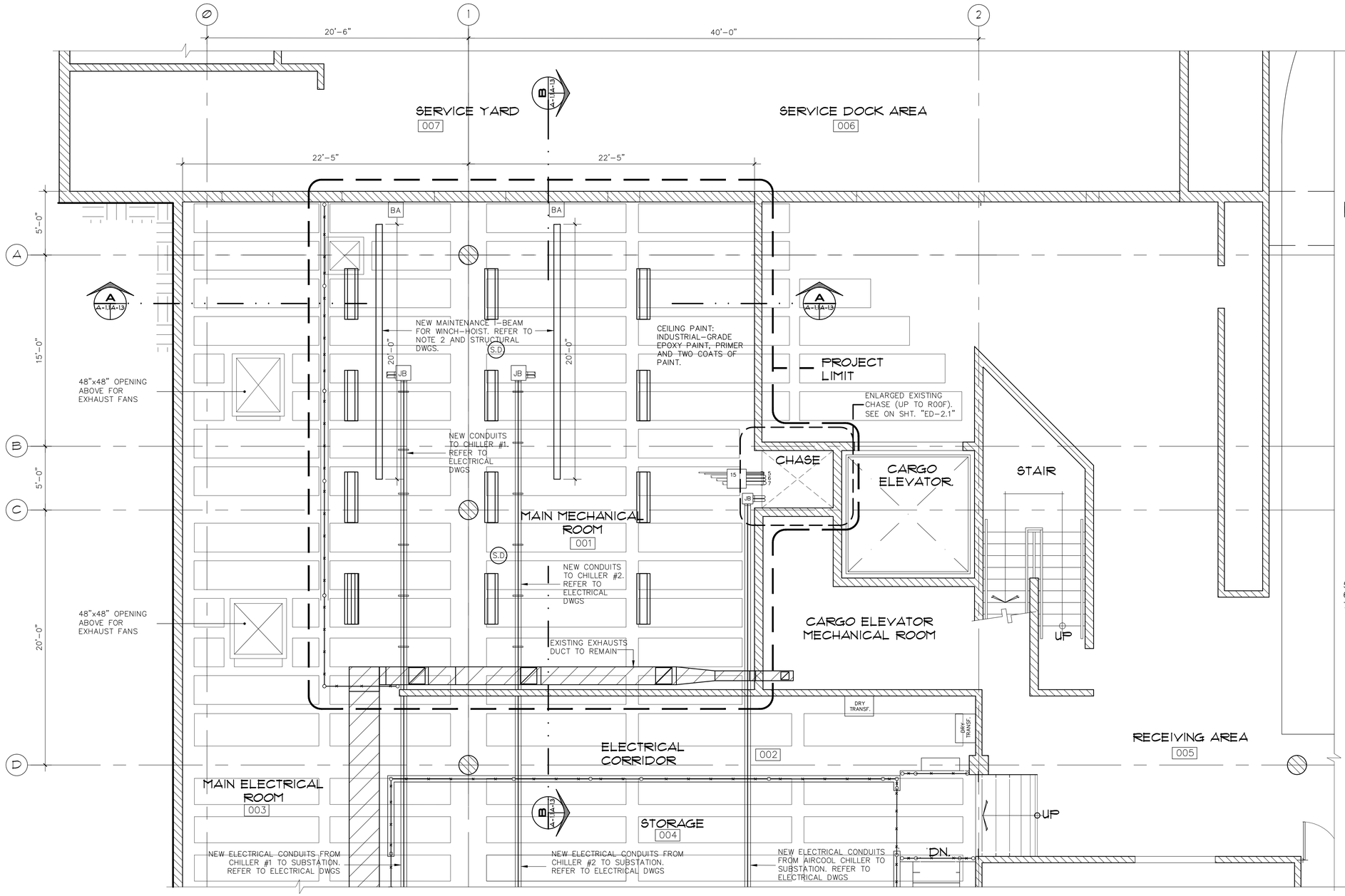
SHEET TITLE
PROPOSED FLOOR PLAN
MAIN MECHANICAL ROOM (BASEMENT LEVEL)

DATE	2024–12–14
DRAWN BY	DBDH
REVISED BY	CRRF
DWG FILE NAME	PROPOSED
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.
19/67
A-1.1
DRAWING NO.



PROPOSED CEILING PLAN (8'-0" FROM FFL)
MAIN MECHANICAL ROOM (BASEMENT LEVEL)
SCALE: 1/4" = 1'-0"

CEILING PLAN KEY:

- EXISTING CONC. WALL TO REMAIN
- (S.D) NEW SMOKE, CO2, HEAT DETECTOR
- NEW LED LIGHT 4'-0"
- NEW LED LIGHT 8'-0"
- [J.B.] NEW ELECTRICAL JUNCTION BOX
- [BA] NEW BURGLAR ALARM SYSTEM JB AND CONDUITS (NIC)

NOTE 1: REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR PHASE CONSTRUCTION AND INSTALLATION OF HVAC EQUIPMENT, COLD WATER PIPES, PIPES SUPPORTS, ELECTRICAL EQUIPMENT AND CONDUITS.

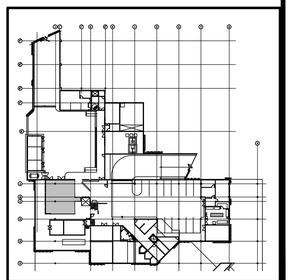
NOTE 2: PROVIDE PERMANENT 20' STEEL RAIL (BEAM) HOISTWAYS LOCATED OVER THE CENTERLINE OF CENTRIFUGAL CHILLERS AND EXTENDING A MINIMUM OF 5 FEET BEYOND THE END OF THE CHILLER FOR REMOVAL OF THE MOTOR AND COMPRESSOR. PERMANENT FIX TO ROOF STRUCTURE AND CAN WITHSTAND THE WEIGHT OF COMPLETE CHILLER ASSEMBLY.

NOTE 3: CEILING SHALL BE FINISH REPAIR AND PATCH DEFECTIVE AREAS WITH INDUSTRIAL GRADE EPOXY PAINT, PRIMER AND TWO (2) COATS OF PAINT.

NOTE 4: GENERAL CONTRACTOR TO FOLLOW "FEMA 74/SEPT./1994 THIRD EDITION 'PRACTICAL GUIDE' FOR REDUCING THE RISK OF NON STRUCTURAL EARTHQUAKE DAMAGES DURING THE INSTALLATION OF MECHANICAL EQUIPMENT, COLD WATER PIPES, PIPES SUPPORTS, ELECTRICAL EQUIPMENT AND CONDUITS.

KEY FOR ELECTRICAL & HVAC EQUIPMENT

5. PV SYSTEM: NEW 2 – ¾" EMT CONDUITS W/ FISH WIRE UP TO ROOF
6. PV SYSTEM: NEW 2 – 3" EMT CONDUITS W/ FISH WIRE UP TO ROOF
7. PV SYSTEM: NEW 1 – 2" EMT CONDUITS W/ FISH WIRE UP TO ROOF



KEY PLAN: BASEMENT

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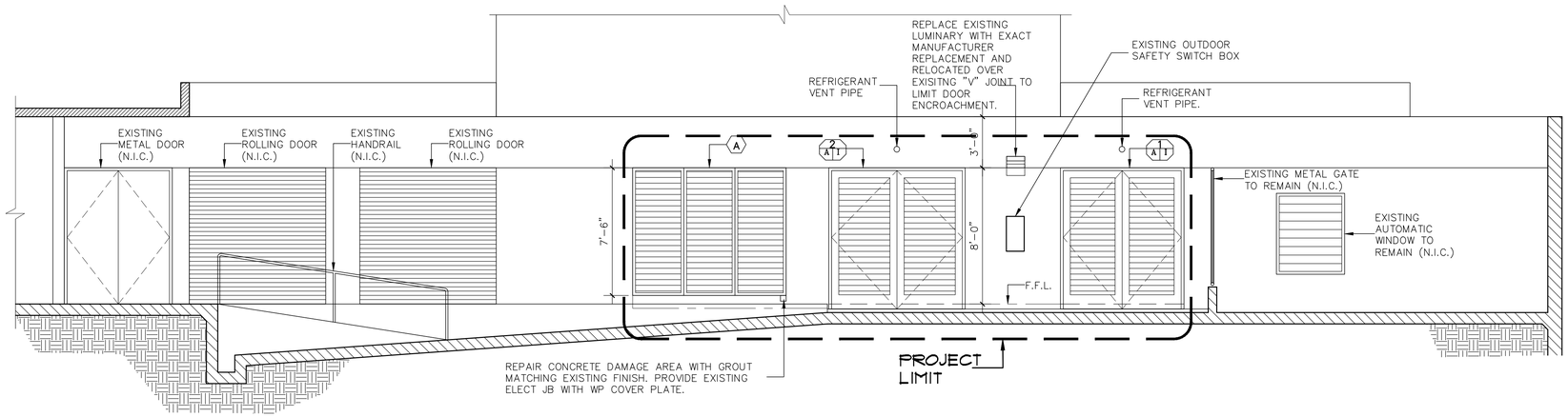
SHEET TITLE
PROPOSED CEILING PLAN
MAIN MECHANICAL ROOM BASEMENT LEVEL
BASEMENT AREA

DATE	2024-12-14
DRAWN BY	DBDH
REVISED BY	CRRF
DWG FILE NAME	PROPOSED
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.
20/67
A-1.2
DRAWING NO.



PROPOSED EXTERIOR ELEVATION (NORTH)
MAIN MECHANICAL ROOM (BASEMENT LEVEL)

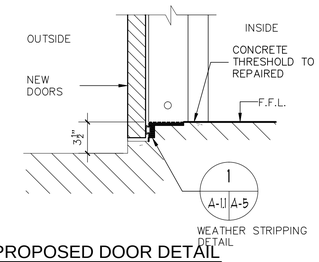
SCALE: 1/4" = 1'-0"

ELEVATIONS KEY:

(1 / A-1) NEW METAL DOOR WITH FULL LOUVERS
HIGH SOUND ATTENUATING LOUVER, 25% FREE AREA
PROVIDE INSECT SCREEN.
(6'-9" W. x 7'-9" H.)

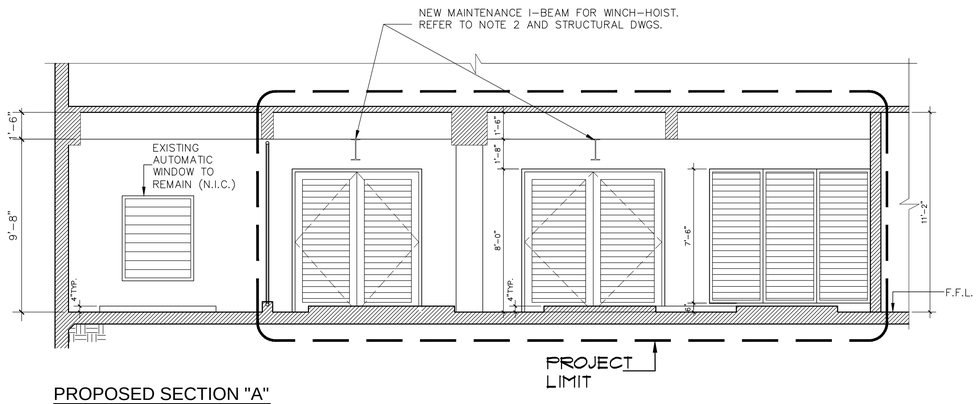
(2 / A-1) NEW METAL DOOR WITH FULL LOUVERS
HIGH SOUND ATTENUATING LOUVER, 25% FREE AREA
PROVIDE INSECT SCREEN.
(7'-7" W. x 7'-9" H.)

(A) NEW FULL LOUVERS PANEL
HIGH SOUND ATTENUATING LOUVER, 25% FREE AREA
MODEL BY AIROLITE, PROVIDE INSECT SCREEN.
(9'-0" W. x 7'-4" H.)



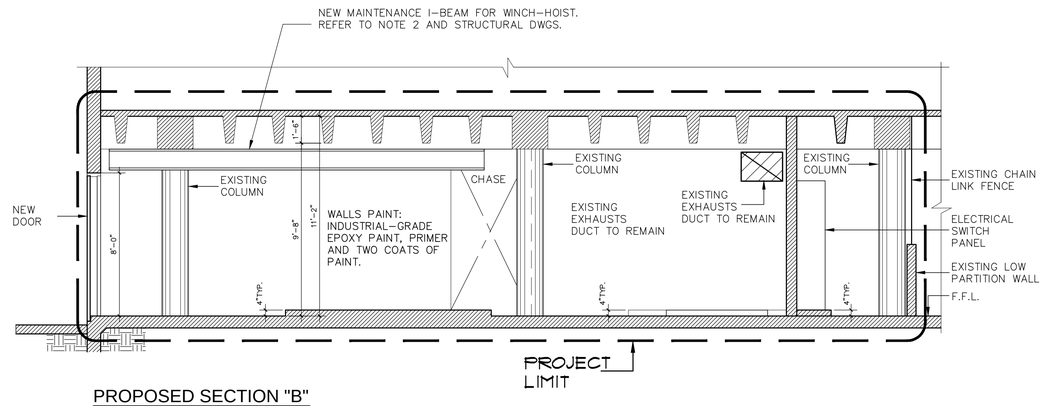
PROPOSED DOOR DETAIL

NOT SCALE



PROPOSED SECTION "A"
MAIN MECHANICAL ROOM (BASEMENT LEVEL)

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



PROPOSED SECTION "B"
MAIN MECHANICAL ROOM (BASEMENT LEVEL)

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

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SHEET TITLE

PROPOSED
ELEVATIONS & SECTIONS
MAIN MECHANICAL ROOM (BASEMENT LEVEL)

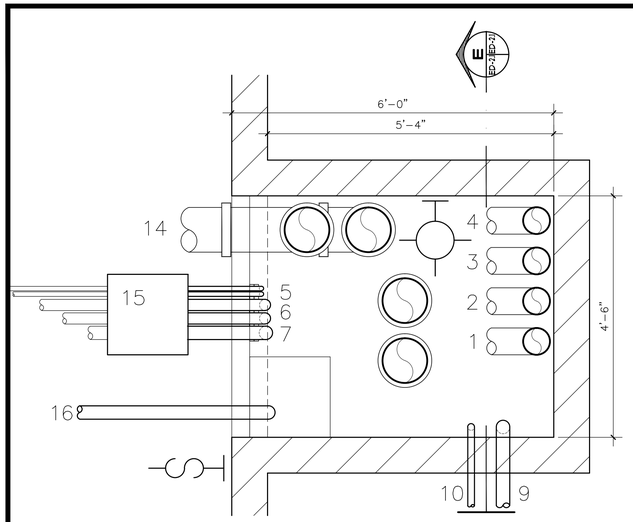
DATE	2024-12-14
DRAWN BY	DBDH
REVISED BY	CRRF
DWG FILE NAME	PROPOSED
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.

21/67

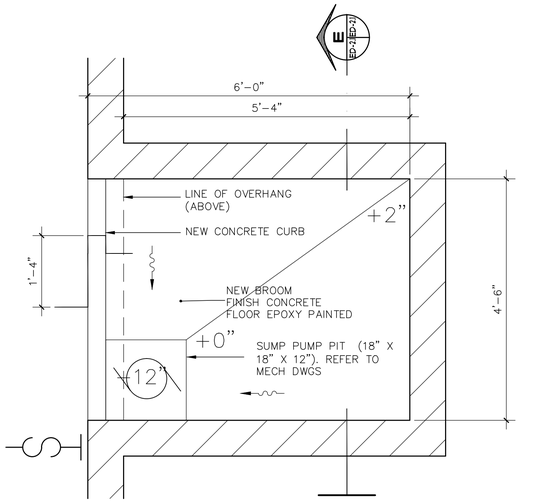
A-1.3

DRAWING NO.



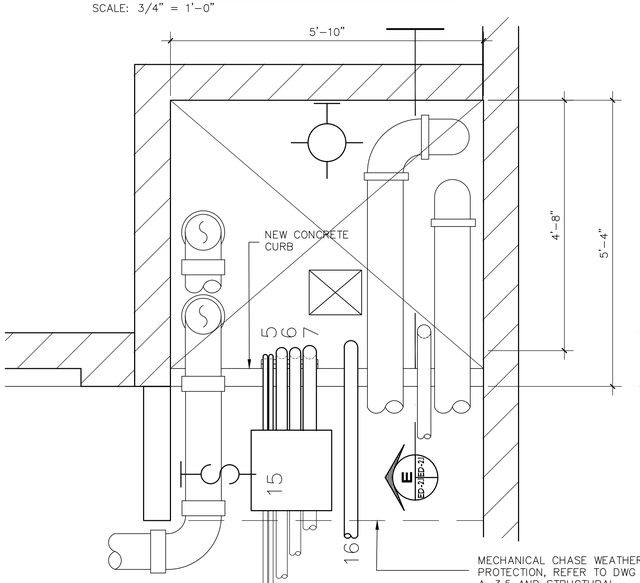
PROPOSED FLOOR PLAN (6'-0" FROM FFL)
MECHANICAL CHASE (BASEMENT LEVEL)

SCALE: 3/4" = 1'-0"



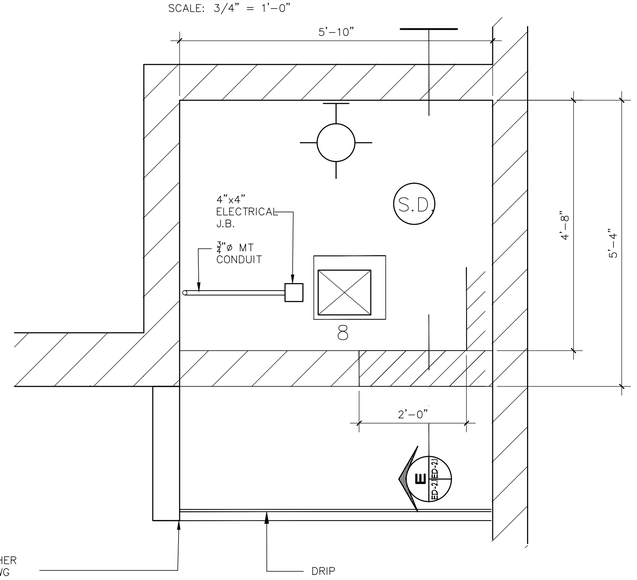
PROPOSED FLOOR PLAN
MECHANICAL CHASE (BASEMENT LEVEL)

SCALE: 3/4" = 1'-0"



PROPOSED FLOOR PLAN (6'-0" FROM FFL)
MECHANICAL CHASE (ROOF LEVEL)

SCALE: 3/4" = 1'-0"

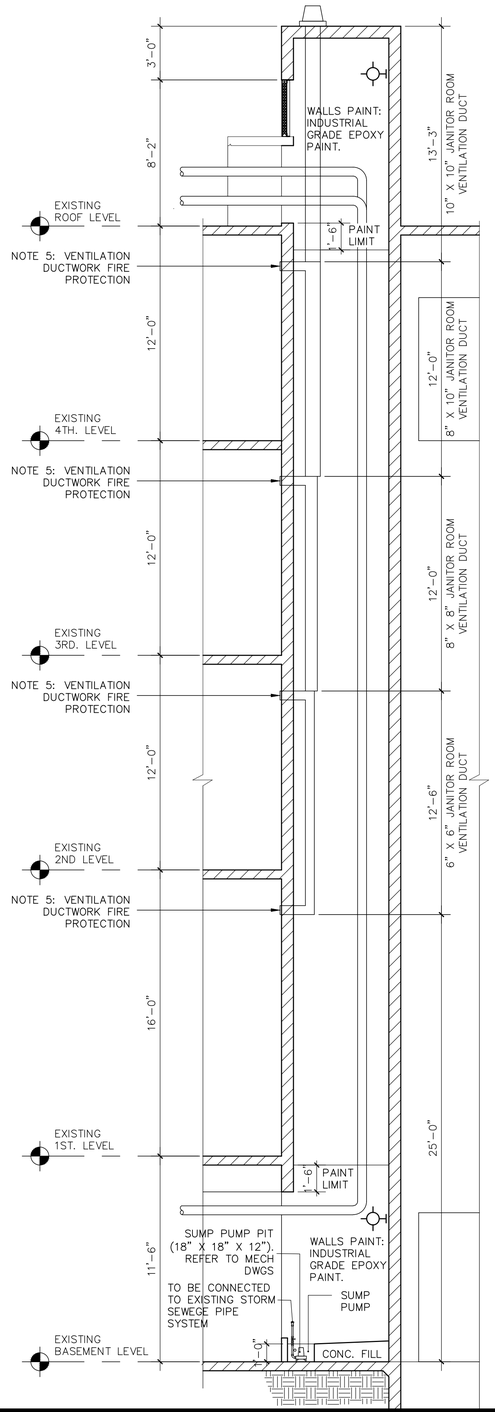


PROPOSED CEILING PLAN (8'-0" FROM FFL)
MECHANICAL CHASE (ROOF LEVEL)

SCALE: 3/4" = 1'-0"

CHASE KEY:

1. NEW 6" PIPE TWS UP TO ROOF.
2. NEW 6" PIPE TWS UP TO ROOF.
3. NEW 6" PIPE WR UP TO ROOF.
4. NEW 6" PIPE WR UP TO ROOF.
5. PV SYSTEM: 2 – NEW ¾" EMT CONDUITS UP TO ROOF.
6. PV SYSTEM: 2 – NEW 2½" EMT CONDUITS UP TO ROOF
7. PV SYSTEM: 1 – NEW 3" EMT CONDUITS UP TO ROOF.
8. 10" X 10" JANITOR ROOM VENTILATION DUCT EXISTING TO REMAIN.
9. NEW 2" MAKEUP WATER TO COOLING TOWER.
10. 1" WATER RISER UP TO JANITOR ROOMS EXISTING TO REMAIN.
11. 2 – 2" EMT CONDUITS UP TO ROOF.
12. ¾" EMT CONDUITS UP TO ROOF.
13. AIRCOOL SYSTEM: NEW 2 – 8" PIPES UP TO ROOF.
14. WATERCOOL SYSTEM: NEW 2 – 8" CHWS/CHWR UP TO ROOF.
15. JUNCTION/PULL BOXES
16. NEW SANITARY LINE FOR SCRUBBERS



CHASE PLAN KEY:

- NEW LED SERVICE LIGHT (BASEMENT/ROOF)
- NEW 3-WAY WP SWITCH FOR SERVICE LIGHT AT BASEMENT AND ROOF LEVELS
- (S.D) NEW SMOKE, CO2, HEAT DETECTOR
- NEW 1/3 HP SUMP PUMP, CONNECT PIPE TO STORM WATER SYSTEM, 30-AMP ELECTRICAL CIRCUIT.

NOTES:

NOTE 1: REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR PHASE DEMOLITION AND CONSTRUCTION OF HVAC EQUIPMENT, COLD WATER PIPES, PIPES SUPPORTS, ELECTRICAL EQUIPMENT AND CONDUITS.

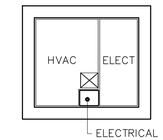
NOTE 2: REFER DWG LN-1 & LN-2 FOR GENERAL DEMOLITION AND CONSTRUCTION NOTES

NOTE 3: DEMOLITION AND CONSTRUCTION OF HVAC EQUIPMENT INCLUDES COLD WATER PIPES, PIPES SUPPORTS, AND RELATED ELECTRICAL EQUIPMENT AND CONDUITS.

NOTE 4: COORDINATE WITH OWNER BUILDING ELECTRICIAN FOR INSTALLATION OF PHOTOVOLTAIC SYSTEM ELECTRICAL JUNCTION/PULL BOXES, CONDUITS AND SUPPORTS AT CHASE FROM BASEMENT LEVEL TO ROOF LEVEL. CONTRACTOR TO INSTALL CONDUITS FORM JUNCTION/PULL TO 18 X 18 JUNTION/PULL WITH FISH WIRE FOR FUTURE CONNECTION TO PV SYSTEM BY OTHERS.
- TWO (2) 18 X 18 X 6 NEMA JUNCTION/PULL BOXES.
- TWO (2) NEW ¾" EMT CONDUITS UP TO ROOF.
- TWO (2) 2½" EMT CONDUITS UP TO ROOF
- ONE (1) 3" EMT CONDUITS UP TO ROOF.

NOTE 5: VENTILATION DUCTWORK FIRE PROTECTION IMPROVEMENTS: EXISTING VENTILATION DUCTS SHALL BE REMOVED FROM JANITOR ROOM AND EACH SHAFT OPENING PROTECTED WITH A FIRE DAMPER, AFTER DUCT REINSTALLATION RESEAL PERIMETER WITH SUITABLE FIRE-STOP SEALANT. REFER TO MECHANICAL DRAWINGS FOR FIRE DAMPERS SPECIFICATIONS.

CHASE ZONING:



NOTE ON SUMP PUMP:

MANUFACTURER: LIBERTY PUMPS
MODEL: LIP-231
ELECTRIC REQ: 1/3 HP, 1 PHASE 60HZ / 125V.
DISCHARGE: 1-1/4"

THE SUMP BASIN DIAMETER SHOULD BE A MINIMUM OF 14"(MINIMUM OF 10"FOR MODELS 247, 237, AND 457). A LARGER DIAMETER PIT IS PREFERRED AS IT ALLOWS FOR LONGER PUMP CYCLING AND REDUCED SWITCH CYCLING. THE DEPTH OF THE PIT SHOULD BE AT LEAST 12"ABOVE THE SURFACE ON WHICH THE PUMP IS RESTING. A SUMP BASIN COVER IS REQUIRED FOR SAFETY AND TO PREVENT FOREIGN OBJECTS FROM ENTERING THE BASIN.



PROPOSED SECTION
MECHANICAL CHASE
(BASEMENT TO ROOF LEVEL)

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

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E. MORELL– RIVERA
Architects & Consultants, PSC

CLIENT

PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT

PHASE I & II: IMPROVEMENTS TO MAIN HVAC SYSTEM (CHILLERS, COOLING TOWERS & AIR-COOLED CHILLER) AT PRIDCO HEADQUARTERS, SAN JUAN, PR

CONSULTANT SEAL

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YO, EDGAR MORELL RIVERA, 16176, CERTIFICO QUE SOY EL PROFESIONAL QUE DISEÑÓ ESTOS PLANOS Y LAS ESPECIFICACIONES COMPLEMENTARIAS. TAMBIÉN, CERTIFICO QUE ENTIENDO QUE DICHOS PLANOS Y ESPECIFICACIONES CUMPLEN CON LAS DISPOSICIONES APLICABLES DEL REGLAMENTO CONJUNTO Y LAS DISPOSICIONES APLICABLES DE LOS REGLAMENTOS Y CÓDIGOS DE CONSTRUCCIÓN VIGENTES DE LAS AGENCIAS, JUNTAS REGLAMENTADORAS O CORPORACIONES PÚBLICAS CON JURIDICCIÓN. CERTIFICO, ADEMÁS, QUE EN LA PREPARACIÓN DE ESTOS PLANOS Y ESPECIFICACIONES SE HA CUMPLIDO CABALMENTE CON LO DISPUESTO EN LA LEY NUM. 14 DE 8 DE ENERO DE 2004, SEGÚN ENMENDADA, CONOCIDA COMO LA "LEY PARA LA INVERSIÓN POR LA INDUSTRIA PUERTORRIQUEÑA" Y CON LA LEY NUM. 96 DE 6 DE JULIO DE 1978, SEGÚN ENMENDADA. RECONOZCO QUE CUALQUIER DECLARACIÓN FALSA O FALSIFICACIÓN DE LOS HECHOS QUE SE HAYA PRODUCIDO POR DESCONOCIMIENTO O POR NEGLIGENCIA YA SEA POR MÍ, MIS AGENTES O EMPLEADOS, O POR OTRAS PERSONAS CON MÍ CONOCIMIENTO, ME HACEN RESPONSABLES DE CUALQUIER ACCIÓN JUDICIAL Y DISCIPLINARIA POR LA OGPE.

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SHEET TITLE

PROPOSED
FLOOR PLANS AND SECTIONS
MECHANICAL CHASE

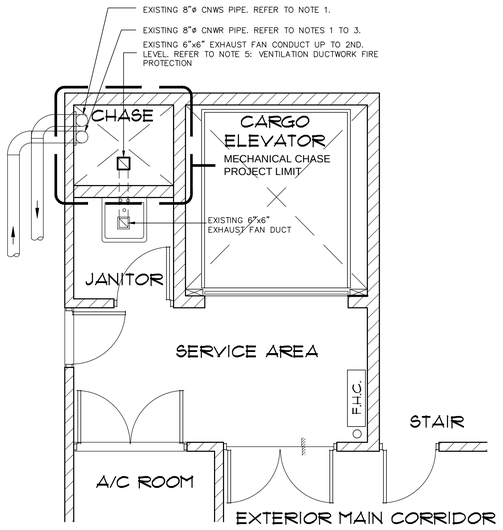
DATE	2024-12-14
DRAWN BY	DBDH
REVISED BY	CRRF
DWG FILE NAME	PROPOSED
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.

22/67

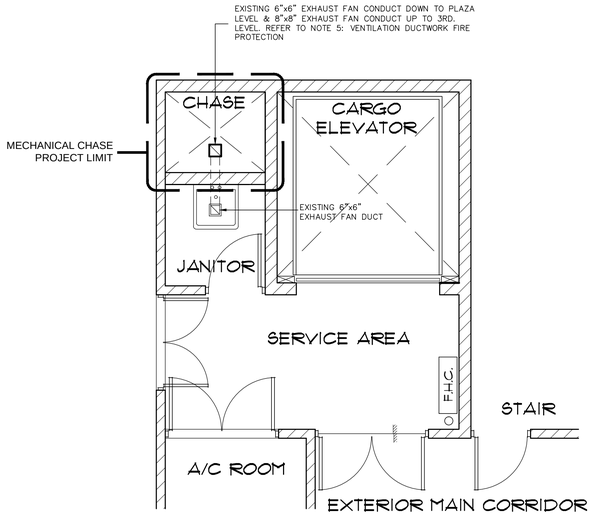
A-2.1

DRAWING NO.



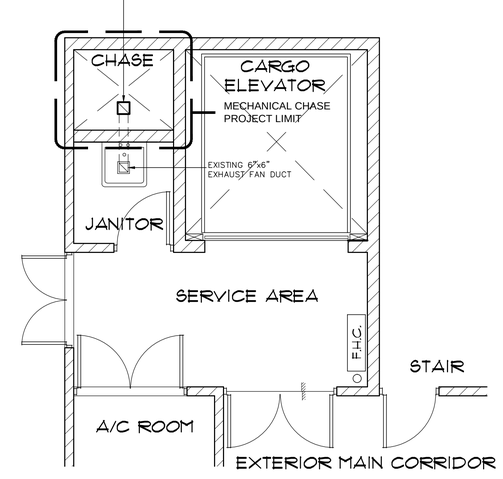
PROPOSED PARTIAL 1ST. (PLAZA) FLOOR PLAN MECHANICAL CHASE (ROOF LEVEL)

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



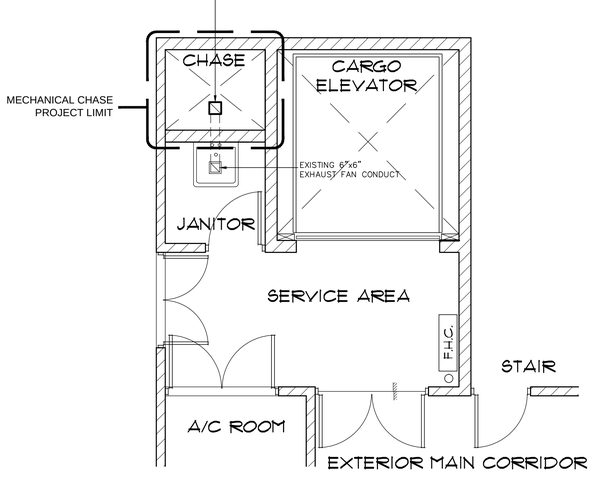
PROPOSED PARTIAL 2ND. FLOOR PLAN MECHANICAL CHASE (ROOF LEVEL)

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



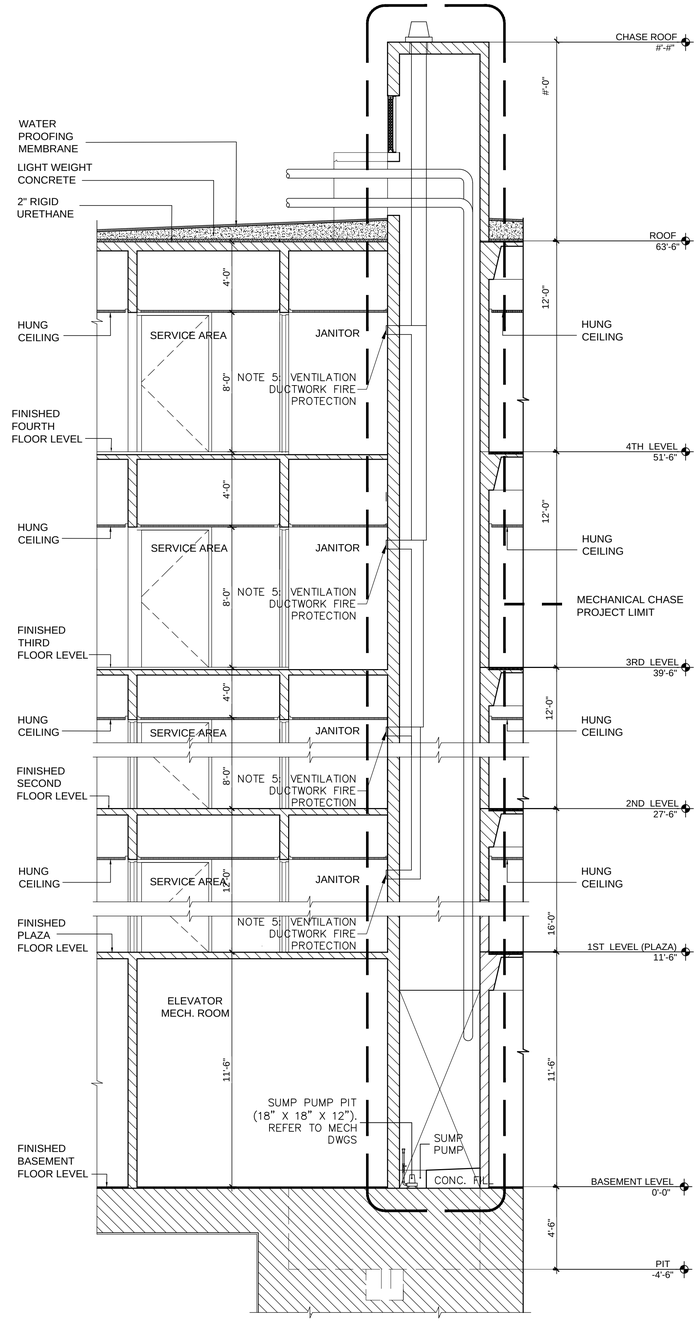
PROPOSED PARTIAL 3RD. FLOOR PLAN MECHANICAL CHASE (ROOF LEVEL)

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



PROPOSED PARTIAL 4TH. FLOOR PLAN MECHANICAL CHASE (ROOF LEVEL)

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



PROPOSED SECTION MECHANICAL CHASE (BASEMENT TO ROOF LEVEL)

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

F
ED-22 ED-23

CHASE PLAN KEY:

- NEW LED SERVICE LIGHT @ 8'-0"
- NEW 3-WAY WP SWITCH FOR SERVICE LIGHT AT BASEMENT AND ROOF LEVELS
- S.D NEW SMOKE, CO2, HEAT DETECTOR
- NEW 1/2 HP SUMP PUMP, PIPES TO STORM WATER SYSTEM AND 30-AMP ELECTRICAL CIRCUIT.

CHASE NOTES:

NOTE 1: REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR PHASE INSTALLATION AND COMMISIONING OF HVAC EQUIPMENT, COLD WATER PIPES, PIPES SUPPORTS, ELECTRICAL EQUIPMENT AND CONDUITS.

NOTE 2: REFER DWG LN-1 FOR GENERAL DEMOLITION AND CONSTRUCTION NOTES

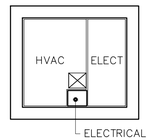
NOTE 3: DEMOLITION AND CONSTRUCTION OF HVAC EQUIPMENT INCLUDES COLD WATER PIPES, PIPES SUPPORTS, AND RELATED ELECTRICAL EQUIPMENT AND CONDUITS.

NOTE 5: VENTILATION DUCTWORK FIRE PROTECTION: EXISTING VENTILATION DUCTS SHALL BE REMOVED AND EACH SHAFT OPENING PROTECTED WITH TWO (2) 1.5-HOUR FIRE DAMPERS ARRANGED IN SERIES, EACH WITH FUSIBLE LINKS RATED TO MELT AT 125°, AFTER DUCT REINSTALLATION RESEAL PERIMETER WITH SUITABLE FIRE-STOP SEALANT. REFER TO MECHANICAL DRAWINGS FOR FIRE DAMPERS SPECIFICATIONS.

KEY FOR ELECTRICAL & HVAC EQUIPMENT

1. 6" PIPE TWS UP TO ROOF TO BE REMOVED.
2. 6" PIPE TWS UP TO ROOF TO BE REMOVED.
3. 6" PIPE WR UP TO ROOF TO BE REMOVED.
4. 6" PIPE WR UP TO ROOF TO BE REMOVED.
5. PV SYSTEM: 2 – ¾" EMT CONDUITS UP TO ROOF TO BE REMOVED.
6. PV SYSTEM: 2 – 2½" EMT CONDUITS UP TO ROOF TO BE REMOVED.
7. PV SYSTEM: 1 – 3" EMT CONDUITS UP TO ROOF TO BE REMOVED.
8. 10" X 10" JANITOR ROOM VENTILATION DUCT TO REMAIN (SEE NOTE NO 5).
9. 2" MAKEUP WATER TO COOLING TOWER TO BE REMOVED.
10. 1" WATER RISER UP TO JANITOR ROOMS TO REMAIN.
11. 2 – 2" EMT CONDUITS UP TO ROOF TO BE REMOVED.
12. ¾" EMT CONDUITS UP TO ROOF TO BE REMOVED.
13. AIRCOOL SYSTEM: 2 – 8" PIPES UP TO ROOF TO BE REMOVED.
14. WATERCOOL SYSTEM: 2 – 8" CHWS/CHWR UP TO ROOF TO BE REMOVED.

CHASE ZONING:



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CLIENT

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PROJECT

PHASE I & II: IMPROVEMENTS TO MAIN HVAC SYSTEM (CHILLERS, COOLING TOWERS & AIR-COOLED CHILLER) AT PRIDCO HEADQUARTERS, SAN JUAN, PR

CONSULTANT SEAL

YO, EDGAR MORELL RIVERA, 16176, CERTIFICO QUE SOY EL PROFESIONAL QUE DISEÑÓ ESTOS PLANOS Y LAS ESPECIFICACIONES COMPLEMENTARIAS. TAMBIÉN, CERTIFICO QUE ENTIENDO QUE DICHOS PLANOS Y ESPECIFICACIONES CUMPLEN CON LAS DISPOSICIONES APLICABLES DEL REGLAMENTO CONJUNTO Y LAS DISPOSICIONES APLICABLES DE LOS REGLAMENTOS Y CÓDIGOS DE CONSTRUCCIÓN VIGENTES DE LAS AGENCIAS, JUNTAS REGLAMENTADORAS O CORPORACIONES PÚBLICAS CON JURIDICCIÓN. CERTIFICO, ADEMÁS, QUE EN LA PREPARACIÓN DE ESTOS PLANOS Y ESPECIFICACIONES SE HA CUMPLIDO CABALMENTE CON LO DISPUESTO EN LA LEY NUM. 14 DE 8 DE ENERO DE 2004, SEGÚN ENMENDADA, CONOCIDA COMO LA "LEY PARA LA INVERSIÓN POR LA INDUSTRIA PUERTORRIQUEÑA" Y CON LA LEY NUM. 96 DE 6 DE JULIO DE 1978, SEGÚN ENMENDADA. RECONOZCO QUE CUALQUIER DECLARACIÓN FALSA O FALSIFICACIÓN DE LOS HECHOS QUE SE HAYA PRODUCIDO POR DESCONOCIMIENTO O POR NEGLIGENCIA YA SEA POR MÍ, MIS AGENTES O EMPLEADOS, O POR OTRAS PERSONAS CON MÍ CONOCIMIENTO, ME HACEN RESPONSABLES DE CUALQUIER ACCIÓN JUDICIAL Y DISCIPLINARIA POR LA OGPE.

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SHEET TITLE

EXISTING & DEMOLITION FLOOR PLANS AND SECTIONS MECHANICAL CHASE

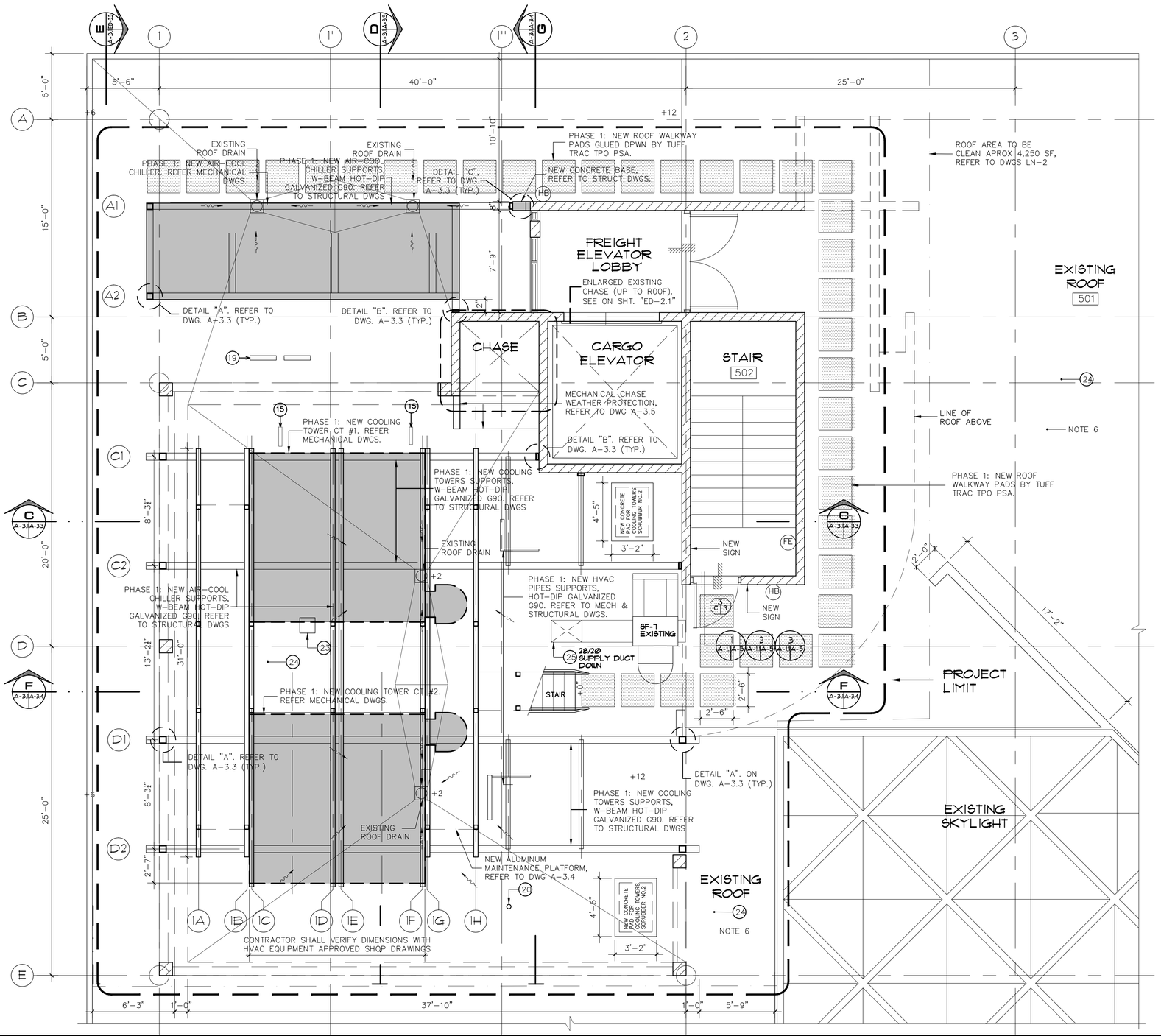
DATE	2024-11-4
DRAWN BY	DBDH
REVISED BY	CRRF
DWG FILE NAME	AS-BUILT
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.

23/67

A-2.2

DRAWING NO.



ROOF PLAN KEY:

- 3/C3 — NEW METAL DOOR
- FE — WALL HANG TYPE A.B.C. 5 LBS. FIRE EXTINGUISHER
- HB — WALL 3/4" SERVICE HOSE BIBB, AND WATERLINE TO BASEMET

NOTES:

NOTE 1: REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR PHASE DEMOLITION AND CONSTRUCTION OF HVAC EQUIPMENT, COLD WATER PIPES, PIPES SUPPORTS, ELECTRICAL EQUIPMENT AND CONDUITS.

NOTE 2: REFER DWG LN-1 & LN-2 FOR GENERAL DEMOLITION AND CONSTRUCTION NOTES

NOTE 3: DEMOLITION AND CONSTRUCTION OF HVAC EQUIPMENT INCLUDES COLD WATER PIPES, PIPES SUPPORTS, AND RELATED ELECTRICAL EQUIPMENT AND CONDUITS.

NOTE 4: COORDINATE WITH OWNER BUILDING ELECTRICIAN FOR PARTIAL REMOVAL OF PHOTOVOLTAIC SYSTEM ELECTRICAL JOINTING BOXES, CONDUITS AND SUPPORTS AT BASEMENT, CHASE AND ROOF. ELEMENTS WITH SALVAGE VALUE SHALL BE STORED AND DELIVERED TO OWNER.

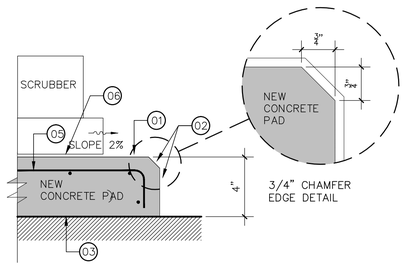
NOTE 5: VENTILATION DUCTWORK FIRE PROTECTION IMPROVEMENTS: EXISTING VENTILATION DUCTS SHALL BE REMOVED FROM JANITOR ROOM AND EACH SHAFT OPENING PROTECTED WITH A FIRE DAMPER, AFTER DUCT REINSTALLATION RESEAL PERIMETER WITH SUITABLE FIRE-STOP SEALANT. REFER TO MECHANICAL DRAWINGS FOR FIRE DAMPERS SPECIFICATIONS.

NOTE 6: EXISTING ROOF HAVE A SILICONE COATING WATERPROOFING SYSTEM, SILICONE MAKE SURFACES VERY SLIPPERY. WE HIGHLY RECOMMEND FOLLOW OSHA SAFETY BEST PRACTICES DURING DEMOLITION AND CONSTRUCTION WORKS AT ROOF.

NOTE 7: CONTRACTOR SHALL VERIFY DIMENSIONS OF HVAC EQUIPMENT APPROVED SUBMITTALS AND SHOP DRAWINGS PRIOR THE FABRICATION OF CONCRETE BASES AND STEEL SUPPORTS.

KEY FOR ELECTRICAL & HVAC EQUIPMENT

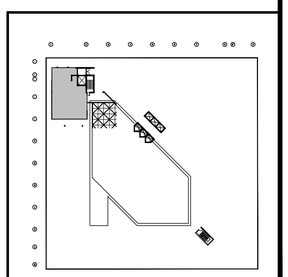
1. 6" PIPE TWS UP TO ROOF TO BE REMOVED.
2. 6" PIPE TWS UP TO ROOF TO BE REMOVED.
3. 6" PIPE WR UP TO ROOF TO BE REMOVED.
4. 6" PIPE WR UP TO ROOF TO BE REMOVED.
5. PV SYSTEM: 2 – ¾" EMT CONDUITS UP TO ROOF TO BE REMOVED.
6. PV SYSTEM: 2 – 2½" EMT CONDUITS UP TO ROOF TO BE REMOVED.
7. PV SYSTEM: 1 – 3" EMT CONDUITS UP TO ROOF TO BE REMOVED.
8. 10" X 10" JANITOR ROOM VENTILATION DUCT TO REMAIN.
9. 2" MAKEUP WATER TO COOLING TOWER TO BE REMOVED.
10. 1" WATER RISER UP TO JANITOR ROOMS TO REMAIN.
11. 2 – 2" EMT CONDUITS UP TO ROOF TO BE REMOVED.
12. ¾" EMT CONDUITS UP TO ROOF TO BE REMOVED.
13. AIRCOOL SYSTEM: 2 – 8" PIPES UP TO ROOF TO BE REMOVED.
14. WATERCOOL SYSTEM: 2 – 8" CHWS/CHWR UP TO ROOF TO BE REMOVED.
15. WP GFIC POWER OUTLET 120V TO BE REMOVED.
16. COOLING TOWER NO 2 TO BE REMOVED.
17. COOLING TOWER NO 1 TO BE REMOVED.
18. WP ELECTRICAL SWITCH BOX TO BE REMOVED.
19. 4X4 STEEL TUBE PIPING SUPPORT TO BE REMOVED.
20. PVC VENT PIPE TO REMAIN.
21. W12 EXISTING ST. BEAM SUPPORT TO BE REMOVED.
22. W14 EXISTING ST. BEAM SUPPORT TO BE REMOVED.
23. EXHAUST FAN VENT TO REMAIN.
24. WATERPROOFING MEMBRANE, LIGHT WEIGHT CONCRETE & 2" URETHANE PANEL TO REMAIN.
25. SUPPLY FAN TO REMAIN.
26. AIRCOOL SYSTEM: EXISTING STEEL FRAME TO BE REMOVED



NEW 4" CONCRETE BASE FOR SCRUBBER

NOTE:
1.COMMERCIAL EPOXY PAINT: COLOR LIGHT GRAY
2.COMMERCIAL EPOXY PAINT: COLOR SAFETY YELLOW
3.CLEAN AND PRIME SUBSTRATE.
5.REBARS #4@10" E.W.
6.PAD SURFACE SHALL DRAIN TO FLOOR (1/4" @ 12" SLOPE)
7.EPOXY CHOCK GROUT FOR MOUNTING EQUIPMENT (SIKAFLOW®-668)

PPROPOSED
ROOF PLAN (3'-0" FROM E.R.L.)
MAIN MECHANICAL ROOF AREA
SCALE: 1/4" = 1'-0"



KEY PLAN: ROOF

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CLIENT
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PROJECT
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CONSULTANT SEAL

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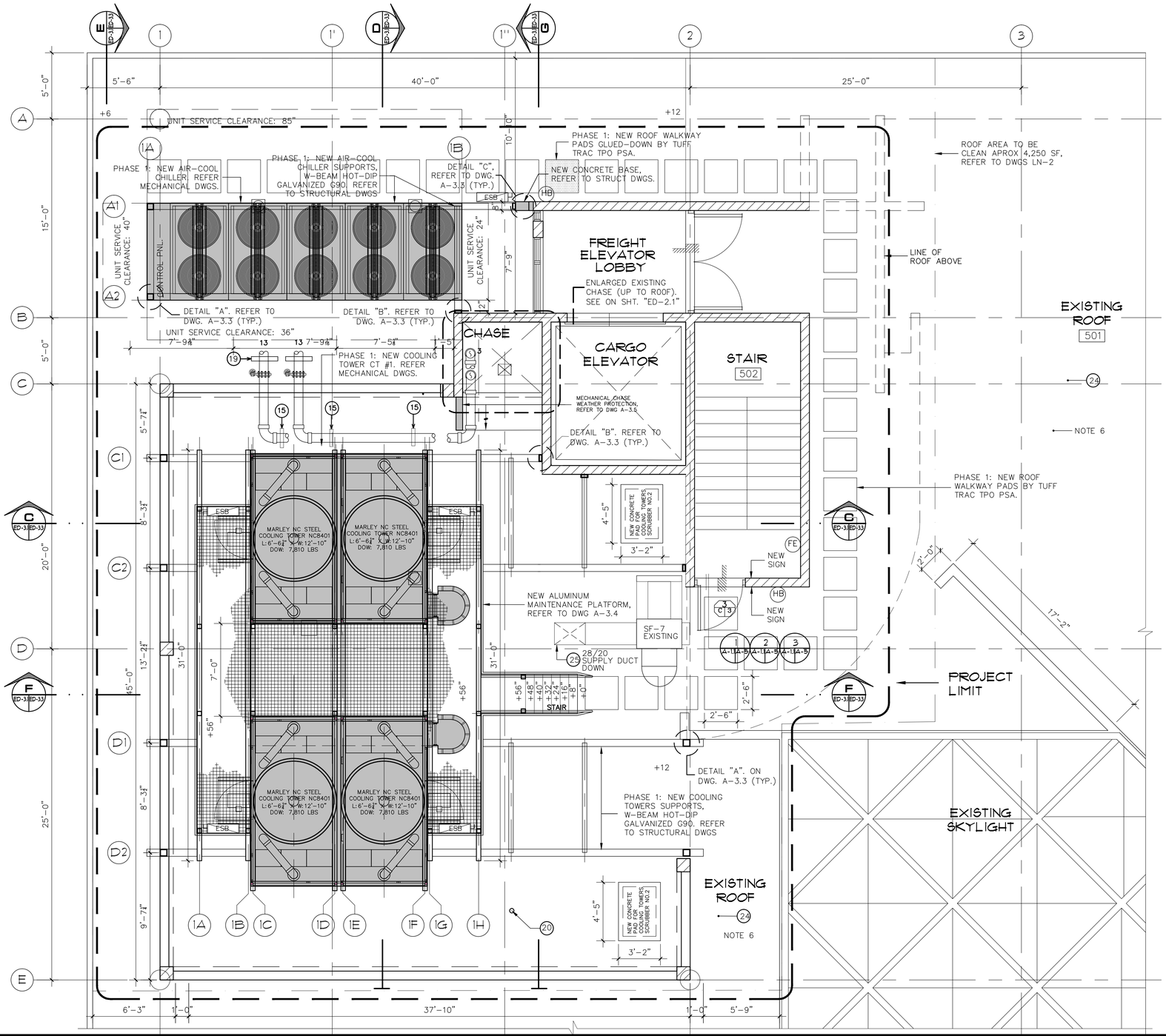
SHEET TITLE
PPROPOSE
ROOF PLAN (3'-0" FROM F.R.L.)
MECHANICAL ROOF AREA

DATE	2024-12-14
DRAWN BY	DBDH
REVISED BY	CRRF
DWG FILE NAME	PROPOSED
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.
24/67
A-3.1
DRAWING NO.



PPROPOSED
ROOF PLAN (6'-0" FROM E.R.L.)
MAIN MECHANICAL ROOF AREA

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

ROOF PLAN KEY:

ESB NEW ELECTRICAL SWITCH BOX

NOTES:

NOTE 1: REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR PHASE DEMOLITION AND CONSTRUCTION OF HVAC EQUIPMENT, COLD WATER PIPES, PIPES SUPPORTS, ELECTRICAL EQUIPMENT AND CONDUITS.

NOTE 2: REFER DWG LN-1 & LN-2 FOR GENERAL DEMOLITION AND CONSTRUCTION NOTES

NOTE 3: DEMOLITION AND CONSTRUCTION OF HVAC EQUIPMENT INCLUDES COLD WATER PIPES, PIPES SUPPORTS, AND RELATED ELECTRICAL EQUIPMENT, CONDUITS AND HANGERS.

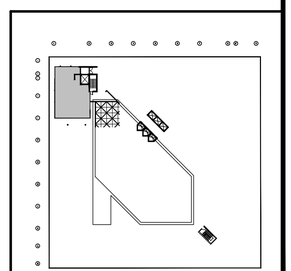
NOTE 4: COORDINATE WITH OWNER BUILDING ELECTRICIAN FOR PARTIAL REMOVAL OF PHOTOVOLTAIC SYSTEM ELECTRICAL JUNCTION BOXES, CONDUITS AND SUPPORTS AT BASEMENT, CHASE AND ROOF. ELEMENTS WITH SALVAGE VALUE SHALL BE STORED AND DELIVERED TO OWNER.

NOTE 5: VENTILATION DUCTWORK FIRE PROTECTION IMPROVEMENTS: EXISTING VENTILATION DUCTS SHALL BE REMOVED FROM JANITOR ROOM AND EACH SHAFT OPENING PROTECTED WITH A FIRE DAMPER, AFTER DUCT REINSTALLATION RESEAL PERIMETER WITH SUITABLE FIRE-STOP SEALANT. REFER TO MECHANICAL DRAWINGS FOR FIRE DAMPERS SPECIFICATIONS.

NOTE 6: EXISTING ROOF HAVE A SILICONE COATING WATERPROOFING SYSTEM, SILICONE MAKE SURFACES VERY SLIPPERY. WE HIGHLY RECOMMEND FOLLOW OSHA SAFETY BEST PRACTICES DURING DEMOLITION AND CONSTRUCTION WORKS AT ROOF.

KEY FOR ELECTRICAL & HVAC EQUIPMENT

1. 6" PIPE TWS UP TO ROOF TO BE REMOVED.
2. 6" PIPE TWS UP TO ROOF TO BE REMOVED.
3. 6" PIPE WR UP TO ROOF TO BE REMOVED.
4. 6" PIPE WR UP TO ROOF TO BE REMOVED.
5. PV SYSTEM: 2 – ¾" EMT CONDUITS UP TO ROOF TO BE REMOVED.
6. PV SYSTEM: 2 – 2½" EMT CONDUITS UP TO ROOF TO BE REMOVED.
7. PV SYSTEM: 1 – 3" EMT CONDUITS UP TO ROOF TO BE REMOVED.
8. 10" X 10" JANITOR ROOM VENTILATION DUCT TO REMAIN.
9. 2" MAKEUP WATER TO COOLING TOWER TO BE REMOVED.
10. 1" WATER RISER UP TO JANITOR ROOMS TO REMAIN.
11. 2 – 2" EMT CONDUITS UP TO ROOF TO BE REMOVED.
12. ¾" EMT CONDUITS UP TO ROOF TO BE REMOVED.
13. AIRCOOL SYSTEM: 2 – 8" PIPES UP TO ROOF TO BE REMOVED.
14. WATERCOOL SYSTEM: 2 – 8" CHWS/CHWR UP TO ROOF TO BE REMOVED.
15. WP GFIC POWER OUTLET 120V TO BE REMOVED.
16. COOLING TOWER NO 2 TO BE REMOVED.
17. COOLING TOWER NO 1 TO BE REMOVED.
18. WP ELECTRICAL SWITCH BOX TO BE REMOVED.
19. 4X4 STEEL TUBE PIPING SUPPORT TO BE REMOVED.
20. PVC VENT PIPE TO REMAIN.
21. W12 EXISTING ST. BEAM SUPPORT TO BE REMOVED.
22. W14 EXISTING ST. BEAM SUPPORT TO BE REMOVED.
23. EXHAUST FAN VENT TO REMAIN.
24. WATERPROOFING MEMBRANE, LIGHT WEIGHT CONCRETE & 2" URETHANE PANEL TO REMAIN.
25. SUPPLY FAN TO REMAIN.
26. AIRCOOL SYSTEM: EXISTING STEEL FRAME TO BE REMOVED
27.



KEY PLAN: ROOF

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CLIENT
PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT
PHASE I & II: IMPROVEMENTS TO MAIN HVAC SYSTEM (CHILLERS, COOLING TOWERS & AIR-COOLED CHILLER) AT PRIDCO HEADQUARTERS, SAN JUAN, PR

CONSULTANT SEAL

YO, EDGAR MORELL RIVERA, 16176, CERTIFICO QUE SOY EL PROFESIONAL QUE DISEÑÓ ESTOS PLANOS Y LAS ESPECIFICACIONES COMPLEMENTARIAS. TAMBIÉN, CERTIFICO QUE ENTIENDO QUE DICHOS PLANOS Y ESPECIFICACIONES CUMPLEN CON LAS DISPOSICIONES APLICABLES DEL REGLAMENTO CONJUNTO Y LAS DISPOSICIONES APLICABLES DE LOS REGLAMENTOS Y CÓDIGOS DE CONSTRUCCIÓN VIGENTES DE LAS AGENCIAS, JUNTAS REGLAMENTADORAS O CORPORACIONES PÚBLICAS CON JURIDICCIÓN. CERTIFICO, ADEMÁS, QUE EN LA PREPARACIÓN DE ESTOS PLANOS Y ESPECIFICACIONES SE HA CUMPLIDO CABALMENTE CON LO DISPUESTO EN LA LEY NUM. 14 DE 8 DE ENERO DE 2004, SEGÚN ENMENDADA, CONOCIDA COMO LA "LEY PARA LA INVERSIÓN POR LA INDUSTRIA PUERTORRIQUEÑA" Y CON LA LEY NUM. 96 DE 6 DE JULIO DE 1978, SEGÚN ENMENDADA. RECONOZCO QUE CUALQUIER DECLARACIÓN FALSA O FALSIFICACIÓN DE LOS HECHOS QUE SE HAYA PRODUCIDO POR DESCONOCIMIENTO O POR NEGLIGENCIA YA SEA POR MÍ, MIS AGENTES O EMPLEADOS, O POR OTRAS PERSONAS CON MÍ CONOCIMIENTO, ME HACEN RESPONSABLES DE CUALQUIER ACCIÓN JUDICIAL Y DISCIPLINARIA POR LA OGPE.

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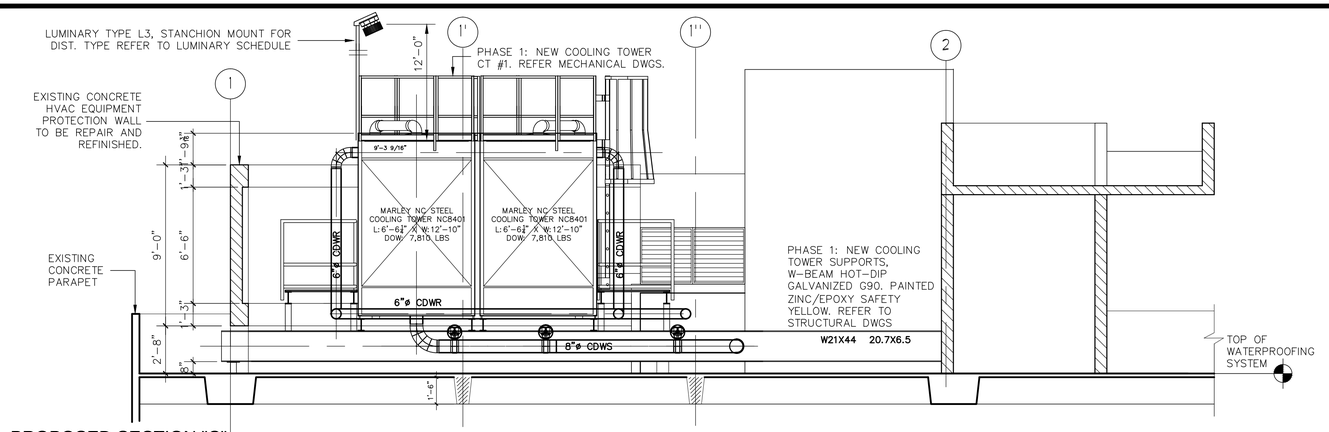
SHEET TITLE
PPROPOSE
ROOF PLAN (3'-0" FROM F.R.L.)
MECHANICAL ROOF AREA

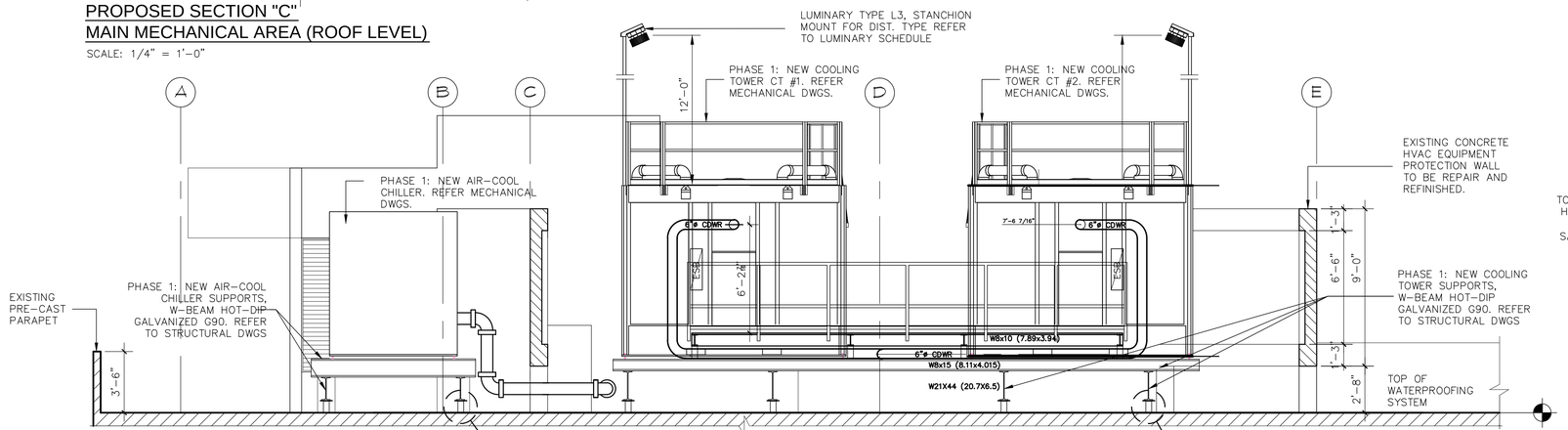
DATE	2024-12-14
DRAWN BY	DBDH
REVISED BY	CRRF
DWG FILE NAME	PROPOSED
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.
25/67
A-3.2
DRAWING NO.



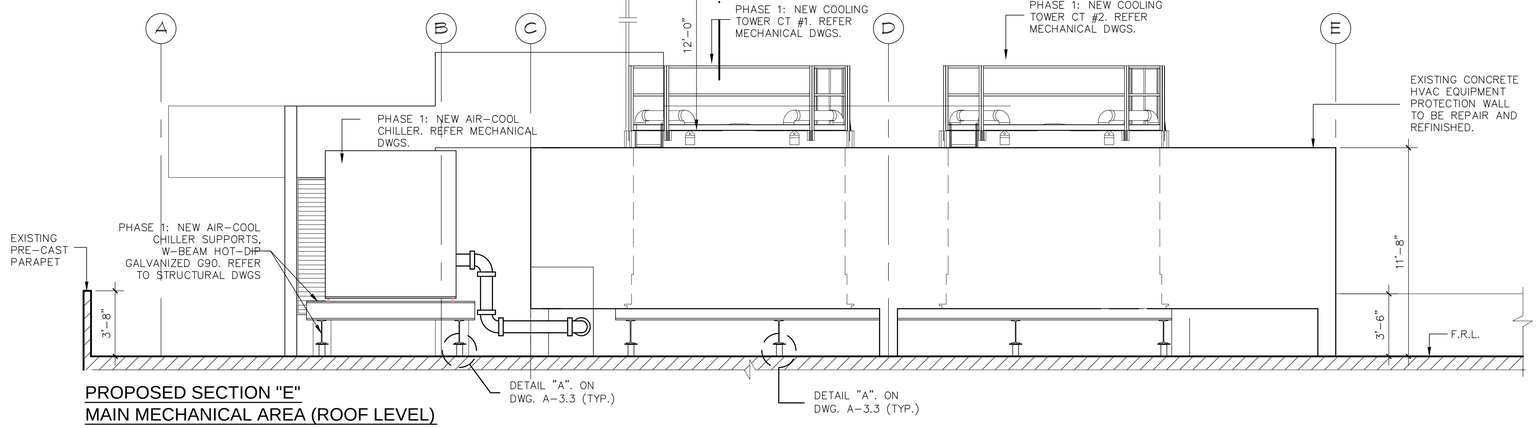
PROPOSED SECTION "C"
MAIN MECHANICAL AREA (ROOF LEVEL)

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



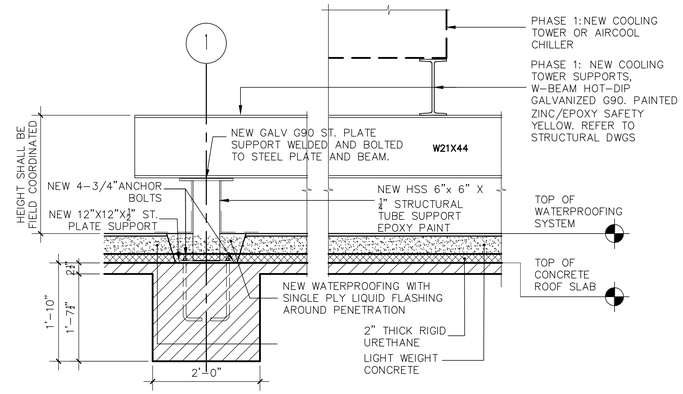
PROPOSED SECTION "D"
MAIN MECHANICAL AREA (ROOF LEVEL)

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



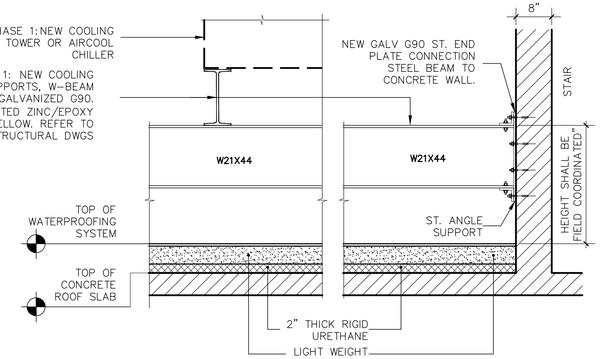
PROPOSED SECTION "E"
MAIN MECHANICAL AREA (ROOF LEVEL)

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



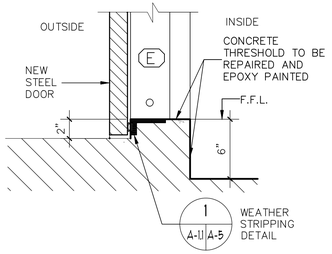
PROPOSED DETAIL "A"
MAIN MECHANICAL AREA (ROOF LEVEL)

SCALE: 3/4" = 1'-0"



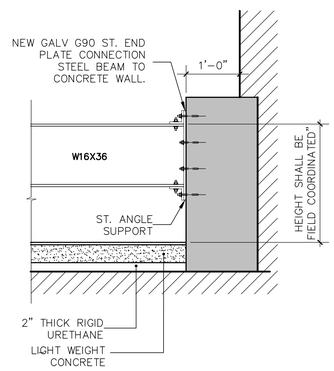
PROPOSED DETAIL "B"
MAIN MECHANICAL AREA (ROOF LEVEL)

SCALE: 3/4" = 1'-0"



DOOR MKD E DETAIL

NTS



PROPOSED DETAIL "C"
MAIN MECHANICAL AREA (ROOF LEVEL)

SCALE: 3/4" = 1'-0"

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CLIENT

PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT

PHASE I & II: IMPROVEMENTS TO MAIN HVAC SYSTEM (CHILLERS, COOLING TOWERS & AIR-COOLED CHILLER) AT PRIDCO HEADQUARTERS, SAN JUAN, PR

CONSULTANT SEAL

YO, EDGAR MORELL RIVERA, 16176, CERTIFICO QUE SOY EL PROFESIONAL QUE DISEÑÓ ESTOS PLANOS Y LAS ESPECIFICACIONES COMPLEMENTARIAS. TAMBIÉN, CERTIFICO QUE ENTIENDO QUE DICHOS PLANOS Y ESPECIFICACIONES CUMPLEN CON LAS DISPOSICIONES APLICABLES DEL REGLAMENTO CONJUNTO Y LAS DISPOSICIONES APLICABLES DE LOS REGLAMENTOS Y CÓDIGOS DE CONSTRUCCIÓN VIGENTES DE LAS AGENCIAS, JUNTAS REGLAMENTADORAS O CORPORACIONES PÚBLICAS CON JURIDICCIÓN. CERTIFICO, ADEMÁS, QUE EN LA PREPARACIÓN DE ESTOS PLANOS Y ESPECIFICACIONES SE HA CUMPLIDO CABALMENTE CON LO DISPUESTO EN LA LEY NUM. 14 DE 8 DE ENERO DE 2004, SEGÚN ENMENDADA, CONOCIDA COMO LA "LEY PARA LA INVERSIÓN POR LA INDUSTRIA PUERTORRIQUEÑA" Y CON LA LEY NUM. 96 DE 6 DE JULIO DE 1978, SEGÚN ENMENDADA. RECONOZCO QUE CUALQUIER DECLARACIÓN FALSA O FALSIFICACIÓN DE LOS HECHOS QUE SE HAYA PRODUCIDO POR DESCONOCIMIENTO O POR NEGLIGENCIA YA SEA POR MÍ, MIS AGENTES O EMPLEADOS, O POR OTRAS PERSONAS CON MÍ CONOCIMIENTO, ME HACEN RESPONSABLES DE CUALQUIER ACCIÓN JUDICIAL Y DISCIPLINARIA POR LA OGPE.

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SHEET TITLE

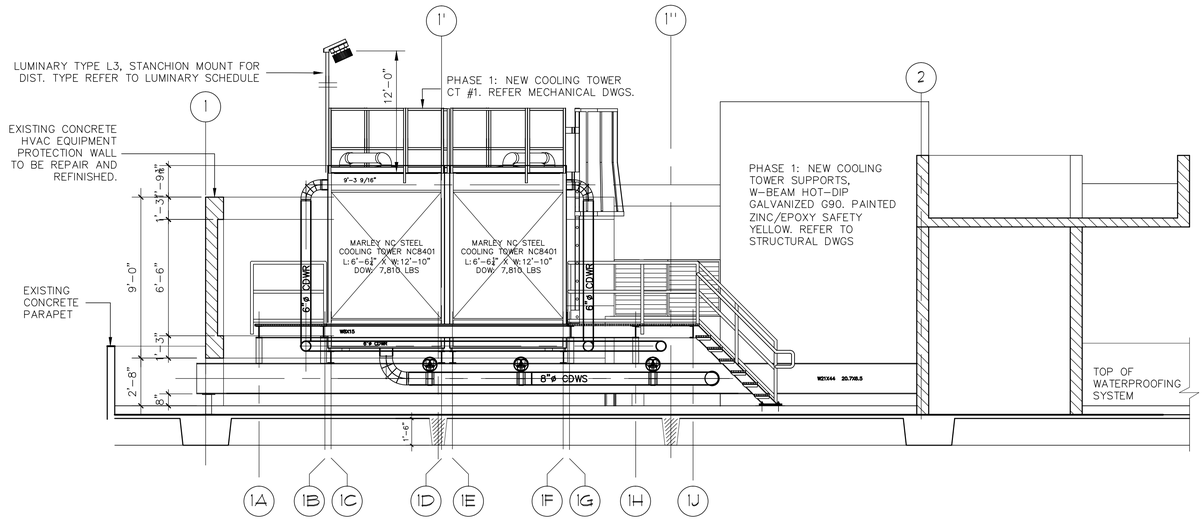
PROPOSED
MECHANICAL ROOF SECTIONS
ROOF LEVEL

DATE	2024-12-14
DRAWN BY	DBDH
REVISED BY	CRRF
DWG FILE NAME	PROPOSED
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.

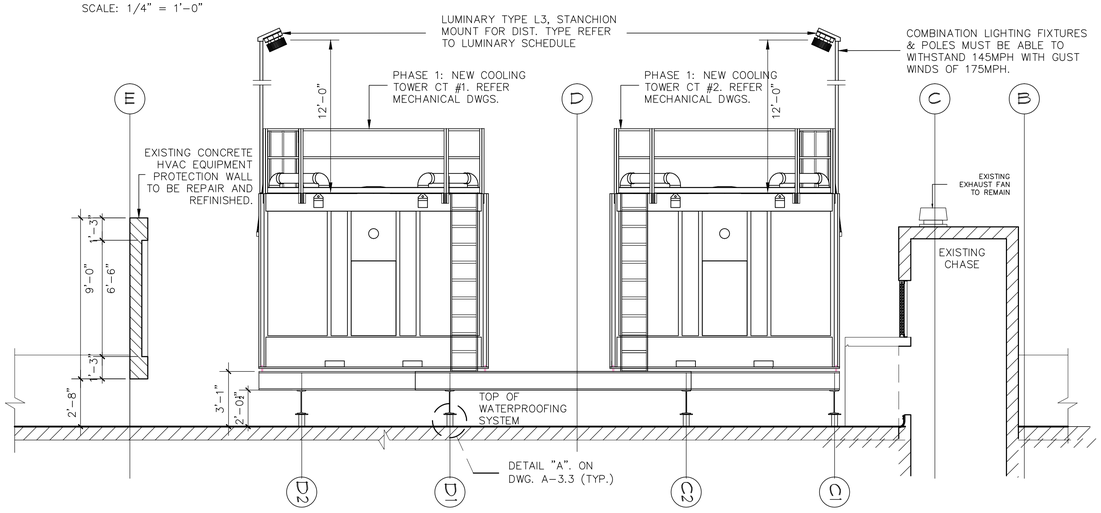
26/67 A-3.3

DRAWING NO.



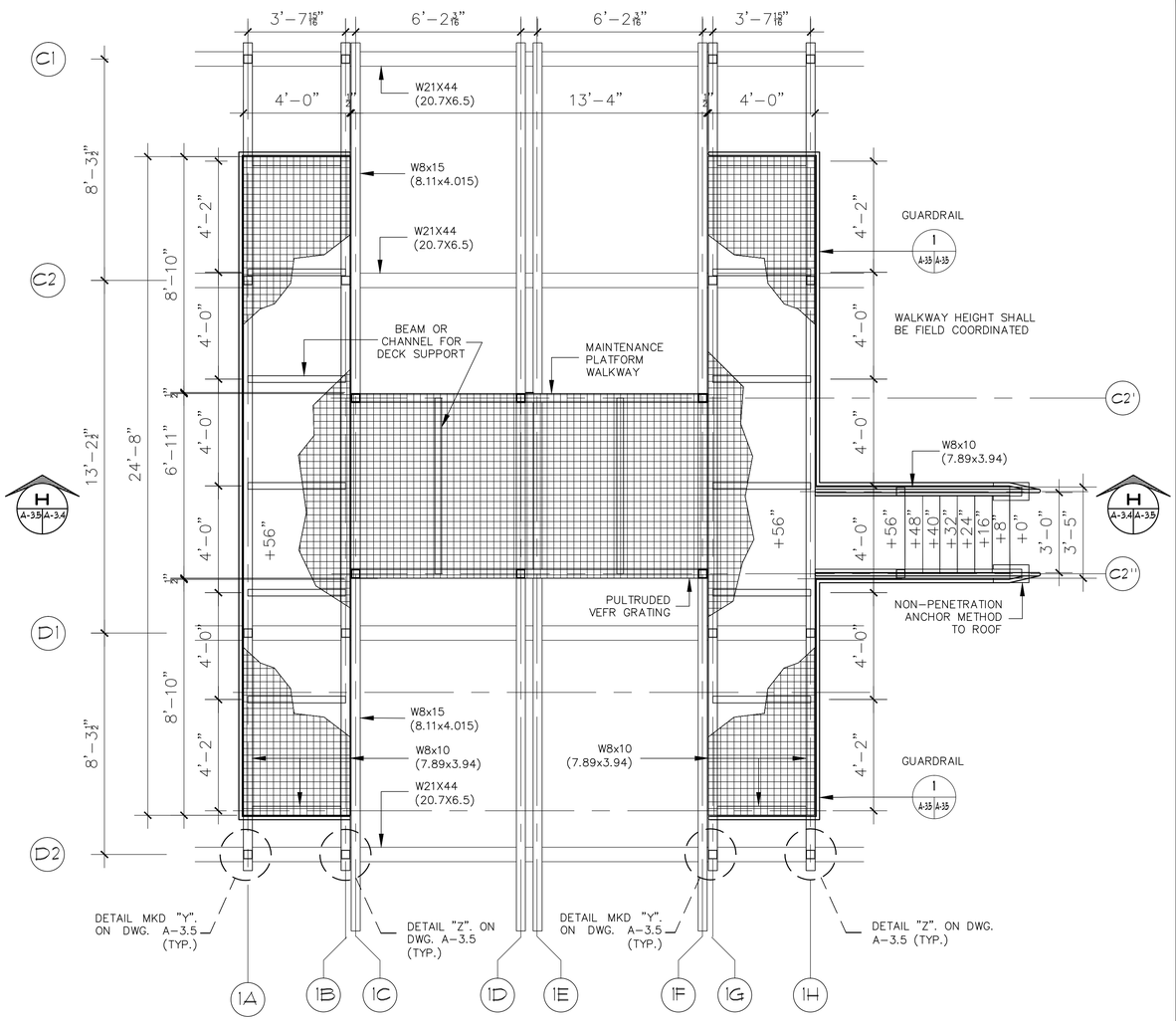
PROPOSED SECTION "F"
MAIN MECHANICAL AREA (ROOF LEVEL)

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



PROPOSED SECTION "G"
MAIN MECHANICAL AREA (ROOF LEVEL)

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



PROPOSED MAINTENANCE PLATFORM AND WALKWAY PLAN
MAIN MECHANICAL AREA (ROOF LEVEL)

SCALE: 3/8" = 1'-0"

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PROJECT

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CONSULTANT SEAL

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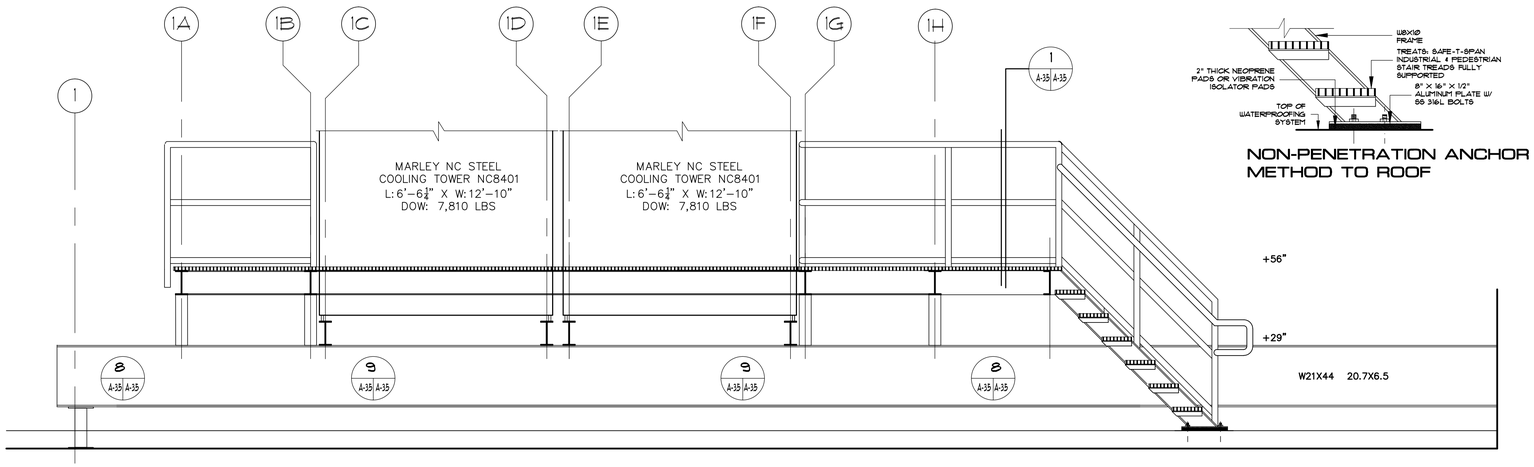
SHEET TITLE

PROPOSED
MECHANICAL ROOF SECTIONS
ROOF LEVEL

DATE	2024-12-14
DRAWN BY	DBDH
REVISED BY	CRRF
DWG FILE NAME	PROPOSED
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO. 27/67

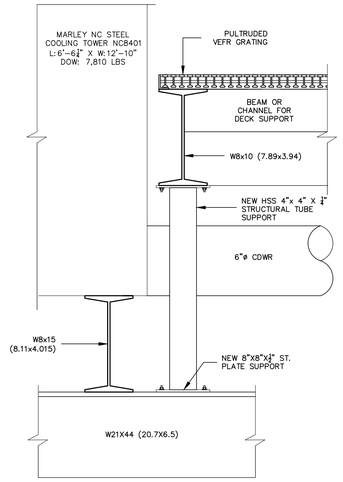
DRAWING NO. A-3.4



PROPOSED MAINTENANCE PLATFORM AND WALKWAY SECTION MAIN MECHANICAL AREA (ROOF LEVEL)

SCALE: 1/2 = 1'-0"

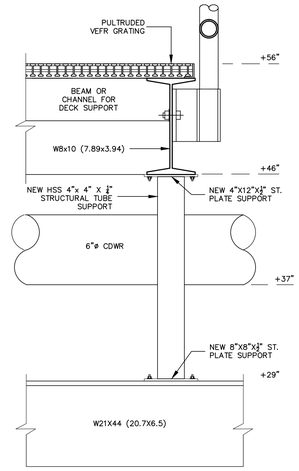
NON-PENETRATION ANCHOR METHOD TO ROOF



DETAIL MKD "Y"

SCALE: NTS

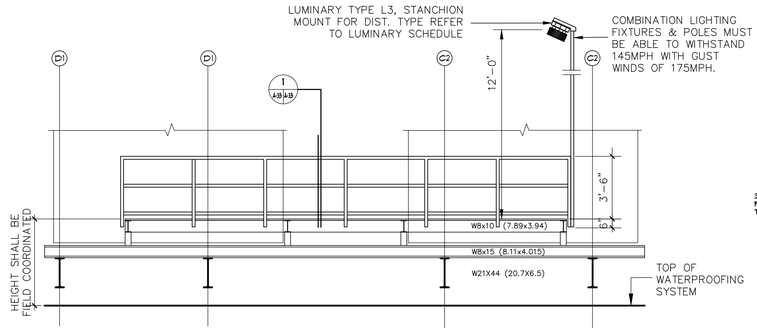
9 A-35 A-35



DETAIL MKD "Z"

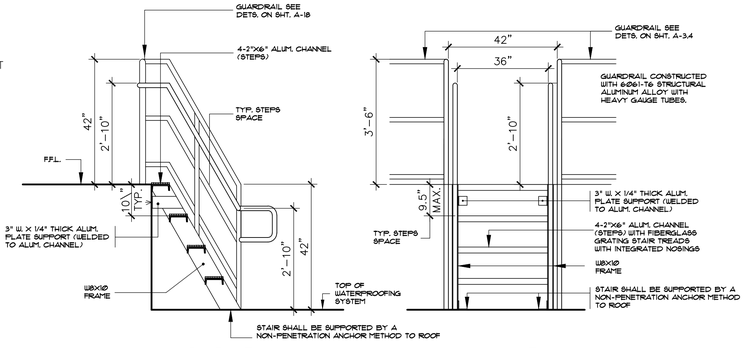
SCALE: NTS

8 A-35 A-35



GUARDRAIL WEST ELEVATION

SCALE: 3/16" = 1'-0"

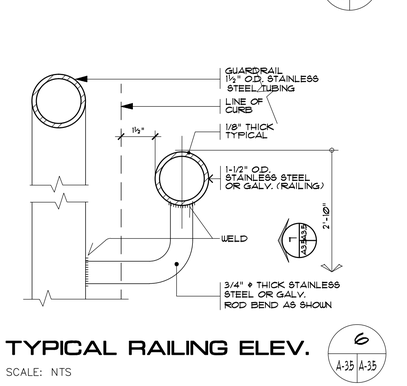


SECTION FRONT

SERVICE LADDER DETAIL

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

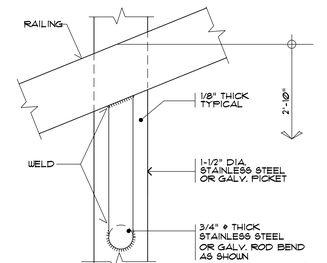
5 A-35 A-35



TYPICAL RAILING ELEV.

SCALE: NTS

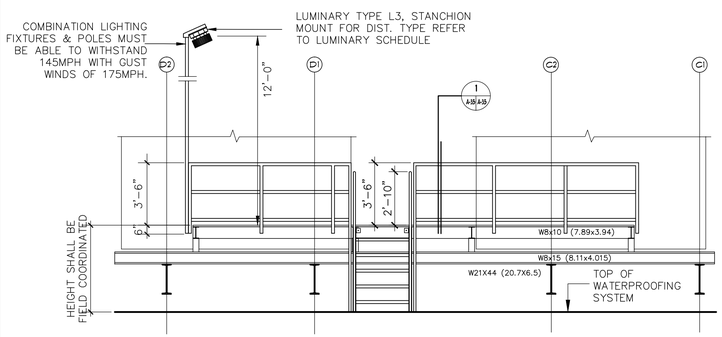
6 A-35 A-35



TYP. RAILING ELEV.

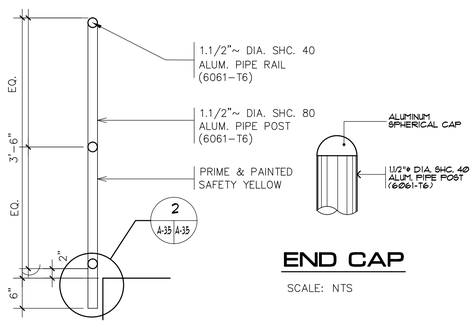
SCALE: NTS

7 A-35 A-35



GUARDRAIL EAST ELEVATION

SCALE: 3/16" = 1'-0"



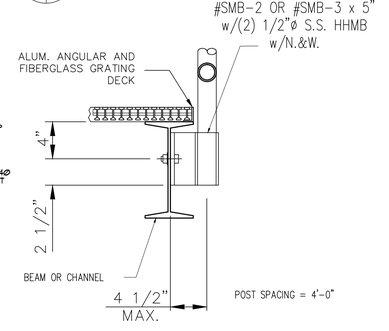
GUARDRAIL SECTION

SCALE: NTS

1 A-35 A-35

END CAP

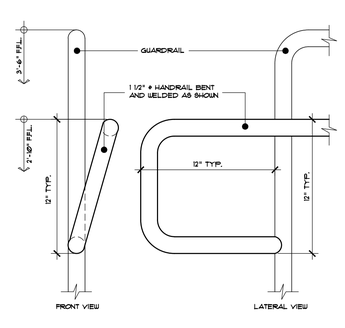
SCALE: NTS



CONNECTION TO BEAM

SCALE: NTS

2 A-35 A-35



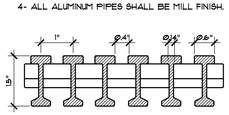
DETAIL MK'D

SCALE: NTS

3 A-35 A-35

GUARDRAIL NOTES:

1- POST: 1-1/2"DIA. SCH. 80 6061-T6 ALUMINUM PIPES
2- RAIL: 1-1/2"DIA. SCH. 40 6061-T6 ALUMINUM PIPES
3- ALL WELDS SHALL BE GROUND FLUSH AND POLISHED.
4- ALL ALUMINUM PIPES SHALL BE MILL FINISH.





MODEL: I4015 (ADA COMPLIANT)
DECK: SAFE-T-SPAN INDUSTRIAL GRATING
TREATS: SAFE-T-SPAN INDUSTRIAL & PEDESTRIAN STAIR TREADS
NO. OF BARS/FT OF WIDTH: 12, LOAD BAR DEPTH: 1.5", LOAD CENTERS: 1", OPEN AREA: 40%, WEIGHT: 4.6 LBS/SQ FT.
ADA COMPLIANT: YES, RESIN: VEFR, COLOR: DECK: DK GRAY, TREAD: DK GRAY W/ YELLOW EDGE.
MANUFACTURER: FIBERGRATE COMPOSITE STRUCTURES INC.
4825 KELLWAY CIRCLE, SUITE 224 ADDISON, TX 75001
PHONE: 800-527-4043 • FAX: 972-250-1530
WWW.FIBERGRATE.COM • EMAIL: INFO@FIBERGRATE.COM

DECK & TREADS DETAIL

NTS

4 A-35 A-35

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CLIENT

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PROJECT

PHASE I & II: IMPROVEMENTS TO MAIN HVAC SYSTEM (CHILLERS, COOLING TOWERS & AIR-COOLED CHILLER) AT PRIDCO HEADQUARTERS, SAN JUAN, PR

CONSULTANT SEAL

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SHEET TITLE

PROPOSED MAINTENANCE PLATFORM AND WALKWAY SECTION AND DETAILS ROOF LEVEL

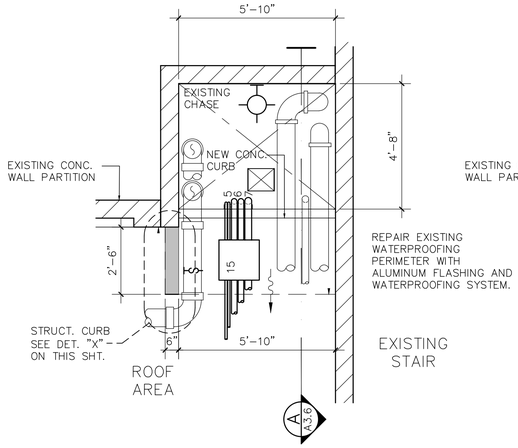
DATE	2024-12-14
DRAWN BY	DBDH
REVISED BY	CRRF
DWG FILE NAME	PROPOSED
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.

28/67

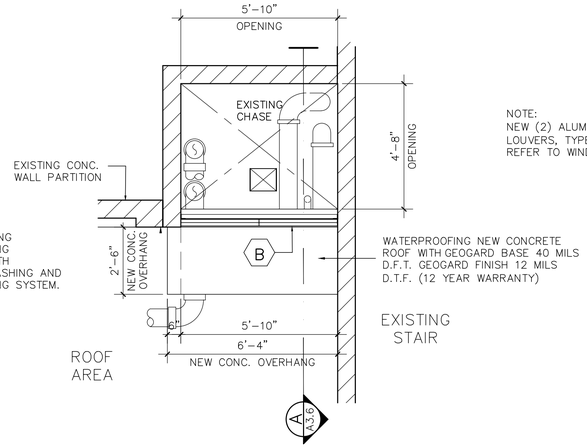
A-3.5

DRAWING NO.



MECHANICAL CHASE WEATHER PROTECTION: PARTIAL FLOOR PLAN (3'–0"F.F.L.)

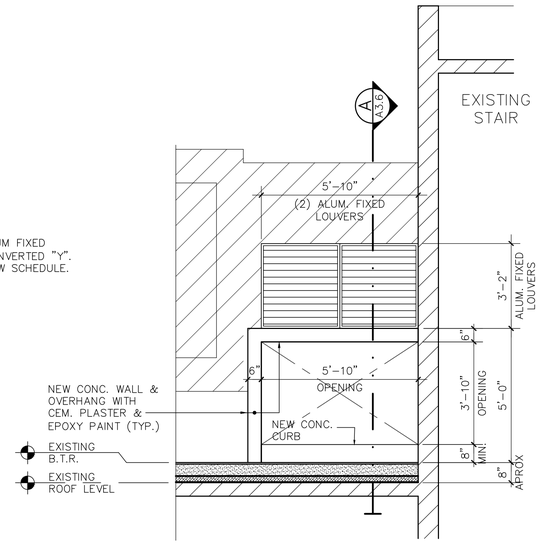
SCALE: $\frac{3}{8}$"–1'–0"



MECHANICAL CHASE WEATHER PROTECTION: PARTIAL FLOOR PLAN (6'–0"F.F.L.)

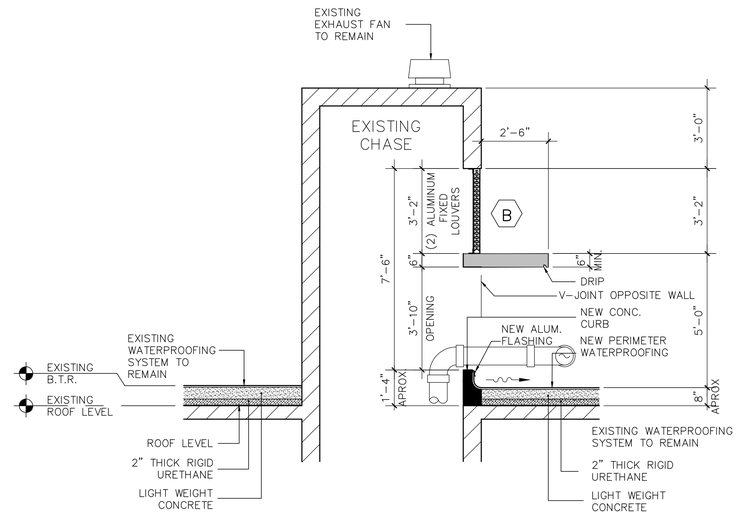
SCALE: $\frac{3}{8}$"–1'–0"

NOTE:
NEW (2) ALUMINUM FIXED LOUVERS, TYPE INVERTED "Y". REFER TO WINDOW SCHEDULE.



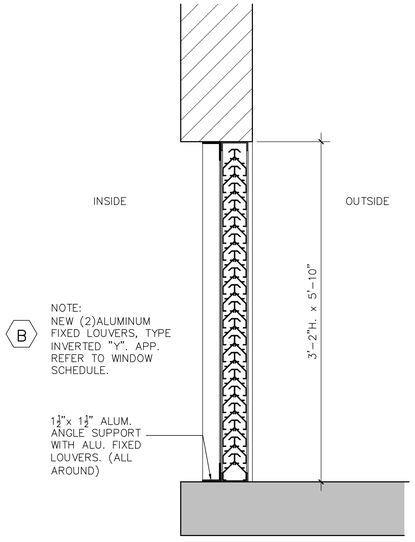
MECHANICAL CHASE WEATHER PROTECTION: FRONT ELEVATION

SCALE: $\frac{3}{8}$"–1'–0"



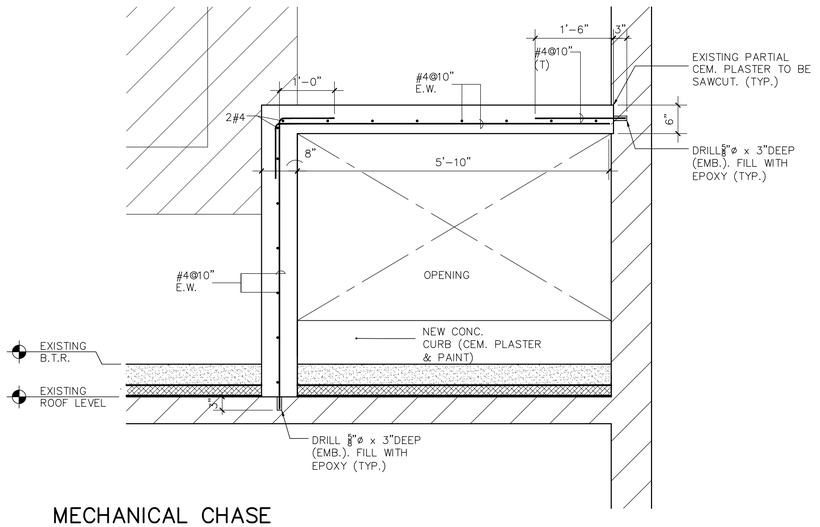
MECHANICAL CHASE WEATHER PROTECTION: SECTION MK'D "A"

SCALE: $\frac{3}{8}$"–1'–0"



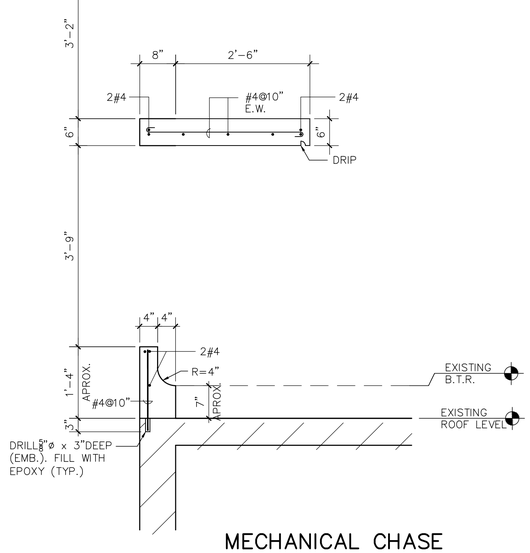
ALUMINUM FIXED LOUVER DET.

NOT SCALE



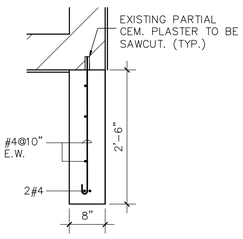
MECHANICAL CHASE WEATHER PROTECTION: SCTRUCT. ELEVATION

SCALE: $\frac{3}{4}$"–1'–0"



MECHANICAL CHASE WEATHER PROTECTION: SCTRUCT. SECTION MK'D

SCALE: $\frac{3}{4}$"–1'–0"



STRUCT. DETAIL "X"

SCALE: $\frac{3}{4}$"–1'–0"

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Architects & Consultants, PSC.

CLIENT

PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT

PHASE I & II: IMPROVEMENTS TO MAIN HVAC SYSTEM (CHILLERS, COOLING TOWERS & AIR-COOLED CHILLER) AT PRIDCO HEADQUARTERS, SAN JUAN, PR

CONSULTANT SEAL

YO, EDGAR MORELL RIVERA, 16176, CERTIFICO QUE SOY EL PROFESIONAL QUE DISEÑÓ ESTOS PLANOS Y LAS ESPECIFICACIONES COMPLEMENTARIAS. TAMBIÉN, CERTIFICO QUE ENTIENDO QUE DICHOS PLANOS Y ESPECIFICACIONES CUMPLEN CON LAS DISPOSICIONES APLICABLES DEL REGLAMENTO CONJUNTO Y LAS DISPOSICIONES APLICABLES DE LOS REGLAMENTOS Y CÓDIGOS DE CONSTRUCCIÓN VIGENTES DE LAS AGENCIAS, JUNTAS REGLAMENTADORAS O CORPORACIONES PÚBLICAS CON JURIDICCIÓN. CERTIFICO, ADEMÁS, QUE EN LA PREPARACIÓN DE ESTOS PLANOS Y ESPECIFICACIONES SE HA CUMPLIDO CABALMENTE CON LO DISPUESTO EN LA LEY NUM. 14 DE 8 DE ENERO DE 2004, SEGÚN ENMENDADA, CONOCIDA COMO LA "LEY PARA LA INVERSIÓN POR LA INDUSTRIA PUERTORRIQUEÑA" Y CON LA LEY NUM. 96 DE 6 DE JULIO DE 1978, SEGÚN ENMENDADA. RECONOZCO QUE CUALQUIER DECLARACIÓN FALSA O FALSIFICACIÓN DE LOS HECHOS QUE SE HAYA PRODUCIDO POR DESCONOCIMIENTO O POR NEGLIGENCIA YA SEA POR MÍ, MIS AGENTES O EMPLEADOS, O POR OTRAS PERSONAS CON MÍ CONOCIMIENTO, ME HACEN RESPONSABLES DE CUALQUIER ACCIÓN JUDICIAL Y DISCIPLINARIA POR LA OGPE.

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SHEET TITLE

PROPOSED
CHASE WEATHER PROTECTION
ROOF LEVEL

DATE	2024–12–14
DRAWN BY	DBDH
REVISED BY	CRRF
DWG FILE NAME	PROPOSED
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.

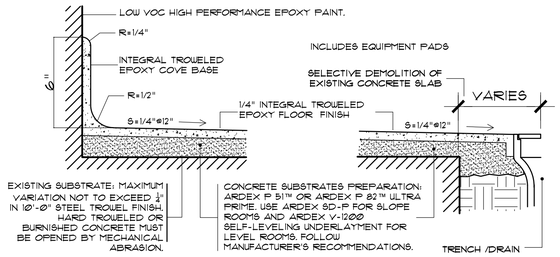
29/67

A-3.6

DRAWING NO.

FINISH SCHEDULE

	MK'D	AREA OR ROOM	FLOOR					BASE					WALL					CEILING					REMARKS
			EXISTING TO REMAIN	RESINOUS EPOXY FLOORING	EXISTING WATERPROOFING	NEW WATERPROOFING		EXISTING TO REMAIN	RESINOUS EPOXY FLOORING				EXISTING TO REMAIN	EPOXY MASTIC COATING	CLEAN, REPAIR & SEAL			EXISTING TO REMAIN	EPOXY MASTIC COATING				
BASEMENT AREA	001	MAIN MECHANICAL ROOM		●					●					●					●				NOTE NO 1 & NO. 2
	002	ELECTRICAL CORRIDOR	●					●					●					●					
	003	MAIN ELECTRICAL ROOM	●					●					●					●					
	004	STORAGE AREA	●					●					●					●					
	005	RECEIVING AREA	●					●					●					●					
	006	SERVICE DOCK AREA	●					●					●					●					
	007	SERVICE YARD	●					●					●					●					
	008	MECHANICAL CHASE		●					●					●					●				
CHASE	101	MECHANICAL CHASE (1ST)	●					●					●					●					
	201	MECHANICAL CHASE (2ND)	●					●					●					●					
	301	MECHANICAL CHASE (3RD)	●					●					●					●					
	401	MECHANICAL CHASE (4TH)	●					●					●					●					
ROOF AREA	500	ROOF MECHANICAL AREA			●	●									●								NOTE NO 1 & NO. 2
	501	MECHANICAL CHASE (ROOF)												●					●				
	502	WEATHER PROTECTION (MECH CHASE)												●					●				



NOTES:

1. EXISTING CONCRETE WALL, EQUIPMENT PADS AND SLAB.
2. SELECTIVE DEMOLITION OF EXISTING CONCRETE SLAB: SAW CUT CONCRETE PRIOR TO DEMOLITION FOR NEW TRENCH / DRAIN. REFER TO DEMOLITION AND CONSTRUCTION DRAWINGS.
3. RETROFIT FLOOR DRAINS AND PIPES: FOR SPECIFICATIONS REFER TO PLUMBING DRAWINGS.
4. POLYMER BONDING AGENT: SURFACE SHALL BE PRIME WITH ARDEX P 51 (POROUS SUBSTRATE) OR ARDEX P 82 (NON POROUS SUBSTRATE)
5. HIGH STRENGTH POLYMER MODIFIED CONCRETE UNDERLAYMENT (4-5k PSI): FLOOR MUST BE SLOPED TO THE DRAIN AT 2% GRADE (¼" PER LINEAR FOOT) WITH ARDEX SD-P® SELF-DRYING, TROWELABLE CONCRETE UNDERLAYMENT.
6. RESINOUS EPOXY FLOORING-TROWELED: FLOOR FINISH SHALL BE CARRIED UP WALL SIX (6) INCHES TO PROVIDE A INTEGRAL BASE FINISH WITH ONE (1) CLEAR COAT OF CLEAR SEALER FOLLOWING EPOXY FLOORING MANUFACTURES RECOMMENDATIONS. ECO-KRETE HEAVY DUTY ECOLOGIC FLOOR SYSTEM BY COMCORCO OR INTERAMERICAN RESINS CORP, MINIMUM THICKNESS ¼".
7. COVES: ALL FLOORS SHALL INCORPORATE AN INTEGRAL COVED BASE 152 MM (6 IN.) MINIMUM HEIGHT. THE BASE SHALL BE BACKED WITH CONCRETE WALL, PAD OR CURB.
8. SEALER: APPLY SEALER IN ACCORDANCE WITH MANUFACTURER DIRECTIONS. DCOF EQUAL OR GREATER THAT 0.60 WHEN DRY AND EQUAL OR GREATER THAT 0.42 WHEN WET.

NOTE:

- PRIOR TO START APPLICATION OF FLOORING PROVIDE FULL SCALE PORTABLE MOCK-UP TO ESTABLISH ACCEPTABLE QUALITY, DURABILITY AND APPEARANCE. MOCK-UP SIZE MUST NOT BE LESS THAT 1'-0" X 1'-0" X 1'-0".
- SUBMIT SHOP DRAWINGS SHOWING INSTALLATION OF COVE BASE AND TERMINATION DETAILS AND DETAILS AT FLOOR MATERIAL TRANSITIONS.
- APPLY SEALER IN ACCORDANCE WITH MANUFACTURER DIRECTIONS.
- MOISTURE CONTENT: NEW AND EXISTING SUBSTRATES SHALL BE TESTED FOR MOISTURE CONTENT UTILIZING ASTM F-1869 (CALCIUM CHLORIDE TEST) AND ASTM-D-4263 (PLASTIC SHEET TEST) TO ENSURE COMPLIANCE WITH MANUFACTURERS LIMITATIONS IMMEDIATELY PRIOR TO FINISH APPLICATION. WHERE LIMITATIONS ARE EXCEEDED, A WATERPROOF MEMBRANE OR OTHER REMEDIATION ACCEPTABLE TO THE MANUFACTURER SHALL BE SPECIFIED BY MANUFACTURER.

RESINOUS EPOXY FLOORING

NTS INCLUDES EQUIPMENT PADS

EPOXY CEILING FINISH NOTES:

1. PAINT FINISH: HIGHLY CHEMICAL RESISTANT EPOXY MASTIC COATING, 6 MILS PER COAT, PRIMER COAT, INTERMEDIATE COAT AND FINISH COAT OF HIGH PERFORMANCE EPOXY PAINT. CARBOLINE CARBOGUARD® 890 COLOR: C105 LIGHT GRAY, COLOR TO BE SELECTED BY ARCHITECT OF RECORD. APPLICATION: ALL SURFACES MUST BE SOUND, DRY, CLEAN AND FREE OF OIL, GREASE, DIRT, MILDEW, MILL SCALE, FORM RELEASE AGENTS, CURING COMPOUNDS, LOOSE AND FLAKING PAINT AND OTHER SURFACE CONTAMINANTS. CLEAN WITH COROTECH® V600 OIL & GREASE EMULSIFIER OR V610 CITRUS BASED CLEANER. REMOVE ALL LOOSE AND PEELING PAINT BY WIRE BRUSHING, SCRAPING OR SANDING. FILL HOLES AND CRACKS AND SAND SMOOTH. DULL GLOSSY SURFACES BY SANDING. MODERATE TO HEAVILY RUSTED SURFACES MUST BE THOROUGHLY CLEANED AND PROPERLY PRIMED. LIGHTLY SAND OR ABRADE TO ROUGHEN SURFACE AND DEGLOSS THE SURFACE. EXISTING PAINT MUST ATTAIN A MINIMUM 3A RATING IN ACCORDANCE WITH ASTM D3359 "X-CUT" ADHESION TEST.
2. FIRE PROTECTION AROUND CEILING OPENINGS - F.S SEALANT 2000 BY DOW CORNING AND MINERAL WOOL. SEAL AROUND PIPES AND CONDUITS WITH FIRE RATED FOAM.

EPOXY WALLS FINISH NOTES:

1. PAINT FINISH: HIGHLY CHEMICAL RESISTANT EPOXY MASTIC COATING, 6 MILS PER COAT, PRIMER COAT, INTERMEDIATE COAT AND FINISH COAT OF HIGH PERFORMANCE EPOXY PAINT. CARBOLINE CARBOGUARD® 890 COLOR: C105 LIGHT GRAY, COLOR TO BE SELECTED BY ARCHITECT OF RECORD. APPLICATION: ALL SURFACES MUST BE SOUND, DRY, CLEAN AND FREE OF OIL, GREASE, DIRT, MILDEW, MILL SCALE, FORM RELEASE AGENTS, CURING COMPOUNDS, LOOSE AND FLAKING PAINT AND OTHER SURFACE CONTAMINANTS. CLEAN WITH COROTECH® V600 OIL & GREASE EMULSIFIER OR V610 CITRUS BASED CLEANER. REMOVE ALL LOOSE AND PEELING PAINT BY WIRE BRUSHING, SCRAPING OR SANDING. FILL HOLES AND CRACKS AND SAND SMOOTH. DULL GLOSSY SURFACES BY SANDING. MODERATE TO HEAVILY RUSTED SURFACES MUST BE THOROUGHLY CLEANED AND PROPERLY PRIMED. LIGHTLY SAND OR ABRADE TO ROUGHEN SURFACE AND DEGLOSS THE SURFACE. EXISTING PAINT MUST ATTAIN A MINIMUM 3A RATING IN ACCORDANCE WITH ASTM D3359 "X-CUT" ADHESION TEST.
2. FIRE PROTECTION AROUND WALLS OPENINGS - F.S SEALANT 2000 BY DOW CORNING AND MINERAL WOOL. SEAL AROUND PIPES AND CONDUITS WITH FIRE RATED FOAM.

STEEL ELEMENTS PAINT NOTES:

	Coat	Product or Standard	Description	Mils
1	Preparation	SSPC SP-6 NACE 3	Commercial abrasive blast cleaning	n/a
	Paint before 4 hours to prevent contamination or repeat preparation			
2	Primer	Dimetcoate 9H	Zinc Silicate Primer	2.5 mils
	Dry to recoat minimum 16 hours			
3	Intermediate	Amercoat 235	Phenalkamine Epoxy	6 mils
	Dry to recoat minimum 2 hours			
4	Finish	Amercoat 450H	Acrylic Aliphalic Polyurethane	2.0 mils
	Dry to recoat minimum 2 hours (make only enough for one coat, pot life is only 2hrs)			
5	Finish	Amercoat 450H	Acrylic Aliphalic Polyurethane	2.0 mils
	Dry through minimum 4 hours			

NOTES:
1. ALL NEW AND EXISTING STEEL STRUCTURAL MEMBERS (COLUMNS, BEAMS, PLATES, CHANNELS, ANGLES, TUBES, PIPES SUPPORTS, ETC)
2. APPLICATION: STANDARD AIRLESS SPRAY EQUIPMENT (MIST COAT / FULL COAT). USE BRUSH FOR SMALL TOUCHUPS, AND NEVER USE ROLLERS.
3. COLOR: SAFETY YELLOW, COLOR TO BE SELECTED BY ARCHITECT, SUBMIT MANUFACTURERS ORIGINAL FULL-COLOR CHIPS SAMPLES (NO PDFS OR IN OFFICE-PRINTS).

PAINT FINISH NOTES:

1. EXTERIOR SUBSTRATE AND SYSTEMS
   - A. FERROUS METAL
     - a. PRIMER: 1st. COAT: KEM KROMIK METAL PRIME, B50NZ6/B50WZ1
     - b. 2nd. & 3rd. COAT: INDUSTRIAL ENAMEL, B54 SERIES
   - B. GALVANIZED METAL:
     - a. PRIMER: 1st. COAT: GALVITE HS PRIMER, B50WZ30
     - b. 2nd. & 3rd. COAT: INDUSTRIAL ENAMEL, B54 SERIES
   - C. WOOD:
     - a. PRIMER: 1st. COAT: A-100 EXTERIOR LATEX WOOD PRIMER, B42W41
     - b. 2nd. & 3rd. COAT: INDUSTRIAL ENAMEL, B54 SERIES
   - D. PLASTER:
     - a. 1st. & 2nd. COAT: DUARA CRAFT FLTA, B2 SERIES
2. INTERIOR SUBSTRATE AND SYSTEMS
   - A. CONCRETE, MASONRY AND STUCCO:
     - a. 1st. & 2nd. COAT: PROMAR 400 INTERIOR LATEX FLAT WALL PAINT, B30W451
   - B. CONCRETE AND MASONRY - WATER AND CHEMICAL RESISTANCE:
     - a. 1st. & 2nd. COAT: WATER BASE CATALYZED EPOXY, B70 SERIES
   - C. GYPSUM BOARD:
     - a. PRIMER: 1st. COAT: PREPRITE 400 INTERIOR LATEX PRIMER, B28W400
     - b. 2nd. & 3rd. COAT: PROMAR 400 INTERIOR LATEX FLAT WALL PAINT, B30W451
   - D. FERROUS METAL:
     - a. PRIMER: 1st. COAT: KEM KROMIK METAL PRIME, B50NZ6/B50WZ1
     - b. 2nd. & 3rd. COAT: INDUSTRIAL ENAMEL, B54 SERIES
   - E. GALVANIZED METAL:
     - a. PRIMER: 1st. COAT: GALVITE HS PRIMER, B50WZ30
     - b. 2nd. & 3rd. COAT: INDUSTRIAL ENAMEL, B54 SERIES
   - F. WOOD:
     - a. 1st. COAT: WOOD CLASSIC INTERIOR OIL STAIN, A49 SERIES
     - b. 2nd. COAT: WOOD CLASSIC FASTDRY SANDING SEALER, B28V43
     - c. 3rd. COAT: WOOD CLASSIC FASTDRY OIL VARNISH, A66-200
     - d. 4th. COAT: WOOD CLASSIC FASTDRY OIL VARNISH, A66-200
   - G. EXPOSED METAL CEILING:
     - a. FINISH: WATERBORNE ACRYLIC DRY FALL, B42W1
3. ALL WELDS OF GALVANIZED IRON GRILLES SHALL BE TREATED AND PAINTED WITH "Z.R.C." COLD GALVANIZING COMPOUND FOLLOWING MANUFACTURERS INSTRUCTIONS PRIOR TO PAINT GRILLWORK. PAINT GRILLWORK.
4. ALL COLORS SHALL BE SELECTED BY ARCH. DURING CONSTRUCTION.
5. TRAFFIC PAINT SHALL BE "ULTRA-HIDE" WATER REDUCIBLE ACRYLIC TRAFFIC PAINT NO. 21208 BLUE, WHITE OR YELLOW AS REQUIRED, BY GLIDDEN OR APPROVED EQUAL BY ARCHITECT.
6. ALL EXTERIOR & INTERIOR METAL DOOR TO BE PAINTED AS SELECTED BY ARCHITECT
7. ALL INTERIOR WALLS PAINTED WITH EPOXY SHALL BE PAINTED WITH "CARBOLINE 890", PRIMER, ONE (1) COAT± FINISH, TWO (2) COATS, (FOLLOWING MANUFACTURERS RECOMMENDATIONS) OR APPROVED EQUAL BY ARCHITECT.
8. ALL FLOORS TO BE PAINTED AS STORAGE, A/C ROOMS, POWER PLANT ROOM, ETC. SHALL HAVE A FINE BROOM CEMENT FINISH AND SHALL BE PAINTED WITH NON SKID "VULKEM 350/351 SYSTEM" COLOR GRAY BY "MAMECO INTERNATIONAL" OR APPROVED EQUAL BY ARCHITECT.

NOTE 1: STRUCTURAL REPAIR OF BOLT HOLES:

1. REPAIR HOLES IN MECHANICAL CONCRETE PADS, CONCRETE FLOOR SLAB, CONCRETE WALLS, CONCRETE CEILING, BEAMS AND RIBS LEFT AFTER REMOVING EXISTING BOLTS FROM CHILLERS, PUMPS, PIPE HANGERS AND SEISMIC RESTRAINS. CLEAN THE HOLES THOROUGHLY, PRIME AS REQUIRED, THEN FILL THEM WITH A CONCRETE HIGH-STRENGTH EPOXY MORTAR (Sikadur®-31+ OR SIKA ANCHORFIX®-3030), ONCE CURE FINISH SURFACE TO MATCH EXISTING CONCRETE.

NOTE 2: EXISTING MECH PROTECTION WALLS:

1. REFINISH EXPOSED MECHANICAL CONCRETE WALLS, PRESSURED WASH, REMOVED LOOSE CONCRETE, WIRE CLEAN AND EPOXY SEAL EXPOSED RE-BARS, REPAIR HOLES, CRACKS AND CHIPS.
2. REPAIR AND PATCH DEFECTIVE AREAS USING THE SAME MATERIALS AS THE ORIGINAL CONCRETE. PLACE, FINISH, AND CURE TO ACHIEVE A BLENDED APPEARANCE WITH ADJACENT CONCRETE.
3. THREE (3) COATS OF A UV STABLE CLEAR CONCRETE SEALER (SIKACEM-100 PRO 350), OR APPROVED EQUAL BY ARCHITECT, SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

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CLIENT
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PHASE I & II: IMPROVEMENTS TO MAIN HVAC SYSTEM (CHILLERS, COOLING TOWERS & AIR-COOLED CHILLER) AT PRIDCO HEADQUARTERS, SAN JUAN, PR

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SHEET TITLE
PROPOSED
FINISH SCHEDULE, NOTES & DETAILS

DATE	2024-12-14
DRAWN BY	DBDH
REVISED BY	CRRF
DWG FILE NAME	PROPOSED
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.
30/67 A-4.0
DRAWING NO.

DOOR SCHEDULE

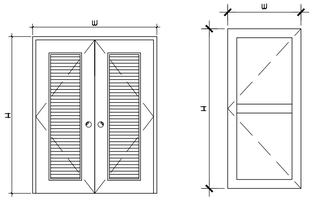
MKD	TYPE	MATERIAL	THICKNESS	DOOR OPENING H	DOOR OPENING W	DOOR SIZE H	DOOR SIZE W	CORE: STANDAR-FIRE RATED	CORE: FIRE RATED "C"	CORE: IMPACT RESISTANCE	JAMB TYPE: DET. 2 ON SHT A-25	JAMB TYPE: DET. 3 ON SHT A-25	JAMB TYPE: FIRE RATED	THRES +HOLD: DET. 1 ON SHT. A-25	FINISH: FACTORY PAINT FINISH	REMARKS
1	A	FLUSH METAL DOOR	1 3/4"	8'-Ø"	6'-9"	7'-1Ø"	2-3'-Ø"			●	●	●		●	●	SERIES 300, H SET # Ø1, WEATHER PROTECTION
2	A	FLUSH METAL DOOR	1 3/4"	8'-Ø"	7'-7"	7'-1Ø"	2-3'-Ø"			●	●	●		●	●	SERIES 300, H SET # Ø1, WEATHER PROTECTION
3	B	FLUSH METAL DOOR	1 3/4"	8'-Ø"	3'-4"	7'-1Ø"	3'-Ø"		●	●	●	●	●	●	●	SERIES 300, H SET # Ø2, WEATHER PROTECTION

NOTE:

1.

2.

DOOR TYPES



TYPE "A"
MECH ROOM DOOR
PROVIDE LOUVERS ACCORDING TO SPECIFICATIONS

TYPE "B"
STAIR DOOR

EXTERIOR DOORS AND FRAMES NOTES:

MK'D-1, MK'D-2 & MK'D-3

1. EXTERIOR DOORS TO BE 300 SERIES,

-1 3/4" EXTRA HEAVY-DUTY DOORS
-16 GA. ELECTRO-ZINC, COATED TUBULAR STEEL CONSTRUCTION WITH 5-1/2" TOP RAIL AND STILES AND 8" BOTTOM RAIL
-10 GA. HINGE REINFORCEMENT
-14 GA. LOCK REINFORCEMENT
-18 GA. ELECTRO-ZINC COATED FACE PANELS (FLUSH DOORS)
-12 GA. CLOSER REINFORCEMENT
-CORNERS WELDED AND GROUND SMOOTH
-CHEMICALLY CLEANED AND PHOSPHATE TREATED SURFACES

HARDWARE SCHEDULE

H SET # Ø1

8	EA. BUTTS	TA2314 4.5 X 4.5 32D	MCK
2	EA. FLUSH BOLT	3917 12" 26D	TRI
1	EA. LOCKSET	10G04 LL 26D	SAR
1	EA. CLOSER	1431 ODA EN	SAR
1	EA. WALL STOP	1276 CCS 26D	TRI

H SET # Ø2

4	EA. BUTTS	TA2314 4.5 X 4.5 32D NRP	MCK
1	EA. EXIT DEVICE	8813 ETL 32D	SAR
1	EA. CLOSER	1431 P3DA EN	SAR
1	EA. WALL STOP	1276 CCS 26D	TRI

WEATHER PROTECTION (DOORS 1, 2 & 3)

1 EA. OVER HEAD DRIP	346C WOD	PEM
1 EA. HEAD SEAL	316 AS WOD	PEM
1 EA. JAMB SEAL	316 AS WOD	PEM
1 EA. BOTTOM DRIP	3452 AS WOD	PEM
1 EA. THRESHOLD	2005 AS WOD	PEM

1. STAIRWELL DOOR (MKD NO. 3):
A. DOOR MUST BE UNLOCKED.
B. DOOR SHALL COMPLY WITH PRESSURIZED STAIRWELL REQUIREMENTS.
C. PROVIDE TWO (2) ADA / OSHA COMPLIANCE SIGNAGE INSIDE AND OUTSIDE AT PULL SIDE OF DOOR THAT STATES: "DOOR OPENS FROM OUTSIDE".

2. IMPACT TEST REQUIREMENT FOR DOORS: ALL EXTERIOR DOORS (MKD 1, 2 & 3) MUST PASS THE LARGE MISSILE IMPACT TEST. LARGE MISSILE IMPACT PER FBC TAS 201 (9LB @ 50 F/S) OR EQUIVALENT TO ASTM E1996-20: LEVEL E 9LB @50 F/S. DOORS SHALL BE RATED HURRICANE RATED DOORS.

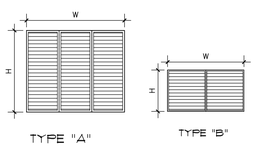
3. LOUVERED DOORS:
HIGH SOUND ATTENUATING LOUVER, 25% FREE AREA, PROVIDE INSECT SCREEN.

4. SIGNAGE:
DOOR TYPE "A":
DOOR TYPE "B": PROVIDE ADA / OSHA COMPLIANCE SIGNAGE INSIDE AND OUTSIDE AT FULL SIDE OF DOOR THAT STATES: "DOOR OPENS FROM OUTSIDE".

WINDOW SCHEDULE

MK'D	MATERIAL	WINDOW OPENING: WIDTH	WINDOW OPENING: HEIGHT	WINDOW SIZE: WIDTH	WINDOW SIZE: HEIGHT	OPERATOR TYPE	REMARKS
A	ALUMINUM FIXED LOUVERS	9'-Ø"	7'-4"	3 EQUAL SPACES	3 EQUAL SPACES	N/A	HIGH SOUND ATTENUATING LOUVER, 25% FREE AREA MODEL T9112 BY AIROLITE, PROVIDE INSECT SCREEN.
B	ALUMINUM FIXED LOUVERS	5'-1Ø"	3'-2"	2 EQUAL SPACES	2 EQUAL SPACES	N/A	INVERTED "Y" MODEL LA-11 BY LAUSELL. BAKED ENAMEL FINISH

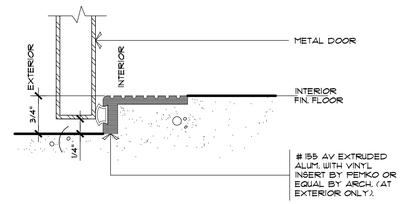
WINDOW TYPES



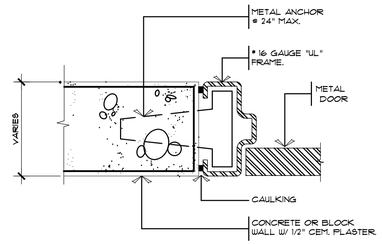
TYPE "A"

TYPE "B"

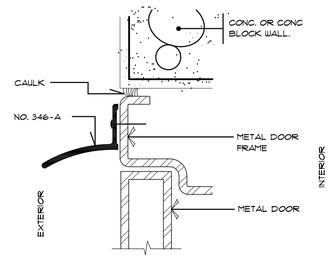
IMPACT TEST REQUIREMENT WINDOWS: ALL LOVER WINDOWS (MKD A & B) MUST PASS THE LARGE MISSILE IMPACT TEST. LARGE MISSILE IMPACT PER FBC TAS 201 (9LB @ 50 F/S) OR EQUIVALENT TO ASTM E1996-20: LEVEL E 9LB @50 F/S. DOORS SHALL BE RATED HURRICANE RATED WINDOWS.
LOUVER WINDOWS: PROVIDE STRUCTURAL REINFORCING MEMBERS AS NEEDED TO ADEQUATELY SUPPORT AND INSTALL MULTIPLE LOUVER SECTIONS WITHIN A LARGE OPENING.



WEATHER STRIPPING DETAIL — 1 / A-11 | A-5



TYPICAL HEAD & JAMB METAL DOOR DETAIL — 2 / A-11 | A-5



346-A EXTRUDED ANODIZED ALUM. OVERHEAD RAIN DRIP %6 X 5/8" SHEET METAL SCREWS PUNCHED HOLES BY 'PENKO' OR APP. EQUAL BY ARCHITECT, APPLICABLE AT EXTERIOR DOORS.

DOOR TOP PROTECTION — 3 / A-11 | A-5

FIRE EXTINGUISHED SPECIFICATIONS

PROVIDE THREE (3) TYPE A.B.C. 5 LBS. FIRE EXTINGUISHES, QUANTITY & LOCATION TO BE DETERMINED AT FIELD. BY FIRE DEPARTMENT.

EYE AND FACE WASH STATION

HALO 316 STAINLESS STEEL EYE-FACE WASH AND SHOWERHEAD, FOOT ACTIVATION. MODEL 5193145916. ALL TYPE 316 STAINLESS STEEL FIXTURE,

HARDWARE NOTES:

1. ALL LOCKSET NO. REFER TO "SARGENT"
2. ALL LOCKSET TO HAVE A 2 3/4" BACK SET.
3. HINGES TO BE "MCKINNEY" OR APP. EQUAL.
4. DOOR CLOSER TO BE "SARGENT" OR APP. EQUAL.
5. A CUSTOMIZED MASTER KEYED SYSTEM SHALL BE PROVIDED THROUGH OUT THE ENTIRE BUILDING.
6- ALL DOOR CLOSERS TO BE INSTALLED AT THE INTERIOR SIDE OF DOORS.
7. ALL DOORS STOPS TO BE "TRIMCO" OR APP. EQUAL.
8. ALL BOLTS TO BE "TRIMCO" OR APP. EQUAL.
9- VERIFY WITH OWNER KEYING SYSTEM.
10- ALL LOCKS MASTER KEY & CONSTRUCTION KEY
3 KEYS PER LOCK
2 MASTERS KEYS
10 CONSTRUCTION KEYS
11- ALL KEYS STAMPED " DO NOT DUPLICATE"
12- FINAL KEY-LAY OUT AS PER ARCHITECTS AND/ OR OWNER INSTRUCTIONS.
13. CONTRACTOR SHALL SUBMIT TO THE ARCHITECT A FINAL HARDWARE SCHEDULE PRIOR TO PURCHASE ORDER FOR REVISION & APPROVAL.

APPROVED MANUFACTURERS:

1. HINGES - MCKINNEY, STANLEY, HAGER.
2. LOCKS - SARGENT, CORBIN-RUSSWIN, SCHLAGE, YALE, AND FALCON.
3. EXIT DEVICES - SARGENT, VON DUPRIN, MONARCH, CORBIN-RUSSWIN
4. CLOSERS - SARGENT, CORBIN-RUSSWIN, DORMA, NORTON
5. MISSELANOUS - TRIMCO, ROCKWOOD, IVES, BALDWIN
6. WEATHERSTRIPING - PEMKO, ZERO, REES, NATIONAL GUARD

OTHER MANUFACTURERS COULD BE APPROVED IF REQUEST IS SUBMITTED IN WRITING 15 DAYS PRIOR TO BID, AND APPROVED BY THE ARCHITECT.

KEYING SYSTEM:

PROVIDE XC PROPRAITORY CYLINDERS AND KEYS PROTECTED FROM UNAUTHORIZED MANUFACTURE AND DISTRIBUTION BY MANUFACTURER'S UNITED STATES PATENTS.

ALL LOCKS MASTER KEY AND ALL LOCKS CONSTRUCTION KEY:
3 KEYS PER LOCK
2 MASTERS KEYS
10 CONSTRUCTION KEYS

FINAL KEY LAY OUT AS PER ARCHITECTS AND/OR OWNER INSTRUCTIONS.

REGULATORY REQUIREMENTS:

A. CONFORM TO ALL APPLICABLE CODES FOR FIRE RATED DOORS AND FRAMES.

B. CONFORM TO THE APPLICABLE SECTIONS OF CHAPTER 5 OF NFPA 101.

C. CONFORM TO ANSI A117.1 FOR HARDWARE LOCATIONS AND REQUIREMENTS TO MEET ALL HANDICAPPED CODES AND MEET TITLE III PROVISIONS OF THE AMERICAN WITH DISABILITIES ACT.

D. QUANTITIES SHOWN ON THE SCHEDULE ARE FOR REFERENCE ONLY, FINAL COUNT IS BIDDERS RESPONSIBILITY. BIDDERS SHOULD VERIFY FLOOR PLANS AND DOORS SCHEDULE TO DETERMINE FINAL QUANTITIES.

E. ALL HARDWARE MANUFACTURERS SUBMITED SHALL BE MEMBERS OF THE BUILDERS HARDWARE MANUFACTURERS ASSOCIATION.

REFERENCES:

MCK = MCKINNEY MFG COMP. (BUTT HINGES)
SAR = SARGENT & COMP. (LOCKSETS, EXITS, CLOSERS,)
TRI = TRIANGLE BRASS MANF. (PUSH, PULL, BOLTS, STOPS,)
PEM = PEMKO. (WEATHERSTRIPING)
KCS = KEY CONTROLS SYSTEM INC. (KEY CABINETS)

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E. MORELL– RIVERA
Architects & Consultants, PSC.

CLIENT
PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT
PHASE I & II: IMPROVEMENTS TO MAIN HVAC SYSTEM (CHILLERS, COOLING TOWERS & AIR-COOLED CHILLER) AT PRIDCO HEADQUARTERS, SAN JUAN, PR

CONSULTANT SEAL

YO, EDGAR MORELL RIVERA, 16176, CERTIFICO QUE SOY EL PROFESIONAL QUE DISEÑÓ ESTOS PLANOS Y LAS ESPECIFICACIONES COMPLEMENTARIAS. TAMBIÉN, CERTIFICO QUE ENTIENDO QUE DICHOS PLANOS Y ESPECIFICACIONES CUMPLEN CON LAS DISPOSICIONES APLICABLES DEL REGLAMENTO CONJUNTO Y LAS DISPOSICIONES APLICABLES DE LOS REGLAMENTOS Y CÓDIGOS DE CONSTRUCCIÓN VIGENTES DE LAS AGENCIAS, JUNTAS REGLAMENTADORAS O CORPORACIONES PÚBLICAS CON JURIDICCIÓN. CERTIFICO, ADEMÁS, QUE EN LA PREPARACIÓN DE ESTOS PLANOS Y ESPECIFICACIONES SE HA CUMPLIDO CABALMENTE CON LO DISPUESTO EN LA LEY NUM. 14 DE 8 DE ENERO DE 2004, SEGÚN ENMENDADA, CONOCIDA COMO LA "LEY PARA LA INVERSIÓN POR LA INDUSTRIA PUERTORRIQUEÑA" Y CON LA LEY NUM. 96 DE 6 DE JULIO DE 1978, SEGÚN ENMENDADA. RECONOZCO QUE CUALQUIER DECLARACIÓN FALSA O FALSIFICACIÓN DE LOS HECHOS QUE SE HAYA PRODUCIDO POR DESCONOCIMIENTO O POR NEGLIGENCIA YA SEA POR MÍ, MIS AGENTES O EMPLEADOS, O POR OTRAS PERSONAS CON MÍ CONOCIMIENTO, ME HACEN RESPONSABLES DE CUALQUIER ACCIÓN JUDICIAL Y DISCIPLINARIA POR LA OGPE.

REV.	DATED		BY.
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SHEET TITLE
PROPOSED
DOOR , GATE & WINDOW SCHEDULES

DATE	2024–12–14
DRAWN BY	DBDH
REVISED BY	CRRF
DWG FILE NAME	PROPOSED
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.
31/67
A-5.0
DRAWING NO.

A. GENERAL

1. THESE GENERAL NOTES APPLY EXCEPT WHERE SPECIFICALLY OVERRIDDEN BY NOTES ON DRAWINGS AND/OR DETAILS.

2. DESIGN, DETAILING AND CONSTRUCTION WORK SHALL COMPLY WITH THE REQUIREMENTS AND PROVISIONS TO THE FOLLOWING CODES AND SPECIFICATIONS, THEIR COMMENTARIES AND THE STANDARDS REFERENCED THEREIN, LAST REVISION (U.O.N.):
   a. 2018 INTERNATIONAL BUILDING CODE (IBC) AND MINIMUM DESIGN LOADS AND ASSOCIATED CRITERIA FOR BUILDINGS AND OTHER STRUCTURES (ASCE/SEI 7–16) WITH PRBC 2018 AMENDMENTS.
   b. AMERICAN CONCRETE INSTITUTE (ACI)
   c. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
   d. CONCRETE REINFORCING STEEL INSTITUTE (CRSI)
   e. AMERICAN WELDING SOCIETY (AWS)
   f. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)
   g. STEEL DECK INSTITUTE (SDI)
   h. STEEL JOIST INSTITUTE (SJI)

3. VERIFY EXISTING FEATURES AND CONDITIONS (DIMENSIONS, ELEVATIONS, ETC.) UPON WHICH THESE DRAWINGS RELY.

4. DETAILS ARE TYPICAL. FOR CONDITIONS NOT CLEARLY UNDERSTOOD SUBMIT SKETCHES AND/OR REQUESTS FOR INFORMATION TO THE ARCHITECT FOR RESOLUTION.

5. OMISSIONS, CONFLICTS OR MISUNDERSTANDINGS BETWEEN THE VARIOUS ELEMENTS OF THE CONTRACT DOCUMENTS, IF ANY, SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT FOR RESOLUTION BEFORE PROCEEDING WITH THE WORK.

6. REFER TO OTHER DISCIPLINES' DRAWINGS AND COORDINATE INFORMATION RELATED TO THOSE OTHER DISCIPLINES' SYSTEMS, FOR ITEMS SUCH AS: FINISH FLOOR ELEVATIONS, FLOOR DEPRESSIONS, SLOPES, DRAINS, CURBS, PADS,
   a. EMBEDDED ITEMS, OPENINGS, ETC. SIZE AND LOCATION OF ALL NON–BEARING PARTITIONS AND ALL DOOR AND
   b. WINDOW OPENINGS. STAIR FRAMING, HANGERS AND DETAILS.
   c. DIMENSIONS NOT SHOWN ON STRUCTURAL DRAWINGS.
   d. WATERPROOFING AND WATERSTOPS.
   e. PIPE RUNS, SLEEVES, HANGERS, TRENCHES, WALL, ROOF AND FLOOR OPENINGS, ETC. NOT SHOWN OR NOTED.
   f. ELECTRICAL CONDUIT RUNS, BOXES, OUTLETS, ETC., IN WALLS AND SLABS.
   g. ANCHORAGE AND BRACING FOR MECHANICAL, ELECTRICAL AND PLUMBING
   h. EQUIPMENT. SIZE, LOCATION AND DETAILS OF EQUIPMENT ANCHORAGE AND BASES.

7. OPENINGS REQUIRED BUT NOT SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL BEFORE THEY ARE CONSTRUCTED.

8. THE MAXIMUM LOAD HUNG FROM ANY BEAM FOR MEP DUCTWORK, PIPING ETC SHALL NOT EXCEED 2 PSF. THE HANGERS SHALL BE SUPPORTED FROM JOIST PANEL POINTS WHENEVER POSSIBLE. SEE DETAILS ON STRUCTURAL DRAWINGS FOR ADDITIONAL BRACING REQUIREMENTS FOR LOADING AWAY FROM PANEL POINT. FOR LOAD CONDITIONS NOT COVERED ABOVE OBTAIN APPROVAL FROM STRUCTURAL ENGINEER PRIOR TO FABRICATION.

9. PROVIDE AND MAINTAIN TEMPORARY BRACING, SHORING, GUYING, OR OTHER TEMPORARY SUPPORT DURING CONSTRUCTION TO ASSURE CORRECT AND ACCURATE STRUCTURE GEOMETRY, AND TO AVOID TEMPORARY OVERSTRESS.

10. WALLS SHALL BE ADEQUATELY BRACED DURING CONSTRUCTION UNTIL WALL DESIGN STRENGTH HAS BEEN ATTAINED AND ALL PERMANENT SUPPORTS ARE IN PLACE.

11. THE USE OF NEW CONSTRUCTION FOR TEMPORARY SUPPORT OR STORAGE OF CONSTRUCTION EQUIPMENT OR MATERIALS IS RESTRICTED TO THE DESIGN CAPACITY OF THE NEW CONSTRUCTION AT THE TIME IT IS TO BE USED. EQUIPMENT OR MATERIALS SHALL BE PLACED SO AS NOT TO EXCEED THE CAPACITY OF INDIVIDUAL ELEMENTS. PROVIDE ADEQUATE, ENGINEERED SHORING/BRACING WHERE DESIGN CAPACITY IS NOT SUFFICIENT.

12. CONSTRUCTION LOADS SHALL NOT BE PLACED ON NEW CONCRETE CONSTRUCTION, INCLUDING CONCRETE FILL ON DECK, FOR AT LEAST 7 DAYS AFTER CONCRETE PLACEMENT.

13. DO NOT USE DIMENSIONS SCALED FROM THE STRUCTURAL DRAWINGS.

14. SHOP DRAWINGS SHALL NOT BE REPRODUCTIONS, IN WHOLE OR IN PART, OF DRAWINGS PREPARED BY THIS OFFICE BUT SHALL BE PREPARED ENTIRELY BY MANUFACTURER, FABRICATOR OR INSTALLER BASED ON INFORMATION WITHIN THESE DRAWINGS.

15. THESE GENERAL NOTES SUPPLEMENT THE PROJECT SPECIFICATIONS. REFER TO THE PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. WHERE A DISCREPANCY OCCURS BETWEEN THESE DRAWINGS, THE GENERAL NOTES AND THE SPECIFICATIONS, THE MORE RESTRICTIVE SHOULD APPLY.

B. DESIGN DATA

1. STRUCTURAL DESIGN SHALL BE BASED ON THE IBC, 2018 EDITION WITH PUERTO RICO AMENDMENTS 2018.

2. SUPERIMPOSED DESIGN LIVE LOADS. (PSF)

a. ROOFS	40	(REDUCIBLE)
b. PUBLIC AREAS, STAIRS, CORRIDORS	100	
c. OFFICE	50	(REDUCIBLE)

3. SUPERIMPOSED DESIGN DEAD LOADS (PSF)

a. PARTITIONS (OFFICE FLOORS ONLY)	25
b. CEILING, MECHANICAL & MISCELLANEOUS	15
c. HEAVY STORAGE	150

4. SEISMIC DESIGN AND WIND DESIGN: IBC 2018 AND ASCE 7–16 RESPECTIVELY

C. TESTING AND INSPECTION

1. TESTING AND INSPECTION SHALL CONFORM TO THE IBC, 2018 EDITION WITH PUERTO RICO AMENDMENTS 2018.

2. SPECIAL INSPECTION REQUIRED FOR:
   a. CONCRETE
   b. BOLTS INSTALLED IN CONCRETE
   c. REINFORCING STEEL
   d. WELDING
   e. HIGH STRENGTH BOLTING
   f. MAXIMUM WATER SOLUBLE CLORIDE ION CONTENT
   g. SPECIAL CASES AS REQUIRED BY THE BUILDING OFFICIAL

3. SEE SPECIFICATIONS AND APPLICABLE BUILDING CODE FOR ADDITIONAL REQUIREMENTS.

4. GROUT MANUFACTURER'S REPRESENTATIVE SHALL BE PRESENT AT THE JOB SITE TO SUPERVISE THE FIRST SETS OF COLUMN BASE PLATE GROUTING.

5. THE INSPECTOR SHALL NOTIFY THE ARCHITECT OF ANY CONSTRUCTION THAT IS NOT IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. THIS NOTIFICATION SHALL BE BY TELEPHONE, INCLUDING LEAVING A MESSAGE AT THE OFFICE OF THE ARCHITECT AS TO THE NATURE OF THE SITUATION, WITH FOLLOW UP CONFIRMATION IN WRITING. CONTRACTOR SHALL BE IMMEDIATELY ADVISED OF ANY CONSTRUCTION WHICH, IN THE INSPECTOR'S OPINION, IS NOT IN CONFORMANCE WITH THE CONTRACT DOCUMENTS.

6. ALL SPECIAL INSPECTION AGENCIES/INDIVIDUALS AND SHOP FABRICATORS SHALL BE APPROVED BY THE OWNER/DESIGNER PRIOR TO ANY WORK BEING PERFORMED. SUBMIT ALL DOCUMENTATION FOR APPROVAL.

D. CONCRETE

1. CONCRETE SHALL BE MIXED AND PLACED IN ACCORDANCE WITH ACI 318. USE MIXES WITH MAXIMUM AGGREGATE SIZE APPROPRIATE FOR FORM SPACES AND REINFORCEMENT PLACEMENT REQUIRED IN THIS PROJECT.

2. CONCRETE PROPORTIONS, INCLUDING WATER CEMENT RATIO, SHALL BE ESTABLISHED IN ACCORDANCE WITH SECTION 5.3 OF ACI–318 ON THE BASIS OF FIELD EXPERIENCE AND/OR TRIAL MIXTURES WITH MATERIALS PROPOSED FOR USE IN THIS PROJECT. FOR EACH MIX SPECIFIED, SUBMIT DOCUMENTATION OF CONCRETE PROPORTIONS, REVIEWED AND APPROVED BY THE OWNER'S TESTING AGENCY, TO THE ARCHITECT AT LEAST TWO WEEKS BEFORE CONCRETE IS TO BE PLACED. THE CONTRACTOR IS RESPONSIBLE FOR ACHIEVING THE SPECIFIED OR REQUIRED STRENGTHS.

3. DELAYS CAUSED BY FAILURE TO CONFORM TO THE REQUIREMENTS IN 2, ABOVE, WILL NOT BE ACCEPTED AS JUSTIFICATION FOR ADDITIONAL COMPENSATION OR EXTENSIONS OF TIME.

4. SPECIFIED CONCRETE TYPES AND MINIMUM 28 DAY CONCRETE COMPRESSIVE STRENGTHS (f'c):

	f'c	MAX. W/C
a. FOUNDATIONS	4000 PSI	0.50
b. CONCRETE FILL ON STEEL DECK	4000 PSI	0.45
c. EQUIPMENT PADS ON ROOF	4000 PSI	0.45
d. COL., BEAMS AND WALLS U.O.N.	4000 PSI	0.45
e. STRUCTURAL SLABS	5000 PSI	0.45
f. ALL OTHER CONCRETE, U.O.N.	4000 PSI	0.45

5. SCHEDULING OF WORK MAY REQUIRE SPECIFIC CONCRETE DESIGN STRENGTHS IN LESS THAN 28 DAYS. SUBMIT REQUIREMENTS AND BACKUP DATA.

6. CONCRETE SECTIONS AT CONSTRUCTION JOINTS SHALL BE INTENTIONALLY ROUGHENED BY SAND BLASTING AND CLEANED BEFORE SUBSEQUENT CONCRETE PLACEMENT.

7. SUBMIT TO ARCHITECT PRIOR TO CONSTRUCTION, LOCATION PLAN FOR ALL PROPOSED JOINTS NOT INDICATED ON DRAWINGS.

8. CONCRETE SHALL BE REINFORCED UNLESS SPECIFICALLY NOTED "NOT REINFORCED".

9. OUTSIDE DIAMETER OF CONDUIT OR PIPE TO BE EMBEDDED IN CONCRETE SLABS OR STEEL DECK FILL SHALL NOT EXCEED 30% OF MINIMUM CONCRETE THICKNESS UNLESS SPECIFICALLY DETAILED OTHERWISE. STACKING OF CONDUITS IN SLAB IS PROHIBITED.

10. PROJECTING CORNERS OF BEAMS, WALLS, COLUMNS, ETC., SHALL BE FORMED WITH A 3/4 INCH CHAMFER, EXCEPT WHERE OTHERWISE NOTED ON ARCHITECTURAL DRAWINGS.

11. THICKNESSES OF CONCRETE FILL ON STEEL DECK INDICATED ON STRUCTURAL DRAWINGS ARE MINIMUM THICKNESSES. CONTRACTOR SHALL MAKE ALLOWANCE FOR ADDITIONAL FILL REQUIRED TO COMPENSATE FOR BEAM AND DECK DEFLECTIONS AND TO MAINTAIN SPECIFIED SURFACE TOLERANCES.

12. ALL BEAMS SHALL BE CAST MONOLITHICALLY WITH THE SLABS.

13. CONSTRUCTOR SHALL PROVIDE CAMBER FOR INITIAL ELASTIC DEFLECTION OF SLABS AND BEAMS.

14. SLAB TEMPERATURE STEEL, NORMAL TO MAIN REINFORCEMENT, SHALL BE AS FOLLOWS:

SLAB THICKNESS	4"	5"	6"	7"	8"
REINFORCEMENT	#3@12"	#3@10"	#3@9"	#4@14"	#4@12"

15. MAXIMUM WATER SOLUBLE CLORIDE ION (CL) IN CONRETE, PERCENT BY WEIGHT OF CEMENT SHALL BE 0.15.

16. THE SLUMP OF CONCRETE CONTAINING A HIGH RANGE, WATER–REDUCING ADMIXTURE SHALL NOT EXCEED 8". HIGH RANGE, WATER–REDUCING ADMIXTURE SHALL CONFORM TO ASTM C494, TYPE F.

17. ALL REINFORCING, SLEEVES, CONDUITS, INSERTS AND BOLTS SHALL BE WELL SECURED AND IN PLACE BEFORE CONCRETE IS POURED.

18. CONCRETE SHALL NOT BE DROPPED THROUGH REINFORCING STEEL SO AS TO CAUSE SEGREGATION OF AGGREGATES IN SUCH CASES, HOOPERS OR VERTICALS CHUTES OR TRUNKS SHALL BE USED. THE FREE UNCONFINED FALL OF CONCRETE SHALL NOT EXCEED THE ABOVE REQUIREMENTS.

19. PROVIDE SLEEVES FOR PLUMBING AND ELECTRICAL OPENINGS IN CONCRETE BEFORE PLACING. DO NOT CUT ANY REINFORCEMENT BAR WHICH MAY CONFLICT. CORING IN CONCRETE IS NOT PERMITTED U.O.N.

E. STEEL REINFORCEMENT

1. REINFORCING STEEL BARS SHALL CONFORM TO A.S.T.M. A615, GR 60 DEFORMED BARS. REINFORCEMENT DETAILED TO BE WELDED SHALL CONFORM TO A.S.T.M. A706.

2. WELDED WIRE FABRIC SHALL CONFORM TO A.S.T.M. A185.

3. REINFORCEMENT AND EMBEDMENTS SHALL BE ACCURATELY POSITIONED AND SECURED AGAINST DISPLACEMENT PRIOR TO PLACING CONCRETE. IF CONSTRUCTION TRAFFIC WILL BE ALLOWED ON REINFORCEMENT, PROVIDE SUFFICIENT SUPPORTS TO PREVENT DAMAGE OR MISPLACEMENT.

4. WELDING (INCLUDING TACK WELDING) OF REINFORCING BARS, ONE TO ANOTHER OR TO OTHER STEEL MEMBERS IS PROHIBITED EXCEPT WHERE DETAILED OR OTHERWISE APPROVED IN WRITING BY THE ARCHITECT.

5. ALL REINFORCEMENT CROSSING CONSTRUCTION JOINTS SHALL BE CONTINUOUS, OR SHALL BE MADE EFFECTIVELY CONTINUOUS BY THE USE OF FULLY DEVELOPED LAPPED SPLICES, DOWELS, (WITH LAPPED SPLICES) OR APPROVED COUPLERS.

6. PROVIDE CONTINUOUS REINFORCEMENT WHEREVER POSSIBLE; SPLICE ONLY AS SHOWN OR APPROVED; STAGGER SPLICES.

7. REINFORCEMENT SHALL BE DETAILED AND PLACED TO ACHIEVE THE MINIMUM CONCRETE PROTECTION SPECIFIED IN ACI 318. THE INTENT IS TO HAVE REINFORCEMENT PLACED SO IT IS AS NEAR CONCRETE SURFACES AS POSSIBLE, WITHIN SPECIFIED TOLERANCES, WHILE MAINTAINING THIS MINIMUM PROTECTION.

8. DETAIL REINFORCEMENT IN ACCORDANCE WITH A.C.I. STANDARD 315, "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES."

9. REINFORCE ALL ARCHITECTURAL CONCRETE FLOOR FILLS WITH 6x6–W1.4xW1.4 WELDED WIRE FABRIC EXCEPT WHERE OTHERWISE NOTED OR DETAILED.

10. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING BARS, PRESTRESSING TENDONS, OR DUCTS.
    - CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH . . . . . 3"
    - FORMED CONCRETE EXPOSED TO EARTH OR WEATHER
      - #9 THROUGH #18 BARS . . . . . 2½"
      - #8 BARS, ⅝ IN. WIRE, AND SMALLER . . . . . 2"
    - NOT EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND SLABS
      - #14 AND #18 BARS . . . . . 1½"
      - #11 AND SMALLER . . . . . 1"
    - BEAMS, COLUMNS, WALLS
      - TIES, STIRRUPS OR SPIRALS . . . . . 2"
      - OTHER . . . . . 2"

11. ALL REINFORCING SHALL BE SUPPORTED IN FORMS USIGN STEEL CHAIRS, SPACED WITH NECESSARY ACCESORIES AND SHALL BE SECURELY WIRED TOGETHER, IN ACCORDANCE WITH CRSI "MANUAL OF STANDARD PRACTICE".

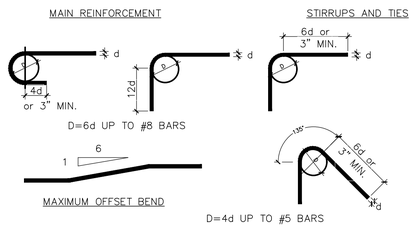
12. CONTRACTOR SHALL SUBMIT, PRIOR TO INSTALLATION ALL REINFORCING STEEL SHOP DRAWINGS. SHOP DRAWINGS SHALL BE SEALED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN PUERTO RICO.

13. ALL BENT AND OFFSET BARS SHALL BE BENT COLD AND BEFORE THEY ARE PLACED IN FORMS.

14. UNLESS OTHERWISE SHOWN ON DRAWINGS ALL BEAM REINFORCEMENT SHALL TERMINATE IN STANDARD HOOKS.

15. PROVIDE DOWELS IN PEDESTALS AND/OR WALL FOOTINGS EQUAL IN GRADE, SPACING, SIZE AND NUMBER TO VERTICAL REINFORCEMENT, EXTENDING A TENSION SPLICE LENGTH INTO THE PEDESTAL AND/OR WALL AND 40 BAR DIAMETER INTO FOOTING. (THE LATERAL EMBEDMENT SHALL BE EXTENDED AS NECESSARY TO PROVIDE A MINIMUM HORIZONTAL LEG RESTING ON FOOTING REINFORCEMENT EQUAL TO THE CORRESPONDING "G" LENGTH FOR THE BAR SIZE.)

16. STANDARD HOOKS AND BENDS SHALL BE AS FOLLOWS:



F. EXTERIOR ARCHITECTURAL ELEMENTS

1. ALL EXTERIOR ARCHITECTURAL ELEMENTS (SKYLIGHTS, CURTAIN WALLS, FASCIAS, SIGNS, WINDOWS, LOUVERS, E.I.F.S., ETC.) SHALL BE DESIGNED BY THE CONTRACTOR TO RESIST THE MINIMUM WIND LOADS PRESCRIBED BY ASCE 7–16 FOR A 170 M.P.H. WIND.

2. SKYLIGHTS AND OTHER ARCHITECTURAL ROOF ELEMENTS SHALL BE DESIGNED BY THE CONTRACTOR FOR A MINIMUM LIVE LOAD OF 40 P.S.F.

3. CONNECTIONS OF ARCHITECTURAL ELEMENTS TO THE STRUCTURAL ELEMENTS SHOWN ON PLANS SHALL BE DESIGNED BY THE CONTRACTOR TO RESIST THE AFOREMENTIONED LOADS AND SHALL BE INCLUDED IN SHOP DRAWINGS FOR FINAL APPROVAL BY THE ENGINEER.

4. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND CALCULATIONS SIGNED AND STAMPED BY AN ENGINEER LICENSED IN PUERTO RICO FOR STRUCTURAL ENGINEER REVIEW PRIOR TO ANY CONSTRUCTION.

G. STRUCTURAL STEEL

GENERAL REQUIREMENTS
1.1. ALL STRUCTURAL STEEL CONSTRUCTION SHALL CONFORM TO THE LATEST AISC SPECIFICATION FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL BUILDINGS.
1.2. SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVAL PRIOR TO FABRICATION.
1.3. THE CONTRACTOR SHALL CHECK AND COORDINATE ALL DIMENSIONS, LOADS, AND ATTACHMENTS SHOWN ON THE STRUCTURAL DRAWINGS WITH ARCHITECTURAL, MECHANICAL, AND OTHER DISCIPLINE DRAWINGS BEFORE FABRICATION.
1.4. SPLICES SHALL ONLY BE LOCATED WHERE INDICATED ON THE STRUCTURAL DRAWINGS OR OTHERWISE APPROVED IN WRITING.

MATERIAL PROPERTIES
2.1. WIDE FLANGE SHAPES: ASTM A992 (FY = 50 KSI).
2.2. PLATES: ASTM A572 (FY = 50 KSI) UNLESS NOTED OTHERWISE.
2.3. STRUCTURAL TUBING: ASTM A500 GRADE B (FY = 46 KSI).
2.4. ANGLES, CHANNELS, MISC. SHAPES: ASTM A36 (FY = 36 KSI) UNLESS NOTED OTHERWISE.
2.5. BOLTS: HIGH STRENGTH BOLTS SHALL CONFORM TO ASTM A325 (UNLESS NOTED OTHERWISE) AND BE TIGHTENED TO AT LEAST THE SNUG TIGHT CONDITION AS DEFINED BY THE RCSC/AISC.
2.6. ANCHOR BOLTS: ANCHOR BOLTS SHALL CONFORM TO ASTM F1554 GRADE 105 (OR AS OTHERWISE DETAILED). INSTALL ALL ANCHOR BOLTS WITH STEEL WASHERS AND FULLY TIGHTENED NUTS.

HOT DIP GALVANIZING
3.1. ALL ROLLED STRUCTURAL STEEL: SHALL BE HOT DIP GALVANIZED PER ASTM A123.
3.2. ALL STRUCTURAL HARDWARE (BOLTS, NUTS, WASHERS, AND MISCELLANEOUS FASTENERS): SHALL BE HOT DIP GALVANIZED PER ASTM A153.
3.3. GALVANIZING QUALITY: ALL STEEL SHALL BE GALVANIZED AFTER FABRICATION TO ENSURE FULL COVERAGE OF ALL WELDS, HOLES, COPES, ETC. DAMAGED COATING SHALL BE REPAIRED PER ASTM A780 PROCEDURES.
3.4. TOUCH UP AND FIELD REPAIR: ANY ABRASIONS OR DAMAGE TO THE GALVANIZED COATING SHALL BE WIRE BRUSHED CLEAN AND REPAIRED WITH A ZINC RICH PAINT OR METALLIZING PROCESS APPROVED BY THE ENGINEER, IN ACCORDANCE WITH ASTM A780.

FABRICATION & ERECTION
4.1. FABRICATION AND ERECTION SHALL BE PERFORMED IN ACCORDANCE WITH AISC STANDARDS.
4.2. ALL CUTTING, COPING, AND DRILLING FOR OTHER TRADES SHALL BE PERFORMED IN THE SHOP AND SHOWN ON APPROVED SHOP DRAWINGS. FIELD MODIFICATIONS SHALL NOT BE PERMITTED WITHOUT WRITTEN ENGINEER APPROVAL.
4.3. PROVIDE TEMPORARY BRACING OR GUYS AS REQUIRED TO ENSURE STABILITY OF ALL FRAMING UNTIL PERMANENT BRACING AND CONNECTIONS ARE IN PLACE.

CONNECTIONS
5.1. CONNECTION DESIGN SHALL DEVELOP THE REQUIRED CAPACITY OF THE MEMBERS AS INDICATED ON THE DRAWINGS (E.G., FULL MOMENT CAPACITY FOR BEAMS, COMPRESSION CAPACITY IN BRACES, ETC.).
5.2. COLUMN STIFFENERS SHALL BE INSTALLED AS REQUIRED TO ACHIEVE THE DESIGN CAPACITY OF THE CONNECTED MEMBERS, UNLESS NOTED OTHERWISE.
5.3. OVERSIZED OR SLOTTED HOLES SHALL NOT BE USED FOR ANY CONNECTIONS UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS OR APPROVED IN WRITING BY THE ENGINEER.

WELDING
6.1. ALL WELDING SHALL CONFORM TO AWS D1.1 USING E70XX ELECTRODES (LOW HYDROGEN) STORED AND HANDLED ACCORDING TO AWS AND MANUFACTURER'S RECOMMENDATIONS.
6.2. WELDERS SHALL BE QUALIFIED PER AWS D1.1. FULL PENETRATION WELDS SHALL BE TESTED AND CERTIFIED BY AN INDEPENDENT TESTING LABORATORY IF REQUIRED BY THE ENGINEER OR BY BUILDING CODE.
6.3. ALL WELDS FOR SHOP FABRICATION SHALL BE SHOWN ON THE SHOP DRAWINGS. FIELD WELDS SHALL BE PERFORMED ONLY WHERE INDICATED OR SPECIFICALLY APPROVED.
6.4. AFTER WELDING (AND PRIOR TO GALVANIZING), WELDS SHALL BE INSPECTED AND CLEARED AS ACCEPTABLE FOR GALVANIZING. WELD SPATTER AND SLAG SHALL BE CLEANED AS REQUIRED TO ENSURE A SMOOTH GALVANIZED SURFACE.

SHEAR STUDS & DECKING
7.1. SHEAR STUDS SHALL CONFORM TO THE REQUIREMENTS OF AWS D1.1 AND BE CAPABLE OF DEVELOPING THE REQUIRED SHEAR CAPACITY.
7.2. DECKING, IF USED, SHALL BE INSTALLED PER APPROVED DECKING MANUFACTURER'S REQUIREMENTS. VERIFY ANY REQUIRED GALVANIZING ON DECKING.

PROTECTION & TOUCH UP
8.1. CUTS, HOLES, OR OTHER MODIFICATIONS MADE AFTER GALVANIZING SHALL BE GROUND SMOOTH AND PROTECTED USING APPROVED ZINC RICH PAINT OR METALLIZING.
8.2. IF REQUIRED, SURFACES IN DIRECT CONTACT WITH CONCRETE (E.G., STEEL THAT WILL BE FULLY ENCASED) MAY BE LEFT UNPAINTED AND UNGALVANIZED ONLY IF SPECIFICALLY INDICATED ON THE DRAWINGS; OTHERWISE, PROVIDE GALVANIZING THROUGHOUT.

GROUTING
9.1. COLUMN BASE PLATES AND BEARING PLATES SHALL BE GROUTED WITH A NONMETALLIC, NONSHRINK GROUT (E.G., FIVE STAR OR EQUAL) HAVING A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 5000 PSI, UNLESS OTHERWISE NOTED.

INSPECTION & TESTING
10.1. THE OWNER/ENGINEER RESERVES THE RIGHT TO INSPECT ALL MATERIAL AND WORKMANSHIP IN THE SHOP AND FIELD.
10.2. NON DESTRUCTIVE TESTING (NDT) OF WELDS OR OTHER STRUCTURAL COMPONENTS SHALL BE PERFORMED AT THE ENGINEER'S DIRECTION.
10.3. ALL INSPECTION AND TESTING COSTS SHALL BE BORNE BY THE OWNER UNLESS STATED OTHERWISE IN THE CONTRACT DOCUMENTS.

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CLIENT

PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT

PHASE I: IMPROVEMENTS TO MAIN HVAC SYSTEM (COOLING TOWERS & AIR-COOL CHILLER) AT PRIDCO HEADQUARTERS
SAN JUAN, PUERTO RICO

CONSULTANT SEAL

YO, EDGAR MORELL RIVERA 18178, CERTIFICO QUE SOY EL PROFESIONAL QUE DISEÑÓ ESTOS PLANOS Y LAS ESPECIFICACIONES COMPLEMENTARIAS. TAMBIÉN, CERTIFICO QUE ENTIENDO QUE DICHOS PLANOS Y ESPECIFICACIONES CUMPLEN CON LAS DISPOSICIONES APLICABLES DEL REGLAMENTO CONJUNTO Y LAS DISPOSICIONES APLICABLES DE LOS REGLAMENTOS Y CÓDIGOS DE CONSTRUCCIÓN VIGENTES DE LAS AGENCIAS, JUNTAS REGLAMENTADORAS O CORPORACIONES PÚBLICAS CON JURIDICCIÓN. CERTIFICO, ADEMÁS, QUE EN LA PREPARACIÓN DE ESTOS PLANOS Y ESPECIFICACIONES SE HA CUMPLIDO CABALMENTE CON LO DISPUESTO EN LA LEY NUM. 14 DE 8 DE ENERO DE 2004, SEGÚN ENMENDADA, CONOCIDA COMO LA "LEY PARA LA INVERSIÓN POR LA INDUSTRIA PUERTORRIQUEÑA" Y CON LA LEY NUM. 96 DE 6 DE JULIO DE 1978, SEGÚN ENMENDADA. RECONOZCO QUE CUALQUIER DECLARACIÓN FALSA O FALSIFICACIÓN DE LOS HECHOS QUE SE HAYA PRODUCIDO POR DESCONOCIMIENTO O POR NEGLIGENCIA YA SEA POR MÍ, MIS AGENTES O EMPLEADOS, O POR OTRAS PERSONAS CON MÍ CONOCIMIENTO, ME HACEN RESPONSABLES DE CUALQUIER ACCIÓN JUDICIAL Y DISCIPLINARIA POR LA OGPE.

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SHEET TITLE

GENERAL STRUCTURAL NOTES

DATE	2024–12–14
DRAWN BY	LLR
REVISED BY	LMC
DWG FILE NAME	PROPOSED
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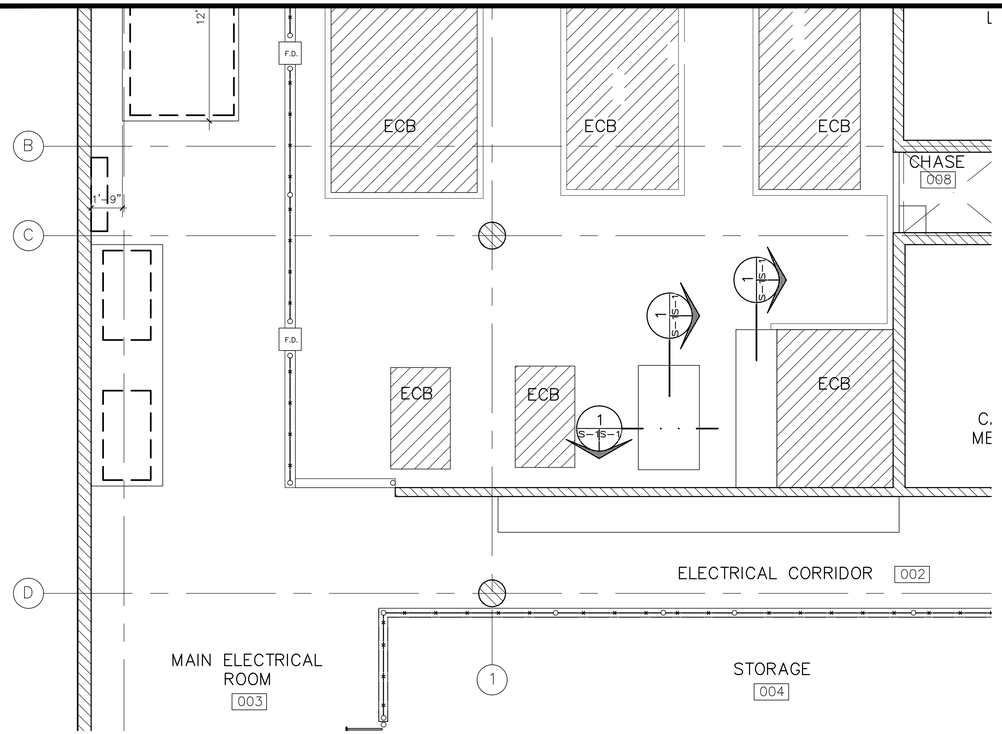
SCALE	AS SHOWN

SHEET NO. 32/59

DRAWING NO. S-0



MECHANICAL ROOM FLOOR STRUCTURAL PLAN
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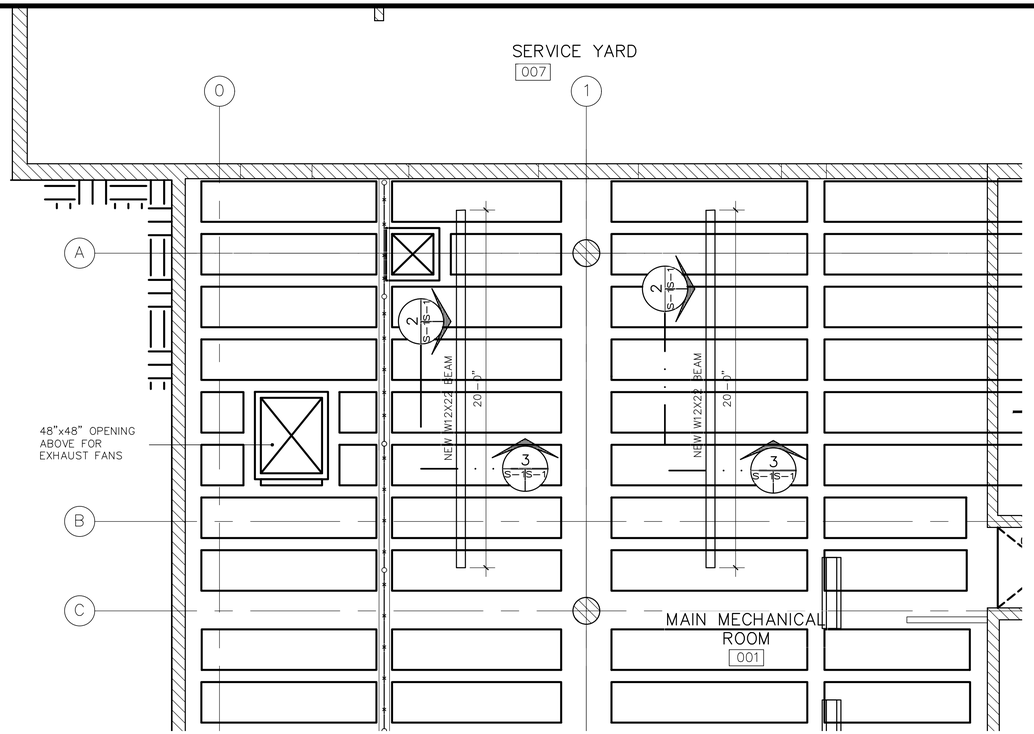

MECHANICAL ROOM CEILING STRUCTURAL PLAN
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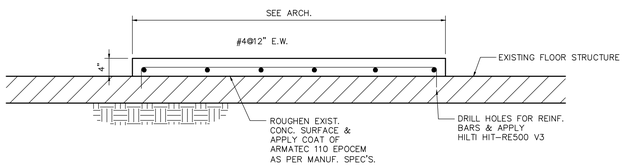

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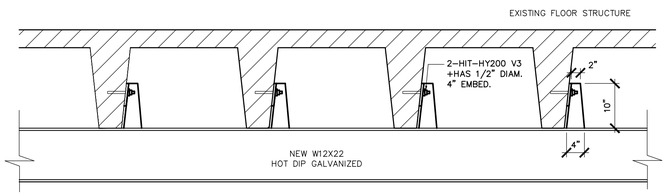

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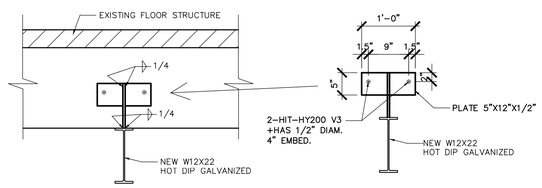

SECTION 3 S-1
SCALE: 3/4" = 1'-0"

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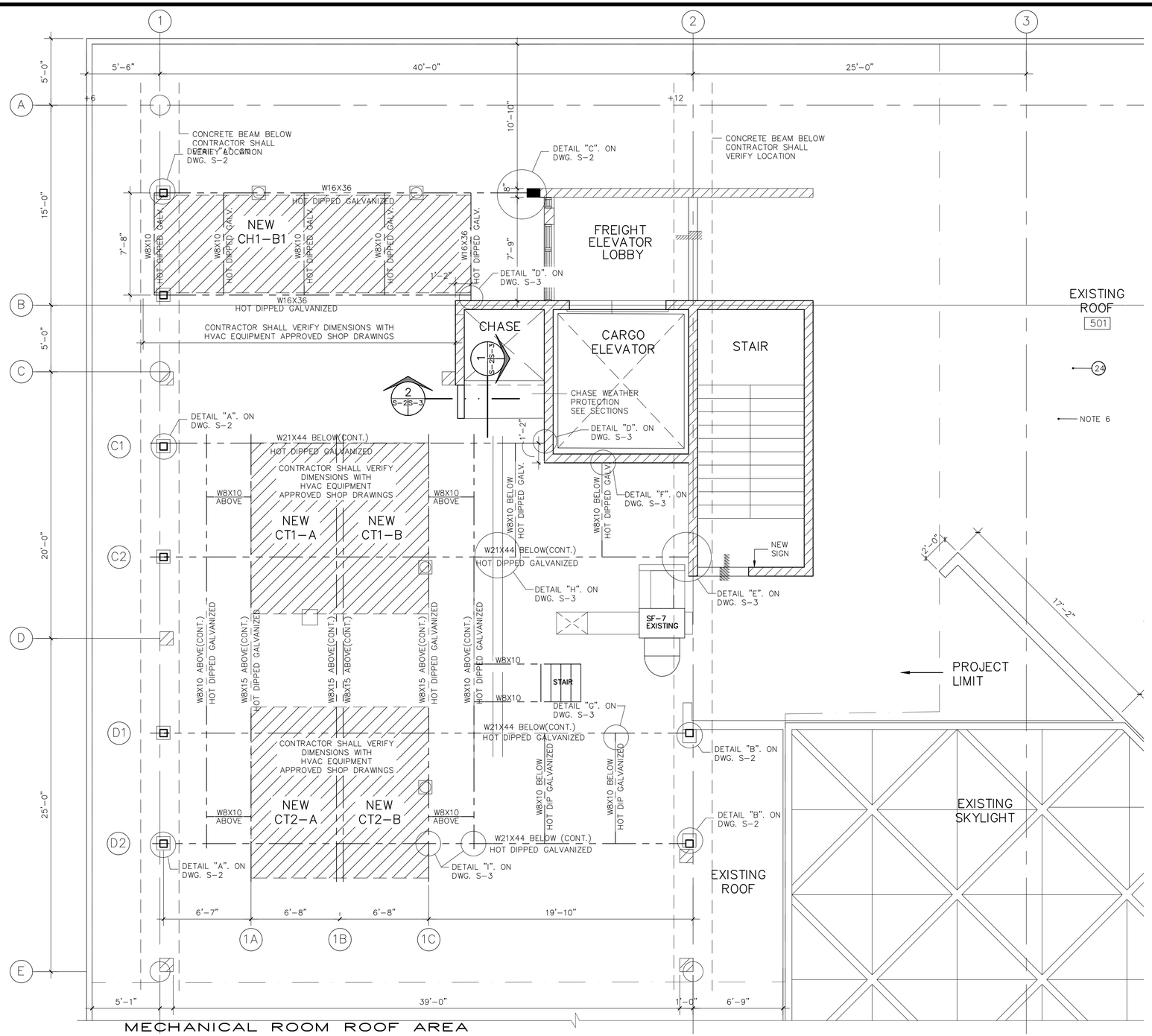
SHEET TITLE
MECHANICAL ROOM
STRUCTURAL PLAN AND DETAILS

DATE	2024-12-14
DRAWN BY	LLR
REVISED BY	LMC
DWG FILE NAME	PROPOSED
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.
33/59 S-1
DRAWING NO.



MECHANICAL ROOM ROOF AREA
STRUCTURAL PLAN
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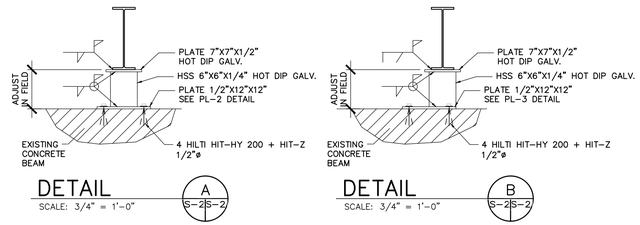

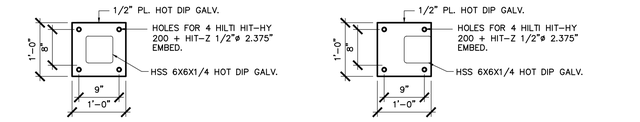

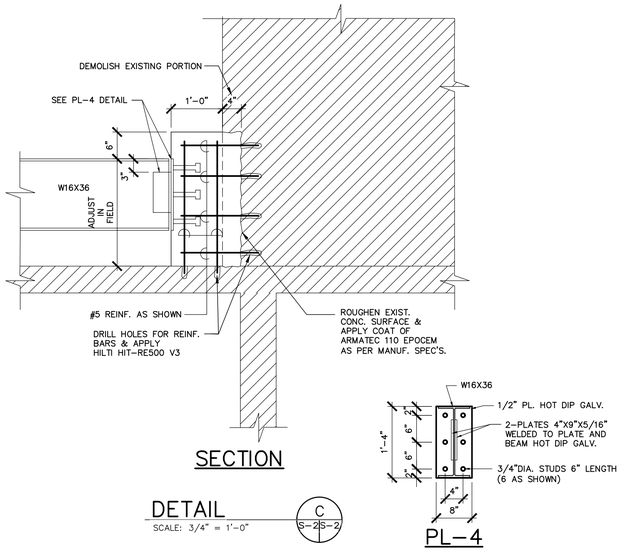

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CLIENT
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SHEET TITLE
MECHANICAL ROOM ROOF
STRUCTURAL PLAN AND DETAILS

DATE	2024-12-14
DRAWN BY	LLR
REVISED BY	LMC
DWG FILE NAME	PROPOSED
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SCALE	AS SHOWN

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34/59
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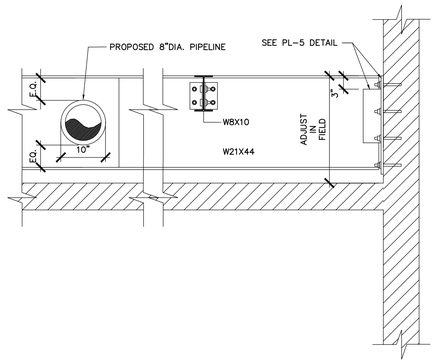
DRAWING NO.



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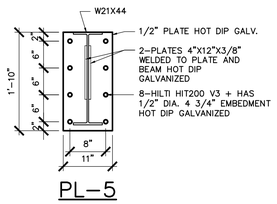

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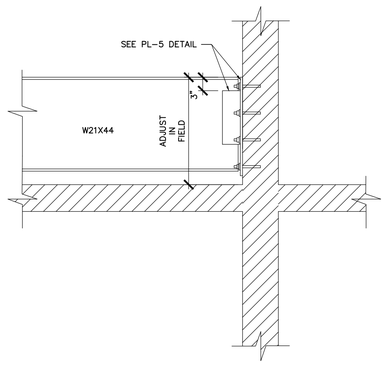

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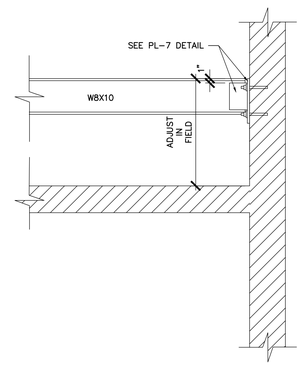

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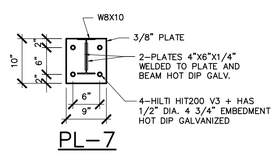

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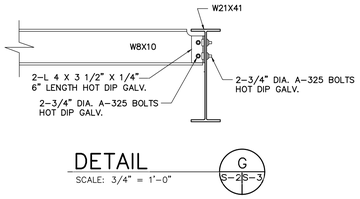

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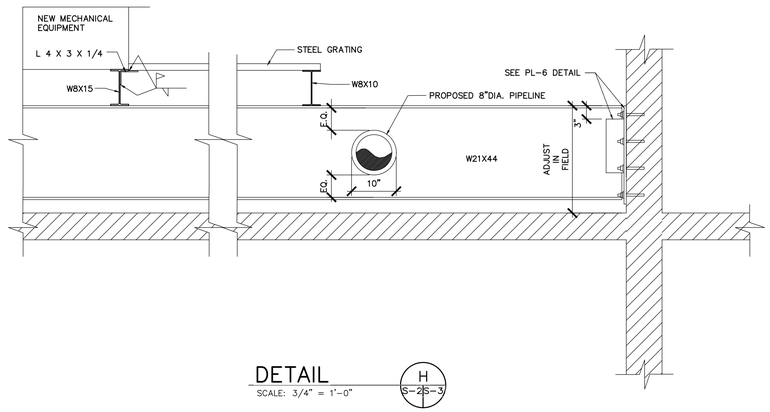

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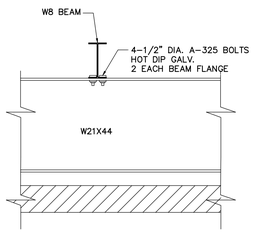

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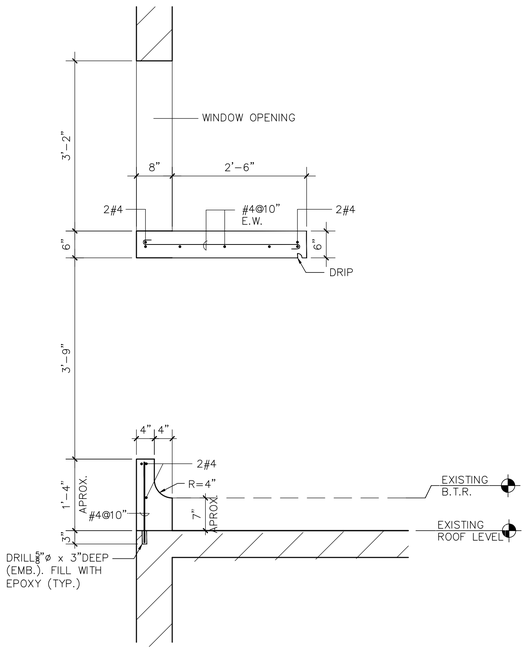

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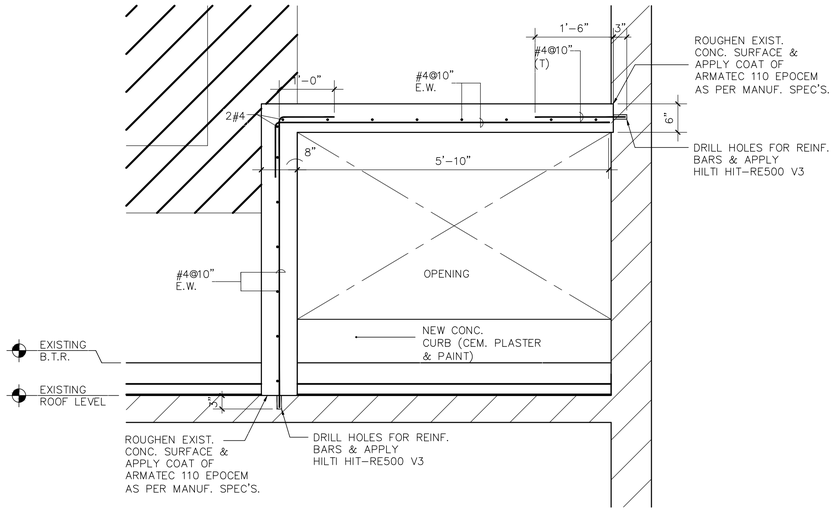

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SCALE: 3/4" = 1'-0"
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Architects & Consultants, PSC.

CLIENT
PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT
PHASE I: IMPROVEMENTS TO MAIN HVAC SYSTEM (COOLING TOWERS & AIR-COOL CHILLER) AT PRIDCO HEADQUARTERS
SAN JUAN, PUERTO RICO

CONSULTANT SEAL

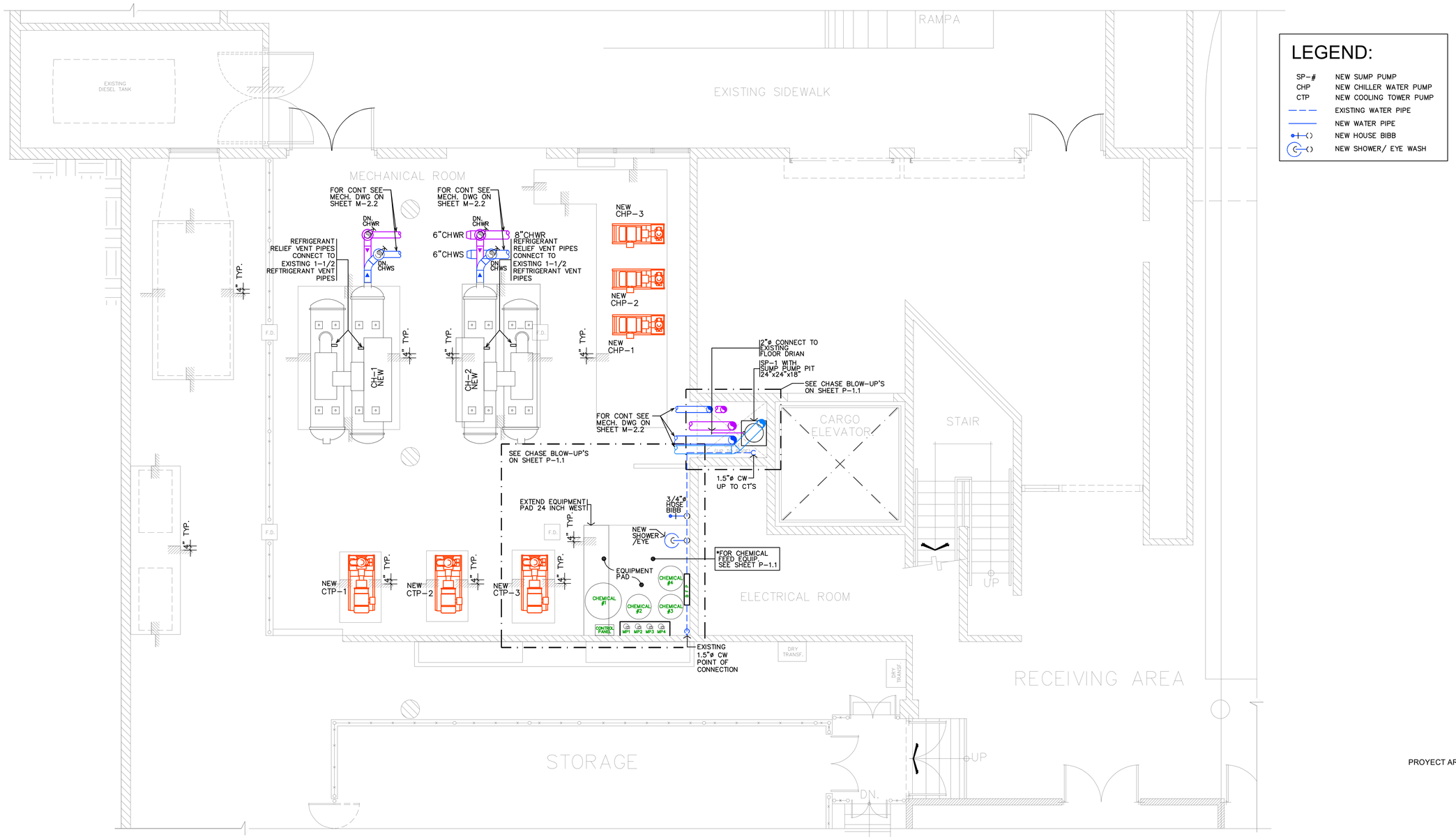
YO, EDGAR MORELL RIVERA, 16178, CERTIFICO QUE SOY EL PROFESIONAL QUE DISEÑÓ ESTOS PLANOS Y LAS ESPECIFICACIONES COMPLEMENTARIAS. TAMBIÉN, CERTIFICO QUE ENTIENDO QUE DICHOS PLANOS Y ESPECIFICACIONES CUMPLEN CON LAS DISPOSICIONES APLICABLES DEL REGLAMENTO CONJUNTO Y LAS DISPOSICIONES APLICABLES DE LOS REGLAMENTOS Y CÓDIGOS DE CONSTRUCCIÓN VIGENTES DE LAS AGENCIAS, JUNTAS REGLAMENTADORAS O CORPORACIONES PÚBLICAS CON JURIDICCIÓN. CERTIFICO, ADEMÁS, QUE EN LA PREPARACIÓN DE ESTOS PLANOS Y ESPECIFICACIONES SE HA CUMPLIDO CABALMENTE CON LO DISPUESTO EN LA LEY NUM. 14 DE 8 DE ENERO DE 2004, SEGÚN ENMENDADA, CONOCIDA COMO LA "LEY PARA LA INVERSIÓN POR LA INDUSTRIA PUERTORRIQUEÑA" Y CON LA LEY NUM. 96 DE 6 DE JULIO DE 1978, SEGÚN ENMENDADA. RECONOZCO QUE CUALQUIER DECLARACIÓN FALSA O FALSIFICACIÓN DE LOS HECHOS QUE SE HAYA PRODUCIDO POR DESCONOCIMIENTO O POR NEGLIGENCIA YA SEA POR MÍ, MIS AGENTES O EMPLEADOS, O POR OTRAS PERSONAS CON MÍ CONOCIMIENTO, ME HACEN RESPONSABLES DE CUALQUIER ACCIÓN JUDICIAL Y DISCIPLINARIA POR LA OGPE.

REV.	DATED		BY.

SHEET TITLE
MECHANICAL ROOM ROOF STRUCTURAL DETAILS

DATE	2024-12-14
DRAWN BY	LLR
REVISED BY	LMC
DWG FILE NAME	PROPOSED
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.
35/59 S-3
DRAWING NO.

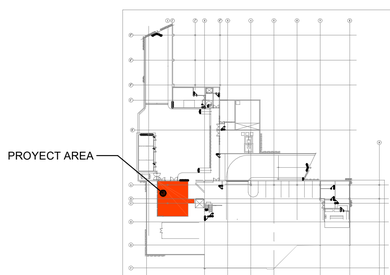


LEGEND:

SP-#	NEW SUMP PUMP
CHP	NEW CHILLER WATER PUMP
CTP	NEW COOLING TOWER PUMP
	EXISTING WATER PIPE
	NEW WATER PIPE
	NEW HOUSE BIBB
	NEW SHOWER/ EYE WASH

PROPOSED MECHANICAL ROOM PLUMBING PIPING AND EQUIPMENT PARTIAL PLAN - BASEMENT

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



KEY PLAN: BASEMENT

CONSTRUCTION DRAWINGS 100%
DATE: FEBRUARY 26, 2025.

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CLIENT

PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT

PHASE I & II: IMPROVEMENTS TO MAIN HVAC SYSTEM (CHILLERS, COOLING TOWERS & AIR-COOLED CHILLER) AT PRODCO HEADQUARTERS SAN JUAN, PR

CONSULTANT SEAL

Pedro Juan Medina Villanueva
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Puerto Rico
Fecha de Expiración: 2028-03-14

Yo, Pedro J. Medina Villanueva, certifico que soy el profesional que diseñó esto planos, especificaciones y documentos complementarios. También certifico que entiendo que dichos planos, especificaciones y documentos cumplen con todas las disposiciones aplicables del Reglamento Conjunto y las disposiciones aplicables de los Reglamentos y Códigos de Construcción Vigentes de las Agencias, Juntas Reglamentadoras of Corporaciones Públicas con jurisdicción. Certifico, además, que en la preparación de estos planos, especificaciones y documentos se ha cumplido cabalment con lo dispuesto en la Ley Núm. 14-2004, según enmendada, conocida como la "Ley para la Inversión por la Industria Puertorrique~bna", con la "Ley para la Reforma del Proceso de Permisos de Puerto Rico", Ley Núm. 161-2009, según enmendada y [con la Ley Núm. 135-1967; o con la Ley Núm. 160-1996, según enmendadas y según aplique]. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido por desconocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por toras personas con mi conocimiento, me hacen responsble de cualquier acción judicial y disciplinaria por la OGPe.

REV.	DATED	BY.

SHEET TITLE

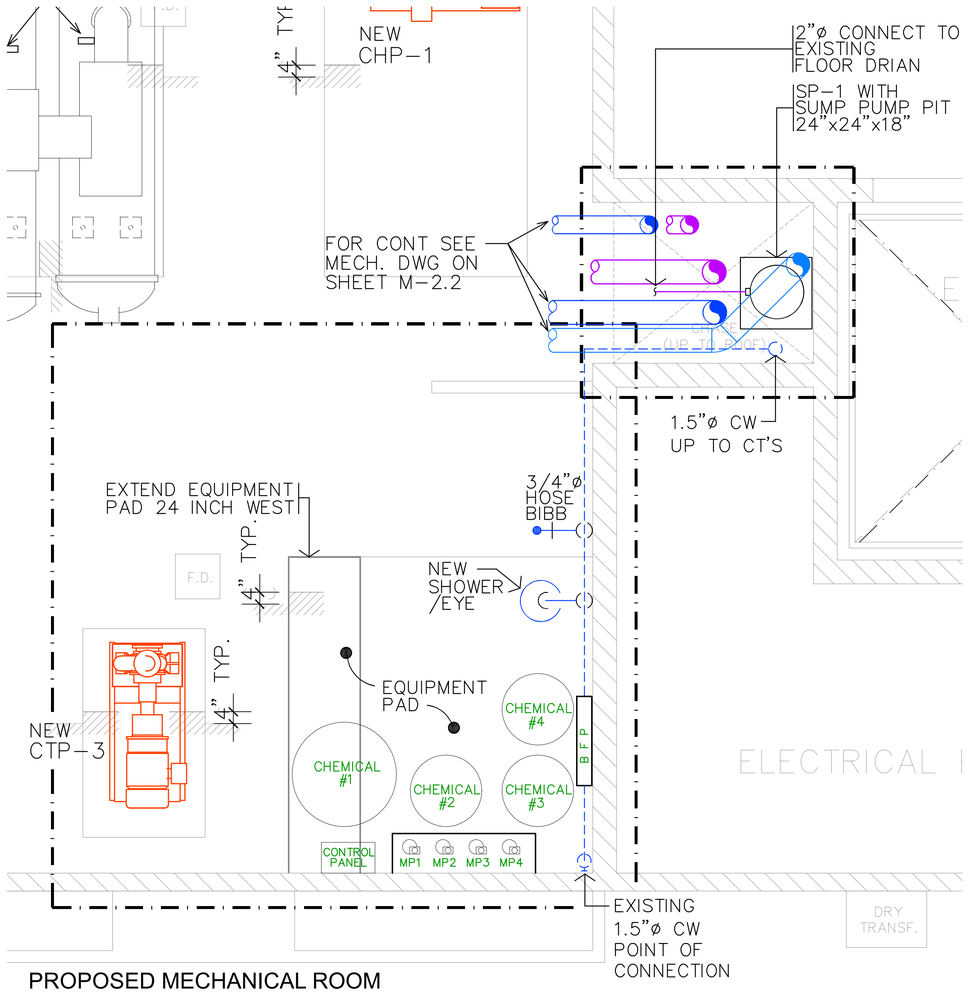
PROPOSED MECHANICAL ROOM PLUMBING PIPING AND EQUIPMENT PARTIAL PLAN-BASEMENT

DATE	2025-02-07
DRAWN BY	PJMA
REVISED BY	PJMA
DWG FILE NAME	PROPOSED
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.

36 / 67 MP-1.0

DRAWING NO.



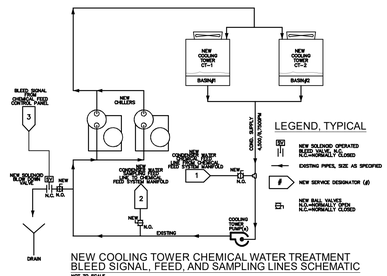
PROPOSED MECHANICAL ROOM PLUMBING PIPING AND EQUIPMENT PARTIAL BLOW-UP PLAN - BASEMENT

SCALE: 1/2"=1'-0"

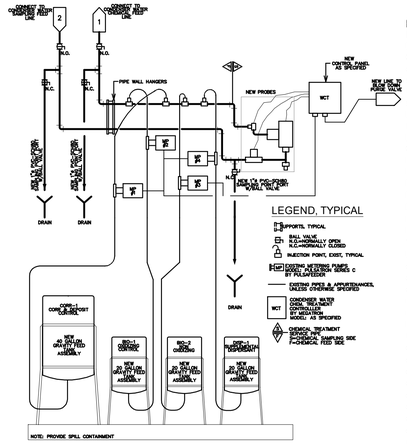
LEGEND:

SP-#	NEW SUMP PUMP
CHP	NEW CHILLER WATER PUMP
CTP	NEW COOLING TOWER PUMP
	EXISTING WATER PIPE
	NEW WATER PIPE
	NEW HOUSE BIBB
	NEW SHOWER/ EYE WASH

CONSTRUCTION DRAWINGS 100%
DATE: FEBRUARY 26, 2025.



NEW COOLING TOWER CHEMICAL WATER TREATMENT
BLEED SIGNAL, FEED, AND SAMPLING LINES SCHEMATIC
NOT TO SCALE



NEW COOLING TOWER CHEMICAL WATER TREATMENT
PROCESS & INSTRUMENTATION SCHEMATIC
NOT TO SCALE

Feed and Bleed Cooling Tower Controller (WCT)
MODEL: MegaTron Series MGCMPR-F4E4H21K2Y

Proposed Chemical Feed Control Panel Options:
Continuous monitoring and control of industrial water cooling towers systems with an easy user friendly ATM style menu and a large 16 line full graphic display that allows complete programming from the keypad. Using a simple system approach an Individual MegaTron can control 1 to 4 systems. Each of these systems can be specifically configured with the functions required.

Include the following NEW controller options:
C–CONDUCTIVITY STANDARD TOWER PROBE
M – CONDUCTIVITY STANDARD MAKEUP WATER PROBE
P–Ph STANDARD TOWER PROBE
R–ORP STANDARD PROBE
F4–FOUR FEED TIMERS (PUMPS)
E4–PADDLE FLOW SWITCH
H21–BACnet TCP/IP Internet Card w/CAT5 CONNECTION
K2–TWO ADDITIONAL RELAYS FOR LOCAL STROBE HORN ALARM
Y–ETL AGENCY LISTING

NOTES ON CHEMICAL FEED AGENTS:
a – (CI–1) Provide Corrosion Inhibitor/Deposit Control Agent to yield operation of up to 5 cycles of concentration . Inhibitor shall be non–phosphate, non–chromate, non–nitrate based.
b – (BIO–1) Provide Oxidizing Biocide that shall, be liquid bromine, that amongst all biocide protections, be certified for Legionella control.
c – (BIO–2) Provide Non Oxidizing wide spectrum biocide for bacteria and algae control. Product shall be non–foaming.
d – (DISP–1) Provide supplemental polymer dispersant to ascertain deposit control.
e – Provide bottom gravity feed tanks, w/seismically anchored.
f – Ascertain (or provide) containment.

01 PROPOSED COOLING TOWER WATER TREATMENT SCHEMATIC (AT BASEMENT CONTROL ROOM)

NOT TO SCALE



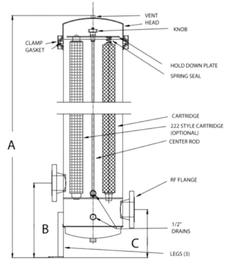
SSF-1 SEDIMENT & SCALE REDUCTION FILTER PRODUCT SPECIFICATION								
Model	(Quantity x) Length of Cartridges	Peak Flow Rate (GPM)	Inlet/ Outlet Pipe Size	Drain(s)	Max Cartridge Diameter	Shipping Weight Clamp	Dimensions Height x Diameter (in)	Expected Filter Life
PP7FOS4	(7x)40" RA5779511 Cartridges	28	2"ø (NPT)	1/2"ø (NPT)	2–3/4"ø (DD)	70 lbs	50.5"x12.5" (+support)	~1–year

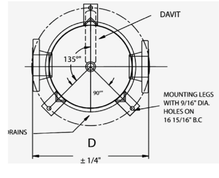
PP4FOS SEDIMENT & SCALE REDUCTION CATRIDGES AND STEMS						
Filter P/N	Filter Model	Height (in)	Micron (#)	Dimensions (H/Dia/Thk)	Max. PD @ Flow Rate	Remarks
RA5779508	CPP–SP40SX5	40"	05	40"x2.75"x1.02"	8 psi @ 10 gpm	Sediment Filtration w/ScaleArmor
RA5779511	CPP–SP40SX25	40"	25	40"x2.75"x1.02"	4.7 psi @ 10 gpm	

PP7FOS Series
Atlas Filtri® PP7FOS are stainless steel, high flow filtration units for the reduction of sediment, chlorine taste and odor, various chemicals, and contaminants. The 316 stainless steel housings can incorporate string–wound or melt–blown filters for sediment filtration, as well as carbon block cartridges, depending upon the filtration requirements. The units will also accept meltblown sediment filters that include scale reduction media.
The multi–cartridge housing is a complete line of 7–around models to accommodate a wide range of flow rates. Designed pressure of 150psi (10bar) at 300°F (149°C). Standard inlet and outlet connection are 2" MNPT. Standard finish is poly–coat over stainless. Standard gasket is FDA grade Buna–N.

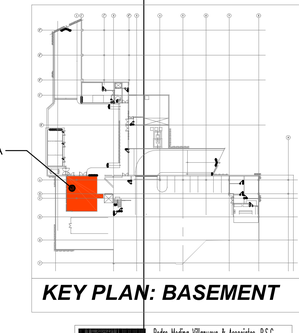
Features:
- Designed for commercial and industrial filtration applications
- Heavy–duty stainless–steel construction
- Pipe fittings readily and easily accessible
- Knife–edge seal at both cartridge ends for a positive and seal eliminating by–pass
- Standard double open–ended cartridges with scale reduction media included
- Flange connections optional
- 25/5–micron polypropylene melt–blown filters, as specified

Materials:
- Housing Construction: 316L Stainless
- Seal: FDA Grade Buna–N rubber
- Working Conditions:
- Working Temperature Range: Min 39.2°F (4°C) – Max 177°F (80.6°C)
- Media Temperature Range: Max 220°F (104°C) in heated environment









KEY PLAN: BASEMENT

02 SEDIMENT & SCALE REDUCTION FILTER SYSTEM (SSF-1) FOR MAKEUP-WATER, TO INSTALL AT MAKEUP WATER LINE IN MECHANICAL ROOM

NOT TO SCALE

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CLIENT
PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT
PHASE I & II: IMPROVEMENTS TO MAIN HVAC SYSTEM (CHILLERS, COOLING TOWERS & AIR-COOLED CHILLER) AT PRODCO HEADQUARTERS SAN JUAN, PR

CONSULTANT SEAL
Pedro Juan Medina Villanueva
Ingeniero Licenciado
CIC 9664 PE
Puerto Rico
Fecha de Expiración: 2028-03-14

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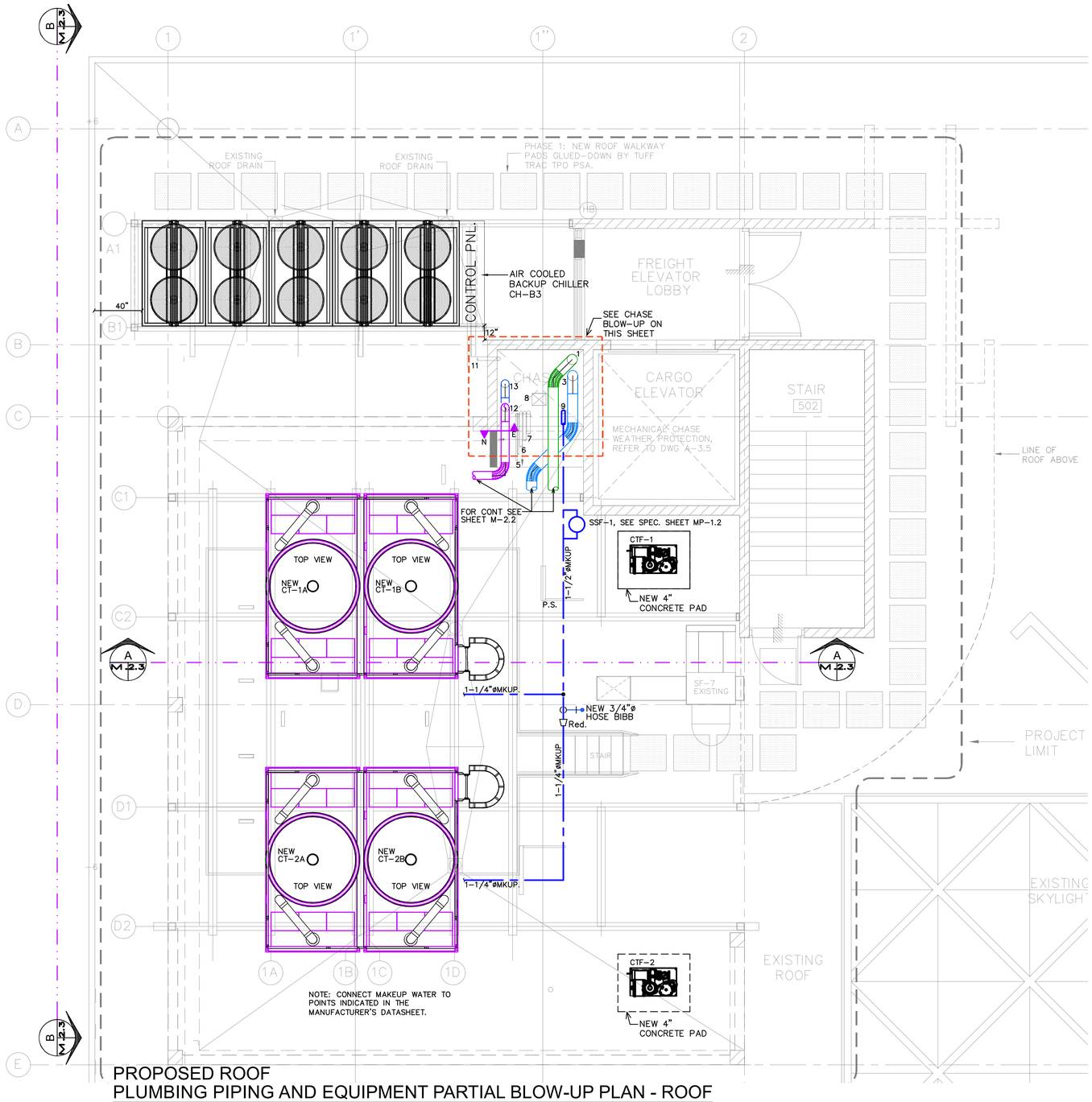
REV.	DATED	BY.

SHEET TITLE
PROPOSED MECHANICAL ROOM PLUMBING PIPING AND EQUIPMENT PARTIAL BLOW-UP PLAN-BASEMENT

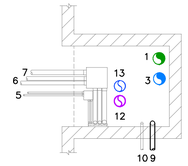
DATE	2025–02–07
DRAWN BY	PJMA
REVISED BY	PJMA
DWG FILE NAME	PROPOSED
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.
37 / 67 MP-1.1
DRAWING NO.



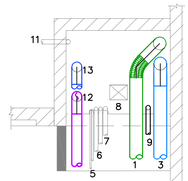
PROPOSED ROOF
PLUMBING PIPING AND EQUIPMENT PARTIAL BLOW-UP PLAN - ROOF

SCALE: 1/2"=1'-0"



MECH. RM. LEVEL

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



ROOF LEVEL

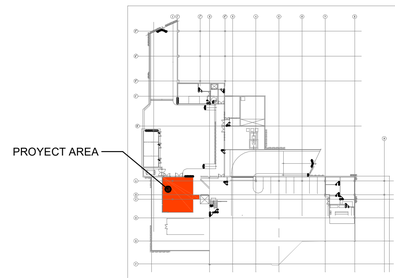
SCALE: 1/4"=1'-0"

NUMBER KEY:

1. 8" PIPE CDWR UP TO ROOF.
3. 8" PIPE CDWS UP TO ROOF.
5. PV SYSTEM: 2 – 3/4" EMT CONDUITS UP TO ROOF.
6. PV SYSTEM: 2 – 2" EMT CONDUITS UP TO ROOF
7. PV SYSTEM: 1 – 3" EMT CONDUITS UP TO ROOF.
8. 10" X 10" JANITOR ROOM VENTILATION DUCT.
9. 1-1/2" MAKEUP WATER TO COOLING TOWER.
12. 6" PIPE CHWR UP TO ROOF.
13. 6" PIPE CHWS UP TO ROOF.

LEGEND:

- ELBOW UP/DN
- 22 ELBOW
- 45 ELBOW
- 90 ELBOW
- BUTTERFLY VALVE W/ACTUATOR (B.V.)
- BALANCING VALVE (BAL.V.)
- CHWS CHILLED WATER SUPPLY PIPE
- CHWR CHILLED WATER RETURN PIPE
- CDWS CONDENSER WATER SUPPLY PIPE
- CDWR CONDENSER WATER RETURN PIPE
- P.S. PIPE SUPPORT
- N.C. NORMALLY CLOSE
- CT-# COOLING TOWER, #=NUMBER
- CTP-# COOLING TOWER PUMP
- P-# CHILLED WATER PUMP
- CTF-# COOLING TOWER FILTER SYSTEM (SKID)
- CHEM.F CHEMICAL FEED SYSTEM
- CH-# CHILLER
- E E = EXISTING
- N N = NEW
- SECTION DEFINITION
- NEW WATER PIPE
- NEW HOUSE BIBB



KEY PLAN: BASEMENT

CONSTRUCTION DRAWINGS 100%
DATE: FEBRUARY 26, 2025.

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CONSULTANT SEAL

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REV.	DATED	BY.

SHEET TITLE

PROPOSED ROOF
PLUMBING PIPING AND EQUIPMENT
PARTIAL BLOW-UP PLAN-ROOF

DATE	2025-02-07
DRAWN BY	PJMA
REVISED BY	PJMA
DWG FILE NAME	PROPOSED
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.

38/67 MP-1.2

DRAWING NO.

GENERAL PLUMBING PIPING MATERIAL SPECS.

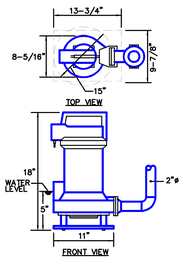
SERVICE	LOCATION	P.V.C. TYPE SDR-35 A.S.T.M. 3034	P.V.C.D.W.V. SCH.40 A.S.T.M.-D-2665	COPPER PIPE, TYPE "K" A.S.T.M.-B-88-60a	GALVANIZED PIPE SCH. 40 A.S.T.M.-A-120	COPPER PIPE, TYPE "L" A.S.T.M.-B-88	BLACK STEEL PIPE SCH. 40 A.S.T.M.-A-120	C.I.D.W.V. NO HUB COUPLINGS, SEE NOTE No.1	P.V.C. S.D.R. - 14	P.V.C. CLASS 200 J.M. BLUE BRUTE U.L.P.A.LISTED	COPPER PIPE, TYPE "DWV" A.S.T.M.-B-306-66a
SOIL DRAINS	BRANCHES THRU SLAB ALL SIZES		●								
	BRANCHES HUNG FROM CEILING ALL SIZES		●								
	VERTICAL STACKS		●								
	BUILDING DRAIN UNDERGROUND (3" OR LESS)		●								
	BUILDING SEWER UNDERGROUND (4"ø& ABOVE) EXTIRIOR	●									
	BRANCHES ABOVE FLOOR SLAB		●								
	IN RETURN AIR PLENUMS							●			●
	SEE NOTE ON INSULATION No.2&3	●	●	●	●	●	●	●	●	●	●
WASTE & DRAINS	BRANCHES THRU SLABS		●								
	BRANCHES HUNG FROM CEILING		●								
	VERTICAL STACKS		●								
	HORIZONTAL STACKS		●								
	UNDERGROUND ❶ BUILDING		●								
	UNDERGROUND ❶ SITE	●									
	BRANCHES ABOVE FLOOR SLAB		●								
	IN RETURN AIR PLENUMS							●			●
	SEE NOTE ON INSULATION No.2&3	●	●	●	●	●	●	●	●	●	●
VENTS	BRANCHES HORZ. & VERT.		●								
	VERTICAL STACKS		●								
	UNDERGROUND		●								
	IN RETURN AIR PLENUM'S				●						●
WATER (HOT/COLD)	UNDERGROUND MAINS 4" & ABOVE								●		
	UNDERGROUND ALL SIZES BELOW 4"			●							
	ABOVE GROUND ALL SIZES						●				
	EMBEDDED INTO CONCRETE SLAB						●				
	HOT WATER, SEE NOTES ON INSULATION No.2&3	●	●	●	●	●	●	●	●	●	●
STORM DRAINS	VERTICAL LEADERS & DOWNSPOUTS CONCEALED		●								
	VERTICAL LEADERS & DOWNSPOUTS EXPOSED				●						
	HUNG FROM CEILING		●								
	UNDERGROUND OUTSIDE BUILDING		●								
	UNDERGROUND INSIDE BUILDING		●								

NOTE: No.1 (SANITARY LINES)
SANITARY LINES WITHIN PLENUMS SHALL BE HUBLESS CAST IRON.
HUBLESS CAST IRON SHALL BE CISPI 301 OR ASTM A 888 WITH DUTY COUPLING
HEAVY DUTY COUPLINGS SHALL BE ASTM A 666, TYPE 304 STAINLESS STEEL
HOUSING AND STAINLESS STEEL CAMP ASSEMBLY WITH ASTM C 564 RUBBER SEALING GASKET.
MINIMUN HOUSING AND COUPLING LENGHT FOR HUBBLESS CONNECTION IS 3" FOR UP TO 4"
PIPE SIZE. AND 4" FOR UP TO 10" PIPE SIZE.

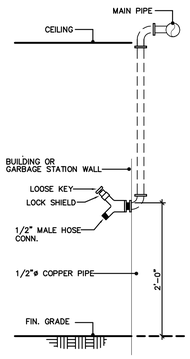
NOTE: No.2 (INSULATE HOT WATER PIPES)
INSULATE HOT WATER PIPES WITH 1" INDOOR AND 2" EXTERIOR THICK RIGID MOLDED FIBERGLASS INSULATION WHEN UP. TO AND INCLUDING, 4" DIAMETER PIPE. INSULATE WITH 1-1/2" INDOOR AND 2-1/2" EXTERIOR THICK RIGID MOLDED FIBERGLASS WHEN DIAMETERS 6", AND ABOVE. MATERIALS WITH CLASS 1 FLAME SPREAD RATING AND INSTALLED PER MICA NATIONAL INSULATION STANDARDS.

NOTE: No.3 (INSULATE DRAIN PIPES)
INSULATE ALL DRAIN PIPES, SANITARY OR CONDENSATE, WCH MAY PRODUCE CONDENSATE.
AND THOSE WHOSE TEMPERATURE WILL BE BELOW THE POINT OF THE AMBIENT AIR
SUCH AS THOSE CARRYING AHU CONDENSATE, ICE MACHINE DRAINGE AND OTHER COLD LIQUIDS.
TO THE POINT OF CONNRCTION TO MAINS PROVIDE EITHER A LAYER OF ONE-HALF INCH(1/2")
RIGID FIBERGLASS INSULATION WITH A COMBUSTIBLE UL LISTED VAPOR BARRIER, OR
CLOSED-CELL RUBBER INSULATION MEETIING THE REQUIREMENTS. "ARMAFLEX" OR APPROVED EQUAL.
ALL SANITARY SEWER INSULATION SHALL HAVE CLASS 1 FRAME SPREAD RATING AND BE WITHIN PLENUMS.
INSTALL PER MICA NATIONAL INSULATION STANDARDS

01 GENERAL PLUMBING PIPING MATERIAL SPECS. — NOT TO SCALE

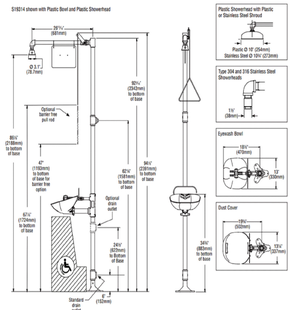


02 (SP-1) SUMP PUMP DETAIL — NOT TO SCALE



03 HOSE BIBB DETAIL — NOT TO SCALE





Halo 316 Stainless Steel Eye–Face Wash and Showerhead, Foot Activation. Model S19314SS16. All type 316 stainless steel fixture,Stainless steel eye–face wash sprayhead with electro–polished finish,Spintec Showerhead provides the most consistent distribution of water from a drench shower, improving user washdown. Eye/Face wash with polished 316 stainless steel sprayheads with flipopen dust covers, push paddle and foot pedal activated; 316 stainless steel bowl; 316 stainless steel ball valve; 316 stainless steel showerhead with SpinTec technology, 316 stainless steel ball valve, pull rod activated; 316 stainless steel piping.
Complies with ANSI/ISEA Standard Z358.1
Universal identification sign and inspection tag included
Drench shower exceeds minimum water flow of 20 GPM at 30 PSI
Eye–Face Wash exceeds minimum water flow of 3 GPM at 30 PSI
Foot Activation

STAINLESS STEEL
04 EYE-FACE WASH AND SHOWERHEAD MODEL: S19314SS16 — NOT TO SCALE

NOTES ON PLUMBING CODE REQUIREMENTS

1) CONTRACTOR SHALL PERFORM PLUMBING WORK UNDER THE REQUIREMENTS OF THE UNIFORM PLUMBING CODE (UPC) AND INTERNATIONAL PLUMBING CODE (IPC). FROM NOW ON REFERENCED AS "THE CODES" IN THE FOLLOWING STATEMENTS. THESE SHALL BE CONSIDERED THE "STANDARD PLUMBING PRACTICE" FOR THE WORK TO BE PERFORMED. PROVISIONS OF THE CODES, STANDARDS & REQUIREMENTS SHALL APPLY TO THE ERECTION, INSTALLATION, ADDITION TO, USE OR MAINTENANCE OF PLUMBING SYSTEMS WITHIN THIS PROJECT, EVEN WHEN NOT SPECIFICALLY CALLED FOR IN THE DRAWINGS. APPLICABILITY OF THE CODES SHALL GOVERN THE INSTALLATION OF ALL PLUMBINGS SYSTEMS UNDER THIS CONTRACT. DEFINITIONS SHALL BE AS PER THE CODES. MANDATORY REFERENCED STANDARDS OF THE CODES AS WELL AS THEIR APPENDIXES SHALL BE BINDING (INTERNATIONAL FUEL GAS CODE, UNIFORM MECHANICAL CODE, STANDARDS OF THE INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS, et. al.).

2) THE DESIGN, DOCUMENTATIONS, INSPECTION AND APPROVAL OF CHANGES TO THE ENGINEERED DESIGN PLUMBING SYSTEMS SHALL COMPLY WITH THE PROVISIONS OF THE CODES. DESIGN CRITERIAS SHALL BE SUBMITTED WITH ALL TECHNICAL DATA, AND CERTIFIED BY A DESIGN PROFESSIONAL.

3) GENERAL REGULATIONS OF THE CODES SHALL INCLUDE, BUT NOT BE LIMITED TO: MATERIALS, RODENTPROOFING, PROTECTION OF PIPES AND PLUMBING SYSTEM COMPONENTS, TRENCHING, EXCAVATION AND BACKFILL, STRUCTURAL SAFETY, PIPING SUPPORTS, FLOODPROOFING, WASHROOM AND TOILET ROOM REQUIREMENTS, TOILET FACILITIES FOR WORKERS, TESTS, INSPECTIONS, EQUIPMENT EFFICIENCIES AND CONDENSATE DISPOSAL.

4) CONTRACTOR SHALL PERFORM INSTALLATION OF PLUMBING FIXTURES AND FITTINGS FOLLOWING THE RECOMMENDATIONS AND REQUIREMENTS OF THE CODES FOR: FIXTURE MATERIALS, MINIMUM PLUMBING FACILITIES, BATHTUBS, BIDETS, DISHWASHING MACHINES, DRINKING FOUNTAINS, EMERGENCY SHOWERS, EYEWASH STATIONS, FLOOR DRAINS, FOOD WASTE GRINDERS UNITS, GARBAGE CAN WASHERS, LAUNDRY TRAYS, LAVATORIES, SHOWERS, SINKS, URINALS, WATER CLOSETS, WHIRLPOOL BATHTUBS, HEALTH CARE FIXTURES AND EQUIPMENT, FAUCETS AND OTHER FIXTURE FITTINGS, FLUSHING DEVICES FOR WATER CLOSETS AND URINALS, MANUAL FOOD AND BEVERAGE DISPENSING EQUIPMENT.

5) CONTRACTOR SHALL PERFORM THE INSTALLATION OF WATER HEATERS AS PER THE CODES, ACCOUNTING FOR, BUT NOT LIMITED TO, REQUIREMENTS ON CONNECTIONS, SAFETY DEVICES, INSULATION AND DRAINAGE.

6) CONTRACTOR SHALL INSTALL WATER SUPPLY AND DISTRIBUTION FOLLOWING THE REQUIREMETNS OF THE CODES INCLUDING BUT NOT LIMITED TO: WATER REQUIREMENTS & SERVICE, BUILDING WATER DISTRIBUTION, MATERIALS, JOINTS AND CONNECTIONS, HOT WATER SUPPLY SYSTEM, PROTECTION OF POTABLE WATER SUPPLY, HEALTH CARE PLUMBING, DISINFECTION OF POTABLE WATER SYSTEM, DRINKING WATER TREATMENT UNITS, AND SOLAR SYSTEMS.

7) CONTRACTOR SHALL INSTALL SANITARY DRAINAGE SYSTEM FOLLOWING THE REQUIREMENTS OF THE CODES INCLUDING, BUT NOT LIMITED TO: MATERIALS, BUILDING SEWER, DRAINAGE PIPING, INSTALLATION, JOINTS, CONNECTIONS BETWEEN DRAINAGE PIPING AND FITTINGS, PROHIBITED JOINTS AND CONNECTIONS, CLEANOUTS, FIXTURE UNITS, DRAINAGE SYSTEM SIZING, SLOPES, OFFSETS IN DRAINAGE PIPING IN BUILDINGS, SUMPS AND EJECTORS, HEALTH CARE PLUMBING, AND BACKWATER VALVES.

8) CONTRACTOR SHALL INSTALL INDIRECT/SPECIAL WASTE SYSTEMS FOLLOWING THE REQUIREMENTS OF THE CODES INCLUDING, BUT NOT LIMITED TO: INDIRECT WASTES, SPECIAL WASTES, MATERIALS, JOINTS, SLOPES AND CONNECTIONS.

9) CONTRACTOR SHALL FIELD VERIFY, COORDINATE AND INSTALL VENTS FOLLOWING THE REQUIREMENTS OF THE CODES INCLUDING, BUT NOT LIMITED TO: MATERIALS, VENT STACKS AND STACK VENTS, VENT TERMINALS, VENT CONNECTIONS AND GRADES, FIXTURE VENTS, INDIVIDUAL VENTS, COMMON VENTS, WET VENTING, WASTE STACK VENT, CIRCUIT VENTING, COMBINATIONS DRAIN AND VENT SYSTEM, ISLAND FIXTURE VENTING, RELIEF VENTS, VENTS FOR STACK OFFSETS, VENT PIPE SIZING, AND AIR ADMITTANCE VALVES.

10) CONTRACTOR SHALL INSTALL INTERCEPTORS AND SEPARATORS FOLLOWING THE REQUIREMENTS OF THE CODES, ACCOUNTING FOR TRAP REQUIREMETNS, MATERIALS, JOINTS AND CONNECTIONS.

11) CONTRACTOR SHALL INSTALL STORM DRAINAGE SYSTEM FOLLOWING THE STANDARDS & REQUIREMENTS OF THE CODES INCLUDING, BUT NOT LIMITED TO: MATERIALS, TRAPS, CONDUCTORS, AND CONNECTIONS, ROOF DRAINS, SIZE OF CONDUCTORS, LEADERS AND STORM DRAINS, SECONDARY (EMERGENCY) ROOF DRAINS, VALUES FOR CONTINUOUS FLOW, SUMPS, AND PUMPING SYSTEMS.

12) CONTRACTOR SHALL INSTALL AND PROTECT DWV AND STORMWATER PIPES WITH FIRESTOP PROTECTION, AS PER STANDARDS & REQUIREMENTS OF THE CODES.

13) CONTRACTOR SHALL INSTALL FUEL PIPING SYSTEMS FOLLOWING THE STANDARDS & REQUIREMENTS OF THE CODES.

05 GENERAL PLUMBING NOTES — NOT TO SCALE

GENERAL PLUMBING NOTES:

1. ALL PLUMBING WORK SHALL BE IN STRICT ACCORDANCE WITH THE DEPARTMENT OF HEALTH OF P.R. , THE LOCAL BUILDING CODE, THE NATIONAL PLUMBING CODE (A.S.A. A 40 8–1955) AND THE SPECIFICA–TIONS ISSUED FOR THIS PROJECT.
ALL PIPING SHALL BE FITTED WITH EARTHQUAKE RESTRAINTS AS PER UBC & IPC, LATEST VERSION.

2. SIZES SHOWN IN FIXTURE SCHEDULE ARE MINIMUM AND SHALL BE INCREASED AS NECESSARY TO COMPLY WITH CODES REQUIREMENTS OR AS SHOWN IN THE DRAWINGS.

3. THE PLUMBING CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF EXISTING WATER SERVICE PIPE AND CONNECT TO IT WITH PROPER SIZE AS SHOWN IN THE DRAWING.

4. ALL VALVES NOT EXPOSED SHALL BE PROVIDED WITH ACCESS IN THE WALL OR FLOOR FOR OPERATION AND MAINTENANCE.

5. LONG SWEEP BENDS OR LONG SWEEP FITTINGS SHALL BE PROVIDED AT THE BASE OF ALL STACKS.

6. SINGLE AND DOUBLE SANITARY TEES AND QUATER BENDS SHALL BE USED IN DRAINAGE LINES ONLY WHERE THE DIRECTION OF FLOW IS FROM THE HORIZONTAL TO THE VERTICAL.

7. ALL HORIZONTAL PORTIONS OF SOIL, WASTE STACKS & BRANCHES SHALL SLOPE 1/8" PER FOOT, EXCEPT FOR SIZES 3" & SMALLER THAT SHALL BE 1/4" PER FOOT.

8. ALL PIPES SHALL BE ADEQUATELY SUPPORTED ON HANGERS OR CARRIERS AS REQUIRED. HANGERS SHALL BE PLACED 8 FT. APART FOR SIZES UP TO 4" AND 10 FT. APART ON SIZES LARGER THAN 4", EXCEPT THAT CAST IRON SOIL PIPE SHALL BE SUPPORTED AT EACH LEGHT. VERTICAL RISERS AND STACKS SHALL BE SUPPORTED AT EACH FLOOR LEVEL WITH RISER CLAMPS, EXCEPT AS OTHERWISE NOTED.

9. CLEANOUTS SHALL BE OF THE SAME NOMINAL SIZE AS PIPES UP TO 4" DIAM. NOT LESS THAN 4" FOR LARGER PIPES.

10. THE CONTRACTOR SHALL FURNISH AND SET IN PLACE BEFORE CONCRETE POURING, ALL NECESSARY SLEEVES FOR WASTE OR SOIL, AND COLD WATER LINES. THESE SLEEVES SHALL BE AS SPECIFIED.

11. THE PLUMBING CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF PIPING TO AVOID ANY INTERFERENCE WITH PIPING AND/OR EQUIPMENT BEING INSTALLED BY OTHER CONTRACTORS.

12. FOR FIXTURES AND/OR EQUIPMENT NOT LISTED IN THE SCHEDULE, SEE ARCHITECTURAL DRAWINGS.

13. THESE NOTES AS WELL AS THE LEGEND AND DETAILS APPLY TO ALL PLUMBING WORK FOR THE PROJECT.

14. ALL WATER PIPING ABOVE GROUND SHALL BE TYPE "L" HARD DRAWN COPPER.

15. ALL SOLVENT CEMENT SHALL BE IN ACCORDANCE WITH PIPE MANUFACTURERS, ASTM AND NSF RECOMMENDATIONS.

16. ALL PVC DWV PIPES AND FITTINGS SHALL BE SCHEDULE 40.

17. CONTRACTOR SHALL SUBMITT PRE–ENGINEERED SEISMIC RESTRAINTS FOR ALL ABOVE GROUND PIPING AS PER ISAT, MASON INDUSTRIES OR APPROVED EQUAL STANDARDS. SAID SUBMITTAL SHALL BE WATER STAMPED BY LICENSED ENGINEER IN THE COMMONWEALTH PF P.R..

18. ALL FITINGS FOR SANITARY, WASTE, STORM AND DRAIN LINES SHALL BE SPIGOT END.

19. THE PLUMBING CONTRACTOR SHALL SECURE APPROVAL AND ADVICE FROM THE ARCHITECT AND STRUCTURAL ENGINEER FOR THE LOCATION OF PIPES INSIDE WALLS OR SLABS.

20. CONTRACTOR SHALL INSTALL A COMPLETE PLUMBING SYSTEM AS SHOWN IN DRAWINGS AND CALLED FOR IN THE SPECIFICATIONS.

21. SUBMIT FOR ENGINEER'S APPROVAL, LITERATURE OF PIPES MATERIAL, VALVES, FLOOR DRAINS, FIXTURES, ETC BEFORE ORDERING.

22. THE CONTRACTOR SHALL PROVIDE PROTECTION FOR THE SURFACES OF ALL PLUMBING FIXTURES FROM DAMAGE BEFORE, DURING AND AFTER THEIR INSTALLATION AND UNTIL WORK IS COMPLETED AND ACCEPTED CONTRACTOR AND SUBCONTRACTOR SHALL NOT USE PLUMBING FIXTURES FOR THE STORAGE OF TOOLS OR MATERIALS, NOR AS SUPPORTS OR PLATFORM. EVERY PRECAUTION SHALL BE TAKEN DURING THE PERIOD OF CONSTRUCTION TO AVOID DAMAGE TO FIXTURES AND FITTINGS.

23. FOR EXACT LOCATION OF FIRE EXTINGUISHERS SEE ARCHITECTURAL DRAWINGS.

24. SPECIAL ATTENTION IS CALLED TO THE INTERPRETATION OF THE CODE'S REQUIREMENTS DESCRIBED IN ILLUSTRATED IN THE NATIONAL PLUMBING CODE HANDBOOK ASA–40.8–1955 EDITED BY VINCENT T. MANAS AND PUBLISHED BY McGRAW HILL BOOK CORPORATION INC. AND MADE PART OF THE REQUIREMENTS OF THIS CONTRACT.

25. THE DRAWINGS ARE GENERALLY DIAGRAMATIC AND ARE INTENDED TO CONVEY THE SCOPE OF THE WORK AND INDICATE GENERAL ARRANGEMENT OF EQUIPMENT, PIPING AND FIXTURES.

26. THE LOCATIONS OF ALL ITEMS SHOWN ON THE DRAWINGS ARE NOT DEFINITELY FIXED BY DIMENSIONS AND ARE APPROXIMATE ONLY. THE EXACT LOCATIONS NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS MUST BE DETERMINED BY THE CONTRACTOR AT THE PROJECT AND AS ILLUSTRATED IN THE REQUIRED SHOP DRAWINGS FOR THE ARCHITECTS APPROVAL BEFORE ACTUAL INSTALLATION.

27. THE SPECIFICATIONS AND DRAWINGS CALL FOR FINISHED WORK, TESTED AND READY FOR OPERATION ,ANY APPARATUS, MATERIAL OR WORK NOT SHOWN ON THE DRAWINGS OR SPECIFICATIONS BUT NECESSARY TO MAKE THE PLUMBING WORK COMPLETE SHALL BE PROVIDED BY CONTRACTOR AS IF SPECIFICALLY CALLED FOR BY THESE CONTRACT DOCUMENTS.

28. CONTRACTOR SHALL VERIFY IN THE FIELD ALL INVERT AND GRADE ELEVATIONS AND MAKE ANY NECESSARY ADJUSTEMENTS AS REQUIRED BY THE FIELD CONDITIONS, AND REQUIRED TO OBTAIN THE PROPER SLOPE.

29. THE CONTRACTOR MUST INSPECT PROJECT SITE AND MUST COORDINATE HIS WORK WITH THAT OF OTHER TRADES PRIOR TO SUBMITTING HIS PROPOSAL FOR THIS WORK. AFTER CONTRACT IS AWARDED, NO EXTRAS WILL BE ALLOWED FOR COORDINATIONS OR LESS PROJECT SITE CONDITIONS.

30. ALL CUTTING REQUIRED TO PERFORM THE WORK UNDER THIS CONTRACT WILL BE DONE BY MECHANICAL CONTRACTOR, ANY CUTTING OF STRUCTURE MUST BE APPROVED BY STRUCTURAL ENGINEER PRIOR TO WORK COMMENCEMENT.

31. ALL PIPING WELDS/SOLDER SHALL BE OF PHOSPHORUS FREE TYPE

32. ALTHOGH NOT SHOWN IN DRAWING, CONTRACTOR SHALL PROVIDE AIR CHAMBERS AT BOTH C.W. & H.W. ROUGHING–INS FOR EVERY TOILET, LAVATORY AND SINK. CONTRACTOR SHALL ALSO INCORPORATE 90° DEGREE OFFSET TO PIPE RUNS LONGER THAN 15', AT 10' INTERVALS, MINIMUM OFFSET OF 1'–0".

33. CONTRACTOR SHALL INCLUDE APPROPIATE TRAPS AS PER CODE REQUIREMENTS, NO EQUIPMENTS SHALL BE INSTALLED WITHOUT TRAPS (EXCEPT WASHING MACHINE).

34. ROUGHING–IN FOR TOILET FIXTURES, WHEN IN CONCRETE SLAB, SHALL INCORPORATE A LEGITIMATE CLOSET BEND FITTING.
CONTRACTOR SHALL ALWAYS INSTALL LONG RADIUS ELBOWS AND BOSTON TEES AT ANY CHANGE OF DIRECTION OF SEWER PIPE.
SHORT RADIUS ELBOWS SHALL NOT BE ALLOWED.

35–A. ALL PROYECT SHOWER AND TUB–SHOWER COMBINATION VALVES SHALL BE BALANCED PRESSURE VALVES THAT CONFORM TO THE REQUIREMENTS OF ASSE 1016 OR CSA CAN/CSA–B125. VALVES SHALL BE EQUIPPED WITH A MEANS TO LIMIT THE MAXIMUN SETTING OF THE VALVE TO 120°F(49°C), WHICH SHALL BE FIELD ADJUSTED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

35–B. APPLICABLE TO ALL INSTITUTIONAL, CORRECTIONAL, HEALTH CARE & ELDERY PROYECTS SHOWER AND TUB–SHOWER COMBINATION VALVES SHALL BE BALANCED COMBINATION BALANCED–PRESSURE / THERMOSTATIC VALVES
THAT CONFORM TO THE REQUIREMENTS OF ASSE 1016 OR CSA CAN/CSA–B125.
VALVES SHALL BE EQUIPPED WITH A MEANS TO LIMIT THE MAXIMUN SETTING OF THE VALVE TO 120°F(49°C), WHICH SHALL BE FIELD ADJUSTED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

36. CONTRACTOR SHALL INSTALL WATER HAMMER ARRESTORS PER CODE & MANUFACTURERS RECOMMNRDAN BASED ON PDI METHOD. INSTALLATION SHALL BE AS PER ACCEPTED NATIONAL PRACTICE. SEE J.R. SMITH SIZING & PLACEMENT OF HYDROTROLS GUIDE, 5000 SERIES,PAG. 5–01 ❶ 5–04. SEE SPECIFICATION 15445.

37. CONTRACTOR SHALL PERFORM PLUMBING RELATED INSTALLATIONS UNDER THE DIRECT SUPERVISION OF A "MASTER PLUMBER" AS A MEASURE TO GUARANTEE COMPLIANCE WITH APPLICABLE CODES AND INSTALLATION STANDARDS.

38. CONTRACTOR SHALL SEEK THE CERTIFICATION OF A "MASTER PLUMBER" AS PER LAW # 38 OF FEBRUARY 2002. THIS CERTIFICATION SHALL ASCERTAIN THE CORRECTNESS OF THE INSTALLATION OF ALL PLUMBING FOR THE PROJECT.

39. VENT PIPING AND ANY EXTENSION OF SOILED STACK SHALL BE PVC–SCH 40 WHEN EMBEDDED WITHIN WALLS & SLAB. EXPOSED VENT. PIPING WITHIN OPEN PLENUMS SHALL BE COOPER OR SCH–40 GALVANIZED STEEL.

40. SEISMIC SUPPORT. EARTHQUAKE LOADS ARE APPLICABLE IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE. WATER HEATER SUPPORTS SHALL BE DESIGNED AND INSTALLED FOR THE SEISMIC FORCES IN ACCORDANCE WITH THE INTER CODE. CONTRACTOR SHALL SUBMIT A PRE ENGINEERED SEISMIC SUPPORT SYSTEM EQUAL TO : ISAT OR MASON TYPICAL CONSTRUCTION STANDARDS.

41. WATER TEMPERATURE CONTROL IN PIPING FROM TANKLESS HEATERS. THE TEMPERATURE OF WATER FROM TANKLESS WATER HEATERS SHALL BE A MAXIMUM OF 140° F (60° C) WHEN INTENDED FOR DOMESTIC USES. THIS PROVISION SHALL NOT SUPERSEDE THE REQUIREMENT FOR PROTECTIVE SHOWER VALVES IN ACCORDANCE WITH SECTION 424.3 OF 2009 IPC.

42. WHERE REQUIRED. IN RESIDENTIAL OCCUPANCIES, HOT WATER SHALL BE SUPPLIED
BATHING, WASHING, CULINARY PURPOSES, CLEANSING, LAUNDRY OR BUILDING MAINTENANCE PURPOSES. IN NONRESIDENTIAL OCCUPANCIES, HOT WATER SHALL BE SUPPLIED FOR BATHING AND WASHING PURPOSES. HOT WATER SHALL BE SUPPLIED THROUGH A WATER TEMPERATURE LIMITING DEVICE THAT CONFORMS. TO ASSE 1070 AND SHALL LIMIT THE HOT WATER TO A MAXIMUM OF 110° F (43° C). THIS PROVISION SHALL NOT SUPERSEDE THE REQUIREMENT FOR NON SCALD SHOWER VALVES.

43. PER IPC –2009, SECTION 424.3; INDIVIDUAL SHOWER AND TUB–SHOWER COMBINATION VALVES SHALL BE COMBINATION BALANCED–PRESSURE/THERMOSTATIC VALVES THAT CONFORM TO THE REQUIREMENTS OF ASSE 1016 OR ASME A112.18.1/CSAB125.1 AND SHALL BE INSTALLED AT THE POINT OF USE. SHOWER AND TUBE–SHOWER COMBINATION VALVES SHALL BE EQUIPPED WITH A MEANS TO LIMIT THE MAXIMUN SETTING OF THE VALVE TO 120 DEGREES FAHRENHEIT, WHICH SHALL BE FIELD ADJUSTED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. IN–LINE THERMOSTATIC VALVES SHALL NOT BE UTILIZED FOR COMPLIANCE WITH THIS REQUIREMENT.

44. PER IPC –2009, SECTION 424.5; INDIVIDUAL BATHTUB AND WHIRPOOL BATHTUB VALVES. HOT WATER SUPPLIED TO BATHTUBS AND WHIRLPOOL BATHTUBS SHALL BE LIMITED TO A MAXIMUM TEMPERATURE OF 120 DEGREES FAHRENHEIT BY A WATER–TEMPERATURE LIMITING DEVIVE THAT CONFORMS TO ASSE1070 OR CSA B125.3, EXPECT WERE SUCH PROTECTION IS INDIVIDUAL PROVIDED BY A COMBINATION TUB/SHOWER VALVE AT EACH USE POINT, IN ACCORDANCE WITH ASSE1016 OR ASME A112.18.1/CSA B125.1.

45. PER IPC –2009, PUBLIC HAND –WASHING FACILITIES. HOT WATER SUPPLIED TO PUBLIC HAND –WASHING FACILITIES, INCLUDING BUT NOT LIMITED TO LAVATORIES, SINK, SERVICE SINKS, ET.AL, SHALL BE LIMITED TO A MAXIMUN TEMPERATURE OF 120 DEGREE FAHRENHEIT BY A WATER–TEMPERATURE LIMITING DEVICE THAT CONFORMS TO ASSE 1070 OR CSA B125.3, EXCEPT WERE SUCH PROTECTION IS INDIVIDUALPROVIDED BY A COMBINATION VALVE AT EACH USE POINT, IN ACCORDANCE WITH ASSE1016 OR ASME A112.18.1/CSA B125.1.

46. PER IPC –2009, SECTION 501.2, CENTRALIZED WATER HEATING GENERATION AND/OR SUPPLY SHALL BE EQUIPPED WITH A MASTER THERMOSTATIC MIXING VALVE COMPLYING WITH ASSE1017 TO LIMIT POTABLE HOT WATER TEMPERATURE SUPPLIED TO A MAXIMUM OF 120 DEGREES FAHRENHEIT.

06 GENERAL PLUMBING NOTES — NOT TO SCALE

CONSTRUCTION DRAWINGS 100%
DATE: FEBRUARY 26, 2025

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CLIENT
PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT
PHASE I & II: IMPROVEMENTS TO MAIN HVAC SYSTEM (CHILLERS, COOLING TOWERS & AIR-COOLED CHILLER) AT PRODCO HEADQUARTERS SAN JUAN, PR

CONSULTANT SEAL
Pedro Juan Medina Villanueva — Ingeniero Licenciado — CIC 9664 PE — Puerto Rico — Fecha de Expiración: 2028-03-14

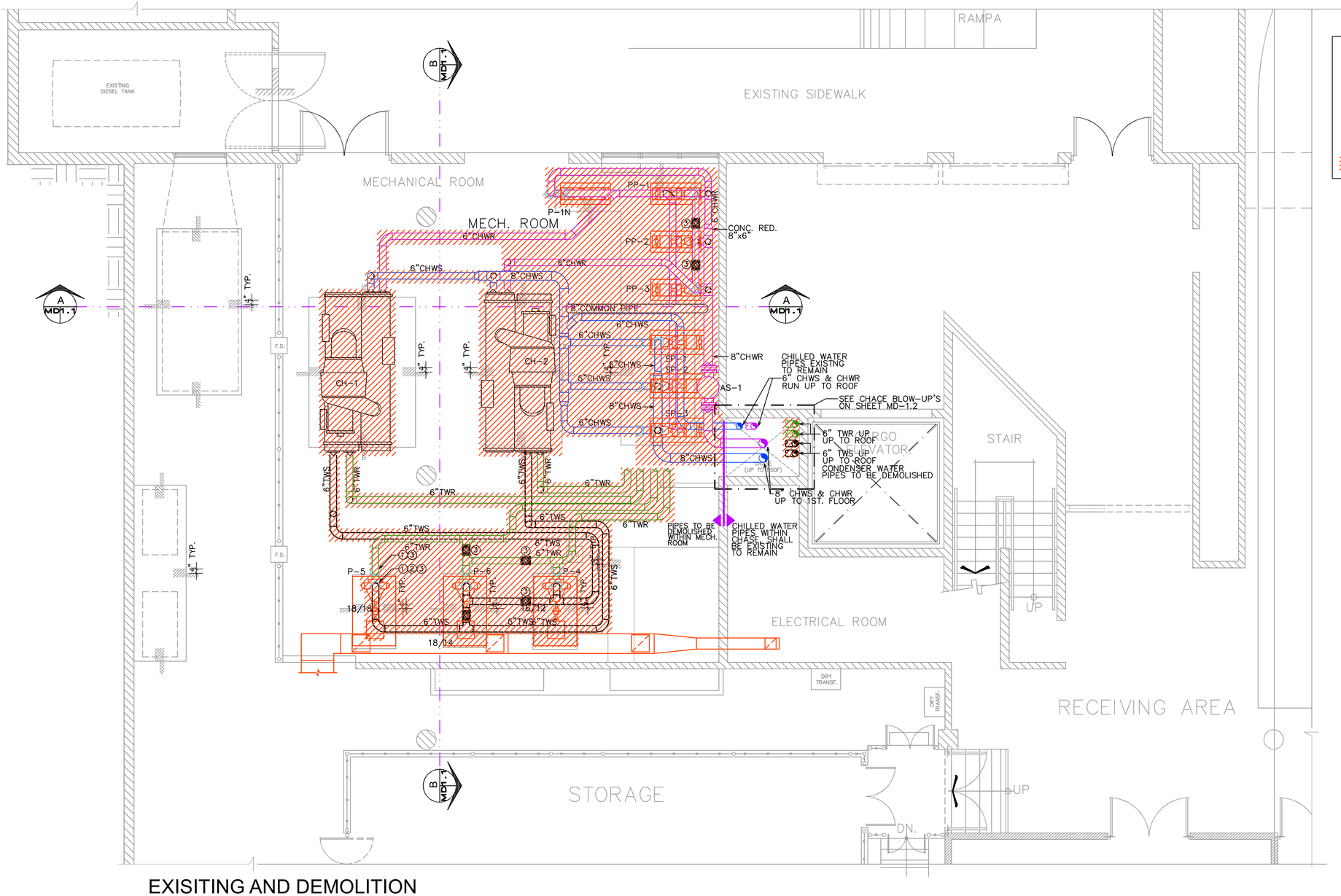
Yo, Pedro J. Medina Villanueva, certifico que soy el profesional que diseñó esto planos, especificaciones y documentos complementarios. También certifico que entiendo que dichos planos, especificaciones y documentos cumplen con todas las disposiciones aplicables del Reglamento Conjunto y las disposiciones aplicables de los Reglamentos y Códigos de Construcción Vigentes de las Agencias, Juntas Reglamentadoras of Corporaciones Públicas con jurisdicción. Certifico, además, que en la preparación de estos planos, especificaciones y documentos se ha cumplido cabalment con lo dispuesto en la Ley Núm. 14-2004, según enmendada, conocida como la "Ley para la Inversión por la Industria Puertorrique–bna", con la "Ley para la Reforma del Proceso de Permisos de Puerto Rico", Ley Núm. 161-2009, según enmendada y [con la Ley Núm. 135-1967; o con la Ley Núm. 160-1996, según enmendadas y según aplique]. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido por desconocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por toras personas con mi conocimiento, me hacen responsble de cualquier acción judicial y disciplinaria por la OGPe.

REV.	DATED	BY.

SHEET TITLE
PROPOSED PLUMBING NOTES AND DETAILS

DATE	2025–02–07
DRAWN BY	PJMA
REVISED BY	PJMA
DWG FILE NAME	PROPOSED
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.
39/67 MP-2.0
DRAWING NO.

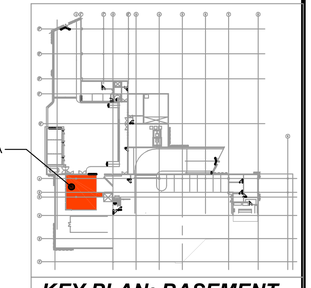


LEGEND:

① – FLEXIBLE CONNECTOR
② – CHECK VALVE
③ – BUTTERFLY VALVE

CH	CHILLER
CHWS	CHILLER WATER SUPPLY
CHWR	CHILLER WATER RETURN
TWS	COOLING TOWER WATER SUPPLY
TWR	COOLING TOWER RETURN
	TO BE DEMOLISHED

PROYECT AREA



KEY PLAN: BASEMENT

EXISITING AND DEMOLITION MECHANICAL EQUIPMENT AND PIPING PARTIAL PLAN - BASEMENT

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

CONSTRUCTION DRAWINGS 100%
DATE: FEBRUARY 26, 2025.

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CLIENT
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PROJECT
PHASE I & II: IMPROVEMENTS TO MAIN HVAC SYSTEM (CHILLERS, COOLING TOWERS & AIR-COOLED CHILLER) AT PRODCO HEADQUARTERS SAN JUAN, PR

CONSULTANT SEAL



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REV.	DATED		BY.
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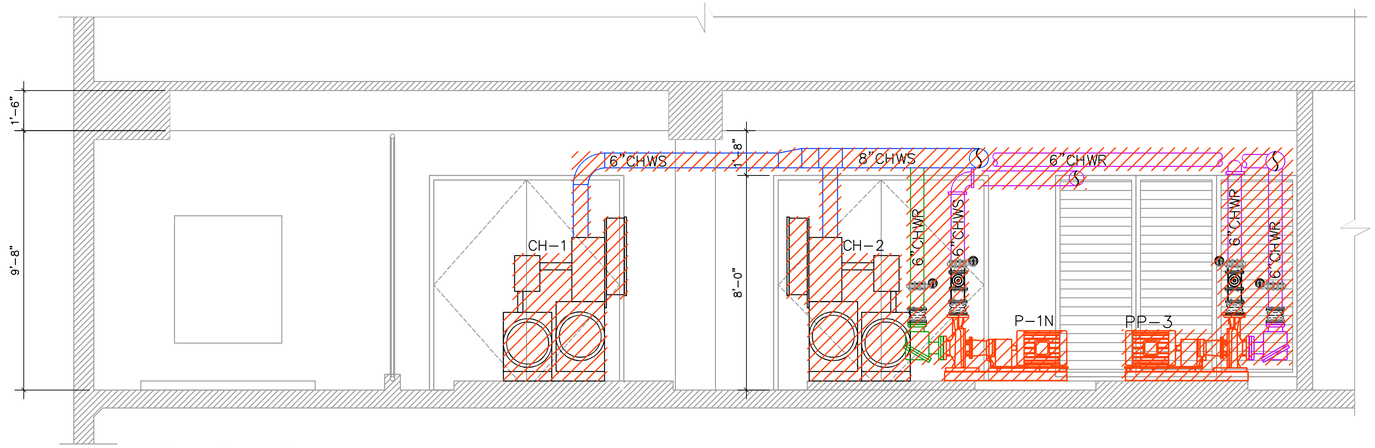
SHEET TITLE
EXISTING AND DEMOLITION MECHANICAL EQUIPMENT AND PIPING PARTIAL PLAN - BASEMENT

DATE	2025-02-07
DRAWN BY	PJMA
REVISED BY	PJMA
DWG FILE NAME	AS-BUILT
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.
40/67 MD-1.0
DRAWING NO.



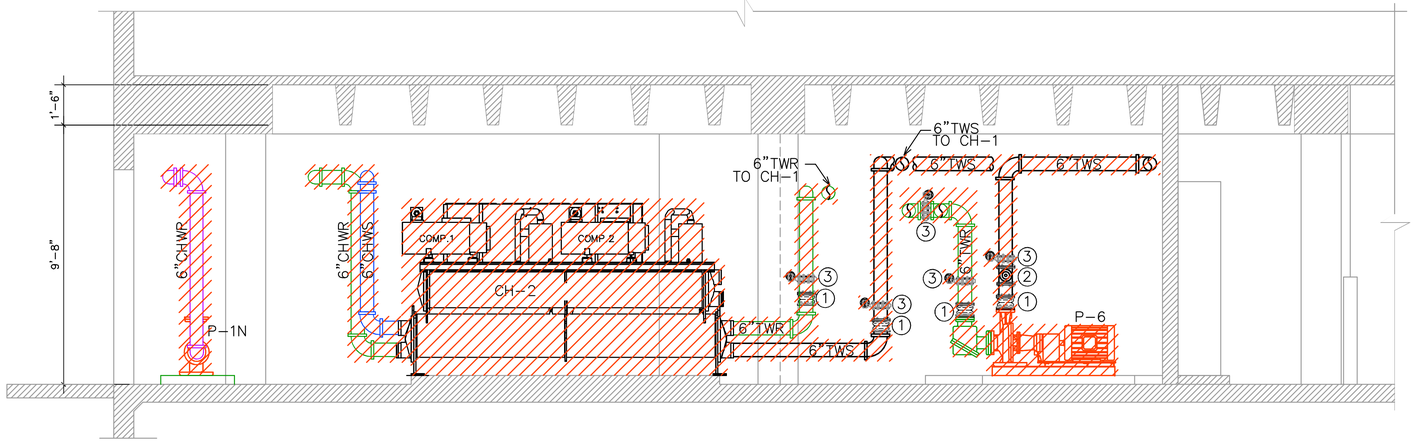
SECTION "A"

SCALE: 3/8"=1'-0"

LEGEND:

1 – FLEXIBLE CONNECTOR
2 – CHECK VALVE
3 – BUTTERFLY VALVE

CH	CHILLER
CHWS	CHILLER WATER SUPPLY
CHWR	CHILLER WATER RETURN
TWS	COOLING TOWER WATER SUPPLY
TWR	COOLING TOWER RETURN
	TO BE DEMOLISHED



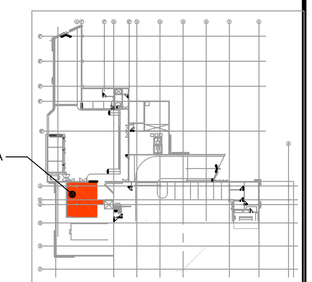
SECTION "B"

SCALE: 3/8"=1'-0"

LEGEND:

1 – FLEXIBLE CONNECTOR
2 – CHECK VALVE
3 – BUTTERFLY VALVE

CH	CHILLER
CHWS	CHILLER WATER SUPPLY
CHWR	CHILLER WATER RETURN
TWS	COOLING TOWER WATER SUPPLY
TWR	COOLING TOWER RETURN
	TO BE DEMOLISHED



KEY PLAN: BASEMENT

CONSTRUCTION DRAWINGS 100%
DATE: FEBRUARY 26, 2025.

Pedro Medina Villanueva & Associates, P.S.C.
ENGINEERING CONSULTANTS
P.E. | C.I.A.P.R. Lic. #9654
843 Calle Esteban González, Ste.304
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Architects & Consultants, PSC.

CLIENT

PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT

PHASE I & II: IMPROVEMENTS TO MAIN HVAC SYSTEM (CHILLERS, COOLING TOWERS & AIR-COOLED CHILLER) AT PRODCO HEADQUARTERS SAN JUAN, PR

CONSULTANT SEAL

Pedro Juan Medina Villanueva
Ingeniero
Licenciado
CIE 9654 PE
Puerto Rico
Fecha de Expiración: 2028-03-14

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SHEET TITLE

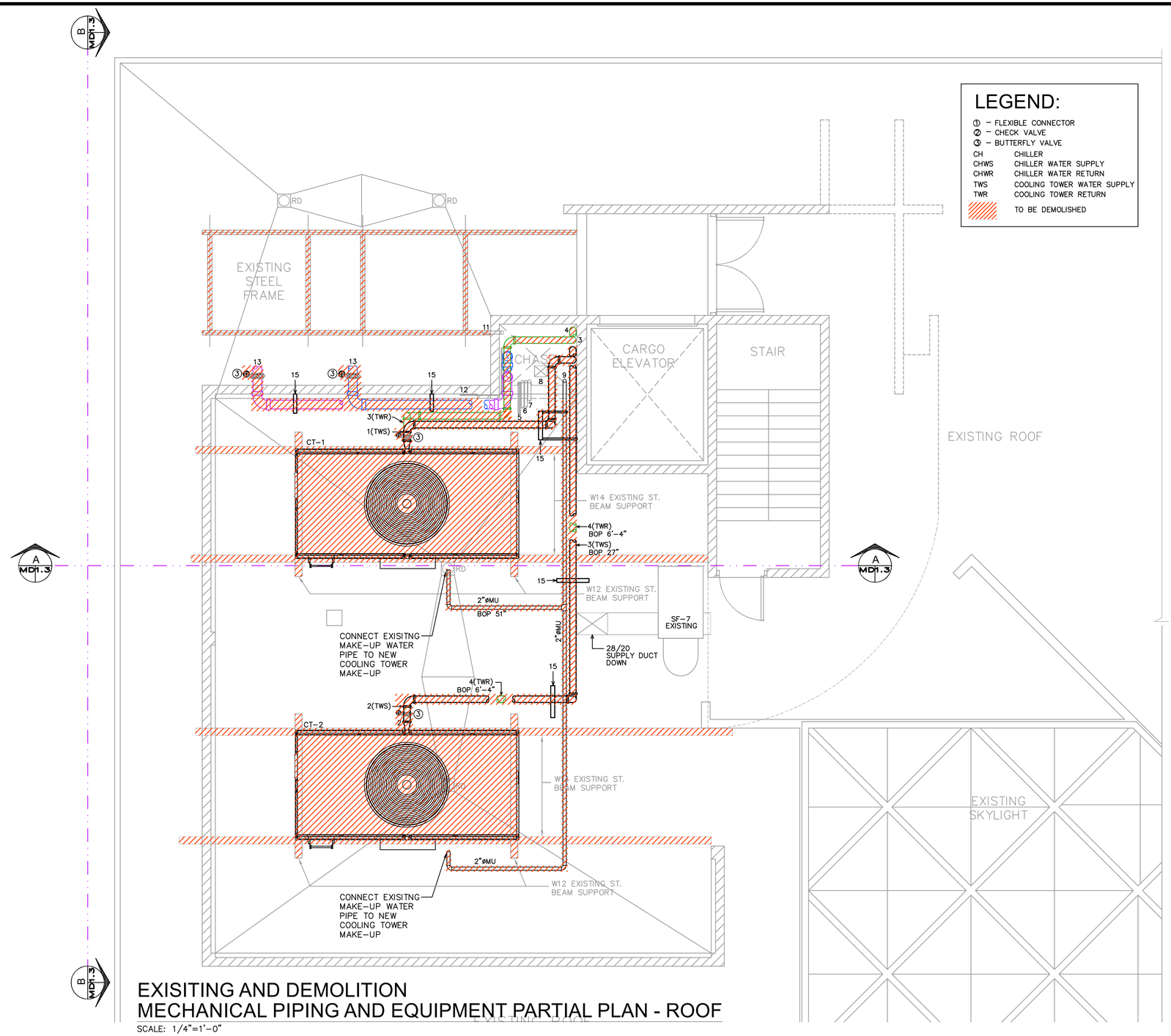
EXISTING AND DEMOLITION MECHANICAL ROOM PARTIAL SECTIONS - BASEMENT

DATE	2025-02-07
DRAWN BY	PJMA
REVISED BY	PJMA
DWG FILE NAME	AS-BUILT
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.

41 / 67 MD-1.1

DRAWING NO.



LEGEND:

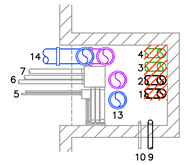
① – FLEXIBLE CONNECTOR
② – CHECK VALVE
③ – BUTTERFLY VALVE

CH	CHILLER
CHWS	CHILLER WATER SUPPLY
CHWR	CHILLER WATER RETURN
TWS	COOLING TOWER WATER SUPPLY
TWR	COOLING TOWER RETURN

TO BE DEMOLISHED

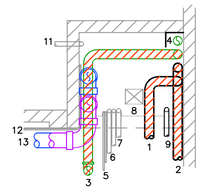
EXISITING AND DEMOLITION MECHANICAL PIPING AND EQUIPMENT PARTIAL PLAN - ROOF

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



MECH. RM. LEVEL

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



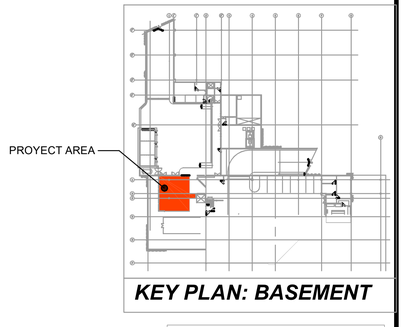
ROOF LEVEL

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

LEGEND:

1. 6" PIPE TWS UP TO ROOF.
2. 6" PIPE TWS UP TO ROOF.
3. 6" PIPE TWR UP TO ROOF.
4. 6" PIPE TWR UP TO ROOF.
5. PV SYSTEM: 2 – 3" EMT CONDUITS UP TO ROOF.
6. PV SYSTEM: 2 – 2½" EMT CONDUITS UP TO ROOF
7. PV SYSTEM: 1 – 3" EMT CONDUITS UP TO ROOF.
8. 10" X 10" JANITOR ROOM VENTILATION DUCT.
9. 2" MAKEUP WATER TO COOLING TOWER. (MU)
10. 1" WATER RISER UP TO JANITOR ROOMS.
11. 2 – 2" EMT CONDUITS UP TO ROOF.
12. 3" EMT CONDUITS UP TO ROOF.
13. AIRCOOL SYSTEM: 2 – 8" PIPES UP TO ROOF.
14. WATERCOOL SYSTEM: 2 – 8" CHWS/CHWR UP TO ROOF.
15. PIPE SUPPORT

TO BE DEMOLISHED



KEY PLAN: BASEMENT

CONSTRUCTION DRAWINGS 100%
DATE: FEBRUARY 26, 2025.

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CLIENT

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PROJECT

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CONSULTANT SEAL

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Ingeniero Licenciado
CIP. 9654 PE
Puerto Rico
Fecha de Expiración: 2028-03-14

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SHEET TITLE

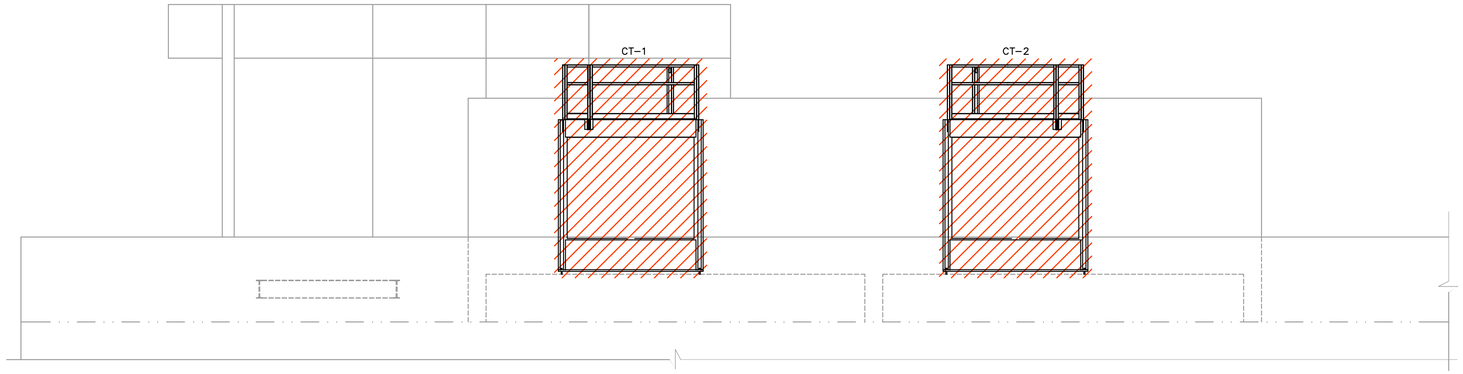
EXISTING AND DEMOLITION MECHANICAL EQUIPMENT AND PIPING PARTIAL PLAN - ROOF

DATE	2025-02-07
DRAWN BY	PJMA
REVISED BY	PJMA
DWG FILE NAME	AS-BUILT
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.

42 / 67 MD-1.2

DRAWING NO.



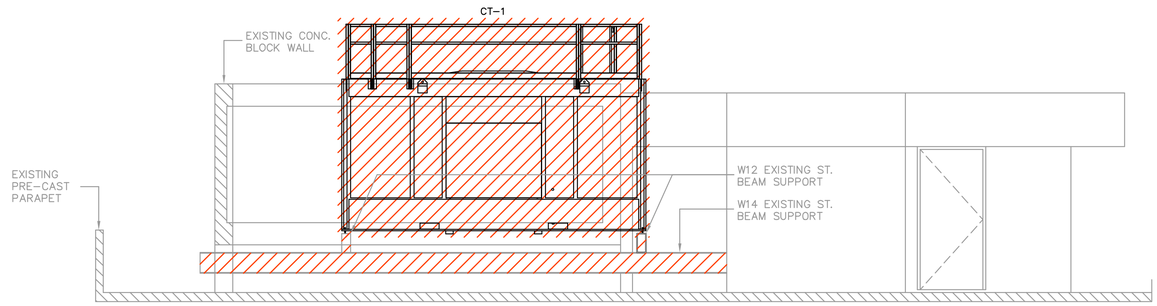
ELEVATION "B"

SCALE: 3/8"=1'–0"

LEGEND:

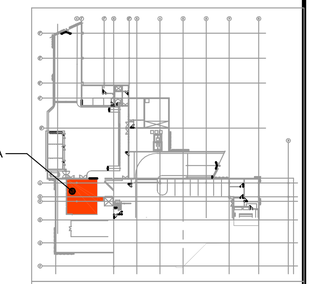
1 – FLEXIBLE CONNECTOR
2 – CHECK VALVE
3 – BUTTERFLY VALVE

CH	CHILLER
CHWS	CHILLER WATER SUPPLY
CHWR	CHILLER WATER RETURN
TWS	COOLING TOWER WATER SUPPLY
TWR	COOLING TOWER RETURN
	TO BE DEMOLISHED



ELEVATION "A"

SCALE: 3/8"=1'–0"



KEY PLAN: BASEMENT

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e–mail: ing.pedrojmedina@gmail.com

CONSTRUCTION DRAWINGS 100%
DATE: FEBRUARY 26, 2025.

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E. MORELL- RIVERA
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CLIENT

PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT

PHASE I & II: IMPROVEMENTS TO MAIN HVAC SYSTEM (CHILLERS, COOLING TOWERS & AIR-COOLED CHILLER) AT PRODCO HEADQUARTERS SAN JUAN, PR

CONSULTANT SEAL

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Ingeniero Licenciado
CE 9664 PE
Puerto Rico
Fecha de Expiración: 2028-03-14

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SHEET TITLE

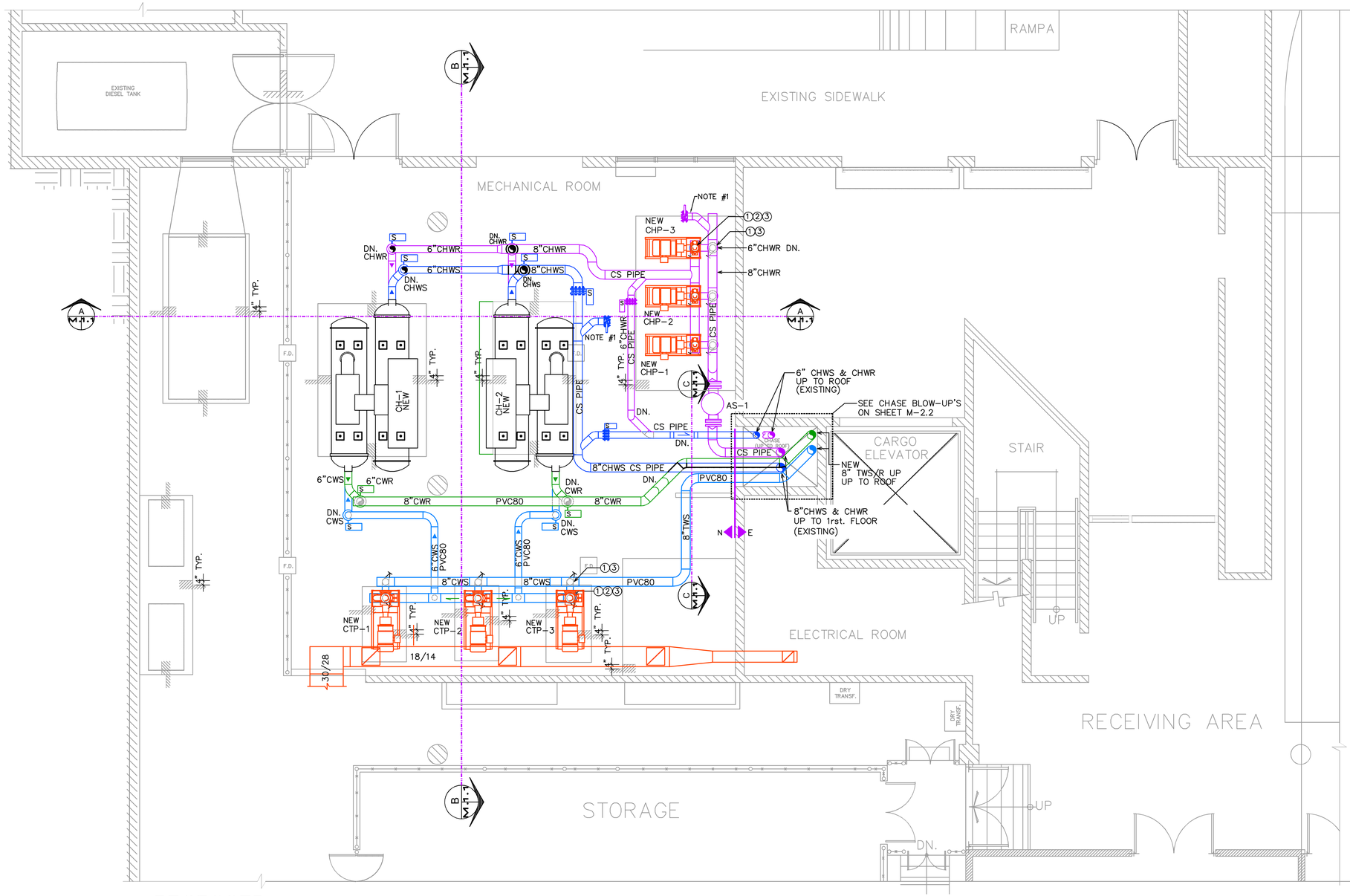
EXISTING AND DEMOLITION MECHANICAL ROOM PARTIAL SECTIONS - ROOF

DATE	2025–02–07
DRAWN BY	PJMA
REVISED BY	PJMA
DWG FILE NAME	AS–BUILT
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.

43/67 MD-1.3

DRAWING NO.

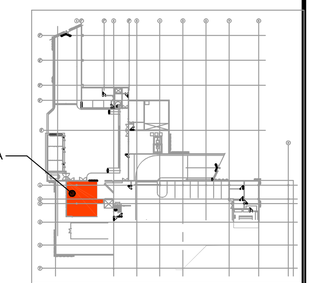


LEGEND:

①	– FLEXIBLE CONNECTOR
②	– CHECK VALVE
③	– BUTTERFLY VALVE
④	– SOLENOID VALVE
⑤	– SUCTION DIFFUSER
CH	CHILLER
CHS	CHILLED WATER SUPPLY PIPE
CHR	CHILLED WATER RETURN PIPE
CWS	COOLING TOWER WATER SUPPLY PIPE
CWR	COOLING TOWER WATER RETURN PIPE
CTP	COOLING TOWER PUMP
CHP	CHILLED WATER PUMP
PVC80	CONDENSER WATER PIPES, INTERIOR
HDPE	CONDENSER WATER PIPES, EXTERIOR
CS PIPES	CHILLED WATER PIPES, ALL
AS–#	AIR SEPARATOR
E / N	E = EXISTING N = NEW

NOTE #1 EMERGENCY BACKUP CHILLER CONNECTION

PROYECT AREA



KEY PLAN: BASEMENT

PROPOSED
MECHANICAL ROOM PIPING AND EQUIPMENT PARTIAL PLAN - BASEMENT

SCALE: 1/4"=1'–0"

CONSTRUCTION DRAWINGS 100%
DATE: FEBRUARY 26, 2025.

Pedro Medina Villanueva & Asociados, P.S.C.
ENGINEERING CONSULTANTS
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CLIENT

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PROJECT

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CONSULTANT SEAL

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SHEET TITLE

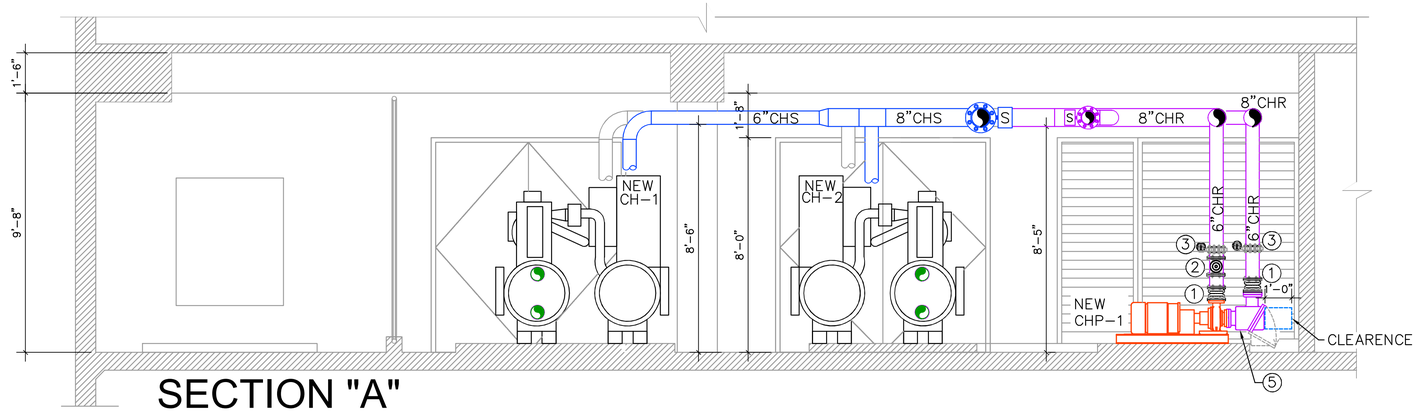
PROPOSED MECHANICAL ROOM PIPING AND EQUIPMENT PARTIAL PLAN - BASEMENT

DATE	2025–02–07
DRAWN BY	PJMA
REVISED BY	PJMA
DWG FILE NAME	PROPOSED
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.

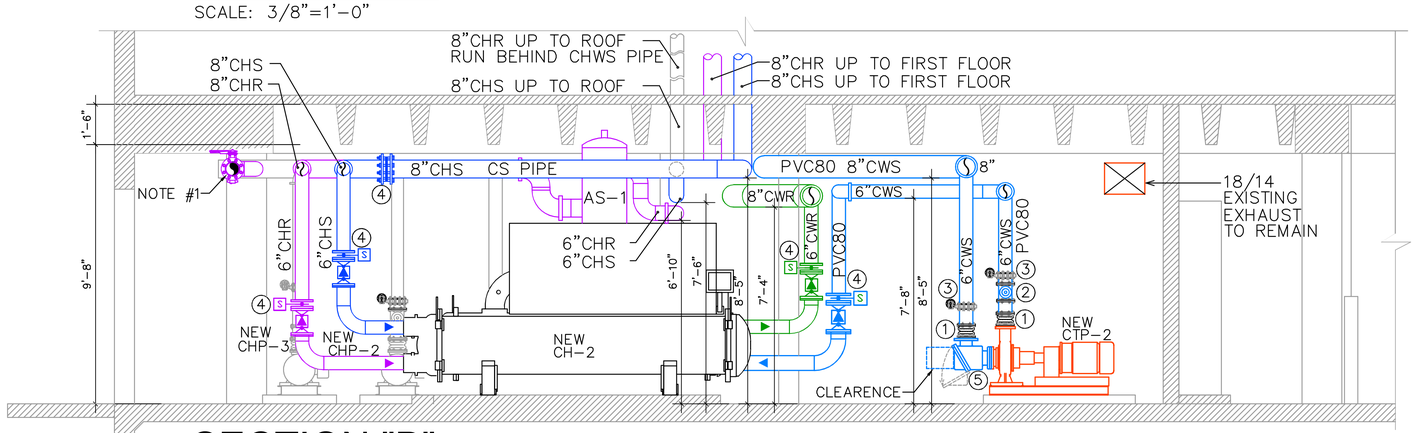
44 / 67 M-2.0

DRAWING NO.



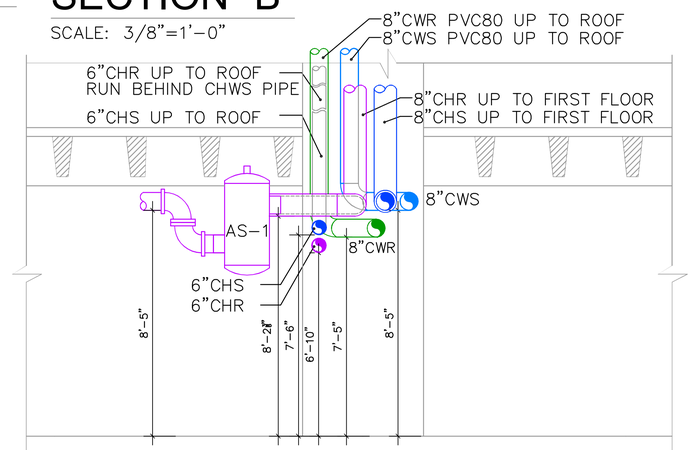
SECTION "A"

SCALE: 3/8"=1'-0"



SECTION "B"

SCALE: 3/8"=1'-0"



SECTION "C"

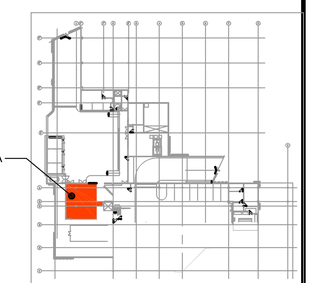
SCALE: 3/8"=1'-0"

LEGEND:

① – FLEXIBLE CONNECTOR
② – CHECK VALVE
③ – BUTTERFLY VALVE
④ – SOLENOID VALVE
⑤ – SUCTION DIFFUSER

CH	CHILLER
CHS	CHILLED WATER SUPPLY PIPE
CHR	CHILLED WATER RETURN PIPE
CWS	COOLING TOWER WATER SUPPLY PIPE
CWR	COOLING TOWER WATER RETURN PIPE
CTP	COOLING TOWER PUMP
CHP	CHILLED WATER PUMP
PVC80	CONDENSER WATER PIPES, INTERIOR
HDPE	CONDENSER WATER PIPES, EXTERIOR
CS PIPES	CHILLED WATER PIPES, ALL
AS-#	AIR SEPARATOR
E	E = EXISTING
N	N = NEW

NOTE #1 EMERGENCY BACKUP CHILLER CONNECTION



KEY PLAN: BASEMENT

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CONSTRUCTION DRAWINGS 100%
DATE: FEBRUARY 26, 2025.

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architects@emrarchitects.com
E. MORELL- RIVERA
Architects & Consultants, PSC.

CLIENT
PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT
PHASE I & II: IMPROVEMENTS TO MAIN HVAC SYSTEM (CHILLERS, COOLING TOWERS & AIR-COOLED CHILLER) AT PRODCO HEADQUARTERS SAN JUAN, PR

CONSULTANT SEAL
Pedro Juan Medina Villanueva
Ingeniero Licenciado
CIC 9654 PE
Puerto Rico
Fecha de Expiración: 2028-03-14

Yo, Pedro J. Medina Villanueva, certifico que soy el profesional que diseñó esto planos, especificaciones y documentos complementarios. También certifico que entiendo que dichos planos, especificaciones y documentos cumplen con todas las disposiciones aplicables del Reglamento Conjunto y las disposiciones aplicables de los Reglamentos y Códigos de Construcción Vigentes de las Agencias, Juntas Reglamentadoras of Corporaciones Públicas con jurisdicción. Certifico, además, que en la preparación de estos planos, especificaciones y documentos se ha cumplido cabalment con lo dispuesto en la Ley Núm. 14-2004, según enmendada, conocida como la "Ley para la Inversión por la Industria Puertorrique¬bna", con la "Ley para la Reforma del Proceso de Permisos de Puerto Rico", Ley Núm. 161-2009, según enmendada y [con la Ley Núm. 135-1967; o con la Ley Núm. 160-1996, según enmendadas y según aplique]. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido por desconocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por toras personas con mi conocimiento, me hacen responsble de cualquier acción judicial y disciplinaria por la OGPe.

REV.	DATED		BY.
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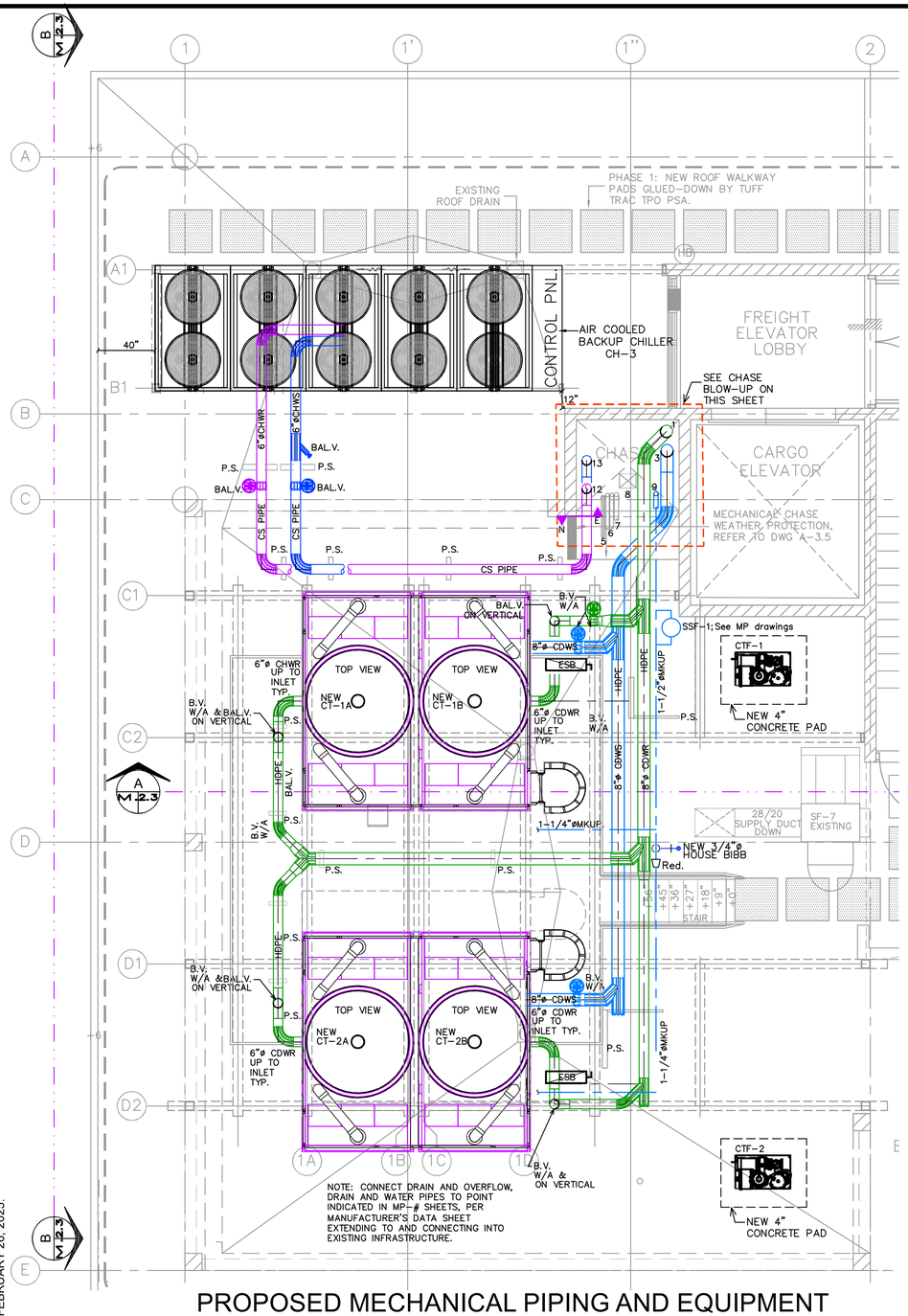
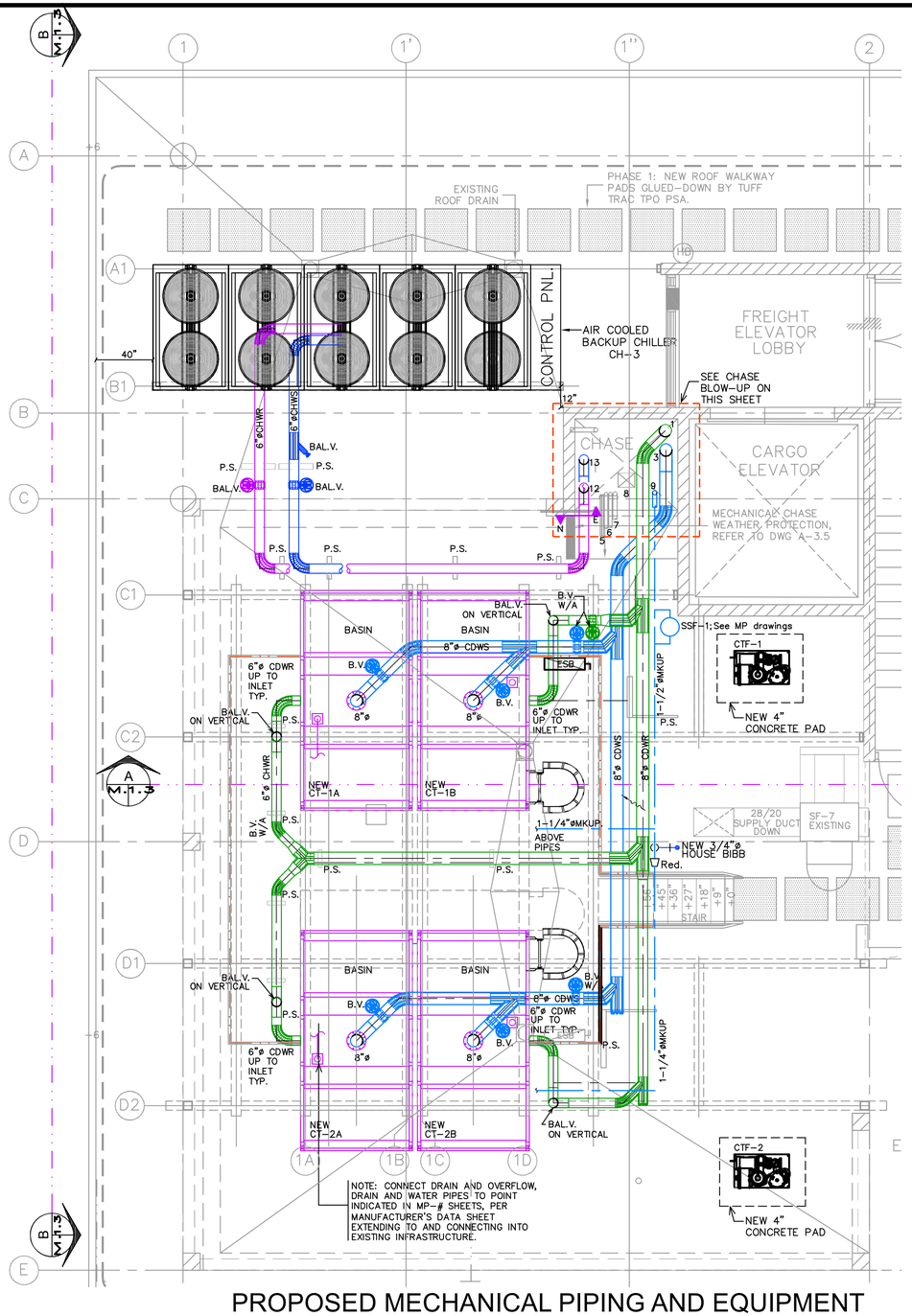
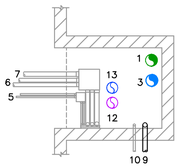
SHEET TITLE
PROPOSED MECHANICAL ROOM PIPING & EQUIPMENT PARTIAL SECTIONS BASEMENT

DATE	2025-02-07
DRAWN BY	PJMA
REVISED BY	PJMA
DWG FILE NAME	PROPOSED
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.
45/67 M-2.1
DRAWING NO.

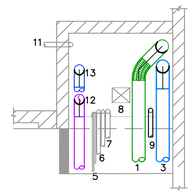






MECH. RM. LEVEL

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



ROOF LEVEL

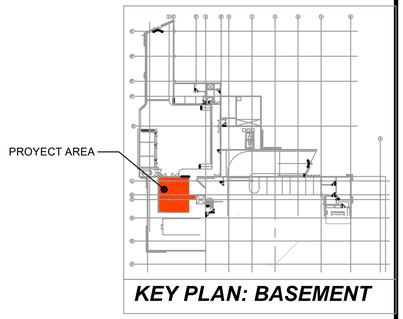
SCALE: 1/4"=1'-0"

NUMBER KEY:

1. 8" PIPE CDWR UP TO ROOF.
3. 8" PIPE CDWS UP TO ROOF.
5. PV SYSTEM: 2 – ¾" EMT CONDUITS UP TO ROOF.
6. PV SYSTEM: 2 – 2½" EMT CONDUITS UP TO ROOF
7. PV SYSTEM: 1 – 3" EMT CONDUITS UP TO ROOF.
8. 10" X 10" JANITOR ROOM VENTILATION DUCT.
9. 1-1/2" MAKEUP WATER TO COOLING TOWER.
12. 6" PIPE CHWR UP TO ROOF.
13. 6" PIPE CHWS UP TO ROOF.

LEGEND:

- ELBOW UP/DN
- 22 ELBOW
- 45 ELBOW
- 90 ELBOW
- BUTTERFLY VALVE W/ACTUATOR (B.V.)
- BALANCING VALVE (BAL.V.)
- CHWS CHILLED WATER SUPPLY PIPE
- CHWR CHILLED WATER RETURN PIPE
- CDWS CONDENSER WATER SUPPLY PIPE
- CDWR CONDENSER WATER RETURN PIPE
- P.S. PIPE SUPPORT
- N.C. NORMALLY CLOSE
- CT-# COOLING TOWER, #=NUMBER
- CTP-# COOLING TOWER PUMP
- CS PIPE CARBON STEEL PIPING, GROOVE COUPLED
- HDPE HIGH DENSITY POLYETHYLENE
- PVC80 PVC SCHEDULE 80 PIPING
- CHP-# CHILLED WATER PUMP
- CTF-# COOLING TOWER FILTER SYSTEM (SKID)
- CHEM.F CHEMICAL FEED SYSTEM
- CH-# CHILLER
- E = EXISTING, N = NEW
- SECTION DEFINITION



KEY PLAN: BASEMENT

CONSTRUCTION DRAWINGS 100%
DATE: FEBRUARY 26, 2025.

PROPOSED MECHANICAL PIPING AND EQUIPMENT TOP VIEW PARTIAL PLAN - ROOF

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

PROPOSED MECHANICAL PIPING AND EQUIPMENT BASIN VIEW PARTIAL PLAN - ROOF

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

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CLIENT

PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT

PHASE I & II: IMPROVEMENTS TO MAIN HVAC SYSTEM (CHILLERS, COOLING TOWERS & AIR-COOLED CHILLER) AT PRODCO HEADQUARTERS SAN JUAN, PR

CONSULTANT SEAL

Pedro Juan Medina Villanueva
Ingeniero Licenciado
CIE 9664 PE
Puerto Rico
Fecha de Expiración: 2028-03-14

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REV.	DATED	BY.

SHEET TITLE

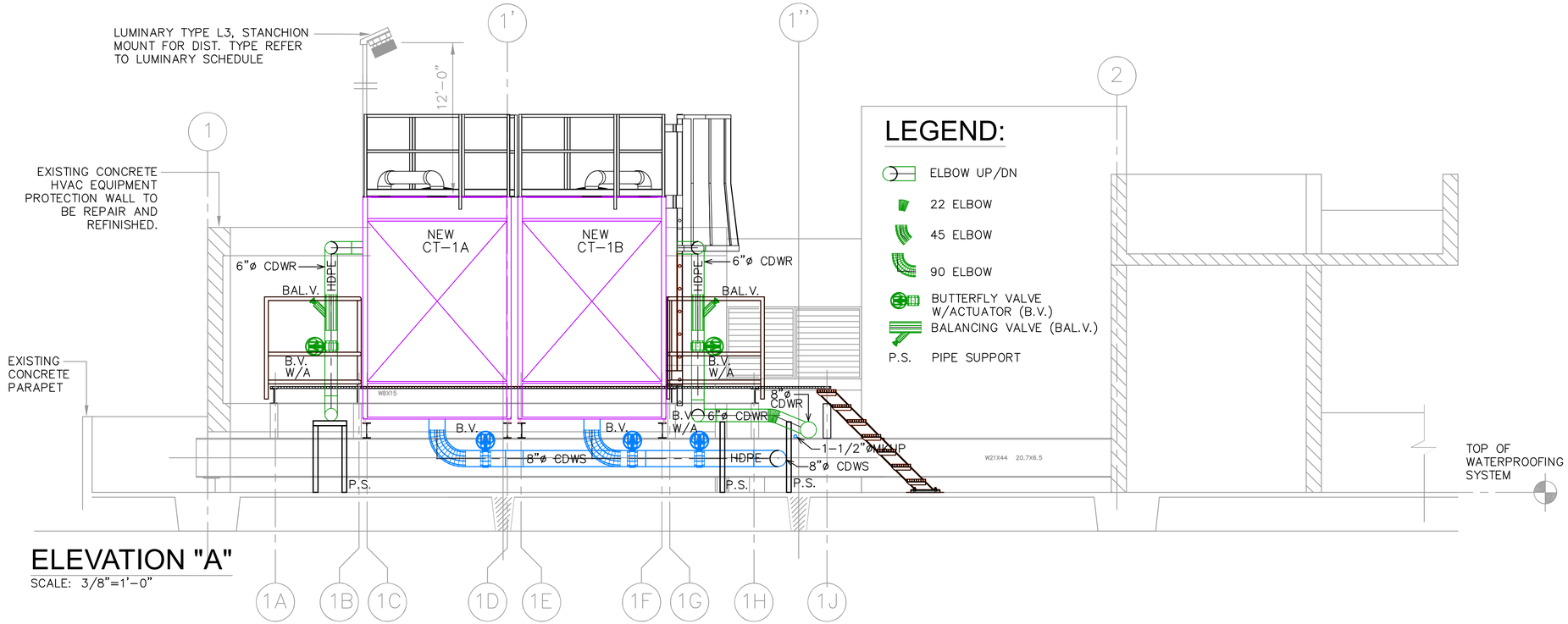
PROPOSED MECHANICAL PIPING AND EQUIPMENT PARTIAL PLAN - ROOF

DATE	2025-02-07
DRAWN BY	PJMA
REVISED BY	PJMA
DWG FILE NAME	PROPOSED
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.

46/67 M-2.2

DRAWING NO.



ELEVATION "A"

SCALE: 3/8"=1'-0"

LEGEND:

- ELBOW UP/DN
- 22 ELBOW
- 45 ELBOW
- 90 ELBOW
- BUTTERFLY VALVE W/ACTUATOR (B.V.)
- BALANCING VALVE (BAL.V.)
- P.S. PIPE SUPPORT

LEGEND:

- ELBOW UP/DN
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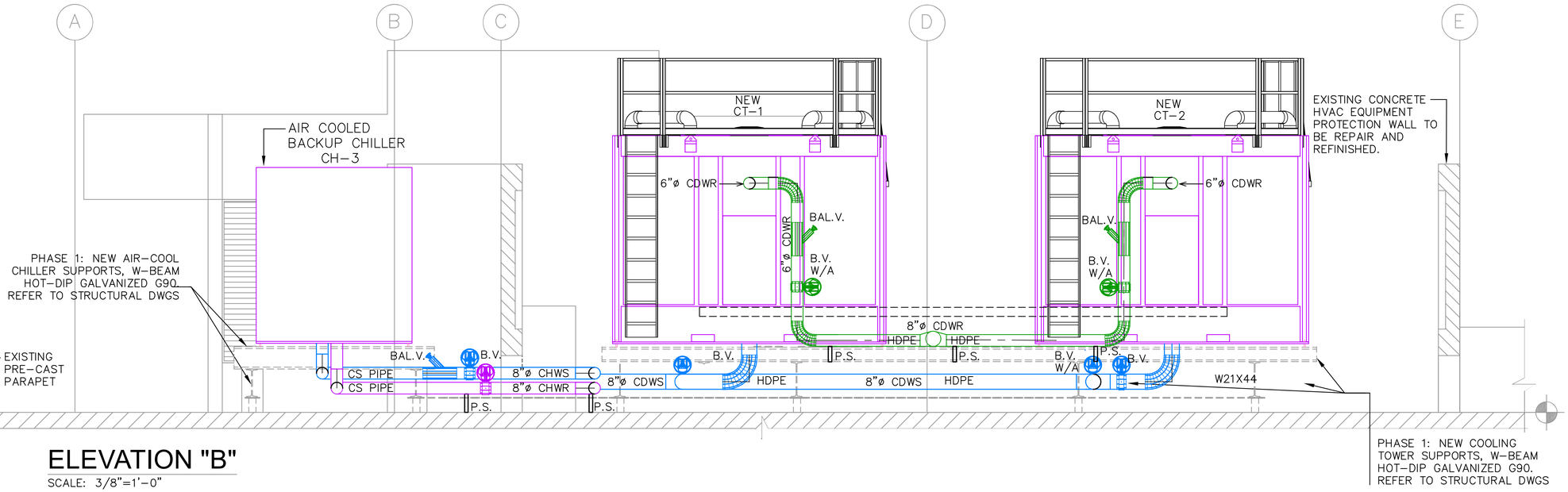
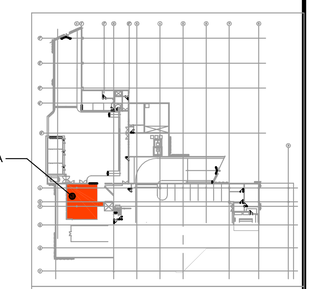
- CHEM.F CHEMICAL FEED SYSTEM
- CH-# CHILLER
- E E = EXISTING
- N N = NEW
- SECTION DEFINITION



ELEVATION "B"

SCALE: 3/8"=1'-0"

CONSTRUCTION DRAWINGS 100%
DATE: FEBRUARY 26, 2025.



KEY PLAN: BASEMENT

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PROJECT

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SHEET TITLE

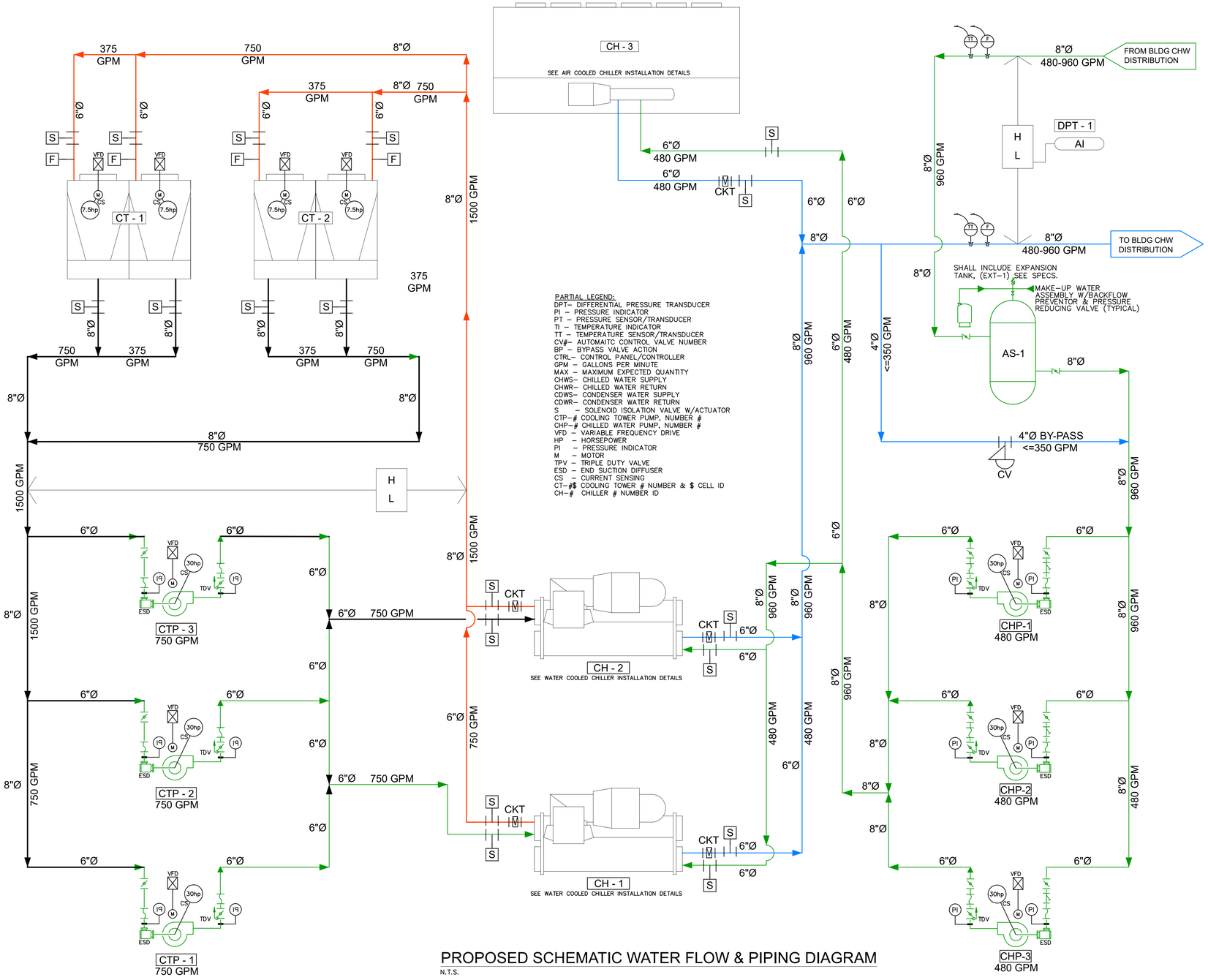
PROPOSED MECHANICAL PIPING AND EQUIPMENT PARTIAL SECTIONS - ROOF

DATE	2025-02-07
DRAWN BY	PJMA
REVISED BY	PJMA
DWG FILE NAME	PROPOSED
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.

47/67 M-2.3

DRAWING NO.



PARTIAL LEGEND:
DPT– DIFFERENTIAL PRESSURE TRANSDUCER
PI – PRESSURE INDICATOR
PT – PRESSURE SENSOR/TRANSDUCER
TI – TEMPERATURE INDICATOR
TT – TEMPERATURE SENSOR/TRANSDUCER
CV#– AUTOMAITC CONTROL VALVE NUMBER
BP – BYPASS VALVE ACTION
CTRL– CONTROL PANEL/CONTROLLER
GPM – GALLONS PER MINUTE
MAX – MAXIMUM EXPECTED QUANTITY
CHWS– CHILLED WATER SUPPLY
CHWR– CHILLED WATER RETURN
CDWS– CONDENSER WATER SUPPLY
CDWR– CONDENSER WATER RETURN
S – SOLENOID ISOLATION VALVE W/ACTUATOR
CTP–# COOLING TOWER PUMP, NUMBER #
CHP–# CHILLED WATER PUMP, NUMBER #
VFD – VARIABLE FREQUENCY DRIVE
HP – HORSEPOWER
PI – PRESSURE INDICATOR
M – MOTOR
TPV – TRIPLE DUTY VALVE
ESD – END SUCTION DIFFUSER
CS – CURRENT SENSING
CT–#$ COOLING TOWER # NUMBER & $ CELL ID
CH–# CHILLER # NUMBER ID

CHILLERS:
CHILLER OPERATING PARAMETERS SHALL BE AVAILABLE AT THE LOCAL PANEL DISPLAY AND CENTRAL BUILDING MANAGEMENT SYSTEM (BMS).
CHILLER AND COOLING TOWER PUMPS SHALL ALWAYS BE PAIRED TO AN OPERATING CHILLER UNIT, SOFTWARE AND OPERATOR SELECTABLE.
OPERATORS SHALL BE CAPABLE TO REQUEST START/STOP OF CHILLER AND COOLING TOWER UNITS, REMOTELY FROM THE BMS AND LOCALLY FROM THE LOCAL CONTROL PANEL W/DISPLAY.
HOWEVER, QUANTITY OF OPERATIONAL HEAT MACHINE UNITS (& ASSOCIATED PUMPS) SHALL BE DEPENDENT ON THE BUILDING LOAD PER PRESSURE AND TEMPERATURE OF THE MAIN CHILLED WATER RETURN PIPE. FOR THAT MATTER, THE SYSTEM SHALL REFER TO FLOW SENSOR OUTPUTS AND ACKNOWLEDGE IF UNITS ARE GOOD TO OPERATE ON THE BASIS OF THE ACCRUED DESIGN FLOW (GPM) VERSUS AVAILABLE DEMAND LOAD. NEVER WILL THE DEMAND EXCEED THE PROVIDED FLOW BY THE CHILLERS.
THAT IS:
IF MAIN CHWR FLOW – –SHM(X) >= ZERO THEN OK TO START "X" UNITS WHERE "X" IS THE NUMBER OF UNITS DESIRED TO PUT IN OPERATION AT CHILLED WATER GENERATION PLANT.
EXAMPLE:
IF MAIN CHWR FLOW - SHM(1,2) <= ZERO, THEN OK TO START 2 UNITS.
IF MAIN CHWR FLOW - SHM(1,3) <= ZERO, THEN OK TO START 1 UNIT & BACKUP UNIT.
IF MAIN CHWR FLOW –SHM(3) <=0, THEN OK TO START "X" UNITS, ELSE, KEEP PREVIOUS HM(X) AS MAXIMUM ALLOWABLE OPERATIONAL UNITS.
PUMPS OPERATION:
CHILLED WATER AND COOLING TOWER PUMPS SHALL BE PAIRED TO A CHILLER, SOFTWARE AND OPERATOR SELECTABLE (OVERRIDE). OPERATORS MAY COMMAND ANY COMBINATION OF PUMPS TO DESIRED, AS LONG AS THESE ARE ALLOWED TO SUPPLY TO THE SELECTED EQUIPMENT, BE CHILLERS OR COOLING TOWERS, AS LONG AS QTY OF UNITS MATCH QUANTITY OF CONDENSER AND CHILLED WATER PUMP PAIRS. PUMPS SHALL BE PROVIDED WITH CURRENT SENSOR TO DETERMINE STATUS.
CHILLER START/STOP OPERATION:
CHILLERS SHALL BE PROVIDED WITH DIFFERENTIAL PRESSURE SENSORS AT BOTH, CONDENSER AND EVAPORATOR SIDES, TO CONFIRM FLOW PRIOR TO INITIATING EQUIPMENT START. THEN, AND ONLY THEN, THE EQUIPMENT MAY OPERATE.
CHILLERS, COOLING TOWERS AND PUMPS SHALL BE CYCLED AUTOMATICALLY TO PROVIDE SIMILAR WEAR ON THE EQUIPMENT.
CHILLER MACHINE ROOM REFRIGERANT MONITORING:
CONTRACTOR SHALL INSTALL REFRIGERANT MONITORING DEVICE, EQUAL TO TRANE TURESENSE RMWH OR EQUAL. MONITORING DEVICE SHALL PROVIDE AUDIBLE AND VISUAL ALARM FOR LOCAL ACKNOWLEDGMENT, AS WELL AS PROVIDE SIGNAL TO BAS CENTRAL GRAPHICS OF SUCH EVENT.
CONTRACTOR SHALL ROUTE REFRIGERANT VENT PIPING TO THE OUTSIDE OF THE BUILDING, WHER SUITABLE AND ACHIEVABLE AND PRACTICAL. FOLLOW MANUFACTURERS RECOMMENDATIONS FOR PIPE MATERIAL AND DIAMETER REQUIREMENTS.
GENERAL CONTROL NOTES:
CONTROL PANELS SHALL PROVIDE IP55 PROTECTION TO COMPONENTS. PANELS FOR OUTDOOR AND INDOOR WET AREAS AND MECHANICAL ROOMS SHALL PROVIDE NEMA 3R MINIMUM HOUSING PROTECTION. PANELS CAN BE AFFIXED TO WALLS, OR SUPPORTS (UNI–STRUT TYPE). SUBMIT INTENDED INSTALLATION SCHEMATIC DETAILS FOR APPROVAL PRIOR TO INSTALLATION.
CONTROL CONTRACTOR SHALL PROVIDE PANEL LAYOUTS, LOCATION, MOUNTING DETAILS, COMPONENT GROUPING, ETC, FOR RECORD AND EOR APPROVAL.
VALVE ACTUATORS SHALL BE OF SUFFICIENT SIZE TO HANDLE THE FORCE/TORQUE REQUIREMENTS TO OPERATE VALVES. CONTRACTOR SHALL SUBMIT A MANUFACTURER CALCULATION AND PROVIDE A SAFETY FACTOR OR NOT LESS THAN 125%. FOR MAXIMUM PRESSURE DIFFERENTIAL CALCULATION, CONTRACTOR/SUPPLIER SHALL USE THE PUMP SHUT–OFF HEAD FOR THE CORRESPONDING PUMP SERVING THE PIPE BRANCH OR LOOP.
GAGES, VALVES, AND DEVICES SHALL BE PROPERLY TAGGED WITH METAL NAMEPLATES.
ALL POWER AND SIGNAL WIRING SHALL BE RUN THRU CONDUIT SUITABLE FOR THE LOCATION.
CONTROL CONTRACTOR SHALL COORDINATE WITH GC CONTRACTOR TO PROVIDE POWER TO ALL CONTROL AND SAFETY DEVICES.

PROPOSED SCHEMATIC WATER FLOW & PIPING DIAGRAM

N.T.S.

CONSTRUCTION DRAWINGS 100%
DATE: FEBRUARY 26, 2025.

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CLIENT
PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT
PHASE I: IMPROVEMENTS TO MAIN HVAC SYSTEM (COOLING TOWERS & AIR-COOL CHILLER) AT PRIDCO HEADQUARTERS
SAN JUAN, PUERTO RICO

CONSULTANT SEAL
Pedro Juan Medina Villanueva
Ingeniero Licenciado
CIC 9664 PE
Puerto Rico
Fecha de Expiración: 2028-03-14

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SHEET TITLE
PROPOSED WATER FLOW AND EQUIPMENT DIAGRAM

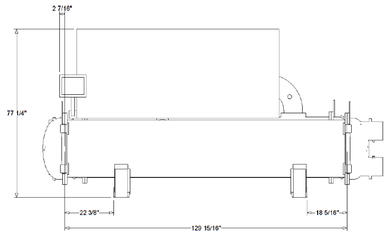
DATE	2025–02–07
DRAWN BY	PJMA
REVISED BY	PJMA
DWG FILE NAME	PROPOSED
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.
48/67 M-2.4
DRAWING NO.

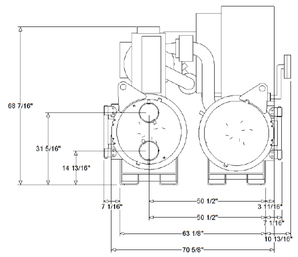
PERFORMANCE OF WATER COOLED CHILLERS		
UNIT TAG	CH-1 & CH-2(@12dT)	CH-1 & CH-2(@16dT)
MODEL	HDWA300-VFD	HDWA300-VFD
MANUFACTURER	TRANE	TRANE
TOTAL POWER (kW)	134.80	136.1
COOLING CAPACITY (TONS)_	250	250
REFRIGERANT TYPE	R-513A	R-513A
STARTER TYPE	AFD	AFD
FULL LOAD COOLING EFF. (kW/Ton)	0.5393	0.5445
COOLING COP (kW/kW)	6.521	6.459
CONTROL TYPE/PROTOCOL	TRACER / BACnet	TRACER / BACnet
COMPRESSOR SIZE/ORIFICE	300/400	300/400
NPLV.IP (kW/Ton)	0.3315	0.3352
SELECTION TOLERANCES	AHRI	AHRI
EVAPORATOR		
ENTERING WATER TEMP (F)	56	60
LEAVING WATER TEMP (F)	44	44
FOULING FACTOR (hr-sqft-degF/BTU)	0.0001	0.0001
DESIGN FLOW (GPM)	497.8	373.5
MINIMUM FLOW (GPM)	261.0	261.0
DESIGN FLOW PD (FT H20)	6.36	3.42
MINIMUM FLOW PD (FT H20)	1.55	1.56
SHELL SIZE	040A	040A
TUBE TYPE	TMCU	TMCU
TUBE THICKNESS (in)	0.025	0.025
CONNECTION TYPE	VICTAULIC	VICTAULIC
WATER BOX (WB)	NON-MARINE	NON-MARINE
WB DESIGN PRESSURE (PSIG)	150	150
WB ARRANGEMENT	IN/OUT - LH	IN/OUT - LH
FLOW PROVING	THERMAL DISPERSION FS IFM	THERMAL DISPERSION FS IFM
PASSES	2	2
FLUID VOLUME (CU. FT.)	11.54	11.54
CONDENSER		
ENTERING WATER TEMP (F)	85	85
LEAVING WATER TEMP (F)	94.28	94.28
FOULING FACTOR (hr-sqft-degF/BTU)	0.000250	0.000250
DESIGN FLOW (GPM)	750	750
MINIMUM FLOW (GPM)	591.20	591.20
DESIGN FLOW PD (FT H20)	6.42	6.42
MINIMUM FLOW PD (FT H20)	4.23	4.23
SHELL SIZE	040A	040A
TUBE TYPE	TECU	TECU
TUBE THICKNESS (in)	0.025	0.025
CONNECTION TYPE	VICTAULIC	VICTAULIC
WATER BOX (WB)	NON-MARINE	NON-MARINE
WB DESIGN PRESSURE (PSIG)	150	150
WB ARRANGEMENT	IN/OUT - RH	IN/OUT - RH
FLOW PROVING	THERMAL DISPERSION FS IFM	THERMAL DISPERSION FS IFM
PASSES	2	2
FLUID VOLUME (CU. FT.)	15.33	15.33
ELECTRICAL		
VOLT/PHASE/HERTZ	460/3/60	460/3/60
LOW VOLTAGE AFD TYPE	UNIT MOUNTED	UNIT MOUNTED
AFD FRAME SIZE	238 MAX RLA	238 MAX RLA
HARMONIC FILTER OPTION	NO	NO
MOTOR SIZE	441	441
TOTAL POWER (kW)	134.8	136.1
MCA/MOP	243/400	244/400
RLA/LRA	195.6/1000	196.0/1000
DESIGN & PHYSICAL INFO		
OPERATING WEIGHT (lb)	15136	15136
AGENCY LISTING	U.L./CUL	U.L./CUL
AFD HEAT REJECT (MBH)	7.188	7.199
CHILLER HEAT REJECT (MBH)	2.302	2.324
TOTAL HEAT REJECT (MBH)	9.490	9.523
REFRIGERANT CHARGE (lb)	800	800
SHELL CONSTRUCTION	ASME	ASME
AHRI SOUND (dBA)	80	80

NOTE: FOR ADDITIONAL INFORMATION, SEE WRITTEN SPECIFICATIONS

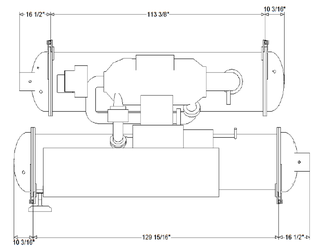
01 PERFORMANCE OF WATER COOLED CHILLERS CH-1 &CH-2) NOT TO SCALE



SIDE VIEW



FRONT VIEW



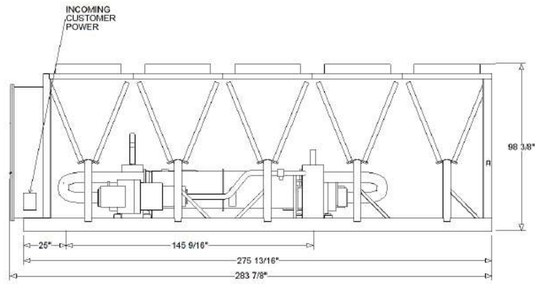
TOP VIEW

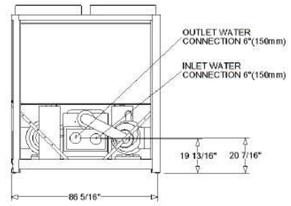
02 DIMENSIONAL DATA FOR WATER COOLED CHILLERS (CH-1 & CH-2) NOT TO SCALE

PERFORMANCE OF AIR COOLED CHILLERS	
UNIT TAG	CH-B1
MODEL	ACRC-250T
MANUFACTURER	TRANE
TOTAL POWER (kW)	281.78
COOLING CAPACITY (TONS)_	250
REFRIGERANT TYPE	R-513A
REFRIGERANT CIRCUITS (CKT/EA)	2
STARTER TYPE	VFD/CKT.
FULL LOAD COOLING EFF. (BTU/W-Hr)	10.64
NPLV.IP (BTU/W-Hr)	19.90
CONTROL TYPE/PROTOCOL	TRACER / BACnet
EVAPORATOR	
ENTERING WATER TEMPERATURE (F)*	54
LEAVING WATER TEMPERATURE (F)	44
WATER TEMP. DIFF. (F)*	10
ASHRAE 90.1 COMPLIANT dT*	NO*
FOULING FACTOR (hr-sqft-degF/BTU)	0.000100
DESIGN FLOW (GPM)	597.45
MINIMUM FLOW (GPM)	298.72
DESIGN PD (FT H20)	14.12
TUBE TYPE	STANDARD
FLOW PROVING	FLOW SWITCH
SHELL PASSES	2
CONNECTION TYPE	VICTAULIC
CONDENSER	
CONDENSER TYPE	ALUMINIUM MICROCHANNEL
CONDENSER LENGTH	5V Cond. Modules
AMBIENT AIR TEMP. (F)	95
NUMBER OF FANS	10
FAN TYPE	EC FAN MOTORS
FAN FLA (AMPS/EACH)	2.70
FAN FLA (AMPS/TOTAL)	27
UNIT ELECTRICAL	
VOLT/PHASE/HERTZ	460/3/60
UNIT POWER (kW)	281.78
COMPRESSOR POWER (kW)	261.98
FAN POWER (kW)	19.41
SHORT CIRCUIT CURRENT RATING (A)	100
STARTER TYPE	VFD/CKT
POWER CONNECTION	SINGLE POINT
HARMONIC FILTER OPTION	REACTOR (>30% TDD)
MCA/MOP	504.43/700
RLA/MRC COMP 1	208.50
RLA/MRC COMP 2	211.70
DESIGN & PHYSICAL INFO	
OPERATING WEIGHT (lb)	15100
AGENCY LISTING	U.L./CUL
MANUFACTURING COMPLIANCE	ASHRAE 90.1-2019
RECULATORY CERTIFICATION	AHRI 550-590 (IP)
REFRIGERANT CHARGE (lb)	194/CKT
OIL CHARGE (GAL)	3.5/CKT
FULL LOAD SOUND PRESSURE (dBA)	76
FULL LOAD SOUND POWER (dBA)	104
DIMENSIONS (LxWxH, in)	285.1x87.81x98.38

NOTE:
*NON ASHRAE 90.1 COMPLIANT (dT) DUE TO REQUIRMENT TO MATCH EXISTING AIR HANDLING UNIT EQUIPMENT CHARACTERISTIC DELTA AT dT=10(F).
PROVIDE CORROSION PROTECTION EQUAL TO ADSIL

03 PERFORMANCE OF AIR COOLED CHILLERS NOT TO SCALE

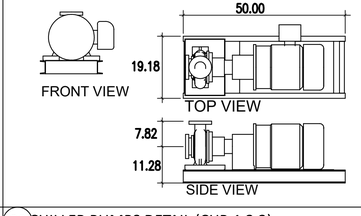




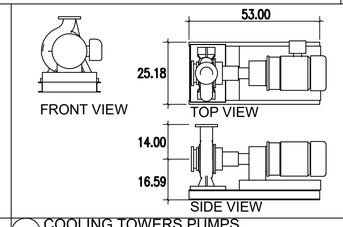
250 NOMINAL TONS
Water Volume 26.6 Gallons/100.6 L
Shipping Weight 14,900 lb
Weight Tolerance +/- 10%
Incoming Power Dimensions 11 13/16" X 9 13/16"
TSA Version 288 Data Generation N/A
Dimensional Tolerance +/- 1/4"

END SUCTION PUMPS SPECIFICATION (AS MANUFACTURED BY TACO)
Furnish and install centrifugal end suction single stage pump(s) with capacities and characteristics as shown on the plans. Pumps shall be Taco Model FI or approved equal.
Pump volute or casing shall be center–line discharge for positive air venting constructed of class 30 cast iron with integrally cast mounting feet. The pump may be fitted with an optional replaceable bronze wear ring, drilled and tapped for gauge ports at both the suction and discharge connections and for drain port at the bottom of the casing. The pumps shall be capable of being serviced without disturbing the system piping.
The impeller shall be bronze and hydraulically balanced by either back vanes or balancing holes. The impeller shall be dynamically balanced to ANSI Grade G6.3 and shall be fitted to the shaft with a key. The pump shall be close coupled to a NEMA standard JM regreaseable motor. The pump shall incorporate a dry shaft design to prevent the circulating fluid from contacting the shaft. The shaft shall be covered with a replaceable bronze (stainless steel) shaft sleeve.
The cast iron pump bearing housing shall have heavy duty permanently lubricated sealed for life ball bearings, replaceable without disturbing the piping connections, and shall have a foot support at the driver end.
The pump shall have a self–flushing seal design or a positive external seal flushing line. Pump may be furnished with a seal flush line and a Purocell # 900 replaceable cartridge filter with shut–off isolation valve installed in the seal flushing line. The filter shall have the ability to remove particles down to five microns in size.
The pump seal shall be EPT Ceramic rated 250°F.
The base shall be made of structural steel. The base shall also include an integral drain pan. A flexible coupler suitable for both across the line starting applications. as well as variable torque loads associated with variable frequency drives, shall connect the pump to the motor and shall be covered by a coupler guard. Contractors shall level and grout each pump according to manufacturer's recommendations to ensure proper alignment prior to operation.
For performance, see schedules. Contractor shall submit manufacturer's representative selection, with Multi–Purpose–Valve (Triple–Duty) and End Suction Diffuser, per pump, as part of the submittal documents for approval.
MULTI PURPOSE VALVE SPECIFICATION (AS MANUFACTURED BY TACO)
The Multi–Purpose Valve shall combine all the valve functions that are normally required on the discharge side of a centrifugal pump in a hydronic heating or cooling system into one body. It is a Shut–Off Valve, a Non–Slam Check Valve, a Balancing Valve, a Flow Metering Valve, and be field convertible from a straight pattern to a 90–degree right angle pattern. In addition, the Multi–Purpose Valves shall have low pressure drops, equal to or better than any valve on the market today, and the stem seal packing shall be replaceable under full system pressure.
Valve sizes shall be available from 1–1/2" through 14" the Plus Two". Shall be made of Ductile Iron with stainless steel to provide years of trouble free service. Each valve shall be available in 150# psi or *250# psi working pressure, as specified, with flanged end connections (1–1/2", 2" and 2–1/2" units are threaded connections) and provided with Grooved adapters when applicable for contractor installation ease, as necessary and/or specified.
END SUCTION DIFFUSER W/REAR STRAINER PULLOUT (RSP AS MANUFACTURED BY TACO)
The Suction Diffusers shall incorporate numerous features into one device to simplify installation and reduce installation costs. It shall provide a flow straightening device that provides maximum flow efficiency at the suction inlet of the pump while at the same time reducing space and fitting requirements and eliminating the need for an equivalent length of ten pipe diameters of straight run on the suction side of the pump. It is an elbow (and in some cases a reducing elbow) with a built–in strainer that is easily maintained providing years of trouble–free system performance.
The Suction Diffuser shall be available in a wide variety of sizes and in 125 psi or 250 psi working pressures, as specified, with a flanged by flanged connection. Grooved adapters shall be available to convert to grooved couplings when such transitions are necessary.

04 PUMP - MULTI PURPOSE VALVE - END SUCTION DIFFUSER SPECIFICATIONS NOT TO SCALE



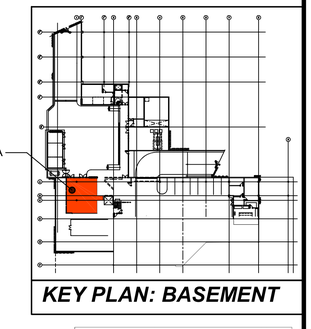
06 CHILLER PUMPS DETAIL (CHP-1,2,3)



07 COOLING TOWERS PUMPS DETAIL (CTP-1,2,3) NOT TO SCALE

PERFORMANCE OF HYDRONIC PUMPS																			
GENERAL						FLUID		PUMP							ELECTRICAL				
TAG ID.	MANUF.	MODEL NUMBER	DOE Basic Model	SERVING	TYPE	FLOW RATE (GPM)	WORKING FLUID	HEAD (FT H20)	IMPELLER (INCH)	SIZE	EFFICIENCY (%)	Pei(CI)	CONST. /CLASS	NPSH (ft)	MULTI PURPOSE VALVE	END SUCTN. DIFFUSER	DESIGN HP	NOL HP	MOTOR (RPM)	Motor HP	Motor Enclosure	VOLT/PH/HZ
CHP-1/2/3	Taco	FI2507D	FI2507D-2P-PM	CHILLERS	End Suction	500	Water(45F)	150	6.70	3X2.5	78%	0.95	Iron /250	11	3" PUMP 6" SYSTEM MPV 030-4	3" PUMP 6" SYSTEM SD050030-5	24.35	29.02	3500	30	TEFC	460/3/60
CTP-1/2/3	Taco	FI4013D	FI4013D-4P-PM	COOLING TOWERS	End Suction	750	Water (100F)	100	10.75	5X4	81%	0.92	Iron /250	9	4" PUMP 6" SYSTEM MPV 040-4	5" PUMP 6" SYSTEM SD060050-5	23.34	26.89	1760	30	TEFC	460/3/60
Note: Multi Purpose Valves to be Plus two Multi Purpose valves | Suction Diffusers w/Rear Strainer Pullout (RSP), Flanged																			

05 PERFORMANCE OF HYDRONIC PUMPS NOT TO SCALE



KEY PLAN: BASEMENT

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CONSTRUCTION DRAWINGS 100%
DATE: FEBRUARY 26, 2025.

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CLIENT
PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT
PHASE I & II: IMPROVEMENTS TO MAIN HVAC SYSTEM (CHILLERS, COOLING TOWERS & AIR-COOLED CHILLER) AT PRODCO HEADQUARTERS SAN JUAN, PR

CONSULTANT SEAL



Yo, Pedro J. Medina Villanueva, certifico que soy el profesional que diseñó esto planos, especificaciones y documentos complementarios. También certifico que entiendo que dichos planos, especificaciones y documentos cumplen con todas las disposiciones aplicables del Reglamento Conjunto y las disposiciones aplicables de los Reglamentos y Códigos de Construcción Vigentes de las Agencias, Juntas Reglamentadoras of Corporaciones Públicas con jurisdicción. Certifico, además, que en la preparación de estos planos, especificaciones y documentos se ha cumplido cabalment con lo dispuesto en la Ley Núm. 14-2004, según enmendada, conocida como la "Ley para la Inversión por la Industria Puertorrique~bna", con la "Ley para la Reforma del Proceso de Permisos de Puerto Rico", Ley Núm. 161-2009, según enmendada y [con la Ley Núm. 135-1967; o con la Ley Núm. 160-1996, según enmendadas y según aplique]. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido por desconocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por toras personas con mi conocimiento, me hacen responsble de cualquier acción judicial y disciplinaria por la OGPe.

REV.	DATED		BY.
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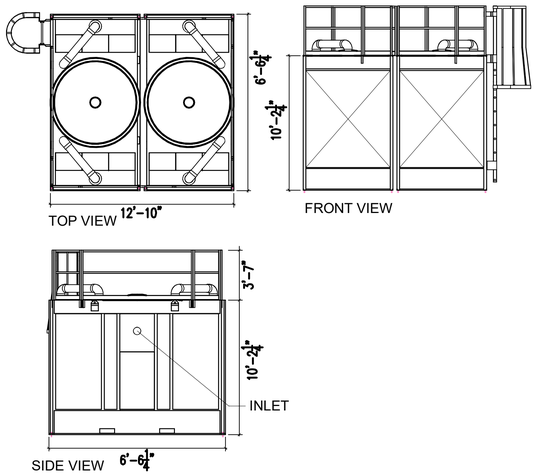
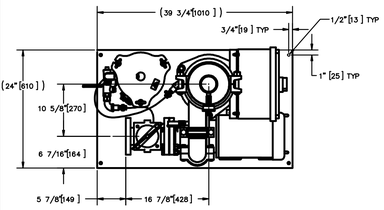
SHEET TITLE
MECHANICAL DETAILS I

DATE	2025–02–07
DRAWN BY	PJMA
REVISED BY	PJMA
DWG FILE NAME	PROPOSED
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

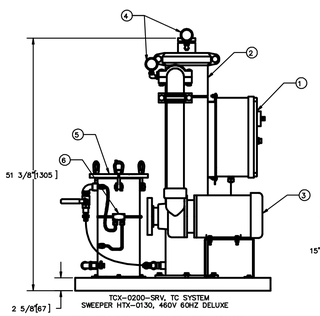
SHEET NO.
49/67
M-3.0
DRAWING NO.



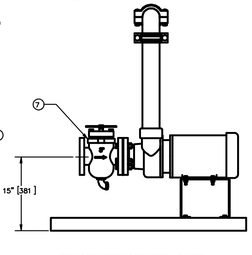
01 PROPOSED COOLOING TOWERS DIMENSION DETAILS (CT-1 & CT-2)



TOP VIEW



FRONT VIEW W/OUT STRAINER



FRONT VIEW W/STRAINER

NOTES:

1. INLET IS 3" PIPE (125# ANSI FLANGED).
2. OUTLET IS 3" PIPE (GROOVED).
3. PURGE OUTLET IS 3/4" PIPE.
4. MAXIMUM PRESSURE: 150 psi (10.3 bar).
5. MAXIMUM TEMPERATURE: 100°F (37.8°C).
6. SPECIFIED FLOWRATE OF 200 gpm (45 m³/hr).
7. FINISH: AS ASSEMBLED.
8. POWER REQUIREMENT: 460V, 3PH, 60Hz.
9. NEMA 4X MOTOR STARTER ENCLOSURE WITH SAFETY DISCONNECT AND H.O.A. SWITCH.
10. APPROXIMATE DRY WEIGHT: 611 lbs (270 kg).
11. INLET/OUTLET VALVE KIT, MODEL TCV-0200 RECOMMENDED.
12. MINIMUM PIPE FROM TOWER BASIN TO TC SYSTEM IS 4" PIPE.
13. FLOODED SUCTION REQUIRED.

COMPONENT LIST:

1. ELECTRICAL CONTROL BOX 460V 60Hz W/120V TRANSFORMER.
2. SEPARATOR: HTX-0130-TC.
3. PUMP: 7-1/2 HP CENTRIFUGAL, 3500 rpm, 460V, 60Hz.
4. INLET/OUTLET PRESSURE GAUGES: 0-100 psi, GLYCERIN-FILLED.
5. PURGE EQUIPMENT: SRV-816.
6. DIFFERENTIAL PRESSURE INDICATOR: (AVAILABLE WITH DRY CONTACT-MODEL DHE-15-S. ORDER SEPARATELY).
7. BASKET STRAINER.

TOWER CLEANING SYSTEM SCHEDULE	
TAG ID	CTF-1 & CTF-2
Filtration Type	Basin Cleaning
Required Flow Rate	83 gpm
Separator Accessibility	Accessible
Filtration Level	74 Micron
Model	TCX-0200
Purge Method	Zero Liquid Loss
Purge	SRV816
Voltage	460V 60 Hz
DEC Contact	Yes
Hydroboosters - PN: 115659	8
Spray Nozzles- PN: 106764	16
Inlet	3.0"
Outlet	3.0"
Purge Size	0.75"
Pump HP	7.5
SUPPLY WITH ALARM CONTACT	

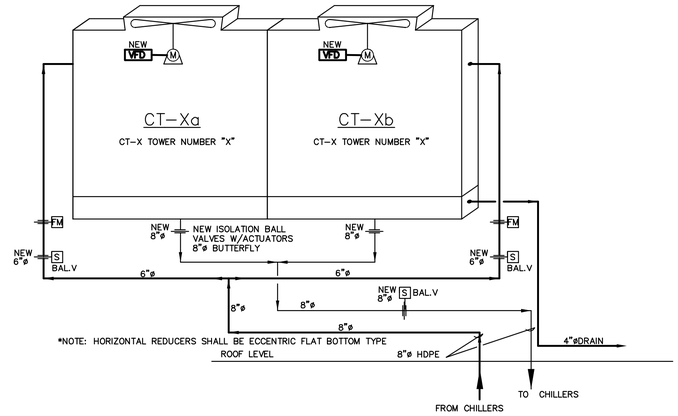
CT CLEANING SYSTEM DETAIL DRAWING

This drawing is submitted for spatial consideration only. Do not pre-plumb to these dimensions.

02 PROPOSED COOLING TOWER CLEANING SYSTEM

NOT TO SCALE

NOTES: APPLY THESE GENERALLY TO THESE DIAGRAM
BAL.V BALANCING GLOBE VALVES VALVES AS BALANCING ELEMENTS)
TYP. IMPLIES TYPICAL
S IMPLIES SOLENOID ELECTRICAL ACTUATOR
FM - FLOW METER, SEE NOTES AND DETAILS
(F) - IMPLIES LOCATED AT TOP FRONT OF TOWER
(B) IMPLIES LOCATED AT TOP BACK OF TOWER
VFD VARIABLE FREQUENCY DRIVE, NEW
M EXISTING COOLING TOWER FAN MOTOR
#"ø IMPLIES PIPE DIAMETER IN INCHES



NEW COOLING TOWER PIPING AND APPURTENANCES SCHEMATIC. SCOPE REQUIRES TO PROVIDE ALL SERVICES INCLUDING CONDENSER WATER, DRAINS, MAKEUP-WATER, VALVES & CONTROL

NOT TO SCALE

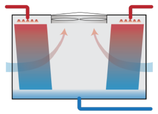
04 PROPOSED COOLING TOWER PIPING SCHEMATIC

NOT TO SCALE

Selection

Model	NC8401MAN2
Number of Cells	2
Capacity	109.9%
ASHRAE 90.1 Eff. (gpm/Hp)	78.3
Fill Type	MX75

This selection satisfies your design conditions.



Weights / Dimensions (options NOT included, refer to drawings)

	Per Cell	Total
Width	12'-10"	12'-10"
Length	6'-6 ¾"	13'-4"
Height	10'-2 ¾"	10'-2 ¾"
Shipping Weight (lb)	3784	7568
Heaviest Section (lb)	3784	3784
Max Operating Weight (lb)	7611	15220
Clearance Solid Wall *	4'-1 ¾"	
Clearance 50% Open Wall *	3'	

** Air inlet clearances with no performance impact; reduced if tower elevated*

Other Data

Static Lift (ft)	10.4
Distribution Head Loss (ft)	NA
Evaporation, 50% RH (gpm)	8.65

Design Conditions

Fluid	Water
Total Flow (gpm)	750
HWT (°F)	94.25
CWT (°F)	85
WBT (°F)	80
Total Heat Load (Btu/h)	3447400

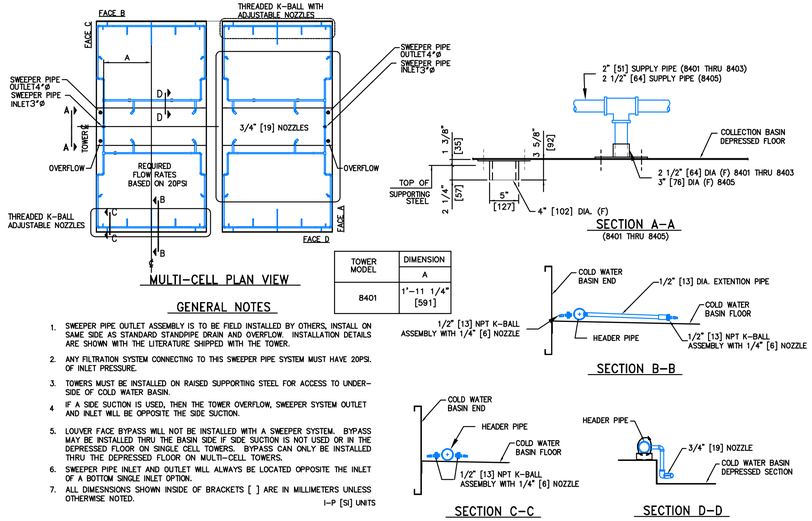
Mechanical

	Per Cell	Total
Fan Type	Low Sound	
Fans	1	2
Fan Speed (rpm)	434	
Fan Motor Speed (rpm)	1800	
Fan Motor Nameplate (Hp)	7.5	15
Fan Motor Rated (BHp)	7.5	15
Fan Motor Required (BHp)*	5.551	11.1
Airflow (cfm)	54439	108880

** Fan Motor Required power assumes variable speed operation.*

05 PERFORMANCE OF COOLING TOWERS

NOT TO SCALE



MULTI-CELL PLAN VIEW

TOWER MODEL	DIMENSION A
8401	1'-11 1/4" [581]

GENERAL NOTES

1. SWEEPER PIPE OUTLET ASSEMBLY IS TO BE FIELD INSTALLED BY OTHERS, INSTALL ON SAME SIDE AS STANDARD STANDPIPE DRAIN AND OVERFLOW. INSTALLATION DETAILS ARE SHOWN WITH THE LITERATURE SHIPPED WITH THE TOWER.
2. ANY FILTRATION SYSTEM CONNECTING TO THIS SWEEPER PIPE SYSTEM MUST HAVE 20PSI. OF INLET PRESSURE.
3. TOWERS MUST BE INSTALLED ON RAISED SUPPORTING STEEL FOR ACCESS TO UNDER-SIDE OF COLD WATER BASIN.
4. IF A SIDE SUCTION IS USED, THEN THE TOWER OVERFLOW, SWEEPER SYSTEM OUTLET AND INLET WILL BE OPPOSITE THE SIDE SUCTION.
5. LOUVER FACE BYPASS WILL NOT BE INSTALLED WITH A SWEEPER SYSTEM. BYPASS MAY BE INSTALLED THRU THE BASIN SIDE IF SIDE SUCTION IS NOT USED OR IN THE DEPRESSED FLOOR ON SINGLE CELL TOWERS. BYPASS CAN ONLY BE INSTALLED THRU THE DEPRESSED FLOOR ON MULTI-CELL TOWERS.
6. SWEEPER PIPE INLET AND OUTLET WILL ALWAYS BE LOCATED OPPOSITE THE INLET OF A BOTTOM SINGLE INLET OPTION.
7. ALL DIMENSIONS SHOWN INSIDE OF BRACKETS [ ] ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

I-P [SI] UNITS

06 PROPOSED SWEEPER SYSTEM PIPING LAYOUT DETAIL

NOT TO SCALE

CONSTRUCTION DRAWINGS 100%
DATE: FEBRUARY 26, 2025.

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CLIENT

PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT

PHASE I & II: IMPROVEMENTS TO MAIN HVAC SYSTEM (CHILLERS, COOLING TOWERS & AIR-COOLED CHILLER) AT PRODCO HEADQUARTERS SAN JUAN, PR

CONSULTANT SEAL

Pedro Juan Medina Villanueva
Ingeniero Licenciado
CIC 9684 PE
Puerto Rico
Fecha de Expiración: 2028-03-14

Yo, Pedro J. Medina Villanueva, certifico que soy el profesional que diseñó esto planos, especificaciones y documentos complementarios. También certifico que entiendo que dichos planos, especificaciones y documentos cumplen con todas las disposiciones aplicables del Reglamento Conjunto y las disposiciones aplicables de los Reglamentos y Códigos de Construcción Vigentes de las Agencias, Juntas Reglamentadoras of Corporaciones Públicas con jurisdicción. Certifico, además, que en la preparación de estos planos, especificaciones y documentos se ha cumplido cabalmente con lo dispuesto en la Ley Núm. 14-2004, según enmendada, conocida como la "Ley para la Inversión por la Industria Puertorrique-ña", con la "Ley para la Reforma del Proceso de Permisos de Puerto Rico", Ley Núm. 161-2009, según enmendada y [con la Ley Núm. 135-1967; o con la Ley Núm. 160-1996, según enmendadas y según aplique]. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido por desconocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por toras personas con mi conocimiento, me hacen responsble de cualquier acción judicial y disciplinaria por la OGPe.

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SHEET TITLE

MECHANICAL DETAILS II

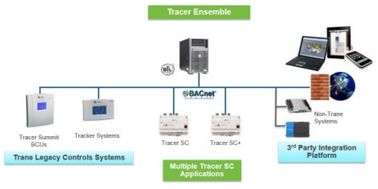
DATE	2025-02-07
DRAWN BY	PJMA
REVISED BY	PJMA
DWG FILE NAME	PROPOSED
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.

50/67 M-3.1

DRAWING NO.

Figure 1. Tracer Ensemble Architecture



NOTE: CONTRACTOR SHALL INCLUDE WEB BASED INDUSTRY STANDARD GRAPHICAL INTERFACE REPORTING ALL EQUIPMENT PARAMETERS AND ALARMS/EACH. BASIS OF DESIGN SHAL BE BASED ON TRANE TRACER ENSEMBLE INTERFACE AND GRAPHICS ARCHITECTURE. DELIVERABLES SHALL INCLUDE, BUT NOT LIMITED TO AIR HANDLING UNITS, FANS (INTAKE & EXHAUST), AIR TERMINALS, ROOM PRESSURE MONITORS, DUCT HEATER ELEMENTS (HYDRONIC AND/OR ELECTIC), ROOM BY ROOM TEMPERATURE AND HUMIDITY VALUES (AND PRESSURE DIFFERENTIAL WHEN APPLICABLE). USER SHALL BE ABLE TO MONITOR, INTERACT AND REDEFINE ALL PARAMETERS AND OPERATIONAL RANGES PER INDUSTRY STANDARDS. PARAMETERS SHALL INCLUDE ALL EXPLICIT AND IMPLICIT INPUTS/OUTPUTS PER SCHEMATIC CONTROL DIAGRAMS AS SPECIFIED (SEE DETAIL SHEETS). CONTROL CONTRACTOR SHALL INSTALL ENOUGH CONTROLLERS TO ADEQUATELY PROVIDE MONITORING AND CONTROL INTERACTION WITH SYSTEM COMPONENTS AND ZONE MONITORING AS SPECIFIED HEREIN. SHALL PROVIDE ALL COMMUNICATIONS WIRING/CABLING, TRANSFORMERS, ROUTERS, ETC. AS NECESSARY. OWNER SHALL PROVIDE DIRECTIVE ON POINT OF CONNECTION FOR INTEGRATION INTO EXISTING COMMUNICATIONS NETWORK. CONTRACTOR SHALL INTEGRATE THIS ADDTION INTO THE EXISTING BUILDING MANAGEMENT SYSTEM, AND AS SUCH, BIDDERS SHALL COORDINATE WITH OWNER'S PREFERRED CONTROL CONTRACTOR FOR INPUT FOR THESE REQUIREMENTS ON HOW TO INTEGRATE AND PRICE ACCORDINGLY.

01 TRACER ENSEMBLE ARCHITECTURE

NOT TO SCALE

MECHANICAL DEMOLITION NOTES

1. ALTERATIONS TO EXISTING WORK BEING OF SUCH NATURE THAT ALL FACETS OF THE WORK ARE IMPOSSIBLE TO DETAIL AND SPECIFY, IT IS THEREFORE THE GENERAL CONTRACTOR'S RESPONSIBILITY TO VISIT THE SITE, CAREFULLY EXAMINE BUILDING, GROUNDS AND SURROUNDINGS TO COMPLETELY FAMILIARIZE HIMSELF/WITH THE EXISTING CONDITIONS AND RELATE SUCH CONDITIONS TO THE SCOPE OF THE PROPOSED NEW WORK.
2. THE BUILDING FACILITY SHALL MAINTAIN ITS NORMAL HOURS OF OPERATION DURING EXECUTION OF WORK. THE GENERAL CONTRACTOR SHALL TAKE EVERY PRECAUTION POSSIBLE DURING THE COURSE OF THE WORK TO PROTECT THE PUBLIC AND THE EMPLOYEES WITHIN THE BUILDING FACILITY FROM HAZARDS AND UNSAFE CONDITIONS. ANY WORK THAT MAY INTERFERE OR IMPACT THE NORMAL OPERATION OF TBE BUILDING FACILITY, SHALL BE PRE-COORDINATED WITH OWNER OR OWNER REPRESENTATIVE TO BE PERFORMED AFTER HOURS.
3. THE GENERAL CONTRACTOR (G.C.) IS RESPONSIBLE FOR THE REMOVAL OF ALL EXISTING MECHANICAL EQUIPMENT (FIRE, PLUMBING, MECHANICAL, AND REFRIGERANT) AS DEPICTED IN DRAWINGS. PARTIAL DEMOLITION WORK MAY NOT BE SHOWN, BUT NECESSARY TO PERFORM WORK INDICATED ON DRAWINGS AND/OR SCOPE. EVEN WHEN NOT SPECIFICALLY INDICATED. IT SHALL BE RESPONSIBILITY CONTRACTOR TO INCLUDE THESE ITEMS AS IF CALLED FOR IN DRAWINGS. CONTRACTOR THEREFORE IS REQUIRED TO VISIT THE PROJECT SITE PRIOR TO BIDDING, INSPECT EXISTING CONDITIONS, AND FULLY ASSESS EXISTING CONDITIONS IN THEIR BID PROPOSAL. NOTE: ONLY HIDDEN ITEMS, EITHER FOUND BELOW BUILDING OR EMBEDDED WITHIN SLABS THAT MAY BE IN CONFLICT WITH THE NEW WORK WILL BE CONSIDERED UNFORSEEABLES.
4. ALL WORK SHALL BE DONE IN COMPLIANCE WITH ALL APPLICABLE CODES AND AS ACCEPTABLE APPLICABLE REQUIREMENTS PER LOCAL AND STATE AND FEDERAL REGULATIONS, AS APPLICABLE. GENERAL CONTRACTOR SHALL ARRANGE A PRE-CONSTRUCTION CONFERENCE WITH OWENER REPRESENTATIVE(S) FOR REVIEW AND CLARIFICATION PRIOR TO COMMENCEMENT OF ANY WORK.
5. DEMOLITION WORK SHALL BE DONE IN SUCH A MANNER THAT IT WILL NOT INTERFERE WITH NORMAL OPERATION OF THE OWNER. CARE SHALL BE TAKEN NOT TO DAMAGE EXISTING STRUCTURES, FIXTURES, ETC. CONTRACTOR SHALL REMOVE ALL CONSTRUCTION WASTE FROM THE SITE DAILY.
6. CONTRACTOR SHALL IDENTIFY AND LOCATE ALL UTILITIES PRIOR TO STARTING ANY DEMOLITION AND SHALL REMOVE ANY EXISTING UTILITIES NOT BEING REUSED AS REQUIRED.
7. ALL EQUIPMENT BEING REMOVED, OR RELOCATED, SHALL HAVE ALL THE UTILITIES DISCONNECTED BY THE GENERAL CONTRACTOR (OR SUB-CONTRACTORS).
8. ALL EXTERIOR OPENING LOUVERS AND VENTILATION CHASES SHALL BE "RODENT PROOFED". ALL WALL PENETRATIONS SHALL BE SEALED AIRTIGHT AND "RODENT PROOF". THIS SHALL INCLUDE ALL OPENINGS FOR HVAC, PLUMBING AND FIRE PROTECTION SPECIALTYIES.
9. GENERAL CONTRACTOR SHALL REPAIR EXISTING SURFACES DAMAGED BY REMOVAL OF EXISTING EQUIPMENT.
10. ALL FIRE PROTECTION SYSTEM COMPONENTS ARE TO REMAIN OPERATIONAL, EVEN IF MODIFICATIONS ARE REQUIRED BY NEW CONSTRUCTION, ALTERATIONS AND/OR ADDITIONS.
11. CONTRACTOR SHALL SUBMIT PROPOSED CONSTRUCTION SHOP DRAWINGS PRIOR TO EXECUTION OF WORK.
12. CONTRACTOR SHALL SUBMITT AS-BUILT REDLINE DRAWINGS AS PART OF CLOSURE DOCUMENTATION.

03 MECHANICAL DEMOLITION NOTES

NOT TO SCALE

1.0 General

Insulation, adhsives, mastics, sealants and coverings shall have a flame sperad rating of 25 or less and a smoke developed rating of 50 or less as determined by an independendt testing laboratory in accordance with NFPA 255 & US 728 as required by ASHRAE 90° and 90B. Coatings and adhesives applied in the the filed shall be non-flammable in the wet state. Hangers on chilled water and other cold piping systems shall be installed on the outside of the insulation to prevent hangres from werating. Supports shall be appropiatedly installed not to deform or compromise the integrity of the insulation material per MICA/NAIMA.

2.0 Insulation Types

2.0.1 Molded Fiberglass Insulation
Insulation shall be sectional molded glass fiber, minimum 3.0lb per cubic foot density, thermal conductivity not greater than 0.24BTU-in./sq.ft./deg.F/Hr. at a mean temperature of 75deg.F and factory applied hacket of white, flame retardant vapor barrier jackets fo 0.001" aluminum fill laminated to kraft paper, reinforced with glass fibers, or all service jacket.

2.0.2 Flexible Foamed Plastic Insulation
Insulation shall be flexible foamed plastic, minimum 5.0 lb. Per cubic foot density, thermal conductivity not greater than 0.28 BTU-in./sq.ft./deg.F/Hr. At a mean temperature difference of 75 deg.F. Shall install per MICA/NAIMA

2.0.3 Cellular Glass Insulation
Insulation shall be cellular glass, thermal conductivity not greater than 0.40 BTU-in./sq.ft./deg.F/Hr. At a mean temperature difference of 75 deg.F.

2.0.4 Foam Glass
Insulation shall be foamglass, minimum 8.5 lb. Per cubic foot density, thermal conductivity not greater than 0.35 BTU-in./sq.ft./deg.F/Hr. At a mean temperature difference of 75 deg.F.

3.0 PIPE INSULATION SCHEDULE

PIPING SYSTEM TYPE	PIPE SIZE DIAMETER	INSULATION THICKNESS PER TYPE					
		MOLDED FIBERGLASS		ArmaFlex/ArmaCell		FOAMGLAS®	POLYISOCYANURATE
		INDOOR	EXTERIOR	INDOOR	EXTERIOR	INDOOR ONLY	EXTERIOR ONLY
CHW 40~60 DEG. F	< 6 INCH	N/A	N/A	N/A	N/A	1.5"	2.5"
CHW 40~60 DEG. F	>8 INCH					2.5"	3.5"
AC CONDENSATE	ALL					1.5"	1.75"
HW 90~140 DEG F	>4 INCH	1.5"	2.0"			1.5"	3.5"
HW 90~140 DEG F	< 6 INCH	1.5"	2.5"			2.5"	2.5"
HW 140~200 DEG F	ALL	1.5"	2.5"			2.5"	2.5"
REFRIG. SUCT./LIQ.	< 1 INCH	N/A	N/A	1.5"	2.5"	1.5"	2.5"
REFRIG. SUCT./LIQ.	1.25 TO 6 INCH			2.0"	3.0"	2.5"	3.5"
REFRIG. SUCT./LIQ.	> 8 INCH			2.5"	3.5"	3.0"	4.0"
REFRIGERANT HOT GAS	ALL			1.0"	2.0"	1.0"	2.0"

NOTE: CONDENSER WATER PIPES: UNLESS OTHERWISE SPECIFIED, SHALL NOT BE INSULATED

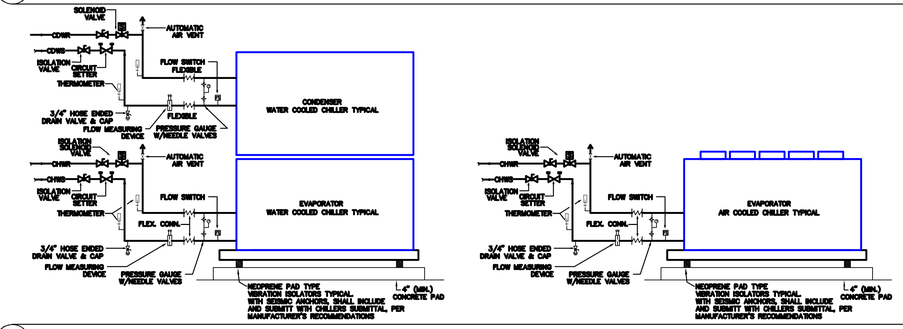
Legend
CHW=CHILLED WATER | AC COND=Air Conditioning Condensate HW=HOTWATER | Refrig. Suct./Liq.=Refrigerant Suction and Liquid piping. FiberG=Fiber GlassInsulation | FlxFm=Flexible Foam Insulation | FoamG=Foam Glass Insulation | CelG=Cellular Glass Insulation | Insulation values given in inches. Listed pipe sizes are inch diameters.

4.0 Technical Application Notes:

4.0.1 For piping exposed to ambient temperatures, either due to external runs or exposed internals due to location, or inevitably adjacent or subject to ambient conditions, contractor shall increase insulation thickness by 1.0 inch.
4.0.2 Unless otherwise specified, insulation shall not required on systems with temperatures between 65 deg.F and 105 deg.F
4.0.3 Interior chilled water piping runs, shall be insulated with fiberglass pipe insulation.
4.0.4 Exterior chilled water pipe runs shall be insulated with foamglass and shall also include aluminum jacket.
4.0.4 Unless otherwise specified, heating water system piping, low temperature, shal bel insulated with fiberglass pipe insulation.
4.0.5 Unless otherwise specified, steam system piping and steam condensate system piping shall be insuated with fiberglass pipe insulation.
4.0.3 Refrigerant system piping shall be insulated with flexible foamed plastic, or fiberglass pipe insulation. Refrigerant hot gas lines shall allways be insulated to prevent the risk of personal injury from contact.

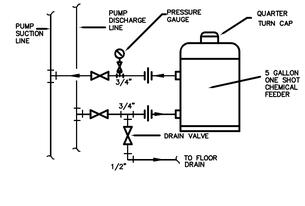
02 GENERAL PIPING INSULATION NOTES

NOT TO SCALE



04 TYPICAL CHILLER CONNECTIONS DIAGRAM (AIR COOLED & WATER COOLED)

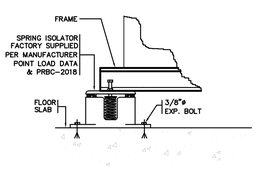
NOT TO SCALE



FOR HYDRONIC: CHILLED/CONDENSER/HEATING WATER SYSTEMS

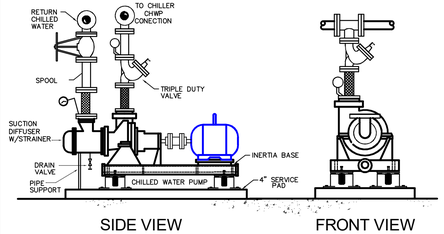
05 SHOT FEEDER CONNECTION DETAIL

NOT TO SCALE



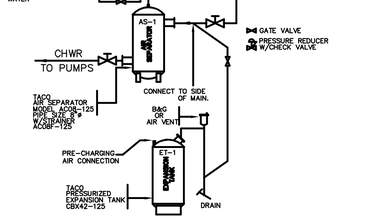
09 TYPICAL PUMP MOUNTING ISOLATOR

NOT TO SCALE



10 TYPICAL PUMP INSTALLATION DETAIL

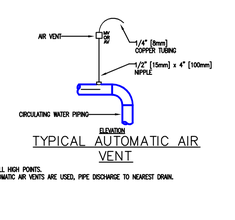
NOT TO SCALE



FOR HYDRONIC: CHILLED/HEATING WATER SYSTEMS

11 CHILLED WATER AIR SEPARATOR & EXPANSION TANK & WATER INTAKE

NOT TO SCALE



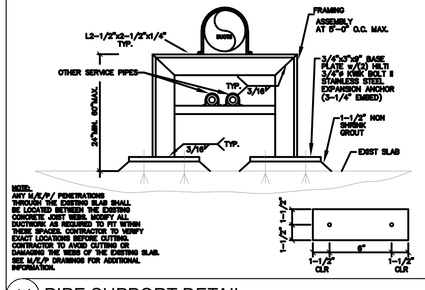
TYPICAL AUTOMATIC AIR VENT

NOTES:
1. VENT ALL HIGH POINTS.
2. IF AUTOMATIC AIR VENTS ARE USED, PIPE DISCHARGE TO NEAREST DRAIN.

FOR HYDRONIC: CHILLED/CONDENSER/HEATING WATER SYSTEMS

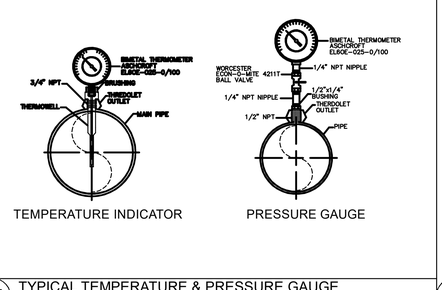
12 DRAIN VALVE AND AIR VENT CONNS. FOR HYDRONIC SYSTEMS

NOT TO SCALE



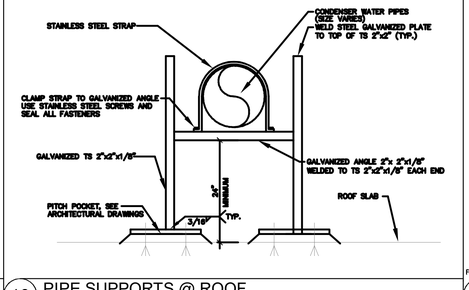
14 PIPE SUPPORT DETAIL

NOT TO SCALE



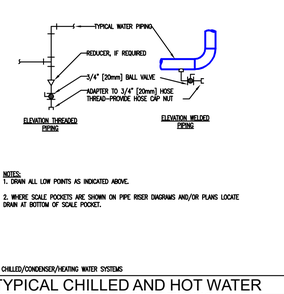
15 TYPICAL TEMPERATURE & PRESSURE GAUGE INDICATOR CONNECTION TO PIPE

NOT TO SCALE



16 PIPE SUPPORTS @ ROOF SUPPORT DETAIL

NOT TO SCALE



NOTES:
1. DRAIN ALL LOW POINTS AS INDICATED ABOVE.
2. WHERE SCALE POCKETS ARE SHOWN ON PIPE RISER DIAGRAMS AND/OR PLANS LOCATE DRAIN AT BOTTOM OF SCALE POCKET.

FOR HYDRONIC: CHILLED/CONDENSER/HEATING WATER SYSTEMS

17 TYPICAL CHILLED AND HOT WATER DRAIN VALVE CONNECTIONS

NOT TO SCALE

1. GENERAL NOTES:

1) CONTRACTOR SHALL PERFORM MECHANICAL WORK UNDER THE REQUIREMENTS OF THE INTL. BUILDING CODE (IBC) AND NFPA PAMPHLETS. FROM NOW ON REFERENCED AS "THE CODES" IN THE FOLLOWING STATEMENTS. THESE SHALL BE CONSIDERED THE "STANDARD PRACTICE" FOR THE WORK TO BE PERFORMED. PROVISIONS OF THE CODES, STANDARDS & REQUIREMENTS SHALL APPLY TO THE ERECTION, INSTALLATION, ADDITION TO, USE OR MAINTENANCE OF MECHANICAL SYSTEMS WITHIN THIS PROJECT, EVEN WHEN NOT SPECIFICALLY CALLED FOR IN THE DRAWINGS. APPLICABILITY OF THE CODES SHALL GOVERN THE INSTALLATION OF ALL MECHANICAL SYSTEMS UNDER THIS CONTRACT. DEFINITIONS SHALL BE AS PER THE CODES. MANDATORY REFERENCED STANDARDS OF THE CODES AS WELL AS THEIR APPENDIXES SHALL BE BINDING.

2) THE DESIGN, DOCUMENTATIONS, INSPECTION AND APPROVAL OF CHANGES TO THE ENGINEERED DESIGN OF MECHANICAL SYSTEMS SHALL COMPLY WITH THE PROVISIONS OF THE CODES. DESIGN CRITERIAS SHALL BE SUBMITTED WITH ALL TECHNICAL DATA, AND CERTIFIED BY A DESIGN PROFESSIONAL.

3) GENERAL REGULATIONS OF THE CODES SHALL INCLUDE, BUT NOT BE LIMITED TO: DEFINITIONS, STATED GENERAL CODE REQUIREMENTS, VENTILATION AIR SUPPLY, EXHAUST SYSTEMS, ENVIRONMENTAL AIR DUCTS AND PRODUCT CONVEYING SYSTEMS, COMMERCIAL HOODS AND KITCHEN VENTILATION, DUCT SYSTEMS, COMBUSTION AIR, CHIMNEYS, VENTS, WARM-AIR HEATING SYSTEMS, MISCELLANEOUS HEAT-PRODUCING APPLIANCES, INCINERATORS, STEAM AND HOT WATER BOILERS, REFRIGERATION SYSTEMS, COOLING TOWERS, HYDRONICS, STEAM AND WATER PIPING, FUEL GAS PIPING, PROCESS PIPING,

2. GENERAL NOTES:

INTENTION
IT IS THE INTENTION OF THE DRAWINGS TO CALL FOR FINISHED WORK, COMPLETE, TESTED AND READY FOR OPERATION. DETAILS NOT SHOWN OR SPECIFIED, BUT NECESSARY FOR THE PROPER INSTALLATION, FUNCTION AND OPERATION OF THE SYSTEM SHALL FORM PART OF THE WORK TO BE PERFORMED BY THE CONTRACTOR

MECHANICAL PLANS
MECHANICAL PLANS SHALL BE COORDINATED WITH THE ARCHITECTURAL AND STRUCTURAL PLANS, AND THAT ALL OTHER OF TRADES.

EQUIPMENT
CONTRACTOR SHALL PROVIDE SUITABLE VIBRATION INSULATION FOR THE SYSTEM AS RECOMMENDED BY MANUFACTURER OF EQUIPMENT SPECIFIED OR PROVIDED.

SYSTEM COMPLETENESS
CONTRACTOR SHALL FURNISH AND INSTALL NEW DUCTS, INSULATION, PIPING, VALVES, SENSORS, CONTROL SYSTEMS AND ANY OTHER ITEM REQUIRED FOR THE FUNCTION AND OPERATION OF THE A/C SYSTEM.

EARTHQUAKE RESTRAINTS FOR SUSPENDED UTILITIES
CONTRACTOR SHALL SUBMITT AS, DELEGATED DESIGN, REQUIREMENT PRE-ENGINEERED SEISMIC RESTRAINTS FOR ALL ABOVE GROUND SUSPENDED UTILITIES ISAT, MASON, AND OTHERS SAID DELEGATED DESIGN SHALL BE SUBMITTED AS INSTALLATION SHOP DRAWING WITH CALCULATIONS, STAMPED BY LICENSED ENGINEER IN THE COMMONWEALTH OF P.R. THESE SHALL APPLY, PER CURRENT PRBC, FOR ALL PIPING, DUCTWORK, EQUIPMENT ANCHORS AND SUPPORTS, AS REQUIRED AND SO INSTRUCTED BY CURRENT APPLICABLE IBC, PRBC, ASCE, WITH RELEVANT LONG AND SHORT PERIOD ACCELERATION FACTORS FOR THE LOCATION WHERE THE PROJECT IS BEING CONSTRUCTED. NO INSTALLATION SHALL BE PERFORMED WITHOUT PRIOR SUBMISSION AND APPROVAL OF THIS REQUIREMENT.

BALANCE REPORT
CONTRACTOR SHALL SUBMITT BALANCE REPORT INCLUDING (AS APPLICABLE, PER SYSTEM) CHILLED WATER AND CONDENSER WATER FLOWS, INLET AND OUTLET TEMPERATURES AS PER NEBB OR AABC FORMATS. SAID BALANCER, SHALL BE CERTIFIED AND IN GOOD STANDING ENGINEER IN THE COMMONWEALTH OF PUERTO RICO AND THE SANCTIONING BODIES.

18 GENERAL NOTES

NOT TO SCALE

CONSTRUCTION DRAWINGS 100%
DATE: FEBRUARY 26, 2025.

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ENGINEERING CONSULTANTS
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CLIENT
PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT
PHASE I & II: IMPROVEMENTS TO MAIN HVAC SYSTEM (CHILLERS, COOLING TOWERS & AIR-COOLED CHILLER) AT PRODCO HEADQUARTERS SAN JUAN, PR

CONSULTANT SEAL
Pedro Juan Medina Villanueva
Ingeniero Licenciado
CE 9654 PE
Puerto Rico
Fecha de Expiración: 2028-03-14

Yo, Pedro J. Medina Villanueva, certifico que soy el profesional que diseñó esto planos, especificaciones y documentos complementarios. También certifico que entiendo que dichos planos, especificaciones y documentos cumplen con todas las disposiciones aplicables del Reglamento Conjunto y las disposiciones aplicables de los Reglamentos y Códigos de Construcción Vigentes de las Agencias, Juntas Reglamentadoras of Corporaciones Públicas con jurisdicción. Certifico, además, que en la preparación de estos planos, especificaciones y documentos se ha cumplido cabalment con lo dispuesto en la Ley Núm. 14-2004, según enmendada, conocida como la "Ley para la Inversión por la Industria Puertorrique~bna", con la "Ley para la Reforma del Proceso de Permisos de Puerto Rico", Ley Núm. 161-2009, según enmendada y [con la Ley Núm. 135-1967; o con la Ley Núm. 160-1996, según enmendadas y según aplique]. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido por desconocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por toras personas con mi conocimiento, me hacen responsble de cualquier acción judicial y disciplinaria por la OGPe.

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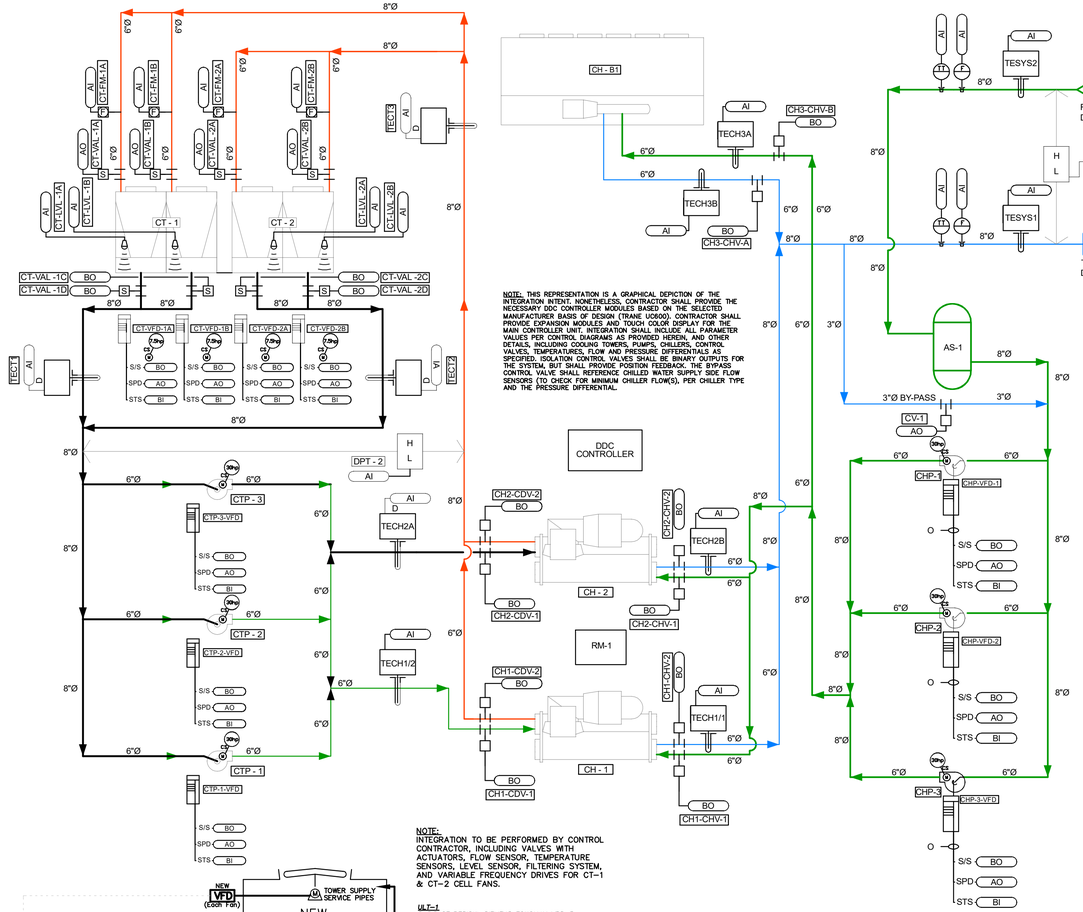
SHEET TITLE

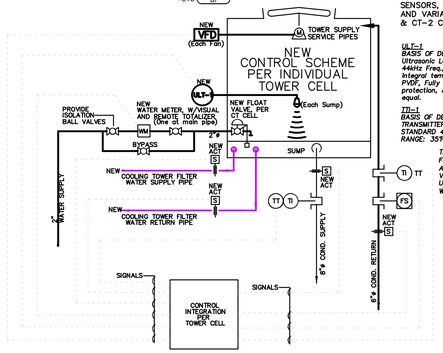
MECHANICAL DETAILS III

DATE	2025-02-07
DRAWN BY	PJMA
REVISED BY	PJMA
DWG FILE NAME	PROPOSED
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.
51/67
M-3.2
DRAWING NO.



NOTE:
INTEGRATION TO BE PERFORMED BY CONTROL CONTRACTOR, INCLUDING VALVES WITH ACTUATORS, FLOW SENSOR, TEMPERATURE SENSORS, LEVEL SENSOR, FILTERING SYSTEM, AND VARIABLE FREQUENCY DRIVES FOR CT-1 & CT-2 CELL FANS.



NOTE:
ULT-1
BASIS OF DESIGN: SIEMENS ECHOMAX XRS-5
Ultrasonic Level Transmitter, EchoMax XRS-5, 44kHz Freq., 10°Beam Angle, Compensated by integral temperature, Chemically resistant PVDF, Fully submersible IP68 degree protection, & Hermetically Sealed. Or approved equal.

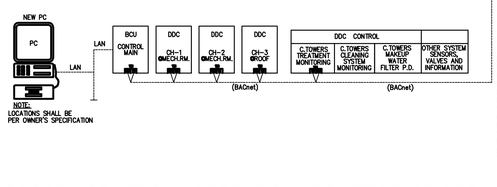
TT-1
BASIS OF DESIGN: TEMPERATURE INDICATOR & TRANSMITTER SIEMENS MODEL 7NG3130-1AC12J01, STANDARD 4-20mA SIGNAL RANGE, MEASURING RANGE: 30°F TO 150°F OR APPROVED EQUAL

TI/TT TEMPERATURE IDICATOR AND SENSOR/TRANSMITTER
FS FLOW SENSOR/TRANSMITTER
ACT/S BUTTERFLY VALVE W/ACTUATOR
VFD VARIABLE FREQUENCY DRIVE, PER CELL FAN MOTOR
ULT-1 ULTRASONIC LEVEL SENSOR
WM WATER METER, 1.5"ø, W/TOTALIZER AND REMOTE CONNECTION BACnet signal.

NEW COOLING TOWER CONTROL & INTEGRATION SCHEMATIC
NOT TO SCALE

DDC (MODULES & CONTROL POINTS AS NECESSARY)						DDC (MODULES & CONTROL POINTS AS NECESSARY)					
CHP-1 (PUMP)	CHP-2 (PUMP)	CHP-3 (PUMP)	CTP-1 (PUMP)	CTP-2 (PUMP)	CTP-3 (PUMP)	CT-1A (CELL)	CT-1B (CELL)	CT-2A (CELL)	CT-2B (CELL)	CT#-1 CT CLEAN ON/OFF	CT#-2 CT CLEAN ON/OFF

(BACnet)



NOTE:
LOCATIONS SHALL BE PER OWNER'S SPECIFICATION

NOTES:
1) ALL COMM. CONDUIT AND WIRING BY CONTRACTOR
2) POWER FOR CONTROL DEVICES BY CONTRACTOR
3) COORDINATE BI/BO/AI/AO REQUIREMENTS WITH TD DRAWING
4) EACH BLOCK REPRESENTS A DEVICE PANEL, CONTRACTOR SHALL INCLUDE SUCH PANELS AS MINIMUM, EVEN WHEN CAPACITY EXISTS IN THAT DEVICE CONTROL POINTS USED, FOR FUTURE EXPANSION.

PARTIAL LEGEND
BCU BUILDING CONTROLLER
DDC DIRECT DIGITAL CONTROL
CHJ#-# CHILLED WATER PUMP, J#UMBER
CTP-# COOLING TOWER PUMP, J#UMBER
CTF-# COOLING TOWER FAN, J#UMBER
CH-# CHILLER UNIT, J#UMBER
LAN LOCAL AREA NETWORK

NOTE: THIS REPRESENTATION IS A "MACRO" DEPICTION OF THE INTEGRATION INTENT. NONETHELESS, CONTRACTOR SHALL PROVIDE THE NECESSARY DDC CONTROLLER MODULES BASED ON THE SELECTED MANUFACTURER BASIS OF DESIGN (TRANE UC600). CONTRACTOR SHALL PROVIDE EXPANSION MODULES AND TOUCH COLOR DISPLAY FOR THE MAIN CONTROLLER UNIT. INTEGRATION SHALL INCLUDE ALL PARAMETER VALUES PER CONTROL DIAGRAM PROVIDED (SEE SHEETS), INCLUDING COOLING TOWERS, PUMPS, CHILLERS, CONTROL VALVES, TEMPERATURES, FLOW AND PRESSURE DIFFERENTIALS AS SPECIFIED. ISOLATION CONTROL VALVES SHALL BE BINARO OUTPUTS AND PROVDE POSITION FEEDBACK. BYPASS CONTROL VALVES SHALL REFERENCE CHILLED WATER SUPPLY SIDE FLOW SENSOR (FOR MINIMUM CHILLER GPM FLOW, PER CHILLER TYPE, AND PRESSURE DIFFERENTIAL.

PROPOSED CONTROL INTEGRATION ARCHITECTURE REQUIREMENTS

01 PROPOSED CHILLER PLANT CONTROL & INTEGRATION DIAGRAMS

NOT TO SCALE

CONSTRUCTION DRAWINGS 100%
DATE: FEBRUARY 26, 2025.

HYDRONIC SPECIALTIES SCHEDULE

DEVICE	MODEL	REMARKS
PIPING PRESSURE GAUGES	WINTERS 0/160 PSI PCT324	FOR ALL PIPES
THERMOWELL (PIPES)	BELIMO A-22-A NPT VAF	SIZED FOR PIPE DEPTH.
PIPING THERMOMETERS (LOCAL DISPLAY)	WINTERS TIM 102	SIZED FOR PIPE DIAMETER
AIR RELEASE VALVES'	PRATT VAR05-116-175-FS (1/2" CONN)	PIPE <= 3"DIA
AIR RELEASE VALVES''	PRATT VAR75-116-175-FS 9 (3/4"CONN)	PIPES 4" TO 6"DIA
AIR RELEASE VALVES'''	PRATT VAR10-116-175-FS (1" CONN)	PIPES 8=8"DIA
BUTTERFLY VALVES, MANUAL	STOCKHAM LG712008S3EM SIZED PER PIPE	3=4"DIA, CI BODY, SS 416 STEM, AL-BRNZ DISC, EPDM SLEVE
BUTTERFLY VALVES, AUTO	BELIMO W/IP66 ACTUATOR SIZED PER PIPE	ALL SIZES, SEE CONTROL VALVE SCHEDULE
BALANCING VALVES	NIBCO F739 SIZED PER PIPE DIAMETER	SIZED PER PIPE DIAMETER
GATE VALVES, MANUAL	CRANE 47XU	3=4"DIA, CLASS 150, A216WCN BODY, ASTM A182 SS410 STEM, ASTM A216WCB YOKE
HYDRONIC Y-STRAINERS, SEPARATE	MUELLER #758	CI BODY, SS SCREEN, ASTM A126-B
PRESSURE GAUGES	WINTERS PCT 324	0-160 PSIG/ 4.5" DIAL/ SS304 CASE & RING/IP 52
THERMOMETERS	WINTERS	CI BODY, SS SCREEN, ASTM A126-B

02 HYDRONIC SPECIALTIES SCHEDULE

NOT TO SCALE

CONTROL DEVICES SCHEDULES

DDC CONTROLLER	TRACER UC600 FAMILY CONTROLLERS	UC600 CONTROLLER, SIN RAIL MOUNT (USA)
DDC DISPLAY	TRACER TD7 FOR UC600 FAMILY	UC600 TD7 COLOR DISPLAY
DDC EXPANSION MODULE(S)	TRACER XM30/X50/X70 AS NECESSARY	4 POINT UI/AO EXPANSION MODULE AS NECESSARY
DDC TEMPERATURE SENSORS	VERIS INDUSTRIES MODEL: TIH	PROVIDE FOR THERMOWELL OR IMMERSION PROBES, AS APPLICABLE, W/10K HIGH ACCURACY NEGATIVE TEMPERATURE COEFFICIENT.
THERMOWELL (PIPES)	BELIMO A-22-A NPT VAF	THERMOWELL (FABRICATED STAINLESS STEEL, 4", 1/2"NPT, SW=3/4
DDC HYDRONIC FLOW SENSOR	ONICON SERIES F3500 MODEL F-3SAA-11-D4-D111	FOR PIPES UP TO 16"DIA.
DDC CHILLER & COOLING TOWER ISOLATION CONTROL VALVES	BELIMO F6888HD W/IP66/67 SS304 DISK, RESILIENT SEAT, W/ACTUATOR	INCLUDE PRXUP-3-7 ACTUATOR (FOR 6"DIA, ADJUST FOR OTHER SIZES) 24V CONTROL VOLTAGE FOR CHILLER ISOLATION CONTROL, SIZED PER PIPE DIAMETER
DDC VARIABLE FREQUENCY DRIVES (PUMPS, FANS, ETC.)	TRANE TR200/ SCHNEIDER ALTIVAR 660	FRAME SIZED AND RATED FOR MOTOR VOLTAGE & HORSEPOWER, W/MECHANICAL BYPASS, HVAC SPECIFIC BACNet Comms. SHALL INCLUDE TR200 SERIES VFD PC SOFTWARE. NEMA 3R ENCLOSURE
DDC REFRIGERANT MONITOR	TRANE TRUSENSE RMWH	MATCHED FOR EQUIPMENT REFRIGERANT TYPE, ONE PER ZONE.
DDC CURRENT SWITCH	RIBXGTA	RIB FUNCTIONAL DEVICES INC. SUBMIT FOR APPROVAL
DDC CUSTOM ENCLOSURES	STAHLIN UL 1741, UL94-5V, IP-66	SIZED AS NECESSARY
DDC CONTROL TRANSFORMERS	POWER SOURCES X-SERIES	24V, 75/99/150 VA; SIZED AS NECESSARY

03 CONTROL DEVICES SCHEDULES

NOT TO SCALE

PERFORMANCE OF PUMP MOTOR VARIABLE FREQUENCY DRIVES

TAG ID	VFD-7.5	VFD-30
SUPPLIER	SCHNEIDER ELECTRIC	SCHNEIDER ELECTRIC
SERIES	ALTIVAR 660	ALTIVAR 660
MODEL	ATV660	ATV660
HORSEPOWER	7.5/5.5kW	30/22kW
FEATURE	MAIN BREAKER DISCONNECT	MAIN BREAKER DISCONNECT
SHORT CIRCUIT RATING	100k AIC	100k AIC
VOLTAGE	460V/3Ph/60Hz	460V/3Ph/60Hz
DUTY CYCLE	NORMAL	NORMAL
MAXIMUM OUTPUT AMPS	11	44
ENCLOSURE TYPE	NEMA 3R	NEMA 3R
UL LISTING	UL508A	UL508A
BYPASS CONTACTORS	MECHANICAL AND ELECTRICAL	MECHANICAL AND ELECTRICAL
BYPASS SEQUENCING	ISOLATION & BYPASS	ISOLATION & BYPASS
BYPASS REMOTE OPERATION	WHEN IN AUTO START CONTACTS	WHEN IN AUTO START CONTACTS
CONTROL OPTIONS INCLUDE>	A/C-OFF-BYPASS SELECTOR	A/C-OFF-BYPASS SELECTOR
	HAND-OFF-AUTO SELECTOR	HAND-OFF-AUTO SELECTOR
	START/STOP PUSH BUTTON	START/STOP PUSH BUTTON
	TEST-NORMAL SELECTOR	TEST-NORMAL SELECTOR
	SPEED POTENTIEMETER	SPEED POTENTIEMETER
PILOT LIGHTS INCLUDE>	BYPASS PILOT, YELLOW	BYPASS PILOT, YELLOW
	OVERLOAD TRIP PILOT, YELLOW	OVERLOAD TRIP PILOT, YELLOW
	POWER ON PILOT, RED	POWER ON PILOT, RED
	RUN PILOT, GREEN	RUN PILOT, GREEN

04 PERFORMANCE OF PUMP MOTOR VARIABLE FREQUENCY DRIVES

NOT TO SCALE



WINTERS MODEL TIM 102A Specifications				
Scale	9" (230mm) aluminum or Valox® case, impact resistant			
Lens	Glass (polycarbonate available)			
Connection	3/4" NPT with thermowell			
	1 1/4" - 18 UNF swivel nut (no thermowell)			
Scales	Aluminum, painted white with black markings			
Bulb Chamber	Tapered cast aluminum with graphite fill			
Tube and Sensing Liquid	Glass (magnifying), organic green fluid (other colours optional)			
Adjustment	Fully adjustable			
Thermowell	TIM: 3/4" Brass, separable socket (SS optional)			
	TIM-LF: 3/4" Lead free brass, separable socket			
Accuracy	±1%			
Enclosure Rating	IP54			
	Aluminum Case		Valox® Case	
Stem	3.5" (90mm)	6" (150mm)	3.5" (90mm)	6" (150mm)
0°F to 120°F & -15°C to 50°C	TIM102A	TIM102-6A	TIM102	TIM102-6

05 INDUSTRIAL 9" THERMOMETER MODEL: WINTERS TIM102A

NOT TO SCALE

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Architects & Consultants, PSC.

CLIENT
PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT
PHASE I & II: IMPROVEMENTS TO MAIN HVAC SYSTEM (CHILLERS, COOLING TOWERS & AIR-COOLED CHILLER) AT PRODCO HEADQUARTERS SAN JUAN, PR

CONSULTANT SEAL

Yo, Pedro J. Medina Villanueva, certifico que soy el profesional que diseñó esto planos, especificaciones y documentos complementarios. También certifico que entiendo que dichos planos, especificaciones y documentos cumplen con todas las disposiciones aplicables del Reglamento Conjunto y las disposiciones aplicables de los Reglamentos y Códigos de Construcción Vigentes de las Agencias, Juntas Reglamentadoras of Corporaciones Públicas con jurisdicción. Certifico, además, que en la preparación de estos planos, especificaciones y documentos se ha cumplido cabalment con lo dispuesto en la Ley Núm. 14-2004, según enmendada, conocida como la "Ley para la Inversión por la Industria Puertorrique~bna", con la "Ley para la Reforma del Proceso de Permisos de Puerto Rico", Ley Núm. 161-2009, según enmendada y [con la Ley Núm. 135-1967; o con la Ley Núm. 160-1996, según enmendadas y según aplique). Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido por desconocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por toras personas con mi conocimiento, me hacen responsble de cualquier acción judicial y disciplinaria por la OGPe.

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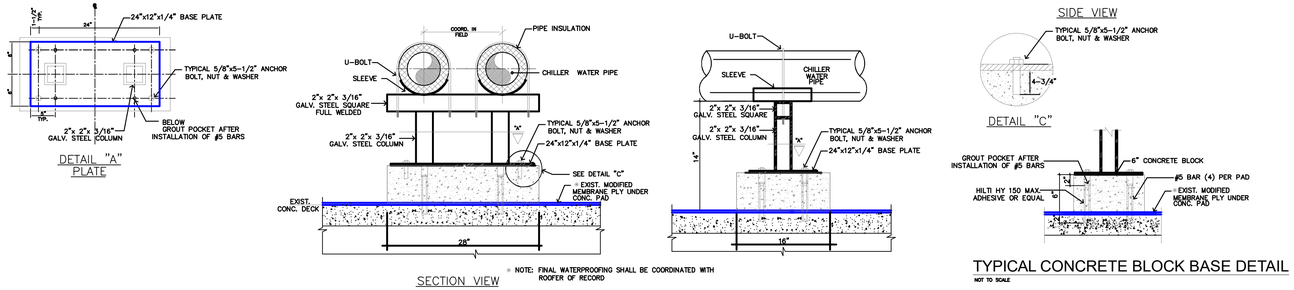
SHEET TITLE

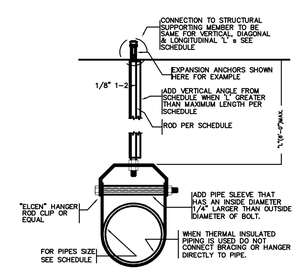
MECHANICAL DETAILS IV

DATE	2025-02-07
DRAWN BY	PJMA
REVISED BY	PJMA
DWG FILE NAME	PROPOSED
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

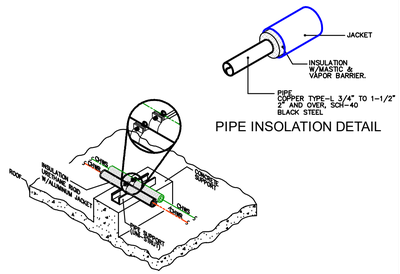
SHEET NO.
52/67
M-3.3
DRAWING NO.



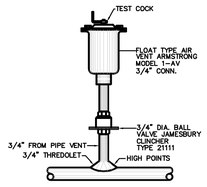
01 CHILLED WATER PIPES SUPPORT DETAIL — NOT TO SCALE



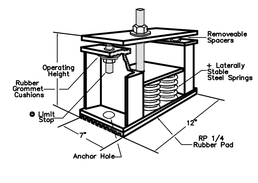
02 STANDARD PIPE BRACING — NOT TO SCALE



03 PIPE SUPPORT DETAIL, PIPE ONLY. — NOT TO SCALE



04 AUTOMATIC AIR VENT FOR 4"Ø & OVER CHW PIPES — NOT TO SCALE

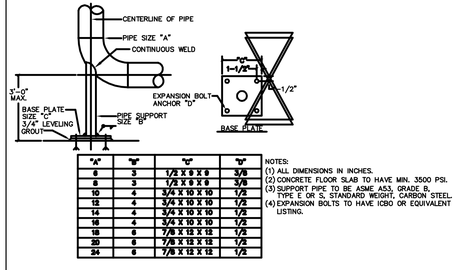


05 CHILLER SEISMIC ISOLATOR FACTORY SUPPLIED — NOT TO SCALE

MAXIMUM HANGER SPACING FOR HYDRONIC PIPING

PIPING MATERIAL	MAXIMUM HORIZONTAL SPACING (FEET)	MAXIMUM VERTICAL SPACING (FEET)
COPPER OR COPPER – ALLOY PIPE	10	10
COPPER OR COPPER – ALLOY TUBING, 1-1/4"ø AND SMALLER	6	10
COPPER OR COPPER – ALLOY TUBING, 1-1/2"ø AND LARGER	8	10
STEEL PIPE	12	14

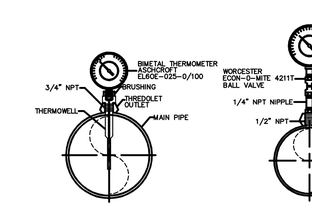
06 TABLE REQUIRED HANGER SPACING FOR HYDRONIC PIPING — NOT TO SCALE



"A"	"B"	"C"	"D"
6	3	1/2 X 9 X 9	3/8
8	3	1/2 X 9 X 9	3/8
10	4	3/4 X 10 X 10	1/2
12	4	3/4 X 10 X 10	1/2
14	4	3/4 X 10 X 10	1/2
16	4	7/8 X 12 X 12	1/2
18	6	7/8 X 12 X 12	1/2
20	6	7/8 X 12 X 12	1/2
24	6	7/8 X 12 X 12	1/2

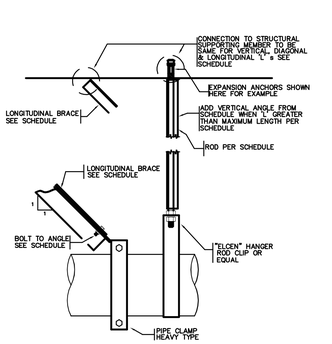
NOTES:
(1) ALL DIMENSIONS IN INCHES.
(2) CONCRETE FLOOR SLAB TO HAVE MIN. 3500 PSI.
(3) SUPPORT PIPE TO BE ASME A53, GRADE B, TYPE E OR S, STANDARD WEIGHT, CARBON STEEL.
(4) EXPANSION BOLTS TO HAVE ICBO OR EQUIVALENT LISTING.

07 PIPE SUPPORT — NOT TO SCALE

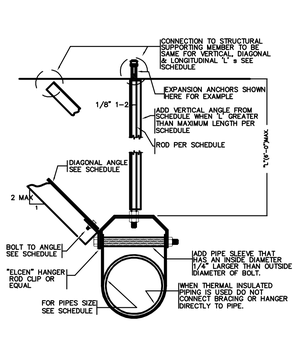


TEMPERATURE INDICATOR — PRESSURE GAUGE

08 TYPICAL TEMPERATURE & PRESSURE GAUGE INDICATOR CONNECTION TO PIPE — NOT TO SCALE



TYPICAL LONGITUDINAL PIPE BRACING — NOT TO SCALE



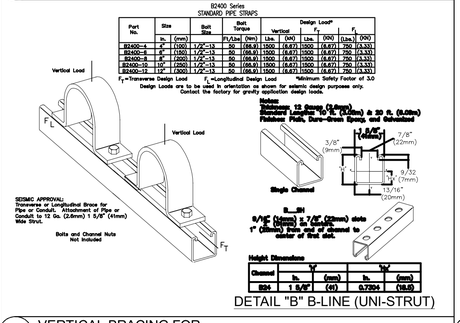
TYPICAL TRANSVERSE PIPE BRACING — NOT TO SCALE

SCHEDULE FOR BRACING PIPES

PIPE SIZE	"ELCEN" OR (EQUAL) HANGER TYPE	BOLTS TO 'L' (2)	VERTICAL ANGLE (3)	DIAGONAL ANGLE	LONGITUDINAL DIAGONAL ANGLE	TOP CONNECTION OF DIAGONAL & LONGITUDINAL L's (1)	ROD SIZE	MAX. LENGHT FOR RODS
8"	CLEVIS TYPE	1/2"ø	2x2x16 GA.	2x2x16 GA.	2-1/2x2-1/2x16 GA.	TYPE II	5/8"ø	25"

(1) SEE SCHEDULE FOR TYPICAL CONNECTION TO STRUCTURAL SUPPORTING MEMBERS.
(2) PLACE STANDARD CUT WASHERS BETWEEN SHEET METAL L's & NUT.
(3) "VERTICAL ANGLE" IN THE SCHEDULE IS REQUIRED IN ADDITION TO HANGER ROD ONLY WHEN MAXIMUM LENGHT FOR RODS IS EXCEED.
NOTE:
TRANSVERSE BRACINGS AT 40'-0" O.C. MAXIMUM.

11 BRACING FOR CHILLED WATER PIPES — NOT TO SCALE



Part No.	Size	Bolt Size	Bolt Torque	Design Loads* Vertical		Transverse		Longitudinal	
	In.	(mm)		Ft/Unit	(Nm)	Lbs.	(KN)	Lbs.	(KN)
B2400-4	4"	(100)	1/2"-13	50	(68.0)	1500	(6.67)	1500	(6.67)
B2400-6	6"	(150)	1/2"-13	50	(68.0)	1500	(6.67)	1500	(6.67)
B2400-8	8"	(200)	1/2"-13	50	(68.0)	1500	(6.67)	1500	(6.67)
B2400-10	10"	(250)	1/2"-13	50	(68.0)	1500	(6.67)	1500	(6.67)
B2400-12	12"	(300)	1/2"-13	50	(68.0)	1500	(6.67)	1500	(6.67)

F_T =Transverse Design Load F_L =Longitudinal Design Load *Minimum Safety Factor of 3.0
Design Loads are to be used in orientation as shown for seismic design purposes only. Contact the factory for gravity application design loads.

Channel	"H" In.	(mm)	"W" In.	(mm)
B26	1 5/8"	(41)	0.7394	(18.8)

DETAIL "B" B-LINE (UNI-STRUT)

09 VERTICAL BRACING FOR CHILLED WATER PIPES — NOT TO SCALE

HYDRONIC WATER PIPE SCHEDULE

PIPE Ø	GPM
1/2"ø	2.0
3/4"ø	4.0
1"ø	8.0
1-1/4"ø	17.0
1-1/2"ø	28.0
2"ø	50.0
2-1/2"ø	75.0
3"ø	145.0
4"ø	275.0
6"ø	600.0
8"ø	1300.0

10 PIPE SCHEDULE — NOT TO SCALE

CONSTRUCTION DRAWINGS 100%
DATE: FEBRUARY 26, 2025.

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E. MORELL- RIVERA Architects & Consultants, PSC

CLIENT
PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT
PHASE I & II: IMPROVEMENTS TO MAIN HVAC SYSTEM (CHILLERS, COOLING TOWERS & AIR-COOLED CHILLER) AT PRODCO HEADQUARTERS SAN JUAN, PR

CONSULTANT SEAL
Pedro Juan Medina Villanueva
Ingeniero Licenciado
CE 9684 PE
Puerto Rico
Fecha de Expiración: 2028-03-14

Yo, Pedro J. Medina Villanueva, certifico que soy el profesional que diseñó esto planos, especificaciones y documentos complementarios. También certifico que entiendo que dichos planos, especificaciones y documentos cumplen con todas las disposiciones aplicables del Reglamento Conjunto y las disposiciones aplicables de los Reglamentos y Códigos de Construcción Vigentes de las Agencias, Juntas Reglamentadoras of Corporaciones Públicas con jurisdicción. Certifico, además, que en la preparación de estos planos, especificaciones y documentos se ha cumplido cabalment con lo dispuesto en la Ley Núm. 14-2004, según enmendada, conocida como la "Ley para la Inversión por la Industria Puertorrique~bna", con la "Ley para la Reforma del Proceso de Permisos de Puerto Rico", Ley Núm. 161-2009, según enmendada y [con la Ley Núm. 135-1967; o con la Ley Núm. 160-1996, según enmendadas y según aplique]. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido por desconocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por toras personas con mi conocimiento, me hacen responsble de cualquier acción judicial y disciplinaria por la OGPe.

REV.	DATED		BY.
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SHEET TITLE
MECHANICAL DETAILS V

DATE	2025–02–07
DRAWN BY	PJMA
REVISED BY	PJMA
DWG FILE NAME	PROPOSED
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.
53/67 M-3.4
DRAWING NO.

FMV&ASSOC ENGINEERING CONSULTANTS
Pedro Medina Villanueva & Associates, P.S.C.
ENGINEERING CONSULTANTS
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San Juan, Puerto Rico 00925
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DELEGATED DESIGN:
SUPPORT SYSTEMS FOR HVAC DUCTWORK, HYDRONIC PIPING, PLUMBING PIPING

Contractor shall provide the following, but not limited to, products "as an engineered system". Provide Eaton's TOLCO seismic bracing solutions combined with Eaton B-Line series pipe hangers, strut systems, and other support solutions including, but not limited to seismic structural attachments, seismic transitional attachments, seismic system attachments, and necessary adapters, plates, swivels, hinges and any other accessory as part of a complete engineered system. System shall be rigid bracing system, cable-type systems shall not be acceptable. The following items, as stated, are only an excerpt of items called for as basis of design.
Contractor shall submit an engineered infrastructure support system submittal, certified by an engineer licensed in the jurisdiction of the Commonwealth of Puerto Rico.
Engineered system design data shall be S0.5 & S1 for its applicable location, per Puerto Rico Building code (ICC IBC/IFC-Latest model code adoption).
Importance factor 1.5 for Healthcare Occupancy, 1.25 all others.

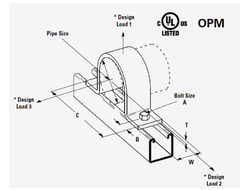
01 SUPPORT SYSTEMS FOR HVAC DUCTWORK, HYDRONIC PIPING, PLUMBING PIPING, AND MEDICAL GAS SYSTEMS — NOT TO SCALE

WEDGE ANCHORS
All rods and brace attachments to concrete shall be installed by means of WEDGE ANCHORS. Install B-Line AWSD Series – Power Stud SD2 Seismic Wedge Anchors for3/8"-16 & 1/2"-13 rods. Minimum hole depth and minimum concrete thickness per manufacturer's wedge anchor data sheets. Couple rods with B-Line B655/B656 Steel Rod Couplings, of appropriate size and function as applicable. Features: Fully threaded, torque-controlled, wedge anchor designed for cracked and uncracked concrete. For use in concrete, structural sand lightweight concrete, and concrete over metal deck. Material: Zinc plated carbon steel body with stainless steel expansion clip from premium p. Qualified for seismic and wind loading. Approvals: State of California Office of Statewide Health Planning and Development (OSHPD), ICC-ESR-2502 UL (Underwriters Laboratories) Listed and FM (Factory Mutual) Approved.



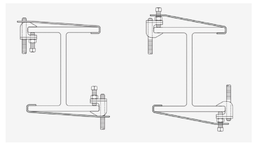
02 WEDGE ANCHORS — NOT TO SCALE

PIPE CLAMPS TO TRAPEZE TYPICAL
Piping support system shall be of the trapeze type when pipe sections consist of two or more pipes. Install pipes with B-Line B2400 Series Standard Pipe Straps with Vibration Isolation and galvanic protection sleeves B-Line B1999 Vibra-Cushion. Size Range: 1/2" (15mm) thru 24" (600mm) pipe Material: Electro-Galvanized finished steel. Function: Designed for supporting pipe runs from strut supports. Approvals: Underwriters Laboratories Listed in the USA Canada (cULus) for B2400-3/4" thru B2400-8". Conforms to Federal Specification WW-H-171E & A-A-1192A, Type 26 and Manufacturers Standardization Society ANSI/MSS SP-69 & SP-58, Type 26. Approved by the State of California Office of Statewide Health Planning and Development (OSHPD).



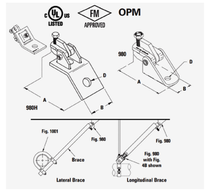
03 PIPE CLAMPS TO TRAPEZE TYPICAL — NOT TO SCALE

HANGER/TRAPEZE ROD ATTACHMENTS TO STEEL BEAMS
Install TOLCO™ Fig. 69R – Retrofit Capable Beam Clamp Retaining Strap. For rod size range: 3/8"-16 & 1/2"-13 rods, 4" (101.6mm) thru 16" (406.4mm) lengths. Consult factory for longer lengths. Material: Pre-Galvanized Steel. Function: Secure fastening of various types of beam clamps to beams per NFPA installed in earthquake areas. Install per manufacturer's recommendations. Approvals: Underwriters Laboratories Listed in the USA and Canada (cULus). Approved for use with any B-Line series and TOLCO listed beam clamps.



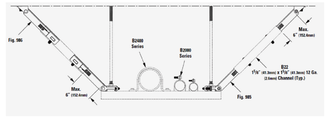
04 HANGER/TRAPEZE ROD ATTACHMENTS TO STEEL BEAMS — NOT TO SCALE

SEISMIC TRANSITIONAL ATTACHMENTS BRACES
Install appropriate TOLCO™ Fig. 980 – Universal Swivel Sway Brace Attachment for 3/8" to 3/4" mounting hardware, and Fig. 980H – Universal Swivel Sway Brace Attachment – 7/8" to 11/4" mounting hardware. Material: Electro-Galvanized finished steel. Size Range: One size fits bracing pipe 1" (25mm) thru 2" (50mm), B-Line series 12 gauge (2.6mm) channel, and all structural steel up to 1/4" (6.3mm) thick. F. 980 for 3/8" thru 3-4" hanger rod, bolt, or fastener. Fig. 980H for 7/8" thru 11-4" hanger rod, bolt, or fastener. Function: Multi-functional attachment to structure or braced pipe fitting. Features: Concentric attachment per NFPA 13. Mounts to any surface a. Break off bolt head assures verification of proper installation. Approvals: Underwriters Laboratories Listed in the USA and Canada (cULus), Factory Mutual Engineering (FM), [Note: Except Fig. 980H is not FM Approved or UL Listed]. Both include State of California Office of Statewide Health Planning and Development (OSHPD) approvals.



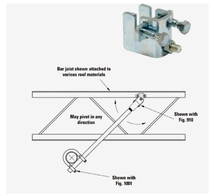
05 SEISMIC TRANSITIONAL ATTACHMENTS BRACES — NOT TO SCALE

MECHANICAL SEISMIC CLAMP CONNECTIONS TO TRAPEEZE HANGERS
Install TOLCO™ Fig. 986 – Mechanical Fast Clamps & TOLCO™ Fig. 985 – Mechanical Fast Clamps. Size Range: Available with holes for 1/2" thru 3/4" fastener attachment. Material: Steel. Function: Used for attachment of seismic bracing to structure or hanger. Features: Allows up to 6° (152.4mm) of adjustability when used with Fig. 900 series. Allows up to 12° (304.8mm) of adjustability in brace length, when used with F. 985. Break-off set screw heads visually verify required installation torque Swivel allows adjustment to various surface angles Approvals: Approved by the State of California Office of Statewide Health Planning and Development (OSHPD).



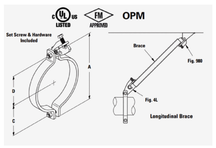
06 MECHANICAL SEISMIC CLAMP CONNECTIONS TO TRAPEEZE HANGERS — NOT TO SCALE

SWAY BRACE ATTACHMENTS TO BAR JOISTS
Install TOLCO™ Fig. 825A – Bar Joist Sway Brace Attachments. Size Range: Fits up to 3/8" (9.5mm) thick structural steel member. Accommodates all Fig. 900 Series sway brace attachments. Material: Electro-Galvanized finished steel. Function: To attach sway brace assemblies and/or hanger assemblies to structural steel members. Features: Product incorporates a concentric attachment for structural seismic connections per NFPA 13. Features non-friction connection without drilling or welding and reinforces point of connection to joist.
Break off head bolt design assures verification of proper installation. Approvals: Underwriters Laboratories Listed in the USA and Canada (c) And the State of California Office of Statewide Health Planning and Development (OSHPD).



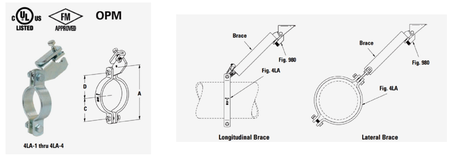
07 SWAY BRACE ATTACHMENTS TO BAR JOISTS — NOT TO SCALE

LONGITUDINAL SWAY BRACE ATTACHMENTS – SINGLE PIPE
Install TOLCO fig. 4L – Longituninal 1n-LineSway Brace Attachment. Size Range: 2-1/2" (65mm) thru 8" (200mm) IPS. Material: Electro-Galvanized finished steel. Function: For bracing pipe against sway and seismic disturbances. Approvals: Underwriters Laboratories Listed in the USA and Canada (cULus) 2-1/2" (65mm) through 8" (200mm) pipe. Approved by Factory Mutual Engineering (FM), 2-1/2" (65mm) through 8" (200mm) pipe. Approved by the State of California Office of Statewide Health Planning and Development (OSHPD).

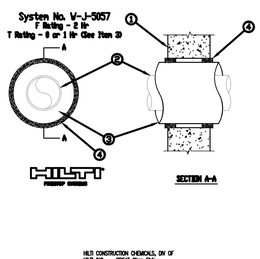


08 LONGITUDINAL SWAY BRACE ATTACHMENTS – SINGLE PIPE — NOT TO SCALE

LATERAL SWAY BRACE ATTACHMENTS – SINGLE PIPE
Install TOLCO™ Fig. 4LA – 1n-Line° Sway Brace Attachments, per pipe size. Material: Electro-Galvanized finished steel. Function: For bracing pipe against sway and seismic disturbance. Approvals: Approved by Factory Mutual Engineering (FM), 1" (25mm) through 12" (300mm) pipe. Underwriters Laboratories Listed in the USA and Canada (cULus). Approved by the State of California Office of Statewide Health Planning and Development (OSHPD).



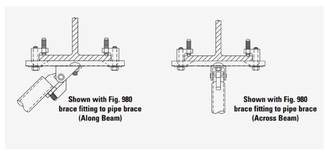
09 LATERAL SWAY BRACE ATTACHMENTS – SINGLE PIPE — NOT TO SCALE



1. Wall Assembly Min 5 in. thick reinforced lightweight or normal weight (100-150 pcf) concrete. Wall may also be constructed of any UL Classified Concrete Blocks* having a minimum face shell thickness of 1-1/4 in. Max diam of opening is 18 in. See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. Steel Pipe Nom 10 in. diam (or smaller) Schedule 10 (or heavier) steel pipe. One pipe to be installed either concentrically or eccentrically within the firestop system. Pipe to be rigidly supported on both sides of floor or wall assembly.
3. Pipe Covering* Max 3 in. thick hollow cylindrical heavy density (min 3.5 pcf) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product. The annular space shall be min 1/2 in. to max 3/4 in.
   See Pipe and Equipment Covering -- Materials (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used. When pipe covering thickness is less than 3 in., T Rating is 0 Hr.
4. Fill, Void or Cavity Material* -- Wrap Strip Nom 1/4 in. thick by 2 in. wide intumescent wrap strip. The wrap strip is continuously wrapped around the outer circumference of the pipe covering three times and slid into annular space approx 1-5/8 in. such that approx 3/8 in. of the wrap strip protrudes from the wall surface. When multiple wrap strip are used to achieve the required total length, the ends are to be butted end-to-end and held in place with aluminum tape. Wrap strips are installed on each side of wall.

10 FIRESTOP NOTES — NOT TO SCALE

SWAY BRACE ATTACHMENT TO STEEL BEAMS
Install TOLCO™ Fig. 800 – Adjustable Sway Brace Attachment to Steel Size Range: 4" (100mm) thru 18" (450mm) beam width. Material: Steel. Finish: Plain or Electro-Galvanized. Contact customer service for alternative finishes and materials. Function: Seismic brace attachment to steel. Features: This product incorporates a concentric attachment per NFPA 13 permitting secure connection to steel where drilling and/or welding of brace connection could present structural issues. Approvals: Underwriters Laboratories Listed in the USA and Canada (cULus), Factory Mutual Engineering (FM).



11 SWAY BRACE ATTACHMENT TO STEEL BEAMS — NOT TO SCALE

HANGER/TRAPEZE ROD ATTACHMENT TO CONCRETE
For 3/8"-16 rods only, B-Line ATM Series – Self-Tapping Machine Screw Anchors for use in normal-weight concrete, lightweight concrete and concrete over metal deck. Anchor design allows for shallow embedment and mechanically interlocks with base m. Shall include internally threaded anchor for easy adjustment and removability of threaded rod or bolt. Anchor installation by means of a powered impact wrench. Suitable for overhead applications such as suspending cable trays, struts, pipe hangers and conduits. Material: Zinc Plated carbon steel w/setting tool included. Approvals: ICC-ES certified and FM (Factory Mutual)



12 LATERAL SWAY BRACE ATTACHMENTS – SINGLE PIPE — NOT TO SCALE

CONSTRUCTION DRAWINGS 100%
DATE: FEBRUARY 26, 2025.

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E. MORELL- RIVERA Architects & Consultants, PSC

CLIENT
PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT
PHASE I & II: IMPROVEMENTS TO MAIN HVAC SYSTEM (CHILLERS, COOLING TOWERS & AIR-COOLED CHILLER) AT PRODCO HEADQUARTERS SAN JUAN, PR

CONSULTANT SEAL
Pedro Juan Medina Villanueva
Ingeniero Licenciado
CE 9654 PE
Puerto Rico
Fecha de Expiración: 2028-03-14

Yo, Pedro J. Medina Villanueva, certifico que soy el profesional que diseñó esto planos, especificaciones y documentos complementarios. También certifico que entiendo que dichos planos, especificaciones y documentos cumplen con todas las disposiciones aplicables del Reglamento Conjunto y las disposiciones aplicables de los Reglamentos y Códigos de Construcción Vigentes de las Agencias, Juntas Reglamentadoras of Corporaciones Públicas con jurisdicción. Certifico, además, que en la preparación de estos planos, especificaciones y documentos se ha cumplido cabalment con lo dispuesto en la Ley Núm. 14-2004, según enmendada, conocida como la "Ley para la Inversión por la Industria Puertorrique~bna", con la "Ley para la Reforma del Proceso de Permisos de Puerto Rico", Ley Núm. 161-2009, según enmendada y [con la Ley Núm. 135-1967; o con la Ley Núm. 160-1996, según enmendadas y según aplique]. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido por desconocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por toras personas con mi conocimiento, me hacen responsble de cualquier acción judicial y disciplinaria por la OGPe.

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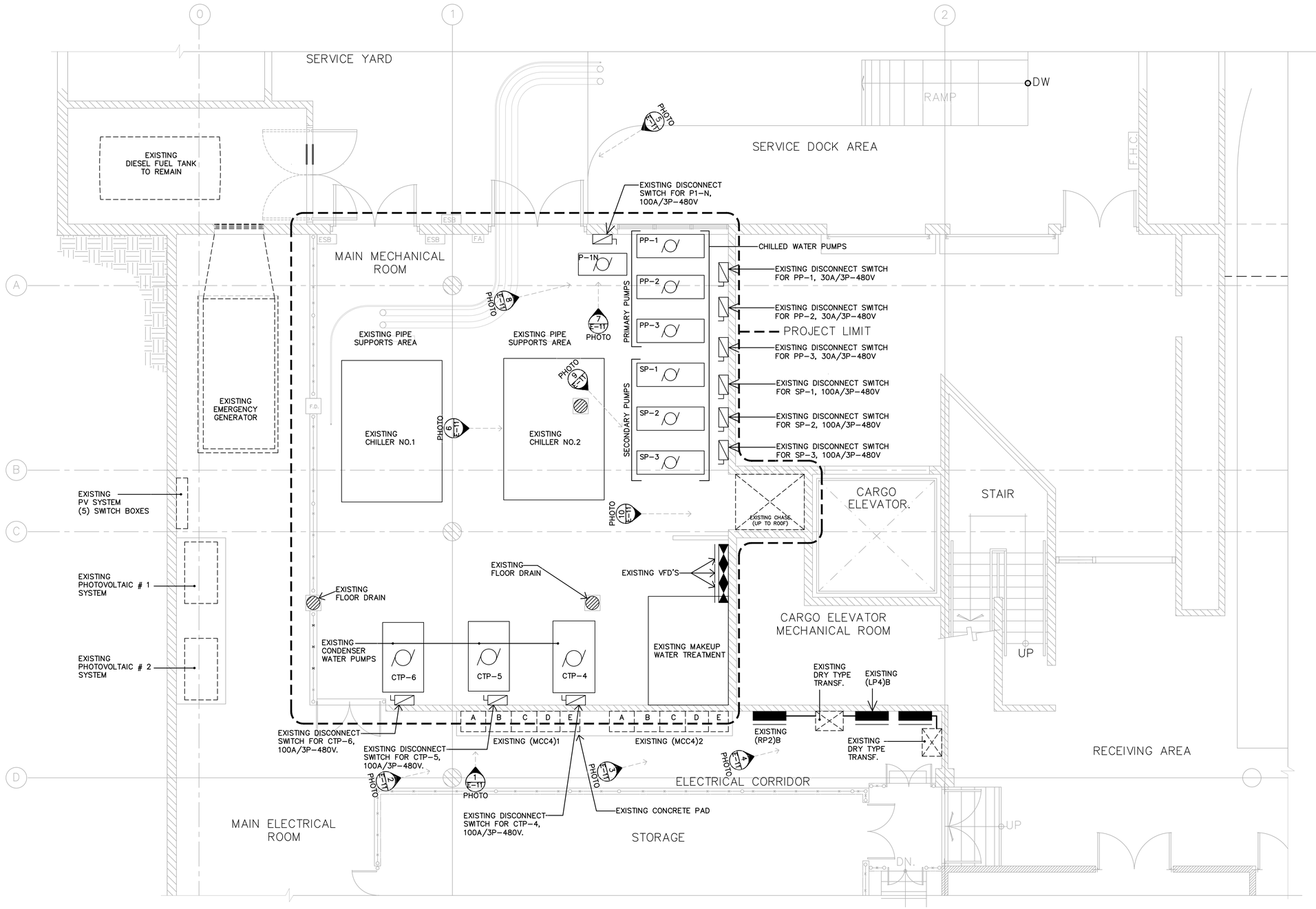
SHEET TITLE
MECHANICAL DETAILS VI

DATE	2025-02-07
DRAWN BY	PJMA
REVISED BY	PJMA
DWG FILE NAME	PROPOSED
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

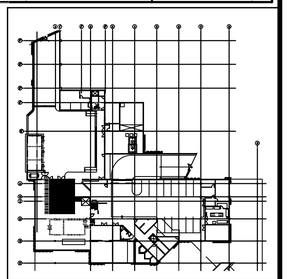
SHEET NO.
54/67 M-3.5
DRAWING NO.



BASEMENT FLOOR PLAN.- EXISTING CONDITIONS

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

THE OFFICE OF: LEONARDO J. VIDAL, P.E., LLC			
DRAWING HISTORY		DESIGN STAGE	
PROJECT NO:	23-082	SCHEMATIC DWGS: (SD)	
DRAWING NO:	E-01	PRELIMINARY DWGS: (PD)	
CAD FILE:	23-082/	DESIGN DEVELOPMENT DWGS: (DD)	
CAD SUBFILE:	23-082-E01 – R00 – BD	ADVANCED DWGS: (AD)	
PLOT DATE:	02.20.25	FINAL DWGS: (FD)	
PLOT SCALE:	1:1	DWGS. ISSUED FOR BID (BD)	●
ISSUE DATE:	02.20.25	CONTRACT DWGS: (CD)	
REMARKS:	NOT FOR CONSTRUCTION	RECORD DWGS: (RD)	
RELATED PROJECTS:	----------	% OF COMPLETION	–



KEY PLAN: BASEMENT

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E. MORELL– RIVERA
Architects & Consultants, PSC.

CLIENT

PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT

PHASE I: IMPROVEMENTS TO MAIN HVAC SYSTEM (COOLING TOWERS & AIR-COOL CHILLER) AT PRIDCO HEADQUARTERS
SAN JUAN, PUERTO RICO

CONSULTANT SEAL

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Lic. no. 6092

YO, LEONARDO J. VIDAL, LIC #6092 CERTIFICO QUE SOY EL PROFESIONAL QUE DISEÑÓ ESTOS PLANOS Y LAS ESPECIFICACIONES COMPLEMENTARIAS. TAMBIÉN, CERTIFICO QUE ENTIENDO QUE DICHOS PLANOS Y ESPECIFICACIONES CUMPLEN CON LAS DISPOSICIONES APLICABLES DEL REGLAMENTO CONJUNTO Y LAS DISPOSICIONES APLICABLES DE LOS REGLAMENTOS Y CÓDIGOS DE CONSTRUCCIÓN VIGENTES DE LAS AGENCIAS, JUNTAS REGLAMENTADORAS O CORPORACIONES PÚBLICAS CON JURIDICCIÓN. CERTIFICO, ADEMÁS, QUE EN LA PREPARACIÓN DE ESTOS PLANOS Y ESPECIFICACIONES SE HA CUMPLIDO CABALMENTE CON LO DISPUESTO EN LA LEY NUM. 14 DE 8 DE ENERO DE 2004, SEGÓN ENMENDADA, CONOCIDA COMO LA "LEY PARA LA INVERSIÓN POR LA INDUSTRIA PUERTORRIQUEÑA" Y CON LA LEY NUM. 96 DE 6 DE JULIO DE 1978, SEGÓN ENMENDADA. RECONOZCO QUE CUALQUIER DECLARACIÓN FALSA O FALSIFICACIÓN DE LOS HECHOS QUE SE HAYA PRODUCIDO POR DESCONOCIMIENTO O POR NEGLIGENCIA YA SEA POR MÍ, MIS AGENTES O EMPLEADOS, O POR OTRAS PERSONAS CON MÍ CONOCIMIENTO, ME HACEN RESPONSABLES DE CUALQUIER ACCIÓN JUDICIAL Y DISCIPLINARIA POR LA OGPE.

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SHEET TITLE

BASEMENT FLOOR PLAN
EXISTING CONDITIONS

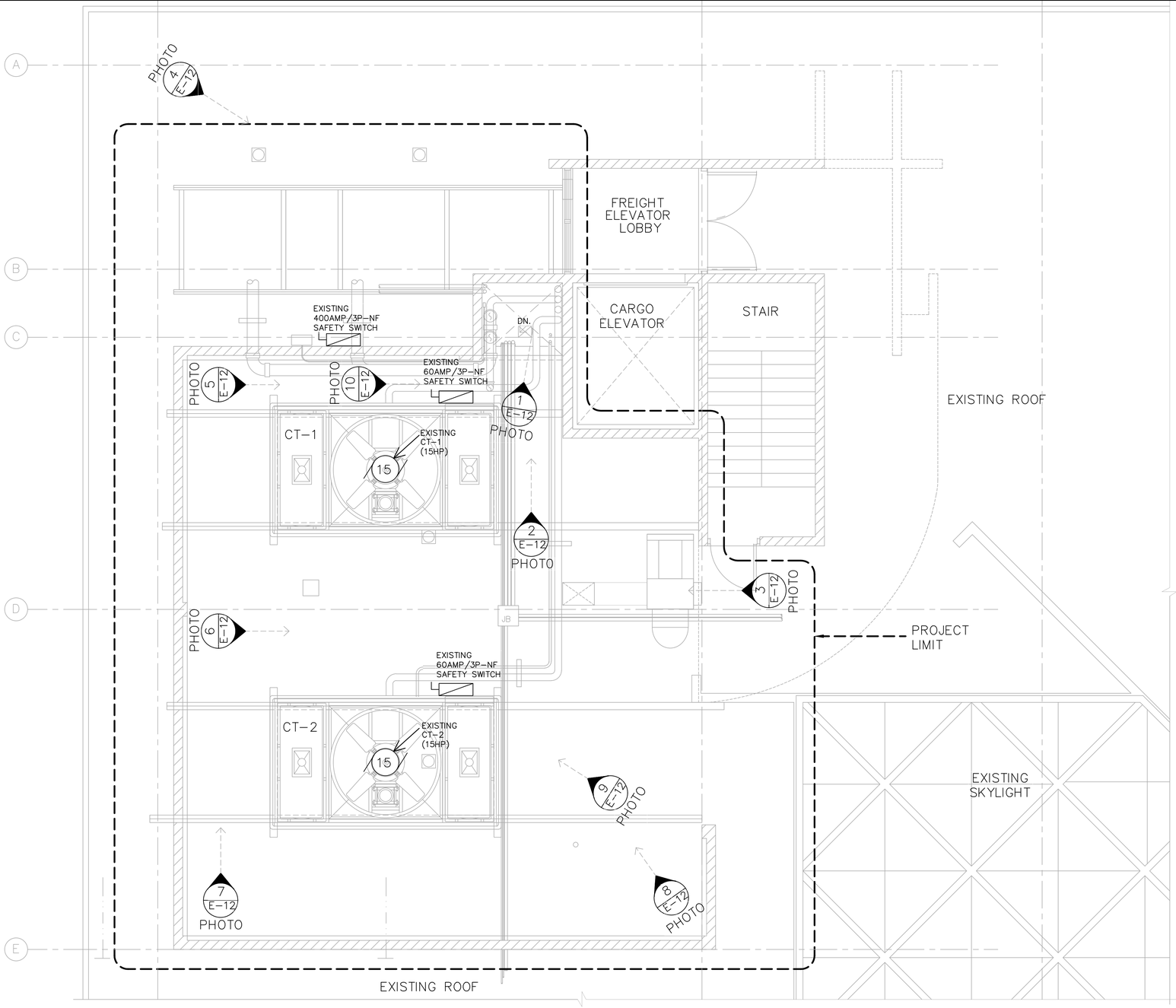
DATE	02.20.25
DRAWN BY	LAPD
REVISED BY	LJV
DWG FILE NAME	BID DWGS
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.

55/67

E-01

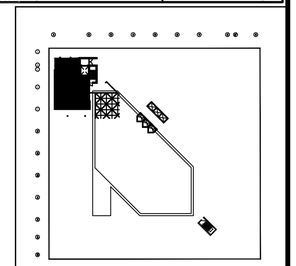
DRAWING NO.



ROOF FLOOR PLAN - EXISTING CONDITIONS

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

THE OFFICE OF: LEONARDO J. VIDAL, P.E., LLC			
DRAWING HISTORY			DESIGN STAGE
PROJECT NO:	23-082		SCHEMATIC DWGS: (SD)
DRAWING NO:	E-02		PRELIMINARY DWGS: (PD)
CAD FILE:	23-082/		DESIGN DEVELOPMENT DWGS: (DD)
CAD SUBFILE:	23-082-E02	R00-BD	ADVANCED DWGS: (AD)
PLOT DATE:	02.20.25		FINAL DWGS: (FD)
PLOT SCALE:	1:1		DWGS. ISSUED FOR BID (BD) ●
ISSUE DATE:	02.20.25		CONTRACT DWGS: (CD)
REMARKS:	NOT FOR CONSTRUCTION		RECORD DWGS: (RD)
RELATED PROJECTS:	----------		% OF COMPLETION –



KEY PLAN: BASEMENT

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CLIENT

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PROJECT

PHASE I: IMPROVEMENTS TO MAIN HVAC SYSTEM (COOLING TOWERS & AIR-COOL CHILLER) AT PRIDCO HEADQUARTERS
SAN JUAN, PUERTO RICO

CONSULTANT SEAL

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Email: ulmcie@gmail.com

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SHEET TITLE

ROOF PLAN - EXISTING CONDITIONS

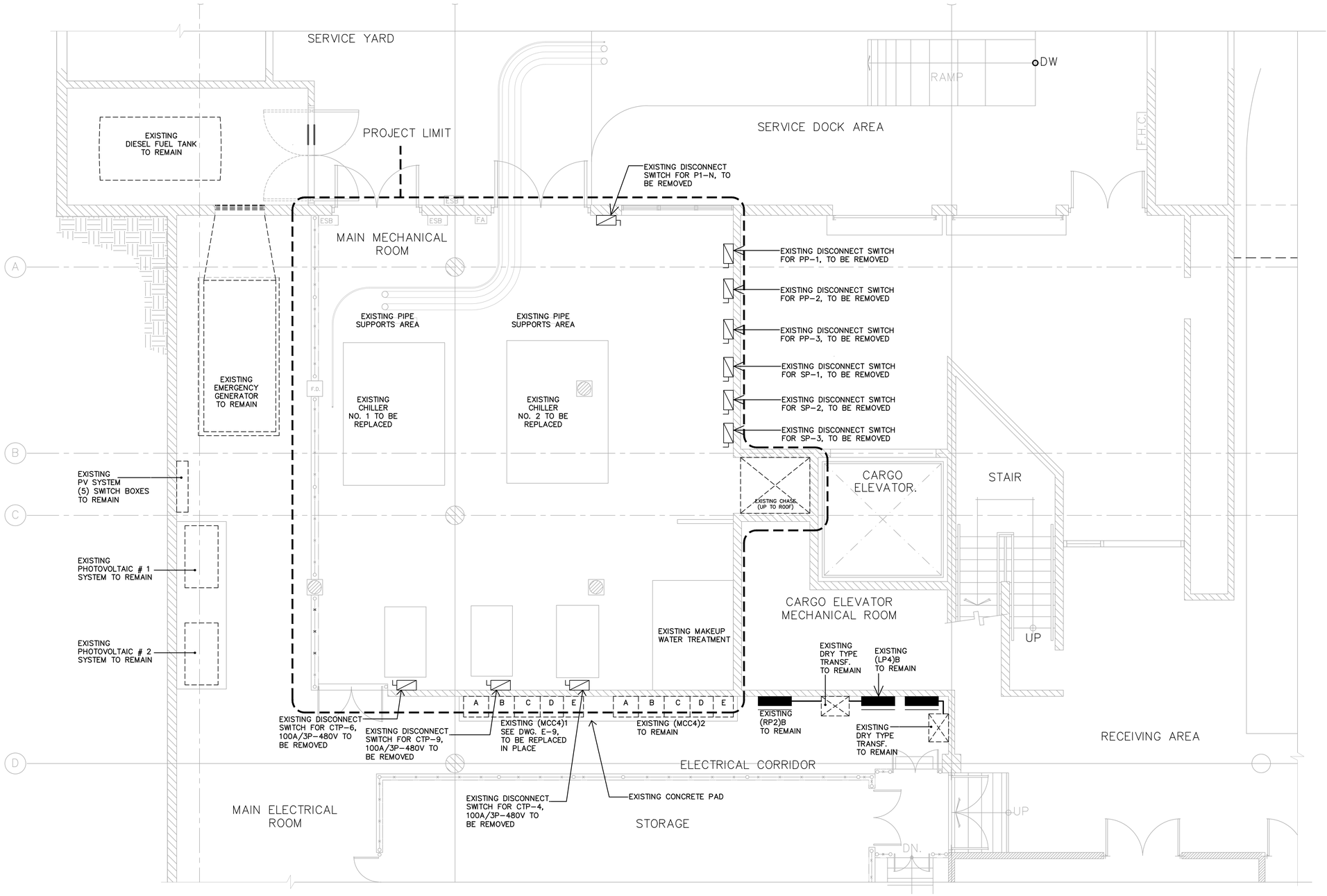
DATE	02.20.25
DRAWN BY	LAPD
REVISED BY	LJV
DWG FILE NAME	BID DWGS
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.

56/67

E-02

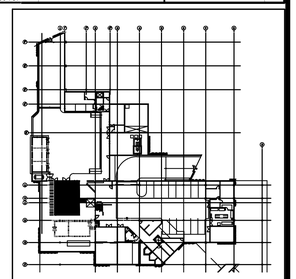
DRAWING NO.



BASEMENT FLOOR PLAN - DEMOLITION WORK

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

THE OFFICE OF: LEONARDO J. VIDAL, P.E., LLC			
DRAWING HISTORY			DESIGN STAGE
PROJECT NO:	23-082		SCHEMATIC DWGS: (SD)
DRAWING NO:	E-03		PRELIMINARY DWGS: (PD)
CAD FILE:	23-082/		DESIGN DEVELOPMENT DWGS: (DD)
CAD SUBFILE:	23-082-E03	- R00 - BD	ADVANCED DWGS: (AD)
PLOT DATE:	02.20.25		FINAL DWGS: (FD)
PLOT SCALE:	1:1		DWGS. ISSUED FOR BID (BD) ●
ISSUE DATE:	02.20.25		CONTRACT DWGS: (CD)
REMARKS:	NOT FOR CONSTRUCTION		RECORD DWGS: (RD)
RELATED PROJECTS:	----------		% OF COMPLETION -



KEY PLAN: BASEMENT

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CLIENT

PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT

PHASE I: IMPROVEMENTS TO MAIN HVAC SYSTEM (COOLING TOWERS & AIR-COOL CHILLER) AT PRIDCO HEADQUARTERS
SAN JUAN, PUERTO RICO

CONSULTANT SEAL

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SHEET TITLE

BASEMENT FLOOR PLAN - DEMOLITION WORK

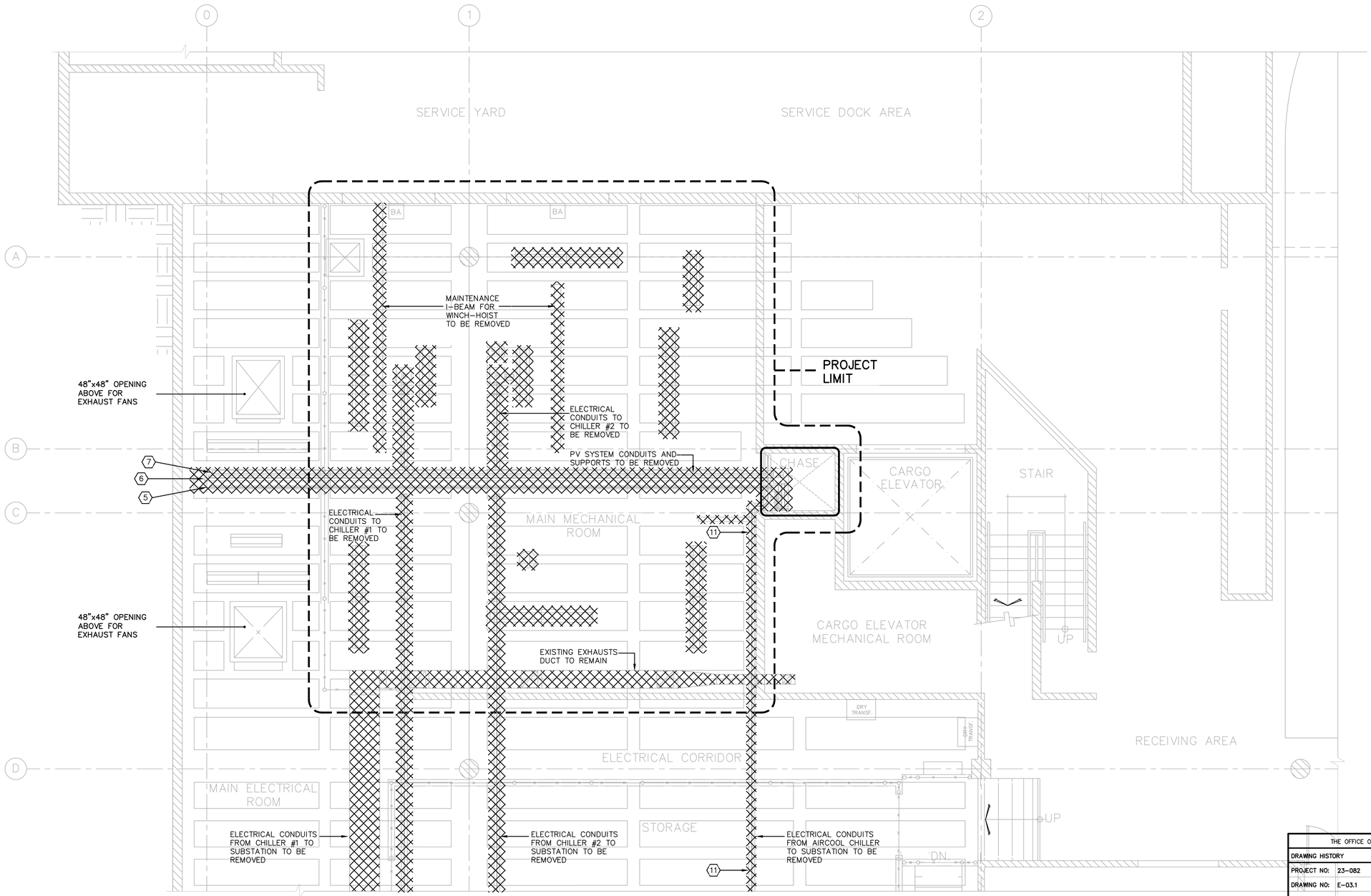
DATE	02.20.25
DRAWN BY	LAPD
REVISED BY	LJV
DWG FILE NAME	BID DWGS
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.

57/67

E-03

DRAWING NO.



EXISTING & DEMOLITION CEILING PLAN (8'-0"FROM FFL)
MAIN MECHANICAL ROOM (BASEMENT LEVEL)

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

DEMOLITION LEGEND:

- EXISTING CONC. WALL TO REMAIN
- (S.D.) EXISTING SMOKE DETECTOR TO BE REMOVED
- EXISTING FLUORESCENT LIGHT 4'-0" TO BE REMOVED
- EXISTING FLUORESCENT LIGHT 8'-0" TO BE REMOVED
- J.B. ELECTRICAL JUNCTION BOX TO BE REMOVED
- 5 PV SYSTEM: 2-¾"ø EMT CONDUITS UP TO ROOF TO BE REMOVED
- 6 PV SYSTEM: 2-3"ø EMT CONDUITS UP TO ROOF TO BE REMOVED
- 7 PV SYSTEM: 1-3"ø EMT CONDUITS UP TO ROOF TO BE REMOVED
- BA EXISTING BURGLAR ALARM SYSTEM JB AND CONDUITS (NIC)
- DENOTES ITEMS TO BE REMOVED OR DEMOLISHED

NOTES:

NOTE [1] : REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR PHASE DEMOLITION OF HVAC EQUIPMENT, COLD WATER, PIPES SUPPORTS ELECTRICAL EQUIPMENT AND CONDUITS.

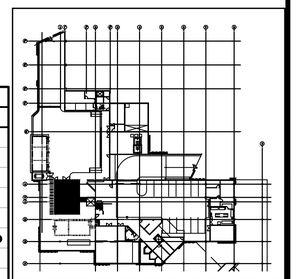
NOTE [2] : REFER DWG. LN-1 FOR GENERAL DEMOLITION NOTES

NOTE [3] : REMOVAL OF HVAC EQUIPMENT INCLUDES COLD WATER PIPES, PIPES SUPPORTS AND RELATED ELECTRICAL EQUIPMENT AND CONDUITS.

NOTE [4] : COORDINATE WITH OWNER'S BUILDING ELECTRICIAN FOR PARTIAL REMOVAL OF PHOTOVOLTAIC SYSTEM ELECTRICAL (INCLUDING BUT NOT LIMITED TO JOINING BOXES, CONDUITS AND SUPPORTS AT BASEMENT) AT BASEMENT CHASE AND ROOF, ELEMENTS WITH SALVAGE VALUE SHALL BE STORED AND DELIVERED TO OWNER.

KET FOR ELECTRICAL & HVAC EQUIPMENT

- 5 PV SYSTEM: 2-¾"ø EMT CONDUITS UP TO ROOF TO BE REMOVED
- 6 PV SYSTEM: 2-3"ø EMT CONDUITS UP TO ROOF TO BE REMOVED
- 7 PV SYSTEM: 1-3"ø EMT CONDUITS UP TO ROOF TO BE REMOVED
- 11 AIRCOOL SYSTEM: 2 - 2" EMT CONDUITS UP TO ROOF TO BE REMOVED.



KEY PLAN: BASEMENT

THE OFFICE OF: LEONARDO J. VIDAL, P.E., LLC			
DRAWING HISTORY		DESIGN STAGE	
PROJECT NO:	23-082	SCHEMATIC DWGS: (SD)	
DRAWING NO:	E-03.1	PRELIMINARY DWGS: (PD)	
CAD FILE:	23-082/	DESIGN DEVELOPMENT DWGS: (DD)	
CAD SUBFILE:	23-082-E03.1 - R00 - BD	ADVANCED DWGS: (AD)	
PLOT DATE:	02.20.25	FINAL DWGS: (FD)	
PLOT SCALE:	1:1	DWGS. ISSUED FOR BID (BD)	●
ISSUE DATE:	02.20.25	CONTRACT DWGS: (CD)	
REMARKS:	NOT FOR CONSTRUCTION	RECORD DWGS: (RD)	
RELATED PROJECTS:	----------	% OF COMPLETION	-

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CLIENT

PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT

PHASE I: IMPROVEMENTS TO MAIN HVAC SYSTEM (COOLING TOWERS & AIR-COOL CHILLER) AT PRIDCO HEADQUARTERS
SAN JUAN, PUERTO RICO

CONSULTANT SEAL

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SHEET TITLE

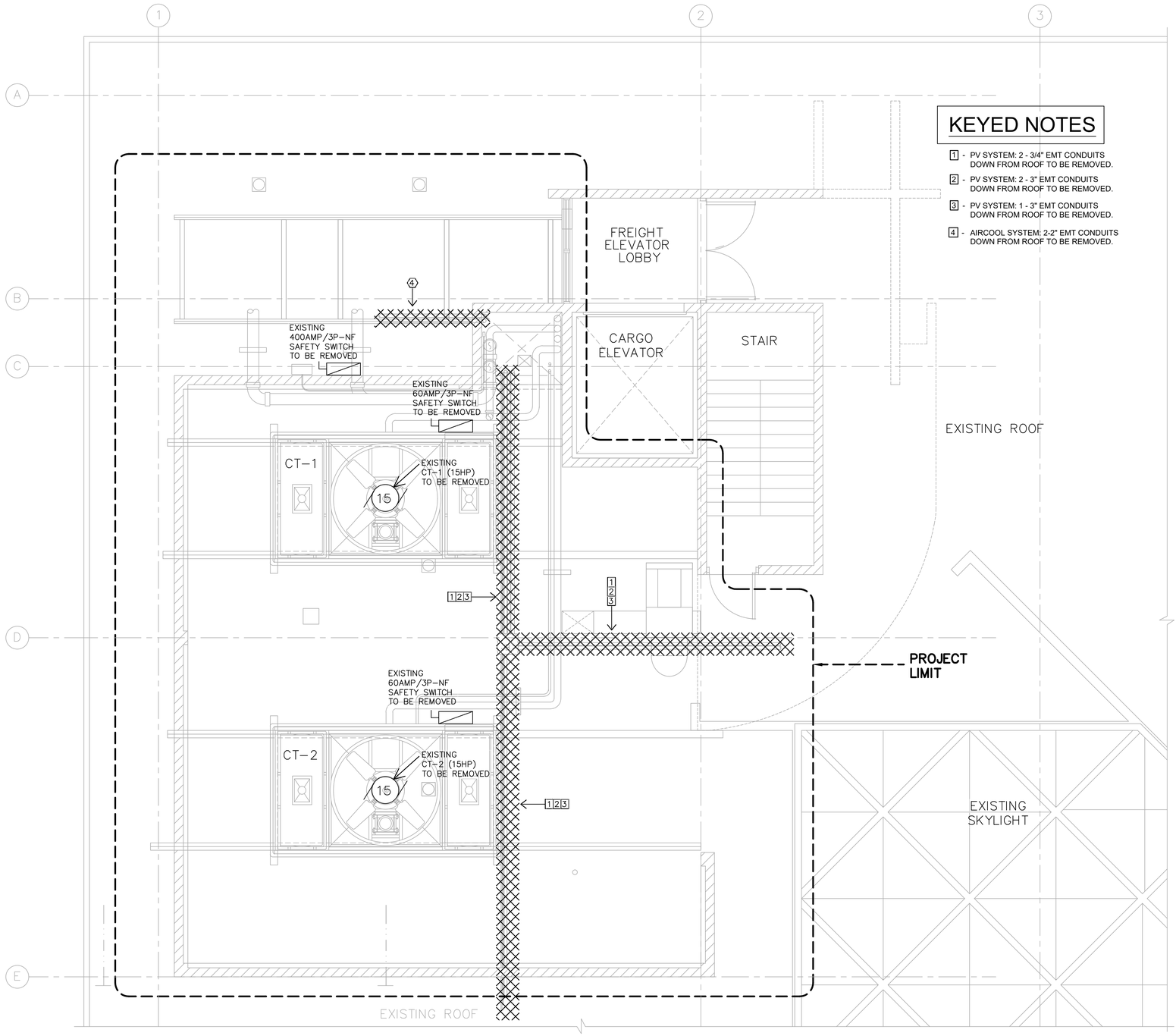
EXISTING & DEMOLITION CEILING PLAN
MAIN MECHANICAL ROOM BASEMENT LEVEL
BASEMENT AREA

DATE	02.20.25
DRAWN BY	LAPD
REVISED BY	LJV
DWG FILE NAME	BID DWGS
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.

58/67 E-03.1

DRAWING NO.



KEYED NOTES

1 - PV SYSTEM: 2 - 3/4" EMT CONDUITS DOWN FROM ROOF TO BE REMOVED.

2 - PV SYSTEM: 2 - 3" EMT CONDUITS DOWN FROM ROOF TO BE REMOVED.

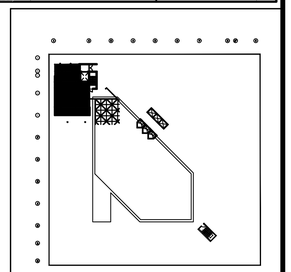
3 - PV SYSTEM: 1 - 3" EMT CONDUITS DOWN FROM ROOF TO BE REMOVED.

4 - AIRCOOL SYSTEM: 2-2" EMT CONDUITS DOWN FROM ROOF TO BE REMOVED.

ROOF PLAN - DEMOLITION WORK

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

THE OFFICE OF: LEONARDO J. VIDAL, P.E., LLC			
DRAWING HISTORY			DESIGN STAGE
PROJECT NO:	23-082		SCHEMATIC DWGS: (SD)
DRAWING NO:	E-04		PRELIMINARY DWGS: (PD)
CAD FILE:	23-082/		DESIGN DEVELOPMENT DWGS: (DD)
CAD SUBFILE:	23-082-E04	- R00 - BD	ADVANCED DWGS: (AD)
PLOT DATE:	02.20.25		FINAL DWGS: (FD)
PLOT SCALE:	1:1		DWGS. ISSUED FOR BID (BD) ●
ISSUE DATE:	02.20.25		CONTRACT DWGS: (CD)
REMARKS:	NOT FOR CONSTRUCTION		RECORD DWGS: (RD)
RELATED PROJECTS:	----------		% OF COMPLETION -



KEY PLAN: ROOF

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CLIENT

PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT

PHASE I: IMPROVEMENTS TO MAIN HVAC SYSTEM (COOLING TOWERS & AIR-COOL CHILLER) AT PRIDCO HEADQUARTERS
SAN JUAN, PUERTO RICO

CONSULTANT SEAL

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SHEET TITLE

ROOF PLAN - DEMOLITION WORK

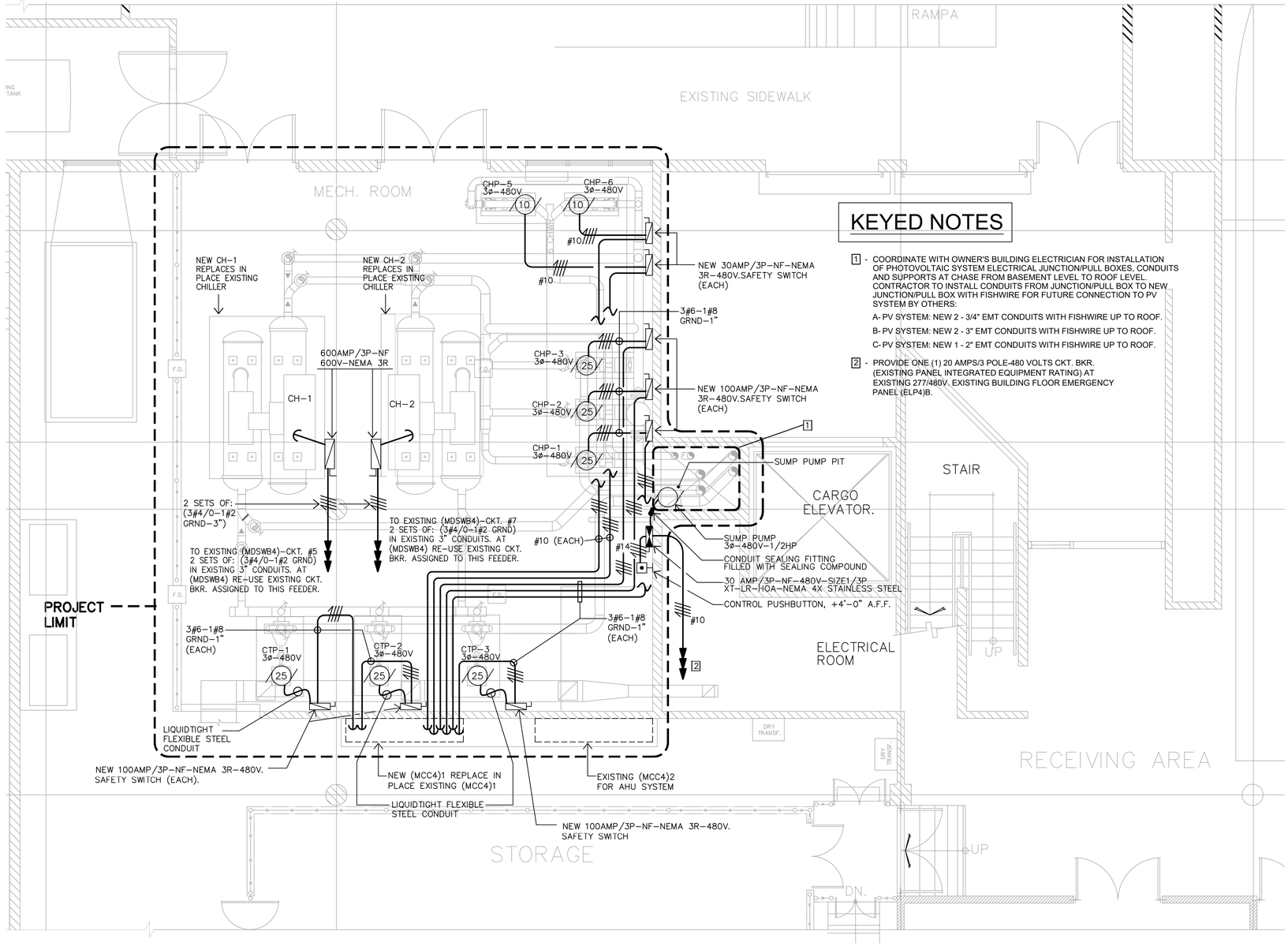
DATE	02.20.25
DRAWN BY	LAPD
REVISED BY	LJV
DWG FILE NAME	BID DWGS
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.

59/67

E-04

DRAWING NO.



KEYED NOTES

1 - COORDINATE WITH OWNER'S BUILDING ELECTRICIAN FOR INSTALLATION OF PHOTOVOLTAIC SYSTEM ELECTRICAL JUNCTION/PULL BOXES, CONDUITS AND SUPPORTS AT CHASE FROM BASEMENT LEVEL TO ROOF LEVEL. CONTRACTOR TO INSTALL CONDUITS FROM JUNCTION/PULL BOX TO NEW JUNCTION/PULL BOX WITH FISHWIRE FOR FUTURE CONNECTION TO PV SYSTEM BY OTHERS:

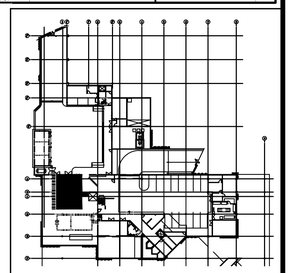
A- PV SYSTEM: NEW 2 - 3/4" EMT CONDUITS WITH FISHWIRE UP TO ROOF.

B- PV SYSTEM: NEW 2 - 3" EMT CONDUITS WITH FISHWIRE UP TO ROOF.

C- PV SYSTEM: NEW 1 - 2" EMT CONDUITS WITH FISHWIRE UP TO ROOF.

2 - PROVIDE ONE (1) 20 AMPS/3 POLE-480 VOLTS CKT. BKR. (EXISTING PANEL INTEGRATED EQUIPMENT RATING) AT EXISTING 277/480V. EXISTING BUILDING FLOOR EMERGENCY PANEL (ELP4)B.

THE OFFICE OF: LEONARDO J. VIDAL, P.E., LLC			
DRAWING HISTORY		DESIGN STAGE	
PROJECT NO:	23-082	SCHEMATIC DWGS: (SD)	
DRAWING NO:	E-05	PRELIMINARY DWGS: (PD)	
CAD FILE:	23-082/	DESIGN DEVELOPMENT DWGS: (DD)	
CAD SUBFILE:	23-082-E05 -R00-BD	ADVANCED DWGS: (AD)	
PLOT DATE:	02.20.25	FINAL DWGS: (FD)	
PLOT SCALE:	1:1	DWGS. ISSUED FOR BID (BD)	●
ISSUE DATE:	02.20.25	CONTRACT DWGS: (CD)	
REMARKS:	NOT FOR CONSTRUCTION	RECORD DWGS: (RD)	
RELATED PROJECTS:	----------	% OF COMPLETION	-



KEY PLAN: BASEMENT

BASEMENT FLOOR PLAN - NEW ELEC. INSTALLATION

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

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CLIENT

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SHEET TITLE

BASEMENT FLOOR PLAN - NEW ELEC. INSTALLATION

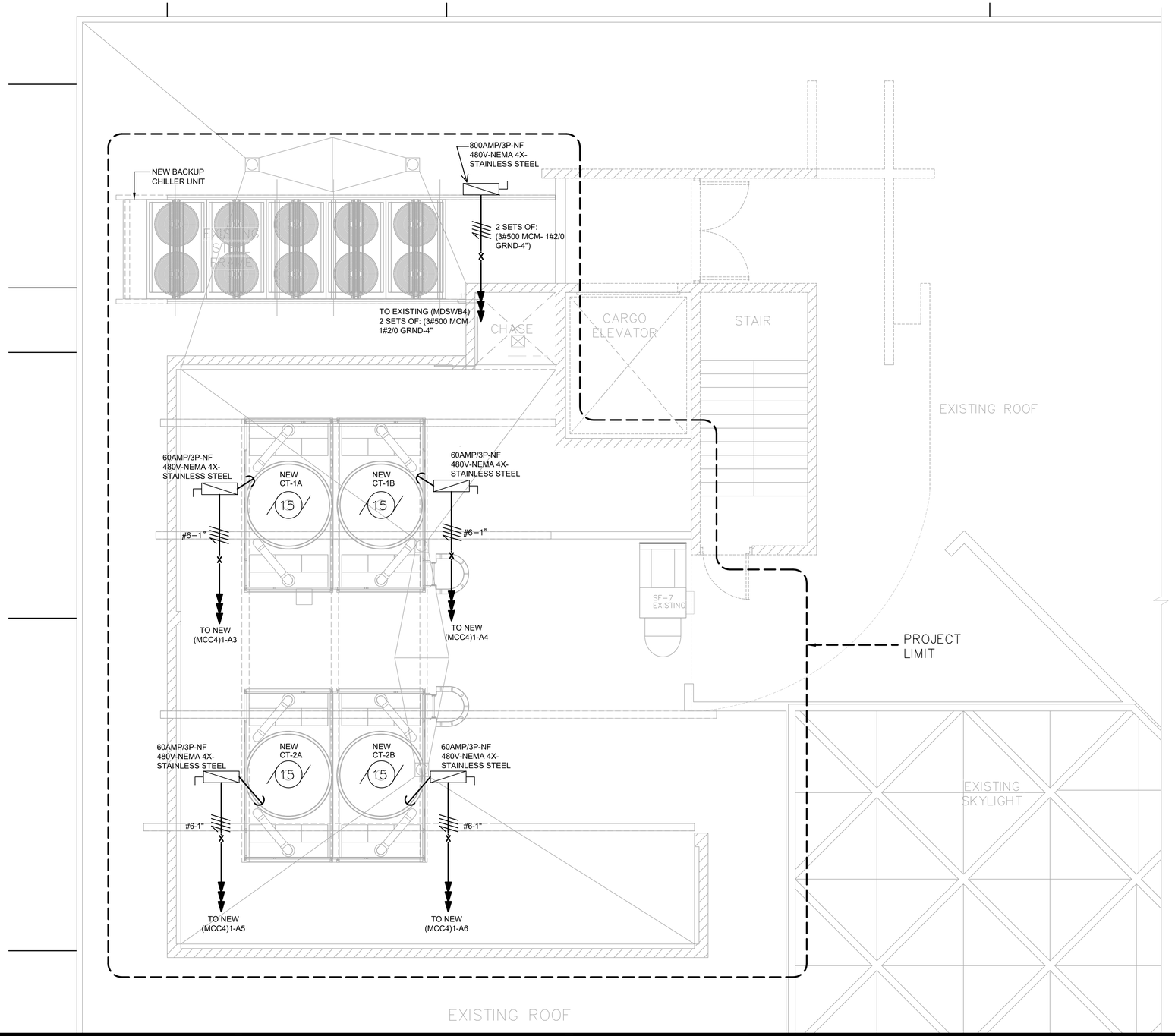
DATE	02.20.2025
DRAWN BY	LAPD
REVISED BY	LJV
DWG FILE NAME	BID DWGS
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.

60/67

E-05

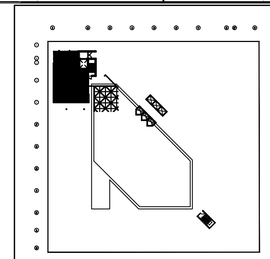
DRAWING NO.



ROOF PLAN - NEW ELEC. INSTALLATION

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

THE OFFICE OF: LEONARDO J. VIDAL, P.E., LLC			
DRAWING HISTORY			DESIGN STAGE
PROJECT NO:	23-082		SCHEMATIC DWGS: (SD)
DRAWING NO:	E-06		PRELIMINARY DWGS: (PD)
CAD FILE:	23-082/		DESIGN DEVELOPMENT DWGS: (DD)
CAD SUBFILE:	23-082-E06	-R00-BD	ADVANCED DWGS: (AD)
PLOT DATE:	02.20.25		FINAL DWGS: (FD)
PLOT SCALE:	1:1		DWGS. ISSUED FOR BID (BD) ●
ISSUE DATE:	02.20.25		CONTRACT DWGS: (CD)
REMARKS:	NOT FOR CONSTRUCTION		RECORD DWGS: (RD)
RELATED PROJECTS:	----------		% OF COMPLETION -



KEY PLAN: ROOF

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CLIENT

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PROJECT

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SHEET TITLE

ROOF PLAN - NEW ELEC. INSTALLATION

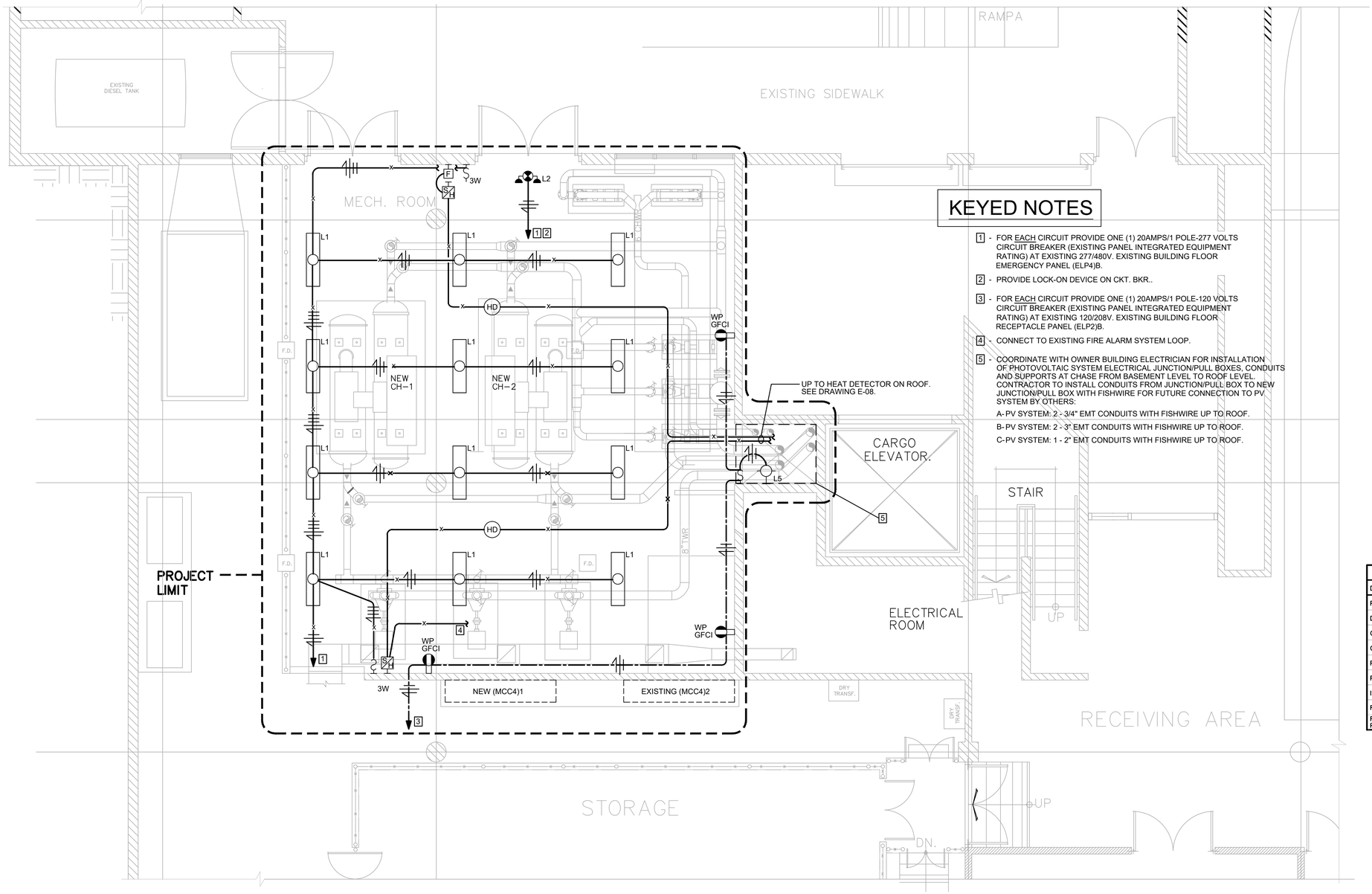
DATE	02.20.25
DRAWN BY	LAPD
REVISED BY	LJV
DWG FILE NAME	BID DWGS
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.

61/67

E-06

DRAWING NO.



KEYED NOTES

1 - FOR EACH CIRCUIT PROVIDE ONE (1) 20AMPS/1 POLE-277 VOLTS CIRCUIT BREAKER (EXISTING PANEL INTEGRATED EQUIPMENT RATING) AT EXISTING 277/480V. EXISTING BUILDING FLOOR EMERGENCY PANEL (ELP4)B.

2 - PROVIDE LOCK-ON DEVICE ON CKT. BKR..

3 - FOR EACH CIRCUIT PROVIDE ONE (1) 20AMPS/1 POLE-120 VOLTS CIRCUIT BREAKER (EXISTING PANEL INTEGRATED EQUIPMENT RATING) AT EXISTING 120/208V. EXISTING BUILDING FLOOR RECEPTACLE PANEL (ELP2)B.

4 - CONNECT TO EXISTING FIRE ALARM SYSTEM LOOP.

5 - COORDINATE WITH OWNER BUILDING ELECTRICIAN FOR INSTALLATION OF PHOTOVOLTAIC SYSTEM ELECTRICAL JUNCTION/PULL BOXES, CONDUITS AND SUPPORTS AT CHASE FROM BASEMENT LEVEL TO ROOF LEVEL. CONTRACTOR TO INSTALL CONDUITS FROM JUNCTION/PULL BOX TO NEW JUNCTION/PULL BOX WITH FISHWIRE FOR FUTURE CONNECTION TO PV SYSTEM BY OTHERS:

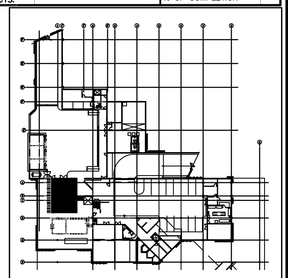
A- PV SYSTEM: 2 - 3/4" EMT CONDUITS WITH FISHWIRE UP TO ROOF.

B- PV SYSTEM: 2 - 3" EMT CONDUITS WITH FISHWIRE UP TO ROOF.

C- PV SYSTEM: 1 - 2" EMT CONDUITS WITH FISHWIRE UP TO ROOF.

BASEMENT FLOOR PLAN - ELECTRICAL INSTALLATION
SCALE: 1/4" = 1'–0"

THE OFFICE OF: LEONARDO J. VIDAL, P.E., LLC			
DRAWING HISTORY			DESIGN STAGE
PROJECT NO:	23–082		SCHEMATIC DWGS: (SD)
DRAWING NO:	E–07		PRELIMINARY DWGS: (PD)
CAD FILE:	23–082/		DESIGN DEVELOPMENT DWGS: (DD)
CAD SUBFILE:	23–082–E07	– R00 – BD	ADVANCED DWGS: (AD)
PLOT DATE:	02.20.25		FINAL DWGS: (FD)
PLOT SCALE:	1:1		DWGS. ISSUED FOR BID (BD) ●
ISSUE DATE:	02.20.25		CONTRACT DWGS: (CD)
REMARKS:	NOT FOR CONSTRUCTION		RECORD DWGS: (RD)
RELATED PROJECTS:	----------		% OF COMPLETION –



KEY PLAN: BASEMENT

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CLIENT
PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT
PHASE I: IMPROVEMENTS TO MAIN HVAC SYSTEM (COOLING TOWERS & AIR-COOL CHILLER) AT PRIDCO HEADQUARTERS
SAN JUAN, PUERTO RICO

CONSULTANT SEAL

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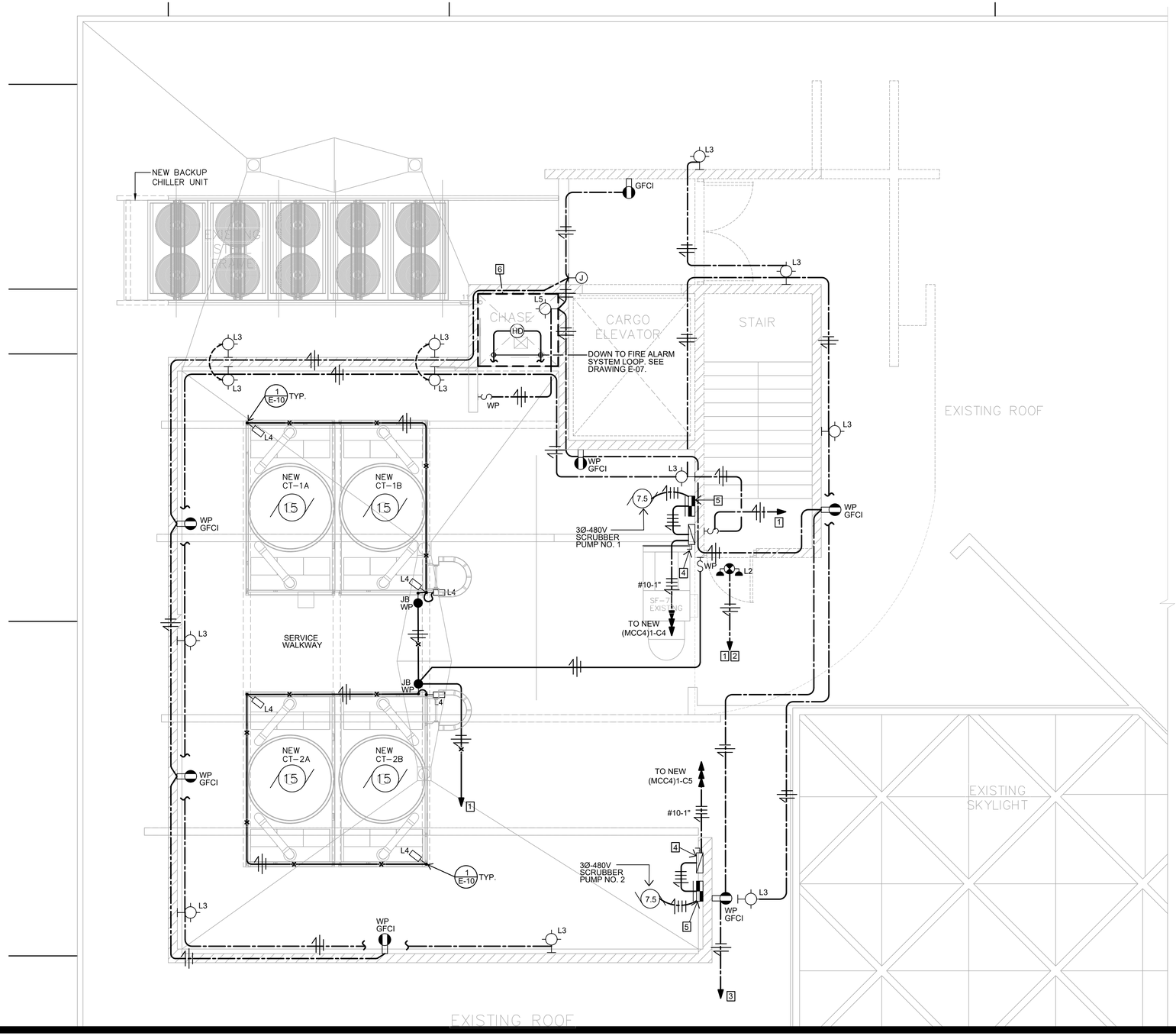
SHEET TITLE
BASEMENT CEILING PLAN - NEW ELECTRICAL INSTALLATION

DATE	02.20.25
DRAWN BY	LAPD
REVISED BY	LJV
DWG FILE NAME	BID DWGS
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.
62/67
E-07
DRAWING NO.



KEYED NOTES

1 - FOR EACH CIRCUIT PROVIDE ONE (1) 20AMPS/1 POLE-277 VOLTS CIRCUIT BREAKER (EXISTING PANEL INTEGRATED EQUIPMENT RATING) AT EXISTING 277/480V. EXISTING BUILDING FLOOR EMERGENCY PANEL (ELP2)B.

2 - PROVIDE LOCK-ON DEVICE ON CKT. BKR..

3 - FOR EACH CIRCUIT PROVIDE ONE (1) 20AMPS/1 POLE-120 VOLTS CIRCUIT BREAKER (EXISTING PANEL INTEGRATED EQUIPMENT RATING) AT EXISTING 120/208V. EXISTING BUILDING FLOOR RECEPTACLE PANEL (ERP4)B.

4 - 30AMP/3P-NF-480V-NEMA 4X.

5 - SCRUBBER MOTOR PUMP PANEL.

6 - COORDINATE WITH OWNER BUILDING ELECTRICIAN FOR INSTALLATION OF PHOTOVOLTAIC SYSTEM ELECTRICAL JUNCTION/PULL BOXES, CONDUITS AND SUPPORTS AT CHASE FROM BASEMENT LEVEL TO ROOF LEVEL. CONTRACTOR TO INSTALL CONDUITS FROM JUNCTION/PULL BOX TO NEW JUNCTION/PULL BOX WITH FISHWIRE FOR FUTURE CONNECTION TO PV SYSTEM BY OTHERS:

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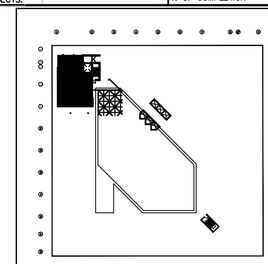
ROOF PLAN - NEW ELEC. INSTALLATION

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

THE OFFICE OF: LEONARDO J. VIDAL, P.E., LLC			
DRAWING HISTORY			DESIGN STAGE
PROJECT NO:	23-082		SCHEMATIC DWGS: (SD)
DRAWING NO:	E-10		PRELIMINARY DWGS: (PD)
CAD FILE:	23-082/		DESIGN DEVELOPMENT DWGS: (DD)
CAD SUBFILE:	23-082-E10	- R00 - BD	ADVANCED DWGS: (AD)
PLOT DATE:	02.20.25		FINAL DWGS: (FD)
PLOT SCALE:	1:1		DWGS. ISSUED FOR BID (BD) ●
ISSUE DATE:	02.20.25		CONTRACT DWGS: (CD)
REMARKS:	NOT FOR CONSTRUCTION		RECORD DWGS: (RD)
RELATED PROJECTS:	----------		% OF COMPLETION -



KEY PLAN: ROOF

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CLIENT

PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT

PHASE I: IMPROVEMENTS TO MAIN HVAC SYSTEM (COOLING TOWERS & AIR-COOL CHILLER) AT PRIDCO HEADQUARTERS SAN JUAN, PUERTO RICO

CONSULTANT SEAL

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SHEET TITLE

ROOF PLAN
NEW ELECTRICAL INSTALLATION

DATE	02.20.25
DRAWN BY	LAPD
REVISED BY	LJV
DWG FILE NAME	BID DWGS
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.

63/67 E-08

DRAWING NO.

① MOTOR CONTROL CENTER (MCC4)1

MOTOR NO.	EQUIPMENT	VOLTS	PHASES	H.P.	(I)AMPS	O.25 I (AMPS)	I+O.25 I (AMPS)	UNIT NO.	DESCRIPTION	STARTER SIZE	STARTER MAX. H.P.	STARTER HEATER	STARTER VOLTS	STARTER COIL VOLT	SWITCH/BKR SIZE/ FRAME	SWITCH/BKR FUSE/ TRIP	CONTROL DEVICE	METERING EQUIPMENT	MODIFICATION	INTERLOCK NO	INTERLOCK NC	NAME PLATE FIRST LINE	NAME PLATE SECOND LINE	NAME PLATE THIRD LINE	REMARKS
----	M.C.B.	480	3	----	----	----	----	A1	MAIN CKT. BKR.	----	----	----	----	----	800	800	----	--- ---	---------	----	----	----	----	----	NON-AUTOMATIC
----	METERING	480	3	----	----	----	----	A2	V-VS A-AS	----	----	----	----	----	----	----	----	--- ---	---------	----	----	----	----	----	----
CT-1A	COOLING TOWER 1A	480	3	15	21	5.3	26.3	A3	FVNR	2	15	----	480	120	100	40	S3	--- ---	---------	2	2	CT-1A	CHILLER	TOWER	TOWER #1A
CT-1B	COOLING TOWER 1B	480	3	15	21	5.3	26.3	A4	FVNR	2	15	----	480	120	100	40	S3	--- ---	---------	2	2	CT-1B	CHILLER	TOWER	TOWER #1B
CT-2A	COOLING TOWER 2A	480	3	15	21	5.3	26.3	A5	FVNR	2	15	----	480	120	100	40	S3	--- ---	---------	2	2	CT-2A	CHILLER	TOWER	TOWER #2A
CT-2B	COOLING TOWER 2A	480	3	15	21	5.3	26.3	A6	FVNR	2	15	----	480	120	100	40	S3	--- ---	---------	2	2	CT-2B	CHILLER	TOWER	TOWER #2B
CHP-1	CHP-1 HYDROPONIC PUMP	480	3	25	34	9	43	B1	FVNR	2	25	----	480	120	100	70	S3	---	---------	2	2	CHP-1	HYDROPONIC	PUMP	CHILLER
CHP-2	CHP-2 HYDROPONIC PUMP	480	3	25	34	9	43	B2	FVNR	2	25	----	480	120	100	70	S3	--- ---	---------	2	2	CHP-2	HYDROPONIC	PUMP	CHILLER
CHP-3	CHP-3 HYDROPONIC PUMP	480	3	25	34	9	43	B3	FVNR	2	25	----	480	120	100	70	S3	--- ---	---------	2	2	CHP-3	HYDROPONIC	PUMP	CHILLER
CHP-5	CHP-5 HYDROPONIC PUMP	480	3	10	14	4	18	B4	FVNR	1	10	----	480	120	100	30	S3	--- ---	---------	2	2	CHP-5	HYDROPONIC	PUMP	CHILLER BACK-UP
CHP-6	CHP-6 HYDROPONIC PUMP	480	3	10	14	4	18	B5	FVNR	1	10	----	480	120	100	30	S3	--- ---	---------	2	2	CHP-6	HYDROPONIC	PUMP	CHILLER BACK-UP
	SPARE	480	3	---	---	---	---	B6	BKR	--	---	----	---	---	100	30	---	--- ---	---------	---	---	SPARE	---	---	---
CTP-1	CTP-1 HYDROPONIC PUMP	480	3	25	34	9	43	C1	FVNR	2	25	----	480	120	100	70	S3	--- ---	---------	2	2	CTP-1	HYDROPONIC	PUMP	TOWER
CTP-2	CTP-2 HYDROPONIC PUMP	480	3	25	34	9	43	C2	FVNR	2	25	----	480	120	100	70	S3	--- ---	---------	2	2	CTP-2	HYDROPONIC	PUMP	TOWER
CTP-3	CTP-3 HYDROPONIC PUMP	480	3	25	34	9	43	C3	FVNR	2	25	----	480	120	100	70	S3	--- ---	---------	2	2	CTP-3	HYDROPONIC	PUMP	TOWER
SP-1	SP-1 HYDROPONIC PUMP	480	3	7.5	11	2.8	13.8	C4	FVNR	1	7.5	----	480	120	100	20	S3	---	---------	2	2	SP-1	CLEANING	SYSTEM	TOWER
SP-2	SP-2 HYDROPONIC PUMP	480	3	7.5	11	2.8	13.8	C5	FVNR	1	7.5	----	480	120	100	20	S3	---	---------	2	2	SP-2	CLEANING	SYSTEM	TOWER
SPARE	SPACE	480	3	---	---	---	---	C6	---	--	---	---	---	---	---	---	---	---	---------	---	---	SPACE	---	---	---
CU-3	A/C EQUIPMENT	480	3	---	---	---	---	D1	BKR	---	---	---	---	---	100	100	---	---	---------	---	---	CU-3	---	---	---
CU-1	A/C EQUIPMENT	480	3	---	---	---	---	D2	BKR	---	---	---	---	---	100	100	---	---	---------	---	---	CU-1	---	---	---
CU-2	A/C EQUIPMENT	480	3	---	---	---	---	D3	BKR	--	---	---	---	---	100	100	---	---	---------	---	---	CU-2	---	---	---
	SPACE	480	3	---	---	---	---	D4	---	--	---	---	---	---	---	---	---	--- ---	---------	---	---	SPACE	---	---	---
	SPACE	480	3	---	---	---	---	D5	---	--	---	---	---	---	---	---	---	--- ---	---------	---	---	SPACE	---	---	---
					338	84.5	422.5																		

② MOTOR CONTROL CENTER SPECIFICATIONS (MCC4)1

SERVICE: 400 A VOLTS: 480 CYCLE: 60 PHASE: 3 WIRES: 3
CONTROL: --- VOLTS: 120 CYCLE: 60 PHASE: 1 WIRES: 2

- ■ SERVICE VOLTAGE
- ■ INDIVIDUAL CONT. TRANSF.
- ☐ MASTER CONT. TRANSF.
- ☐ SEPARATE
- ☐

NEMA CLASS: 1 TYPE WIRING: B
ENCLOSURE: NEMA TYPE I
FINISH: STANDARD GRAY
NAME PLATE: ENGRAVED LAMINATED PLASTIC

INCOMING LINE:
CABLE SIZE: 500 MCM 2 PER PHASE
BUS DUCT: --- AMPS.
ENTRANCE: TOP
TERM. LOCATION VERTICAL COMP: A UNIT NO.: 1
■ ON HORIZONTAL BUS
TERM. ARRANGEMENT ☐ MAIN LUGS ■ MAIN BKR.
☐ -----

STRUCTURE MODIFICATIONS;
NONE

MAIN BUS:
800 AMPS.
☐ ALUMINUM
■ COPPER
☐ PLATED JOINTS

VERTICAL BUS:
300 AMPS.

GROUND BUS:
ALUMINUM ____
COPPER ●
VERT. COMP. ____
TERMINAL ____

GROUND BUS:
ALUMINUM ____
COPPER ●
VERT. COMP. ____
TERMINAL ____

BUS BRACED FOR SHORT CIRCUIT
OF 50000 RMS SYM. AMPS.

UNIT DESCRIPTION:
FVNR - FULL VOLTAGE NON REVERSING COMBINATION STARTER
FVR - FULL VOLTAGE REVERSING COMBINATION STARTER
RVAT - REDUCE VOLTAGE AUTO TRANSFER COMBINATION STARTER
RVPW - REDUCE VOLTAGE PART WINDING, COMBINATION STARTER
SW - FUSIBLE DISCONNECT SWITCH
BKR - BREAKER

MOTOR PROTECTION:
FUSE TYPE -
BREAKER TYPE - MOLDED CASE

SIMILAR TO:
SQUARE D - MODEL 6

NOTES:
1- ALL BREAKERS SHALL BE OF THE MOLDED CASE MULTI-TRIP TYPE.
2- REPLACE IN PLACE EXISTING (MCC4)1

CONTROL DEVICES:
PUSHBUTTONS
B2 = ON/OFF
B3 =

INDICATOR LIGHTS
LG = GREEN
LR = RED
LA = AMBAR

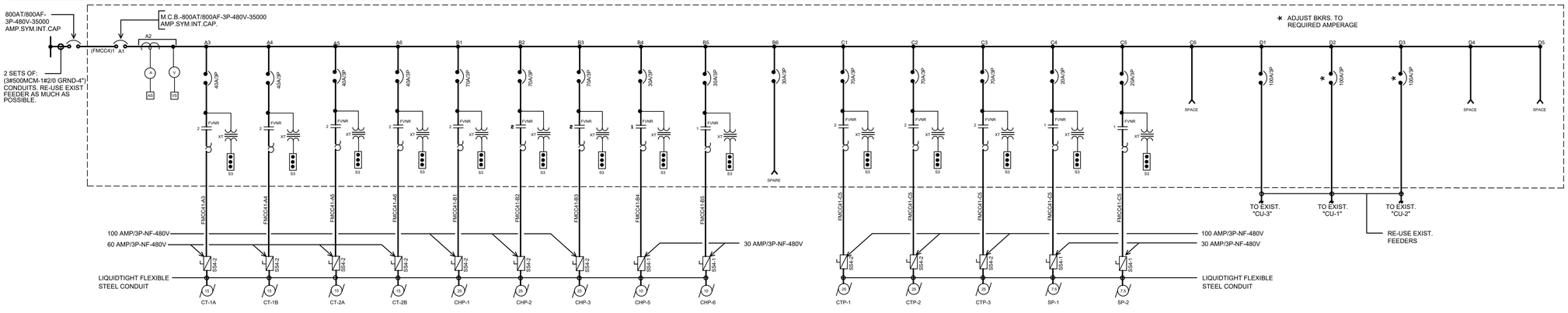
SELECTOR SWITCH
S2 =
S3 = HAND-OFF-AUTO

EXTRA INTERLOCKS
NO. - NORMALLY OPEN
NC. - NORMALLY CLOSED

EXTRA INTERLOCKS
V = VOLTMETER
A = AMMETER
VS = VOLTMETER SWITCH
AS = AMMETER SWITCH
CT = CURRENT TRANSFORMER
PT = POTENTIAL TRANSFORMER
XT = CONTROL TRANSFORMER

② FEEDERS & CONTROL WIRES SCHEDULE

POWER FEEDERS DESIGNATION	FROM	TO	NO. OF SETS	CONDUCTORS NO.	CONDUCTORS SIZE	GROUND NO.	GROUND SIZE	CONDUIT SIZE	FEEDER AMPS	REMARKS *	POWER FEEDERS DESIGNATION	FROM	TO	NO. OF SETS	CONDUCTORS NO.	CONDUCTORS SIZE	GROUND NO.	GROUND SIZE	CONDUIT SIZE	FEEDER AMPS
(FMCC4)1	EXISTING SDSWB4	(MCC4)1	2	3	500	1	#2/0	4"	.	.										
.	.	.	.	.	.	.	.	.	.	.										
(FMCC4)A3	(MCC4)1	CT-1A	1	3	#6	1	#8	1"	.	.										
(FMCC4)A4	(MCC4)1	CT-1B	1	3	#6	1	#8	1	.	.										
(FMCC4)A5	(MCC4)1	CT-2A	1	3	#6	1	#8	1"	.	.										
(FMCC4)A6	(MCC4)1	CT-2B	1	3	#6	1	#8	1"	.	.										
(FMCC4)B1	(MCC4)1	CHP-1	1	3	#6	1	#8	1"	.	.										
(FMCC4)B2	(MCC4)1	CHP-2	1	3	#6	1	#8	1"	.	.										
(FMCC4)B3	(MCC4)1	CHP-3	1	3	#6	1	#8	1"	.	.										
(FMCC4)B4	(MCC4)1	CHP-5	1	3	#10	1	#10	1"	.	.										
(FMCC4)B5	(MCC4)1	CHP-6	1	3	#10	1	#10	1"	.	.										
(FMCC4)B6	(MCC4)1	SPARE	.	.	.	.	.	.	.	.										
(FMCC4)C1	(MCC4)1	CTP-1	1	3	#6	1	#8	1"	.	.										
(FMCC4)C2	(MCC4)1	CTP-2	1	3	#6	1	#8	1"	.	.										
(FMCC4)C3	(MCC4)1	CTP-3	1	3	#6	1	#8	1"	.	.										
(FMCC4)C4	(MCC4)1	SP-1	1	3	#10	1	#10	1"	.	.										
(FMCC4)C5	(MCC4)1	SP-2	1	3	#10	1	#10	1"	.	.										
(FMCC4)C6	(MCC4)1	SPACE	.	.	.	.	.	.	.	.										
(FMCC4)D1	(MCC4)1	CU-3	.	.	.	.	.	.	.	.										
(FMCC4)D2	(MCC4)1	CU-2	.	.	.	.	.	.	.	.										
(FMCC4)D3	(MCC4)1	CU-1	.	.	.	.	.	.	.	.										
(FMCC4)D4	(MCC4)1	SPACE	.	.	.	.	.	.	.	.										
(FMCC4)D5	(MCC4)1	SPACE	.	.	.	.	.	.	.	.										



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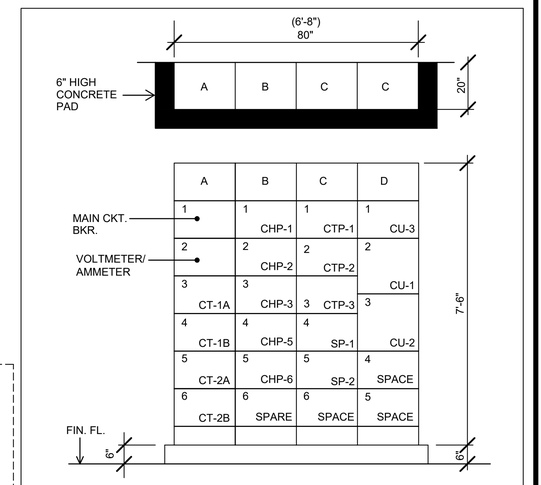

(MCC4)1 DETAIL
NOT TO SCALE

THE OFFICE OF: LEONARDO J. VIDAL, P.E., LLC			
DRAWING HISTORY			DESIGN STAGE
PROJECT NO:	23-082		SCHEMATIC DWGS: (SD)
DRAWING NO:	E-09		PRELIMINARY DWGS: (PD)
CAD FILE:	23-082/		DESIGN DEVELOPMENT DWGS: (DD)
CAD SUBFILE:	23-082-E09	- ROO - BD	ADVANCED DWGS: (AD)
PLOT DATE:	02.20.25		FINAL DWGS: (FD)
PLOT SCALE:	1:1		DWGS. ISSUED FOR BID (BD) ●
ISSUE DATE:	02.20.25		CONTRACT DWGS: (CD)
REMARKS:	NOT FOR CONSTRUCTION		RECORD DWGS: (RD)
RELATED PROJECTS:	----------		% OF COMPLETION -

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CLIENT
PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT
PHASE I: IMPROVEMENTS TO MAIN HVAC SYSTEM (COOLING TOWERS & AIR-COOL CHILLER) AT PRIDCO HEADQUARTERS SAN JUAN, PUERTO RICO

CONSULTANT SEAL

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YO, LEONARDO J. VIDAL, LIC #6092 CERTIFICO QUE SOY EL PROFESIONAL QUE DISEÑÓ ESTOS PLANOS Y LAS ESPECIFICACIONES COMPLEMENTARIAS. TAMBIÉN, CERTIFICO QUE ENTIENDO QUE DICHOS PLANOS Y ESPECIFICACIONES CUMPLEN CON LAS DISPOSICIONES APLICABLES DEL REGLAMENTO CONJUNTO Y LAS DISPOSICIONES APLICABLES DE LOS REGLAMENTOS Y CÓDIGOS DE CONSTRUCCIÓN VIGENTES DE LAS AGENCIAS, JUNTAS REGLAMENTADORAS O CORPORACIONES PÚBLICAS CON JURIDICCIÓN. CERTIFICO, ADEMÁS, QUE EN LA PREPARACIÓN DE ESTOS PLANOS Y ESPECIFICACIONES SE HA CUMPLIDO CABALMENTE CON LO DISPUESTO EN LA LEY NUM. 14 DE 8 DE ENERO DE 2004, SEGÚN ENMENDADA, CONOCIDA COMO LA "LEY PARA LA INVERSIÓN POR LA INDUSTRIA PUERTORRIQUEÑA" Y CON LA LEY NUM. 96 DE 6 DE JULIO DE 1978, SEGÚN ENMENDADA. RECONOZCO QUE CUALQUIER DECLARACIÓN FALSA O FALSIFICACIÓN DE LOS HECHOS QUE SE HAYA PRODUCIDO POR DESCONOCIMIENTO O POR NEGLIGENCIA YA SEA POR MÍ, MIS AGENTES O EMPLEADOS, O POR OTRAS PERSONAS CON MÍ CONOCIMIENTO, ME HACEN RESPONSABLES DE CUALQUIER ACCIÓN JUDICIAL Y DISCIPLINARIA POR LA OGPE.

REV.	DATED		BY.
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SHEET TITLE
MOTOR CONTROL CENTER SPECIFICATIONS

DATE	02.20.25
DRAWN BY	LAPD
REVISED BY	LJV
DWG FILE NAME	BID DWGS
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.
64/67
E-09
DRAWING NO.

① DEMOLITION NOTES - ELECTRICAL:

1.– GENERAL:

AS PART OF HIS/HER BID, THE CONTRACTOR SHALL VISIT THE SITE IN ORDER TO VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS AT THE PROJECT. THE CONTRACTOR IS HEREBY NOTIFIED THAT NOT ALL THE EXISTING ELEMENTS MAY HAVE BEEN INDICATED ON THE DRAWINGS AND THAT SOME EXISTING ELEMENTS MAY NOT HAVE BEEN SHOWN IN THEIR ACTUAL LOCATION. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ ENGINEER OF ANY DISCREPANCIES BETWEEN THE EXISTING CONDITIONS AND THE CONTRACT DOCUMENTS THAT COULD AFFECT THE PROPER DEMOLITION AND CONSTRUCTION WORK SCHEDULE AND/OR PERFORMANCE.

2.– NOTIFICATION:

THE CONTRACTOR SHALL NOTIFY THE OWNER AT LEAST TWO (2) WEEKS PRIOR TO BEGINNING THE DEMOLITION WORK. THE CONTRACTOR SHALL COORDINATE WITH THE ARCHITECT/ENGINEER ALL THE ELEMENTS OF THE ELECTRICAL INSTALLATION THAT ARE TO BE REMOVED AND THOSE THAT ARE TO REMAIN. REFER TO ITEM NO. 12.

3.– COMPLIANCE:

THE CONTRACTOR MUST COMPLY WITH ALL THE CODES, STANDARDS AND REGULATIONS THAT APPLY TO DEMOLITION WORK AS WELL AS WITH THE REQUIREMENTS OF ALL THE INSURANCE COMPANIES THAT PROVIDE COVERAGE FOR THIS PROJECT.

4.– SCHEDULING:

THE CONTRACTOR SHALL SCHEDULE ALL DEMOLITION WORK IN A CAREFUL MANNER SO AS NOT TO INTERFERE WITH NORMAL DAILY OPERATIONS AND WITH ALL THE NECESSARY COORDINATION FOR ANY ONGOING WORK AT THE PROJECT AND AT ANY AREAS IN PRESENT USE. IN ADDITION, THE DEMOLITION WORK SHALL ALSO BE COORDINATED WITH ALL THE NEIGHBORS AND THE PUBLIC GIVING THEM ALL THE NECESSARY CONSIDERATIONS FOR THE SAFE USE OF THEIR PROPERTIES AND PUBLIC AREAS.

5.– SAFETY:

THE CONTRACTOR SHALL ERECT ALL THE NECESSARY SECURITY BARRIERS, FENCES, GUARD RAILS, ETC. IN ORDER TO PROVIDE THE REQUIRED LEVEL OF PROTECTION TO THE PUBLIC AND ALL PERSONNEL AT THE PROJECT SITE. THE CONTRACTOR SHALL AVOID ANY INTERFERENCE WITH THE USE OF ADJACENT BUILDINGS AND FACILITIES AS WELL AS AVOIDING RESTRICTING THE PASSAGE TO AND FROM SAID BUILDINGS AND FACILITIES. DO NOT CLOSE OR OBSTRUCT ANY STREETS OR SIDEWALKS WITHOUT PREVIOUSLY OBTAINING THE REQUIRED PERMISSION FROM ALL THE AUTHORITIES HAVING JURISDICTION.

6.– PROTECTION:

THE CONTRACTOR SHALL USE ALL THE MEANS NECESSARY TO PROTECT ALL THE CONSTRUCTION MATERIALS BEFORE, DURING AND AFTER THE DEMOLITION WORK AS WELL AS ALSO PROTECTING ALL THE ELEMENTS OR THE ELECTRICAL INSTALLATION THAT ARE TO REMAIN. IN THE EVENT OF ANY DAMAGE, THE CONTRACTOR SHALL IMMEDIATELY MAKE ALL THE NECESSARY REPAIRS AND REPLACEMENTS IN ORDER TO RESTORE ALL THE DAMAGED ITEMS TO THEIR ORIGINAL CONDITIONS. ALL OF THIS WORK SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT/ENGINEER. THIS SHALL BE DONE AT NO ADDITIONAL COST TO THE OWNER.

7.– DUST CONTROL:

THE CONTRACTOR SHALL USE ALL THE NECESSARY MEANS TO CONTROL DUST ON AND NEAR THE WORK BEING CARRIED OUT. ALL SURFACES SHALL BE THOROUGHLY MOISTEN AS REQUIRED BY THE ENVIRONMENTAL QUALITY BOARD (EQB) AND THE JUNTA DE CALIDAD AMBIENTAL (JCA) IN ORDER TO PREVENT DUST FROM BECOMING A NUISANCE TO ANY BUILDING OCCUPANTS, THE PUBLIC, THE NEIGHBORS AND THE CONSTRUCTION CREW. COVER ALL EQUIPMENT AND MATERIALS AS REQUIRED IN ORDER TO PROTECT THEM FROM DUST AND DEBRIS. THE CONTRACTOR SHALL ALSO USE ALL THE NECESSARY MEANS IN ORDER TO AVOID ANY TYPE OF FLOODING THAT CAN INTERFERE WITH THE CONSTRUCTION OF THE PROJECT, THE NEIGHBORS AND THE PUBLIC.

8.– BURNING:

ON-SITE BURNING WILL NOT BE PERMITTED. THE USE OF EXPLOSIVES IS STRICTLY PROHIBITED.

9.– DISPOSAL:

THE CONTRACTOR SHALL COORDINATE WITH THE ARCHITECT/ENGINEER A LOCATION WITHIN THE LIMITS OF THE PROJECT IN WHICH TO STORE ALL THE ELEMENTS OF THE EXISTING ELECTRICAL INSTALLATION WHICH ARE INDICATED TO BE REMOVED. THE CONTRACTOR SHALL ALSO COORDINATE WITH THE OWNER OR THE APPOINTED OWNER'S REPRESENTATIVE WHICH OF SAID ELEMENTS SHALL BE TURNED OVER TO THE OWNER OR ARE TO BE DISCARDED. THOSE ELEMENTS CHOSEN TO BE RETAINED SHALL BE CLEANED AND TURNED OVER TO THE OWNER IN GOOD CONDITIONS AT THE SITE STORE LOCATION INDICATED ABOVE. NO LATER THAN EACH FRIDAY OF THE SAME WEEK THE CONTRACTOR SHALL REMOVE FROM THE SITE ALL THE MATERIALS THAT ARE TO BE DISCARDED AS WELL AS ALL THE RELATED DEBRIS. DURING THE WEEKENDS THE SITE MUST BE FREE FROM MATERIALS AND DEBRIS. THE CONTRACTOR SHALL DISPOSE LEGALLY OF SAID MATERIALS AND DEBRIS.

10.–UTILITIES:

THE CONTRACTOR SHALL LOCATE AL THE EXISTING POWER (FEEDERS, BRANCH CIRCUITS, CONTROL CIRCUITS, ETC.) AND TELECOMMUNICATION LINES WHICH ARE NECESSARY TO PERFORM THE WORK. THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEERING DEPARTMENT OF THE VETERANS ADMINISTRATION TO MAKE SURE THAT ALL THE LINES ARE DE-ENERGIZED BEFORE PROCEEDING WITH THE REMOVAL OR RELOCATION OF SAID LINES AND ALSO TO PREVENT THE INTERRUPTION OF ANY SERVICE TO AREAS OUTSIDE OF THE LIMITS OF THE PROJECT. THE CONTRACTOR SHALL PROVIDE (FURNISH AND INSTALL) ALL THE NECESSARY LABOR AND MATERIALS, INCLUDING TEMPORARY POWER AND TELECOMMUNICATION LINES TO PREVENT SUCH INTERRUPTIONS.

11.– SPECIAL CONDITIONS:

IF THE PROJECT SITE AND BUILDING IS FOUND TO BE PLAGUED WITH TERMITE AND RODENT INFESTATION, COORDINATE WORK WITH THE ACTIVITIES OF THE OWNER'S EXTERMINATOR FOR EXTERMINATING WORK TO BE PERFORMED PRIOR TO DEMOLITION. IN ADDITION, IF ANY ENVIRONMENTAL HAZARD IS FOUND WITHIN THE PROJECT, NOTIFY IMMEDIATELY THE OWNER OR THE APPOINTED OWNER'S REPRESENTATIVE FOR PROPER ACTION AND/OR INSTRUCTIONS.

12.–SCOPE OF WORK:

a.– THE SCOPE OF WORK INCLUDES THE FURNISHING OF ALL MATERIALS, EQUIPMENT, CUTTING, EXTENDING, CONNECTING, REPAIRING, ADAPTING AND ANY OTHER WORK COINCIDENTAL HERETO. IT ALSO INCLUDES ALL THE NECESSARY TEMPORARY INSTALLATIONS TO SATISFY THE DEMOLITION PROGRAM. APPROVAL SHALL BE SECURED FROM THE ARCHITECT/ENGINEER PRIOR TO CUTTING/DRILLING ANY STRUCTURAL SUPPORT.

b.– ALL BUILDING CONSTRUCTION DESIGNATED TO REMAIN AND AFFECTED BY THE REMOVAL, RELOCATION OR INSTALLATION OF ANY PIECE OF EQUIPMENT SHALL BE REPAIRED AND FINISHED TO MATCH EXISTING CONDITIONS. IN ADDITION, WHERE OPENINGS ARE LEFT DUE TO THE REMOVAL OF DUCTS, PIPES, CONDUITS, EQUIPMENT AND APPARATUS, SAID OPENINGS SHALL BE REPAIRED OR CLOSED UP TO CORRESPOND IN MATERIAL, QUALITY, SHAPE AND FINISH WITH THAT OF SIMILAR AND ADJOINING WORK. UNLESS OTHERWISE CALLED FOR WHERE DAMAGED IS UN-REPAIRABLE, NEW ITEMS OR EQUIPMENT SHALL BE PROVIDED. CONTRACTOR SHALL PROVIDE ALL THE NECESSARY WATERPROOFING, FIRE STOPPING AND SEALING OF PENETRATIONS LEFT FROM REMOVED EQUIPMENT OR PRODUCED BY THIS WORK.

c.– BEFORE PROCEEDING WITH ANY ELECTRICAL DEMOLITION WORK, THE CONTRACTOR SHALL COMPLETELY AND FULLY DE-ENERGIZE OR COORDINATE THE DE-ENERGIZING OF THE EXISTING ELECTRICAL INSTALLATION, BOTH POWER AND TELECOMMUNICATIONS, TO BE REMOVED. A CERTIFICATION TO THIS EFFECT SHALL BE FURNISHED BY THE CONTRACTOR TO THE OWNER OR THE APPOINTED OWNER'S REPRESENTATIVE.

d.– REMOVE ALL THE EXISTING ELECTRICAL EQUIPMENT, WIRING DEVICES, COVER PLATES AND LIGHTING FIXTURES AS INDICATED ON THE DRAWINGS. THE ELECTRICAL EQUIPMENT SHALL INCLUDE BUT NOT LIMITED TO LOAD CENTERS, PANELBOARDS, DISCONNECT SWITCHES, STARTERS, MOTOR CONTROL CENTERS, SWITCHBOARDS, TRANSFORMERS, TRANSFER SWITCHES, EMERGENCY GENERATORS AND SUBSTATIONS.

e.– REMOVE ALL THE EXISTING BRANCH CIRCUIT WIRING AND FEEDERS WHICH FORM PART OF THE ELECTRICAL INSTALLATION INDICATED TO BE REMOVED.

f.– REMOVE ALL THE EXISTING EXPOSED CONDUITS RELATED TO THE ELECTRICAL DEMOLITION INDICATED ABOVE. ALL THE EXISTING CONDUITS WHICH ARE EMBEDDED IN CONCRETE WALLS, FLOORS AND CEILINGS OR IN CONCRETE BLOCK WALLS SHALL BE ABANDONED AND THEIR RELATED ELECTRICAL BOXES SHALL BE FILLED WITH CONCRETE AND PLASTERED OVER TO MATCH THE ADJOINING FINAL SURFACE CONDITIONS. REMOVE ALL THE EXISTING CONDUITS LOCATED ABOVE HUNG CEILINGS, IN FURRING WALLS AND/OR COLUMNS AND BELOW RAISED FLOORS. REMOVE ALL THEIR RELATED ELECTRICAL BOXES. THE EXISTING CONDUITS CAN ONLY BE REMOVED OR ABANDONED AFTER THEIR CORRESPONDING CONDUCTORS ARE REMOVED AND THE CONDUITS ARE EMPTY.

g.– REMOVE ALL THE EXISTING UNDERGROUND PULL BOXES, JUNCTION BOXES, AND SPLICING BOXES INDICATED TO BE REMOVED. REMOVE ALL THE EXISTING POLE BASES BELONGING TO THE POLES INDICATED TO BE REMOVED. THE OPENINGS LEFT AFTER THEIR REMOVAL SHALL BE FILLED WITH COMPACTED EARTH AND THE GROUND SURFACE SHALL BE FINISHED TO MATCH THOSE OF THE FINAL ADJOINING AREAS.

h.– MAINTAIN AND RESTORE, IF INTERRUPTED, ALL THE BRANCH CIRCUITS WIRING, FEEDERS AND TELE-COMMUNICATION LINES PASSING THROUGH RENOVATED AREAS AND SERVICING UNDISTURBED AREAS.

② GENERAL NOTES:

1 – UNLESS OTHERWISE INDICATED ALL CONDUCTORS SHALL BE #12-AWG. UP TO #10-AWG USE SOLID CONDUCTORS, ALL LARGER SIZES SHALL BE STRANDED CONDUCTORS. CONTROL CONDUCTORS TO BE #14 AWG. MINIMUM SIZE.

2 – ALL CONDUCTORS SHALL BE THWN/THHN-600V. INSULATION.

3 – UNLESS OTHERWISE INDICATED ALL CONDUCTORS SHALL BE COPPER.

4 – PROVIDE GROUND CONDUCTOR IN ALL THE CONDUITS.

5 – PROVIDE #12-AWG GREEN JUMPER BETWEEN RECEPTACLE GROUNDING SCREW AND OUTLET BOX GROUNDING SCREW.

6 – UNLESS OTHERWISE INDICATED ALL CONDUITS SHALL BE 3/4" IN DIAMETER MINIMUM.

7 – ALL UNDERGROUND CONDUIT COUPLING SHALL BE WATERTIGHT.

8 – PROVIDE AN EXPANSION JOINT COUPLING OF THE REQUIRED TYPE AND SIZE WHENEVER A CONDUIT CROSSES AN EXPANSION JOINT.

9 – PROVIDE PLASTIC CONDUIT DIVIDERS IN ALL UNDERGROUND CONDUIT RUNS. MAXIMUM DISTANCE BETWEEN DIVIDERS TO BE 4'-0".

10 – CONTRACTOR MUST MAKE SURE THAT THE ENTIRE ELECTRICAL SYSTEM HAS GROUND CONTINUITY.

11 – ALL THE ELECTRICAL INSTALLATION SHALL BE DONE IN A NEAT & WORKMANLIKE MANNER, ACCORDING TO THE LAST EDITION OF THE NATIONAL ELECTRICAL CODE, THE LUMA ENERGY LATEST STANDARDS & THE NEGOCIADO DE TELECOMUNICACIONES LATEST PRACTICES.

12 – THE CONTRACTOR SHALL VISIT THE JOB SITE AND BECOME ACQUAINTED WITH THE EXISTING FIELD CONDITIONS. IT SHALL BE THE DIRECT RESPONSIBILITY OF THE CONTRACTOR TO BRING PROMPTLY TO THE ATTENTION OF THE ENGINEER ANY DISCREPANCIES BETWEEN THE EXISTING FIELD CONDITIONS AND THOSE THAT WERE USED FOR DESIGN PURPOSES. THIS SHALL BE DONE BEFORE THE CONTRACTOR SUBMITS HIS BID, SO THAT THE ENGINEER CAN RENDER A DECISION ON THE MATTER BEFORE THE BIDS ARE RECEIVED. THE SUBMITTAL OF THE BID BY THE CONTRACTOR WILL BE HELD AS PROOF THAT THE CONTRACTOR UNDERSTAND THOUGHLY AND COMPLETELY THE SCOPE OF THE WORK INVOLVED, HAS FAMILIARIZED HIMSELF WITH THE EXISTING FIELD CONDITIONS, AND HAS INCLUDED IN HIS BID ALL THE ITEMS NECESSARY TO PERFORM THE ELECTRICAL WORK. NO ALLOWANCE WILL BE PERMITTED ON THIS MATTER AFTER THE BIDS ARE RECEIVED.

13 – UNLESS OTHERWISE INDICATED ALL OUTLETS SHALL BE FLUSH MOUNTED AND SHALL HAVE THEIR OWN INDEPENDENT OUTLET BOXES. MINIMUM SIZE OF OUTLET BOX TO BE 4" SQUARE & 1-1/2" DEEP. EXACT SIZE OF OUTLET BOX SHALL BE DETERMINED ACCORDING TO THE MAXIMUM NUMBER OF CONDUCTORS IN THE BOX PER N.E.C. ARTICLE 370-SECTION 6.

14 – ALL INDICATED HEIGHTS ARE FROM CENTER OF BOX TO FINISHED FLOOR.

15 – CONTRACTOR SHALL BALANCE ALL LOADS.

16 – ROUTE OF CONDUITS SHOWN IN THE LAYOUT IS SCHEMATIC AND INTENDED ONLY TO INDICATE INTER-CONNECTIONS BETWEEN OUTLETS. EXACT CONDUIT ROUTING SHALL BE DETERMINED AT THE JOB SITE TO CONFORM WITH THE STRUCTURAL CONDITIONS AND SHALL BE SUBJECT TO THE FINAL APPROVAL OF THE ARCHITECT/ENGINEER.

17 – LEAVE A #12-AWG-TW FISHWIRE IN ALL EMPTY CONDUITS.

18 – ALL PANELBOARDS AND LOAD CENTERS SHALL BE PROVIDED WITH A FACTORY INSTALLED GROUND BUS FOR CONNECTING TO GROUND ALL THE GROUND WIRES OR CABLES ENTERING OR LEAVING THE PANELBOARD. THE GROUND BUS SHALL BE SIMILAR IN SIZE AND CHARACTERISTICS TO THE NEUTRAL BUS. ALL PANELBOARDS SHALL HAVE A MONOFLAT FRONT AND KEY LOCK.

19 – WHEN TWO OR MORE WIRING DEVICES ARE SHOWN TOGETHER IN ADJACENT POSITIONS AND AT THE SAME HEIGHT, THEY SHALL BE INSTALLED IN A MULTIPLE GANG OUTLET BOX OF THE PROPER SIZE SO THAT ONLY ONE RAISED COVER PLATE OF THE REQUIRED TYPE AND SIZE ARE USED. 120V AND 277V OUTLETS MUST BE INSTALLED ON SEPARATE BOXES.

20 – UNLESS OTHERWISE INDICATED, ALL WIRING DEVICES SHALL BE WHITE COLORED WITH 302 STAINLESS STEEL COVER PLATES, EXCEPT THE WEATHERPROOF OUTLETS WHICH SHALL HAVE THEIR STANDARD GRAY COVER PLATES.

21 – WHEN TWO OR MORE PANELBOARDS OR CABINETS ARE SHOWN TOGETHER IN ADJACENT LOCATIONS, THE TOP OF ALL PANELBOARDS OR CABINETS SHALL BE ALIGNED WITH THE TOP OF THE BIGGEST ONE SO THAT ALL THE TOPS ARE AT EXACTLY THE SAME HEIGHT FROM THE FINISHED FLOOR.

22 – IN CONDUIT RUNS, THE NUMBER OF ARROWS DESIGNATE THE NUMBER OF CIRCUITS IN THE CONDUIT (ONE POLE IN THE PANELBOARD PER EACH CIRCUIT). THE NUMBER OF LINES DESIGNATE THE NUMBER OF CONDUCTORS IN THE CONDUIT, THE LONGER LINE BEING A NEUTRAL CONDUCTOR AND "/" BEING THE GROUND CONDUCTOR.

23 – ○ C1 IN LIGHTING OUTLET, C1 INDICATES THE CIRCUIT NUMBER, LL INDICATES THE LUMINARY LL TYPE FROM THE LUMINARY SCHEDULE AND 1 INDICATES THE SWITCH CONTROLLING UNIT. 1
C3 IN RECEPTACLE OUTLET, C3 INDICATES THE CIRCUIT NUMBER.

24 – TELEPHONE TERMINALS CABINET SHALL BE APPROVED EQUAL TO COLUMBIA METAL TYPE "PF" WITH THE DOOR HINGES, LOCK AND 3/4" PLYWOOD BACKBOARD COVER AT THE BOTTOM OF THE CABINET.

25 – IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR BEFORE STARTING CONSTRUCTION TO VERIFY THE VOLTAGE CHARACTERISTICS AT THE SITE WITH THE UTILITY COMPANY BEFORE ORDERING ANY EQUIPMENT.

26 – ALL WIRING DEVICES SHALL BE SPECIFICATION GRADE.

27 – ALL THE SELF-STANDING AND SURFACE MOUNTED ELECTRICAL EQUIPMENT AS WELL AS THE LUMINAIRES SHALL ALL BE BRACED FOR SEISMIC SHOCK ACCORDING TO THE SEISMIC RESTRAINT MANUAL GUIDELINES FOR MECHANICAL SYSTEMS. THE SAME APPLIES TO ALL THE CONDUIT WORK. THE DETAILS AND INSTALLATION METHODS IN SAID MANUAL SHALL BE MODIFIED AS REQUIRED TO FIT THE ELECTRICAL INSTALLATION OF THE PROJECT.

28 – FOR FINAL LOCATION OF MECHANICAL EQUIPMENT SEE CORRESPONDING MECHANICAL AND ARCHITECTURAL DRAWINGS. CONTRACTOR TO RELOCATE ELECTRICAL ROUGH-IN ACCORDINGLY AT NO ADDITIONAL COST TO OWNER.

29 – CONDUIT WORK:

A – ALL CONDUITS INSTALLED UNDERGROUND SHALL BE PVC SCH. 40.

B – ALL CONDUITS INSTALLED EMBEDED IN FLOOR SLABS WHICH ARE IN DIRECT CONTACT WITH THE EARTH SHALL BE PVC SCH. 40.

C – ALL CONDUITS INSTALLED EMBEDED IN WALLS, CEILING SLABS AND IN FLOOR SLABS WHICH ARE NOT IN DIRECT CONTACT WITH THE EARTH SHALL BE EMT.

D – ALL CONDUITS INSTALLED IN THE AREA BETWEEN HUNG CEILINGS AND CEILING SLABS OR METAL DECKS SHALL BE EMT.

E – ALL CONDUITS INSTALLED EXPOSED IN INDOOR AREAS SHALL BE EMT.

F – ALL CONDUITS INSTALLED EXPOSED IN OUTDOOR AREAS SHALL BE PVC COATED HEAVY WALL RIGID GALVANIZED STEEL.

G – FINAL CONNECTIONS TO ALL MOTORS AND ELECTRICAL EQUIPMENT SHALL BE DONE WITH LIQUIDTIGHT FLEXIBLE STEEL CONDUIT.

H – "EMT" CONDUIT IS NOT ALLOWED IN THIS PROJECT.

30 – ALL CONDUCTORS SHALL BE #12-AWG, EXCEPT WHEN OTHERWISE INDICATED IN THE DRAWINGS OR AS INDICATED BELOW FOR 20 AMPS. CKTS. CONDUCTOR SIZING.

1 – ALL 20 AMP. 120VOLT CIRCUIT RUNS SHALL BE AS FOLLOWS:
0' TO 100' IN LENGTH, #12-AWG.
100' TO 200' IN LENGTH, #10-AWG.
200' TO 300' IN LENGTH, #8-AWG.
300' TO 400' IN LENGTH, #6-AWG.

2 – ALL 20 AMP. 277 VOLT CIRCUIT RUNS SHALL BE AS FOLLOWS:
0' TO 200' IN LENGTH, #12-AWG
200' TO 350' IN LENGTH, #10-AWG.
350' TO 500' IN LENGTH, #8-AWG.

31 – ALL PENDANT MOUNTED LUMINARIES SHALL BE INSTALLED USING STEMS, 2 STEMS PER EACH 4' LUMINARY. STEMS SHALL BE PAINTED OF THE COLOR REQUIRED BY THE ARCHITECT.

32 – ALL DIMMERS SHALL BE OF THE SLIDE TYPE.

33 – THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL THE POWER AND CONTROL INTERCONNECTIONS AMONG ALL THE DIFFERENT PARTS OF THE AIR CONDITIONING SYSTEMS (FAN COILS/AHU'S, CONDENSING UNITS, THERMOSTATS, ETC.). THE CONTRACTOR SHALL ALSO PROVIDE ALL THE STARTING AND DISCONNECT EQUIPMENT FOR SAID SYSTEMS.

34 – ALL 15A OR 20A/1P-125V. RECEPTACLES LOCATED OUTDOORS SHALL BE PROVIDED WITH INTEGRAL GROUND FAULT PROTECTION AND WEATHERPROOF COVER PLATES.

35 – ALL THE SMOKE DETECTORS SHALL BE INTERCONNECTED SO THAT IF ONE SMOKE DETECTOR IS ACTIVATED ALL THE SMOKE DETECTORS WILL SOUND THE ALARM.

36 – ALL FLOOR OUTLETS SHALL BE PROVIDED WITH PVC FLOOR BOXES AND GASKETED FLUSH BRONZE COVER PLATES.

③ LUMINAIRE SCHEDULE

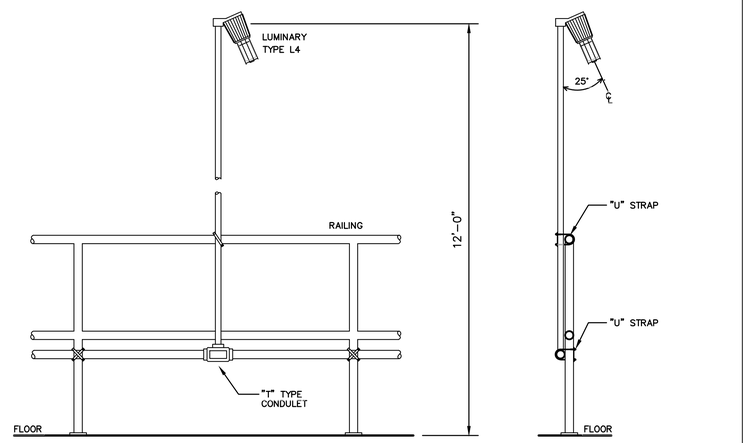
DESIGNATION	LIGHT SOURCE TYPE	DESCRIPTION	MOUNTING	VOLTS	DRIVER	LED					TOTAL WATTS	MANUFACTURER	CATALOG NO.	REMARKS NO.
						CRI	°K	WATTS	LUMENS	EFFICIENCY				
L1	LED	INDUSTRIAL	SURFACE/ PENDANT	277	ELECTRONIC	80	4000	39	5039	130	39	METALUX	4SNLED-LD5-46SL-RW-UNV-L840-CD-1-U	1
L2	LED	EMERG./EXIT	SURFACE/ PENDANT	277	ELECTRONIC	--	--	5.4	--	--	11	EELP	XC-2-R-W-USA	1
L3	LED	FLOODLIGHT	ROOF	277	ELECTRONIC	70	4000	184	23797	129	184	LUMARK	NFFLD-C70-3-UNV-66-S-CB-PER7-WG	1,3
L4	HPS	INDUSTRIAL	25° (STANCHION)	277	----------	--	--	150	--	--	150	EATON	DMVSJ150GP-277	3
L5	HPS	INDUSTRIAL	WALL	120	----------	--	--	150	--	--	150	EATON	DMVS2TW100GP-120	3

② LUMINAIRE SCHEDULE REMARKS

NO.	REMARKS DESCRIPTION
1	COMPLIES WITH BUY AMERICAN ACT.
2	PROVIDE 277 VOLTS BUTTON TYPE PHOTOCELL.
3	PROVIDE WIREGUARD.

④ LEGEND

- WALL LIGHTING OUTLET, 7'-6" A.F.F. UNLESS OTHERWISE INDICATED IN THE DRAWINGS.
- SURFACE/PENDANT MOUNTED LED LUMINARY.
- SURFACE MOUNTED EMERGENCY EXIT LUMINARY.
- SINGLE POLE SWITCH, 20 AMPS, 277 VOLTS, 48" A.F.F.
- THREE-WAY POLE SWITCH, 20 AMPS, 277 VOLTS, 48" A.F.F.
- DUPLEX GROUNDING POWER OUTLET, 20 AMPS, 125 VOLTS, 1'-6" A.F.F.
- WALL JUNCTION BOX, FLAT BLANK COVER PLATE, 1'-6" A.F.F. UNLESS OTHERWISE INDICATED.
- PANELBOARD, CENTER LINE AT 5'-0" A.F.F. SEE ELECTRICAL DRAWINGS FOR DETAILS.
- HEAVY DUTY DISCONNECT SWITCH, CENTER LINE AT 5'-0" A.F.F. AND MOUNTED NEXT TO THE UNIT IT FEEDS.
- FULL VOLTAGE NON REVERSING COMBINATION MAGNETIC STARTER, CENTER LINE AT 5'-0" A.F.F. AND MOUNTED NEXT TO THE UNIT IT FEEDS.
- MOTOR (HP).
- WP — WEATHERPROOF COVER PLATE TO BE PROVIDED IN ALL OUTLETS THIS SYMBOL IS SHOWN ADJACENT TO.
- GFCI — INTEGRAL GROUND FAULT PROTECTION TO BE PROVIDED IN ALL RECEPTACLES THIS SYMBOL IS SHOWN ADJACENT TO.
- CONDUIT INSTALLED IN THE CEILING SLAB.
- CONDUIT INSTALLED IN THE FLOOR SLAB.
- CONDUIT INSTALLED IN WALL.
- CONDUIT INSTALLED EXPOSED.
- CONDUIT INSTALLED UNDERGROUND.
- JB — EXPOSED MOUNTED JUNCTION BOX. CROUSE HINDS "FS" TYPE, WITH FLAT BLANK GASKETED COVER PLATE. 2'-0"A.F.F.



1 / E-10 POLE MOUNTED LUMINARY DETAIL
NOT TO SCALE

THE OFFICE OF: LEONARDO J. VIDAL, P.E., LLC

DRAWING HISTORY		DESIGN STAGE	
PROJECT NO:	23-082	SCHEMATIC DWGS: (SD)	
DRAWING NO:	E-10	PRELIMINARY DWGS: (PD)	
CAD FILE:	23-082/	DESIGN DEVELOPMENT DWGS: (DD)	
CAD SUBFILE:	23-082-E10 – R00 – BD	ADVANCED DWGS: (AD)	
PLOT DATE:	02.20.25	FINAL DWGS: (FD)	
PLOT SCALE:	1:1	DWGS. ISSUED FOR BID (BD)	●
ISSUE DATE:	02.20.25	CONTRACT DWGS: (CD)	
REMARKS:	NOT FOR CONSTRUCTION	RECORD DWGS: (RD)	
RELATED PROJECTS:	----------	% OF COMPLETION	–

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Architects & Consultants, PSC.

CLIENT
PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT
PHASE I: IMPROVEMENTS TO MAIN HVAC SYSTEM (COOLING TOWERS & AIR-COOL CHILLER) AT PRIDCO HEADQUARTERS
SAN JUAN, PUERTO RICO

CONSULTANT SEAL

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SHEET TITLE
DEMOLITION AND GENERAL NOTES

DATE	02.20.25
DRAWN BY	LAPD
REVISED BY	LJV
DWG FILE NAME	BID DWGS
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.
65/67
E-10
DRAWING NO.



PHOTO NO. "1"



PHOTO NO. "2"



PHOTO NO. "3"



PHOTO NO. "4"



PHOTO NO. "5"



PHOTO NO. "6"

PHOTO NO. "7"



PHOTO NO. "8"



PHOTO NO. "9"

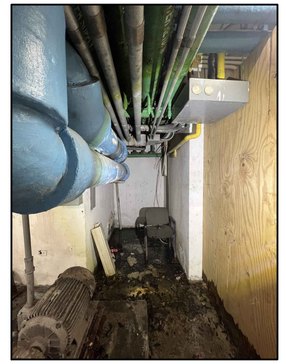

PHOTO NO. "10"

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CLIENT

PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY (PRIDCO)

PROJECT

PHASE I: IMPROVEMENTS TO MAIN HVAC SYSTEM (COOLING TOWERS & AIR-COOL CHILLER) AT PRIDCO HEADQUARTERS
SAN JUAN, PUERTO RICO

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YO, EDGAR MORELL RIVERA, 16176, CERTIFICO QUE SOY EL PROFESIONAL QUE DISEÑÓ ESTOS PLANOS Y LAS ESPECIFICACIONES COMPLEMENTARIAS. TAMBIÉN, CERTIFICO QUE ENTIENDO QUE DICHOS PLANOS Y ESPECIFICACIONES CUMPLEN CON LAS DISPOSICIONES APLICABLES DEL REGLAMENTO CONJUNTO Y LAS DISPOSICIONES APLICABLES DE LOS REGLAMENTOS Y CÓDIGOS DE CONSTRUCCIÓN VIGENTES DE LAS AGENCIAS, JUNTAS REGLAMENTADORAS O CORPORACIONES PÚBLICAS CON JURIDICCIÓN. CERTIFICO, ADEMÁS, QUE EN LA PREPARACIÓN DE ESTOS PLANOS Y ESPECIFICACIONES SE HA CUMPLIDO CABALMENTE CON LO DISPUESTO EN LA LEY NUM. 14 DE 8 DE ENERO DE 2004, SEGÚN ENMENDADA, CONOCIDA COMO LA "LEY PARA LA INVERSIÓN POR LA INDUSTRIA PUERTORRIQUEÑA" Y CON LA LEY NUM. 96 DE 6 DE JULIO DE 1978, SEGÚN ENMENDADA. RECONOZCO QUE CUALQUIER DECLARACIÓN FALSA O FALSIFICACIÓN DE LOS HECHOS QUE SE HAYA PRODUCIDO POR DESCONOCIMIENTO O POR NEGLIGENCIA YA SEA POR MÍ, MIS AGENTES O EMPLEADOS, O POR OTRAS PERSONAS CON MÍ CONOCIMIENTO, ME HACEN RESPONSABLES DE CUALQUIER ACCIÓN JUDICIAL Y DISCIPLINARIA POR LA OGPE.

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SHEET TITLE

PHOTOS
EXISTING CONDITION

DATE	02.20.25
DRAWN BY	LAPD
REVISED BY	LJV
DWG FILE NAME	BID DWGS
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.

66/67

E-11

DRAWING NO.

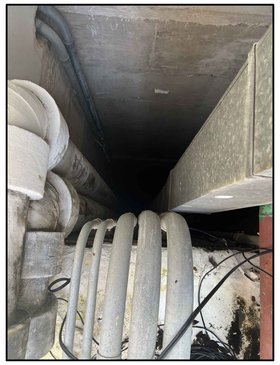

PHOTO NO. "1"

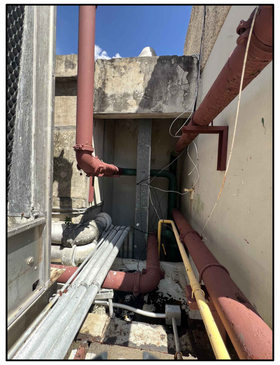

PHOTO NO. "2"



PHOTO NO. "3"



PHOTO NO. "4"

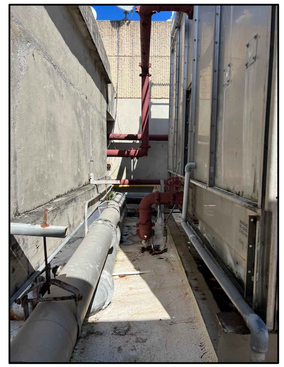

PHOTO NO. "5"



PHOTO NO. "6"



PHOTO NO. "7"



PHOTO NO. "8"



PHOTO NO. "9"

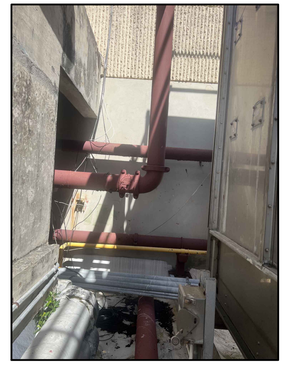

PHOTO NO. "10"

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CLIENT

PRIDCO HEADQUARTERS
PROJECT: S-1340-0-82-00

PROJECT

PHASE I: IMPROVEMENTS TO MAIN HVAC SYSTEM (COOLING TOWERS & AIR-COOL CHILLER) AT PRIDCO HEADQUARTERS
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SHEET TITLE

PHOTOS
EXISTING CONDITION

DATE	02.20.25
DRAWN BY	LAPD
REVISED BY	LJV
DWG FILE NAME	BID DWGS
PLOT SCALE	24"x36" FULL
SCALE	AS SHOWN

SHEET NO.

67/67

E-12

DRAWING NO.