GENERAL NOTES

1. THIS SHEET IS FOR THE CONTRACTOR REFERENCE ONLY, NOT ALL SYMBOLS AND; OR ABBREVIATIONS MAY APPLY TO THIS PARTICULAR PROJECT. ANY ADDITIONS OR OMISSIONS FROM THIS LEGEND SHEET DOES NOT IMPLY INCLUSION AND/OR EXCLUSION OF ANY PARTICULAR ITEM FROM THE PROJECT.

2. THE PLANS ARE DIAGRAMMATIC AND INDICATE ONLY THE SIZE OF THE GENERAL ARRANGEMENT OF PIPING AND EQUIPMENT. EXACT LOCATION OF ALL ELEMENTS SHALL BE DETERMINED AS WORK PROGRESSES, IN COOPERATION AND COORDINATION WITH THE WORK OF ALL OTHER TRADES. IT IS NOT INTENDED TO SHOW EVERY ITEM OF WORK OR MINOR PIECE OF EQUIPMENT, BUT THE CONTRACTOR SHALL FURNISH AND INSTALL WITHOUT ADDITIONAL REMUNERATION ANY COMPONENT NECESSARY TO COMPLETE THE SYSTEM IN ACCORDANCE WITH THE BEST PRACTICE OF THE TRADE.

3. ITEMS OF WORK OR EQUIPMENT SHOWN ON THE DRAWINGS ONLY, OR CALLED FOR IN THE SPECIFICATIONS ON, SHALL BE FURNISHED AND INSTALLED IN THE SAME MANNER AS IF THEY APPEARED ON BOTH THE DRAWINGS AND THE SPECIFICATIONS.

4. DRAWINGS FO NOT INDICATE ALL OFFSETS, CHANGES IN ELEVATIONS, ETC WHICH MAY BE REQUIRED. THE CONTRACTOR SHALL MAKE SUCH CHANGES IN PIPING AND LOCATION OF EQUIPMENT, ETC. TO ACCOMODATE WORK WITH THAT OF OTHER CONTRACTORS.

5. INSTALL EQUIPMENT, DUCTWORK, AND PIPING TO AVOID INTERFERENCE WITH THE OPERATION OR SERVICING AND MAINTENANCE OF EQUIPMENT.

6. CONTRACTOR IS RESPONSIBLE TO PROVIDE ACCESS PANELS AND DOORS WHERE THEY ARE NEEDED TO FAIN ACCESS TO CONCEALED EQUIPMENT.

7. ALL COSTS FOR CUTTING, PATCHING, AND PAINTING OF EXISTING WALLS, CEILINGS AND FLOORS TO ACCOMMODATE THE INSTALLATION OF THE HVAC WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR UNLESS INDICATED OTHERWISE. MATERIALS FOR RESTORATION OF EXISTING SURFACES SHALL MATCH THE EXISTING MATERIALS.

8. PIPES AND/OR DUCTS PENETRATING FIRE WALLS AND FLOORS SHALL BE FIRESTOPPED AS SPECIFIED. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE WALL AND FLOOR LOCATIONS.

9. ALL DUCT SIZES SHOWN ON DRAWINGS INDICATION CLEAR INSIDE DIMENSIONS.

10. ALL PHYSICAL ATTRIBUTES OF EQUIPMENT AND DEVICES ARE BASED ON THOSE MANUFACTURERS LISTED IN THE SPECIFICATIONS AND/OR THE EQUIPMENT SCHEDULES. THE RESPECTIVE CONTRACTORS ARE RESPONSIBLE FOR ALL CHANGES BROUGHT ABOUT BY THE USE OF ITEMS BY OTHER MANYFACTURERS. THE ARCHITECT/ENGINEER HAS RESERVED THE RIGHT TO REJECT ITEMS BY OTHER MANUFACTURERS IF THOSE ITEMS DO NOT MATCH THE PHYSICAL ATTRIBUTES OF THE MANUFACTURERS LISTED.

11. COMPLY WITH THE 2016 CALIFORNIA MECHANICAL CODE AND TITLE 24 FOR CHILLER SELECTION.

12. MECHANICAL CONTRACTOR SHALL EXAMINE ALL OTHER SPECIFICATIONS, DRAWINGS AND ALL FEATURES OF BUILDING CONSTRUCTION WHICH MAY AFFECT HIS WORK AND SHALL BE GOVERNED BY THESE AND OTHER SPECIFICATION, INCLUDING THE GENERAL CONDITIONS AND PARTICULAR INSTRUCTIONS TO ALL BIDDER AND SUPPLIERS.

13. ALL WORK SHALL BE EXECUTED AND INSPECTED IN STRICT ACCORDANCE WITH ALL LOCAL CODES AND/OR STATE COES, LAWS, ORDINANCES, RULES AND REGULATIONS APPLICABLE TO THIS PARTICULAR CLASS OF WORK, AND EACH MECHANICAL CONTRACTOR SHALL INCLUDE IN HIS PRICE ALL APPLICABLE SERVICE CHARGES, FEES, PERMITS, TAXES, AND OTHER SIMILAR COSTS IN CONNECTION THEREWITH.

14. ALL PIPES SHALL BE SUPPORTED PER CMC REQUIREMENTS, SEE DRAWING FOR SUPPORTS AND SEISMIC RESTRAINTS.

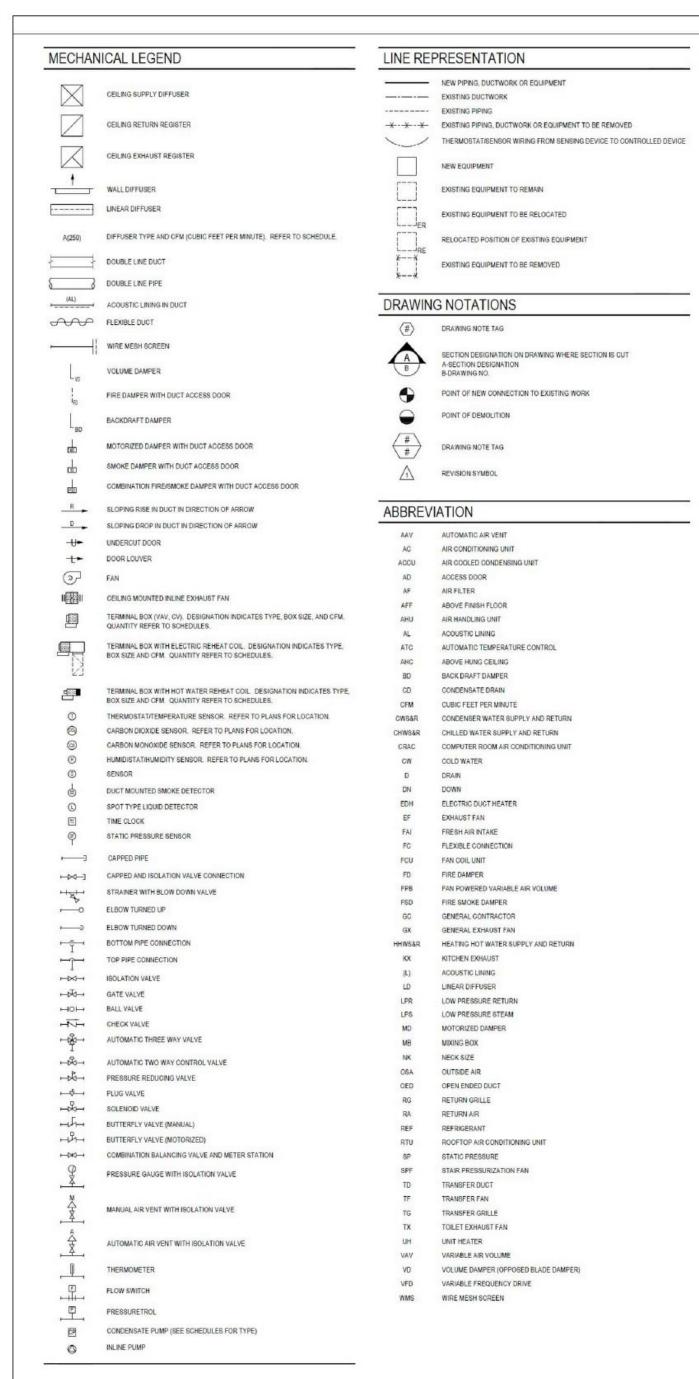
15. INSULATE AND SEAL ALL PIPES PER CHAPTER 10 OF THE STATE MECHANICAL CODE (T-24, PART 4).

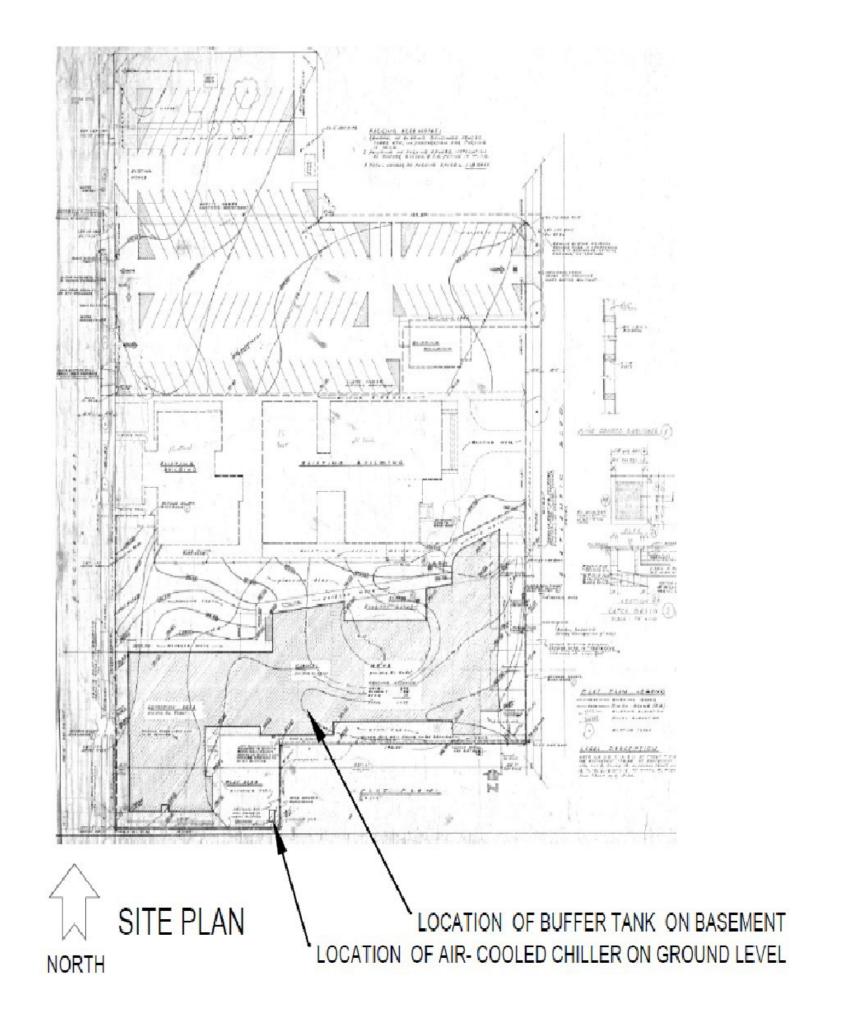
16. INSULATION APPLIED TO THE EXTERIOR SURFACES OF PIPES SHALL BE COVERED WITH 0.016" ALUMINIUM INSULATION PROTECTION WITH ZESTON FITTINGS.

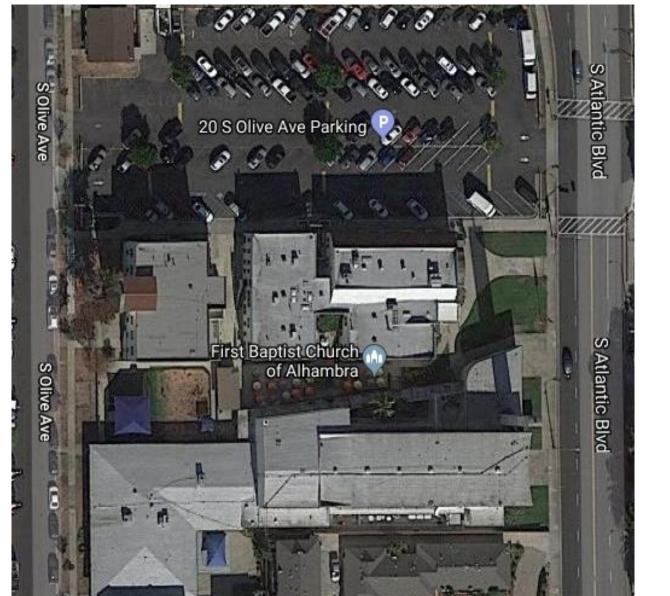
17. PROVIDE FINAL AIR AND WATER BALANCE BY A THIRD PARTY TEST AND BALANCE CONTRACTOR PER AABC STANDARDS.

SCOPE OF WORK

DISCONNECT AND REMOVE EXISTING COOLING TOWER, TOWER PUMP, WATER COOLED CHILLER AND PIPE WORK FROM POD. NEW CONCRETE PLATFORM FOR NEW CHILLER AS PER STRUCTURAL DRAWINGS. INSTALL AIR COOLED CHILLER AND ACCESSORIES. RE USE EXISTING CHILLED WATER PUMP. NEW UNDERGROUND CHILLED WATER PIPE WORKS FROM POC AS PER MECHANICAL PLANS. ELECTRICAL LINES TO NEW CHILLER AS PER ELECTRICAL PLANS. RE CONNECT TO EXISTING CONTROLS. FACTORY START UP AND REPORTS







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Alhambra, California 91801

PLOT PLAN, NOTES, AND SYMBOLS

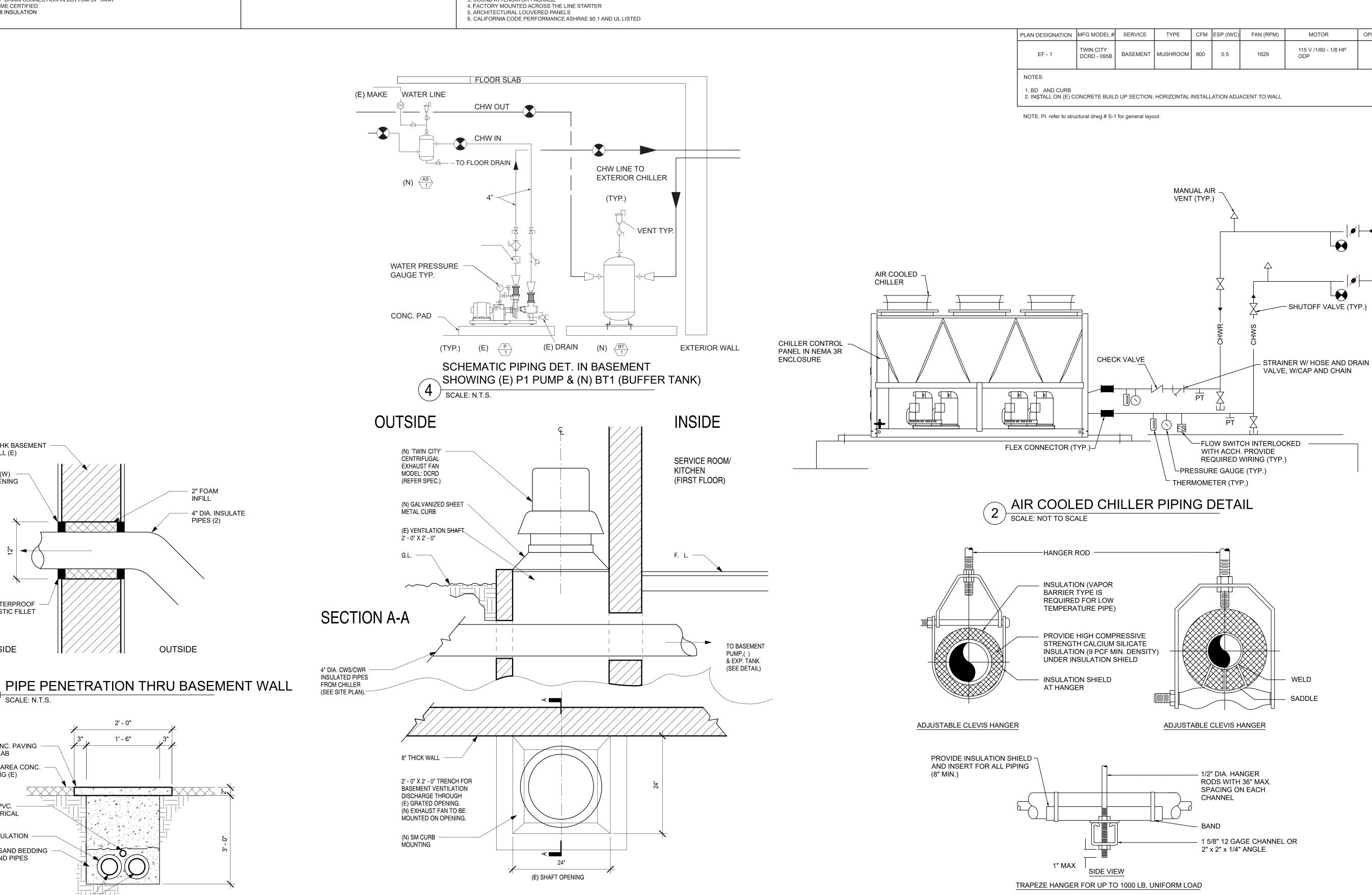
Revisions

Drawn 11/30/2018

Project Number: 112
Project Manager

Ryan Wijesinghe

BUFFER TANK	AIR SEPARATOR			AIR COOLED CHILLER SCHEDULE	(CH-1)		
TANK DESIGN OPERATING PLAN MFG VOLUME PRESSURE WEIGHT				EVAPORATION DATA	CONDENSER DATA COMPRESSOR DATA	ELECTRICAL DATA	
PLAN DESIGNATION MFG MODEL # LOCATION (GAL) TYPE PRESSURE P SIG SERVICE (LB)	PLAN DESIGNATION MFG MODEL # LOCATION SERVICE GPM WEIGHT (LB)	PLAN MANUFACTURING LOCATION TO MODELING NO.	TYPE NOMINAL CAPACITY (MAX.) EER REFRIGERANT TYPE (TONS)	FLOW RATE (°F) WPD FOULING FACTOR FLUID TYPE	NUMBER AMBIENT NUMBER OF COMPRESSORS COMPRESSORS RLA (AI	SSOR UNIT MCA VOLTS/PHASE	NOTES
BT 1 HANSON TANK BASEMENT 135 NOTE 1 125 CHILLED WATER 1600	AS 1 B & G RL - 3F BASEMENT 122.2 173	CH-1 TRANE CO. GROUND LEVEL AIR CO. CGMA052F2 ENCLOSED AREA SCR	R COOLED, 52 1.1294 15.495 R-410A	122.2 54/44 13.9 0.0001 WATER	4 95.0 4 21.2	- EA. 125 460/3/60	1, 2, 3, 4, 5, 6, 7, 8
NOTES: 1. HORIZONTAL BASE MOUNTED 2. 4" FLANGE CONNECTIONS O TOP OF TANK 3. 3/4" DRAIN CONNECTION IN BOTTOM OF TANK 4. ASME CERTIFIED 5. R 8 INSULATION	NOTES: 1. FLOOR OR CEILING HUNG 2. 3' FLANGE		NE YEAR PARTS AND LABOR WARRANT ON THE WHOLE UNIT ACTORY START UP				



TYPICAL PIPE HANGER DETAIL

SCALE: NOT TO SCALE

PLAN OF EXHAUST FAN @ GROUND LEVEL

SCALE: 1" = 12"

9" THK BASEMENT -

- 2" FOAM INFILL

OUTSIDE

SECTION A-A THRU TRENCH IN PLAY AREA

4" DIA. INSULATE PIPES (2)

WALL (E)

18" (W) — OPENING

WATERPROOF

MASTIC FILLET

SCALE: N.T.S.

2" CONC. PAVING (N) SLAB

PLAY AREA CONC.

PAVING (E)

1 1/2" PVC. — ELECTRICAL

2" INSULATION

SOFT SAND BEDDING AROUND PIPES

4" DIA. CWS

SCALE: N.T.S.

LINE

INSIDE

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OPERATING LB NOTES

EXISTING CHILLED WATER FROM PUMP

EXISTING CHILLED WATER TO SYSTEM

Alham of Church First Baptist (101 S. Atlantic Blv Alhambra, Califor

EQUIPMENT SCHEDULE AND PIPING DETAIL

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M.01

20" CHIMBEY BY GENL, CONTR

"LG" MODEL L-CRE-67 SSO RPM 170 HP SIS CFM ON CLG.

BSMT VENTILATION DISCHARGE THRU GRATE. 2 2 TREMENT AND GRATE BY THE GENL CONTR. DRYIVELL UNDER GRATE.

Z" DRAM WITH GATE VALVE

BOUMB CONTR.

IL OVERFLOW

FENCE BY G

the state of the s

- BASEMENT

LINE-SEE BOMT PL

CHANCEL [179] (REPLACED 12-2-14)

BY GENL, CONTR.

TO BISHT- SEE PART

ON PROPERTY LUIE

UNDERGROUND.

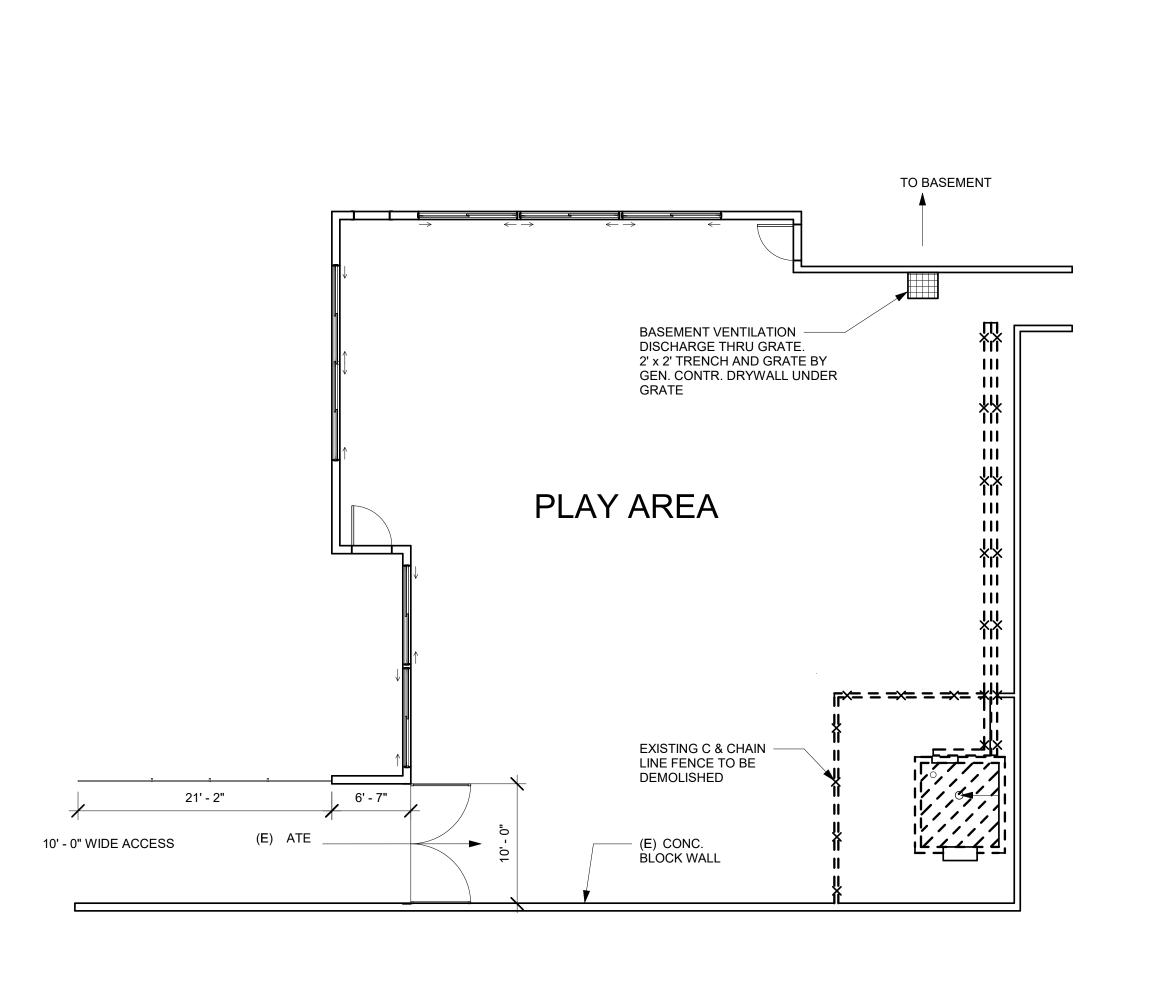
2'6 J. DRAIM TO FE WISSHIT BY HE & V. CONTR.

-4"SUPPLY É RETORN LYUES TO COOLING TOIRER PUMP IN BSMT - GALV. PIPE TO BE WRAPPED WITH NON-CORROSIVE N PRODUCTS SPEC." A" WEARPING AND INSTALLED PIN OF 12"

SECORPER BLEED-OFF WITH PET-COLK, COUNSELT INTO BOTTON OF INLET, PIPE AND DEANS INTO TOP TEE OF OVERFLOW PIRE

WETALL COOLING TOWER ON

FLOWER PREPART



OUTSIDE DEMO WORK @ GROUND FLOOR

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

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DEMO EXTERIOR

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Project Number: 112
Project Manager
Ryan Wijesinghe

PART BASEMENT PLAN - MECH. EQUIP LAYOUT

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DEMO INTERIOR

Revisions

Drawn 11/30/2018

Project Number: 112

Project Manager Ryan Wijesinghe

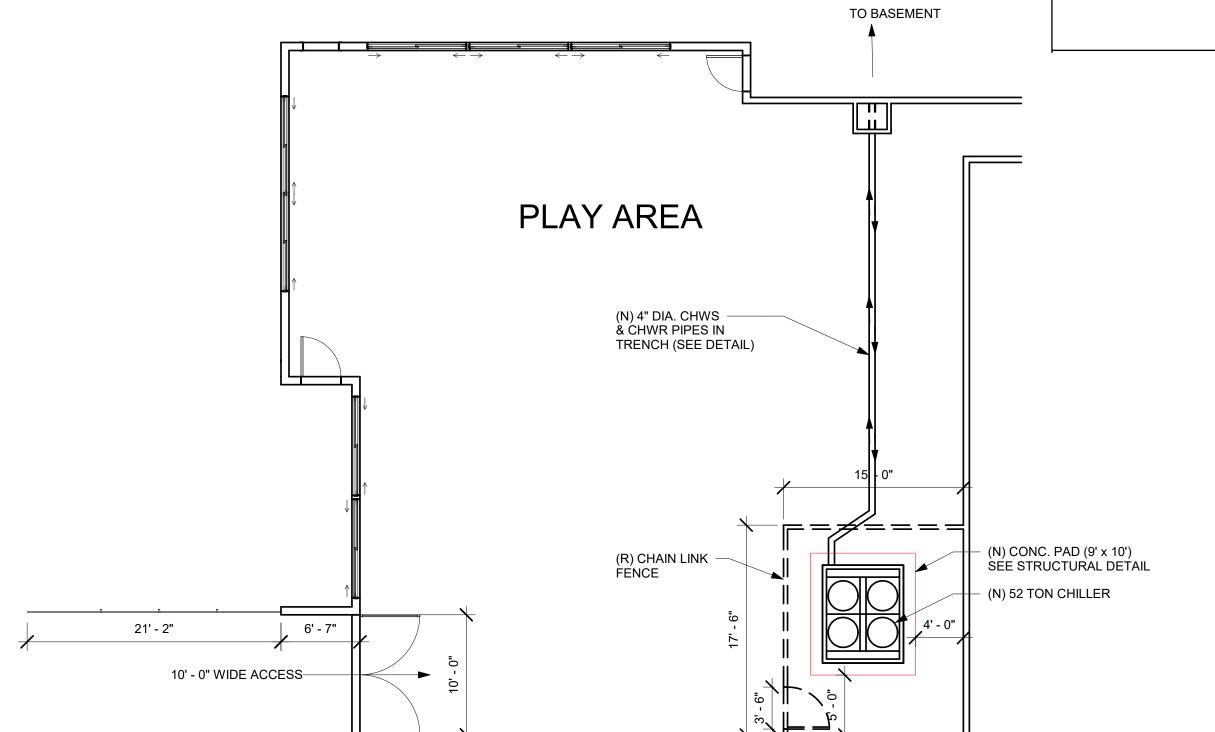
M.03

PART. BASEMENT PLAN - MECH. EQUIP. LAYOUT

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

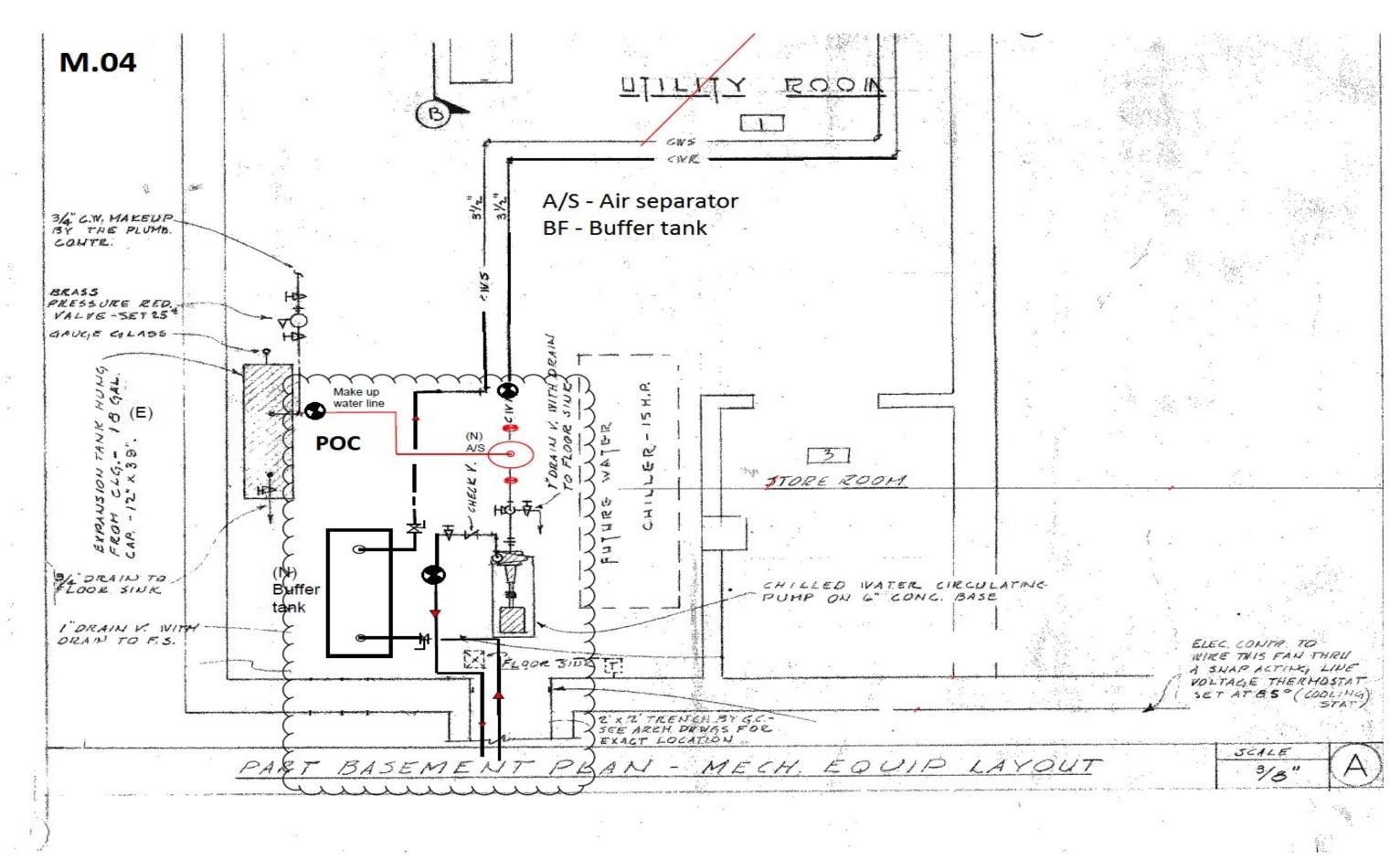
A: NEW CHAIN-LINK ENCLOSURE B: NEW CONCRETE PLATFORM

C: NEW CHILLER AND PIPE



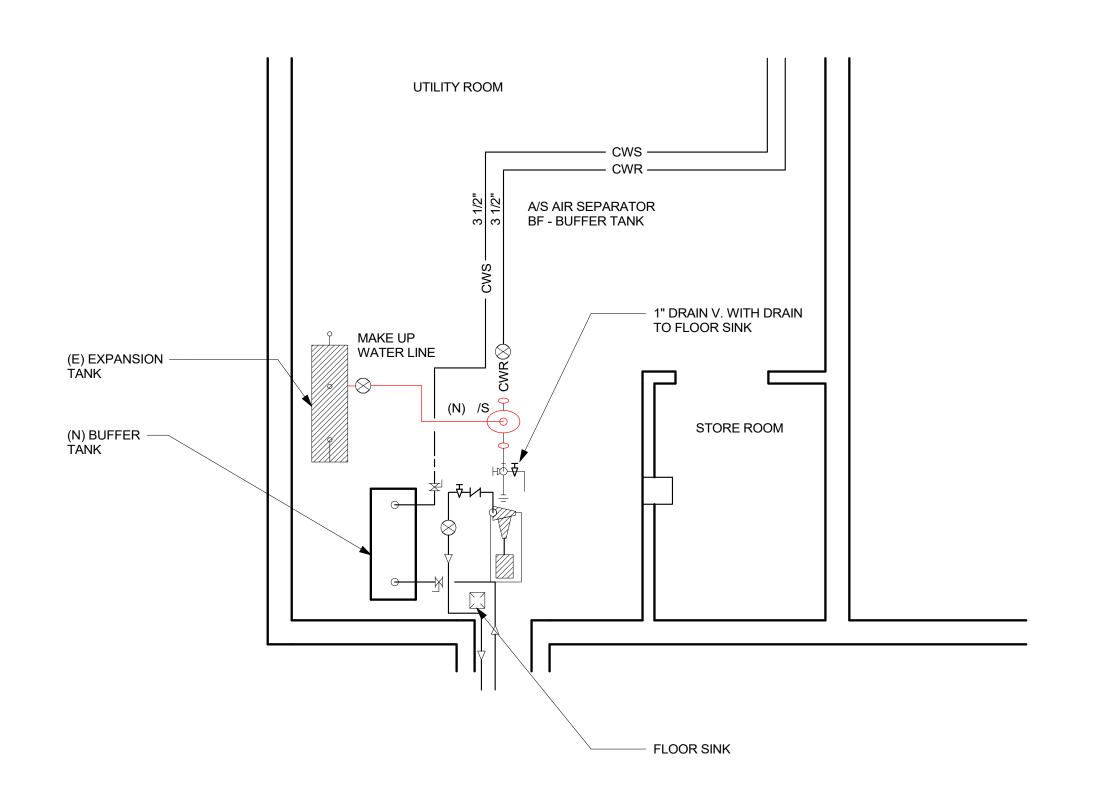
NEW WORK EXTERIOR

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



A: NEW BUFFER TANK B: AIR-SEPARATOR

C: NEW PIPE LINES



NEW WORK- PART. BASEMENT PLAN - MECH. EQUIP. LAYOUT SCALE: 1/8" = 1'-0"

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NEW WORK

Revisions

Drawn 11/30/2018

Project Number: 112

Project Manager Ryan Wijesinghe

M.04

A. MECHANICAL COMPLIANCE DOCUMENTS & WORKSHEETS (check box if worksheet is included) For detailed instructions on the use of this and all Energy Efficiency Standards compliance forms, refer to the 2016 Nonresidential Manual Note: The Enforcement Agency may require all forms to be incorporated onto the building plans. YES NO Comp. Doc./Worksheet # Title □ NRCC-MCH-01-E (Part 1 of 3) Certificate of Compliance, Declaration. Required on plans for all submittals. NRCC-MCH-01-E (Part 2 of 3) | Certificate of Compliance, Required Acceptance Tests (MCH-02-A to 11-A). Required on plans for all submittals. □ NRCC-MCH-01-E (Part 3 of 3) Certificate of Compliance, Required Acceptance Tests (MCH-12-A to 18-A). Required on plans where applicable. □ NRCC-MCH-02-E (Part 1 of 2) Mechanical Dry Equipment Summary is required for all submittals with Central Air Systems. It is optional on plans. Mechanical Wet Equipment Summary is required for all submittals with chilled water, hot water or condenser water □ NRCC-MCH-02-E (Part 2 of 2) Mechanical Ventilation and Reheat is required for all submittals with multiple zone heating and cooling systems. It is DX NRCC-MCH-03-E optional on plans. □ NRCC-MCH-07-E (Part 1 of 2) Power Consumption of Fans. Required on plans where applicable □ ☑ NRCC-MCH-07-E (Part 2 of 2) Power Consumption of Fans, Declaration. Required on plans where applicable

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance

STATE OF CALIFORNIA **MECHANICAL SYSTEMS** CEC-NRCC-MCH-01-E (Revised 01/16) CERTIFICATE OF COMPLIANCE NRCC-MCH-01-E (Page 2 of 4) Date Prepared: 11/16/2018 roject Name: First Paptist Church , chiller replacement

B. MECHANICAL HVAC ACCEPTANCE FORMS (check box for required compliance documents) Test Performed Bv: Designer:

This compliance document is to be used by the designer and attached to the plans. Listed below are all the acceptance tests for HVAC systems. The designer is required to check the applicable boxes for all acceptance tests that apply and list all equipment that requires an acceptance test. All equipment of the same type that requires a test, list the equipment description and the number Installing Contractor:

The contractor who installed the equipment is responsible to either conduct the acceptance test themselves or have a qualified entity run the test for them. If more than one person has responsibility for the acceptance testing, each person shall sign and submit the Certificate of Acceptance applicable to the portion of the construction or installation for which they are responsible.

Plancheck – The NRCC-MCH-01-E compliance document is not considered a completed document and is not to be accepted by the building department unless the correct boxes are checked.

L	Inspector - Before occupancy	permit is grant	ted all newly ins	stalled process s	systems must be	tested to ensure p	roper operations	
Γ								

Inspector - Before occupancy permit is granted all newly installed process systems must be tested to ensure proper operations.											
Test Description		MCH-02-A	MCH-03-A	MCH-04-A	MCH-05-A	MCH-06-A	MCH-07-A	MCH-08-A	MCH-09-A	MCH-10-A	MCH-11-A
Equipment Requiring Testing or Verification	# of Units	Outdoor Air	Single Zone Unitary	Air Distribution Ducts	Economizer Controls	Demand Control Ventilation (DCV)	Supply Fan VAV	Valve Leakage Test	Supply Water Temp. Reset	Hydronic System Variable Flow Control	Automatic Demand Shed Control
CH 1								×	×		

^{Project Name:} First Baptist Church chiller replacment Date Prepared: 11/16/2018 C. MECHANICAL HVAC ACCEPTANCE FORMS (check box for required compliance documents) Test Performed By: This compliance document is to be used by the designer and attached to the plans. Listed below are all the acceptance tests for HVAC systems. The designer is required to check the applicable boxes for all acceptance tests that apply and list all equipment that requires an acceptance test. All equipment of the same type that requires a test, list the equipment description and the number **Installing Contractor:** The contractor who installed the equipment is responsible to either conduct the acceptance test themselves or have a qualified entity run the test for them. If more than one person has responsibility for the acceptance testing, each person shall sign and submit the Certificate of Acceptance applicable to the portion of the construction or installation for which they are responsible. Plancheck – The NRCC-MCH-01-E compliance document is not considered a completed document and is not to be accepted by the building department unless the correct boxes are checked. Inspector - Before occupancy permit is granted all newly installed process systems must be tested to ensure proper operations **Test Description** MCH-12-A MCH-13-A MCH-14-A MCH-16-A MCH-17-A MCH-18-A Automatic Fault Distributed Energy Thermal Energy Fault Detection & Equipment Supply Air Detection & Condenser Water Diagnostics for DX Temperature Reset Requiring Testing Storage DX AC Storage (TES) Units iagnostics for Air & Reset Controls or Verification Units Systems Systems Controls Zone

STATE OF CALIFORNIA

Mechanical Systems

MECHANICAL SYSTEMS

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance

CEC-NRCC-MCH-01-E (Revised 01/16)

CERTIFICATE OF COMPLIANCE

CERTIFICATE OF COMPLIANCE – USER INSTRUCTIONS NRCC-MCH-01-E Required Acceptance Tests (Page 1 of 1)

NRCC-MCH-01-E User Instructions

NRCC-MCH-01-E is the primary mechanical compliance document. The purpose of the compliance document is to provide compliance information in a form useful to the enforcement agency's field inspectors.

This compliance document should be included on the plans, usually near the front of the mechanical drawings. A copy of these compliance documents should also be submitted to the enforcement agency along with the rest of the compliance submittal at the time of building permit application. With enforcement agency approval, the applicant may use alternative formats of these forms (rather than the Energy Commission's compliance documents), provided the information is the same and in similar format.

Project Description

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance

January 2016

PROJECT NAME is the title of the project, as shown on the plans and known to the enforcement agency. DATE is the last revision date of the plans. If the plans are revised after this date, it may be necessary to re-submit the compliance documentation to reflect the altered design. Note that it is the enforcement agency's discretion whether or not to require new compliance documentation.

Documentation Author's Declaration Statement

The CERTIFICATE OF COMPLIANCE is signed by both the Documentation Author and the Principal Mechanical Designer who is responsible for preparation of the plans of building. This latter person is also responsible for the energy compliance documentation, even if the actual work is delegated to a different person acting as Documentation Author. It is necessary that the compliance documentation be consistent with the plans.

DOCUMENTATION AUTHOR is the person who prepared the energy compliance documentation and who signs the Declaration Statement. The person's telephone number is given to facilitate response to any questions that arise. A Documentation Author may have additional certifications such as a Certified Energy Analyst certification number. Enter number in the CEA# or CEPE# field

Declaration Statement of Principle Mechanical Designer

The Declaration Statement is signed by the person responsible for preparation of the plans for the building and the documentation author. This principal designer is also responsible for the energy compliance documentation, even if the actual work is delegated to someone else (the Documentation Author as described above). It is necessary that the compliance documentation be consistent with the plans. The Business and Professions Code governs who is qualified to prepare plans and therefore to sign this statement. See Section 2.2.2 Permit Application for applicable text from the Business and Professions Code.

Section A. Mechanical Compliance Documents & Worksheets

The checkboxes list all applicable compliance documents or worksheets included with the compliance documentation submitted to the enforcement agency.

Sections B & C Mechanical HVAC Acceptance Documents

The Designer is required to list all system and identify the applicable acceptance testing required. The Designer should think about who will be conducting the tests and list this person in the section titled "Test Performed By" if applicable. Those who are allowed to conduct the tests are the installing contractor, design professional or an agent selected by the owner. Note that a single system may require multiple acceptance tests, depending on the type of system.

STATE OF CALIFORNIA MECHANICAL SYSTEMS CEC-NRCC-MCH-01-E (Revised 01/16) CERTIFICATE OF COMPLIANCE NRCC-MCH-01-E Mechanical Systems (Page 4 of 4) Date Prepared: 11/16/2018 lame: First Baptist Church chiller replacment

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT					
1. I certify that this Certificate of Compliance documentation is accurate and complete.					
Documentation Author Name: Ryan Wijesinghe	Documentation Author Signature:				
Consolidated Mechanical Air Conditioning & Heating Inc	Signature Date: 11/16/2018				
Address: 3848 E Colorado Blvd. Suite 4	CEA/ HERS Certification Identification (if applicable):				
City/State/Zip: Pasadena, CA 91107	Phone: 626 398 7235				
RESPONSIBLE PERSON'S DECLARATION STATEMENT					

I certify the following under penalty of perjury, under the laws of the State of California: The information provided on this Certificate of Compliance is true and correct.

I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.

The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement

agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

^{me:}Rvan Wijesinghe mpany: Consolidated Mechanical Air Conditioning & Heating Inc ate Signed: 11/16/2018 ^{cense:} C 20 732589 ss: 3848 E Colorado Blvd. Suite 4 ity/State/Zip: Pasadena, CA 91107 ^{e:}626 398 7235

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance January 2016

Revisions

Drawn 11/30/2018

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| Mechanical g & Heating Inc.

Consolidated | Air Conditioning &

NRCC-MCH-01-E

(Page 3 of 4)

January 2016

Project Number: 112

COMPLIANCE

FORMS

Project Manager Ryan Wijesinghe

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance

January 2016

January 2016