

HCPS WALK-IN FREEZER REPLACEMENT

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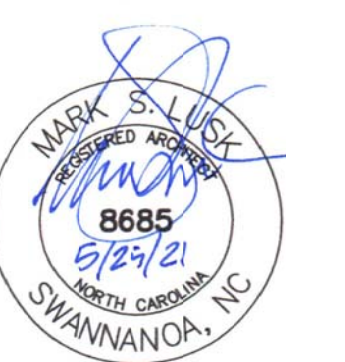


**HCPS WALK-IN
FREEZER
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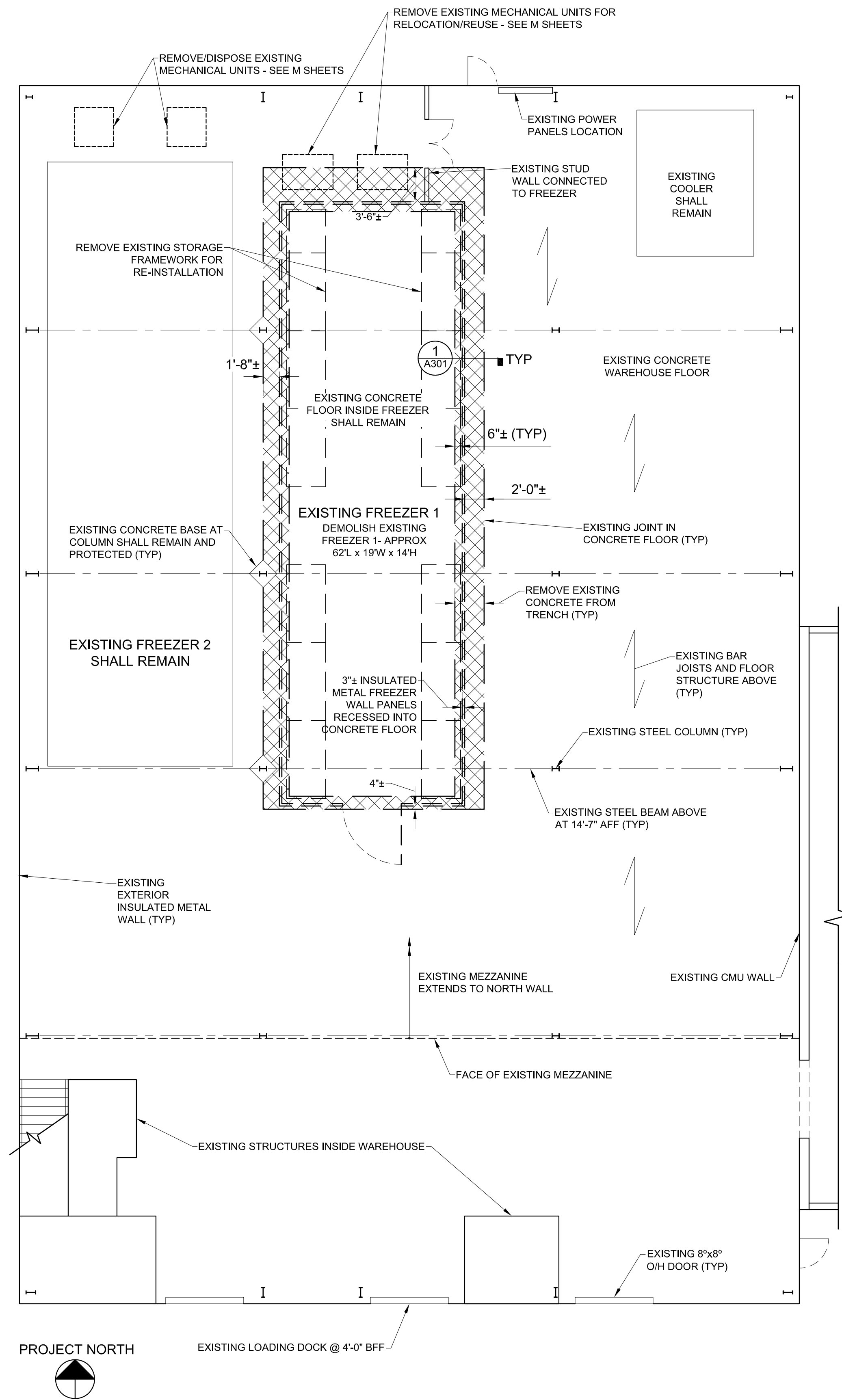
Project Number: 21008
Checked: _____
Drawn: A. Rognas
Date: 5/25/21
Revisions: _____

**COVER
SHEET**

T101

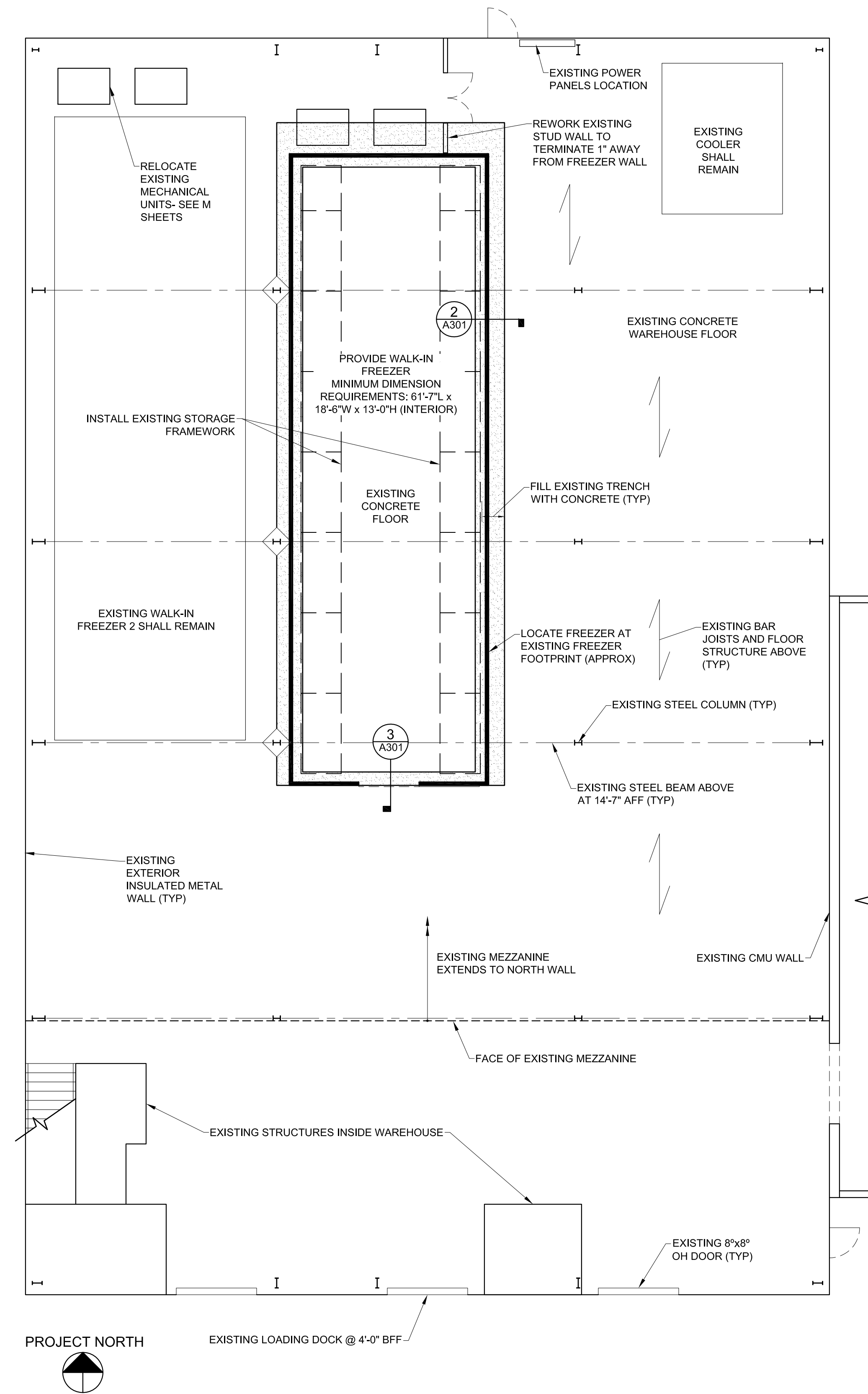


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DEMOLITION PLAN
 SCALE: 1/8" = 1'-0"

- NOTES**
1. CONCRETE SHALL BE 4000# PSI AT 28 DAYS.
 2. FLOOR INSULATION SHALL BE EQUAL TO R-MAX THERMASHEATH-3 POLYISO INSULATION FOAM CORE BONDED TO REINFORCED ALUMINUM FOIL FACERS W/ CLEAR COATING



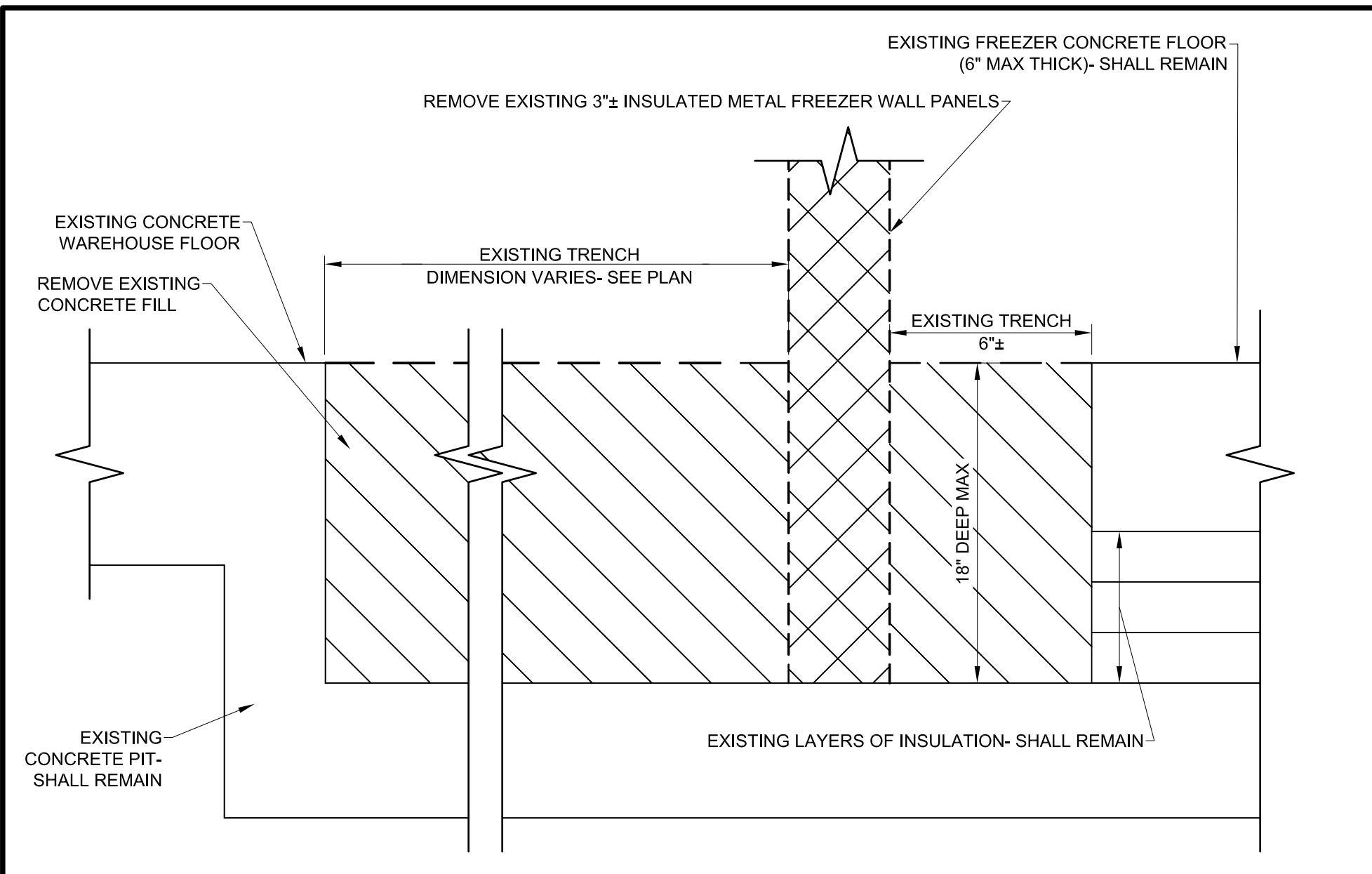
FREEZER FLOOR PLAN
 SCALE: 1/8" = 1'-0"

HCPS WALK-IN FREEZER REPLACEMENT

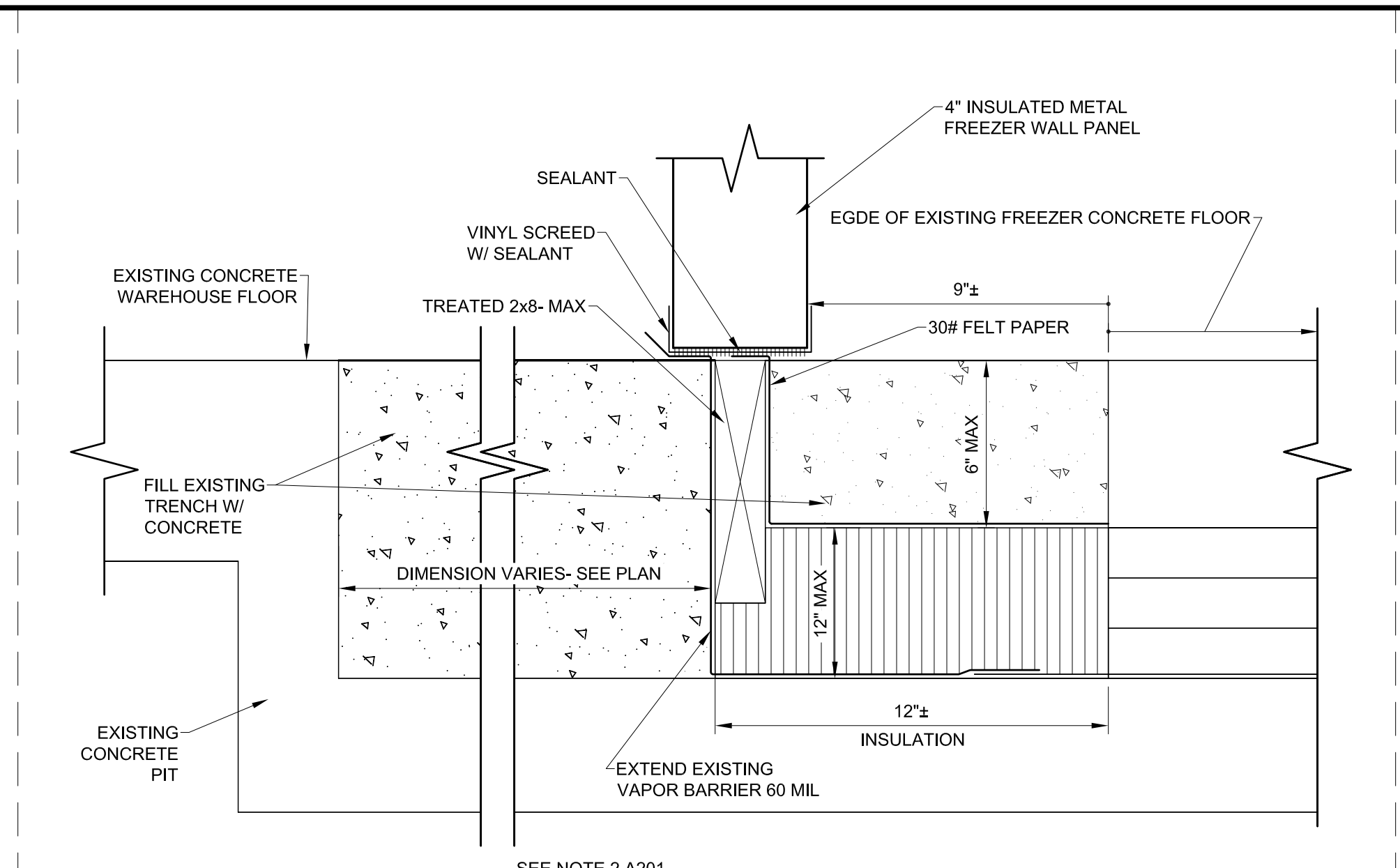
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DEMOLITION AND FREEZER FLOOR PLANS

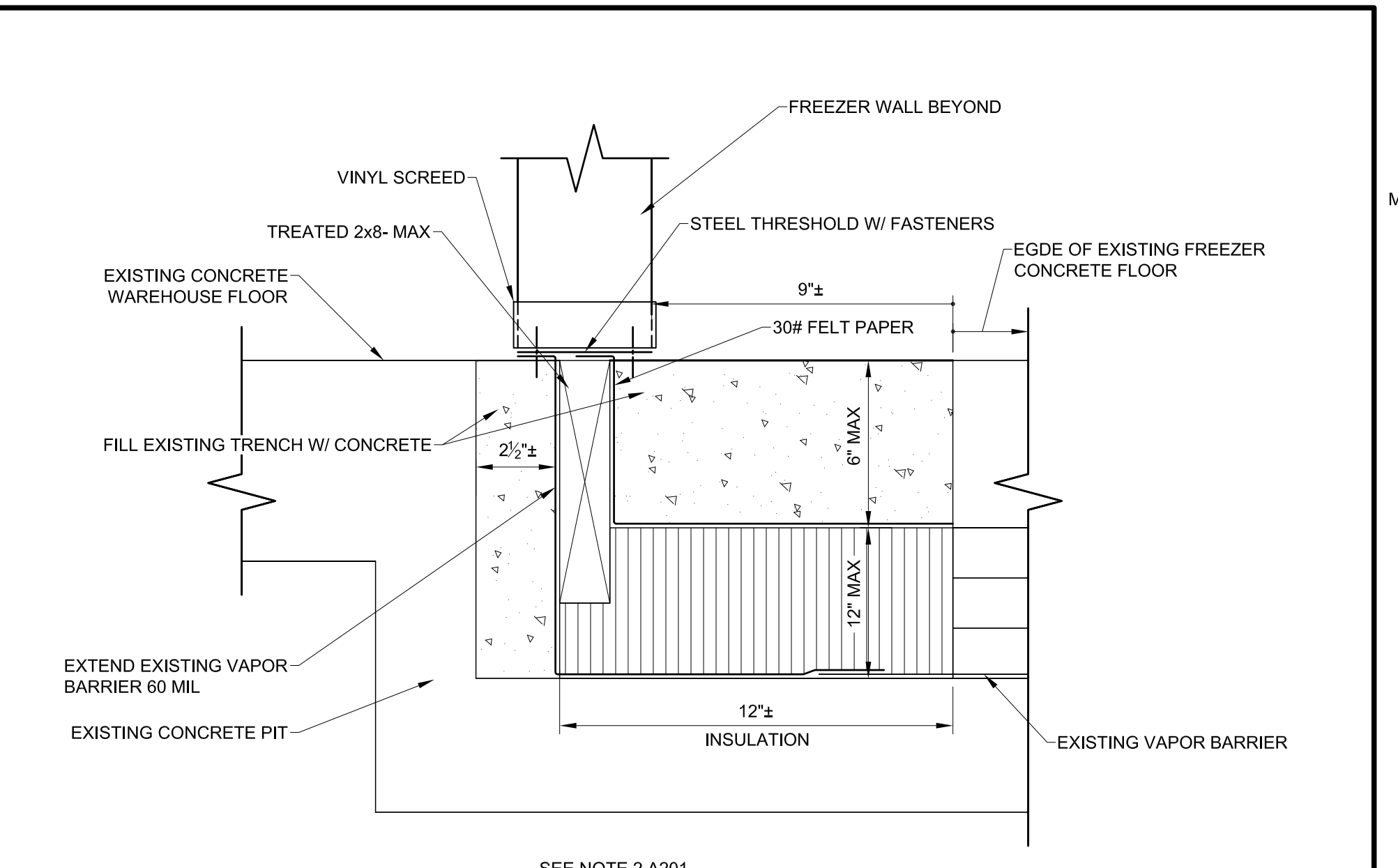
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1 FREEZER WALL DEMOLITION DETAIL
SCALE: 3" = 1'-0"



2 FREEZER WALL DETAIL
SCALE: 3" = 1'-0"



3 FREEZER THRESHOLD DETAIL
SCALE: 3" = 1'-0"

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DETAILS

A301



ELECTRICAL SYMBOL LEGEND

SYMBOL	DESCRIPTION
	JUNCTION BOX PER N.E.C.
	HOMERUN - PANEL DESIGNATION AND CIRCUIT NUMBER
	SINGLE POLE SWITCH - 20A - 120/277V - MOUNT 46" A.F.F. TO BOTTOM
	DIMMER SWITCH
	THREE-WAY SWITCH - 20A - 120/277V - MOUNT 46" A.F.F. TO BOTTOM
	INDICATES SWITCHES ARE TO PROVIDE MULTIPLE LIGHT LEVELS (INBOARD, OUTBOARD SWITCHING OF LAMPS)
	115 OR 277 VOLT MOTOR AS NOTED ON PLANS
	FUSED OR NON-FUSIBLE HEAVY DUTY DISCONNECT SWITCH - BY DIVISION 16
	2-POLE OR 3-POLE MANUAL MOTOR STARTER. PROVIDE WITH OVERLOAD PROTECTION.
	WALL MOUNTED OCCUPANCY SENSOR, SOUND AND MOTION ACTIVATED - SENSOR SWITCH WSX-PDT (WSX-PDT-2P FOR TOILET ROOMS)
	CEILING MOUNTED OCCUPANCY SENSOR WITH DUAL STAGE ILLUMINATION - NLIGHT RCMS-PS150-PDT-10-AR-G2 - VERIFY EXACT WIRING REQUIREMENTS WITH MANUFACTURERS CUT SHEETS BEFORE BEGINNING ANY WORK.
	STANDARD 20A OUTLET - NEMA 5-20R DUPLEX. MOUNT 16" A.F.F. "GFI" DENOTES GROUND FAULT TYPE, NON-FEED THRU, "EWC" DENOTES OUTLET FOR ELECTRIC WATER COOLER - COORDINATE LOCATION WITH PLUMBING CONTRACTOR - NEMA 5-20R DUPLEX "WP" DENOTES WEATHERPROOF IN USE NEMA 5-20R DUPLEX, "ACT" DENOTES MOUNTED ABOVE COUNTER TOP OR BACKPLASH, "BB" DENOTES MOUNTED ON THE BACKSIDE OF THE BAR JUST BENEATH THE BARTOP TYPICAL FOR RESTAURANTS AND BARS, "TR" DENOTES TAMPER RESISTANT. "USB" DENOTES LEGRAND TM826USB.
	TWO STANDARD 20A OUTLETS IN A 2-GANG BOX - NEMA 5-20R DUPLEX - COMMON COVER PLATE - MOUNT 16" A.F.F. TO BOTTOM OF DEVICE.
	STANDARD 20A OUTLET IN FLOOR BOX - NEMA 5-20R DUPLEX - LEGRAND WIREMOLD RFB2 FLOOR BOX.
	TELEPHONE/DATA OUTLET MTD. 16" AFF TO BOTTOM. PROVIDE 1" CONDUIT WITH PULL CORD FROM OUTLET TO COMMUNICATION BACKBOARD. STUB OUT 6" ABOVE BACKBOARD. PROVIDE NYLON BUSHING ON END OF CONDUIT. OUTLET BOX SHALL BE A 4" SQ. BOX WITH SINGLE GANG PLASTER RING. PROVIDE BLANK COVERPLATE ON OUTLET BOX.
	CABLE TV OUTLET MTD. 16" AFF TO BOTTOM OR AS INDICATED. PROVIDE 1" CONDUIT WITH PULL CORD FROM OUTLET TO COMMUNICATION BACKBOARD. STUB OUT 6" ABOVE BACKBOARD. PROVIDE NYLON BUSHING ON END OF CONDUIT. OUTLET BOX SHALL BE A 4" SQ. BOX WITH SINGLE GANG PLASTER RING. PROVIDE BLANK COVERPLATE ON OUTLET BOX.
	GROUNDING FOR SERVICE OR SEPARATELY DERIVED SYSTEM, PER N.E.C.
	SPECIAL POWER OUTLET.

WIRING DEVICE NOTES

- Switches shall be Hubbell CS115 or equivalent and receptacles shall be Hubbell CR20 or equivalent. Devices shall be white or as directed by architect.
 - Switches shall be as follows:

single pole 20 amp	CSB20AC1-I
3 way 20 amp	CSB20AC3-I
4 way 20 amp	CSB20AC4-I
motor starter switch	Square D type "K" series
 - Duplex receptacle shall be as follows:

20 amp duplex	PSS362I
20 amp duplex-GFCI	2095IL
20 amp duplex-Weather GFI	2095TRWRI
- Note: Duplex receptacles have nylon face and side wire type. Receptacles shall have brass contacts, brass terminal screws and green ground wire screw. GFCI receptacle shall be included with a trip indicator light.
- Coverplates shall be oversized stainless steel SSJX or as directed by architect.
 - Outlet boxes shall not be mounted back-to-back.
 - Receptacles shall be 20 amp unless 15 amp is required by equipment served.
 - Weatherproof in use covers shall be clear equal to Leviton. For horizontal mount covers use part no. "5997-CL". For vertical mount covers use part no. "5977-CL".
 - All outlets (including telephone and data) shall have cover plates.

2018 APPENDIX B BUILDING CODE SUMMARY: ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance:

Energy Code:	[X] Prescriptive	[] Performance
ASHRAE 90.1:	[X] Prescriptive	[] Performance

Lighting schedule(each fixture type)

lamp type required in fixture	(see fixture schedule)
number of lamps in fixture	(see fixture schedule)
ballast type used in the fixture	(see fixture schedule)
number of ballasts in fixture	(see fixture schedule)
total wattage per fixture	(see fixture schedule)
total interior wattage (whole space allowable)	NA
total exterior wattage specified vs. allowed	ETR

Additional Prescriptive Compliance:

C406.2 More Efficient Mechanical Equipment	[X] Prescriptive	[] Performance
C406.3 Reduced Lighting Power Density	[] Prescriptive	[] Performance
C406.4 Energy Recovery Ventilation System	[] Prescriptive	[] Performance
C406.5 Higher Efficiency Service Water Heating	[] Prescriptive	[] Performance
C406.6 On-Site Supply of Renewable Energy	[] Prescriptive	[] Performance
C406.7 Automatic Daylighting Control Systems	[] Prescriptive	[] Performance

BRANCH CIRCUIT CONDUCTOR SIZING TABLE

For circuits with branch circuit protection rated 20 amps or less, copper conductors shall be sized according to the following:

voltage	distance (ft)	home run (AWG)	remainder (AWG)
120	0 - 50	12	12
	50 - 90	10	12
	90 - 140	8	10
	140 +	6	10
208	0 - 95	12	12
	95 - 160	10	12
	160 - 250	8	10
	250 +	6	10

ELECTRICAL NOTES

- The intent of these drawings and specifications are to describe the installation of a complete, fully adjusted, and operational system.
- Provide five sets of electrical equipment submittals to the GC for the architect, engineer, GC and owner to review and approve prior to purchasing.
- The contractor shall provide all supervision, labor, material, equipment, machinery, and any and all other items necessary to complete the system. All work shall be performed in a neat and workmanlike manner in accordance with industry standards.
- All work under this section shall be accomplished in strict accordance with state building codes and the National Electric Code. Coordinate with local power company requirements.
- The contractor shall obtain all necessary approval, obtain all permits and pay all fees required for the installation of their work.
- The drawings are diagrammatic only. The contractor may need to make field adjustments to accommodate actual field conditions.
- Devices located in rated walls shall have sufficient separation from other devices to allow proper installation and firestopping.
- The contractor shall refer to the architectural and structural drawings for the general construction of the building, for floors and ceiling heights, for locations of wall, partitions, beams, etc.
- Manufacturer's listed are to establish a standard of quality and not intended to limit the selection to these manufacturers. Any substitutions must be approved by the architect and engineer.
- Contractor shall verify all listed model numbers with manufacturers to insure proper application of equipment.
- Equipment and materials shall be handled, stored and protected in accordance with the manufacturer's recommendations.
- The contractor shall perform any and all trenching, excavation and backfilling required for the installation of this work.
- The contractor shall furnish all necessary scaffolding, staging, rigging and hoisting required for the completion of this work.
- All work shall be coordinated with the general contractor and other trades involved in the construction project. All work shall be carefully laid out in advance to coordinate architectural, structural, mechanical, plumbing and electrical features of construction.
- The electrical contractor shall visit the site before submitting his bid so as to be thoroughly familiar with the job conditions and/or peculiarities. No extra payment will be allowed for anything which could have been anticipated from a visit to the site.
- Equipment shall be installed in accordance with manufacturer's written instructions.
- Provide grounding for all conduits, motor frames, metal casings, receptacles, system neutral, etc. and as required by NEC as minimum. Resistance to ground shall not exceed 25 OHMS.
- A green insulated copper ground wire, sized per NEC, shall be installed in all raceways, electric metallic tubing used for feeders, branch circuits, flexible conduit, and as otherwise noted on the drawings.
- All fixtures shown on the plans shall be furnished and installed, complete with all mounting accessories, lamps and tubes. Fixtures shall be independently supported from structure. Re-use existing fixtures that are in good condition. If additional fixtures need to be supplied, match existing fixtures.
- Coordinate with sprinkler contractor for all required sprinkler alarms (flow and tamper, etc.). All alarm wiring by provided by EC. Coordinate with sprinkler contractor for specific requirements.
- Provide required telephone wiring for elevator equipment. Coordinate with elevator contractor for specific requirements.
- All wiring shall be run in conduit. The minimum indoor conduit size shall be 1/2". Indoor conduit shall be electrical metallic tubing or type MC cable may be used for branch circuits where allowed by NEC and not subject to physical damage, moisture or dampness. Connection to equipment shall be flexible metal conduit except in wet or damp locations use liquid tight flexible metal conduit. Indoor boxes and enclosures shall be NEMA type 1, except in damp or wet locations use NEMA type 4, stainless steel. Where nonmetallic conduit is used below the slab, provide a minimum of Schedule 80 PVC conduit to turn up into the building space or at any exterior walls, inside or outside framed walls, exterior landscape poles, or equipment. Use raceway fittings compatible with raceway and suitable for use and location. Run concealed raceways with a minimum of bends in the shortest practical distance considering the type of building construction and obstructions. Raceways shall run parallel to or at right angles to nearby surfaces or structural members, and follow the surface contours as much as practical. Provide grounding connections for raceway, boxes, and components as indicated and instructed by manufacturer. Tighten connections and terminals, including screws and bolts, according to equipment manufacturer's published torque-tightening values for equipment connectors. Where manufacturer's torque requirements are not indicated, tighten connectors and terminals according to tightening torques specified in UL standard 486A.
- All underground raceways shall be identified by "underground line marking tape" located directly above the raceway at 6" below finished grade. Tape shall be permanent, bright-colored, continuous, magnetic strip, printed plastic tape compounded for direct burial not less than 6" wide and 4mils thick. Printed legend shall be indicative of the service it is marking. Conduits exposed to different temperatures shall be sealed as required by NEC Article 300.7A.
- Color for devices shall be coordinated with the general contractor.
- Receptacles shall comply with UL Standard 498, "electrical attachment plugs and receptacles," heavy-duty grade 20 AMP rated except as otherwise indicated.
- Ground-fault circuit interrupter (GFI) receptacles shall comply with UL Standard 943, "Ground fault circuit interrupters," with integral NEMA 5-20R duplex receptacle.
- Single pole and three/four-way toggle type snap switches shall be 20 AMP 120/277 V. AC, rated, quite-type A.C. switches. NRTL listed and labeled as complying with UL Standard 20 "general use snap switches," and with federal specification W-S-896.
- Wall plates: single and combination types shall be 302 stainless steel that mate and match with corresponding wiring devices.
- Conductors shall be color coded in accordance with NEC as follows:

Phase	208/120 Volts	480/277 Volts
A	Black	Brown
B	Red	Orange
C	Blue	Yellow
Neutral	White	Gray
Ground	Green	Green
- Electrical equipment shall be identified with labels of engraved plastic-laminate on each major unit of electrical equipment.
- Panelboards/loadcenters shall be type, rating, and features as indicated on the schedules. Enclosures shall be NEMA type 1, flush or surface mounted as indicated. Cabinet shall be code gauge, galvanized steel. Fronts shall be sheet steel with gray lacquer finish with hinged locking door. Ground and neutral bus shall be 100% rated. Bus shall be copper or aluminum. Main and neutral lugs shall be plug-on type. Equipment ground bus shall be adequate for feeder and branch-circuit equipment ground conductors bonded to box. Directory frame shall be metal, mounted inside each panel door. At the completion of this installation, type circuit designations on the directory card and leave in the card holder provided inside cabinet doors. Tandem circuit breakers shall not be used. Multi-pole breakers shall have common trip. The minimum interrupting rating for circuit breakers rated at 120/240 volts shall be 22,000 AMPS RMS symmetrical. For flush mounted panels provide a minimum of (4) -1" conduits stubbed to the ceiling space for future use.
- All wiring for equipment shall be copper with one of the following types of insulation: THW, THHW, THWN with a rating of at least 75 DEG. C. All wiring located above the ceiling shall be plenum-rated.
- Final locations of all exit and emergency lights shall be verified with the building inspector prior to installation.
- Branch circuits shall not exceed 80% of overcurrent protection. Devices shall be relocated to another circuit if found to be in excess of 80%.
- Electrical contractor shall be responsible to supply a coordinated study as described in the NEC or as required by permitting officials with all gear submitted involving generators, elevators, or any life safety equipment.

Project Number: 21008

Checked:

Drawn: A. Rognas

Date: 5/25/21

Revisions:

ELECTRICAL NOTES & SCHEDULES



HCPS WALK-IN FREEZER REPLACEMENT

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 Checked:
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 Date: 5/25/21
 Revisions:

POWER PLAN & PANEL SCHEDULES

LOCATION:	EXISTING	PANEL:	B
MANUFACT.:	EXISTING	FED FROM:	UTILITY
MODEL:	EXISTING	FULLY RATED	EXISTING
MOUNTING:	EXISTING	EXISTING	

CONN		VOLTS				Ph				W				CONN	
VA	#	208	120	3	4	208	120	3	4	208	120	3	4	#	VA
0	1													2	9600
0	3													4	9600
0	5													6	9600
0	7													8	9600
0	9													10	9600
0	11													12	9600
0	13													14	0
0	15													16	0
0	17													18	0
0	19													20	0
180	21													22	0
0	23													24	0
0	25													26	0
0	27													28	0
0	29													30	0

0	SUBTOTAL AMPS Ph A	160
2	SUBTOTAL AMPS Ph B	160
0	SUBTOTAL AMPS Ph C	160

MAIN BREAKER:	200	AMPS
MAIN LUGS:	200	AMPS (MIN)
BUS AMPACITY:	200	AMPS (MIN)

LOAD	CONNECTED	DF	DEMAND
LIGHTING	0	125	0
A/C	0	100	0
HEATING	0	100	0
NON-VENT MOTORS	57600	100	57600
VENTILATION	0	100	0
KITCHEN	0	100	0
RECEPTACLES	180	100	180
MISCELLANEOUS	0	100	0
FUTURE	0	100	0
TOTAL	57780	57780	(VA)
	160	160	(AMPS)

VA ph A	19200
VA ph B	19380
VA ph C	19200
TOTAL	57.8

NOTES:
 1. PANEL SHALL BE PROVIDED WITH A FULL NEUTRAL.
 2. PANEL BUSSING MATERIAL SHALL BE CU.
 3. PROVIDE A FULLY RATED COPPER GROUND BUS.
 4. *BKR* INDICATES HACR TYPE CIRCUIT BREAKER.
 5. ALL BRANCH CIRCUITS SHALL BE FED W/ COPPER CONDUCTORS.
 6. *BKR INDICATES AFCI TYPE CIRCUIT BREAKER.

LOCATION:	EXISTING	PANEL:	A
MANUFACT.:	EXISTING	FED FROM:	UTILITY
MODEL:	EXISTING	FULLY RATED	EXISTING
MOUNTING:	EXISTING	EXISTING	

CONN		VOLTS				Ph				W				CONN	
VA	#	208	120	3	4	208	120	3	4	208	120	3	4	#	VA
0	1													2	0
0	3													4	0
0	5													6	0
0	7													8	0
0	9													10	0
0	11													12	0
0	13													14	0
4080	15													16	0
4080	17													18	4080
0	19													20	4080
0	21													22	0
0	23													24	0
0	25													26	0
0	27													28	0
0	29													30	0

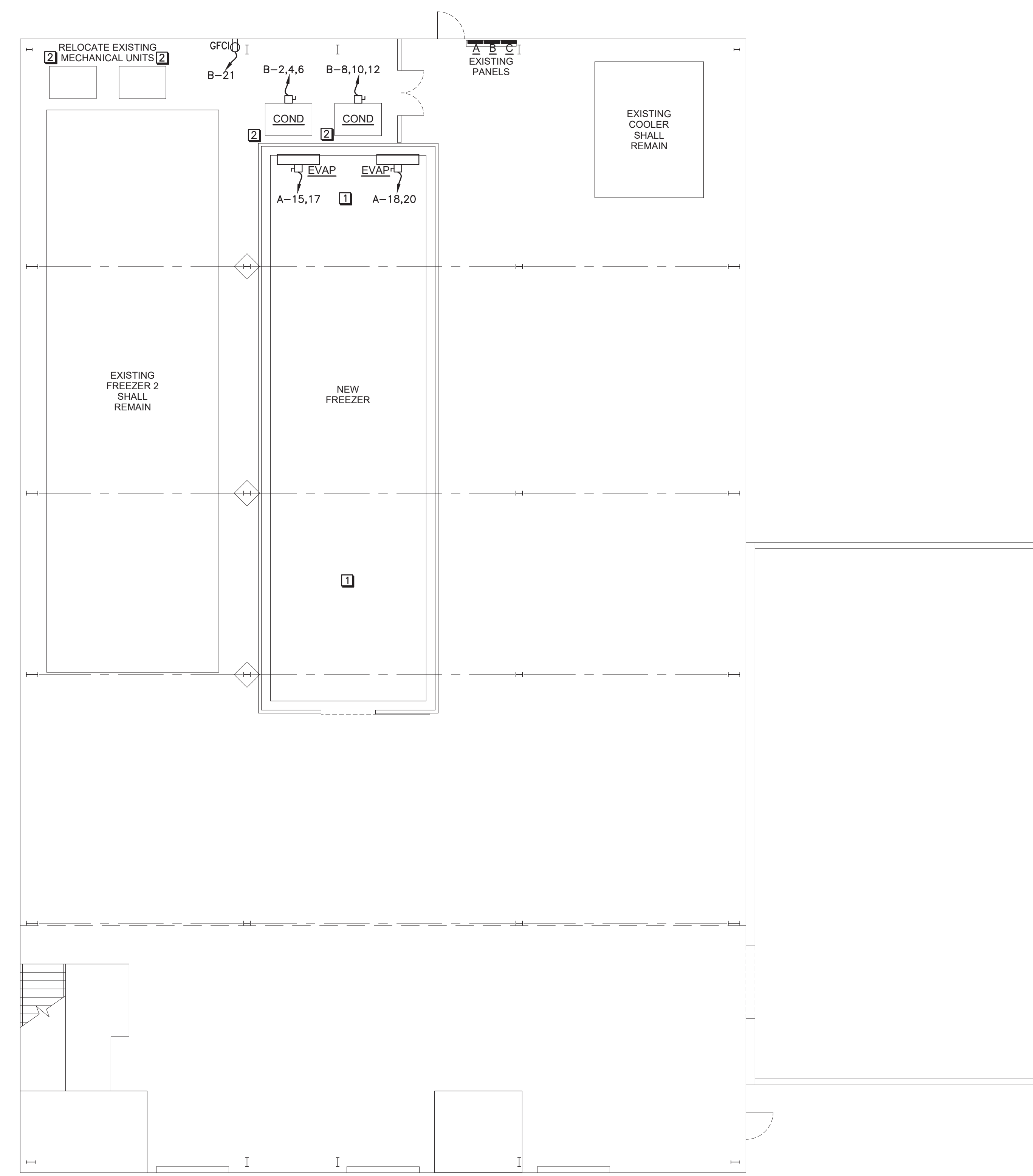
0	SUBTOTAL AMPS Ph A	34
34	SUBTOTAL AMPS Ph B	0
34	SUBTOTAL AMPS Ph C	34

MAIN BREAKER:	200	AMPS
MAIN LUGS:	200	AMPS (MIN)
BUS AMPACITY:	200	AMPS (MIN)

LOAD	CONNECTED	DF	DEMAND
LIGHTING	0	125	0
A/C	0	100	0
HEATING	0	100	0
NON-VENT MOTORS	16320	100	16320
VENTILATION	0	100	0
KITCHEN	0	100	0
RECEPTACLES	0	100	0
MISCELLANEOUS	0	100	0
FUTURE	0	100	0
TOTAL	16320	16320	(VA)
	45	45	(AMPS)

VA ph A	4080
VA ph B	4080
VA ph C	8160
TOTAL	16.3

NOTES:
 1. PANEL SHALL BE PROVIDED WITH A FULL NEUTRAL.
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 5. ALL BRANCH CIRCUITS SHALL BE FED W/ COPPER CONDUCTORS.
 6. *BKR INDICATES AFCI TYPE CIRCUIT BREAKER.



KEYED NOTES:

- LIGHTING BY MANUFACTURER INSTALLED BY EC. REUSE EXISTING LIGHTING CIRCUIT. INSPECT ALL WIRING TO BE IN GOOD SAFE WORKING CONDITION; REPAIR OR REPLACE WHERE NECESSARY.
- EC SHALL RELOCATE EXISTING CONDENSING CIRCUITS TO NEW LOCATION. INSPECT ALL WIRING TO BE IN GOOD SAFE WORKING CONDITION; REPAIR OR REPLACE WHERE NECESSARY. FIELD VERIFY THAT ALL CODE REQUIRED CLEARANCES ARE MAINTAINED.

GENERAL NOTE:

- ALL FREEZER LIGHTING SHALL HAVE A MINIMUM AVERAGE OF 10FC ON THE FLOOR.
- EC SHALL FIELD VERIFY EXACT LOCATION OF ALL EQUIPMENT BEFORE BEGINNING ANY WORK.

1
E2 **POWER PLAN**
 SCALE: 1/8" = 1'-0"

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