GENERAL REFRIGERANT NOTES

1.) ALTERATIONS TO EXISTING WORK BEING OF SUCH NATURE THAT ALL FACETS OF THE WORK BEING IMPOSSIBLE TO DETAIL AND SPECIFY. IT IS THEREFORE, THE RESPONSIBILITY OF THE CONTRACTOR TO CAREFULLY EXAMINE THE BUILDING AND FAMILIARIZE HIMSELF WITH THE CONDITIONS AND RELATE THESE CONDITIONS TO THE SCOPE OF THE PROPOSED NEW WORK.

2.) CONTRACTOR SHALL VERIFY LOCATION OF EXISTING TRENCHES AND\OR PULL-BOXES TO BE RE-USED.

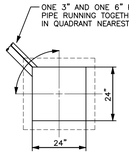
3.) NEW PLASTIC PIPE SHALL HAVE CONTINUOUS SLOPE FROM PULL-BOX TO TRENCH.

4.) CONTRACTOR IS CAUTIONED NOT TO POUR ANY PORTION OF CONCRETE FLOOR SLAB UNTIL UNDERGROUND UTILITIES ARE CHECKED. ALLOW A MIN. OF TWO WEEKS PRIOR TO CHECKING.

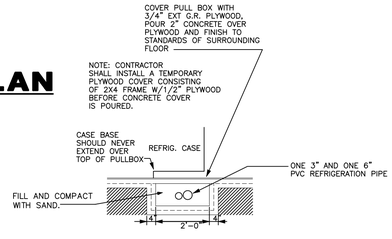
5.) FILL ALL ABANDONED TRENCHES AND PULL-BOXES WITH CLEAN WHITE SAND AND COVER WITH 2" WEAK CONCRETE AND FINISH AS REQUIRED. SEE DETAIL THIS SHEET.

6.) ALL EXISTING TRENCHES , PULL-BOXES, CONDUIT, REFRIGERATION PIPING, ETC., THAT WILL NOT BE RE-USED SHALL BE CONCEALED (PLUGGED AND\OR REMOVED), WITHIN WALLS, FLOOR ETC., AND AREA PREPARED TO MATCH ADJACENT AREA, WHETHER INDICATED ON DRAWINGS OR DISCOVERED DURING CONSTRUCTION.

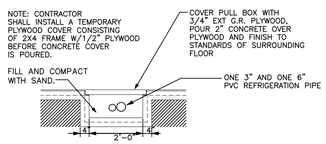
7.) GENERAL CONTRACTOR IS TO SAW-CUT EXISTING FLOOR SLAB TO MAKE TRENCHES A REQUIRED. RUN NEW REFRIGERATION TUBING, PLUMBING LINES AND ELECTRICAL CONDUIT IN THESE TRENCHES. THE GENERAL CONTRACTOR IS TO COORDINATE ALL TRADES AND SEE THAT ALL WORK IS PLACED INSIDE THOSE CUTS, AND THEN RESPONSIBLE FOR REPAIRING ALL CUTS, PREPARING CONCRETE TO RECEIVE NEW FLOOR FINISH.



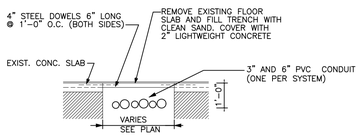
3 TYPICAL PULLBOX PLAN
SCALE: 3/8"=1'-0"



4 TYPICAL SECTION THRU PULLBOX
SCALE: 3/8"=1'-0"



5 TYPICAL SECTION THRU EXPOSED PULLBOX
SCALE: 3/8"=1'-0"



2 TYPICAL SECTION THRU TRENCH
NO SCALE

GENERAL NOTE

Contractor to verify existing systems and equipment sizes. These plans are prepared based on our understanding of what is existing at this time within the building. If any deviations are noted during initial surveys or construction, contractor is to notify engineer immediately for corrective action.

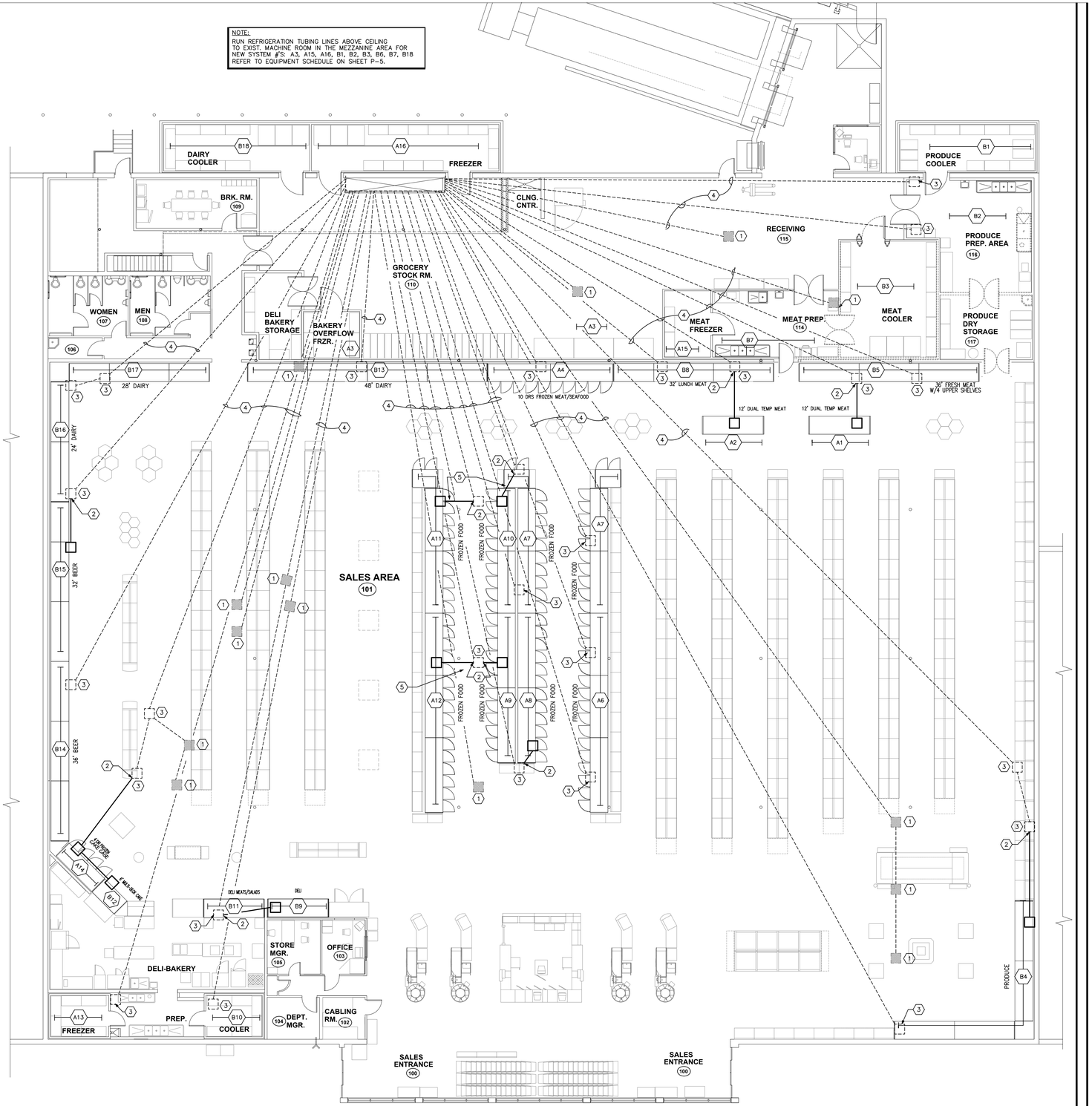
SPECIFIC REFRIGERATION NOTES

1. EXISTING PULL BOX SHALL BE ABANDONED IN PLACE.
2. CONNECT TO EXISTING PULL BOX IN THIS AREA. CONTRACTOR SHALL VERIFY EXACT LOCATION PRIOR TO CONSTRUCTION.
3. EXISTING PULL BOX SHALL REMAIN AS CONNECTED AND BY REUSED BE NEW EQUIPMENT. EXISTING LOCATION SHOWN FOR PULL BOX IN THIS AREA IS APPROXIMATE ONLY. NO AS-BUILT INFORMATION FOR THIS AREA AT TIME OF DESIGN. CONTRACTOR SHALL VERIFY EXACT LOCATION IN FIELD PRIOR TO CONSTRUCTION.
4. EXISTING REFRIGERATION AND REFRIGERANT TUBING TO REMAIN AS CONNECTED IF APPLICABLE. CONTRACTOR SHALL REPLACE WITH NEW IF NECESSARY. COORDINATE FINAL REFRIGERANT INSTALLATION WITH REFRIGERANT SUPPLIER.
5. CONTRACTOR SHALL CAREFULLY COORDINATE REFRIGERATION TUBING CROSSOVER AT THIS POINT INSTALLATION. NEW REFRIGERANT TUBING IS CROSSING OVER EXISTING TUBING AT THIS POINT.

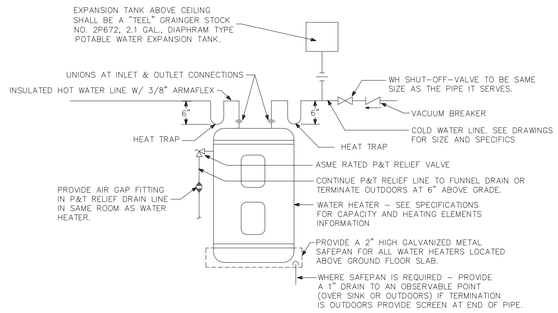
LEGEND

- NEW ONE 3"ø AND ONE 6"ø SCHEDULE 40 PIPE
- EXISTING 24"X24"X12" DEEP CONCRETE PULLBOX TO REMAIN AS CONNECTED.
- NEW 24"X24"X12" DEEP CONCRETE PULLBOX
- NEW REFRIGERATION SYSTEM

NOTE:
RUN REFRIGERATION TUBING LINES ABOVE CEILING TO EXIST. MACHINE ROOM IN THE MEZZANINE AREA FOR NEW SYSTEM #'S: A3, A15, A16, B1, B2, B3, B6, B7, B18 REFER TO EQUIPMENT SCHEDULE ON SHEET P-5.



1 FLOOR PLAN - REFRIGERATION TUBING
SCALE: 3/32"=1'-0"



3 WATER HEATER DETAIL
NO SCALE

SPECIFIC PLUMBING NOTES

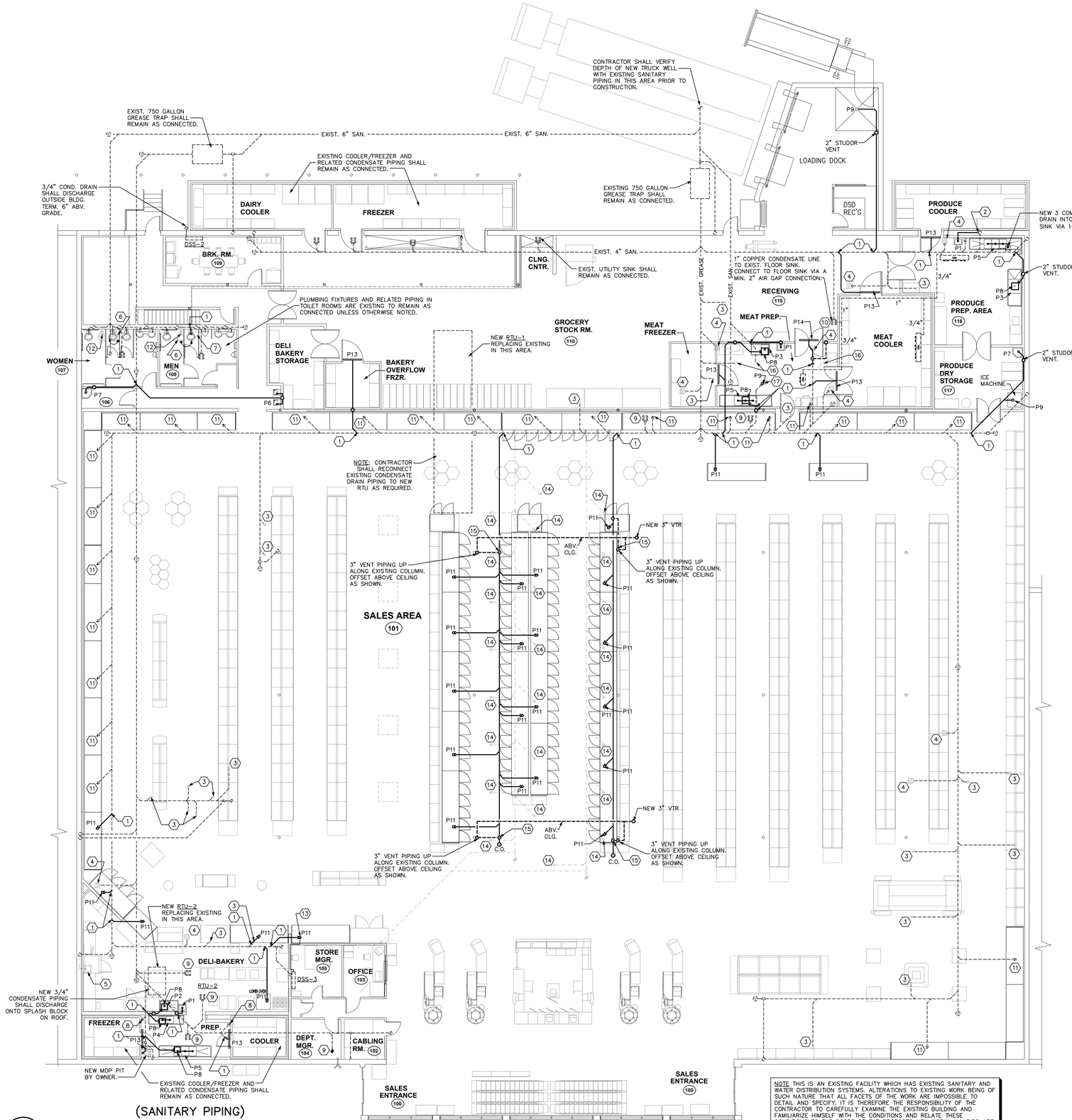
1. CONNECT TO EXISTING SANITARY PIPING BELOW FLOOR IN THIS AREA. CONTRACTOR SHALL VERIFY EXACT LOCATION PRIOR TO CONSTRUCTION.
2. CONNECT TO EXISTING WASTE/VENT STACK IN WALL IN THIS AREA. CONTRACTOR SHALL VERIFY EXACT LOCATION PRIOR TO CONSTRUCTION.
3. EXISTING HUB DRAIN SHALL BE REMOVED AND SANITARY PIPE CAPPED BELOW FLOOR. CONTRACTOR SHALL REPAIR EXISTING FLOOR SLAB AS REQUIRED.
4. EXISTING FLOOR DRAIN SHALL BE REMOVED AND SANITARY PIPE CAPPED BELOW FLOOR. CONTRACTOR SHALL REPAIR EXISTING FLOOR SLAB AS REQUIRED.
5. EXISTING SINK AND RELATED PIPING SHALL BE REMOVED. CONTRACTOR SHALL REPAIR EXISTING WALL AS REQUIRED.
6. EXISTING WATER CLOSET SHALL BE RELOCATED TO NEW POSITION SHOWN. CONTRACTOR SHALL RECONENCT C.W. AND SANITARY PIPING AS REQUIRED.
7. EXISTING URINAL AND RELATED PIPING SHALL BE REMOVED.
8. EXISTING HUB DRAIN SHALL REMAIN AS CONNECTED.
9. EXISTING FLOOR DRAIN SHALL REMAIN AS CONNECTED.
10. EXISTING FLOOR SINK SHALL REMAIN AS CONNECTED.
11. EXISTING DRAIN SHALL REMAIN AS CONNECTED AND BE UTILIZED BY NEW EQUIPMENT. CONTRACTOR SHALL VERIFY EXACT LOCATION OF EXISTING DRAIN WITH FINAL LOCATION OF NEW EQUIPMENT. CONTRACTOR SHALL RELOCATED DRAIN IF REQUIRED TO COORDINATE WITH NEW EQUIPMENT.
12. EXISTING 3" DRAIN THAT WAS SERVING A WATER CLOSET IN THIS ARE SHALL BE REMOVED AND CAPPED BELOW FLOOR. CONTRACTOR SHALL REPAIR EXISTING FLOOR SLAB AS REQUIRED.
13. NEW 3/4" CONDENSATE DRAIN PIPING SHALL ROUTE THRU WALL AND DISCHARGE INTO HUB DRAIN VIA A MIN. 2" AIR GAP CONNECTION.
14. EXISTING CASE DRAIN AND RELATED PIPING IN THIS AREA TO BE ABANDONED IN PLACE DUE TO CONCRETE IN EXISTING DRAINS AND PIPE.
15. 3" VENT PIPING SHELL OFFSET BELOW FLOOR TO EXISTING COLUMN.
16. EXISTING WASTE/VENT STACK IN THIS AREA SHALL BE REMOVED. SANITARY PIPE SHALL BE CAPPED BELOW FLOOR SLAB AND SLAB SHALL BE REPAIRED AS REQUIRED.
17. EXISTING FLOOR SINK IN THIS AREA SHALL BE REMOVED AND REPLACED WITH NEW FLOOR DRAIN IN THIS AREA.

PLUMBING SYMBOLS LEGEND

- FLOOR DRAIN
- HOSE BIBB
- CLEANOUT
- RELIEF VALVE
- AIR CHAMBER
- UNION
- SOIL OR WASTE LINE
- SANITARY VENT LINE
- DOMESTIC COLD WATER
- DOMESTIC HOT WATER
- DOMESTIC WATER RECIRCULATION
- PRESSURE & TEMP. RELIEF LINE
- CONDENSATE DRAIN LINE
- RAIN WATER LEADER
- GAS LINE
- SAFEWASTE LINE
- FIRE PROTECTION
- SHUT OFF VALVE
- SAFEPAN LINE
- FIRE SPRINKLER HEAD
- PIPE TURN UP
- PIPE TURN DOWN
- P-TRAP

PLUMBING ABBREVIATION LEGEND

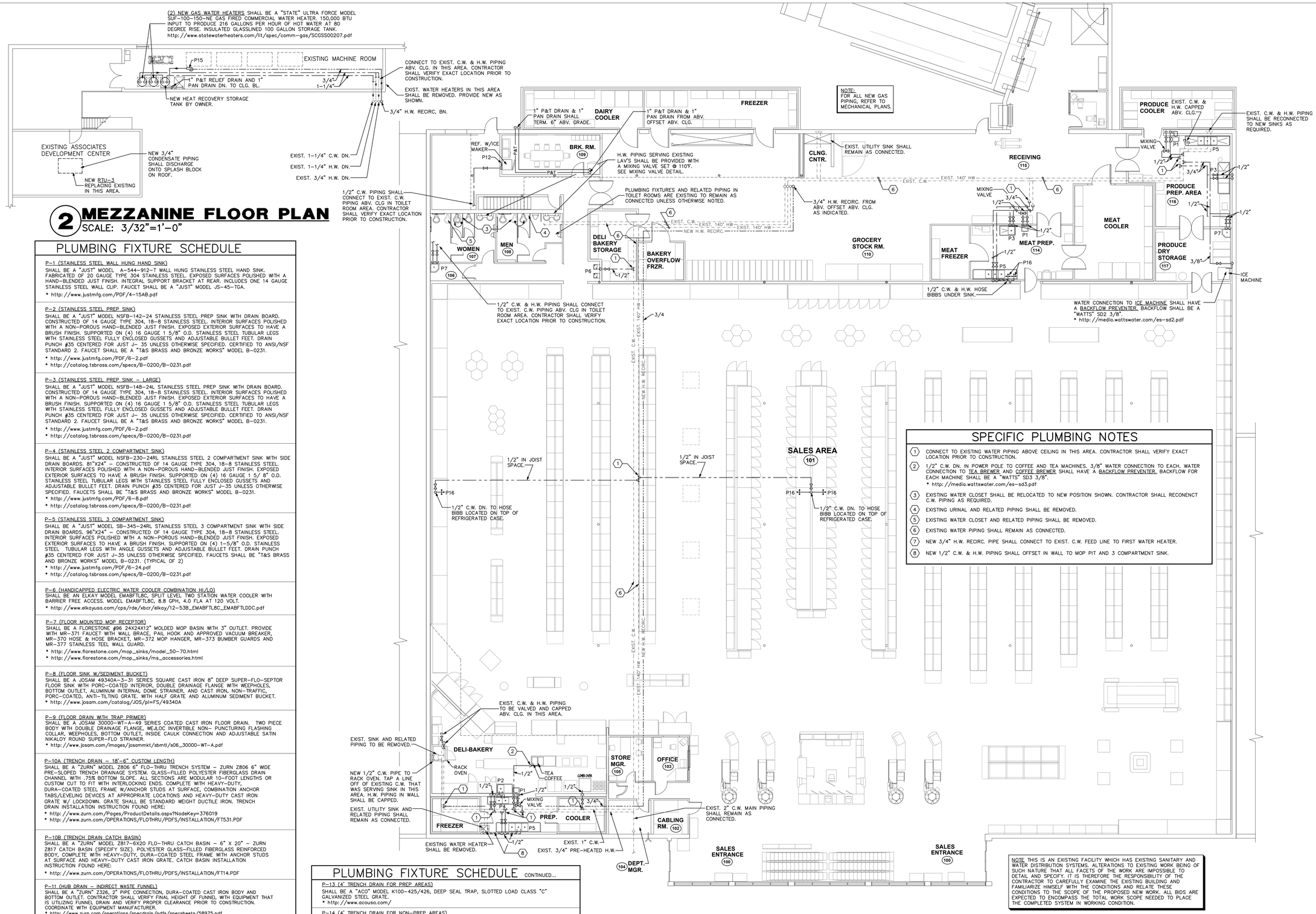
DN.	DOWN	C.C.	CENTER TO CENTER	F.U.	FIXTURE UNITS
EXT.	EXTERIOR	N.T.S.	NOT TO SCALE	H.B.	HOSE BIBBS
F.D.	FLOOR DRAIN	MFGR.	MANUFACTURER	C.O.	CLEANOUT
F.F.	FINISH FLOOR	S.O.V.	SHUT OFF VALVE	E.W.H.	ELECTRIC WATER HEATER
A.F.F.	ABOVE FINISH FLOOR	W.C.	WATER CLOSET	JAN.SK.	JANITOR SINK
V.T.R.	VENT THRU ROOF	LAV.	LAVORATORY	P & T.	PRESSURE & TEMPERATURE
TYP.	TYPICAL	SK.	SINK	RWL.	RAIN WATER LEADER
R.D.	ROOF DRAIN	D.W.	DISH WASHER		
REV.	REVISION	E.D.F.	ELECTRIC DRINKING FOUNTAIN		
O.C.	ON CENTER	UR.	URINAL		



NOTE THIS IS AN EXISTING FACILITY WHICH HAS EXISTING SANITARY AND WATER DISTRIBUTION SYSTEMS. ALTERATIONS TO EXISTING WORK BEING OF SUCH NATURE THAT ALL FACETS OF THE WORK ARE IMPOSSIBLE TO DETAIL AND SPECIFY, IT IS THEREFORE THE RESPONSIBILITY OF THE CONTRACTOR TO CAREFULLY EXAMINE THE EXISTING BUILDING AND FAMILIARIZE HIMSELF WITH THE CONDITIONS AND RELATE THESE CONDITIONS TO THE SCOPE OF THE PROPOSED NEW WORK. ALL BIDS ARE EXPECTED TO ENCOMPASS THE TOTAL WORK SCOPE NEEDED TO PLACE THE COMPLETED SYSTEM IN WORKING CONDITION.

(SANITARY PIPING)

1 FLOOR PLAN - PLUMBING
SCALE: 3/32"=1'-0"



2 MEZZANINE FLOOR PLAN
SCALE: 3/32"=1'-0"

PLUMBING FIXTURE SCHEDULE

P-1 (STAINLESS STEEL WALL HUNG HAND SINK)
SHALL BE A "JUST" MODEL A-544-912-T WALL HUNG STAINLESS STEEL HAND SINK. FABRICATED OF 20 GAUGE TYPE 304 STAINLESS STEEL. EXPOSED SURFACES POLISHED WITH A HAND-BLENDED JUST FINISH. INTEGRAL SUPPORT BRACKET AT REAR. INCLUDES ONE 14 GAUGE STAINLESS STEEL WALL CLIP. FAUCET SHALL BE A "JUST" MODEL JS-45-TGA.
* http://www.justmfg.com/PDF/4-15AB.pdf

P-2 (STAINLESS STEEL PREP SINK)
SHALL BE A "JUST" MODEL NSFB-142-24 STAINLESS STEEL PREP SINK WITH DRAIN BOARD. CONSTRUCTED OF 14 GAUGE TYPE 304, 18-8 STAINLESS STEEL. INTERIOR SURFACES POLISHED WITH A NON-POROUS HAND-BLENDED JUST FINISH. EXPOSED EXTERIOR SURFACES TO HAVE A BRUSH FINISH. SUPPORTED ON (4) 16 GAUGE 1 5/8" O.D. STAINLESS STEEL TUBULAR LEGS WITH STAINLESS STEEL FULLY ENCLOSED GUSSETS AND ADJUSTABLE BULLET FEET. DRAIN PUNCH #35 CENTERED FOR JUST J- 35 UNLESS OTHERWISE SPECIFIED. CERTIFIED TO ANSI/NSF STANDARD 2. FAUCET SHALL BE A "T&S BRASS AND BRONZE WORKS" MODEL B-0231.
* http://www.justmfg.com/PDF/6-2.pdf
* http://catalog.tsbrass.com/specs/B-0200/B-0231.pdf

P-3 (STAINLESS STEEL PREP SINK - LARGE)
SHALL BE A "JUST" MODEL NSFB-148-24L STAINLESS STEEL PREP SINK WITH DRAIN BOARD. CONSTRUCTED OF 14 GAUGE TYPE 304, 18-8 STAINLESS STEEL. INTERIOR SURFACES POLISHED WITH A NON-POROUS HAND-BLENDED JUST FINISH. EXPOSED EXTERIOR SURFACES TO HAVE A BRUSH FINISH. SUPPORTED ON (4) 16 GAUGE 1 5/8" O.D. STAINLESS STEEL TUBULAR LEGS WITH STAINLESS STEEL FULLY ENCLOSED GUSSETS AND ADJUSTABLE BULLET FEET. DRAIN PUNCH #35 CENTERED FOR JUST J- 35 UNLESS OTHERWISE SPECIFIED. CERTIFIED TO ANSI/NSF STANDARD 2. FAUCET SHALL BE A "T&S BRASS AND BRONZE WORKS" MODEL B-0231.
* http://www.justmfg.com/PDF/6-2.pdf
* http://catalog.tsbrass.com/specs/B-0200/B-0231.pdf

P-4 (STAINLESS STEEL 2 COMPARTMENT SINK)
SHALL BE A "JUST" MODEL NSFB-230-24RL STAINLESS STEEL 2 COMPARTMENT SINK WITH SIDE DRAIN BOARDS, 81"X24" - CONSTRUCTED OF 14 GAUGE TYPE 304, 18-8 STAINLESS STEEL. INTERIOR SURFACES POLISHED WITH A NON-POROUS HAND-BLENDED JUST FINISH. EXPOSED EXTERIOR SURFACES TO HAVE A BRUSH FINISH. SUPPORTED ON (4) 16 GAUGE 1 5/ 8" O.D. STAINLESS STEEL TUBULAR LEGS WITH STAINLESS STEEL FULLY ENCLOSED GUSSETS AND ADJUSTABLE BULLET FEET. DRAIN PUNCH #35 CENTERED FOR JUST J-35 UNLESS OTHERWISE SPECIFIED. FAUCETS SHALL BE "T&S BRASS AND BRONZE WORKS" MODEL B-0231.
* http://www.justmfg.com/PDF/6-8.pdf
* http://catalog.tsbrass.com/specs/B-0200/B-0231.pdf

P-5 (STAINLESS STEEL 3 COMPARTMENT SINK)
SHALL BE A "JUST" MODEL SB-345-24RL STAINLESS STEEL 3 COMPARTMENT SINK WITH SIDE DRAIN BOARDS, 96"X24" - CONSTRUCTED OF 14 GAUGE TYPE 304, 18-8 STAINLESS STEEL. INTERIOR SURFACES POLISHED WITH A NON-POROUS HAND-BLENDED JUST FINISH. EXPOSED EXTERIOR SURFACES TO HAVE A BRUSH FINISH. SUPPORTED ON (4) 1-5/8" O.D. STAINLESS STEEL TUBULAR LEGS WITH ANGLE GUSSETS AND ADJUSTABLE BULLET FEET. DRAIN PUNCH #35 CENTERED FOR JUST J-35 UNLESS OTHERWISE SPECIFIED. FAUCETS SHALL BE "T&S BRASS AND BRONZE WORKS" MODEL B-0231. (TYPICAL OF 2)
* http://www.justmfg.com/PDF/6-24.pdf
* http://catalog.tsbrass.com/specs/B-0200/B-0231.pdf

P-6 (HANDICAPPED ELECTRIC WATER COOLER COMBINATION HI/LO)
SHALL BE AN ELKAY MODEL EMABFTL8C, SPLIT LEVEL TWO STATION WATER COOLER WITH BARRIER FREE ACCESS. MODEL EMABFTL8C, 8.8 GPH, 4.0 FLA AT 120 VOLT.
* http://www.elkayusa.com/cps/rde/xbcr/elkay/12-538_EMABFTL8C_EMABFTLDDC.pdf

P-7 (FLOOR MOUNTED MOP RECEPTOR)
SHALL BE A FLORESTONE #96 24X24X12" MOLDED MOP BASIN WITH 3" OUTLET. PROVIDE WITH MR-371 FAUCET WITH WALL BRACE, PAIL HOOK AND APPROVED VACUUM BREAKER, MR-370 HOSE & HOSE BRACKET, MR-372 MOP HANGER, MR-373 BUMBER GUARDS AND MR-377 STAINLESS TEEL WALL GUARD.
* http://www.florestone.com/mop_sinks/model_50-70.html
* http://www.florestone.com/mop_sinks/ms_accessories.html

P-8 (FLOOR SINK W/SEDIMENT BUCKET)
SHALL BE A JOSAM 49340A-3-31 SERIES SQUARE CAST IRON 8" DEEP SUPER-FLO-SEPTOR FLOOR SINK WITH PORC-COATED INTERIOR, DOUBLE DRAINAGE FLANGE WITH WEEPHOLES, BOTTOM OUTLET, ALUMINUM INTERNAL DOME STRAINER, AND CAST IRON, NON-TRAFFIC, PORC-COATED, ANTI-TILTING GRATE. WITH HALF GRATE AND ALUMINUM SEDIMENT BUCKET.
* http://www.josam.com/catalog/JOS/pl=FS/49340A

P-9 (FLOOR DRAIN WITH TRAP PRIMER)
SHALL BE A JOSAM 30000-WT-A-49 SERIES COATED CAST IRON FLOOR DRAIN. TWO PIECE BODY WITH DOUBLE DRAINAGE FLANGE, WEJLOC INVERTIBLE NON- PUNCTURING FLASHING COLLAR, WEEPHOLES, BOTTOM OUTLET, INSIDE CAULK CONNECTION AND ADJUSTABLE SATIN NIKALOY ROUND SUPER-FLO STRAINER.
* http://www.josam.com/images/josammkt/sbmtl/s06_30000-WT-A.pdf

P-10A (TRENCH DRAIN - 18'-6" CUSTOM LENGTH)
SHALL BE A "ZURN" MODEL Z806 6" FLO-THRU TRENCH SYSTEM - ZURN Z806 6" WIDE PRE-SLOPED TRENCH DRAINAGE SYSTEM. GLASS-FILLED POLYESTER FIBERGLASS DRAIN CHANNEL WITH .75% BOTTOM SLOPE. ALL SECTIONS ARE MODULAR 10-FOOT LENGTHS OR CUSTOM CUT TO FIT WITH INTERLOCKING ENDS. COMPLETE WITH HEAVY-DUTY, DURA-COATED STEEL FRAME W/ANCHOR STUDS AT SURFACE, COMBINATION ANCHOR TABS/LEVELING DEVICES AT APPROPRIATE LOCATIONS AND HEAVY-DUTY CAST IRON GRATE W/ LOCKDOWN. GRATE SHALL BE STANDARD WEIGHT DUCTILE IRON. TRENCH DRAIN INSTALLATION INSTRUCTION FOUND HERE:
* http://www.zurn.com/Pages/ProductDetails.aspx?NodeKey=376019
* http://www.zurn.com/OPERATIONS/FLOTHRU/PDFS/INSTALLATION/FT531.PDF

P-10B (TRENCH DRAIN CATCH BASIN)
SHALL BE A "ZURN" MODEL Z817-6X20 FLO-THRU CATCH BASIN - 6" X 20" - ZURN Z817 CATCH BASIN (SPECIFY SIZE). POLYESTER GLASS-FILLED FIBERGLASS REINFORCED BODY, COMPLETE WITH HEAVY-DUTY, DURA-COATED STEEL FRAME WITH ANCHOR STUDS AT SURFACE AND HEAVY-DUTY CAST IRON GRATE. CATCH BASIN INSTALLATION INSTRUCTION FOUND HERE:
* http://www.zurn.com/OPERATIONS/FLOTHRU/PDFS/INSTALLATION/FT14.PDF

P-11 (HUB DRAIN - INDIRECT WASTE FUNNEL)
SHALL BE A "ZURN" Z326, 2" PIPE CONNECTION, DURA-COATED CAST IRON BODY AND BOTTOM OUTLET. CONTRACTOR SHALL VERIFY FINAL HEIGHT OF FUNNEL WITH EQUIPMENT THAT IS UTILIZING FUNNEL DRAIN AND VERIFY PROPER CLEARANCE PRIOR TO CONSTRUCTION. COORDINATE WITH EQUIPMENT MANUFACTURER.
* http://www.zurn.com/operations/specdrain/pdfs/specsheets/58975.pdf

P-12 (WATER CONNECTION BOX)
SHALL BE A HIGH QUALITY CONNECTION BOX AS SPECIFIED ON PLUMBINGSUPPLY.COM LOCATED ON THIS PAGE "http://www.plumbingsupply.com/icemaker-outlet-boxes.html" SHALL INCLUDE 2 SUPPORT BRACKETS, HIGH IMPACT POLYSTYRENE, 1/4" BRASS BALL VALVE WITH 1/2" SWEAT CONNECTION. OR APPROVED EQUAL.

NOTES:
1.) ALL PLUMBING FIXTURES SHALL BE AS SPECIFIED OR APPROVED EQUAL.
2.) PROVIDE ANGLE STOPS ON ALL WATER SERVICE LINES TO FIXTURES FOR INDIVIDUAL SHUT-OFF.

SPECIFIC PLUMBING NOTES

1. CONNECT TO EXISTING WATER PIPING ABOVE CEILING IN THIS AREA. CONTRACTOR SHALL VERIFY EXACT LOCATION PRIOR TO CONSTRUCTION.
2. 1/2" C.W. DN. IN POWER POLE TO COFFEE AND TEA MACHINES. 3/8" WATER CONNECTION TO EACH. WATER CONNECTION TO TEA BREWER AND COFFEE BREWER SHALL HAVE A BACKFLOW PREVENTER. BACKFLOW FOR EACH MACHINE SHALL BE A "WATTS" SD3 3/8".
   * http://media.wattswater.com/es-sd3.pdf
3. EXISTING WATER CLOSET SHALL BE RELOCATED TO NEW POSITION SHOWN. CONTRACTOR SHALL RECONENCT C.W. PIPING AS REQUIRED.
4. EXISTING URINAL AND RELATED PIPING SHALL BE REMOVED.
5. EXISTING WATER CLOSET AND RELATED PIPING SHALL BE REMOVED.
6. EXISTING WATER PIPING SHALL REMAIN AS CONNECTED.
7. NEW 3/4" H.W. RECIRC. PIPE SHALL CONNECT TO EXIST. C.W. FEED LINE TO FIRST WATER HEATER.
8. NEW 1/2" C.W. & H.W. PIPING SHALL OFFSET IN WALL TO MOP PIT AND 3 COMPARTMENT SINK.

PLUMBING FIXTURE SCHEDULE CONTINUED...

P-13 (4' TRENCH DRAIN FOR PREP AREAS)
SHALL BE A "ACO" MODEL K100-425/426, DEEP SEAL TRAP, SLOTTED LOAD CLASS "C" GALVANIZED STEEL GRATE.
* http://www.acousa.com/

P-14 (4' TRENCH DRAIN FOR NON-PREP AREAS)
SHALL BE A "ACO" MODEL K100S-461, DEEP SEAL TRAP, SLOTTED LOAD CLASS "E" DUCTILE IRON GRATE.
* http://www.acousa.com/

P-15 (HOT WATER RECIRCULATING PUMP)
SHALL BE A"BELL & GOSSETT" MODEL #PL-36B, GRAINGER STOCK #5-PC3, INLINE CIRCULATOR PUMP, OPEN LOOP SYSTEM, 1/6 HP, 1 PHASE, VOLTAGE 115, INLET/OUTLET FLANGED, HOUSING MATERIAL BRONZE, MAX. TEMP. 225 F, MAX. WORKING PRESSURE 150 PSI, SHUT-OFF 37 FT., 3300 RPM, IMPELLER MATERIAL NORYL, THERMAL PROTECTION, MECHANICAL SEAL CARBON/SILICON CARBIDE, ADDITIONAL FEATURES MAINTENANCE-FREE, WARRANTY LENGTH 3 YEARS.
* http://www.grainger.com/Grainger/BELL-GOSSETT-Circulator-Pump-5JPC3?Pid=search

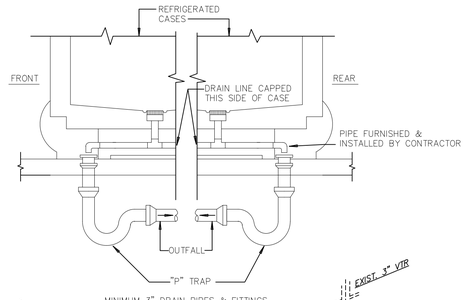
P-16 (INTERIOR HOSE BIBB W/HANDWHEEL)
SHALL BE A "NIBCO" QT55X 3/4, GRAINGER STOCK #1WPV5. HOSE BIBB, NO KINK, QUARTER TURN, NOMINAL SIZE 3/4 IN, CONNECTION FIPT, RATED FOR 125 PSI CWP, MAX TEMP 180 F, OPEN HEIGHT 1 1/2 IN, MATERIAL OF CONSTRUCTION BRASS, ZINC HANDWHEELS, STANDARDS NSF/ANSI 61-9.
* http://www.grainger.com/Grainger/items/1WPV5

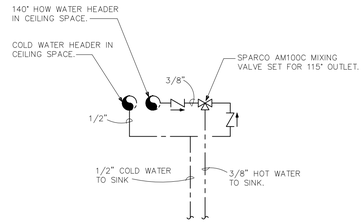
NOTE THIS IS AN EXISTING FACILITY WHICH HAS EXISTING SANITARY AND WATER DISTRIBUTION SYSTEMS. ALTERATIONS TO EXISTING WORK BEING OF SUCH NATURE THAT ALL FACETS OF THE WORK ARE IMPOSSIBLE TO DETAIL AND SPECIFY. IT IS THEREFORE THE RESPONSIBILITY OF THE CONTRACTOR TO CAREFULLY EXAMINE THE EXISTING BUILDING AND FAMILIARIZE HIMSELF WITH THE CONDITIONS AND RELATE THESE CONDITIONS TO THE SCOPE OF THE PROPOSED NEW WORK. ALL BIDS ARE EXPECTED TO ENCOMPASS THE TOTAL WORK SCOPE NEEDED TO PLACE THE COMPLETED SYSTEM IN WORKING CONDITION.

(WATER PIPING)
1 FLOOR PLAN - PLUMBING
SCALE: 3/32"=1'-0"

NOTE - ALL SINKS AND WASH PITS SHALL HAVE CHECK VALVES IN THE COLD WATER LINE.

HUB DRAIN AT REFRIG. CASE SECTION





2 MIXING VALVE FOR HAND SINKS AND LAV'S DETAIL

NO SCALE

WATER HEATER CALCULATIONS

Storage Tank Water Heater Sizing Calculator

Developed by the Plan Review Unit of the Environmental Health Services Section
NC Division of Environmental Health

Facility Name:	Just Save Foods overall water heater calculations
Address:	Charlotte, NC

EQUIPMENT						GPH CALCULATED
Enter the description, and number and size of compartments for each sink below	Description	Number of compartments	(inches) Length	Width	Depth	Gallons Per Hour (GPH)
Largest Sink #1	(3) compartment	3	28	19	14	73
Sink #2	(3) compartment	3	28	19	14	73
Sink #3	(3) compartment	3	28	19	14	73
Bar sink						0
Sinks are calculated at 75% capacity					**Total**	218

Enter type of prep sink and number of sink compartments for each sink below	Type of prep sink (vegetable, meat, seafood)	Number of compartments	Gallons Per Hour (GPH)
Prep sink #1	(3) meat prep sinks	4	20
Prep sink #2	fish prep	1	5
Prep sink#3	vegetable prep	2	10
Prep sinks are calculated at 5 gallons per compartment		**Total**	35

Enter the quantity of equipment below	Quantity		Gallons Per Hour (GPH)
Hand sinks	8		40
Can wash	2		20
Mop sink	2		10
Hose reel			0
Clothes washer			0

Enter a description and estimated gallon per hour (GPH) usage for other equipment below	Description	Estimated gallons per hour (GPH) usage	
Other Equipment			0
Other Equipment			0
Other Equipment			0
Other Equipment			0
Hand sinks and mop sinks are calculated at 5 GPH each, can washes at 10 GPH each. Hose reels are calculated at 5 GPH, clothes washers at 15 GPH, other equipment at the usage entered		**Total**	70

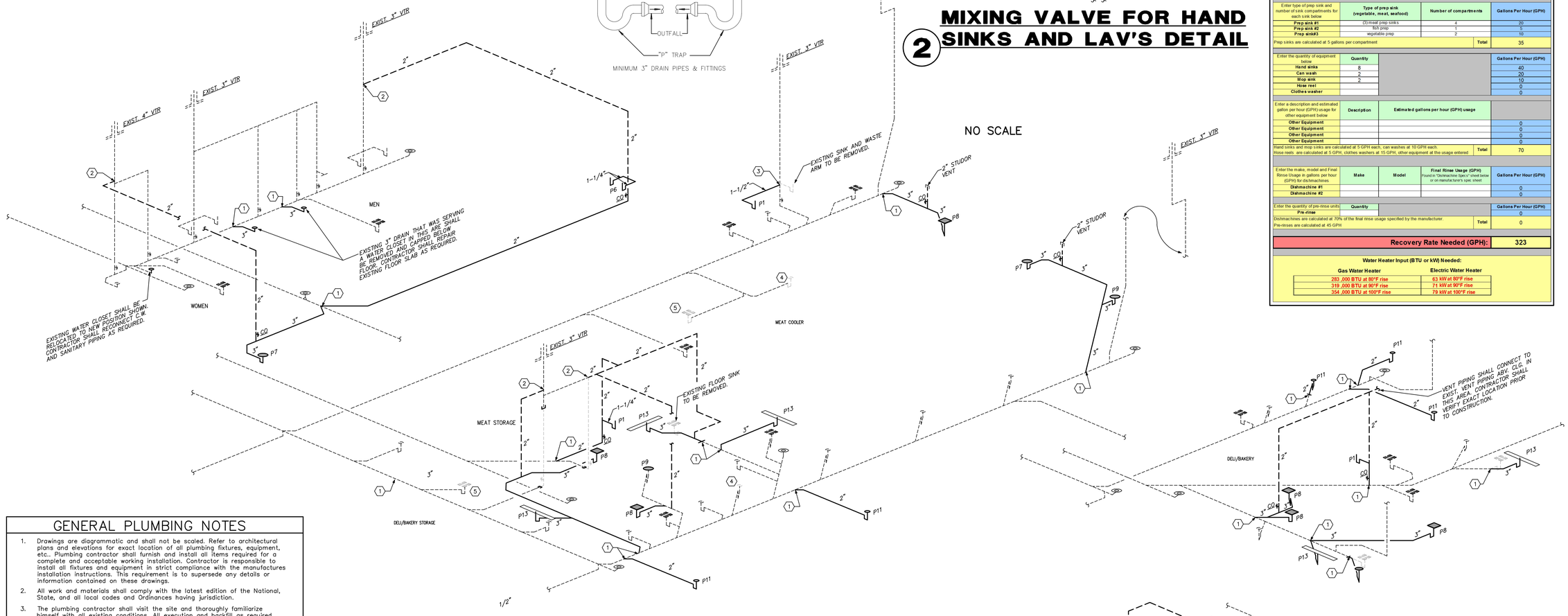
Enter the make, model and Final Rinse Usage in gallons per hour (GPH) for dishmachines	Make	Model	Final Rinse Usage (GPH) Found in "Dishmachine Specs" sheet below or on manufacturer's spec sheet	Gallons Per Hour (GPH)
Dishmachine #1				0
Dishmachine #2				0

Enter the quantity of pre-rinse units	Quantity		Gallons Per Hour (GPH)
Pre-rinse			0
Dishmachines are calculated at 70% of the final rinse usage specified by the manufacturer. Pre-rinses are calculated at 45 GPH		**Total**	0

Recovery Rate Needed (GPH):	323

Water Heater Input (BTU or kW) Needed:

Gas Water Heater	Electric Water Heater
283,000 BTU at 80°F rise	63 kW at 80°F rise
319,000 BTU at 90°F rise	71 kW at 90°F rise
354,000 BTU at 100°F rise	79 kW at 100°F rise



1 SANITARY ISOMETRICS

NO SCALE

GENERAL PLUMBING NOTES

1. Drawings are diagrammatic and shall not be scaled. Refer to architectural plans and elevations for exact location of all plumbing fixtures, equipment, etc.. Plumbing contractor shall furnish and install all items required for a complete and acceptable working installation. Contractor is responsible to install all fixtures and equipment in strict compliance with the manufactures installation instructions. This requirement is to supersede any details or information contained on these drawings.
2. All work and materials shall comply with the latest edition of the National, State, and all local codes and Ordinances having jurisdiction.
3. The plumbing contractor shall visit the site and thoroughly familiarize himself with all existing conditions. All execution and backfill as required for this phase of construction shall be a part of this contract.
4. All work shall be performed by a licensed plumbing contractor in a first class workmanlike manner. The completed system shall be fully operative and accepted by engineer/architect.
5. All required insurance shall be provided for protection against public liability or property damage for the duration of the work.
6. The plumbing contractor shall secure and pay all permit fees, inspections, and tests.
7. All work shall be coordinated with other trades to avoid interference with the progress of construction.
8. The plumbing contractor shall guarantee all materials and workmanship free from defects for a period of not less than (1) one year from date of acceptance. Correction of any defects shall be completed without additional charge and shall include replacement or repair of any other phase of the installation which may have been damaged thereby.
9. Verify location, size and inverts of all existing utilities prior to start of construction. Advise architect/engineer of any discrepancies.
10. All new below floor slab water piping shall be flexible "temprite pex (cross-linked polyethylene)" Intalled as per manufacturers recommendations found here: www.lubrizol.com. All new above slab water piping shall be "FlowGuard Gold CPVC" installed as per manufacturers recommendations found here: www.flowguardgold.com. All water piping as specified or approved equal. All water piping larger than 1" shall be CPVC.
11. All new soil, wastes and vent piping shall be PVC #40 DMV. Waste and vent piping above slab shall be PVC, if approved by local authorities having jurisdiction, otherwise cast iron. PVC shall not be installed in A/C return air plenum or penetrate fire rated walls or floors.
12. New air conditioning condensate drain piping shall be PVC #40 or copper drain waste and bent pipe and fittings. Insulate all condensate piping except exterior piping.
13. Furnish and install approved water hammer arrestors at each new plumbing fixture and PDI approved shock arrestors on main lines and risers.
14. Provide chrome plated combination covered plate and cleanout plug for all wall new cleanouts, Josam 58890.
15. Insulate lines as follows:
    a.) 1" thick armaflex preformed insulation shall be provided on both new c.w. & h.w. when piping is located outside of the insulated building envelope.
    b.) 1/2" thick armaflex preformed insulation shall be provided on new hw piping & h.w. recirc. piping, only when there is a h.w. recirculating piping system.
    c.) New condensate piping: 1/2" thick armaflex preformed or approved equal.

SPECIFIC PLUMBING NOTES

1. CONNECT TO EXISTING SANITARY PIPING BELOW FLOOR IN THIS AREA. CONTRACTOR SHALL VERIFY EXACT LOCATION PRIOR TO CONSTRUCTION.
2. CONNECT TO EXISTING VENT PIPING ABOVE CEILING IN THIS AREA. CONTRACTOR SHALL VERIFY EXACT LOCATION PRIOR TO CONSTRUCTION.
3. CONNECT TO EXISTING WASTE/VENT STACK IN WALL IN THIS AREA. CONTRACTOR SHALL VERIFY EXACT LOCATION PRIOR TO CONSTRUCTION.
4. EXISTING HUB DRAIN SHALL BE REMOVED AND SANITARY PIPE CAPPED BELOW FLOOR. CONTRACTOR SHALL REPAIR EXISTING FLOOR SLAB AS REQUIRED.
5. EXISTING FLOOR DRAIN/FLOOR SINK SHALL BE REMOVED AND SANITARY PIPE CAPPED BELOW FLOOR. CONTRACTOR SHALL REPAIR EXISTING FLOOR SLAB AS REQUIRED.

HILL PHOENIX
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709 SIGMAN ROAD
CONYERS, GEORGIA 30013
(800)–685–5475 Fax: (770)285–3076

Store / Cust: Lowes Foods
Location: Sunset Road – Charlotte, North Carolina
Quote / Job:
Proto Dir. Configuration

Rack A

Prepared By: Erik Haffner Date: 04/20/12 Field Connection: Rear Vertical Up Rack Voltage: 208/60/3

Sys No	Model	Heat Exchr.	Expansion Valve	Dist Noz	Application	MBTUH	Evap °F	DEF	Fans Amps	Fans Volts/ø	Defrost Amps	Defrost Volts/ø	Refrigeration Valves Liquid	Refrigeration Valves Suction	Horz. Est. length	Suction Trunk Horiz	Suction Trunk Riser	Suction Branch Horiz	Branch Riser	Liquid Main	Liquid Bran.
A1	FN				12' Dual Temp Island	4.7	–20	HG	0.6	120/1			Ball Valve	CDST–4–7DT	60	None			None	None	
A2	FN				12' Dual Temp Island	4.7	–20	HG	0.6	120/1			Ball Valve	CDST–4–7DT	60	None			None	None	
A3	HGT–102		EGSE–1–Z	3/4	8x12x10 Bakery Frzr(–5)	8.6	–15	HG	2.7	120/1			Ball Valve	CDST–7–11	85	None			None	None	
A4	ORZ–E				10 Doors Frozen Meat/Seafood	13.5	–11	HG	5.0	120/1			Ball Valve	CDST–7–7	25	None			None	None	
A5	ORZH–E				10+2 Doors Ice Cream	16.9	–17	HG	6.0	120/1			Ball Valve	CDST–7–11	100	None			None	None	
A6	ORZH–E				16 Doors Frozen Food	21.5	–11	HG	8.0	120/1			Ball Valve	CDST–7–11	75	None			None	None	
A7	ORZH–E				10+2 Doors Ice Cream	16.9	–17	HG	6.0	120/1			Ball Valve	CDST–7–11	100	None			None	None	
A8	ORZH–E				12 Doors Frozen Food	16.1	–11	HG	6.0	120/1			Ball Valve	CDST–7–11	150	None			None	None	
A9	ORZH–E				12 Doors Frozen Food	16.1	–11	HG	6.0	120/1			Ball Valve	CDST–7–11	150	None			None	None	
A10	ORZH–E				10 Doors Frozen Food	13.5	–11	HG	5.0	120/1			Ball Valve	CDST–7–11	75	None			None	None	
A11	ORZH–E				10+2 Doors Ice Cream	16.9	–17	HG	6.0	120/1			Ball Valve	CDST–7–11	100	None			None	None	
A12	ORZH–E				16 Doors Ice Cream	22.5	–17	HG	8.0	120/1			Ball Valve	CDST–9–11	100	None			None	None	
A13	HGT–102		EGSE–1–Z	3/4	8x12x10 Bakery Frzr(–5)	8.6	–15	HG	2.7	120/1			Ball Valve	CDST–7–11	85	None			None	None	
A14	ORZ–E				4 Door Frozen Cake	5.6	–17	HG	2.0	120/1			Ball Valve	CDST–4–7	85	None			None	None	
A15	HGT–102		EGSE–1–Z	3/4	10x12x10 Meat Freezer(–5)	10.0	–15	HG	2.7	120/1			Ball Valve	CDST–7–9	200	None			None	None	
A16	(2)HGT–170;		(2)EGSE–1–Z	3/4	10x30x10 Freezer(–14)	19.1	–20	HG	9.0	120/1			Ball Valve	CDST–17–13	40	None			None	None	
A17	Spare				Spare	0.0	–20	HG					Ball Valve	Ball Valve	150	None			None	None	

⇧ –23 Suction Group Loads MBTUH 215.0 ⇧

Model No: PS410SLRAC Rack A

Compressor	MBTUH	HP/RPM	RLA/LRA	CB	Cont	Wire	HF	CCH	UNL	UNL%	DeSuper Heat Valve	DeSuper Heat Solenoid
–23 Suction	Designed @ –23/110											
3DJHF33KL–TFC	46.0	5.5/1750	31.5/161.0	40	40	8	YES	YES	1	67%	NONE	–
3DS3F46KL–TFC	64.1	7.0/1750	42.0/215.0	60	50	6	NO	YES	NO	–	NONE	–
4DP3F63KL–TSK	85.9	10.0/1750	52.6/278.0	70	60	4	YES	YES	1	50%	NONE	–
4DL3F63KL–TSK	85.9	10.0/1750	52.6/278.0	70	60	4	NO	YES	NO	–	NONE	–

Model #	BNX–D06–A039	830	RPM	Suction	DX Header	–
T.D.	9.1 See Note #2	208/60/3	VOLT	Saturated Temp	–23	–
FLA	28.8	10	FPI	Manifold Size	3–1/8"	–
Max. Overcur Prot.	35			Filter	–	–
Weight	1990			Accumulator	–	–
Inverter	–					

Condenser/Split	50%	50%	–
Solenoid	12D13B–SC(1)	12D13B–SC(1)	–
Isol. Valve To	–	–	–
Pump Out Sol.	–	–	–
Isol. Valve From	1–1/8"	1–1/8"	–
Check Valve From	1–1/8"	1–1/8"	–

General Specifications		Discharge		Liquid	
Refrigerant Type	R–404A	Manifold Size	1–5/8"	Line Size *	1–1/8"
Condensing Temp	110	Oil Separator	OS6–15–RES	Manif Size	1–3/8"
Outside Air Temp.	100	Disch. Check Valve	1–5/8"	Drier / Sightglass	C–969/SA–19S
Rack MCA	–	Disch. Regulator	–	Master Sol	QLDR–16
Defrost MCA	–	Bypass Regulator	Parker A9	Drain Regulator	A81–1 1/8PX1 3/8P A
"Motors" MCA	–	Condenser Supply	1–5/8"	Surge Solenoid	–
DX Header REQ	215.0	Condenser Return	1–3/8"	Surge Ball Valve	–
DX Header AVAIL	281.9			Surge Check Valve	–
		Heat Reclaim		Receiver	
		Water / Air	Water/Air	Horiz / Vert	Vertical
Total Rej. Heat (MBH)	344.3	Heat Reclaim	12D13B/12D13B	Dia. x Length	V18x60
Subcooled Liquid Temp	55	Isol. Valve To	1–5/8"	Lbs @ 80% PD	291
Oil Brand / Type	Note #3	Isol Valve From	1–5/8"		
				*From Receiver	

Note #1: *** One 1–5/8" discharge line to split condenser valve at condenser, (2) 1–1/8" discharge lines to and (2) 1–1/8" return lines from condenser, 1–5/8" heat reclaim supply and return lines ***
Note #2: Altitude: 886 Correction Factor: 1.0222
Note #3: Emkarate RL32–3MAF PE

HILL PHOENIX
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CONYERS, GEORGIA 30013
(800)–685–5475 Fax: (770)285–3076

Store / Cust: Lowes Foods
Location: Sunset Road – Charlotte, North Carolina
Quote / Job:
Proto Dir. Configuration

Rack B

Prepared By: Erik Haffner Date: 04/20/12 Field Connection: Rear Vert Up Rack Voltage: 208/60/3

Sys No	Model	Heat Exchr.	Expansion Valve	Dist Noz	Application	MBTUH	Evap °F	DEF	Fans Amps	Fans Volts/ø	Defrost Amps	Defrost Volts/ø	Refrigeration Valves Liquid	Refrigeration Valves Suction	Horz. Est. length	Suction Trunk Horiz	Suction Trunk Riser	Suction Branch Horiz	Branch Riser	Liquid Main	Liquid Bran.
SCA					Subcool Rack A	60.8	40	NA					Ball Valve	PORT–79	75	None			None	None	
B1	(2)WK–130;		(2)EGVE–1–C	1/2	28x10x10 Produce Cooler(+36)	17.8	28	OC	3.6	120/1			Ball Valve	CDST–7–7	85	None			None	None	
B2	(2)WK–130;		Note #2	1	532 SF Produce Prep(+45)	34.6	30	OC	3.6	120/1			Ball Valve	CDST–9–11	85	None			None	None	
B3	(2)WKE–210;		(2)EGVE–1–C	3/4	386 SF Meat Cooler(+28)	25.1	22	EL	4.0	208/1	45.2	208/1	Ball Valve	CDST–7–11	85	None			None	None	
B4	O5DM–E				48' MD Produce	68.7	26	OC	8.0	120/1			Ball Valve	CDST–17–17	150	None			None	None	
B5	OHMH–E				36' MD Fresh Meat	51.6	22	OC	7.5	120/1			Ball Valve	CDST–17–13	150	None			None	None	
B6	WK–075		EGVE–3/4–C	1/3	8x10x10 Seafood Cooler(+34)	7.0	24	OC	0.9	120/1			Ball Valve	CDST–4–7	85	None			None	None	
B7	WK–100		EGVE–1–1/2–C	3/4	25x9x10 Meat Prep(+45)	14.6	30	OC	1.8	120/1			Ball Valve	CDST–7–7	85	None			None	None	
B8	O5DM–E				32' MD Lunch Meat	50.2	22	OC	5.5	120/1			Ball Valve	CDST–17–13	150	None			None	None	
B9	O5DM–E				12' MD Deli	18.8	22	OC	2.0	120/1			Ball Valve	CDST–7–9	150	None			None	None	
B10	ADT–090		EGVE–3/4–C	1/2	8x12x10 Deli Cooler(+34)	8.0	24	OC	1.8	120/1			Ball Valve	CDST–4–7	85	None			None	None	
B11	BMD				12' Service Deli Meats/Salad	7.8	20	OC	1.3	120/1			Ball Valve	CDST–4–7	150	None			None	None	
B12	HV72RSS				6' MD Cake	7.2	20	OC					Ball Valve	CDST–4–7	150	None			None	None	
B13	O5DM–E				48' MD Dairy	70.6	26	OC	8.0	120/1			Ball Valve	CDST–17–17	150	None			None	None	
B14	O5DM–E				36' MD Beer	53.6	29	OC	6.0	120/1			Ball Valve	CDST–17–13	150	None			None	None	
B15	O5DM–E				32' MD Beer	47.7	29	OC	5.5	120/1			Ball Valve	CDST–17–13	150	None			None	None	
B16	O5DM–E				24' MD Dairy	35.3	26	OC	4.0	120/1			Ball Valve	CDST–9–11	150	None			None	None	
B17	O5DM–E				28' MD Dairy	41.2	26	OC	5.0	120/1			Ball Valve	CDST–17–13	150	None			None	None	
B18	(2)ADT–104;		(2)EGVE–1–C	1/2	30x10x10 Dairy Cooler(+34)	19.1	24	OC	3.6	120/1			Ball Valve	CDST–7–9	85	None			None	None	

⇧ +18 Suction Group Loads MBTUH 639.7 ⇧

Model No: PS515VMRAC Rack B

Compressor	MBTUH	HP/RPM	RLA/LRA	CB	Cont	Wire	HF	CCH	UNL	UNL%	DeSuper Heat Valve	DeSuper Heat Solenoid
+18 Suction	Designed @ +18/115											
3DTHS12ML–TFC	110.7	10.0/1750	47.1/280.0	60	50	6	NO	YES	1	67%	NONE	–
4DK3S16ML–TSK	153.1	15.0/1750	65.7/308.0	90	75	3	NO	YES	1	50%	NONE	–
4DH3S16ML–TSK	153.1	15.0/1750	65.7/308.0	90	75	3	NO	YES	NO	–	NONE	–
4DH3S16ML–TSK	153.1	15.0/1750	65.7/308.0	90	75	3	NO	YES	NO	–	NONE	–
4DH3S16ML–TSK	153.1	15.0/1750	65.7/308.0	90	75	3	NO	YES	NO	–	NONE	–

Model #	BNX–D10–A076	830	RPM	Suction	DX Header	–
T.D.	14.5 See Note #3	208/60/3	VOLT	Saturated Temp	+18	–
FLA	48	10	FPI	Manifold Size	4–1/8"	–
Max. Overcur Prot.	60			Filter	–	–
Weight	3540			Accumulator	–	–
Inverter	–					

Condenser/Split	50%	50%	–
Solenoid	16D17C–SC(1)	16D17C–SC(1)	–
Isol. Valve To	–	–	–
Pump Out Sol.	E3S120	–	–
Isol. Valve From	2–1/8"	2–1/8"	–
Check Valve From	2–1/8"	2–1/8"	–

General Specifications		Discharge		Liquid	
Refrigerant Type	R–407A	Manifold Size	2–1/8"	Line Size *	1–5/8"
Condensing Temp	115	Oil Separator	OS8–21–RES	Manif Size	2–1/8"
Outside Air Temp.	100	Disch. Check Valve	2–1/8"	Drier / Sightglass	C–14413–G/SA–213
Rack MCA	–	Disch. Regulator	N/A	Master Sol	QLDR–16
Defrost MCA	–	Bypass Regulator	Parker A9	Drain Regulator	A82–1 5/8PX2 5/8C
"Motors" MCA	–	Condenser Supply	2–1/8"	Surge Solenoid	–
DX Header REQ	639.7	Condenser Return	2–5/8"	Surge Ball Valve	–
DX Header AVAIL	723.2			Surge Check Valve	–
		Heat Reclaim		Receiver	
		Water / Air	Air/Air	Horiz / Vert	Vertical
Total Rej. Heat (MBH)	1070.3	Heat Reclaim	16D17B	Dia. x Length	V20x60
Subcooled Liquid Temp	N/A	Isol. Valve To	2–1/8"	Lbs @ 80% PD	419
Oil Brand / Type	Note #4	Isol Valve From	2–1/8"		
				*From Receiver	

Note #1: Clean Switch wired to CPC input point
Note #2: TXV Model: (2)EGVE–1–1/2–C
Note #3: Altitude: 886 Correction Factor: 1.0222
Note #4: Emkarate RL32–3MAF PE

HILL PHOENIX
709 SIGMAN ROAD
CONYERS, GA 30013
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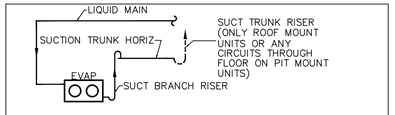
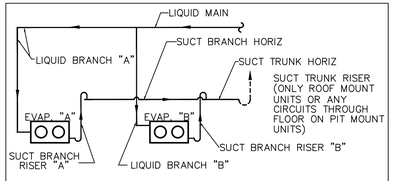
FX: (770) 285–3076

TYPE PIPING RUN	PRESSURE DROP MAX.	PRESSURE DROP MIN.	VELOCITY (FPM) MAX.	VELOCITY (FPM) MIN.
SUCT. BR. HOR	2.0 PSI	0.5 PSI	1500	800
SUCT. BR. RISER	2.0 PSI	1.0 PSI	2500	1500
SUCT. TR. HOR	2.0 PSI	0.5 PSI	1500	800
SUCT. TR. RISER	2.0 PSI	0.5 PSI	2500	1500
LIQ. MAIN	4.0 PSI	0.5 PSI	100	60
LIQ. BR.	4.0 PSI	0.5 PSI	100	60

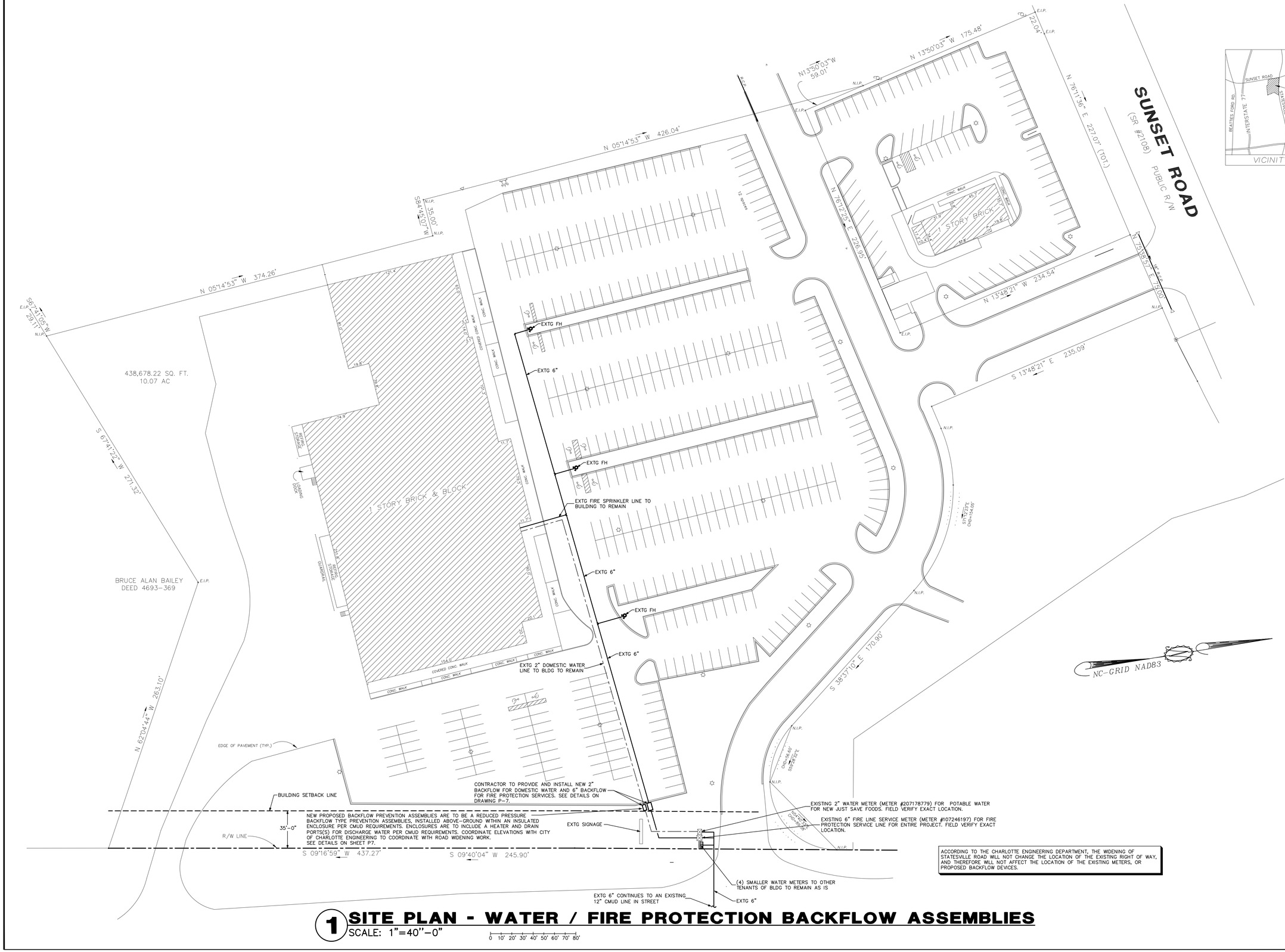


TYPICAL REFRIGERANT PIPING SCHEMATIC
NOMENCLATURE FOR SINGLE EVAPORATOR CIRCUIT



TYPICAL REFRIGERANT PIPING SCHEMATIC
NOMENCLATURE FOR MULTI–EVAPORATOR CIRCUIT

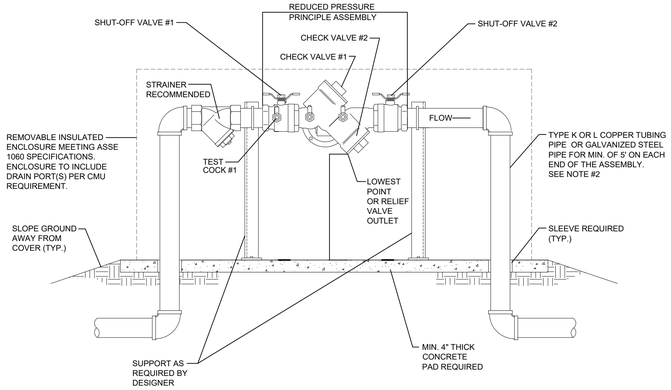
1 REFRIGERATION SCHEDULES
NO SCALE



1 SITE PLAN - WATER / FIRE PROTECTION BACKFLOW ASSEMBLIES

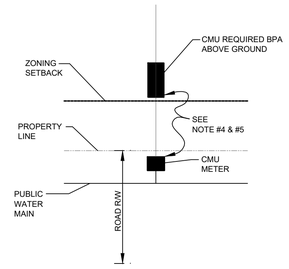
SCALE: 1"=40"-0"

0 10' 20' 30' 40' 50' 60' 70' 80'



NOTES:

1. BACKFLOW PREVENTION ASSEMBLIES (BPA's) SHALL CONFORM TO CMU SPECIFICATIONS. SHUT-OFF VALVES ARE SPECIFIC TO EACH APPROVED BPA AND NO SUBSTITUTIONS OF SHUT-OFF VALVES ARE PERMITTED. REFER TO CMU APPROVED LIST OF BPA's.
2. PIPE MATERIAL AND FITTINGS SHALL BE AS SPECIFIED IN CMU STANDARDS & SPECIFICATIONS.
3. INSULATED ENCLOSURE SHALL BE AS SPECIFIED IN CMU ENCLOSURE INFORMATION - HEATED INSULATED ENCLOSURE IS RECOMMENDED. NO INSULATION SHALL BE WRAPPED AROUND BPA.
4. ALL LOCATIONS FOR BPA'S REQUIRE CMU APPROVAL AND MUST BE OUTSIDE OF ZONING SET-BACK.
5. THERE SHALL BE NO TAPS, PIPING BRANCHES, UNAPPROVED BYPASS PIPING, HYDRANTS, FIRE DEPT. CONNECTION POINTS, OR OTHER WATER - USING APPURTENANCES CONNECTED TO THE SUPPLY LINE BETWEEN ANY WATER METER AND ITS CMU - REQUIRED BACKFLOW PREVENTER.
6. EACH CMU-REQUIRED BPA IS REQUIRED TO BE TESTED BY A CMU - APPROVED CERTIFIED TESTER PRIOR TO PLACING THE WATER SYSTEM IN SERVICE.
7. ALL BACKFLOW PREVENTERS INTENDED FOR ADDRESSING CHARLOTTE-MECKLENBURG UTILITIES REQUIREMENTS, REQUIRE PRIOR APPROVAL FROM THE APPROPRIATE CHARLOTTE-MECKLENBURG UTILITIES BACKFLOW INSPECTOR.



TYPICAL LOCATION REQUIREMENT FOR ABOVE GROUND INSTALLATION
N.T.S.

NO SCALE
STANDARD NO. 1
VERSION NO. 1.1
VERSION DATE 7.8.2009

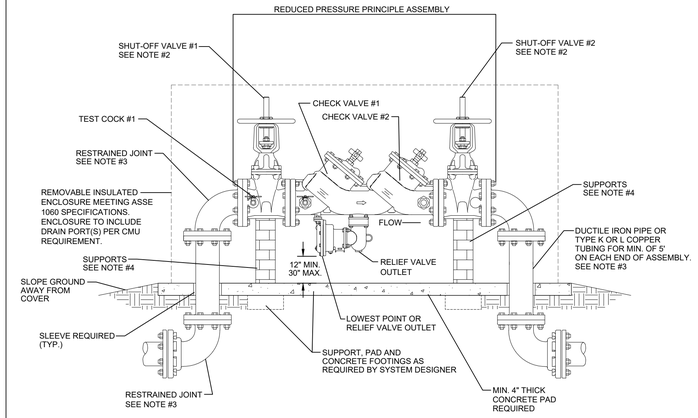
REDUCED PRESSURE PRINCIPLE ASSEMBLY (RP) 1 1/2" & 2" ABOVE GROUND

CHARLOTTE-MECKLENBURG UTILITIES
STANDARD DETAILS
BACKFLOW PREVENTION
CHARLOTTE

2 STANDARD CMUD BACKFLOW PREVENTOR DETAIL

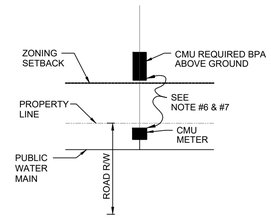
NO SCALE

(FOR 2" DOMESTIC WATER SERVICE LINE)



NOTES:

1. BACKFLOW PREVENTION ASSEMBLIES (BPA's) SHALL CONFORM TO CMU SPECIFICATIONS. SHUT-OFF VALVES ARE SPECIFIC TO EACH APPROVED BPA AND NO SUBSTITUTIONS OF SHUT-OFF VALVES ARE PERMITTED. REFER TO CMU APPROVED LIST OF BPA's.
2. FIRE LINE SERVICES SHALL HAVE OUTSIDE STEM AND YOKE (OS & Y) HANDWHEEL OPERATORS. IF SERVING FIRE SPRINKLERS, TAMPER SWITCHES ARE REQUIRED.
3. PIPE MATERIAL AND FITTINGS SHALL BE AS SPECIFIED IN CMU STANDARDS SPECIFICATION. ALL JOINTS SHALL BE RESTRAINED WITH MEGALUG RESTRAINTS OR APPROVED EQUAL.
4. SUPPORT OF ASSEMBLY SHALL BE DESIGNED BY OWNER, 8" - 12" SHALL BE SUPPORTED AT EACH VALVE AND SHALL NOT BLOCK RELIEF VALVE ON DRAIN PORT.
5. INSULATED ENCLOSURE SHALL BE AS SPECIFIED IN CMU ENCLOSURE INFORMATION - HEATED INSULATED ENCLOSURE ARE REQUIRED FOR FIRE LINE SERVICES. NO INSULATION SHALL BE WRAPPED AROUND BPA.
6. ALL LOCATIONS FOR BPA'S REQUIRE CMU APPROVAL AND MUST BE OUTSIDE OF ZONING SET-BACK.
7. THERE SHALL BE NO TAPS, PIPING BRANCHES, UNAPPROVED BYPASS PIPING, HYDRANTS, FIRE DEPT. CONNECTION POINTS, OR OTHER WATER - USING APPURTENANCES CONNECTED TO THE SUPPLY LINE BETWEEN ANY WATER METER AND ITS CMU - REQUIRED BACKFLOW PREVENTER.
8. EACH CMU-REQUIRED BPA IS REQUIRED TO BE TESTED BY A CMU - APPROVED CERTIFIED TESTER PRIOR TO PLACING THE WATER SYSTEM IN SERVICE.
9. ALL BACKFLOW PREVENTERS INTENDED FOR ADDRESSING CHARLOTTE-MECKLENBURG UTILITIES REQUIREMENTS, REQUIRE PRIOR APPROVAL FROM THE APPROPRIATE CHARLOTTE-MECKLENBURG UTILITIES BACKFLOW INSPECTOR.



TYPICAL LOCATION REQUIREMENT FOR ABOVE GROUND INSTALLATION
N.T.S.

NO SCALE
STANDARD NO. 2
VERSION NO. 1.2
VERSION DATE 10.20.2009

REDUCED PRESSURE PRINCIPLE ASSEMBLY (RP) 2 1/2" - 12" ABOVE GROUND

CHARLOTTE-MECKLENBURG UTILITIES
STANDARD DETAILS
BACKFLOW PREVENTION
CHARLOTTE

1 STANDARD CMUD BACKFLOW PREVENTOR DETAIL

NO SCALE

(FOR 6" FIRE PROTECTION SERVICE LINE)