

**PROJECT DESIGN CONDITIONS:**

SEASON	VALUE	UNITS	DESCRIPTION	SOURCE
WINTER	-19.1	F	OA TEMP	ASHRAE EXTREME ANNUAL DESIGN CONDITIONS (50 YR)
	72.0	F	INDOOR TEMP	2015 IECC SECTION 302.1
SUMMER	90.6	F	OA DRY-BULB TEMP	2013 ASHRAE FUNDAMENTALS, CHAPTER 14, COOLING 0.4%
	73.4	F	OA WET-BULB TEMP	2013 ASHRAE FUNDAMENTALS, CHAPTER 14, COOLING 0.4%
	75.0	F	INDOOR TEMP	2015 IECC SECTION 302.1

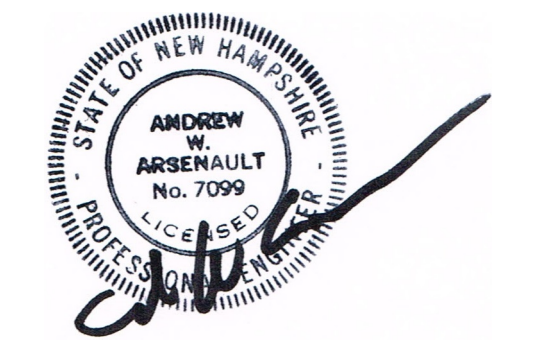
**GENERAL PROJECT NOTES:**

1. PREPARATION AND WATER TREATMENT:
  - a. PRIOR TO COMMENCING WITH EQUIPMENT REPLACEMENT, CONTRACTOR SHALL ADD "FERNOX F3" SYSTEM CLEANER OR EQUIVALENT TO BOTH THE EXISTING HOT AND CHILLED WATER SYSTEMS.
  - b. INSTALL A TEMPORARY BYPASS AT THE ENDS OF EACH LOOP IF REQUIRED AND RUN PUMPS TO INSURE PROPER MIXING / DISTRIBUTION OF FLUID THROUGHOUT ENTIRETY OF PIPING.
  - c. DRAIN SYSTEM AND PERFORM SCHEDULED EQUIPMENT REPLACEMENT
  - d. REFILL, CIRCULATE, AND DRAIN EACH SYSTEM FOR THOROUGH FLUSHING.
  - e. FILL SYSTEMS, ADD CHEMICAL WATER TREATMENT, FERNOX F1 OR EQUIVALENT, CLEAN ALL STRAINERS AND REPLACE ALL FILTER BAGS. PROVIDE PROPYLENE GLYCOL IN CHILLED WATER SYSTEM
2. CHILLED WATER SYSTEM:
  - a. REPLACE EXISTING SPLIT CHILLER WITH NEW PACKAGED CHILLER.
  - b. REMOVE EXISTING REFRIGERANT PIPING AND REPLACE WITH NEW 3" CHILLED WATER PIPING
  - c. REPLACE EXISTING CHILLED WATER PUMPS, EXPANSION TANK, AIR SEPARATOR.
  - d. REPLACE ALL VALVES ON 3" CHILLED WATER MAINS WITHIN THE CHILLER ROOM. PROVIDE NEW BUTTERFLY VALVES
  - e. PROVIDE NEW THERMOMETERS AND PRESSURE GAGES IN CHILLER ROOM.
  - f. INSTALL NEW NEPTUNE FILTER / CHEMICAL FEEDER TO MATCH EXISTING MODEL IN BOILER ROOM.
  - g. PROVIDE SENSOR WELLS FOR ENTERING AND LEAVING WATER TEMPERATURE SENSORS FOR PHASE TWO BMS
3. HOT WATER SYSTEM
  - a. EXISTING BOILER, EXPANSION TANK AND AIR SEPARATOR ARE NOT INCLUDED IN THIS CONTRACT
  - b. REPLACE EXISTING HOT WATER LOOP PUMPS
  - c. REPLACE ALL ISOLATION VALVES AT EXISTING PUMPS. PROVIDE NEW BUTTERFLY ISOLATION VALVES
  - d. PROVIDE NEW PRESSURE GAGES AT PUMPS.
  - e. PROVIDE SENSOR WELLS FOR ENTERING AND LEAVING WATER TEMPERATURE SENSORS FOR PHASE TWO BMS
4. ADDITIONAL WORK
  - a. SEVERAL FIRST FLOOR RETURN FILTER GRILLS SHALL BE ENLARGED WHERE INDICATED
  - b. THERE IS ONE BRANCH DUCT TO BE REPAIRED AT FCU-4
  - c. THE OUTSIDE AIR CONNECTION NEEDS REPAIR AT FCU-1



THE PROJECT MANAGER FOR THIS PROJECT IS NOTED BELOW. PLEASE REFER ALL QUESTIONS, SUBMITTALS AND CORRESPONDENCE TO THE PROJECT MANAGER.

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PROJECT:  
**DERRY PUBLIC LIBRARY**  
 64 EAST BROADWAY  
 DERRY, NH

FOR:

THE TOWN OF DERRY  
 NEW HAMPSHIRE

**LOWER LEVEL PIPING PLAN**

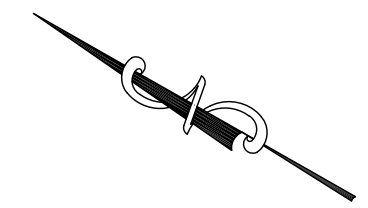
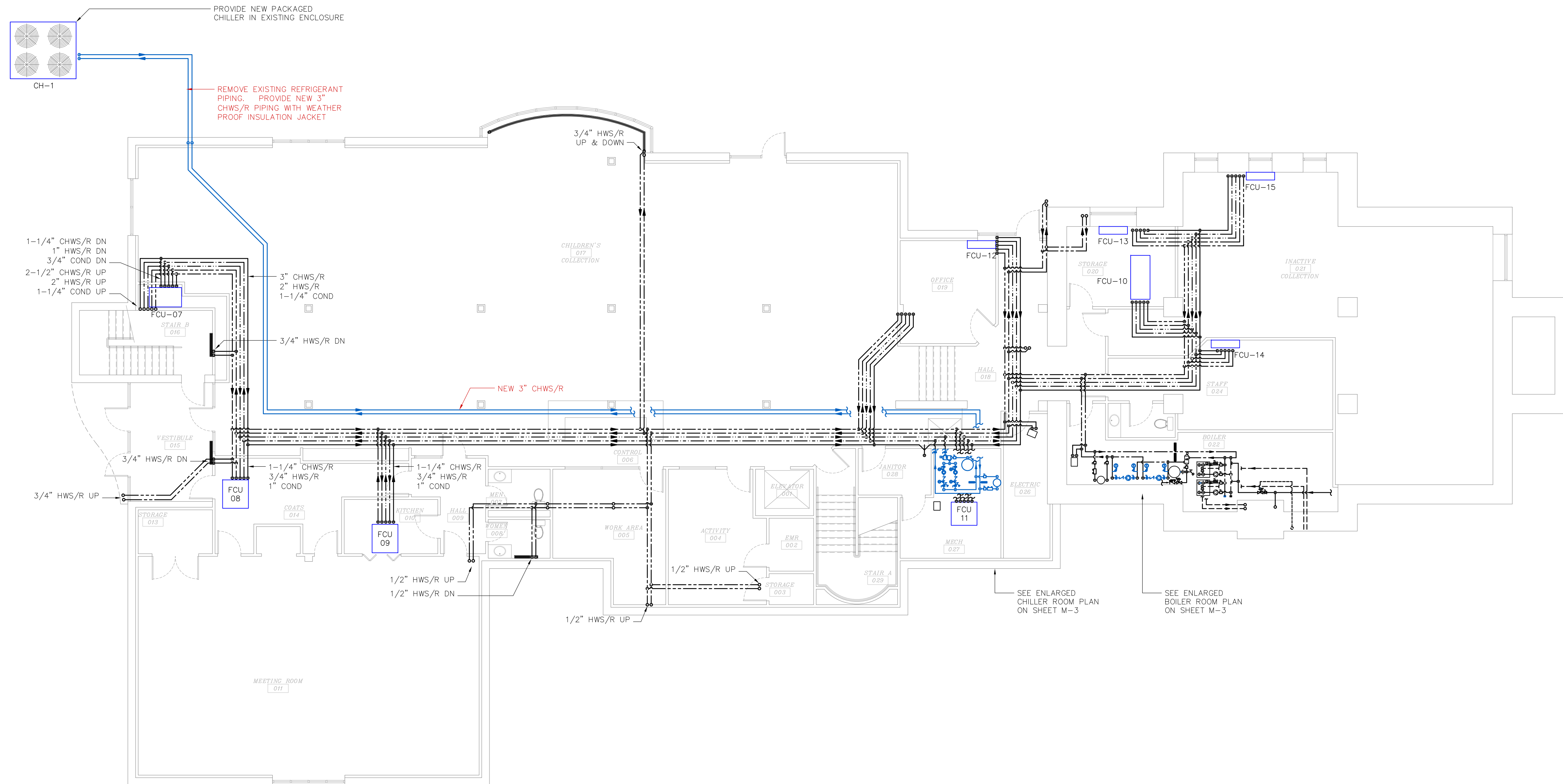
REVISIONS:

DESIGNED BY: DCM  
 DRAWN BY: DCM  
 CHECKED BY: AWA  
 DDM JOB #: 1943  
 SCALE: AS NOTED

DATE: 2/1/2020

M-1

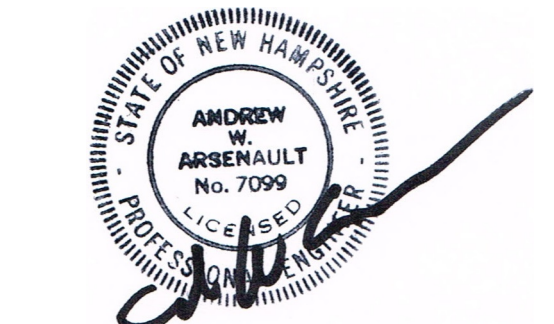
SHEET 1 OF 4



1 LOWER LEVEL PIPING PLAN  
 M-1 1/8"=1'-0"

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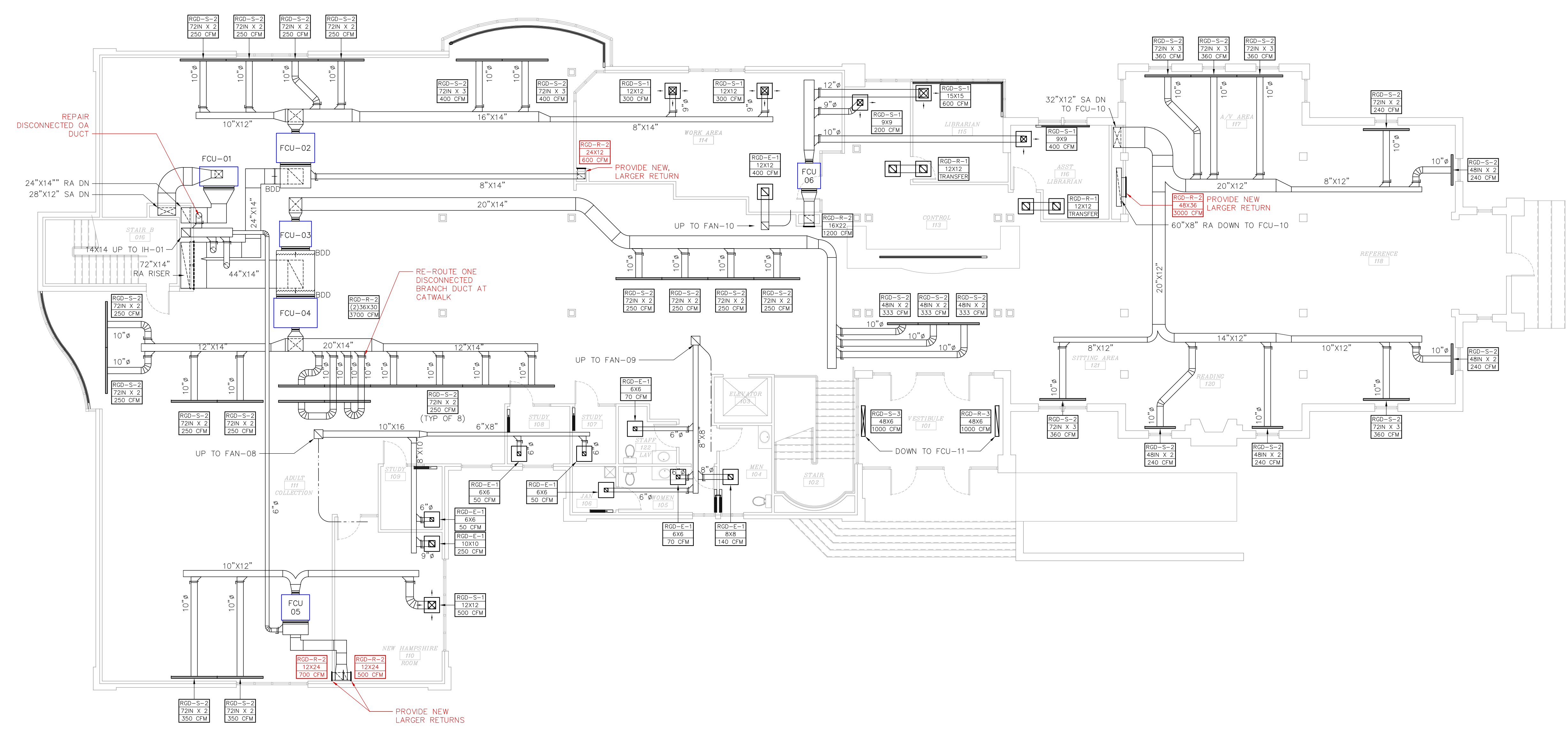
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REVISIONS:

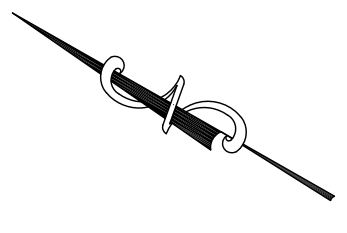
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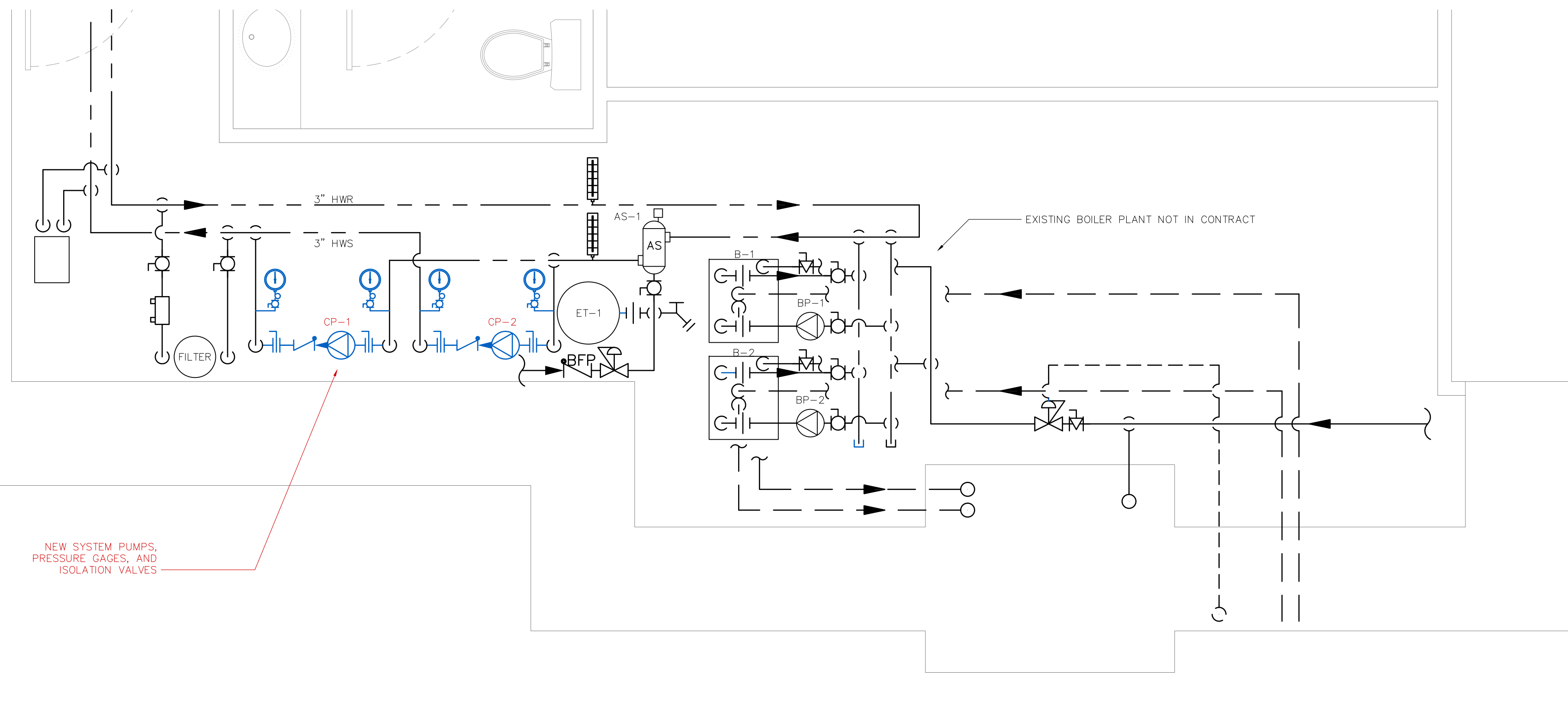
DATE: 2/4/2020

M-2

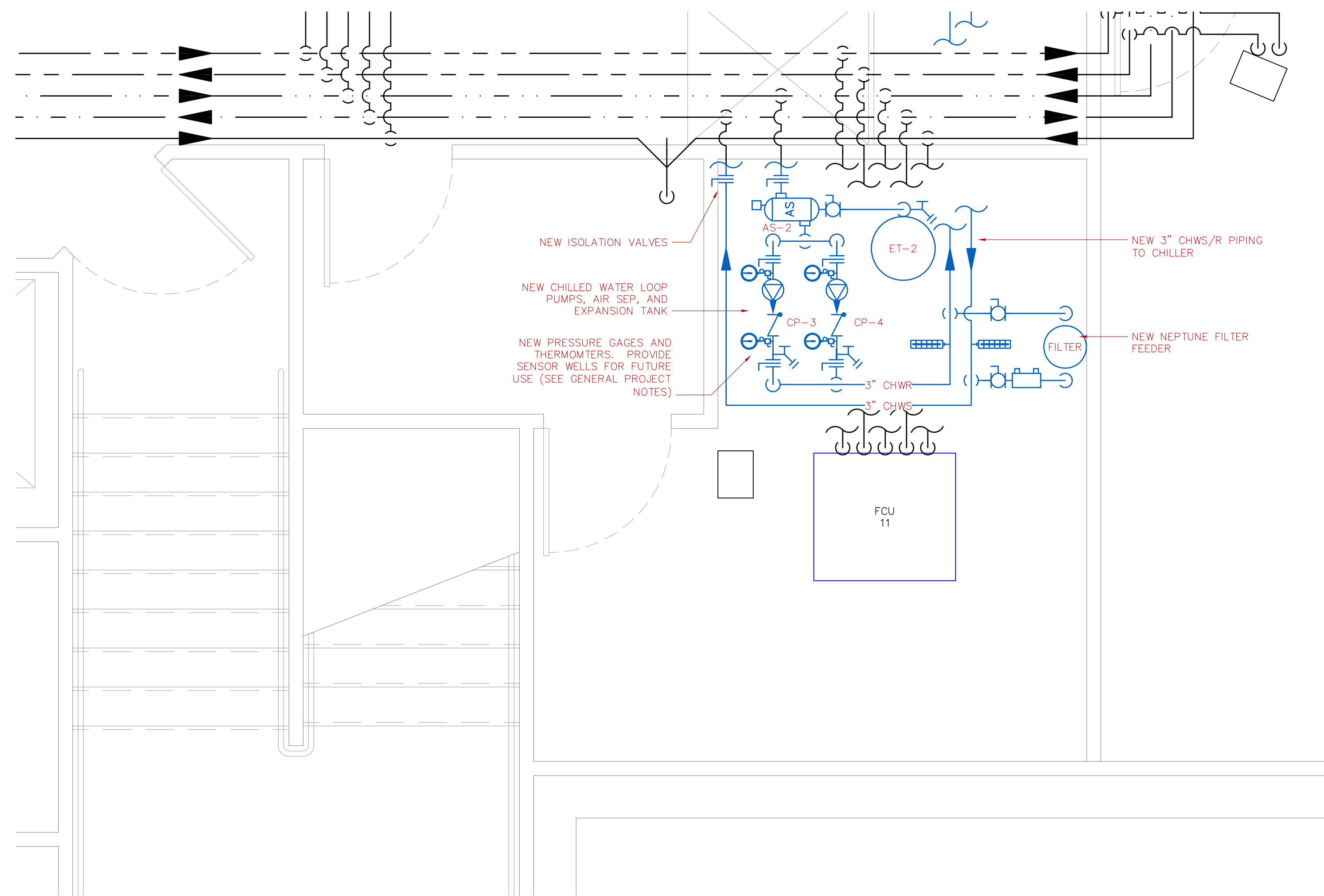


1 UPPER LEVEL DUCT PLAN  
M-2 1/8"=1'-0"





1 ENLARGED BOILER ROOM PLAN  
M-3 1/2"=1'-0"



2 ENLARGED CHILLER ROOM PLAN  
M-3 1/2"=1'-0"

AIR SEPARATOR SEPARATOR (AS)						
MARK	MAKE	MODEL	PIPE SIZE	GPM	WPD (FT)	NOTES
AS-1	EXISTING TO REMAIN					
AS-2	SPIROTHERM	VDT300	3"	75	1	1

NOTES:  
1. COMBINATION AIR ELIMINATOR & DIRT SEPARATOR

EXPANSION TANK SCHEDULE (ET)										
MARK	MAKE	MODEL	ACCEPTANCE (GALLONS)	VOLUME (GALLONS)	STYLE	FILL VALVE (PSIG)	RELIEF VALVE (PSIG)	FILL TEMP (F)	MAX TEMP (F)	NOTES
ET-1	EXISTING TO REMAIN									
ET-2	TACO	CAX-30	5	8	BLADDER	12	30	50	55	

NOTES:  
1.

PUMP SCHEDULE (P)											
MARK	MAKE	MODEL	GPM	HEAD (FT)	FLUID	FLANGE SIZE (IN) INLET / OUTLET	ARRANGEMENT	WATTS	MHP	VOLT/PH	NOTES
CP-1&2	GRUNDFOS	MAGNA1 40-180F	45.0	32.0	WATER	3 / 3	INLINE	614		208/1	1,2
CP-3&4	GRUNDFOS	TPE 80-240/2	135.0	55.0	WATER	3 / 3	INLINE		3	208/3	1,2

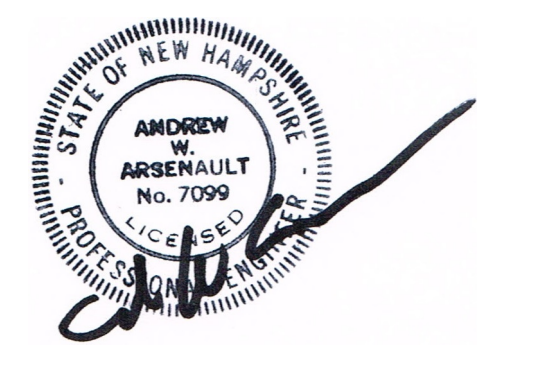
NOTES:  
1. VARIABLE SPEED PUMP WITH INTEGRAL PRESSURE SENSOR  
2. VFD (OR EC MOTOR) SHALL BE UPGRADABLE TO FUTURE BMS CONTROL IN PHASE 2.

PACKAGED CHILLER SCHEDULE (CH)															
MARK	MAKE	MODEL	NOMINAL TONS	COOLING EFFICIENCY	MIN FLOW (GPM)	DESIGN FLOW (GPM)	FLUID	PD (FT HD)	EWT	LWT	REFRIG	VOLT/PH	MCA	MOCF	NOTES
CH-1	YORK	YLAA0065	60	10.39 EER	61	135	35% PG	12.9	54	44	410A	208/3	306.0	350	1

NOTES:



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