

three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
one quarter inch = one foot
one eighth inch = one foot
one sixteenth inch = one foot

PACKAGED AIR COOLED RECIPROCATING CHILLER UNIT

UNIT NO.	EQUIP.	LOCATION	PERFORMANCE MINIMUM CAPACITY	MOTOR				REMARKS
				CIRCUIT #	MCA	MAX. FUSE	VOLT PHASE	
III-CHLR-1	COMPRESSOR	GROUND	100 TONS	2	94 /CIRCUIT	125 /CIRCUIT	480/3	COMPRESSOR SHALL BE CAPABLE OF CAPACITY REDUCTION TO 25%
	186 GPM 54 F WATER IN 42 F WATER OUT		12.2 FT. MAX. WATER P.D.					
	AIR COOLED CONDENSER		AIR COOLED CONDENSER SHALL PROVIDE ABOVE PERFORMANCE WITH 95° F AMBIENT TEMP.					SHALL PERFORM SATISFACTORILY AT MIN. COMPRESSOR CAPACITY WITH 35° F AMBIENT AIR TEMP.
<div>1. PACKAGED AIR COOLED SCROLL COMPRESSOR CHILLER UNIT SHALL PROVIDE SATISFACTORY OPERATION DOWN TO 17% WITH A 35° F AMBIENT TEMPERATURE. STARTERS REQUIRED SHALL BE FURNISHED BY MANUFACTURER OF EQUIPMENT. COMPRESSOR STARTER SHALL BE PART WINDING TYPE WITH A MAXIMUM CURRENT INRUSH OF 70% OF FULL LOAD CURRENT OR MULTIPLE COMPRESSOR SHALL BE FURNISHED.</div> <div>2. INTERLOCK CHILLED WATER PUMP WITH PACKAGED AIR COOLED WATER CHILLER UNIT TO START AUTOMATICALLY WITH MANUFACTURER'S RECOMMENDED TIME DELAY AFTER CHILLED WATER PUMP IS STARTED. PACKAGED AIR COOLED WATER CHILLER TO BE PROVIDED WITH MANUFACTURER'S RECOMMENDED SAFETY CONTROLS AND CAPACITY REDUCTION CONTROLS TO PROVIDE SATISFACTORY OPERATION DOWN TO 25% CAPACITY WITH A 35 F AMBIENT TEMPERATURE.</div> <div>3. UNIT SHALL HAVE MULTIPLE POINT POWER CONNECTION. UNIT SHALL HAVE A FACTORY MOUNTED DISCONNECT.</div>								

15650

AIR HANDLING UNIT SCHEDULE

UNIT NO.	LOCATION	AREA SERVED	SUPPLY FAN NO.	RETURN FAN NO.	CFM SUPPLY	MIN. OA	EXTERNAL STATIC PRESSURE, 1.	SPECIFIED INTERNAL LOSSES, 2.	UNSPECIFIED INTERNAL LOSSES, 3.	TYPE SYSTEM
III-AHU1	BLDG. III MECH PLATFORM	BLDG. III 1ST FLR N	III-SF1	III-RF1	5,500	1925	3.0	4.36	0.06	VAV
III-AHU2	BLDG. III MECH PLATFORM	BLDG. III 1ST FLR S	III-SF2	III-RF2	4,100	1650	3.0	4.36	0.06	VAV
III-AHU3	BLDG. III MECH PLATFORM	BLDG. III GROUND FLR S	III-SF3	III-RF3	10,500	3,100	4.0	4.36	0.06	VAV
III-AHU4	BLDG. III MECH PLATFORM	BLDG. III GROUND FLR N	III-SF4	III-RF4	5,400	2,100	4.0	4.36	0.06	VAV
NOTES: 1. EXTERNAL STATIC PRESSURE REQUIRED AT DUCT CONNECTIONS TO INLET AND OUTLET OF AHU. MEASUREMENTS SHALL BE TAKEN WITHIN 3 FT. OF INLET AND OUTLET AT A POINT OF MAXIMUM ACCURACY. 2. TOTAL OF MAXIMUM PRESSURE DROPS OF COMPONENTS WHICH ARE SPECIFIED SEPARATELY, I.E., PREFILTERS, AFTERFILTERS, HEATING AND COOLING COILS. 3. INTERNAL LOSS ALLOWANCE SHALL INCLUDE LOSSES DUE TO ENTRANCE AND EXIT OF AHU, MIXING BOXES, DIFFUSER SECTION INCLUDING LOSSES DUE TO FAILURE TO PROPERLY CONVERT FAN DISCHARGE VELOCITY PRESSURE TO STATIC PRESSURE, FAN INLET CONDITIONS, CURVES, HUMIDIFIERS, DAMPERS, ETC.										

CIRCULATING PUMP (HVAC) SCHEDULE

UNIT NO.	LOCATION	CIRCULATING FLUID				TEMP	SP. GR.	% EFF.	TYPE	MOTOR	
		SYSTEM	FLUID	GPM	HEAD (FT.)					HP	VOL/PH RPM
III-P-1	1ST FLR MECH	HEATING	WATER	124.6	70	180	0.97	70	HE5	15	460/3 1750
III-P-2	1ST FLR MECH	HEATING	WATER	124.6	70	180	0.97	70	HE5	15	460/3 1750
III-P-3	1ST FLR MECH	HEATING	E650	51.6	50	180	1.00	55	IL	2	460/3 1750
III-P-4	1ST FLR MECH	HEATING	E650	51.6	50	180	1.00	55	IL	2	460/3 1750
III-GWP-1	MECH PLATFORM	CHILLED	E630	185.4	50	50	1.04	65	BASEMOUNT	5	460/3 1750
III-GWP-2	MECH PLATFORM	CHILLED	E630	185.4	50	50	1.04	65	BASEMOUNT	5	460/3 1750
NOTES: 1. ALL PUMPS TO BE VFD DUTY. 2. SEE ELECTRICAL PLANS FOR INSTALLATION LOCATION. 3. PUMPS SHALL BE SELECTED WITH THE SCHEDULED CAPACITIES AT 85% OF THE MAXIMUM IMPELLER DIAMETER FOR THAT MODEL. HES IL DISC MC EC HORIZONTAL END SUCTION IN LINE DISCONNECT MECHANICAL CONTRACTOR ELECTRICAL CONTRACTOR											

CONVECTOR SCHEDULE

UNIT NO.	TYPE	DIMENSIONS			RECESS DEPTH	MOUNTING HEIGHT	FLUID TYPE	OUTPUT MBH	GPM	P.D. FT.	NOTES
		H	L	D							
III-CONV-4	HN	18	36	4	N/A	4	WATER	3.3 MBH	0.4	0.5	1,2,3
III-CONV-5	HN	18	36	4	N/A	4	WATER	3.3 MBH	0.4	0.5	1,2
III-CONV-6	HN	18	36	4	N/A	4	WATER	3.3 MBH	0.4	0.5	1,2
III-CONV-7	HN	18	36	4	N/A	4	WATER	3.3 MBH	0.4	0.5	1,2
NOTES: 1. SLOPE TOP, FREE STANDING UNIT. PROVIDE MINIMUM OF 4" BETWEEN UNIT AND FLOOR. 2. CAPACITIES ARE BASED ON 180 DEG DWT, 180 DEG LWT AND 65 DEG DGT. 3. OMIT CONVECTOR FOR ALTERNATE B											

DIFFUSER, REGISTER AND GRILLE SCHEDULE

UNIT NO.	MATERIAL	TYPE	NECK SIZE	FRAME SIZE	MOUNTING	AIR	OBD	REMARKS
S-1	STEEL	LOUVERED FACE DIFFUSER	6" DIA	22-3/4"x23-3/4"	L.I.T.	SA	N	4-WAY
S-2	STEEL	LOUVERED FACE DIFFUSER	8" DIA	22-3/4"x23-3/4"	L.I.T.	SA	N	4-WAY
S-3	STEEL	LOUVERED FACE DIFFUSER	10" DIA	22-3/4"x23-3/4"	L.I.T.	SA	N	4-WAY
S-4	STEEL	REGISTER	10"x6"	11-3/4"x11-3/4"	SURFACE	SA	Y	DOUBLE DEFLECTION
S-5	STEEL	REGISTER	12"x8"	13-3/4"x9-3/4"	SURFACE	SA	Y	DOUBLE DEFLECTION
S-6	STEEL	REGISTER	16"x10"	17-3/4"x11-3/4"	SURFACE	SA	Y	DOUBLE DEFLECTION
R-1	STEEL	GRILLE	10"x22"	11-3/4"x23-3/4"	L.I.T.	RA	N	-
R-2	STEEL	REGISTER	16"x6"	17-3/4"x11-3/4"	SURFACE	RA	Y	-
R-3	STEEL	REGISTER	16"x10"	17-3/4"x11-3/4"	SURFACE	RA	Y	-
R-4	STEEL	REGISTER	16"x16"	17-3/4"x11-3/4"	SURFACE	RA	Y	-
E-1	STEEL	GRILLE	10"x22"	11-3/4"x23-3/4"	L.I.T.	EA	N	-
E-2	STEEL	REGISTER	14"x4"	15-3/4"x5-3/4"	SURFACE	EA	Y	-
E-3	STEEL	REGISTER	16"x10"	17-3/4"x11-3/4"	SURFACE	EA	Y	-

GRAVITY HOOD - CURB MOUNTED

UNIT NO.	THROAT SIZE, INCHES	SERVICE/UNIT	CFM	MAX S.P.	DAMPER		REMARKS
					TYPE	OPERATOR	
III-GH1	32X24	OA/ III-AHU-1	5,500	0.15	BDD	GRAVITY	
III-GH2	22X30	OA/ III-AHU-2	4,100	0.15	BDD	GRAVITY	
III-GH3	36X36	OA/ III-AHU-3	10,500	0.15	BDD	GRAVITY	
III-GH4	24X32	OA/ III-AHU-4	5,400	0.15	BDD	GRAVITY	
III-GH5	10X10	EA/ III-EF1	600	0.15	BDD	GRAVITY	
III-GH6	14X14	EA/ III-EF2	1,150	0.15	BDD	GRAVITY	
III-GH7	14X14	EA/ III-EF3	1,200	0.15	BDD	GRAVITY	

EXPANSION SCHEDULE

UNIT NO.	SYSTEM	APPROX. VOLUME GAL	SYSTEM TEMP.		INITIAL PRESS. TANK (PSIG)	MAX. OPER. PRESS.	FILL PRESS. AT TANK RELIEF VALVE	AT TANK	MIN. VOL. GAL	MIN. ACPT VOL GAL	AIR SEPARATOR SIZE IN	BUILD-IN STRAINER GPM	PSI	SIZE TO TANK IN	WATER FILL SIZE
			MIN	MAX											
III-ET1	HN	350	75	200	15	12	20	15	50	12	3	124.6	75	YES	3/4 3/4
III-ET2	GHN	225	75	200	15	12	20	15	30	12	3	56.6	75	YES	3/4 NONE
III-ET3	GHN	180	44	75	15	12	20	15	15	12	4	185.4	75	YES	3/4 NONE

HOT WATER UNIT HEATER SCHEDULE

UNIT NO.	LOCATION	TYPE UNIT	CFM	MIN. BTUH	GPM	MAX P.D.	HP	VOLT-PHASE
III-CUH-2	STAIRWELL	CUH	550	215	1.4	0.5	1/4	120/1
III-CUH-3	STAIRWELL	CUH	550	215	1.4	0.5	1/4	120/1
III-SUH-1	ATTIG	UH	630	18.4	1.5	0.1	1/15	120/1
III-SUH-2	ATTIG	UH	1340	45	3	0.2	1/10	120/1
III-SUH-3	ATTIG	UH	1340	45	3	0.2	1/10	120/1
III-SUH-4	ELEV. LOBBY	UH	400	10.0	0.8	0.2	1/30	120/1
CUH UH	CABINET UNIT HEATER UNIT HEATER							

MECHANICAL SHEET INDEX:

111-MS1	MECHANICAL SITE PLAN
111-MS1	IMPACT BUILDING PLAN - MECHANICAL
111-PS1	CRAWL SPACE - PLUMBING DEMOLITION
111-PS2	GROUND FLOOR PLAN - PLUMBING DEMOLITION
111-PS3	MECHANICAL PLATFORM FLOOR PLAN - PLUMBING DEMOLITION
111-PS4	CRAWL SPACE - PLUMBING
111-PS5	GROUND FLOOR PLAN - PLUMBING
111-PS6	FIRST FLOOR PLAN - PLUMBING
111-PS7	MECHANICAL PLATFORM PLAN - PLUMBING
111-PS8	PLUMBING RISER DIAGRAMS
111-PS9	DETAILS - PLUMBING
111-FPS1	GROUND FLOOR PLAN - FIRE PROTECTION DEMOLITION
111-FPS2	MECHANICAL PLATFORM PLAN - FIRE PROTECTION DEMOLITION
111-FPS3	GROUND FLOOR PLAN - FIRE PROTECTION / RISER DETAIL
111-FPS4	FIRST FLOOR PLAN - FIRE PROTECTION
111-FPS5	MECHANICAL PLATFORM PLAN - FIRE PROTECTION
111-HS1	GROUND FLOOR PLAN - HVAC PIPING DEMOLITION
111-HS2	PARTIAL PLANS - HVAC PIPING DEMOLITION
111-HS3	GROUND FLOOR PLAN - VENTILATION DEMOLITION
111-HS4	MECHANICAL PLATFORM PLAN - VENTILATION DEMOLITION
111-HS5	GROUND FLOOR PLAN - HVAC PIPING
111-HS6	FIRST FLOOR PLAN - HVAC PIPING
111-HS6A	FIRST FLOOR PLAN - HVAC PIPING ALT # 15
111-HS6B	FIRST FLOOR PLAN - HVAC PIPING ALT # 17
111-HS7	MECHANICAL PLATFORM PLAN/CRAWL SPACE - HVAC PIPING
111-HS8	GROUND FLOOR PLAN - VENTILATION
111-HS9	FIRST FLOOR PLAN - VENTILATION
111-HS9A	FIRST FLOOR PLAN - VENTILATION ALT # 15
111-HS9B	FIRST FLOOR PLAN - VENTILATION ALT # 17
111-HS10	MECHANICAL PLATFORM PLAN - VENTILATION
111-HS11	MECHANICAL ROOF PLAN
111-HS12	HEATING SCHEMATIC
111-HS13	GLYCOL HEATING & CHILLED WATER SCHEMATIC
111-HS14	MECHANICAL DETAILS
111-HS15	MECHANICAL DETAILS
111-HS16	MECHANICAL DETAILS
111-HS17	MECHANICAL SECTIONS
111-HS18	MECHANICAL TEMPERATURE CONTROLS
111-HS19	TEMPERATURE CONTROLS AND MECHANICAL SCHEDULES
111-HS20	MECHANICAL SCHEDULES

CONSTRUCTION DOCUMENTS SUBMISSION

STRUCTURAL
BETTER ENGINEERING
1001 1ST STREET
PARO, NORTH DAKOTA 58101

LEED
BIO-DESIGN
2100 UNIVERSITY AVE
SANDY, UT 84086

MECHANICAL, FIRE PROTECTION & ELECTRICAL
OBERMILLER-NELSON ENGINEERING, INC
7010 MARKET PLACE SUITE 200
PARO, NORTH DAKOTA 58101

BUILDING COMMISSIONING
COMMISSIONING SOLUTIONS
3801 12TH STREET NORTH, SUITE 6
PARO, NORTH DAKOTA 58101

CIVIL
HANSEN THOMP FELLNER OLSON, INC
7010 MARKET PLACE SUITE 200
PARO, NORTH DAKOTA 58101

INDUSTRIAL HYGIENE
LEGEND TECHNICAL SERVICES, INC.
1100 KENTUCKY AVENUE
PARO, ND 58101

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BUILDING SYSTEM CONSULTANTS
Fargo • Grand Forks • Bismarck
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I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Low Christensen
LORI CHRISTENSEN
DATE: 12/16/2014 REG. NO. 50809

APPROVED: SERVICE LINE DIRECTOR
DATE:
APPROVED: GEOS COORDINATOR
DATE:
APPROVED: PROJECTS SECTION MANAGER
DATE:
APPROVED: DIRECTOR PWS
DATE:

APPROVED: INFECTION CONTROL NURSE
DATE:
APPROVED: PATIENT SAFETY
DATE:
APPROVED: CHIEF OF POLICE
DATE:
APPROVED: SAFETY MANAGER
DATE:

DRAWING TITLE
MECHANICAL SCHEDULES

PROJECT TITLE
EXPAND / CONSTRUCT
OUTPATIENT MENTAL
HEALTH CLINIC

DRAWING NO.
111
DESIGNED BY
LAC
DRAWN
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