

AIR HANDLING UNIT SCHEDULE																							
SYMBOL	AREA SERVED	CFM	HEATING COIL			INDIRECT OR DX COOLING COIL (2)(3)							FAN WALL SUPPLY MOTORS (6)		S.P.	MAX BHP	RETURN FAN MOTORS (6)	S.P.	MAX BHP	DIMENSIONS	UNIT WEIGHTS	MAKE & MODEL	
			MBH TOTAL	W.P.D. (FT)	A.P.D. (IN)	EAT (F)	LAT (F)	A.P.D. (IN)	MBH TOTAL	GPM	W.P.D. (FT)	EWI	LWT	1 @ 7.5 H.P. 480/3/60									3 @ 4.0"
AHU-1	ADMINISTRATION	6,000	470 <sup>(1)</sup>	49.3	7.2	.53	95/67	55	.31	185	DX	--	--	--	1 @ 7.5 H.P. 480/3/60	3 @ 4.0"	8.82	1 @ 3.0 H.P. 480/3/60	3 @ 1.5"	2.3	22'-6" L x 6'-9" W x 5'-6" H	4000 LBS	CARRIER OR APPROVED EQUAL
AHU-2	GYMNASIUM	17,500	810 <sup>(4)</sup>	64.1	8.07	.04	97/63	70	.35	410.2	84.0	8.66	66	75.8	1 @ 20 H.P. 480/3/60	3 @ 4.0"	15.76	1 @ 10 H.P. 480/3/60	3 @ 1.5"	8.82	29'-4" L x 8'-8" W x 10'-1" H	18,000 LBS	CUSTOM
AHU-3	UPPER / LOWER AREA A1	26,100	368.5 <sup>(1)</sup>	38.7	8.64	.02	97/63	70	.35	617.7	130.0	8.31	66	75.5	2 @ 15 H.P. 480/3/60	3 @ 4.0"	11.8	2 @ 10 H.P. 480/3/60	3 @ 1.5"	8.82	31'-8" L x 9'-3" W x 10'-1" H	22,000 LBS	CUSTOM
AHU-4	UPPER / LOWER AREA B1	37,500	568.2 <sup>(1)</sup>	57.5	9.26	.02	97/63	70	.35	887.4	180	8.84	66	75.9	2 @ 20 H.P. 480/3/60	3 @ 4.0"	16.83	2 @ 10 H.P. 480/3/60	3 @ 1.5"	9.84	31'-8" L x 12'-0" W x 10'-8" H	28,000 LBS	CUSTOM

NOTES:

- HEATING CAPACITY BASED ON 140 DEG F. ENT. WATER AND 35 DEG. F. ENT AIR WITH 30% PROPYLENE GLYCOL. MIN. 2 - ROW COIL.
- UNIT SHALL BE COMPLETE WITH INDIRECT COOLING COIL. SEE INDIRECT COOLING COIL SCHEDULE FOR CAPACITIES.
- V.F.D. CONTROL. SEE SPECIFICATIONS.
- HEATING CAPACITY BASED ON 140 DEG. F. ENT. WATER AND 5° F. ENT. AIR WITH 30% PROPYLENE GLYCOL. MIN. 2 - ROW COIL.
- INDIRECT COOLING CAPACITY BASED ON 86 DEG. F. ENT. AIR WITH 30% PROPYLENE GLYCOL. MIN. 2 - ROW COIL.
- SINGLE POINT POWER CONNECTION REQUIRED.

AIR HANDLER EVAPORATIVE COOLER SECTION SCHEDULE															
ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	AIR FLOW			STATIC PRESSURE (IN. WATER)	EFF (%)	MOTOR SIZE (HP)	VOLTS / PH / HZ	PHYSICAL DIMENSIONS				NOTES
				AIRFLOW RATE (CFM)	ENTERING TEMP. DB / WB (°F)	LEAVING TEMP. DB / WB (°F)					MISC	ELECTRICAL	EACH MODULE WIDTH / HEIGHT (IN)	MINIMUM FACE AREA (FT²)	
EC-2	--	AHU-2	DIRECT	17,500	72 / 54	55 / 54	0.25	90	1/2	120/1/60	1	108 / 96	72	12	(1)(2)
EC-3	--	AHU-3	DIRECT	37,500	72 / 54	55 / 54	0.25	90	1/2	120/1/60	1	108 / 84	63	12	(1)(2)
EC-4	--	AHU-4	DIRECT	26,100	72 / 54	55 / 54	0.25	90	1/2	120/1/60	1	64 / 46	20.4	12	(1)(2)

NOTES:

- EVAPORATIVE MEDIA SECTION FACE AREA SIZED AT 450 FPM MAX VELOCITY @ MAXIMUM CFM. DIRECT EVAPORATIVE COOLING DESIGNED TO DELIVER SCHEDULED AIR TEMPERATURE AT SCHEDULED DESIGN AIRFLOW WITH A PORTION OF MAXIMUM AIRFLOW BYPASS AT ENTERING CONDITION TEMPERATURE AIR TO ACHIEVE 55 DEG. F. MIXED TEMPERATURE AT DISCHARGE OF AIR HANDLER.
- BYPASS DAMPER SIZED FOR PRESSURE DROP EQUAL TO OR LESS THAN PRESSURE DROP OF EVAPORATIVE MEDIA @ EVAPORATIVE MEDIA DESIGN AIRFLOW.
- WATER FLOW 1.5 GALLONS PER MINUTE OF WATER PER SQUARE FOOT OF HORIZONTAL (TOP) SURFACE AREA.

CONDENSING UNIT SCHEDULE													
SYMBOL	TYPE	# OF ROWS	TOTAL MBH (1)	WT. LBS.	DIMENSIONS	EER @ ARI	SUCTION TEMP.	OUTDOOR AIR TEMP.	ENT. wb TEMP.	POWER	MCA	MCOP	MAKE & MODEL (2)(3)
CU-1	AIR COOLED DUAL STAGE	2	173.2	750	7'-2.4" L x 3'-7.4" W x 4'-1.4" H	13.4	45°	95°	67°	460/3/60 DUAL CIRCUIT	32.1	40.0	CARRIER 38A4U, OR APPROVED EQUAL.

NOTES:

- CAPACITIES BASED ON 4200.0 FT. ELEV., 80 DEG. F. db, 67 DEG. F. wb AIR ENTERING EVAPORATOR AND 95 DEG. F. AIR ENTERING CONDENSER.
- UNIT SHALL BE COMPLETE WITH CRANKCASE HEATER, HIGH AND LOW PRESSURE SAFETY CONTROLS, FAN SCREEN AND ALL CONTROLS FOR AUTOMATIC OPERATION.
- UNIT SHALL BE PROVIDED WITH MULTIPLE SCROLL COMPRESSORS (R410A), WITH UNIT MOUNTED VFD.

PUMP SCHEDULE								
SYMBOL	TYPE	SYSTEM	LOCATION	G.P.M.	FT. OF HEAD	MOTOR	RPM	MAKE & MODEL (1)(2)
P-1	BASE MOUNTED	HEATING BOILER LOOP	BOILER ROOM	250	15	3 H.P. 460/3/60	1750	BELL & GOSSETT 1510-3-BC (3)
P-2	BASE MOUNTED	HEATING BOILER LOOP	BOILER ROOM	250	15	3 H.P. 460/3/60	1750	BELL & GOSSETT 1510-3-BC (3)
P-3	BASE MOUNTED	HEATING BUILDING LOOP	BOILER ROOM	250	66	10 H.P. 460/3/60	1750	BELL & GOSSETT 1531-2-BC (3)(4)
P-4	BASE MOUNTED	HEATING BUILDING LOOP	BOILER ROOM	250	60	10 H.P. 460/3/60	1750	BELL & GOSSETT 1531-2-BC (3)(4)
P-5	BASE MOUNTED	CONDENSER/CHILLED WATER	BOILER ROOM	--	90	20 H.P. 460/3/60	1750	BELL & GOSSETT 1531-4 E (4)
P-6	BASE MOUNTED	CONDENSER/CHILLED WATER	BOILER ROOM	--	90	20 H.P. 460/3/60	1750	BELL & GOSSETT 1531-4 E (4)

NOTES:

- PUMPS TO SIZED FOR 140°F/30% PROPYLENE GLYCOL SOLUTION.
- PUMPS TO BE NON-OVERLOADING TYPE. PUMPS TO BE C/W MATCHING SUCTION DIFFUSER.
- PUMPS TO BE SIZED FOR 45%/30% PROPYLENE GLYCOL SOLUTION.
- PUMPS TO BE PROVIDED WITH MATCHING VFD.

HOT WATER UNIT HEATER SCHEDULE										
SYMBOL	TYPE	MOUNTING	CFM	HEATING COIL			RPM	MOTOR		MAKE & MODEL (1)(2)(3)
				MBH	GPM	Δ P.		H.P.	SERVICE	
UH-1	HOT WATER HORIZONTAL	CEILING/WALL	2000	95.8	9.6	.41	1140	1/4	120/1/60	VULCAN HV-132
UH-2	HOT WATER HORIZONTAL	CEILING/WALL	500	18.4	1.9	2.2	1550	16 WATTS	120/1/60	VULCAN HV-108A

NOTES:

- HEATING CAPACITY BASED ON 140° F. E.W.T., 120° F. L.W.T., 30% PROPYLENE GLYCOL SOLUTION.
- PROVIDE WALL MOUNTED THERMOSTAT.

HOT WATER REHEAT COIL SCHEDULE							
SYMBOL	CFM	COIL SIZE	TOTAL BTUH	GPM	WPD	ROWS	MAKE & MODEL (1)(2)
RC-1	9000	48"W x 24"H	219,200	22.9	3.4	1	RAE
RC-2	2000	24"W x 12"H	49,700	5.2	0.9	1	RAE
RC-3	150	6"W x 10"H	12,500	3.0	2.32	1	RAE
RC-4	400	12"W x 12"H	22,100	2.1	2.47	1	RAE

NOTES:

- CAPACITIES BASED ON 140° F. E.W.T., 55° F. E.A.T. & 80° F. L.A.T. W/30% PROPYLENE GLYCOL SOLUTION.
- CONTRACTOR SHALL VERIFY COIL DIMENSIONS BEFORE FABRICATING DUCTWORK.

MECHANICAL EQUIPMENT SCHEDULE

B-1	BOILER: HEATING HOT WATER, 93.5% THERMAL EFFICIENT, NATURAL GAS FIRED, CONDENSING TYPE, 2,500,000 BTUH GAS INPUT, 2,337,500 BTUH OUTPUT, 30% PROPYLENE GLYCOL, 150 PSI ASME H STAMPED CONSTRUCTION, INSULATED STEEL JACKET, 8" DIA. FLUE OUTLET AND 8" DIA. COMBUSTION AIR INLET. PROVIDE FACTORY VENT AND INTAKE ROOF TERMINATION KITS, 4" SUPPLY AND RETURN WATER CONNECTIONS, 25 GPM MIN. FLOW, 550 GPM MAX. FLOW, 3.0 PSIG WATER PRESSURE DROP AT 218 GPM, CS&T COMPLIANT, ASSE RELIEF VALVES, CONDENSATE NEUTRALIZER KIT, COMBINATION HIGH LIMIT AND LOW LIMIT CONTROLS, LOW WATER CUT-OFF, AND ALL CONTROLS FOR AUTOMATIC OPERATION, SINGLE POINT POWER CONNECTION WITH CONTROL TRANSFORMER, SET MAXIMUM SUPPLY TEMPERATURE TO 140 DEG. F.
B-2	ELECTRIC: 5.0 FLA AT 460/3/60 NOMINAL SIZE: 68.4" DEEP X 28" WIDE X 78" HEIGHT OPERATING WT: 2,000 LBS. MANUFACTURER: AERCO MODEL: BENCHMARK BMK 2500

CT-1	COOLING TOWER: INDUCED DRAFT, OPEN CIRCUIT, COUNTER FLOW VERTICAL DISCHARGE CENTRIFUGAL TYPE, COOLER WITH STAINLESS STEEL BASIN, 131.33 TONS TO COOL, 394 GPM OF WATER FROM 76 DEG. F. TO 86 DEG. F. WITH 62 DEG. F. WET BULB ENTERING AIR (1) 20 H.P. FAN MOTOR, (FAN SHALL OPERATE FROM A SINGLE VFD LOCATED IN BOILER ROOM) 460/3/60, 5 H.P. 460/3/60 SPRAY PUMP, ELECTRIC WATER LEVEL CONTROL, PACKAGED CORROSION CONTROL FINISH, 304 STAINLESS STEEL CONSTRUCTION, SUPER LOW SOUND FANS, SCREENED BOTTOM AND INLET PANELS, FACTORY STEEL SUPPORT BEAM BASE, EXTERNAL LADDER, FACTORY MOUNTED CROSSOVER PIPING AND ALL CONTROLS FOR AUTOMATIC OPERATION. UNIT TO HAVE WEATHER PROOF CABINET, (2) 4" INLETS, (2) 4" OUTLETS ON SAME END OF TOWER (SEE PIPING SCHEMATIC). RIGGING WEIGHT: 6,240 LBS. OPERATION WEIGHT: 10,100 LBS. DIMENSIONS: 8'-5 1/2" L x 11'-11 3/4" W x 15'-5 3/4" H MANUFACTURER: EVAPCO MODEL: UT 19-4K12
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MUA-1	MAKE-UP AIR UNIT: 263,708 BTU/HR INPUT, 242,611 BTU/HR OUTPUT, INDIRECT FIRED, DOWN DISCHARGE, 2112 CFM AT 0.5" EXTERNAL STATIC PRESSURE, 1.5 H.P. 460/3/60, 90 DEG. F. TEMPERATURE RISE, HIGH EFFICIENCY EVAPORATIVE COOLING SECTION WITH PADS, FILL AND DRAIN, SOLENOID AND COMPLETE WITH MODULATING GAS CONTROLS, WALL CONTROL PANEL AND OVERRIDE THERMOSTAT. MANUFACTURER: CAPTIVE AIR MODEL: EA2-D250-G15 DIM: 185" L x 49.5" W x 56" H APPROX. WT. 1500 LBS.
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MUA-2	MAKE-UP AIR UNIT: 263,708 BTU/HR INPUT, 242,611 BTU/HR OUTPUT, INDIRECT FIRED, DOWN DISCHARGE, 2112 CFM AT 0.5" EXTERNAL STATIC PRESSURE, 1.5 H.P. 460/3/60, 90 DEG. F. TEMPERATURE RISE, HIGH EFFICIENCY EVAPORATIVE COOLING SECTION WITH PADS, FILL AND DRAIN, SOLENOID AND COMPLETE WITH MODULATING GAS CONTROLS, WALL CONTROL PANEL AND OVERRIDE THERMOSTAT. MANUFACTURER: CAPTIVE AIR MODEL: EA2-D250-G15 DIM: 185" L x 49.5" W x 56" H APPROX. WT. 1500 LBS.
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RT-2	PACKAGED ROOFTOP HVAC UNIT: GAS/DX COOLING. TO DELIVER 3000 CFM AT 0.50" EXTERNAL STATIC PRESSURE WITH 2.0 H.P. MOTOR, 15" DIA. x 15" BLOWER WHEEL, 11.1 SQ. FT. DX COOLING COIL WITH 88,000 BTUH TOTAL COOLING CAPACITY (51.77) AT 45° F. S.S.T. WITH 80° F. db 87° F. wb EVAPORATOR ENT. AIR, 95° F. CONDENSER ENT. AIR, COMPLETE WITH 100% OUTDOOR AIR ECONOMIZER PACKAGE WITH BUILT-IN 100% RELIEF AIR, FACTORY ROOF CURB, UNIT MOUNTED ELECTRICAL DISCONNECT, ELECTRICAL CONVENIENCE OUTLET, FACTORY BARNHCO SENSOR AND ALL CONTROLS FOR AUTOMATIC OPERATION. HEATING SECTION: NATURAL GAS, 180 MSH INPUT, 147 MSH OUTPUT, UL LISTED, ARI CERTIFIED, AGA APPROVED. NOMINAL UNIT DIMENSION: 88.1" L x 50" W x 41.3" H MINIMUM UNIT AMPACITY 22, MOCOP 30 AT 460/3/60 MINIMUM EER 11.9 NOMINAL OPERATING WEIGHT NOT TO EXCEED 1000 LBS. MANUFACTURER: CARRIER MODEL: 50TCA08
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AC-1	INDOOR UNIT: COOLING ONLY, WALL MOUNTED, HORIZONTAL DISCHARGE, 425 CFM, 6,000 - 18,000 BTUH TOTAL COOLING CAPACITY AT 95° O.A. TEMP. 80° F db & 67° F wb, 1.0 MCA 208/1/60 MOTOR TO BE UL LISTED. UNIT TO BE COMPLETE WITH CLEANABLE FILTER, CONDENSATE PUMP, CHECK & EXPANSION VALVE KIT, PRE-CHARGED LINE SET, DRIP PAN AND DRAIN CONNECTION. PROVIDE WALL MOUNTED THERMOSTAT. THERMOSTAT SHALL BE HARD WIRED TO UNIT. UNIT DIM: 35 3/8" LENGTH x 11 5/8" HEIGHT x 9 13/16" DEPTH. WT: 29 LBS. MANUFACTURER: MITSUBISHI MODEL: PKA-A18H44
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AC-2	INDOOR UNIT: COOLING ONLY, WALL MOUNTED, HORIZONTAL DISCHARGE, 425 CFM, 6,000 - 12,000 BTUH TOTAL COOLING CAPACITY AT 95° O.A. TEMP. 80° F db & 67° F wb, 1.0 MCA 208/1/60 MOTOR TO BE UL LISTED. UNIT TO BE COMPLETE WITH CLEANABLE FILTER, CONDENSATE PUMP, CHECK & EXPANSION VALVE KIT, PRE-CHARGED LINE SET, DRIP PAN AND DRAIN CONNECTION. PROVIDE WALL MOUNTED THERMOSTAT. THERMOSTAT SHALL BE HARD WIRED TO UNIT. UNIT DIM: 46 1/16" LENGTH x 14 3/8" HEIGHT x 11 5/8" DEPTH. WT: 29 LBS. MANUFACTURER: MITSUBISHI MODEL: PKA-A12H44
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AC-3	INDOOR UNIT: HEATING/COOLING ONLY, CEILING MOUNTED, 4-WAY DISCHARGE, 600 CFM, 12,000 - 24,000 BTUH TOTAL COOLING CAPACITY AT 95° O.A. TEMP. 80° F db & 67° F wb, 12,000 - 28,000 BTUH TOTAL HEATING CAPACITY AT 47 DEG. F. db, 1.0 MCA 208/1/60 MOTOR TO BE UL LISTED. UNIT TO BE COMPLETE WITH CLEANABLE FILTER, CONDENSATE PUMP, CHECK & EXPANSION VALVE KIT, PRE-CHARGED LINE SET, DRIP PAN AND DRAIN CONNECTION. PROVIDE WALL MOUNTED THERMOSTAT. THERMOSTAT SHALL BE HARD WIRED TO UNIT. UNIT DIM: 33-11/16" LENGTH x 10-3/16" HEIGHT x 33-1/16" DEPTH. WT: 51 LBS. MANUFACTURER: MITSUBISHI MODEL: PLA-A24B44
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AS-1	AIR SEPARATION TANK: HEATING WATER, IN-LINE AMTROL, 700 GPM MAXIMUM CAPACITY, 6" WATER INLET AND OUTLET, 6" AIR OUTLET WITH AUTOMATIC AIR VENT SIMILAR TO ARMSTRONG NO. 1-AV. MANUFACTURER: BELL & GOSSETT MODEL: R-6
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GF-1	GLYCOL FEED TANK: SEE SPECIFICATIONS. 120/1/60 POWER REQUIRED.
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CT-1	COOLING TOWER BY-PASS FILTER: 100 GPM @ 35 FT. WATER, 2 H.P. 460/3/60, 2.7 FLA, TO BE COMPLETE PACKAGED SYSTEM WITH PUMP, SEPARATOR & CONTROL W/ PANEL, STAINLESS STEEL CONSTRUCTION, INLET / OUTLET VALVES & (3) SPARE FILTER BAGS. DIMENSIONS: 39-3/4" W x 48" D x 33-1/8" H MODEL: LAKOS, SPX-0100-SVR
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DB-1	DRYER BOX: PACKAGED DRYER BOX FLUSH MOUNTED, 22 GAUGE PAINTED ALUMINUM. MODEL: DRYERBOX 480
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ET-1	EXPANSION TANK: BLADDER TYPE, HEATER WATER, 158 GALLONS TOTAL VOLUME FACTORY AIR CHARGE 12 PSI, 30"3 X 71-7/8" HIGH. COMPLETE WITH DRAIN COCK, ASME CONSTRUCTION, STEEL SHELL AND HEAVY DUTY BUTY, DIAPHRAGM. MANUFACTURER: ITT BELL & GOSSETT MODEL: B-600
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NAYLOR  
WENTWORTH  
LUND  
ARCHITECTS



723 W. Pacific Avenue, Suite 101  
Salt Lake City, UT 84104  
Phone Office 801.335.2959

Ogden School District  
1950 Monroe Blvd.  
Ogden, Utah 84401



Project For  
The  
Ogden School  
District Board  
of Education

T.O. Smith  
Elementary  
School Rebuild

3295 Gramercy Ave  
Ogden, Utah 84403

Project Phase  
Design  
Development

No.	Description	Date

Project Number  
124.009

Project Issue Date  
03 March 2020

Sheet Title  
Mechanical  
Schedules

Sheet Number

M501

Bid Package 2

NOT FOR CONSTRUCTION



No.	Description	Date

NOT FOR CONSTRUCTION

LINEAR RETURN SCHEDULE					
SYMBOL	NUMBER OF SLOTS	DIFFUSER LENGTH	PATTERN	CEILING	MAKE & MODEL (1)(2)(3)(4)(5)(6)
L-G-1 CFM	(2) - 1/2"	4'-0"	2-WAY	GYP. BOARD	PRICE SDR-SDA-7

- NOTES:
- OFF-WHITE BAKED ENAMEL FINISH.
  - INTERIOR DEFLECTOR OF DIFFUSER SHALL BE FLAT BLACK.
  - DIFFUSER SHALL BE FOR SURFACE MOUNTING.
  - MAXIMUM NC OF 35 AT DESIGN CFM.
  - ALL LINEAR DIFFUSERS MUST BE SUPPORTED FROM OVERHEAD CONSTRUCTION INDEPENDENT OF CEILING WITH AT LEAST 2 WIRES.
  - PROVIDE SDA INSULATED DISCHARGE PLENUM.

VAV REHEAT BOX SCHEDULE										
SYMBOL	UNIT SIZE	MAXIMUM CFM	MINIMUM CFM	HEATING CFM	A.P.D.	RE-HEAT COIL (2)			MAKE & MODEL (1)(3)	
						MBH	GPM	ROWS		
RB-1	5" DIA.	250	65	150	0.11"	4.3	0.43	4	0.03 FT.	PRICE SDV5
RB-2	6" DIA.	400	100	240	0.35"	6.1	0.61	4	0.05 FT.	PRICE SDV5
RB-3	7" DIA.	600	200	360	0.40"	11.3	1.3	4	0.08 FT.	PRICE SDV5
RB-4	8" DIA.	700	300	420	0.41"	15.3	1.53	4	0.02 FT.	PRICE SDV5
RB-5	9" DIA.	850	600	510	0.31"	28.8	2.9	4	0.72 FT.	PRICE SDV5
RB-6	10" DIA.	1150	1000	690	0.51"	39.2	3.95	4	1.24 FT.	PRICE SDV5
RB-7	12" DIA.	1800	1000	1080	0.65"	46.8	4.73	4	2.02 FT.	PRICE SDV5
RB-8	14" DIA.	2600	1500	1560	0.66"	68.6	6.91	4	2.41 FT.	PRICE SDV5

- NOTES:
- VAV AND COIL CONTROL SHALL BE ACCESSED FROM SAME SIDE OF BOX. SEE PLAN FOR RIGHT OR LEFT HAND COIL CONNECTIONS. COORDINATE WITH INSTALLING CONTRACTOR.
  - CAPACITIES BASED ON 55 DEG F. ENTERING AIR TEMP., 140 DEG F. ENTERING WATER TEMP WITH 20 DEG F. WATER TEMP. DROP. & 30% PROPYLENE GLYCOL SOLUTION
  - COORDINATE CONTROL MOUNTING WITH ATC CONTRACTOR.

VENTILATION FAN SCHEDULE						
SYMBOL	TYPE	CFM	S.P.	MOTOR		MAKE & MODEL (1)(2)(3)(4)
				H.P.	V/PH	
VF-1	SIDEWALL SUPPLY	1000	250"	1/8	120/1/60	PENN P16T

- NOTES:
- FAN TO BE CONTROLLED WITH WALL MOUNTED THERMOSTAT.
  - PROVIDE MOTORIZED DAMPERS. (INTERLOCK TO OPEN WITH FAN OPERATION)
  - PROVIDE OSHA FAN GUARD.
  - INLET CONFIGURATION - SEE DETAIL 1/M504.
  - FAN IS A SUPPLY AIR FAN TO BOILER RM.

ROOF HOOD SCHEDULE (1)				
SYMBOL	THROAT SIZE	TYPE	OVERALL DIMENSIONS	MAKE & MODEL
RH-1	8" x 12"	RELIEF AIR	32" L x 27" W x 17.25" H	TWIN CITY MGR

- NOTES:
- ROOF HOOD SHALL BE ALUMINUM CONSTRUCTION COMPLETE WITH BIROSCREEN AND PREFABRICATED ROOF CURB.

FIN TUBE RADIATION SCHEDULE								
SYMBOL	ENCLOSURE HEIGHT	ROWS	FIN SIZE	FINS/FT.	TUBE SIZE	BTU/FT.	GPM	MAKE & MODEL (1)(2)
FT-1	BARE FIN	2	3-1/4"	40	1-1/4"	1220	1.0	LINOVECTOR

- NOTES:
- HEATING CAPACITIES BASED ON 140°F EWT & 65°F EAT WITH 30% PROPYLENE GLYCOL SOLUTION.
  - BARE FIN ELEMENT ABOVE CEILING OF VESTIBULES.

LOUVER SCHEDULE (1)(2)(3)				
SYMBOL	SIZE	LOCATION	TYPE	MAKE & MODEL
L-1	72" x 36"	MECHANICAL FAN ROOMS	RELIEF AIR AHU-1	AIROLITE 609A
L-2	72" x 36"	MECHANICAL FAN ROOMS	RELIEF AIR AHU-2	AIROLITE 609A
L-3	96" x 48"	MECHANICAL FAN ROOMS	RELIEF AIR AHU-3	AIROLITE 609A
L-4	120" x 48"	MECHANICAL FAN ROOMS	RELIEF AIR AHU-4	AIROLITE 609A
L-5	42" x 24"	BOILER ROOM	INTAKE AIR	AIROLITE 609A

- NOTES:
- PROVIDE 1/2" MESH BRONZE BIROSCREEN.
  - COORDINATE EXACT MOUNTING APPLICATIONS & LOCATIONS WITH ARCHITECTURAL ELEVATIONS.
  - LOUVERS SHALL BE 1 PIECE CONSTRUCTION.

REGISTER & GRILLE SCHEDULE				
SYMBOL	SIZE	LOCATION	TYPE	MAKE & MODEL (1)
R-1 CFM	8" x 8"	CEILING	EXHAUST	PRICE 635 (2)
R-2 CFM	12" x 12"	CEILING	EXHAUST	PRICE 635 (2)
R-3 CFM	48" x 48"	LOW SIDEWALL	RETURN	PRICE 93 (2)(3)
R-4 CFM	16" x 16"	CEILING	EXHAUST	PRICE 635 (2)
R-5 CFM	18" x 10"	HIGH SIDEWALL	SUPPLY	PRICE 5300 (5)
R-6 CFM	12" x 24"	CEILING	EXHAUST	PRICE 635 (2)
R-7 CFM	16" x 8"	HIGH SIDEWALL	TRANSFER	PRICE 530
G-1	24" x 24"	CEILING	RETURN	PRICE 535
G-2	24" x 12"	CEILING	RETURN	PRICE 535
G-3	8" x 8"	CEILING	RETURN	PRICE 535

- NOTES:
- COLOR AND FINISH TO MATCH CEILING GRID. COORDINATE WITH ARCHITECT. SUPPLIER OF REGISTERS AND GRILLES SHALL COORDINATE WITH REFLECTED CEILING PLANS TO DETERMINE PROPER FRAMES.
  - ALL REGISTERS TO BE CAW OPPOSED BLADE VOLUME CONTROL DAMPER.
  - COORDINATE EXACT LOCATION WITH ARCHITECT PRIOR TO INSTALLATION.

DIFFUSER SCHEDULE (1)(2)					
SYMBOL	TYPE	NECK SIZE	LOCATION	AIR PATTERN	MAKE & MODEL
D-1 CFM	SUPPLY	6"Ø	CEILING	4-WAY	PRICE SPD
D-2 CFM	SUPPLY	8"Ø	CEILING	4-WAY	PRICE SPD
D-3 CFM	SUPPLY	10"Ø	CEILING	4-WAY	PRICE SPD
D-4 CFM	SUPPLY	12"Ø	CEILING	4-WAY	PRICE SPD

- NOTES:
- DIFFUSER SUPPLIER SHALL COORDINATE W/ REFLECTED CEILING PLANS TO DETERMINE TYPE OF FRAMES.
  - COLOR & FINISH TO MATCH CEILING GRID. COORDINATE WITH ARCHITECT
  - COORDINATE EXACT MOUNTING HEIGHT & LOCATION WITH ARCHITECT BEFORE INSTALLATION.
  - PROVIDE MANUAL BALANCING DAMPER.

EXHAUST FAN SCHEDULE							
SYMBOL	TYPE	C.F.M.	S.P.	R.P.M.	MOTOR	DRIVE	MAKE & MODEL
EF-1	ROOF	2640	1.0"	870	3/4 H.P. 460/3/60	BELT	TWIN CITY BCRJR 210 BHP (1)(3)(6)
EF-2	ROOF	2640	1.0"	870	3/4 H.P. 460/3/60	BELT	TWIN CITY BCRJR 210 BHP (1)(3)(6)
EF-3	ROOF	900	50"	925	1/4 H.P. 120/1/60	BELT	TWIN CITY BCRD 100D (1)(3)
EF-4	CEILING	80	25"	1550	48 WATTS 120/1/60	DIRECT	TWIN CITY T080 (2)
EF-5	CEILING	80	25"	1550	48 WATTS 120/1/60	DIRECT	TWIN CITY T080 (2)
EF-6	CEILING	100	25"	640	87 WATTS 120/1/60	DIRECT	TWIN CITY T100 (2)
EF-7	CEILING	80	60"	710	100 WATTS 120/1/60	DIRECT	TWIN CITY T150 (2)
EF-8	ROOF	600	625"	1250	1/4 H.P. 120/1/60	BELT	TWIN CITY BCRD 100D (1)(3)
EF-9	ROOF	150	50"	1590	1/4 H.P. 120/1/60	BELT	TWIN CITY BCRD 070D (1)(3)
EF-10	ROOF	300	60"	1680	1/4 H.P. 120/1/60	BELT	TWIN CITY BCRD 075D (1)(3)
EF-11	CEILING	80	25"	1550	48 WATTS 120/1/60	DIRECT	TWIN CITY T080 (2)
EF-12	CEILING	80	25"	1550	48 WATTS 120/1/60	DIRECT	TWIN CITY T080 (2)
EF-13	CEILING	80	25"	1550	48 WATTS 120/1/60	DIRECT	TWIN CITY T080 (2)
EF-14	CEILING	80	25"	1550	48 WATTS 120/1/60	DIRECT	TWIN CITY T080 (2)
EF-15	CEILING	80	25"	1550	48 WATTS 120/1/60	DIRECT	TWIN CITY T080 (2)
EF-16	CEILING	80	25"	1550	48 WATTS 120/1/60	DIRECT	TWIN CITY T080 (2)
EF-17	CEILING	80	25"	1550	48 WATTS 120/1/60	DIRECT	TWIN CITY T080 (2)
EF-18	ROOF	550	625"	1250	1/4 H.P. 120/1/60	BELT	TWIN CITY BCRD 100D (1)(3)
EF-19	ROOF	475	375"	1450	1/4 H.P. 120/1/60	BELT	TWIN CITY BCRD 085D (1)(3)
EF-20	ROOF	400	50"	1450	1/4 H.P. 120/1/60	BELT	TWIN CITY BCRD 085D (1)(3)
EF-21	ROOF	550	75"	1750	1/4 H.P. 120/1/60	BELT	TWIN CITY BCRD 085D (1)(3)
EF-22	ROOF	600	50"	1250	1/4 H.P. 120/1/60	BELT	TWIN CITY BCRD 100D (1)(3)(4)
EF-23	CEILING	300	35"	905	212 WATTS 120/1/60	DIRECT	TWIN CITY T300 (7)
EF-24	CEILING	300	35"	905	212 WATTS 120/1/60	DIRECT	TWIN CITY T300 (7)

- NOTES:
- EXHAUST FANS TO BE ROOF-MOUNTED CENTRIFUGAL TYPE. COMPLETE WITH SPUN ALUMINUM HOOD, BIROSCREEN, DISCONNECT SWITCH UNDER HOOD, PREFAB CURB AND BACKDRAFT DAMPER.
  - CEILING MOUNTED EXHAUST FANS TO BE COMPLETE WITH SIGHT TIGHT BAR-TYPE CEILING GRILLE, BACKDRAFT DAMPERS AND FLEXIBLE CONNECTION ON DISCHARGE DUCT.
  - EXHAUST FAN SHALL BE COMPLETE WITH 12" HIGH PREFAB ROOF CURB.
  - PROVIDE WALL SWITCH.
  - INTERLOCK FAN WITH CLOTHES DRYER.
  - PROVIDE FACTORY GREASE CLIP & FACTORY HINGED INSPECTION CURB WITH STOP.
  - FAN TO OPERATE ON COOLING THERMOSTAT.



PLUMBING EQUIPMENT SCHEDULE

<b>WH-1</b>	WATER HEATER- NATURAL GAS FIRED WITH AGA APPROVED GAS TRAIN AND ATMOSPHERIC BURNER. 750,000 BTUH INPUT 638,000 BTUH OUTPUT WITH 766 GPH RECOVERY THRU 100°F. TEMP. RISE, 10° DIA. GAS VENT CONNECTION, 8" DIA. AIR INTAKE CONNECTION, WITH FACTORY INSTALLED 1/2 H.P. 120/160 CIRCULATOR TO CIRCULATE 68 GPM AT 10 FT. HEAD, ALL COPPER ASME RATED HEATING ELEMENT, FACTORY VENT & INTAKE KIT, 120/160 SOLID STATE CONTROLS W/ FLOW SWITCH, TEMPERATURE AND PRESSURE RELIEF VALVE, INSULATED GALVANIZED STEEL OUTER JACKET WITH SPRUN ALUMINUM TOP WITH SEISMICALLY RATED TIE-DOWN PLATES. PROVIDE ALL COMPONENTS & CONTROLS FOR CSO-1 COMPLIANCE. MANUFACTURER: BRADFORD WHITE MODEL: BMT2V-750 WEIGHT: 510 POUNDS DIMENSIONS: 58-1/4"L. x 29-4"W x 43.5" HT.	<b>CP-1</b> (2-REQD)	PUMP- IN-LINE RECIRCULATING, 120 DEG. F. WATER, 12 GPM AT 20 FT. HEAD, 1/2 H.P., 120/160, 1750 RPM, 3/4" CONNECTIONS. ALL BRONZE CONSTRUCTION. MANUFACTURER: BELL & GOSSETT MODEL: SERIES 90 - 1-1/4 X 5-1/4
<b>WH-2</b>	WATER HEATER- GAS FIRED, HIGH EFFICIENCY TYPE, 199,000 BTUH INPUT, 597 GALLONS PER HOUR RECOVERY THRU 40°F TEMP. RISE, 3" DIA. FACTORY VENT & INTAKE KIT. HEATER SHALL BE COMPLETE WITH 100 GALLON, FACTORY INSULATED HOT WATER STORAGE TANK WITH ASME RATED GLASS LINED TANK. HEATER SHALL BE SUITABLE FOR PVC VENTING, COMPLETE WITH P & T RELIEF VALVE, GAS TRAIN, FACTORY WIRED AND TESTED. UPPER & LOWER LIMIT OPERATING THERMOSTATS, COMBINATION HIGH AND LOW PRESSURE SAFETY CONTROLS, ROOF VENT & INTAKE TERMINATION KIT, LOW WATER CUT-OFF, & ALL CONTROLS FOR AUTOMATIC OPERATION. SET AT 140°F. MANUFACTURER: BRADFORD WHITE MODEL: EF-100T-199E-3NA WEIGHT: 900 LBS. DIMENSIONS: 77-5/8" HT. x 28-1/4" DIA.	<b>CP-2</b> (2-REQD)	PUMP- IN-LINE RECIRCULATING, 140 DEG. F. WATER, 5 GPM AT 17 FT. HEAD, 1/2 H.P., 120/160, 1750 RPM, 3/4" CONNECTIONS. ALL BRONZE CONSTRUCTION. MANUFACTURER: BELL & GOSSETT MODEL: SERIES PR
<b>ST-1</b>	HOT WATER INSULATED/ JACKETED STORAGE TANK: VERTICAL TYPE, "ASME" CONSTRUCTION, DOUBLE GLASS LINED, 46" DIA. X 89" HIGH, 432 GALLON STORAGE CAPACITY. TANK TO BE COMPLETE WITH MANHOLE, REQUIRED PIPE TAPPINGS, AND ALL ASSOCIATED CONNECTIONS SHOWN ON DRAWINGS. TEMP TO BE 120 DEG. F. MANUFACTURER: BRADFORD WHITE MODEL: N145J3A WEIGHT: 1176 LBS.	<b>EX-1</b>	EXPANSION TANK: BLADDER TYPE, DOMESTIC 120° HOT WATER, 77.0 GAL. TOTAL VOLUME, 10.0 GALLONS ACCEPTANCE VOLUME. FACTORY AIR CHARGE 55 PSI, 16-1/4" DIA. x 17-1/4" HIGH, COMPLETE WITH STEEL SHELL AND HEAVY DUTY BUTYL DIAPHRAGM. MANUFACTURER: AMTROL MODEL: AST-180
<b>WS-1</b>	WATER SOFTENER- SIMPLEX UNIT, 47 GPM CONTINUOUS FLOW RATE @ 15 PSI PRESSURE DROP THRU EACH SOFTENER TANK. 120,000 GRAIN TANK EXCHANGE CAPACITY. 4 CUBIC FEET OF HIGH CAPACITY RESIN FOR SOFTENER TANK. SOFTENER TANK SHALL BE 16" DIA. X 65" HIGH, WITH 24" DIA. X 41" HIGH BRINE TANK. THE WATER SOFTENER ASSEMBLY SHALL BE FURNISHED COMPLETE WITH ALL CONTROLS AND FITTINGS FOR FULLY AUTOMATIC OPERATION. 2" INLET AND OUTLET PIPE REQUIRED. MANUFACTURER: PACIFIC WATER INC. MODEL: WS120-956SM	<b>EX-2</b>	EXPANSION TANK: BLADDER TYPE, DOMESTIC 140° HOT WATER, 12.5 GAL. TOTAL VOLUME, 10.0 GALLONS ACCEPTANCE VOLUME. FACTORY AIR CHARGE 55 PSI, 16-1/4" DIA. x 17-1/4" HIGH, COMPLETE WITH STEEL SHELL AND HEAVY DUTY BUTYL DIAPHRAGM. MANUFACTURER: AMTROL MODEL: AST-30

PLUMBING PIPING LEGEND

DESCRIPTION	SYMBOL
WASTE (BELOW GRADE)	-----
VENT	-----
COLD WATER	-----
HOT WATER (120 DEG.F.)	-----
HOT WATER RECIRCULATING (120 DEG.F.)	-----
TEMPERED WATER	-----T-----
HOT WATER SUPPLY (140° DEG F)	-----140-----
HOT WATER RECIRCULATING 140° DEG F)	-----140-----
GAS 4 OUNCE)	-----G-----4oz-----
GAS (2LB)	-----G-----2#-----
ROOF DRAIN (ABOVE GRADE)	-----RD-----
ROOF DRAIN (BELOW GRADE)	-----RD-----
SECONDARY ROOF DRAIN	-----SRD-----
SOFT WATER	-----S-----
DRAIN	-----D-----

PLUMBING FIXTURE SCHEDULE							
SYMBOL	FIXTURE	WASTE	VENT	C.W.	H.W.	TEMP. W.	NOTES (1)
AVC 1	WATER CLOSET	4"	2"	1"	--	--	WALL MOUNTED - FLUSH VALVE
AVC 2	WATER CLOSET	4"	2"	1"	--	--	WALL MOUNTED - FLUSH VALVE (ADA)
AVC 3	WATER CLOSET	4"	2"	1"	--	--	FLOOR MOUNTED - FLUSH VALVE (ADA)
AVC 4	WATER CLOSET	4"	2"	1"	--	--	FLOOR MOUNTED - FLUSH VALVE 17" RIM HEIGHT
U 1	URINAL	3"	2"	1"	--	--	WALL MOUNTED - SENSOR FLUSH
U 2	URINAL	3"	2"	1"	--	--	COUNTER MOUNTED - SENSOR FLUSH (ADA)
L 1	LAVATORY	1-1/2"	1-1/2"	1/2"	1/2"	1/2"	WALL MOUNTED - (ADA) WASSE TV-1
L 2	LAVATORY	1-1/2"	1-1/2"	1/2"	1/2"	--	COUNTER MOUNTED - (ADA) WASSE TV-1
S 1	SINK	1-1/2"	1-1/2"	1/2"	1/2"	--	COUNTER MOUNTED
S 2	SINK	1-1/2"	1-1/2"	1/2"	1/2"	--	2-COMPARTMENT COUNTER MOUNTED
S 3	SINK	1-1/2"	1-1/2"	1/2"	1/2"	--	COUNTER MOUNTED
SS 1	SERVICE SINK	3"	2"	3/4"	3/4"	--	FLOOR MOUNTED
DF 1	DRINKING FOUNTAIN	1-1/2"	1-1/2"	1/2"	--	--	WALL MOUNTED - BILEVEL WITH BOTTLE FILLER ON LOW SIDE 120/160
WB 1	WASHER BOX	2"	2"	3/4"	3/4"	--	SEE DETAIL 9/P602
MB 1	ICE MAKER BOX	--	--	1/2"	--	--	RECESSED IN WALL
HB 1	HOSE BIBB	--	--	3/4"	--	--	EXTERIOR NON-FREEZE
HB 2	HOSE BIBB	--	--	3/4"	--	--	INTERIOR WALL BOX (TOILET ROOMS)
HB 3	HOSE BIBB	--	--	3/4"	--	--	INTERIOR W/INTEGRAL VACUUM BREAKER (TOILET ROOMS)
TP 1	TRAP PRIMER	--	--	1/2"	--	--	ELECTRIC WITH TIMER 120/160
EW 1	EMERGENCY EYEWASH	--	--	--	--	3/4"	SEE DETAIL 10/P601
HR 1	HOSE REEL	--	--	1/2"	1/2"	--	W/ RPBP - SEE DETAIL 7/P604
TV 1	TEMPERING VALVE	--	--	1/2"	1/2"	1/2"	SINGLE LAV ASSE 1070 MOUNT UNDER LAVATORY
TV 2	TEMPERING VALVE	--	--	1/2"	1/2"	3/4"	EMERGENCY EYEWASH EW-1
FD 1	FLOOR DRAIN	2"	1-1/2"	--	--	--	W/DEEP SEAL TRAP AND ASSE TRAP GUARD
FD 2	FLOOR DRAIN	2"	2"	--	--	--	W/TRAP PRIMER CONNECTION AND ASSE TRAP GUARD - MECHANICAL PENTHOUSE
TD 1	TRENCH DRAIN	4"	2"	--	--	--	SEE PLAN FOR LENGTH (BOILER ROOM)
D 1	DRAIN	4"	2"	--	--	--	KITCHEN FLOOR TROUGH ITEM #93
F 1	FILTER	2"	--	--	--	--	SEE DETAIL 6/P601
FS 1	FLOOR SINK	2"	2"	--	--	--	12"x12" (KITCHEN) PROVIDE GRATE
FS 2	FLOOR SINK	3"	2"	--	--	--	12"x12" (KITCHEN) PROVIDE GRATE
FS 3	FLOOR SINK	4"	2"	--	--	--	12"x12" (KITCHEN) PROVIDE GRATE
HD 1	HOPPER DRAIN	4"	2"	--	--	--	
RD 1	PRIMARY ROOF DRAIN	--	--	--	--	--	SEE PLAN FOR SIZES
RD 2	SECONDARY ROOF DRAIN	--	--	--	--	--	SEE PLAN FOR SIZES
DN 1	DOWNSPOUT NOZZLE	--	--	--	--	--	SEE PLAN FOR SIZES
GI 1	GREASE INTERCEPTOR	4"	3"	--	--	--	SEE DETAIL 7/P601
SM 1	SAMPLING MANHOLE	4"	--	--	--	--	SEE DETAIL 10/P601

NOTES:  
(1) CONTRACTOR SHALL VERIFY EXACT LOCATION OF ALL PLUMBING FIXTURES AND DRAINS WITH ARCHITECTURAL DRAWINGS PRIOR TO ROUGH-IN OR INSTALLATION.

Ogden School District  
1950 Monroe Blvd.  
Ogden, Utah 84401



Project For  
The  
Ogden School  
District Board  
of Education

T.O. Smith  
Elementary  
School Rebuild

3295 Gramercy Ave  
Ogden, Utah 84403

BRANCH WATER LINE SCHEDULE							
FIXTURE	FIXTURE UNITS	TOTAL QUANTITY OF FIXTURES SERVED BY A GIVEN PIPE SIZE					
		1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
WATER CLOSET	10	--	--	1	2	3	8
URINAL	5	--	1	2	3	6	20
LAVATORY	2	1	3	5	7	15	50
SINK	2	1	3	5	7	15	50
KITCHEN SINK	2	1	3	5	7	15	50
SERVICE SINK	4	--	1	2	3	7	25
DRINKING FOUNTAIN	1	2	6	10	15	30	--
HOSE BIBB	3	--	1	3	5	10	33
WALL HYDRANT	3	--	1	3	5	10	33
DISHWASHER	4	--	1	2	3	7	25
TOTAL FIXTURE UNITS SERVED BY PIPE SIZE		2	6	10	15	30	100

NOTE:  
MINIMUM PIPE SIZE TO ANY FIXTURE TO BE 1/2". WHERE PIPE SIZE IS SHOWN ON DRAWINGS, IT SHALL BE FOLLOWED. IN THE EVENT PIPE SIZES ARE NOT SHOWN, THE SIZE OF ANY BRANCH LINE SHALL BE DETERMINED BY USING THIS TABLE. FIND SUM OF TOTAL FIXTURE UNITS ON BRANCH LINE, THEN REDUCE TOTAL BY SUBTRACTING OFF INDIVIDUAL FIXTURE UNITS FOR EACH SUCCESSIVE FIXTURE ALONG THE BRANCH LINE.

NOT FOR CONSTRUCTION

Project Phase  
Design  
Development

No.	Description	Date

Project Number  
124.009

Project Issue Date  
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Sheet Title  
Plumbing  
Schedules

Sheet Number

P501

Bid Package 2