DOCUMENT 00 90 00 ADDENDUM

ADDENDUM NO. [3] Date: October 14, 2019

- RE: LANESBORO PUBLIC SCHOOLS ADDITION AND REMODEL REBID 100 KIRKWOOD ST EAST LANESBORO, MN 55949 HSR 18063
- FROM: HSR Associates, Inc 100 Milwaukee Street La Crosse, WI 54603 (608) 784-1830

To: Prospective Bidders

This addendum forms a part of the Contract Documents and modifies the original Bidding Documents dated September 2019. Acknowledge receipt of this Addendum in the space provided on the bid form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of [2] pages, [1] Specification Section and [11] 30 x 42 drawings.

CHANGES TO PREVIOUS ADDENDUM:

- 1. Item 8 Section 07 72 00 ROOF ACCESSORIES
 - a. Paragraph c: Change "The Vault AW-201412. 20 ½" | x 14 ½" w x 12" h" to "The Vault AW Mega Vault-343424. 34" | x 34" w x 24" h."
- 2. Item 51, Sheet E001: The transformer pad and vault shall be provided by the Electric Utility.

CHANGES TO SPECIFICATIONS:

- 3. Section 26 05 19 LOW VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLE
 - a. Section reissued and attached hereto with information regarding allowing aluminum conductors.

CHANGES TO DRAWINGS

- 4. EIFS Location: EIFS application is shown on 3A200 at exposed foundation and on the north wall of the area well off Mech 124, Sheet A102, Addendum 2. The detail reference showing EIFS is 13A511 and is referred to as "cementitious coating".
- <u>Sheet P000 SYMBOLS, ABBREVIATIONS AN SCHEDULES PLUMBING</u> 30 x 42 attached hereto
 - a. Revisions clouded on Drawing.
 - b. .Add sink S-8 to Plumbing Fixture Schedule.
- 6. <u>Sheet P097 UPPER LEVEL DEMO SEG B PLUMBING</u> 30 x 42 attached hereto
 - a. Revisions clouded on Drawing.
 - b. Demolish classroom sink.

- 7. <u>Sheet P098 UPPER LEVEL DEMO SEG C PLUMBING</u> 30 x 42 attached hereto
 - a. Revisions clouded on Drawing.
 - b. Demolish classroom sink.
- 8. <u>Sheet P107 UPPER LEVEL SEG B PLUMBING</u> 30 x 42 attached hereto
 - a. Revisions clouded on Drawing.
 - b. Add scheduled sink in new classroom countertop at location of demolished sink.
- 9. <u>Sheet P108 UPPER LEVEL SEG C PLUMBING</u> 30 x 42 attached hereto
 - a. Revisions clouded on Drawing.
 - b. Add scheduled sink in new classroom countertop at location of demolished sink.
- 10. Sheet M101 LOWER LEVEL DUCTWORK REMODEL SEG B 30 x 42 attached hereto
 - a. Revisions clouded on Drawing.
- 11. Sheet M102 LOWER LEVEL DUCTWORK REMODEL SEG C 30 x 42 attached hereto
 - a. Revisions clouded on Drawing.
 - b. Required fire damper locations.
- 12. Sheet M104 UPPER LEVEL DUCTWORK REMODEL SEG B 30 x 42 attached hereto
 - a. Revisions clouded on Drawing.
 - b. Required fire damper locations
- 13. <u>Sheet M602 HVAC SCHEDULES AND DETAILS</u> 30 x 42 attached hereto
 - a. Revisions clouded on Drawing.
 - b. Dryer duct labeling identified.
- 14. Sheet E001 SITE PLAN ELECTRICAL 30 x 42 attached hereto
 - a. Revisions clouded on Drawing.
 - b. Add greenhouse panel to feed all greenhouse power and lighting.
- 15. <u>Sheet E801 SCHEDULES ELECTRICAL</u> 30 x 42 attached hereto
 - a. Revisions clouded on Drawing.
 - b. Add connection for new greenhouse feeder from existing Panel C€.

END OF DOCUMENT 00 90 00

1	SECTION 26 05 19
2	LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLE
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5	PART 1 - GENERAL
6	COORE
/ 0	SUUPE The work under this section includes furnishing and installing required wiring and schling systems
o Q	including pulling terminating and splicing. Included are the following topics:
10	including pulling, terminating and splicing. Included are the following topics.
11	PART 1 - GENERAL
12	Scope
13	Related Work
14	References
15	Submittals
16	Project Conditions
17	
18 10	PART 2 - PRODUCTS
19 20	General Building Wire
20 21	Service Entrance Conductors
22	Variable Frequency Drive (VED) Wire
23	Aboveground Wire for Exterior Work
24	Underground Wire for Exterior Work
25	Wiring Connectors
26	
27	PART 3 - EXECUTION
28	General Wiring Methods
29	Wiring Installation in Raceways
30 24	Wiring Connections and Terminations
31 32	Wire Color
33	Branch Circuits
34	
35	RELATED WORK
36	Applicable provisions of Division 1 govern work under this Section.
37	
38	Section 26 05 33 – Raceway and Boxes for Electrical Systems.
39	Section 26 05 53 – Identification for Electrical Systems.
40	DEEEDENAEA
41 42	REFERENCES Minnegete State Building Code
4Z 13	Minnesola State Building Code
43 44	SUBMITTALS
45	Submit product data: Provide for each cable assembly type.
46	
47	Submit factory test reports: Indicate procedures and values obtained.
48	
49	Submit shop drawings for modular wiring system including layout of distribution devices, branch
50	circuit conduit and cables, circuiting arrangement, and outlet devices.
51	
52 52	Submit manufacturer's installation instructions. Indicate application conditions and limitations of
53 54	use stipulated by product testing agency specified under Regulatory Requirements.
55	PRO IECT CONDITIONS
56	Verify that field measurements are as shown on Drawings

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2	Conductor sizes are based on copper.
3 4 5 6	Wire and cable routing shown on Drawings is approximate unless dimensioned. Route wire and cable as required to meet project conditions.
7 8	Where wire and cable routing is not shown, and destination only is indicated, determine exact routing and lengths required.
9 10	PART 2 - PRODUCTS
11	
12	GENERAL
13 14 15	All wire shall be new, delivered to the site in unbroken cartons and shall be less than one year old out of manufacturer's stock.
16	All conductors shall be copper. Aluminum conductors size #1/0 and larger may be substituted for
17	copper and used for phase and neutral conductors for transformer feeders, switchboard feeders,
18	and panelboard feeders. All ground conductors shall be copper.
19	Aluminum conductors shall not be used for conving individual motors, shillors, VED's and motors
20	Auminum conductors shall not be used for serving individual motors, chillers, VFD's and motor
21	
22	The following requirements shall be motivined allowing an electron and store are used.
23	The following requirements shall be met when aluminum conductors are used:
24	Alignment of the second state shall be account strended as adjusters of a reason include
25	Aluminum alloy conductors shall be compact stranded conductors of a recognized
26	Aluminum Association 8000 Series aluminum alloy conductor material (AA-8000 series
27	alloy).
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29	It is the responsibility of the contractor to increase the size of the conduit, wire gutter, or
30	enclosure, if necessary, to accommodate the aluminum conductors and meet allowable
31	code requirements.
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33	It is the responsibility of the contractor to increase the size of the aluminum conductor
34	and associated termination lugs to match the ampacity of the copper conductor circuit
35	shown on the Drawings.
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37	The contractor shall submit a feeder schedule to the Engineer for all conductor
38	substitutions indicating the aluminum conductor wire size and the conduit size. The
39	contractor shall not begin the installation until written approval is granted by the Engineer.
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41	All aluminum conductors shall terminate on a mechanical screw-type connector or
42	mechanical compression-type connector. Connector shall be dual rated (AL7CU or
43	Al 9CU) and Listed by UL for use with aluminum and copper conductors, and sized to
44	accept aluminum conductors of the required ampacity. When using compression-type
45	connectors the lugs shall be marked with wire size, die index, number and location of
46	crimps and shall be suitably color-coded. Using a suitable stripping tool remove
40 47	insulation from the required length of the conductor. Wire brush the conductor and apply
48	a Listed joint compound. Tighten or crimp the connection per the connector
10	manufacturer's recommendation. Wine off any excess joint compound
50	manufacturer 3 recommendation. Whe on any excess joint compound.
50	When terminating aluminum conductors to aluminum hus, prepare a mechanical screw-
52	type or compression-type connection. Bolts shall be anadized allow and conform to
52	current ANSI and ASTM chamical and machanical property limita. Nute shall be
55	aluminum allov and conform to current ANSI standarda. Washers shall be flat aluminum
04 55	aluminum alloy and contorn to current ANSI standards. Washers shall be hat aluminum
00 50	alloy, Type A plain, standard wide series conforming to current ANSI standards.
oc	Lubricate and lighten the hardware per manufacturer's recommendations.

When terminating aluminum conductors to copper bus, prepare a mechanical screw-type or compression-type connection. Bolts shall be plated or galvanized medium carbon steel; heat treated, quenched and tempered equal to current ASTM standard or SAE grade 5. Nuts shall conform to current ANSI standards. Washers shall be steel, Type A plain, standard wide series conforming to current ANSI standards. Belleville conical spring washers shall be of hardened steel, cadmium plated or silicone bronze. Lubricate and tighten the hardware per manufacturer's recommendations.

The final tightening torque shall be recorded for all aluminum conductor mechanical screw-type connections and provided in report form, in the completed O&M manuals.

The contractor shall perform an infrared survey of all aluminum conductor connections after the installation is complete and in normal service. Infrared surveys shall be performed during periods of maximum possible loading with at least 30% of rated load of the equipment being inspected. All connections with elevated temperatures shall be corrected by the contractor. The infrared survey results shall be provided in report form, in the completed O&M manuals.

- No copper-to-aluminum transitions permitted when splicing onto existing copper feeders.
- 2223 Insulation shall have a 600 volt rating.
- 25 All conductors shall be stranded.
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- Stranded conductors may only be terminated with UL OR ETL Listed type terminations or
 methods: e.g. stranded conductors may not be wrapped around a terminal screw but
 must be terminated with a crimp type device or must be terminated in an approved back
 wired method.
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32 BUILDING WIRE

- 33 Description: Single conductor insulated wire 90 degree C.
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35 Insulation: Type THHN/THWN-2, XHHW-2 insulation.

37 SERVICE ENTRANCE CONDUCTORS

Description: Single conductor or multi-conductor insulated wire. 90 degree C sized at the 75
 degree C table.

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- Insulation: Type USE-2, XHHW-2 insulation for service entrance conductors routed from exterior
 source to exterior termination location.
- 43 Type XHHW-2 insulation for services entrance conductors routed from exterior source 44 to interior termination location.
- 45

46 VARIABLE FREQUENCY DRIVE (VFD) WIRE

All power wiring from the VFD output to the motor shall be type XHHW-2 insulation, single conductor wire.

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50 ABOVE GROUND WIRE FOR EXTERIOR WORK

- 51 Description: Single conductor insulated wire, 90 degree C.
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- 53 Insulation: Type THHN/THWN-2, XHHW-2 insulation.
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55 UNDERGROUND WIRE FOR EXTERIOR WORK

56 Description: Stranded single or multiple conductor insulated wire, 90 degree C.

Insulation: Type USE-2, XHHW-2, RHW-2 insulation.
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This wiring shall be used in all underground feeder and branch circuit applications, except THHN/THWN-2 is permitted when run in a concrete-encased ductbank.

6 7 WIRING CONNECTORS

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8 Split Bolt Connectors: Not acceptable.9

Solderless Pressure Connectors: High copper alloy terminal. May be used only for cable
 termination to equipment terminals. Not approved for splicing.

Twist Type Wire Connectors: Solderless twist type spring connector (wire-nut) with insulating cover for copper wire splices and taps. Use for conductor sizes 10 AWG and smaller. The manufacturer's wire fill capacity must be followed.

All wire connectors used in underground or exterior pull boxes or hand holes shall be gel filled twist connectors or a connector designed for damp and wet locations. Gel filled twist type connectors can be used for copper conductor sizes 6 AWG and smaller for site lighting applications. The manufacturer's wire fill capacity must be followed.

Mechanical Connectors: Bolted type tin-plated; high conductivity copper alloy; spacer between
 conductors; beveled cable entrances.

Compression (crimp) Connectors: Long barrel; seamless, tin-plated electrolytic copper tubing; internally beveled barrel ends. Connector shall be clearly marked with the wire size and type and proper number and location of crimps. Connector must be installed with a crimper tool listed for use with the manufacturer and type of compression connector.

Insulation Piercing Connectors: Molded insulated body, copper teeth, wrench tightened, UL 486B
Listed. May be used only for connection of a tap conductor in run and tap type applications when
main conductor is 8 AWG and larger.

PART 3 - EXECUTION

36 GENERAL WIRING METHODS

All wire and cable shall be installed in conduit.

39 Do not use wire smaller than 12 AWG for power and lighting circuits.

All phase, neutral and ground conductors shall be sized to prevent excessive voltage drop at rated circuit ampacity. As a minimum use 10 AWG conductors for 20 ampere, 120 volt branch circuit home runs longer than 100 feet (30 m), and for 20 ampere, 277 volt branch circuit home runs longer than 200 feet (61 m).

- 46 Make conductor lengths for parallel conductors equal.
- 48 Splice only in junction or outlet boxes.
- 50 No conductor less than 10 AWG shall be installed in exterior underground conduit.

52 Identify ALL low voltage wire, 600V and lower, per section 26 05 53.

54 Neatly train and lace wiring inside boxes, equipment, and panelboards.

56 WIRING INSTALLATION IN RACEWAYS

1 2 3 4	Pull all conductors into a raceway at the same time. Use Listed water or silicone based wire pulling lubricant for pulling 4 AWG and larger wires and for other conditions when necessary. Wax based lubricants are not allowed. Pulling lubricant is not required for low friction type products where the cable manufacturer recommends that cables be pulled without lube.
5 6 7 8	Install wire in raceway after interior of building has been physically protected from the weather and all mechanical work likely to injure conductors has been completed.
9 10	Completely and thoroughly swab raceway system before installing conductors.
11 12 13	Place all conductors of a given circuit (this includes phase wires, neutral (if any), and ground conductor) in the same raceway. If parallel phase and/or neutral wires are used, then place an equal number of phase and neutral conductors in same raceway or cable.
14 15 16 17	VFD Installations: Install VFD input wiring and output wiring in separate conduit systems. Do not mix VFD input power and output power, or control wiring in a common raceway.
17 18 19 20	In high ambient spaces, mechanical rooms, utility rooms and exterior exposed conduit, 90 degree C conductors shall be utilized.
21 22 23	WIRING CONNECTIONS AND TERMINATIONS Splice only in accessible junction boxes.
24 25 26	Wire splices and taps shall be made firm, and adequate to carry the full current rating of the respective wire without soldering and without perceptible temperature rise.
27 28 20	All splices shall be so made that they have an electrical resistance not in excess of two feet (600 mm) of the conductor.
30 31 32	Use solderless twist type spring connectors (wire nuts) with insulating covers for wire splices and taps, 10 AWG and smaller.
33 34 35	Use mechanical or compression connectors for wire splices and taps, 8 AWG and larger. Tape uninsulated conductors and connectors with electrical tape to 150 percent of the insulation value of the wiring.
37 38	Thoroughly clean wires before installing lugs and connectors.
39 40	At all splices and terminations, leave tails long enough to cut splice out and completely re-splice.
41 42 43	FIELD QUALITY CONTROL Field inspection and testing will be performed under provisions of Section 26 05 04.
44 45	Additional testing as follows shall be performed if aluminum conductors are used:
46 47 48	Feeders terminated with aluminum conductors shall be tested with a thermal imager and recorded.
49 50 51	Conductors shall be closely checked for loose or poor connections, and for signs of overheating or corrosion.
52 53	Test procedures shall meet NETA guidelines.
54	Test results and report shall be provided to the engineer and included in O&M manual
55 56	under AL conductors/ tests.

Contractor shall correct all deficiencies reported in the test report.

3 WIRE COLOR

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36 37 Solid colored insulation is required for all THHN/THWN-2 wire. For other wire types use colored wire or identify wire with colored tape at all terminals, splices and boxes. Wire shall be colored as indicated below.

In existing facilities, use existing color scheme.

Switch legs shall be the same color as their associated circuit, except for the second switch leg used for dual-level switching. The second switch leg shall be the next phase color, e.g. if the first switch leg is brown (277/480V phase A), the second switch leg shall be orange (277/480V phase B).

Traveler conductors run between 3 and 4 way switches shall be colored pink or purple.

Neutral Conductors: White for 120/208V and 120/240V systems, Gray for 277/480V systems.
Where there are two or more neutrals in one conduit, each shall be individually identified with a different stripe.

- Branch Circuit Conductors: Three or four wire home runs shall have each phase uniquely color
 coded.
- 25 Feeder Circuit Conductors: Each phase shall be uniquely color coded.

Ground Conductors: Green colored insulation for THHN/THWN-2 wire. For other wire types use
 green colored wire or identify wire with green tape at both ends and at all access points, such as
 panelboards, motor starters, disconnects and junction boxes. When isolated grounds are
 required, contractor shall provide green with yellow tracer.

32 BRANCH CIRCUITS

The use of single-phase, multi-wire branch circuits with a common neutral is not permitted. All single-phase branch circuits shall be furnished and installed with an individual accompanying neutral, sized the same as the phase conductors.

END OF SECTION

[PLUMBING FIXTURES SCHEDULE																				
	ID	FIXTURE	DFU	WASTE TRAP	VENT (MIN)	CO CWFU	WA LD SIZE	TER H HWFU	OT	NAT GAS	DETAIL / SHEET	TAIL / HEET DESCRIPTION / REMARKS									
	EDM	EMERGENCY EYEWASH		A 41	4 4 10-		410"		410"			FIXTURE: BRADLEY S19224BPT WALL MOUNTED EYE-FACE WASH, PUSH LEVER ACTIVATION, STAINLESS STEEL BOWL, GALVANIZED STEEL SUPPORT, YELLOW COATED SUPPORT AND BRACKET, INTEGRAL VALVE, IN-LINE STRAINER, ADA COMPLIANT.									
	<u>EEW-1</u>	(WALL HUNG, ADA COMPLIANT)		1 1/2"	1 1/2"		1/2"		1/2"			Image: State of the state									
		ELECTRIC WATER COOLER										FIXTURE: ELKAY EZST8WSLK WALL HUNG, HI-LO ELECTRIC WATER COOLER WITH BOTTLE FILLING STATION, STAINLESS STEEL BASIN, SELF-CLOSING PUSH BUTTON VALVE CONTROLS, SELF-CONTAINED CHILLER UNDER FIXTURE, ADA COMPLIANT.									
	<u>EWC-1</u>	HI-LO WITH BOTTLE FILLER (ADA COMPLIANT)	1	1 1/4"	1 1/2"	0.25	1/2"					TRAP & DRAIN: CHROME PLATED 17 GAUGE CAST BRASS TRAP. STOPS & SUPPLIES: McGUIRE LFBV2165CC, LOOSE KEY QUARTER TURN ANGLE STOPS WITH CHROME PLATED ESCUTCHEONS & CHROME PLATED COPPER RISER SUPPLIES.									
												SUPPORT: MANUFACTURER'S RECOMMENDED WALL BRACKET AND COMPONENTS. FIXTURE: ELKAY EZS8WSLK WALL HUNG, SINGLE ELECTRIC WATER COOLER WITH BOTTLE FILLING STATION, STAINLESS STEEL BASIN, SELF-CLOSING PUSH BUTTON VALVE CONTROLS, SELF-CONTAINED CHILLER LINDER EXTURE									
	<u>EWC-2</u>	ELECTRIC WATER COOLER SINGLE WITH BOTTLE	1	1 1/4"	1 1/2"	0.25	1/2"					TRAP & DRAIN: CHROME PLATED 17 GAUGE CAST BRASS TRAP.									
		FILLER (ADA COMPLIANT)										STOPS & SUPPLIES: McGUIRE LFBV2165CC, LOOSE KEY QUARTER TURN ANGLE STOPS WITH CHROME PLATED ESCUTCHEONS & CHROME PLATED COPPER RISER SUPPLIES. SUPPORT: MANUFACTURER'S RECOMMENDED WALL BRACKET AND COMPONENTS.									
	<u>GO-1</u>	GAS OUTLET										FIXTURE: WATERSAVER L2880-131WSA NEEDLE VALVE ASSEMBLY, FORGED BRASS WITH CHROME FINISH, FLOATING STAINLESS STEEL NEEDLE AND REPLACEABLE STAINLESS STEEL SEAT, 3/8" MOUNTING SHANK, DECK MOUNTED SINK OUTLET, RATED FOR LABORATORY GAS, CSA AND ANSI CERTIFIED.									
	<u>HB-1</u>	HOSE BIBB				3	1/2"					FIXTURE: WOODFORD MODEL 24 ANTI-SIPHON HOSE BIBB, EXPOSED COLD WATER, INTEGRAL VACCUM BREAKER, 3/4" HOSE CONNECTION. FIXTURE: KOHLER KINGSTON K-2007 WALL HUNG LAVATORY SINK, WHITE VITEROUS CHINA, WITH OVERFLOW, CONCEALED FOR ARM SUPPORT, SINGLE FAUCET HOLE, ADA COMPLIANT.									
	<u>L-1</u>	LAVATORY (WALL HUNG	1	1 1/4"	1 1/2"	0.5	1/2"	0.5	1/2"		5/P900	FAUCET: CHICAGO FAUCETS E80-A11H-41ABCP ELECTRONIC SENSOR FAUCET, 0.5 GPM AERATOR, SINGLE HOLE MOUNTING, CHROME FINISH, PLUG-IN TRANSFORMER 240.630.00.1 FOR SINGLE FAUCET, 120VAC INPUT / 12VAC OUTPUT, INCLUDE BELOW DECK THERMOSTATIC MIXING VALVE ASSE 1070 CHICAGO FAUCETS 131-ABNF, ADA COMPLIANT.									
		ADA HEIGHT)										STOPS & SUPPLIES: McGUIRE LFBV2165CC, LOOSE KEY QUARTER TURN ANGLE STOPS WITH CHROME PLATED ESCUTCHEONS & CHROME PLATED COPPER RISER SUPPLIES.									
												SUPPORT: COMMERCIAL GRADE, WALL HUNG LAVATORY SUPPORT, STEEL STANCHIONS, IRON WELDED FEET, STEEL SLEEVES, FASTEN TO FLOOR. FIXTURE: BRADLEY VERGE WASH BASIN LVAD2 IR-DCG NSD TMA (COLOR TBD) STAIN TS S-CHROME PT, TWO STATION WASH BASIN, NATURAL QUARTZ/RESIN BASIN, NO SOAP DISPENSER, STAINLE STEEL ACCESS PANEL UNDER FIXTURE WITH THUMB SCREWS, SINGLE FAUCET HOLE IN TWO LOCATIONS, ADA COMPLIANT, STANDARD COLOR TO BE DETERMINED BY OWNER.									
	1-2	I AVATORY (TWO STATION)	1	1 1/4"	1 1/2"	0.5	1/2"	0.5	1/2"			FAUCET: TWO (2) INFRARED FAUCETS BRADLEY IR-DCG, METAL CONSTRUCTION, CHROME FINISH, SINGLE HOLE MOUNTING, INCLUDE PLUG-IN ADAPTER (PT) FOR EACH FAUCET, 0.5 GPM NON- AERATING SPRAY OUTLET, INCLUDE BELOW DECK THERMOSTATIC MIXING VALVE (TMA) ASSE 1070 WITH SUPPLY HOSES, ADA COMPLIANT.									
												TRAP & DRAIN: CHROME PLATED P-TRAP (S-CHROME), INTEGRAL DRAIN IN FIXTURE. STOPS & SUPPLIES: McGUIRE LFBV2165CC, LOOSE KEY QUARTER TURN ANGLE STOPS WITH CHROME PLATED ESCUTCHEONS & CHROME PLATED COPPER RISER SUPPLIES.									
												SUPPORT: MANUFACTURER'S RECOMMENDED SUPPORT BRACKET, INCLUDED BLOCKING IN WALL. FIXTURE: MUSTEE 63M 24"x24"x10" HIGH BASIN, ONE PIECE MOLDED DURASTONE, INTEGRAL MOLDED-IN DRAIN, 3" DRAIN CONNECTION.									
	<u>MB-1</u>	MOP BASIN	3	3"	2"	2.25	1/2"	2.25	1/2"			FAUCET: CHICAGO FAUCETS SERVICE SINK FAUCET 305-RRCF WITH ROUGH CHROME FINISH, 3/4" MALE HOSE THREADED OUTLET, PAIL HOOK, ADJUSTABLE SUPPLY ARMS WITH INTEGRAL SERVIC STOPS AND LEVER HANDLES. PROVIDE WATTS MODEL 8AC NON-REMOVABLE CHROME VACUUM BREAKER.									
												TRAP & DRAIN: PVC P-TRAP WITH STRAINER DRAIN. ACCESSORIES:HOSE & HOSE HOLDER 65.700, & MOP HANGER 65.600.									
												FIXTURE: ELKAY LUSTERSTONE LRAD252265-3 SELF-RIMMING SINK, 18 GAUGE TYPE 304 STAINLESS STEEL, 25" x 22" x 6.5" DEEP, THREE FAUCET HOLES ON 4" CENTERS OFFSET TO RIGHT, ADA COMPLIANT.									
	<u>S-1</u>	SINK (CLASSROOM)	2	1 1/2"	1 1/2"	1.5	1/2"	1.5	1/2"												
												STOPS & SUPPLIES: McGUIRE LFBV2165CC, LOOSE KEY QUARTER TURN ANGLE STOPS WITH CHROME PLATED ESCUTCHEONS & CHROME PLATED COPPER RISER SUPPLIES. FIXTURE: INTEGRAL BOWL BY GC, PC TO COORDINATE FAUCET AND DRAIN HOLES.									
	<u>S-2</u>	SINK (CHEMISTRY LAB)	2	1 1/2"	1 1/2"	1.5	1/2"	1.5	1/2"			FAUCET: CHICAGO FAUCETS LWM1-A11-A MANUAL LAB FAUCET, 5.25" RIGID GOOSENECK SPOUT WITH SERRATED NOZZLE, BACKFLOW PREVENTER, HOT AND COLD HANDLES WITH INDICATORS, SOLID BRASS CONSTRUCTION, SINGLE HOLE MOUNTING, CHROME FINISH.									
												TRAP & DRAIN: CPVC ACID WASTE TRAP, WITH GRID STRAINER DRAIN. STOPS & SUPPLIES: McGUIRE LFBV2165CC, LOOSE KEY QUARTER TURN ANGLE STOPS WITH CHROME PLATED ESCUTCHEONS & CHROME PLATED COPPER RISER SUPPLIES.									
												FIXTURE: ELKAY LUSTERSTONE LRAD191965-2 SELF-RIMMING SINK, 18 GAUGE TYPE 304 STAINLESS STEEL, 19.5" x 19" x 6.5" DEEP, TWO FAUCET HOLES ON 4" CENTERS, ADA COMPLIANT. FAUCET: CHICAGO FAUCETS 895-317GN2AE35ABCP MANUAL FAUCET, 5.25" GOOSENECK SPOUT, HOT AND COLD WRIST BLADE HANDLES, 1/4 TURN CERAMIC CARTRIDGES, 1.5 GPM AERATOR, TWO									
	<u>S-3</u>	SINK (HAND WASHING)	2	1 1/2"	1 1/2"	1.5	1/2"	1.5	1/2"			TRAP & DRAIN: CHROME PLATED 17 GAUGE CAST BRASS TRAP, WITH BASKET STRAINER DRAIN.									
												STOPS & SUPPLIES: McGUIRE LFBV2165CC, LOOSE KEY QUARTER TURN ANGLE STOPS WITH CHROME PLATED ESCUTCHEONS & CHROME PLATED COPPER RISER SUPPLIES.									
	<u>S-4</u>	KITCHEN SINK (2-COMPARTMENT BY FEC)	2	1 1/2"		2	1/2"	2	1/2"												
												STOPS & SUPPLIES: MCGUIRE LFBV2165CC, LOOSE KEY QUARTER TURN ANGLE STOPS WITH CHROME PLATED ESCUTCHEONS & CHROME PLATED COPPER RISER SUPPLIES. FIXTURE: THREE COMPARTMENT STAINLESS STEEL SINK, BY OTHERS, INSTALLED BY PC.									
	<u>S-5</u>	KITCHEN SINK (3-COMPARTMENT BY FEC)	2	1 1/2"		2	1/2"	2	1/2"			FAUCET: BY OTHERS, INSTALLED BY PC. TRAP & DRAIN: COPPER WASTE TO INDIRECT CONNECTION TO FLOOR SINK.									
												STOPS & SUPPLIES: McGUIRE LFBV2165CC, LOOSE KEY QUARTER TURN ANGLE STOPS WITH CHROME PLATED ESCUTCHEONS & CHROME PLATED COPPER RISER SUPPLIES. FIXTURE: SINGLE COMPARTMENT STAINLESS STEEL SINK, GARBAGE DISPOSAL WITH WATER CONNECTION, BY OTHERS, INSTALLED BY PC.									
	<u>S-6</u>	KITCHEN SINK (1-COMPARTMENT BY FEC, WITH GARBAGE DISPOSAL	4	2"		3	3/4"	2	1/2"			FAUCET: BY OTHERS, INSTALLED BY PC. TRAP & DRAIN: COPPER WASTE TO INDIRECT CONNECTION TO FLOOR SINK.									
												STOPS & SUPPLIES: McGUIRE LFBV2165CC, LOOSE KEY QUARTER TURN ANGLE STOPS WITH CHROME PLATED ESCUTCHEONS & CHROME PLATED COPPER RISER SUPPLIES. FIXTURE: WALL HUNG FIXTURE BY OTHERS, INSTALLED BY PC. PC SHALL INSTALL WALL HANGER FOR FIXTURE.									
	<u>S-7</u>	SINK (HAND WASHING BY FEC)	2	1 1/2"	1 1/2"	1.5	1/2"	1.5	1/2"												
<u>A03</u>	\sim		\sim									STOPS & SUPPLIES: MCGUIRE LFBV2165CC, LOOSE KEY QUARTER TURN ANGLE STOPS WITH CHROME PLATED ESCUTCHEONS & CHROME PLATED GOPPER RISER SUPPLIES.									
Ž	<u>S-8</u>	SINK (EXISTING	2	1 1/2"	1 1/2"	1.5	1/2"	1.5	1/2"			FAUCET: CHICAGO FAUCETS 786-GR8E35V317XKAB MANUAL FAUCET, 8" GOOSENECK SPOUT, HOT AND COLD WRIST BLADE HANDLES, 1/4 TURN CERAMIC CARTRIDGES, 1.5 GPM AERATOR, THREE HOLE MOUNTING ON 4" CENTERS, SOLID BRASS CONSTRUCTION, CHROME FINISH, ADA COMPLIANT.									
												TRAP & DRAIN: CHROME PLATED 17 GAUGE CAST BRASS TRAP, WITH GRID STRAINER DRAIN. STOPS & SUPPLIES: McGUIRE LFBV2165CC, LOOSE KEY QUARTER TURN ANGLE STOPS WITH CHROME PLATED ESCUTCHEONS & CHROME PLATED COPPER RISER SUPPLIES.									
	\mathcal{M}	<u> </u>										<pre> fixture koncerningston k-4325-ss, walt hung water closet, 1.6 gpf, flushometer type, 1-1/2" top spud, white vitreous china with anti-microbial finish, 2.125" trapway,</pre>									
	<u>WC-1</u>	WATER CLOSET (STANDARD HEIGHT)	6	4"	2"	10 (MIN)	2"					COMPLIANT STALL. SEAT: KOHLER LUSTRA K-4670-CA, OPEN FRONT TOILET SEAT, WHITE INJECTION MOLDED, SELF SUSTAINING CHECK HINGES, ANTI-MICROBIAL AGENT.									
		WATER CLOSET (ADA		4"	0"	10 (04101)						SUPPORT: COMMERCIAL GRADE, WALL HUNG WATER CLOSET SUPPORT, STEEL STANCHIONS, IRON WELDED FEET, STEEL SLEEVES, FASTEN TO FLOOR.									
	<u> </u>	HEIGHT)	0	4	2		2					FIXTURE: BRADLEY WF3204 A STD CLC IRP TMA NSD SS-GRAY SEMI-CIRCULAR WASH FOUNTAIN, SOLID SURFACE MATERIAL COMPOSED OF BIO-BASED RESIN, 54" SEMI-CIRCLE SHAPE, INFRARED ELECTRONIC SPRAY WITH SOLENOID VALVE. THERMOSTATIC MIXING VALVE. PLUG-IN TRANSFORMER 120VAC / 12VDC ROUIRING GECLOUTLET. NO SOAP DISPENSER. SOAPSTONE GARY COLOR									
	<u>WF-1</u>	WASH FOUNTAIN (ADA HEIGHT)	2	1 1/2"	1 1/2"	1.5	1/2"	1.5	1/2"			FAUCET: CYLINDRICAL SPRAY INTEGRAL WITH FIXTURE, INFRARED SENSORS. 									
												STOPS & SUPPLIES: BALL VALVES UNDER FIXTURE, HARD PIPE SUPPLIES.									
	<u>WM-1</u>	BOX	4	2"	1-1/2"	2	1/2"	2	1/2"			ARRESTORS, 2" DRAIN OUTLET.									
		CHEDULE										ID FIXTURE PLUMBING DRAIN AND CLEANOUT SCHEDULE ID FIXTURE DETAIL / DESCRIPTION / REMARKS									
IH SI		SUBMERSIBLE, FLOOR MOUNT	ed Dupi Tor, Do	LEX EJEC	TOR SYS	TEM, CAS ARINGS, A	t iron (Ir fille)	CASE, CA D HERME	ST IRON	IMPELLEI SEALED	२	AD-1 AREA DRAIN FIXTURE: ZURN ZRB181 CORNICE DRAIN, CAST IRON BODY, PLAIN BRONZE DOME, 6" DIAMETER, BOTTOM OUTLET, MEMBRANE FLASHING CLAMP.									
,	F (STAINLESS STEEL SHAFT, 2" D PROVIDE A FULL SIZE CHECK \ DUTSIDE THE PIT.	ISCHARO /ALVE A	GE, 20 FT ND A FUL	PIGGYBA L PORT B	ACK POWE ALL OR G	ER CORE ATE VAL), OVERLO .VE IN TH	OAD PRO E DISCHA	AGE PIPIN	IG	ED-1 FLOOR DRAIN (SQUARE) 2 2" 2 4/P900 FIXTURE: ZURN ZN415-S, CAST IRON BODY, 6" NICKEL BRONZE "TYPE S" SQUARE STRAINER, COMBINATION INVERTIBLE MEMBRANE CLAMP, AND ADJUSTABLE COLLAR.									
		CONTROLS: CENTRIPRO D100 MPS. FOUR (4) CENTRIPRO A DFF BOTTOM OF BASIN: OFF =	20N1 DU 2N33 SIG 8", LEAE	PLEX NEI GNAL MAS D PUMP O	MA 1 INDO STER CON N = 23", L	DOR CONT ITROL SW AG PUMP	TROL PA TTCHES, ON = 29	NEL, 115\ 20 FT CC ", ALARM	V, RATED DRDS. FL ON = 35"	FOR 0-20 OAT LEV) ELS	HD-1 HUB DRAIN - AT GRADE 4 2" 1 1/2" EXTEND HUB 1" AFF (MIN), INSTALL PIPE INCREASER ONE PIPE SIZE LARGER MINIMUM. 4 2" 1 1/2" EXTEND HUB 1" AFF (MIN), INSTALL PIPE INCREASER ONE PIPE SIZE LARGER MINIMUM.									
	E	BASIN & COVER: TOP INDUSTR BASIN, AND GASKETED SOLID	LIES FIBE	RGLASS I GROMM	BASIN WI IETS FOR	ITH ANTI-F PIPE AND	LOTATIO CONDU	ON FLANG IIT.	GE ON BO		F	HD-2 HUB DRAIN - ABOVE GRADE 7 2 4/P900 SEEPAGE PAN, COMBINATION MEMBRANE FLASHING CLAMP, EXTEND HUB 2" AFF (MIN), INSTALL PIPE INCREASER ONE PIPE SIZE LARGER. Image: HD-2 HUB DRAIN - ABOVE GRADE 6 2 4/P900 SEEPAGE PAN, COMBINATION MEMBRANE FLASHING CLAMP, EXTEND HUB 2" AFF (MIN), INSTALL PIPE INCREASER ONE PIPE SIZE LARGER. Image: HD-2 HUB DRAIN - ABOVE GRADE 6 2 4/P900 SEEPAGE PAN, COMBINATION MEMBRANE FLASHING CLAMP, EXTEND HUB 2" AFF (MIN), INSTALL PIPE INCREASER ONE PIPE SIZE LARGER. Image: HD-2 HUB DRAIN - ABOVE GRADE 6 2 FIXTURE: ZURN Z1900-2-33 SQUARE FLOOR SINK, CAST IRON BODY, 12" x 12" x 6" DEEP FLOOR RECEPTOR, ACID									
	STORA		DET	AU /								FS-1 FLOOR SINK 6 3" 2" RESISTANT PORCELAIN ENAMEL (A.R.E.) INTERIOR AND TOP, WITH SQUARE SLOTTED MEDIUM 1/2 GRATE, ARE A.R.E. ANTI-SPLASH BOTTOM DOME STRAINER. Fixture: ZURN ZC100-C-EA-R-W2 OVERFLOW ROOF DRAIN, CAST IRON BODY, 15" DIA, COMBINATION MEMBRANE									
	GHT CL	J FT DIA HEIGHT LBS	DET/ SHE		SCRIPTION	N / REMAF	RKS	ECTION A			.,	ORD-1 OVERFLOW ROOF DRAIN FLASHING CLAMP/GRAVEL GUARD, UNDERDECK CLAMP, ADJUSTABLE EXTENSION, ROOF SUMP RECEIVER, CAST IRON STRAINER, AND 2" INTERNAL WATER DAM. FIXTURE: ZURN ZC100-C-FA-R ROOF DRAIN CAST IRON BODY, 15" DIA COMBINATION MEMBRANE FLASHING									
65	»"	3 24" 50" 750		- 1.25 COI	o" METER, NTROLLEI	, FULLY PI R, LCD DIS	ROGRAM SPLAY, E	IMABLE S BATTERY	SYSTEMM BACKUP.	IATE		RD-1 ROOF DRAIN CLAMP/GRAVEL GUARD, UNDERDECK CLAMP, ADJUSTABLE EXTENSION, ROOF SUMP RECEIVER, AND CAST IRON RD-1 ROOF DRAIN CLAMP/GRAVEL GUARD, UNDERDECK CLAMP, ADJUSTABLE EXTENSION, ROOF SUMP RECEIVER, AND CAST IRON STRAINER. FIXTURE: ZURN ZANB-199 DOWNSPOLIT NOZZLE ALL NICKEL BRONZE BODY, THREADED INLET, DECORPATIVE FACE OF									
												DSN-1 DOWNSPOUT NOZZLE WALL FLANGE AND OUTLET NOZZLE, AREAS WITH HARD FLOORS: ZURN ZN1400-BP, CAST IRON, ADJUSTABLE FLOOR CLEANOUT WITH NICKEL BRONZE TOP									
												FLOOR CLEANOUT AND BIGUIZE FLOG. AREAS WITH CARPETED FLOORS: ZURN ZN1400-BP-CM, CAST IRON, ADJUSTABLE FLOOR CLEANOUT WITH NICKEL BRONZE TOP AND BRONZE PLUG, WITH CARPET MARKER.									
												WCO WALL CLEANOUT FIXTURE: ZURN ZS1468, POLISHED STAINLESS STEEL, ROUND ACCESS COVER, SECURING SCREW & BRONZE RAISED HE HEAD PLUG. VERIFY LENGTH OF SCREW REQUIRED WITH WALL CONSTRUCTION.									
												ID MANUFACTURER MODEL # HP AMPS VOLTS PHASE RPM VFD DISOLITION / REMARKS OD 1 DE 1 AIL / SHEET DESCRIPTION / REMARKS									
												UP-1 B&G NBF-10U FRACT 0.46 120 1 2800 NO 4 9 8/P900 CERAMIC SHAFT, CARBON BEARING, NORYL IMPELLER, STAINLESS STEEL COMPONENTS. INLINE PUMP. SINGLE SPEED LUBRICATED. BRONZE LEAD-FREE BODY INLINE PUMP. SINGLE SPEED LUBRICATED. BRONZE LEAD-FREE BODY									
												CP-2 B&G NBF-9U FRACT 0.4 120 1 2800 NO 2 8 7/P900 CERAMIC SHAFT, CARBON BEARING, NORYL IMPELLER, STAINLESS STEEL									

							S	ANIT	ARY	EJEC	TOR	SCHEDULE
			ELEC.	TRICAL			DISCI	HARGE	BASIN		DETAIL /	
ID	MANUFACTURER MODEL #	HP	AMPS	VOLTS	PHASE	RPM	GPM	HD FT	DIA	DEPTH	SHEET	DESCRIPTION / REMARKS
<u>SE-1</u>	B&G 2WT0511 (DUPLEX)	0.5	14.5	115	1	1750	42	21	36"	84"		SUBMERSIBLE, FLOOR MOUNTED DUPLEX EJECTOR SYST AND COVER, SINGLE SEAL MOTOR, DOUBLE SEALED BEAF STAINLESS STEEL SHAFT, 2" DISCHARGE, 20 FT PIGGYBAC PROVIDE A FULL SIZE CHECK VALVE AND A FULL PORT BA OUTSIDE THE PIT. CONTROLS: CENTRIPRO D10020N1 DUPLEX NEMA 1 INDOO AMPS. FOUR (4) CENTRIPRO A2N33 SIGNAL MASTER CONT OFF BOTTOM OF BASIN: OFF = 8", LEAD PUMP ON = 23", LA
												BASIN & COVER: TOP INDUSTRIES FIBERGLASS BASIN WIT BASIN, AND GASKETED SOLID LID WITH GROMMETS FOR F

							V	VATER SOFT	ENE	R SC	HEDL	JLE				
п			ELECTRICAL		GPM		MAX PRESS	GRAINS CAPACITY /	RESIN TANK STORAGE			SALT STORAGE			DETAIL /	
	MANUFACTORER MODEL #	AMPS	VOLTS	PHASE	CONT	PEAK	DROP	LBS SALT	DIA	HEIGHT	CU FT	DIA	HEIGHT	LBS	SHEET	DESCRIPTION
<u>WS-1</u>	HELLENBRAND H125-96 (SIMPLEX)	FRACT	120	1	24	30	15	84,810 / 30	14"	65"	3	24"	50"	750		SIMPLEX SYSTE 1.25" METER, FI CONTROLLER,

				PLU	MBIN	G DRAIN AND CLEANOUT SCHEDULE
חו	FIXTURE		WASTE		DETAIL /	DESCRIPTION / REMARKS
U	TIXTORE	DFU	TRAP	VENT	SHEET	
<u>AD-1</u>	AREA DRAIN					FIXTURE: ZURN ZRB181 CORNICE DRAIN, CAST IRON BODY, PLAIN BRONZE DOME, 6" DIA MEMBRANE FLASHING CLAMP.
<u>FD-1</u>	FLOOR DRAIN (SQUARE)	2 6	2" 3"	2	4/P900	FIXTURE: ZURN ZN415-S, CAST IRON BODY, 6" NICKEL BRONZE "TYPE S" SQUARE STRAIN MEMBRANE CLAMP, AND ADJUSTABLE COLLAR.
<u>HD-1</u>	HUB DRAIN - AT GRADE	4 6	2" 3"	1 1/2" 2"		EXTEND HUB 1" AFF (MIN), INSTALL PIPE INCREASER ONE PIPE SIZE LARGER MINIMUM.
<u>HD-2</u>	HUB DRAIN - ABOVE GRADE	4 6	2" 3"	1 1/2" 2"	4/P900	FIXTURE: ZURN Z415 LESS STRAINER WITH ZURN Z400U ADJUSTABLE STRAINER EXTENS SEEPAGE PAN, COMBINATION MEMBRANE FLASHING CLAMP, EXTEND HUB 2" AFF (MIN), I PIPE SIZE LARGER.
<u>FS-1</u>	FLOOR SINK	6	3"	2"		FIXTURE: ZURN Z1900-2-33 SQUARE FLOOR SINK, CAST IRON BODY, 12" x 12" x 6" DEEP F RESISTANT PORCELAIN ENAMEL (A.R.E.) INTERIOR AND TOP, WITH SQUARE SLOTTED ME ANTI-SPLASH BOTTOM DOME STRAINER.
<u>ORD-1</u>	OVERFLOW ROOF DRAIN					FIXTURE: ZURN ZC100-C-EA-R-W2 OVERFLOW ROOF DRAIN, CAST IRON BODY, 15" DIA, C FLASHING CLAMP/GRAVEL GUARD, UNDERDECK CLAMP, ADJUSTABLE EXTENSION, ROOF STRAINER, AND 2" INTERNAL WATER DAM.
<u>RD-1</u>	ROOF DRAIN					FIXTURE: ZURN ZC100-C-EA-R ROOF DRAIN, CAST IRON BODY, 15" DIA, COMBINATION ME CLAMP/GRAVEL GUARD, UNDERDECK CLAMP, ADJUSTABLE EXTENSION, ROOF SUMP RE- STRAINER.
DSN-1	DOWNSPOUT NOZZLE					FIXTURE: ZURN ZANB-199 DOWNSPOUT NOZZLE, ALL NICKEL BRONZE BODY, THREADED WALL FLANGE AND OUTLET NOZZLE.
500						AREAS WITH HARD FLOORS: ZURN ZN1400-BP, CAST IRON, ADJUSTABLE FLOOR CLEANC AND BRONZE PLUG.
<u>FC0</u>	FLOOR CLEANOUT					AREAS WITH CARPETED FLOORS: ZURN ZN1400-BP-CM, CAST IRON, ADJUSTABLE FLOOF BRONZE TOP AND BRONZE PLUG, WITH CARPET MARKER.
<u>WCO</u>	WALL CLEANOUT					FIXTURE: ZURN ZS1468, POLISHED STAINLESS STEEL, ROUND ACCESS COVER, SECURIN HEAD PLUG. VERIFY LENGTH OF SCREW REQUIRED WITH WALL CONSTRUCTION.

PUMPS SCHEDULE		
ID MANUFACTORER MODEL # HP AMPS VOLTS PHASE RPM VFD GPM HD FT SHEET DESCRIPTION / REMARKS	DESCRIPTION / REMARKS	
CP-1B&G NBF-10UFRACT0.4612012800NO498/P900INLINE PUMP, THREE SPEED, CERAMIC SHAFT, CARBON BE COMPONENTS.	, LUBRICATED, EARING, NORYL	
CP-2 B&G NBF-9U FRACT 0.4 120 1 2800 NO 2 8 7/P900 INLINE PUMP, SINGLE SPEED CP-2 B&G NBF-9U FRACT 0.4 120 1 2800 NO 2 8 7/P900 INLINE PUMP, SINGLE SPEED	D, LUBRICATED, EARING, NORYL	

	GAS WATER HEATERS SCHEDULE												
D		GAS	GAS	ELECTRICAL		RECOVERY		MAX		DETAIL /			
ID	MANUFACI UKEK MODEL #	CFH	IN WC	VOLTS	PHASE	GPH	RISE °F	EFF%	GAL	SHEET			
<u> </u>	HTP PHOENIX PHM199-100	40-199	12"	120	1	294	80	96%	100		STAINLESS STEEL TANK, NATURAL GAS FIRED, 5:1 MODULATING BURNER, SEALED COMBUSTION, 3" VENT / INTANK, LCD DISPLAY.		
<u> WHR-3</u>	HTP PHOENIX PH76-50	25-76	12"	120	1	119	80	97%	50		STAINLESS STEEL TANK, NATURAL GAS FIRED, 3:1 MODULATING BURNER, SEALED COMBUSTION, 2" VENT / INTANK, LCD DISPLAY.		

PLUMBING LEGEND:	
CW	COLD WATER
HW	HOT WATER
HWR	HOT WATER RECIRCULATIC
CS	
	DOMESTIC WATER SERVICE
NPC	NON-POTABLE COLD WATE
NPCS	NON-POTABLE COLD SOFT
G	NATURAL GAS
	SANITARY DRAIN, WASTE O
	VENT (V)
ST-	
	ACID WASTE
XX	EXISTING PIPE (SERVICE DE
- — — — —XX— — — — — —	EXISTING VENT (SERVICE D
XX	EXISTING WATER (SERVICE
XX	EXISTING PIPE TO BE REMC
, — — — — XX — — — — — —	EXISTING VENT TO BE REM
	TEE (BRANCH TO SIDE)
	TEE (BRANCH DOWN)
0	
	CLEANOUT (CO)
OR 0	WALL CLEANOUT (WCO) FLOOR CLEANOUT (FCO) YARD CLEANOUT (YCO)
	DOWNSPOUT NOZZLE (DSN
——————————————————————————————————————	UNION
	FLANGE
	PRESSURE REGULATING VA
 	HOSE BIBB (HD) OR WALL H
	POINT OF CONNECTION (PC
]	CAP
——ф——	BALANCING VALVE
——×—	SHUTOFF VALVE
	PIPE STRAINER
— ×	FIXTURE STOP
O ≯	VALVE IN RISER
φ	THERMOMETER
P	PRESSURE GAUGE
P	WATER HAMMER ARRESTO
്പ	RELIEF VALVE
	RPBP - REDUCED PRESSUR
RPBP	DCV - DOUBLE CHECK VALV
lacksquare	FLOOR DRAIN (FD)
Ø	HUB DRAIN (HD)
\bigcirc	ROOF DRAIN (RD) OR OVER
\bowtie	FLOOR SINK (FS)
•	FINISHED FLOOR ELEVATIO
	FIXTURE UNITS - DRAINAGE
(*) (~)	
\ ^	
<u>/#</u> `	KEVISION KEYED NOTE

(X) PX

TAG FOR CONTINUATION MATCH POINTS

COLD WATER
HOT WATER
HOT WATER RECIRCULATION
COLD SOFT WATER
TEMPERED WATER
DOMESTIC WATER SERVICE
NON-POTABLE COLD WATER
NON-POTABLE COLD SOFT WATER
NATURAL GAS
SANITARY DRAIN, WASTE OR SEWER (SAN)
VENT (V)
STORM DRAIN CONDUCTOR OR SEWER
OVERFLOW DRAIN
ACID VENT
ACID WASTE
EXISTING PIPE (SERVICE DESIGNATED)
EXISTING VENT (SERVICE DESIGNATED)
EXISTING WATER (SERVICE DESIGNATED)
EXISTING PIPE TO BE REMOVED/DEMOLISHED
EXISTING VENT TO BE REMOVED/DEMOLISHED
WALL CLEANOUT (WCO)
FLOOR CLEANOUT (FCO)
YARD CLEANOUT (YCO)
DOWNSPOUT NOZZLE (DSN)
UNION
FLANGE
FLOW
CHECK VALVE
PRESSURE REGULATING VALVE
HOSE BIBB (HD) OR WALL HYDRANT (WH)
POINT OF CONNECTION (POC)
CAP
BALANCING VALVE
SHUTOFE VALVE
PIPE STRAINER
VALVE IN RISER
THERMOMETER
PRESSURE GAUGE
WATER HAMMER ARRESTOR
RELIEF VALVE
RPBP - REDUCED PRESSURE ZONE BACKFLOW PREVENTER
DCV - DOUBLE CHECK VALVE ASSEMBLY
FLOOR DRAIN (FD)
HUB DRAIN (HD)
ROOF DRAIN (RD) OR OVERFLOW DRAIN (ORD)
FLOOR SINK (FS)
FINISHED FLOOR FLEVATION

ABBR	EVIATIONS:
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AV	ACID VENT
AW	ACID WASTE
CB	CATCH BASIN
CO	CLEANOUT
CS	COLD SOFT WATER
CW	COLD WATER
DCV	DOUBLE CHECK VALVE
DF	DRINKING FOUNTAIN
DI	DISTILLED WATER
DSN	DOWNSPOUT NOZZLE
DW	DISHWASHER
E	EXISTING
EC	ELECTRICAL CONTRACTOR
EEW	EMERGENCY EYEWASH
ESEW	EMERGENCY SHOWER/EYEWASH
F	FIRE PROTECTION WATER SERVICE
FCO	FLOOR CLEANOUT
FEC	FOOD EQUIPMENT CONTRACTOR
FPC	FIRE PROTECTION CONTRACTOR
G	NATURAL GAS
GC	GENERAL CONTRACTOR
GI	GREASE TRAP/INTERCEPTOR
GO	GAS OUTLET
GW	GREASY WASTE
HB	HOSE BIBB
HC	HVAC CONTRACTOR
HW	HOT WATER
HWR	HOT WATER RECIRCULATION
IE	INVERT ELEVATION
L	LAVATORY
LT	LAUNDRY TRAY
MB	MOP BASIN
NPC	NON-POTABLE COLD WATER
NPCS	NON-POTABLE COLD SOFT WATER
OD	OVERFLOW DRAIN
ORD	OVERFLOW ROOF DRAIN
PC	PLUMBING CONTRACTOR
PRV	PRESSURE REGULATING VALVE
RPBP	REDUCED PRESSURE ZONE BACKFLC
S	SINK
SAN	SANITARY
SPR	SPRINKLER PIPING
ST	STORM
T	TEMPERED WATER
TMV	THERMOSTATIC MIXING VALVE
UR	URINAL
V	VENT
VTR	VENT THRU ROOF
W WC WF WM WH WHA WHR WS	DOMESTIC WATER SERVICE WATER CLOSET WALL CLEAN OUT WASH FOUNTAIN WASHING MACHINE WALL BOX WALL HYDRANT WATER HAMMER ARRESTOR WATER HEATER WATER SOFTENER
YCO	YARD CLEANOUT

PLUMBING SHEET INDEX

P000	SYMBOLS, ABBREVIATIONS & SCHEDULES - PLUMBING
P091	UNDERFLOOR DEMO - SEG B - PLUMBING
P093	LOWER LEVEL DEMO - SEG A - PLUMBING
P094	LOWER LEVEL DEMO - SEG B - PLUMBING
P095	LOWER LEVEL DEMO - SEG C - PLUMBING
P096	UPPER LEVEL DEMO - SEG A - PLUMBING
P097	UPPER LEVEL DEMO - SEG B - PLUMBING
P098	UPPER LEVEL DEMO - SEG C - PLUMBING
P100	UNDERFLOOR - SEG A - PLUMBING
P101	UNDERFLOOR - SEG B - PLUMBING
P102	UNDERFLOOR - SEG C - PLUMBING
P103	LOWER LEVEL - SEG A - PLUMBING
P104	LOWER LEVEL - SEG B - PLUMBING
P105	LOWER LEVEL - SEG C - PLUMBING
P106	UPPER LEVEL - SEG A - PLUMBING
P107	UPPER LEVEL - SEG B - PLUMBING
P108	UPPER LEVEL - SEG C - PLUMBING
P120	ROOF PLAN - SEG B - PLUMBING
P121	ROOF PLAN - SEG C - PLUMBING
P300	WASTE & VENT ISOMETRICS - PLUMBING
P301	DOMESTIC WATER ISOMETRICS - PLUMBING
P400	ENLARGED FLOOR PLANS - PLUMBING
P900	DETAILS - PLUMBING



LOW PREVENTER







		ZAA	
		GENERAL NOTES: 1. CONTRACTOR SHALL FIELD VER CONDITIONS AND REPORT ANY TO THE A/E PRIOR TO COMMEN ORDERING MATERIALS. (1) DEMOLISH EXISTING SINK, P-TR STOPS COMPLETE. INSTALL NE LOCATION. REFER TO P108 FOR	RIFY DIS ICIN(AP, W S R NE
			2
			4
			(5.9°) (6.7)
IMBING V	NORTH	Y	





NORTH









	EYNOTES - REMODEL N
Keynote Number	Keynote Description
1	Connect 23x10 exhaust duct to kitchen hood oper for 2. Kitchen hood provided by others.
2	Connect 26x10 supply duct to kitchen hood openir 660 CFM. Typical for 6. Kitchen hood provided by
3	14x4 down. Connect to relocated dishwasher. Pro dampers. Balance load side to 200 cfm and unload cfm.









1102
nection to
Terminate on Drawing
n 2 on
all duct 1301





(17.8) (17.9) 18

1104
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outlet as
ser. Typical
ken prior to
active lengths

ĺ	MANUFACTUREP	втин	i					HEATING	<u> </u>	FY	нлію		DE	-		FCTRICAL	ACCESS/	1
MARK	MODEL NO.	SAVED	WHEEL	& FAN		SUM.	WIN.	COOLING	WHEEL	& FAN			SUM.	WIN.	AMPS	VOLT/PH	OPTIONS	REMARKS
	RVE-85-52-15H-1	5D-J	2,050	CFM	OA DB	92.1	-20	300 MBH Input	2,050 CFM			EA DB	89.0	9.2	MCA	1021/11		
RTU-2	Recirculation CFM	4,450			OA WB	78	-20.6	240 MBH Output			E	EA WB	74.9	9.1	95.1	208/3	1 - 15	A
	Supply Fan CFM	6,500	5	HP	SA DB	77.9	66.3	199.7 MBH Tot	5	HP		RA DB	75	72	MOCP		17, 19, 20	
			0.75"	E.S.P.	SA WB	57.3	46.4	158.3 MBH Sens	0.5"	E.S.F	P. F	RA WB	62.4	55.7	110			
Based or	RVE by GREENHECK.	1						•										#N/A
See the s	pecifications for detailed pr	oduct and inst	tallation rec	quirement	s.													10/4/19 7:24
ACCESS	ORIES/OPTIONS:								REMARK	S:								
1. Segm	ented removable Polymer c	ore wheel with	n silca gel c	oating.					A. Unit w	eighs 4	,777 L	.bs. Unit	applicati	on IEER	12.4			
2. Indepe	endent Direct Driven Fans V	VITH VFDs.							Duct A	Arrange	ment:	Bottom I	Return &	Dischar	rge, End O	utside Air, Si	de Exhaust Air.	
3. Single	point power connection wit	h 24 VAC con	trol transfo	rmer.					Capad	city Rec	luction	100,553	BTUH	Summer,	, 171,142 E	TUH Winter		
4. Doubl	e wall construction with galv	anized steel l	iner, 2" 2.4	# density	insulation, R	13.			Whee	el Effect	ivenes	s - Sumr	ner 76.9	, Winter	80.6			
5. Modul	ating hot gas reheat, 16:1 t	urndown.							Nomir	nal 15 te	ons of	cooling:	53.7 / 53	3.1 LAT,	with 138.8	MBH Rehea	t 73.5 LAT	
6. Modul	ating wheel frost control.								Heatir	ng: 101	.6 LA	Г						
7. Packa	ged DX cooling, digital scro	II compressor	(s), R-410a	1					AMCA	A Sound	d 77 dl	BA Supp	ly, 55 dB	A Exhau	ust.			
8. MERV	8 Supply air filters, MERV	8 Exhaust air	filter.								UNI	T ACOU	STICS:	dB, Oct	ive Band (Hz)		
9. Indire	ct fired gas heating with 16:	1 modulating	burner.							63	125	250	500	1000	2000 40	0008 00	Sones	
10. Stain	ess steel heat exchanger.								Supply	78	82	90	87	84	79 77	72	26	
11. Disco	nnect, service outlet, vapor	tight lights.							Exhaust	75	71	65	62	61	58 54	55	8	
12. Hing	ed access doors.																	
13. 14" F	Roof Curb																	
14. Ecor	omizer Fault Detection & D	agnostics (FI	DD).															
15. BAC	net Communications interfa	ce.																
16. Supp	ly fan VFD control constant	volume.																
17. Supp	ly fan VFD control by CO2	sensor.																
18. Exha	ust fan VFD control by build	ling static pre	ssure.															
19. Exha	ust fan VFD control by Sup	ply fan trackin	ıg.															
20 AHR	I 1060 and AMCA certified.																	

	CABINET HEATER - HOT WATER (23 81 01)														
	MANUFACTURER'S							HEATIN	IG COIL		ELECT.		ACCESSORIES/		
MARK	MODEL NO.	LOCATION	STYLE	CFM	МВН	EAT	LAT	EWT	LWT	GPM	PD.FT.	AMPS	VOLT/PH	OPTIONS	REMARKS
CUH-1	FFEB-060	Vest 100	Horiz. Recessed	392	19	60	105	120	107	2.94	9.2	3.9	115/1	1, 3, 4, 5	A, B, C
CUH-2	FFEB-060	Play 117	Horiz. Recessed	392	19	60	105	120	107	2.94	9.2	3.9	115/1	1, 3, 4, 5	A, B, C
CUH-3	FFEB-040	Vest 200	Horiz. Recessed	245	19	60	132	180	148	1.18	1.5	2.8	115/1	2, 3, 4, 5	A, B
Based on	products by TRANE.									7.06	GPM				#N/A
See the s	pecifications for detailed	l product and in	stallation requiremer	nts.											6/24/19 7:50
ACCESS	ORIES/OPTIONS:							REMAR	KS:						
1. 3-row I	Hot Water coil.							A. Sized	at MEDIL	JM fan sp	eed.				
2. 2-row l	Hot Water coil.							B. Color	selected	printed ch	nart by Arc	hitect.			
3. Piping	Package.							C. Off ne	ew boiler s	system, 1	20 EWT @) 30% PC	.		
4. Free D	ischarge ECM Motor.														
5. Discon	nect Switch.														

	UNIT HEATERS - HOT WATER (23 81 01)														
	MANUFACTURER'S 30% PG ELECT.								ELECT. ACCESSORI						
MARK	MODEL NO.	LOCATION	TYPE	CFM	MBH	EAT	LAT	GPM	EWT	LWT	PD.FT.	HP	VOLT/PH	OPTIONS	REMARKS
UH-1	S-108	Mezz 234	Horizontal	1000	32.0	60	94.6	1.5	120	77.33	0.36	1/12	115/1	1,2,3,4	A
Based on	Jased on products by TRANE. #N/A														
See the s	pecifications for detailed pro	duct and installat	tion requiremer	nts.											6/24/19 7:50
ACCESS	ORIES/OPTIONS:							REMAR	KS:						
1.Factory	mounted disconnect.							A. Mount bottom at 7'-0" above floor.							
2. Integral	l thermostat.														
3.Factory	supplied started.														
4. Manufa	cturer's hot water controls.														

		С	LAS	SSR	00	M	JNI	ΤV	EN	ΓΙLΑ	TO	RS	- S1	ΓΕΑΜ	l (23	8 81	03)			
MARK	MANUFACT'R		FA	N				DX CC	X COIL			LBS/HR		HEATING	MIN	ELECT.		ACCESS./	REMARKS	
CUV-	MODEL NO.	CFM	ESP	RPM	HP	TYPE	SST	ERT	тот	SENS	PSIG	VAL	TRAP	МВН	0.A.	MCA	VOLT/PH	OPTIONS		
1	VUV-075	750		1105	1/4						5	MOD	F&T	55.1	230	3.64	115/1	1, 3, 4	В	
Based on	n products by TRANE																		#N/A	
See th																			6/24/19 7:50	
VERTICAL ACCESSORIES/OPTIONS:																REM				
Common Items									Specifi	c Items						A. Reuse existing outside air intake.				
ECM fan	ECM fan motor.								1. 2-Ro	w 16 fpi	heating	coil (48 c	deg EAT)	B. Standard color selected by Architect.					
DDC rooi	m temperature contro	ol.							2. (not used)											
2-way mo	odulating spring retur	n control v	/alve.						3. Maximum fuse size 15 amp.											
Return ar	nd outside air dampe	r, ASHRA	E Cycle I	I control.					4. install wall box to match existing unit vents.											
Wall mou	inted sensor and uni	t mounted	manual f	an speed	switch	I.														
OA back.	RA front.																			
Bar grille	discharge.																			
21 1/4" d	eep unit, insulated fa	lse back.																		
14 gauge	14 gauge front panel																			
NO subb	ase.																			
Standard piping package.																				
1-inch ME	ERV 8 filter.																			

		ELE	CTRIC B	ASEB	OAR	DH	EATE	ERS (2	23 82 3	39)	
MARK	MANUFACTURER'S	LOCATION(S)	STYLE	LENGTH	MIN.	н	EAT ELEN	IENT	CONTROL	ACCESSORIES/	REMARKS
EBB-	MODEL NO.			INCHES	втин	AMPS	WATTS	VOLT/PH	1	OPTIONS	
1a	HBB-1004	102 Daycare	Liquid Filled	46 + 8	2,560	3.6	750	240/208	BAS	1 - 7	
1b	HBB-1504	102 Daycare	Liquid Filled	70 + 8	3,840	5.4	1125	240/208	BAS	1 - 7	
1c	HBB-1004	102 Daycare	Liquid Filled	46 + 8	2,560	3.6	750	240/208	BAS	1 - 7	
2a	HBB-1504	108 Daycare	Liquid Filled	70 + 8	3,840	5.4	1125	240/208	BAS	1 - 7	
2b	HBB-1504	108 Daycare	Liquid Filled	70 + 8	3,840	5.4	1125	240/208	BAS	1 - 7	
3a	HBB-1504	110 Daycare	Liquid Filled	70 + 8	3,840	5.4	1125	240/208	BAS	1 - 7	
3b	HBB-1504	110 Daycare	Liquid Filled	70 + 8	3,840	5.4	1125	240/208	BAS	1 - 7	
3c	HBB-1004	110 Daycare	Liquid Filled	46 + 8	2,560	3.6	750	240/208	BAS	1 - 7	
4a	HBB-1004	112 Daycare	Liquid Filled	46 + 8	2,560	3.6	750	240/208	BAS	1 - 7	
4b	HBB-1004	112 Daycare	Liquid Filled	46 + 8	2,560	3.6	750	240/208	BAS	1 - 7	
5a	HBB-504	101 Office	Liquid Filled	28 + 8	1,280	1.8	375	240/208	BAS	1 - 7	A
5b	HBB-504	101 Office	Liquid Filled	28	1,280	1.8	375	240/208		1 - 6, 8	A
Based o	n products by Q-Mark.										#N/A
											6/24/19 7:50
ACCESS	SORIES/OPTIONS:										
1. Heat-	transfer liquid filled heatin	g element.					7. Low vo	oltage relay c	ontrol section,	8" long.	
2. Copp	er tube with aluminum fins	s.					8. Inside	corner.			
3. Heavy	y duty welded steel louver	ed grilles.					9.				
4. Durat	ole textured polyester pow	der coat finish for corro	sion resistance.								
5. 10-yea	ar limited warranty.						REMARK	S:			
6. Built-i	n high temperature cut-of	F.					A. Section	ns wired toge	ether with one	control section.	
							В.				
LIQUID	FILLED ELECTRIC HYDR	ONIC HEATERS. Hea	ter has a durable te	xtured polyeste	er powder c	oat finish	or corrosio	n resistance.	Linear therma	I cut-out shall be fac	ctory installed to automatically
shall hav	reater in event of overnea	ting and reactivate heat	er when temperatur ncluding carpeting	es return to no Built-in high te	emperature	cutoff 10	eater shall I-vear limite	nave a neig ed warrantv o	nt of 8-3/8 inci on element	nes and a depth of	2-15/16 inches. Heaters
on an may		ig on any neer canace i	nondaning carpoting.	Buit in high to	Sinpolataro		your mine	ou manuality t			
ENCLOS	SURE: The heaters shall b	e fabricated of minimun	n .032 inch pre-pain	ted steel with r	0. minimum	40 inch el	ectrogalvar	nized steel co	ontrol boxes. S	upport brackets sha	ll be 18ga. FRONT COVER: The
front cov	er shall be fabricated of m	inimum .032 pre-painte	d steel. Heavy duty	welded steel l	ouvered gr	ille. HEAT	ING ELEN	IENT: The h	eating element	wire shall consist o	f 80% nickel, 20% chromium, and
shall be i	mmersed in a heat-transfo	er liquid and sealed in a	heater length copp	er tube. Alumir	num tins sh	all be so c	esigned as	s to block she	eath radiation f	o front and back of	heater body and pressure bonded
	noun.										

KEYED, NOTES: GREENHOUSE. MMMMMM

1 SITE PLAN - ELECTRICAL NORTH

 $\gamma \gamma \gamma \gamma$ 1 NEW UTILITY TRANSFORMER TO BE LOCATED IN THIS APPROXIMATE LOCATION. COORDINATE (COPPER OR ALUMINUM), RACEWAYS, CT/METERING, CONCRETE PAD, VAULT, ETC. 2) EXISTING/GREENHOUSE TO BE RELOCATED. REFER TO 2000 FOR EXACT LOCATION OF EXISTING (3) EXISTING GREENHOUSE LOAD CENTER TO BE RELOCATED, FIELD VERIFY EXACT LOCATION IN GREENHOUSE. PROVIDE NEW FEEDER FROM EXISTING METALS PANEL C(E). REFER TO E090P AND E801 FOR MORE INFORMATION.

	Branch Panel Location Supply From Mounting Enclosure	: C(E) n: Space 11 n: g: Recessed e: Type 1	8 d			Volts: Phases: Wires:	208Y/120\ 3 4	/ 3P 4W		A.I.C. Rating: FIELD VERIFY Mains Type: Mains Rating: 100 A MCB Rating:				
Notes:														
СКТ #	Load Name		CKT BRK	Α	В	С	Α	В	с	CKT BRK		Load Name	СКТ #	
1	(E) DUST COLLECTOR			0			0				(E) GREEN M	ACHINE	2	
3	(E) DUST COLLECTOR				0			0			(E) GREEN M	ACHINE	4	
5	(E) DUST COLLECTOR					0			0		(E) GREEN M	ACHINE	6	
7	(E) AG WELDER			0			0				(E) AG WELD	ER	8	
9	(E) AG WELDER				0			0			(E) AG WELD	ER	10	
11	(E) RANGE RM 113					0			0		(E) IN ARTS (DUTLET DROPS	12	
13	(E) RANGE RM 113			0			0				(E) IN ARTS (DUTLET DROPS	14	
15	(E) SHAKER & CONTROL POW	/ER			0			0			(E) IN ARTS (DUTLET DROPS	16	
17	(E) DUST COLLECTOR					0			0		(E) AG SHOP	OUTLET DROPS	18	
19	(E) DUST COLLECTOR			0			0				(E) AG SHOP	OUTLET DROPS	20	
21	(E) DUST COLLECTOR				0			0			(E) AG SHOP	OUTLET DROPS	22	
23	(E) AC DISCONNECT					0			0		(E) MICRO O	UTLET RM 113	24	
	(E) AC DISCONNECT	$\frown \checkmark$		\sim		\langle	0.829			20 A/3		OHD-1	26	
21		Ŷ	Y	Ŷ	YO	5		0.829	0.000				28	
29	GREENHOUSE PNL		60 A/3	0		<u> </u>	0		0.829				30	
$\left \begin{array}{c} 31 \\ 22 \end{array} \right $				0	0	+-)	0	0			(E) EXISTING	SPACE	32	
25				A	4			0	0			SPACE	34	
		\sim		\sim			0		0			SPACE	30	
20				0	0		0	0				SPACE	30	
39					0	0		0	0			SPACE	40	
41	(E) EXISTING SPACE			0.000	0.000	0			0		(E) EXISTING	SPACE	42	
Legend	:													
Load Cl	assification	Conne	ected Load		Demand Fa	ctor	Est	imated Dem	nand		Pa	inel Totals		
Motor		24	486 VA		125.00%)		3107 VA		T-4	ol Conn Lood	2496 \/A		
										Tota	Ect Domond	2480 VA		
										TOLA	Total Conn :	3107 VA		
										Total	Fet Demand	α Δ		
										Tota	Lot. Demand.			
Notes:		<u> </u>		1			1			1		1		

	Location: Supply From: DP-1 Mounting: RECE Enclosure: Type 1	SSED			Volts: Phases: Wires:	208Y/120\ 3 4	/ 3P 4W		A.I.C. Mair Mains MCB	Rating: FIELD VERIFY ns Type: Rating: 225 A Rating:	
Notes:											
CKT #	Load Name	CKT BRK	Α	В	С	A	В	С	CKT BRK	Load Name	CKT #
1	RM 152 RECEPTACLE	20 A/1	1.08			0.884			20 A/1	RM 152 LIGHTING	2
3	RM 152 RECEPTACLE	20 A/1		1.08			0.845		20 A/1	RM 152 LIGHTING	4
5	RM 152 RECEPTACLE	20 A/1			0.72			1.2	20 A/1	MS-1 - MOTORIZED SHADE	6
7	RM 152 RECEPTACLE	20 A/1	1			1.2			20 A/1	MS-2 - MOTORIZED SHADE	8
9	RM 152 RECEPTACLE	20 A/1		1			1		20 A/1	RM 152 RECEPTACLE	10
11	RM 152 RECEPTACLE	20 A/1			1			1	20 A/1	RM 163 RECEPTACLE	12
13	RM 152 RECEPTACLE	20 A/1	1			1			20 A/1	RM 163 RECEPTACLE	14
15	RM 163 RECEPTACLE	20 A/1		1			0			SPARE	16
17	SPARE				0			0		SPARE	18
19	SPARE		0			0				SPARE	20
21	SPARE			0			0			SPARE	22
23	SPARE				0			0		SPARE	24
25	SPARE		0			0				SPARE	26
27	SPARE			0			0			SPARE	28
29	SPARE				0			0		SPARE	30
31	SPARE		0			0				SPARE	32
33	SPARE			0			0			SPARE	34
35	SPARE				0			0		SPARE	36
37	SPARE		0			0				SPARE	38
39	SPARE			0			0			SPARE	40
41	SPARE				0			0		SPARE	42
i	Total Connecte	d KVA By Phase:	6.164	4.838	3.92						
Legend:											

Load Classification Connected Load **Demand Factor Estimated Demand** Panel Totals 125.00% 3805 VA 3044 VA 10880 VA Other
 Total Conn. Load:
 14911 VA

 Total Est. Demand:
 15480 VA
 Receptacle 95.96% 10440 VA 1062 VA 125.00% 1328 VA Lighting Total Conn.: 41 A Total Est. Demand: 43 A

Location: CORRIDOR 249 Supply From: Mounting: Recessed Enclosure: Type 1					Volts: Phases: Wires:	208Y/120V 3 4	/ 3P 4W	A.I.C. Rating: FIELD VERIFY Mains Type: Mains Rating: 225 A MCB Rating:				
Notes:												
CKT #	Load Name	CKT BRK	Α	В	с	A	В	с			Load Name	СКТ
1	(E) BM 207 COMP OUTLETS		0			0						2
3	(E) RM 207 COMP OUTLETS		0	0		0	0					4
5	(E) BM 207 COMP OUTLETS			0	0		0	0				6
7	(E) BM 207 COMP OUTLETS		0		0	0		0		(E) DRYER		8
9	(E) BM 207 COMP OUTLETS		0	0		-	0			(E) BANGE		10
11	(E) A/C SOUTH			Ū	0			0		(E) RANGE		12
13	(E) A/C SOUTH		0		Ŭ	0				(E) COPE MA	CHINE	14
15	(E) KITCHEN BECEP		0	0			0			(E) NOT LABE		16
17	(E) A/C RECEP				0			0		(E) GARBAGE	- DISPOSAI	18
19	(E) WASHER		0			0				(E) RANGE		20
21			0	0		-	0			(E) RANGE		20
23					0			0			=NT	24
25			0		0	0		0		(E) RECPT H		29
27	(E) REC TYPING UNI VENTS		0	0			0					28
29					0			0		(E) LITES & F		30
31	FH-1	20 Δ/1	0 437		Ū	0					SPARE	32
33	SPARE			0			0				SPARE	34
35	SPARE			•	0			0			SPARE	36
37	SPARE		0			0					SPARE	38
39	SPARE		-	0			0				SPARE	40
41	SPARE			•	0			0			SPARE	42
11	Total Co	nnected KVA By Phase	0.437	0	0			Ū				
Logond			0.407	0	0							
Legena												
Load C	lassification	Connected Load	D	emand Fac	ctor	Esti	mated Den	nand		Pa	nel Totals	
Motor		437 VA		125.00%			546 VA					
									Tota	al Conn. Load:	437 VA	
									Total	Est. Demand:	546 VA	
										Total Conn.:	1 A	
									Total	Est. Demand:	2 A	

	Location: Space 11 Supply From: Mounting: RECESS Enclosure: Type 1	9 ED			Volts: Phases: Wires:	208Y/120V 3 4	' 3P 4W		A.I.C. Rating: FIELD VERIFY Mains Type: Mains Rating: 225 A MCB Rating:				
Notes:													
CKT #	Load Name	CKT BRK	Α	в	с	A	В	С	CKT BRK	Load Name	СКТ #		
1	RECEPTACLE UNDER HOOD	20 A/1	1.92			1.92			20 A/1	RECEPTACLE UNDER HOOD	2		
3	SHUNT TRIP		-	0			0			SHUNT TRIP	4		
5	K30 - CONVECTION OVEN	20 A/2			4.784			1.92	20 A/1	RECEPTACLE UNDER HOOD	6		
7			4.784			0				SHUNT TRIP	8		
9	SHUNT TRIP			0			1.92		20 A/1	RECEPTACLE UNDER HOOD	10		
11	RECEPTACLE UNDER HOOD	20 A/1			1.92			0		SHUNT TRIP	12		
13	SHUNT TRIP		0			0.72			20 A/1	K34 - COMBINATION OVEN	14		
15	K32 - STEAMER/KETTLE	20 A/1		0.72			0			SHUNT TRIP	16		
17	SHUNT TRIP				0			0.192	20 A/1	K27A - WALK-IN FREEZER	18		
19	K26A/K26B - WALK-IN COOLER	20 A/1	0.384			1.019			20 A/2	K27B - WALK-IN FREEZER	20		
21	K26C - WALK-IN COOLER	20 A/3		0.709			1.019				22		
23					0.709			1.279	20 A/2	K27C - WALK-IN FREEZER	24		
25			0.709			1.279					26		
27	K26D - WALK-IN COOLER	20 A/1		1.92			1.92		20 A/1	K27D - WALK-IN FREEZER	28		
29	K3 - DISPOSAL	20 A/3			0.793			7.205	30 A/3	K4 - DISHWASHER	30		
31			0.793			7.205					32		
33				0.793			7.205				34		
35	K40A - HOT FOOD WELLS	20 A/2			1.498			0.96	20 A/1	K16 - REACH IN REFRIGERATOR	36		
37			1.498			1.92			20 A/1	K-37 - FIRE SUPPRESSION SYSTEM	38		
39	K40B - COLD FOOD WELLS	20 A/1		1.92			1.92		20 A/1	K17 - WORK TABLE	40		
41	K41 - MILK COOLER	20 A/1			0.636			0.48	20 A/1	K35/K36 - EXHAUST HOOD	42		
43	K45 - P.O.S. SYSTEM	20 A/1	1.92			1.08			20 A/1	K20 - MIXER	44		
45	DEDICATED KITCHEN RECEPTACLE	20 A/1		1.92			1.92		20 A/1	DEDICATED KITCHEN RECEPTACLE	46		
47	DEDICATED KITCHEN RECEPTACLE	20 A/1			1.92			1.92	20 A/1	DEDICATED KITCHEN RECEPTACLE	48		
49	DEDICATED KITCHEN RECEPTACLE	20 A/1	1.92			0.54			20 A/1	RMS 157, 166 RECEPTACLE	50		
51	RM 157 RECEPTACLE	20 A/1		0.72			0.82		20 A/1	RMS 157, 166 RECEPTACLE	52		
53	RMS 157, 166 LIGHTING	20 A/1			1.277			0		SPARE	54		
	Total Connected K	VA By Phase:	29.61	25.425	27.431								

Load Classification	Connected Load	Demand Factor	Estimated Demand	Pa	inel Totals
Kitchen Equipment - Non-Dwelling Unit	59971 VA	65.00%	38981 VA		
Receptacle	21180 VA	73.61%	15590 VA	Total Conn. Load:	82465 VA
Power	100 VA	125.00%	125 VA	Total Est. Demand:	56215 VA
Lighting	1277 VA	125.00%	1596 VA	Total Conn.:	229 A
				Total Est. Demand:	156 A
Notes:					

	Location: ENGLISI Supply From: Mounting: Recesse Enclosure: Type 1	H 18 d			Volts: Phases: Wires:	208Y/120\ 3 4	/ 3P 4W		A.I.(Ma Mair MC	C. Rating: FIEL ins Type: ns Rating: 225 B Rating:	LD VERIFY	
Notes:												
CKT #	Load Name	CKT BRK	A	В	с	А	В	С	CKT BRK		Load Name	CKT #
1	(E) REC UNIVENT SCIENCE RM		0			0				(E) REC 205		2
3	(E) REC SCIENCE & DARK RM		-	0			0			(E) REC & UN	IVENT 212, 213	4
5	(E) REC & UNIVENT 211				0			0		(E) REC 212.	213	6
7	(E) LIGHTS 209-210, HOME EC		0			0				(E) LIGHTS 2	15, 216, 217	8
9	(E) LIGHTS 209, 210 HOME EC			0			0			(E) LIGHTS 2	11	10
11	(E) REC 209, 210				0			0		(E) LIGHTS 2 ²	12	12
13	(E) LIGHTS HOME EC CENTER UNIVEN		0			0				(E) LIGHTS 2 ²	13	14
15	(E) LIGHTS HOME EC			0			0			(E) SCIENCE	& DARK RM LIGHTS	16
17	(E) LIGHTS HOME EC				0			0		(E) LAB REC		18
19	(E) LIGHTS 205		0			0				(E) LAB REC		20
21	(E) LIGHTS 204			0			0			(E) JUNCTION	N BOX 210	22
23	(E) NOT LABELED				0			0		(E) JUNCTION	N BOX 210	24
25	(E) COMPUTER REC LIBRARY		0			0				(E) NOT LABE	ELED	26
27	(E) COMPUTER REC LIBRARY			0			0			(E) COMPUTE	ER REC LIBRARY	28
29	(E) SCIENCE RM REC				0			0		(E) COMPUTE	R REC LIBRARY	30
31	RM 218 RECEPTACLE	20 A/1	0.54			0.54			20 A/1	С	R-1, CR-3, CR-5	32
33	RM 218 RECEPTACLE	20 A/1		0.72			0.54		20 A/1	С	R-2, CR-4, CR-6	34
35	RM 218 RECEPTACLE	20 A/1			0.72			1.2	20 A/1		FH-1	36
37	RM 219 RECEPTACLE	20 A/1	1.26			0					SPARE	38
39	SPARE			0			0				SPARE	40
41	SPARE				0			0			SPARE	42
	Total Connected	KVA By Phase:	2.34	1.26	1.92							
Legend	:											
Load C	lassification Conn	ected Load	D	emand Fac	tor	Esti	mated Dem	and		Pa	nel Totals	
Recepta	acle 3	240 VA		100.00%			3240 VA					
Power	2	280 VA		125.00%			2850 VA		Tota	I Conn. Load:	5520 VA	
									Total	Est. Demand:	6090 VA	
										Total Conn.:	15 A	
									Total	Est. Demand:	17 A	

Branch	Panel:	LP-1-1
Branch	Panel:	LP-1-'

SPARE

Supply From:

Location: Space 122

Mounting: SURFACE

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Total Connected KVA By Phase:1.17600

	Enclosure: Type 1								МС	CB Rating:
Notes:										
			A	В	с	Α	В	с		
CKT #	Load Name	CKT BRK							CKT BRK	Load Name
1	(E) NOT LABELED		0			0				(E) HALL LIGHTS
3	(E) NOT LABELED			0			0			(E) HALL RECEPTACLES
5	(E) NOT LABELED				0			0		(E) BLUE ENTRY LIGHTS. NORTH
7	(E) 101 LIGHTS		0			0				(E) YELLOW EXHAUST & UNIT HEATER
9	(E) 101 RECEPTABLE			0			0			(E) 103 LIGHTS
11	(E) 101 RECEPTABLE				0			0		(E) 103 RECEPTACLE
13	(E) 102 LIGHTS		0			0				(E) 103 RECEPTACLE
15	(E) 102 RECEPTABLE			0			0			(E) BATH LIGHTS
17	(E) 102 RECEPTABLE				0			0		(E) BATH RECEPTACLE
19	(E) MECH RM LIGHTS		0			0				(E) SE ENTRY
21	(E) MECH RM RECEPTACLE			0			0			(E) ELECTRIC ROOM UNIT HEATER
23	(E) OUTSIDE OUTLET				0			0		(E) 1/3 HP TACO PUMP
25	(E) OUTSIDE LIGHTS S&E 2000 ADDTN		0			0				(E) SPARE
27	(E) NOT LABELED			0			0			(E) SPARE
29	(E) UPPER ENTRY RY LIGHTS				0			0		(E) HVAC CONTROL
31	SE-1 - SANITARY EJECTOR PUMP	20 A/1	1.176			0				SPARE
33	SPARE			0			0			SPARE
35	SPARE				0			0		SPARE
37	SPARE		0			0				SPARE
39	SPARE			0			0			SPARE

Phases: 3

Wires: 4

Volts: 208Y/120V 3P 4W

A.I.C. Rating: FIELD VERIFY

SPARE

2

6

10

16

18

Mains Type: Mains Rating: 225 A

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0

Legend:

41

Load Classification	Connected Load	Demand Factor	Estimated Demand	Pa	inel Totals
Motor	1176 VA	125.00%	1470 VA		
				Total Conn. Load:	1176 VA
				Total Est. Demand:	1470 VA
				Total Conn.:	3 A
				Total Est. Demand:	4 A
Notes:			1		1

0

