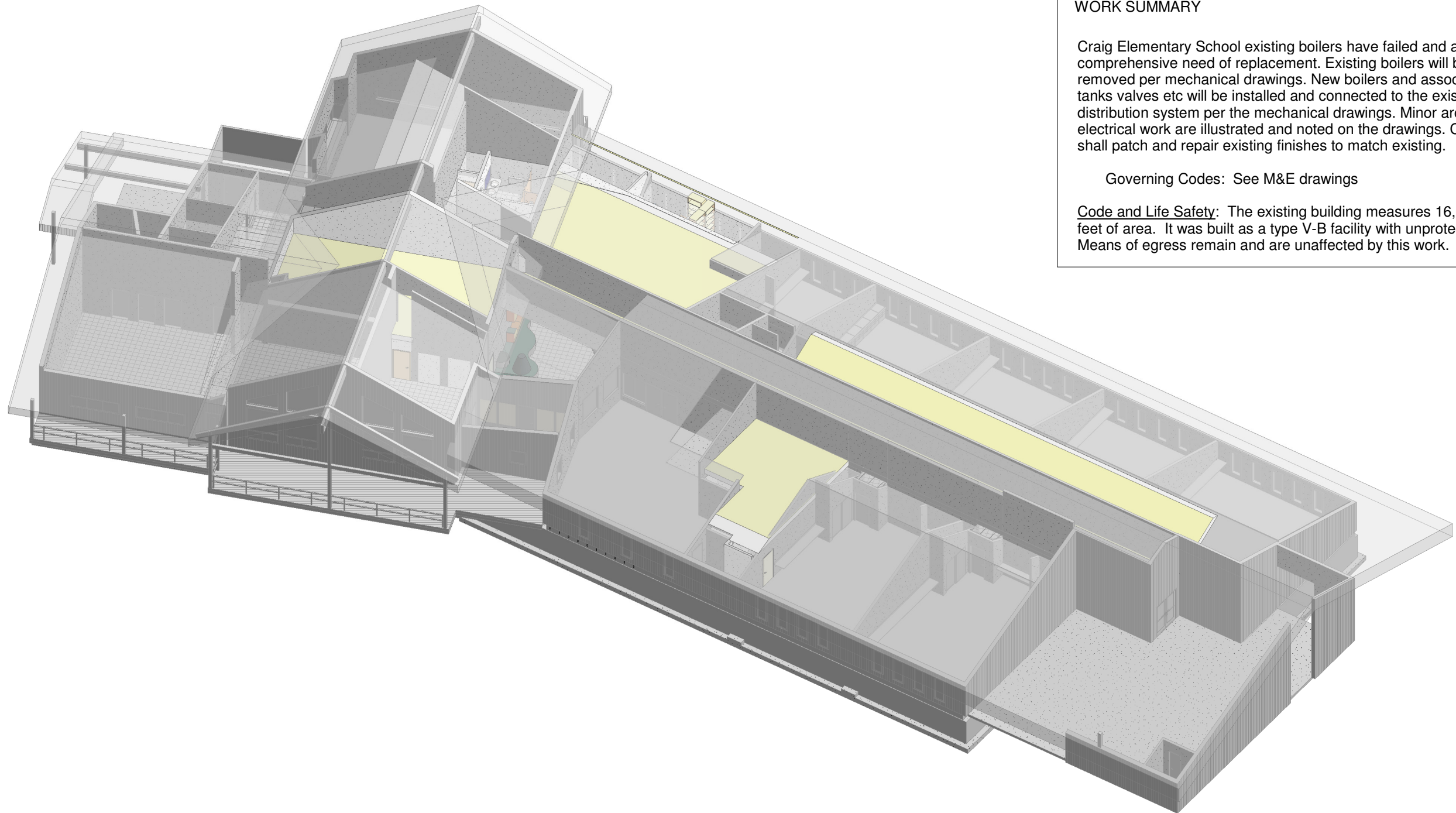


# CRAIG ELEM SCHOOL BOILER UPGRADES

For  
CRAIG SCHOOL DISTRICT



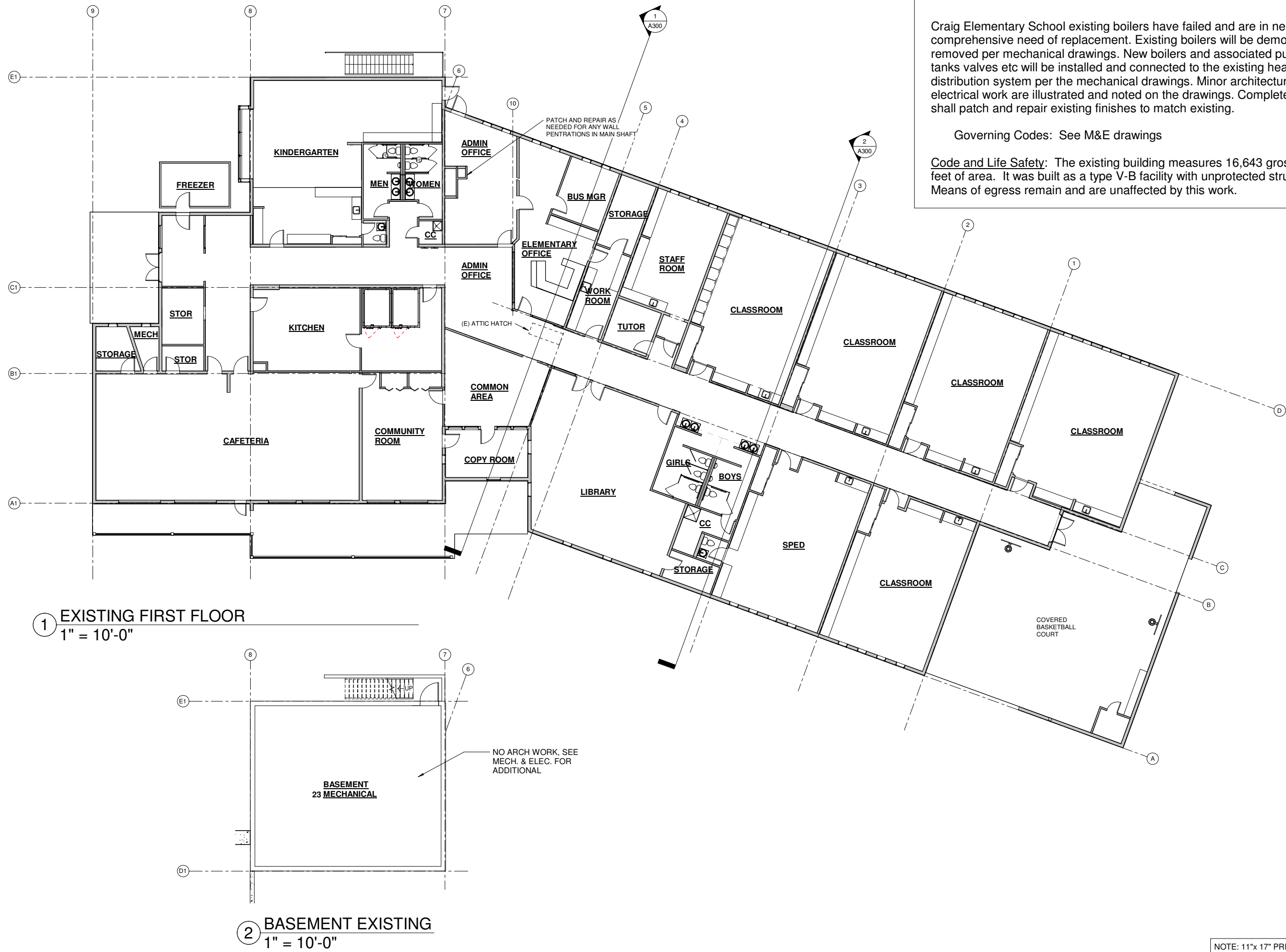
## WORK SUMMARY

Craig Elementary School existing boilers have failed and are in need of comprehensive need of replacement. Existing boilers will be demolished and removed per mechanical drawings. New boilers and associated pumps, tanks valves etc will be installed and connected to the existing heat distribution system per the mechanical drawings. Minor architectural and electrical work are illustrated and noted on the drawings. Completed work shall patch and repair existing finishes to match existing.

Governing Codes: See M&E drawings

Code and Life Safety: The existing building measures 16,643 gross square feet of area. It was built as a type V-B facility with unprotected structure. Means of egress remain and are unaffected by this work.

7/24/2023 4:35:13 PM \\MRV\2013\data\projects\2022\2232 Craig Elem School Renovation\Craig Elementary School BOILER REPLACEMENT.rvt



WORK SUMMARY

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Governing Codes: See M&E drawings

Code and Life Safety: The existing building measures 16,643 gross square feet of area. It was built as a type V-B facility with unprotected structure. Means of egress remain and are unaffected by this work.

MRV ARCHITECTS  
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907-586-1371  
FAX 907-463-5544  
mrv@mrvarchitects.com

CONSTRUCTION DOCUMENTS

CRAIG ELEM SCHOOL BOILER UPGRADES

CRAIG SCHOOL DISTRICT

MRV #2232

No.	Description	Date

SHEET TITLE:  
EXISTING FLOOR  
1 & BASEMENT

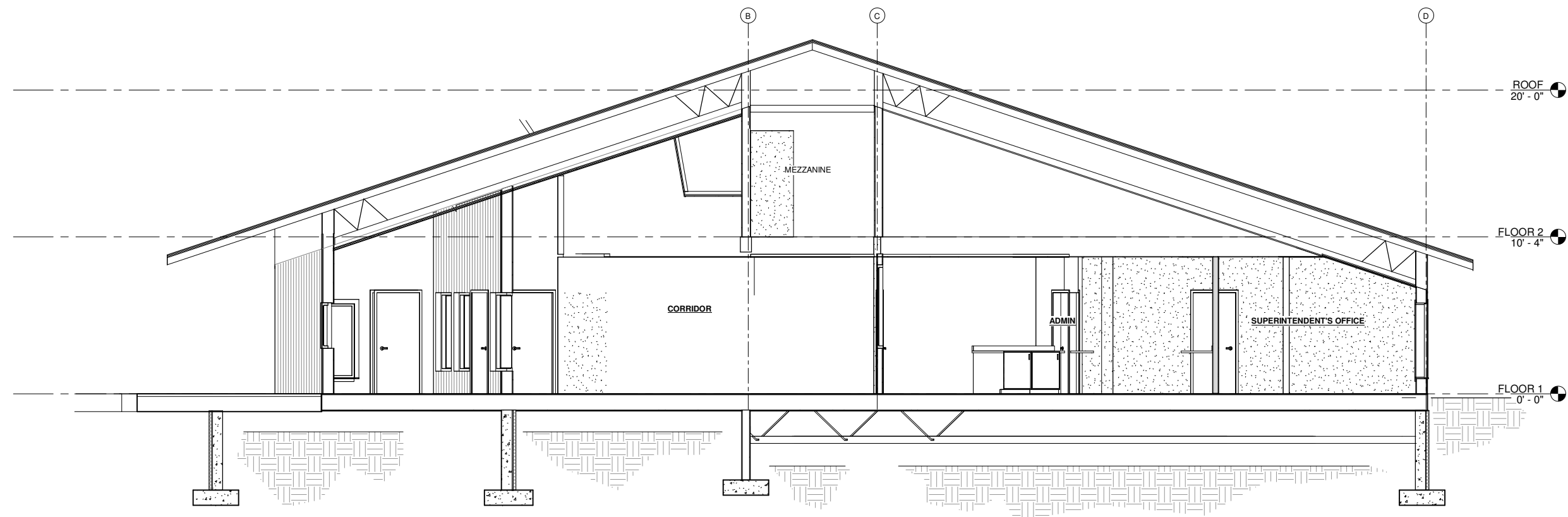
DATE: 7.14.2023

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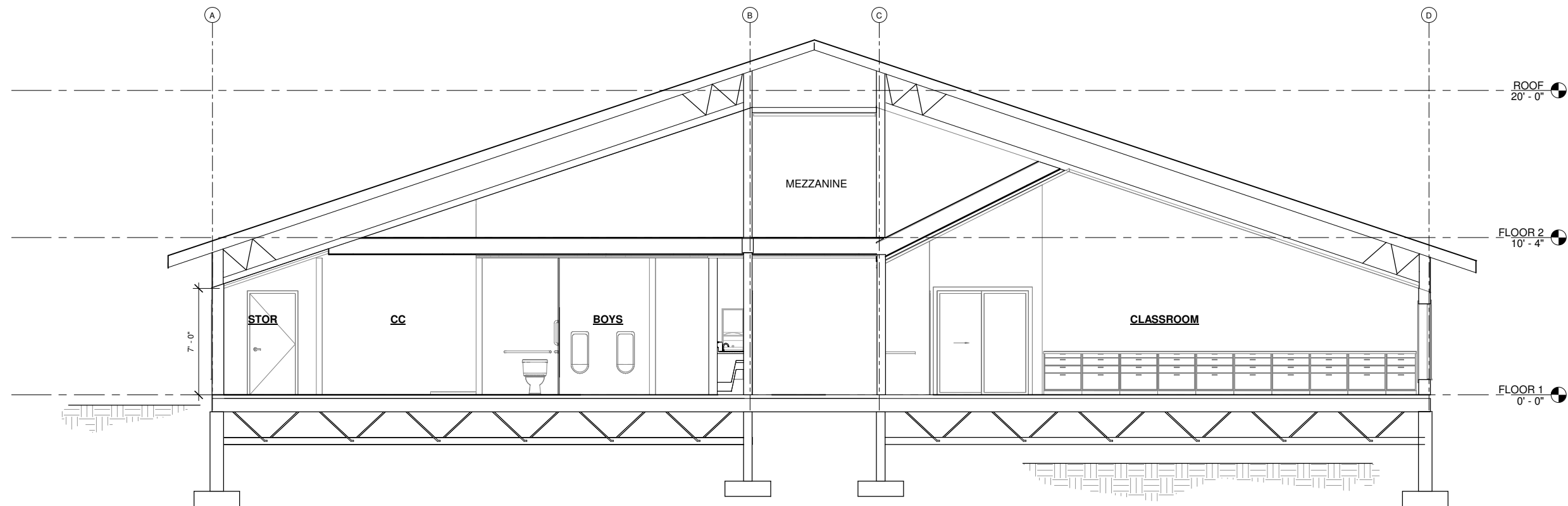
CHECKED: ZJ

SHEET NO.  
A101

NOTE: 11"x 17" PRINT IS HALF SIZE



1 EXISTING SECTION 1  
1/4" = 1'-0"



2 MECHANICAL MEZZANINE STORAGE  
1/4" = 1'-0"

NOTE: 11"x 17" PRINT IS HALF SIZE



**MRV**  
ARCHITECTS  
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CONSTRUCTION DOCUMENTS  
**CRAIG ELEM SCHOOL BOILER  
UPGRADES**  
CRAIG SCHOOL DISTRICT

No.	Description	Date

SHEET TITLE:  
BUILDING  
SECTIONS

DATE: 7.14.2023

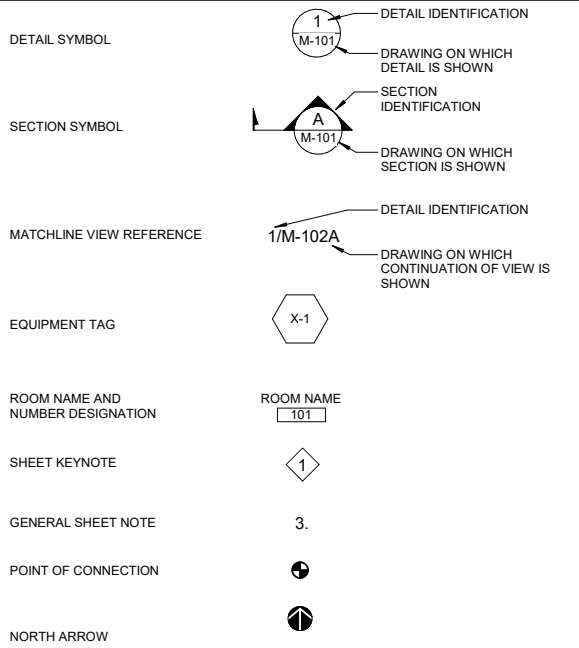
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CHECKED: ZJ

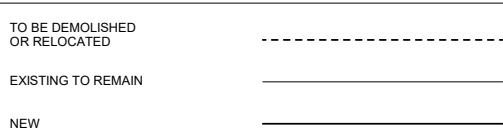
SHEET NO.

**A300**

GENERAL

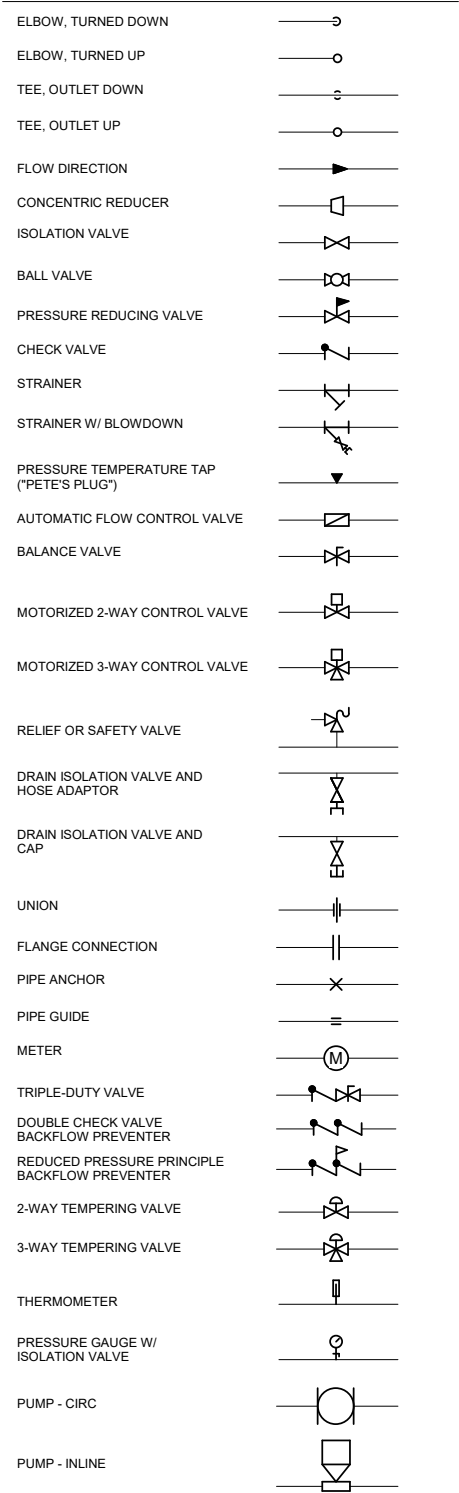


CONSTRUCTION PHASE LIFESTYLE

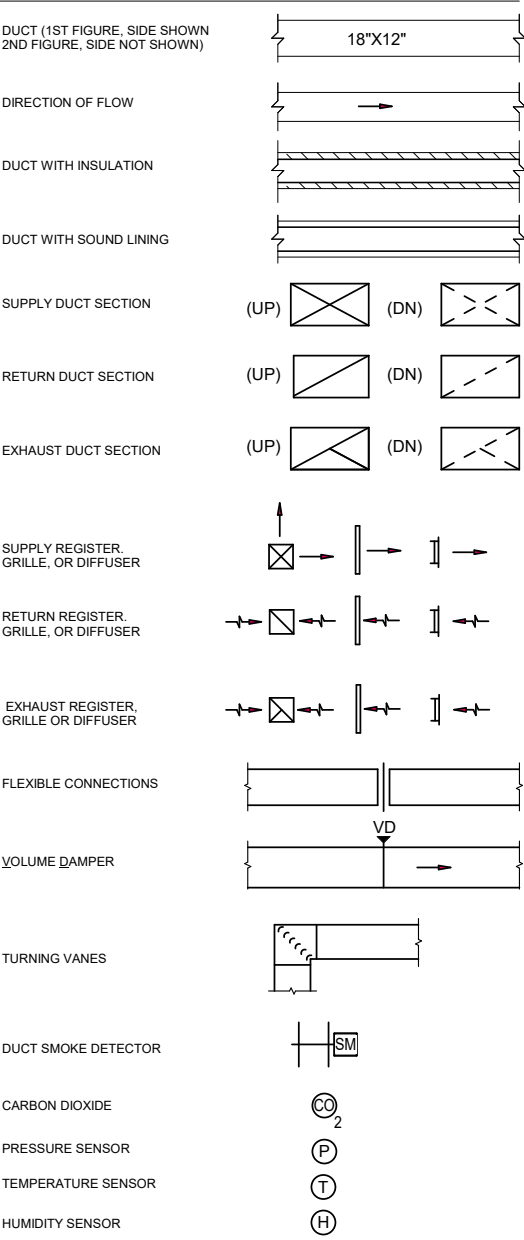


SHEET LIST - MECHANICAL	
SHEET NUMBER	SHEET NAME
M001	LEGENDS AND ABBREVIATIONS
M002	SCHEDULES
M130	BASEMENT HVAC PLAN
M131	MAIN FLOOR HVAC PLAN
M401	ENLARGED BASEMENT PLAN
M601	HYDRONIC DETAILS
M602	PIPING DETAILS

PIPE FITTINGS & VALVES



VENTILATION



ABBREVIATIONS

ACFM	ACTUAL CUBIC FEET PER MINUTE	IP	INJECTION PUMP
ACT	ACOUSTICAL CEILING TILE	LV	LOUVER
AFF	ABOVE FINISHED FLOOR	LF	LINEAL FEET
AHAP	AS HIGH AS POSSIBLE	LP	LIQUEFIED PROPANE
AHU	AIR HANDLING UNIT	LV	LAVATORY
APPROX	APPROXIMATE	LVG	LEAVING
AS	AIR SEPARATOR	LWT	LEAVING WATER TEMPERATURE
BB	BASE BOARD HEATER	MAX	MAXIMUM
BTU	BRITISH THERMAL UNIT	MBH	THOUSAND BTU's PER HOUR
CA	COMPRESSED AIR	MIN	MINIMUM
CD	CONDENSATE DRAIN	MISC	MISCELLANEOUS
CFM	CUBIC FEET PER MINUTE	MBD	MULTIBLADE DAMPER
CIRC	CIRCULATION	NC	NORMALLY CLOSED
CH	CHILLER	NO	NORMALLY OPEN
CLNG	CEILING	NO.	NUMBER
CO2	CARBON DIOXIDE	OA	OUTSIDE AIR
CONT	CONTINUATION, CONTINUED	OC	ON CENTER
CP	CIRCULATING PUMP	OSA	OUTSIDE AIR SUPPLY
CU	COPPER	P	PROPANE
CW	COLD WATER	PD	PRESSURE DROP
(D)	DEMOLISH	PDI	PLUMBING & DRAINAGE INSTITUTE
DCP	DOMESTIC CIRCULATING PUMP	PH	PHASE
DDC	DIRECT DIGITAL CONTROLS	POC	POINT OF CONNECTION
DF	DRINKING FOUNTAIN	PSIG	POUNDS PER SQUARE INCH GAUGE
DIA	DIAMETER	PSI	POUNDS PER SQUARE INCH
DHWC	DOMESTIC HOT WATER CIRC	PW	PUMPED WASTE
DN	DOWN	RA	RETURN AIR
(E)	EXISTING	RD	ROOF DRAIN
EA	EXHAUST AIR	RECIRC	RECIRCULATION
EBB	ELECTRIC BASEBOARD	RL	RAINLEADER
EF	EXHAUST FAN	RPBP	REDUCED PRESSURE ZONE BACKFLOW PREVENTER
ENT	ENTERING	RZ	RADIANT ZONE
ET	EXPANSION TANK	SA	SUPPLY AIR
ESP	EXTERNAL STATIC PRESSURE	SCH	SCHEDULE
EWT	ENTERING WATER TEMPERATURE	SQFT	SQUARE FEET
FCO	FLOOR CLEANOUT	SF	SUPPLY FAN
FD	FLOOR DRAIN	SS	STAINLESS STEEL
FDC	FIRE DEPARTMENT CONNECTION	TA	TRANSFER AIR
FM	FORCED MAIN	TEMP	TEMPERATURE
FPD	DRY FIRE PROTECTION	TDH	TOTAL DEVELOPED HEAD
FT	FEET	TP	TRAP PRIMER
FT	FINNED TUBE	TYP	TYPICAL
GAL	GALLONS	U	URINAL
GALV	GALVANIZED	UL	UNDERWRITER'S LABORATORY
GCP	GLYCOL CIRCULATION PUMP	UON	UNLESS OTHERWISE NOTED
GFT	GLYCOL FILL TANK	VAV	VARIABLE AIR VOLUME
GR	GLYCOL HEATING RETURN	UH	UNIT HEATER
GS	GLYCOL HEATING SUPPLY	VTR	VENT THROUGH ROOF
GI	GREASE INTERCEPTOR	VR	VENT RISER
GMT	GLYCOL MAKE-UP TANK	W	WASTE
GPM	GALLONS PER MINUTE	W/	WITH
HB	HOSE BIBB	W.C.	WATER COLUMN
HC	HEATING COIL	WCO	WALL CLEANOUT
HP	HORSE POWER	WH	WATER HEATER
HRV	HEAT RECOVERY VENTILATOR	WHA	WATER HAMMER ARRESTOR
HW	HOT WATER	WPD	WATER PRESSURE DROP
HW C	HOT WATER CIRCULATION	WRT	WITH RESPECT TO
HHW	HOT WATER HEATER	WC	WATER CLOSET
HWR	HEATING WATER RETURN		
HWS	HEATING WATER SUPPLY		
HWT	HOT WATER TANK		
HX	HEAT EXCHANGER		
HZ	HERTZ		
ID	INSIDE DIAMETER		
IDCP	INDIRECT DOMESTIC CIRCULATION PUMP		
IN	INCHES		

GENERAL NOTES

- ALL WORK SHALL BE STRICTLY IN CONFORMANCE WITH APPLICABLE CODES AND REGULATIONS. ALL WORK SHALL BE IN ACCORDANCE WITH SPECIFICATIONS, DRAWINGS, THE 2012 INTERNATIONAL CODES, 2018 UNIFORM PLUMBING CODE, NFPA, AND STATE OF ALASKA MODIFICATIONS. ALL ELECTRICAL EQUIPMENT SHALL BEAR THE UL LABEL. ALL SHEET METAL WORK TO BE DONE IN ACCORDANCE WITH SMACNA REQUIREMENTS. PROVIDE ALL TESTING REQUIREMENTS FOR MECHANICAL SYSTEMS AS REQUIRED AND WITNESSED BY ADMINISTRATIVE AUTHORITY.
- MECHANICAL SYSTEMS SHALL BE INSTALLED PER THE REQUIREMENTS OF ASHRAE 90.1.
- COORDINATE WITH OWNER ON SHUTDOWN OF SYSTEMS AND SCHEDULING OF WORK. WORK WILL BE REQUIRED WITH BUILDING OCCUPIED. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO MITIGATE DISTURBANCES PROVIDE SAFETY AND SECURITY BARRIES AT THEIR WORK AREAS.
- TESTING AND BALANCING OF FLOWRATES AT BOILERS IS REQUIRED.



CONSTRUCTION DOCUMENTS

CRAIG ELEMENTARY SCHOOL

BOILER UPGRADE

CRAIG SCHOOL DISTRICT

MRV #2314

No.	Description	Date

SHEET TITLE:  
LEGENDS AND  
ABBREVIATIONS

DATE: 7.24.2023

DESIGNER: SJB

DRAWN: TRK

CHECKED: DHM

SHEET NO.

M001

NOTE: 11"x 17" PRINT IS HALF SIZE



7/24/2023 11:20:20 AM BIM 360://11009.23007 - Craig Elementary School Boiler Upgrade/INF-MECH-11009.23007\_RV20.rvt

DOMESTIC WATER HEATER SCHEDULE											
MARK	SERVICE	TYPE	RECOVERY, GPM @ 67F RISE	FUEL TYPE	MBH INPUT	WATT	V	PH	BASIS OF DESIGN		COMMENTS
									MANUFACTURER	MODEL	
HWH-1	DOMESTIC HOT WATER	CONDENSING PROPANE	4.4	PROPANE	180	200	115V	1	NAVIEN	NPE-180A2	CONDENSING STAINLESS STEEL PROPANE FIRETUBE BOILER. INSTALL ALL REQUIRED SAFETIES. SERVICE DISCONNECT SWITCH OPTIONS: READY-LINK WIRING KIT. CONDENSATE NEUTRALIZER KIT. COMMON VENT COLLAR KIT.

HEATING EQUIPMENT SCHEDULE											
MARK	INPUT (MBH)	NET OUTPUT (MBH)	FUEL	ELECTRICAL			BASIS OF DESIGN		COMMENTS		
				HP	V	PH	MANUFACTURER	MODEL			
B-1	301	255	PROPANE	1/4	115	1	NAVIEN	NFB-301C	CONDENSING STAINLESS STEEL PROPANE FIRETUBE BOILER. INSTALL ALL REQUIRED SAFETIES. SERVICE DISCONNECT SWITCH OPTIONS: READY-LINK WIRING KIT. CONDENSATE NEUTRALIZER KIT. COMMON VENT COLLAR KIT.		
B-2	301	255	PROPANE	1/4	115	1	NAVIEN	NFB-301C	CONDENSING STAINLESS STEEL PROPANE FIRETUBE BOILER. INSTALL ALL REQUIRED SAFETIES. SERVICE DISCONNECT SWITCH OPTIONS: READY-LINK WIRING KIT. CODENSATE NEUTRALIZER KIT. COMMON VENT COLLAR KIT.		

PUMP SCHEDULE													
MARK	LOCATION	SERVICE	FLOW (GPM)	HEAD (FT)	FLUID	ELECTRICAL				BASIS OF DESIGN		COMMENTS	
						HP	V	PH	VFD	MANUFACTURER	MODEL		
BP-1	BASEMENT	BOILER #1	25	15	WATER	1/6	115V	1	No	TACO	2400-30	WIRED THRU B-1	
BP-2	BASEMENT	BOILER #2	25	15	WATER	1/6	115V	1	No	TACO	2400-30	WIRED THRU B-2	

EXPANSION TANK SCHEDULE											
MARK	SYSTEM	VOLUME	ACCEPTANCE VOLUME	PRESSURE (PSIG)	BASIS OF DESIGN		COMMENTS				
					MANUFACTURER	MODEL					
ET-1	HEATING SYSTEM	35	10	15	AMTROL	35LBC	ASME HYDRONIC EXPANSION TANK. PRECHARGED. BLADDER DIAPHRAM. FREE STANDING BASE.				
ET-2	DOMESTIC SYSTEM	2	0.9	50	AMTROL	ST-5	DOMESTIC EXPANSION TANK. PRECHARGED. BLADDER DIAPHRAM. PIPE HUNG.				

AIR SEPARATOR SCHEDULE											
MARK	SERVICE	FLUID	FLOW (GPM)	CONNECTION (IN)	MAX WPD (FT)	BASIS OF DESIGN		COMMENTS			
						MANUFACTURER	MODEL				
AS-1	HEATING SYSTEM	WATER	35	2	1	SPRIOTHERM	VDT200FA	AIR/DIRT SEPARATOR. FLANGED CONNECTION WITH DIRT DRAWOFF VALVE.			



CONSTRUCTION DOCUMENTS

CRAIG ELEMENTARY SCHOOL  
BOILER UPGRADE

CRAIG SCHOOL DISTRICT

MRV #2314

No.	Description	Date

SHEET TITLE:  
SCHEDULES

DATE: 7.24.2023

DESIGNER: SJB

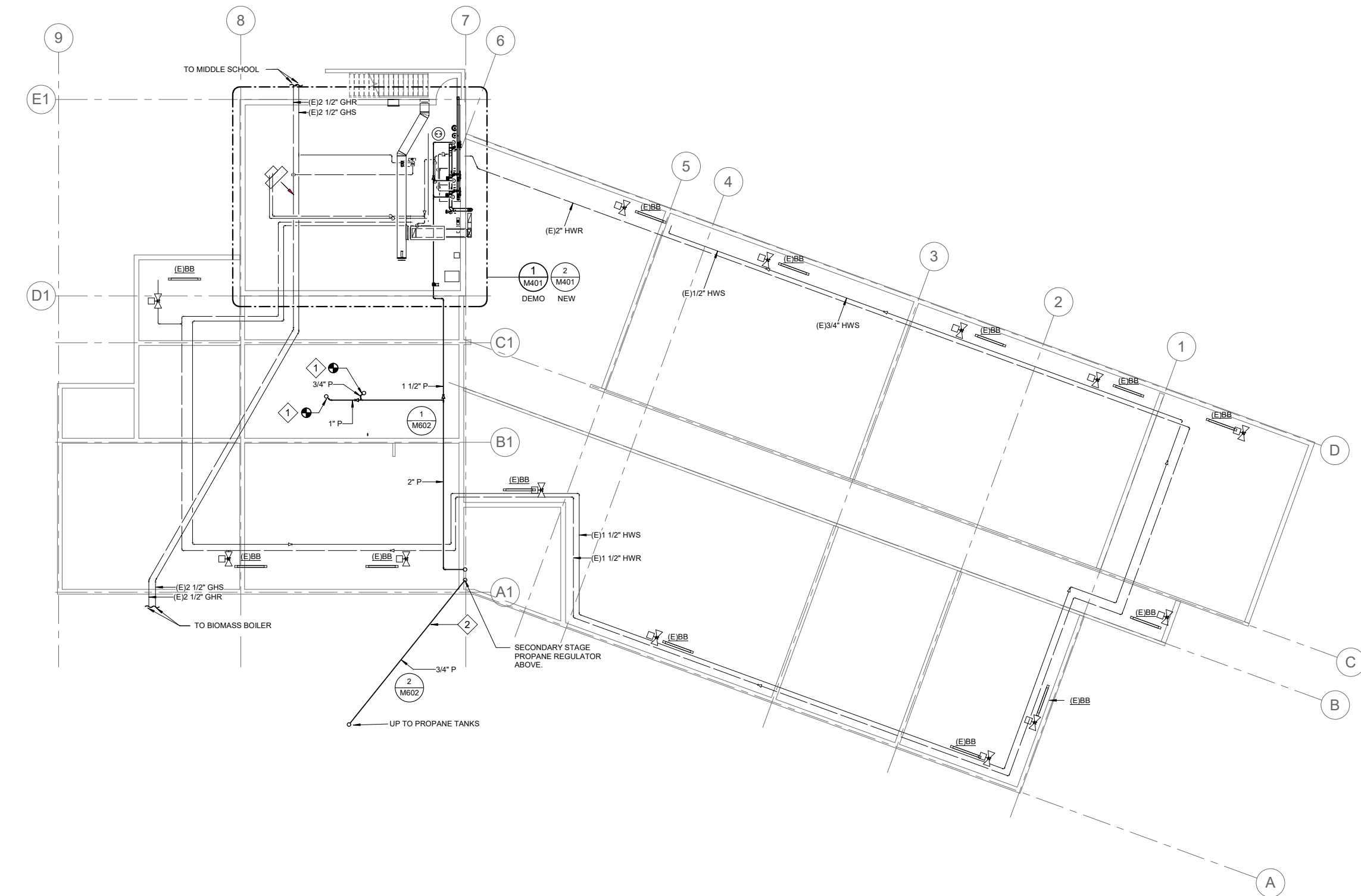
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CHECKED: DHM

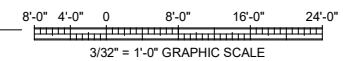
SHEET NO.  
M002

NOTE: 11"x 17" PRINT IS HALF SIZE

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1 BASEMENT PLAN  
3/32" = 1'-0"



ACTUAL NORTH



PROJECT NORTH



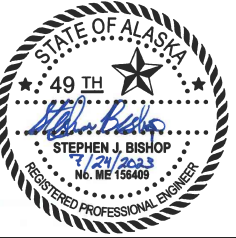
NOTE: 11"x 17" PRINT IS HALF SIZE

### SHEET KEYNOTES

- 1 CONNECT TO EXISTING PROPANE BRANCH PIPING.
- 2 INSTALL ON EXTERIOR OF BUILDING. SELECTIVELY DEMOLISH, MODIFY, AND REPLACE EXTERIOR DECKING AS REQUIRED FOR INSTALLATION OF PROPANE PIPING.

### SHEET NOTES

1. GENERAL: VERIFY CONDITIONS ONSITE PRIOR TO COMMENCEMENT OF WORK. NOT ALL ELECTRICAL, PIPING AND MECHANICAL SYSTEMS SHOWN.



CONSTRUCTION DOCUMENTS

# CRAIG ELEMENTARY SCHOOL BOILER UPGRADE

CRAIG SCHOOL DISTRICT

MRV #2314

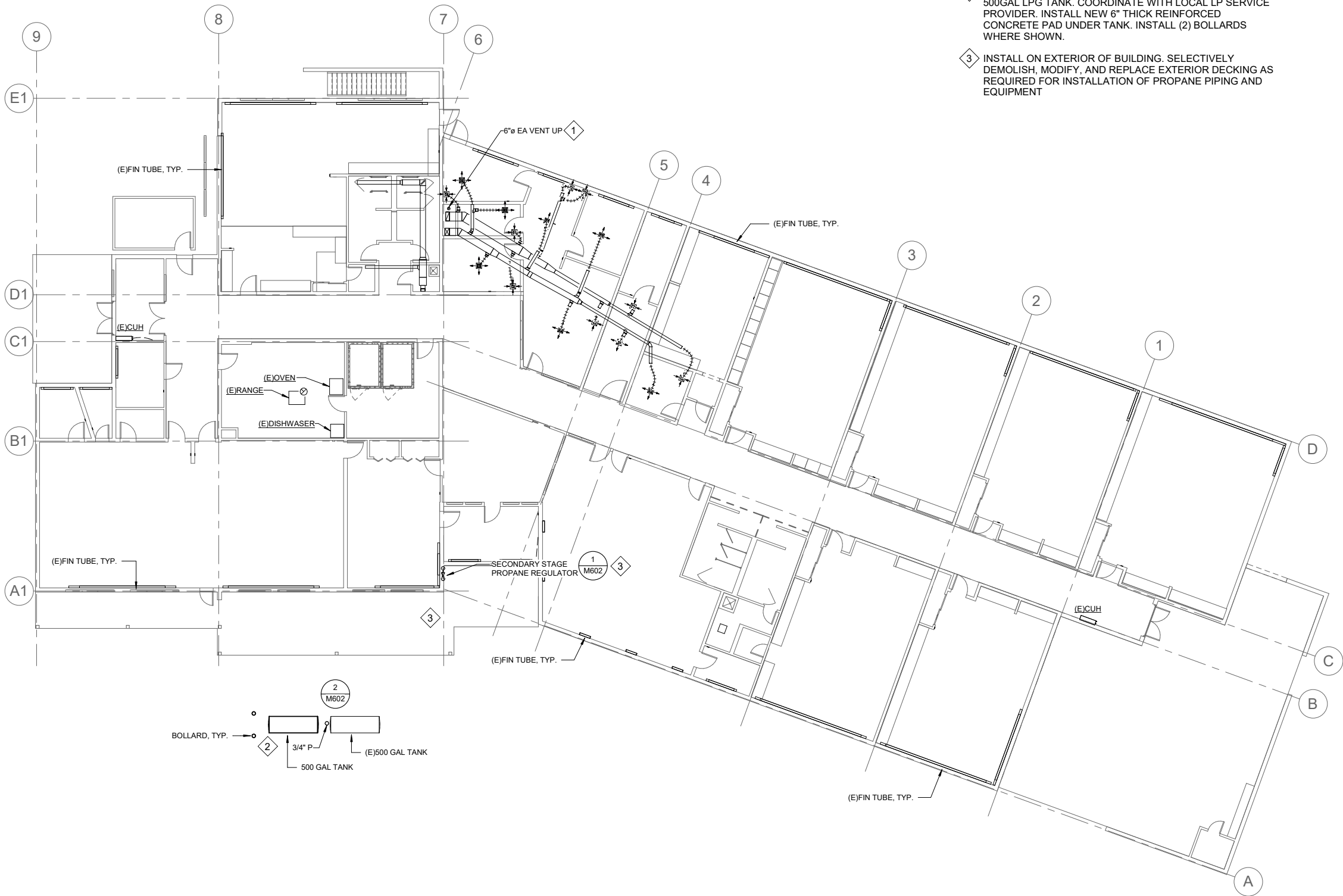
No.	Description	Date

SHEET TITLE:  
BASEMENT HVAC  
PLAN

DATE: 7.24.2023  
DESIGNER: SJB  
DRAWN: TRK  
CHECKED: DHM

SHEET NO.  
**M130**

7/24/2023 11:20:22 AM BIM 360://1009.23007 - Craig Elementary School Boiler Upgrade/INF-MECH-1009.23007\_RV20.rvt



### SHEET KEYNOTES

- 1 TERMINATE DIRECT VENT 36" ABOVE FINISHED SHINGLE ROOF, UPBLAST. FLASH PENETRATION WATERTIGHT PER MANUFACTURERS REQUIREMENTS. MAINTAIN 1" CLEARANCE TO COMBUSTIBLES. CUT AND PATCH CHASE ASSEMBLY TO DEMOLISH EXISTING CHIMNEY AND INSTALL NEW VENT. MATCH EXISTING MATERIALS AND FINISHES.
- 2 PROCURE NEW 500GAL LPG TANK AND REUSE EXISTING 500GAL LPG TANK. COORDINATE WITH LOCAL LP SERVICE PROVIDER. INSTALL NEW 6" THICK REINFORCED CONCRETE PAD UNDER TANK. INSTALL (2) BOLLARDS WHERE SHOWN.
- 3 INSTALL ON EXTERIOR OF BUILDING. SELECTIVELY DEMOLISH, MODIFY, AND REPLACE EXTERIOR DECKING AS REQUIRED FOR INSTALLATION OF PROPANE PIPING AND EQUIPMENT

### SHEET NOTES

1. GENERAL: VERIFY CONDITIONS ONSITE PRIOR TO COMMENCEMENT OF WORK. NOT ALL ELECTRICAL, PIPING AND MECHANICAL SYSTEMS SHOWN.



CONSTRUCTION DOCUMENTS

# CRAIG ELEMENTARY SCHOOL BOILER UPGRADE

CRAIG SCHOOL DISTRICT

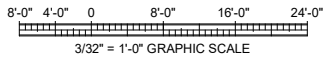
No.	Description	Date

SHEET TITLE:  
MAIN FLOOR  
HVAC PLAN

DATE: 7.24.2023  
DESIGNER: SJB  
DRAWN: TRK  
CHECKED: DHM

SHEET NO.  
**M131**

1 MAIN FLOOR HVAC PLAN  
3/32" = 1'-0"



ACTUAL NORTH



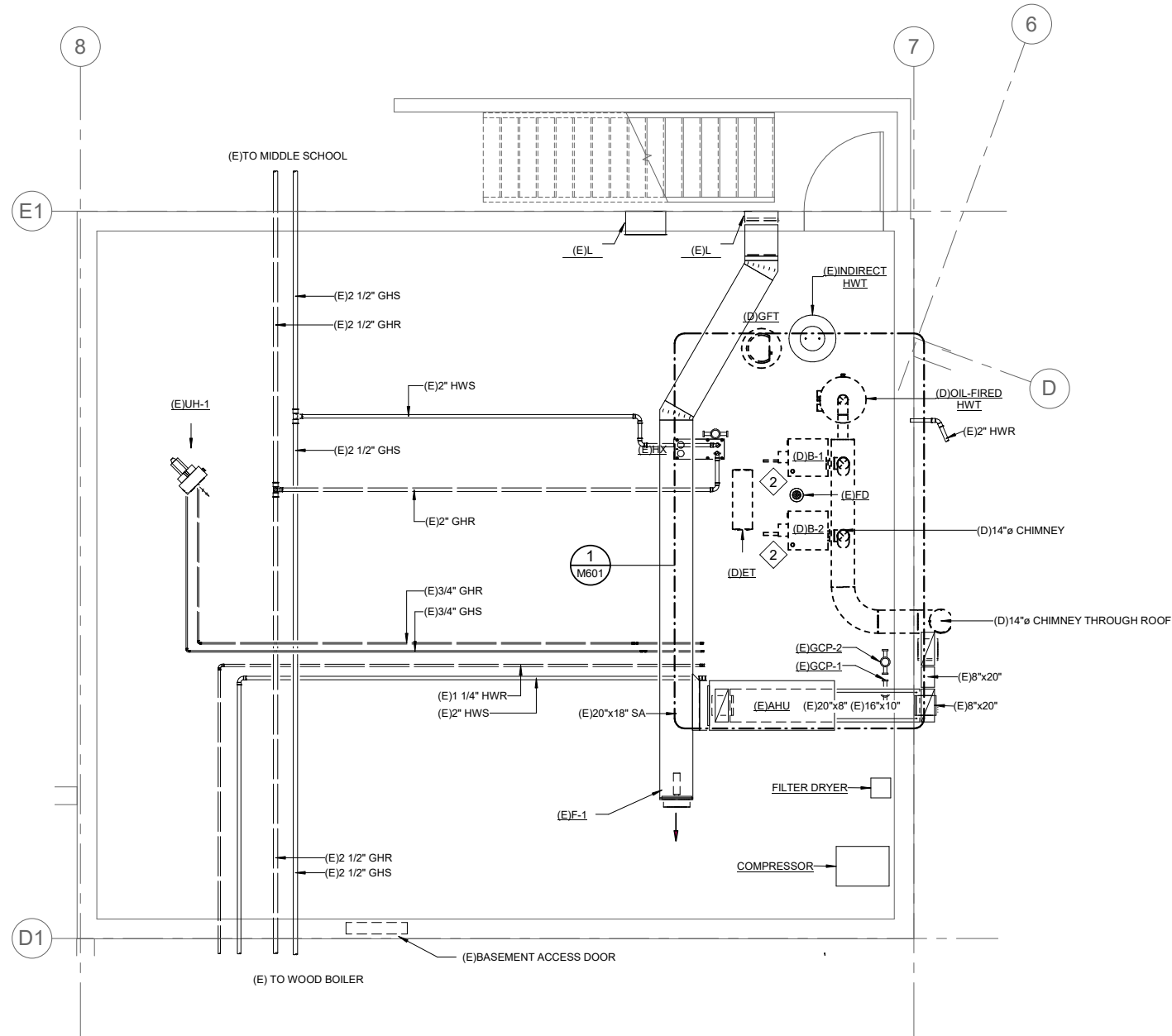
PROJECT  
NORTH



NOTE: 11"x 17" PRINT IS HALF SIZE

7/24/2023 11:20:23 AM BIM 360://1009.23007 - Craig Elementary School Boiler Upgrade/INF-MECH-1009.23007\_RV20.rvt

1 BASEMENT DEMOLITION PLAN - HVAC  
1/4" = 1'-0"

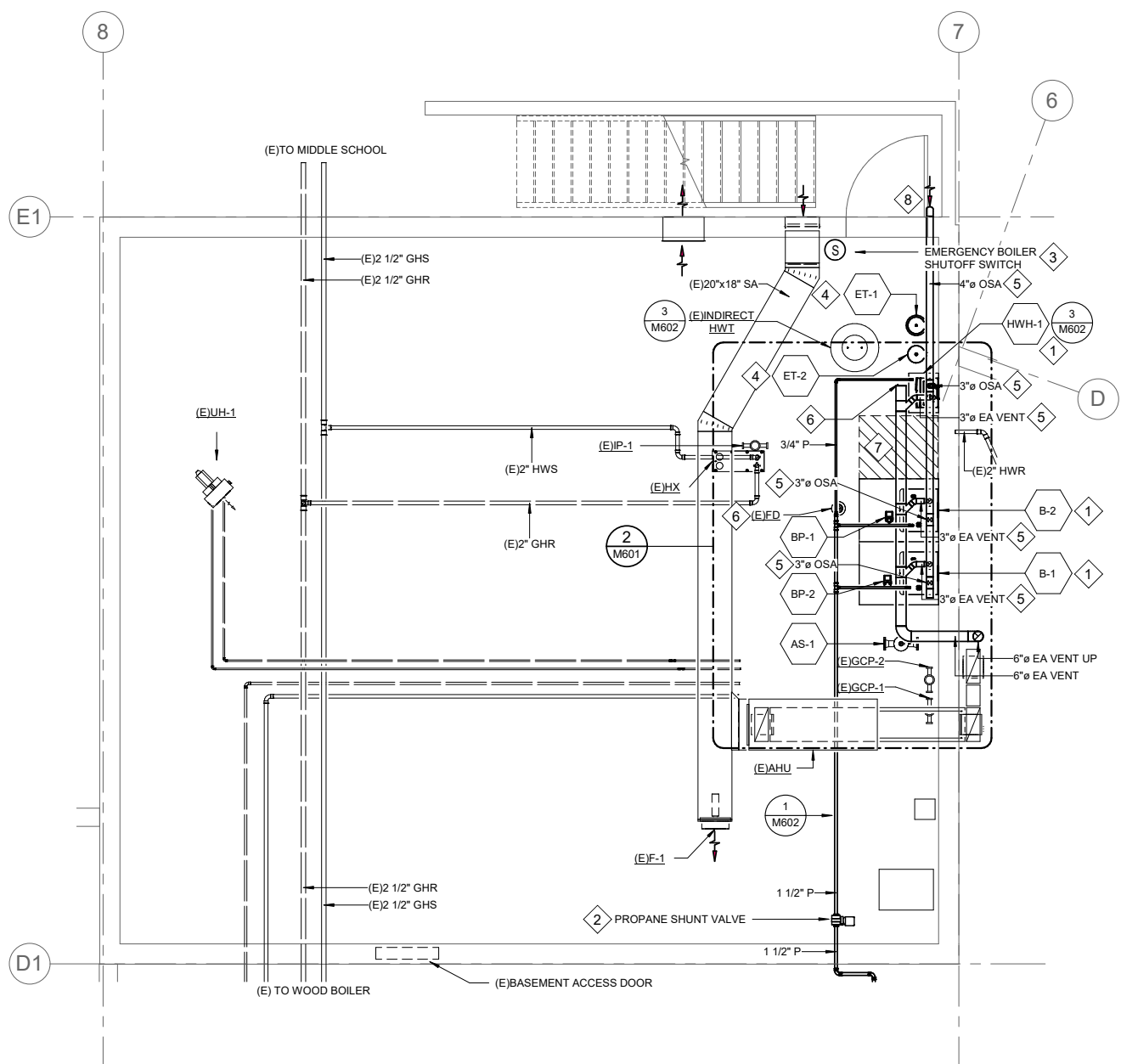


#### SHEET KEYNOTES

- 1 INSTALL NEW BOILERS, B-1, B-2, AND HWH-1, SAFETIES, INTAKE AND EXHAUST VENTS TO COMMON 6" DIA STACK. VERIFY CONDITIONS ONSITE. INSTALL CONDENSATE DRAIN AND TRAP TO COMMON NEUTRALIZER. INDIRECT DRAIN TO (E)FD.
- 2 DEMOLISH BOILERS, TRIM, ENTIRE CHIMNEY STACK THROUGH ROOF AND ASSOCIATED OIL PIPING. DEMOLISH ALL OIL PIPING IN MECHANICAL ROOM. CAP OIL PIPING AT WALL.
- 3 EMERGENCY BOILER SHUT OFF. COORDINATE WITH ELECTRICAL.
- 4 SIESMICALLY BRACE AGAINST WALL.
- 5 PROPANE DIRECT VENT SYSTEM. INSTALL AND SIZE PER MANUFACTURERS REQUIREMENTS. SLOPE EXHAUST PIPING TOWARDS DRAIN. SIZE SYSTEM FOR FUTURE BOILER B-3, SIMILAR TO B-1 AND B-2.

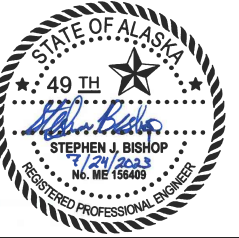
- 6 INSTALL CONDENSATE DRAIN AND TRAP. ROUTE CD THRU NEUTRALIZER AND INDIRECT DRAIN TO (E) FD.
- 7 RESERVE SPACE FOR FUTURE BOILER.
- 8 OSA BOILER VENT INTAKE WALL CAP. 1/2" BIRD SCREEN.

2 BASEMENT PLAN -HVAC  
1/4" = 1'-0"



#### SHEET NOTES

1. GENERAL: VERIFY CONDITIONS ONSITE PRIOR TO COMMENCEMENT OF WORK. NOT ALL ELECTRICAL, PIPING AND MECHANICAL SYSTEMS SHOWN.
2. HEATING SYSTEM SCOPE: INSTALL NEW BOILERS B-1 AND B-2. INTEGRATE WITH EXISTING HYDRONIC HEATING SUPPLY LOOP AND BIOMASS BOILER HEAT EXCHANGER.
3. HYDRONIC PIPING SCOPE: REMOVE ALL GLYCOL HEATING FLUID FROM HYDRONIC PIPING. FLUSH HYDRONIC SYSTEM CLEAN. REFILL WITH 100% DOMESTIC WATER. SEE M601 FOR ADDITIONAL REQUIREMENTS.
4. DOMESTIC SYSTEM SCOPE: INSTALL NEW BOILER HWH-1 IN SERIES(DOWNSTREAM) WITH (E) INDIRECT HWT. SEE DETAIL 3/M602.



**MRV**  
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Fax: 907.586.3771  
AECC163270

CONSTRUCTION DOCUMENTS  
**CRAIG ELEMENTARY SCHOOL  
BOILER UPGRADE**  
CRAIG SCHOOL DISTRICT

No.	Description	Date

SHEET TITLE:  
**ENLARGED  
BASEMENT PLAN**

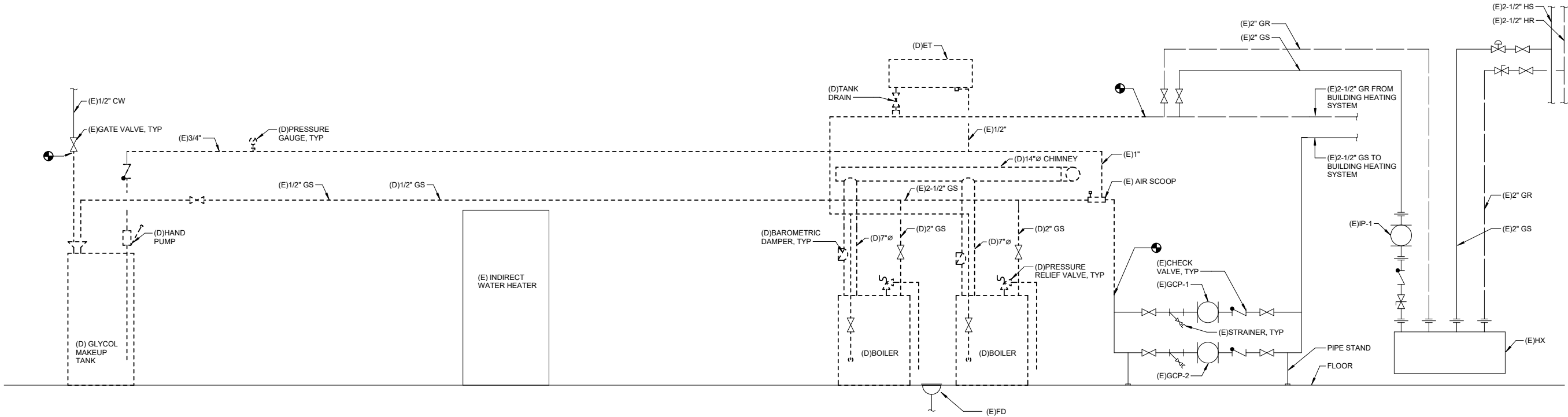
DATE: 7.24.2023  
DESIGNER: SJB  
DRAWN: TRK  
CHECKED: DHM

SHEET NO.  
**M401**

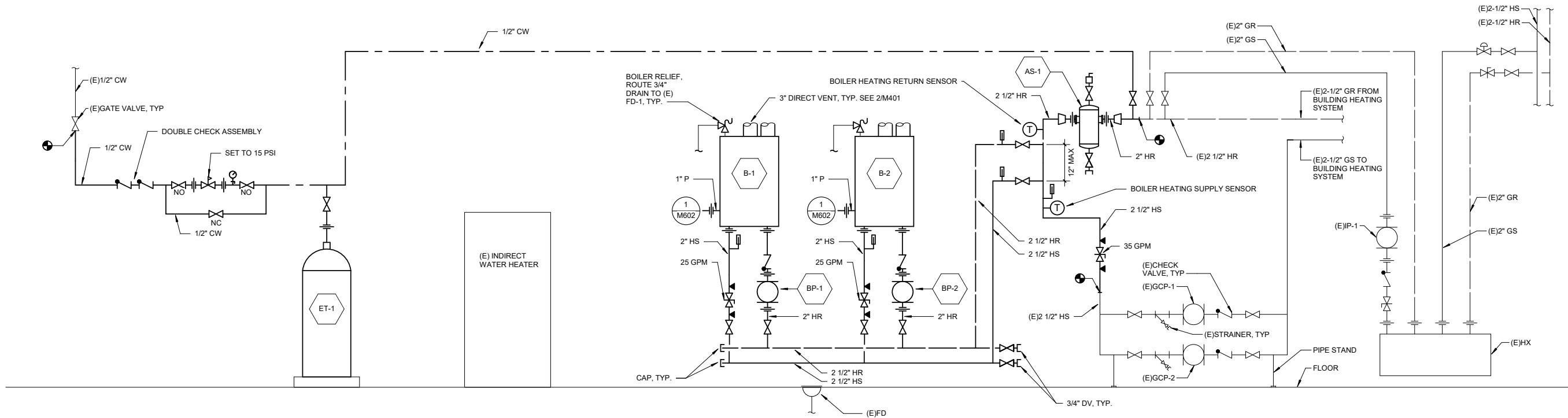
ACTUAL NORTH  
PROJECT NORTH  
NOTE: 11"x 17" PRINT IS HALF SIZE



7/24/2023 11:20:23 AM BIM 360://1009.23007 - Craig Elementary School Boiler Upgrade/INF-MECH-1009.23007\_RV20.rvt



**1 BASEMENT BOILER PIPING SCHEMATIC - DEMO**  
M601 SCALE: NO SCALE



**2 BASEMENT BOILER PIPING SCHEMATIC - NEW**  
M601 SCALE: NO SCALE

NOTE: 11"x 17" PRINT IS HALF SIZE



CONSTRUCTION DOCUMENTS

# CRAIG ELEMENTARY SCHOOL BOILER UPGRADE

CRAIG SCHOOL DISTRICT

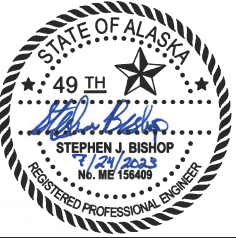
No.	Description	Date

SHEET TITLE:  
HYDRONIC  
DETAILS

DATE: 7.24.2023  
DESIGNER: SJB  
DRAWN: TRK  
CHECKED: DHM

SHEET NO.  
**M601**

MRV #2314



CONSTRUCTION DOCUMENTS

# CRAIG ELEMENTARY SCHOOL BOILER UPGRADE

CRAIG SCHOOL DISTRICT

No.	Description	Date

SHEET TITLE:  
PIPING DETAILS

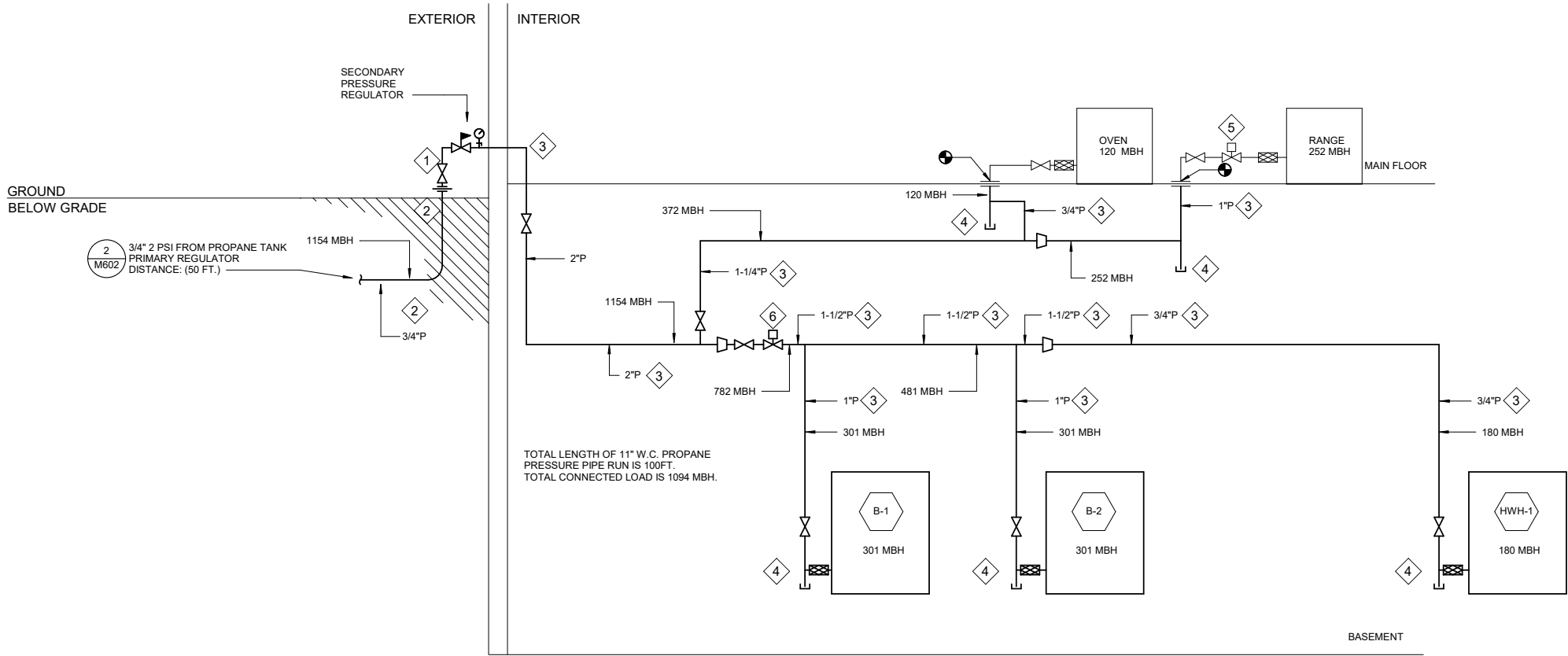
DATE: 7.24.2023  
DESIGNER: SJB  
DRAWN: TRK  
CHECKED: DHM

SHEET NO.

M602

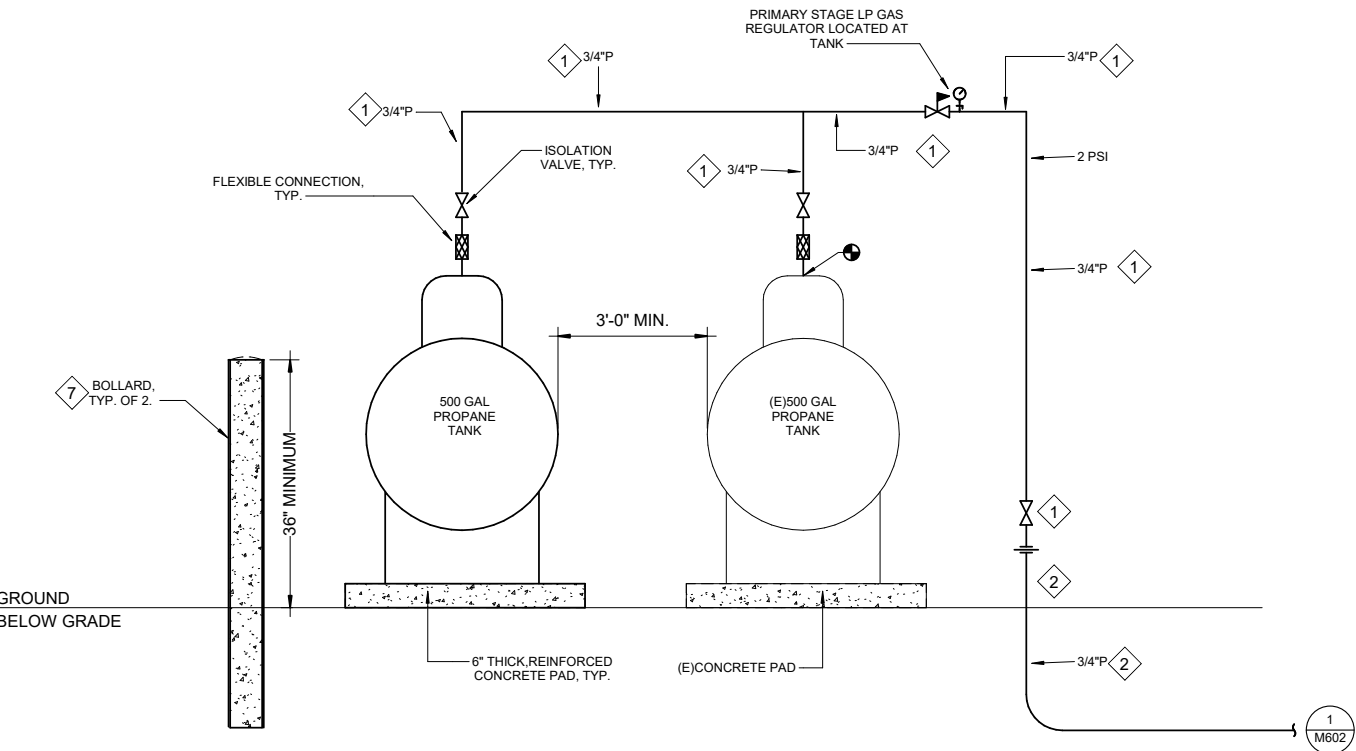
### SHEET KEYNOTES

- 1 SCHEDULE 40 METALLIC PIPE. PAINT WITH PRIMER AND TWO COATS OF EXTERIOR GRADE TOP COAT, WHITE. SUPPORT PIPING WITH CONCRETE ANCHORED UNISTRUT.
- 2 DIRECT BURIAL POLYETHYLENE PIPE. TRENCH PIPING AT LEAST 24" BELOW GRADE. BED PIPING WITH SAND WITH AT LEAST 6" IN ALL DIRECTIONS. INSTALL METALLIC WARNING TAPE 12" ABOVE BURIED PIPE.
- 3 SCHEDULE 40 METALLIC PIPE AND FITTINGS FOR INTERIOR USE.
- 4 INSTALL CAPPED 4" DIRT LEG BEFORE EACH APPLIANCE.
- 5 RETAIN EXISTING PROPANE SHUNT VALVE.
- 6 EMERGENCY PROPANE SHUNT VALVE. COORDINATE WITH ELECTRICAL.
- 7 4"DIA SCHEDULE 40 STEEL PIPE, CONCRETE FILLED WITH CROWNED TOP. PAINT WITH PRIMER AND TWO COATS OF EXTERIOR GRADE TOP COAT, YELLOW. BURY MINIMUM OF 30" BELOW GRADE, BACKFILL HOLE WITH CONCRETE, MINIMUM OF 4" IN ALL DIRECTIONS.



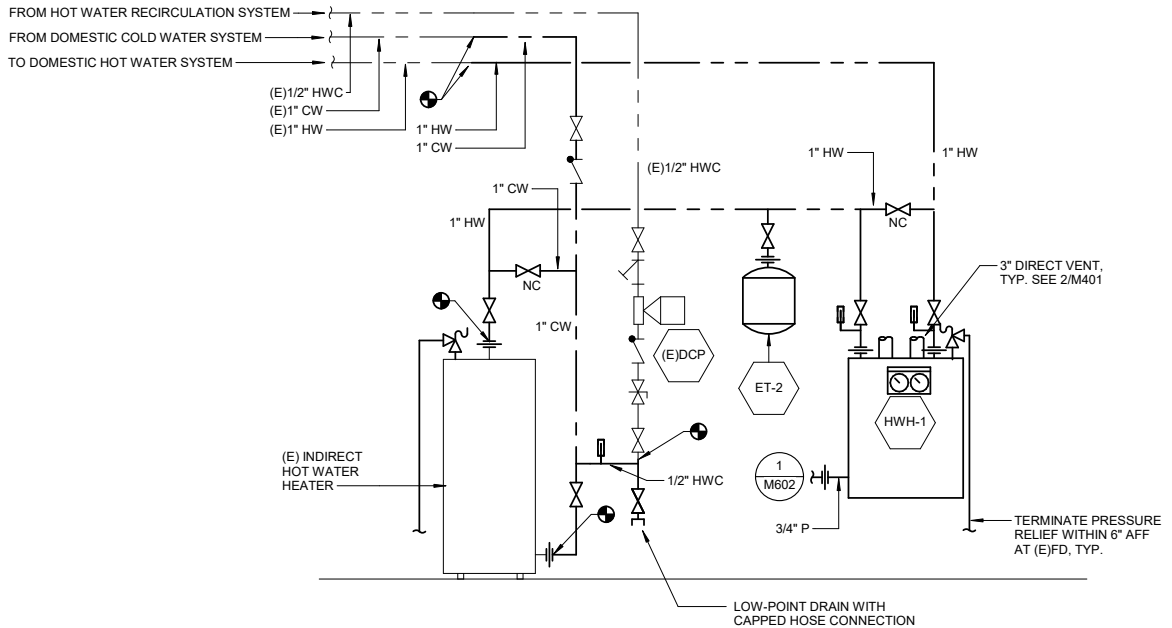
### 1 PROPANE PIPING SCHEMATIC

SCALE: NO SCALE



### 2 PROPANE TANK DIAGRAM

SCALE: NO SCALE



### 3 WATER HEATER PIPING DIAGRAM

SCALE: NO SCALE

NOTE: 11"x 17" PRINT IS HALF SIZE



**Juneau, AK**  
9109 Mendenhall Mall Rd., Ste. 4  
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**Phone:** 907.780.6060  
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AECC163270

CONSTRUCTION DOCUMENTS

CRAIG ELEMENTARY SCHOOL  
BOILER UPGRADE

CRAIG SCHOOL DISTRICT

MRV #2314

No.	Description	Date

SHEET TITLE:

LEGEND, SCHEDULES

DATE: 7.14.2023

DRAWN: PEL  
CHECKED: KHD

SHEET NO.

E001

PANEL C (E)			SIZE	VOLTS/PHASE				MAIN	LOCATION		MOUNT
			225 AMPS	208Y/120V, 3 PH				MLO	BASEMENT		SURFACE
C K T N O	DESCRIPTION	BREAKER AMP/ POLE	KVA					BREAKER AMP/ POLE	DESCRIPTION	C K T N O	
			CKT	AØ	BØ	CØ	CKT				
1	WALK-IN COOLER	20/3						20/3	WALK-IN FREEZER	2	
3	---	--						-	---	4	
5	---	--						-	---	6	
7	CIRCULATION PUMP NO. 1,	15/3						30/3	FREEZER	8	
9	---	--						-	---	10	
11	---	--						-	---	12	
13	CIRCULATION PUMP NO. 2,	15/3						15/2	AIR HANDLER	14	
15	---	--						-	---	16	
17	---	--						15/1	(D) BOILER NO. 2, <b>(N) BOILER B-1 &amp; BP-1</b>	18	
19	UNKNOWN	15/1						15/1	HOT WATER TANK	20	
21	LIGHTING: CRAWL SPACE	15/1						15/1	(D) BOILER, <b>(N) BOILER B-2 &amp; BP-2</b>	22	
23	LIGHTING: MECHANICAL ROOM	15/1						20/1	UNIT HEATER	24	
25	AIR HANDLER FAN,	20/1						20/1	SUPPLY FAN	26	
27	SECURITY SYSTEM AND DIALER	20/1						20/1	COMMUNITY ROOM MICROWAVE	28	
29	LIGHTING: EXTERIOR	20/1						20/1	SAFETY SHUTDOWN RELAYS	30	
31	TIME CLOCK	20/1						15/1	FUEL SOLENOID BOILER ROOM LIGHT	32	
33	TIME CLOCK	20/1						15/1	TELEPHONE OUTLET	34	
35	FREEZER LIGHTS AND HALL HEAT	20/1						60/2	NEW CLASSROOMS	36	
37	<b>(N) BOILER EM SHUT OFF, HWH-1</b>	15/1						-	---	38	
39	UNKNOWN	20/1						20/1	LIGHT AND DISPOSAL	40	
41	UNKNOWN	20/1						20/1	INSINKORATOR AND ICE MAKER	42	

- ABBREVIATIONS
- AFF ABOVE FINISHED FLOOR
  - M.B. MOUNTING BOARD
  - UON UNLESS OTHERWISE NOTED
  - VFD VARIABLE FREQUENCY DRIVE
  - (D) DEMOLISH
  - (E) EXISTING
  - (N) NEW
  - (R) RELOCATE

WIRING AND LIGHTING CONTROL DEVICE SYMBOLS	
	EQUIPMENT CONNECTION
	SINGLE POLE SWITCH
POWER SYMBOLS	
	JUNCTION BOX / EQUIPMENT CONNECTION
	MOTOR CONNECTION
	DISTRIBUTION PANELBOARD
	BRANCH CIRCUIT HOME RUN TO PANELBOARD, DASHES INDICATE THE NUMBER OF CONDUCTORS, LONG DASHES INDICATE NEUTRAL CONDUCTORS, UNGROUNDED CONDUCTORS OTHERWISE.
SIGNALING SYMBOLS - SECURITY	
	PUSH BUTTON
POWER LINE TYPES	
	ABOVE GRADE CIRCUITS
	TYPE MC CABLE

MECHANICAL EQUIPMENT SCHEDULE														
DESIGNATION			LOAD					CIRCUITING				CONTROL		
ITEM	DESCRIPTION	LOCATION	HP	KW	AMPS	VOLTS	PHASE	RATING	CONDUCTORS	DISCONNECT		STARTER SIZE	CONTROL	REMARKS
										SWITCH	FUSE			
B-1	BOILER	BASEMENT	1/4			120	1	15/1	2 NO. 12, 1 NO. 12 GND	S				
B-2	BOILER	BASEMENT	1/4			120	1	15/1	2 NO. 12, 1 NO. 12 GND	S				
BP-1	BOILER PUMP	BASEMENT	1/6			120	1	15/1	2 NO. 12, 1 NO. 12 GND					SUBFED FROM B-1
BP-2	BOILER PUMP	BASEMENT	1/6			120	1	15/1	2 NO. 12, 1 NO. 12 GND					SUBFED FROM B-2
HWH-1	PROPANE WATER HEATER	BASEMENT		0.2		120	1		2 NO. 12, 1 NO. 12 GND	S				

NOTE: 11"x 17" PRINT IS HALF SIZE



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CONSTRUCTION DOCUMENTS

# CRAIG ELEMENTARY SCHOOL BOILER UPGRADE

CRAIG SCHOOL DISTRICT

MRV #2314

No.	Description	Date

SHEET TITLE:

BASEMENT PLANS -  
POWER & LOW  
VOLTAGE

DATE: 7.14.2023

DRAWN: PEL

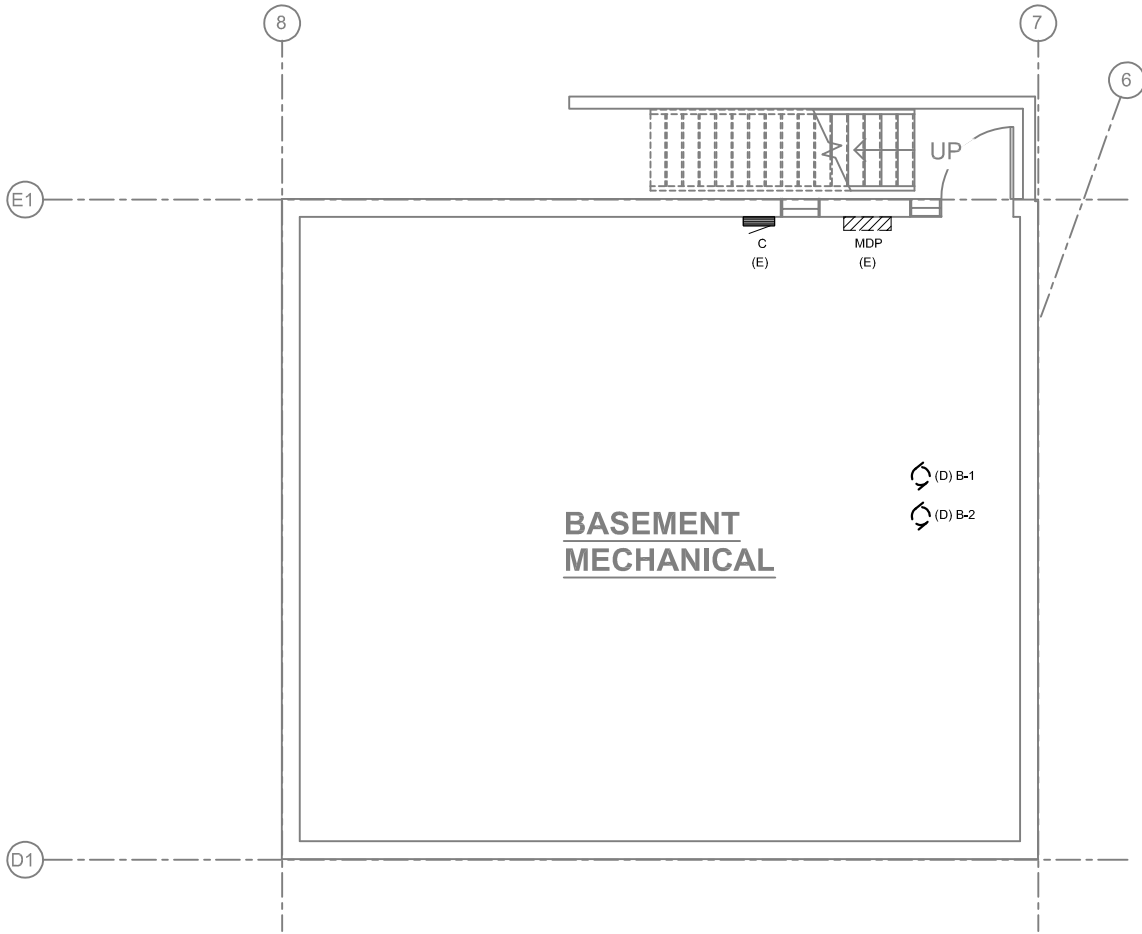
CHECKED: KHD

SHEET NO.

E121

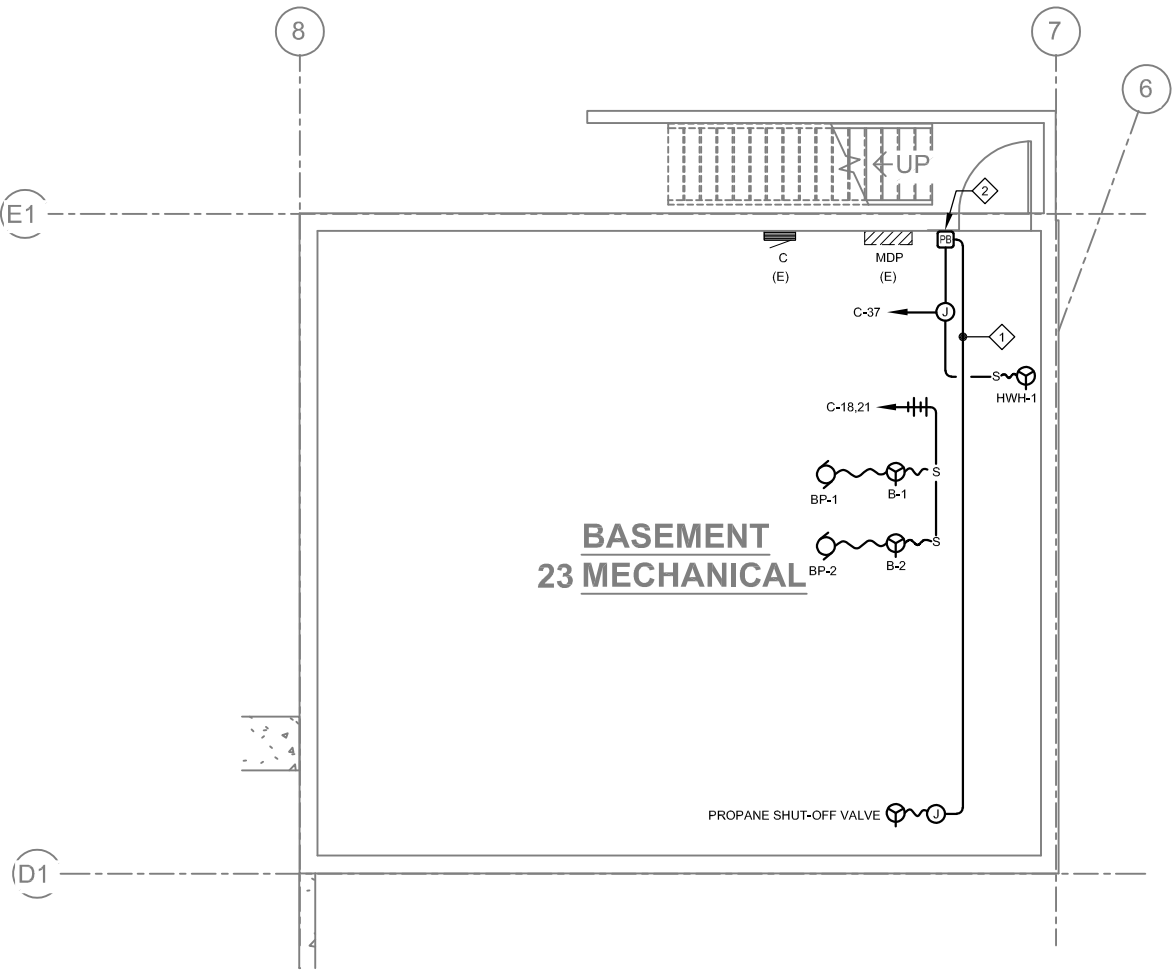
SHEET KEY NOTES:

- 1/2" CONDUIT, CIRCUITING PER MECHANICAL DESIGN.
- PROVIDE AN EMERGENCY STOP BUTTON WITH MECHANICAL LATCHING TO DE-ENERGIZE BOILER EQUIPMENT WHEN PRESSED. PROVIDE A HINGED COVER FOR THE STOP BUTTON.



**1** BASEMENT FLOOR PLAN - DEMO  
E121

SCALE: 0 2' 4' 8' 16'



**2** BASEMENT FLOOR PLAN - NEW POWER & LOW VOLTAGE  
E121

SCALE: 0 2' 4' 8' 16'

NOTE: 11"x 17" PRINT IS HALF SIZE