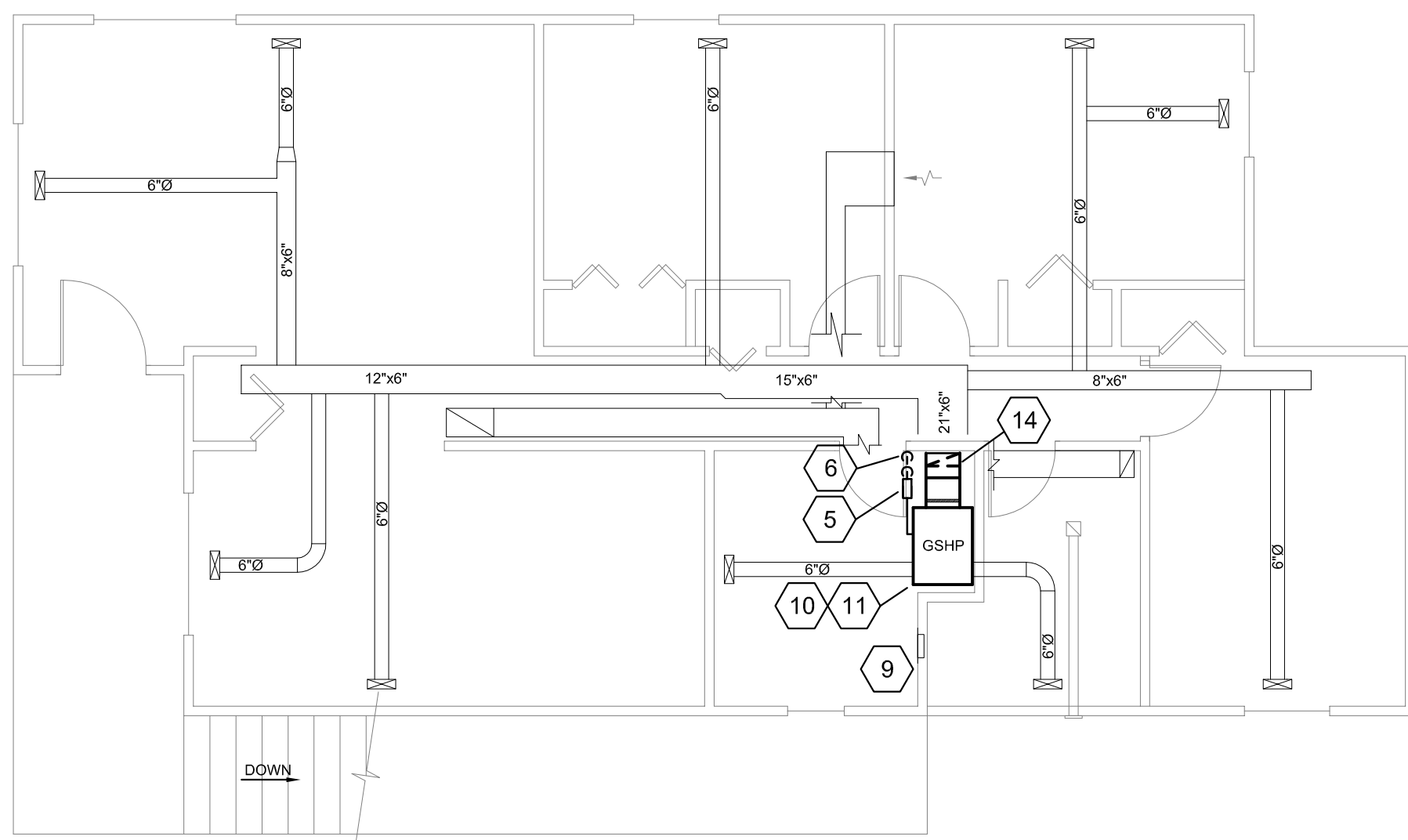
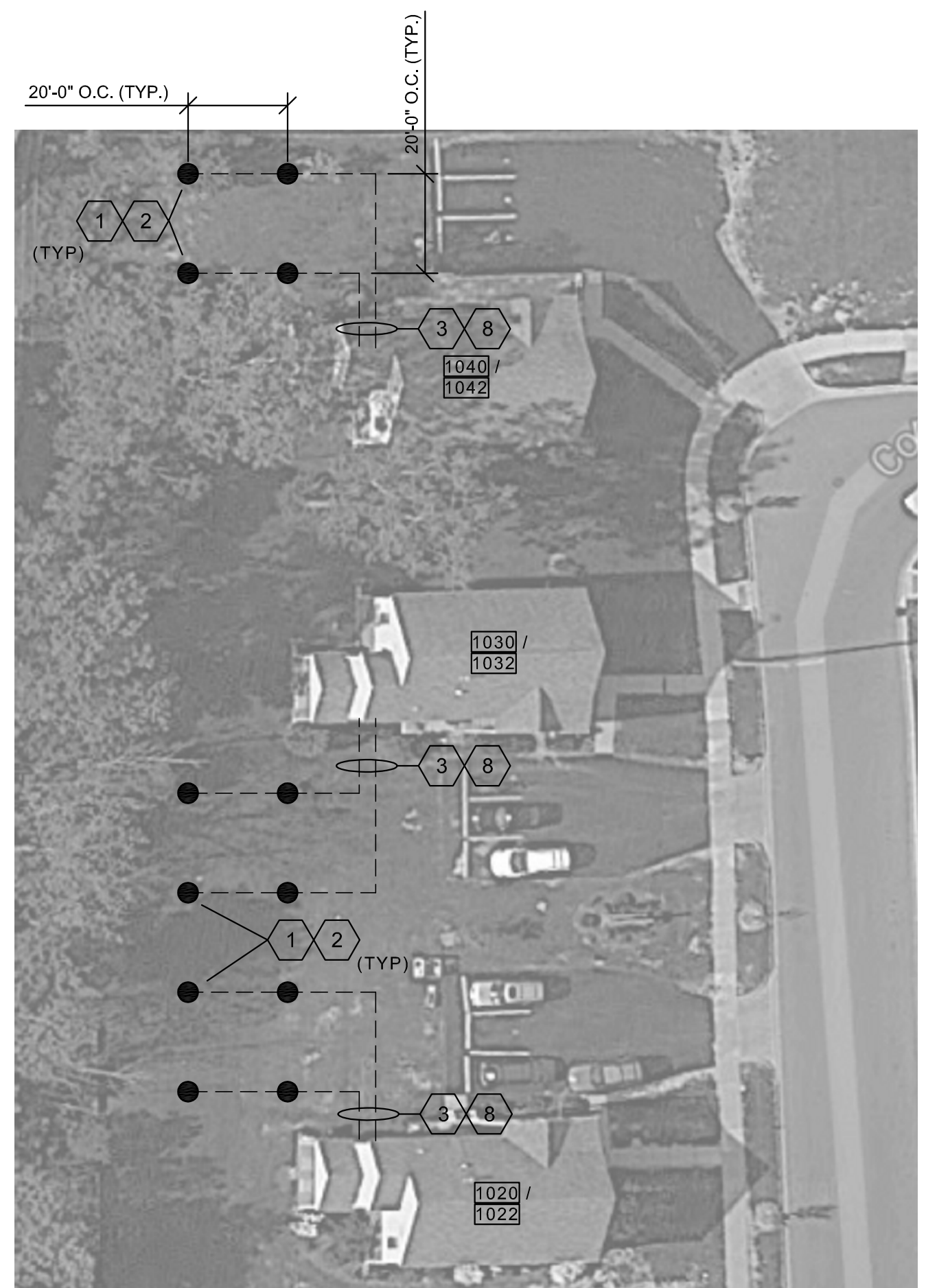


FIRST FLOOR HVAC PLAN
SCALE: 3/16"=1'-0"



SECOND FLOOR HVAC PLAN
SCALE: 3/16"=1'-0"



HILLSIDE MANOR SITE PLAN
SCALE: NONE

PUMP SCHEDULE (P)												
MARK	LOCATION	TYPE	SERVICE	CAPACITY GPM	TDH (FT)	RPM	DESIGN TEMP	HP	VOLTS/PH/Hz	MANUFACTURER MODEL NO	REMARKS	
HVAC-1020	UNIT 1020	INLINE	25% PROP. GLYCOL	9	30	-	45/120	1/6	120/1/60	GRUNDROS (2) UP26-99	SEE NOTES	
HVAC-1022	UNIT 1022	INLINE	25% PROP. GLYCOL	9	30	-	45/120	1/6	120/1/60	GRUNDROS (2) UP26-99	SEE NOTES	
HVAC-1030	UNIT 1030	INLINE	25% PROP. GLYCOL	9	30	-	45/120	1/6	120/1/60	GRUNDROS (2) UP26-99	SEE NOTES	
HVAC-1032	UNIT 1032	INLINE	25% PROP. GLYCOL	9	30	-	45/120	1/6	120/1/60	GRUNDROS (2) UP26-99	SEE NOTES	
HVAC-1040	UNIT 1040	INLINE	25% PROP. GLYCOL	9	30	-	45/120	1/6	120/1/60	GRUNDROS (2) UP26-99	SEE NOTES	
HVAC-1042	UNIT 1042	INLINE	25% PROP. GLYCOL	9	30	-	45/120	1/6	120/1/60	GRUNDROS (2) UP26-99	SEE NOTES	

NOTES:
1. INFORMATION PROVIDED IS ONLY PRELIMINARY AND TO EXPRESS PROJECT INTENT.
2. CONTRACTOR TO DESIGN AND SUBMIT PUMP SELECTION INFORMATION FOR APPROVAL BEFORE PURCHASING.

HEAT PUMP SCHEDULE																																				
MARK	LOCATION	AREA SERVED	MIN OA CFM	FAN				FILTER				COOLING CAPACITY								HEATING CAPACITY								UNIT SIZE		ELECTRIC		OPER WT (LBS)	MANUFACTURER MODEL NO.	REMARKS		
				CFM	ESP	DIA	HP	VOLT/PH/Hz	TYPE	EFF %	MBH	GPM	EWT	LWT	PD	EAT (°F, DB)	EAT (°F, WB)	LAT (°F, DB)	LAT (°F, WB)	EER	MBH	EAT	LAT	EWT	LWT	HEATER KW	MBH	COP	L	W	H				FLA	VOLT/PH/Hz
HVAC-1020	UNIT 1020	UNIT 1020	60	1200	1"	-	1/2"	208-230/1/60	2" MERV 8	50%	38.0	9.0	70	90	3.8	80	67	57	56	17.2	28.0	68	90	50	44	10	34.0	3.8	26.0	21.5	47.25	-	208-230/1/60	290	BOSCH CE0351VTCFLB	SEE NOTES
HVAC-1022	UNIT 1022	UNIT 1022	60	1200	1"	-	1/2"	208-230/1/60	2" MERV 8	50%	38.0	9.0	70	90	3.8	80	67	57	56	17.2	28.0	68	90	50	44	10	34.0	3.8	26.0	21.5	47.25	-	208-230/1/60	290	BOSCH CE0351VTCFLT	SEE NOTES
HVAC-1030	UNIT 1030	UNIT 1030	60	1200	1"	-	1/2"	208-230/1/60	2" MERV 8	50%	38.0	9.0	70	90	3.8	80	67	57	56	17.2	28.0	68	90	50	44	10	34.0	3.8	26.0	21.5	47.25	-	208-230/1/60	290	BOSCH CE0351VTCFLB	SEE NOTES
HVAC-1032	UNIT 1032	UNIT 1032	60	1200	1"	-	1/2"	208-230/1/60	2" MERV 8	50%	38.0	9.0	70	90	3.8	80	67	57	56	17.2	28.0	68	90	50	44	10	34.0	3.8	26.0	21.5	47.25	-	208-230/1/60	290	BOSCH CE0351VTCFLT	SEE NOTES
HVAC-1040	UNIT 1040	UNIT 1040	60	1200	1"	-	1/2"	208-230/1/60	2" MERV 8	50%	38.0	9.0	70	90	3.8	80	67	57	56	17.2	28.0	68	90	50	44	10	34.0	3.8	26.0	21.5	47.25	-	208-230/1/60	290	BOSCH CE0351VTCFLB	SEE NOTES
HVAC-1042	UNIT 1042	UNIT 1042	60	1200	1"	-	1/2"	208-230/1/60	2" MERV 8	50%	38.0	9.0	70	90	3.8	80	67	57	56	17.2	28.0	68	90	50	44	10	34.0	3.8	26.0	21.5	47.25	-	208-230/1/60	290	BOSCH CE0351VTCFLT	SEE NOTES

NOTES:
1. PROVIDE UNIT WITH INSULATED ENCLOSURE (CLOSED CELL FROM INSULATION), FRONT ACCESS, AIR AND WATER FREEZE PROTECTION, TRANSFORMER (75VA), SOFT START, SMOKE DETECTOR, SUPPLEMENTAL ELECTRIC HEATER, AND 10 YEAR WARRANTY ON PARTS AND LABOR.
2. CONTRACTOR TO SUBMIT EQUIPMENT SELECTION INFORMATION FOR APPROVAL BEFORE PURCHASING.

GENERAL NOTES:

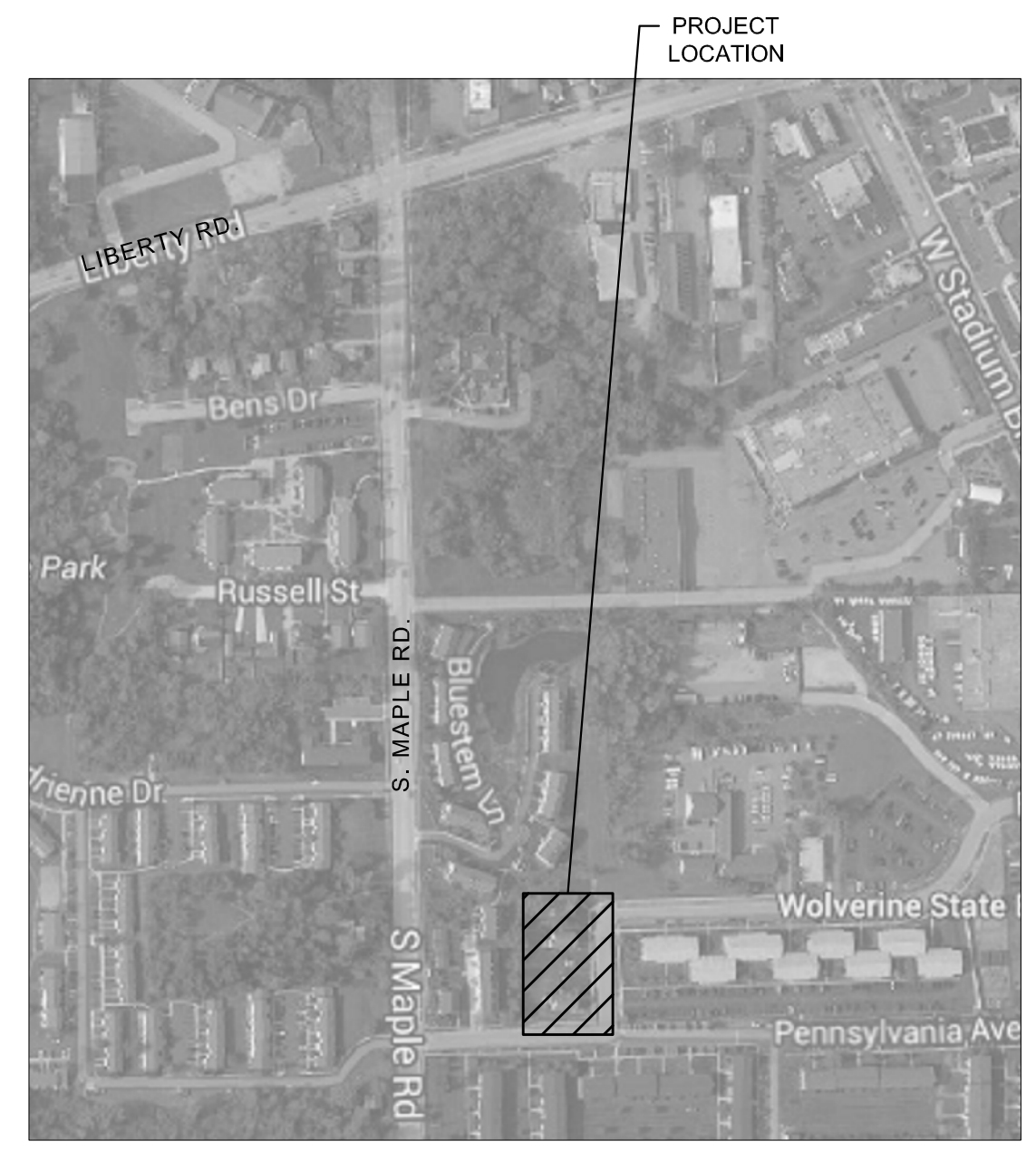
- SEE GENERAL NOTES ON TITLE SHEET.

KEY NOTES:

- PRIOR TO STARTING ANY SITE WORK, CONTRACTOR TO CONTACT "MISS DIG" AND VERIFY LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES AND PIPING.
- PRELIMINARY/PROPOSED BOREHOLE LOCATIONS. FINAL BOREHOLE LOCATIONS TO BE DETERMINED BY CONTRACTOR AND APPROVED BY OWNER ONCE LOCATIONS OF UNDERGROUND UTILITIES AND PIPING HAVE BEEN VERIFIED.
- PRELIMINARY ROUTING OF UNDERGROUND PIPING. CONTRACTOR TO VERIFY ROUTING BASED ON LOCATIONS OF UNDERGROUND UTILITIES. SEE SCHEMATIC ON DRAWING S2.0.
- INSTALL FLOW CENTER (ABOVE NEW RETURN DUCT) NEXT TO HEAT PUMP UNIT. CONTRACTOR TO ROUTE PIPING FROM CRAWL SPACE AND UP TO UNITS.
- INSTALL FLOW CENTER NEXT TO HEAT PUMP. CONTRACTOR TO PROVIDE SUPPORTS AS REQUIRED FOR MOUNTING.
- CONTRACTOR TO SEAL ALL WALL AND FLOOR PENETRATIONS TO MAINTAIN EXISTING FIRE RATING.
- PIPING SHALL BE ROUTED UNDERGROUND THROUGH FOUNDATION WALL AND INTO CRAWL SPACE. CONTRACTOR TO INSTALL SLEEVE IN FOUNDATION WALL PER DETAIL ON DRAWING S2.0.
- INSULATE ALL PIPING PER SPECIFICATIONS.
- EXISTING RECESSED ELECTRICAL PANEL (100A)
- CONTRACTOR TO PROVIDE AND INSTALL NEW THERMOSTAT (ECO-BEE) FOR HEAT PUMP.
- SPACE IS LIMITED SO NEW HEAT PUMP, ASSOCIATED DUCT WORK, AND EQUIPMENT MUST FIT IN EXISTING 28"W x 58"L MECHANICAL SPACE.
- CONTRACTOR TO REMOVE EXISTING BOARD INSULATION ON RETURN AIR PLENUM IN CRAWL SPACE. INSTALL METAL PANNING AND REINSULATE. (TYP FOR ALL FIRST FLOOR UNITS)
- REMOVE EXISTING RETURN AIR DUCT AND PATCH FLOOR. INSTALL RETURN AIR DUCT AS SHOWN (WITH FLEX CONNECTION). NEW ELBOW TO BE INSTALLED WITH TURNING VANES.
- REMOVE EXISTING RETURN AIR DUCT. INSTALL NEW RETURN AIR DUCT AS SHOWN (WITH FLEX CONNECTION). NEW RADIUS ELBOW OR TURNING VANES.

LEGEND:

- BOREHOLE (PRELIMINARY LOCATION)
- AIR FLOW
- ⊠ SUPPLY AIR DIFFUSER
- ⊞ RETURN AIR GRILLE
- ∅ DIAMETER
- XXX/XXX FIRST FLOOR/ SECOND FLOOR
- ⊡ ELECTRICAL PANEL (RECESSED)



SITE PLAN
SCALE: NONE

NORSTAR
Norstar
200 South Division Street
Buffalo, NY 14204
PH: (716)847-1098 FX: (716)847-1668
www.norstarus.com

Process Results
THE ART OF ENGINEERING

Process Results, Inc.
201 South Ann Arbor St.
Saline, MI 48176
PH: 734.429.8900 FX: 734.429.8901
www.processresults.com

CONTRACTOR SHALL VERIFY ALL INFORMATION IS ACCURATE. ALL INFORMATION IS PROVIDED AS IS. CONTRACTOR SHALL VERIFY ALL INFORMATION IS ACCURATE. ALL INFORMATION IS PROVIDED AS IS. CONTRACTOR SHALL VERIFY ALL INFORMATION IS ACCURATE. ALL INFORMATION IS PROVIDED AS IS.

B	ISSUED FOR BIDS	8/20/14
A	REVIEW	7/22/14
△	REVISION	DATE
PLOT DATE: 08/21/2014 9:37 AM		
DRAWN BY: DMP		
REVIEWED BY: DWN		
PROJECT MANAGER: DWN		
FILE:		

AAHC GEOTHERMAL
ANN ARBOR, MICHIGAN

HILLSIDE MANOR SITE PLAN

MECHANICAL
HILLSIDE MANOR
SITEPLAN

PROJ. NO.:
S1.0
SHEET NO.

B
REV