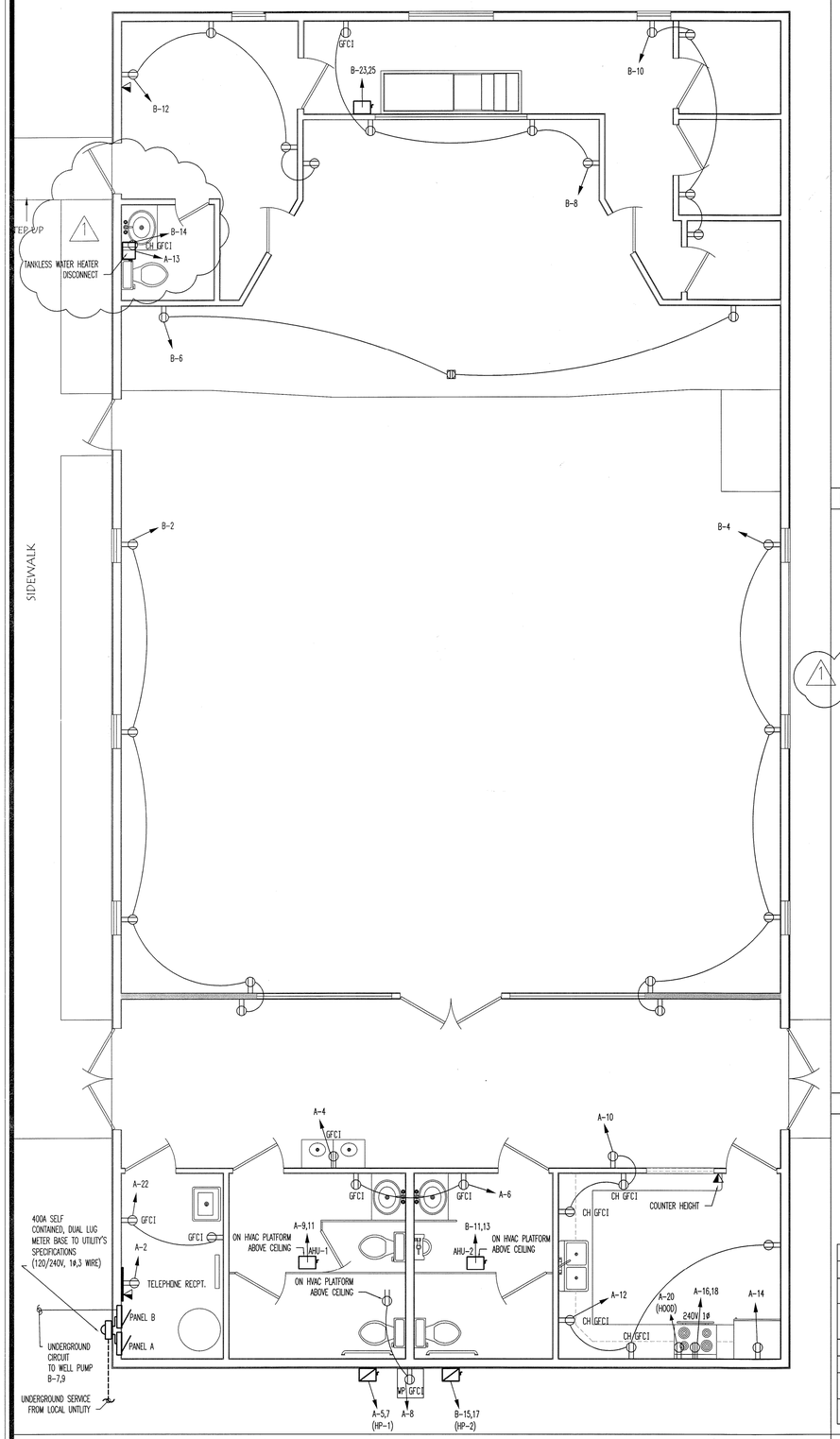
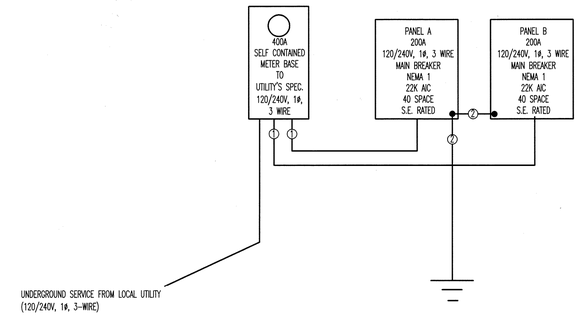
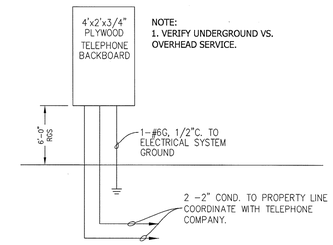


E2.0 ELECTRICAL POWER PLAN - SCALE: ¼" = 1'



CONDUCTOR SCHEDULE
① 2-3/0 CU., 1-3/0 CU NEU., 2" C.
② #4 GEC TO ALL AVAILABLE GROUNDING ELECTRODES PER NEC 250.52, #6 CU TO 10' X ¾" GRD. ROD

E2.5 ELECTRICAL POWER RISER - SCALE: NTS



E2.6 TELEPHONE BOARD DETAILS - SCALE: NTS

PANEL A									
			LOAD (kVA)		LOAD (kVA)				
CKT #	LOAD	BKR	A	B	B	A	BKR	LOAD	CKT #
1	LIGHTS-R. ROOMS, KITCHEN, FOYER	20 / 1P	0.92	--	--	0.18	20 / 1P	RECEPTACLES- PHONE	2
3	LIGHTS-EXTERIOR	20 / 1P	--	0.30	0.50	--	20 / 1P	RECEPTACLES- WATER COOLER	4
5	AHU-1	35 / 2P	4.20	--	--	0.36	20 / 1P	RECEPTACLES-R. ROOMS	6
7			--	4.20	0.36	--	20 / 1P	RECEPTACLES-HVAC	8
9	HP-1	60 / 2P	4.30	--	--	0.54	20 / 1P	RECEPTACLES-KITCHEN	10
11			--	4.30	0.54	--	20 / 1P	RECEPTACLES-KITCHEN	12
13	TANKLESS WATER HEATER	20 / 1P	3.4	--	--	1.10	20 / 1P	RECEPTACLES-REFRIGERATOR	14
15	SPARE	20 / 1P	--		6.20	--	40 / 2P	RANGE	16
17	SPARE	20 / 1P		--	--	6.20			18
19	SPARE	20 / 1P	--		0.30	--	20 / 1P	KITCHEN EXHAUST HOOD	20
21	SPACE			--	--		20 / 1P	SPARE	22
23	SPACE		--			--	20 / 1P	SPARE	24
25	SPACE			--	--		20 / 1P	SPARE	26
27	SPACE		--			--	20 / 1P	SPARE	28
29	SPACE			--	--			SPACE	30
31	SPACE		--			--		SPACE	32
33	SPACE			--	--			SPACE	34
35	SPACE		--			--		SPACE	36
37	SPACE			--	--			SPACE	38
39	SPACE		--			--		SPACE	40
SUBTOTALS (kVA)			11.82	8.80	7.90	8.38	SUBTOTALS (kVA)		
CONNECTED (kVA)			20.20	16.70					
CONNECTED (AMPS)			168	139					
VOLTAGE/PHASE			120/240V, 1ϕ, 3w						
MAINS RATING			200A						
MAIN BREAKER CIRCUIT RATING			200A						
AIC RATING			22K (VERIFY WITH ENGINEER)						
SERVICE ENTRANCE RATED			YES						
ENCLOSURE TYPE			NEMA 1						
MOUNTING TYPE			FLUSH						

E2.4 ELECTRICAL PANEL SCHEDULE

PANEL B									
			LOAD (kVA)		LOAD (kVA)				
CKT #	LOAD	BKR	A	B	B	A	BKR	LOAD	CKT #
1	LIGHTS-SANCTUARY	20 / 1P	1.59	--	--	0.18	20 / 1P	RECEPTACLES-SANCTUARY	2
3	LIGHTS - PULPIT AREA	20 / 1P	--	0.88	0.50	--	20 / 1P	RECEPTACLES-SANCTUARY	4
5	LIGHTS-OFFICE, BAPTISTERY, D. ROOMS	20 / 1P	0.65	--	--	0.36	20 / 1P	RECEPTACLES-PULPIT	6
7	WELL PUMP	25 / 2P	--	1.44	0.36	--	20 / 1P	RECEPTACLES-CHOIR	8
9			1.44	--	--	0.54	20 / 1P	RECEPTACLES-DRESSING ROOMS	10
11	AHU-2	35 / 2P	--	4.20	0.54	--	20 / 1P	RECEPTACLES-OFFICE	12
13			4.20	--	--	1.10	20 / 1P	RECEPTACLES-PASTOR'S RESTROOM	14
15	HP-2	60 / 2P	--	4.30		--	20 / 1P	SPARE	16
17			4.30	--	--		20 / 1P	SPARE	18
19	WATER HEATER (WITH HANDLE PADLOCK ATTACHMENT)	30 / 2P	--	2.25		--	20 / 1P	SPARE	20
21			2.25	--	--		20 / 1P	SPARE	22
23	BAPTISTERY HEATER/PUMP	30 / 2P	--	3.00		--	20 / 1P	SPARE	24
25			3.00	--	--		20 / 1P	SPARE	26
27	SPACE		--			--		SPACE	28
29	SPACE			--	--			SPACE	30
31	SPACE		--			--		SPACE	32
33	SPACE			--	--			SPACE	34
35	SPACE		--			--		SPACE	36
37	SPACE			--	--			SPACE	38
39	SPACE		--			--		SPACE	40
SUBTOTALS (kVA)			17.43	16.07	1.40	2.18	SUBTOTALS (kVA)		
CONNECTED (kVA)			19.61	17.47					
CONNECTED (AMPS)			163	146					
VOLTAGE/PHASE			120/240V, 1ϕ, 3w						
MAINS RATING			200A						
MAIN BREAKER CIRCUIT RATING			200A						
AIC RATING			22K (VERIFY WITH ENGINEER)						
SERVICE ENTRANCE RATED			YES						
ENCLOSURE TYPE			NEMA 1						
MOUNTING TYPE			FLUSH						

POWER DEVICE LEGEND		
SYMBOL	DESCRIPTION	REMARKS
▶	DATA AND TELEPHONE JACK	TELEPHONE OUTLET - 1 DUAL RJ45 OUTLET FOR VOICE AND DATA. EC TO INSTALL 3/4"C FROM OUTLET BOX TO ABOVE CEILING FOR FUTURE USE. COMMUNICATION WIRING BY OTHERS.
	DUPLEX RECEPTACLE	NEMA 5-20R, HEAVY DUTY, COMMERCIAL GRADE, 125V, 20A COMPLYING WITH NEMA WD 6 AND WD 1. GFCI OR AFCI IF NOTED. 'WP' DENOTES WEATHERPROOF COVER. 'CH' DENOTES COUNTER HEIGHT. LISTED TAMPERPROOF IF NOTED.
	QUAD RECEPTACLE	QUAD RECEPTACLE OF SAME CHARACTERISTICS AS DUPLEX TYPE ABOVE
	DUPLEX FLOOR RECEPTACLE	DUPLEX RECEPTACLE OF SAME CHARACTERISTICS AS ABOVE WITH BRASS COVER. MOUNT IN FLOOR.
	FUSIBLE DISCONNECT SWITCH	HEAVY DUTY TYPE. TYPE 1 ENCLOSURE IN INTERIOR APPLICATIONS, TYPE 3R ENCLOSURE IN EXTERIOR APPLICATIONS, FUSE ACCORDING TO NAMEPLATE DATA.
	DISCONNECT SWITCH	HEAVY DUTY TYPE. TYPE 1 ENCLOSURE IN INTERIOR APPLICATIONS, TYPE 3R ENCLOSURE IN EXTERIOR APPLICATIONS

E2.1 POWER DEVICE LEGEND

EQUIPMENT CONNECTION SCHEDULE												
SYMBOL	DESCRIPTION	FURN. BY	kVA	HP	VOLT/PH	MCA	MOCP	DISC	AWG	EGC	COND	NOTES
AHU-1&2	AIR HANDLER UNIT(S)	MC			240 / 1ϕ	35.0	35.0	60	#8	#10	¾"	
HP-1&2	HEAT PUMP	MC			240 / 1ϕ	36.0	60.0	60	#6	#10	1"	
P7	BAPTISTERY HEATER	PC			240 / 1ϕ	25.0	30.0	30	#10	#10	¾"	
SEE SITE PLAN	WELL PUMP	PC		2	240 / 1ϕ	12.0	25.0	30	#10	#10	¾"	

E2.2 EQUIPMENT CONNECTION SCHEDULE

NEC ELECTRIC DEMAND SUMMARY 120/240V, 1ϕ, 3w				
EQUIPMENT	DEMAND FACTOR	kVA		LOAD kVA
		A	B	
LIGHTING 1	125%	2.00	2.00	4.00
RECEPTACLES 3	<10KVA @ 100%	3.24	3.24	6.48
	>10 KVA @ 50%			
HVAC 2	100%	17.00	17.00	34.00
WATER HEATER	100%	2.25	2.25	4.50
BAPTISTERY HEATER	100%	2.50	2.50	5.00
RANGE	100%	6.25	6.25	12.50
REFRIGERATOR	100%	1.10		1.10
WATER COOLER	100%		0.50	0.50
WELL PUMP	100%	1.44	1.44	2.88
TANKLESS WATER HEATER	100%	2.40		2.40
DEMAND kVA PER PHASE		34.34	33.24	
DEMAND AMPS PER PHASE		286	277	

1. 3,000 SF X 1 VA/SF X 1.25 PER NEC 220.12. THIS EXCEEDS THE CONNECTED LIGHTING LOAD.
2. ALL HVAC EQUIPMENT IS BASED ON MCA.
3. PER NEC 220.44

E2.3 NEC ELECTRICAL LOAD SUMMARY

Michael W. Kilian PE

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Plumbing ▪ Mechanical
Electrical ▪ Fire Alarm

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3-16-15
PROFESSIONAL ENGINEER
SEAL

ST. JOHN POWERHOUSE APOSTOLIC FAITH CHURCH

9715 WESTERN MILL ROAD
LAWRENCEVILLE, VIRGINIA

REVISIONS:

NO	DATE	DESCRIPTION
1	3-16-2011	PER OWNER

ISSUED:

NO	DATE	DESCRIPTION
1	3-3-2011	ISSUED FOR PERMITTING

DRAWN BY:
CHECKED BY: MWK

POWER PLAN

SHEET NO.
E2

PROJECT NO: 11023