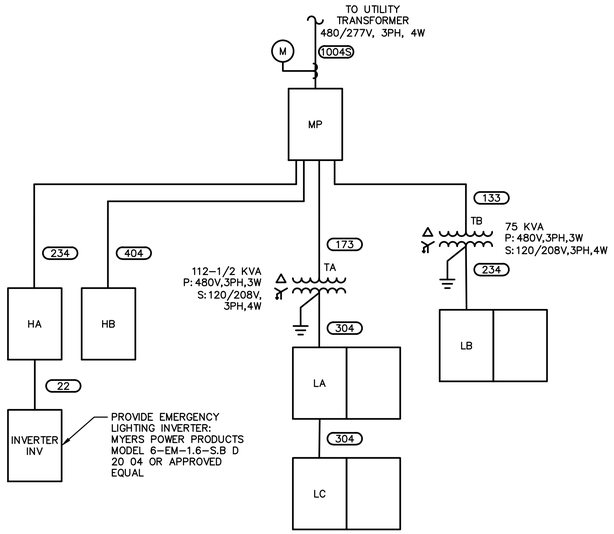
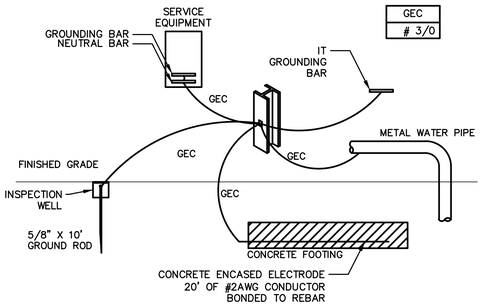


ONE-LINE DIAGRAM | 1
SCALE: NO SCALE | E4.1



NOTES:
1 DIAGRAM ABOVE SHOWS BUILDING STEEL AS THE MAIN GROUNDING ELECTRODE POINT OF CONNECTION. CONTRACTOR HAS THE OPTION TO SELECT THE GROUNDING ROD OR CONCRETE-ENCASED CONDUCTOR AS THE MAIN GROUNDING ELECTRODE, BONDING ALL OTHER SYSTEMS TO IT. THE METAL WATER PIPE SHOULD NOT BE USED AS THE MAIN GROUNDING ELECTRODE POINT OF CONNECTION.

GROUNDING SCHEMATIC | 2
SCALE: NO SCALE | E4.1

NEW ELECTRICAL SERVICE

THIS PROJECT REQUIRES THE INSTALLATION OF NEW ELECTRICAL SERVICE. CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL UTILITY AND PROVIDE SERVICE CONDUCTORS AS SHOWN IN THESE DOCUMENTS TO POINT OF SERVICE BY UTILITY.

CONDUCTORS SIZES SHOWN ARE FOR THHW/THHN COPPER CONDUCTORS. CONTRACTOR HAS THE OPTION OF PROVIDING ALUMINUM CONDUCTORS FOR SERVICE LATERAL. UPSIZE CONDUCTORS AND RACEWAYS ACCORDING TO NEC OR UTILITY COMPANY REQUIREMENTS.

FEEDER SCHEDULE

IMPORTANT: FEEDERS ARE CALCULATED USING 60 DEGREE INSULATION FOR SIZES UP TO #1 AND 75 DEGREE INSULATION FOR SIZES LARGER THAN #1. NOT ALL FEEDERS ARE USED.

ID	DESCRIPTION	ID	DESCRIPTION	ID	DESCRIPTION	ID	DESCRIPTION	ID	DESCRIPTION	ID	DESCRIPTION
22	2#12,#12G,3/4"C	63	3#4,#10G,1"C	104	4#1,#8G,1-1/2"C	234S	4#4/0,2-1/2"C	404S	4#600,3-1/2"C	1204	3(4#600,#3/0G,3-1/2"C)
23	3#12,#12G,3/4"C	64	4#4,#10G,1-1/4"C	113	3#1,#6G,1-1/4"C	234G	4#4/0,#4G,#4IG,2-1/2"C	603	2(3#350,#2G,2-1/2"C)	1204S	3(4#600,3-1/2"C)
24	4#12,#12G,3/4"C	72	2#4,#8G,3/4"C	114	4#1,#6G,1-1/2"C	253	3#250,#4G,2"C	603S	2(3#350,2-1/2"C)	1603	4(3#600,#4/0G,3-1/2"C)
32	2#10,#10G,3/4"C	73	3#4,#8G,1"C	133	3#1/0,#6G,2"C	254	4#250,#4G,2-1/2"C	604	2(4#350,#2G,3"C)	1604	4(4#600,#4/0G,3-1/2"C)
33	3#10,#10G,3/4"C	74	4#4,#8G,1-1/4"C	134	4#1/0,#6G,2"C	303	3#350,#4G,2-1/2"C	604S	2(4#350,3"C)	1604S	4(4#600,3-1/2"C)
34	4#10,#10G,3/4"C	82	2#2,#8G,1"C	153	3#1/0,#6G,1-1/2"C	303S	3#350,2-1/2"C	803	3(3#300,#1/0G,2-1/2"C)	2003	5(3#600,#250G,3-1/2"C)
42	2#8,#10G,3/4"C	83	3#2,#8G,1-1/4"C	154	4#1/0,#6G,2"C	304	4#350,#4G,3"C	803S	3(3#300,2-1/2"C)	2004	5(4#600,#250G,3-1/2"C)
43	3#8,#10G,3/4"C	84	4#2,#8G,1-1/4"C	173	3#2/0,#6G,1-1/2"C	353	3#500,#2G,3"C	804	3(4#300,#1/0G,3"C)	2004S	5(4#600,3-1/2"C)
44	4#8,#10G,3/4"C	92	2#2,#8G,1"C	174	4#2/0,#6G,2"C	353S	3#500,3"C	804S	3(4#300,3"C)	2503	6(3#600,#350G,3-1/2"C)
52	2#6,#10G,3/4"C	93	3#2,#8G,1-1/4"C	203	3#3/0,#6G,2"C	354	4#500,#2G,3-1/2"C	1003	3(3#400,#2/0G,3"C)	2504	6(4#600,#350G,4"C)
53	3#6,#10G,3/4"C	94	4#2,#8G,1-1/4"C	204	4#3/0,#6G,2"C	403	3#600,#2G,3"C	1004	3(4#400,#2/0G,3"C)	2504S	6(4#600,4"C)
54	4#6,#10G,1"C	102	2#1,#8G,1-1/4"C	233	3#4/0,#4G,2"C	403S	3#600,3"C	1004S	3(4#400,3"C)	TVSS	USE MFR INSTRUCTIONS.
62	2#4,#10G,3/4"C	103	3#1,#8G,1-1/4"C	234	4#4/0,#4G,2-1/2"C	404	4#600,#2G,3-1/2"C	1203	3(3#600,#3/0G,3-1/2"C)		

MDP

ROOM **ELECTRICAL ROOM** | VOLTS **480Y/277V 3P 4W** | AIC **65,000**
MOUNTING **FLOOR** | BUS AMPS **1000** | MAIN BKR **1000**
FED FROM **UTILITY** | NEUTRAL **100%** | LUGS **STANDARD**
NOTE **PROVIDE GROUND FAULT INTERRUPT**

CKT #	CIRCUIT DESCRIPTION	KVA LOAD A	KVA LOAD B	KVA LOAD C	BREAKER TRIP/POLES	FEEDER RACEWAY AND CONDUCTORS
1	PANEL HA	15.5	13.4	12.5	225/3	2-1/2"C,3#4/0,#4/0N,#4G
2	PANEL HB	37.7	37.7	37.7	400/3	3-1/2"C,3#600kcmil,#600kcmil N,#2G
3	XFMR TA	35.0	34.2	30.2	175/3	2"C,3#2/0,#2/0N,#6G
4	XFMR TB	16.8	21.1	20.0	175/3	2"C,3#2/0,#2/0N,#6G
5	MAU-1	41.6	41.6	41.6	200/3	2"C,3#3/0,#6G
6	MAU-2	24.4	24.4	24.4	110/3	1-1/4"C,3#1,#6G
7	MAU-3	24.4	24.4	24.4	110/3	1-1/4"C,3#1,#6G
8	MAU-4	24.4	24.4	24.4	110/3	1-1/4"C,3#1,#6G
9	EAHU-1	9.4	9.4	9.4	50/3	3/4"C,3#6,#10G
10	EAHU-2	7.5	7.5	7.5	50/3	3/4"C,3#6,#10G
11	EAHU-3	7.5	7.5	7.5	50/3	3/4"C,3#6,#10G
12	EAHU-4	7.5	7.5	7.5	50/3	3/4"C,3#6,#10G
13	SPARE	0.0	0.0	0.0	20/3	
14	SPARE	0.0	0.0	0.0	20/3	
15	SPARE	0.0	0.0	0.0	20/3	
16	SPARE	0.0	0.0	0.0	20/3	
17	SPARE	0.0	0.0	0.0	20/3	
18	SPARE	0.0	0.0	0.0	20/3	
19	SPARE	0.0	0.0	0.0	20/3	
20	SPARE	0.0	0.0	0.0	20/3	
	TOTAL CONNECTED KVA BY PHASE	251.6	253.0	246.9		

	CONN. KVA	CALC. KVA			CONN. KVA	CALC. KVA	
LIGHTING	31.4	39.2	(125%)	CONTINUOUS	2.6	3.3	(125%)
LARGEST MOTOR	124.7	155.9	(125%)	HEATING	3.0	0.0	(100%)
OTHER MOTORS	332.6	332.6	(100%)	NONCONTINUOUS	64.9	64.9	(100%)
RECEPTACLES	47.4	28.7	(50%>10)	KITCHEN EQUIP	11.4	7.4	(65%)
				NONCOIN/DIVERSE	0.0	0.0	(N/A)
				TOTAL KVA	751.5	765.5	

BALANCED THREE PHASE AMPS **920.7**

INV

ROOM | VOLTS **277V 1P 2W** | AIC **42,000**
MOUNTING **SURFACE** | BUS AMPS **20** | MAIN BKR **MLO**
FED FROM **HA** | NEUTRAL **100%** | LUGS **STANDARD**
NOTE

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/1	0.7	LIGHTING	o	2	20/1	0.1	LIGHTING
3	20/1	0.0	SPARE	o	4	20/1	0.0	SPARE

	CONN. KVA	CALC. KVA			CONN. KVA	CALC. KVA	
LIGHTING	0.7	0.9	(125%)	CONTINUOUS	0.0	0.0	(125%)
LARGEST MOTOR	0.0	0.0	(125%)	HEATING	0.0	0.0	(100%)
OTHER MOTORS	0.0	0.0	(100%)	NONCONTINUOUS	0.0	0.0	(100%)
RECEPTACLES	0.0	0.0	(50%>10)	KITCHEN EQUIP	0.0	0.0	(N/A)
				NONCOIN/DIVERSE	0.0	0.0	(N/A)
				TOTAL KVA	0.7	0.9	

PHASE AMPS **3.3**

PRELIMINARY
NOT FOR CONSTRUCTION

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Revision Schedule		
Rev. #	Revision Description	Revision Date

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TEXAS GUN EXPERIENCE

GRAPEVINE, TEXAS

2016-028-00
DECEMBER 1 2017

ONE-LINE DIAGRAM

E4.1