				PAN	IEL S	CHED	ULE						
PANEL: P1 (NEW))	VC)LTS: 12	TS: 120 / 240 V				PHASE: 1					
AMPERE: 200 WIRE: 3					AIC RATING: 10,000				ENCLOSURE TYPE: NEMA				
LOCATION: INDOOR OUTDOOR DRY WET					MAINS: BREAKER LUGS ONLY				MOUNTING: SURFACE FLUSH				
NEUTRAL BUS	GROUND BUS			□ INS	OLATED	GROUND E	BUS		NEUTRAL E	TRAL BUS GROUND BONDING			
BRANCH CIRCUIT DESCRIPTION	WIRE SIZE	POLE BKR	CKT NO.	ф -)A	φ	B →	CKT NO.	POLE BKR	WIRE BRANCH CIRCUIT SIZE DESCRIPTION			
SHOP LIGHTS	12	1/20A	1	0.80	0.80			2	1/20A	12	GARAGE LIGHTS		
SHOP RECEPTS	12	1/20A	3			0.80	0.80	4	1/30A	10	GARAGE RECEPTS		
240 RECEPT	12	2/30A	5 7	7.20	7.22	7.22	7.22	6 8	2/30A	12	240 RECEPT		
WATER HEATER	12	1/20A	9	1.44	0.80			10	1/20A	12	FURNACE		
SPARE			11				////////	12			SPARE		
SPARE			13		<i>*///////</i>			14			SPARE		
SPARE			15			<i>X / / / / / / /</i>		16			SPARE		
SPARE			17		X//////			18			SPARE		
SPARE			19				Y / / / / / /	20			SPARE		
SPARE			21	Y				22			SPARE		
SPARE			23				/////////	24			SPARE		
TOTAL KVA / φ: 18.26		16.04					1						
	CONNECTED KVA:		34	.30									
DI		DEMAND FACTOR:		0.80		I =A		A					
DEMAND LOAD: 27.44													

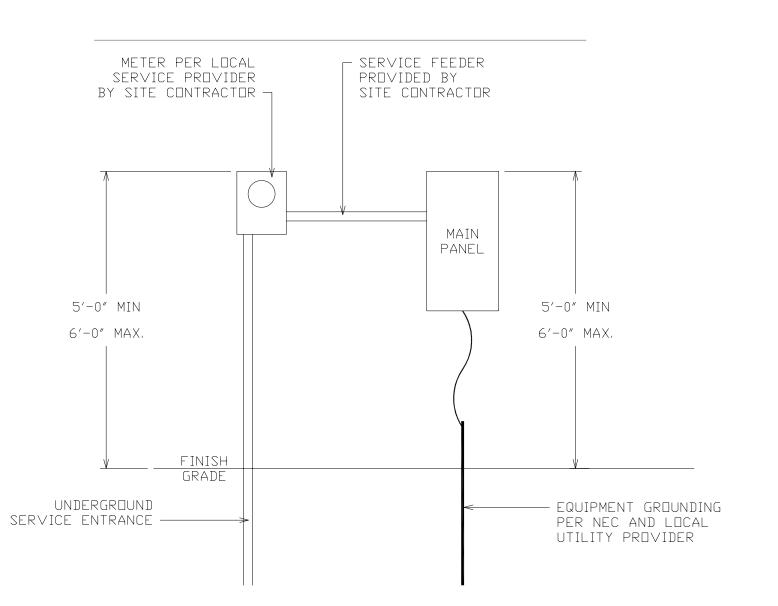
LIGHT FIXTURE SCHEDULE									
FIXTURE MOUNTING		DESCRIPTION	MANUFACTURER	CATALOG NUMBER					
WALL	CEILING								
	•	LED LOW-BOY 6K LUMES 2700-3200 KELVIN	ACCULITE	SH1-A06-4K-E12-5L					
В		8-FT FLORESCENT STRIP, ELECTRONIC BALLAST	LITHONIA	C1 96T8 MVOLT GEB10IS					
C •		4-FT FLORESCENT STRIP, ELECTRONIC BALLAST	LITHONIA	C1 32 MVOLT GEB10IS					
D •		175 W WALL PAK W/CUTOFF	LITHONIA	TWR1C 175M 120/347 LPICSA					
	•	8" INCANDESCENT DOWNLIGHTING	LITHONIA	LP8N-8LF73					
		EMERGENCY LIGHT W/ OUTDOOR REMOTE	DUAL LITE	LM16D					
G		EXIT LIGHT	DUAL LITE	LN4XRWE					
	WALL	WALL CEILING	MOUNTING WALL CEILING • LED LOW-BOY 6K LUMES 2700-3200 KELVIN • 8-FT FLORESCENT STRIP, ELECTRONIC BALLAST • 4-FT FLORESCENT STRIP, ELECTRONIC BALLAST • 175 W WALL PAK W/CUTOFF • 8" INCANDESCENT DOWNLIGHTING • EMERGENCY LIGHT W/ OUTDOOR REMOTE	MOUNTING WALL CEILING LED LOW-BOY 6K LUMES 2700-3200 KELVIN 8-FT FLORESCENT STRIP, ELECTRONIC BALLAST LITHONIA 4-FT FLORESCENT STRIP, ELECTRONIC BALLAST LITHONIA 175 W WALL PAK W/CUTOFF LITHONIA 8" INCANDESCENT DOWNLIGHTING LITHONIA EMERGENCY LIGHT W/ DUTDOOR REMOTE DUAL LITE					

1. ITEMS MAYBE SUBSTITUTED AS DIRECTED BY THE OWNER OR WITH OWNERS APPROVAL

LEGEND							
SYMBOL	DESCRIPTION						
-	EXIT / LIGHT W/ BATTERY						
	EMERGENCY LIGHT W/ BATTERY						
\rightarrow	DUPLEX GROUNDED RECEPTACLE						
-	240v RECEPTACLE						
V	OHD OPERATOR W/ DUPLEX GROUNDED RECEPTACLE						
\$	LIGHT SWITCH, TOGGLE TYPE, SINGLE POLE, 20 AMP, 120v						
├ ───	LIGHT FIXTURE/CEILING MOUNT						
• • • • • • • • • • • • • • • • • • •	LED LOW-BAY 7K-10K LUMES 2700-3200 KELVIN						
	EXHAUST FAN 80 CFM						
	EXTERIOR LIGHT FIXTURE						
$- \bigvee -$	175 W WALL PAK W/ CUT-OFF						
	CONDUIT RUN 2#12 & 1#12 GRD ½" C.						
J	JUNCTION BOX						
	ELECTRICAL PANEL BOARD						
M	ELECTRICAL METER						
T	THERMOSTAT						
WH	WATER HEATER						
WP	WEATHER PROOF						
WPC	WEATHER PROOF ENCLOSURE						
GFI	GROUND FAULT CURRENT INTERUPTER						
×	HOMERUN / CIRCUIT #						

GENERAL NOTES AND SPECIFICATIONS

- 1. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE 2011 NATIONAL ELECTRICAL CODE (NEC), LATEST EDITION, RULES AND REGULATIONS OF THE DEPARTMENT OF PUBLIC WORKS.
- 2. ALL EQUIPMENT AND MATERIALS SHALL BE UL LISTED WHERE LISTING IS AVAILABLE FOR THAT TYPE OF EQUIPMENT OR CONFORM TO ANSI OR NEMA STANDARDS.
- 3. WORKMANSHIP SHALL CONFORM TO CONSTRUCTION PRACTICES RECOMMENDED BY THE AMERICANS HANDBOOK BY CROFT (LATEST EDITION) AND SHALL BE SUBJECT TO THE APPROVAL OF THE AGENCY WHO HAS JURISDICTION.
- 4. ANY DEVICE MAY BE RELOCATED FROM THE LOCATION SHOWN ON THE DRAWINGS PRIOR TO INSTALLATION AT THE DIRECTION OF THE OWNER AND AT NO ADDITIONAL COST TO THE OWNER.
- 5. METALLIC ENCLOSURES, RACEWAYS, AND ELECTRICAL EQUIPMENT SHALL BE GROUNDED IN ACCORDANCE WITH REQUIREMENTS OF NEC. PROVIDE GROUND WIRE IN EVERY RACEWAY. SIZE IN ACCORDANCE WITH NEC.
- 6. CONDUIT SHALL BE PVC (ENCASED IN CONCRETE AND BELOW GRADE), ALUMINUM (EXPOSED INSTALLATION), EMT (DRY LOCATIONS) CONCEALED ABOVE GRADE, 3/4" DIAMETER UNLESS OTHERWISE
- 7. WIRING SHALL BE TYPE THWN OR XHHW, 600V. CONDUCTORS SHALL BE COPPER.
- 8. TESTING SHALL BE PER 2011 NEC.
- A. MEASUREMENT OF VOLTAGES AT SERVICE EQUIPMENT. B. OPERATION TEST
- C. INSULATION RESISTANCE
- D. GROUNDING TEST
- 9. PANEL BOARD SHALL BE COMPLETE WITH BUS, ENCLOSURE AND TRIM, COMPLEMENT OF MOLDED PLASTIC CASE CIRCUIT BREAKERS WITH RATINGS AS INDICATED, AND COMPLETED TYPE WRITTEN CIRCUIT DIRECTORY.
- 10. SUBSTITUTE MATERIALS TO BE EQUAL QUALITY TO SPECIFIED ITEM.
- 11. GUARANTEE THE ENTIRE INSTALLATION SHALL BE GUARANTEED FOR ONE YEAR AFTER ACCEPTANCE BY THE OWNER AGAINST DEFECTIVE MATERIALS AND WORKMANSHIP, WHEN NOTIFIED BY THE OWNER OF FAILURE OF ANY PART OF THE INSTALLATION DURING THE GUARANTEE PERIOD. CONTRACTOR SHALL REPAIR OR REPLACE THE DEFECTIVE PART AT HIS OWN EXPENSES TO THE SATISFACTION OF THE OWNER.
- 12. INSTALLATION AND WORKMANSHIP, A. ALL WORK SHALL BE NEATLY EXECUTED, WORKMANLIKE IN APPEARANCE SYMMETRICAL, PLUMB, UNIFORM, PROPERLY ALIGNED AND SECURED IN PLACE.
- B. WIRING METHODS,
- (1) USE SEALTITE FLEX FOR CONNECTION TO EQUIPMENT.
- (2) ATTACH TO CONCRETE AND MASONRY WITH EXPANSION ANCHORS AND TO WOOD WITH WOOD SCREWS.
- (3) SUPPORT RACEWAYS PER NEC.
- (4) DO NOT SUPPORT RACEWAYS AND BOXES FROM AND ON MECHANICAL SYSTEMS.
- (5) CABLES WILL NOT BE PERMITTED. C. CONDUCTORS,
- (1) MAKE SPLICES IN ACCESSIBLE LOCATIONS, MAKE SPLICES IN CONDUCTORS No. 10 AWG AND SMALLER DIAMETER WITH INSULATED, PRESSURE-TYPE CONNECTOR MAKE SPLICES IN CONDUCTORS No. 8 AWG AND LARGER DIAMETER WITH SOLDERLESS CONNECTOR, AND COVER WITH INSULATION MATERIAL EQUIVALENT TO CONDUCTOR INSTALLATION.
- D. CUT, DRILL AND PATCH AS REQUIRED. REPAIR ANY SURFACES DAMAGED OR MARRED. CUTTING,
- REPAIRS AND REFINISHING SHALL BE SUBJECT TO THE APPROVAL OF OWNER. E. CLEAN ALL SURFACES TO RECEIVE PAINT. PAINT ANY SURFACE DAMAGED DURING INSTALLATION.
- F. REPAIR ALL SURFACES DAMAGED DURING THE INSTALLATION OF THE WORK SUBJECT TO THE APPROVAL OF THE OWNER.
- G. ALL PENETRATIONS THROUGH FIRE RATED WALLS AND FLOOR / CEILING ASSEMBLIES SHALL BE SEALED WITH APPROVED FIRESTOPPING MATERIAL.
- H. PROVIDE EXPANSION/DEFLECTION FITTING FOR CONDUITS THROUGH SEISMIC JOINTS.
- I. PROVIDE CONDUIT SEAL FOR CONDUITS PASSING THROUGH AIR CONDITIONED AND NON-AIR CONDITIONED AREAS.
- 15. WIRING DEVICES,
- A. SWITCHES, 20A-POLES AS INDICATED 120 / 240 V, COLOR TO MATCH DEVICE PLATE.
- B. RECEPTACLES, 20A, 120V. COLOR TO MATCH DEVICE PLATE.
- 16. FIXTURES INSTALL FIXTURES INDICATED IN LUMINAIRE SCHEDULE COMPLETE WITH LAMPS, HANGERS, SUPPORTS, BALLAST AND ACCESSORIES. ALL FLUORESCENT BALLAST SHALL BE ELECTRONIC TYPE.
- 17. DEVICE PLATES PLASTIC COLOR TO MATCH DEVICE.
- 18. OUTLETS PROVIDE OUTLET BOXES TO SUIT CONDITIONS ENCOUNTERED. BOXES SIZED TO ACCOMMODATE CONDUCTORS PER NEC. MINIMUM SIZE OF BOX FOR USE WITH RACEWAY SYSTEMS TO BE 4" SQUARE BY $1\frac{1}{2}$ " DEEP.
- 19. CIRCUIT BREAKERS AND SAFETY SWITCHES GENERAL ELECTRIC, SQUARE D, ITE, WESTINGHOUSE OR CUTLER HAMMER CHALLENGER SAFETY SWITCH - HEAVY DUTY TYPE.





RONALD McMANAMAN 618 S. HARDY AVENUE INDEPENDENCE, MO. 6403





BEV & BOB MORGAN 800 MORGAN AVE LAWRENCE, KANSAS

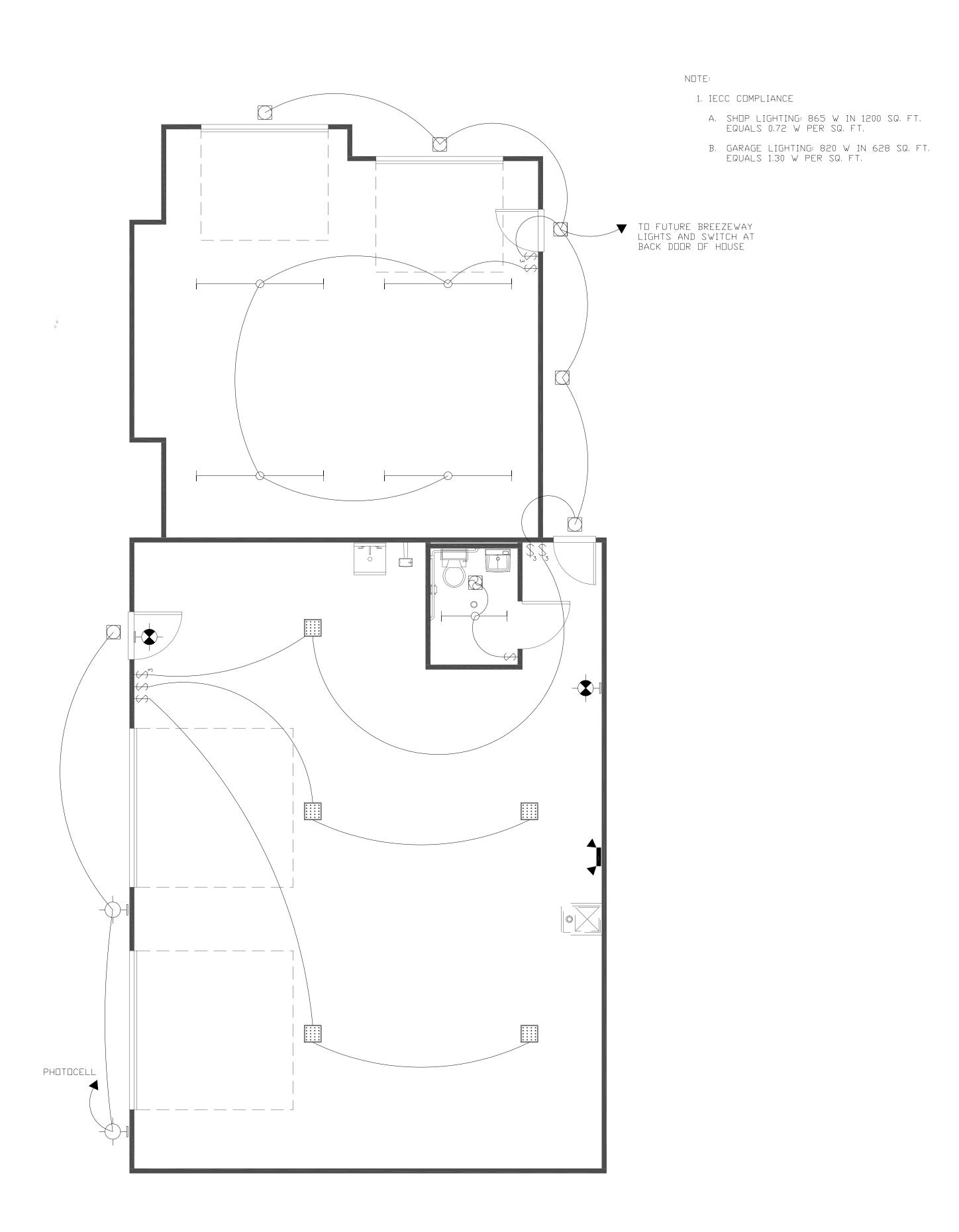
OWNER

PROJECT NO: 2016.004 CAD DWG FILE: 16.004 PLAN SET.DWG DRAWN BY: K.H. GIRARDIN CHK'D BY: R. McMANAMAN COPYRIGHT:

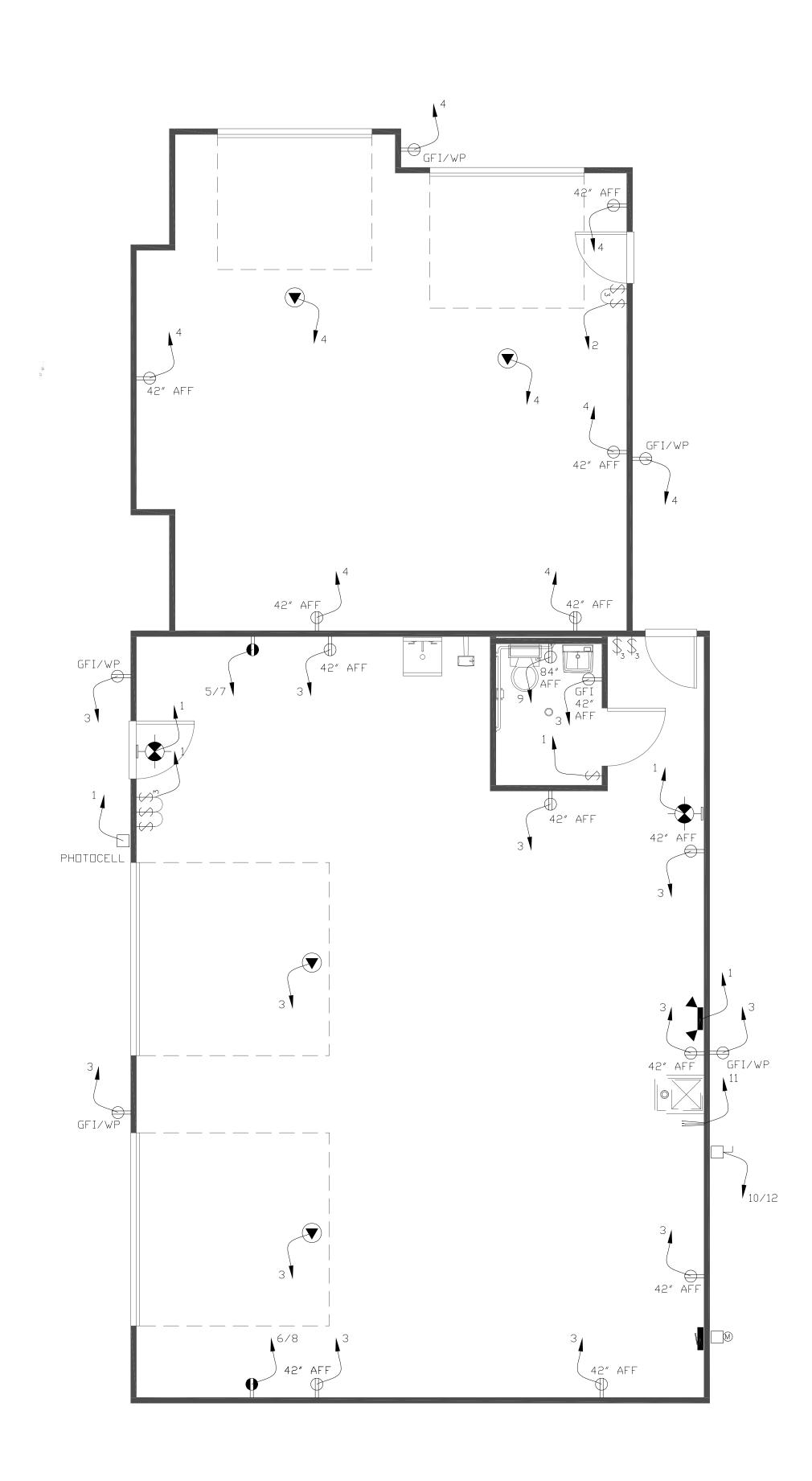
SHEET 1 OF 4

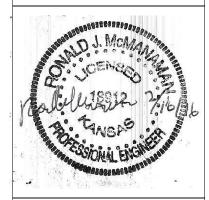
NOTES

SHEET TITLE



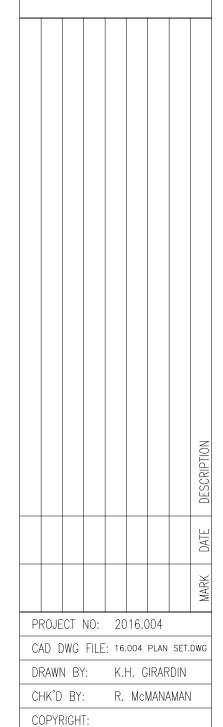
LIGHTING PLAN
Scale: 1/4" = 1'-0"







BEV & BOB MORGAN 800 MORGAN AVE LAWRENCE, KANSAS



POWER PLAN
Scale: 1/4" = 1'-0"

E-101

ELECTRICAL

PLAN

SHEET 2 OF 4

SHEET TITLE

PLUMBING FIXTURE SCHEDULE										
PLAN	CIVILIDE MODEL		PLUMBING FIXTURE PIPE SIZE							
MARK	FIXTURE MODEL	FIXTURE DESCRIPTION	FIXTURE DESCRIPTION FITTINGS AND DESCRIPTION REMARK		WASTE	VENT	CW	HW		
L-1	AMERICAN STANDARD COMRADE 0124.024	WHITE 19" VIREOUS CHINA 1 HOLE LAV. WITH FAUCET HOLES ON 4" CENTERS, OR ACCEPTALBLE EQUIVALANT, MOUNTING HEIGHT 34" AFF	4" CENTERSET FAUCET WITH 4", VANDAL-RESISTANT METAL LEVER HANDLE, ½" CONNECTIONS, AND GRID DRAIN WITHOUT POP-UP HOLE. 2.0 GPM SPRAY	1,2,3,4	11/4"	11/4"	1/2"	1/2"		
WC-1	AMERICAN STANDARD CADET 2476.016	ADA COMPLIANT, 1.6 GALLON, FLUSH TANK WATER CLOSET, PRESSURE-ASSISTED SIPHON JET. WHITE VITREOUS CHINA ELONGATED BOWL AND TANK, 16½" HIGH. TWO PIECE, 12" ROUGH-IN. FURNISHED WITH POLISHED CHROME FLUSH ACTUATOR.	WHITE, SOLID PLASTIC, OPEN-FRONT SEAT FOR ELONGATED BOWL, INTEGRAL BUMPERS, EXTERNAL CHECK HINGES WITH STAINLESS STEEL POST		3"	2″	1/2"			
S-1	FLORESTONE MODEL WM	UTILITY SINK, 1 HOLE SINK, WITH FAUCET HOLES ON 4" CENTERS, OR ACCEPTALBLE EQUIVALANT, MOUNTING HEIGHT 34" AFF			1½″	1½″	½"	1/2"		
DF−1	HALSEYTAYLER 2501A	DRINKING FOUNTAIN, 10" W x 6" D X 3" H SATIN FINISH STAINLESS STEEL BASIN W/PUSHBUTTON BUBBLER.			1½″	1½″	½″			

REMARKS:

1. PROVIDE CHROMĒ-PLATED BRASS TAILPIECE AND GRID DRAIN.

2. PROVIDE CHROME-PLATED BRASS P-TRAP. 3. PROVIDE LOOSE KEY STOP AND FLEXIBLE RISERS.

4. INSULATE EXPOSED TAILPIECE, P-TRAP, WATER RISERS.

	WATER HEATER SCHEDULE											
PLAN MARK	MANUFACTURER	MODEL NUMBER	GALLONS :	GAS BTU _		# OF HEATING ELEMENTS	KW	ELECTRICAL	REMARKS			
WH-1	ARISTON	GL6+	6	-	-	1	1.44	120V / 1PH				

FLOOR DRAIN SCHEDULE											
PLAN MARK	MANUFACTURER	MODEL NUMBER	SERVICE	TOP GRATE SIZE	WASTE SIZE	REMARKS					
FD-1	WATTS	PROLINE FD66 PVC	RESTROOM	7″ø	2"						
REMARK	REMARKS:										

<u>PLUMBING:</u>

GENERAL

WATER SUPPLY

- 1. DWV SYSTEMS ROUGH IN AND FINISHED PLUMBING SHALL BE TESTED PER IPC 312.3
- 2. WATER SUPPLY SYSTEM SHALL BE TESTED PER IPC 312.5
- 3. PIPING IN CONCEALED LOCATIONS, INSTALLED THROUGH FRAMING MENBERS SHALL BE PROTECTED BY SHIELD PLATES WHEN LESS THAN 1½″ FROM MEMBER EDGE.
- 4. PIPING SHALL BE SUPPORTED PER IPC 308
- 5. A WATER TIGHT PAN SHALL BE INSTALLED BENEATH THE WATER HEATER WHEN IT IS INSTALLED WHERE DAMAGE MAY RESULT FROM LEAKAGE PER IPC 504.7
- 1. FULL OPEN VALVE SHALL BE PROVIDED AT THE WATER SERVICE ENTRANCE PER IPC 606.
- 2. THE WATER SUPPLY SHALL BE PROTECTED FROM CONTAMINATION PER IPC 608
- 3. WATER SUPPLY MAINS, BRANCHS, AND RISERS SHALL BE SIZED PER IPC 604
- (PRESSURE RANGE 40 T□ 49 PSI)

 MINIMUM WATER SERVICE SHALL BE ¾"
- MINIMUM BRANCH MAINS SHALL BE ¾"
 BRANCH MAINS SHALL BE ½" WITH LESS THAN 3 FIXTURES UNITS
- 4. ¼ TURN ½" SHUT OFF VALVES SHALL BE PROVIDED AT EACH PLUMBING FIXTURE PER IPC 606.2.
- 5. WATER SUPPLY PIPING SHALL BE INSULATED PER IPC SEC 607.2.
- 6. TEMPERTURE LIMITING DEVICES SHALL BE INSTALLED AT LAVATORIES AND SINKS PER IPC SEC. 607.1.
- 7. EXTERIOR HOSE BIBBS SHALL BE FROST PROOF PER IPC SEC 608.15.4.2.
- 8. WATER HAMMER ARRESTORS SHALL BE INSTALLED ON QUICK CLOSING VALVES PER IPC 604,9,
- 9. THERMAL EXPANSION CONTROL SHALL BE PROVIDED PER IPC 607.3

DRAIN, WASTE, AND VENT

- 1. DRAIN, WASTE, AND VENT (DWV) PIPING SHALL BE SCHEDULE 40 PVC UNLESS NOTED OTHERWISE
- 2. PVC PIPING SHALL BE SUPPORTED PER IRC TABLE 308.5 48" MAXIMUM HORIZONTAL SPACING
- 3. CHANGE IN DIRECTION IN THE DRAINAGE PIPING SHALL BE PER IPC 706
- VERTICAL TO HORIZONTAL, LONG SWEEP FITTING
 HORIZONTAL TO HORIZONTAL, LONG SWEEP FITTING
- 4. DRAINAGE PIPING CLEANOUTS SHALL BE PROVIDED PER IPC 706
- 5. STAND PIPES SHALL BE A MINIMUM 18" AND A MAXIMUM OF 42" ABOVE THE TRAP PER IPC 802.4
- 6. OPEN VENT PIPES THAT EXTEND THROUGH THE ROOF SHALL TERMINATE 12" MIN. ABOVE THE ROOF.
- 7. VENTS SHALL BE SIZED PER IPC 908 MINIMUM VENT THROUGH THE ROOF SHALL BE ONE HALF THE
- REQUIRED BUILDING SEWER

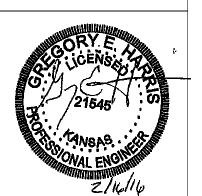
 8. VENTS THROUGH THE ROOF SUBJECT TO FROST CLOSURE SHALL BE A MINIMUM OF 3", VENTS LESS
- THAN 3" SHALL BE INCREASED IN SIZE A MINIMUM OF 12" BELOW THE ROOF PER IPC SEC 904.2.

 9. MAXIMUM DISTANCE OF FIXTURE TRAP FROM VENT SHALL BE PER IPC TABLE 906.1.
- 10. PVC PIPING SHALL BE PROTECTED FROM UV EXPOSURE.

CONSTRUCTION NOTES:

- 1. DRAINAGE PIPING SHALL BE INSTALLED WITH A 1/4" PER FOOT SLOPE.
- 2. PROVIDE ½" HOT WATER AND ½" COLD WATER CONNECTIONS TO PLUMBING FIXTURES AS INDICATED ON THE DRAWINGS.
- 3. PROVIDE MANUAL ¼ TURN GAS SHUT OFF VALVE IN AN ACCESSIBLE LOCATION (ON THE WALL OR OVERHEAD) AT THE FURNACE.

GREGORY E. HARRIS P.E 7272 E 37th ST N #1205 WICHITA, KS 67226





BEV & BOB MORGAN 800 MORGAN AVE LAWRENCE, KANSAS

OWNER

MORGAN SHOP/GARAGE PLUMBING PLAN NOTES AND SCHEDULES

PROJECT NO: 2016.004

SHEET TITLE

COPYRIGHT:

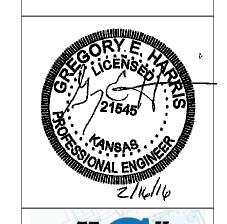
PLUMBING NOTES

CAD DWG FILE: 16.004 PLAN SET.DWG

DRAWN BY: K.H. GIRARDIN

CHK'D BY: G. HARRIS

P-100SHEET 3 OF 4

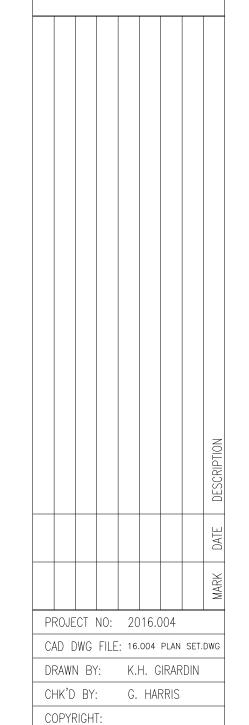




BEV & BOB MORGAN 800 MORGAN AVE LAWRENCE, KANSAS

OWNER

MORGAN SHOP/GARAGE PLUMBING PLAN NATER SUPPLY & DRAINAGE



SHEET TITLE

PLUMBING

PLAN

P-101

SHEET 4 OF 4

DRAINAGE PLAN

Scale: 1/4" = 1'-0"

CW - CW - CW - CW - CW WATER SUPPLY SHALL
BE EXTENDED FROM
THE EXISTING HOUSE - MAIN SHUT OFF VALVE

4" BUILDING SEWER — GAS SUPPLY SHALL BE EXTENDED FROM THE EXISTING HOUSE 2" WASTE 1½" VENT ———— 1½" WASTE 1½" VENT —— 1½" WASTE 1½" VENT 3" WASTE 2" VENT —— 2" VENT

2 WATER SUPPLY PLAN
Scale: 1/4" = 1'-0"