

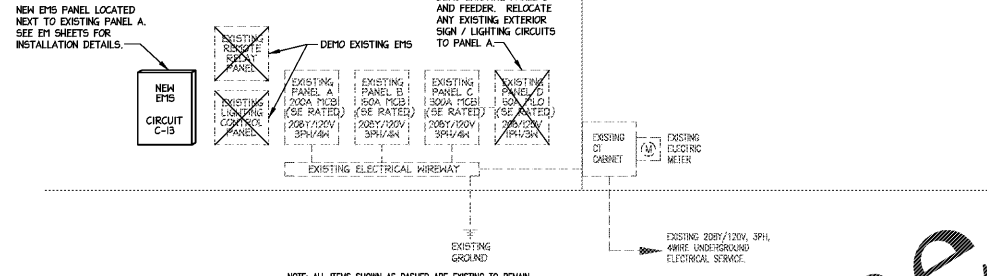
GENERAL ELECTRICAL NOTES

- ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND ALL LOCAL AND STATE CODES.
- ALL MATERIAL, DEVICES, APPLIANCES, AND EQUIPMENT SHALL BE NEW AND SHALL CONFORM TO THE STANDARDS OF THE UNDERWRITERS LABORATORIES, INC., AND THE NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION.
- ALL ELECTRICAL PERMITS AND INSPECTION FEES SHALL BE OBTAINED AND PAID FOR BY THE ELECTRICAL CONTRACTOR. DRAWINGS ARE DIAGNOSTIC ONLY AND INDICATE ONLY THE GENERAL ARRANGEMENT. SEE ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS, DO NOT SCALE PLANS.
- ELECTRICAL CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS FOR ONE YEAR EFFECTIVE THE DAY THE PROJECT IS ACCEPTED BY THE OWNER.
- ELECTRICAL CONTRACTOR SHALL MAKE ALL ELECTRICAL POWER CONNECTIONS TO HVAC, PLUMBING AND OTHER EQUIPMENT AS REQUIRED.
- A COMPLETE GROUNDING SYSTEM SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH ARTICLE 250 OF THE NEC, AND AS SHOWN ON THE DRAWINGS.
- ALL CUTTING AND PATCHING OF WALLS AND FLOORS FOR ELECTRICAL EQUIPMENT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
- CONDUCTORS SHALL BE COPPER RATED AT NOT LESS THAN 600 VOLTS. MINIMUM SIZE SHALL BE #12 AWG UNLESS OTHERWISE NOTED ON THE DRAWINGS. ALL WIRE RUNS AND LARGER SHALL BE STRANDED. ALL CONDUCTORS #10 AND SMALLER SHALL BE SOLID, UNLESS OTHERWISE NOTED. BRANCH CIRCUIT CONDUCTORS SHALL BE TYPE THHN/THWN OR XHHW AS REQ'D.
- ALL WIRING SHALL BE INSTALLED IN ACCORDANCE WITH NEC. TYPE MC CABLE IS THE PREFERRED WIRING METHOD. USE EMT WHERE MC IS PROHIBITED. USE RIGID STEEL CONDUIT WHERE EXPOSED OUTDOORS. USE LIQUID TIGHT FTYC FOR ALL CONNECTIONS TO MOTORS AND CONDENSING UNITS. MINIMUM CONDUIT SIZE TO BE 3/4". EC TO RUN ALL ELECTRICAL OVERHEAD IN A NEAT AND ORGANIZED FASHION.
- PROVIDE A PULLWIRE IN ALL EMPTY CONDUITS.
- PROVIDE A TYPED DIRECTORY IN ALL PANELBOARDS CLEARLY DESCRIBING THE LOCATION OF AND TYPE OF LOAD BEING SERVED FOR ALL CIRCUITS. PROVIDE ENGRAVED PHENOLIC NAMEPLATES FOR ALL PANELBOARDS AND DISCONNECT SWITCHES, WHITE LETTERS ON BLACK BACKGROUND.
- FUSES 0 - 600 AMPS SHALL BE UL CLASS "RK-1" LOW PEAK DUAL ELEMENT TIME DELAY WITH 200,000 AMPERE INTERRUPTING RATING AS MANUFACTURED BY BUSMANN, UNLESS NOTED OTHERWISE.
- ALL TERMINALS/LUGS SHALL BE 75% RATED. ALL TERMINALS, SPLICING CONNECTORS, LUGS, ETC SHALL BE IDENTIFIED FOR USE WITH THE MATERIAL (CUAL) OF THE CONDUCTOR AND SHALL BE PROPERLY INSTALLED.
- VERIFY ALL REQUIREMENTS AND COORDINATE EXACT LOCATION OF INCOMING ELECTRICAL SERVICE WITH LOCAL POWER COMPANY PRIOR TO PROJECT START-UP. NOTIFY ENGINEER OF ANY CHANGES AS MAY BE REQUIRED.
- ALL ELECTRICAL DEVICES (SWITCHES AND OUTLETS) SHALL BE "WHITE" WITH WHITE NYLON UNBREAKABLE WALL COVER PLATES EXCEPT THAT IG OUTLETS SHALL BE "ORANGE".
- THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL ELECTRICAL EQUIPMENT FROM FOREIGN MATERIAL DURING CONSTRUCTION (PAINT, SPARKLE, ETC.).
- PENETRATIONS OF REQUIRED SMOKE PARTITIONS SHALL BE SEALED USING METHODS APPROVED UNDER THE STATE BUILDING CODE. COORDINATION WITH THE GENERAL CONTRACTOR SHALL BE MAINTAINED TO INSURE THAT THIS SMOKE STOPPING IS ACCOMPLISHED.
- WHERE PENETRATIONS ARE MADE THROUGH A REQUIRED FIRE-RESISTIVE HALL, FLOOR, OR PARTITION FOR THE PURPOSE OF RUNNING RACEWAY CARRYING ELECTRICAL TELEVISION, OR LOCAL COMMUNICATION AND/OR SIGNALING CIRCUITS, THE OPENING AROUND THE RACEWAY SHALL BE FIRE STOPPED PER THE STATE BUILDING CODE. COORDINATION WITH THE GENERAL CONTRACTOR SHALL BE MAINTAINED TO INSURE THAT THIS FIRE STOPPING IS ACCOMPLISHED. USE APPROVED U.L. OR EQUIVALENT ASSEMBLIES.
- IN REQUIRED FIRE RATED WALLS AND PARTITIONS, OPENINGS FOR INSTALLATION OF BOXES THAT ARE GREATER THAN 1/2 SQUARE INCHES SHALL BE PROTECTED AS REQUIRED BY U.L. COORDINATE CLOSELY WITH THE GENERAL CONTRACTOR TO INSURE THAT THE INTEGRITY OF THE U.L. RATING IS MAINTAINED.
- WHERE A HOME RUN IS SHOWN THE CIRCUIT SHALL BE INSTALLED IN A DEDICATED CONDUIT, DO NOT COMBINE WITH OTHER CIRCUITS. WHERE A CIRCUIT HOMERUN IS NOT SHOWN, THE CONTRACTOR SHALL COMBINE CIRCUITS AS FOLLOWS: A MAXIMUM OF THREE 20A BRANCH CIRCUITS MAY BE COMBINED IN A COMMON HOMERUN WITH SEPARATE NEUTRALS FOR A MAXIMUM TOTAL OF SIX CURRENT CARRYING CONDUCTORS. ALL BRANCH CIRCUITS LARGER THAN 20A SHALL BE SEPARATELY HOMERUN TO THE PANEL.
- EACH DISCONNECT SHALL BE EQUIPPED WITH A GROUND BAR.
- PROVIDE GREEN EQUIPMENT GROUNDING CONDUIT WITH ALL FEEDER AND BRANCH CIRCUITS.
- DEVICE HEIGHTS INDICATED ARE TO THE CENTER OF THE DEVICE OR EQUIPMENT UNLESS NOTED OTHERWISE. RECEPTACLE AND DATA/TELEPHONE OUTLETS SHOWN ADJACENT ON DRAWINGS SHALL BE MOUNTED 6" APART ON CENTER HORIZONTALLY.
- COORDINATE ALL DEVICES AND OUTLETS ABOVE OR BELOW WITH CASEWORK INSTALLATION AND FDS IN ORDER TO POSITION AT THE PROPER LOCATION AND HEIGHT.
- ALL EXTERIOR FIXTURES AND DEVICES SHALL BE RATED FOR OPERATION AT 0' F AND SHALL BE DAMP OR WET LABELED AS REQUIRED.
- THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ALL ELECTRICAL EQUIPMENT, DEVICES, ETC. IN ACCORDANCE WITH LOCAL SEISMIC CODE REQUIREMENTS. PROVIDE SEISMIC RESTRAINTS, ACCESSORIES AND INSTALLATION DETAIL AS REQUIRED.
- THE CONTRACTOR SHALL VISIT THE SITE AND BECOME THOROUGHLY FAMILIAR WITH ALL DETAILS OF THE WORK AND WORKING CONDITIONS. VERIFY ALL FIELD CONDITIONS INCLUDING LOCATION OF UTILITY LINES, STRUCTURES AND ADVISE THE ENGINEER OF ANY DISCREPANCY THAT MAY PREVENT OR HINDER THE SPECIFIED WORK FROM BEING COMPLETED.
- THE CONTRACTOR SHALL STUDY THE STRUCTURE AND FINISH CONDITIONS AFFECTING THE WORK AND SHALL COORDINATE THE WORK ACCORDINGLY. CONTRACTOR SHALL PROVIDE ALL ACCESSORIES, HANGERS, AND ANCHORS AS NECESSARY TO MEET SUCH CONDITIONS WITHOUT ADDITIONAL COST TO THE OWNER.
- PRIOR TO ACCOMPLISHING ANY WORK IN AN AREA, ALL WORK SHALL BE DEFINED AND COORDINATED WITH OTHER TRADES AND THE OWNER. THE CIRCUIT RERING SHALL BE COORDINATED WITH DUCTWORK AND OTHER DEVICES SO AS TO PROVIDE THE MOST EFFICIENT AND AESTHETIC PLEASING INSTALLATIONS.
- PROPERLY SUPPORT ALL WORK AND EQUIPMENT INSTALLED UNDER CONTRACT. STUDY ALL DRAWINGS, MANUFACTURER'S INSTRUCTIONS, AND CHECK DATA TO DETERMINE HOW EQUIPMENT ACCESSORIES AND RELATED DEVICES ARE TO BE SUPPORTED, MOUNTED OR HUNG. PROVIDE ALL LUGS, INSERTS, BRACKETS, STRUCTURAL SUPPORTS, ACCESSORIES, AND OTHER SUPPORT OF EQUIPMENT BEING FURNISHED BY THIS CONTRACT.

NOTE TO CONTRACTORS

- RUN ALL ELECTRICAL CONDUITS, PLUMBING PIPING, LOW VOLTAGE WIRING, ETC. SO AS NOT TO INTERFERE WITH STORE FIXTURE EQUIPMENT LAYOUTS, OR ANY OTHER FAMILY DOLLAR EQUIPMENT.
- CONTRACTORS TO ROUTE ALL CONDUITS, PLUMBING PIPING, LOW VOLTAGE WIRING, ETC., TIGHT TO STRUCTURE AND PERPENDICULAR TO HALL IN AN ORDERLY MANNER.

NOTE:
ALL EXTERIOR LIGHTING AND SIGNAGE CIRCUITS SHALL BE RE-CIRCUITED THRU NEW EHS. EC SHALL PROVIDE AN ADDITIONAL 6-POLE LIGHTING CONTROLLER IN ENCLOSURE TO HANDLE EXTRA CIRCUITS. EHS ONLY HAS ROOM FOR 8 EXTERIOR CIRCUITS. LIGHTING CONTRACTOR SHALL BE CONTROLLED BY EHS.



EXISTING POWER RISER DIAGRAM (650A SERVICE)
DIAGRAMMATIC ONLY

SERVICE LOAD SUMMARY			
LOAD	KVA CONN.	D.F.	KVA NET
LIGHTS	17.2	1.0	21.5
RECEPTACLES	7.5	1.0	7.5
WATER HEATER	1.5	1.0	1.5
OTHER	5.2	1.0	5.2
HVAC (LARGEST)	35.7	1.0	35.7
COOLERS/FREEZERS	3.3	1.0	3.3
TOTAL	84.4		84.5
LOAD CALCULATION			
84.5 KVA / 0.36 KV =	234.7 AMPS		

NOTE:
ALL EXTERIOR LIGHTING AND SIGNAGE CIRCUITS SHALL BE RE-CIRCUITED THRU NEW EHS. EC SHALL PROVIDE AN ADDITIONAL 6-POLE LIGHTING CONTROLLER IN ENCLOSURE TO HANDLE EXTRA CIRCUITS. EHS ONLY HAS ROOM FOR 8 EXTERIOR CIRCUITS. LIGHTING CONTRACTOR SHALL BE CONTROLLED BY EHS.

EXISTING		SURFACE MOUNTED	
200 AMP MAIN CIRCUIT BREAKER			
KVA CONN.	REMARKS OR EQUIPMENT SERVED	WIRE SIZE TRIP AMPS	CIRCUIT NO.
NEH BL 0.4	LTS - MUDKIT/EMERG	10 20	1
NEH 0.2	LTS - ERS	12 20	3
NEH EPHL 0.4	LTS - SALES / INVERTER	10 20	5
NEH EPHL 0.5	LTS - SALES AREA	10 20	7
NEH EPHL 0.2	LTS - STOCK ROOM	12 20	11
NEH CUST 1.0	LTS - SALES AREA	12 20	13
NEH CUST 0.8	LTS - SALES AREA	10 20	15
NEH CUST 0.7	LTS - SALES AREA	10 20	17
EXIST. EXT 1.0	EXIST. EXT. LIGHTS/SIGNALS	EX 20	14
EXIST. EXT 1.0	EXIST. EXT. LIGHTS/SIGNALS	EX 20	21
EXIST. EXT 1.0	EXIST. EXT. LIGHTS/SIGNALS	EX 20	23
EXIST. EXT 1.0	EXIST. EXT. LIGHTS/SIGNALS	EX 20	25
EXIST. EXT 1.0	EXIST. EXT. LIGHTS/SIGNALS	EX 20	27
EXIST. EXT 1.0	EXIST. EXT. LIGHTS/SIGNALS	EX 20	29
EXIST. EXT 1.0	EXIST. EXT. LIGHTS/SIGNALS	EX 20	31
EXIST. EXT 1.0	EXIST. EXT. LIGHTS/SIGNALS	EX 20	33
EXIST. -	SPARE	-	35
EXIST. -	SPARE	-	37
EXIST. -	SPARE	-	39
EXIST. -	SPARE	-	41
2.2	SUBTOTAL	TOTAL KVA	17.2
		SUBTOTAL	5.0

BL - PROVIDE BREAKER LOCKING DEVICE
GFI - PROVIDE GFI BREAKER
(EHS) - EMPLOYEE WORK LIGHTING (CIRCUIT VIA EHS EMPLOYEE CONTRACTOR)
(CUST) - CUSTOMER LIGHTING (CIRCUIT VIA EHS CUSTOMER CONTRACTOR)
(EXT) - EXTERIOR LIGHTING (CIRCUIT VIA EHS EXTERIOR CONTRACTOR) (FIELD VERIFY EXISTING LOAD SERVED PRIOR TO RERING)

CONNECTED LOAD SUMMARY (PANEL A)			
LOAD	KVA CONN.	D.F.	KVA NET
LIGHTS	17.2	1.0	21.5
TOTAL	17.2		21.5
LOAD CALCULATION			
17.2 KVA / 0.36 KV =	47.8 AMPS		

EXISTING		SURFACE MOUNTED	
150 AMP MAIN CIRCUIT BREAKER			
KVA CONN.	REMARKS OR EQUIPMENT SERVED	WIRE SIZE TRIP AMPS	CIRCUIT NO.
NEH 0.5	CHECKOUT STATION (DIRTY)	10 20	2
EXIST. 0.4	CHECKOUT STATION (IGR)	4 20	3
EXIST. 0.4	CHECKOUT STATION (IGR)	6 20	6
NEH 0.4	CHECKOUT STATION (DIRTY)	10 20	9
NEH 0.2	RECP - MONITOR	10 20	10
NEH 0.2	RECP - BREAK AREA	10 20	12
NEH 0.2	RECP - BREAK AREA	10 20	15
NEH 1.0	RECP - STOCK ROOM	12 20	17
NEH GFI 1.0	WASH DRYER	12 15	18
NEH GFI 1.0	WASH DRYER	12 15	21
NEH 1.5	HEATER	12 20	23
NEH 1.5	RECP - ROOF GFI	10 20	25
NEH 1.0	RECP - EXT. GFI	EX 20	26
EXIST. 1.0	RECP - EXT. GFI	EX 20	28
EXIST. 1.0	RECP - EXT. GFI	EX 20	30
EXIST. 1.0	RECP - EXT. GFI	EX 20	32
EXIST. 1.0	RECP - EXT. GFI	EX 20	34
EXIST. 1.0	RECP - EXT. GFI	EX 20	36
NEH 0.4	RECP - GONDOLA	12 20	35
NEH 0.5	RECP - GONDOLA	10 20	37
NEH -	SPARE	-	39
NEH -	SPARE	-	42
4.2	SUBTOTAL	TOTAL KVA	13.0
		SUBTOTAL	3.8

CONNECTED LOAD SUMMARY (PANEL B)			
LOAD	KVA CONN.	D.F.	KVA NET
RECEPTACLES	7.5	1.0	7.5
WATER HEATER	1.5	1.0	1.5
OTHER	4.0	1.0	4.0
TOTAL	13.0		13.4
LOAD CALCULATION			
13.4 KVA / 0.36 KV =	37.2 AMPS		

EXISTING		SURFACE MOUNTED	
300 AMP MAIN CIRCUIT BREAKER			
KVA CONN.	REMARKS OR EQUIPMENT SERVED	WIRE SIZE TRIP AMPS	CIRCUIT NO.
HACR, NEH 19.8	RTU-1 (50.7 MCA) 3M4, HOG IN FC	4 70	1
HACR, NEH 16.2	RTU-3 (42.2 MCA) 3M4, HOG IN FC	6 50	4
NEH BL 0.2	EHS	12 20	13
NEH 0.2	SPARE	-	15
EXIST. 1.0	OVERHEAD DOOR	EX 20	17
NEH -	SPARE	-	19
NEH -	SPARE	-	21
NEH -	SPARE	-	23
NEH -	SPARE	-	25
NEH -	SPARE	-	26
NEH -	SPARE	-	27
NEH -	SPARE	-	29
NEH -	SPARE	-	30
NEH -	SPARE	-	31
NEH -	SPARE	-	33
NEH HACR, BL 0.7	1 DOOR COOLER (HP)	10 15	35
NEH 0.3	EHS PHASE MONITOR	12 20	37
NEH -	SPARE	-	39
NEH -	SPARE	-	41
38.2	SUBTOTAL	TOTAL KVA	43.9
		SUBTOTAL	15.7

CONNECTED LOAD SUMMARY (PANEL C)			
LOAD	KVA CONN.	D.F.	KVA NET
HVAC (LARGEST)	22.7	1.25	28.4
HVAC (REPAIRING)	36.0	1.0	36.0
COOLERS/FREEZERS	35.7	1.0	35.7
OTHER	1.5	1.0	1.5
TOTAL	96.9		99.6
LOAD CALCULATION			
96.6 KVA / 0.36 KV =	276.7 AMPS		

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revision	description	by	date

revision	description	by	date



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PROJECT: FAMILY DOLLAR STORE, FDS #791901
SHEET: SEM-A
ELECTRICAL COVER SHEET

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ELECTRICAL COVER SHEET