

PANEL : MDP (EX.)		Voltage: 120/208V, 3PH, 4W	
Overcurrent Device	Switch / Fuse or CB Trip	Connected KVA Loads	
Rating	Pole	Description	PH Code L Code C Code R Code M Code E Code K Code D
50	1	EXISTING RTU-1	-A- 4579.0
3	1	EXISTING RTU-2	-A- 2711.0
35	1	NEW RTU-3	-A- 3100.0
7	1	EXISTING RTU-4	-A- 2711.0
200	2	PANEL D	-A- 0.0 0.0 3100.0 1500.0 6000.0 0.0
150	3	PANEL C	-A- 1844.0 1800.0 3650.0 2136.0 0.0 1716.0 0.0
200	3	PANEL B	-A- 0.0 0.0 0.0 0.0 0.0 23945.0 0.0
100	3	PANEL A	-A- 3200.0 360.0 3480.0 0.0 0.0 0.0 0.0
THROUGH FEED LUG CONNECTION	600A	-A- 5044.0 2160.0 10230.0 20379.0 1500.0 31121.0 0.0	
MAIN	3	-B- 1444.0 1260.0 1980.0 11852.0 1500.0 28107.0 0.0	
Overcurrent Device Notes:			
1 - HACR CIRCUIT BREAKER DEVICE		Conn KVA phase loads	Total -A- -B- -C-
2 - PROVIDE NEW BREAKERS AS INDICATED		Dmd Conn Bus KVA loads	
3 -		Code L Lighting	
4 -		Code C Convenience Receptacles (180 W)	
5 -		Code R Receptacles (Non Convenience)	
6 -		Code M Motors Largest Mtr VA =	4284
Distribution Panel Notes:			
1 - PROVIDE 65/22K SERIES RATING FOR PANELS 'A', 'B' & 'C'. MDP SHALL BE FULLY RATED AT 65K		Dmd =	88%
2 - PROVIDE ISOLATED GROUND BUS		Code D Dwelling Units (Hotel/Motel Rooms)	
3 -		Code E Electric Heat	
SURFACE Mounting			
65,000 Amps AIC Rating	483	Adjusted Amps (Demand + Spare KVA)	
600 Amp Rating of Bus	506	High Phase Amps (Demand + Spare KVA)	07/27/18
600 Panel Amp Rating (Min Main or Bus Rating)		File Name:	Project Number:
208 Phase to Phase Voltage	MDP	0419740-002	SONIC-MANASSAS, VA

ALTERNATE RESTAURANT SERVICE CALCULATION PER 220.88	
NOT ALL ELECTRICAL RESTAURANT TOTAL CONNECTED LOAD	205.00
0-200 KVA @ 100%	200.00
201-325 KVA @ 50%	2.50
326-800 KVA @ 45%	0.00
OVER 800 KVA @ 20%	0.00
TOTAL DEMAND LOAD	202.50
MINIMUM AMP SERVICE REQUIRED	562.50

Fault current calculations and AIC design are based on the following assumptions.			
23.132A	Short Circuit Amps Available at Service Entrance		
2 sets, 4" PVC, 4#350 MCM	60'	Distance From UT XFMR	To CT
2 sets, 4" PVC, 4#350 MCM	10'	Distance From CT CAB	To MDP
2" C Metal, 4#3/0 AWG	20'	Distance From MDP	To PH D
All conductors based on copper unless noted otherwise			

NOTES TO ELECTRICAL CONTRACTOR

- Electrical Contractor upon being awarded contract, shall contact the utility to obtain the actual available fault current and verify all above information upon arrival on site, prior to ordering or approving release of equipment and report updated information to contact below. Engineer will recalculate available fault currents and relay results to the Electrical Contractor for compliance with 2017 NEC 110.24(A), (B) field marking requirements. This procedure shall be done for all new and/or relocated switchgear and/or panels regardless of current code adoption. - Electrical Contractor to provide arc-flash hazard warning field marking per NEC 110.16. - Electrical Contractor to provide series rated labeling per NEC 110-22(B) where there is an applied series rating as shown on the drawings. - Any additional costs for failure to comply with the above requirements will be strictly at contractor's expense. Distances above are only estimates. Field verify. Do not use for bidding purposes.

Engineering Contact: Cullen Murtaugh
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Panel: A (EX.)		Voltage: 120/208V, 3PH, 4W	
No.	Amprtg	Description	PH Code L Code C Code R Code M Code E Code K Code D
1	20/1	ENTER/EXIT SIGNS	-A- 600
3	20/1	ENTER/EXIT SIGNS	-B- 500
5	30/1	POLE LIGHTS	-C- 615
7	2		-A- 300
9	20/1	CANOPY NIGHT LIGHTS	-B- 244
11	30/1	CANOPY LIGHTS	-C- 488
13	30/1	EXISTING POLE SIGN	-A- 1200
15	20/1	BLDG. STAR STALL & TOWER FEATURE SIGN	-B- 300
17	20/1	SIGN	-C- 1200
19	20/1	SIGN	-A- 1200
21	20/1	TOWER LIGHTING	-B- 400
23	20/1	SPARE	-C- 2280
25	25/1	POLE LIGHTS	-B- 25
27	2		-B- 2
29	20/1	INTERIOR MENU BOARDS	-C- 1000
31	20/1	SPARE	-A- 1000
33	20/1	EXTERIOR MENU BOARD	-B- 1000
35	20/1	ORDER RECEIPTAL	-C- 1000
37	20/1	SPARE	-A- 1000
39	20/1	SPARE	-B- 1000
41	20/1	DRIVE-THRU SIDE PAYS	-C- 500
2	20/1	CANOPY MENU	-A- 600
4	20/1	CANOPY PAYS	-B- 600
6	20/1	OFFICE CONVENIENCE RECEPTACLES	-C- 540
8	20/1	OFFICE CONVENIENCE RECEPTACLES	-A- 360
10	20/1	DINING FOS #1	-B- 360
12	20/1	DINING POS #2	-C- 360
14	20/1	POS MONITORS	-A- 540
16	20/1	POS MONITORS	-B- 540
18	20/1	WALL SCANNER & PRINTER	-C- 720
20	20/1	SWITCHBOARDS / POS RECS.	-A- 720
22	20/1	PRINTER/POS MONITORS	-B- 540
24	20/1	SWITCHBOARDS / SCANNER	-C- 540
26	20/1	POS MONITORS	-A- 720
28	20/1	OFFICE CONVENIENCE RECEPTACLES	-B- 540
30	20/1	POS RACK MANAGER OFFICE	-C- 720
32	20/1	POS RACK MANAGER OFFICE	-A- 720
34	20/1	ROUTERS	-B- 360
36	20/1	LEARNING CENTER	-C- 180
38	20/1	SAFE	-A- 180
40	20/1	DEDICATED OFFICE EQUIPMENT	-B- 720
42	20/1	DEDICATED OFFICE EQUIPMENT	-C- 720
THROUGH FEED LUG CONNECTION	NONE	-A-	0
MAIN	NONE	-B-	3200 360 3480 0 0 0 0 0
Breaker	---	-C-	2303 1260 5020 0 0 0 0 0
Overcurrent Device Notes:			
1 - PROVIDE GFI BREAKER		Conn KVA phase loads	Total -A- -B- -C-
2 -		Dmd Conn Bus KVA loads	
3 -		Code L Lighting	
4 -		Code C Convenience Receptacles (180 W)	
5 -		Code R Receptacles (Non Convenience)	
Panelboard Notes:			
1 - PROVIDE ISOLATED GROUND BUS		Code E Electric Heat	
2 -		Code K Kitchen Equip	Dmd = 65%
3 -		Code D Dwelling Units (Hotel/Motel Rooms)	
4 -		Code M Motors Largest Mtr VA =	0
5 -		Spare KVA	Spare = 0%
RECESSED Mounting			
EXISTING Amps AIC Rating	23	Adjusted KVA (Demand + Spare KVA)	
EXISTING Amp Rating of Bus	65	High Phase Amps (Demand + Spare KVA)	07/27/18
225 Panel Amp Rating (Min Main or Bus Rating)		File Name:	Project Number:
208 Phase to Phase Voltage	PANEL A	0419740-002	SONIC-MANASSAS, VA

Panel: B (EX.)		Voltage: 120/208V, 3PH, 4W	
No.	Amprtg	Description	PH Code L Code C Code R Code M Code E Code K Code D
1	25	1B - ICE CREAM MACHINE (LEFT SIDE)	-A- 2280
3	25		-B- 2280
5	3		-C- 2280
7	20	1B - ICE CREAM MACHINE (RT SIDE)	-A- 2100
9	7		-B- 2100
11	3		-C- 2100
13	20/1	3B 6A, 7 - FOUNTAIN/MINER/HOT FLUDGE	-A- 1820
15	20/1	41A - EXPO TABLE	-B- 1632
17	30/1	41A - EXPO TABLE	-C- 3264
19	20/1	46B - TOASTER & WARMER TABLE	-A- 1440
21	20/1	8 - COFFEE MACHINE	-B- 1800
23	20/1	19 - TEA BREWER	-C- 1500
25	25	1B - ICE CREAM MACHINE (LEFT SIDE)	-A- 2280
27	25		-B- 2280
29	3		-C- 2280
31	20	1B - ICE CREAM MACHINE (RT SIDE)	-A- 2100
33	7		-B- 2100
35	3		-C- 2100
37	20/1	30B - VERTICAL HOLDING UNIT	-A- 1596
39	20/1	12 - ULTIMATE DRINK MACHINE	-B- 1440
41	20/1	12 - ULTIMATE DRINK MACHINE	-C- 1440
2	35/1	10A-SLUSH MACHINE	-A- 2652
4	2		-B- 2652
6	35/1		-C- 2652
8	2		-A- 2652
10	20/1	11-SLUSH FILL STATION	-B- 240
12	20/1	29 - UNDERCOUNTER FREEZER	-C- 1800
14	20/1	34E - FRYER	-A- 1464
16	2	SHUNT TRIP FOR 34E - FRYER	-B- 120
18	20/1	40A - GAS GRIDDLE	-C- 120
20	20/1	SHUNT TRIP FOR 40A - GAS GRIDDLE	-A- 1200
22	20/1	37A - REACH IN FREEZER	-B- 1200
24	20/1	37A - REACH IN FREEZER	-C- 1200
26	20/1	38A - REACH IN REFRIGERATOR	-A- 684
28	20/1	SPARE	-B- 1123
30	20/1	45B - HOLDING UNIT	-C- 1123
32	2		-A- 1654
34	20/1	47 - STEAMER	-B- 1654
36	20/1	SPARE	-C- 1654
38	20/1	47 - STEAMER	-A- 1654
40	2		-B- 1654
42	20/1	SPARE	-C- 1654
THROUGH FEED LUG CONNECTION	NONE	-A-	0
MAIN	NONE	-B-	0 0 0 0 0 0 2351 0
Breaker	---	-C-	0 0 0 0 0 0 2351 0
Overcurrent Device Notes:			
1 - PROVIDE GFI BREAKER		Conn KVA phase loads	Total -A- -B- -C-
2 - PROVIDE LOCK-OFF DEVICE		Dmd Conn Bus KVA loads	
3 -		Code L Lighting	
4 -		Code C Convenience Receptacles (180 W)	
5 -		Code R Receptacles (Non Convenience)	
Panelboard Notes:			
1 -		Code E Electric Heat	
2 -		Code K Kitchen Equip	Dmd = 65%
3 -		Code D Dwelling Units (Hotel/Motel Rooms)	
4 -		Code M Motors Largest Mtr VA =	0
5 -		Spare KVA	Spare = 0%
RECESSED Mounting			
EXISTING Amps AIC Rating	58.5	Adjusted KVA (Demand + Spare KVA)	
EXISTING Amp Rating of Bus	124	High Phase Amps (Demand + Spare KVA)	07/27/18
225 Panel Amp Rating (Min Main or Bus Rating)		File Name:	Project Number:
208 Phase to Phase Voltage	PANEL B	0419740-002	SONIC-MANASSAS, VA

Panel: C (EX.)		Voltage: 120/208V, 3PH, 4W	
No.	Amprtg	Description	PH Code L Code C Code R Code M Code E Code K Code D
1	1	82 - HAND DRYER	-A- 720
3	20/1	82 - HAND DRYER	-B- 720
5	20/1	TVS	-C- 750
7	20/1	FUTURE EQUIPMENT	-A- 1000
9	20/1	DOOR SECURITY RECEPTACLE	-B- 800
11	20/1	SPARE	-C- 900
13	20/1	DINING AREA USB/COMBO RECS. #1	-A- 900
15	20/1	DINING AREA USB/COMBO RECS. #2	-B- 720
17	20/1	SPARE	-C- 1920
19	15/1	33- EXHAUST HOOD CONTROLS	-A- 500
21	20	EX 100-FREEZER CONDENSOR	-B- 1920
23	3	SPARE	-C- 1920
25	3	EX 100-FREEZER CONDENSOR	-A- 905
27	20	EX 100-FREEZER EVAPORATOR	-B- 905
29	2		-C- 905
31	20/1	87 - DRINK CARBONATOR	-A- 500
33	20/1	PATIO GFI	-B- 180
35	20/1	FUTURE SECURITY RECEPTACLE	-C- 180
37	20/1	SPARE	-A- 180
39	20/1	SPARE	-B- 180
41	20/1	KITCHEN COUNTER RECEPTACLE	-C- 180
2	20/1	88- SLUSH FRESHENER	-A- 936
4	20/1	BAG N BOX QUD	-B- 240
6	20/1	70-GREASE TANK	-C- 240
8	20/1	95/102 HOT WATER/FILT. SYS	-A- 240
10	20/1	KITCHEN GENERAL RECEPTACLES	-B-
12	20/1	SHOW WINDOW RECEPTACLES	-C-
14	20/1	SHOW WINDOW RECEPTACLES	-A-
16	20/1	LIGHTING CONTROL PANEL	-B-
18	20/1	3 DINING AREA LIGHTING	-C- 960
20	20/1	INTERIOR LIGHTING	-A- 1144
22	20/1	SPARE	-B- 636
24	20/1	EXTERIOR BUILDING LIGHTING	-C- 636
26	20/1	POSTER BOARDS	-A- 749
28	20/1	EX 99-COOLER CONDENSOR	-B- 749
30	20/1	EX 99-COOLER CONDENSOR	-C- 216
32	2	EX 99-COOLER EVAPORATOR	-A- 500
34	1	SPRINKLER SYS	-B- 500
36	20/1	EX COOLER WALK-IN LIGHTS/HTR	-C- 100
38	20/1	EX FRYER WALK-IN LIGHTS/HTR	-A- 100
40	20/1	EXTERIOR WALL HYDRANT	-B- 360
42	20/1	EXISTING GFI RECEPTACLES	-C- 900
THROUGH FEED LUG CONNECTION	NONE	-A-	1844 1800 3650 2136 0 1176 0
MAIN	NONE	-B-	0 0 2340 2680 3574 0 0 0
Breaker	---	-C-	1705 2160 3150 3574 0 0 0
Overcurrent Device Notes:			
1 - PROVIDE GFI BREAKER		Conn KVA phase loads	Total -A- -B- -C-
2 - PROVIDE LOCK-OFF DEVICE		Dmd Conn Bus KVA loads	
3 -		Code L Lighting	
4 -		Code C Convenience Receptacles (180 W)	
5 -		Code R Receptacles (Non Convenience)	
Panelboard Notes:			
1 -		Code E Electric Heat	
2 -		Code K Kitchen Equip	Dmd = 100%
3 -		Code D Dwelling Units (Hotel/Motel Rooms)	
4 -		Code M Motors Largest Mtr VA =	4450
5 -		Spare KVA	Spare = 0%
RECESSED Mounting			
EXISTING Amps AIC Rating	44	Adjusted KVA (Demand + Spare KVA)	
EXISTING Amp Rating of Bus	88	High Phase Amps (Demand + Spare KVA)	07/27/18
225 Panel Amp Rating (Min Main or Bus Rating)		File Name:	Project Number:
208 Phase to Phase Voltage	PANEL C	0419740-002	SONIC-MANASSAS, VA

CONSULTANT:

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CLIENT:

SONIC
America's Drive-Ins

JOHN COVE, LLC.
7790 ABBEY OAKS COURT
MANASSAS, VA 20112

PROJECT INFORMATION:

SONIC DRIVE-IN RESTAURANT
10850 PROMENADE LANE
MANASSAS, VA 20109
STORE #6711

SEAL:

PROJECT NO.: 0419739-002
DRAWN BY: CM
CHECKED BY: RM

ISSUE: DATE:
PERMIT SET: 07-27-18

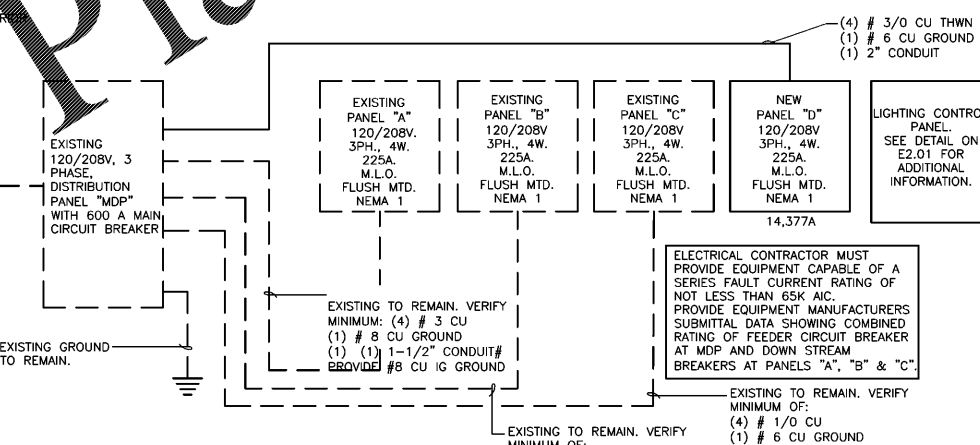
REVISION: DATE:

PROJECT LOCATION:
MANASSAS, VA
#6711

SHEET NUMBER / TITLE:
E3.01
RISER & PANEL SCHEDULE

Order Plans @

1 600A ELECTRICAL RISER DIAGRAM
E3.01 SCALE: N.T.S.



2 HVAC UNIT ELEC. CONN. DETAIL
E3.01 SCALE: N.T.S.

