REVIEWED FOR CODE COMPLIANCE

DATE 04/04/2018 by: Building Official

PERMIT NO. BLD2017-08812

ADDRESS 7012 MUNICIPAL DR

CONTRACTOR HARBCO GENERAL CONTRACTORS INC

NOTE: Permit issuance is based on plans not to violate other codes. Keep the plan on site at all times

CITY OF ORLANDO PERMITTING SERVICES DIVISION

PANEL "A"

VOLTAGE: 208Y/120V,3Ph,4W; BUS RATING: 225 AMPS; MAINS: 225A/3P MCB; MOUNTING: SEE PLANS; 183 AMP LOAD

REMARKS: DOUBLE TUB PANEL; 42 OKTS. EA. TUB; AIC = 65,000 AMPS SERIES

NOTES: "x" INDICATES HACR RATED BREAKER. [ ] INDICATES NON-CONCURRENT A/C LOAD. SIZES BASED ON LARGEST LOAD. "-" INDICATES GFI BREAKER. "*" INDICATES ASSUMED DATA.

LOAD SERVED	LOADS (WATTS) LTG	RCPTS	MOTOR	HEAT	CKT BRKR AMP/P	C N K O T.	PHASE A	PHASE B	PHASE C	C N K O T.	CKT BRKR AMP/P	HEAT	MOTOR	RCPTS	LTG	LOAD SERVED
LIGHTING WEST OFFICE-TLT	1050				20/1	1	*	–	–	2	20/1				1300	LIGHTING LOBBY-TLT-OFT
LTG. EAST OFF. CONF. RM	1100				20/1	3	–	*	–	4	20/1				1200	BUILDING SIGN
UG. INTERNAL OFT	1100				20/1	5	–	–	*	6	20/1				1200	SITE SIGN
SMALL APPLIANCE-LUNCH RM		1500			20/1	7	*	–	–	8	20/1				1200	PARKING LTG.
SMALL APPLIANCE-LUNCH RM		1500			20/1	9	–	*	–	10	20/1				1200	BUILDING LTG.
SMALL APPLIANCE-LUNCH RM		1500			20/1	11	–	–	*	12	20/1			1500		SMALL APPLIANCE WH LUNCH
SMALL APPLIANCE-LUNCH RM		1500			20/1	13	*	–	–	14	20/1			1500		SMALL APPLIANCE WH LUNCH
SMALL APPLIANCE-LUNCH RM		1500			20/1	15	–	*	–	16	20/1			1500		SMALL APPLIANCE WH LUNCH
DISH WASHER				1200	20/1	17	–	–	*	18	20/1			1500		SMALL APPLIANCE WH LUNCH
INSTA HOT EMH-3				2300	30/2	19	*	–	–	20	20/1			1500		SMALL APPLIANCE WH LUNCH
----				2300	--	21	–	*	–	22	20/1			1500		SMALL APPLIANCE WH LUNCH
REF. LUNCH RM		700			20/1	23	–	–	*	24	20/1			1500		SMALL APPLIANCE WH LUNCH
RECEPT. LUNCH RM		1200			20/1	25	*	–	–	26	20/1			1500		SMALL APPLIANCE WH LUNCH
RECEPT. CORE OFFICES		720			20/1	27	–	*	–	28	20/1			1500		SMALL APPLIANCE WH LUNCH
RECEPT. CORE OFFICES		720			20/1	29	–	–	*	30	20/1			1500		SMALL APPLIANCE WH LUNCH
RECEPT. CORE OFFICES		720			20/1	31	*	–	–	32	20/1			1500		SMALL APPLIANCE WH LUNCH
RECEPT. CORE OFFICES		720			20/1	33	–	*	–	34	20/1		720			REF.
RECEPT. CORE OFFICES		720			20/1	35	–	–	*	36	20/1	1200				DISHWASHER
RECEPT TTB		400			20/1	37	*	–	–	38	30/2	2300				INSTA HOT EMH-2
SERVER ROOM RECEPT.		1200			20/1	39	–	*	–	40	---	2300				--
SERVER ROOM RECEPT.		1200			20/1	41	–	–	*	42	20/1					REF. WH LUNCH
OFFICE RECEPT.		900			20/1	43	*	–	–	44	20/1		750			VENDING MACHINE
OFFICE RECEPT.		900			20/1	45	–	*	–	46	20/1		750			VENDING MACHINE
OFFICE RECEPT.		900			20/1	47	–	–	*	48	30/2	2250				EMH-1
OFFICE RECEPT.		900			20/1	49	*	–	–	50	---	2250				--
OFFICE RECEPT.			900		20/1	51	–	*	–	52	20/1		700			EMC-1
WH-OFFICE RECEPT.			720		20/1	53	–	–	*	54	20/1		700			EMC-2
WH -OFFICE RECEPT.			720		20/1	55	*	–	–	56	20/1			300		COPIER
RECEPT. TLT GFI			900		20/1	57	–	*	–	58	20/1			300		COPIER
RECEPT. RECEPTION			720		20/1	59	–	–	*	60	20/1			900		RECEPT. OFFICE 111
RECEPT. RECEPTION			900		20/1	61	*	–	–	62	20/1			900		RECEPT. OFFICE 112
BIG. CONF. RM RECEPT.			1080		20/1	63	–	*	–	64	20/1			1080		RECEPT. OFFICE 113
RECPT. OFFICE 107			900		20/1	65	–	–	*	66	20/1			900		RECEPT. OFFICE
RECEPT. OFFICE 108			900		20/1	67	*	–	–	68	20/1			900		RECEPT. OFFICE
RECEPT. OFFICE 109			1080		20/1	69	–	*	–	70	20/1			900		RECEPT. OFFICE
RECEPT. OFFICE 110			900		20/1	71	–	–	*	72	20/1			900		RECEPT. SMALL CONF. RM
EF-1			350		20/1	73	*	–	–	74	20/1			1080		WH-GFI-RECEPT. ON ROOF
SMALL CONF. ROOM RECEPT.		900			20/1	75	–	*	–	76	20/2		1250			HP-1 ON ROOF, VERIFY LOAD
GFI RECEPT. ON ROOF		600			20/1	77	–	–	*	78	--		1250			MCA, MOCP W/ EQUIP.
FUTURE FORKLIFT VERIFY		800			20/2	79	*	–	–	80	20/2			800		FUTURE FORKLIFT VERIFY
LOAD OF EQ. SERVED		800			---	81	–	*	–	82	---			800		LOAD OF EQUIP. SERVED
CEILING RECEPTACLES		360			20/1	83	–	–	*	84						SPACE
	LTG 3250	RCPTS 22860	MOTOR 10070	HEAT 5800								HEAT 10300	MOTOR 6100	RCPTS 26260	LTG 6100	
		SUB TOTALS											SUB TOTALS			

PHASE LOADING

	LTG	RCPTS	MOTOR	HEAT
PHASE A	3500	17900	3620	6850
PHASE B	3500	15820	7380	4600
PHASE C	2300	15400	5900	4600
		A	B	C
PHASE TOTALS		31920	31300	27540

PANEL NAME: "A"; 3 PH. VOLTS: 208

	LTG	RCPTS	MOTOR	HEAT
	3.3	49.1	16.3	16.1
	1.25	29.6	1.00	1.00
	4.3	29.6	16.3	16.1

CONNECTED KW TOTALS	85
TOTAL ADJUSTED KW	65.9
THREE PHASE VOLTAGE	208
TOTAL PANEL AMPERAGE:	183

PROJECT NAME: OCEAN-AIR; PROJECT NO.: 1707; MGE

* VERIFY WITH EQUIP. MFR.

PANEL "B"

VOLTAGE: 208Y/120V,3Ph,4W; BUS RATING: 225 AMP; MAINS: 225A M.L.O.; MOUNTING: SEE PLANS; 121 AMP LOAD

REMARKS: SINGLE TUB PANEL; 42 OKTS. EA. TUB; AIC = 65,000 AMPS SERIES

NOTES: "x" INDICATES HACR RATED BREAKER. [ ] INDICATES NON-CONCURRENT A/C LOAD. SIZES BASED ON LARGEST LOAD. "-" INDICATES GFI BREAKER. "*" INDICATES ASSUMED DATA.

LOAD SERVED	LOADS (WATTS) LTG	RCPTS	MOTOR	HEAT	CKT BRKR AMP/P	C N K O T.	PHASE A	PHASE B	PHASE C	C N K O T.	CKT BRKR AMP/P	HEAT	MOTOR	RCPTS	LTG	LOAD SERVED
LTG. HARD GOODS PRICING	1000				20/1	1	*	–	–	2	20/1			1080		RECEPT. HARD GOODS
LTG. SOFT GOODS PRICING	1000				20/1	3	–	*	–	4	20/1			800	200	RECEPT. RECEIVING
LTG. PRINTING+JEWELRY	1000				20/1	5	–	–	*	6	20/1			600	200	RECEPT. OUTBOUND STOR
LTG. OUTBOUND STOR.	1000				20/1	7	*	–	–	8	20/1			720		RECEPT. WH OFT. MGR.
LTG. WAREHOUSE	1300				20/1	9	–	*	–	10	20/1			1080		RECEPT. SOFT GOODS
LTG. WAREHOUSE	1300				20/1	11	–	–	*	12	20/1			1260		RECEPT. JEWLERY
LTG. WAREHOUSE	1300				20/1	13	*	–	–	14	20/1	1200				PRINT NO.1
LTG. WAREHOUSE	1300				20/1	15	–	*	–	16	20/1	1200				PRINT NO.2
LTG. WAREHOUSE	1300				20/1	17	–	–	*	18	20/1	1200				PRINT NO. 3
LTG. WAREHOUSE	1300				20/1	19	*	–	–	20	20/1	1200				PRINT NO. 4
LTG. WAREHOUSE	1560				20/1	21	–	*	–	22	20/1	1200				PRINT NO. 5
LTG. WAREHOUSE	1560				20/1	23	–	–	*	24	20/1	1200				WAVE CHARGER VERIFY LOAD
FUTURE FAN VERIFY LOAD			1000		20/1	25	*	–	–	26	20/1			800		WAVE CHARGER VERIFY LOAD
FUTURE FAN VERIFY LOAD			1000		20/1	27	–	*	–	28	20/1			800		WAVE CHARGER VERIFY LOAD
FUTURE FAN VERIFY LOAD			1000		20/1	29	–	–	*	30	20/1			800		WAVE CHARGER VERIFY LOAD
ROLL UP DOOR VERIFY LOAD			800		20/1	31	*	–	–	32	20/1			800		WAVE CHARGER VERIFY LOAD
ROLL UP DOOR VERIFY LOAD			800		20/1	33	–	*	–	34	20/1			800		WAVE CHARGER VERIFY LOAD
ROLL UP DOOR VERIFY LOAD			800		20/1	35	–	–	*	36	20/1			800		EF-PI VERIFY LOAD
ROLL UP DOOR VERIFY LOAD			800		20/1	37	*	–	–	38	20/1			200		HYDRAULIC PRESS CONTROL
ROLL UP DOOR VERIFY LOAD			800		20/1	39	–	*	–	40						SPACE
SPACE						41	–	–	*	42						SPACE
	LTG 14920	RCPTS 0	MOTOR 7000	HEAT 0								HEAT 7200	MOTOR 0	RCPTS 10540	LTG 400	
		SUB TOTALS											SUB TOTALS			

PHASE LOADING

	LTG	RCPTS	MOTOR	HEAT
PHASE A	4000	3600	2600	2400
PHASE B	5360	3480	2600	2400
PHASE C	5360	3480	1800	2400
		A	B	C
PHASE TOTALS		13200	13440	13200

PANEL NAME: "B"; 3 PH. VOLTS: 208

	LTG	RCPTS	MOTOR	HEAT
	15.3	10.5	7.0	7.2
	1.25	10.3	1.00	1.00
	19.2	10.3	7.0	7.2

CONNECTED KW TOTALS	40
TOTAL CONNECTED KW	43.5
TOTAL ADJUSTED KW	208
THREE PHASE VOLTAGE	208
TOTAL PANEL AMPERAGE:	121

PROJECT NAME: OCEAN AIR; PROJECT NO.: 1707; MGE

PANEL "H"

VOLTAGE: 208Y/120V,3Ph,4W; BUS RATING: 400 AMPS; MAINS: 400A M.L.O.; MOUNTING: SEE PLANS; 375 AMP LOAD

REMARKS: SINGLE TUB PANEL; 42 OKTS. EA. TUB; AIC = 65,000 AMPS SERIES

NOTES: "x" INDICATES HACR RATED BREAKER. [ ] INDICATES NON-CONCURRENT A/C LOAD. SIZES BASED ON LARGEST LOAD. "-" INDICATES GFI BREAKER. "*" INDICATES ASSUMED DATA.

LOAD SERVED	LOADS (WATTS) LTG	RCPTS	MOTOR	HEAT	CKT BRKR AMP/P	C N K O T.	PHASE A	PHASE B	PHASE C	C N K O T.	CKT BRKR AMP/P	HEAT	MOTOR	RCPTS	LTG	LOAD SERVED
RTU-1 WTH HEATER VERIFY			530	4500	40/3	1	*	–	–	2	40/3	4500	530			RTU-4 WTH HEATER VERIFY
LOAD, VOLT, MCA AND MOCP			530	4500	–	3	–	*	–	4	–	4500	530			LOAD, VOLT, MCA AND MOCP
WTH EQUIP. FURNISHED			530	4500	–	5	–	–	*	6	–	4500	530			WTH EQUIP. FURNISHED
RTU-2 WTH HEATER VERIFY			1320	6770	60/3	7	*	–	–	8	60/3	4500	1320			RTU-5 WTH HEATER VERIFY
LOAD, VOLT, MCA AND MOCP			1320	6770	–	9	–	*	–	10	–	4500	1320			LOAD, VOLT, MCA AND MOCP
WTH EQUIP. FURNISHED			1320	6770	–	11	–	–	*	12	–	4500	1320			WTH EQUIP. FURNISHED
RTU-3 WTH HEATER VERIFY			1320	4500	60/3	13	*	–	–	14	20/3		1320			EF-WL VERIFY LOAD, VOLT,
LOAD, VOLT, MCA AND MOCP			1320	4500	–	15	–	*	–	16	–		1320			MCA AND MOCP WTH EQUIP
WTH EQUIP. FURNISHED			1320	4500	–	17	–	–	*	18	–		1320			FURNISHED
EF-WL VERIFY LOAD, VOLT,			1320		20/3	19	*	–	–	20	20/3		1320			EF-WL VERIFY LOAD, VOLT,
MCA AND MOCP WTH EQUIP			1320		–	21	–	*	–	22	–		1320			MCA AND MOCP WTH EQUIP
FURNISHED			1320		–	23	–	–	*	24	–		1320			FURNISHED
EF-WG, VERIFY LOAD, VOLT,			1320		20/3	25	*	–	–	26	60/2		3220			AIR COMPRESSOR VERIFY
MCA AND MOCP WTH EQUIP			1320		–	27	–	*	–	28	–		3220			LOAD, VOLT, MCA AND MOCP
FURNISHED			1320		–	29	–	–	*	30	–					SPACE
EF-WG, VERIFY LOAD, VOLT,			1320		30/3	31	*	–	–	32	60/3		3860			HYDRAULIC PRESS VERIFY
MCA AND MOCP WTH EQUIP			1320		–	33	–	*	–	34	–		3860			LOAD, VOLT, MCA AND MOCP
FURNISHED			1320		–	35	–	–	*	36	–		3860			WTH EQUIP. FURNISHED
EF-WH, VERIFY LOAD, VOLT,			1320		20/3	37	*	–	–	38	20/3		1320			BIG ASS FAN VERIFY LOAD, VOLT,
MCA AND MOCP WTH EQUIP			1320		–	39	–	*	–	40	–		1320			MCA, MOCP WTH EQUIP.
FURNISHED			1320		–	41	–	–	*	42	–		1320			FURNISHED
	LTG 0	RCPTS 0	MOTOR 25350	HEAT 47310								HEAT 27000	MOTOR 35450	RCPTS 0	LTG 0	
		SUB TOTALS											SUB TOTALS			

PHASE LOADING

	LTG	RCPTS	MOTOR	HEAT
PHASE A	0	0	21340	24770
PHASE B	0	0	21340	24770
PHASE C	0	0	18120	24770
		A	B	C
PHASE TOTALS		4610	4610	42890

PANEL NAME: "H"; 3 PH. VOLTS: 208

	LTG	RCPTS	MOTOR	HEAT
	0.0	0.0	60.8	74.3
	1.25	0.0	1.00	1.00
	0.0	0.0	60.8	74.3

CONNECTED KW TOTALS	135
TOTAL CONNECTED KW	136.1
TOTAL ADJUSTED KW	208
THREE PHASE VOLTAGE	208
TOTAL PANEL AMPERAGE:	375

PROJECT NAME: OCEAN AIR; PROJECT NO.: 1707; MGE

TYPICAL COMMUNICATIONS SYSTEM RACEWAY RISER DIAGRAM

TELEPHONE COORDINATION NOTE:

CONTRACTOR SHALL CONTACT TELEPHONE COMPANY PERSONNEL AS NECESSARY FOR NEW SERVICES COORDINATION. CONTRACTOR SHALL OBTAIN TELEPHONE CO. REQUIREMENTS AND BE RESPONSIBLE FOR ALL WORK NECESSARY TO INSTALL NEW TELEPHONE SERVICES.

CONTRACTOR SHALL COORDINATE COMPLETE LAYOUT AND LOCATIONS OF TELEPHONE COMPANY SERVICE PEDESTALS WITH LOCAL TELEPHONE COMPANY AS NECESSARY FOR A COMPLETE AND OPERABLE SYSTEM. CONTRACTOR SHALL PROVIDE ALL INFORMATION REQUIRED BY THE TELEPHONE COMPANY, INCLUDING ADDRESS(ES) AND LEGAL DESCRIPTIONS, FOR THE TELEPHONE COMPANY'S EASEMENT PROCUREMENT NEEDS. TELEPHONE PEDESTAL LOCATIONS AND QUANTITIES AS DETERMINED BY LOCAL TELEPHONE COMPANY. CONTRACTOR SHALL VERIFY AND COORDINATE EXACT LOCATIONS AND QUANTITIES OF ALL SERVICE PEDESTALS WITH LOCAL TELEPHONE COMPANY PRIOR TO INSTALLATION OF TELEPHONE SERVICE CONDUCTORS.

ELECTRICAL SPECIFICATIONS:

THE COMPLETE ELECTRICAL INSTALLATION SHALL COMPLY WITH NFPA 70–2011, NATIONAL ELECTRICAL CODE.

EQUIPMENT/SYSTEM IDENTIFICATION

INSTALL ENGRAVED PLASTIC LAMINATE SIGN ON EACH MAJOR UNIT OF ELECTRICAL EQUIPMENT. EXCEPT AS OTHERWISE INDICATED, PROVIDE SINGLE LINE OF TEXT, 1/2 INCH HIGH LETTERING ON 1–1/2 INCH HIGH SIGN (2 INCH HIGH WHERE 2 LINES ARE REQUIRED), WHITE LETTERING IN BLACK FIELD. PROVIDE TEXT MATCHING TERMINOLOGY AND NUMBERING OF THE CONTRACT DOCUMENTS AND SHOP DRAWINGS.

PROVIDE SIGNS FOR EACH UNIT OF THE FOLLOWING CATEGORIES OF ELECTRICAL WORK:

MOTOR STARTERS.
DISCONNECT SWITCHES.
PANELBOARDS
TRANSFORMERS

INSCRIPTIONS SHALL INDICATE THE DEVICE SERVED I.E. "PANEL L1", "HVAC UNIT #1", ETC.

UPDATE PANELBOARD DIRECTORIES TO ACCURATELY INDICATE NEW EQUIPMENT BEING SERVED AND EQUIPMENT BEING REMOVED.

TWO–SIDED TAPE AND DYNAMO TYPE ADHESIVES ARE NOT ACCEPTABLE.

PROVIDE ALL CORING THAT IS REQUIRED FOR ELECTRICAL WORK. OBTAIN PRIOR APPROVAL FROM THE ARCHITECT/ENGINEER IF ANY CORING IS REQUIRED THROUGH STRUCTURAL MEMBERS.

ALL CONDUIT AND WIRING REQUIRED IN EXISTING CONSTRUCTION SHALL BE CONCEALED EXCEPT CONDUIT MAY BE RUN EXPOSED IN UNFINISHED ROOMS SUCH AS EQUIPMENT AND MECHANICAL ROOMS. PROVIDE ALL CUTTING AND PATCHING REQUIRED FOR ELECTRICAL WORK.

ELECTRICAL METALLIC TUBING (EMT)

FS WW–C–563, ANSI C80.3 AND UL 797.
MINIMUM CONDUIT SIZE 1/2 INCH.
ANSI C80.4, STEEL FITTINGS.
THREADED, INSULATED THROAT, GLAND COMPRESSION OR SET SCREW TYPE.

DIECAST FITTINGS ARE NOT ACCEPTABLE.

LIQUID–TIGHT FLEXIBLE CONDUIT

PROVIDE UL–LISTED LIQUID–TIGHT FLEXIBLE METAL CONDUIT. MINIMUM SIZE 1/2 INCH. PROVIDE CADMIUM PLATED MALLEABLE IRON FITTINGS WITH COMPRESSION TYPE STEEL FERRULE AND NEOPRENE GASKET SEALING RINGS. LIQUID TIGHT.

FLEXIBLE STEEL CONDUIT

UL–1 FORMED FROM CONTINUOUS LENGTH OF SPIRALLY WOUND, INTERLOCKED HOT–DIP GALVANIZED STEEL. MINIMUM SIZE 1/2 INCH.
PROVIDE SQUEEZE TYPE, MALLEABLE IRON CADMIUM PLATED CONDUIT FITTINGS FOR USE WITH FLEXIBLE STEEL CONDUIT OF THREADLESS HINGE TYPE; THREADED; GROUNDING TYPE; INSULATED THROAT.

CONDUIT INSTALLATION

INSTALL CONDUIT AND TUBING PRODUCTS IN ACCORDANCE WITH NEC, MANUFACTURER'S WRITTEN INSTRUCTIONS, AND APPLICABLE STANDARDS.

CONNECTIONS TO MOTORS AND EQUIPMENT SUBJECT TO VIBRATION:

FLEXIBLE STEEL CONDUIT NOT OVER 3 FEET LONG WHERE CONCEALED IN CABINET, OR WHERE EXPOSED IN MECHANICAL AND UTILITY AREAS AND NOT SUBJECTED TO MOISTURE, DIRT, AND FUMES.

LIQUID–TIGHT FLEXIBLE CONDUIT NOT OVER 3 FEET LONG WHERE EXPOSED IN FINISHED AREAS OR WHERE SUBJECT TO MOISTURE, DIRT, FUMES, OIL, CORROSIVE ATMOSPHERE, EXPOSED OR CONCEALED, WITH CONNECTORS TO ASSURE A LIQUID–TIGHT, PERMANENTLY GROUNDED CONNECTION. LOCATE SO IT IS LEAST SUBJECT TO PHYSICAL ABUSE.

WIRE AND CABLE

ALL CONDUCTOR AND CONDUIT SIZES ARE BASED ON THE USE OF COPPER CONDUCTORS. ALL CONDUCTORS SHALL BE COPPER.

TYPE THHN/THWN, SINGLE CONDUCTOR, SIZE AS INDICATED ON DRAWINGS.

WIRE AND CABLE IDENTIFICATION

COLOR CODE CONDUCTOR INSULATION AS FOLLOWS:

CONDUCTOR	SYSTEM VOLTAGE 120/208V	277/480V
PHASE A	BLACK	BROWN
PHASE B	RED	ORANGE
PHASE C	BLUE	YELLOW
NEUTRAL	WHITE	GRAY
GROUND	GREEN	GREEN W/YELLOW TRACER

IF REQUIRED BUILDING CONDUCTOR COLOR CODING IS DIFFERENT THAN THAT INDICATED ABOVE, CONDUCTOR COLOR CODING SHALL BE PROVIDED AS REQUIRED.

INSTALL LABEL TAGS ON WIRE AND CABLE IN JUNCTION BOXES, PULL BOXES, WIREWAYS, AND WIRING GUTTERS OF PANELS. TAGS SHALL IDENTIFY WIRE OR CABLE NUMBER AND/OR EQUIPMENT SERVED AS SHOWN ON DRAWINGS.

JUNCTION AND PULL BOXES

FABRICATE FROM CODE GAUGE GALVANIZED STEEL, WITH COVERS HELD IN PLACE BY CORROSION RESISTANT MACHINE SCREWS.

SIZE AS REQUIRED BY CODE FOR NUMBER OF CONDUITS AND CONDUCTORS ENTERING AND LEAVING BOX.

PROVIDE WITH WELDED SEAMS, WHERE APPLICABLE, AND EQUIP WITH CORROSION–RESISTANT NUTS, BOLTS, SCREWS, AND WASHERS.

INSTALLATION

INSTALL ELECTRICAL BOXES IN COMPLIANCE WITH NEC REQUIREMENTS, IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND WITH RECOGNIZED INDUSTRY PRACTICES TO ENSURE THAT THE BOXES SERVE THE INTENDED PURPOSES.

INSTALL KNOCKOUT CLOSURES TO CAP UNUSED KNOCKOUT HOLES WHERE BLANKS HAVE BEEN REMOVED.

LOCATE BOXES SO AS TO ASSURE ACCESSIBILITY OF ELECTRICAL WIRING.

SECURE BOXES RIGIDLY TO THE SUBSTRATE UPON WHICH THEY ARE BEING MOUNTED. DO NOT SUPPORT FROM CONDUIT.

HEAVY DUTY DISCONNECT SWITCHES

PROVIDE SURFACE MOUNTED, HEAVY DUTY TYPE SHEET STEEL ENCLOSED SAFETY SWITCHES, THAT ARE FUSIBLE OR NON–FUSIBLE, WITH VOLTAGE RATING FOR CIRCUIT, AMPERAGE, AND NUMBER OF POLES AS INDICATED ON DRAWINGS. SWITCHES SHALL BE QUICK MAKE, QUICK BREAK TYPE; CONSTRUCTED SO THAT SWITCH BLADES ARE VISIBLE IN "OFF" POSITION WITH DOOR OPEN. EQUIP WITH OPERATING HANDLE WHICH IS INTEGRAL PART OF ENCLOSURE BASE AND WHOSE OPERATING POSITION IS EASILY RECOGNIZABLE, AND IS CAPABLE OF BEING PADLOCKED IN "OFF" POSITION. SWITCHES SHALL HAVE A COVER INTERLOCK TO PREVENT UNAUTHORIZED OPENING OF THE SWITCH DOOR WHEN THE HANDLE IS IN THE "ON" POSITION. CONSTRUCT CURRENT CARRYING PARTS OF HIGH CONDUCTIVITY COPPER, WITH SILVER– TUNGSTEN TYPE SWITCH CONTACTS. PROVIDE POSITIVE PRESSURE TYPE REINFORCED FUSE CLIPS FOR FUSIBLE SWITCHES. PROVIDE NEMA 1 OR 3R ENCLOSURE, AS REQUIRED, WITH STAMPED ENCLOSURE KNOCKOUTS. RMS SHORT CIRCUIT RATING SHALL BE 200,000 AMPS WITH R FUSES.

INSTALLATION

INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS, APPLICABLE REQUIREMENTS OF NEC AND NEGA'S "STANDARD OF INSTALLATION" AND IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICES.

LOCATE DISCONNECT SWITCHES AS SHOWN OR CALLED OUT ON DRAWINGS AND AS REQUIRED BY NEC.

GROUNDING

GROUND ELECTRICAL SYSTEMS AND EQUIPMENT AS REQUIRED BY NEC.

INSTALL GROUNDING CONDUCTOR IN NONMETALLIC OR FLEXIBLE CONDUIT TO COMPLETE EQUIPMENT GROUND CONTINUITY.

INSTALL A SEPARATE EQUIPMENT GROUNDING CONDUCTOR SIZED PER NEC TABLE 250–95 IN ALL RACEWAYS.

BRANCH CIRCUITS

DO NOT USE WIRE SMALLER THAN NO. 12 AWG (UNLESS OTHERWISE NOTED) FOR BRANCH CIRCUIT WIRING, INCLUDING MOTOR CIRCUITS.

VOLTAGE DROP FOR BRANCH CIRCUITS AND FEEDER CIRCUIT COMBINED SHALL NOT EXCEED REQUIREMENTS OF NEC ARTICLE 215.

SIZE CONDUIT, OUTLET BOXES, AND OTHER RACEWAY SYSTEM COMPONENTS IN ACCORDANCE WITH NEC REQUIREMENTS AS MINIMUM.

MOTOR AND EQUIPMENT WIRING

FURNISH AND INSTALL MOTOR CIRCUITS IN ACCORDANCE WITH DRAWINGS AND CODE REQUIREMENTS, FROM SOURCE OF SUPPLY TO ASSOCIATED MOTOR STARTER, AND FROM STARTER TO MOTOR TERMINAL BOX, INCLUDING NECESSARY AND REQUIRED INTERMEDIATE CONNECTIONS.

CONDUCTOR AND CONDUIT SIZE FOR MOTOR BRANCH CIRCUITS, IF SHOWN ON DRAWINGS, ARE SIZED FOR MOTOR REQUIREMENT ONLY. CONTRACTOR MAY, AT HIS OPTION, INCLUDE ASSOCIATED CONTROL CONDUCTORS IN SAME CONDUIT PROVIDING THE CONDUIT SIZE IS ADJUSTED TO MEET CODE REQUIREMENTS FOR PERCENTAGE OF FILL.

MOTORS SHALL HAVE PROPER FEEDERS AS PER NEC AND NAMEPLATE RATINGS. VERIFY RATINGS OF MOTORS AND INSTALLING PROPER BRANCH CIRCUITS.

EQUIPMENT CONNECTIONS

OBTAIN MANUFACTURER'S WIRING DIAGRAMS OF ELECTRICAL EQUIPMENT FURNISHED WITH EQUIPMENT AND DO NOT PROCEED TO WIRE EQUIPMENT WITHOUT THIS INFORMATION.

VERIFY ALL EQUIPMENT FEEDER SIZES, OVERCURRENT PROTECTION SIZES, ETC. RECOMMENDED BY EQUIPMENT MANUFACTURER BEFORE INSTALLING. MAKE EQUIPMENT CONNECTIONS WITH FLEXIBLE CONDUIT OR LIQUID–TIGHT FLEXIBLE METALLIC CONDUIT. PROPERLY GROUND NON–CURRENT CARRYING METAL PARTS OF EQUIPMENT.

COORDINATE WORK WITH THE OTHER TRADES SUCH THAT THE OPERATION OF MECHANICAL EQUIPMENT WILL BE AS DESCRIBED IN MECHANICAL SPECIFICATIONS.

CHECK DRAWINGS AND SPECIFICATIONS OF OTHER DIVISIONS OF WORK FOR EQUIPMENT AND WORK WHICH MUST BE INCLUDED WHETHER OR NOT SHOWN ON ELECTRICAL DRAWINGS, IN ORDER TO PROVIDE A COMPLETE ELECTRICAL INSTALLATION.

UNLESS OTHERWISE INDICATED ON DRAWINGS OR IN SPECIFICATIONS, EQUIPMENT SHALL BE FURNISHED, SET IN PLACE, AND CONNECTED AS NECESSARY AND PREPARED FOR OPERATION AS SPECIFIED IN OTHER SECTIONS. PROVIDE FINAL CONNECTION AND PROPER DISCONNECTING MEANS SHALL BE PROVIDED.

MOTOR CONNECTIONS SHALL BE MADE BY SPLIT–BOLT TYPE CONNECTORS USING PROPER TOOLS AND FITTINGS TO ASSURE GOOD ELECTRICAL CONTINUITY AND LOW RESISTANCE JOINT.

POWER RISER NOTES:

A. CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT LOCAL POWER COMPANY AND COORDINATE ALL NEW WORK WITH LOCAL UTILITY AND THE UTILITY COMPANY'S REQUIREMENTS AS NECESSARY FOR A COMPLETE AND OPERABLE SYSTEM.

B. PROVIDE INTEGRATED SERIES RATING OF 65,000 RMS SYM AMPS AT 240VAC.