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<u>ELECTRICAL SYMBOLS LEGENI</u> NOTE: ALL SYMBOLS MAY NOT APPEAR ON DRAWINGS. WHEN REQUIRED, PROVIDE SPECIFICATION GRADE, 20A., 120-277VAC. SWITCHES. VERIFY ALL MOUNTING HEIGHTS AND ACCESSIBILITY REQUIREMENTS PRIOR TO ROUGH—IN WITH ARCHITECT'S PLANS AND LOCAL AUTHORITIES. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ADDRESSING ALL SYMBOLS ON THESE PLANS REGARDLESS OF WHETHER THEY ARE INCLUDED IN THIS LEGEND. IN CASE OF AN UNDEFINED SYMBOL, IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO CONTACT THE ENGINEER AND OBTAIN

	<u>DESCRIPTION</u>	<u>SYMBOLS</u>	<u>DESCRIPTION</u>
A 3	FLUORESCENT LIGHT FIXTURE • CAPITAL LETTER INDICATES FIXTURE TYPE. • NUMBER INDICATES CIRCUIT;		WALL TELEPHONE OUTLET (15" ABOVE FINISH FLOOR) (AFF) SEE PLANS FOR ALPHA-NUMERIC CABLING REQUIREMENTS. (TYPICAL FOR ALL WALL RECEPTACLE/DEVICES).
	• SMALL LETTER INDICATES SWITCH CONTROL. (TYPICAL FOR ALL LIGHT FIXTURE).	\triangle	WALL DATA CABLE OUTLET.
	2'x4' FLUORESCENT LIGHT FIXTURE.	Δ	COMBINATION TELEPHONE/DATA CABLE OUTLET.
	REFER TO LIGHT FIXTURE SCHEDULE FOR DESCRIPTION.		FLUSH-MOUNTED WALL TELEVISION OUTLET. (15" AFF)
	1'x4' FLUORESCENT LIGHT FIXTURE. REFER TO LIGHT FIXTURE SCHEDULE FOR DESCRIPTION.		JUNCTION BOX, SIZED IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE FOR SPECIFIC APPLICATION.
	LIGHT FIXTURE ON EMERGENCY AND/OR NIGHT LIGHTING CIRCUIT. (TYPICAL FOR ALL LIGHT FIXTURES).		LOW VOLTAGE ELECTRICAL OVERHEAD GARAGE DOOR POSITION DETECTION DEVICE AT GARAGE FLOOR SLAB.
	2'x2' FLUORESCENT LIGHT FIXTURE. REFER TO LIGHT FIXTURE SCHEDULE FOR DESCRIPTION.	G	CEILING GARAGE DOOR OPERATOR. DOOR BELL.
	1'x4' FLUORESCENT STRIP LIGHT FIXTURE		DOOR BELL CHIME.
	REFER TO LIGHT FIXTURE SCHEDULE FOR DESCRIPTION.	•	ELECTRICAL CONNECTION TO EQUIPMENT OR DEVICE, #12 CU. MIN
∇	TRACK LIGHTING		SECURITY ALARM PANEL
$\underline{\underline{\qquad}}$	WALL LIGHT		SEMI-FLUSH WALL-MOUNTING FIRE ALARM CONTROL
	WALL LIGHT	FACP	PANEL. (FAAP = FIRE ALARM ANNUNCIATOR PANEL). VERIFY LOCATION WITH LOCAL AUTHORITIES HAVING JURISDICTION PRIOR TO ROUGHING—IN.
	CEILING FAN. REFER TO LIGHT FIXTURE SCHEDULE FOR DESCRIPTION.		DISCONNECT SWITCH.
3\$ ⁴ _D	SINGLE-POLE, SINGLE-THROW (SPST) SWITCH. • 3 = THREE-WAY SWITCH.		COMBINATION SINGLE OR THREE PHASE, NON-FUSED (UIO) DISCONNECT SWITCH AND MAGNETIC MOTOR CONTROLLER/STARTE
●D = DIMMER SWITCH	◆4 = FOUR-WAY SWITCH.◆D = DIMMER SWITCH◆T = TIMED SWITCH	· · · · · · · · · · · · · · · · · · ·	TELEPHONE/CABLE TERMINAL BOARD: 4'W .X 8' H. X 3/4" THE 'AB' GRADE PLYWOOD WITH # 6 CU. GROUND TO MAIN ELECTRIC SERVICE GROUND.
\$\$	DOUBLE SWITCH	METER BANK	BUILDING ELECTRICAL METER BANK STATION. REF: TO BUILDING SCHEDULES FOR RISER/SIZES.
\$	SINGLE-POLE, PULL SWITCH.	M	SINGLE ELECTRICAL METER.
	EXIT LIGHT FIXTURE — SINGLE FACE, DOUBLE FACE; CEILING—MOUNTED; ARROWS AS REQUIRED.	T	DRY-TYPE TRANSFORMER - REFER TO DOCUMENTS FOR SIZE AND ELECTRICAL CHARACTERISTICS.
	EXIT LIGHT FIXTURE — SINGLE FACE, DOUBLE FACE; BACK OR END WALL—MOUNTED; ARROWS AS REQUIRED.	M %	ELECTRICAL METER WITH CURRENT TRANSFORMER.
4 EM	EMERGENCY LIGHT. (FROG-EYES)		BUILDING WALL SURFACE-MOUNTED LOADCENTER. REFER TO SCHEDULE AND RISERS FOR SIZE.
S	SPEAKER FOR INTERCOM/SOUND SYSTEM.		UNIT WALL SURFACE—MOUNTED LOADCENTER OR DISTRIBUTION PANEL. REFER TO SCHEDULE AND RISERS FOR SIZE.
WP +16" GFI AFC	DUPLEX RECEPTACLE: 120V • 'WP' = WATER PROOF. • 'GFI' = GROUND FAULT CIRCUIT INTERRUPTER TYPE. • 'AFC' = ABOVE FINISHED COUNTER. • +16" = HEIGHT OF RECEPTACLE, IF NOT INDICATED. (TYPICAL FOR ALL TYPES OF RECEPTACLES).	\$\bigc_D	SMOKE DETECTOR: PHOTOELECTRIC TYPE WITH 135 DEG. F. THERMAL DETECTOR. MOUNT W/IN 12-INCHES OF CEILING HIGHEST POINT, 4-INCHES FROM VERTICAL OR WALL, AND 3-FEET AWAY FROM ANY HVAC OUTLET. 'D' INDICATES DUCT-TYPE. CONNECT TO FIRE ALARM SYSTEM ALARM INITIATING CIRCUIT.
	DUPLEX RECEPTACLE: 120V CONNECT BOTTOM HALF OF OUTLET TO SWITCH.	\bigoplus	HEAT DETECTOR, 135 DEG. F. UNLESS FOR ELEVATOR POWER CUT-OFF/SHUNT-TRIP. MOUNT PER NFPA SIMILAR TO
	RANGE/DRYER 3 PRONG RECEPTACLE: 220V	^	SMOKE DÉTECTOR. CARBON MONOXIDE DETECTOR, 120V., DIRECT CONNECTION
#	QUADRAPLEX RECEPTACLE (TWO DUPLEX RECEPTACLES UNDER A COMMON COVERPLATE).		WITH SELF-CONTAINED, REPLACEABLE, ALKALOID BATTERY BACK-UP.
$ \bigcirc $	POWER/EQUIPMENT RECEPTACLE. VERIFY ALL REQUIREMENTS WITH EQUIPMENT FURNISHED.	F	SEMI-FLUSH WALL-MOUNTED MANUAL FIRE ALARM PULL
•	FLOOR DUPLEX RECEPTACLE, FLUSH WITH FINSH FLOOR. PROVIDE ADJUSTABLE CARPET FLANGE AS REQUIRED. (TYPICAL FOR ALL FLOOR RECEPTACLE/DEVICES).	FK)	STATION AT +42 INCHES AFF TO DEVICE TOP. HORN: SEMI-FLUSH WALL-MOUNTED; 'F' IN SQUARE INDICATES ON FIRE ALARM SYSTEM. +80". SHADED
	'QUADRAPLEX' POWER SERVICE OUTLET IN 2—GANG, FLUSH FLOOR BOX, INDIVIDUAL FLIP—UP COVERS.	L)F	SEGMENT INDICATES HORN WITH STROBE LIGHT ASSEMBLY. FIRE ALARM STROBE: SEMI-FLUSH WALL-MOUNTED; +80"
	FLOOR COMBINATION TELEPHONE/DATA/CABLE OUTLET.		MINI-HORN: SEMI-FLUSH WALL-MOUNTED; 'F' IN SQUARE
	, ,		INDICATES ON FIRE ALARM SYSTEM. +80. SHADED
	FLOOR COMBINATION TELEPHONE/DATA/CABLE/TV OUTLET.		SEGMENT INDICATES HORN WITH STROBE LIGHT ASSEMBLY. 'M' DENOTES MINI-HORN/STROBE. 'S' DENOTES SPEAKER.

BUILDING FIRE ALARM DEVICE NOTES:

- . AUDIBLE AND VISUAL DEVICES SHALL BE PROVIDED IN FACILITIES IN EACH OF THE FOLLOWING AREAS: RESTROOMS, HALLWAYS, LOBBIES, MEETING ROOMS, BATHROOMS, A/V UNITS AND ANY OTHER AREA OF GENERAL USAGE.
- . AUDIBLE ALARMS SHALL PRODUCE A SOUND PRESSURE LEVEL OF 15 dBA ABOVE THE AVERAGE AMBIENT SOUND LEVEL OR 5 dBA ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF AT LEAST 60 SECONDS WHICHEVER IS GREATER. SOUND LEVELS FOR ALARM DEVICES SHALL NOT EXCEED 120 dBA.
- 3 . VISUAL ALARM DEVICES SHALL HAVE THE FOLLOWING FEATURES:
- A) THE LAMP SHALL BE A XENON STROBE TYPE OR EQUIVALENT. B) THE COLOR SHALL BE CLEAR OR NOMINAL WHITE.
- C) THE MINIMUM INTENSITY OF THE LAMP SHALL BE 75 CANDELA. D) THE FLASH RATE SHALL BE A MINIMUM OF 1 HZ AND A MAXIMUM
- E) THE MAXIMUM PULSE DURATION SHALL BE 0.2 SECOND WITH A MAXIMUM DUTY CYCLE OF 40 PERCENT. THE PULSE DURATION IS

DEFINED AS THE TIME INTERVAL BETWEEN INITIAL AND FINAL POINTS OF

- 10 PERCENT OF MAXIMUM SIGNAL. 4. ALARM DEVICES — VISUAL AND AUDIBLE — SHALL BE MOUNTED 80 INCHES ABOVE THE HIGHEST FLOOR LEVEL WITHIN THE SPACE OR 6" BELOW THE CEILING, WHICHEVER IS LOWER.
- NO PLACE IN COMMON CORRIDORS OR HALLWAYS IN WHICH VISUAL ALARM SIGNALING DEVICES ARE REQUIRED SHALL BE MORE THAN 50 FEET FROM DEVICE.
- 6. IN GENERAL, NO PLACE IN ANY ROOM OR SPACE REQUIRED TO HAVE A VISUAL ALARM DEVICE SHALL BE MORE THAN 50 FEET MEASURED HORIZONTALLY FROM THAT DEVICE. IN LARGE ROOMS AND SPACES EXCEEDING 100 FEET ACROSS, THIS CONDITION CANNOT BE MET WITHOUT SUSPENDING THE VISUAL ALARM DEVICES FROM THE CEILING. IN LIEU OF SUSPENDING THE DEVICES FROM THE CEILING, THEY MAY BE PLACED ONLY AROUND THE PERIMETER OF THE ROOM SO LONG AS THEY ARE SPACED NO MORE THAN 100 FEET APART. THE 100-FOOT INCREMENTS ARE MEASURED ALONG THE PERIMETER OF THE ROOM. THIS APPLIES ONLY FOR LARGE ROOMS AND SPACES WHICH DO NOT HAVE OBSTRUCTIONS 6 FEET ABOVE THE FINISHED FLOOR (SUCH AS
- AUDITORIUMS). . UNITS AND SLEEPING ACCOMMODATIONS SHALL HAVE A VISUAL ALARM DEVICE CONNECTED TO THE BUILDING ALARM SYSTEM OR SHALL HAVE A STANDARD 110-VOLT ELECTRICAL RECEPTACLE INTO WHICH SUCH AN ALARM CAN BE CONNECTED. THERE SHALL ALSO BE A MEANS BY WHICH A SIGNAL FROM THE BUILDING ALARM SYSTEM CAN TRIGGER SUCH A DEVICE. WHEN VISUAL DEVICES ARE IN PLACES THE SIGNAL SHALL BE VISIBLE IN ALL AREAS OF THE UNIT OR

ROOM.

BUILDING FIRE ALARM SEQUENCE OF OPERATION

- A. ACTIVATION OF UNIT SMOKE/HEAT DETECTORS: 1. ALARM IN ONE DEVICE ACTIVATES ALL DEVICES IN THAT UNIT ONLY.
- 2. TENANT ARRIVE AT PULL STATION AND ACTIVATE BUILDING ALARM. B. ACTIVATION OF ANY WATER FLOW SWITCH:
- 1. INDICATE AT CONTROL PANEL ORIGIN OF ALARM VIA A FLASHING 2. ACTIVATE ALL AUDIBLE SIGNALS AT THE BUILDING UNDER ALARM. AUDIBLE SIGNALS SHALL BE SILENCEABLE BY MEANS OF THE ALARM ACKNOWLEDGE SWITCH, BUT SHALL RESOUND FOR SUBSEQUENT
- 3. ACTIVATE ALL VISUAL SIGNALS TO FLASH AT THE BUILDING UNDER ALARM UNTIL THE ALARM HAS BEEN ACKNOWLEDGED AT THE FIRE ALARM CONTROL PANEL (FACP). VISUAL SIGNALS SHALL FLASH AT THE SAME RATE AS AUDIBLE SIGNALS. 4. REPORT ALARM CONDITION TO UL LISTED CENTRAL STATION.
- CLOSURE OF ANY SUPERVISED SPRINKLER SYSTEM SHUT-OFF VALVE: 1. INDICATE AT CONTROL PANEL ORIGIN OF ALARM VIA A FLASHING 2. SOUND AN AUDIBLE SIGNAL (SEPARATE FROM ALARM AND TROUBLE) AT THE FIRE ALARM CONTROL PANEL. AUDIBLE SIGNAL SHALL BE SILENCEABLE, BUT OPERATE IN A MANNER SIMILAR TO THAT DESCRIBED FOR TROUBLE SIGNAL SILENCING. 3. REPORT SUPERVISORY CONDITION TO UL LISTED CENTRAL STATION.
- D. OCCURRENCE OF A FAULT IN WIRING ON ANY SUPERVISED CIRCUIT WITHIN THE SYSTEM: 1. INDICATE AT CONTROL PANEL VIA YELLOW L.E.D. WHICH SPECIFIC CIRCUIT HAS A FAULT. 2. SOUND AN AUDIBLE SIGNAL AT FIRE ALARM CONTROL PANEL. SIGNAL SHALL BE SILANCEABLE BY MEANS OF A PUSH-BOTTON, HOWEVER, A YELLOW L.E.D. SHALL CONTINUE TO IDENTIFY THE PRESENCE OF A TROUBLE CONDITION UNTIL IT IS CLEARED. UPON CLEARING OF ALL TROUBLES WITHIN THE SYSTEM, TROUBLE SWITCH IS RESTORED TO THE NORMAL POSITION 3. REPORT TROUBLE CONDITION TO UL LISTED CENTRAL STATION.

GENERAL ELECTRICAL SPECIFICATIONS:

A. EACH CONTRACTOR SHALL READ ALL RELEVANT DOCUMENTS, BECOME FAMILIAR WITH THE JOB, THE SCOPE OF WORK, TYPE OF GENERAL CONSTRUCTION, ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS AND THE SPECIFICATIONS. EACH CONTRACTOR SHALL ALSO FAMILIARIZE HIMSELF WITH THE PURPOSE FOR WHICH THESE DRAWINGS HAVE BEEN PREPARED AND SHALL BECOME COGNIZANT OF ALL THE DETAILS INVOLVED. B. THE TERM "CONTRACTOR" USED IN THIS SECTION OF SPECIFICATIONS SHALL MEAN THE CONTRACTOR WHOSE WORK IS COVERED BY THAT SECTION. C. WHEN THE TERM "ENGINEER" IS USED IN THIS SECTION OF

SPECIFICATION IT SHALL MEAN THE CONSULTING ELECTRICAL ENGINEER.

- A. THE WORK UNDER THIS SECTION OF THE SPECIFICATIONS SHALL INCLUDE ALL LABOR AND MATERIALS NOTED, REQUIRED OR NECESSARY FOR THE COMPLETE ELECTRICAL INSTALLATION DESCRIBED HEREIN AND/OR ON THE DRAWINGS. ALL WORK SHALL BE COMPLETED TO THE ENTIRE SATISFACTION OF THE OWNER AND ENGINEER. B. THIS WORK INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING: 1. FLECTRIC SERVICE AND METERING HERFINAFTER SPECIFIED INCLUDING FEES. PERMITS AND PROVISIONS FOR METERING EQUIPMENT AS AGREED TO BY OWNER AND CONTRACTOR. 2. COMPLETE SYSTEMS OF DISTRIBUTION AND UTILIZATION FOR LIGHT AND POWER (WITHIN THE JOB SITE). 3. EMPTY CONDUIT SYSTEM FOR TELEPHONES, POWER, COMMUNICATION, 4. LIGHTING FIXTURES AND LAMPS. 5. ROUGH-IN AND FINAL CONNECTIONS TO MECHANICAL EQUIPMENT.
- A. THIS CONTRACTOR SHALL CONTACT THE LOCAL POWER COMPANY AND MAKE ALL ARRANGEMENTS, PAY ALL FEES, AND ACQUIRE ALL PERMITS AS REQUIRED FOR THE INSTALLATION OF THE ELECTRICAL SERVICE AND SYSTEMS AS HEREINAFTER SPECIFIED. B. THE LOCAL POWER COMPANY WILL MAKE ALL TERMINATION'S TO THE TRANSFORMERS. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SECONDARY ELECTRICAL SERVICE AS REQUIRED BY LOCAL UTILITY COMPANY. C. THE ELECTRICAL CONTRACTOR SHALL ALSO MAKE ALL PROVISIONS WHICH MAY BE REQUIRED BY THE SERVICING UTILITY COMPANIES.

FURNISHED EQUIPMENT.

6. ROUGH-IN AND FINAL CONNECTION TO CONTRACTOR'S AND OWNER'S

- 1.4 FEES AND PERMITS

 A. EACH CONTRACTOR SHALL OBTAIN ALL PERMITS, INSPECTIONS, AND APPROVALS APPLICABLE TO HIS TRADE, AS REQUIRED BY REGULATORY AUTHORITIES. ALL FEES AND COSTS OF ANY NATURE WHATSOEVER INCIDENTAL TO THESE PERMITS. INSPECTIONS AND APPROVALS SHALL BE ASSUMED AND PAID BY THE CONTRACTOR, EXCEPT FOR METERS. THE OWNER WILL PAY FOR METERS AS REQUIRED. THE GENERAL UILDING PERMIT WILL BE OBTAINED UNDER OTHER SECTIONS OF WORK AND THAT PORTION OF THE COSTS INVOLVED IN OBTAINING THIS PERMIT WILL BE PAID BY THE CONTRACTOR FOR THE ELECTRICAL TRADE. THE PRO-RATE COSTS, IF ANY, OR UTILITIES SERVING THIS PROPERTY WILL BE PAID FOR BY THE OWNER AND SHALL NOT BE INCLUDED AS PART OF THIS CONTRACT.
- 1.5 CODES AND STANDARDS

 A. ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH ALL APPLICABLE LOCAL, COUNTY, STATE AND NATIONAL CODES, SPECIFICATIONS, ORDINANCES, UTILITY COMPANY REGULATIONS AND SPECIFIED INDUSTRY STANDARDS. B. IN CASE OF DIFFERENT BETWEEN BUILDING CODES, SPECIFICATIONS, STATE LAWS, LOCAL ORDINANCES, INDUSTRY STANDARDS AND UTILITY COMPANY REGULATIONS AND THE CONTRACT DOCUMENTS, THE MOST STRINGENT SHALL GOVERN. THE WORK INVOLVED WITH THESE DIFFERENCES SHALL BE PERFORMED AT NO ADDITIONAL COST TO THE C. IN ADDITION TO THE ABOVE, IF THE FOLLOWING INDUSTRY STANDARDS AND CODES ARE MORE STRINGENT, THEY SHALL TAKE PRECEDENCE.
- IEEE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS IES - ILLUMINATING ENGINEERING SOCIETY NEC - NATIONAL ELECTRIC CODE NEMA - NATIONAL ELECTRIC MANUFACTURER'S ASSOCIATION NFPA - NATIONAL FIRE PROTECTION ASSOCIATION UL - UNDERWRITER'S LABORATORIES D. ALL WORK SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER. ANY WORK FOUND TO BE UNSATISFACTORY, BY THE ENGINEER, LOCAL AUTHORITIES, OR OWNER, SHALL BE REMOVED AND REINSTALLED IMMEDIATELY AT NOT ADDITIONAL COST

E. ANY AND ALL INSTALLATION OF ELECTRICAL CONDUCTORS AND

APPARATUS SHALL BE PERFORMED BY SKILLED TRADESMAN AND

1.6 MANUFACTURERS DIRECTIONS

SUPERVISED BY A LICENSED ELECTRICIAN.

- A. THE MANUFACTURERS' PUBLISHED DIRECTIONS SHALL BE FOLLOWED IN THE DELIVERY, STORAGE, PROTECTION, INSTALLATION, PIPING AND WIRING OF ALL EQUIPMENT AND MATERIAL. SHOULD THE CONTRACTOR PERFORM ANY WORK THAT DOES NOT COMPLY WITH THE MANUFACTURERS' DIRECTIONS OR INSTRUCTIONS FROM THE OWNER, HE SHALL BEAR ALL COSTS ARISING IN CONNECTION WITH DEFICIENCIES.
- A. SEE SPECIFICATIONS

- 1.8 EQUIPMENT IDENTIFICATION
- A. ALL MAJOR EQUIPMENT SUCH AS PANEL BOARDS, DISCONNECTS, AND OTHER SIMILAR EQUIPMENT SHALL BE IDENTIFIED BY THE ATTACHMENT OF NAME PLATES. B. COMPLETE ALL IDENTIFICATION CARDS FOR SWITCHES, STARTERS, AND OTHER DEVICES IN ALL PANEL BOARDS, AND SIMILAR PIECES OF EQUIPMENT, WRITTEN IN A READABLE, NEAT MANNER AND INSERT THE CARD IN THE CARD HOLDERS BEHIND A SHEET OF CLEAR PLASTIC.
- A. EACH CONTRACTOR SHALL OBTAIN AT HIS OWN EXPENSE A COMPLETE SET OF BLUE LINE PRINTS ON WHICH HE SHALL KEEP AN ACCURATE RECORD OF THE INSTALLATION OF ALL MATERIALS AND SYSTEMS COVERED BY HIS CONTRACTUAL AGREEMENT. THE RECORD SHALL INDICATE THE LOCATION OF ALL EQUIPMENT AND THE ROUTING OF ALL SYSTEMS. ALL CONDUIT BURIED IN CONCRETE SLABS, WALLS, AND BELOW GRADE SHALL BE LOCATED BY DIMENSION UNLESS A SURFACE-MOUNTED DEVICE IN EACH SPACE INDICATES THE EXACT LOCATION. HE SHALL THEN OBTAIN AT HIS EXPENSE ONE COMPLETE REPRODUCIBLE SET OF THE ORIGINAL DRAWINGS ON WHICH HE SHALL NEATLY TRANSFER HIS NOTATIONS AND DELIVER THESE DRAWINGS TO THE ENGINEER AT JOB COMPLETION BEFORE FINAL PAYMENT FOR DFLIVERY TO THE OWNER.
- B. IN ADDITION TO THE ABOVE, EACH CONTRACTOR SHALL ACCUMULATE DURING THE JOB PROGRESS THE FOLLOWING DATA IN DUPLICATE PREPARED IN A NEAT BROCHURE OR PACKET FOLDER AND TURN OVER TO THE ENGINEER AND OWNER FOR CHECKING, BINDING AND SUBSEQUENT DELIVERY TO THE OWNER. THE ELECTRICAL CONTRACTOR SHALL INCLUDE IN HIS BID THE COST OF BINDING INTO A BOOK. 1. ALL WARRANTIES AND GUARANTEE AND MANUFACTURERS' DIRECTIONS ON EQUIPMENT AND MATERIAL COVERED BY THE CONTRACT. 2. COPIES OF APPROVED SHOP DRAWINGS.
- 1.10 ELECTRICAL ENERGY, WATER AND SANITARY FACILITIES A. ELECTRICAL ENERGY, WATER AND SANITARY FACILITIES REQUIRED FOR THE CONSTRUCTION OF THIS PROJECT SHALL BE PROVIDED AS HEREIN BEFORE SPECIFIED UNDER THE ARCHITECTURAL SECTIONS OF THE
- A. EACH CONTRACTOR SHALL KEEP A COMPETENT SUPERINTENDENT OR FOREMAN ON THE JOB AT ALL TIMES AND SHALL BE FULLY RESPONSIBLE FOR THE SUPERVISION OF HIS WORK. PERIODIC VISITATIONS TO THE PROJECT BY THE ENGINEER, COMMONLY REFERRED TO AS OBSERVATIONS, ARE ONLY FOR THE EXPRESS PURPOSE OF VERIFYING COMPLIANCE BY THE CONTRACTOR WITH THE CONTRACT DOCUMENTS. SUCH VISITATIONS BY THE ENGINEER SHALL NOT BE CONSTRUED TO MAKE THE ENGINEER RESPONSIBLE FOR PROVIDING A SAFE PERFORMANCE OF THE WORK BY THE CONTRACTOR OF THE CONTRACTOR'S EMPLOYEES OR THE SAFETY OF THE SUPPLIES OF THE
- 1.12 DRAWINGS AND SPECIFICATIONS A. THE DRAWINGS SHOW DIAGRAMMATICALLY THE LOCATIONS OF THE VARIOUS LINES, DUCTS, CONDUITS, FIXTURES, AND EQUIPMENT AND THE METHOD OF CONNECTING AND CONTROLLING THEM. IT IS NOT INTENDED TO SHOW EVERY CONNECTION IN DETAIL AND ALL FITTINGS REQUIRED FOR A COMPLETE SYSTEM. THE SYSTEMS SHALL INCLUDE BUT ARE NOT LIMITED TO THE ITEMS SHOWN ON THE DRAWINGS. EXACT LOCATIONS OF THESE ITEMS SHALL BE DETERMINED BY REFERENCE TO THE GENERAL PLANS AND MEASUREMENTS AT THE BUILDING AND IN COOPERATION WITH THE OTHER SUBCONTRACTORS, AND IN ALL CASES, SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER AND OWNER. THE OWNER RESERVES THE RIGHT TO MAKE ANY REASONABLE CHANGE

CONTRACTOR OR HIS SUB-CONTRACTORS.

ADDITIONAL COST.

- IN THE LOCATION OF ANY PART OF THIS WORK WITHOUT ADDITIONAL COST TO THE OWNER. B. SHOULD ANY CHANGES BE DEEMED NECESSARY BY THE CONTRACTOR IN ITEMS SHOWN ON THE CONTRACT DRAWINGS, THE SHOP DRAWINGS, DESCRIPTIONS AND THE REASON FOR THE PROPOSED CHANGES SHALL BE SUBMITTED TO THE ENGINEER AND OWNER FOR C. EXCEPTIONS AND INCONSISTENCIES IN PLANS AND SPECIFICATIONS
- SHALL BE BROUGHT TO THE OWNER'S ATTENTION BEFORE BIDS ARE SUBMITTED; OTHERWISE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF ANY AND ALL CHANGES AND ADDITIONS THAT MAY BE NECESSARY TO ACCOMMODATE HIS PARTICULAR APPARATUS. D. THE CONTRACTOR SHALL LAY OUT HIS WORK MAINTAINING ALL LINES, GRADES AND DIMENSIONS ACCORDING TO THESE DRAWINGS WITH DUE CONSIDERATION FOR OTHER TRADES AND VERIFY ALL DIMENSIONS AT THE SITE PRIOR TO ANY FABRICATION OR INSTALLATION. SHOULD THE LAYOUT BE IMPRACTICAL, THE OWNER SHALL BE NOTIFIED BEFORE ANY INSTALLATION OR FABRICATION, AND THE EXISTING CONDITIONS SHALL BE INVESTIGATED AND PROPER CHANGES EFFECTED WITHOUT
- E. TITLES OF SECTIONS AND PARAGRAPHS IN THESE SPECIFICATIONS ARE INTRODUCED MERELY FOR CONVENIENCE AND ARE NOT TO BE CONSTRUED AS A CORRECT OR COMPLETE SEGREGATION TO TABULATION OF THE VARIOUS UNITS OF MATERIALS AND/OR WORK. THE OWNER DOES NOT ASSUME ANY RESPONSIBILITY, EITHER DIRECT OR IMPLIED, FOR OMISSIONS OR DUPLICATIONS BY THE CONTRACTOR OR ANY SUBCONTRACTOR, DUE TO REAL OR ALLEGED ERROR IN THE ARRANGEMENT OF MATTER IN THE CONTRACT DOCUMENTS. F. DIFFERENT ELECTRICAL OUTLETS, DEVICES, ETC., ARE INDICATED BY SYMBOLS SCHEDULED ON THE DRAWINGS. APPROXIMATE LOCATIONS ARE SHOWN; HOWEVER, THE DESIGN TEAM RESERVES THE RIGHT TO MAKE REASONABLE CHANGES IN LOCATIONS WITHOUT ADDITIONAL COSTS. G. LINES INDICATING BRANCH CIRCUITS DO NOT SHOW EXACT ROUTING BUT INDICATE THE ARRANGEMENT AND CONTROL OF CIRCUITS. CONCEAL RACEWAYS (UNLESS NOTED OTHERWISE) AND RUN IN MOST DIRECT MANNER BETWEEN CABINETS, OUTLETS, ETC.

GENERAL NOTES

- A. THE ELECTRICAL INFORMATION SHOWN ON THIS PLAN IS BASED UPON THE LATEST INFORMATION AVAILABLE FROM THE RESPECTIVE UTILITY COMPANIES. IT IS INTENDED FOR PURPOSES OF GENERAL BIDDING AND BASIC CLARITY. SPECIFIC JOB SITE CONDITIONS SHALL BE FIELD VERIFIED PER NOTES 'B' THROUGH 'M' BELOW. THE ELECTRICAL CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR SAID FIELD CONDITIONS AND ANY ASSOCIATED CHANGES REQUIRED BY THE RESPECTIVE UTILITY COMPANIES INVOLVED.
- . THE ELECTRICAL CONTRACTOR SHALL CONTACT THE ELECTRICAL UTILITY, ED. VERIFY ALL REQUIREMENTS AND EQUIPMENT, AND PROVIDE ALL WIRING, BOXES, CONDUIT, CONCRETE PADS, TRENCHING AND BACKFILL, ETC., NECESSARY FOR PROPER INSTALLATION. PAY ALL FEES AND CHARGES INCURRED. COORDINATE WITH ELECTRICAL UTILITY.
- THE ELECTRICAL CONTRACTOR SHALL CONTACT THE TELEPHONE UTILITY, VERIFY ALL REQUIREMENTS AND EQUIPMENT, AND FURNISH AND INSTALL ALL WIRING, BOXES, CONDUIT, GROUNDING, CONCRETE PADS, TRENCHING AND BACKFILL, ETC., NECESSARY FOR PROPER INSTALLATION. PAY ALL FEES AND CHARGES INCURRED. COORDINATE WITH TELEPHONE UTILITY.
- THE ELECTRICAL CONTRACTOR SHALL FIELD VERIFY, IN THE PRESENCE OF THE RESPECTIVE UTILITY COMPANY REPRESENTATIVES, THE LOCATIONS OF ALL EXISTING UTILITY SERVICES AND EQUIPMENT, AND THE PROPOSED LOCATIONS OF ALL NEW UTILITY SERVICES AND EQUIPMENT. THE ELECTRICAL CONTRACTOR SHALL INCLUDE IN HIS BID SUFFICIENT FUNDS TO COVER ALL COSTS REQUIRED BY UTILITY COMPANIES TO PROVIDE NEW SERVICES AND/OR UPGRADE EXISTING SERVICES. NO ALLOWANCES WILL BE MADE FOR THE ELECTRICAL CONTRACTOR'S UNFAMILIARITY WITH THE EXISTING CONDITIONS, REQUIREMENTS OF THE NEW CONDITIONS, AND/OR FAILURE TO COORDINATE INSTALLATION WITH THE RESPECTIVE UTILITY.
- THE ELECTRICAL CONTRACTOR SHALL CONTACT THE LOCAL ELECTRICAL CODE ENFORCEMENT AUTHORITIES AND THE LOCAL FIRE MARSHAL, VERIFY ALL REQUIREMENTS AND EQUIPMENT, AND FURNISH AND INSTALL ALL ELECTRICAL ITEMS NECESSARY FOR PROPER INSTALLATION IN STRICT ACCORDANCE WITH THE GUIDELINES AND INTERPRETATIONS SET FORTH BY THESE GOVERNING LOCAL AUTHORITIES, ABOVE AND BEYOND ALL THE BASIC ELECTRICAL AND FIRE ALARM REQUIREMENTS SET FORTH IN THE NEC AND NFPA. NO ALLOWANCES WILL BE MADE FOR THE ELECTRICAL CONTRACTOR'S FAILURE TO COORDINATE ALL SUCH REQUIREMENTS WITH SAID LOCAL AUTHORITIES.
- THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SITE LIGHTING AS REQUIRED BY OWNER AND OWNER'S LANDSCAPE LIGHTING DESIGNER. SITE LIGHTING SHALL BE INSTALLED TO PROVIDE A MINIMUM N.A.I.E.S. STANDARDS OF ONF-QUARTER (1/4) FOOT-CANDLE AVERAGE MAINTAINED ON PAVED, UNENCLOSED OR UNSHELTERED DRIVING SURFACES. PROVIDE BUILDING-MOUNTED FLOOD LIGHTS, POLE LIGHTS AND OTHER SITE LUMINARIES INDICATED ON SITE PLAN ELECTRICAL SYMBOLS LEGEND IN LOCATIONS SHOWN. HOMERUN THRU PHOTOCELL TO NEAREST OWNERS PANEL.
- THE ELECTRICAL CONTRACTOR SHALL FURNISH & INSTALL ALL J-BOXES, POWER, CONTROL AND RELATED COMMUNICATIONS WIRING IN CONDUIT PLUS ALL FINAL CONNECTIONS FOR ALL ID SIGNS, SECURITY GATES, CARD PEDESTALS, ETC.
- · HOMERUN SITE LIGHTING CIRCUITS THROUGH PHOTOCELL, RELAY TO 20A/1P CIRCUIT BREAKER IN NEAREST OWNER'S PANEL OR CLUBHOUSE PANEL. LOCATIONS OF ALL POST LIGHTS. WALKWAY DECOR LIGHTS. AND OTHER LANDSCAPE LIGHTING SHALL BE FIELD VERIFIED PRIOR TO INSTALLATION WITH
- ON THIS SMALL SCALE PLAN ARE APPROXIMATE ONLY. ALL ELECTRICAL WORK SHALL CONFORM TO THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE, NFPA 70, AS ENFORCED BY THE AUTHORITIES

LANDSCAPE ARCHITECT AND OWNER'S REPRESENTATIVE. LOCATIONS SHOWN

HAVING JURISDICTION. WHERE A FIRE ALARM SYSTEM OR SYSTEMS ARE REQUIRED, PROVIDE APPROPRIATE CONSTRUCTION CONFORMING TO THE LATEST EDITION OF THE NATIONAL FIRE PROTECTION ASSOCIATION FIRE ALARM CODE, NFPA 72, AND ALL LOCAL CODES AS ENFORCED BY THE AUTHORITIES HAVING JURISDICTION. INSTALLATION OF SWITCHES AND RECEPTACLES IN ACCESSIBLE UNITS SHALL BE IN ACCORDANCE WITH US DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT-FHA. IF THE ELECTRICAL CONTRACTOR CANNOT DETERMINE THE

EXACT HEIGHT OF SWITCHES AND RECEPTACLES, CONTACT ELECTRICAL

ENGINEER FOR ASSISTANCE. M. THE ELECTRICAL CONTRACTOR SHALL INCREASE CONDUCTORS ONE SIZE FOR EVERY 100 FT. IN ORDER TO PREVENT A VOLTAGE DROP EXCEEDING 5% AT THE FARTHEST OUTLET OF POWER, HEATING AND LIGHTING LOADS, OR COMBINATION OF SUCH LOADS. WHERE THE MAXIMUM TOTAL VOLTAGE DROP ON BOTH THE FEEDERS AND BRANCH CIRCUITS TO THE FARTHEST OUTLET DOES NOT EXCEED 5%, THIS WILL PROVIDE REASONABLE EFFICIENCY OF OPERATION. IF THE ELECTRICAL CONTRACTOR CANNOT DETERMINE THE VOLTAGE DROPS OR PROPER CONDUCTOR SIZE, CONTACT THE ELECTRICAL

ENGINEER FOR ASSISTANCE.