* EXPOSED OUTSIDE, THROUGH OUTSIDE WALL OR ROOF, OR THROUGH TWO-HOUR OR MORE RATED FIRE BARRIERS; GALVANIZED RIGID STEEL (GRS) CONDUIT MADE UP WATER TIGHT.
* FINAL CONNECTION IN DRY LOCATIONS SERVING LIGHTING FIXTURES; FLEXIBLE METAL CONDUIT OR FLEXIBLE METALLIC TUBING.
* CONNECTIONS TO MOTORS, OR TO COMPONENTS IN WET OR DAMP LOCATIONS, LIQUIDTIGHT FLEXIBLE METAL CONDUIT (LT FLEX). 8. GENERAL WIRING CONDUCTORS OPERATING AT 600 VOLTS AND BELOW; RATED 60 HERTZ, 600 VOLTS, WITH 75oC OR 90oC INSULATION AS FOLLOWS:
A. FEEDER CONDUCTORS: RATED FOR WET LOCATIONS OF 'THW', 'THWN' OR 'XHHW'.
B. BRANCH CONDUCTORS RATED FOR:
* WET LOCATIONS, OR LOCATIONS LOCATED BELOW GRADE OR ENCASED IN SLAB ON GRADE, OF 'THW', 'THWN' OR 'XHHW'.

OF 'THW', 'THWN' OR 'XHHW'.

* DRY LOCATIONS OF 'THW', 'THWN', 'XHHW' OR 'THHN'.

C. RATED LIGHTING CONDUCTORS FOR CIRCUITS REQUIRING 90oC RATING; 'THHN' OR 'XHHW', OTHER APPROVED TYPE.

D. JOINTS ON CONDUCTORS RATED ABOVE 75oC; TAPED OR MADE—UP WITH MATERIALS HAVING A SUITABLE HIGH TEMPERATURE RATING 8. FUSED SWITCHES IN BRANCH CIRCUITS; NON-RENEWABLE CARTRIDO 300 VAC OR 600VAC AS FOLLOWS:

* SIZES 1 - 200 AMPS: DUAL ELEMENT, CURRENT LIMITING FUSES, SELECTED TO PROVIDE STARTING AND LIMIT LET-THRU CURRENT.

* OTHER RATINGS, SIZES OR SPECIAL APPLICATIONS AS INDICATED. 7. RACEWAYS; MINIMUM TRADE SIZE AS FOLLOWS:

* 1"-INCH; GENERAL.

* 1-INCH; 'HOMERUN' CIRCUIT WIRING;

MORE THAN (3) CONDUCTORS.

8. PROVIDE JUNCTION OR PULL BOXES TO AVOID EXCESSIVE RUNS OR BENDS OUTLETS, AND AT LOW POINTS IN RACEWAY RUNS. 2. DISTRIBUTION EQUIPMENT USING 'SQUARE D' I-LINE DEVICES. 6. DISCONNECT SWITCHES; 'HEAVY—DUTY' RATED WITH QUICK—MAKE AND MECHANISMS. PROVIDE GROUND LUGS AND CODE REQUIRED ACCESSORIES. OUTSIDE; 'NEMA—3R' ENCLOSED TYPE WITH LOCKING HASP. 4. PANELBOARD MAINS; COPPER OR ALUMINUM WITH BRANCH CONNECTIONS IN VERTICALLY DISTRIBUTED CONSECUTIVE PHASE SEQUENCE SUCH THAT ONE OR MULTIPLE POLE BREAKERS CAN BE MOUNTED IN ANY POSITION. SOLID NEUTRAL BUS; WITH A FEEDER LUG AND WITH A SEPARATE SET-SCREW TERMINAL FOR EACH BRANCH CIRCUIT POLE. 3. PANELBOARDS; FACTORY ASSEMBLED, MINIMUM WIDTH OF 20 INCHES, A MINIMUM DEPTH OF 5-1 INCHES, AND MINIMUM MAINS RATED 100 AMPERES, WITH POLE 'SPACES'; BUSSED AND READY FOR INSTALLATION OF PROTECTIVE DEVICES. CABINETS; FULL SIZED SINGLE DOORS WITH CHROMIUM PLATED COMBINATION CYLINDER LOCK AND CATCH AND TWO KEYS. "GENERAL ELECTRIC" OR EQUAL: TYPE "NLAB" W/ Q-LINE BRANCH CIRCUIT BREAKERS; TYPE "NHB" WITH E-FRAME BREAKERS. * No.12 AWG SIZE AND SMALLER; SOLID.

* No.10 AWG SIZE; SOLID OR STRANDED.

* No.8 AWG SIZE AND LARGER; STRANDED. STRANDED CONDUCTORS; CLASS 'B' OR 'C'

* CONDUCTORS FOR FIRE "ALARM" SYSTEMS; SOLID COPPER.

* CONTROL CIRCUITS; MINIMUM AWG No.14.

* POWER AND LIGHTING BRANCH CIRCUITS; AWG # 12 FOR GENERAL CIRCUITS NOT REQUERATING OR SIZE INCREASE TO REDUCE VOLTAGE DROP. PANELBOARD MOUNTING; TOP OF ENCLOSURE 78 INCHES ABOVE THE H THE BOTTOM OF THE CABINET NOT CLOSER THAN 6 INCHES TO THE CPERLY ALIGNED AND SUPPORTED INDEPENDENTLY OF THE CONNECTING DE CIRCUIT DIRECTORY CARD USING A TYPEWRITER. USE A SPERATE LUG FOR EACH CONDUCTOR WHERE MULTIPLE CONDUCTORS ARE CONNECTED HE SAME ELECTRICAL TERMINAL POSITION GROUP SINGLE-POLE BREAKERS USED FOR MULTI-WIRE CIRCUITS CONSECUTIVELY ON THE SIDE OF THE CABINET. EMT COUPLINGS AND CONNECTORS; METAL AS FOLLOWS:
RAINTIGHT, HEX-NUT, EXPANSION- GLAND COMPRESSION STEEL, FOR A
TON OR FEEDER (OR SUB-FEEDER..
SET-SCREW OR TAP-ON, STEEL OR CAST METAL, FOR DRY LOCATIONS. FEEDER CONDUCTORS (TO INCLUDE SUB-FEEDER); UNSPLICED THROUGHOUT THEIR LENGTH. CONDUCTORS; COLOR CODED PER CODE AND UTILITY CO. CONDUCTOR SIZE NUMBERS; AMERICAN WIRE GAUGE (AWG. RIGID STEEL GRS, AND STEEL IMC; HOT DIP GALVANIZED TYPE RMC GALVANIZED CONDUIT CIRCUIT CONDUCTORS; CABLE CONCEALED, EXCEPT RACEWAYS IN ANNEALED COPPER WITH CONDUCTIVITY UNSPLICED EXCEPT WHERE CIRCUITS ARE SHOWN TO 40 PVC CONDUIT, EXCEPT WHERE SCH. 80 IS TO INSTALLATION CONFIGURATION.

ALL INTERIOR WIRING UNLESS OTHERWISE NOTED. QUICK-MAKE AND QUICK-BREAK QUICK-BREAK
SWITCHES LOCATED NOT LESS THAN DIVIDE BY 4. LOCATE WALL OPENING. 8. DO NOT USE SUSPENDED CEILING CONSTRUCTION TO SUPPORT RACEWAYS, BOXES OR OTHER ITEMS, EXCEPT AS ALLOWED BY CODE AND ACCEPTED BY THE ARCHITECT IN WRITING

3. BOXES FOR USE WITH GENERAL RACEWAY SYSTEMS; 4 INCHES SQUARE OR OCTAGOI SIZE, NOT BE LESS THAN 1-1/2 INCHES DEEP, EXCEPT WHERE SHALLOWER BOXES ARE BY STRUCTURAL CONDITIONS. 4 BY 2 INCH BOXES; WHERE ONLY ONE RACEWAY ENTERS OUTLET BOX, OR WHERE NEEDED TO MATCH DEVICES AND/OR MOUNTING HARDWARE. 4. BOXES FOR RACEWAY SYSTEMS SERVING CEILING 'POWER' GRID SYSTEMS OR LIGHTING FIXTURES; SIZE 4-11/16 INCH SQUARE BOXES, 42 CU. IN. USE EXTENSION RINGS OR LAR BOXES IF NECESSARY TO MEET CU. IN. CAPACITY REQUIRED BY CODE. 6. ENCLOSURES AND BOXES; VOLUME AND REQUIRED WIRE BENDING AND FEATURES TO SUIT CODE REQUIREMENTS. 5. INSTALL FLOOR BOXES OR THRU-FLOOR RACEWAYS CENTERED BETWEEN CONCRETE JOI ALIGN TWO OR MORE FLOOR BOXES IN AN AREA WITH WALLS. LL TYPE BOXES.
DS, OR A MINIMUM
3 CONDUIT TO PREVENT
3 AS APPROVED BY THE GUTTER SPACE ₽

SUBMITTALS:

1. SUBMIT SHOP DRAWINGS & PRODUCT IN

* SERVICE & DISTRIBUTION EQUIPMENT

* PROTECTIVE DEVICES

* LIGHTING FIXTURES AND LAMPS

* WIRING DEVICES AND COVER PLATES

D. DEVICE PLATES: ONE PIECE SINGLE OR MULTI-GANG TYPE SELECTED TO MATCH THE SPECIFIC DEVICE OR COMBINATION OF DEVICES. DEVICES FLUSH MOUNTED IN EXPOSED MASONRY CONSTRUCTION SHALL BE JUMBO TYPE. DEVICE PLATES FOR SURFACE MOUNTED DEVICES SHALL BE USED WITH THE TYPE OF OUTLET OR OUTLET BOX IN WHICH THE DEVICE IS MOUNTED. PROVIDE DEVICES INSTALLED IN AREAS EXPOSED TO THE WEATHER WITH A WEATHERPROOF DEVICE PLATE. DEVICE PLATES SHALL BE METAL.

E. FINISHES: SEE ARCHITECTURAL PLANS FOR FINISH OF SWITCH HANDLES, DEVICE FACES, AND FLUSH MOUNTED COVER PLATES. 1. RECEPTACLES AND WALL SWITCHES: THE TYPE AND SIZE INDICATED ON THE DRAWINGS. EQUAL BY BRYANT, EAGLE OR P & S.
A. SWITCHES SHALL BE 20 AMP 120/277 VOLT SPECIFICATION GRADE. NUMBER OF POLES: AS INDICATED ON DRAWINGS.
B. DUPLEX OUTLETS SHALL BE 20 AMP 125 VOLT AC 3 WIRE SPECIFICATION GRADE STRAIGHT BLADE.
C. SINGLE OUTLETS SHALL RF 20 AMP 125 VOLT AC 3 WIRE SPECIFICATION GRADE STRAIGHT SINGLE OUTLETS SHALL BE 20 AMP 125 VOLT AC 3 WIRE SPECIFICATIONS GRADE STRAIGHT

3. ALIGN DEVICES AT DIFFERENT LEVELS VERTICALLY. GROUP DEVICES AT THE SAME LEVEL USING SECTIONAL GANG BOXES. CENTER DEVICES IN ARCHITECTURAL FEATURES. MOUNT DEVICES RECESSED FOR FLUSH INSTALLATION. PROVIDE COVER PLATES FOR EACH SWITCHES ON THE STRIKE SIDE OF A DOOR, SIX (6) INCHES FROM

6. INSTALL WIRING DEVICES WITH TOP-OF-BOX MOUNTING HEIGHTS ABOVE FINISHED BETWEEN 18 INCHES AND 48 INCHES, AS REQUIRED BY HANDICAPPED CODES. MOUNT SMALL FLUSH MOUNTED MOTOR DEVICES IN STANDARD DEVICE BOXES.

2. FLUORESCENT BALLASTS FOR THE MINI-LAMPS; U.L. LABELED OR ACCEPTABLE OFFICIALS, ENCAPSULATED, QUIET OPERATING DESIGN IF AVAILABLE. ORIENT FLUORESCENT LAMPS WITHIN THE SAME VISUAL SPACE IN THE SAME DIRECTION. FLUORESCENT BALLASTS; HIGH POWER FACTOR (HPF) TYPE, 'A', AND ENERGY SAVING TYPE. DING

S. GROUNDING:

1. GROUND ELECTRICAL SYSTEMS, EQUIPMENT, AND SUPPORTING STRUCTURES. PROVIDE BONDING JUMPERS WHERE NECESSARY. MECHANICALLY AND ELECTRICALLY SECURE METAL RACEWAYS AND FITTINGS, JOINTS AND CONNECTIONS AT EQUIPMENT TO PROVIDE AN GROUNDING METAL RACEWAYS AND FITTINGS, JOINTS AND CONNECTIONS AT EQUIPMENT TO THEIR LENGTH FOR AN EFFECTIVE GROUNDING PATH TO THE POWER SERVICE DISCONNECT SWITCH IN ACCORDANCE WITH NEC ARTICLE 250

2. PROVIDE FOR EACH RACEWAY A GREEN #12 GROUNDING CONDUCTOR IN ADDITION TO BRANCH. CONNECTIONS OF CONDUIT JOINTS AND CONNECTIONS OF CONDUIT TO OTHER METALLIC COMPONENTS OF THE POWER DISTRIBUTION SYSTEM SHALL BE MECHANICALLY SOUND IN ORDER TO PROVIDE ELECTRICAL CONTINUITY THROUGHOUT THE SYSTEM SHALL BE MECHANICALLY SOUND IN ORDER TO PROVIDE ELECTRICAL CONTINUITY THROUGHOUT THE DISTRIBUTION SYSTEM SHALL BE MECHANICALLY SOUND IN ORDER TO PROVIDE ELECTRICAL CONTINUITY THROUGHOUT THE SYSTEM

1. CONNECTIONS OF CONDUIT TO OTHER METALLIC COMPONENTS OF THE POWER DISTRIBUTION SYSTEM SHALL BE MECHANICALLY SOUND IN ORDER TO PROVIDE ELECTRICAL CONTINUITY THROUGHOUT THE SYSTEM

TESTING:

1. TEST INDIVIDUAL SYSTEMS AND COMPONENTS FO
1. TEST INDIVIDUAL SYSTEMS AND COMPONENTS FO
PERFORM TESTS AS REQUIRED BY CODE, LOCAL PRACT
THE OWNER'S REPRESENTATIVE WHERE A QUESTION ARI
OPERATION OF MATERIALS.

2. PROVIDE TESTING INSTRUMENTS, PROCEDURES, AND ARION OF MATERIALS. AND GROUNDING TYPE CONDUCTORS FOR ISOLATED SEPARATELY DERIVED ELECTRICAL SYSTEM.

2. FASTENINGS FOR SECURING CONDUIT RUNS, LIGHT APPARATUS.

* BOLTS, BEAM CLAMPS, OR DRIVEN OR WELDED STUDS ON STEEL

* TOGGLE BOLTS ON HOLLOW TILE OR CONCRETE BLOCKS

* STEEL ANCHORS OF THE SELF-DRILLING OR NON-DRILLING TYPES ON SMASONRY.

* POWER DRIVEN STUDS MAY BE USED ON STEEL AND SOLID CONCRETE THE OWNER'S REPRESENTATIVE. MAJOR COMPONENTS OF THE DISTRIBUTION SYSTEM SUCH AS THE PERMANENT NAMEPLATES FOR EQUIPMENT IDENTIFICATION. PANELBOARD SUCH AS AB G3.

4. SEAL CONDUITS ROUTED BETWEEN SPACES OF DIFFERENT AMBIENT TEMPERATURES, REFRIGERATED SPACES OR OUTDOOR AREAS,TO PREVENT CIRCULATION OF AIR.

-EQUIPMENT INDENTIFICAITON NAMEPLATES FOR ALL NORMAL AND EMERGEI ELECTRICAL EQUIPMENT INCLUDING BUT NOT LIMITED TO, SUBSTATIONS EQUIPMENT SWITCHBOARDS, PANEL BOARDS, MOTOR CONTROL CETNERS, DISCONNECT SWITCHES, FUSIBLE DISCONNECT SWITCHES, WIRE WAYS, BUSTRAYS, AUTOMATIC TRANSFER SWITCHES, TRANSFORMERS, UNINTERRUPTIBLE SUPPLIES, GENERATORS, ETC. PROVIDE NAMEPLATES FOR THE -FOR ALL NEW INSTALLATIONS CUBILCE/SPACE LABLES FOR ALL

-NO TEMPORAR MARKINGS PERMITTED TO TEMPRARY MARKINGS WHERE POSSIBLE. =ALL NAMEPLATES SHALL BE ENGRAVED. WITH RIVETS OR SCREWS. IDENTIFY FUSE TYPE AND PLATES

NAMEPLATES: ELECTRICAL COLOR SCHEME FOR ENGRAVED ELECTRICAL NAMEPLATE LABELS EQUIPMENT IDENTIFICATION METHODOLOGY

3. SUPPORT CONCEALED CONDUIT ABOVE THE CEILING INDEPENDENTLY OF CEILING CONSTRUCTION. INSTALL CONDUITS HIGH ABOVE LAY—IN CEILINGS TO PERMIT REMOVAL OF CEILING CONSTRUCTION. INSTALL CONDUITS HIGH ABOVE LAY—IN CEILINGS TO PERMIT REMOVAL OF CEILING CONSTRUCTURAL MEMBERS AND INSTALL EXPOSED RACEWAYS PARALLEL OR PERPENDICULAR TO STRUCTURAL MEMBERS AND RECHITECTURAL FEATURES. INSTALL CONCEALED CONDUIT RACEWAYS WITH AS FEW BENDS AS TEASIBLE, COORDINATED WITH STRUCTURAL, MECHANICAL AND ARCHITECTURAL REQUIREMENTS.

RENOVATION NOTES:

CONTRACTOR SHALL VISIT THE SITE AND THOROUGHLY FAMILIARIZE HIMSELF WITH EXISTING CONDITIONS, VERIFY LOCATIONS, CONDUIT ROUTING, ETC. BEFORE SUBMITTING A BID. ANY DISCREPANCIES SHALL BE REPORTED TO THE ARCHITECT BEFORE THE BID DATE.

EXISTING CIRCUITS INDICATED ARE DIAGRAMMATIC ONLY. VERIFY EXACT ROUTING OF EXISTING CONDUIT RUNS AND NUMBERS OF CONDUCTORS AND EXTEND EXISTING CIRCUITS TO NEW PANELBOARD LOCATIONS AS REQUIRED TO ACCOMPLISH DESIGN INTENT.

RE-USE EXISTING BRANCH CIRCUIT CONDUITS WHERE POSSIBLE. ALL UNUSED CONDUIT SHALL BE REMOVED.

UP-DATE DIRECTORIES IN EXISTING PANELBOARDS TO REFLECT CHANGES, DELETIONS AND ADDITIONS BY THE RENOVATION.

ALL COVERPLATES FOR ALL TELEPHONE/DATA, SWITCH AND OUTLET PLATES SHALL BE REPLACED WITH NEW AND MATCH EXISTING.

DUPLEX GROUNDING TYPE RECEPTACLE, 20A,

DUPLEX GROUND FAULT INTERRUPTER TYPE RECEPTACLE, MOUNT 6" ABOVE ROOF IN CAST OUTLET BOX, OR 18"MINIMUM AFG. WITH WEATHERPROOF, GASKET DEVICE COVER.

DUPLEX GROUND FAULT INTERRUPTER TYPE RECEPTACLE, MOUNT 18" TO TOP OF BOX A.F.F U.O.N..

2'X2'X3/4" PLYWOOD BACKBOARD WITH DEDICATED QUAD RECEPTACLE AND #6G. WITH 6' OF SLACK

ELECTRICAL CIRCUIT RUN IN CONDUIT AND CIRCUIT HOMERUN TO PANELBOARD (PANEL AND CIRCUIT DESIGNATION AS INDICATED). EACH SINGLE PHASE CIRCUIT SHALL HAVE ONE #12 PHASE CONDUCTO ONE #12 NEUTRAL CONDUCTOR, AND ONE #12 GROUNDING CONDUCTOR IN 3/4" CONDUIT. ADDITION WITCH LEG" CONDUCTOR SHALL BE PROVIDED TO THE LIGHT FIXTURE CONTROL INDICATED. BRANCH CIRCUIT CONDUCTORS IN CONDUIT SHALL BE RUN CONCEALED IN WALLS AND/OR ABOVE CEILINGS, IN/OR BELOW FLOORS, EXCEPT IN EXPOSED CONSTRUCTION AREAS. CONDUCTOR AND CONDUIT SIZES OTHER THAN #12 AND 3/4" SHALL BE AS INDICATED. NO SHARED NEUTRALS.

FINAL CONNECTION WITH FLEXIBLE METAL MINIMUM LENGTH 18".

DISCONNECT SWITCH, 240 NEMA 1, U.O.N. OR 600 VOLTS AS REQUIRED. POLES AND FUSING AS NOTED,

ATTENTION IS DRAWN TO THE FACT THAT THIS PROJECT INVOLVES RENOVATION OF AN EXISTING FACILITY.

ANY ELECTRICAL DEVICES LEFT WITHOUT POWER DUE TO THIS RENOVATION SHALL BE RECONNECTED TO SAME SIZE CIRCUIT(S) AS PREVIOUSLY SERVED. NO ELECTRICAL DEVICES SHALL BE LEFT WITHOUT POWER.

(2) DUPLEX GROUNDING A.F.F, U.O.N TYPE RECEPTACLES IN COMMON BOX, 20A,

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PANELBOARD, VOLTAGE AND PHASE PER PANEL SCHEDULE.

OJUNCTION BOX.

MOTOR CONNECTION.

1. COORDINATE LOCATION OF POWER REQUIREMENTS IN CARCHITECTURAL DRAWINGS. ELECTRICAL NOTES:

E.C. TO PROVIDE ALL NEW CONDUITS FOR ALL LINE VOLTAGE AND LOW VOLTAGE COMMUNICATIONS WIRING. PROVIDE PULLSTRINGS IN ALL EMPTY CONDUITS.

MAIN TELEPHONE DISTRIBUTION LINE CONDUITS TO BE TENANT E.C.
CIRCUITS FOR STOREFRONT SICKIS TO BE BY E.C.

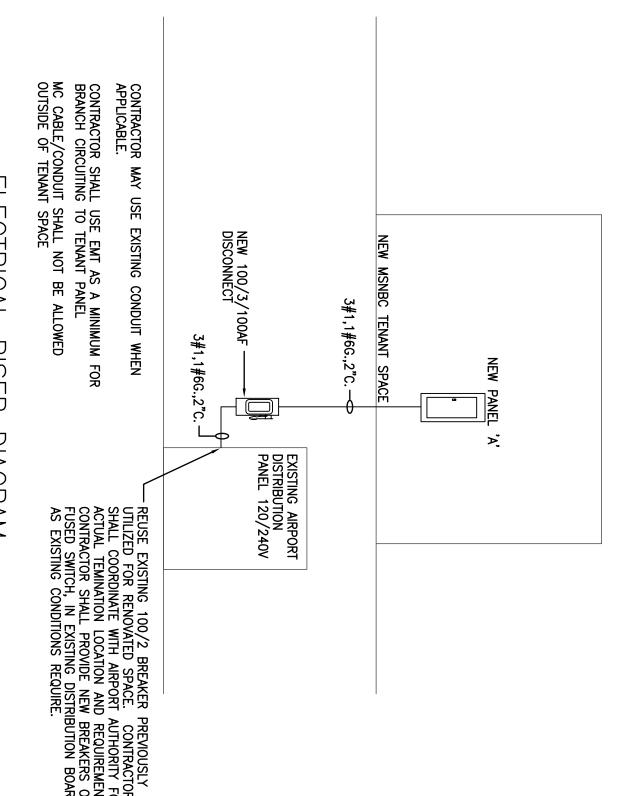
ELECTRICIAN TO BE SUBCONTRACTED BY TENANT'S GENERAL CONTRACTOR

MC CABLE SHALL BE ALLOWED FOR RUNS FROM JUNCTION BOX LIGHTING FIXTURES WITH A 6 FOOT MAXIMUM RUN.

MC CABLE FACTORY WHIPS SHALL BE ALLOWED TO BE FOR CONNECTIONS TO LIGHTING FIXTURES.

10.

0.8 0.5 0.5 0.5 0.5 0.5 0.5 1.2 1.2 1.2 1.2 1.2 0.5 0.5 NELBOARD SCHEDULE



ELECTRICAL NOT TO SCALE RISER <u>DIAGRAM</u>

THE PARADIES

SHOPS

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DRAWING

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Specifica