PARTY - PRODUCTS

ACCEPTABLE MANUFACTURERS
 Supporting devices and hangers shall be manufactured by RACO Fastelyers, or approved equivalent.

PART 2 EXECUTION 2.01 2.01

INSTALLATION A. Security

TALLATION

Secure conduits to within 3' of each gotter too, junction box, cabinet, fitting, etc., and at intervals not the ceed ten feet (10') and in accordance with year hand placing Code. In seismic zones, support conduits 1' and under at 6' intervals.

- Install clamps secured to structure to treeder and other conduits routed against the structure. Use grop rous and hangers or racks to support conduits run-apart from the structure.
- Provide and install suitable angle iron, channel iron or steel metal framing with accessories to support or brace electrical equipment including safety switches, fixtures, panelboards
- Use of chains, perforated iron, baling wire, or tie wire for supporting conduit runs is not permitted.
- For support of low voltage wiring not required to be in conduit, bundle cables together in a neat manner using approved nylon tie wraps. Bundled cables shall be supported with "J" hooks on telephone type bridle rings, a minimum of 6 feet on centers. Clearly identify all differing types of cables being run and tag with tape tags regarding telephone, POS System, music/communication, security, etc. for various system utilizing said. cable, Identification tape shall be provided at minimum intervals of 25 feet on center and within each building
- F. Provide a system of supporting devices and hangers to insure secure support or bracing for conduit, electrical equipment, including safety switches, fixtures, panelboards, outlet boxes, junction boxes, cabinets, etc.

SECTION C16140 WIRING DEVICES AND PLATES

PART 1 - PRODUCTS

- 1.01 WALL SWITCHES Shall be purchased from the National Accounts Vendor indicated on the plans.
- Ratings: 20 amps, 120/277 volts a.c. or as identified on
- Devices: (Cooper/Arrow Hart catalog numbers are listed unless noted otherwise):
 1.Single pole toggle switches:
 20 AMP device #AH1221-GY (Kitchen) or #AH1221-B (Dining)
 - 20 AMP Pilot lights illuminated with load on #AH1221-PL 2.Double pole toggle switches: 20 AMP device - #AH1222-GY (Kitchen) or #AH1222-B (Dining)

1.02 RECEPTACLES

- Shall be purchased from the <u>National Accounts Vendor</u> indicated on the plans.
- B. Devices: (Cooper/Arrow Hart catalog numbers are listed unless otherwise noted):

 1. Specification grade devices (grey device color in Kitchen, brown device color in Dining, and orange for IG type) to be 20 amp, 125 volts, a.c. receptacles: Single (simplex) device: #1877-GY (Kit) or #1877-B (Dining) Duplex device: #CR20-GY (Kitchen) of #CR20-B (Dining) Tamper resistant duplex device: #TR8200-B (Dining) GF (ground-fault circuit interrupter) duplex device: #VGF20-GY (Kitchen) or #VGF20-B (Dining) IG (isolated ground) duplex device: #IG5362-RN (orange face)

SPECIAL DEVICES
 Manual motor starter switch: SQ. D Class 2510, Type F, for use on motors up to 3/4 horsepower. Provide NEMA 1 enclosure in dry locations; provide NEMA 3R enclosure in wet or exterior locations.

1.04 WALL PLATES

- Provide Cooper/Arrow Hart, or approved equal, smooth satin stainless steel 302-SS series for switches and receptacles in the Kitchen areas. All other areas shall be brown Nylon plastic

Mounting

1. Mount switches and receptacles at height above finished floor as

indicated on plans, and legend.
2. Mount switches on strike side of door maximum 8" from door frame. Outlet box for switch shall be located clear of door frame

rrame. Quitet ox ir switch shall be located clear or door frame. Coordinate with architectural plans prior to rough-in.

3. Install switches with off position down.

4. Do not use the feed thut leature for the GF Type receptacle, unless required by the plans.

5. Use jumbo sized plates for outlets installed in masonry walls.

6. Each receptacle shall be provided with a #12 green grounding jumper between the ground terminal of the receptacle and the outlet box.

. The grounding conductor to each receptacle shall be installed such that the removal of the device will not interfere with thecontinuity

Testing
1. Test each switch and verify proper operation with energized circuit.
2. Test each receptacle for proper polarity on energized circuit.
3. Test each GF receptacle with a GF receptacle tester and verify circuit is opened by GF device at milli-ampere ranges established by the manufacturer.

PANELBOARDS

PART - PRODUCTS

- MANUFAC DURER (via Chick-fil-A National Accounts Program) Stephens (West, Midwest, and Southwest Regions): from Suncoast Environmental Controls (SEC), Scott Dyer (877)544-6679
- Square-D (Northest, Atlantic, and Southeast Regions): from Accu-Serv Bob Harpring (502)961-0096>

1.02 PANELBOARD PEATURES

- Panelboards shalf have a minimum symmetrical interrupting rating to meet or exceed the available symmetrical interrupting fault current the device intended to interrupt current
- Bus bars shall be copper or tin plated aluminum.
- Provide factory-installed copper ground bus in each panel boars with lugs or connectors on bar.
- rovide electrically isolated, factory installed, neutral bus in e hase, 4 wire or 1 phase 3 wire panelboard. In addition to the ground bus required by paragraph 1.02D (above), provide factory installed, electrically isolated, copper ground busin each panelboard serving isolated ground receptacle
- Main lugs and main circuit breaker lugs shall be UL Listed for use vith both aluminum and copper conductors.
- Provide thermal-magnetic circuit breakers which are rated for 40 degrees C ambient temperature. Breakers shall be quick-make, quick-break type trip with trip indication shown by handle position other than on or off. Multi-pole breakers shall have a common trip nandle. Tandem type circuit breakers shall not be permitted.
- Provide typed directory card with clear holder for each panelboard.

PART 2 - EXECUTION

- Where multiple panelboards are installed on walls in anelboards at the same height.
- Provide blank filler plates over

- Neutral wires, ground wires, and isolated ground wires shall be ected to the appropriate panel bus bar. Do not mix bus wire

- MANUFACTURERS Square D. General Electric. Siemens

1.02 ENCLOSED SWITCHES

- Nonfusible switch assemblies: NEMA KS 1. General Duty Type for 208 volt load interrupter enclosed knife switch with externally operable handle interlocked to prevent opening front cover with switch in on position. Handle lockable in off position. Provide equipment ground lug in each switch
- Enclosures: NEMA KS 1.
 Interior dry locations: Type 1
 Exterior locations: Type 3R.

SECTION C16442 UTILITY SERVICE ENTRANCE AND DISTRIBUTION SYSTEM

PART 1 - GENERAL

1.01 SYSTEM DESCRIPTION

- The underground electrical system service characteristics shall be 208Y/120 volts, Three Phase, Four Wire service and shall extend from utility company transformer secondary.
- Distribution system originates at secondary of utility transformer and includes service entrance conduit and conductors, distribution ent, lighting panelboards, utilization equipment, ove devices, disconnecting means, controls, branch and feeder circuits,

MATERIALS
 Furnish service entrance conduit, cable, and miscellaneous hardware as required by plans and specifications for electric service entrance and system grounding at main electrical se

PART 3 - EXECUTION

3.01 EXAMINATION AND PREPARATION

- Coordinate exact locations of electrical service utility transformer, metering equipment, service lateral, etc. prior to commencement of installation. Contact engineer with conflicts prior to bid.
- Ensure pad mounted transformer is not located within roadway or
- Coordinate with local electrical utility for all utility co-courrements and provide for the following items a required by the utility:

SECTION C16500 LIGHTING FIXTURES (LUMINAIRES)

PART 1 - GENERAL

- 1.01 ACCEPTABLE MANUFACTURERS AND VENDORS ACCEPT ABLE MANDFACT INJERS AND VENDORS LIghting fixtures indicated on lighting fixture schedule are to be purchased from the National Account Vendor for the region of the project (verify region designation with Owner's Representative):

 1. Accu-Serv Lighting - North region and Southeast region. Contact at Accu-Serv.

 1. Bob Harpring at 877-707-7378, fax - 502-961-0357, email - habarding/macculsery.com bharpring@accu-serv.com 2. Villa Lighting - Central region, Southwest region, and West region. Contact at Villa Lighting: Dave Christanell at 800-325-0963, fax-314-531-8720, email - davec@villalighting.com
- Ballasts to be electronic ballast provided with lighting fixture by the
- Lamps to be Osram-Sylvania and will typically be provided with the luminaire by the lighting manufacturer.
- FIXTURE REQUIREMENTS
 Provide regulating, HPF ballasts in all HID lighting fixtures. HID lamp types shall be as indicated on the drawings.
- Recessed fluorescent lighting fixture ballasts shall be provided with integral thermal protection.
- C. Provide energy-saving Instant or Rapid Start lamps for all fluorescent

- D. All lamps and ballasts shall meet or exceed the requirements of the National Energy Policy Act of 1992 and any other applicable Codes or Criteria.
- All components of recessed fixtures shall be accessible without disturbing fixture in or on ceiling.
- Energy saving ballasts and energy saving lamps provided shall be compatable for operation together. Extenor fixtures and poles shall be suitable for exterior use, shall be UL Listed, and shall be a standard design for exterior application.
- H. Exterior poles for fixtures with luminaires installed shall be designed for maximum constant velocity wind load with luminaires installed, applicable to the geographic area.

1.03 CONTROLS

UNITROLS
Lighting contactors shall be Square-D, General Electric, Cutler-Hammer or Siemens of types and quantity shown on drawings, except those furnished with the switchgear as part of the National Account Program by Suncoast Environmental Controls (SEC).

1.04 EMERGENCY LIGHTING UNITS

- BAtteries shall supply emergency powe minimum operating time of 1-1/2 hours. y power for lighting with
- Emergency lighting shall be automatically operational upon normal utility power failure.

3.01 INSTALLATION
 A. Lighting fixtures shall be structurally:
 fixtures mounted in suspended ceiling.

- Recessed fixtures in dropped ceili power source using flexible cond
- Fixtures surface
- Vire shall be contir m splice in outlet box of building
- tain the integrity of enclosures on enclosed and gaskete ures. Minimize the number of enclosure penetrations and ke such penetrations water and dust tight with appropriate kets and fittings.

- Install accessories furnished with each fixture. Wiring from pole bases to pole mounted luminaire shall be No. 12 with fuse protection provided by a 30 amp, 600 volt waterproof fuseholder with Bussman 'Limitron' fuse of ampere rating 3 times the load current.
- Surface and recessed fixtures on or in plastered or drywall ceilings shall be supported by support channels. Support channels shall span across main support channels and shall not depend upon ceilings for support.

FIELD QUALITY CONTROL
Relamp fixtures that have failed lamps at substantial completion.

SECTION C16596 SPECIAL SYSTEMS

- PART 1 GENERAL 1.01 WORK INCLUDED wurk INCLUDED Furnish and install raceway system for music/communication security, CCTV, POS, and other bunder-furnished systems, consisting of empty condust, function-bases, outlet boxes, a device plates, etc., as specified and shown on owner selecte vendor wiring schematics/ Cabib-Aquipman-, and installation the interior system will be provided by the owner(s)-system vendor.
- Interior system equipment will be furnished by owners Verdor
- Install special backboxes furnished by Owner's Veridor. Coordinate with the Vendor for the installation. Coordinate with the Vendor if backboxes are to be contractor provided in order to provide and install the appropriate item for the Vendor.

PART 2 - PRODUCTS

2.01 MATERIALS

- Provide 4-11/16" square boxes, with plaster rings. Provide device plates for system outlets as specified in Section 16141. Provide separate conduit to nearest accessible ceiling space from each outlet.
- Cable shall be in conduit where installed in walls or inaccessible
- C. Minimum conduit size shall be 3/4"

PART 3 - EXECUTION

- 3.01 INSTALLATION A. Furnish and inst Furnish and install conduits, junction boxes, outlet boxes, and
- Provide one #10 equivalent nylon pull wire in each system
- Provide a complete raceway system in accordance with interior system vendor requirements. Interior system vendor shall review the drawings. Contractor shall provide for any additional or varying requirements.
- D. Final connections and testing of systems will be provided by the system vendor. Contractor shall contact the owner's vendor and schedule the work so as to complete system installation and testing prior to occupancy of the facility.
- Terminate each conduit stub-up or termination v insulated bushing.

SECTION C16597 TELEPHONE SERVICE

PART 1 - GENERAL

- 1.01 WORK INCLUD
- hone system will be furnished by owner's vendor

pecial backboxes (unless otherwise noted) and faceplates will

PART 2 - PRODUCTS

- 2.01 MATERIALS
 A. Provide 4-11/16" square boxes, with plaster rings. Provide device platesfor telephone outlets to match those specified in wiring device section. Provide separate conduit to nearest accessible celling space from each outlet.
- Minimum conduit size shall be 3/4".

be furnished by the owner's vendor.

- Provide lightning arrester for telephone service entrance at mai telephone backboard in accordance with UL96A paragraph 11.2 and NFPA 780.
- D. Cable shall be in conduit where installed in walls or above

PART 3 - EXECUTION

3.01 INSTALLATION

- Provide one #10 equivalent nylon pull wire in each empty telephone conduit. B. Provide trenching, backfilling, etc., for installation of service
- entrance conduit in accordance with other divisions, plans, and telephone utility requirements. Provide pull wire in empty conduit. C. Coordinate with the local utility for point of service and type of service required. Pay for any utility company charges and fees for establishment of service.
- Provide a complete raceway system in accordance with telephone utility company and interior system vendor/utility requirements. Telephone utility company and interior system vendor shall review the drawings. Contractor shall provide for any additional or varying requirements.
- E. Terminate each conduit stub-up or termination with nylon insulated bushings.
- Final connections and testing of system will be provided by the system vendor. Contractor shall contact the owner and vendor and schedule the work.

CLOSE OUT DOCUMENT REQUIREMENTS Provide the following to the building owner upon completion of

1. Submittal data stating equipment rating and selected options for each piece of equipment requiring maintenance.

2. Operation manuals and maintenance manuals for each piece of equipment requiring maintenance. Required routine maintenance actions shall be clearly identified.

3. Names and addresses of at least one qualified service

agency.

4. A complete narrative of how each system is intended to operate.



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INTERPLAN

ARCHITECTURE ENGINEERING INTERIOR DESIGN PROJECT MANAGEMENT

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SEAL: THIS DOCUMENT IS 'NOT FOR CONSTRUCTION UNLESS THE ARCHITECT OR ENGINEER'S SIGNATURE AND SEAL APPEAR BELOW.

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