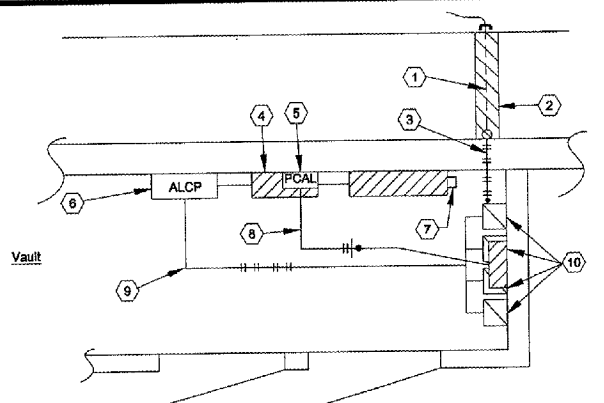
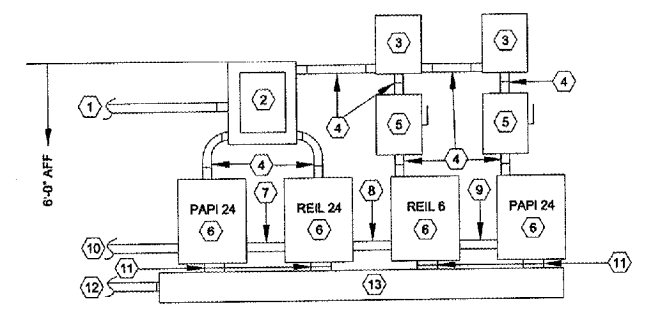


**HA022**



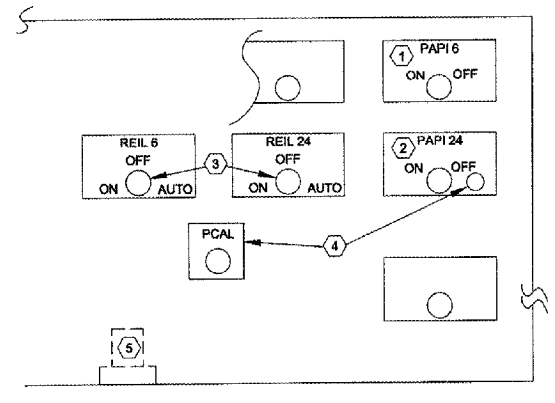
**DETAIL - AIRPORT LIGHTING VAULT MODIFICATIONS**  
NO SCALE

- DETAIL NOTES:**
- Conductors in 3" RMC shall consist of the following. These shall be Unit Duct conductors with the outer jacket removed.
    - 3 - #6 (480 volt to Runway 6 PAPI)
    - 3 - #4 (240 volt to Runway 24 PAPI)
    - 3 - #8 (480 volt to Runway 6 REIL)
    - 3 - #6 (240 volt to Runway 24 REIL)
  - Saw-cut, remove and replace existing concrete sidewalk as necessary to place conduit 18" below grade.
  - Seal penetration through existing concrete block wall watertight with non-shrink grout.
  - Existing load center; remove one 2-pole circuit breaker feeding the existing VASI system and replace with a 2-pole, 30 amp circuit breaker of the same brand to feed the proposed PAPI/REIL load center. Disconnect and abandon in place one existing VASI contactor located below this load center.
  - Existing Pilot Control Airfield Lighting (PCAL) system shall remain in place with proposed REILS connected to operate in the automatic mode from the 100% brightness relay in this panel. See typical control schematic, this Sheet. Existing field lighting control scheme shall remain undisturbed.
  - Existing Airport Lighting Control Panel. See detail, this Sheet for toggle switch additions for PAPI & REIL control.
  - Surge arrester for 120/240 volt single-phase application. Arrester shall have LED indication for alarm and normal operation, with individually fused suppression modes, 1/2 nanosecond response, and shall be UL 1449, Second Edition Listed. Surge capacity shall be 80 kA/phase - APT #TE/1XF, or equal. Connect to the line side of this existing panelboard.
  - 2 - #10, 1 - #10 neutral, and 1 - #10 equip ground in 1/2" C.
  - 7 - #14 in 1/2" C.
  - See detail this Sheet for REIL and PAPI lighting control component arrangement.



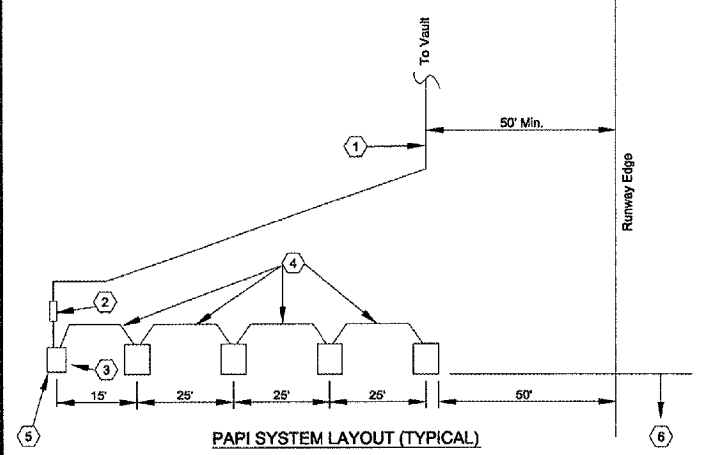
**DETAIL - PAPI & REIL SYSTEM CONTACTOR ARRANGEMENT**  
NO SCALE

- DETAIL NOTES:**
- 2 - #10, 1 - #10 neutral, and 1 - #10 equip ground in 1/2" C from proposed 30 amp, 2-pole circuit breaker in existing load center.
  - 100 amp, 120/240 volt, main-lug only, single-phase, 3-wire S/N, 8-circuit load center in NEMA 1 surface mount enclosure with separate ground bus - Square D #QO816L100DS/PK7GTA, or equal. Provide with two 15 amp, 2-pole circuit breakers for PAPI systems, and two 15 amp, 2-pole circuit breakers for REIL systems.
  - 3 kVA, 240 volt to 480 volt, single-phase stepdown transformer - Square D, #3S1F, or equal.
  - 2 - #12, 1 - #12 neutral, and 1 - #12 equip ground in 1/2" C.
  - 30 amp, 3-pole, 600 volt, fusible safety switch in NEMA 1 enclosure with ground bus - Square D, #H361, or equal. Fuse two poles at 8 amps with Bussman #FRSR8, or equal. Provide one set of spare fuses.
  - 30 amp, 2-pole, 600 volt, electrically held lighting contactor with 120 VAC coil, in a NEMA 1 surface mounted enclosure - Square D, Class 8903, #SMG1V02, or equal. Provide plastic laminated engraved adhesive-backed labels for front of enclosure to read as shown. Lettering shall be 1/2" high, black on a white background.
  - 4 - #14 in 1/2" C.
  - 3 - #14 in 1/2" C.
  - 2 - #14 in 1/2" C.
  - 7 - #14 (2 spares) in 1/2" C, 120 volts from ALCP control switches.
  - 2 - #12, and 1 - #12 equip ground in 1/2" C.
  - Conductors in 3" RMC shall consist of the following. These shall be Unit Duct conductors with the outer jacket removed.
    - 3 - #6 (480 volt to Runway 6 PAPI)
    - 3 - #4 (240 volt to Runway 24 PAPI)
    - 3 - #8 (480 volt to Runway 6 REIL)
    - 3 - #6 (240 volt to Runway 24 REIL)
  - Provide grounding type insulating bushing on conduit termination and bond to other equipment ground wires with #6 AWG.
  - NEMA 1, 6" x 6" x 36" screw-cover wireway for splicing field conductors to #12's.



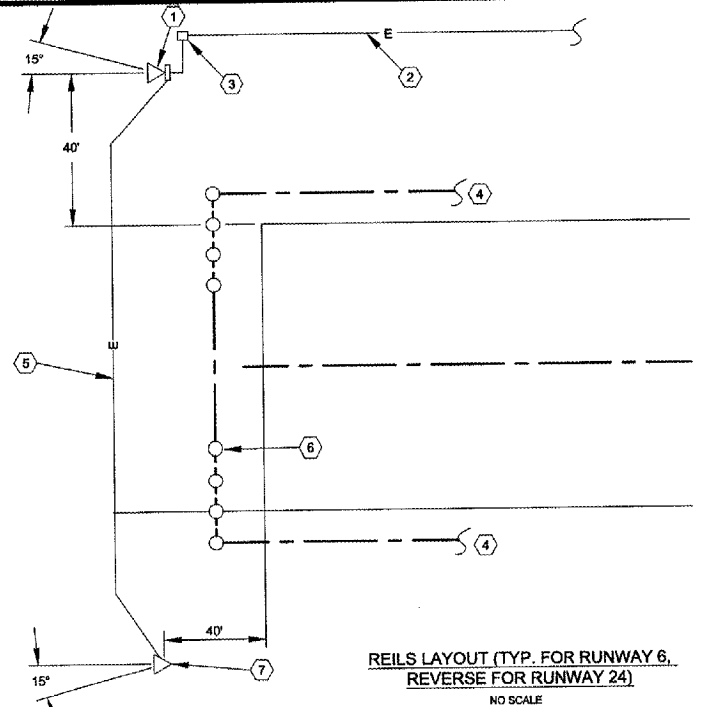
**ALCP MODIFICATIONS**  
NO SCALE

- DETAIL NOTES:**
- Remove existing control wiring for the VASI system. Provide new control wiring to terminal board in this ALCP to reuse this switch to control PAPI 6 contactor coil. Remove existing legend plate and provide one new plastic laminated engraved legend plate to match existing size and style, with legend as shown.
  - Provide one new 2-pole, single-throw, maintained contact, bat-handle 20 amp toggle switch to match existing style. Provide one new plastic laminated engraved legend plate to match existing size and style, with legend as shown.
  - Provide one new 2-pole, double-throw, center-off, maintained contact, bat-handle 20 amp toggle switch to match existing style. Provide one new plastic laminated engraved legend plate to match existing size and style, with legend as shown.
  - Remove one existing red miniature pilot light and relocate to lower center of the ALCP as shown. Provide new legend plate to match existing with legend as shown.
  - Mounted in the bottom of the ALCP, provide one plug-in style, 1/3 hp rated, double-pole, double-throw relay with 120 VAC coil, coil power indicator and push-to-test button - Dayton #5YP82/5X852, or equal. Connect per schematic, this Sheet, to control REIL systems.



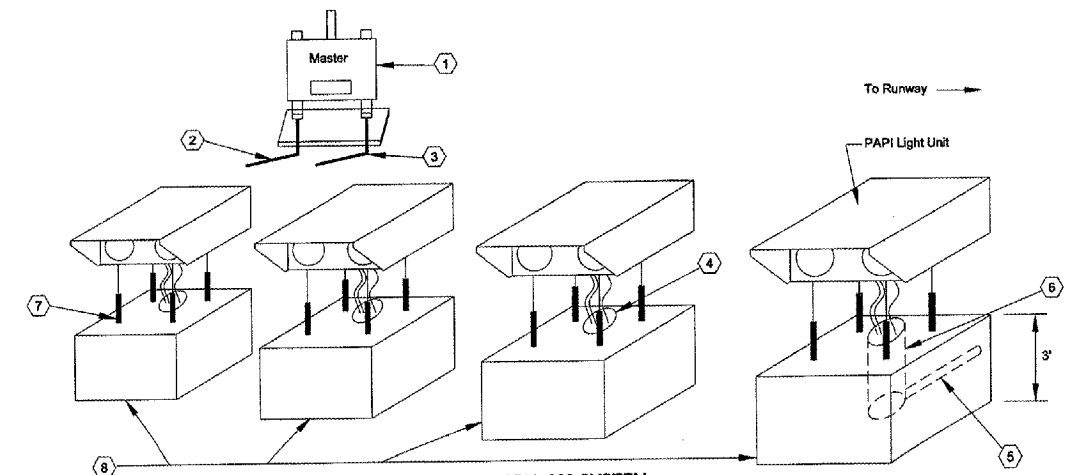
**PAPI SYSTEM LAYOUT (TYPICAL)**  
NO SCALE

- DETAIL NOTES:**
- See Site Plans for circuit routing to vault and conductor sizes.
  - Stepdown transformer assembly. See detail, Sheet 9.
  - Master Unit. See detail, this Sheet.
  - Interconnect wiring in trench as required by system manufacturer.
  - Typical four-box layout. See chart, Sheet 9 for exact elevation to light beam center for each box.
  - See Site Plans for exact dimensions from runway threshold.



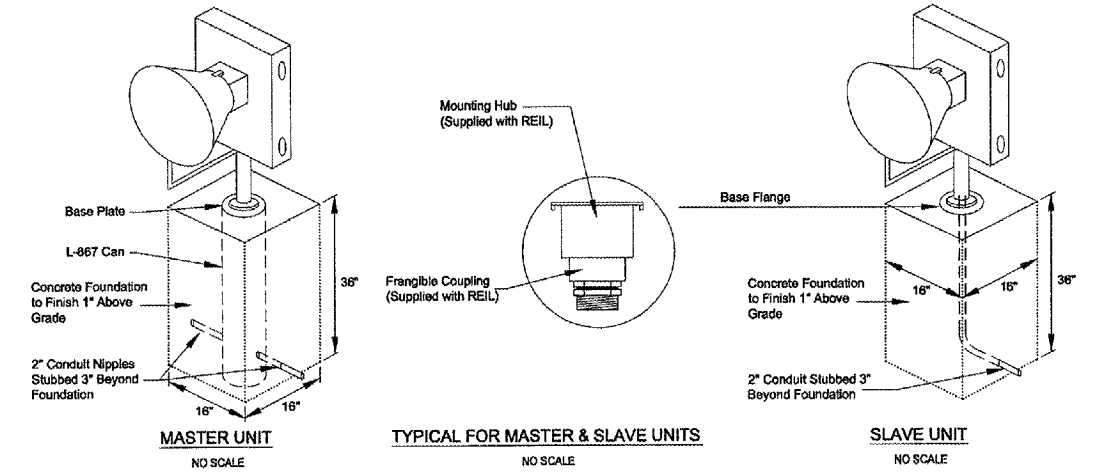
**REILS LAYOUT (TYP. FOR RUNWAY 6, REVERSE FOR RUNWAY 24)**  
NO SCALE

- DETAIL NOTES:**
- REIL master unit. For master and slave units, the vertical aiming angle shall be 10 degrees above horizontal, and angled away from the runway centerline as shown.
  - See Site Plans and 1-Line Diagram for wire feeds.
  - Stepdown transformer assembly. See detail, Sheet 9.
  - Existing runway lighting circuit. Locate and avoid damaging.
  - Interconnect wiring between master and slave units shall be per system manufacturer's requirements, and shall be considered incidental to this item. All power wiring shall be 600 volt rated, Type C for direct burial installations. Provide a minimum of two spare conductors between units.
  - Existing threshold lights. Locate and avoid underground wiring.
  - REIL slave unit.



**TYPICAL PAPI L-880 SYSTEM**  
NO SCALE

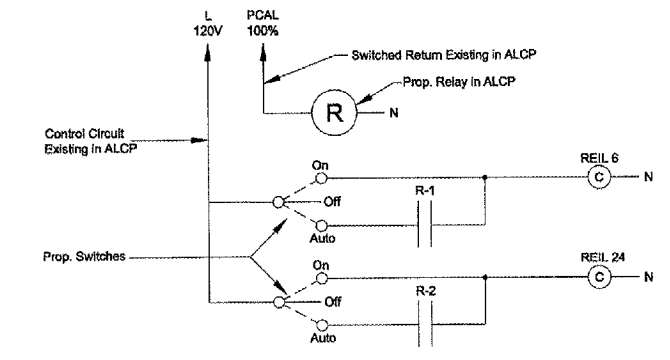
- DETAIL NOTES:**
- Master power and control unit. Concrete foundation requirements shall be same as Note 8.
  - 240 volt AC power wiring in trench from local stepdown transformer. See Sheet 9.
  - Power and control wiring in trench as required by manufacturer.
  - Provide frangible couplings and L-823 connectors for all wire entrances into base plate hubs.
  - Typical 2" conduit stubbed 3" beyond outside edge of foundation for wiring.
  - Typical L-867, style D can with base plate; location per manufacturer's requirements.
  - Base flanges shall be fastened to the foundation with 1/2" x 6" galvanized anchor bolts, washers and nuts; quantity per flange shall be per manufacturer's requirements.
  - Concrete foundations shall extend 1 ft beyond edge of light box units, and shall finish 1" above the highest surrounding grade with edges beveled or chamfered. Center the unit on the foundation.



**MASTER UNIT**  
NO SCALE

**TYPICAL FOR MASTER & SLAVE UNITS**  
NO SCALE

**SLAVE UNIT**  
NO SCALE



**TYPICAL REIL CONTROL SCHEMATIC**  
NO SCALE