

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII | HAW. | HWY-H-03-04M | 2005 | ADD.27 | 32 |

ELECTRICAL SYMBOL LIST/MOUNTING HEIGHT SCHEDULE

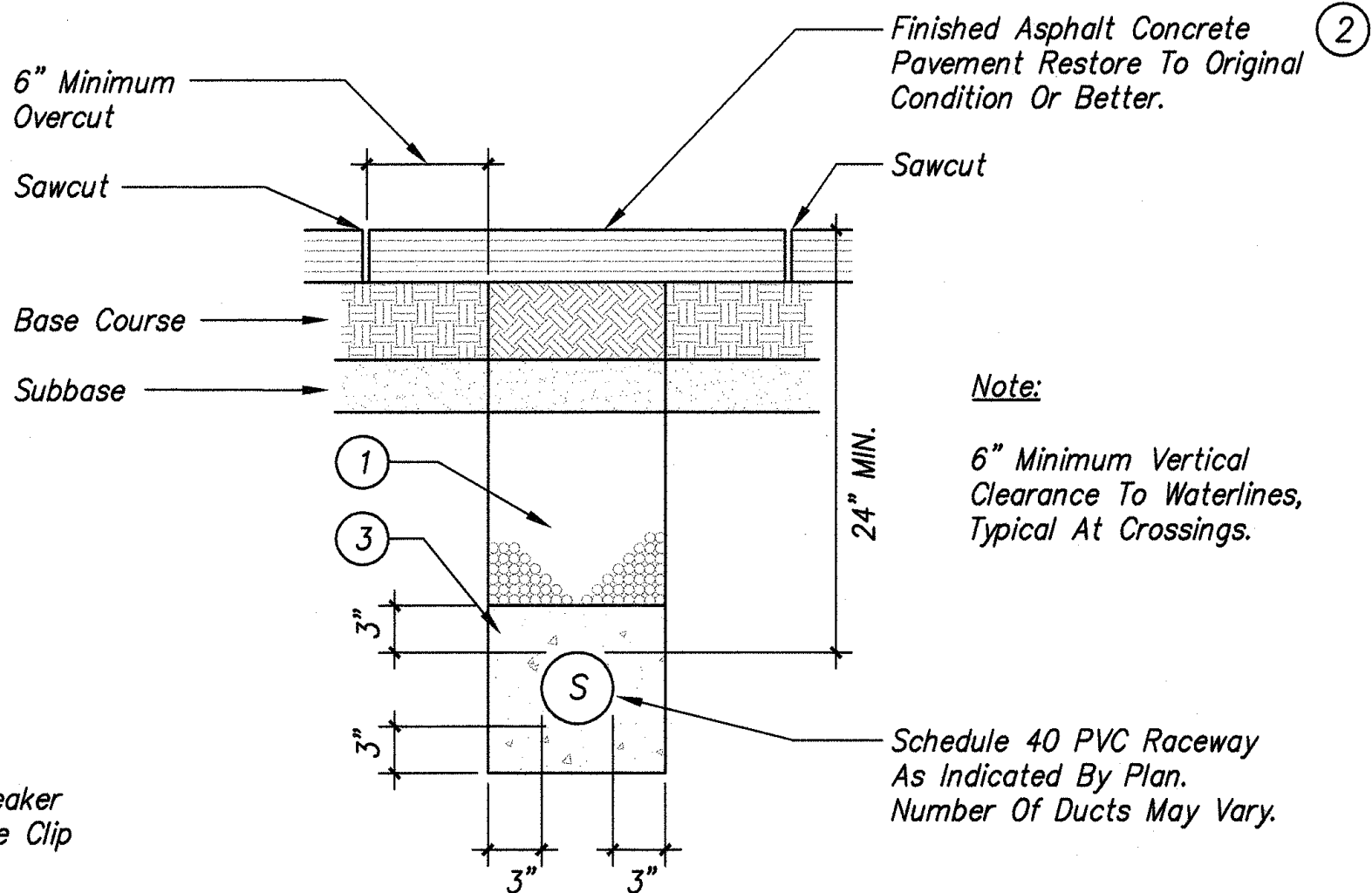
| SYMBOL | | | | DESCRIPTION |
|--------|---|----------|---------|---|
| TOP | Ø | EXISTING | NEW | |
| | | | ① | Fluorescent Luminaire, Ceiling Mounted (Numeral In Circle Corresponds To Luminaire Schedule) |
| | | | ① | Luminaire, Ceiling Mounted (Numeral In Circle Corresponds To Luminaire Schedule) |
| | | | ①H | Luminaire, Wall Mounted (Numeral In Circle Corresponds To Luminaire Schedule) |
| 46" | | | \$a | Light Switch, Flush Wall Mounted, 1P20A, 120/277V, 1HP Max. (Letter Indicates luminaires Controlled) |
| 18" | | | ⊕ | Receptacle, Duplex, Grounding Type, 125V, NEMA Type 5-20R |
| 18" | | | ⊕ | Receptacle, Duplex, GFCI Type, 125V, NEMA Type 5-20R, Mounting Height +18" Or Unless Otherwise Noted 1 |
| 6'-0" | | ≡≡ | ≡≡ | Panelboard |
| 6'-0" | | ≡≡ | ≡≡ | Electrical Equipment |
| 6'-0" | | ≡≡ | ≡≡ | Non-Fused Disconnect Switch, 2P30A Unless Otherwise Noted, Voltage To Match Circuiting |
| | | | ① | Junction Box, Horizontally Mounted |
| 18" | | | ①H | Junction Box, Wall Mounted |
| | | | ≡≡ | Equipment Termination With Flexible Conduit Whip |
| | | | ≡≡ | Junction Box, Large, Horizontally Mounted |
| | | | ≡≡ | Junction Box, Large, Wall Mounted |
| 18" | | | ▷ | Telephone Outlet Box, Wall Mounted With Blank Device Plate |
| | | | ▲a | Infrared Motion Sensor With Photocell (Letter Indicates luminaires Controlled). See Detail 2 on Sheet E-6 1 |
| | | | +42" | Denotes 42" Above Finished Floor Or Grade |
| | | | WP | Weatherproof |
| | | | GFCI | Ground Fault Circuit Interrupter |
| | | | X | Denotes Demolition/Removal |
| | | | GND | Ground |
| | | --eE-- | --eE-- | Concealed Conduit Below Grade |
| | | 1 | ≡≡ | Concealed Conduit In Ceiling Or Walls, (Hashmarks Indicate 3-Wires Within, All Others Similar) |
| | | | ≡≡ | Exposed Raceway, Provide Strap 8'-0" On Center Minimum |
| | | | ≡≡ | Homerun Arrow To Panelboard. Letter Indicates Panelboard, Numbers Indicates Circuits |
| | | | ≡≡ | Liquid-Tight Flexible Conduit |
| | | --eoH-- | --eoH-- | Overhead Lines |
| | | | 1 | Duct Indicator, See Duct Schedule, Sheet E-2 |
| | | | ◇ | Note Indicator |
| | | | 1 | Detail Indicator: Top Half Denotes Detail Number, Bottom Half Denotes Sheet Number |

LUMINAIRE SCHEDULE

| TYPE | DESCRIPTION | LAMPS |
|------|--|-----------------------|
| ① | Fluorescent, Ceiling Mounted Wraparound, 4' Long, Steel Housing, Acrylic Prismatic Diffuser, 120V Electronic Ballast. Columbia #AWN-4-232 EB8120V Lithonia #LB 232 120 GEB Or Approved Equivalent | 2-F32 T8 3000K |
| ② | Fluorescent, Wall Pack Mounted At +9'-0", Cast Aluminum Housing, Dark Bronze Powder Coat Finish, UV Stabilized Polycarbonate Refractor, Cutoff Optics With Forward Throw Distribution, Wet Location, 120V Electronic Ballast. Quality Lighting #OLV-12 F PLC-13 120 Lithonia #TWAC 120V Or Approved Equivalent | 1-13W Quad 3000K |
| ③ | Fluorescent, 8' Pendant Mounted, Aluminum Housing, One Piece Impact Resistant Acrylic Diffuser, Enclosed and Gasketed, Baked White Enamel Finish, Wet Location, 120V Electronic Ballast. Columbia #LUB-232-EB8120-WL-HUBK Lithonia #DMW-2-32-AR-120-GEB Or Approved Equivalent | 4-F32 T8 3000K |
| ④ | Incandescent, Floodlight, 4" Round Light Kit With Box, Cover And (2) Lampholders, Bronze, 120V Roco #5829-7 Or Approved Equivalent | 2-75W PAR38 |
| ⑤ | Metal Halide, Flood Light, Heavy Duty Die-cast Aluminum Housing, Enclosed and Gasketed With Aluminum Reflector and Tempered Glass Lens, Wet Location, 120V HPF Ballast GE #SBF-70-M-120-H-TSVDB Or Approved Equivalent | 1-70W MH |
| ⑥ | Quartz Halogen, Floodlight, Heavy Duty, Die-Cast Aluminum Housing, Enclosed And Gasketed, Tempered Glass Lens, Wet Location, 120V. GE # QF300DB Or Approved Equivalent | 1-300W Quartz Halogen |

GENERAL NOTES:

- The Locations Of Existing Known Underground Utilities Shown On Plan Are From Existing Records And Are Approximations Only. Exercise Extreme Caution When Construction Crosses Or Is In Close Proximity To Existing Underground Utilities. Tolerances For All Existing Underground Utilities Prior To Excavation. Damages To Existing Underground Utilities Shall Be Repaired At No Cost To The State.
- All Utility Company Equipment Shall Be In Accordance With The Respective Utility Company Standards. Coordinate All Work With The Respective Utility Companies.
- Where Indicated, Remove Existing Electrical Apparatus And Associated Exposed Conduit And Wiring. Where Concealed Conduits Are Indicated To Be Demolished, Remove Wiring From Concealed Conduits And Abandon Conduits In Place.
- Paint All New Exposed Junction Boxes, Conduits And Fittings To Match Finishes.



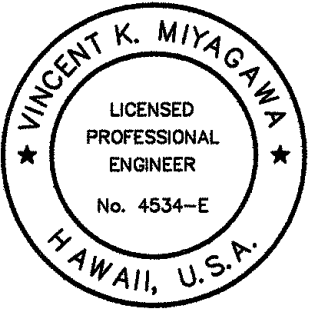
1 A E-1 TYPICAL DUCT SECTIONS NOT TO SCALE

NOTES:

- Type "A" Backfill - Beach Sand, Earth, Or Earth And Gravel. If Earth And Gravel, The Maximum Rock Size Shall Be 1" And The Mixture Shall Not Contain More Than 50% By Volume Of Rock Particles.
- Concrete Structure/Pavement Shall Be Equivalent Or Better Than Existing In Thickness And Quality.
- Provide 3" Concrete Jacket Schedule 40 Under Roadway Conditions.

| | | | |
|--------------------------------|--------------|-----------------------|--------------------------|
| 120/240 Volts, 1 Phase, 3 Wire | | MIN AIC: 10,000 | |
| 100A Main Lugs | | Mounting: Surface | |
| NEMA 3R Enclosure | | | |
| WIRE SIZE (AWG) | USE | CONNECTION LOAD (KVA) | USE |
| 12 1 | Lights | 1 20 0.8 1.0 | 20 Gas Pump |
| 12 3 | Ice Machine | 1 20 0.6 0.6 | 2 Switched Neutral Space |
| 12 5 | Water Cooler | 1 20 0.6 0.6 | 1 PFB |
| 7 | Spare | 1 20 1.0 1.0 | 2 Diesel Pump |
| 9 | Spare | 1 20 1.0 1.0 | 2 Switched Neutral Space |
| 11 | Spare | 1 20 1.0 1.0 | 1 PFB |
| 13 | PFB | 1 20 1.0 1.0 | 1 PFB |
| 15 | PFB | 1 20 1.0 1.0 | 1 PFB |
| 17 | PFB | 1 20 1.0 1.0 | 1 PFB |
| 19 | PFB | 1 20 1.0 1.0 | 1 PFB |
| Connected Load/Phase | | 3.4 | 3.6 |
| Total Connected Load | | 7.0 | KVA |
| Demand Factor | | 0.8 | |
| Total Demand Load | | 5.6 | KVA= 23 AMPS |

| | | | |
|--------------------------------|---------------|-----------------------|--------------------------|
| 120/240 Volts, 1 Phase, 3 Wire | | MIN AIC: 10,000 | |
| 225A Main Lugs | | Mounting: Surface | |
| NEMA 3R Enclosure | | | |
| WIRE SIZE (AWG) | USE | CONNECTION LOAD (KVA) | USE |
| 6 1 | Future Welder | 2 60 3.0 7.5 | 2 Trailer Panel "A" |
| 6 3 | | 2 60 3.0 7.5 | 2 Trailer Panel "B" |
| 4 5 | Compressor | 2 60 4.8 3.0 | 2 Manual Transfer Switch |
| 4 7 | | 2 60 4.8 3.0 | 2 Receptacles |
| 12 9 | Lights | 1 20 1.0 3.5 | 2 Receptacles |
| 12 11 | Lights | 1 20 1.0 3.5 | 1 PFB |
| 13 | Spare | 1 20 1.0 0.5 | 1 PFB |
| 15 | Spare | 1 20 1.0 0.5 | 1 PFB |
| 17 | PFB | 1 20 1.0 0.5 | 1 PFB |
| 19 | PFB | 1 20 1.0 0.5 | 1 PFB |
| Connected Load/Phase | | 24.3 | 24.3 |
| Total Connected Load | | 48.6 | KVA |
| Demand Factor | | 0.6 | |
| Total Demand Load | | 29.1 | KVA= 121 AMPS |

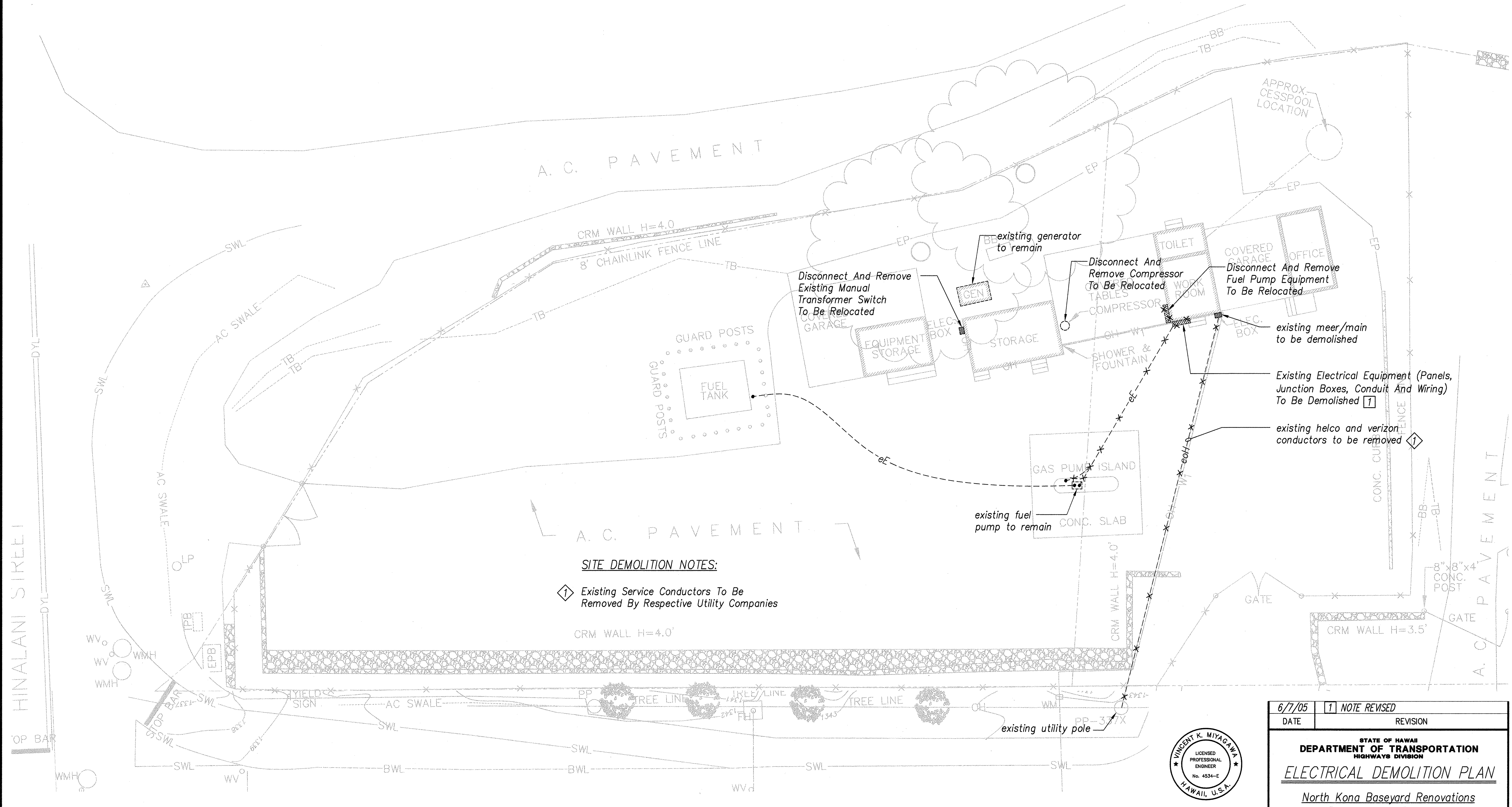


THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

PROJECT ENGINEER FOR ECS, Inc.
APRIL 30, 2006
EXPIRATION DATE OF THE LICENSE

| | | |
|--|---|----------------------------|
| 6/7/05 | 1 | ADDED DETAIL, NOTE REVISED |
| DATE | | REVISION |
| STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION ELECTRICAL SYMBOL LIST & LUMINAIRE SCHEDULE North Kona Baseyard Renovations Remove Lead Paint and Upgrade Electrical Project No. HWY-H-03-04M Scale: Noted Date: April 2005 SHEET No. E-1 OF E-6 SHEETS | | |

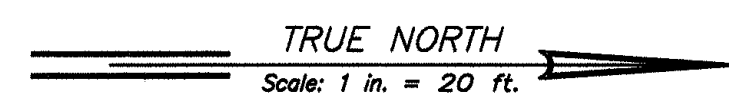
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII | HAW. | HWY-H-03-04M | 2005 | ADD.28 | 32 |



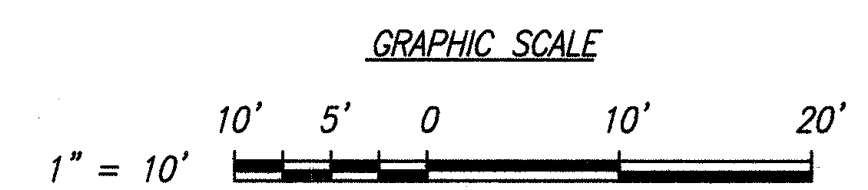
SITE DEMOLITION NOTES:

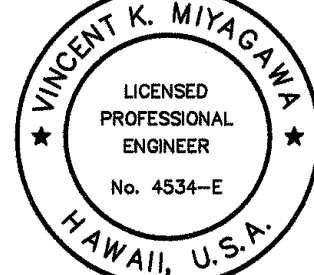
1 Existing Service Conductors To Be Removed By Respective Utility Companies

| | |
|---------------|------|
| ORIGINAL PLAN | DATE |
| DRAWN BY | |
| TRACED BY | |
| QUANTITIES BY | |
| CHECKED BY | |
| No. | |



SITE PLAN – DEMOLITION
SCALE: 1" = 10'





THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

PROJECT ENGINEER for ECS, Inc.
APRIL 30, 2006
EXPIRATION DATE OF THE LICENSE

| | |
|--------|----------------|
| 6/7/05 | 1 NOTE REVISED |
| DATE | REVISION |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ELECTRICAL DEMOLITION PLAN

North Kona Baseyard Renovations
Remove Lead Paint and
Upgrade Electrical
Project No. HWY-H-03-04M

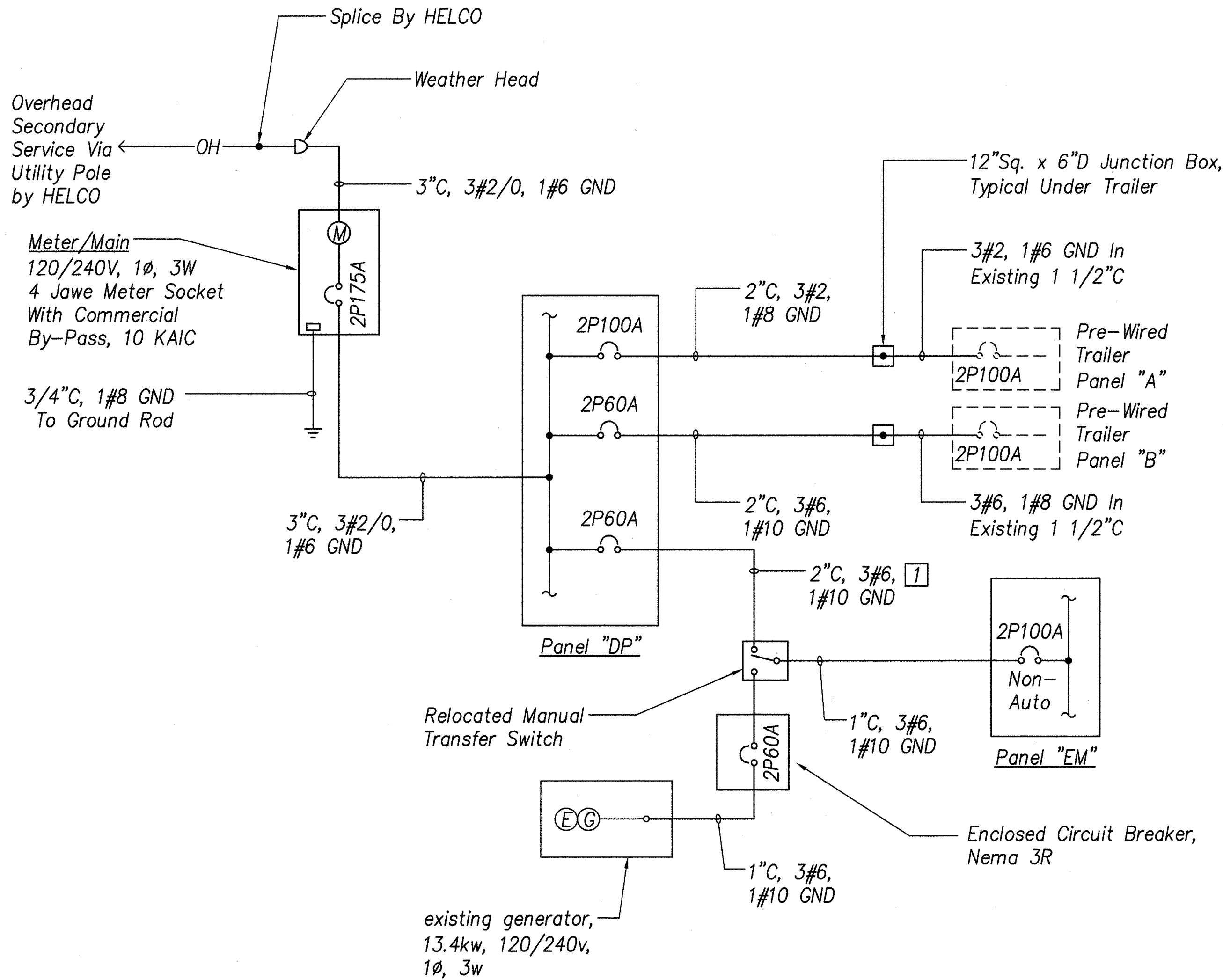
Scale: Noted Date: April 2005

SHEET No. E-2 OF E-6 SHEETS

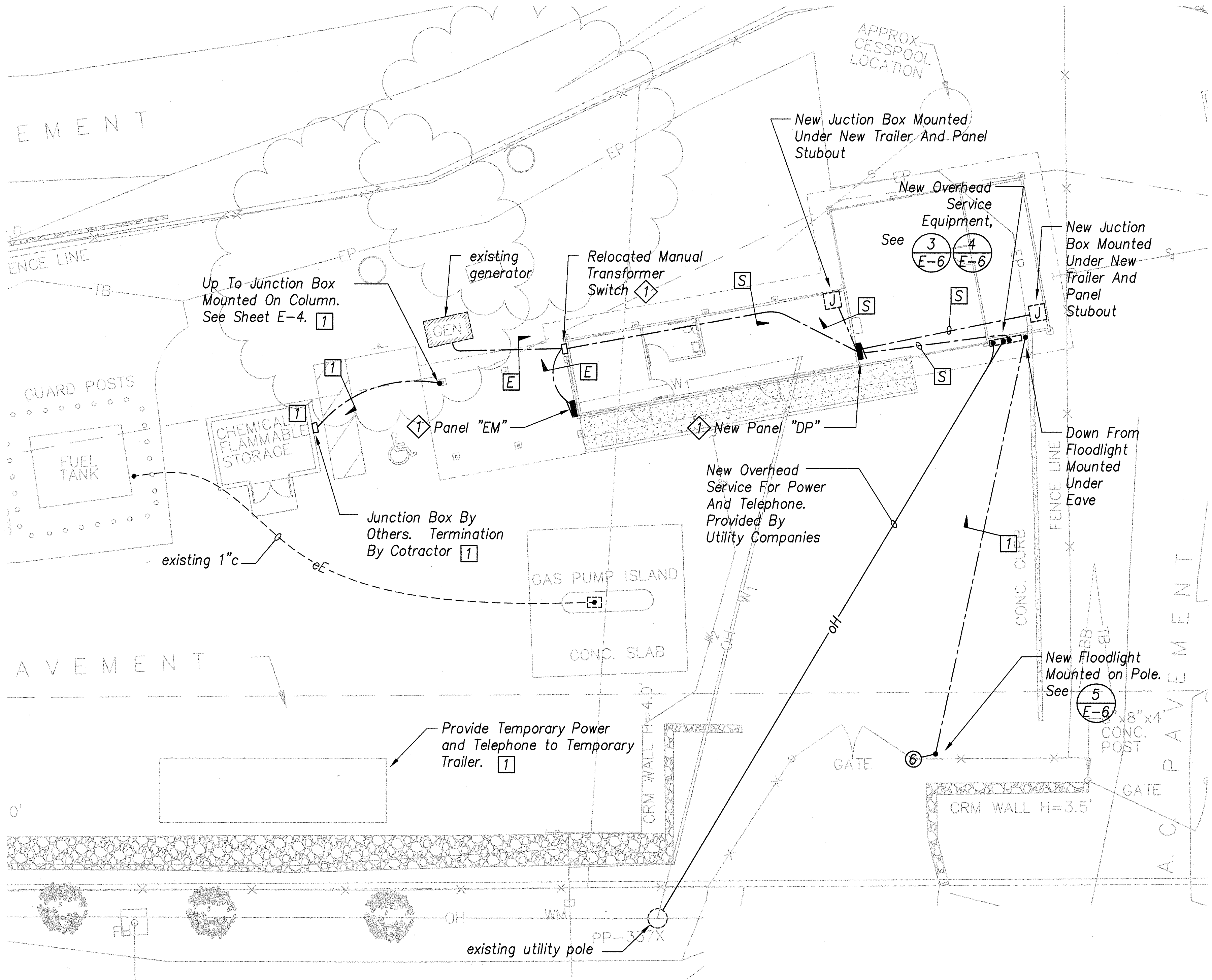
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII | HAW. | HWY-H-03-04M | 2005 | ADD.29 | 32 |

DUCT SCHEDULE

| TYPE | DESCRIPTION | CABLES |
|------|--|---------------------------|
| [S] | PVC Schedule 40, Secondary Power, Concrete Encased, Refer To One-line Diagram For Conduit Size | Refer To One-line Diagram |
| [E] | PVC Schedule 40, Energy Power, Concrete Encased, Refer To One-line Diagram For Conduit Size | Refer To One-line Diagram |
| [1] | 1" PVC Schedule 40, Concrete Encased | 2#12, 1#12 Gnd |



1 ONE-LINE DIAGRAM
E-3 NOT TO SCALE

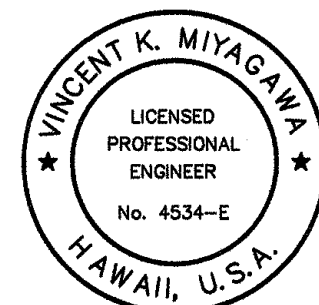
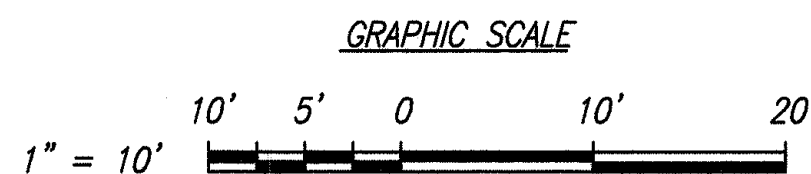


NOTES:

- 1 Mount New Panel/Enclosure To Exterior Of Trailer at 6'-6" Top Above Finished Floor



SITE PLAN - NEW
SCALE: 1" = 10'

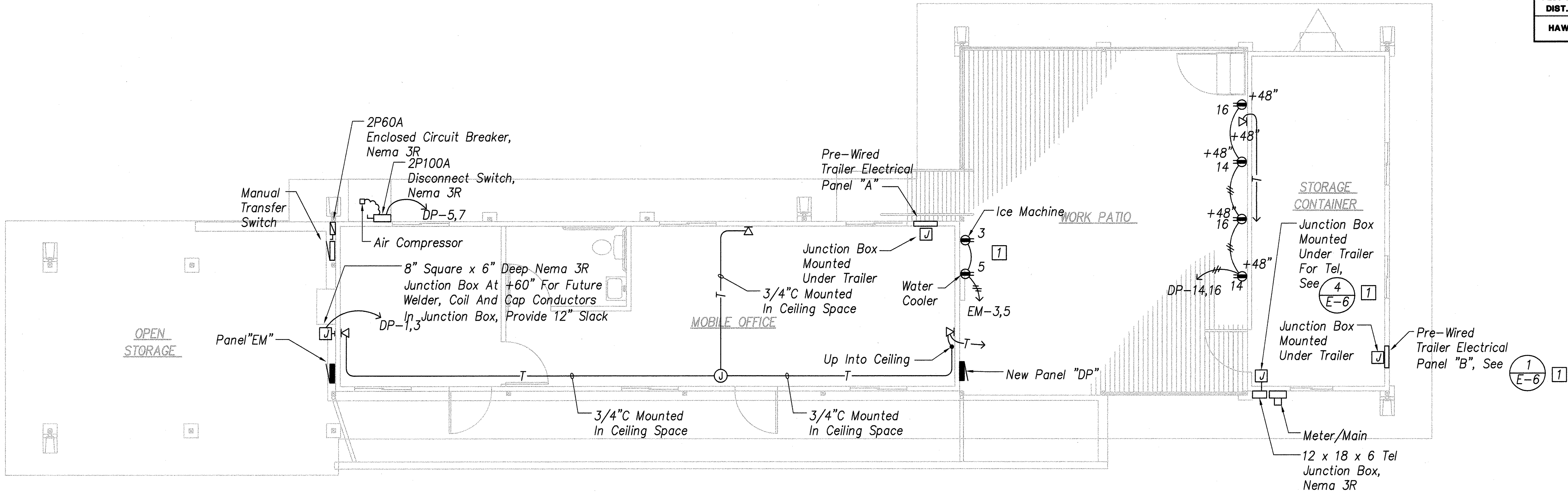


THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

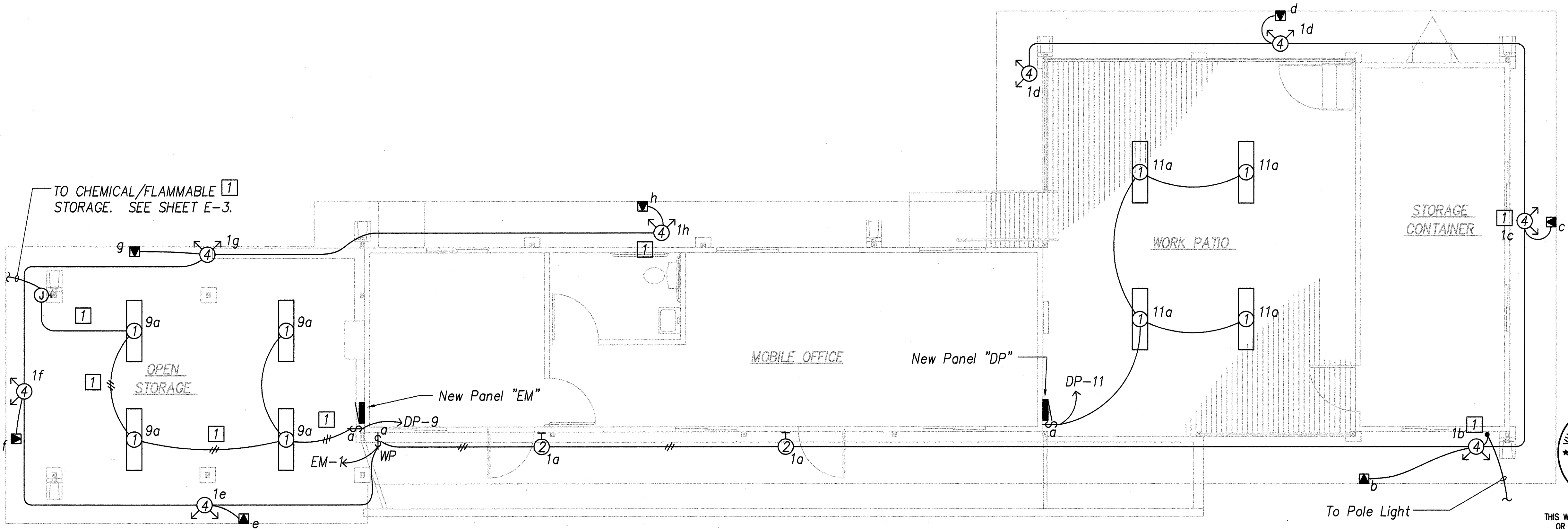
PROJECT ENGINEER FOR ECS, Inc.
APRIL 30, 2006
EXPIRATION DATE OF THE LICENSE

| | | |
|--|------------------|-----------------------------|
| 6/7/05 | 1 | NOTE REVISED, ADD CONNECTOR |
| DATE | REVISION | |
| STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION | | |
| <u>ELECTRICAL SITE PLAN</u> | | |
| <u>North Kona Baseyard Renovations</u> <u>Remove Lead Paint and</u> <u>Upgrade Electrical</u> <u>Project No. HWY-H-03-04M</u> | | |
| Scale: Noted | Date: April 2005 | |
| SHEET No. E-3 OF E-6 SHEETS | | |

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII | HAW. | HWY-H-03-04M | 2005 | ADD.30 | 32 |



ELECTRICAL PLAN - NEW WORK
SCALE: 1/4" = 1'-0"



LIGHTING PLAN - NEW WORK
SCALE: 1/4" = 1'-0"

- NOTE:**
- All Flood Lights Shall Be Mounted Under Roof Eave.

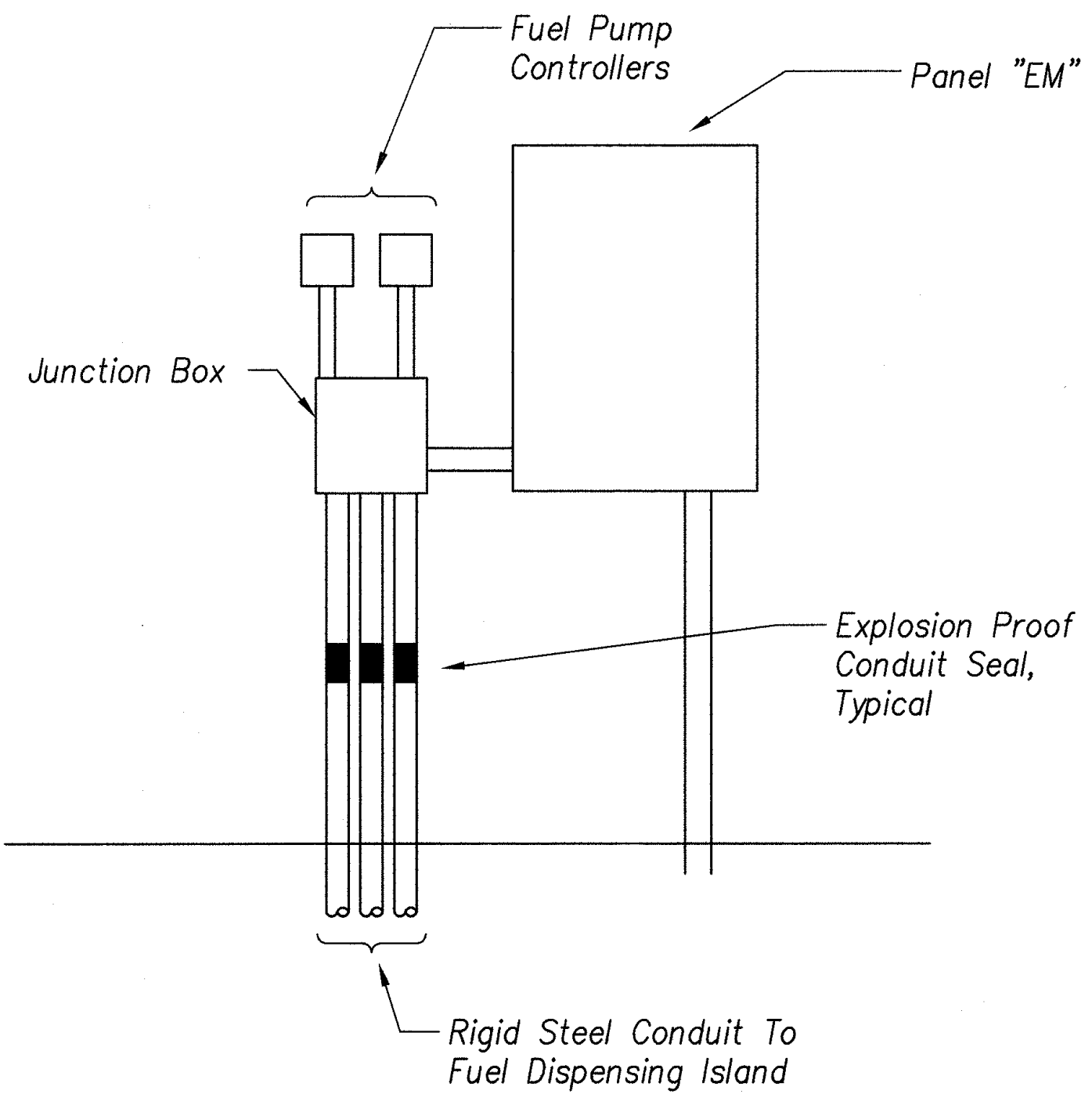
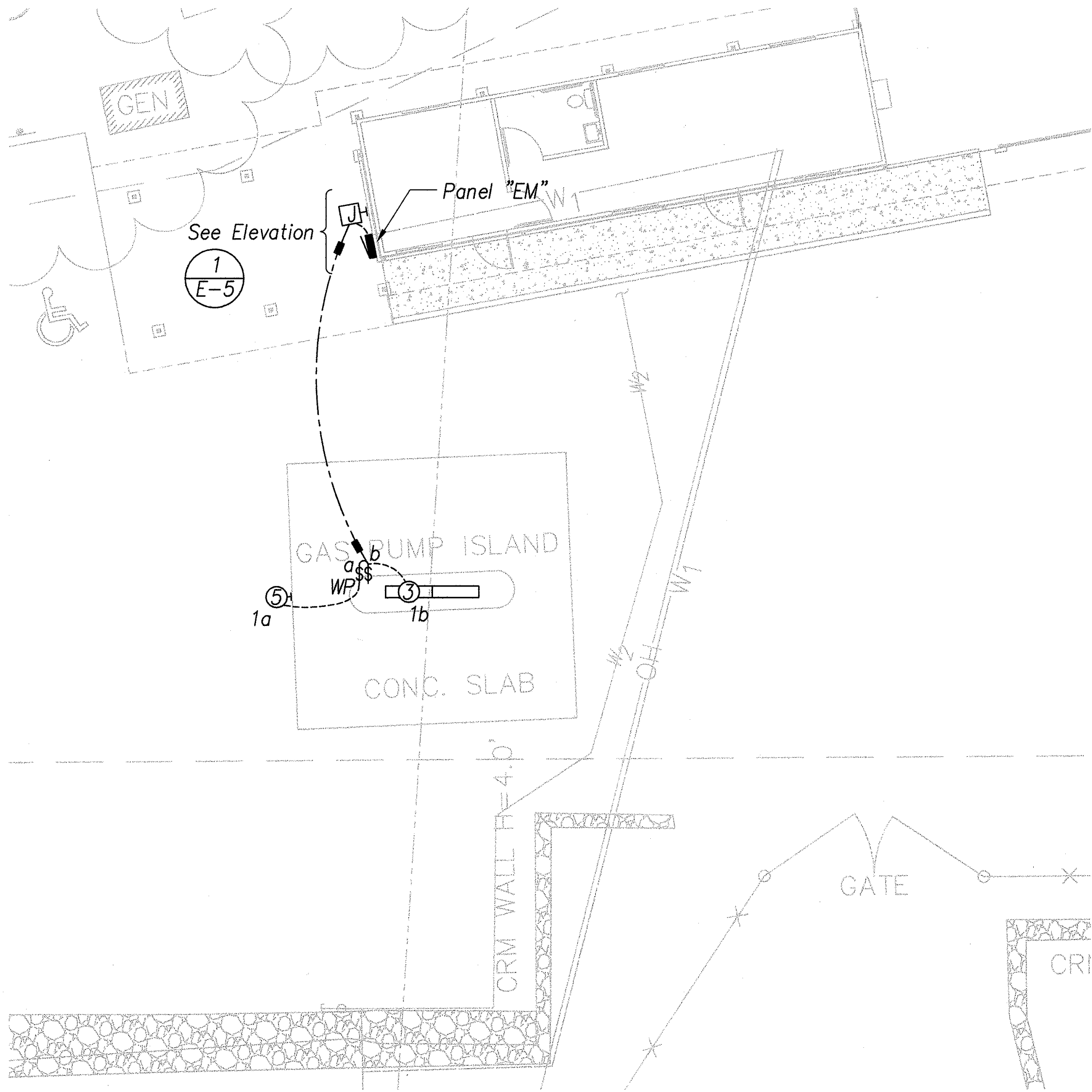
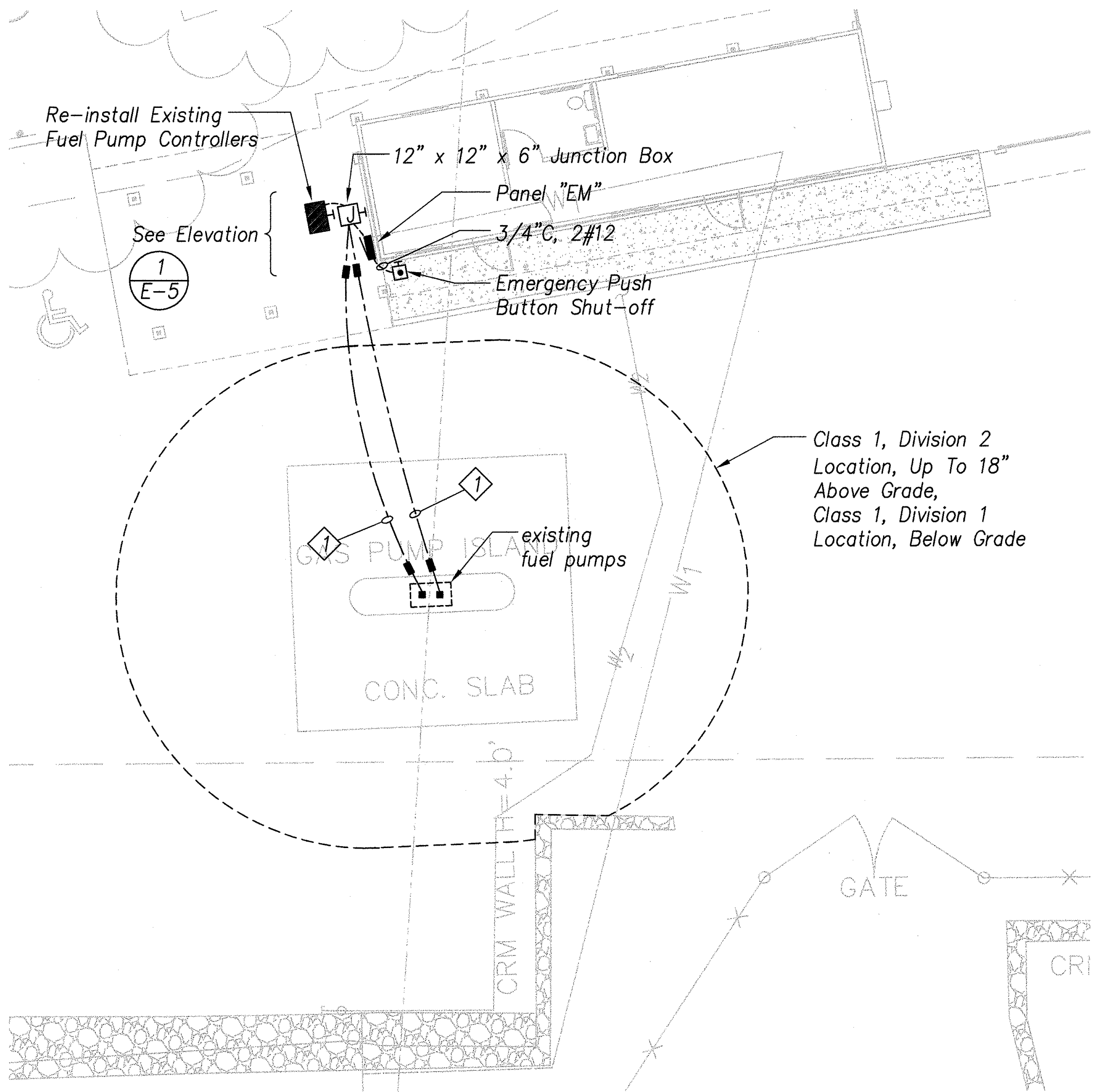


THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

PROJECT ENGINEER FOR ECS, Inc.
APRIL 30, 2006
EXPIRATION DATE OF THE LICENSE

| | | |
|--|---|--------------------------|
| 6/7/05 | 1 | ADDED/REVISED CONNECTION |
| DATE | | REVISION |
| STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION ELECTRICAL PLAN - NEW WORK North Kona Baseyard Renovations Remove Lead Paint and Upgrade Electrical Project No. HWY-H-03-04M Scale: Noted Date: April 2005 SHEET No. E-4 OF E-6 SHEETS | | |

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII | HAW. | HWY-H-03-04M | 2005 | 31 | 32 |



1 ELEVATION
E-5 NOT TO SCALE

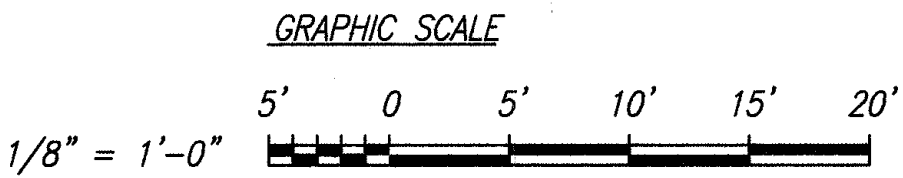
NOTE:

- 1 Underground Threaded Rigid Conduit, Sawcut and Patch Slab As Needed.

FUEL DISPENSER POWER PLAN
SCALE: 1/8" = 1'-0"

FUEL DISPENSER LIGHTING PLAN
SCALE: 1/8" = 1'-0"

| | |
|---------------|------|
| DESIGNED BY | DATE |
| NOTED BY | |
| CHECKED BY | |
| ORIGINAL PLAN | |
| NOTE BOOK | |
| No. | |



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

PROJECT ENGINEER for ECS, Inc.
APRIL 30, 2006
EXPIRATION DATE OF THE LICENSE

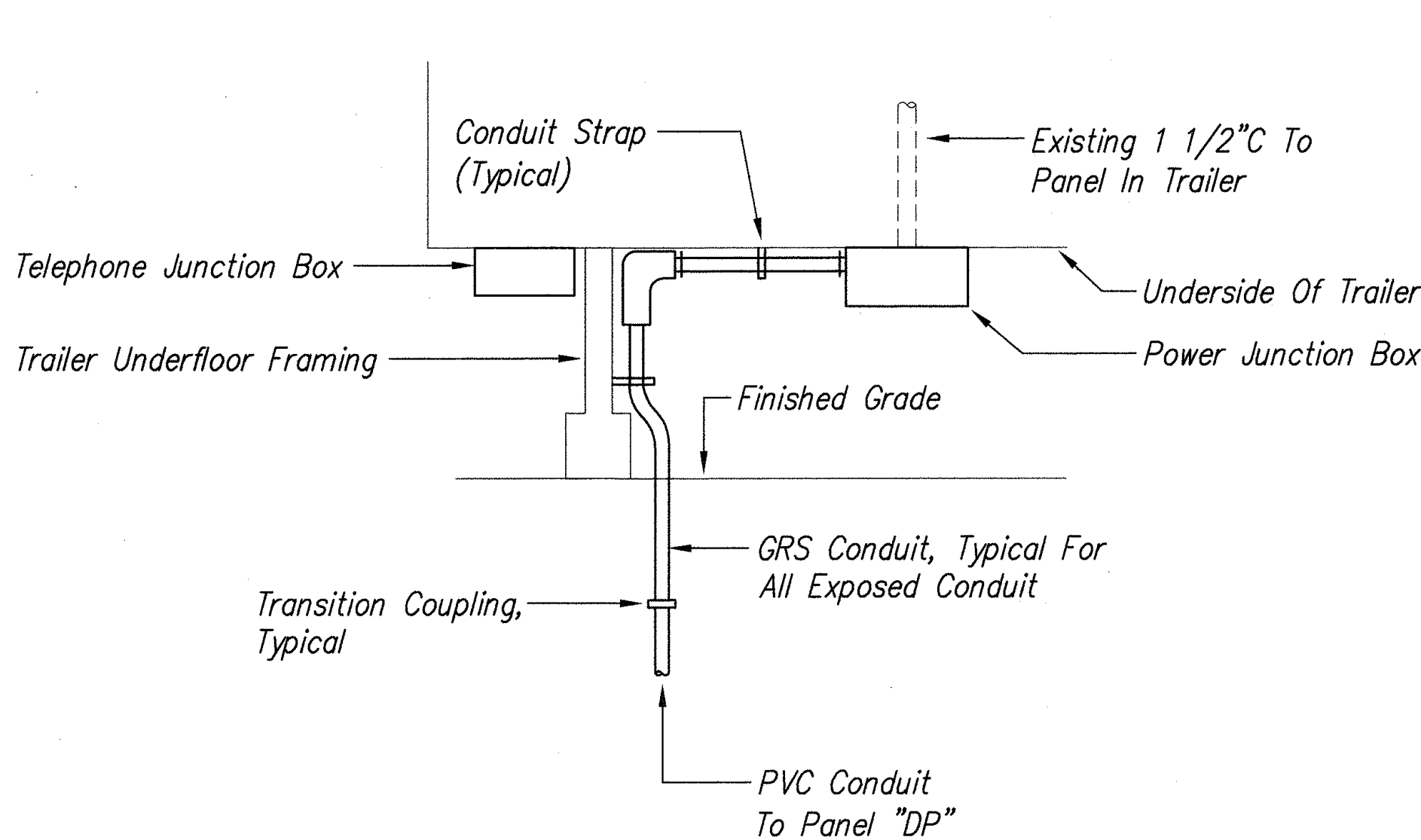
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

FUEL DISPENSER
ELECTRICAL PLANS
North Kona Baseyard Renovations
Remove Lead Paint and
Upgrade Electrical
Project No. HWY-H-03-04M

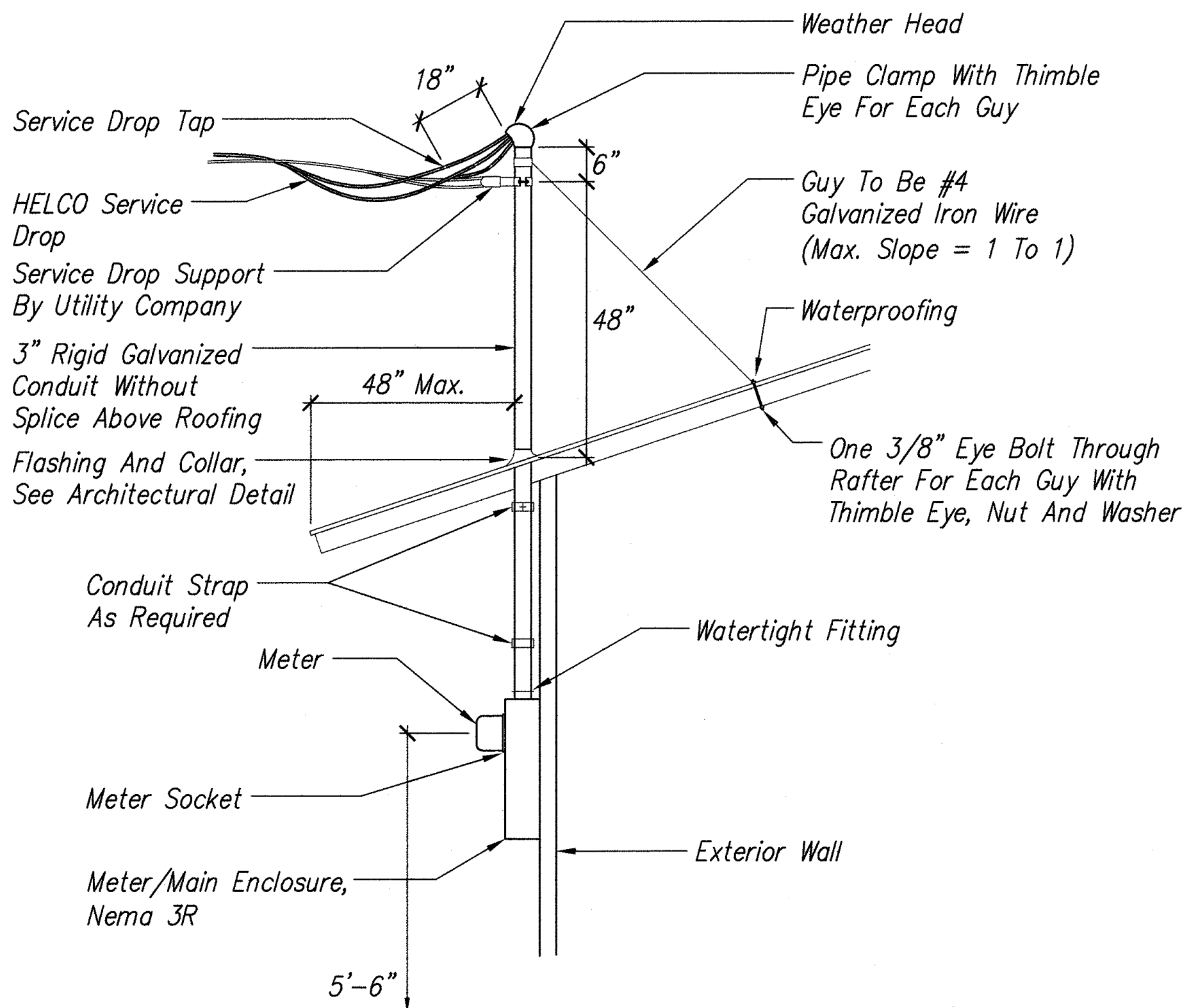
Scale: Noted
Date: April 2005

SHEET No. E-5 OF E-6 SHEETS

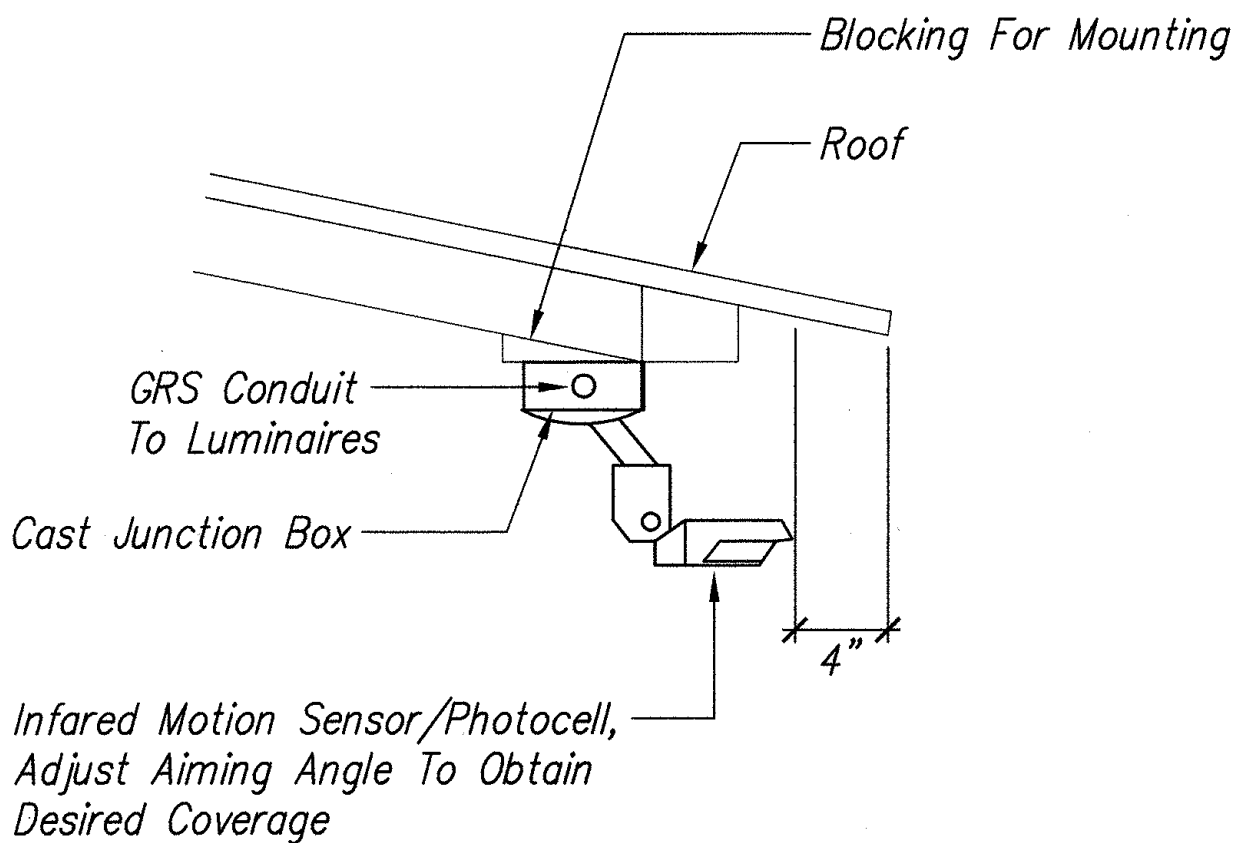
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII | HAW. | HWY-H-03-04M | 2005 | 32 | 32 |



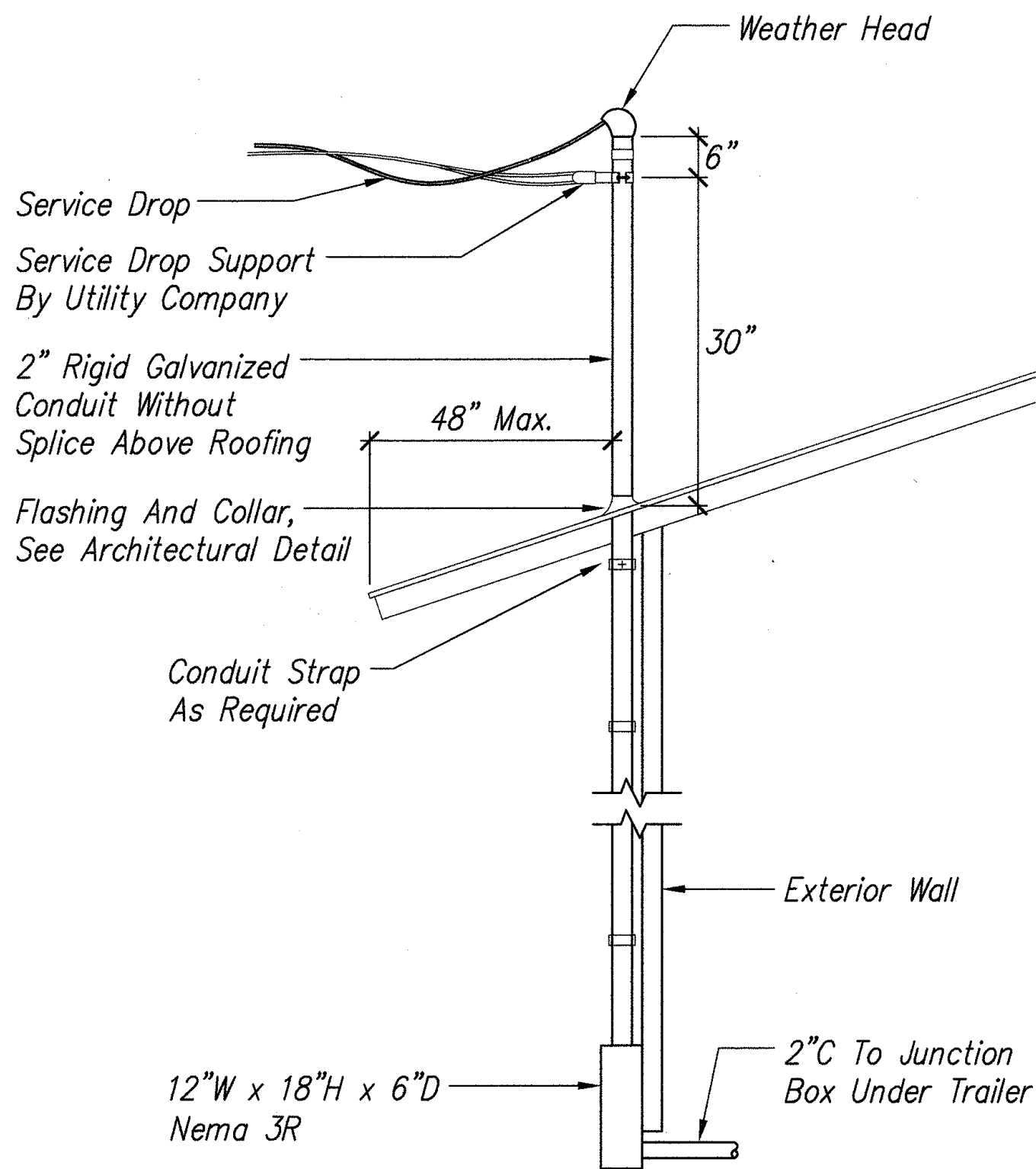
1 TRAILER SERVICE CONNECTION
E-6 NOT TO SCALE



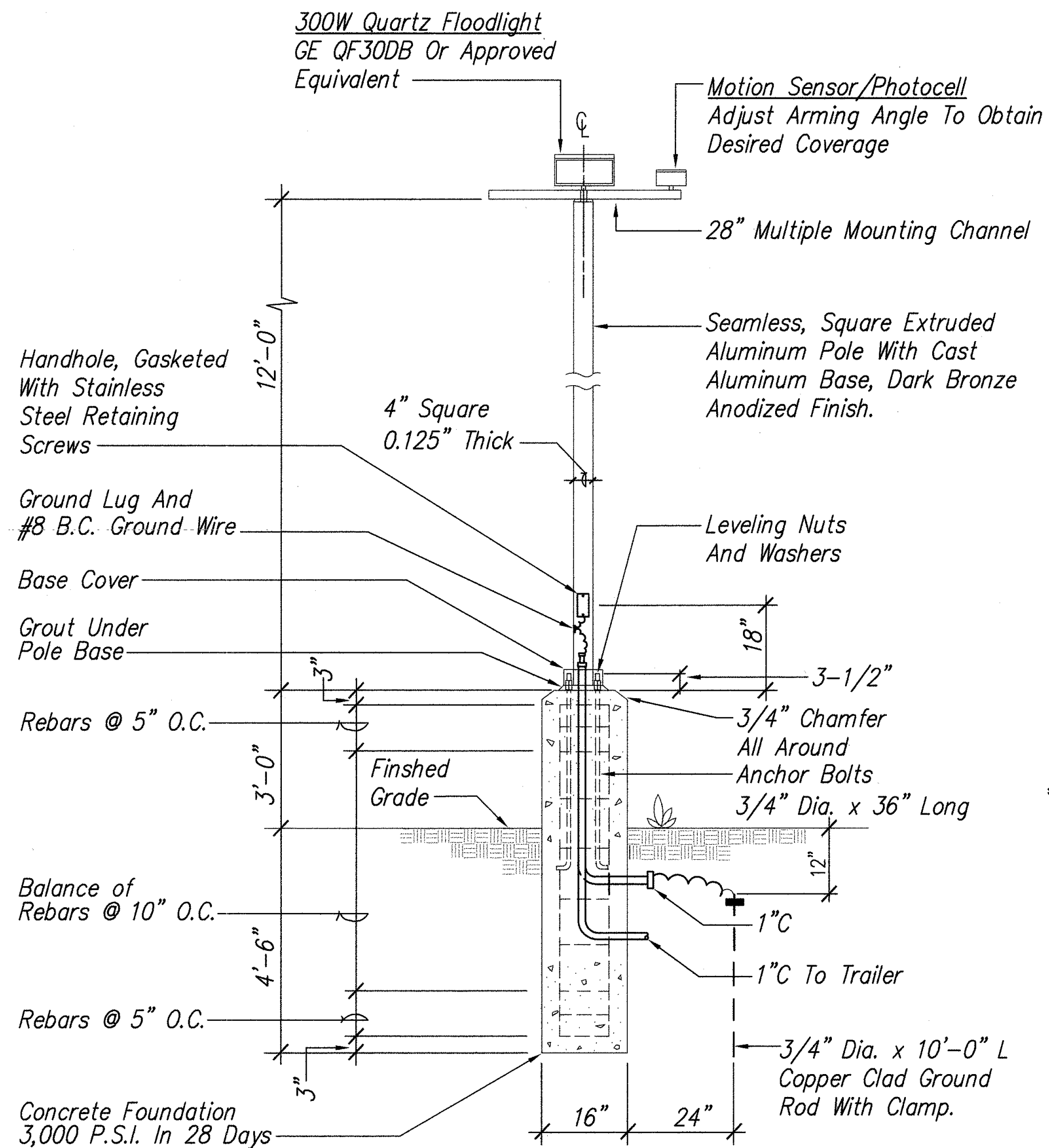
3 OVERHEAD HELCO SERVICE DETAIL
E-6 NOT TO SCALE



2 MOTION/PHOTOCELL
SENSOR MOUNTING DETAIL
E-6 NOT TO SCALE



4 OVERHEAD TELEPHONE SERVICE DETAIL
E-6 NOT TO SCALE



NOTES:

1. AREA LIGHT ASSEMBLY, INCLUDING POLE, LUMINAIRE AND FOUNDATION SHALL WITHSTAND WINDS UP TO 108 MPH GUSTING WITHOUT PERMANENT DEFORMATION.

5 POLE MOUNTED FLOODLIGHT/SENSOR W/PEDESTAL DETAIL
E-6 NOT TO SCALE



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

PROJECT ENGINEER (for ECS, Inc.)
APRIL 30, 2006
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MISCELLANEOUS DETAILS

North Kona Baseyard Renovations
Remove Lead Paint and
Upgrade Electrical
Project No. HWY-H-03-04M

Scale: Noted Date: April 2005

SHEET No. E-6 OF E-6 SHEETS