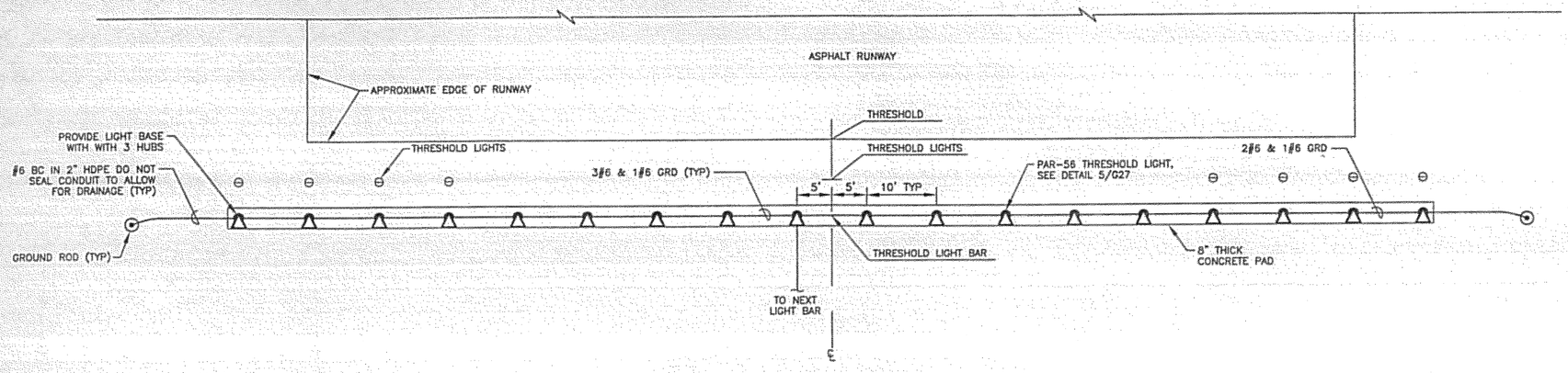
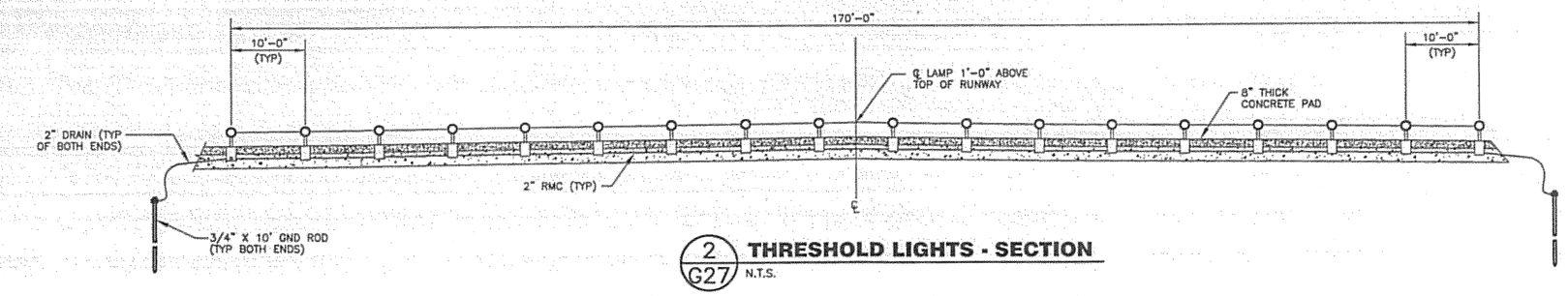


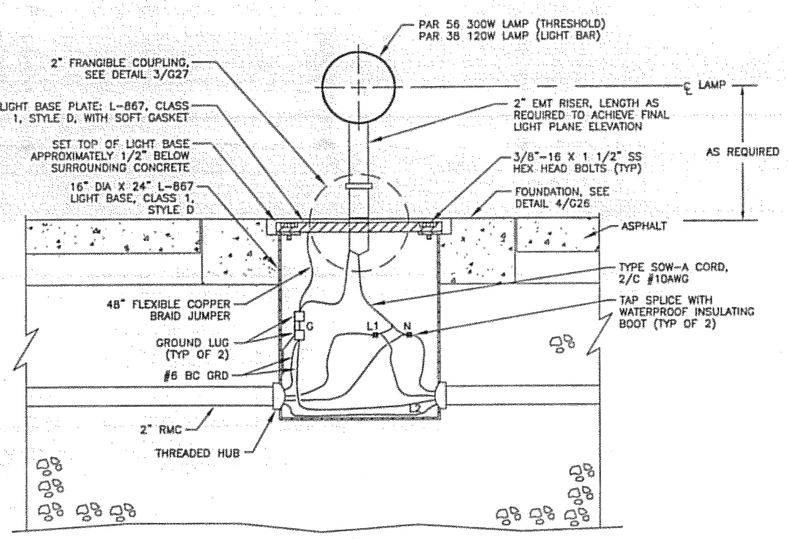
1 G27 **THRESHOLD LIGHTS - PLAN**
N.T.S.



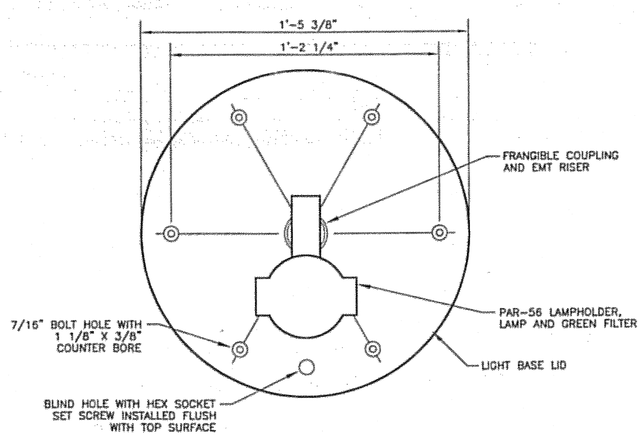
2 G27 **THRESHOLD LIGHTS - SECTION**
N.T.S.

NOTES:

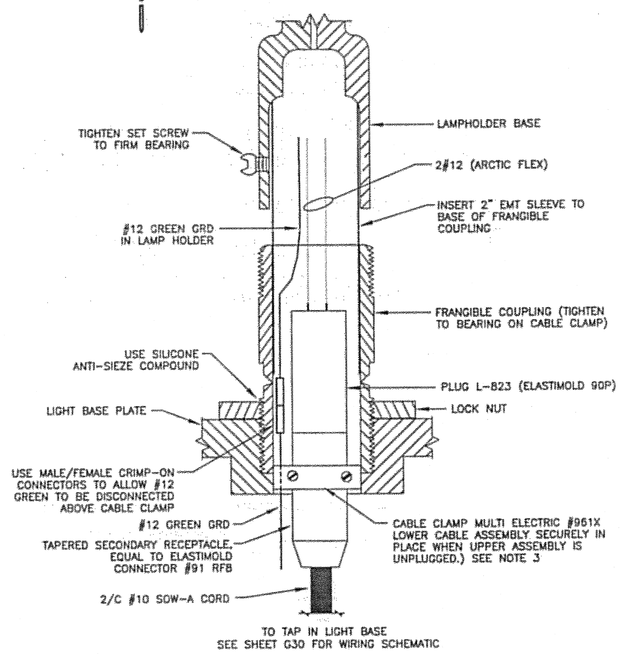
1. RELOCATE THE EXISTING THRESHOLD LIGHTS (RW 11) TO THE NEW RUNWAY THRESHOLD OR INSTALL NEW THRESHOLD LIGHTS (RW 29). PROVIDE NEW THRESHOLD LIGHT BASES AND CIRCUITING AS SHOWN.
2. CONDUITS BELOW GRADE SHALL BE HDPE, EXCEPT INSTALL RIGID GALVANIZED STEEL (RMC) UNDER PADS AND ROADWAYS.
3. DRILL HOLE IN CABLE CLAMP AND INSTALL GREEN INSULATED GROUND CONDUCTOR FROM GROUND LUG IN LIGHT BASE TO LAMP HOLDER. CARE SHOULD BE TAKEN NOT TO INSTALL CABLE CLAMP UPSIDE DOWN SO THAT WHEN THE FRANGIBLE COUPLING IS SCREWED IN, IT WILL NOT TWIST THE CLAMP AND RECEPTACLE SO AS NOT TO SHORT THE WIRING.



5 G27 **BASE MOUNTED LIGHT - SECTION**
N.T.S.



4 G27 **BASE MOUNTED LIGHT - PLAN**
N.T.S.



3 G27 **FRANGIBLE COUPLING DETAIL**
N.T.S.

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

PATH: I:\823400\Dwgs\E\Sheets\G27-M9.dwg
Tue, 03/Oct/06 02:23PM lschneller
TAB: G12

ADDENDUM NUMBER
ATTACHMENT NUMBER

RECORD OF REVISIONS

No.	DATE	DESCRIPTION

KETCHIKAN AIRPORT
RUNWAY SAFETY AREA EXPANSION
& RUNWAY OVERLAY
PROJECT NO. 68306

MALSR DETAILS

PREPARED BY: USKH INC.

CHECKED BY: GRH

STATE OF ALASKA 49TH
GARY R. HABLE
EE-10243
REGISTERED PROFESSIONAL ENGINEER
10/4/06

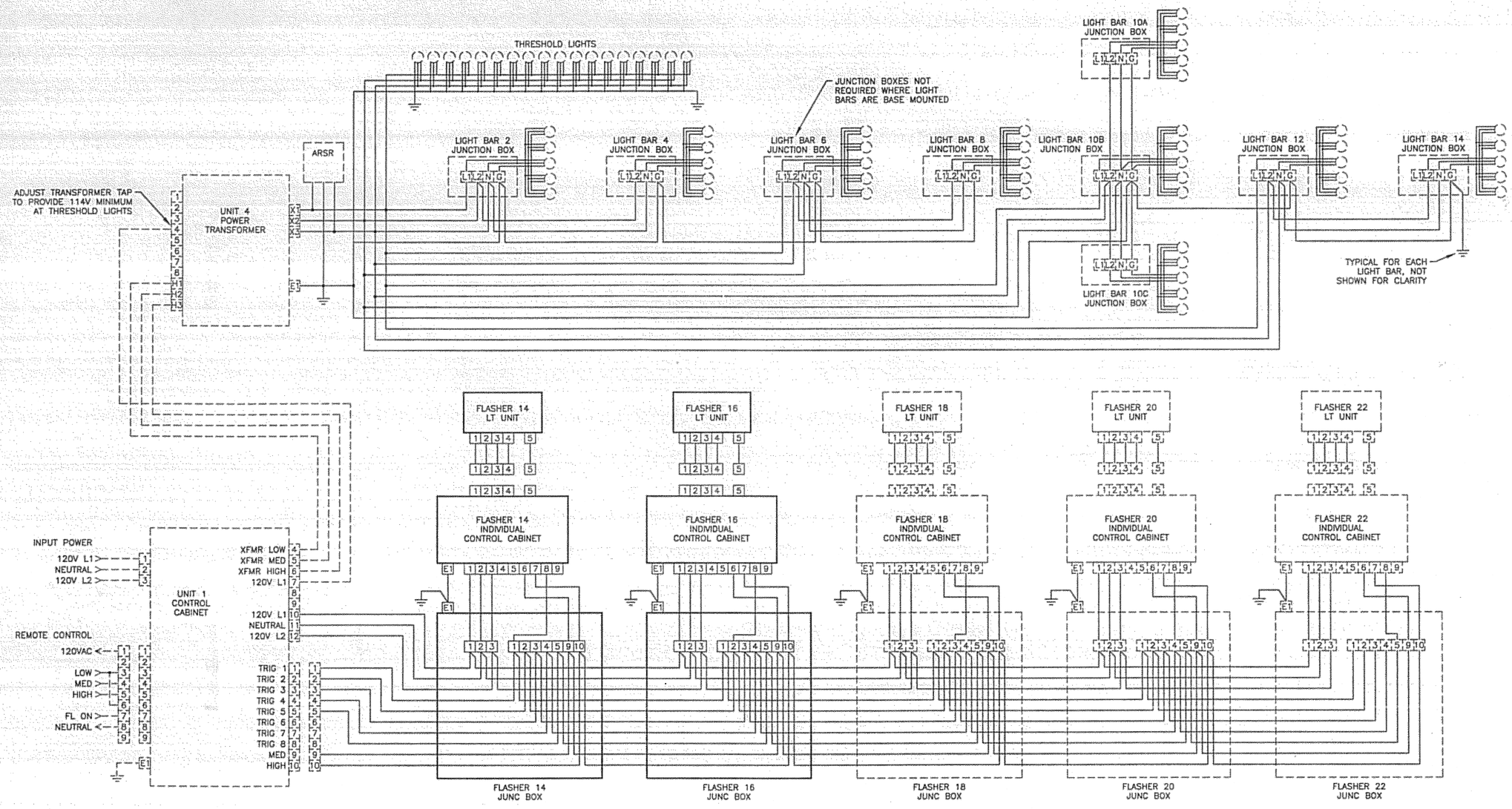
DESIGNED BY: LPS

DRAWN BY: LPS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
DESIGN & ENGINEERING SERVICES
DIVISION-SOUTHEAST REGION

MALSR DETAILS

PROJECT DESIGNATION	
AIP NO. 3-02-0144-1606	
STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
G27	131



1 / G28 **MALSR WIRING DIAGRAM - RW 11**
N.T.S.

NOTE:
ARRANGEMENT AND CONNECTION OF EQUIPMENT IS SCHEMATIC, SEE SHEET G19 FOR ACTUAL ARRANGEMENT AND CONDUCTORS

WIRING DIAGRAM LEGEND
- - - - EXISTING EQUIPMENT TO REMAIN OR TO BE REINSTALLED
——— NEW WORK

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

PATH: I:\823400\Dwgs\E\Sheets\G28-M10.dwg
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TAB: G12

ADDENDUM NUMBER

ATTACHMENT NUMBER

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KETCHIKAN AIRPORT
RUNWAY SAFETY AREA EXPANSION & RUNWAY OVERLAY
PROJECT NO. 68306

MALSR WIRING DIAGRAM - RW 11

PREPARED BY: USKH INC.
CHECKED BY: GRH

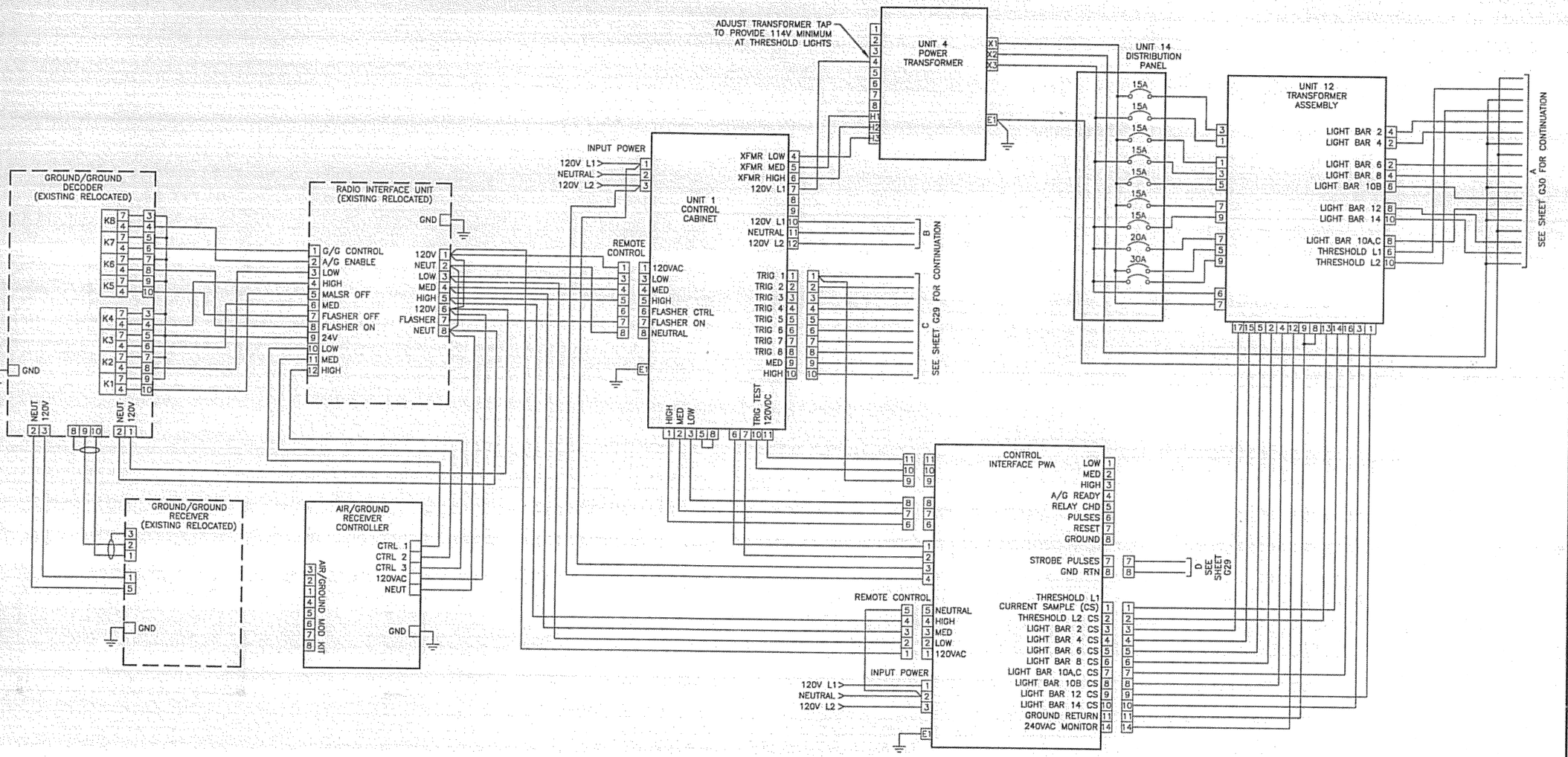
STATE OF ALASKA 49TH GARY R. HABLE EE-10243 REGISTERED PROFESSIONAL ENGINEER 10/4/06

DESIGNED BY: LPS
DRAWN BY: LPS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
DESIGN & ENGINEERING SERVICES DIVISION–SOUTHEAST REGION

MALSR WIRING DIAGRAM - RW 11

PROJECT DESIGNATION	
AIP NO. 3-02-0144-1606	
STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
G28	131



1/G29 MALSR WIRING DIAGRAM - RW 29
N.T.S.

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

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ADDENDUM NUMBER
ATTACHMENT NUMBER

RECORD OF REVISIONS

No.	DATE	DESCRIPTION

KETCHIKAN AIRPORT
RUNWAY SAFETY AREA EXPANSION
& RUNWAY OVERLAY
PROJECT NO. 68306

MALSR WIRING DIAGRAM - RW 29

PREPARED BY: USKH INC.

CHECKED BY: GRH

STATE OF ALASKA
49TH
GARY R. HABLE
EE-10243
REGISTERED PROFESSIONAL ENGINEER
10/4/06

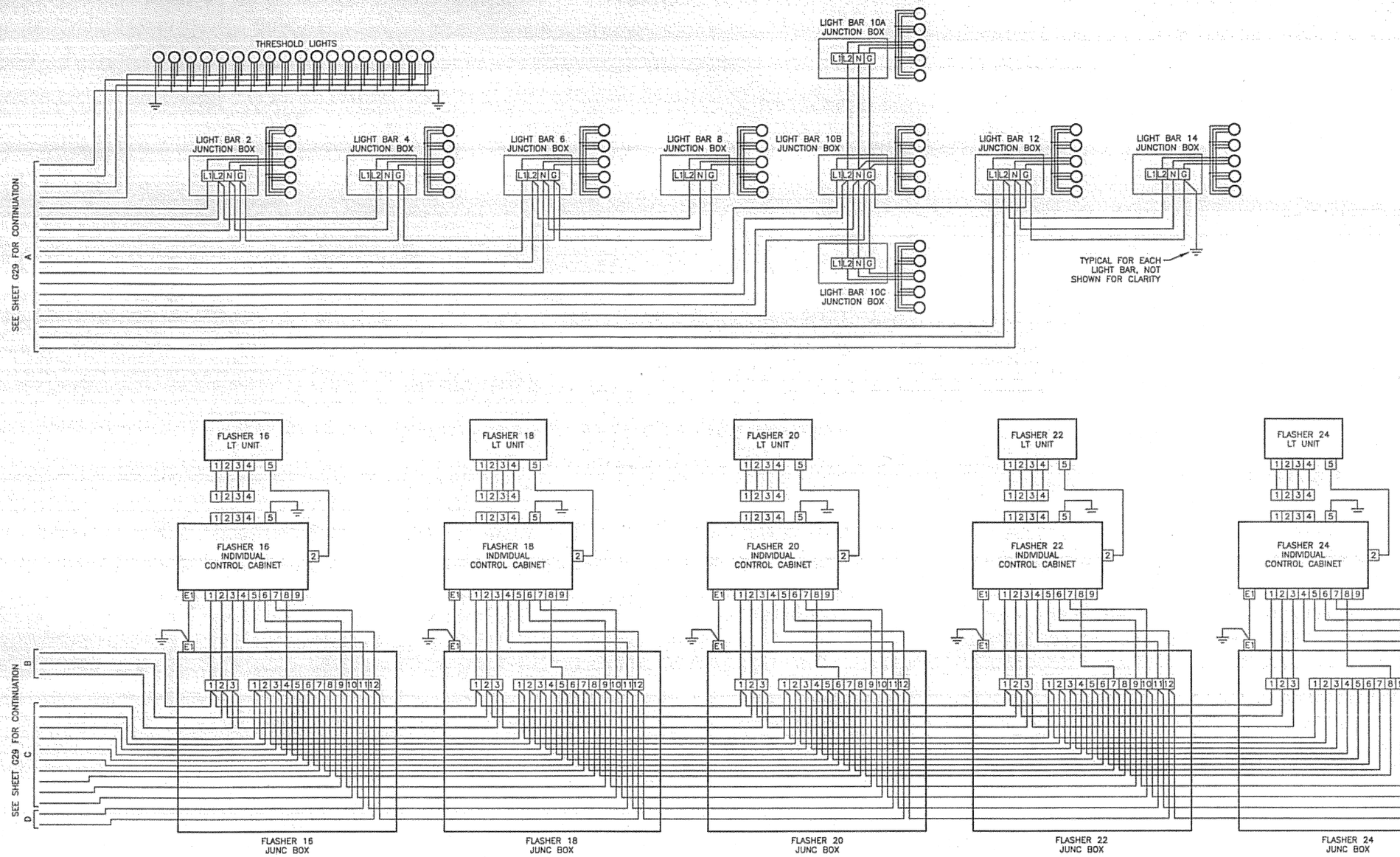
DESIGNED BY: LPS

DRAWN BY: LPS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
& PUBLIC FACILITIES
DESIGN & ENGINEERING SERVICES
DIVISION–SOUTHEAST REGION

MALSR WIRING DIAGRAM - RW 29

PROJECT DESIGNATION	
AIP NO. 3-02-0144-1606	
STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
G29	131



1 G30 MALSR WIRING DIAGRAM - RW 29

N.T.S.

NOTE:
ARRANGEMENT AND CONNECTION OF EQUIPMENT IS SCHEMATIC, SEE SHEET G19 FOR ACTUAL ARRANGEMENT AND CONDUCTORS

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

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TAB: G12

ADDENDUM NUMBER

ATTACHMENT NUMBER

RECORD OF REVISIONS

No.	DATE	DESCRIPTION

KETCHIKAN AIRPORT
RUNWAY SAFETY AREA EXPANSION
& RUNWAY OVERLAY
PROJECT NO. 68306

MALSR WIRING DIAGRAM - RW 29

PREPARED BY: USKH INC.

CHECKED BY: GRH

STATE OF ALASKA
49TH
GARY R. HABLE
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REGISTERED PROFESSIONAL ENGINEER
10/4/06

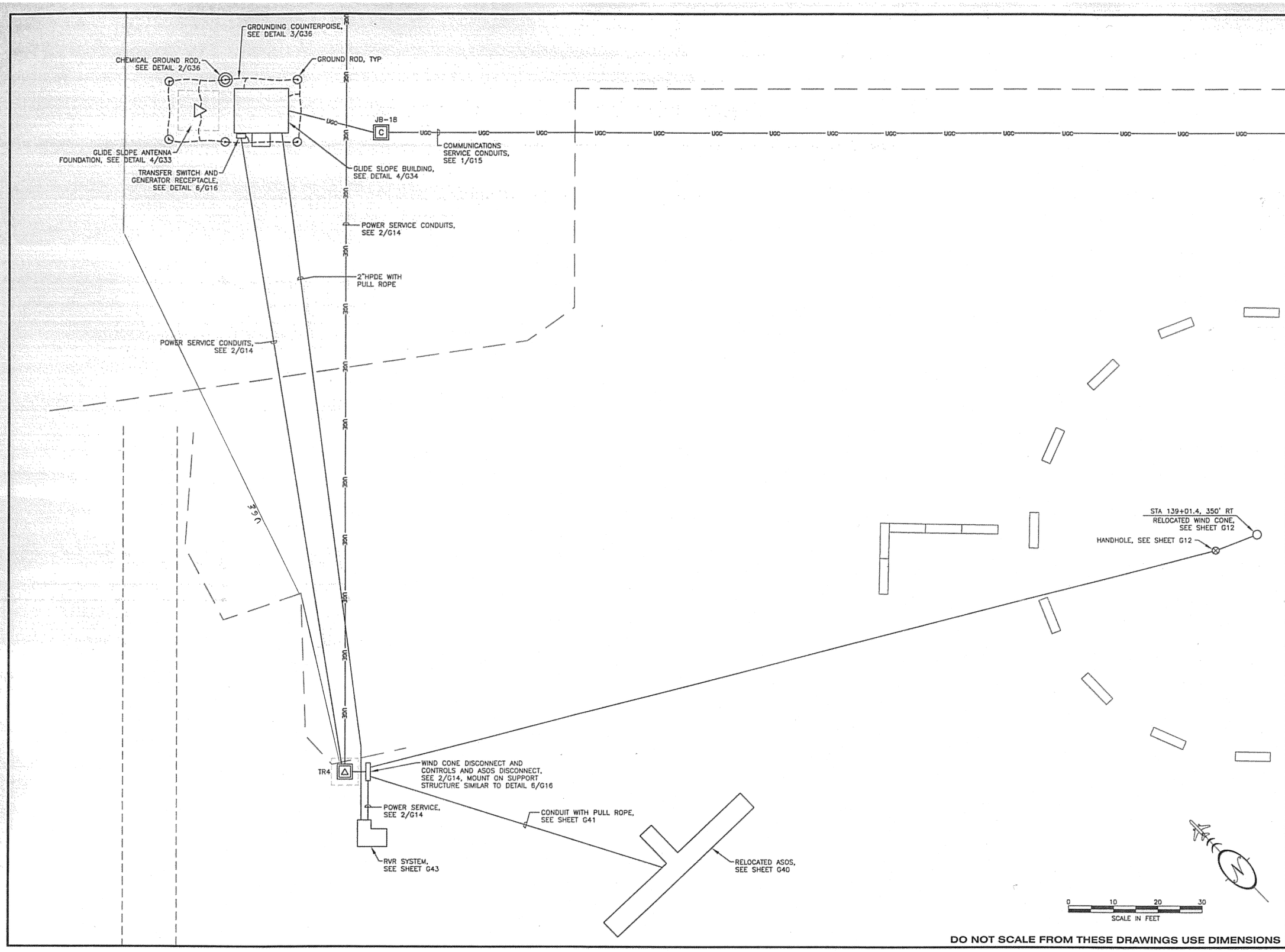
DESIGNED BY: LPS

DRAWN BY: LPS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
& PUBLIC FACILITIES
DESIGN & ENGINEERING SERVICES
DIVISION-SOUTHEAST REGION

MALSR WIRING DIAGRAM -RW 29

PROJECT DESIGNATION	
AIP NO. 3-02-0144-1606	
STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
G30	131



DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

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ADDENDUM NUMBER

ATTACHMENT NUMBER

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No.	DATE	DESCRIPTION

KETCHIKAN AIRPORT
RUNWAY SAFETY AREA EXPANSION & RUNWAY OVERLAY
PROJECT NO. 68306

PREPARED BY: USKH INC.

CHECKED BY: GRH

STATE OF ALASKA
49TH
GARY R. HABLE
EE-10243
REGISTERED PROFESSIONAL ENGINEER
10/4/06

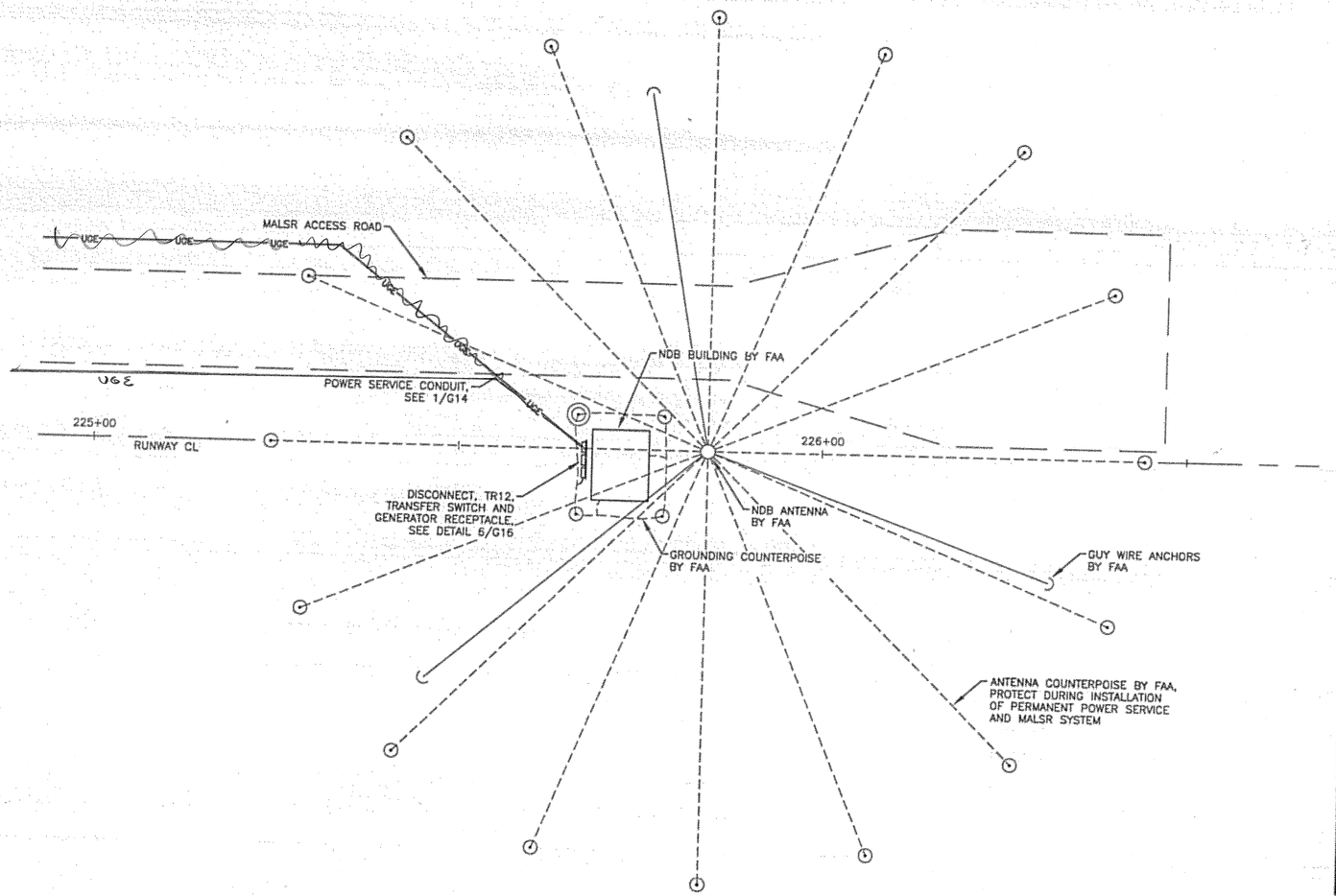
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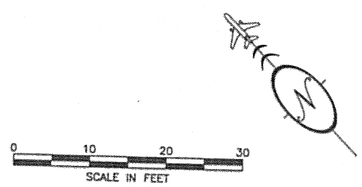
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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
DESIGN & ENGINEERING SERVICES
DIVISION-SOUTHEAST REGION

GLIDE SLOPE AREA ENLARGED PLAN

PROJECT DESIGNATION	
AIP NO. 3-02-0144-1606	
STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
G31	131





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ADDENDUM NUMBER

ATTACHMENT NUMBER

RECORD OF REVISIONS

No.	DATE	DESCRIPTION

KETCHIKAN AIRPORT
RUNWAY SAFETY AREA EXPANSION
& RUNWAY OVERLAY
PROJECT NO. 68306

NDB AREA ENLARGED PLAN

PREPARED BY: USKH INC.

CHECKED BY: GRH

STATE OF ALASKA
49TH
GARY R. HABLE
EE-10243
REGISTERED PROFESSIONAL ENGINEER
10/4/06

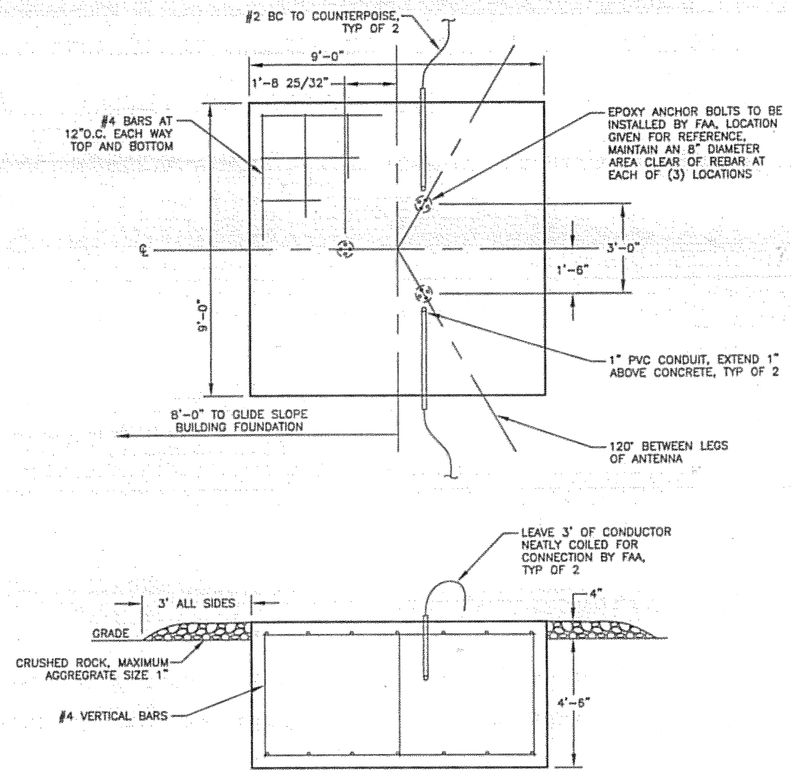
DESIGNED BY: LPS

DRAWN BY: LPS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
& PUBLIC FACILITIES
DESIGN & ENGINEERING SERVICES
DIVISION–SOUTHEAST REGION

NDB AREA ENLARGED PLAN

PROJECT DESIGNATION	
AIP NO. 3-02-0144-1606	
STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
G32	131



1 G33 GLIDE SLOPE ANTENNA TOWER FOUNDATION DETAIL

N.T.S.

FOUNDATION NOTES:

1. CONCRETE SHALL DEVELOP 3000PSI IN 28 DAYS WITH A MAXIMUM SLUMP OF 3". MAXIMUM AGGREGATE SIZE SHALL BE 3/4".
2. IF FILL OR GRADING IS REQUIRED, IT SHALL BE BUILT UP IN LAYERS NOT EXCEEDING 6". EACH LAYER SHALL BE THOROUGHLY TAMPED AND COMPACTED TO 95% OF MAXIMUM DENSITY AT OPTIMUM WATER CONTENT. GRADING OF SOIL AND ROCK SHOULD BE SUCH THAT ALL DRAINAGE IS AWAY FROM FOUNDATION.
3. MAINTAIN A MINIMUM OF 3" OF CONCRETE COVER OVER ALL REINFORCING STEEL.
4. FOUNDATION SURFACE SHALL BE LEVEL ±1/8" AND HAVE A BROOMED FINISH.
5. REINFORCING STEEL SHALL BE ASTM A615 GRADE 40 DEFORMED BARS.
6. ALL FORMS MUST BE REMOVED BEFORE PLACING COMPACTED BACKFILL.

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ADDENDUM NUMBER

ATTACHMENT NUMBER

RECORD OF REVISIONS

No.	DATE	DESCRIPTION

KETCHIKAN AIRPORT
RUNWAY SAFETY AREA EXPANSION
& RUNWAY OVERLAY
PROJECT NO. 68306

NAVAID FOUNDATION DETAILS

PREPARED BY: USKH INC.

CHECKED BY: GRH

STATE OF ALASKA 49TH
GARY R. HABLE
EE-10243
REGISTERED PROFESSIONAL ENGINEER
10/4/06

DESIGNED BY: LPS

DRAWN BY: LPS

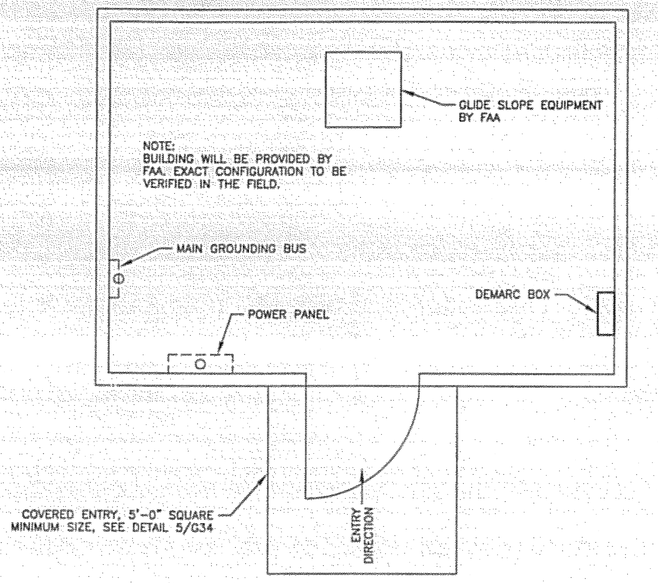
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
& PUBLIC FACILITIES
DESIGN & ENGINEERING SERVICES
DIVISION-SOUTHEAST REGION

NAVAID FOUNDATION DETAILS

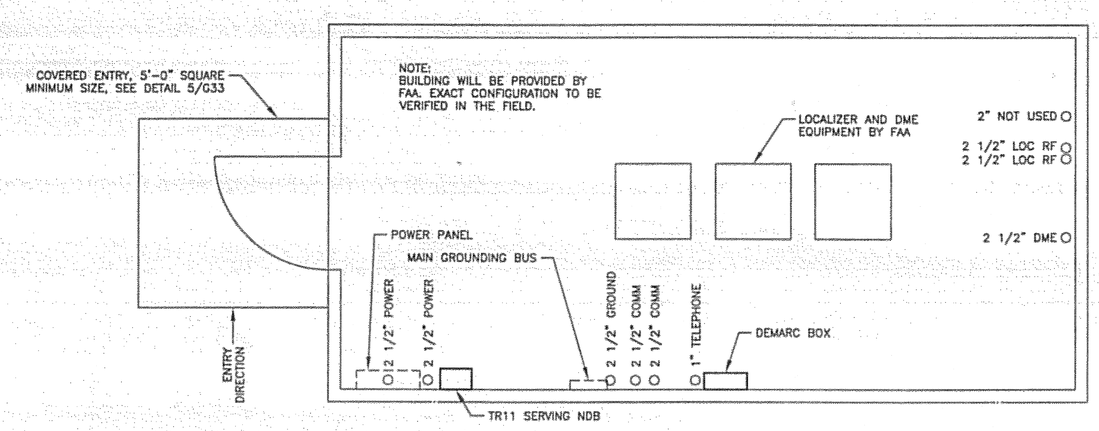
PROJECT DESIGNATION

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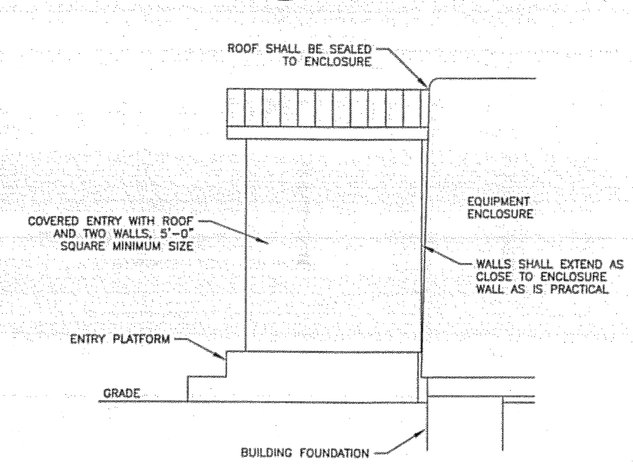
STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
G33	131



4/G34 **GLIDE SLOPE EQUIPMENT ENCLOSURE**
N.T.S.



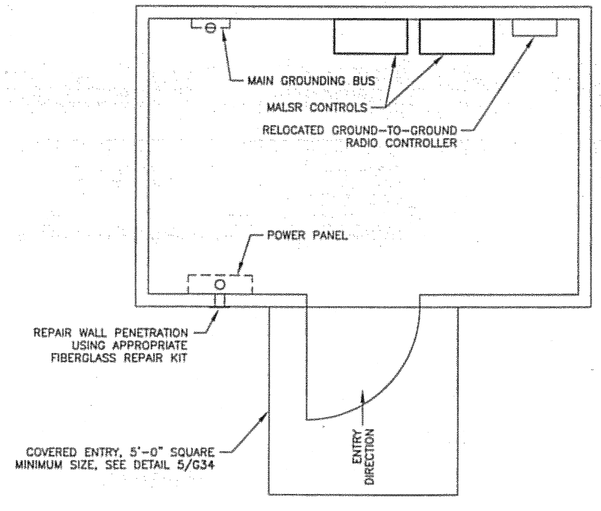
1/G34 **LOCALIZER EQUIPMENT ENCLOSURE**
N.T.S.



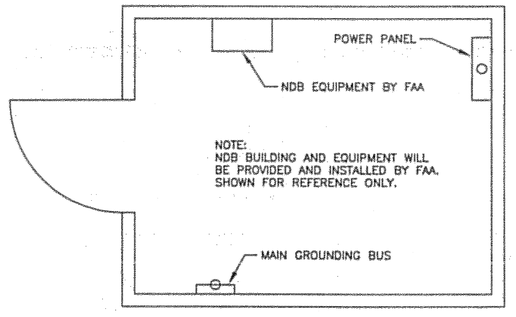
5/G34 **COVERED ENTRY DETAIL**
N.T.S.

COVERED ENTRY NOTES:

1. COVERED ENTRIES MAY BE PREFABRICATED FIBERGLASS UNITS OR CONSTRUCTED ON SITE.
2. FIELD CONSTRUCTED ENTRIES SHALL BE CONSTRUCTED OF ALL-WEATHER TREATED WOOD STRUCTURE, METAL OR FIBERGLASS ROOF AND WALL PANELS, AND FIBERGLASS FLOOR GRATING. OTHER MATERIALS MAY BE USED UPON APPROVAL OF THE ENGINEER.
3. THE ENTRY PLATFORM MAY BE CONSTRUCTED AS DESCRIBED ABOVE OR MAY BE POURED OR PRECAST CONCRETE. MAXIMUM STEP HEIGHT SHALL BE 8".
4. ONE PREFABRICATED FIBERGLASS ENTRY IS AVAILABLE FOR SALVAGE FROM THE EXISTING LOCALIZER BUILDING.
5. COORDINATE ENTRY CONSTRUCTION AND CONNECTION TO ENCLOSURE WITH EXISTING ENCLOSURE PENETRATIONS, VENTILATION HOODS, ENTRY DOOR, ETC.



3/G34 **MALSR EQUIPMENT ENCLOSURE**
N.T.S.



2/G34 **NDB EQUIPMENT ENCLOSURE**
N.T.S.

BUILDING NOTES:

1. LAYOUTS SHOWN ARE TAKEN FROM AS-BUILT INFORMATION AND SITE INVESTIGATIONS. DIMENSIONS, LOCATIONS, AND LAYOUT SHOULD BE VERIFIED IN THE FIELD PRIOR TO STARTING CONSTRUCTION.
2. BUILDING PENETRATIONS SHALL BE MADE THROUGH THE FLOOR ONLY. EXISTING BUILDING PENETRATIONS SHALL BE REUSED WHENEVER POSSIBLE. ADDITIONAL PENETRATIONS SHALL NOT BE MADE WITHOUT PRIOR APPROVAL OF THE ENGINEER.
3. EXACT LAYOUT OF EQUIPMENT AND CONDUIT ENTRY POINTS SHALL BE COORDINATED IN THE FIELD BASED ON EXISTING AND FIELD CONDITIONS.

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TAB: G11

ADDENDUM NUMBER
ATTACHMENT NUMBER

RECORD OF REVISIONS

No.	DATE	DESCRIPTION

KETCHIKAN AIRPORT
RUNWAY SAFETY AREA EXPANSION & RUNWAY OVERLAY
PROJECT NO. 68306

EQUIPMENT ENCLOSURE PLANS

PREPARED BY: USKH INC.

CHECKED BY: GRH

STATE OF ALASKA
49TH
GARY R. HABLE
EE-10243
REGISTERED PROFESSIONAL ENGINEER
10/4/06

DESIGNED BY: LPS

DRAWN BY: LPS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
DESIGN & ENGINEERING SERVICES
DIVISION-SOUTHEAST REGION

EQUIPMENT ENCLOSURE PLANS

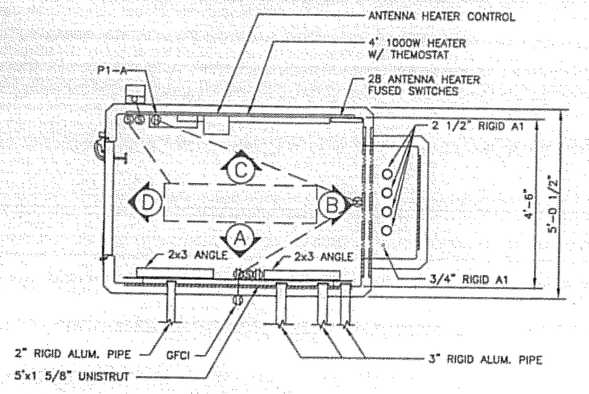
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AIP NO. 3-02-0144-1606	
STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
G34	131

NOTES:

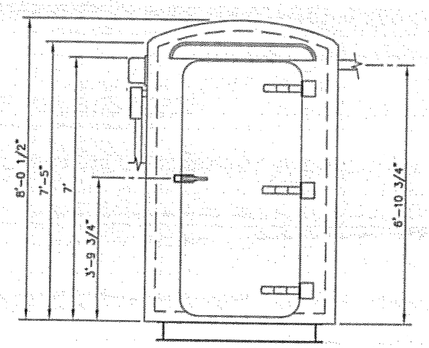
1. 3 1/4" SOLID WALL FIBERGLASS CONSTRUCTION.
2. 3/4" PLYWOOD BACKING
3. PANELBOARD P-1A SCHEDULE.

	120/240V	1PH			
1.	SERVICE DC	DP60A	2.	BASEBOARD HTR	DP20A
3.	SERVICE DC	DP60A	4.	BASEBOARD HTR	DP20A
5.	LIGHTS	20A	6.	ANT. HTRS	DP20A
7.	OUTLETS	20A	8.	ANT. HTRS	DP20A
9.	OUTLETS	20A	10.	THERMOSTAT	20A
11.	EQUIP. OUTLET AND GFCI	20A	12.	OBSTRUCTION LTS.	20A

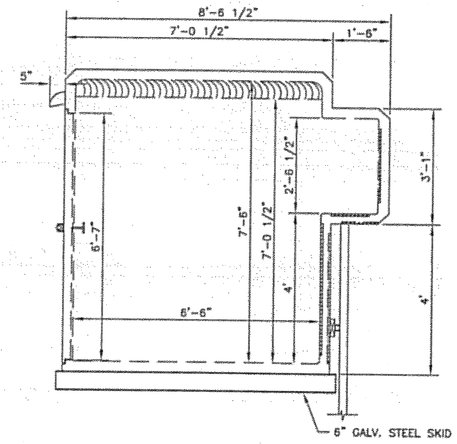
4. THE EXISTING LOCALIZER RF DISTRIBUTION/COMBININB BUILDING IS TO BE REUSED. THESE DRAWINGS OF THE EXISTING BUILDING ARE FOR REFERENCE ONLY. EXISTING BUILDING PENETRATIONS SHALL BE REUSED – NO NEW BUILDING PENETRATIONS SHALL BE MADE.



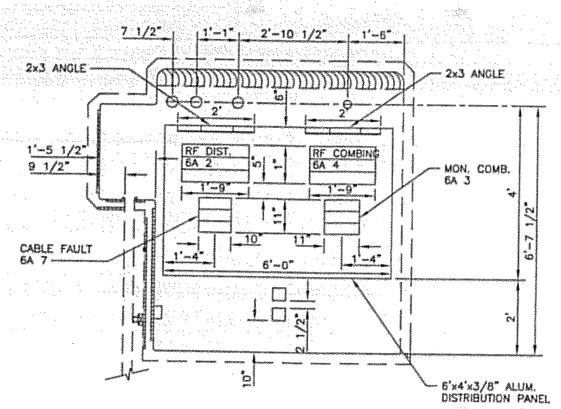
PLAN
SCALE: 1/2" = 1'-0"



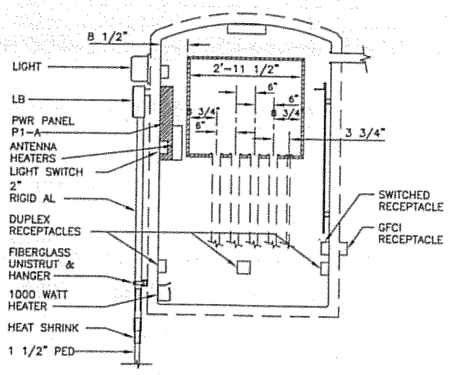
FRONT ELEVATION
SCALE: 1/2" = 1'-0"



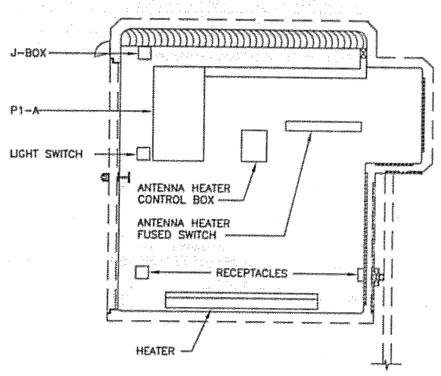
SIDE ELEVATION
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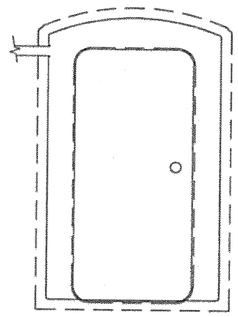
ELEVATION "A"
SCALE: 1/2" = 1'-0"



ELEVATION "B"
SCALE: 1/2" = 1'-0"



ELEVATION "C"
SCALE: 1/2" = 1'-0"



ELEVATION "D"
SCALE: 1/2" = 1'-0"

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TAB: G12

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ATTACHMENT NUMBER

RECORD OF REVISIONS

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KETCHIKAN AIRPORT
RUNWAY SAFETY AREA EXPANSION
& RUNWAY OVERLAY
PROJECT NO. 68306

LOCALIZER RF DISTRIBUTION/COMBING UNIT

PREPARED BY: USKH INC.

CHECKED BY: GRH

STATE OF ALASKA 49TH
GARY R. HABLE
EE-10243
REGISTERED PROFESSIONAL ENGINEER
10/4/06

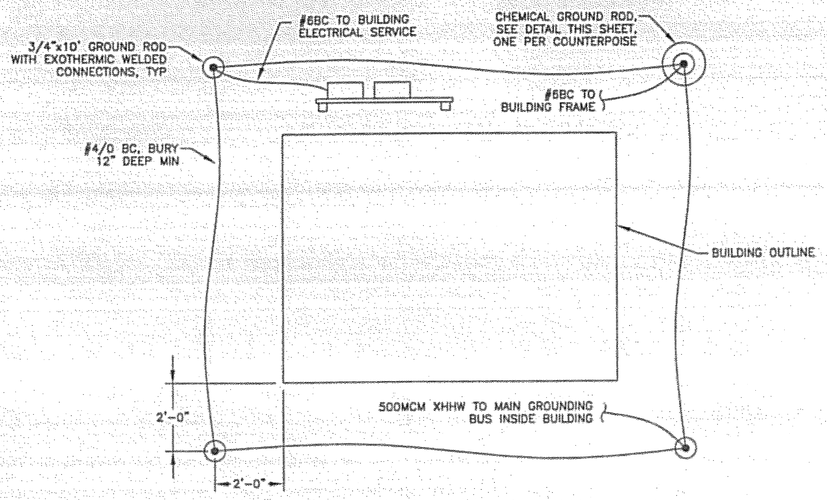
DESIGNED BY: LPS

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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
& PUBLIC FACILITIES
DESIGN & ENGINEERING SERVICES
DIVISION-SOUTHEAST REGION

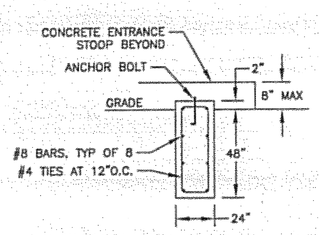
LOCALIZER DISTRIBUTION/ COMBINING UNIT

PROJECT DESIGNATION	
AIP NO. 3-02-0144-1606	
STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
G35	131

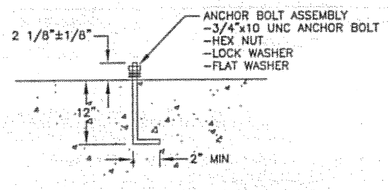


NOTE:
DETAIL IS TYPICAL, SEE PLANS FOR EXACT CONFIGURATION AND CONNECTION POINTS

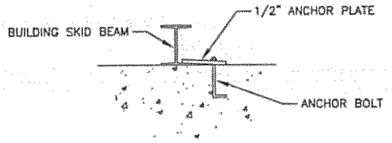
3/G36 **GROUNDING COUNTERPOISE DETAIL**
N.T.S.



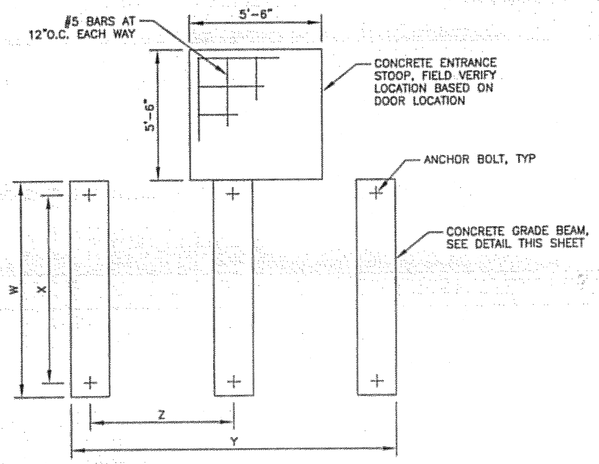
CONCRETE GRADE BEAM



ANCHOR BOLT DETAIL



SHELTER ANCHOR DETAIL



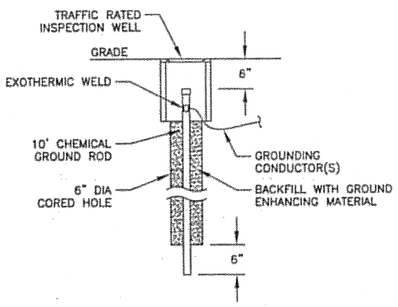
BUILDING FOUNDATION NOTES:

1. FIELD VERIFY ALL DIMENSIONS WITH BUILDINGS BEING INSTALLED

BUILDING	W	X	Y	Z	NO OF BEAMS
LOCALIZER	10'-0"	9'-3"	20'-0"	4'-6"	5
MALSR	8'-0"	7'-3"	12'-0"	5'-0"	3
GLIDE SLOPE	10'-0"	9'-3"	14'-0"	4'-0"	4
DIST/COMB	5'-0"	4'-3"	7'-0"	5'-0"	2
GENERATOR	FIELD VERIFY MODULE SIZE			4'-0" MAX	

2. CONCRETE SHALL DEVELOP 3000PSI IN 28 DAYS WITH A MAXIMUM SLUMP OF 3". MAXIMUM AGGREGATE SIZE SHALL BE 3/4".
3. IF FILL OR GRADING IS REQUIRED, IT SHALL BE BUILT UP IN LAYERS NOT EXCEEDING 6". EACH LAYER SHALL BE THOROUGHLY TAMPED AND COMPACTED TO 95% OF MAXIMUM DENSITY AT OPTIMUM WATER CONTENT. GRADING OF SOIL AND ROCK SHOULD BE SUCH THAT ALL DRAINAGE IS AWAY FROM FOUNDATIONS.
4. ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE HOT DIP GALVANIZED STEEL PER ASTM A153 AND A325.
5. MAINTAIN A MINIMUM OF 3" OF CONCRETE COVER OVER ALL REINFORCING STEEL.
6. GRADE BEAM FOUNDATION ELEVATIONS SHALL BE HORIZONTALLY LEVEL WITH EACH OTHER ±1/4". INDIVIDUAL GRADE BEAM SURFACES MUST BE LEVEL ±1/8".
7. ANCHOR BOLTS MAY BE REPLACED WITH EPOXY ANCHORED THREADED ROD AT THE CONTRACTOR'S OPTION. EPOXY SHALL HAVE A MINIMUM TENSION SHEAR OF 4500PSI WHEN SET. THREADED ROD SHALL BE 3/4"-10 UNC STAINLESS STEEL. INSTALL ROD PER MANUFACTURER'S RECOMMENDATIONS LEAVING 2 1/8" ABOVE CONCRETE.
8. FOUNDATION ELEVATION SHALL BE FIELD VERIFIED AND RECORDED ON THE AS-BUILT DRAWINGS.

1/G36 **TYPICAL BUILDING FOUNDATION DETAILS**
N.T.S.



2/G36 **CHEMICAL GROUND ROD DETAIL**
N.T.S.

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

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Tue, 03/Oct/06 02:25PM lschneller
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ADDENDUM NUMBER

ATTACHMENT NUMBER

RECORD OF REVISIONS

No.	DATE	DESCRIPTION

KETCHIKAN AIRPORT
RUNWAY SAFETY AREA EXPANSION
& RUNWAY OVERLAY
PROJECT NO. 68306

EQUIPMENT ENCLOSURE DETAILS

PREPARED BY: USKH INC.

CHECKED BY: GRH

STATE OF ALASKA
49TH
GARY R. HABLE
EE-10243
REGISTERED PROFESSIONAL ENGINEER
10/4/06

DESIGNED BY: LPS

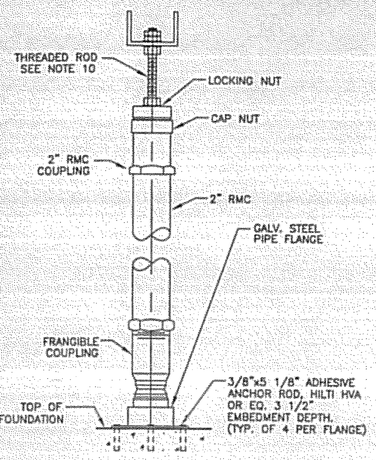
DRAWN BY: LPS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
DESIGN & ENGINEERING SERVICES
DIVISION-SOUTHEAST REGION

EQUIPMENT ENCLOSURE DETAILS

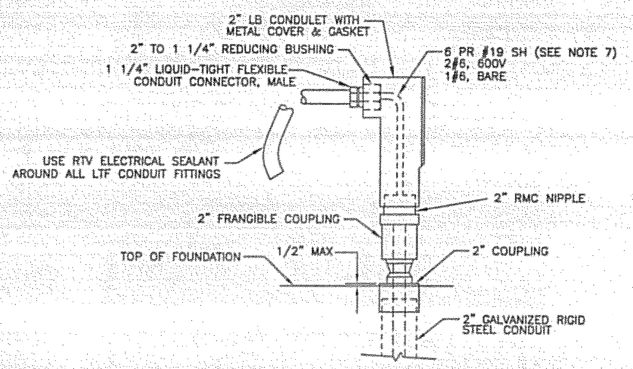
PROJECT DESIGNATION
AIP NO. 3-02-0144-1606

STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
G36	131



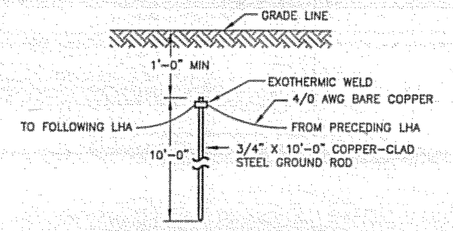
3 G37 STRUCTURAL LEG DETAIL

N.T.S.



2 G37 POWER AND CONTROL WIRE LEG

N.T.S.

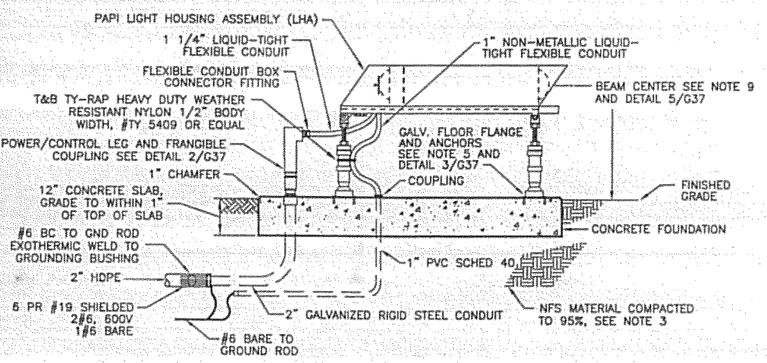


1 G37 DETAIL A - GROUND ROD INSTALLATION DETAIL

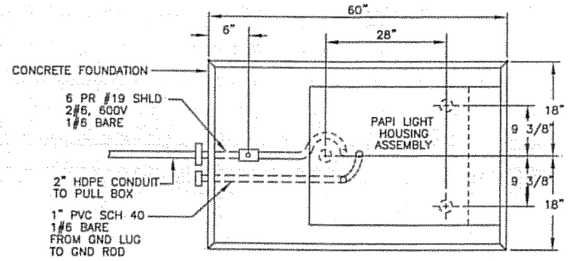
N.T.S.

NOTES:

1. INSTALL PAPI FURNISHED BY FAA (RW 29) AND REINSTALL EXISTING PAPI SYSTEM (RW 11). FAA WILL AIM AND CERTIFY PAPI SYSTEMS AFTER INSTALLATION IS COMPLETE.
2. SEE CONCRETE SPECIFICATIONS FOR CONCRETE REQUIREMENTS.
3. PRIOR TO PLACING FORMS, ENSURE ONLY NFS MATERIAL COMPACTED TO 95% IS BELOW ALL FOUNDATIONS. IF NFS MATERIAL IS NOT PRESENT, EXCAVATE AS REQUIRED TO PROVIDE A MINIMUM OF 4 FEET OF NFS MATERIAL BENEATH PAPI FOUNDATIONS. PLACE FILL IN 8" LIFTS AND COMPACT TO 95% OF MAXIMUM DENSITY AS DETERMINED BY WAQTC FOP FOR AASHTO T 99/T 180.
4. REINFORCING STEEL SHALL BE ASTM A615, GRADE 60, DEFORMED STEEL BARS.
5. DRILL HOLES AND INSTALL ADHESIVE ANCHOR RODS WHEN PAPI UNITS HAVE BEEN ACCURATELY LOCATED.
6. COORDINATE PLACEMENT OF CONDUIT STUB-UPS WITH FAA.
7. FOLD BACK UNUSED SHIELDED PAIRS AND TAPE IN THE LHA.
8. ALL MOUNTINGS TO BE 2 INCH FRANGIBLE COUPLINGS.
9. 2" RMC LENGTH IS REQUIRED SO THAT THE BEAM CENTERS OF ALL LIGHT UNITS SHALL BE WITHIN 1 INCH OF A HORIZONTAL PLANE. THIS HORIZONTAL PLANE SHALL BE WITHIN 1 FOOT OF THE ELEVATION OF THE RUNWAY CROWN ADJACENT TO THE PAPI UNITS.
10. PROVIDE ANTI-SEIZE COMPOUND ON THE ADJUSTABLE LEG THREADS. NSN# 8030-00-251-3980 MANUFACTURED BY JET-LUBE, INC., HOUSTON, TX OR EQUAL.
11. ENSURE 18" MIN OF FREE DRAINING MATERIAL IS UNDER PULL BOX. SEE SPECIFICATIONS FOR PULL BOX REQUIREMENTS.
12. ALL UNITS IN A BAR SHALL BE LOCATED ON A LINE PERPENDICULAR TO THE RUNWAY CENTERLINE. THE FRONT FACES OF EACH LIGHT UNIT MUST BE WITHIN ±6" OF THIS LINE.



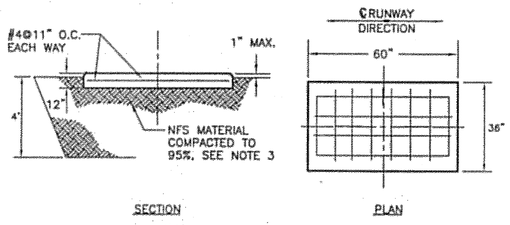
SECTION



PLAN VIEW

7 G37 LIGHT HOUSING ASSEMBLY (LHA)

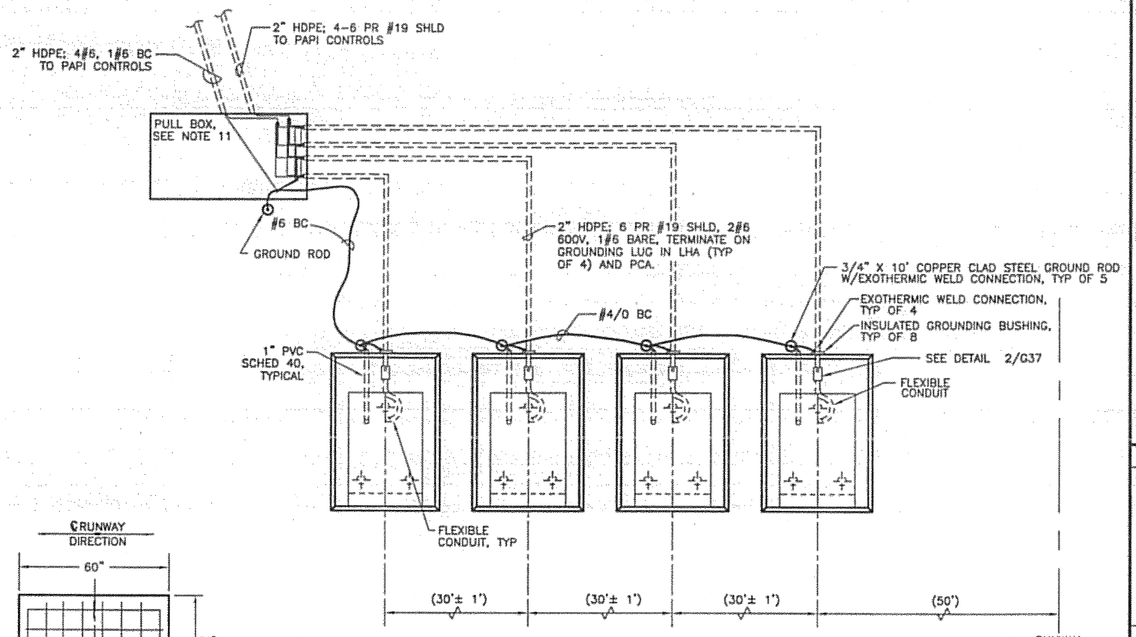
N.T.S.



SECTION PLAN

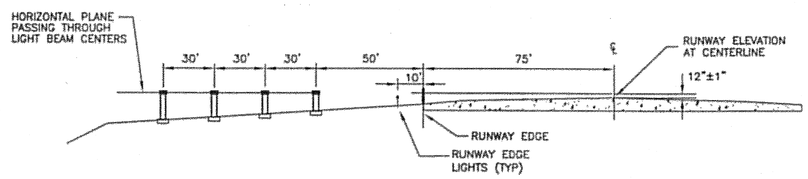
6 G37 PAPI FOUNDATION

N.T.S.



4 G37 FOUNDATION LAYOUT

N.T.S.



5 G37 PAPI ELEVATION

N.T.S.

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

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ADDENDUM NUMBER

ATTACHMENT NUMBER

RECORD OF REVISIONS

No.	DATE	DESCRIPTION

KETCHIKAN AIRPORT
RUNWAY SAFETY AREA EXPANSION & RUNWAY OVERLAY
PROJECT NO. 68306

PAPI PLANS AND DETAILS

PREPARED BY: USKH INC.

CHECKED BY: GRH

STATE OF ALASKA 49TH GARY R. HABLE EE-10243 REGISTERED PROFESSIONAL ENGINEER 10/4/06

DESIGNED BY: LPS

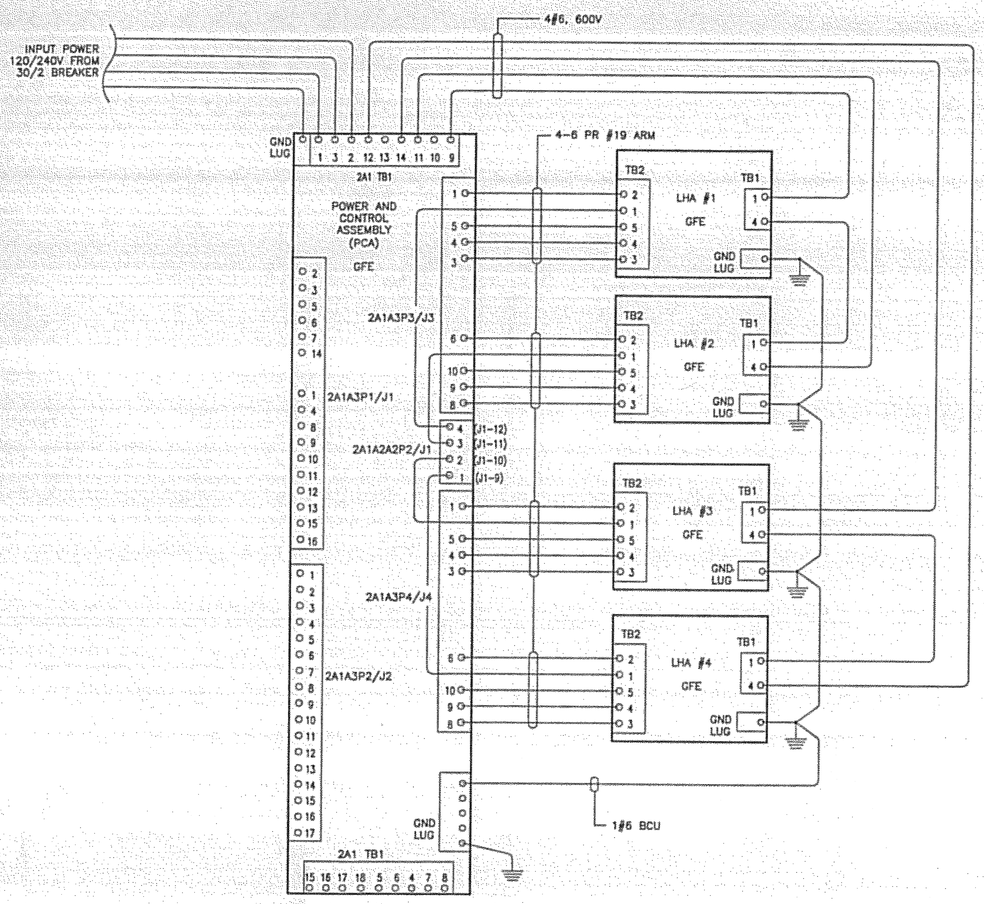
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STATE OF ALASKA
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DESIGN & ENGINEERING SERVICES
DIVISION-SOUTHEAST REGION

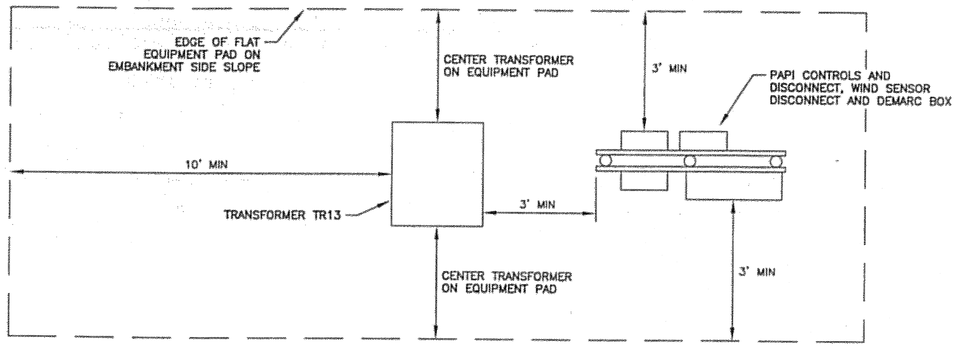
PAPI PLANS AND DETAILS

PROJECT DESIGNATION
AIP NO. 3-02-0144-1606

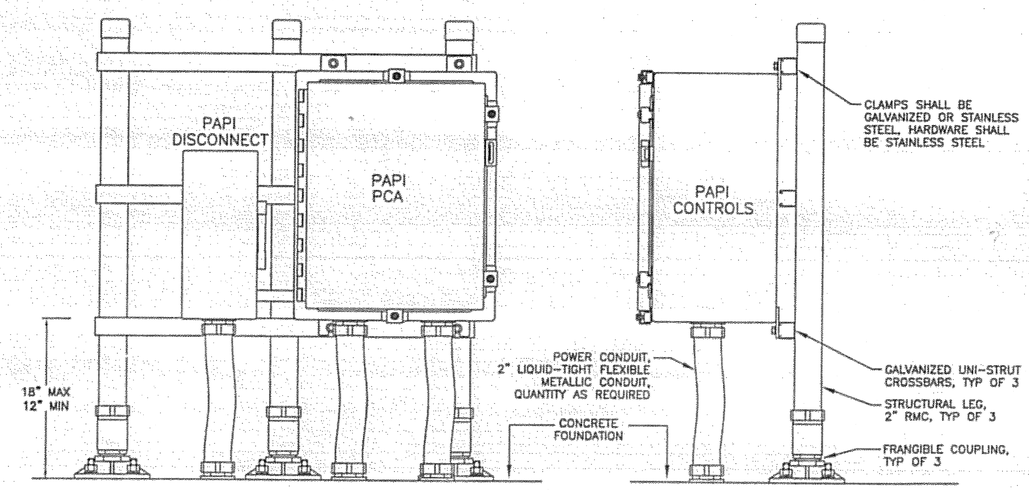
STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
G37	131



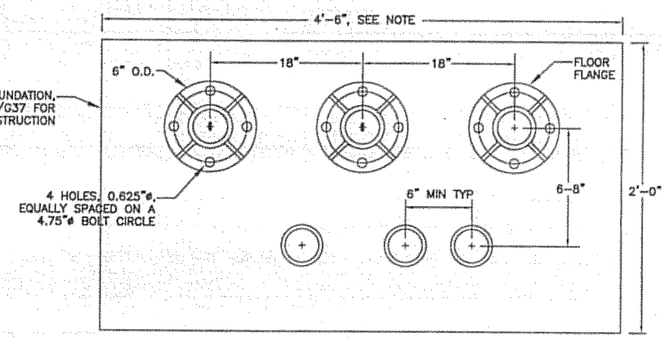
2 G38 **PAPI SCHEMATIC WIRING DIAGRAM**
N.T.S.



3 G38 **PAPI EQUIPMENT PAD LAYOUT - RW 29**
N.T.S.



FRONT VIEW **SIDE VIEW**



FOOTING PLAN

1 G38 **PAPI CONTROLS MOUNTING DETAILS**
N.T.S.

NOTE:
AT RW 29 LOCATION, INCREASE LENGTH OF SUPPORT STRUCTURE AND FOUNDATION TO ALLOW MOUNTING OF F420 WIND SENSOR POWER DISCONNECT AND TELECOM DEMARC BOX. ALTERNATELY, WIND SENSOR DISCONNECT AND DEMARC BOX MAY BE MOUNTED ON ADDITIONAL CROSSBARS ON THE OPPOSITE SIDE OF THE STRUCTURE.

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KETCHIKAN AIRPORT
RUNWAY SAFETY AREA EXPANSION
& RUNWAY OVERLAY
PROJECT NO. 68306

PAPI DETAILS

PREPARED BY: USKH INC.
CHECKED BY: GRH

STATE OF ALASKA 49TH GARY R. HABLE EE-10243 REGISTERED PROFESSIONAL ENGINEER
10/4/06

DESIGNED BY: LPS
DRAWN BY: LPS

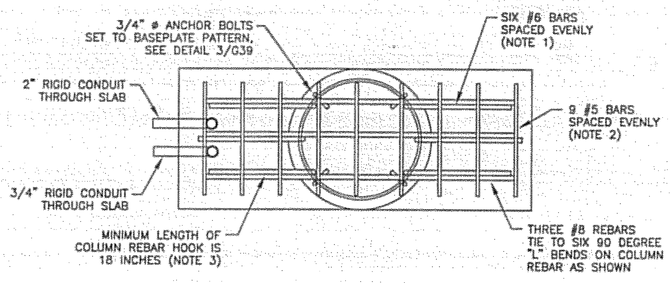
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DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
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DIVISION-SOUTHEAST REGION

PAPI DETAILS

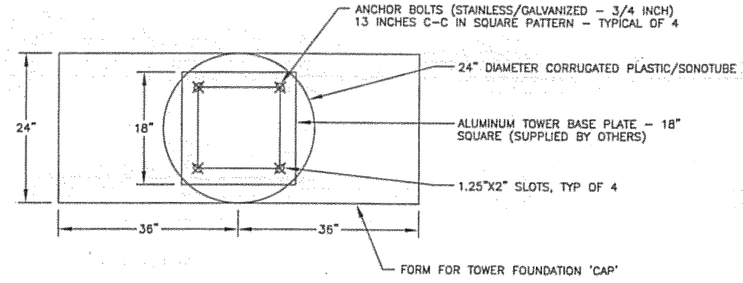
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STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
G38	131

NOTES:

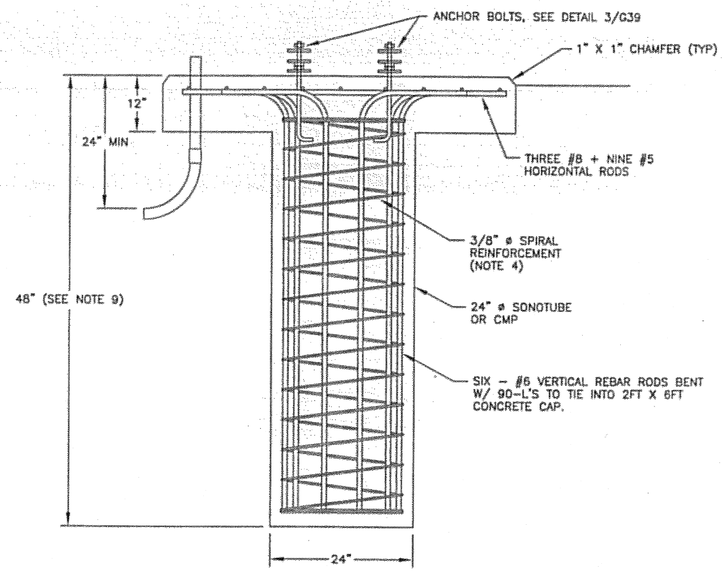
1. #6 VERTICAL COLUMN REINFORCEMENT WITH 6" ø BENDS TO FORM 90–"L" HOOKS.
2. PROVIDE A MINIMUM OF 2" CLEAR COVER OVER ALL REINFORCING STEEL AND CONDUITS.
3. MINIMUM DEVELOPMENT LENGTH ASSUMES GRADE 40 REINFORCING STEEL.
4. CLEAR SPACING BETWEEN SPIRALS SHALL NOT EXCEED THREE INCHES NOR BE LESS THAN 1 INCH. ANCHORAGE OF OF SPIRAL REINFORCEMENT SHALL BE PROVIDED BY 1–1/2 EXTRA TURNS OF SPIRAL BAR OR WIRE AT THE EACH END OF A SPIRAL UNIT.
5. CONDUIT PENETRATIONS THROUGH CONCRETE SLAB CAP ARE USED AS FOLLOWS:
   A) TWO INCH CONDUIT SWEEP – TWO RUNS OF 1/2–INCH HELIAX (ANDREW LDF4–50A OR EQUIV) FOR DME RF COMM.
   B) 3/4–INCH CONDUIT SWEEP – ONE GROUND WIRE (#6 BARE, STRANDED CU) BONDED TO LOC/DME BUILDING GROUND CONUTERPOISE.
   C) 3/4–INCH CONDUIT SWEEP – ONE CIRCUIT (120VAC) FOR DME TOWER OBSTRUCTION LIGHT.
6. EIGHTEEN INCH DME TOWER BASE PLATE TO BE FABRICATED BY OTHERS AND INSTALLED BY FAA. ANCHOR BOLT PATTERN IS 13–INCH SPACING – SQUARE PATTERN OF 4–3/4 INCH ANCHOR BOLTS AS SHOWN. A PLYWOOD TEMPLATE IS SUGGESTED IN ORDER TO PROPERLY PLACE ANCHOR BOLTS. VERTICALLY STUB UP ANCHOR BOLTS APPROXIMATELY 6 INCHES OUT OF CONCRETE SURFACE.
7. CONDUIT STUBS SHALL PENETRATE THE WEST SIDE OR LEFT SIDE (AS ONE FACES NORTH) OF THE SLAB CAP. POUR SLAB CAP SUCH THAT ITS LONG AXIS IS PARALLEL TO THE LONG AXIS OF THE LOC/DME BUILDING ON SITE.
8. FOR THE REPRESENTATIVE CONCRETE FOUNDATION SHOWN:
   A. CONCRETE STRENGTH = 3000 PSI @ 28 DAYS, (MIN.)
   B. SECURELY PLACE ANCHOR BOLTS PRIOR TO PLACING CONCRETE. TIE TO REINFORCEMENT.
   C. PLACE ALL CONCRETE ON UNDISTURBED SOIL OR COMPACTED BACKFILL. BACKFILL TO BE COMPACTED TO 92%
   D. DEPTH OF CONCRETE PIER = 4 FT IN SAND/GRAVEL OR BELOW FROST LEVEL.
   E. REININFORCEMENT STEEL PER ASTM A615, GR. 60, TIE WIRE TO BE 16 GAUGE OR LARGER ANNEALED IRON.
   F. ALL ANCHORAGE BOLTS AND PLATES TO BE HOT–DIPPED GALV. AFTER FABRICATION. COLD–GALV SPRAY TO BE APPLIED AFTER INSTALLATION TO ALL FASTENING HARDWARE AFTER INSTALLATION COMPLETED.
9. FOUNDATION EXCAVATION SHALL BE DUG AND BACKFILLED WITH NON–FROST SUSCEPTIBLE MATERIAL OR AUGERED AT INDICATED DIAMETER.
10. REBAR IS BENT AT THE TOP AND WIRE–TIED WITH THE HORIZONTAL CROSS–SUPPORT REBAR.



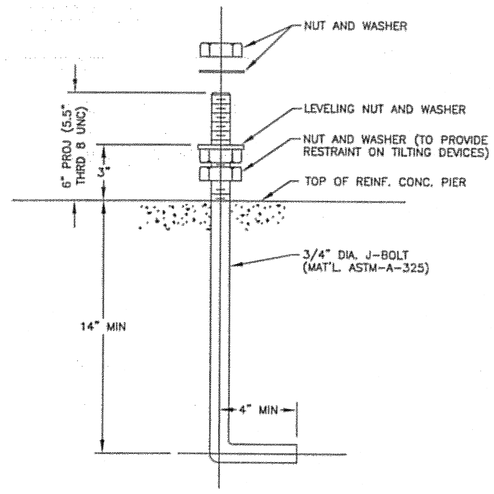
2 G39 **REINFORCING PLAN** N.T.S.



1 G39 **FOUNDATION PLAN** N.T.S.



4 G39 **FOUNDATION SECTION** N.T.S.



3 G39 **ANCHOR BOLT DETAIL** N.T.S.

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& RUNWAY OVERLAY
PROJECT NO. 68306

DME FOUNDATION DETAILS

PREPARED BY: USKH INC.

CHECKED BY: GRH

STATE OF ALASKA 49TH GARY R. HABLE REGISTERED PROFESSIONAL ENGINEER
GARY R. HABLE
EE–10243
10/4/06

DESIGNED BY: LPS

DRAWN BY: LPS

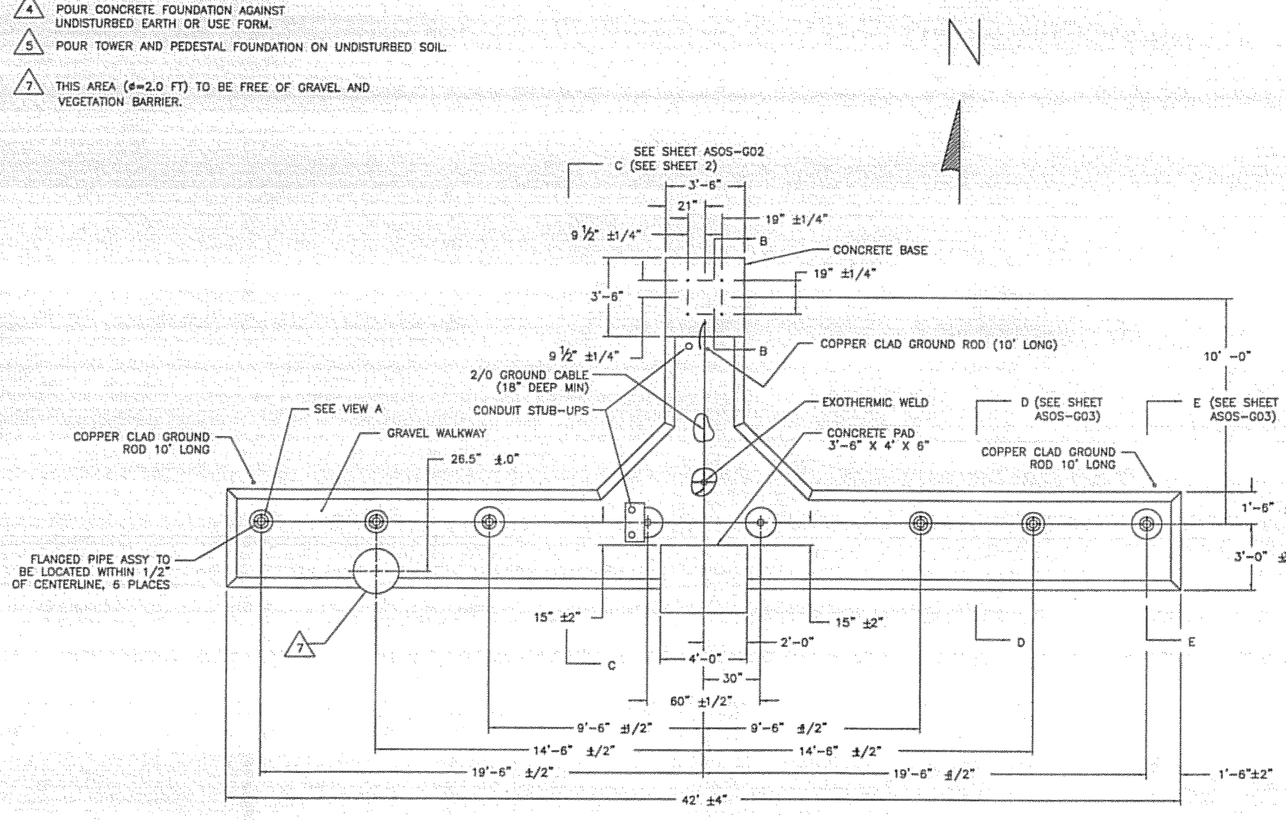
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DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
DESIGN & ENGINEERING SERVICES
DIVISION–SOUTHEAST REGION

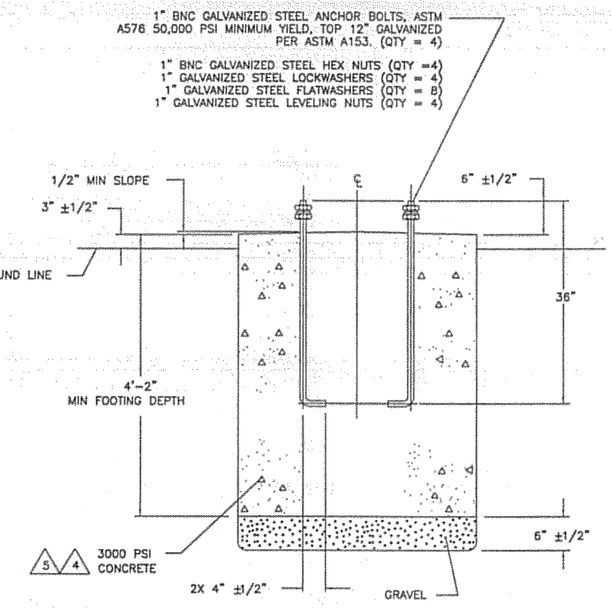
DME FOUNDATION DETAILS

PROJECT DESIGNATION	
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STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
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NOTES:

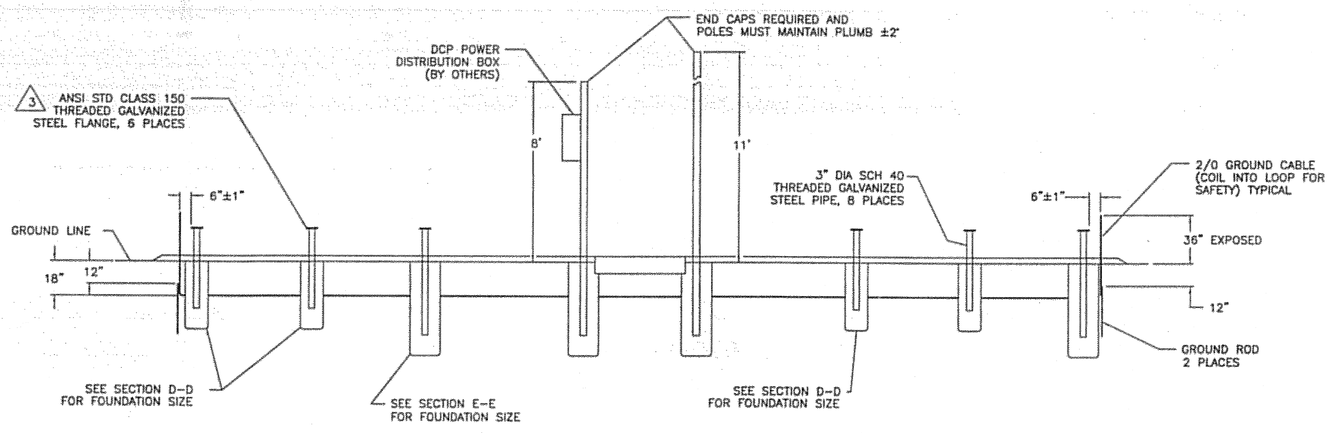
3. PROTECT FLANGE ASSEMBLIES AGAINST WATER INCURSION.
4. POUR CONCRETE FOUNDATION AGAINST UNDISTURBED EARTH OR USE FORM.
5. POUR TOWER AND PEDESTAL FOUNDATION ON UNDISTURBED SOIL.
7. THIS AREA (ø=2.0 FT) TO BE FREE OF GRAVEL AND VEGETATION BARRIER.

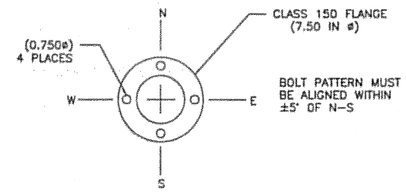




SECTION B-B

SCALE: 1/8





VIEW A

SCALE: 1/4

1 G40 ASOS PLOT PLAN

N.T.S.

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ASOS PLOT PLAN

PREPARED BY: USKH INC.

CHECKED BY: GRH

STATE OF ALASKA 49TH
GARY R. HABLE
EE-10243
REGISTERED PROFESSIONAL ENGINEER
10/4/06

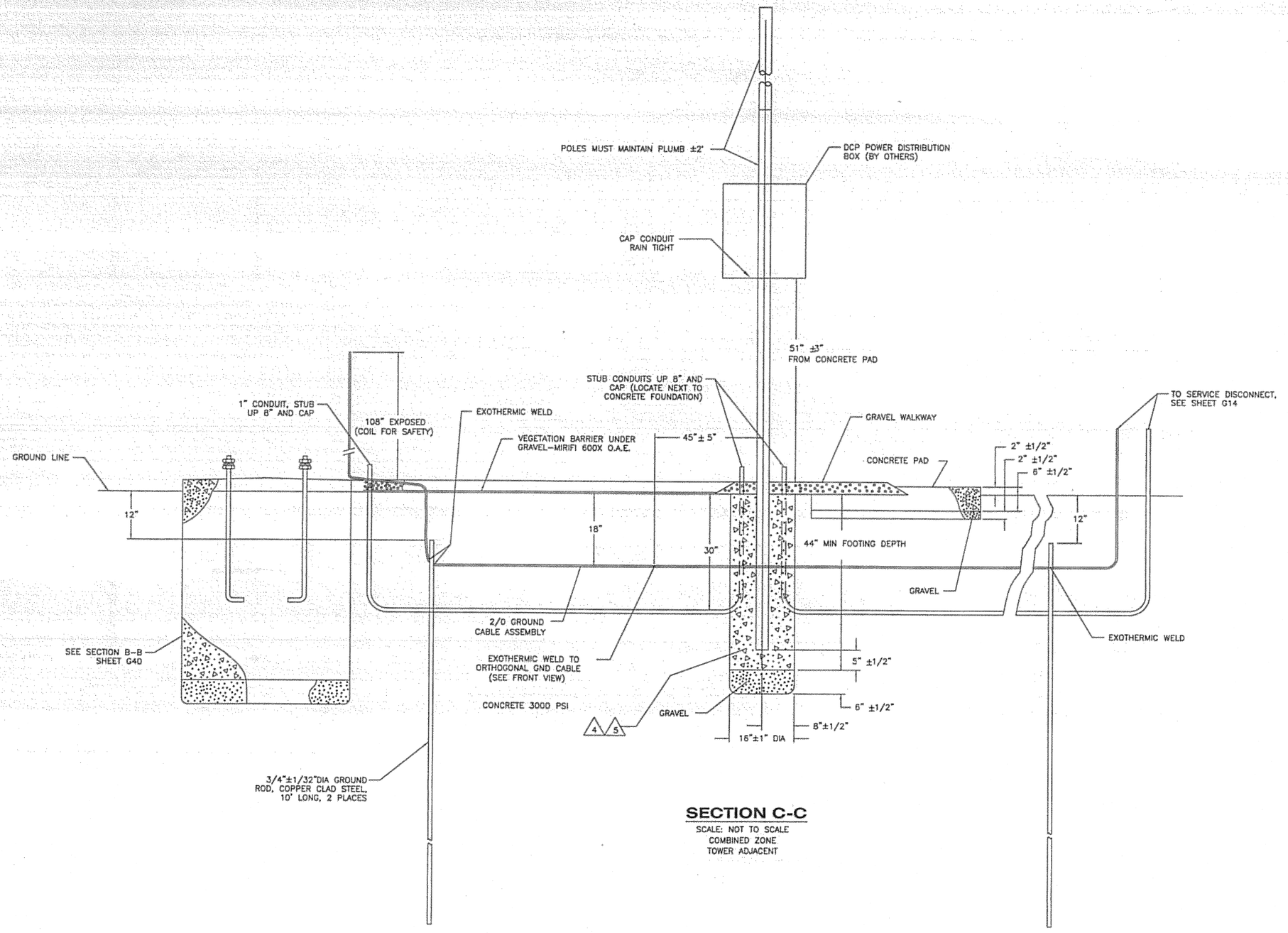
DESIGNED BY: LPS

DRAWN BY: LPS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
DESIGN & ENGINEERING SERVICES
DIVISION-SOUTHEAST REGION

ASOS PLOT PLAN

PROJECT DESIGNATION	
AIP NO. 3-02-0144-1606	
STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
G40	131



SECTION C-C

SCALE: NOT TO SCALE
COMBINED ZONE
TOWER ADJACENT

1/G41 **ASOS SECTION VIEW** N.T.S.

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

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Tue, 03/Oct/06 02:25PM Ischneller
TAB: C12

ADDENDUM NUMBER

ATTACHMENT NUMBER

RECORD OF REVISIONS

No.	DATE	DESCRIPTION

KETCHIKAN AIRPORT
RUNWAY SAFETY AREA EXPANSION
& RUNWAY OVERLAY
PROJECT NO. 68306

ASOS SECTION

PREPARED BY: USKH INC.

CHECKED BY: GRH

STATE OF ALASKA 49TH REGISTERED PROFESSIONAL ENGINEER
GARY R. HABLE
EE-10243
10/4/06

DESIGNED BY: LPS

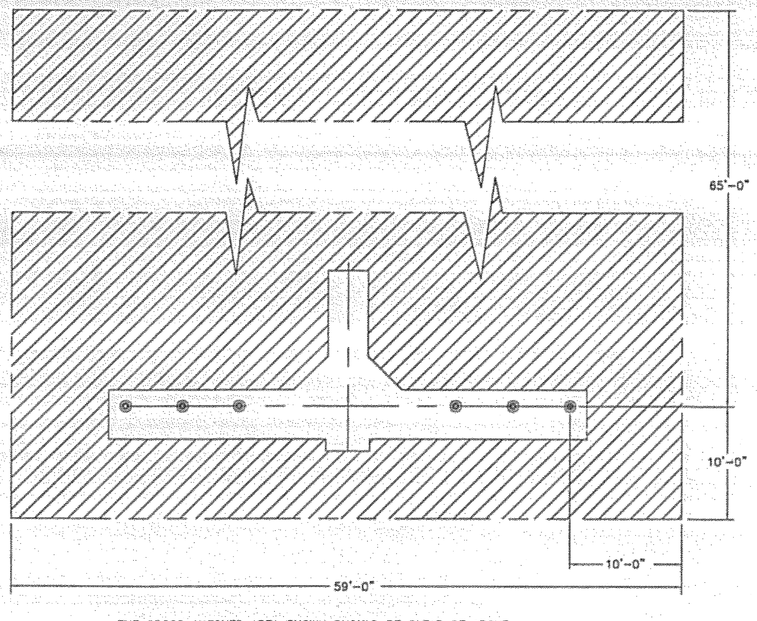
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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
& PUBLIC FACILITIES
DESIGN & ENGINEERING SERVICES
DIVISION-SOUTHEAST REGION

ASOS SECTION

PROJECT DESIGNATION
AIP NO. 3-02-0144-1606

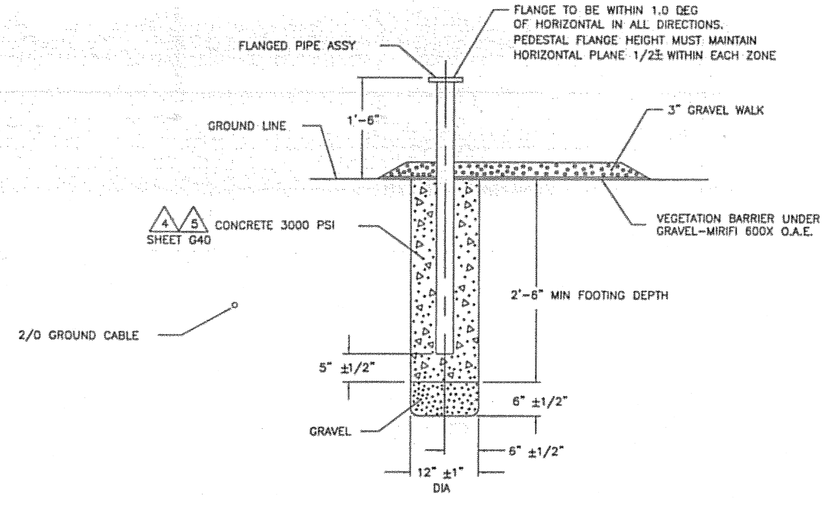
STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
G41	131



THE CROSS-HATCHED AREA SHOWN SHOULD BE CLEAR OF ABOVE GROUND OBSTRUCTIONS, REFLECTIVE SURFACES AND LIGHT SOURCES.

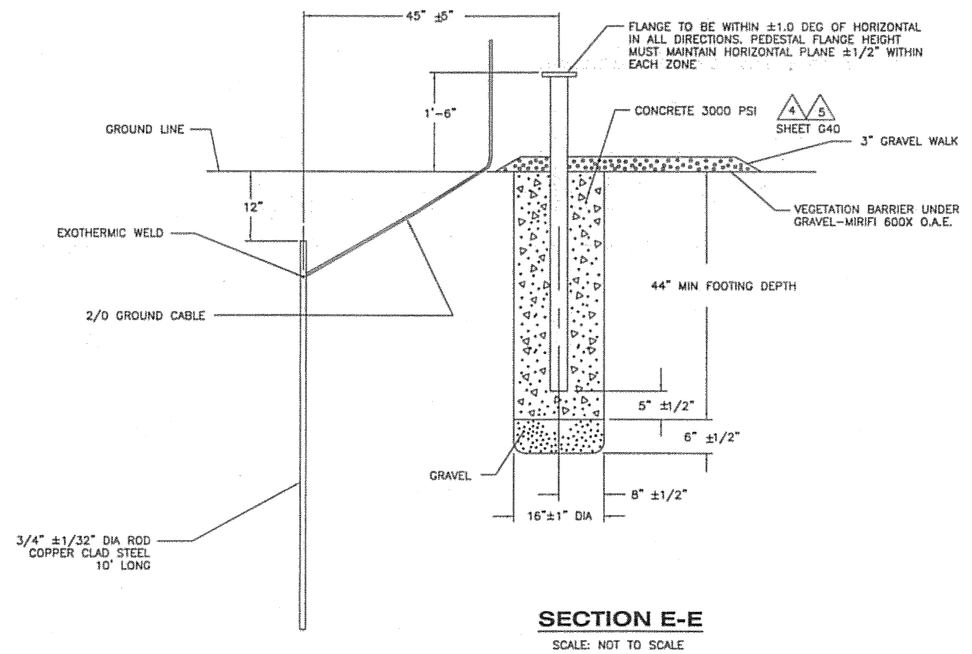
1 / G42 ASOS CLEARING AREA

N.T.S.



SECTION D-D

SCALE: NOT TO SCALE



SECTION E-E

SCALE: NOT TO SCALE
ROTATED 90° CCW

2 / G42 ASOS FOUNDATION DETAILS

N.T.S.

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STATE OF ALASKA
49TH
GARY R. HABLE
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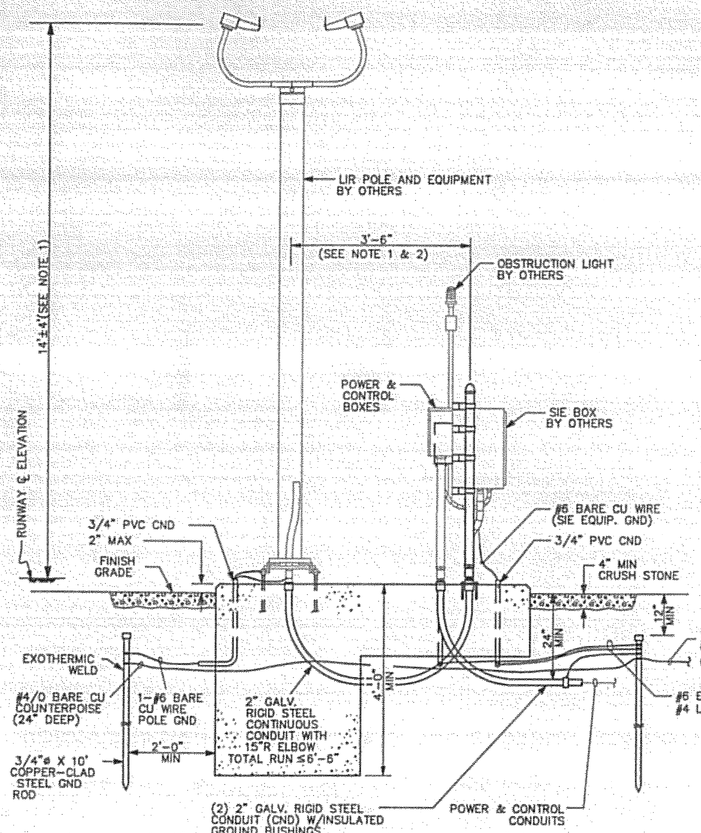
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STATE OF ALASKA
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& PUBLIC FACILITIES
DESIGN & ENGINEERING SERVICES
DIVISION-SOUTHEAST REGION

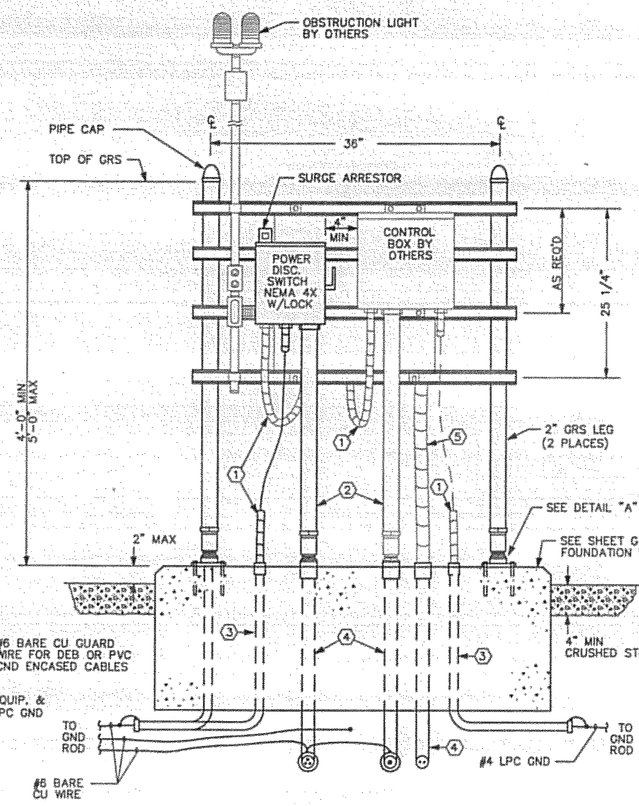
ASOS DETAILS

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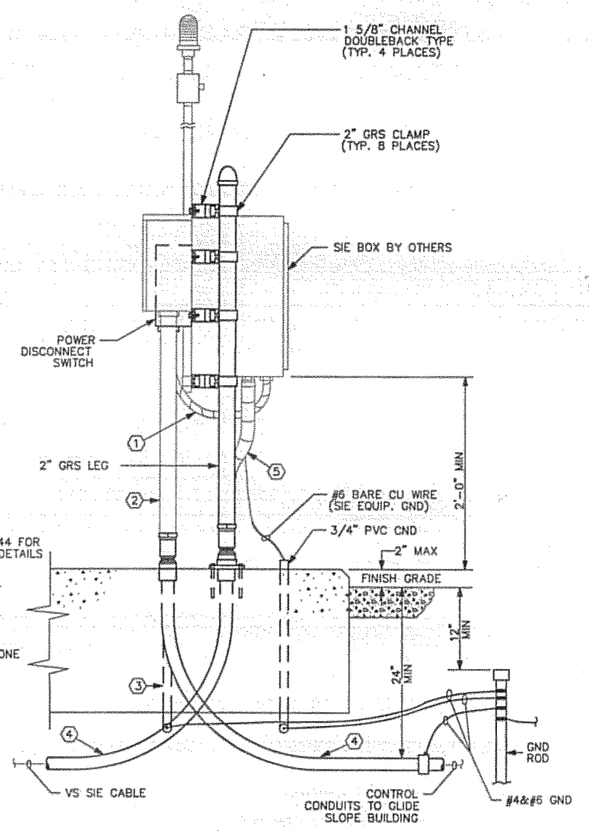
ELEVATION VIEW (PROFILE)

LIR POLE AND SIE BOX SUPPORT



REAR ELEVATION VIEW

SIE BOX SUPPORT

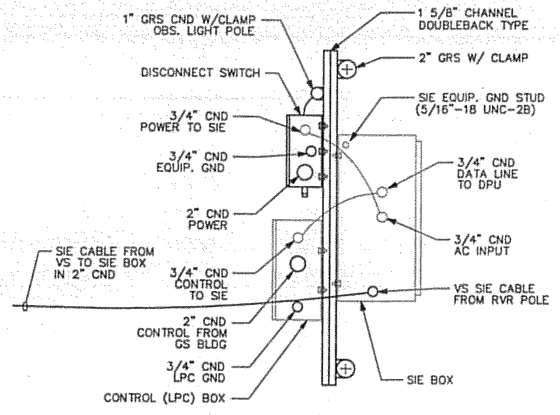


PARTIAL SIDE ELEVATION VIEW

SIE BOX SUPPORT

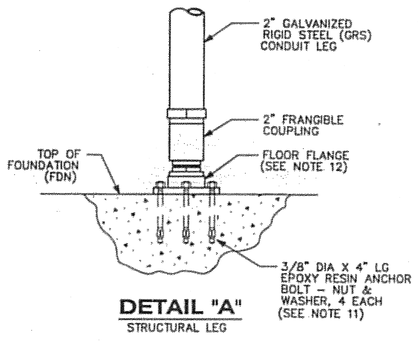
1 G43 RVR INSTALLATION DETAILS

N.T.S.



PARTIAL PLAN VIEW

FOUNDATION NOT SHOWN



DETAIL "A"

STRUCTURAL LEG

LEGEND:

1. 3/4" DIA FLEXIBLE LIQUID TIGHT CONDUIT WITH COUPLINGS
2. 2" DIA GALVANIZED RIGID STEEL CONDUIT (GRS) WITH FRANGIBLE COUPLINGS
3. 3/4" DIA GRS CONDUIT WITH COUPLINGS
4. 2" DIA GRS CONDUIT WITH COUPLINGS
5. 2" DIA FLEXIBLE LIQUID TIGHT CONDUIT WITH COUPLINGS

NOTES:

1. BASIC REQUIREMENTS FOR TOUCHDOWN, MIDPOINT AND ROLLOUT RVR INSTALLATIONS ARE AS FOLLOWS:
   A. HEIGHT FROM CENTERLINE OF TRANSMITTER/RECEIVER IS 14 FEET ±4 FEET ABOVE ELEVATION OF RUNWAY CENTERLINE PERPENDICULAR TO STRUCTURE.
2. DISTANCE FROM CENTER OF LIR POLE TO SIE BOX GRS LEG IS DETERMINED BY HEIGHT OF VS AND SIE BOX ABOVE GRADE, VERTICAL CABLE RUN BELOW GRADE, AND A 1 FOOT MINIMUM CABLE SLACK. APPROXIMATELY 2.6 FEET OF THE 37 FOOT VS CABLE WILL RUN THRU THE VS FORK ASSEMBLY.
3. SEE SITE DRAWINGS FOR LOCATION AND ORIENTATION RESTRICTIONS.
4. VISIBILITY SENSOR RECEIVER MUST FACE IN A NORTHERLY DIRECTION. ROTATE VS FORK ASSEMBLY TO TRUE NORTH OR TO WITHIN ±10 DEGREES OF TRUE NORTH.
5. NOT USED.
6. SIE UNIT SUPPORT FRAME SHOWN MAY BE LOCATED ON OPPOSITE SIDE OF RVR POLE TO FACILITATE EASY ACCESS TO POWER AND CONTROL LINES. MUST BE LOCATED CLEAR OF RVR POLE TILT DIRECTION.
7. NOT USED.
8. ALL METAL PARTS, CONDUITS, EQUIPMENT AND JUNCTION BOXES SHALL BE GROUNDED IN ACCORDANCE WITH FAA-STD-019.
9. ALL EXTERIOR ENCLOSURES, CHANNELS, CLAMPS AND MOUNTING HARDWARE SHALL BE STAINLESS STEEL.
10. DRILL HOLES AND INSTALL EPOXY TYPE ANCHOR BOLTS WHEN SIE BOX SUPPORTS HAVE BEEN ACCURATELY LOCATED.
11. COAT FLOOR FLANGE SURFACE RESTING ON CONCRETE WITH AN ASPHALT COMPOUND FOR METAL PROTECTION.
12. ALL FAA STANDARDS AND ORDERS REFERENCED IN THESE DRAWINGS SHALL BE THE LATEST VERSION.
13. PRORTIONS OF THE SYSTEM NOT INSTALLED UNDER THIS CONTRACT AND NON-APPLICABLE NOTES ARE SHOWN FOR REFERENCE ONLY.

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

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Tue, 03/Oct/06 02:25PM lschneller
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RUNWAY SAFETY AREA EXPANSION
& RUNWAY OVERLAY
PROJECT NO. 68306

RVR INSTALLATION DETAILS

PREPARED BY: USKH INC.

CHECKED BY: GRH

STATE OF ALASKA 49TH — GARY R. HABLE EE-10243 REGISTERED PROFESSIONAL ENGINEER — 10/4/06

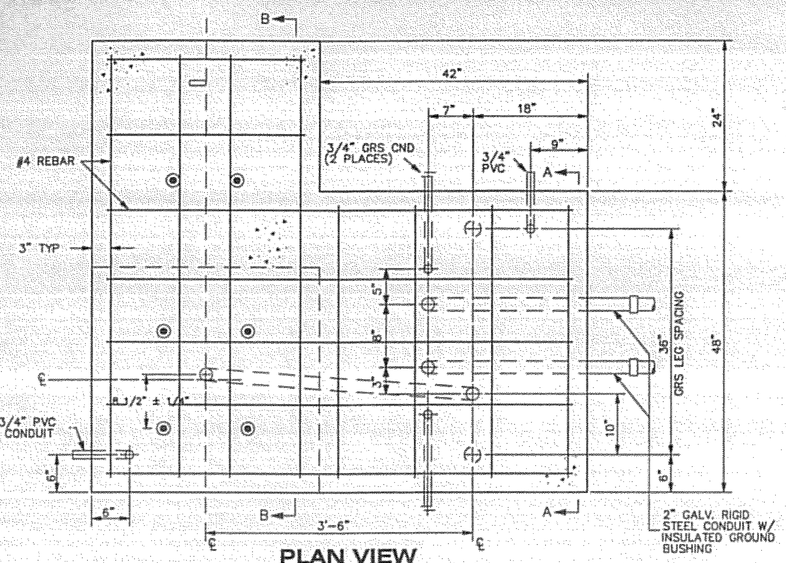
DESIGNED BY: LPS

DRAWN BY: LPS

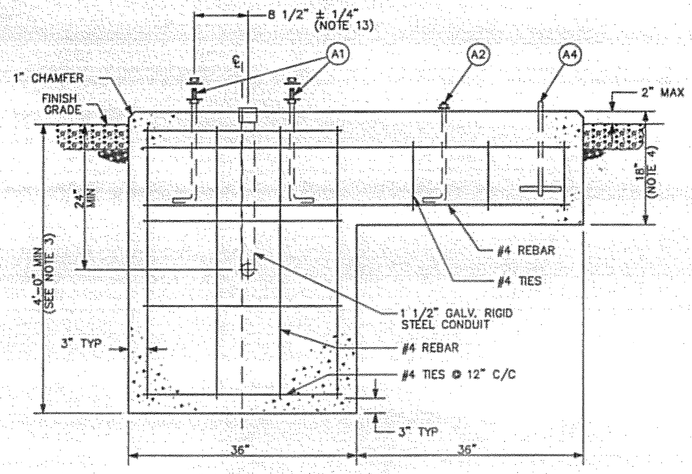
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
DESIGN & ENGINEERING SERVICES DIVISION-SOUTHEAST REGION

RVR INSTALLATION DETAILS

PROJECT DESIGNATION	
AIP NO. 3-02-0144-1606	
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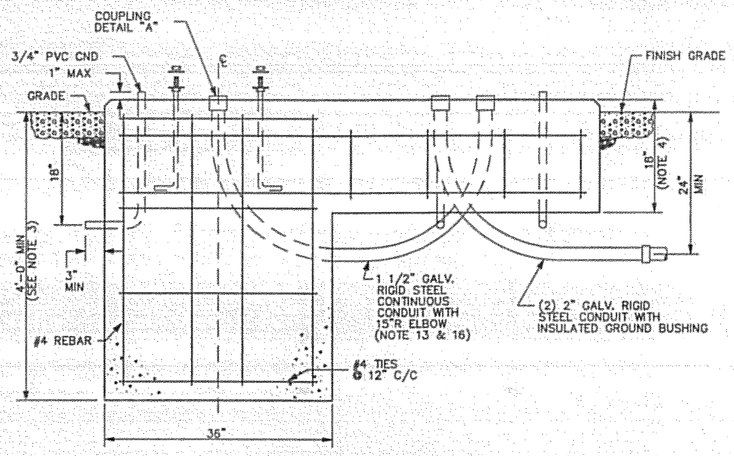
PLAN VIEW



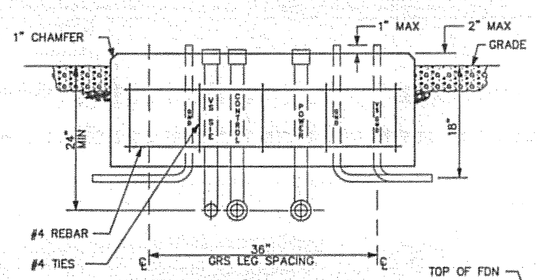
ELEVATION "B-B"

NOTES:

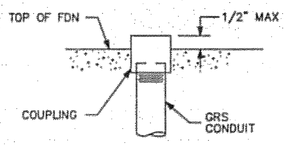
1. CONCRETE SHALL DEVELOP A MINIMUM STRENGTH OF 3000 PSI IN 28 DAYS WITH MAXIMUM SLUMP OF 3 INCHES. MAXIMUM AGGREGATE SIZE SHALL BE 3/4 INCH.
2. SOIL BEARING CAPACITY SHALL BE A MINIMUM OF 3000 POUNDS PER SQUARE FOOT OR AS LOCAL SOIL CONDITIONS DICTATE. SOIL INVESTIGATION SHALL BE CONDUCTED AT SITE PRIOR TO CONSTRUCTION. ALL CONCRETE SHALL BE PLACED ON UNDISTURBED SOIL.
3. MINIMUM DEPTH OF CONCRETE FOUNDATION SHALL BE 4 FEET OR MINIMUM 1 FOOT BELOW LOCAL FROST LEVEL, WHICHEVER IS GREATER, EXCEPT IN LOCATIONS WHERE THERE IS A FIRM BEDROCK LESS THAN THIS DEPTH. THE BOTTOM OF ALL EXCAVATIONS SHALL BE FREE OF WATER AND LOOSE EARTH.
4. OPTIONAL, EXTEND 18" CONCRETE DEPTH TO 48" BELOW FINISHED GRADE OR MINIMUM 12" BELOW FROST LEVEL.
5. FOUNDATIONS SHALL BE FORMED TO FULL DEPTH BELOW FINISHED GRADE.
6. WELDED STEEL WIRE FABRIC (WWF) SHALL BE FABRICATED IN ACCORDANCE WITH ASTM-A185 AND SHALL BE HOT-DIPPED GALVANIZED PER ASTM-A153.
7. ALL PLATES, ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE HOT DIPPED GALVANIZED OR STAINLESS STEEL.
8. FOUNDATION MAY BE MODIFIED AS DICTATED BY LOCAL SOIL AND CLIMATIC CONDITIONS. IF REGIONALLY REQUIRED, AN OPTIONAL APPROVED SCREW ANCHOR FOUNDATION DESIGN (NOT SHOWN) MAY BE USED.
9. FOUNDATION AREA MAY REQUIRE CUT OPERATION TO MEET RVR POLE HEIGHT REQUIREMENTS. FILL SHALL BE PLACED IN LAYERS NOT EXCEEDING 6 INCHES AND EACH LAYER SHALL BE THOROUGHLY COMPACTED TO 95% OF MAXIMUM DENSITY OF OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH AASHTO-T99. IF FILL MATERIAL IS REQUIRED WITHIN R/W SAFETY AREA, WORK MUST COMPLY WITH FAA AC 150/5300-13.
10. ALL REINFORCING STEEL SHALL BE DEFORMED BILLET STEEL BARS CONFORMING TO ASTM A615 GRADE 60.
11. TOP OF 3/4" PVC CONDUIT SHOULD NOT EXTEND MORE THAN ONE INCH ABOVE CONCRETE SURFACE. EXTEND UNDERGROUND END OF CONDUIT A MINIMUM OF 3" BEYOND CONCRETE FOUNDATION.
12. 1 1/2" RIGID CONDUIT MUST BE LOCATED AS SHOWN TO ALIGN WITH 2" HOLE IN THE BASE PLATE ASSEMBLY.
13. TOTAL UNDERGROUND VS CABLE RUN SHALL NOT EXCEED 6'-6".
14. CONCRETE REINFORCEMENT MAY BE SHIFTED TO ALLOW FOR PLACEMENT OF ANCHOR BOLTS, INSERTS AND CONDUITS.
15. GRADING OF SOIL AND ROCK SHOULD BE THAT ALL DRAINAGE IS AWAY FROM FOUNDATION.
16. ALL FAA STANDARDS AND ORDERS REFERENCED IN THESE DRAWINGS SHALL BE THE LATEST VERSION.



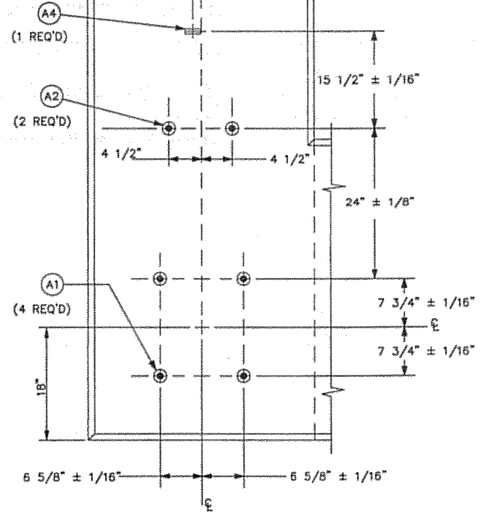
ELEVATION VIEW



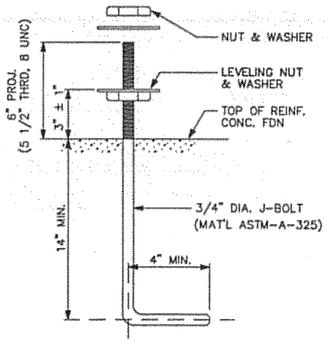
ELEVATION "A-A"



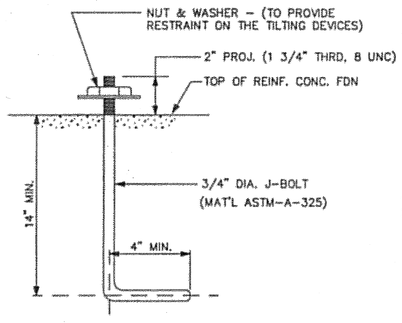
DETAIL "A"



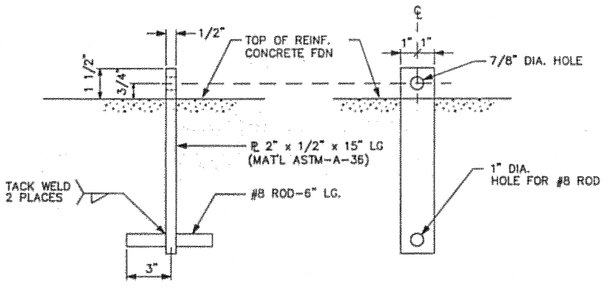
ANCHOR BOLT AND PLATE LAYOUT



ANCHOR BOLT (A1)



ANCHOR BOLT (A2)



ANCHOR PLATE (A4)

1 G44 RVR FOUNDATION DETAILS

N.T.S.

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RUNWAY SAFETY AREA EXPANSION
& RUNWAY OVERLAY
PROJECT NO. 68306

RVR FOUNDATION DETAILS

PREPARED BY: USKH INC.

CHECKED BY: GRH

STATE OF ALASKA 49TH
GARY R. HABLE
EE-10243
REGISTERED PROFESSIONAL ENGINEER
10/4/06

DESIGNED BY: LPS

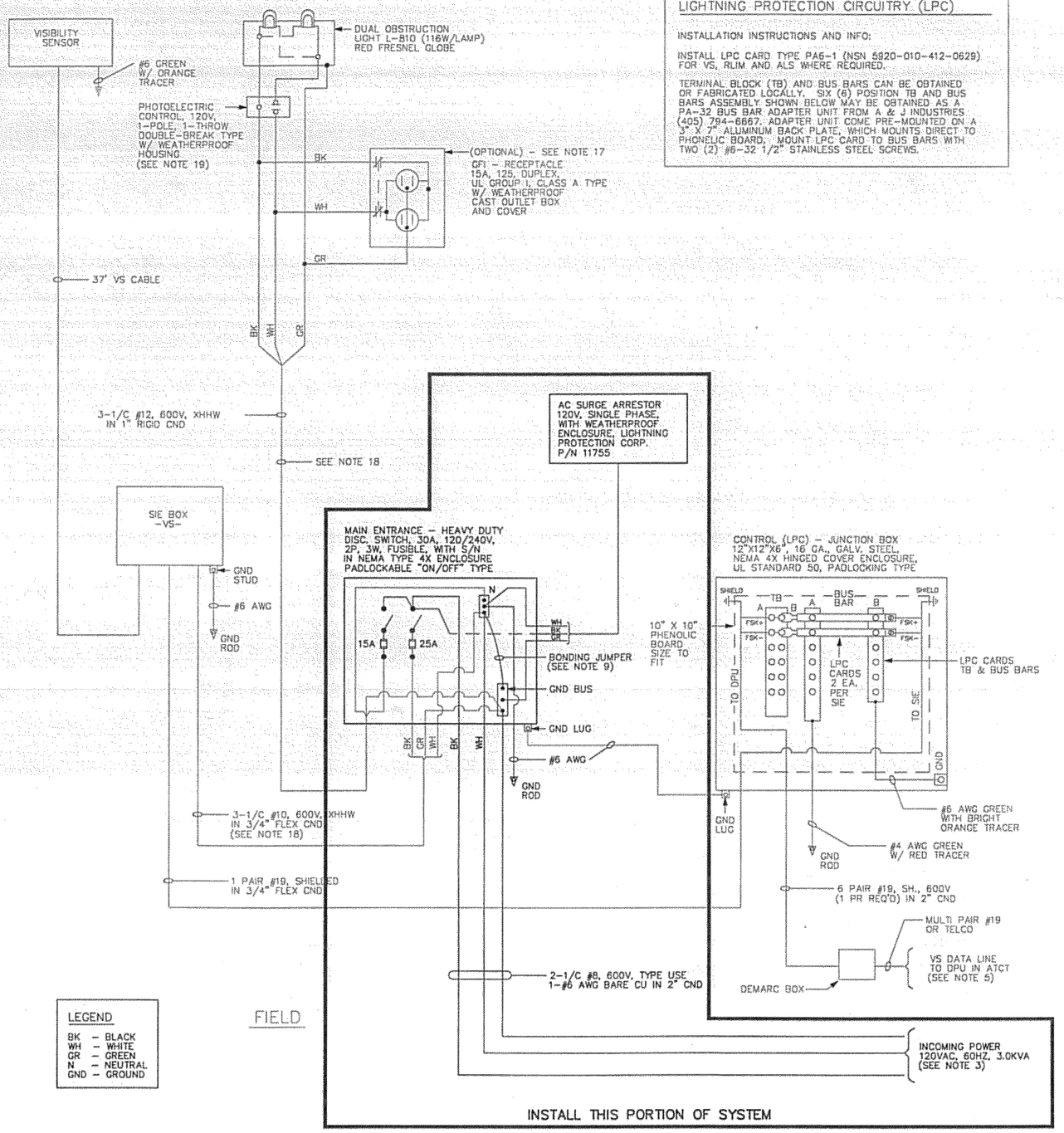
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STATE OF ALASKA
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RVR FOUNDATION DETAILS

PROJECT DESIGNATION
AIP NO. 3-02-0144-1606

STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
G44	131



LIGHTNING PROTECTION CIRCUITRY (LPC)

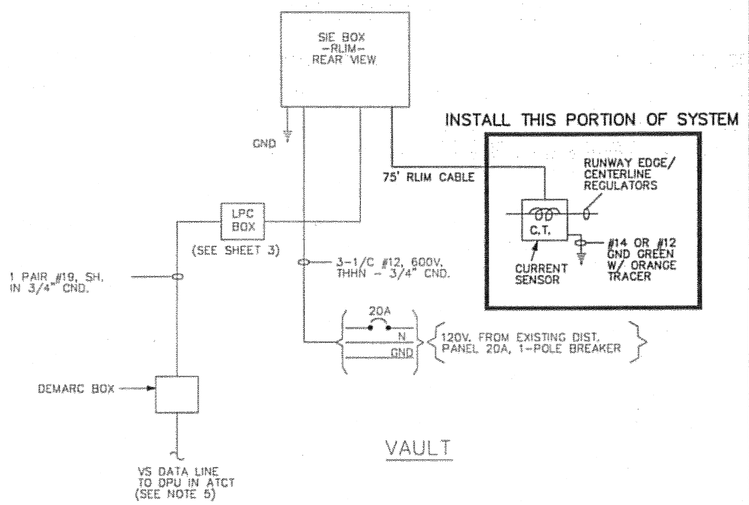
INSTALLATION INSTRUCTIONS AND INFO:

INSTALL LPC CARD TYPE PA6-1 (NSN 5920-010-412-0629) FOR VS, RLIM AND ALS WHERE REQUIRED.

TERMINAL BLOCK (TB) AND BUS BARS CAN BE OBTAINED OR FABRICATED LOCALLY. SIX (6) POSITION TB AND BUS BARS ASSEMBLY SHOWN BELOW MAY BE OBTAINED AS A PA-32 BUS BAR ADAPTER UNIT FROM A & J INDUSTRIES (405) 794-6667. ADAPTER UNIT COME PRE-MOUNTED ON A 3" X 7" ALUMINUM BACK PLATE, WHICH MOUNTS DIRECT TO PHENOLIC BOARD. MOUNT LPC CARD TO BUS BARS WITH TWO (2) #6-32 1/2" STAINLESS STEEL SCREWS.

NOTES:

1. ~~CONTRACTOR SHALL TERMINATE POWER AND CONTROL CABLES BY LOOPING BACK AND WEATHERPROOFING ENDS WHEN HOOKUP IS TO BE PERFORMED BY FAA.~~
2. POWER AND CONTROL SOURCE(S) SHALL BE REGIONALLY DETERMINED POWER REQUIREMENT FOR SIE(VS, ALS, RLIM) IS 120VAC, 60HZ, 3KVA, SINGLE PHASE.
3. IF VOLTAGE DROP EXCEEDS 5% INCREASE THE VOLTAGE SOURCE VIA TRANSFORMER OR CABLE SIZE TO REDUCE VOLTAGE DROP.
4. ~~EACH VS, RLIM, AND ALS SHALL REQUIRE A MINIMUM 1 PAIR SHIELDED #19, 600V, REGIONALLY DETERMINED NUMBER OF SPARES WITH AT LEAST 1 PAIR FOR BACKUP. IF ALS IS COLLOCATED WITH VS A MINIMUM 2 PAIR #19 SHALL BE REQUIRED.~~
5. INSTALL REQUIRED SIZE PULL WIRE IN EACH CONDUIT RUN IN ACCORDANCE WITH SPECIFICATION FAA-C-1391.
6. ALL WORK SHALL BE DONE IN ACCORDANCE WITH FAA-STD-019, FAA-C-1217, LATEST NATIONAL ELECTRICAL CODES, AND OTHER APPLICABLE LOCAL CODES AND REGULATIONS.
7. NEUTRAL BUS IS TO BE INSULATED FROM ENCLOSURE AND IS GROUNDED ONLY AT THE MAIN ENTRANCE DISCONNECT SWITCH AND POWER COMPANY TRANSFORMER.
8. EQUIPMENT GROUND AND NEUTRAL BUS IS TO BE BONDED TOGETHER AT THE MAIN SERVICE ENTRANCE SWITCH ONLY. BONDING JUMPER SHALL BE SIZED IN ACCORDANCE WITH THE LATEST NEC.
9. ALL ENCLOSURES, FITTINGS, AND OTHER NONCURRENT CARRYING METAL PARTS SHALL BE EFFECTIVELY GROUNDED WHERE NECESSARY TO ASSURE ELECTRICAL CONTINUITY AND CAPACITY TO HANDLE ANY FAULT CURRENT THAT MAY BE ANTICIPATED. USE SPLIT BOLT CONNECTIONS OR GROUNDING LUGS.
10. PRIOR TO GROUNDING, REMOVE ANY NONCONDUCTIVE PAINT, ENAMEL, OR FOREIGN MATERIAL FROM CONTACT SURFACES.
11. ALL CONDUITS TERMINATING IN BOXES, PANELS, AND ENCLOSURES SHALL HAVE DOUBLE LOCKNUTS AND INSULATED BUSHINGS.
12. ALL CONDUITS SHALL BE RIGID HOT DIPPED GALVANIZED STEEL, UNLESS OTHERWISE INDICATED.
13. GROUND ROD SHALL BE 3/4" X 10' LONG COPPER CLAD STEEL. CONNECTIONS TO GROUND RODS SHALL BE EXOTHERMICALLY WELDED.
14. ALL EXTERIOR ENCLOSURES, NUTS, BOLTS, AND MISCELLANEOUS MOUNTING HARDWARE SHALL BE STAINLESS STEEL, UNLESS NOTED OTHERWISE.
15. #6 AWG BARE COPPER GROUND WIRE MAY BE SOLID OR STRANDED UNLESS OTHERWISE INDICATED.
16. ~~EACH SIE CONTAINS ONE 120V/15A GFI DUPLEX RECEPTACLE.~~
17. ~~DUAL OBSTRUCTIONS LIGHT MAY BE OPTIONALLY POWERED DIRECTLY FROM A TERMINAL BLOCK IN THE SIE.~~
18. ~~CONTROL DEVICES MUST ENERGIZE AT 35 FOOT CANDLES AND DE-ENERGIZE AT 60 FOOT CANDLES PER AC 70/7460-1.~~
19. ~~AIR TERMINALS ARE NOT REQUIRED FOR RVR VISIBILITY SENSORS WHEN MOUNTED ON LIR MASTS.~~
20. ALL FAA STANDARDS AND ORDERS REFERENCED IN THESE DRAWINGS SHALL BE THE LATEST VERSION.
21. PRORTIONS OF THE SYSTEM NOT INSTALLED UNDER THIS CONTRACT AND NON-APPLICABLE NOTES ARE SHOWN FOR REFERENCE ONLY.



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Tue, 03/Oct/06 02:26PM lschneller

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PROJECT NO. 68306

RVR DETAILS

PREPARED BY: USKH INC.

CHECKED BY: GRH

STATE OF ALASKA 49TH GARY R. HABLE EE-10243 REGISTERED PROFESSIONAL ENGINEER 10/4/06

DESIGNED BY: LPS

DRAWN BY: LPS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
DESIGN & ENGINEERING SERVICES
DIVISION-SOUTHEAST REGION

RVR DETAILS

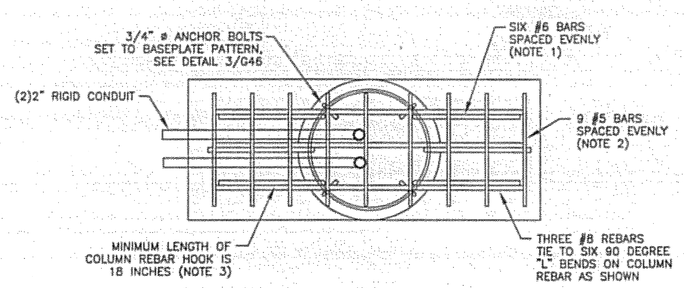
PROJECT DESIGNATION

AIP NO. 3-02-0144-1606

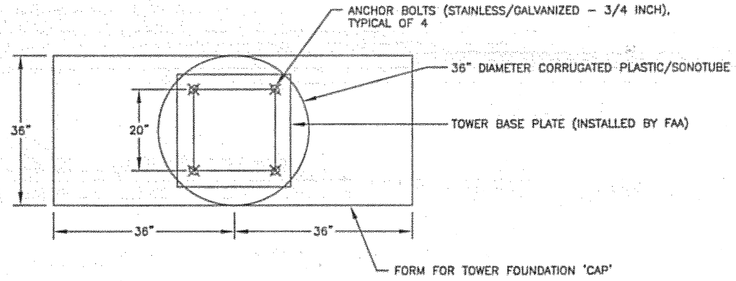
STATE	YEAR
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G45	131

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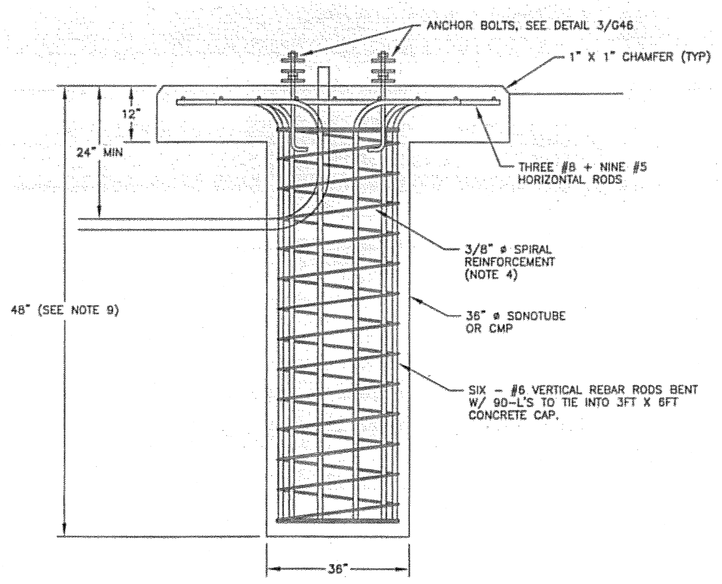
1. #6 VERTICAL COLUMN REINFORCEMENT WITH 6" ø BENDS TO FORM 90–"L" HOOKS.
2. PROVIDE A MINIMUM OF 2" CLEAR COVER OVER ALL REINFORCING STEEL AND CONDUITS.
3. MINIMUM DEVELOPMENT LENGTH ASSUMES GRADE 40 REINFORCING STEEL.
4. CLEAR SPACING BETWEEN SPIRALS SHALL NOT EXCEED THREE INCHES NOR BE LESS THAN 1 INCH. ANCHORAGE OF OF SPIRAL REINFORCEMENT SHALL BE PROVIDED BY 1–1/2 EXTRA TURNS OF SPIRAL BAR OR WIRE AT THE EACH END OF A SPIRAL UNIT.
5. CONDUIT PENETRATIONS THROUGH CONCRETE FOUNDATION ARE USED AS FOLLOWS:
   A) ONE INCH CONDUIT SWEEP – POWER.
   B) ONE INCH CONDUIT SWEEP – COMMUNICATIONS.
6. WIND SENSOR TOWER IS EXISTING AND IS TO BE INSTALLED BY FAA. ANCHOR BOLT PATTERN IS 20–INCH SPACING – SQUARE PATTERN OF 4 3/4 INCH ANCHOR BOLTS AS SHOWN. VERIFY SPACING OF WITH EXISTING EQUIPMENT. A PLYWOOD TEMPLATE IS SUGGESTED IN ORDER TO PROPERLY PLACE ANCHOR BOLTS. VERTICALLY STUB UP ANCHOR BOLTS APPROXIMATELY 4–INCHES OUT OF CONCRETE SURFACE.
7. POUR SLAB CAP SUCH THAT ITS LONG AXIS IS PARALLEL TO THE RUNWAY.
8. FOR THE REPRESENTATIVE CONCRETE FOUNDATION SHOWN:
   A. CONCRETE STRENGTH = 3000 PSI @ 28 DAYS, (MIN.)
   B. SECURELY PLACE ANCHOR BOLTS PRIOR TO PLACING CONCRETE. TIE TO REINFORCEMENT.
   C. PLACE ALL CONCRETE ON UNDISTURBED SOIL OR COMPACTED BACKFILL. BACKFILL TO BE COMPACTED TO 92%
   D. DEPTH OF CONCRETE PIER = 4 FT IN SAND/GRAVEL OR BELOW FROST LEVEL.
   E. REININFORCEMENT STEEL PER ASTM A615, GR. 60, TIE WIRE TO BE 16 GAUGE OR LARGER ANNEALED IRON.
   F. ALL ANCHORAGE BOLTS AND PLATES TO BE HOT– DIPPED GALV. AFTER FABRICATION. COLD–GALV SPRAY TO BE APPLIED AFTER INSTALLATION TO ALL FASTENING HARDWARE AFTER INSTALLATION COMPLETED.
9. FOUNDATION EXCAVATION SHALL BE DUG AND BACKFILLED WITH NON–FROST SUSCEPTIBLE MATERIAL OR AUGERED AT INDICATED DIAMETER.
10. REBAR IS BENT AT THE TOP AND WIRE–TIED WITH THE HORIZONTAL CROSS–SUPPORT REBAR.



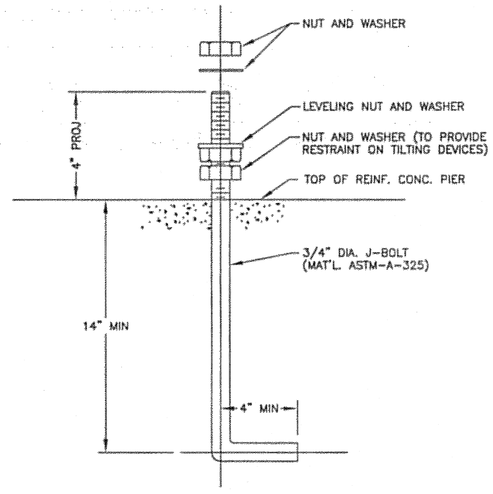
2/G46 **REINFORCING PLAN** N.T.S.



1/G46 **FOUNDATION PLAN** N.T.S.



4/G46 **FOUNDATION SECTION** N.T.S.



3/G46 **ANCHOR BOLT DETAIL** N.T.S.

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

PATH: I:\823400\Dwgs\E\Sheets\G46–W1.dwg
Tue, 03/Oct/06 02:26PM lschneller
TAB: G12

ADDENDUM NUMBER

ATTACHMENT NUMBER

RECORD OF REVISIONS

No.	DATE	DESCRIPTION

KETCHIKAN AIRPORT
RUNWAY SAFETY AREA EXPANSION
& RUNWAY OVERLAY
PROJECT NO. 68306

F420 WIND SENSOR FOUNDATION DETAILS

PREPARED BY: USKH INC.

CHECKED BY: GRH

STATE OF ALASKA 49TH
GARY R. HABLE
EE–10243
REGISTERED PROFESSIONAL ENGINEER
10/4/06

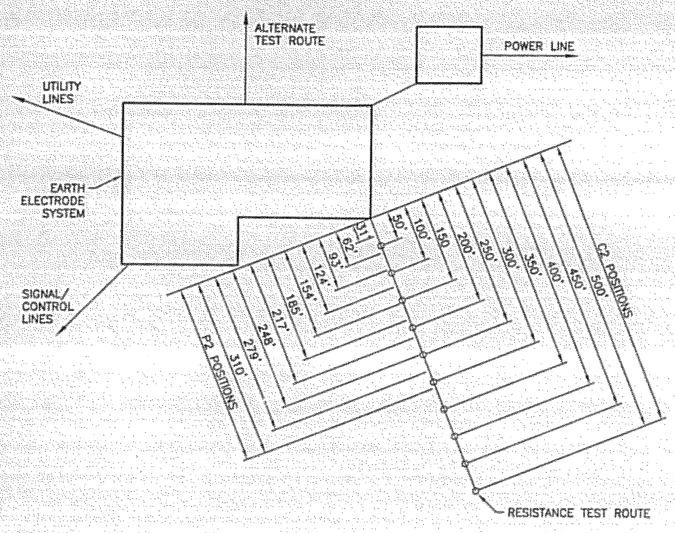
DESIGNED BY: LPS

DRAWN BY: LPS

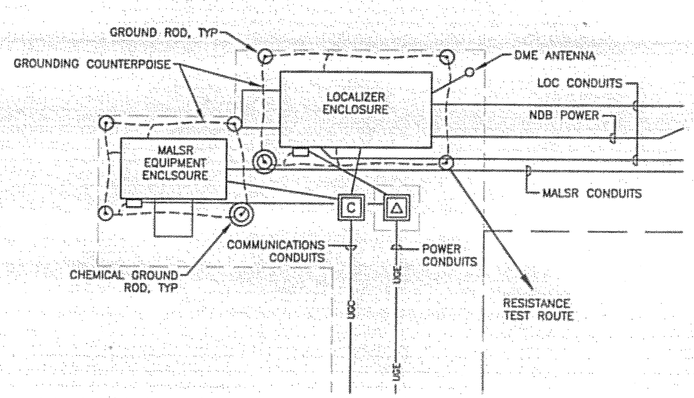
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
DESIGN & ENGINEERING SERVICES
DIVISION–SOUTHEAST REGION

F420 WIND SENSOR FOUNDATION DETAILS

PROJECT DESIGNATION	
AIP NO. 3-02-0144-1606	
STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
G46	131



1 G47 **TYPICAL FACILITY TEST ROUTE**
N.T.S.



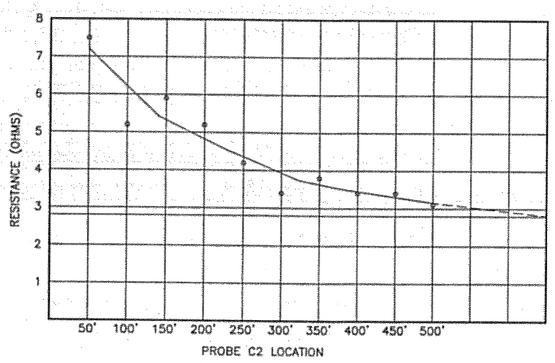
3 G47 **FACILITY TEST ROUTE**
N.T.S.

NOTES:

1. AN FAA REPRESENTATIVE SHALL BE PRESENT TO MONITOR AND/OR VERIFY THE EARTH ELECTRODE RESISTANCE TEST.
2. THE CIVIL CONTRACTOR, WITH THE ASSISTANCE OF A QUALIFIED ELECTRICIAN, SHALL PREPARE A NEAT SKETCH OF THE NEW FACILITY GROUND SYSTEM SIMILAR TO THAT SHOWN IN DETAIL 3. THIS SKETCH TOGETHER WITH THE RESISTANCE MEASUREMENT WORKSHEET (DETAIL 4) WILL BECOME PART OF THE PERMANENT FACILITY FILE. THREE COPIES WILL BE PROVIDED TO THE RESIDENT ENGINEER.
3. MEASURE THE RESISTANCE OF THE ELECTRODE SYSTEM WITH AN INSTRUMENT DESIGNED FOR THE PURPOSE USING THE FALL OF POTENTIAL METHOD (SUCH AS THE BIDDLE NULL BALANCE EARTH TESTER). PROCEED AS FOLLOWS:
   A. CONNECT THE TERMINALS MARKED C1 AND P1 TOGETHER AND CONNECT THEM TO THE ELECTRODE UNDER TEST.
   B. POSITION THE C2 PROBE ALONG A LINE WITH MAXIMIZES THE DISTANCE FROM THE ELECTRODE UNDER TEST AND FROM THE OTHER BURIED MATERIALS SUCH AS UTILITY PIPES, POWER AND SIGNAL CABLES, FUEL TANKS, ETC. IN CHOOSING THE DIRECTION FOR PLACEMENT OF THE C2 PROBE, EXAMINE THE CONFIGURATION OF THE ELECTRODE SYSTEM FOR THE FACILITY AND DETERMINE THE LOCATION OF ALL SUCH BURIED METALS. THEN LOCATE THE PROBE AS FAR AS POSSIBLE FROM THESE MATERIALS AS ILLUSTRATED IN DETAIL 1 (FOR LONG SYSTEM SUCH AS ALS, THE C2 PROBE LINE SHOULD BE RUN 90° TO ALS). KEEP C2 AND P2 LEADS SEPARATED AS FAR AS POSSIBLE.
   C. POSITION THE C2 PROBE AT DISTANCES AS SHOWN IN DETAIL 4. RECORD THE METER READINGS FOR EACH C2 AND P2 PROBE POSITION (NOTE THAT THE P2 POSITIONS ARE 62% OF THE C2 POSITIONS). IT MAY NOT BE NECESSARY TO PLOT THE FULL 500'. PLOT ENOUGH POINTS TO ACCURATELY DETERMINE WHERE RESISTANCE CURVE LEVELS OFF.
   D. NEXT PLOT ON THE GRAPH AS MANY RECORDED RESISTANCE READINGS VERSUS THE CORRESPONDING C2 PROBE POSITIONS AS NECESSARY TO DETERMINE WHERE CURVE LEVELS OFF (DETAIL 4).
   E. THE TRUE VALUE OF RESISTANCE CAN BE ESTIMATED BY EXTRAPOLATING THE CURVE TO ITS ASYMPTOTIC VALUE.

C2 PROBE DISTANCE	P2 PROBE DISTANCE (0.62xC2)	RESISTANCE METER READING (OHMS)
50'	31'	7.5
100'	62'	5.2
150'	93'	5.9
200'	124'	5.2
250'	154'	4.2
300'	185'	3.4
350'	217'	3.8
400'	248'	3.4
450'	279'	3.4
500'	310'	3.1

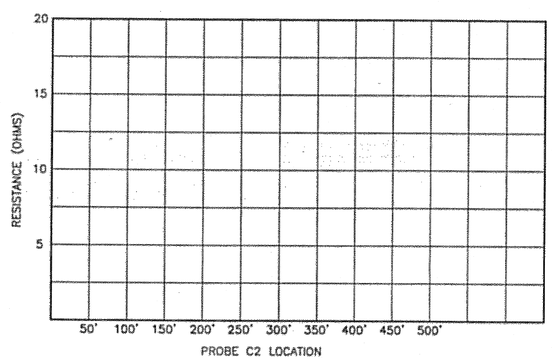
DEPTH OF REFERENCE RODS
RESISTANCE = 2.8 OHMS



2 G47 **SAMPLE MEASUREMENT WORKSHEET**
N.T.S.

C2 PROBE DISTANCE	P2 PROBE DISTANCE (0.62xC2)	RESISTANCE METER READING (OHMS)
50'	31'	
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150'	93'	
200'	124'	
250'	154'	
300'	185'	
350'	217'	
400'	248'	
450'	279'	
500'	310'	

DEPTH OF REFERENCE RODS
RESISTANCE =



4 G47 **MEASUREMENT WORKSHEET**
N.T.S.

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

PATH: I:\823400\Dwgs\E\Sheets\G47-GR01.dwg
Tue, 03/Oct/06 02:26PM lschneller
TAB: G12

ADDENDUM NUMBER

ATTACHMENT NUMBER

RECORD OF REVISIONS

No.	DATE	DESCRIPTION

KETCHIKAN AIRPORT
RUNWAY SAFETY AREA EXPANSION
& RUNWAY OVERLAY
PROJECT NO. 68306

LOCALIZER GROUND TESTING

PREPARED BY: USKH INC.

CHECKED BY: GRH

STATE OF ALASKA 49TH
GARY R. HABLE
EE-10243
REGISTERED PROFESSIONAL ENGINEER
10/4/06

DESIGNED BY: LPS

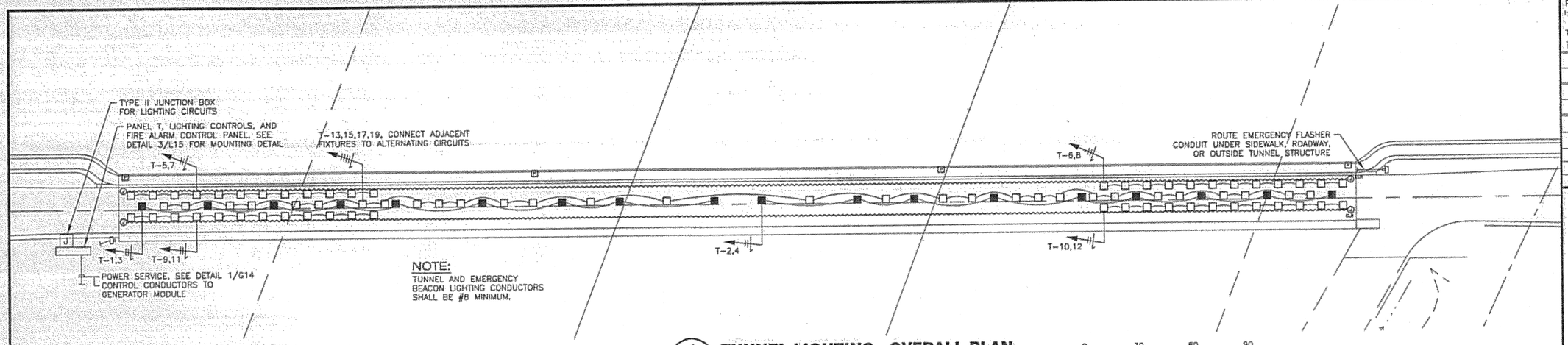
DRAWN BY: LPS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
& PUBLIC FACILITIES
DESIGN & ENGINEERING SERVICES
DIVISION–SOUTHEAST REGION

LOCALIZER GROUND TESTING

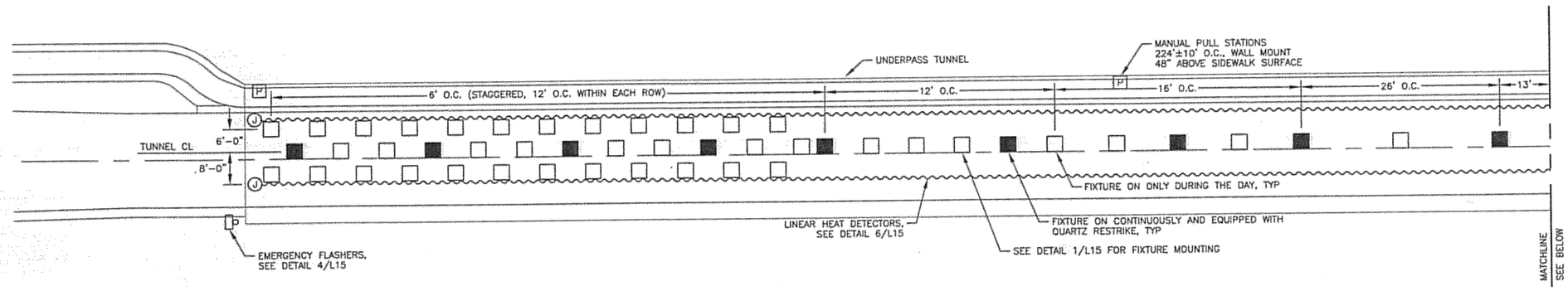
PROJECT DESIGNATION
AIP NO. 3-02-0144-1606

STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
G47	131



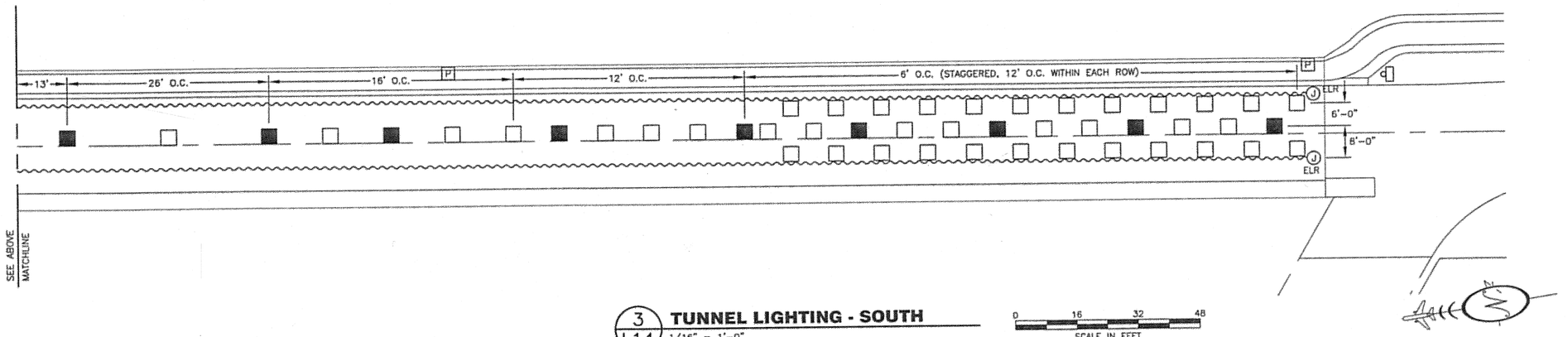
1 / L14 **TUNNEL LIGHTING - OVERALL PLAN**
1" = 30'-0"

0 30 60 90
SCALE IN FEET



2 / L14 **TUNNEL LIGHTING - NORTH**
1/16" = 1'-0"

0 16 32 48
SCALE IN FEET



3 / L14 **TUNNEL LIGHTING - SOUTH**
1/16" = 1'-0"

0 16 32 48
SCALE IN FEET

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

PATH: I:\823400\Dwgs\E\BOUND_11_06\L14-T1.dwg
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TAB: G09

ADDENDUM NUMBER
ATTACHMENT NUMBER

RECORD OF REVISIONS

No.	DATE	DESCRIPTION

LEWIS REEF ROAD TUNNEL
PROJECT NO. 67858

TUNNEL LIGHTING PLAN

PREPARED BY: USKH INC.
CHECKED BY: GRH

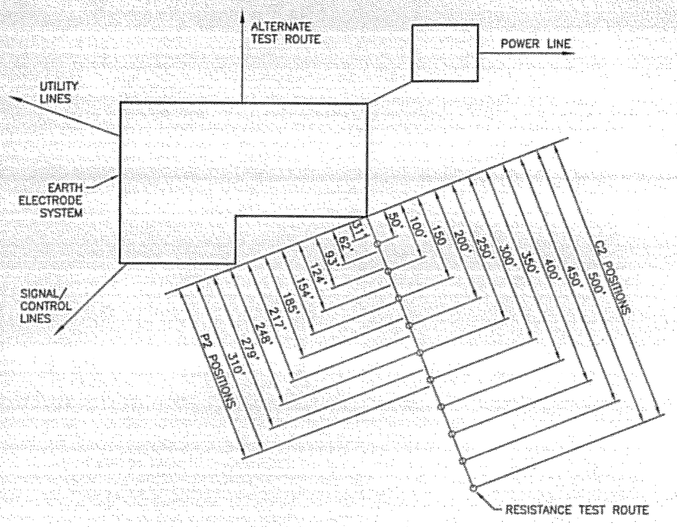
STATE OF ALASKA
49TH
GARY R. HABLE
EE-10243
CERTIFIED PROFESSIONAL ENGINEER

DESIGNED BY: LPS
DRAWN BY: LPS

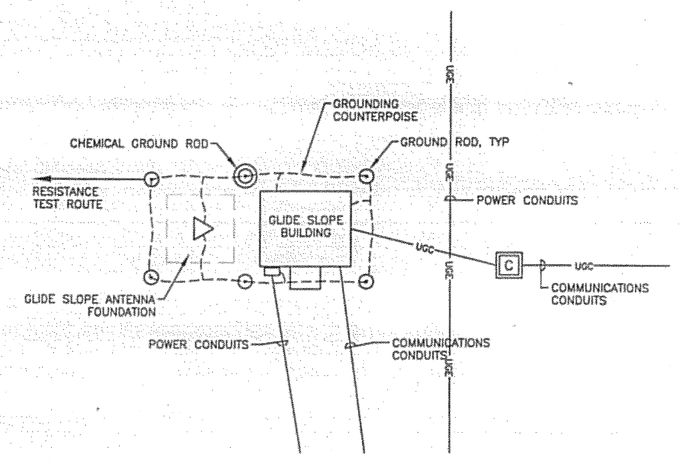
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
DESIGN & ENGINEERING SERVICES
DIVISION-SOUTHEAST REGION

TUNNEL LIGHTING PLAN

PROJECT DESIGNATION	
68456	
STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
L14	131



1 G48 **TYPICAL FACILITY TEST ROUTE**
N.T.S.



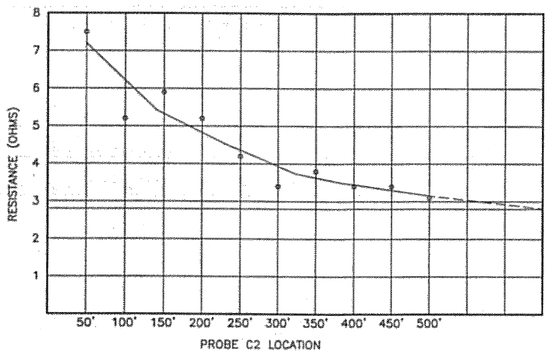
3 G48 **FACILITY TEST ROUTE**
N.T.S.

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   C. POSITION THE C2 PROBE AT DISTANCES AS SHOWN IN DETAIL 4. RECORD THE METER READINGS FOR EACH C2 AND P2 PROBE POSITION (NOTE THAT THE P2 POSITIONS ARE 62% OF THE C2 POSITIONS). IT MAY NOT BE NECESSARY TO PLOT THE FULL 500', PLOT ENOUGH POINTS TO ACCURATELY DETERMINE WHERE RESISTANCE CURVE LEVELS OFF.
   D. NEXT PLOT ON THE GRAPH AS MANY RECORDED RESISTANCE READINGS VERSUS THE CORRESPONDING C2 PROBE POSITIONS AS NECESSARY TO DETERMINE WHERE CURVE LEVELS OFF (DETAIL 4).
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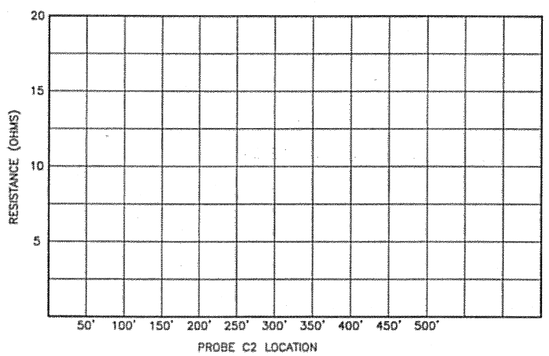
DEPTH OF REFERENCE RODS
RESISTANCE = 2.8 OHMS



2 G48 **SAMPLE MEASUREMENT WORKSHEET**
N.T.S.

C2 PROBE DISTANCE	P2 PROBE DISTANCE (0.62xC2)	RESISTANCE METER READING (OHMS)
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300'	185'	
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450'	279'	
500'	310'	

DEPTH OF REFERENCE RODS
RESISTANCE =



4 G48 **MEASUREMENT WORKSHEET**
N.T.S.

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

PATH: I:\823400\Dwgs\E\Sheets\G48-GRD2.dwg
Tue, 03/Oct/06 02:27PM lschneller
TAB: G12

ADDENDUM NUMBER

ATTACHMENT NUMBER

RECORD OF REVISIONS

No.	DATE	DESCRIPTION

KETCHIKAN AIRPORT
RUNWAY SAFETY AREA EXPANSION
& RUNWAY OVERLAY
PROJECT NO. 68306

GLIDE SLOPE GROUND TESTING

PREPARED BY: USKH INC.

CHECKED BY: GRH

STATE OF ALASKA 49TH
GARY R. HABLE
EE-10243
REGISTERED PROFESSIONAL ENGINEER
10/4/06

DESIGNED BY: LPS

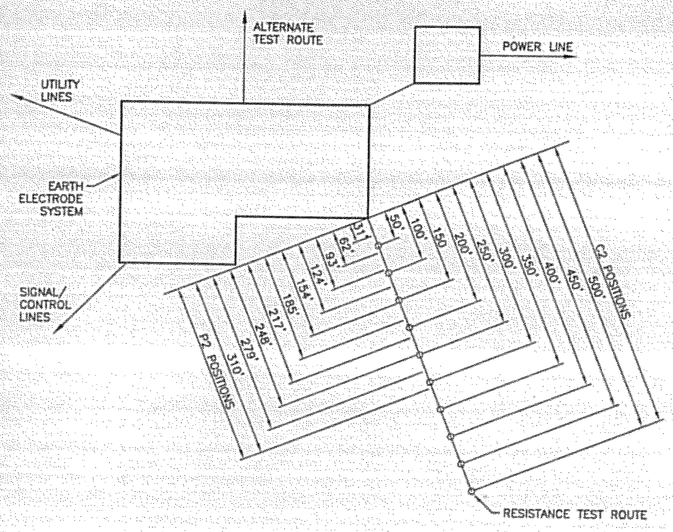
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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
& PUBLIC FACILITIES
DESIGN & ENGINEERING SERVICES
DIVISION-SOUTHEAST REGION

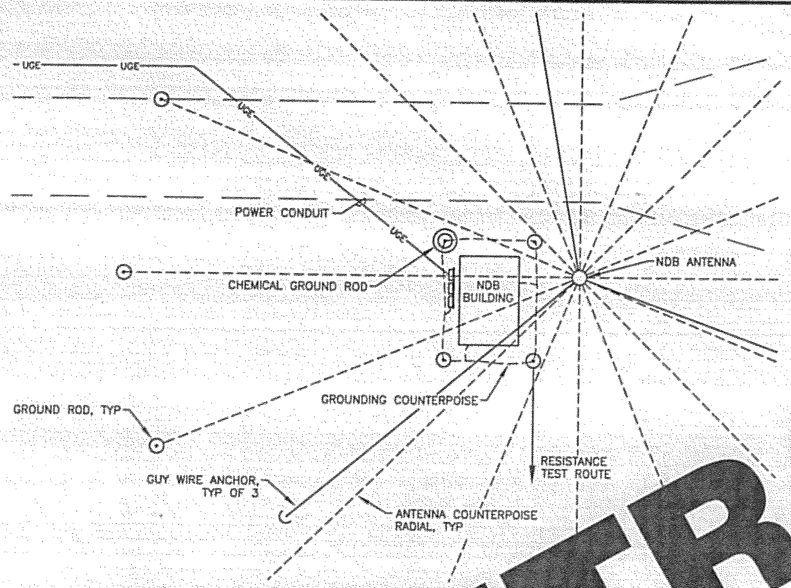
GLIDE SLOPE GROUND TESTING

PROJECT DESIGNATION
AIP NO. 3-02-0144-1606

STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
G48	131



1 G49 **TYPICAL FACILITY TEST ROUTE**
N.T.S.



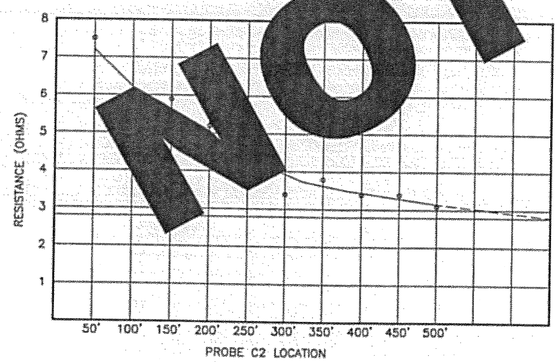
3 G49 **FACILITY TEST ROUTE**
N.T.S.

NOTES:

1. AN FAA REPRESENTATIVE SHALL BE PRESENT TO MONITOR AND/OR VERIFY THE EARTH ELECTRODE RESISTANCE TEST.
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   A. CONNECT THE TERMINALS MARKED C1 AND P1 TOGETHER AND CONNECT THEM T
   THE FACILITY AND DETERMINE ...TEM FOR ... OF ALL SUCH BURIED METALS. THEN ... PROBE AS ... POSSIBLE FROM THESE MATERIALS A... DETAIL 1 ...NG SYSTEM SUCH AS ALS, THE ... SHOULD BE R... TO ALS). KEEP C2 AND P2 LEADS ...ATED AS FAR AS POSSIBL...
   C. POSITION ... 2 PROBE AT DISTANCES AS ... IN DETAIL 4. RECORD THE MET... DINGS FOR ... C2 AND P... ROBE POSITION (NOTE THAT TH... SITIONS A... OF THE C2 POSITIONS). IT MAY NOT BE NECE... PLOT T... 500', PLOT ENOUGH POINTS TO ACCURATEL... RESISTANCE CURVE LEVELS OFF. PLOT ... MANY RECORDED RESISTANCE READINGS ... THE ... C2 PROBE POSITIONS AS NECESSARY TO ... WHER... LEVELS OFF (DETAIL 4).
   ...VALUE OF RESISTANCE CAN BE ESTIMATED BY EXTRAPOLATING ... ITS ASYMPTOTIC VALUE.

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50'	31'	7.5
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500'	310'	3.1

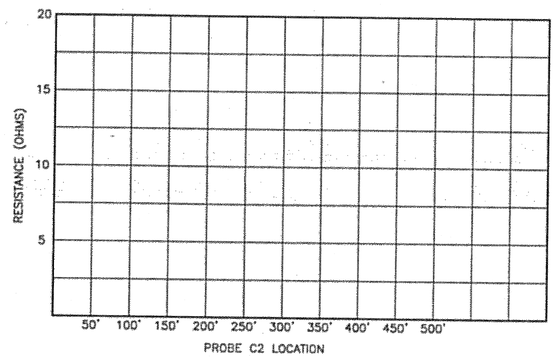
DEPTH OF REFERENCE ROD
RESISTANCE = 2.8 OHMS



2 G49 **SAMPLE MEASUREMENT WORKSHEET**
N.T.S.

C2 PROBE DISTANCE	P2 PROBE DISTANCE (0.62xC2)	RESISTANCE METER READING (OHMS)
50'	31'	
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150'	93'	
200'	124'	
250'	154'	
300'	185'	
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400'	248'	
450'	279'	
500'	310'	

DEPTH OF REFERENCE RODS
RESISTANCE =



4 G49 **MEASUREMENT WORKSHEET**
N.T.S.

NOT IN CONTRACT

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

PATH: I:\B23400\Dwgs\E\Sheets\G49-GRD3.dwg
Tue, 03/Oct/06 02:27PM lschneller
TAB: G12

ADDENDUM NUMBER

ATTACHMENT NUMBER

RECORD OF REVISIONS

No.	DATE	DESCRIPTION

KETCHIKAN AIRPORT
RUNWAY SAFETY AREA EXPANSION
& RUNWAY OVERLAY
PROJECT NO. 68306

NDB GROUND TESTING

PREPARED BY: USKH INC.

CHECKED BY: GRH

STATE OF ALASKA
49TH
GARY R. HABLE
EE-10243
REGISTERED PROFESSIONAL ENGINEER
10/4/06

DESIGNED BY: LPS

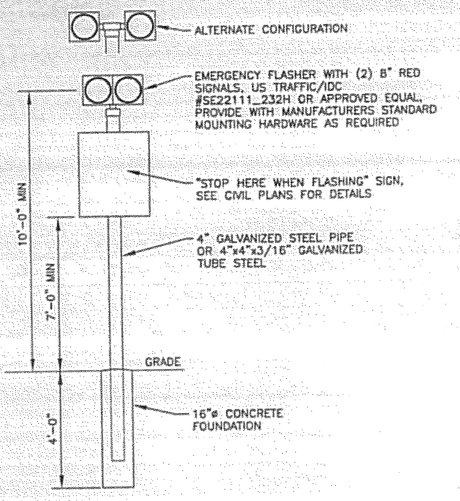
DRAWN BY: LPS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
DESIGN & ENGINEERING SERVICES
DIVISION-SOUTHEAST REGION

NDB GROUND TESTING

PROJECT DESIGNATION
AIP NO. 3-02-0144-1606

STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
G49	131



4 L15 EMERGENCY FLASHER DETAIL

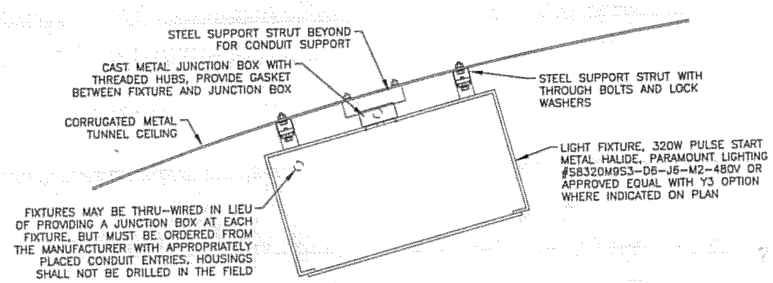
N.T.S.

PANEL 'T'

CKT	LOAD	BRANCH BKR	BRANCH VA	CONN. KVA A	CONN. KVA B	BRANCH VA	BRANCH BKR	LOAD	CKT
1	TUNNEL LIGHTING – NORTH (NIGHT)	20/2	2106	4.2		2106	20/2	TUNNEL LIGHTING – SOUTH (NIGHT)	2
3	SEE NOTE 1		2106		4.2	2106		SEE NOTE 1	4
5	TUNNEL LIGHTING – NORTH	20/2	2208	4.4		2208	20/2	TUNNEL LIGHTING – SOUTH	6
7	SEE NOTE 2		2208		4.4	2208		SEE NOTE 2	8
9	TUNNEL LIGHTING – NORTH	20/2	2208	4.4		2208	20/2	TUNNEL LIGHTING – SOUTH	10
11	SEE NOTE 2		2208		4.4	2208		SEE NOTE 2	12
13	TUNNEL LIGHTING – CENTER	20/2	2760	2.8					14
15	SEE NOTE 2		2760		2.8				16
17	TUNNEL LIGHTING – CENTER	20/2	2760	2.8					18
19	SEE NOTE 2		2760		2.8				20
21	LIGHTING CONTROLS	15/1	500	0.5					22
23	EMERGENCY FLASHERS	15/1	160		0.2				24
25	FIRE ALARM CONTROL PANEL	15/1	300	0.3					26
27					0.0				28
29				0.0					30
	CONNECTED LOAD		38.1 KVA 79 AMPS	19.4 81	18.7 78				
	NEC DEMAND		47.5 KVA 99 AMPS						

PANEL NOTES
1. SERVE LIGHTING DIRECTLY FROM CIRCUIT BREAKER.
2. SERVE LIGHTING THROUGH NORMALLY–CLOSED CONTACTOR SO LIGHTING IS ENERGIZED DURING THE DAY.

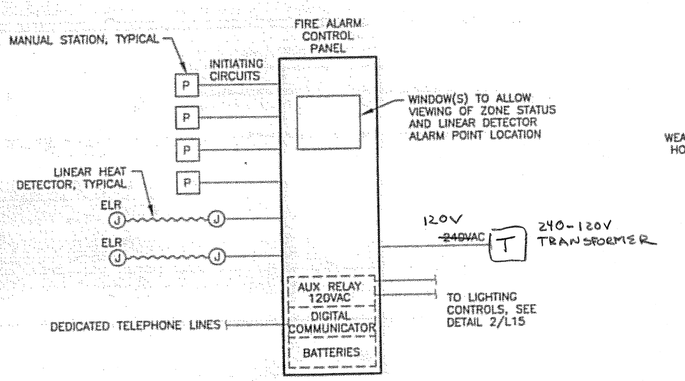
PANEL SPECIFICATIONS
MAINS RATING AMPS – 150
MAIN CIRCUIT BREAKER AMPERES – 150
CAPACITY ONE–POLE CIRCUITS – 30
SYSTEM VOLTAGE – 480/240
PHASE, NO. OF WIRES – 1 PH, 3 W
AIC RATING – 10,000
ENCLOSURE – NEMA 4X



NOTES:
1. STEEL SUPPORT STRUT SHALL BE HOT DIP GALVANIZED OR STAINLESS STEEL
2. HARDWARE SHALL BE STAINLESS STEEL
3. STEEL SUPPORT STRUT FOR FIXTURE SUPPORT MAY BE CONTINOUS, SEGMENTS AT EACH FIXTURE, OR A COMBINATION. WHERE STRUT IS CONTINOUS, LOCATE THROUGH BOLTS WITHIN 12" OF EACH SIDE OF EACH FIXTURE AND EVERY 4' MAXIMUM BETWEEN FIXTURES
4. MOUNTING SHOWN IS SUGGESTED MOUNTING METHOD. CONTRACTOR MAY PROPOSE ALTERNATE INSTALLATION FOR REVIEW BY THE ENGINEER

1 L15 FIXTURE MOUNTING DETAIL

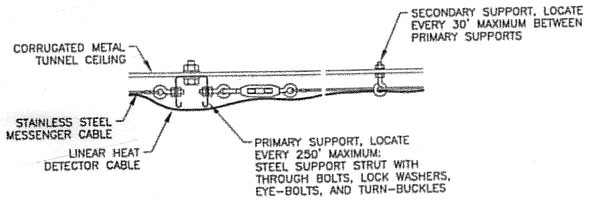
N.T.S.



SYSTEM OPERATION:
ACTIVATION OF HEAT DETECTOR OR PULL STATION SHALL ACTIVATE EMERGENCY FLASHERS, TRANSMIT ALARM SIGNAL TO A CENTRAL STATION, AND DISPLAY THE LOCATION OF THE ALARMING DEVICE

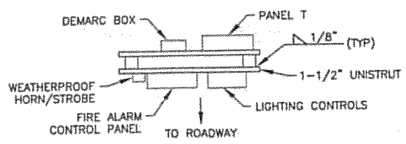
5 L15 FIRE ALARM RISER DIAGRAM

N.T.S.

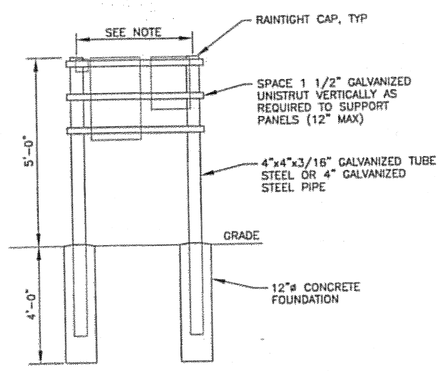


6 L15 HEAT DETECTOR MOUNTING DETAIL

N.T.S.



PLAN VIEW

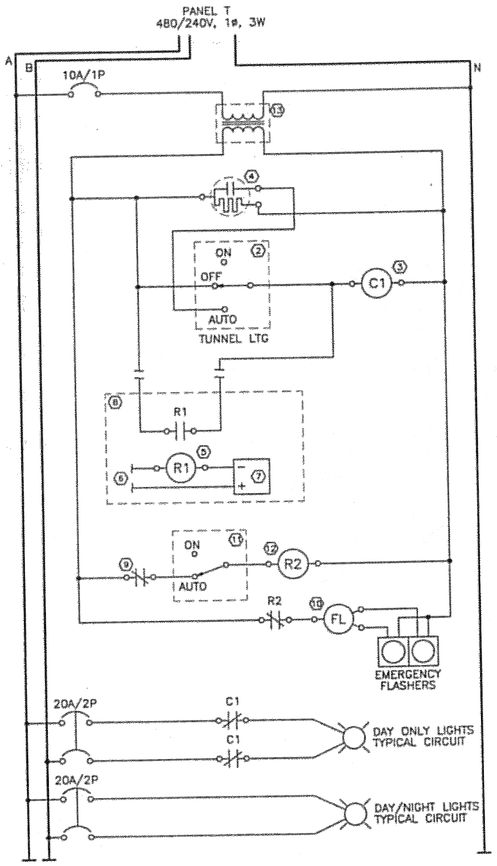


NOTE:
ADJUST WIDTH AS REQUIRED FOR EQUIPMENT INSTALLED. 24" MINIMUM, 48" MAXIMUM. IF LONGER SUPPORTS ARE NEEDED, PROVIDE ADDITIONAL POSTS

3 L15 PANEL MOUNTING DETAIL

N.T.S.

LIGHTING CONTROL NOTES:
1. MOUNT LIGHTING CONTROLS IN A NEMA 4X ENCLOSURE WITH INTERNAL DEAD–FRONT PANEL UNLESS OTHERWISE NOTED.
2. ON–OFF–AUTO SWITCH, SQUARE D #K543B OR APPROVED EQUAL, MOUNT IN DEAD–FRONT PANEL AND LABEL "DAYTIME TUNNEL LIGHTING"
3. 30A/12–POLE CONTACTOR. CONTACTOR SHALL BE ELECTRICALLY HELD WITH 120V COIL, SQUARE D TYPE LO OR APPROVED EQUAL
4. 120V ADJUSTABLE PHOTOCELL LOCATED AT LOADCENTER
5. 24VDC CONTROL RELAY
6. ROUTE TO N.O. OVERLOAD ALARM CONTACTS IN GENERATOR CONTROLLER, SET TO CLOSE AT 95% OF RATED LOAD
7. 24VDC POWER SUPPLY OR 24V PROVIDED BY GENERATOR CONTROLS
8. MOUNT RELAY (AND POWER SUPPLY IF PROVIDED) IN NEMA 1 ENCLOSURE IN GENERATOR MODULE
9. CONTACTS IN FIRE ALARM CONTROL PANEL. SEE DETAIL 5/L15
10. ALTERNATING FLASHER MODULE, 120VAC
11. ON–AUTO SWITCH, SQUARE D #KS11B OR APPROVED EQUAL, MOUNT IN DEAD–FRONT PANEL AND LABEL "EMERGENCY FLASHERS"
12. 15A, 120VAC POWER RELAY
13. 1.5kW, 240–120V TRANSFORMER, MOUNT IN CONTROL ENCLOSURE



2 L15 TUNNEL LIGHTING CONTROL DETAIL

N.T.S.

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

PATH: I:\823400\Dwgs\E\BOUND_11_06\L15-T2.dwg
Thu, 09/Nov/06 02:31PM bpaddock
TAB: G11

ADDENDUM NUMBER
ATTACHMENT NUMBER

RECORD OF REVISIONS

No.	DATE	DESCRIPTION

LEWIS REEF ROAD TUNNEL
PROJECT NO. 67858

TUNNEL LIGHTING DETAILS

PREPARED BY: USKH INC.

CHECKED BY: GRH

STATE OF ALASKA 49TH REGISTERED PROFESSIONAL ENGINEER
GARY R. HABLE EE–10243

DESIGNED BY: LPS

DRAWN BY: LPS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
DESIGN & ENGINEERING SERVICES
DIVISION–SOUTHEAST REGION

TUNNEL LIGHTING DETAILS

PROJECT DESIGNATION	
68456	
STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
L15	131