CITY OF OROVILLE

OROVILLE MUNICIPAL AIRPORT

OROVILLE, CALIFORNIA

CONSTRUCTION PLANS FOR:

INSTALLATION OF RUNWAY 02 PAPI AND RUNWAY 02 REIL

A.I.P. NO. 3-06-0178-__

APRIL 2016

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7. RUNWAY 02 REIL DUCT & WIRING PLAN
8. REIL DETAILS

REGISTERED PROFESSIONAL ENGINEER
MELISSA S. BRANDLEY
No. C-71139
Exp. 6-30-2017
CIVIL
STATE OF CALIFORNIA
4-14-16

CITY OF OROVILLE:

APPROVED: _____ **DATE:** _____
Don Rust
Director of Public Works

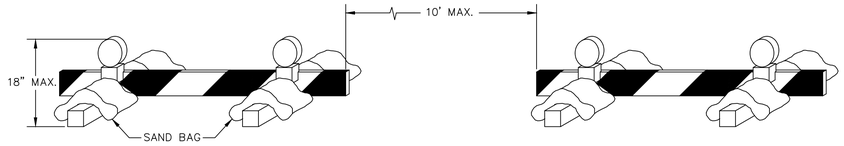
APPROVED: _____ **DATE:** _____

DESIGNED BY :

Reinard W. Brandley
CONSULTING AIRPORT ENGINEER
LOOMIS, CALIFORNIA

Melissa S. Brandley — April 14, 2016
DESIGN ENGINEER C.E. 71139 DATE

SET NO.



BARRICADE DETAIL
NO SCALE

NOTES:

1. BARRICADES AND LIGHTS SHALL BE SECURED TO RESIST MOVEMENT FROM PROP BLAST.
2. THESE BARRICADES SHALL BE USED DURING CONSTRUCTION ONLY.

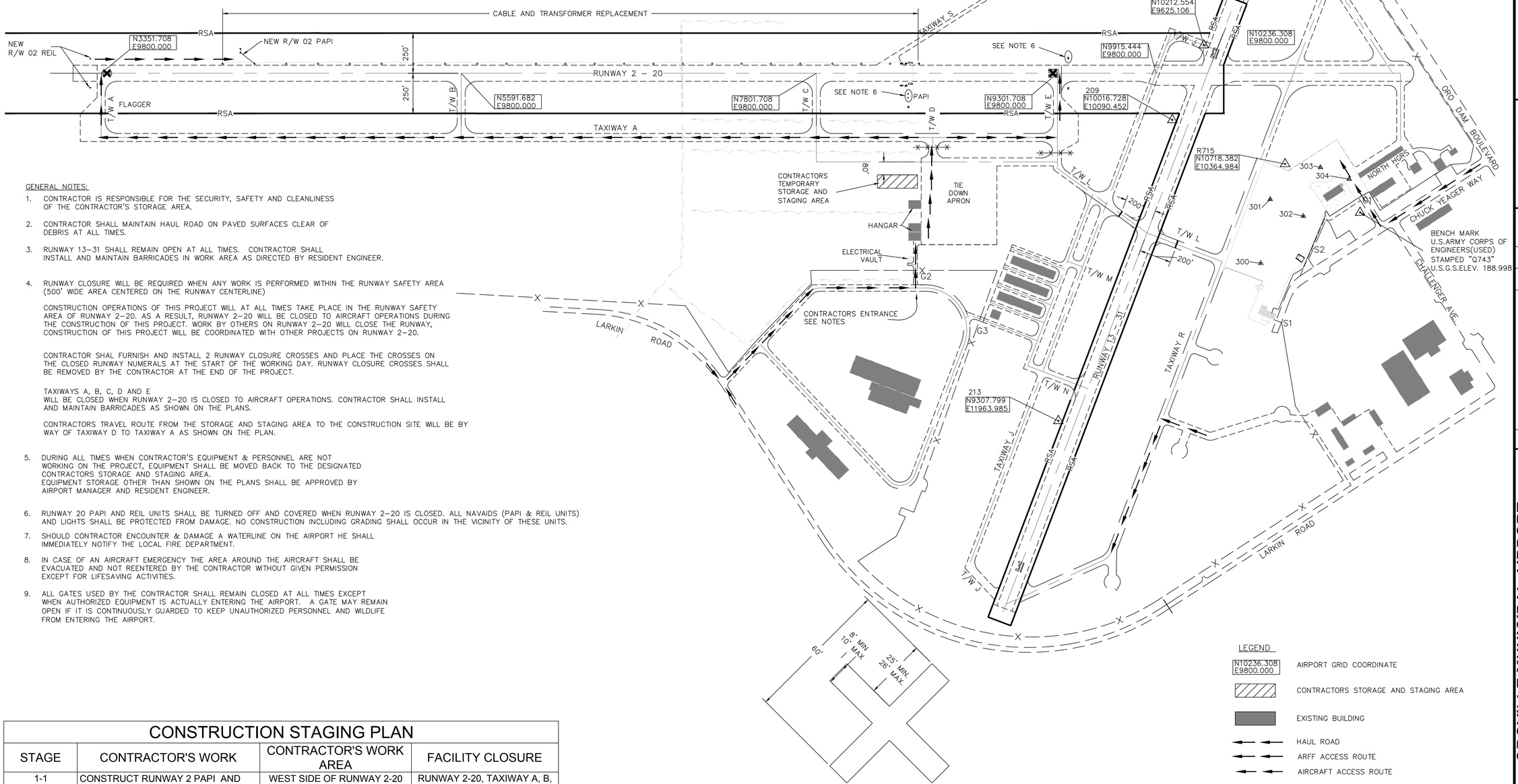
OROVILLE AIRPORT CONTROL POINTS

CONTROL POINT	NORTHING	EASTING	ELEVATION (FT.)	DESCRIPTION
208	10212.554	9625.106	190.38	PK W/TIN
209	10016.728	10090.452	190.66	HUB & TACK
213	9307.799	11963.985	175.15	HUB & TACK
Q743	11185.213	10667.039	189.00	BENCHMARK
R715	10718.382	10364.984	190.002	BENCHMARK

NGVD 29 DATUM

NORTH APRON CONTROL POINTS

CONTROL POINT	NORTHING	EASTING	ELEVATION (FT.)	DESCRIPTION
300	10567.1948	10982.4959	184.19	SET MAG NAIL
301	10625.7369	10584.6593	188.35	SET MAG NAIL
302	10831.9096	10689.6593	188.67	SET MAG NAIL
303	10938.7162	10386.5727	191.09	SET MAG NAIL
304	11117.4802	10458.7045	191.13	SET MAG NAIL



VERIFY SCALES

BAR IS ONE INCH ON ORIGINAL DRAWING.
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

GENERAL NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR THE SECURITY, SAFETY AND CLEANLINESS OF THE CONTRACTOR'S STORAGE AREA.
2. CONTRACTOR SHALL MAINTAIN HAUL ROAD ON PAVED SURFACES CLEAR OF DEBRIS AT ALL TIMES.
3. RUNWAY 13–31 SHALL REMAIN OPEN AT ALL TIMES. CONTRACTOR SHALL INSTALL AND MAINTAIN BARRICADES IN WORK AREA AS DIRECTED BY RESIDENT ENGINEER.
4. RUNWAY CLOSURE WILL BE REQUIRED WHEN ANY WORK IS PERFORMED WITHIN THE RUNWAY SAFETY AREA (500' WIDE AREA CENTERED ON THE RUNWAY CENTERLINE)

   CONSTRUCTION OPERATIONS OF THIS PROJECT WILL AT ALL TIMES TAKE PLACE IN THE RUNWAY SAFETY AREA OF RUNWAY 2–20. AS A RESULT, RUNWAY 2–20 WILL BE CLOSED TO AIRCRAFT OPERATIONS DURING THE CONSTRUCTION OF THIS PROJECT. WORK BY OTHERS ON RUNWAY 2–20 WILL CLOSE THE RUNWAY, CONSTRUCTION OF THIS PROJECT WILL BE COORDINATED WITH OTHER PROJECTS ON RUNWAY 2–20.

   CONTRACTOR SHAL FURNISH AND INSTALL 2 RUNWAY CLOSURE CROSSES AND PLACE THE CROSSES ON THE CLOSED RUNWAY NUMERALS AT THE START OF THE WORKING DAY. RUNWAY CLOSURE CROSSES SHALL BE REMOVED BY THE CONTRACTOR AT THE END OF THE PROJECT.

   TAXIWAYS A, B, C, D AND E
   WILL BE CLOSED WHEN RUNWAY 2–20 IS CLOSED TO AIRCRAFT OPERATIONS. CONTRACTOR SHALL INSTALL AND MAINTAIN BARRICADES AS SHOWN ON THE PLANS.

   CONTRACTORS TRAVEL ROUTE FROM THE STORAGE AND STAGING AREA TO THE CONSTRUCTION SITE WILL BE BY WAY OF TAXIWAY D TO TAXIWAY A AS SHOWN ON THE PLAN.
5. DURING ALL TIMES WHEN CONTRACTOR'S EQUIPMENT & PERSONNEL ARE NOT WORKING ON THE PROJECT, EQUIPMENT SHALL BE MOVED BACK TO THE DESIGNATED CONTRACTORS STORAGE AND STAGING AREA.
   EQUIPMENT STORAGE OTHER THAN SHOWN ON THE PLANS SHALL BE APPROVED BY AIRPORT MANAGER AND RESIDENT ENGINEER.
6. RUNWAY 20 PAPI AND REIL UNITS SHALL BE TURNED OFF AND COVERED WHEN RUNWAY 2–20 IS CLOSED. ALL NAVAIDS (PAPI & REIL UNITS) AND LIGHTS SHALL BE PROTECTED FROM DAMAGE. NO CONSTRUCTION INCLUDING GRADING SHALL OCCUR IN THE VICINITY OF THESE UNITS.
7. SHOULD CONTRACTOR ENCOUNTER & DAMAGE A WATERLINE ON THE AIRPORT HE SHALL IMMEDIATELY NOTIFY THE LOCAL FIRE DEPARTMENT.
8. IN CASE OF AN AIRCRAFT EMERGENCY THE AREA AROUND THE AIRCRAFT SHALL BE EVACUATED AND NOT REENTERED BY THE CONTRACTOR WITHOUT GIVEN PERMISSION EXCEPT FOR LIFESAVING ACTIVITIES.
9. ALL GATES USED BY THE CONTRACTOR SHALL REMAIN CLOSED AT ALL TIMES EXCEPT WHEN AUTHORIZED EQUIPMENT IS ACTUALLY ENTERING THE AIRPORT. A GATE MAY REMAIN OPEN IF IT IS CONTINUOUSLY GUARDED TO KEEP UNAUTHORIZED PERSONNEL AND WILDLIFE FROM ENTERING THE AIRPORT.

CONSTRUCTION STAGING PLAN

STAGE	CONTRACTOR'S WORK	CONTRACTOR'S WORK AREA	FACILITY CLOSURE
1-1	CONSTRUCT RUNWAY 2 PAPI AND REFURBISH RUNWAY 20 PAPI	WEST SIDE OF RUNWAY 2-20	RUNWAY 2-20, TAXIWAY A, B, C, D AND E
1-2	REMOVE AND REPLACE RUNWAY WIRE AND TRANSFORMERS	WEST SIDE OF RUNWAY 2-20	RUNWAY 2-20, TAXIWAY A, B, C, D AND E
1-3	CONSTRUCT RUNWAY 2 REIL	WEST SIDE OF RUNWAY 2-20	RUNWAY 2-20, TAXIWAY A, B, C, D AND E

CLOSED RUNWAY CROSS NOTES:

1. CROSS SHALL BE AVIATION YELLOW IN COLOR.
2. CROSSES TO BE CONSTRUCTED OF ANY MATERIAL SUCH AS FABRIC, PLYWOOD, OR OTHER SUITABLE MATERIAL. THEY WILL BE HELD IN PLACE IN A MANNER APPROVED BY THE RESIDENT ENGINEER.
3. CONTRACTOR SHALL PLACE AIRPORT FURNISHED CROSSES ON ON EACH END OF THE CLOSED RUNWAY. CROSSES SHALL REMAIN ON RUNWAY AT ALL TIMES THAT WORK IS PERFORMED ON THE RUNWAY. NO WORK SHALL BEGIN ON RUNWAY UNTIL CROSSES HAVE BEEN INSTALLED AND ANCHORED.

CLOSED RUNWAY CROSS DETAIL
NO SCALE

LEGEND

N10236.308 E9800.000	AIRPORT GRID COORDINATE
	CONTRACTORS STORAGE AND STAGING AREA
	EXISTING BUILDING
	HAUL ROAD
	ARFF ACCESS ROUTE
	AIRCRAFT ACCESS ROUTE
	CONSTRUCTION BARRICADE FOR ASSOCIATED STAGE
	EXISTING DRAINAGE DITCH
	EXISTING FENCE
G1 S2	EXISTING GATE IDENTIFICATION NUMBER
	EXISTING CONTROL POINTS
RSA	EXISTING RUNWAY SAFETY AREA

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ENGINEER OF RECORD

REGISTERED PROFESSIONAL ENGINEER REINARD W. BRANDLEY No. C 21139 Exp. 6-30-2017 CIVIL STATE OF CALIFORNIA 4-14-16

No.	REVISIONS	BY	APR	DATE

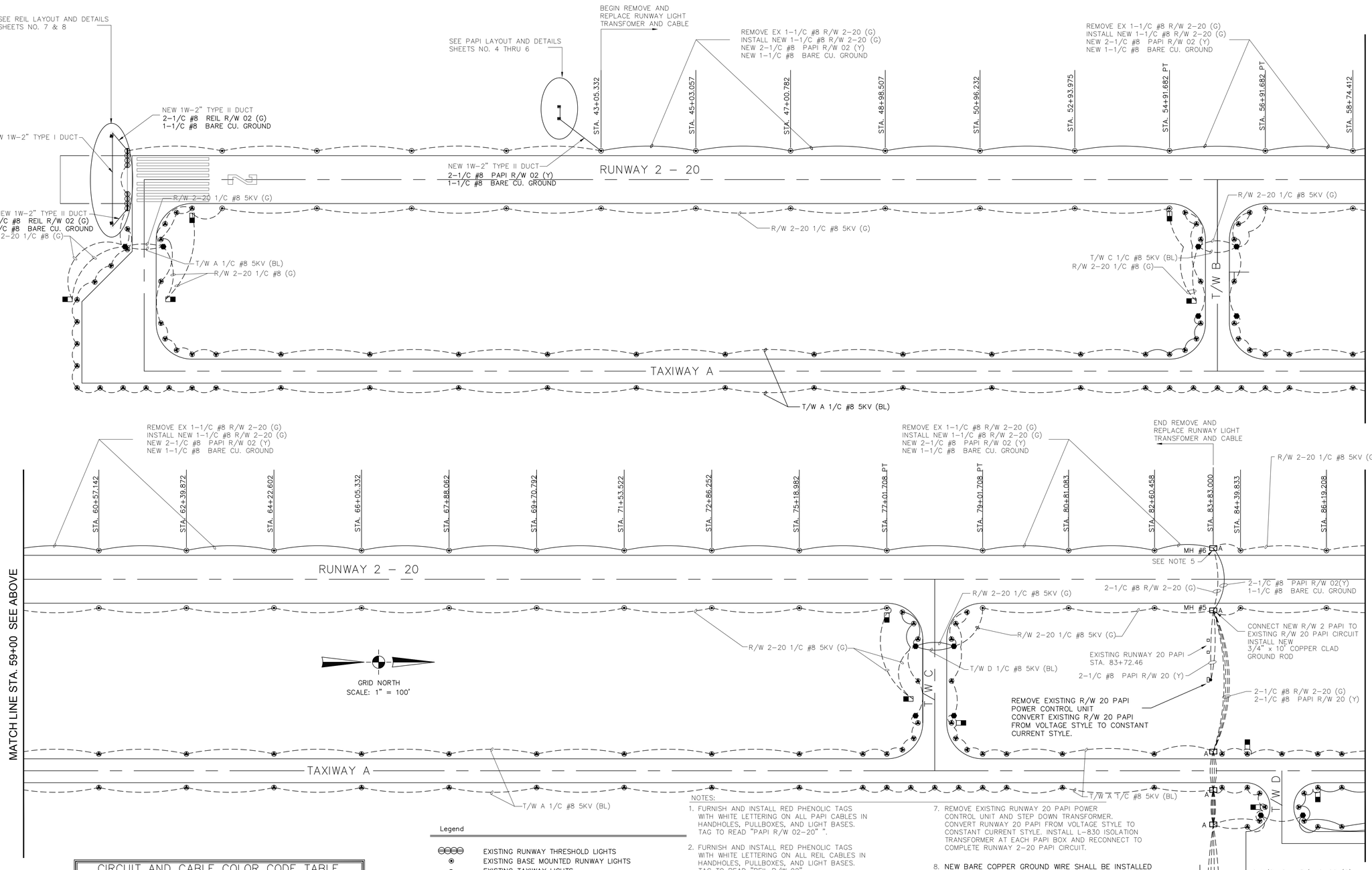
OROVILLE MUNICIPAL AIRPORT
OROVILLE CALIFORNIA

RUNWAY 2 PAPI AND REIL

CONSTRUCTION LAYOUT AND SAFETY PLAN

DATE	4/14/2016
DRAWN	KDC
CHECKED	RWB
PROJECT No.	13.13
FILE	1313s002 Cnstrn SafePlan
SCALE	1"=300'
SHEET No.	2 OF 8

G:\13\13 PAPI & REIL\13135002 CNSTRN SAFEPLAN.DWG PLOTTED BY Tom Steinkamp 4/14/2016 3:38 PM



CIRCUIT AND CABLE COLOR CODE TABLE		
COLOR CODE	COLOR	CIRCUIT
G	GREEN	R/W 2-20 EDGE
W	WHITE	R/W 13-31 EDGE
BL	BLUE	R/W 2-20 TAXIWAYS SOUTH
R	RED	R/W 2-20 TAXIWAYS NORTH & APRON EDGE
O	ORANGE	R/W 13-31 TAXIWAYS
Y	YELLOW	PAPI 02-20(SEE NOTE 1)
P	PURPLE	R/W 13-31 PAPI
B	BROWN	WIND CONE

Legend

- EXISTING RUNWAY THRESHOLD LIGHTS
- EXISTING BASE MOUNTED RUNWAY LIGHTS
- EXISTING TAXIWAY LIGHTS
- EXISTING HANDHOLE L867 SIZE D
- EXISTING ELECTRICAL PULL BOX
- EXISTING PAPI
- EXISTING TAXIWAY GUIDANCE SIGN
- EXISTNG ELECTRICAL CABLE (SIZE AS SHOWN)
- NEW PAPI
- NEW ELECTRICAL CABLE (SIZE AS SHOWN)

NOTES:

1. FURNISH AND INSTALL RED PHENOLIC TAGS WITH WHITE LETTERING ON ALL PAPI CABLES IN HANDHOLES, PULLBOXES, AND LIGHT BASES. TAG TO READ "PAPI R/W 02-20" ".
2. FURNISH AND INSTALL RED PHENOLIC TAGS WITH WHITE LETTERING ON ALL REIL CABLES IN HANDHOLES, PULLBOXES, AND LIGHT BASES. TAG TO READ "REIL R/W 02".
3. REMOVE AND REPLACE EXISTING RUNWAY LIGHT TRANSFORMERS IN RUNWAY LIGHT BASES ON WEST SIDE OF RUNWAY 2-20 FROM STA. 42+14 TO STA. 82+60.
4. REMOVE AND REPLACE EXISTING RUNWAY LIGHT CABLE 1- 1/C #8 IN RUNWAY LIGHT BASES ON WEST SIDE OF RUNWAY 2-20 FROM STA. 42+14 TO STA. 83+83
5. DURING REPLACEMENT OF RUNWAY CABLE, INSTALL NEW CABLE AND BARE CU GROUND FOR NEW RUNWAY 2 PAPI.
6. ALL NEW CONNECTOR KITS IN EXISTING AND NEW HANDOLES AND EXISTING LIGHT BASES SHALL BE HEAT SHRINKED. SEE DETAIL SHEET 6
7. REMOVE EXISTING RUNWAY 20 PAPI POWER CONTROL UNIT AND STEP DOWN TRANSFORMER. CONVERT RUNWAY 20 PAPI FROM VOLTAGE STYLE TO CONSTANT CURRENT STYLE. INSTALL L-830 ISOLATION TRANSFORMER AT EACH PAPI BOX AND RECONNECT TO COMPLETE RUNWAY 2-20 PAPI CIRCUIT.
8. NEW BARE COPPER GROUND WIRE SHALL BE INSTALLED AND ATTACHED TO EXISTING AND NEW LIGHT BASES, AND GROUND RODS. GROUND LUGS SHALL BE INSTALLED AS NEEDED.

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OROVILLE CALIFORNIA

RUNWAY 2 PAPI AND REIL

RUNWAY 2-20 WIRING PLAN

DATE	4/14/2016
DRAWN	TAS
CHECKED	RWB
PROJECT No.	13.13
FILE	1313S003 RW WIRE
SCALE	1"=100'
SHEET No.	3 OF 8

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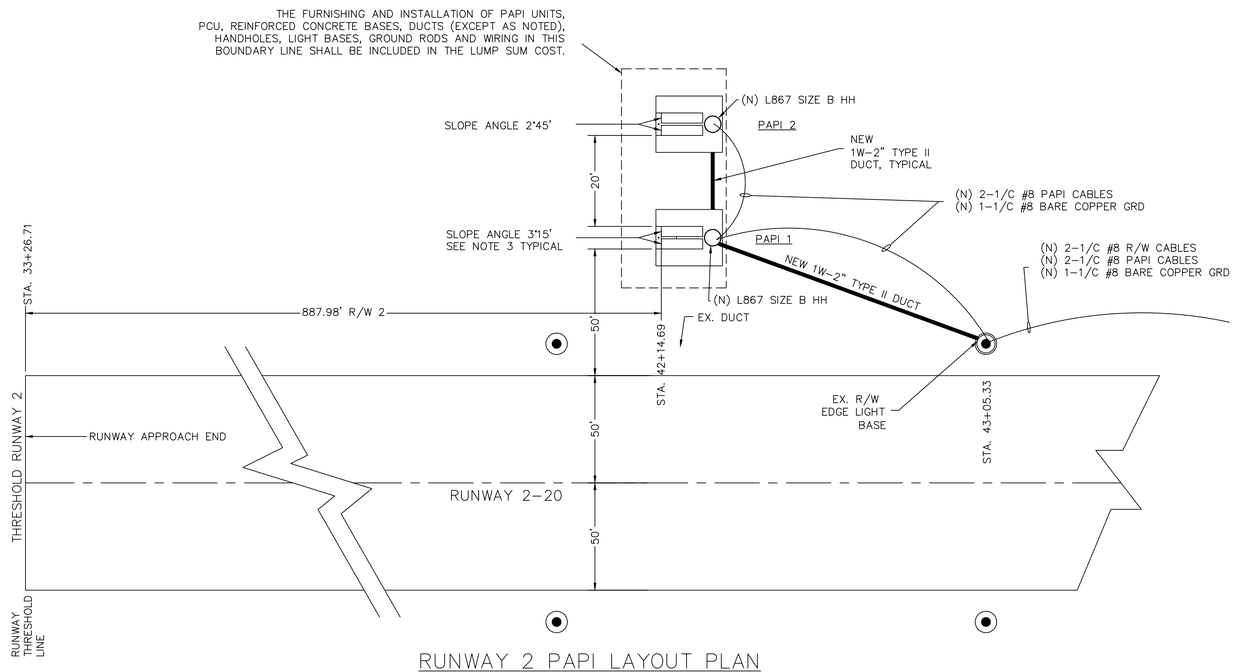

RUNWAY 2 PAPI LAYOUT PLAN

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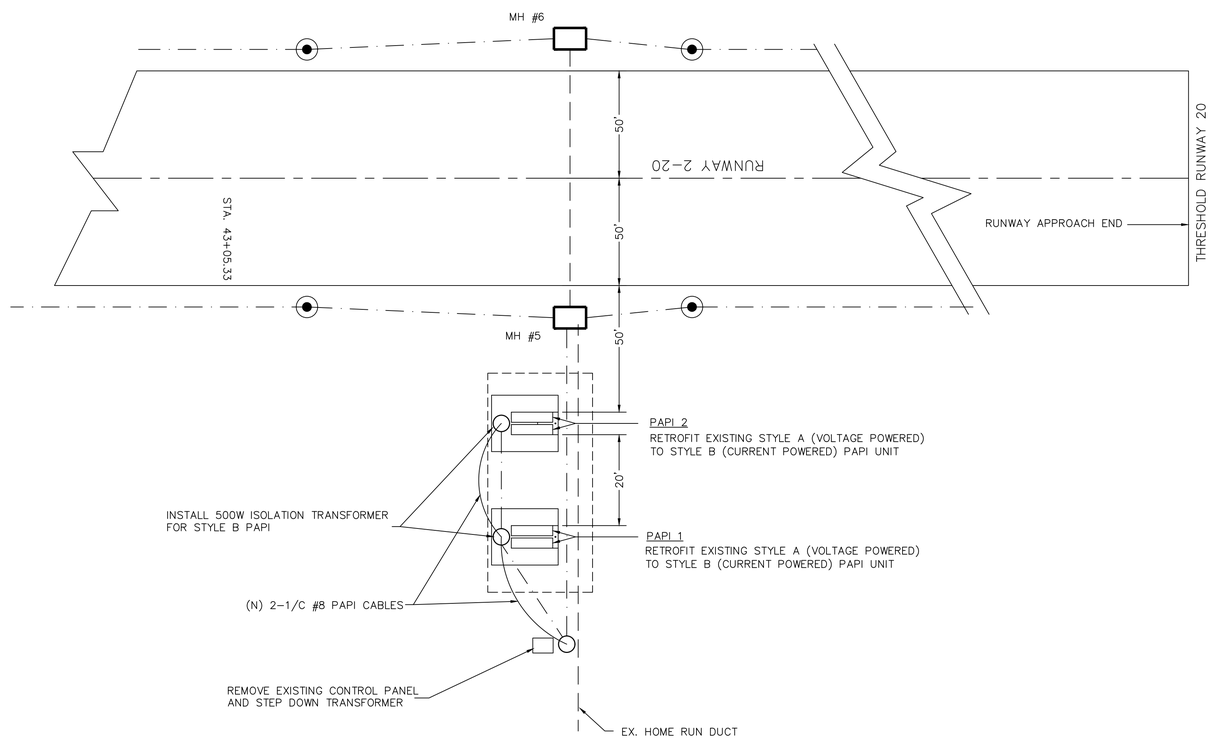

RUNWAY 20 PAPII LAYOUT PLAN

NO SCALE

VERIFY SCALES

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PAPI INSTALLATION NOTES:

1. THE PAPI SHALL BE A 2 BOX PAPI STYLE B CONFORMING TO THE REQUIREMENTS OF FAA SPECIFICATION L881. ISOLATION TRANSFORMERS SHALL BE SIZED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
2. FOR SLOPE ANGLE DESCRIPTION SEE PAPI DETAIL SHEET 6.
3. PROVIDE AS BUILT SURVEY ELEVATIONS ON TOP OF THE CONCRETE BASES OF PAPI UNITS. CHISEL CROSSES WITH ELEVATIONS PAINTED ON CONCRETE PADS WITH WHITE PAINT.
4. REMOVE EXISTING RUNWAY 20 PAPI'S 3KVA TRANSFORMER AND KIRK KEY INTERRUPTER SWITCH FROM VAULT.
5. WIRE PAPI PER MANUFACTURER'S INSTRUCTIONS FOR STYLE B CURRENT DRIVEN PAPI UNIT. WIRING OF THE INDIVIDUAL UNITS SHALL BE INCLUDED IN THE UNIT PRICE FOR THE PAPI.
6. THE PAPI UNITS SHALL BE FURNISHED WITH TILT SWITCH LEVEL, CLINOMETER, AND OPTICAL BENCH.
7. BASE DIMENSIONS MAY VARY TO SUIT PAPI MANUFACTURER'S DIMENSIONS, 6" (SIX INCHES) OF PAD SHALL EXTEND BEYOND ALL EQUIPMENT.
8. THE DIMENSIONS FOR THE PAPI UNIT MAY VARY FROM THAT SHOWN, DEPENDING ON THE MANUFACTURER.
9. ALL PAPI UNITS SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND FAA ADVISORY CIRCULAR 150/5345-28D ENTITLED "PRECISION APPROACH PATH INDICATOR (PAPI) SYSTEM" AND TEST RESULTS SENT TO THE OWNER.
10. CONTRACTOR SHALL FURNISH COMPLETE OPERATION AND MAINTENANCE MANUALS AS REQUIRED BY THE SPECIFICATIONS.
11. THE BASE SLAB FOR EACH PAPI SHALL BE CONSTRUCTED AS SHOWN ON THE PAPI BASE SLAB DETAIL.
12. BASE SLAB AND WALLS TO BE POURED AS ONE UNIT, NO CONSTRUCTION JOINTS WILL BE PERMITTED.
13. RUNWAY 2 PAPI AND RUNWAY 20 PAPI SHALL BE INSTALLED AND WIRED FOR THE FOLLOWING CONTROL:
    PHOTO CELL – – PAPI ON DAYLIGHT HOURS, OFF AT NIGHT TIME HOURS
    PHOTO CELL – – PAPI BRIGHTNESS
    RADIO CONTROL/ RUNWAY INTERFACE –– R/W 2-20 EDGE LIGHTS ON, PAPI ON (NIGHT OPERATION)
    R/W 2-20 EDGE LIGHTS OFF, PAPI OFF (NIGHT OPERATION)
14. ALL INTERFACE EQUIPMENT TO CONTROL PAPI OPERATION SHALL BE LOCATED IN THE ELECTRICAL VAULT.
15. THRESHOLD CROSSING HEIGHT OF PAPI 3° PLANE IS 40 FEET.

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ENGINEER OF RECORD

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OROVILLE MUNICIPAL AIRPORT
OROVILLE CALIFORNIA

RUNWAY 2 PAPI AND REIL

PAPI LAYOUT PLAN

DATE	4/14/2016
DRAWN	TAS
CHECKED	RWB
PROJECT No.	13.13
FILE	1313s004-6
SCALE	NO SCALE
SHEET No.	4 OF 8

G:\13\13 PAPI & REIL\1313S004-6.DWG PLOTTED BY Tom Steinkamp 4/14/2016 3:09 PM

VERIFY SCALES

BAR IS ONE INCH ON ORIGINAL DRAWING.
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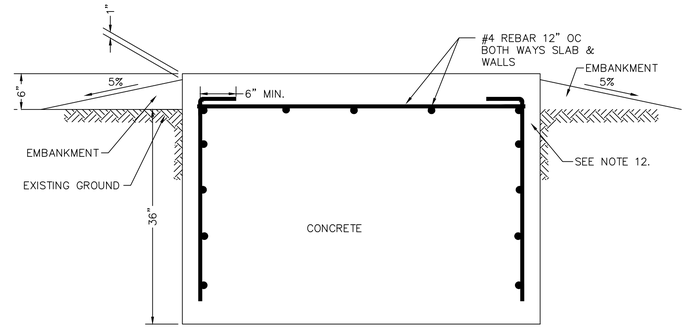
PAPI INSTALLATION NOTES:

1. THE PAPI SHALL BE A 2 BOX PAPI STYLE B CONFORMING TO THE REQUIREMENTS OF FAA SPECIFICATION L881. ISOLATION TRANSFORMERS SHALL BE SIZED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
2. FOR SLOPE ANGLE DESCRIPTION SEE PAPI DETAIL, SECTION B–B BELOW.
3. PROVIDE AS BUILT SURVEY ELEVATIONS ON TOP OF THE CONCRETE BASES OF PAPI UNITS. CHISEL CROSSES WITH ELEVATIONS PAINTED ON CONCRETE PADS WITH WHITE PAINT.
4. REMOVE EXISTING RUNWAY 2–20 3KVA TRANSFORMER FROM VAULT AND INSTALL INSTALL NEW 4KW REGULATOR IN VAULT.
5. REMOVE EXISTING STEP DOWN TRANSFORMER AND PCU AT RUNWAY 20 PAPI UNIT. RECONFIGURE RUNWAY 20 PAPI FOR STYLE B CURRENT DRIVEN POWER. INSTALL L867 TRANSFORMER AND 5KV CABLE AS NEEDED.
CONNECT EXISTING RUNWAY 20 PAPI CIRCUIT TO NEW RUNWAY 2 PAPI CIRCUIT IN MANHOLE #5 AND CONNECT TO NEW 4KW REGULATOR IN ELECTRICAL VAULT.
5. WIRE PAPI PER MANUFACTURER'S INSTRUCTIONS FROM POWER CONTROL UNIT (PCU). WIRING FROM PCU TO THE INDIVIDUAL UNITS SHALL BE INCLUDED IN THE UNIT PRICE FOR THE PAPI.
6. THE PAPI UNITS SHALL BE FURNISHED WITH TILT SWITCH LEVEL, CLINOMETER, AND OPTICAL BENCH.
7. BASE DIMENSIONS MAY VARY TO SUIT PAPI MANUFACTURER'S DIMENSIONS, 6" (SIX INCHES) OF PAD SHALL EXTEND BEYOND ALL EQUIPMENT.
8. THE DIMENSIONS FOR THE PAPI UNIT MAY VARY FROM THAT SHOWN, DEPENDING ON THE MANUFACTURER.
9. ALL PAPI UNITS SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND FAA ADVISORY CIRCULAR 150/5345–28D ENTITLED "PRECISION APPROACH PATH INDICATOR (PAPI) SYSTEM" AND TEST RESULTS SENT TO THE OWNER.
10. CONTRACTOR SHALL FURNISH COMPLETE OPERATION AND MAINTENANCE MANUALS AS REQUIRED BY THE SPECIFICATIONS.
11. THE BASE SLAB FOR EACH PAPI SHALL BE CONSTRUCTED AS SHOWN ON THE PAPI BASE SLAB DETAIL.
12. BASE SLAB AND WALLS TO BE POURED AS ONE UNIT, NO CONSTRUCTION JOINTS WILL BE PERMITTED.
13. RUNWAY 2 PAPI AND RUNWAY 20 PAPI SHALL BE INSTALLED AND WIRED FOR THE FOLLOWING CONTROL:
    PHOTO CELL – – PAPI ON DAYLIGHT HOURS, OFF AT NIGHT TIME HOURS
    PHOTO CELL – – PAPI BRIGHTNESS
    RADIO CONTROL/ RUNWAY INTERFACE –– R/W 2–20 EDGE LIGHTS ON, PAPI ON (NIGHT OPERATION)
    R/W 2–20 EDGE LIGHTS OFF, PAPI OFF (NIGHT OPERATION)
14. ALL INTERFACE EQUIPMENT TO CONTROL PAPI OPERATION SHALL BE LOCATED IN THE ELECTRICAL VAULT.
15. THRESHOLD CROSSING HEIGHT OF PAPI 3° PLANE IS 40 FEET.
16. ATTACH GROUND WIRE TO NEW AND EXISTING PULLBOXES. INSTALL NEW GROUND LUG OR GROUND ROD AS NEEDED. GROUND ROD AND GROUND LUGS SHALL BE INCLUDED IN LUMP SUM COST OF COMPLETE PAPI INSTALLATION.

PAPI INSTALLATION TOLERANCES

1. AZIMUTHAL AIMING – EACH LIGHT UNIT SHALL BE AIMED INTO THE APPROACH ZONE ON A LINE PARALLEL TO THE RUNWAY CENTERLINE WITHIN A TOLERANCE OF ± 1/4 DEGREE.
2. MOUNTING HEIGHT TOLERANCE – THE BEAM CENTERS OF ALL LIGHT UNITS SHALL BE ± 1 INCH OF A HORIZONTAL PLANE. THIS HORIZONTAL PLANE SHALL BE WITHIN ± 0.25 FOOT OF THE ELEVATION OF THE RUNWAY CENTERLINE AT THE INTERCEPT POINT OF THE VISUAL GLIDE PATH WITH THE RUNWAY.
3. TOLERANCE ALONG LINE PERPENDICULAR TO RUNWAY – THE FRONT FACE OF EACH LIGHT UNIT IN THE LIGHT BAR SHALL BE LOCATED ON A LINE PERPENDICULAR TO THE RUNWAY CENTERLINE WITHIN ± 0.25 FT.



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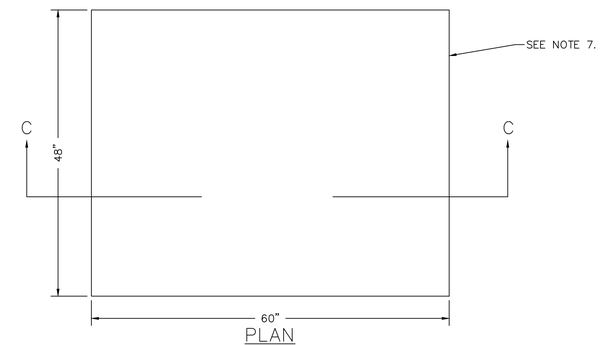

PLAN
PAPI BASE SLAB DETAIL
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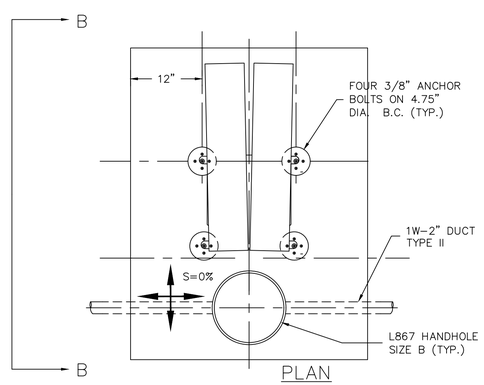

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PAPI DETAIL
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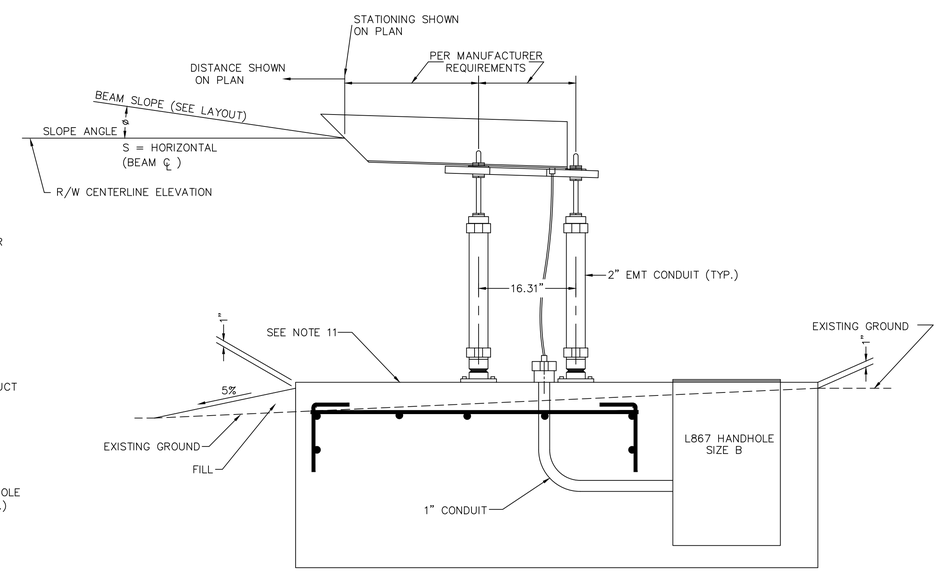

SECTION B – B
NO SCALE

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ENGINEER OF RECORD

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STATE OF CALIFORNIA
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OROVILLE MUNICIPAL AIRPORT
OROVILLE CALIFORNIA

RUNWAY 2 PAPI AND REIL

PAPI PLAN AND DETAILS

DATE	4/14/2016
DRAWN	TAS
CHECKED	RWB
PROJECT No.	13.13
FILE	1313s004-6
SCALE	NO SCALE
SHEET No.	5 OF 8

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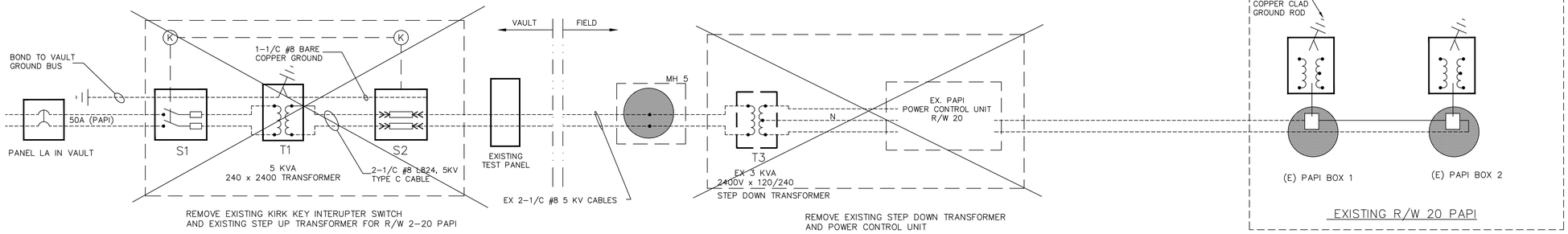
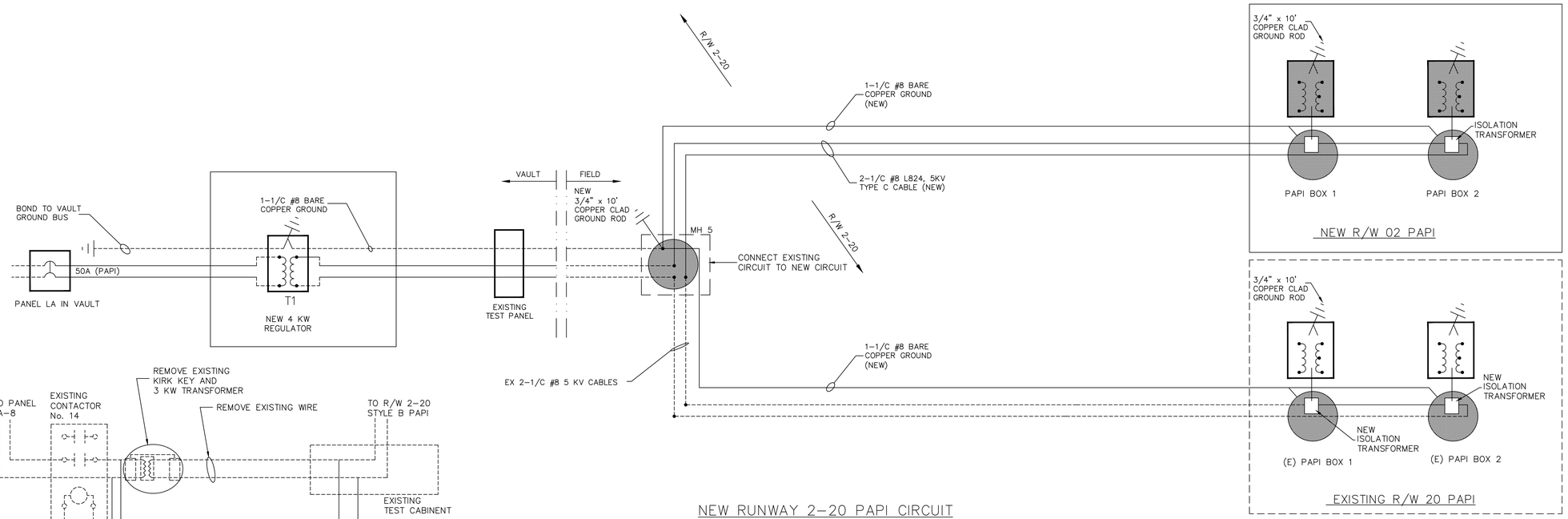
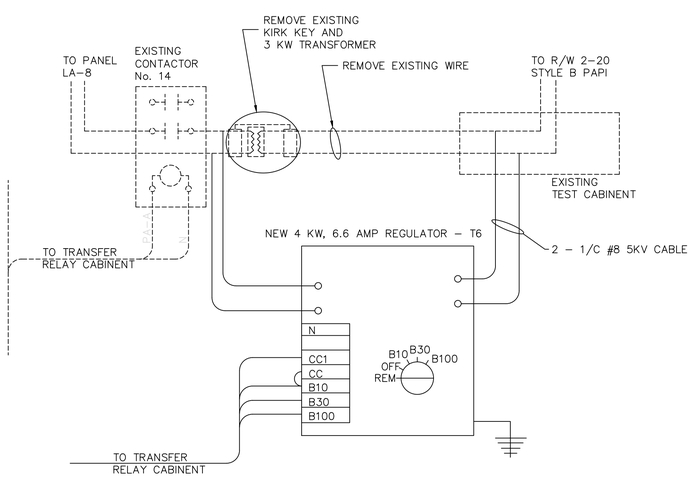


EXISTING RUNWAY 2-20 PAPI CIRCUIT

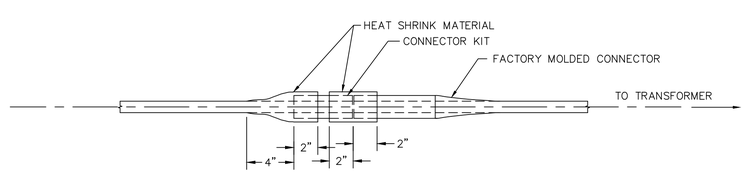


NEW RUNWAY 2-20 PAPI CIRCUIT



RUNWAY 2-20 PAPI - POWER CIRCUIT

1. REMOVE EXISTING KIRK KEY INTERUPT SWITCH AND REMOVE EXISTING 3 KW STEP UP TRANSFORMER FROM RUNWAY 2-20 PAPI CIRCUIT.
2. INSTALL NEW 4 KW 6.6 AMP CONSTANT CURRENT REGULATOR. CONNECT TO EXISTING RUNWAY 2-20 PAPI CIRCUIT. REROUTE RUNWAY 2-20 PAPI CIRCUIT THROUGH EXISTING TEST CABINET.
3. CONNECT NEW RUNWAY 2 PAPI CIRCUIT TO EXISTING RUNWAY 20 PAPI CIRCUIT IN MANHOLE #5.
4. REMOVE EXISTING STEP DOWN TRANSFORMER AND POWER CONTROL UNIT AT RUNWAY 20 PAPI. INSTALL ISOLATION TRANSFORMER AT RUNWAY 20 PAPI AND CONVERT RUNWAY 20 PAPI TO STYLE B, CONSTANT CURRENT POWERED PAPI.
5. RUNWAY 2 PAPI AND RUNWAY 20 PAPI SHALL BE INSTALLED AND WIRED FOR THE FOLLOWING CONTROL:
   PHOTO CELL - - PAPI ON DAYLIGHT HOURS, OFF AT NIGHT TIME HOURS
   PHOTO CELL - - PAPI BRIGHTNESS
   RADIO CONTROL/ RUNWAY INTERFACE -- R/W 2-20 EDGE LIGHTS ON, PAPI ON (NIGHT OPERATION)
   R/W 2-20 EDGE LIGHTS OFF, PAPI OFF (NIGHT OPERATION)
   ALL DAYLIGHT CONDITIONS - PAPI ON (DAY OPERATION)



HEAT SHRINK INSTALLATION DETAIL

NOTES:

1. HEAT SHRINK SHALL BE INSTALLED IN 2 SEGMENTS.
2. HEAT SHRINK KIT SHALL BE INSTALLED ON FIELD CONNECTED SECTION OF CONNECTOR KIT.

NOTES:

1. ALL EQUIPMENT SHALL CONFORM TO AND SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE, STATE SAFETY ORDERS AND THE FEDERAL AVIATION ADVISORY CIRCULARS. ALL APPLICABLE EQUIPMENT AND MATERIALS SHALL BE UNDERWRITER LABORATORIES LISTED.
2. ALL EXPOSED CONDUIT INSTALLED EITHER INDOORS OR OUTDOORS SHALL BE GALVANIZED RIGID STEEL CONDUIT. WHERE CONDUIT RISES FROM UNDERGROUND TO TERMINATE IN PANEL BOARDS, CABINETS, TRANSFORMERS, SWITCHES, ETC., THE BENDS SHALL BE RIGID STEEL CONDUIT NOT LESS THAN 24 INCH RADIUS, UNLESS OTHERWISE SHOWN OR NOTED ON THE PLANS.
3. ALL EQUIPMENT INSTALLED OUTDOORS SHALL BE NEMA 3R ENCLOSURES.
4. ALL GROUNDING CABLES SHALL BE CADWELDED TO GROUND RODS.
5. FURNISHING AND INSTALLING OF SIGNAL BOXES, JUNCTION BOXES, PANELS, AND OTHER REQUIRED EQUIPMENT SHALL BE IN ACCORDANCE WITH THE PLANS AS DIRECTED BY THE ENGINEER.
6. FURNISH AND INSTALL RED PHENOLIC TAGS WITH WHITE LETTERING ON ALL PAPI CABLES IN HANDHOLES, PULLBOXES, AND LIGHT BASES. TAG TO READ "PAPI R/W 02-20"
7. FURNISH AND INSTALL ALL WIRING IN ELECTRICAL VAULT TO INSTALL NEW 4 KW REWGULATOR, INCLUDING ALL MOUNTING, CONDUIT, SWITCHES AND WIRING TO COMPLETE INSTALLATION.

VERIFY SCALES

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

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ENGINEER OF RECORD

REGISTERED PROFESSIONAL ENGINEER
MELISSA A. BRANDLEY
No. C 71139
Exp. 6-30-2017
CIVIL
STATE OF CALIFORNIA
4-14-16

No.	REVISIONS	BY	APR	DATE

OROVILLE MUNICIPAL AIRPORT
OROVILLE CALIFORNIA

RUNWAY 2 PAPI AND REIL

WIRING DIAGRAM - RUNWAY 02 PAPI AND DETAILS

DATE	4/14/2016
DRAWN	TAS
CHECKED	RWB
PROJECT No.	13.13
FILE	1313s004-6
SCALE	NO SCALE
SHEET No.	6 OF 8

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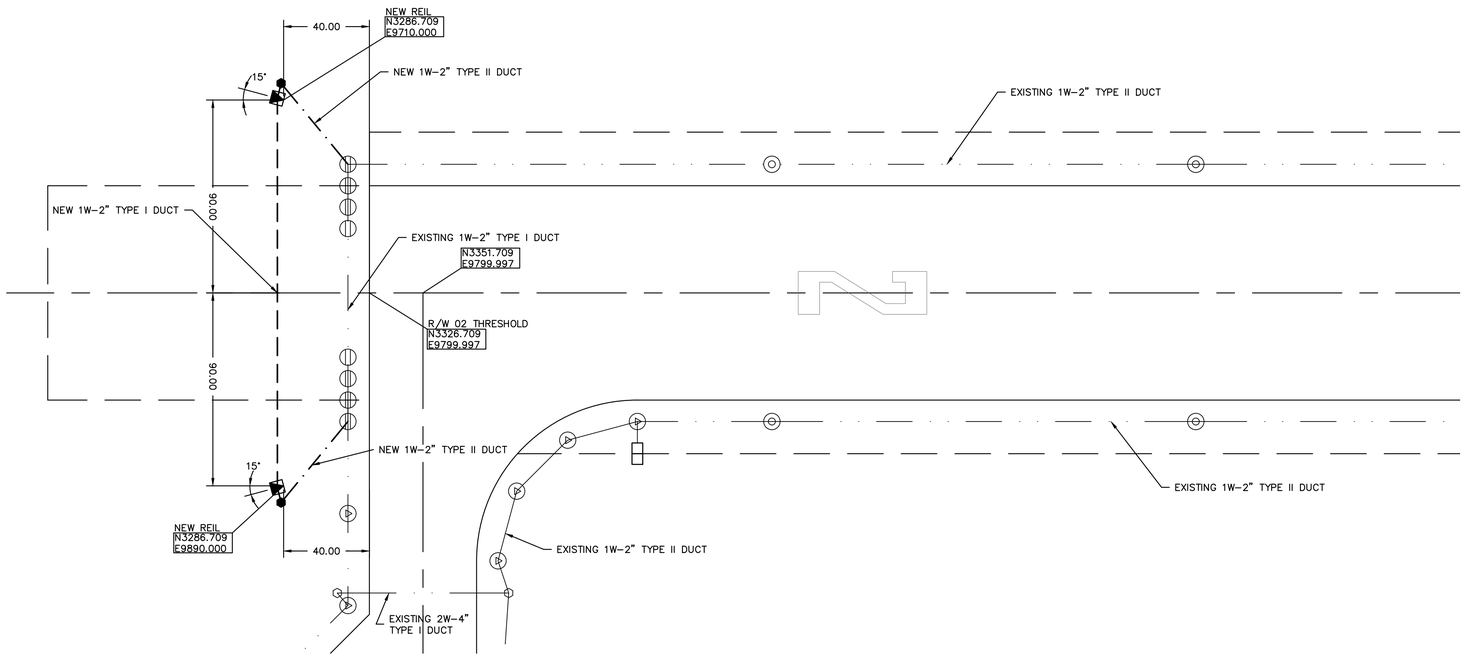
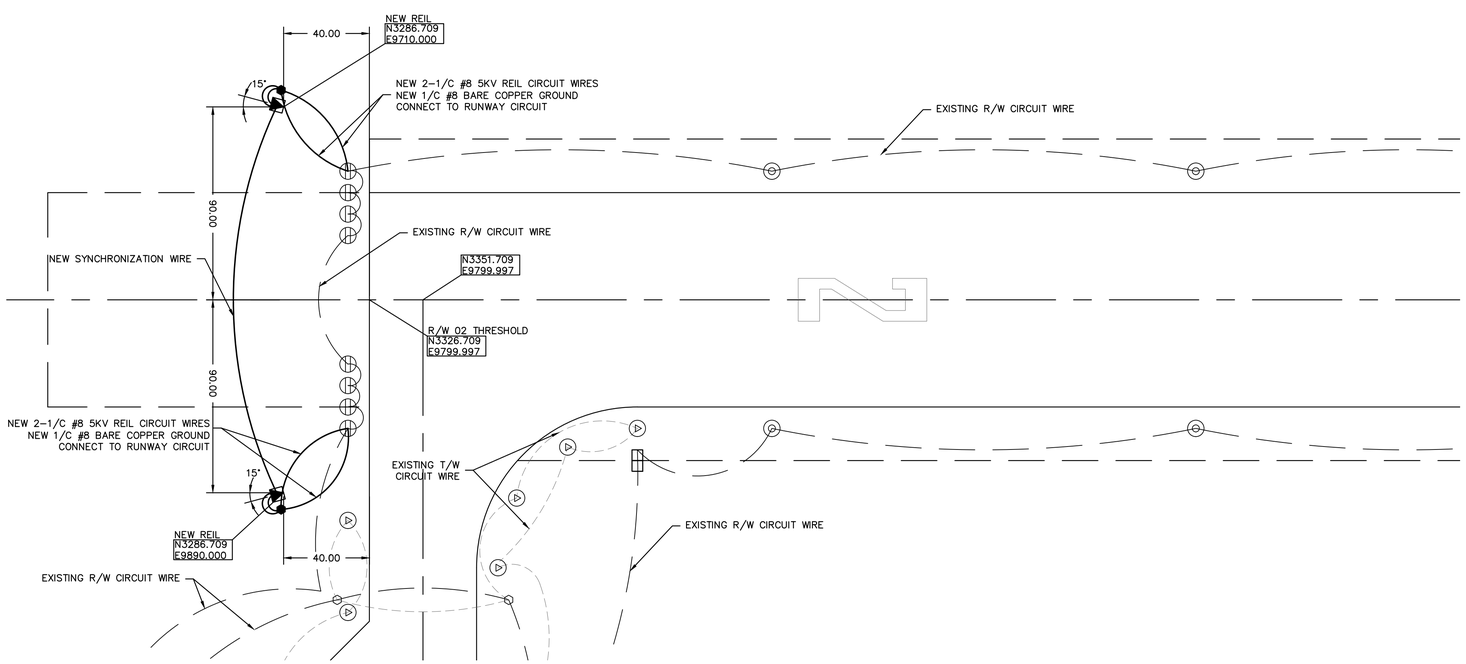
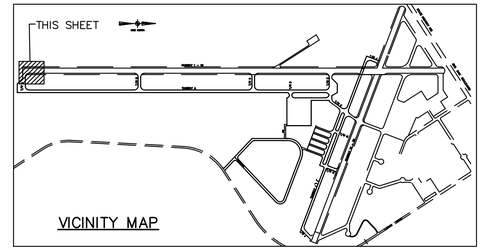


NEW REIL DUCT PLAN



NEW REIL WIRING PLAN



GRID NORTH

LEGEND

N9445.281 E9689.383	AIRPORT GRID COORDINATE
	CENTERLINE
	EXISTING EDGE OF PAVEMENT
	EXISTING DUCT (SIZE & TYPE AS SHOWN)
	NEW 1W-2" TYPE II DUCT
	NEW 1W-2" TYPE I DUCT
	EXISTING TAXIWAY CIRCUIT WIRE
	EXISTING RUNWAY CIRCUIT WIRE
	NEW REIL WIRE
	EXISTING PULL BOX
	EXISTING R/W EDGE LIGHT
	EXISTING T/W EDGE LIGHT
	EXISTING R/W THRESHOLD LIGHT
	NEW LED REIL
	NEW L867 LIGHT BASE WITH STEEL LID

NOTES:

1. LOCATION OF NEW REIL SHALL BE VERIFIED PRIOR TO INSTALLATION OF CONCRETE PAD.
2. NEW REIL POWER CABLE SHALL REMAIN SEPERATE FROM NEW SYNCHRONIZATION CABLE.
3. REIL SHALL BE L849(L) STYLE E.

VERIFY SCALES

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0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

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OROVILLE CALIFORNIA

RUNWAY 2 PAPI AND REIL

RUNWAY 02 REIL DUCT & WIRING PLAN

DATE	4/14/2016
DRAWN	TAS
CHECKED	RWB
PROJECT No.	13.13
FILE	1313s007-8
SCALE	1"=30'
SHEET No.	7 OF 8

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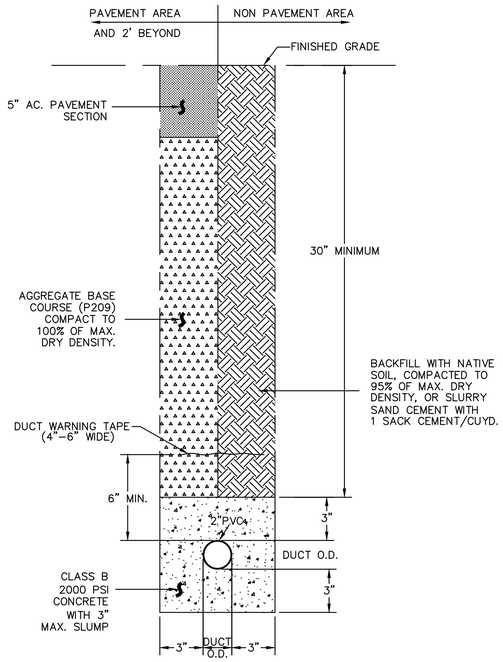
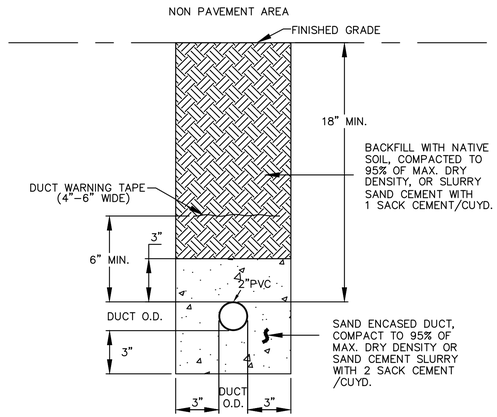
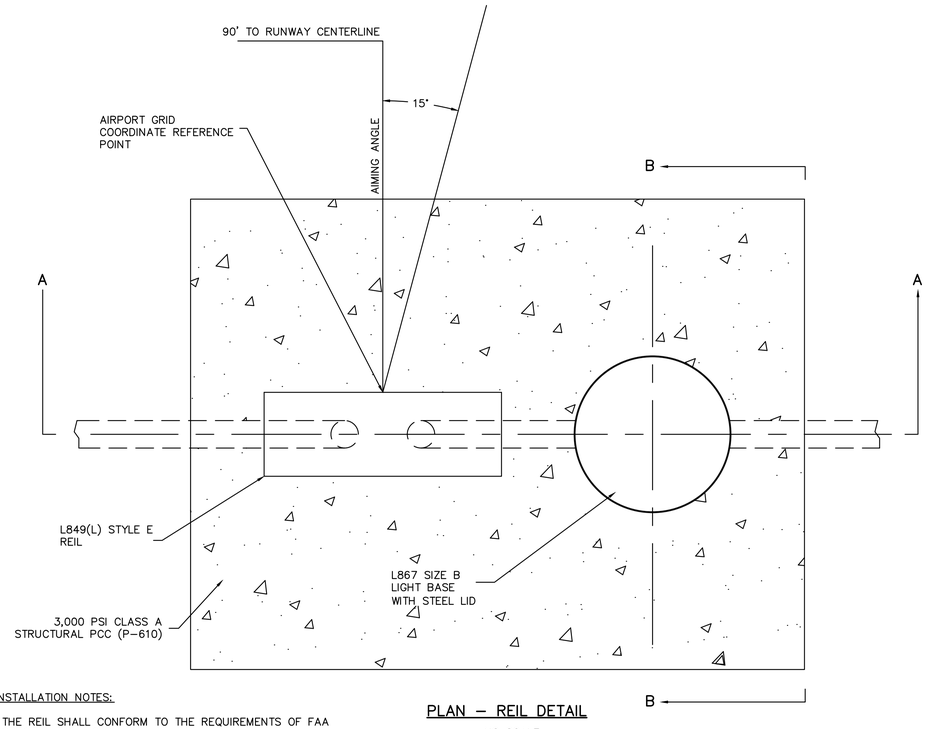


1W–2" TYPE I DUCT
NO SCALE



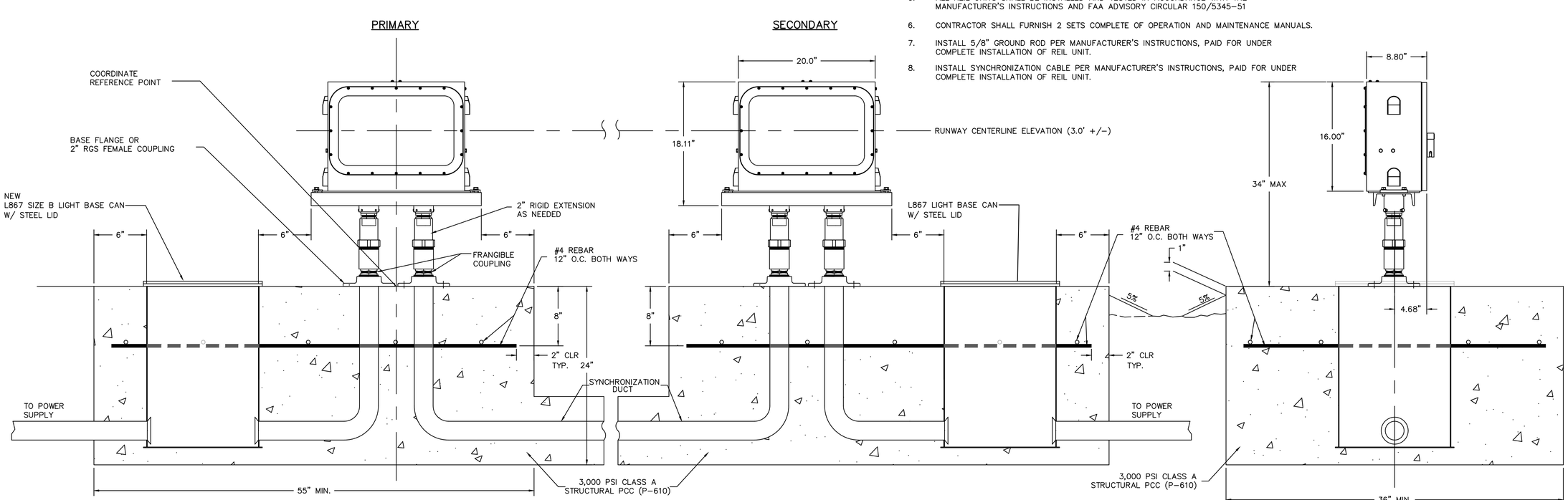
1W–2" TYPE II DUCT
NO SCALE



PLAN – REIL DETAIL
NO SCALE

REIL INSTALLATION NOTES:

1. THE REIL SHALL CONFORM TO THE REQUIREMENTS OF FAA SPECIFICATION L849.
2. WIRE REIL PER MANUFACTURER'S INSTRUCTIONS.
3. BASE DIMENSIONS MAY VARY TO SUIT REIL MANUFACTURER'S DIMENSIONS, 6 INCHES OF CONCRETE PAD SHALL EXTEND BEYOND ALL EQUIPMENT.
4. THE DIMENSIONS FOR THE REIL UNIT MAY VARY FROM THAT SHOWN, DEPENDING ON THE MANUFACTURER.
5. ALL REIL UNITS SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND FAA ADVISORY CIRCULAR 150/5345–51
6. CONTRACTOR SHALL FURNISH 2 SETS COMPLETE OF OPERATION AND MAINTENANCE MANUALS.
7. INSTALL 5/8" GROUND ROD PER MANUFACTURER'S INSTRUCTIONS, PAID FOR UNDER COMPLETE INSTALLATION OF REIL UNIT.
8. INSTALL SYNCHRONIZATION CABLE PER MANUFACTURER'S INSTRUCTIONS, PAID FOR UNDER COMPLETE INSTALLATION OF REIL UNIT.



SECTION A–A
NO SCALE

SECTION B–B
NO SCALE

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RUNWAY 2 PAPI AND REIL

REIL DETAILS

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CHECKED	RWB
PROJECT No.	13.13
FILE	1313s007-8
SCALE	NO SCALE
SHEET No.	8 OF 8

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