

CONSTRUCTION PLANS FOR BENTON MUNICIPAL AIRPORT

RELOCATE BEACON

SCOPE OF PROJECT

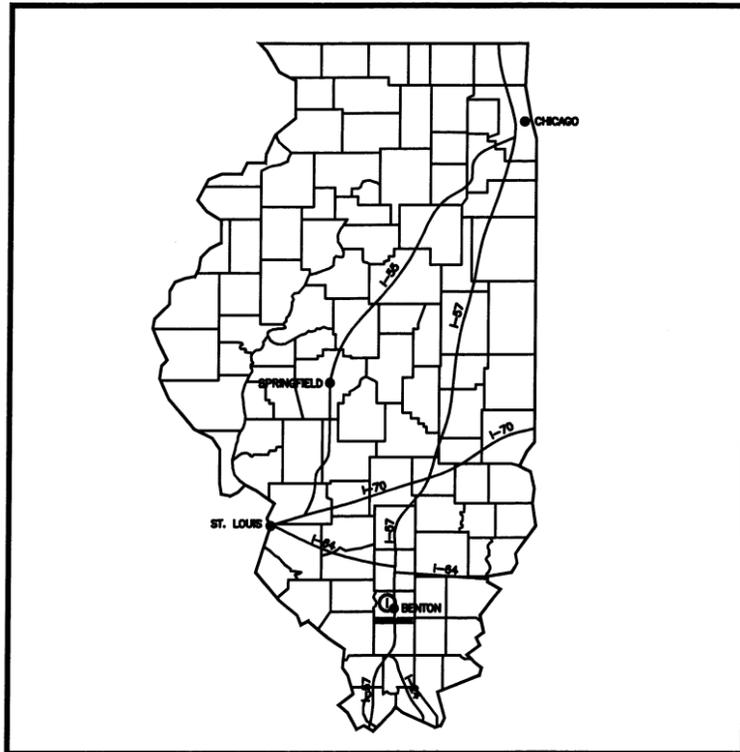
THIS PROJECT SHALL CONSIST OF THE RELOCATION AND REFURBISHMENT OF THE AIRPORT ROTATING BEACON AND TOWER AND THE ADDITION OF OBSTRUCTION LIGHTING AND LIGHTNING PROTECTION TO THE BEACON TOWER INCLUDING CABLING.

ILLINOIS PROJECT NUMBER: H96-4301

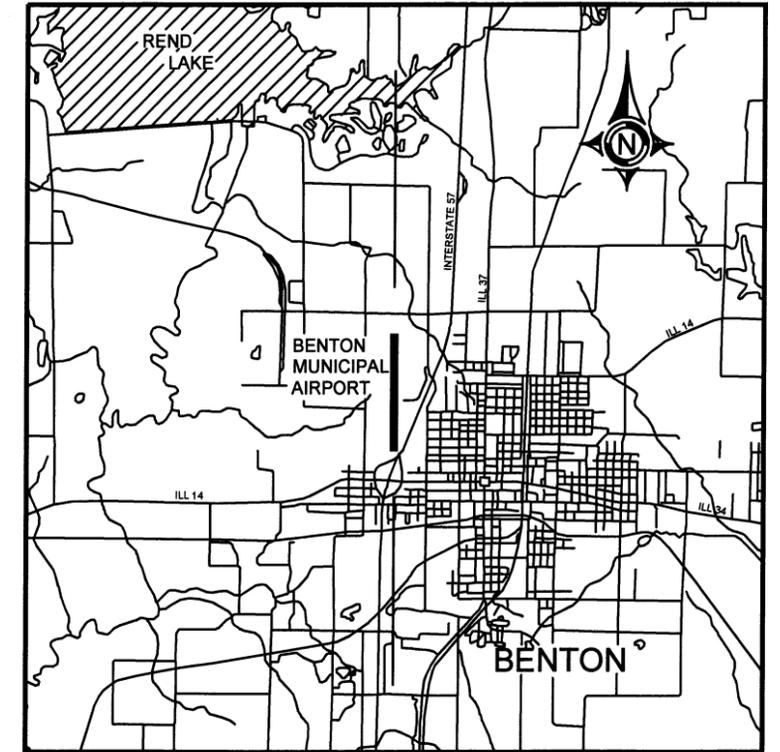
SBG PROJECT NUMBER: 3-17-005-B16

BENTON, ILLINOIS

DATE: APRIL 25, 2014



LOCATION MAP



VICINITY MAP



BROWN AND ROBERTS, INC.
CONSULTING ENGINEERS
PRESIDENT

SUBMITTED BY: *Jim W. Brown*
JIM W. BROWN, AS PRESIDENT

DATE SUBMITTED: 5-7-14

LISC. NUMBER: 184-002518

LISC. EXP. DATE: APRIL 30, 2015

PLANS PREPARED BY:



BROWN AND ROBERTS, INC.
1 WEST RIDGE ROAD
HARRISBURG, IL. 62946
(618) 252-8111

BENTON MUNICIPAL AIRPORT
CHAIRMAN

APPROVED BY: *Michael J. Wany*
MICHAEL J. WANY CHAIRMAN

DATE: 6 MAY, 2014

SUMMARY OF QUANTITIES

<u>ITEM NO.</u>	<u>DESCRIPTION</u>	<u>UNIT</u>	<u>QUANTITY</u>
AR101570	UPGRADE AIRPORT ROTATING BEACON	L.S.	1
AR101580	REFURBISH 36" BEACON	L.S.	1
AR103970	REFURBISH & RELOCATE BEACON TOWER	L.S.	1
AR108088	1/C #8 XLP-USE	L.F.	1,000

INDEX TO SHEETS

<u>SHEET NO.</u>	<u>DESCRIPTION</u>
1	COVER SHEET
2	INDEX AND SUMMARY OF QUANTITIES
3	AIRPORT SAFETY PLAN
4	SITE PLAN
5	ELECTRICAL - ONE-LINE DIAGRAM
6	ELECTRICAL - BEACON DETAILS
7	ELECTRICAL - DETAILS

SCOPE OF WORK

THE PROJECT SCOPE CONSISTS OF THE RELOCATION AND REHABILITATION OF THE EXISTING AIRPORT BEACON AND OTHER NECESSARY AND RELATED WORK.

PROPOSED SAFETY PLAN

GENERAL- THE BENTON MUNICIPAL AIRPORT CURRENTLY HAS A PAVED NORTH-SOUTH RUNWAY (4000-FT BY 75-FT).

IT IS ANTICIPATED THAT RUNWAY 18-36 WILL REMAIN OPEN FOR THE DURATION OF THIS PROJECT, AS NO CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS PROJECT WILL BE WITHIN 200' OF THE RUNWAY 18-36 CENTERLINE. ANY WORK WITHIN 200' OF THE CENTERLINE WILL REQUIRE CLOSURE OF THAT RUNWAY.

CONTRACTOR'S RESPONSIBILITIES

IDENTIFICATION- THE CONTRACTOR'S VEHICLES AND EQUIPMENT SHALL BE PROPERLY MARKED WITH 3-FOOT SQUARE INTERNATIONAL ORANGE AND WHITE CHECKERED FLAGS ANYTIME THEY ARE ON AIRPORT PROPERTY.

THE CONTRACTOR AND HIS EMPLOYEES SHALL BE RESTRICTED TO THE WORK AREA.

EQUIPMENT PARKING AND STORAGE- THE CONTRACTOR'S EQUIPMENT PARKING, STORAGE, AND EMPLOYEE PARKING WILL BE AT THE LOCATION SHOWN ON THIS SHEET. ONLY CONTRACTOR VEHICLES AND EQUIPMENT REQUIRED FOR CONSTRUCTION WILL BE ALLOWED OUTSIDE THIS AREA.

BARRICADES AND TRAFFIC CONES- IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PLACE AND MAINTAIN BARRICADES AND TRAFFIC CONES AS REQUIRED AND AS DIRECTED BY THE RESIDENT ENGINEER. BARRICADES, THEIR MAINTENANCE, PLACEMENT, AND REMOVAL WILL BE CONSIDERED AS AN INCIDENTAL ITEM TO THE CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

THE CONTRACTOR WILL NOT BE ALLOWED ON ANY AIRFIELD PAVEMENT. THE CONTRACTOR WILL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE TO EXISTING PAVEMENTS CAUSED BY HIS PERSONNEL OR EQUIPMENT.

HAUL ROUTE AND EQUIPMENT PARKING

THE CONTRACTOR WILL USE THE DESIGNATED HAUL ROUTE AND EQUIPMENT PARKING AREA SHOWN ON THIS SAFETY PLAN. THE PROPOSED EQUIPMENT PARKING AREA WILL BE APPROXIMATELY 100-FT BY 200-FT. THE CONTRACTOR WILL BE REQUIRED TO MAINTAIN THE PROPOSED HAUL ROUTE AND PARKING AREA THROUGHOUT THE COURSE OF THE PROJECT. AT THE CONCLUSION OF THE PROJECT, ALL AREAS DISTURBED WILL BE RESTORED AS NEEDED TO ITS ORIGINAL STATE. RESTORATION OF THE HAUL ROUTE AND EQUIPMENT PARKING AREA WILL BE CONSIDERED INCIDENTAL TO THE PROJECT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

UTILITY NOTE

THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES AND ORGANIZATIONS THAT HAVE LINES OR CONDUITS IN THE PROPOSED WORK AREA. ALL LINES AND CONDUITS SHALL BE LOCATED AND IDENTIFIED FOR DEPTH BEFORE ANY EXCAVATION BEGINS. THE CONTRACTOR SHALL CALL JULIE (1-800-892-0123) TO ACCOMPLISH THESE REQUIREMENTS. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING ALL NON-JULIE UTILITIES AND AIRPORT UTILITIES LOCATED WITHIN THE PROPOSED CONSTRUCTION LIMITS. THESE UTILITIES ARE TO BE LOCATED PRIOR TO THE START OF CONSTRUCTION.

JULIE INFORMATION

COUNTY.....FRANKLIN
 CITY.....BENTON
 TOWNSHIP.....BROWNING
 SECTION NO.....12 & 13
 NEAREST MAJOR ROAD INTERSECTION...RT 37 PETROFF RD.
 AIRPORT ADDRESS...BENTON MUNICIPAL AIRPORT
 P.O. BOX 158
 BENTON, IL. 62812

AIRPORT SECURITY

AIRPORT SECURITY WILL BE MAINTAINED AT ALL TIMES. THE PROPOSED HAUL ROUTE SHOWN ON THIS SAFETY PLAN IS THE ONLY ACCESS CONTRACTOR EQUIPMENT AND PERSONNEL WILL BE ALLOWED TO USE. THE CONTRACTOR SHALL PROVIDE BARRICADES AT THIS ACCESS AND ENSURE THE BARRICADES ARE IN PLACE AT THE END OF EACH WORKING DAY.

AIRCRAFT OPERATIONAL AREA

THE CONTRACTOR, HIS EMPLOYEES, OR ANY EQUIPMENT WILL NOT PROCEED WITH ANY WORK WITHIN THE AIRCRAFT OPERATIONAL AREA WITHOUT FIRST CLOSING THE RUNWAY.

BENTON MUNICIPAL AIRPORT

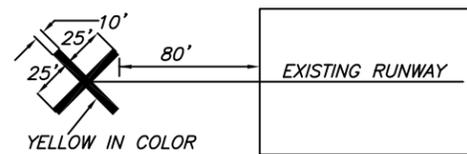
IL PROJECT NO. H96-4301

SBGP NO. 3-17-SBGP-XX

AIRPORT SAFETY PLAN

SHEET 3 OF 7

BN016



DETAIL OF CROSS FOR CLOSED RUNWAY

"NOT TO SCALE"

NOTE:

THE COST OF CONSTRUCTING, PLACING, MAINTAINING, AND REMOVING CROSSES WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED. THE CROSSES WILL BE YELLOW IN COLOR AND SHALL BE MADE OF A SUITABLE MATERIAL AS APPROVED BY THE RESIDENT ENGINEER. THE CROSSES WILL BE PLACED AT THE ENDS OF THE RUNWAY AND SECURED IN A MANNER APPROVED BY THE RESIDENT ENGINEER. THE PROPOSED CROSSES WILL BE PLACED WHEN THE RUNWAY IS CLOSED AND REMOVED WHEN THE RUNWAY IS RE-OPENED. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE PLACEMENT AND REMOVAL OF THE CROSSES AT NO ADDITIONAL COST TO THE CONTRACT.

RUNWAY CLOSURE PROCEDURES:

- * CONTACT THE AIRPORT MANAGER OR HIS ASSIGNED REPRESENTATIVE.
- * ISSUANCE OF NOTAM BY THE AIRPORT MANAGER OR HIS ASSIGNED REPRESENTATIVE.
- * PLACEMENT OF CROSSES (SEE DETAIL THIS SHEET).
- * PLACEMENT OF LIGHTED BARRICADES. ONLY AT THE TIME THAT ALL OF THE ABOVE ARE COMPLETED MAY ANY CONSTRUCTION OPERATIONS WITHIN 200-FT OF THE AFFECTED RUNWAY CENTERLINE AND WITHIN 600 FT OF THE RUNWAY END BEGIN.
- * RUNWAY LIGHTS SHALL BE DISABLED

RUNWAY RE-OPENING PROCEDURES:

- * REMOVE CROSSES.
- * REMOVE LIGHTED BARRICADES.
- * NOTIFY THE AIRPORT MANAGER OR HIS REPRESENTATIVE TO CANCEL THE NOTAM.
- * CANCELLATION OF THE NOTAM. A CLOSED RUNWAY WILL NOT BE RE-OPENED UNTIL ALL EQUIPMENT AND WORK ARE FURTHER THAN 200 FT. FROM THE AFFECTED RUNWAY CENTERLINE
- * RUNWAY LIGHTS SHALL BE REACTIVATED.

HEIGHT OF CONSTRUCTION EQUIPMENT

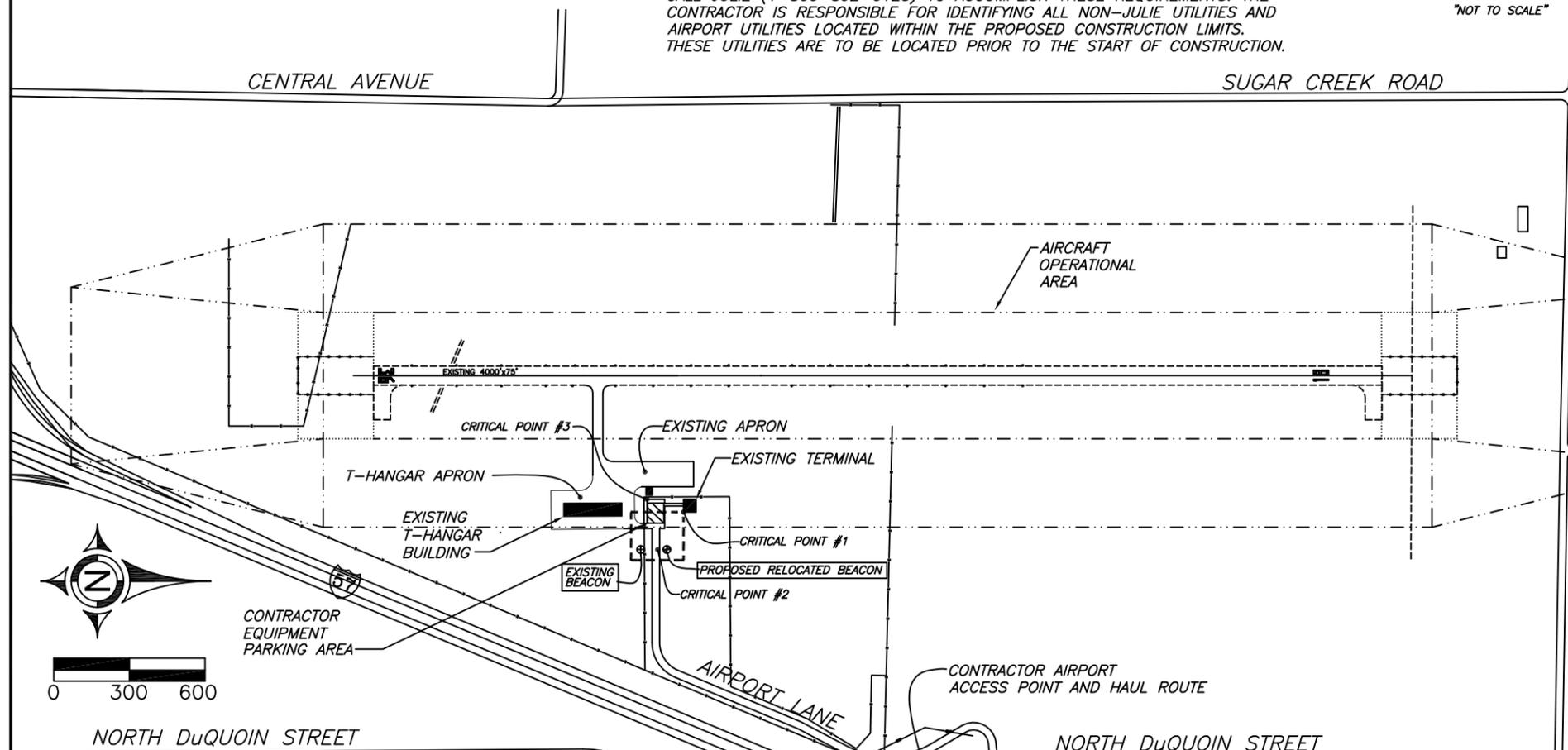
THE MAXIMUM ANTICIPATED HEIGHT OF THE CONSTRUCTION EQUIPMENT IS 60 FEET. THE TALLEST EQUIPMENT IS EXPECTED TO BE A CRANE IN THE UP POSITION.

CRITICAL POINT LIST

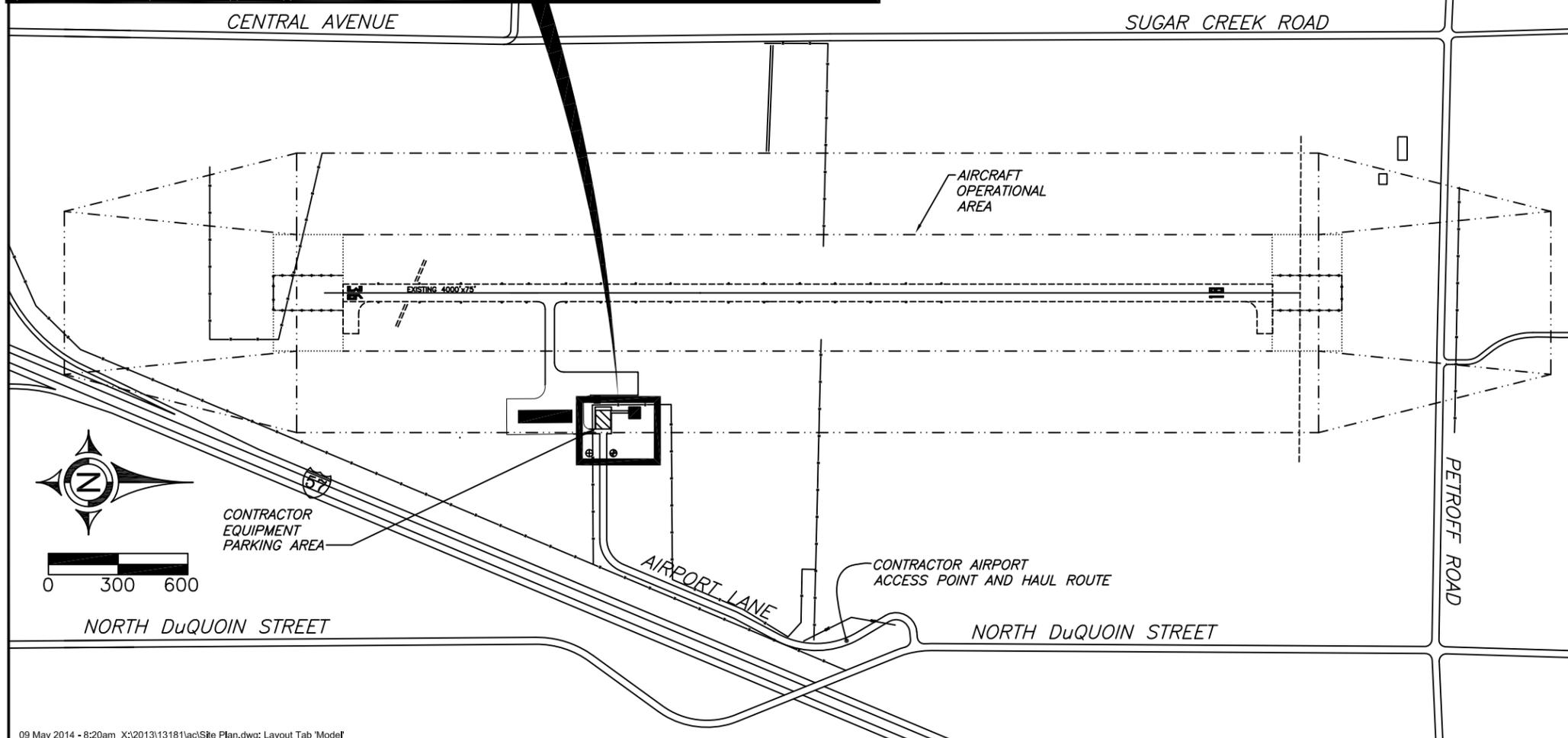
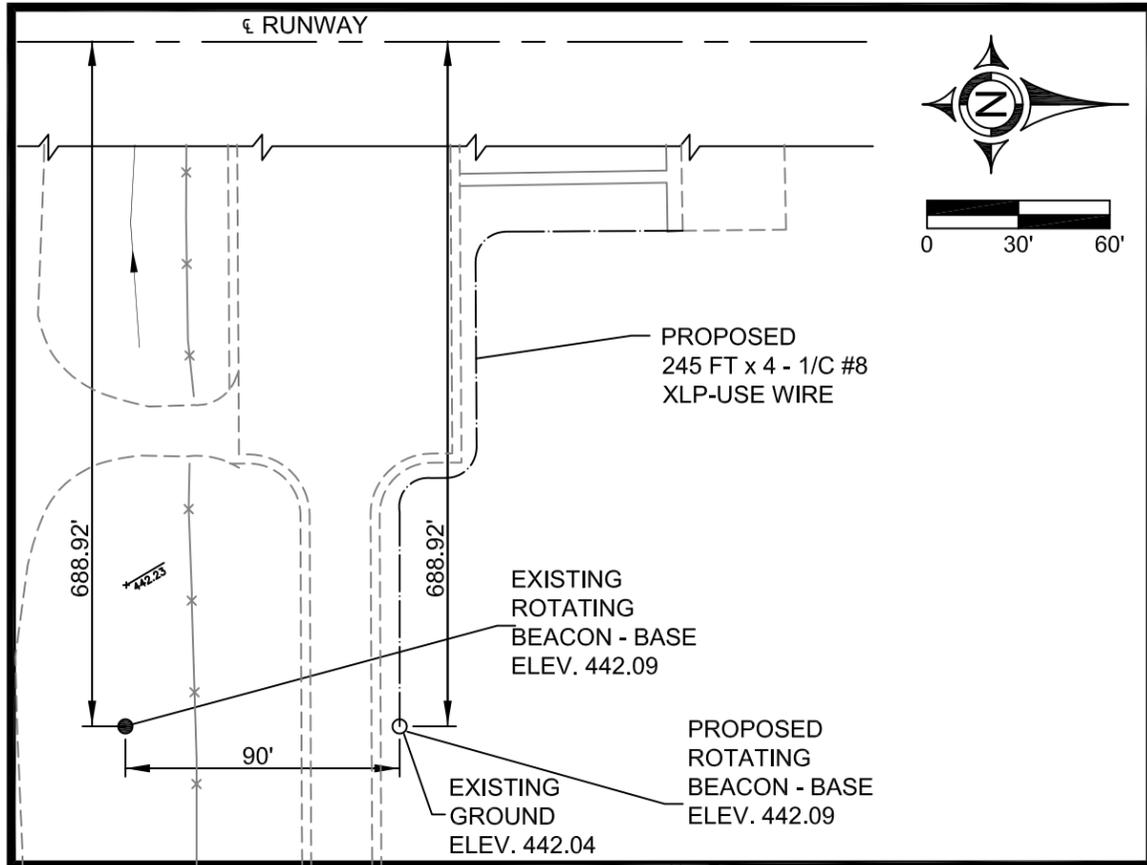
CRITICAL PT. NO.	DESCRIPTION	LATITUDE	LONGITUDE	ELEVATION (MSL)
1	SE CORNER TERMINAL BUILDING ELECTRICAL VAULT	38° 00' 23.15"N	88° 55' 57.23"W	444.30
2	TOP OF CRANE 20' SOUTH OF NEW BEACON LOCATION	38° 00' 22.32"N	88° 55' 55.23"W	502.35
2	SW CORNER CONTRACTOR EQUIPMENT PARKING AREA	38° 00' 21.65"N	88° 55' 57.71"W	443.55

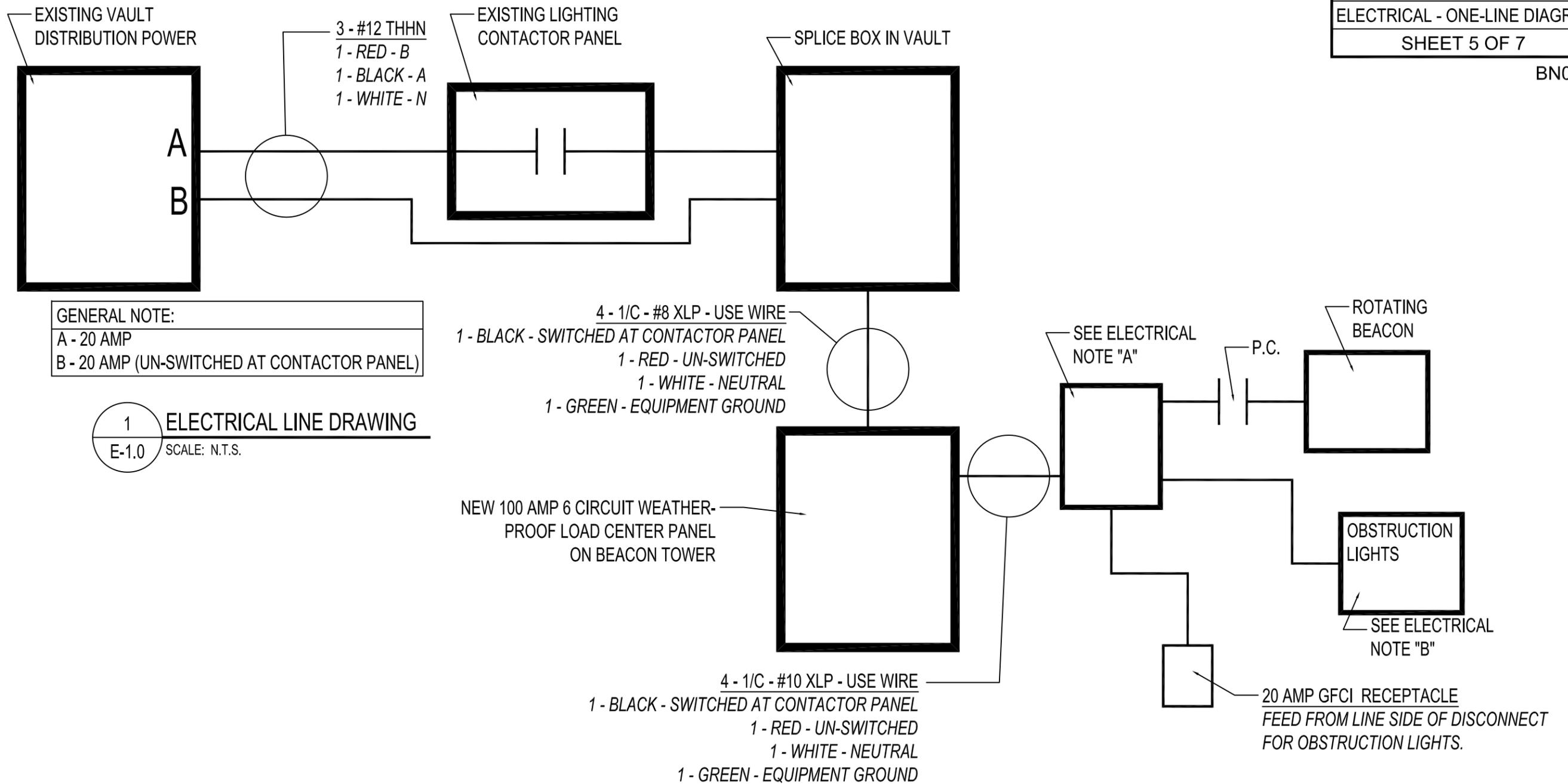
AIRPORT REFERENCE POINT:

LATITUDE: 38° 00' 24.334"N
 LONGITUDE: 88° 56' 03.910"W
 ELEVATION: 444 MSL



LEGEND
 CONSTRUCTION LIMITS - - - - -





GENERAL NOTE:
 A - 20 AMP
 B - 20 AMP (UN-SWITCHED AT CONTACTOR PANEL)

1 ELECTRICAL LINE DRAWING
 E-1.0 SCALE: N.T.S.

4 - 1/C - #8 XLP - USE WIRE
 1 - BLACK - SWITCHED AT CONTACTOR PANEL
 1 - RED - UN-SWITCHED
 1 - WHITE - NEUTRAL
 1 - GREEN - EQUIPMENT GROUND

NEW 100 AMP 6 CIRCUIT WEATHER-
 PROOF LOAD CENTER PANEL
 ON BEACON TOWER

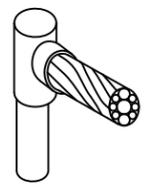
4 - 1/C - #10 XLP - USE WIRE
 1 - BLACK - SWITCHED AT CONTACTOR PANEL
 1 - RED - UN-SWITCHED
 1 - WHITE - NEUTRAL
 1 - GREEN - EQUIPMENT GROUND

20 AMP GFCI RECEPTACLE
 FEED FROM LINE SIDE OF DISCONNECT
 FOR OBSTRUCTION LIGHTS.

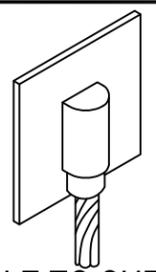
ELECTRICAL NOTES:	LOAD CENTER SCHEDULE	NOTES:
A. 60 AMP 2 POLE WEATHERPROOF SWITCH B. ADD CURRENT SENSOR RELAY (TEL-TALE RELAY) TO ACTIVATE OBSTRUCTION LIGHTS WHEN BEACON IS OFF OR FAILED. INSTALL IN NEMA 4 ENCLOSURE OR BEACON BASE AS APPLICABLE. CURRENT SENSOR RELAY SHALL BE SUPPLIED OR RECOMMENDED BY BEACON MFR. AND PROPERLY SIZED FOR THE APPLICATION.	1. SURGE PROTECTOR (PHASE A). 2. SURGE PROTECTOR (PHASE B). 3. ROTATING BEACON. 4. OBSTRUCTION LIGHTS. 5. 20 AMP GFCI RECEPTACLE AT TOWER PLATFORM.	1. *BLACK TO BEACON. *RED TO OBSTRUCTION LIGHTS, AND 20 AMP GFCI RECEPTACLE.

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1 CABLE TO GROUND ROD
E-2.0 SCALE: N.T.S.



2 CABLE TO SURFACE
E-2.0 SCALE: N.T.S.

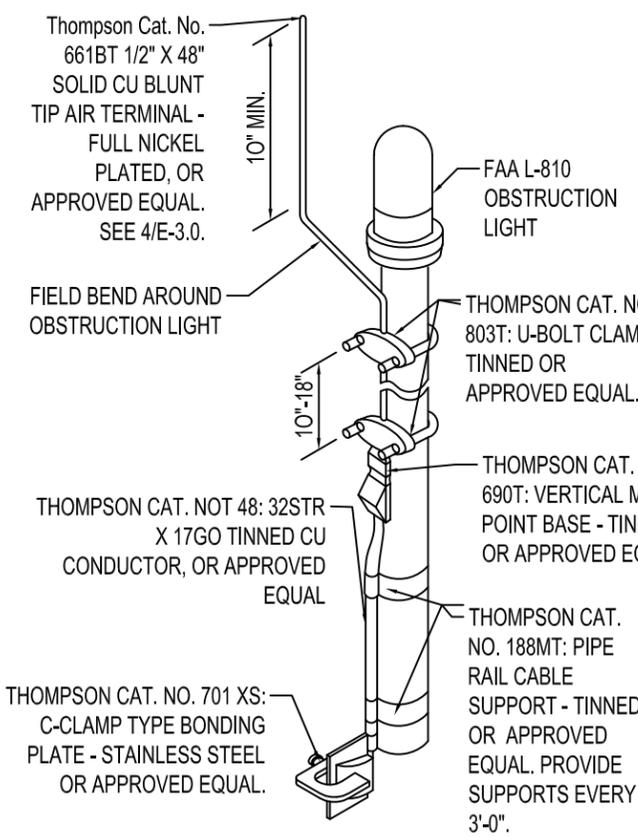


CABLE TO GROUND ROD / CABLE TO SURFACE DETAIL NOTES

- EXOTHERMIC WELDS SHALL BE CADWELD AS MANUFACTURED BY ERICO PRODUCTS, SOLON, OHIO. ULTRAWELD AS MANUFACTURED BY HARGER LIGHTNING PROTECTION & GROUNDING EQUIPMENT, GRAYSLAKE, IL. THERMOWELD AS MANUFACTURED BY CONTINENTAL INDUSTRIES, TULSA, OKLAHOMA OR APPROVED EQUAL. VERIFY PROPER SIZES, MOLDS, TYPES, AND REQUIREMENTS FOR THE RESPECTIVE APPLICATION WITH THE MANUFACTURER, AND INSTALL PER THEIR DIRECTIONS.
- FOR APPLICATIONS TO GALVANIZED STEEL OR PAINTED STEEL, REMOVE GALVANIZING AND/ OR PAINT & CLEAN THE SURFACE TO EXPOSE BARE STEEL BEFORE MAKING EXOTHERMIC WELD CONNECTION.
- VERIFY EXOTHERMIC MOLDS ARE SUITABLE FOR USE WITH THE RESPECTIVE TYPE (SOLD OR STRANDED) & SIZE CONDUCTOR.

OBSTRUCTION LIGHT NOTES

- REFERENCES TO THOMPSON ARE THOMPSON LIGHTNING PROTECTION INC., 901 SIBLEY MEMORIAL HWY, ST. PAUL, MN 55188, PHONE: 651-455-7661, 800-777-1230, FAX: 651-455-2545.
- VERIFY LIGHTNING PROTECTION COMPONENTS AND CATALOG NUMBERS WITH THE RESPECTIVE LIGHTNING PROTECTION EQUIPMENT MANUFACTURER.
- CLEAN ALL CONNECTIONS TO EXPOSE BARE METAL.



3 OBSTRUCTION LIGHT DETAIL
E-2.0 SCALE: N.T.S.

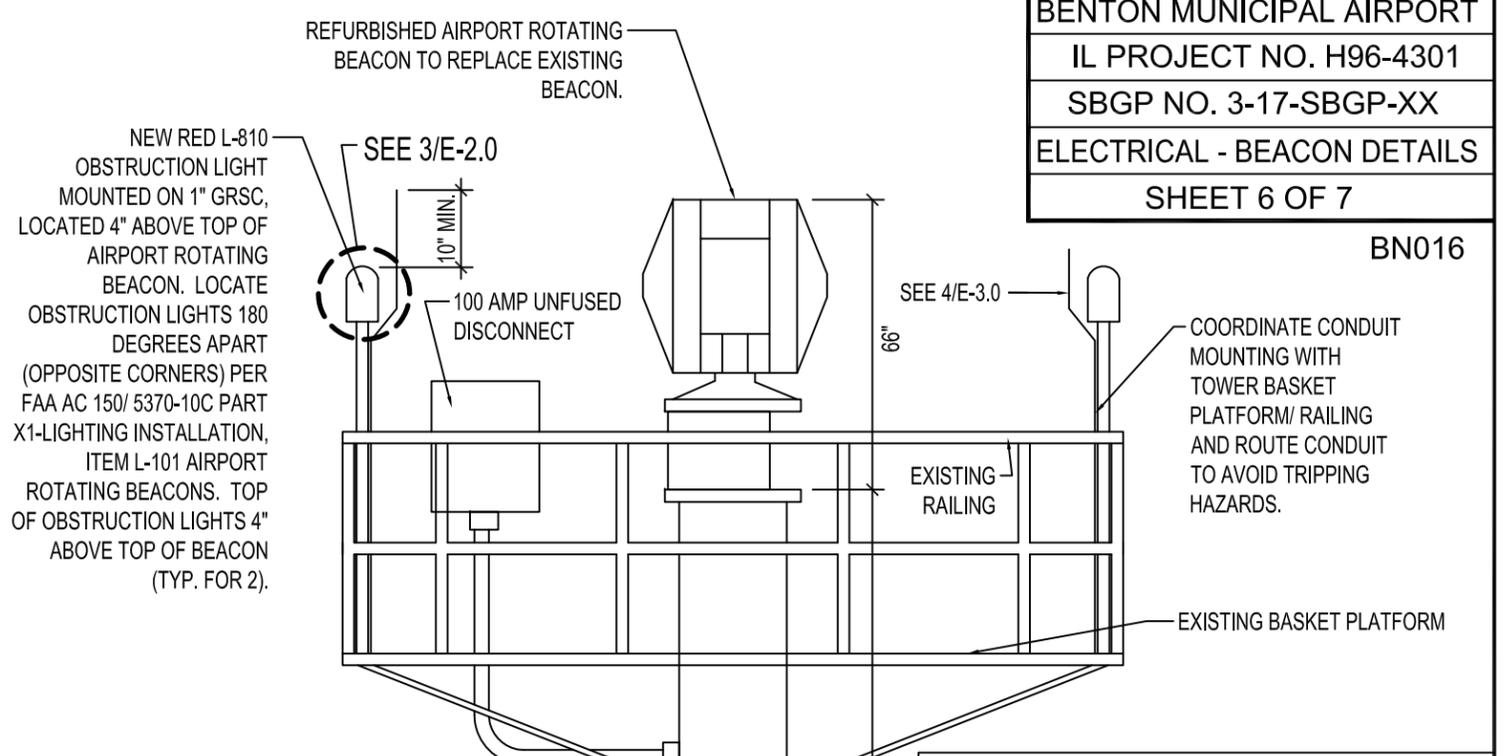
NOTE #1

AIRPORT ROTATING BEACON LOAD CENTER			
CKT #	DUTY	SIZE	
1	SURGE PROTECTOR (PHASE A)	30A 1P	
2	SURGE PROTECTOR (PHASE B)	30A 1P	
3	AIRPORT ROTATING BEACON	15A 1P	
4	OBSTRUCTION LIGHT	15A 1P	
5	BLANK		
6	BLANK		

100 AMP, 120/240 VAC, 1 PHASE, 3 WIRE, 8 CIRCUIT LOAD CENTER WITH MAIN LUGS IN A NEMA 3R RAIN PROOF ENCLOSURE, SQUARE D CAT. NO. 00612L100RBCU WITH EQUIPMENT GROUND BAR KIT OR APPROVED EQUAL.

NOTES:

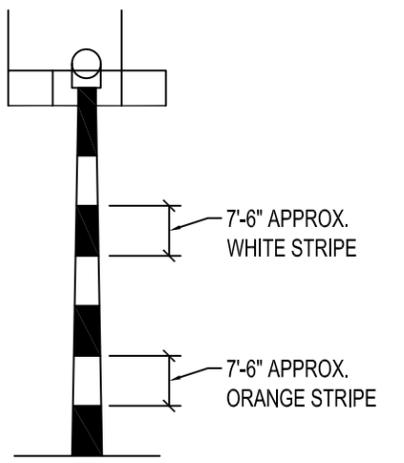
- INCLUDE EQUIPMENT GROUND BAR KIT.
- ALL BREAKER SHALL HAVE 10,000 AIC RATING AT 120/240 VAC.
- PHASE "A" SHALL BE SWITCHED THROUGH A LIGHTING CONTACTOR AT THE VAULT. PHASE "B" SHALL BE UNSWITCHED.
- INCLUDE ENGRAVED PHENOLIC LEGEND PLATE LABELED ARB PANEL, 120/ 240 VAC, 1PH, 3W. FED FROM VAULT.
- SURGE PROTECTORS SHALL BE SUITABLE FOR 120VAC, 1PH, 2W PLUS GROUND, 30KA (MINIMUM) SURGE CURRENT RATING, JOSLYN MODEL 1260-21 OR LIGHTING PROTECTION CORP. MODEL LPC 11765-132, OR APPROVED EQUAL. FURNISH & INSTALL TWO SURGE PROTECTORS (ONE FOR EACH PHASE).
- LOAD CENTER SHALL BE MANUFACTURED IN THE UNITED STATES TO COMPLY WITH THE AIRPORT IMPROVEMENT PROGRAM BUY AMERICAN REQUIREMENTS. PROVIDE CERTIFICATION OF MANUFACTURE IN THE UNITED STATES WITH SHOP DRAWING SUBMITTAL.



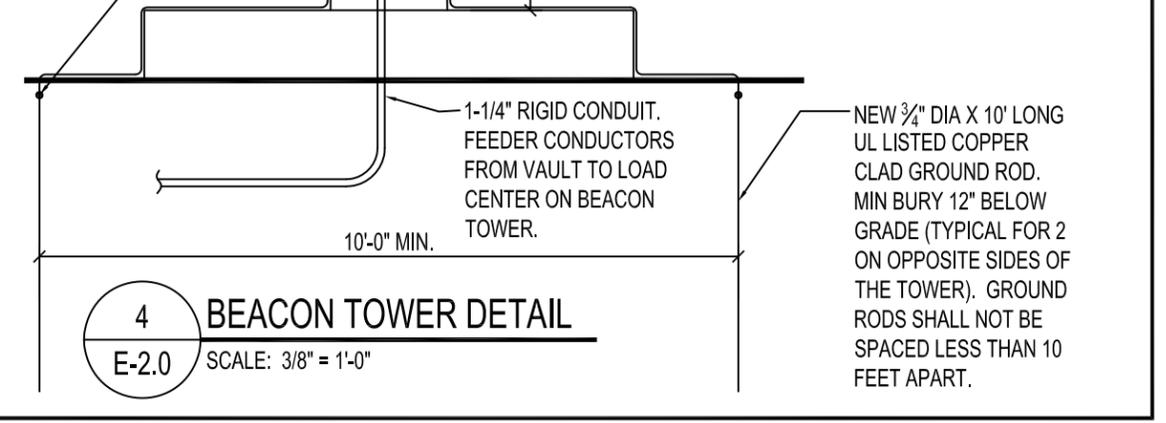
USE CORE OF TOWER FOR CABLE RACEWAY.

REPLACE EXISTING LOAD CENTER WITH NEW 100 AMP LOAD CENTER. SEE NOTE #1.

NEW EXOTHERMIC WELD CONNECTION CADWELD "VS" SIZED FOR THE RESPECTIVE POLE BASE & GROUNDING ELECTRODE CONDUCTOR (TYP.). SEE 1/E-2.0, & 2/E-2.0.



5 BEACON POLE PAINT DETAIL
E-2.0 SCALE: N.T.S.

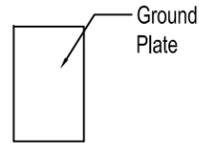


4 BEACON TOWER DETAIL
E-2.0 SCALE: 3/8" = 1'-0"

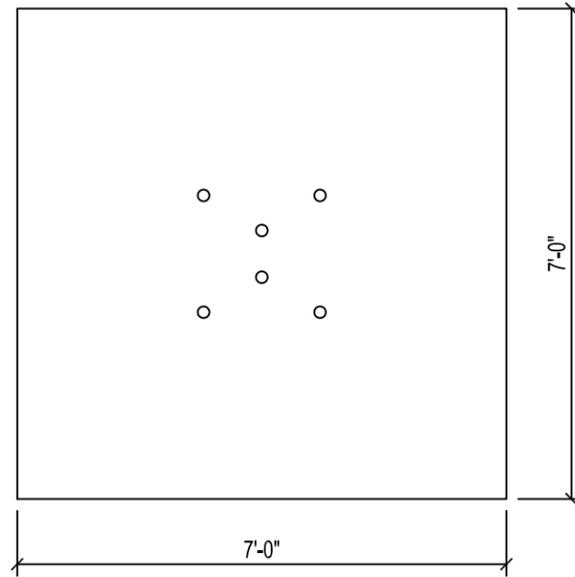
09 May 2014 - 8:19am X:\2013\13181\ac\Electrical Details.dwg: Layout Tab 'Beacon Details'

ELECTRICAL NOTES:

GROUND PLATE SHALL BE THOMPSON 234 MX (OR EQUIVALENT). GROUND CABLE SHALL BE THOMPSON 48 (32 ST. X 17 GA0) OR EQUIVALENT. SPLICE MAY BE MADE INSIDE BASE OF TOWER WITH THOMPSON #705T STRAIGHT SPLICE (OR EQUIVALENT) AND BONDED WITH THE TOWER PLATFORM AND THE TWO BLUNT TIP AIR TERMINALS MOUNTED ON THE OBSTRUCTION LIGHTS.



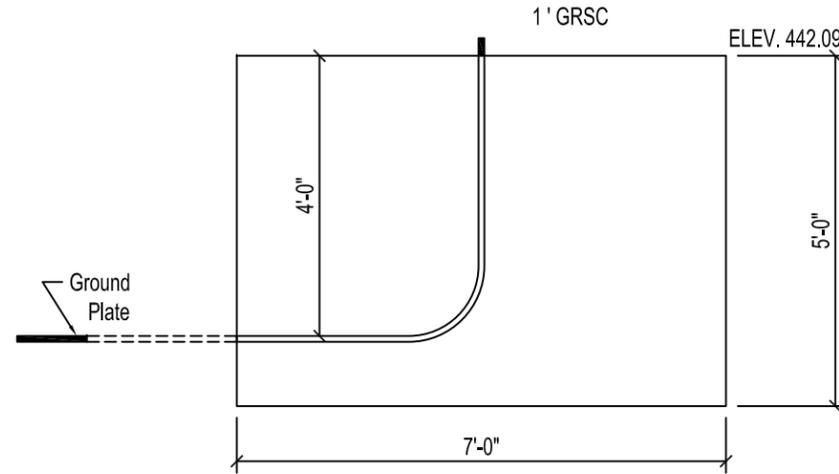
1/2" x 10' Ground Rod



1 TOP VIEW
 E-3.0 SCALE: 3/8" = 1'-0"



1/2" x 10' Ground Rod



2 LEFT SIDE / WEST ELEVATION
 E-3.0 SCALE: 3/8" = 1'-0"

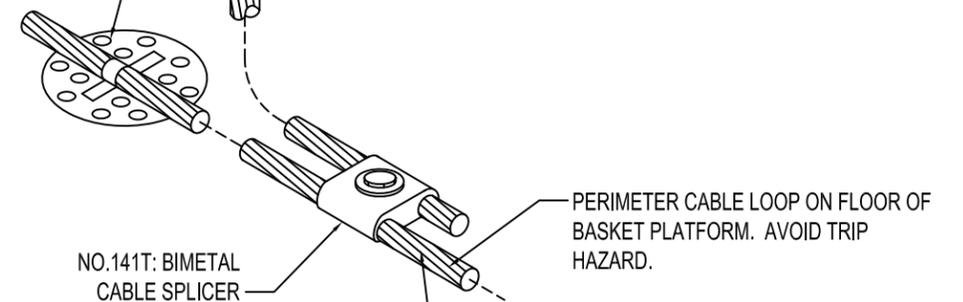
NO. 661BT SOLID CU BLUNT TIP AIR TERMINAL. BENT AS SHOWN ON OBSTRUCTION LIGHT DETAIL, SEE 3/E-2.0.

NO. 690T: VERTICAL MOUNT POINT BASE - BIMETAL

NO. 48 32 STRAND X 12 GAUGE BARE CU CONDUCTOR.

NO. 166T: TINNED CU LOOP CABLE HOLDER @ 3'-0" O/C.

NO. 730: CU ADHESIVE CABLE HOLDER @ 3'-0" O/C



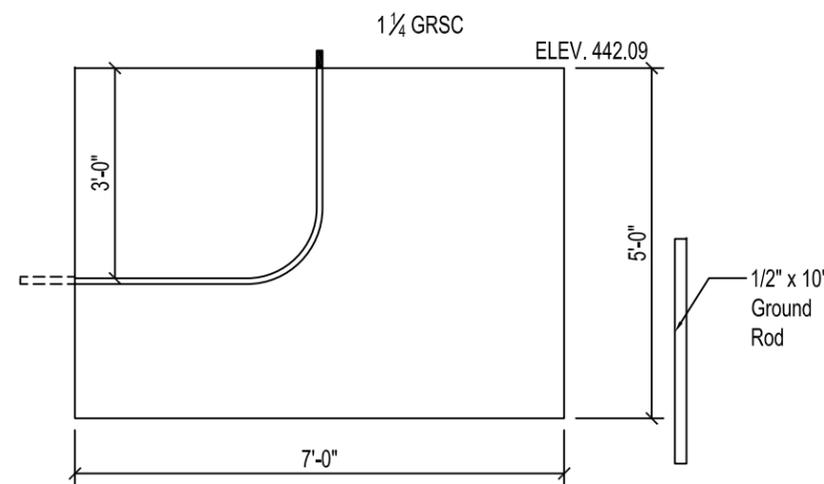
NO.141T: BIMETAL CABLE SPLICER

PERIMETER CABLE LOOP ON FLOOR OF BASKET PLATFORM. AVOID TRIP HAZARD.

SEE ELECTRICAL NOTE "C", THIS SHEET.

4 AIR TERMINAL DETAIL
 E-3.0 SCALE: 3/8" = 1'-0"

1/2" x 10' Ground Rod



3 FRONT SIDE / SOUTH ELEVATION
 E-3.0 SCALE: 3/8" = 1'-0"

1/2" x 10' Ground Rod